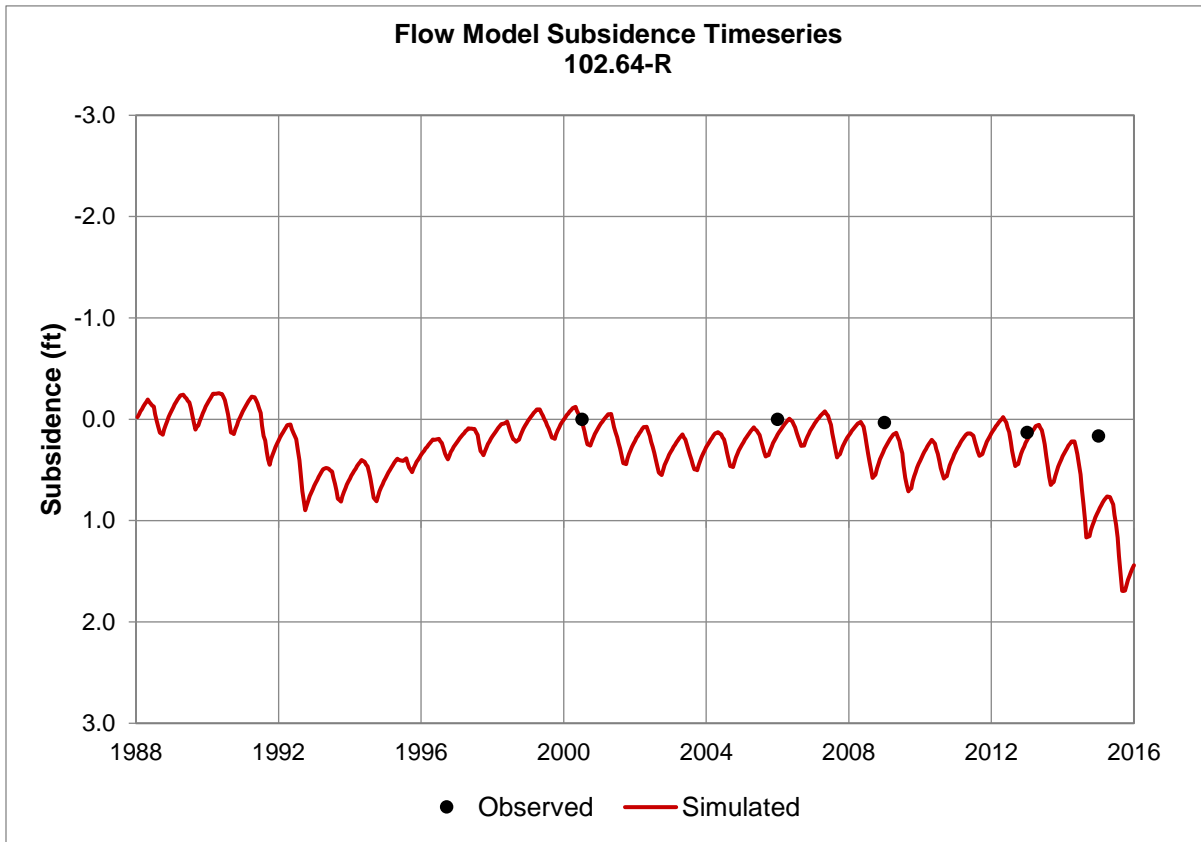
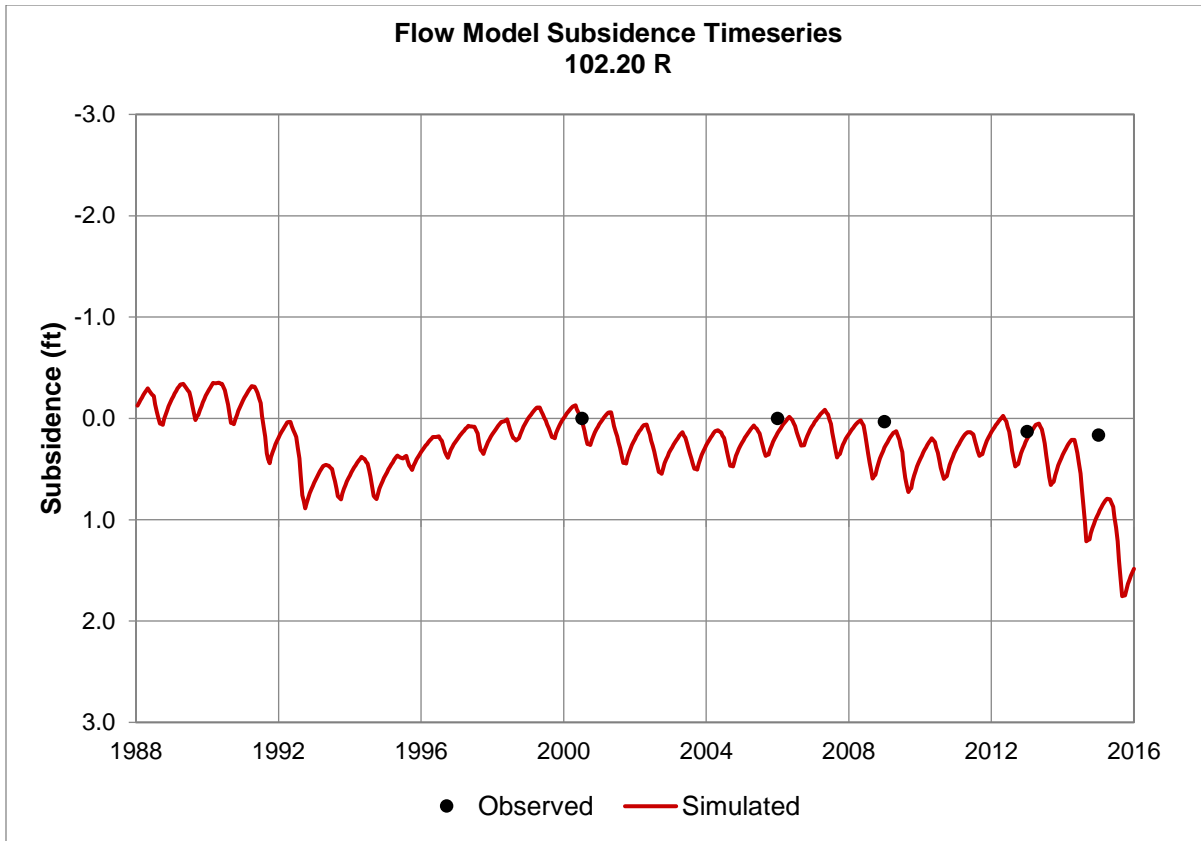
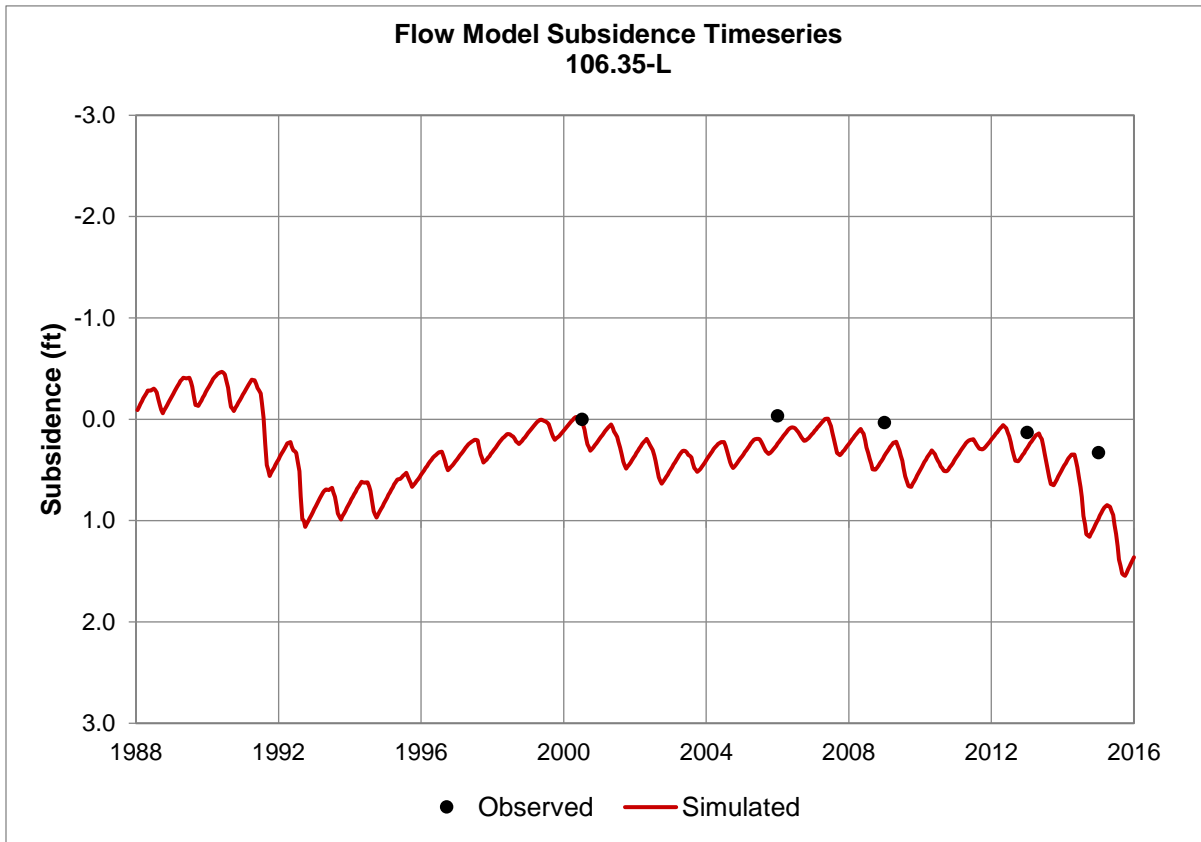
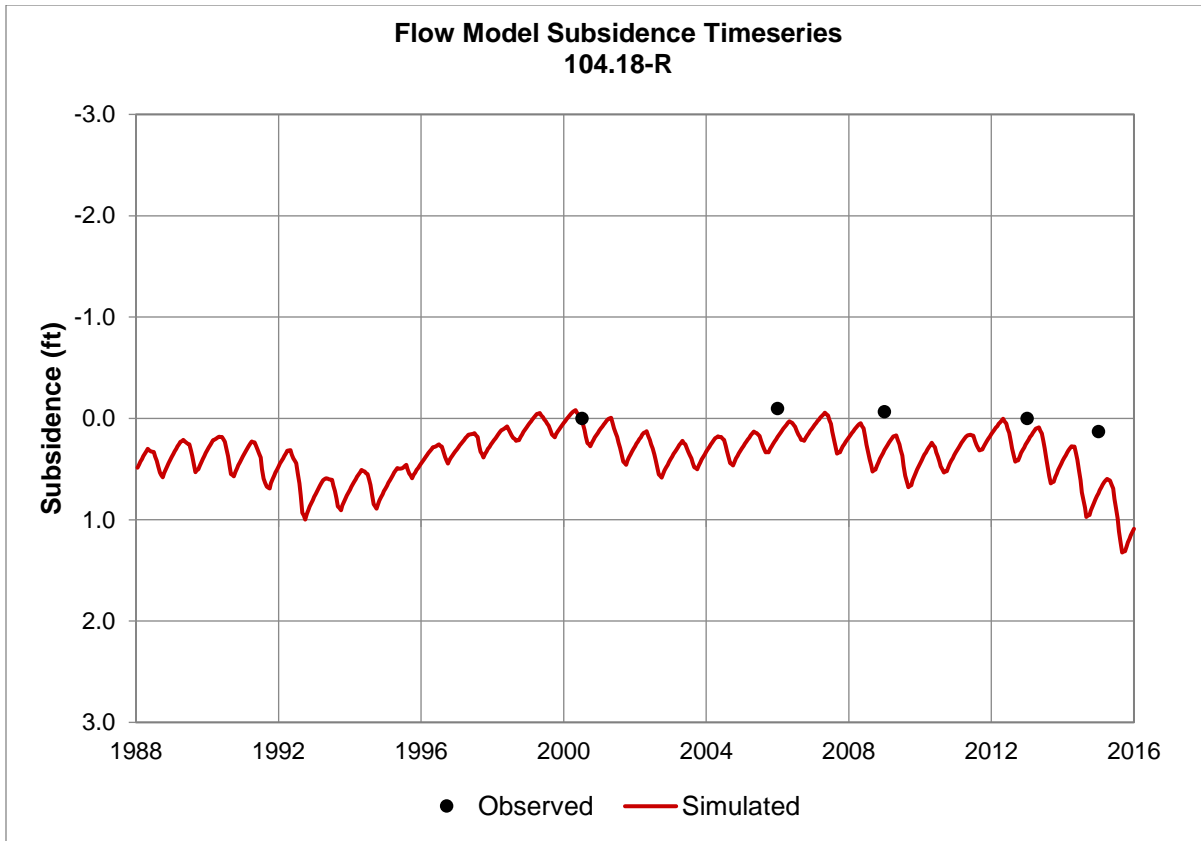
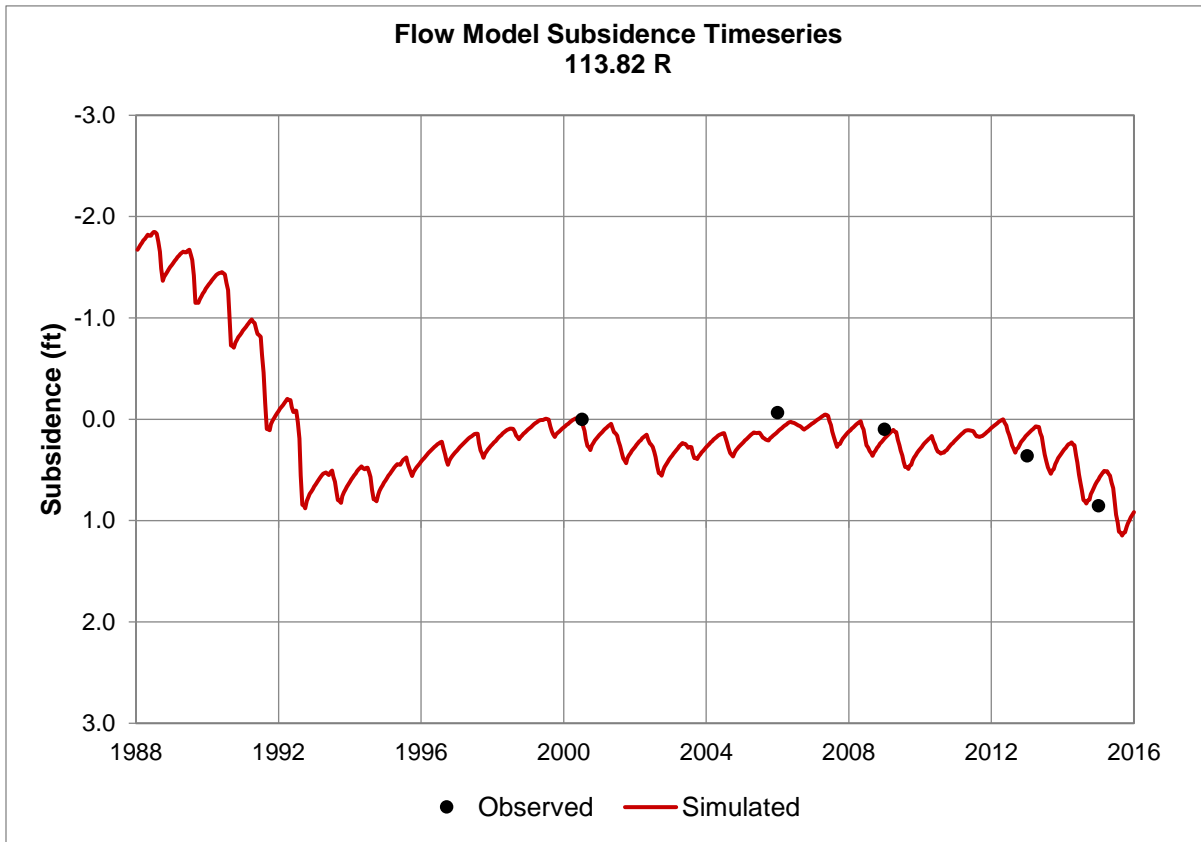
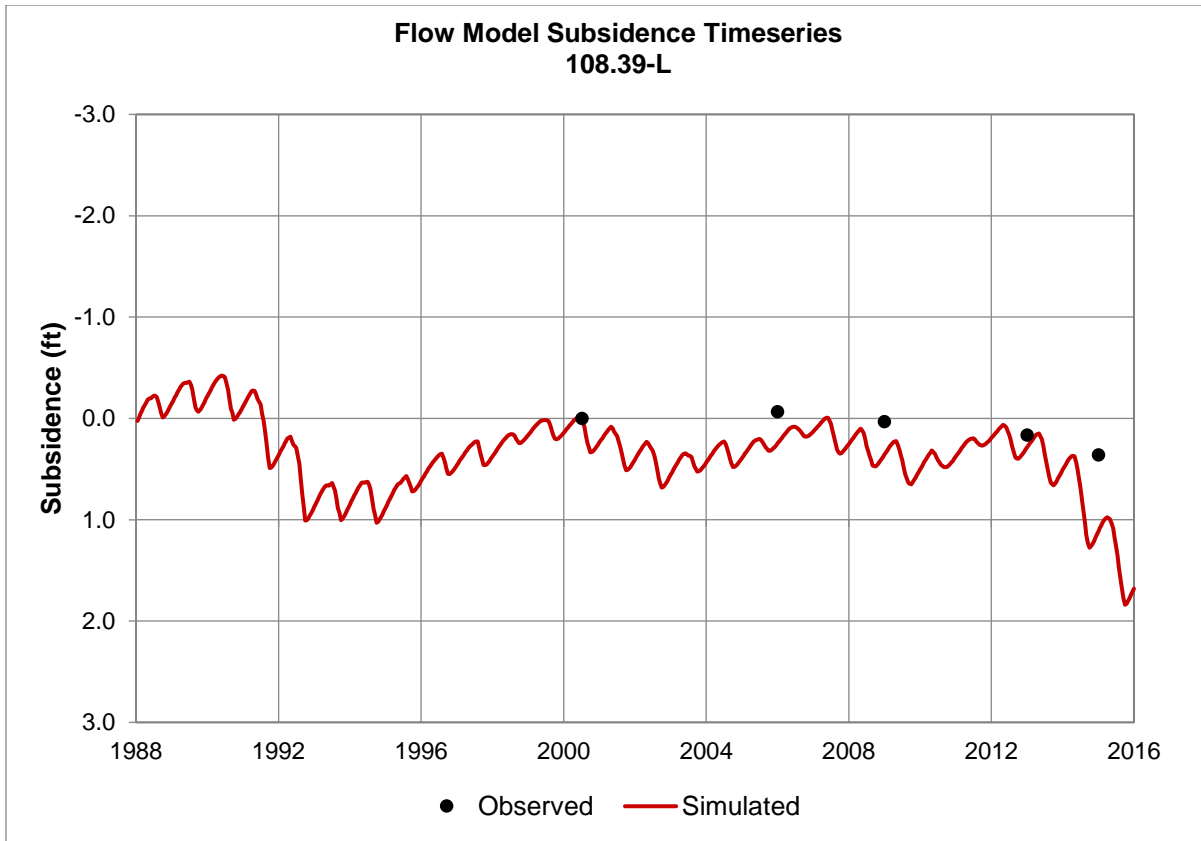


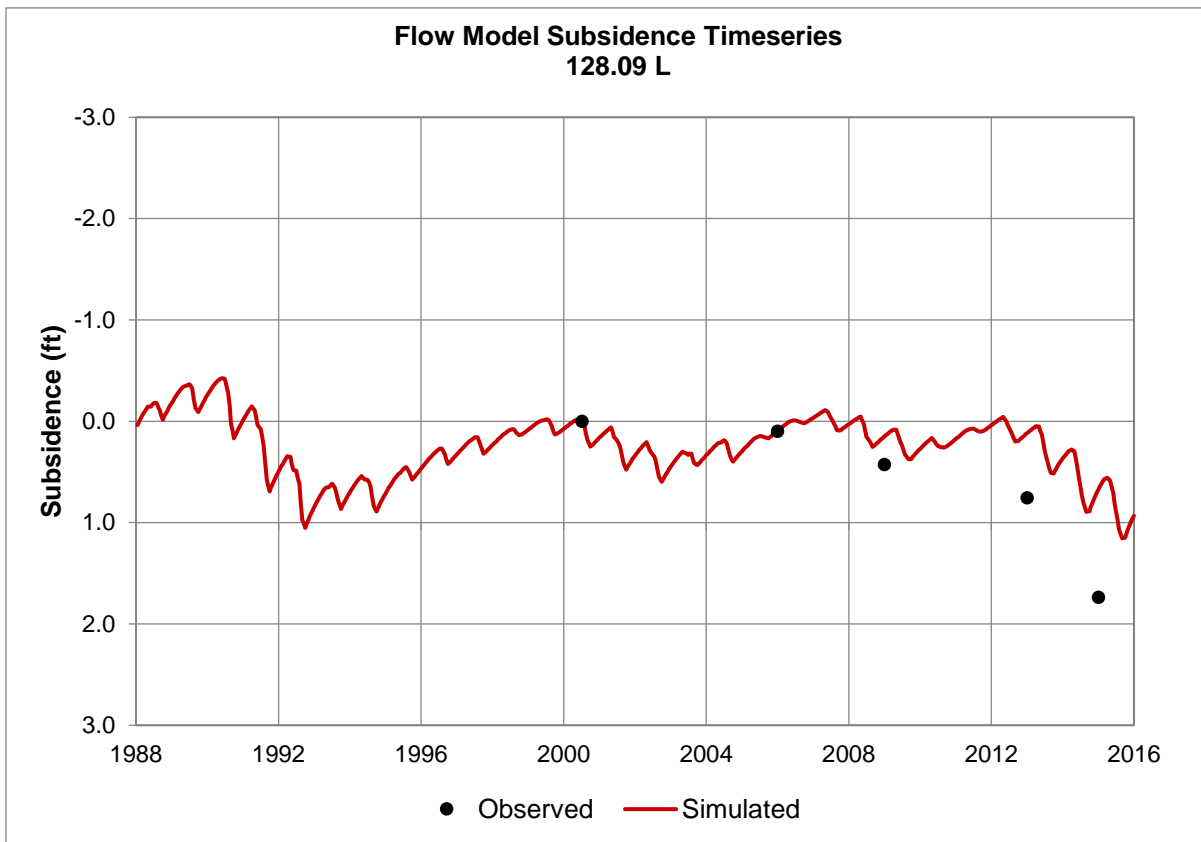
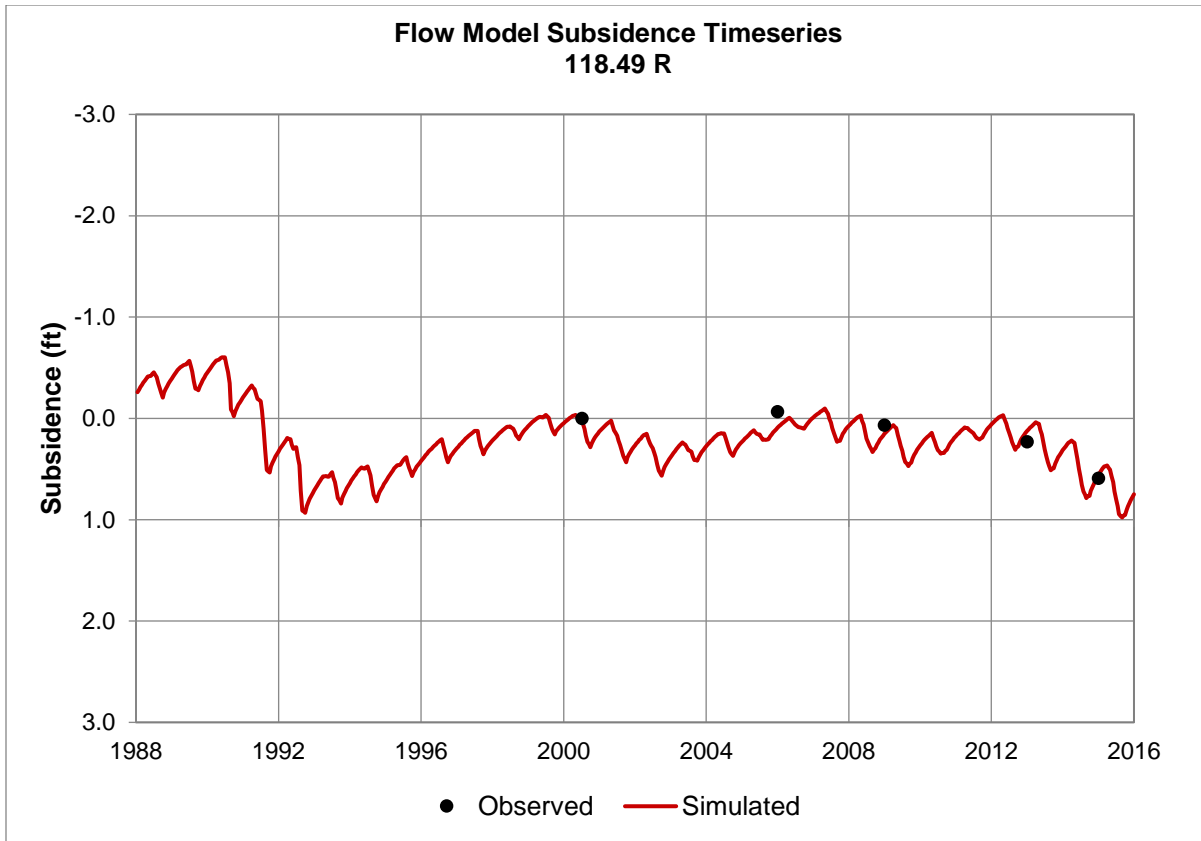
Appendix B:

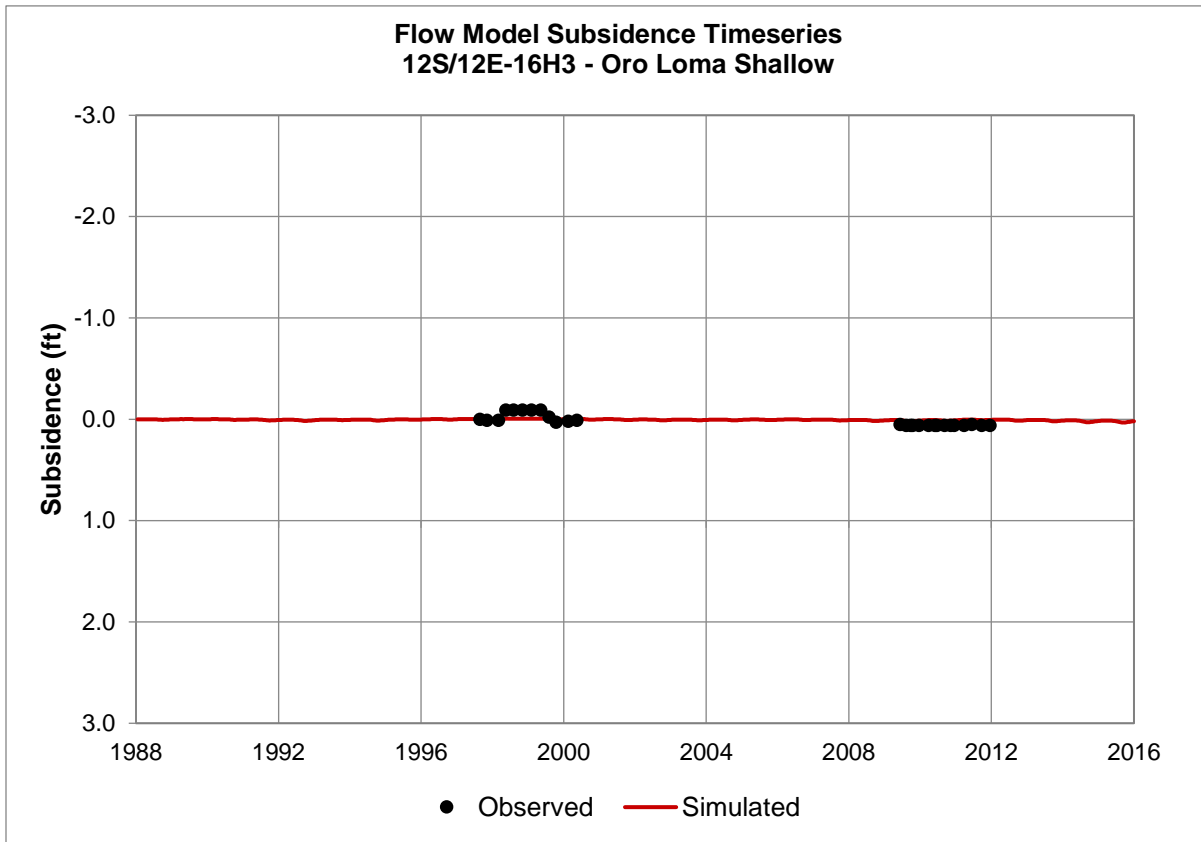
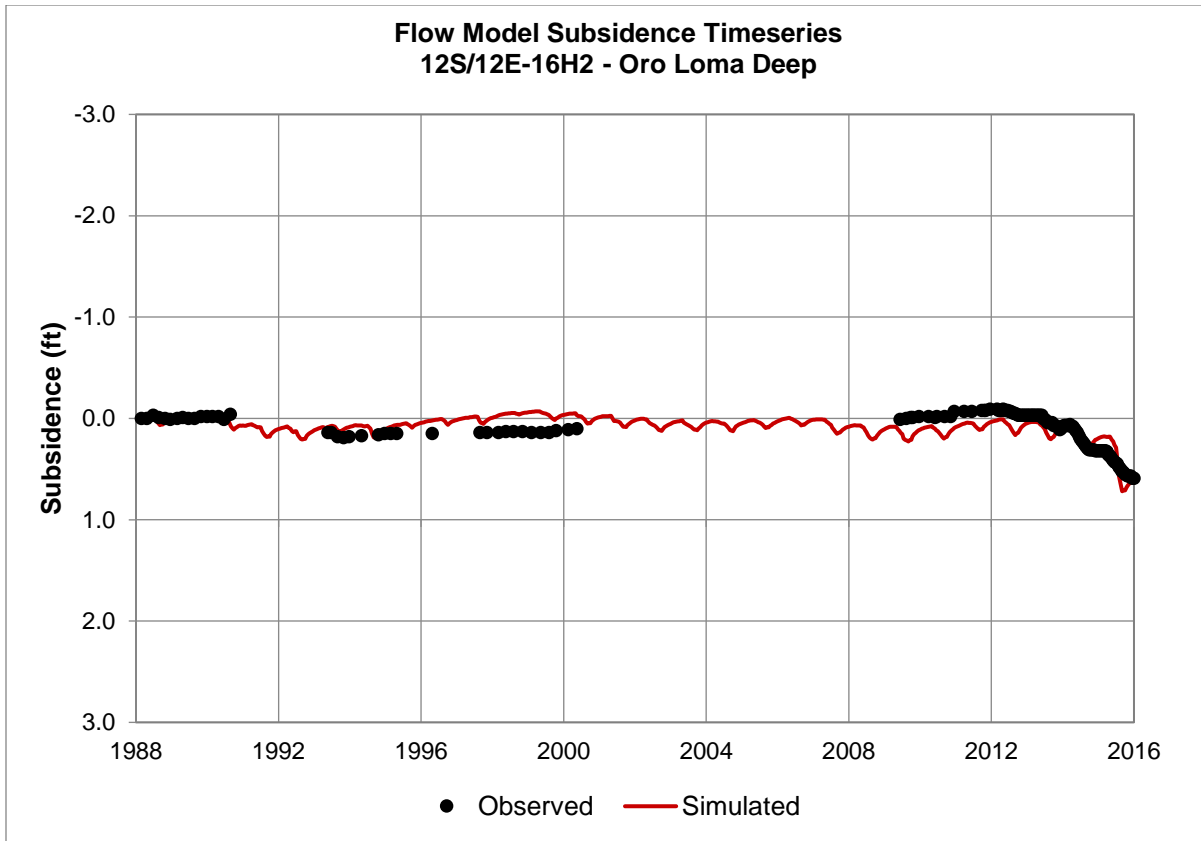
Simulated and Observed Compaction and Land Surface Subsidence

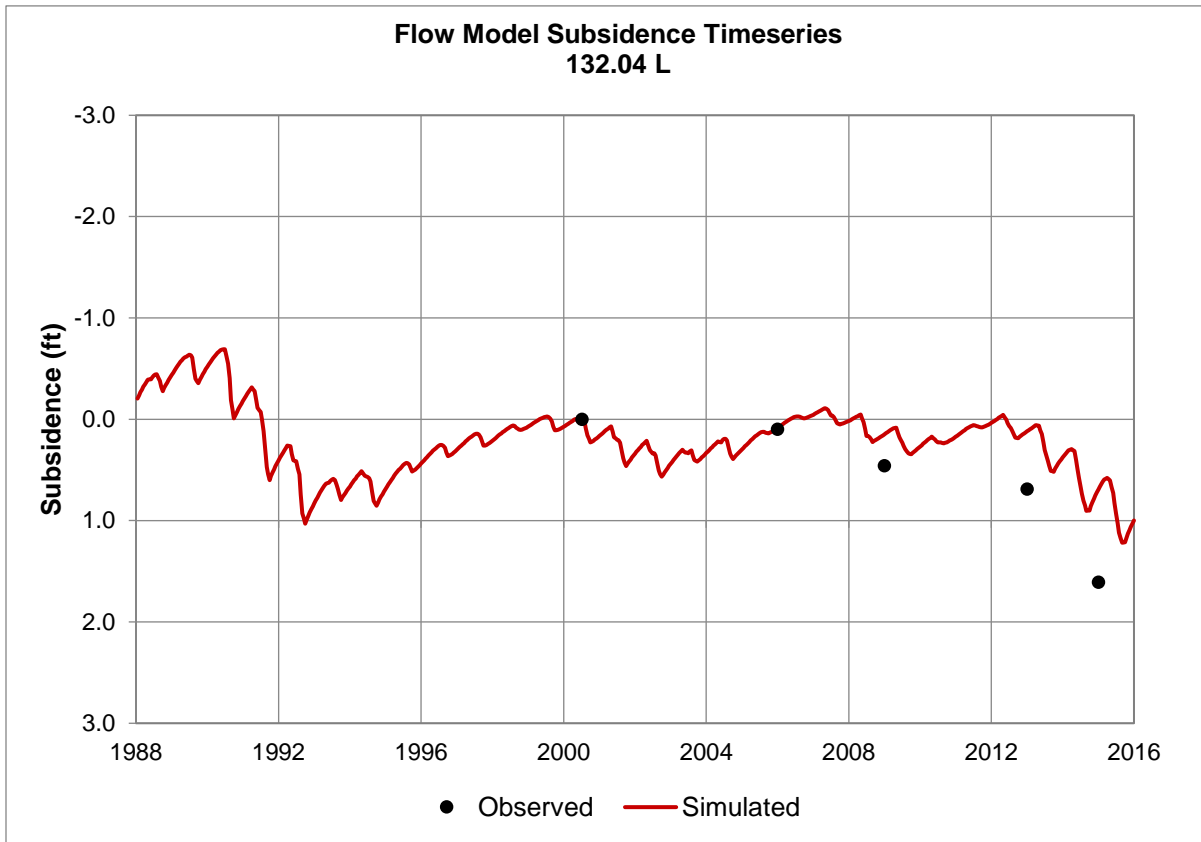
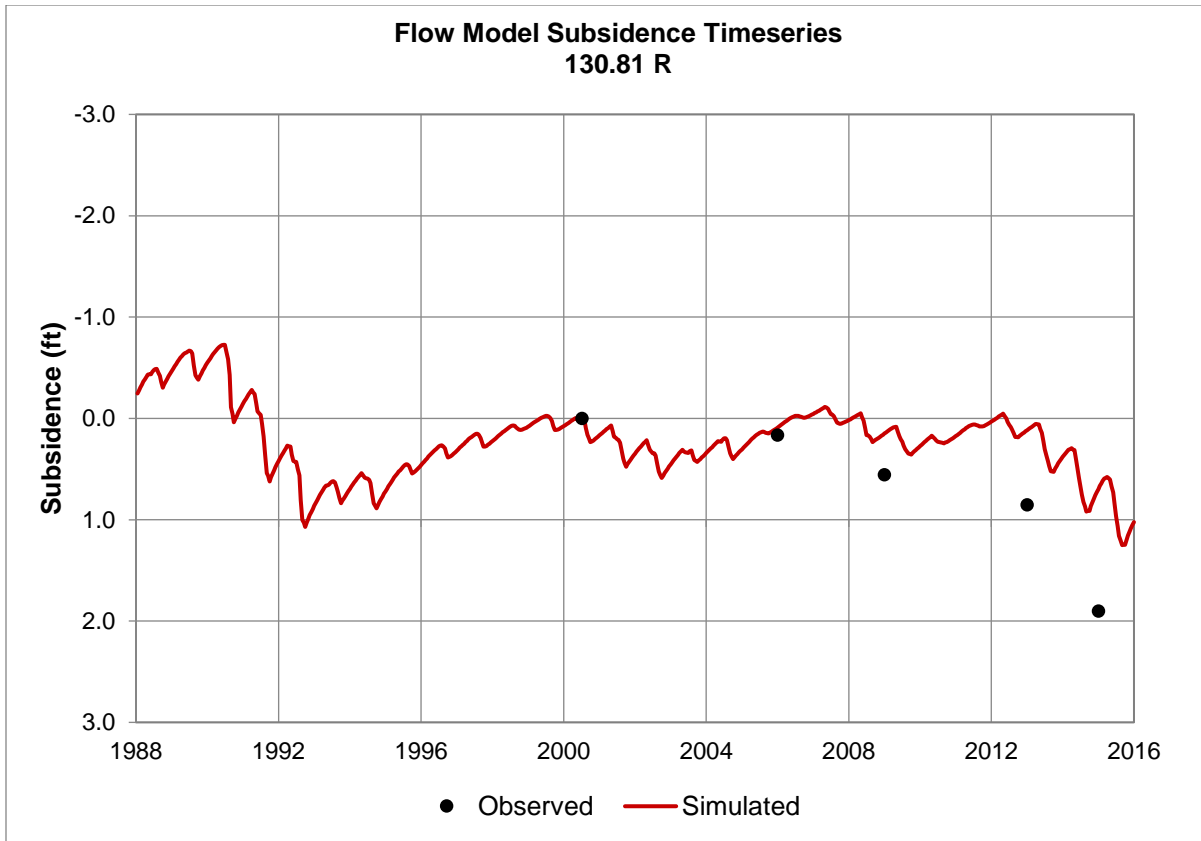


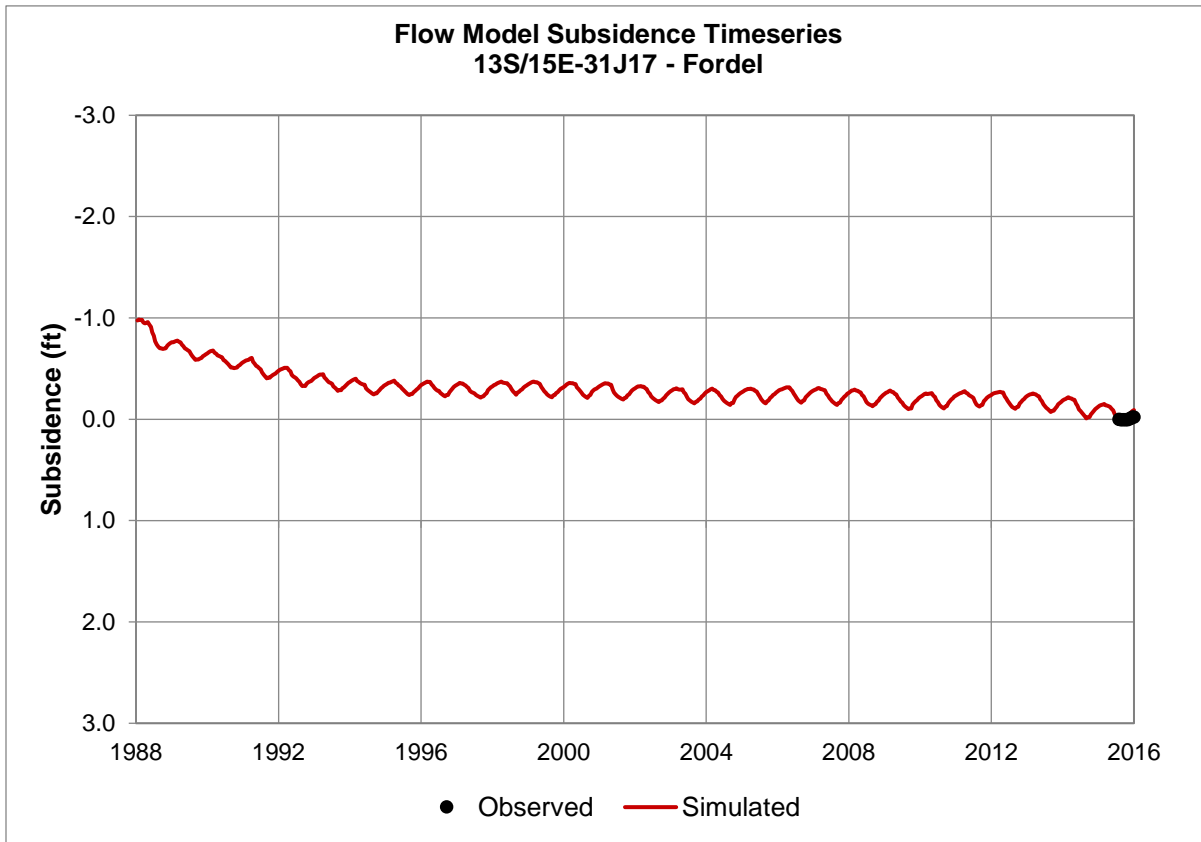
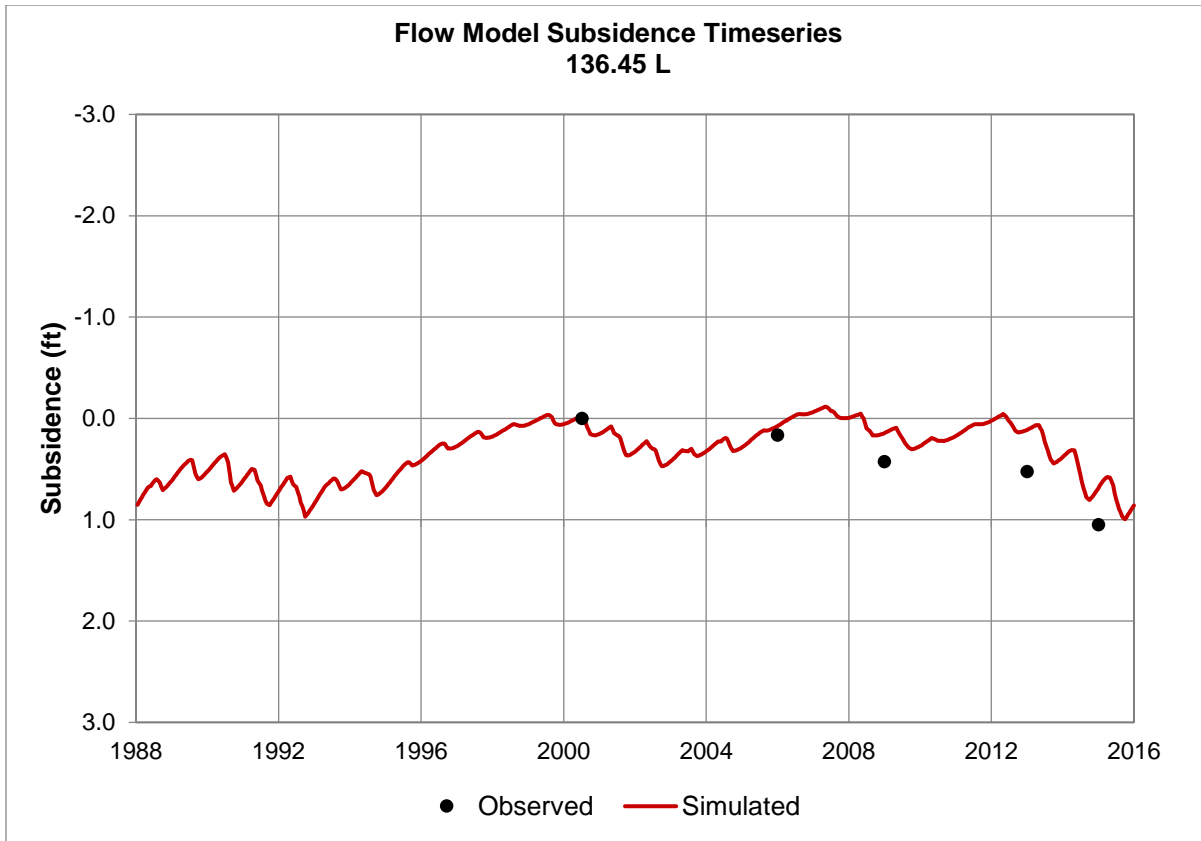


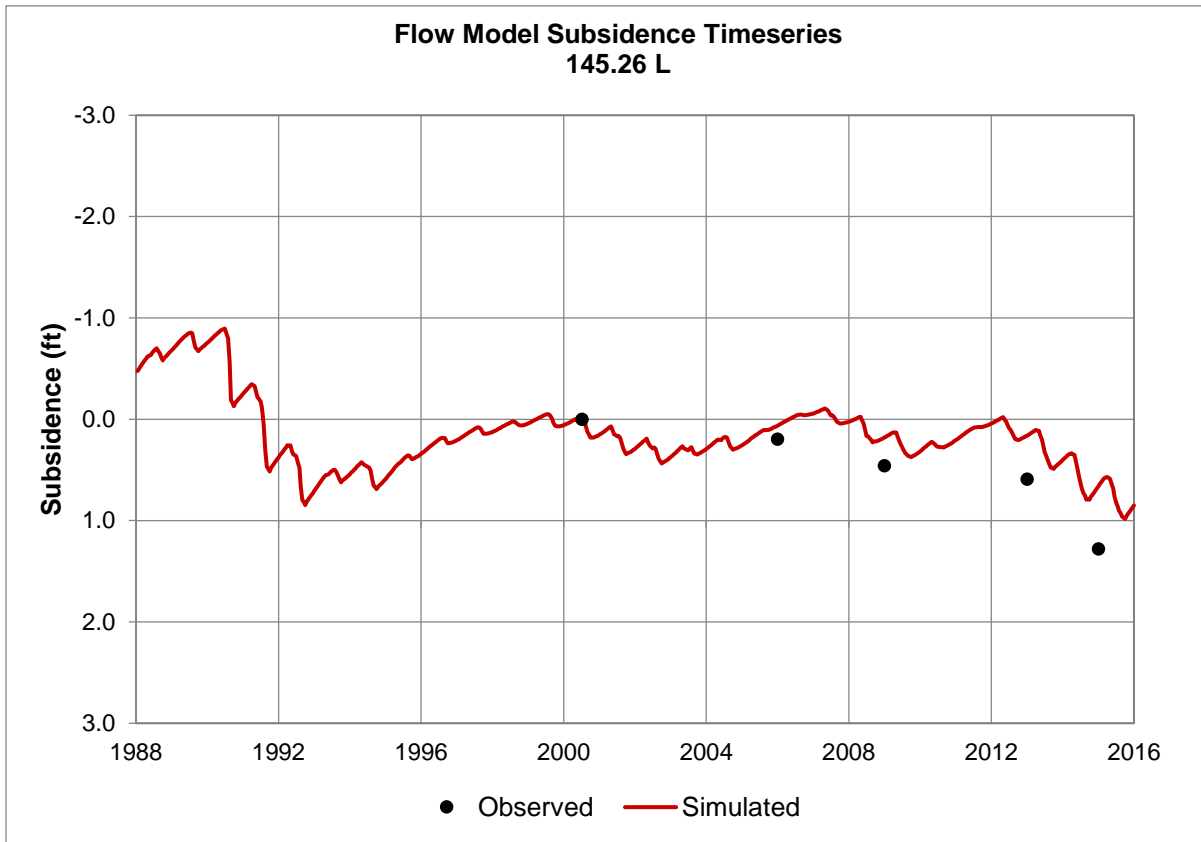
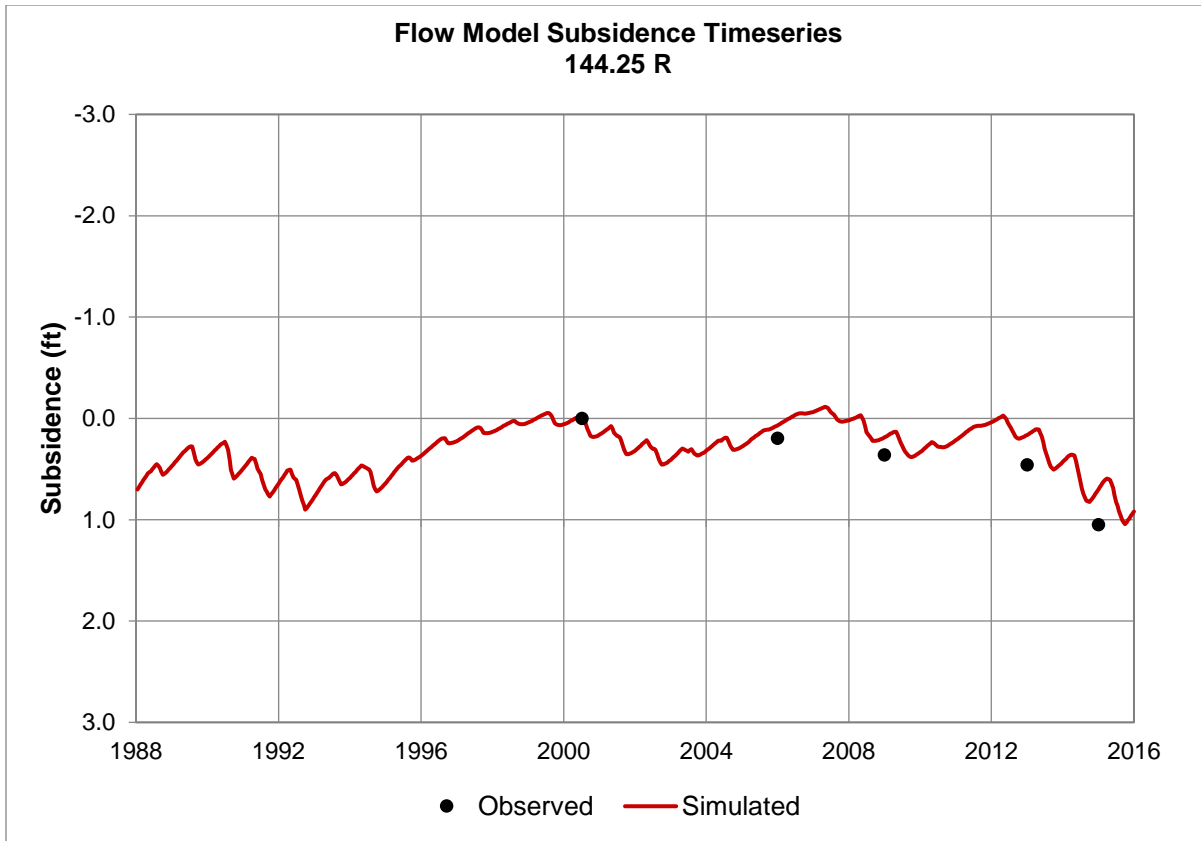


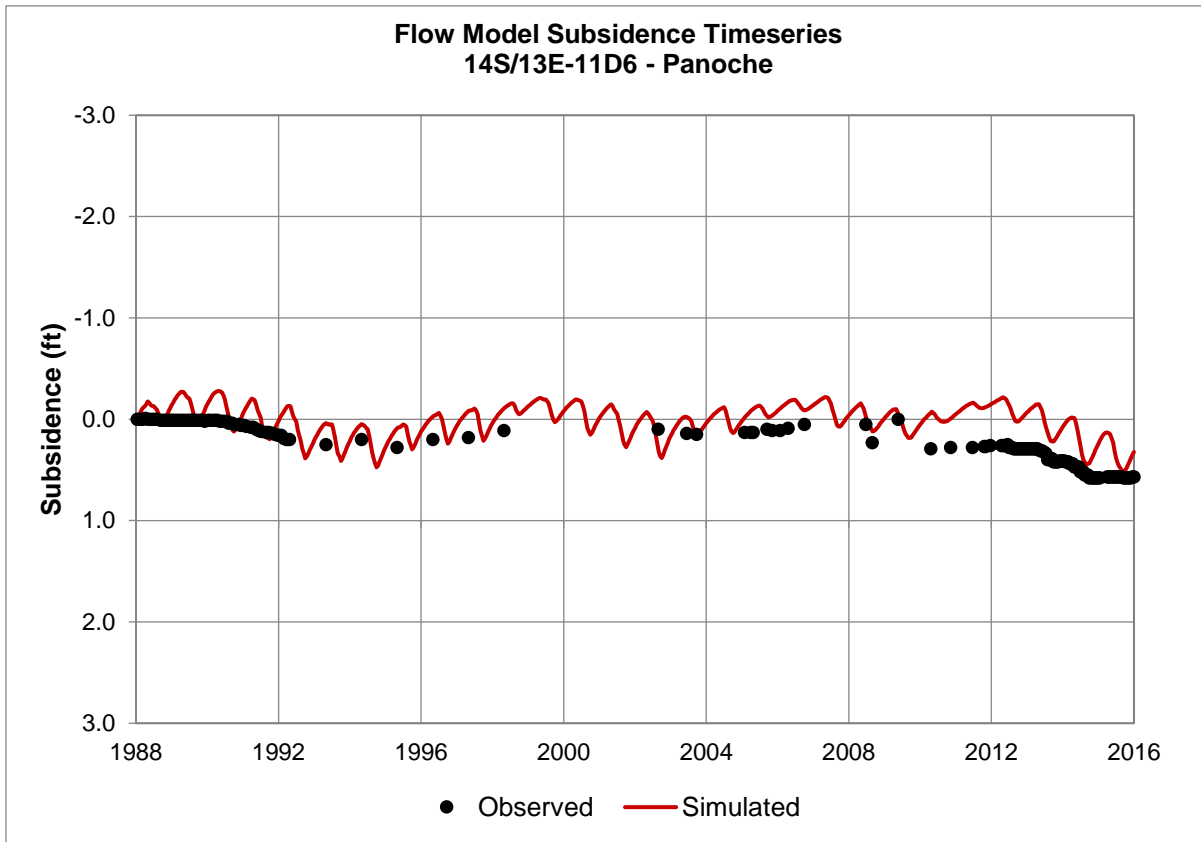
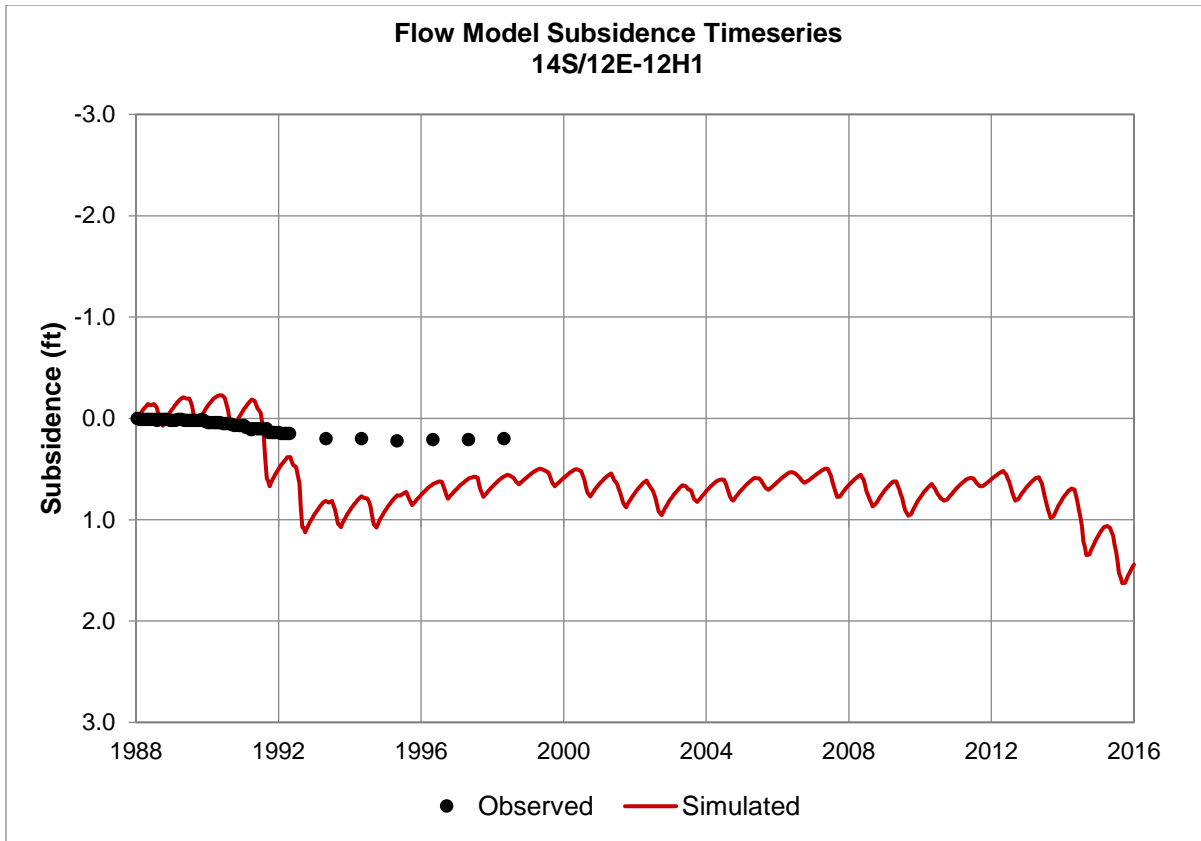


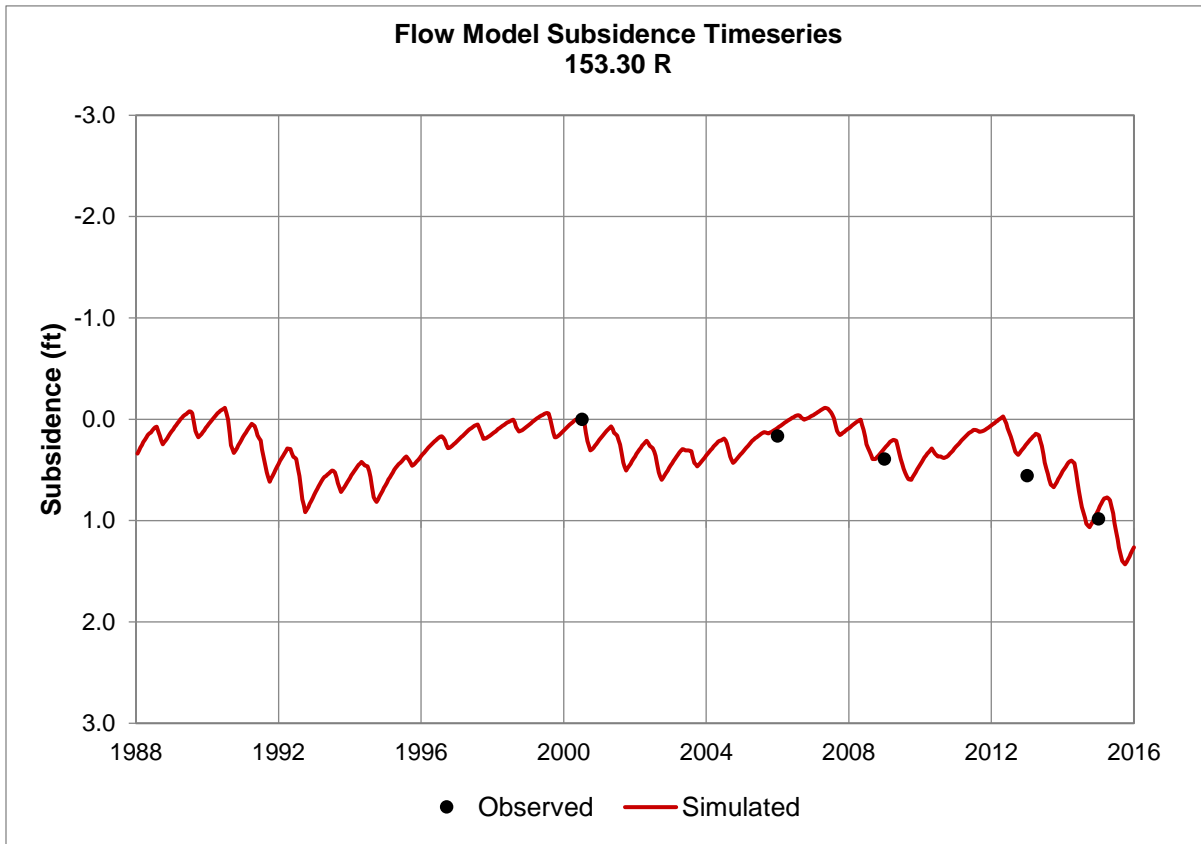
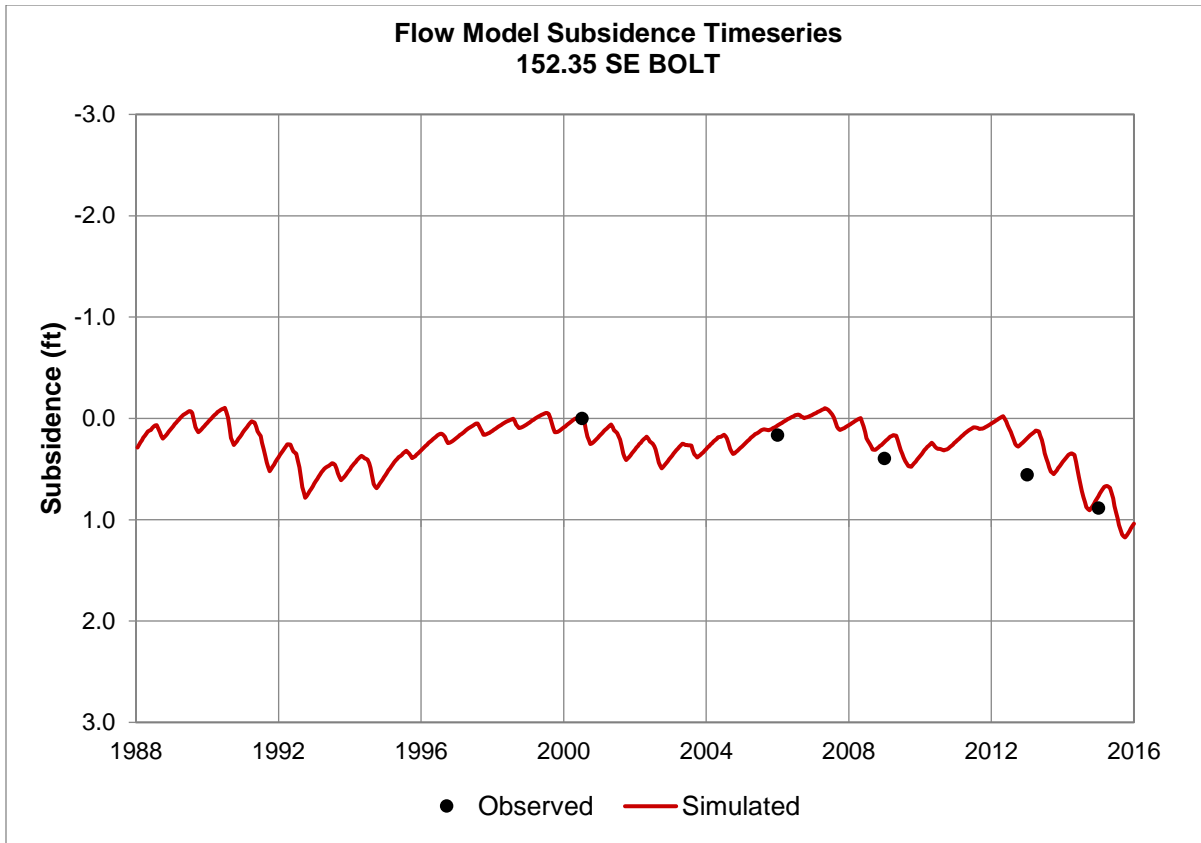


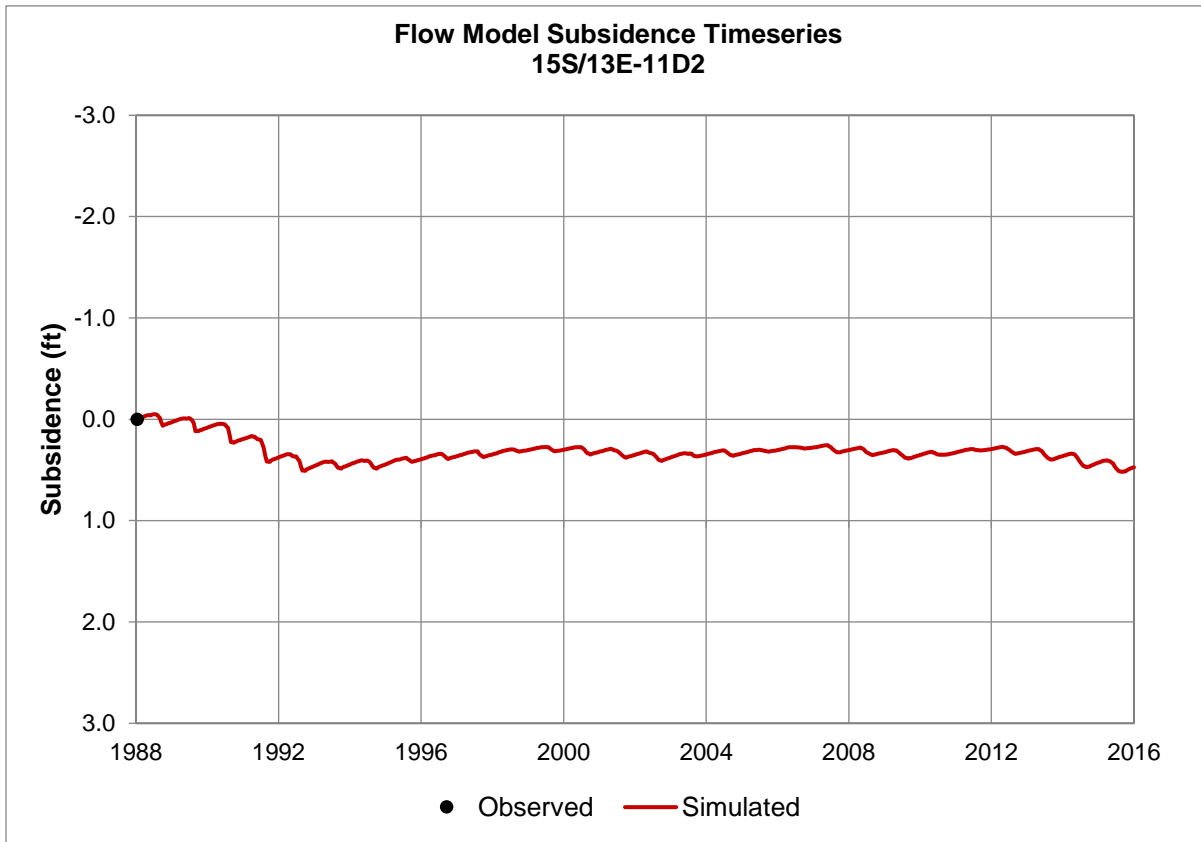
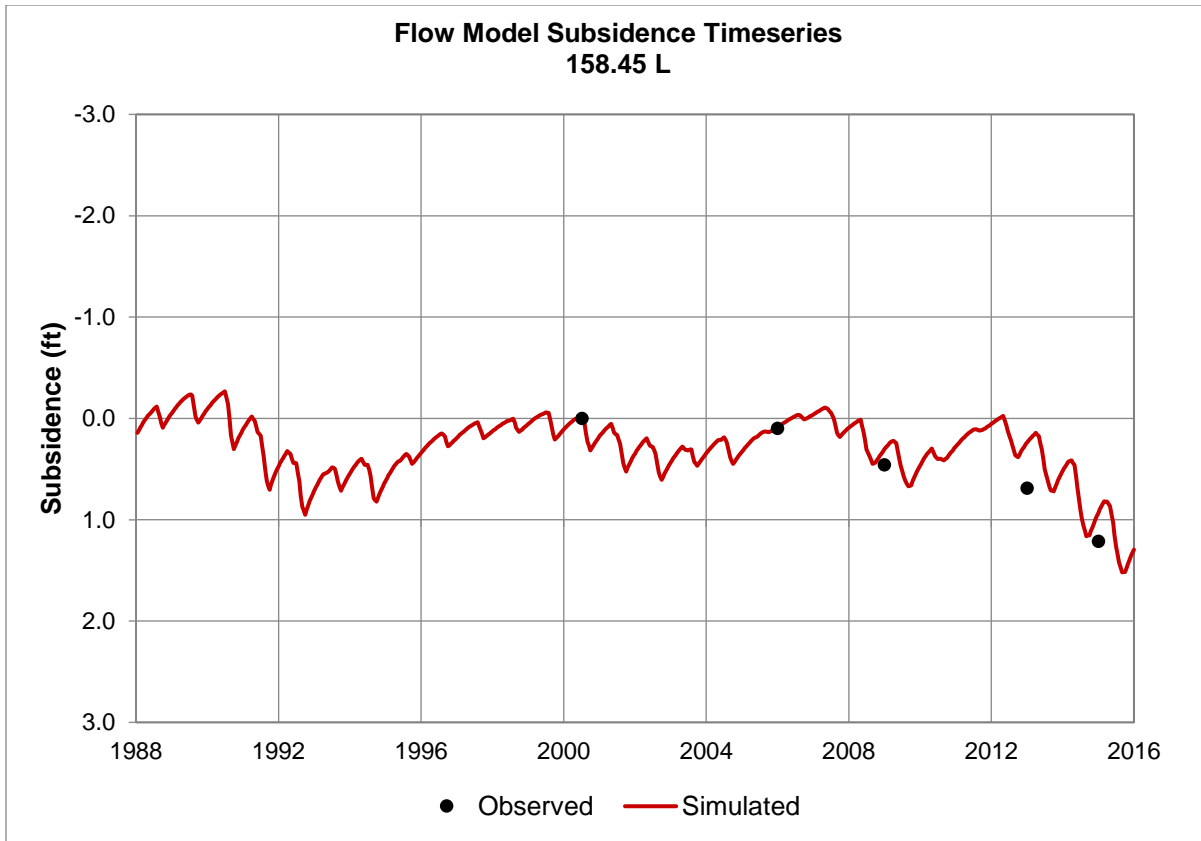


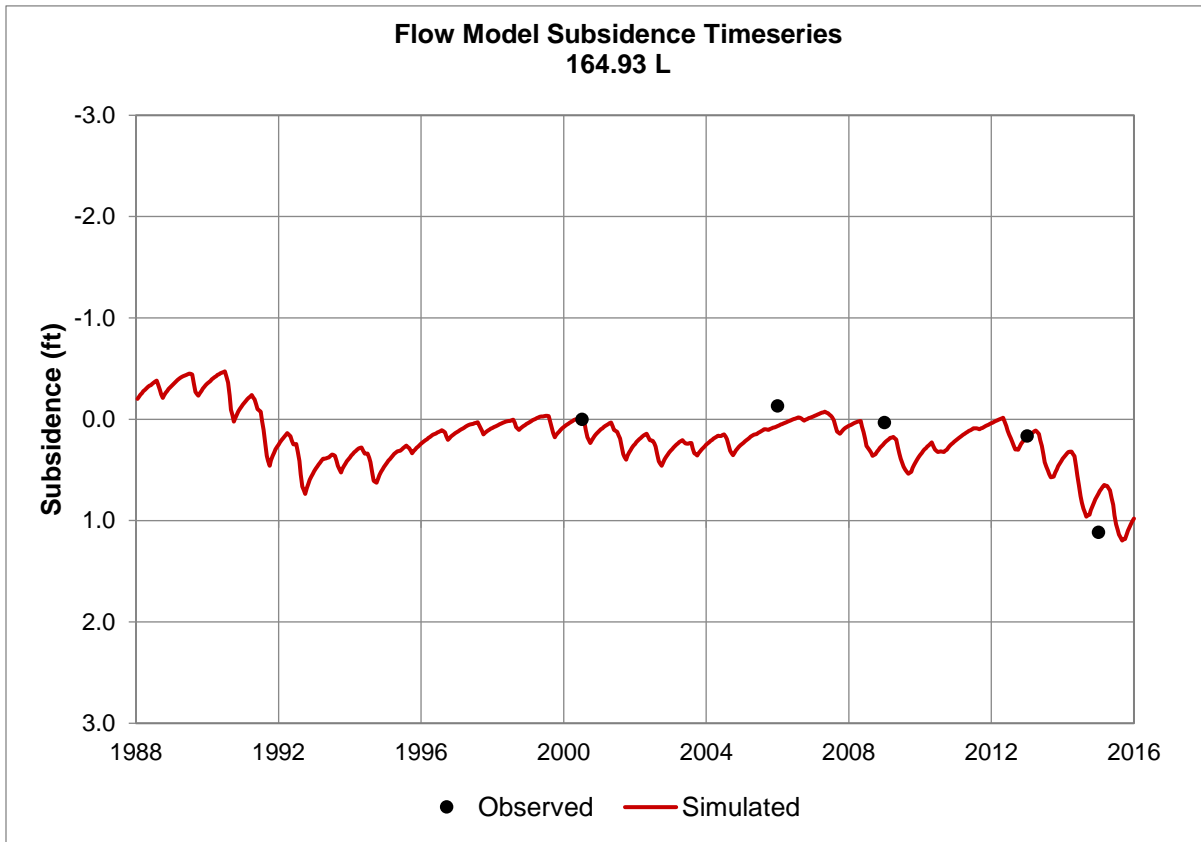
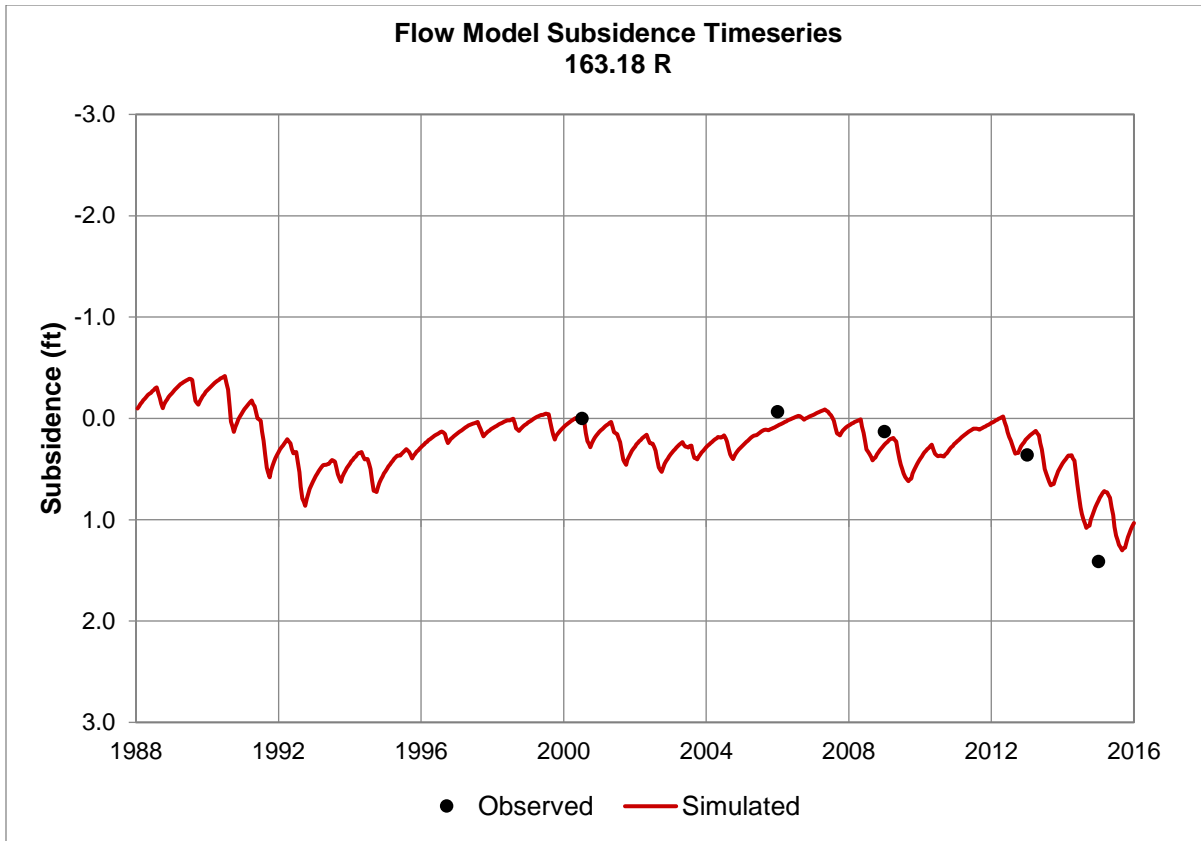


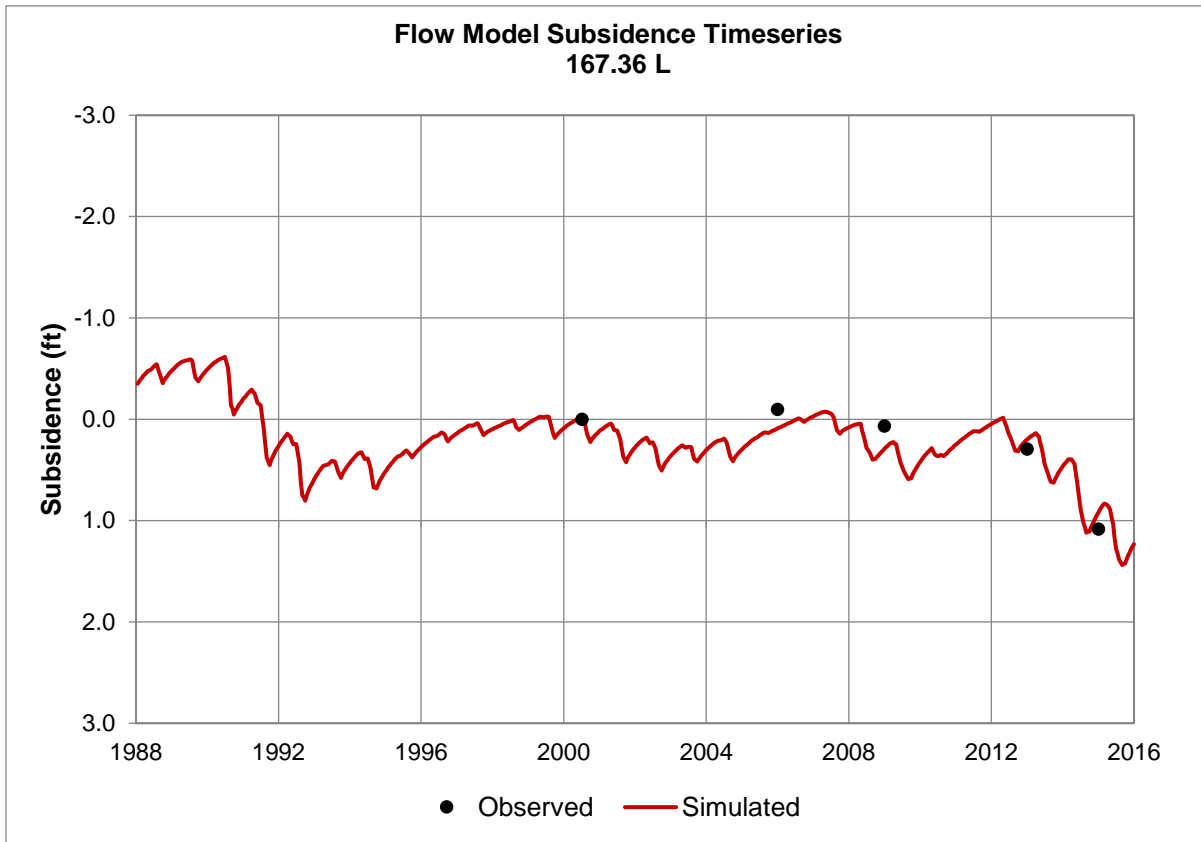
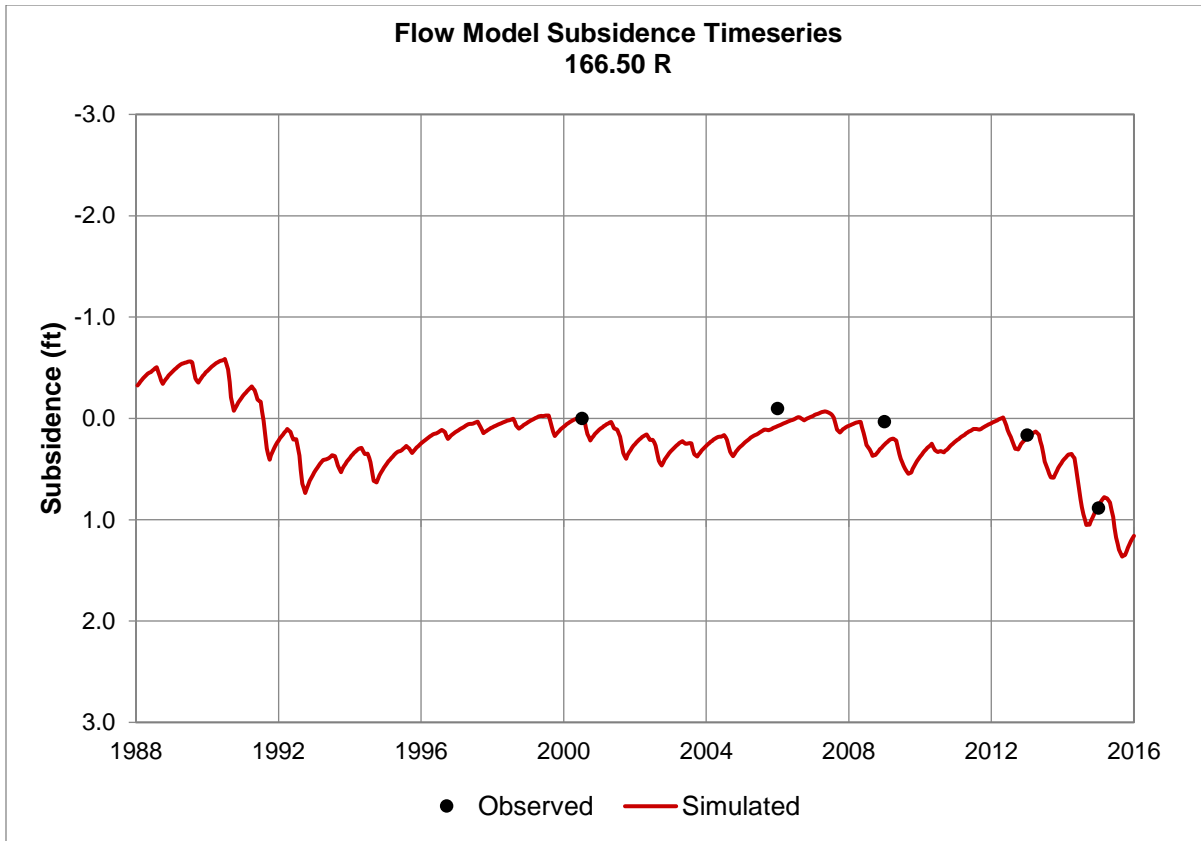


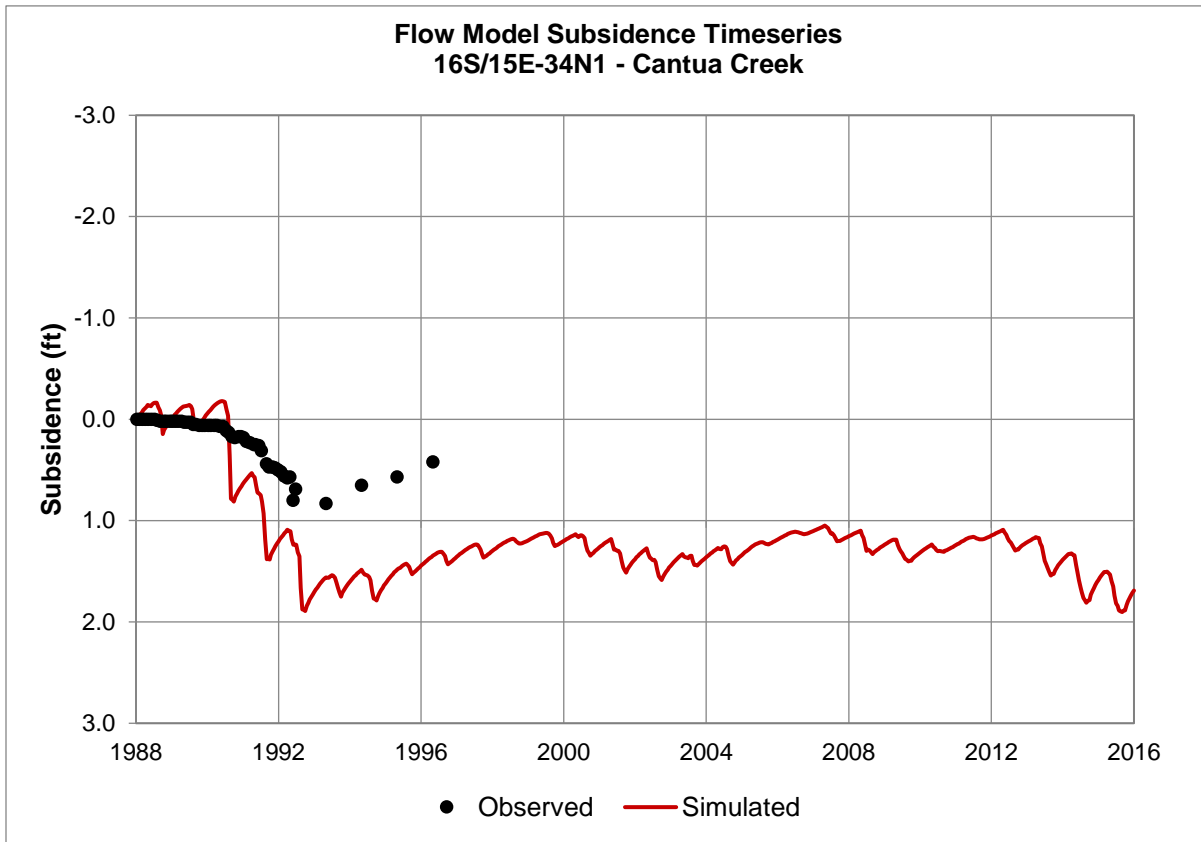
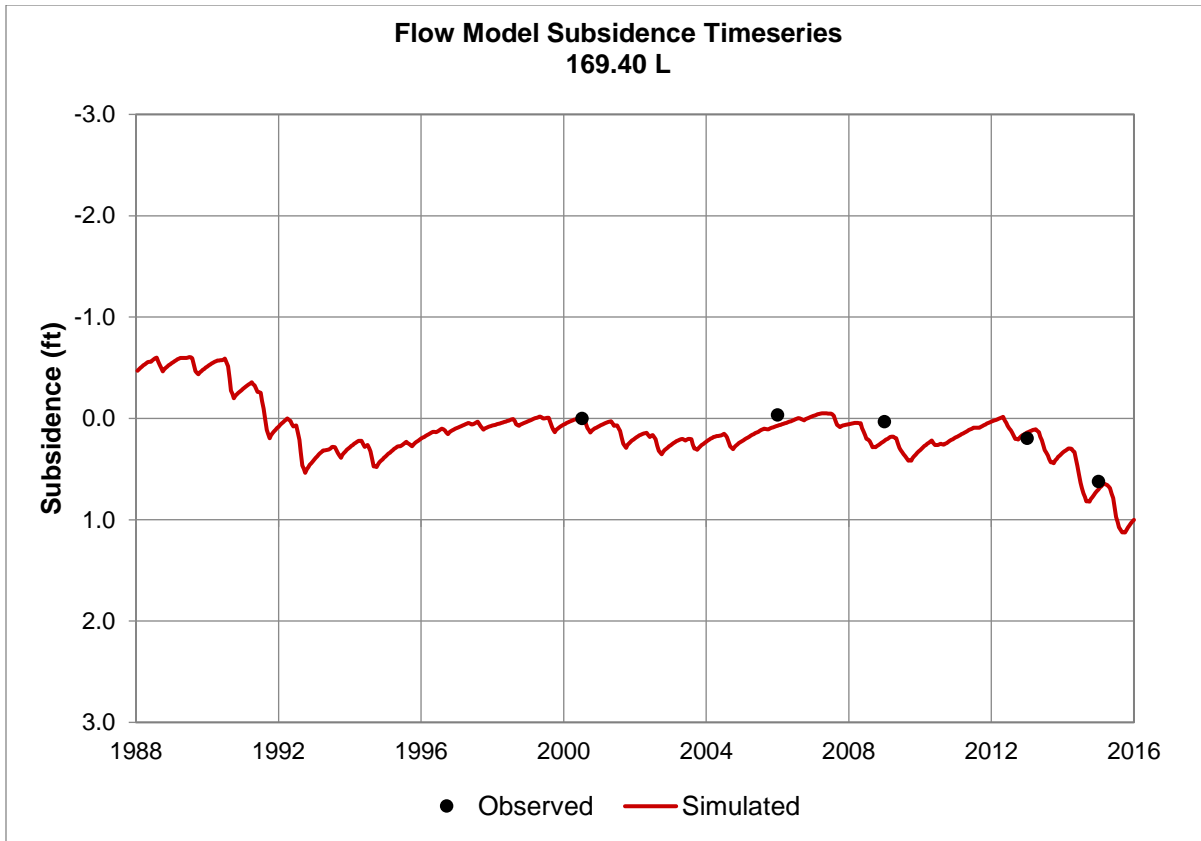


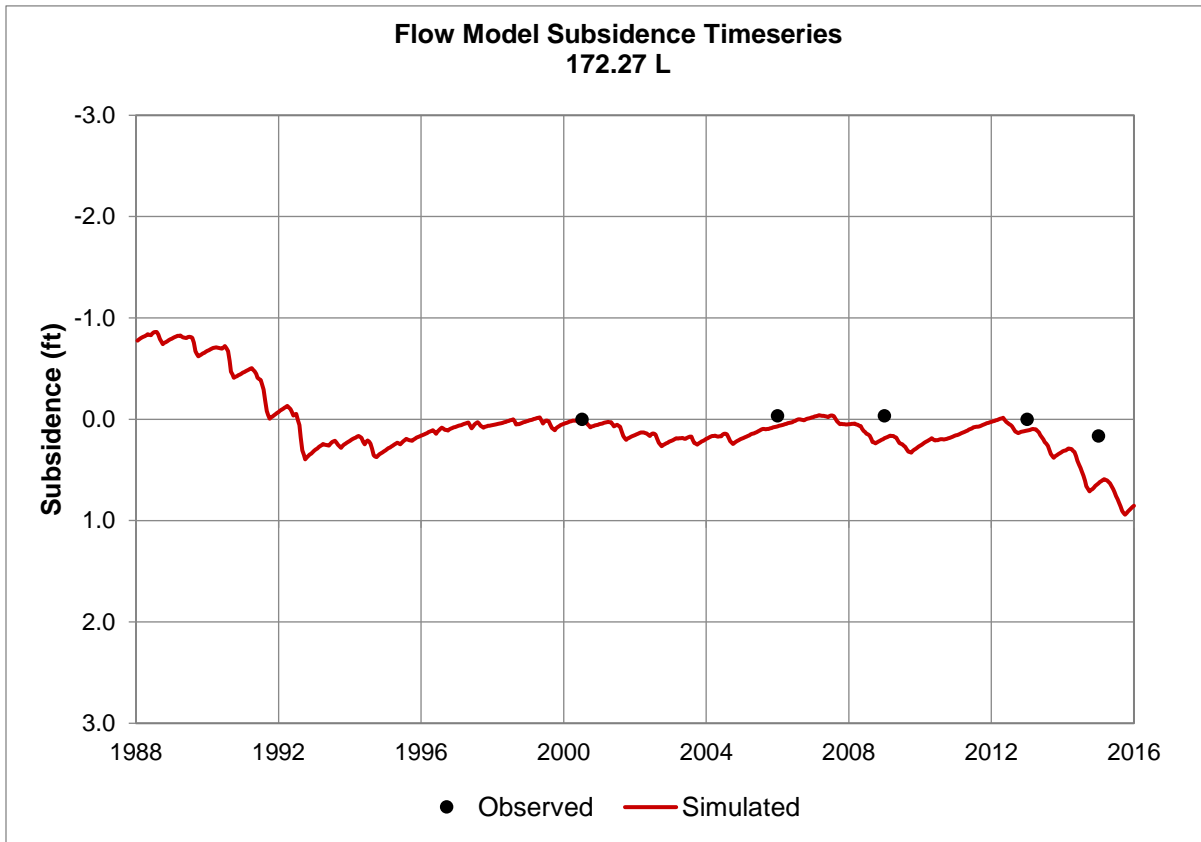
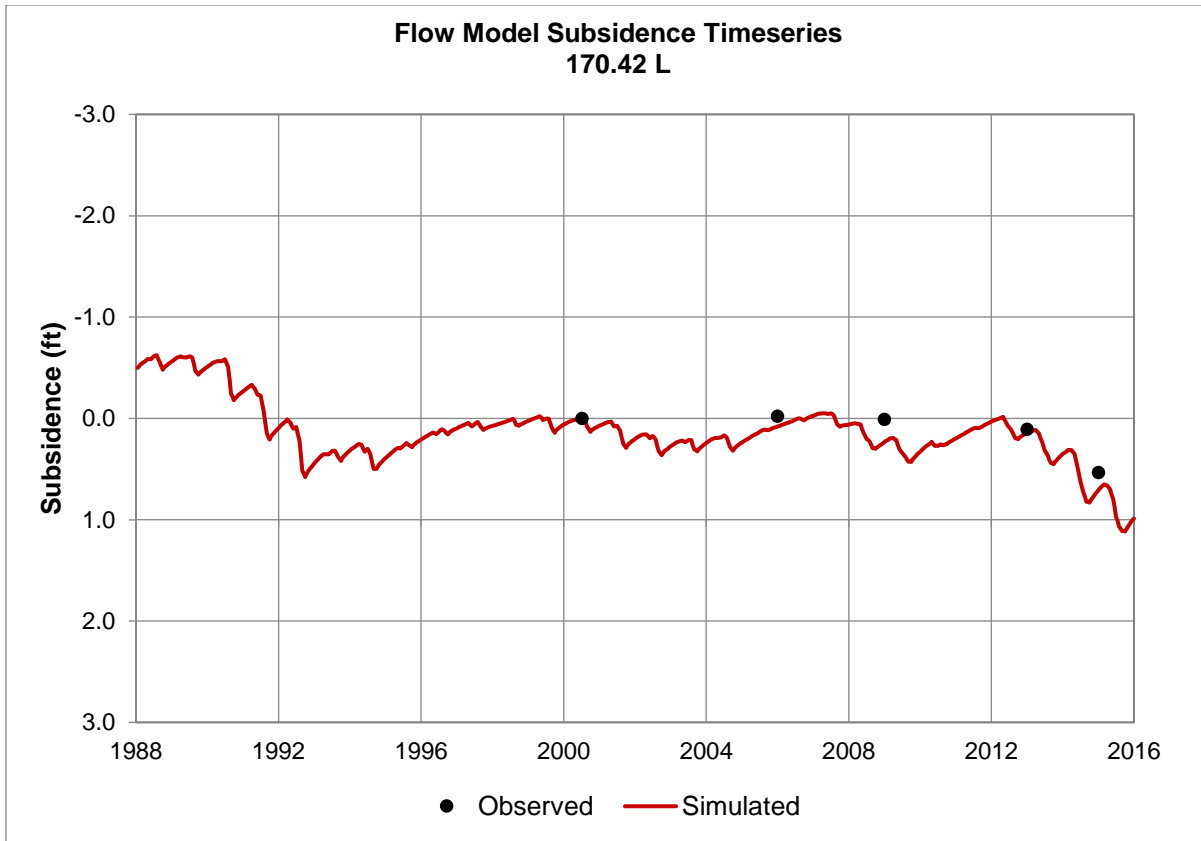


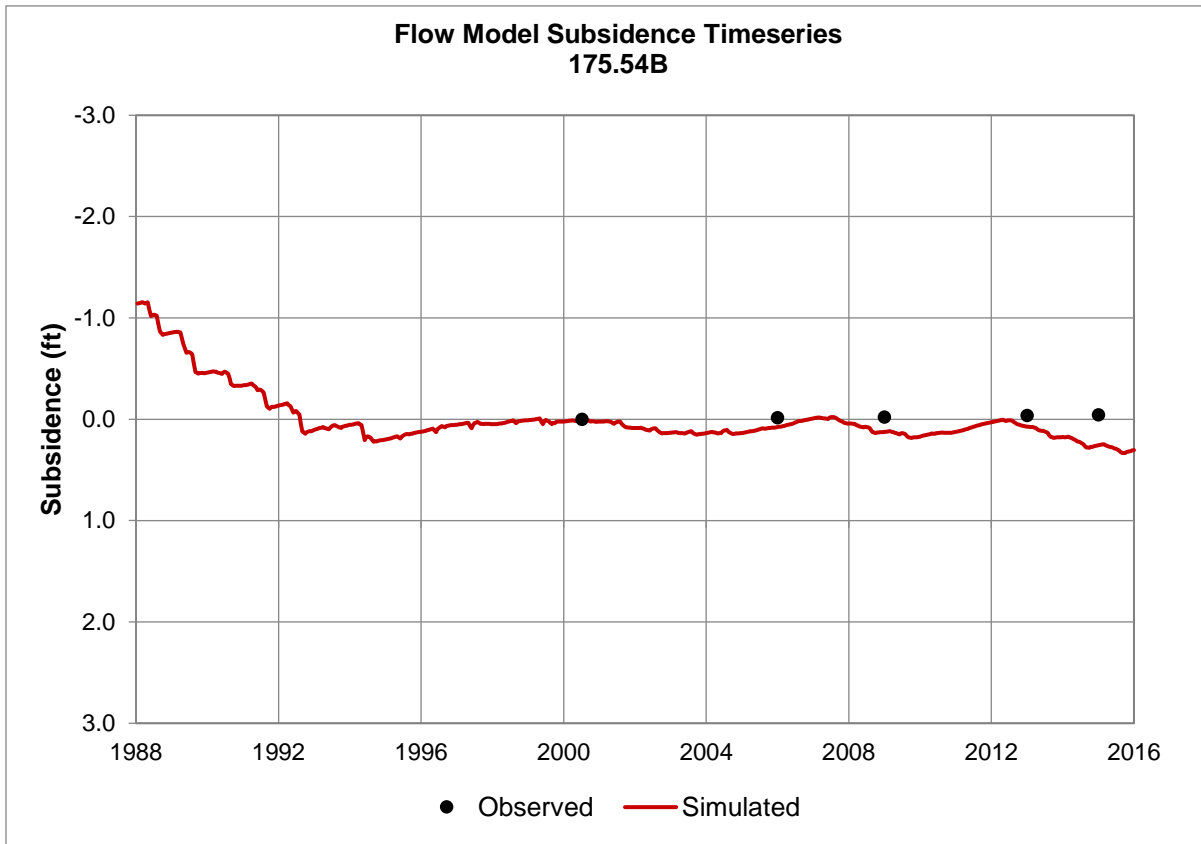
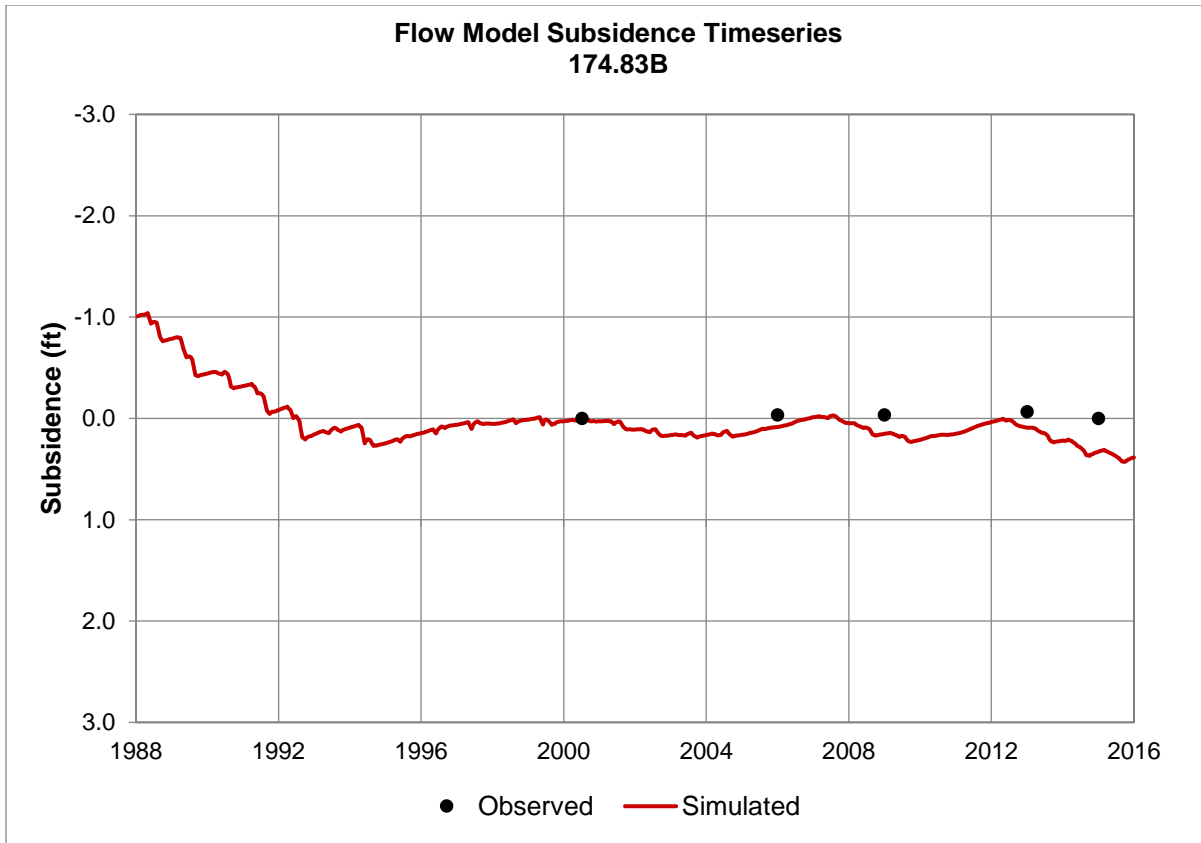


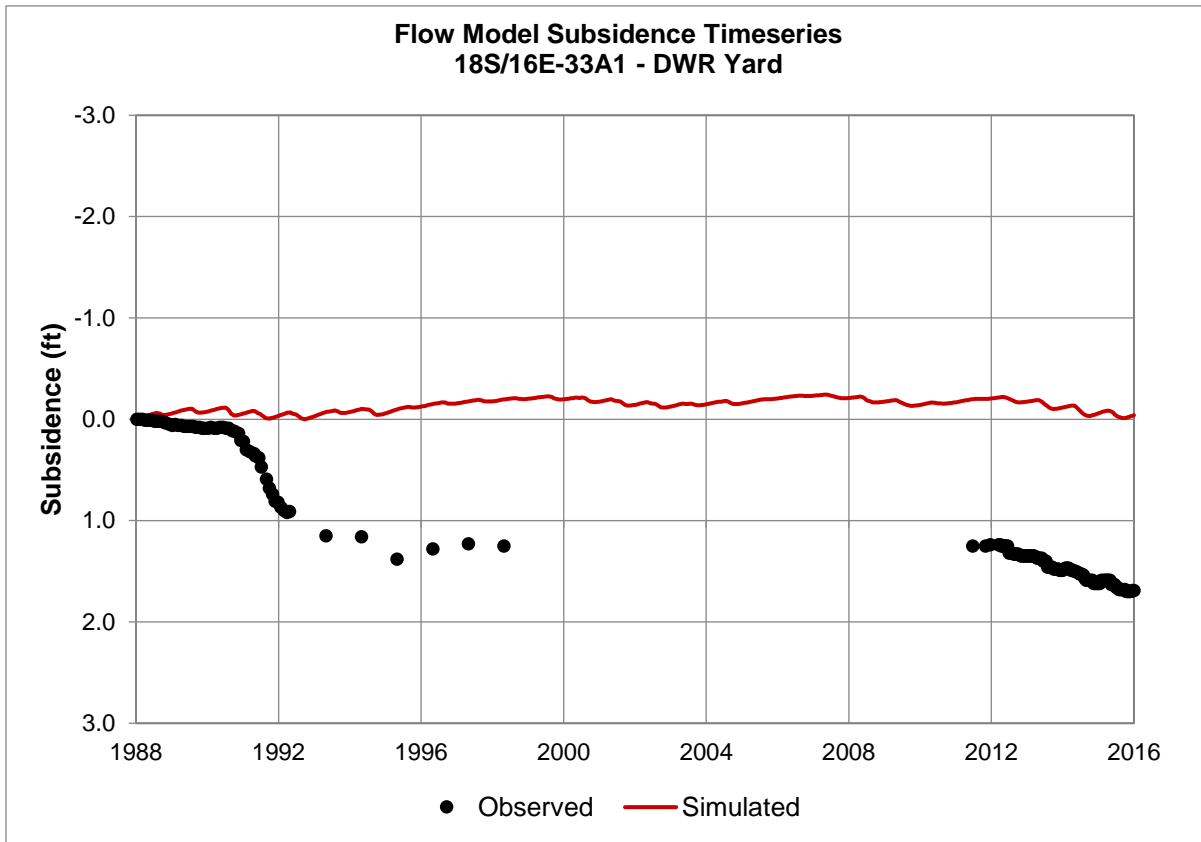
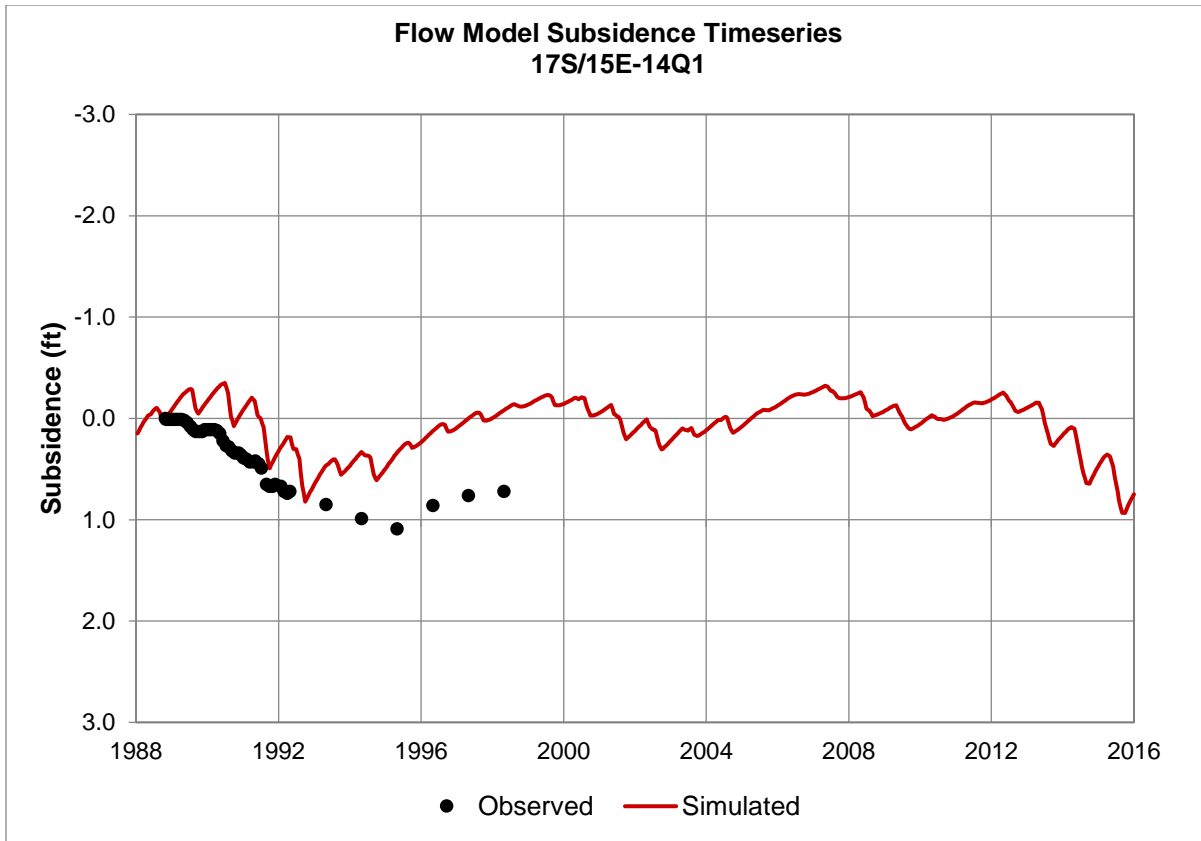


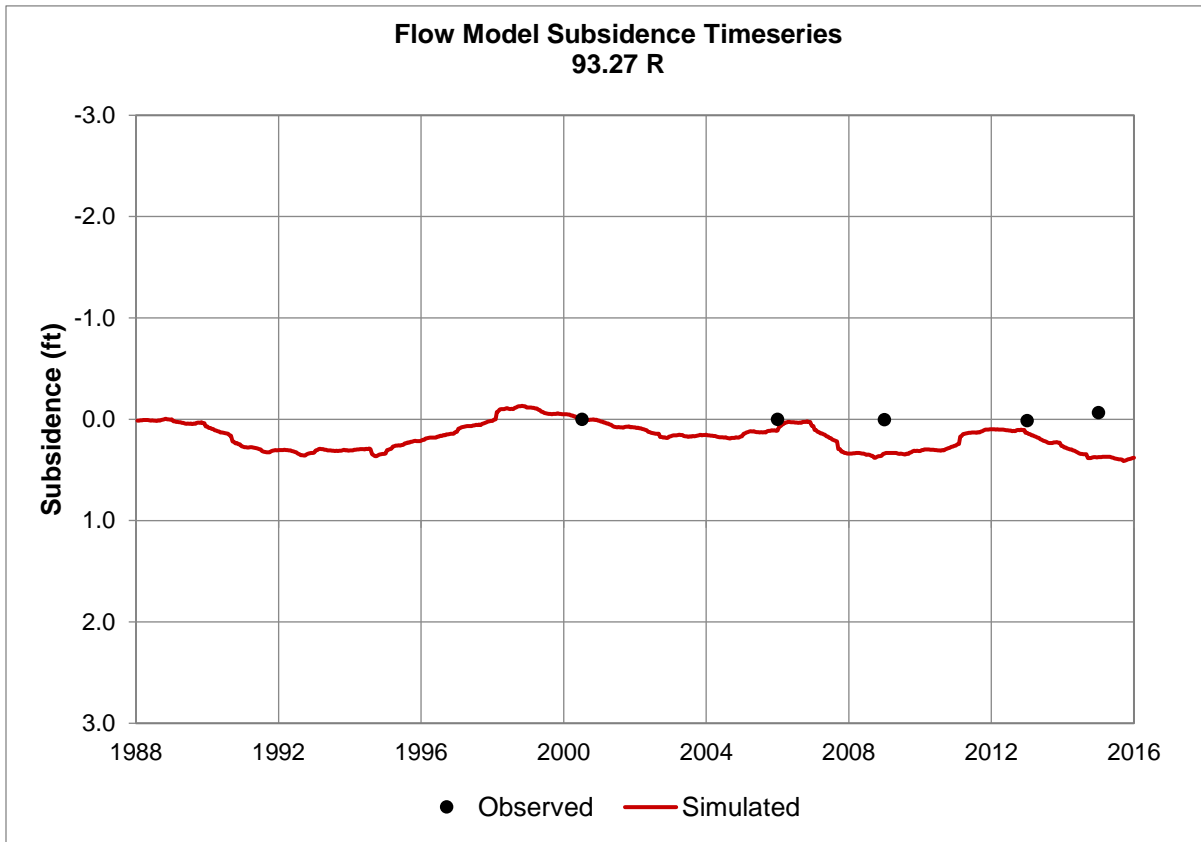
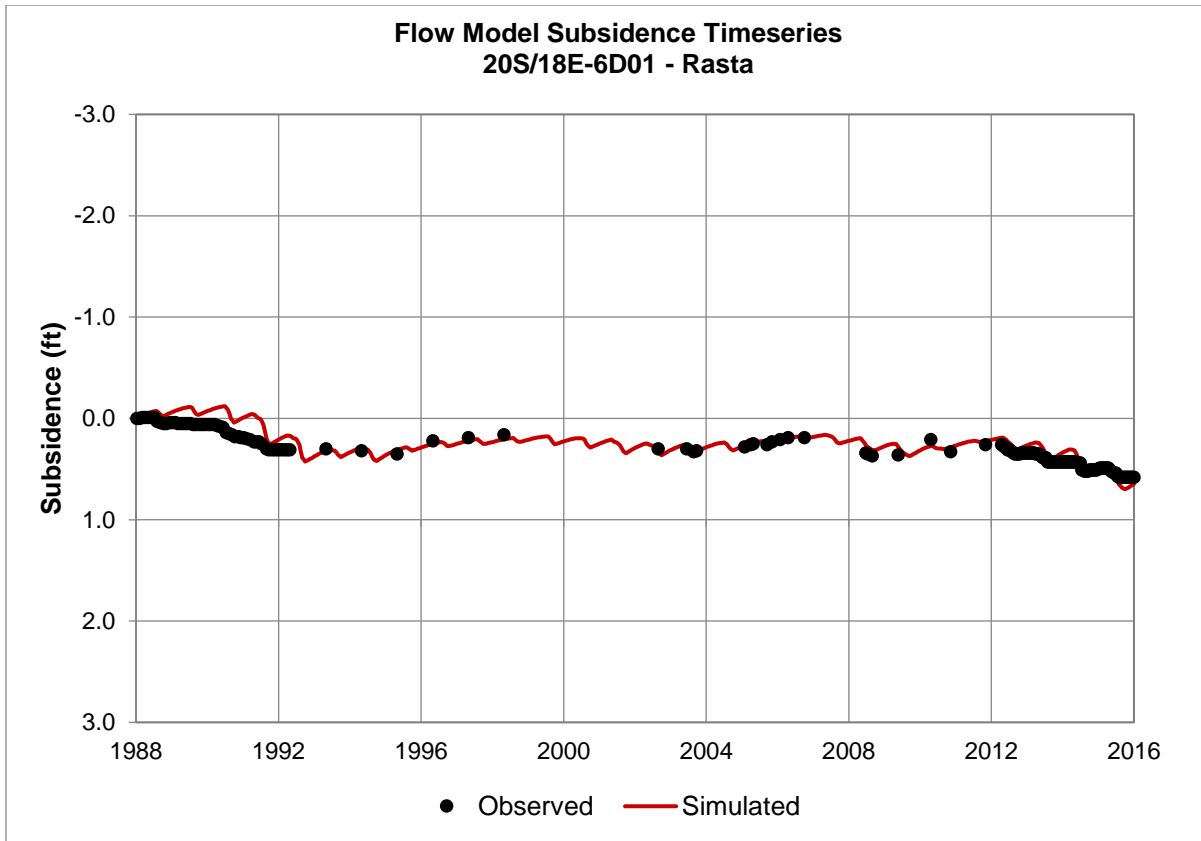


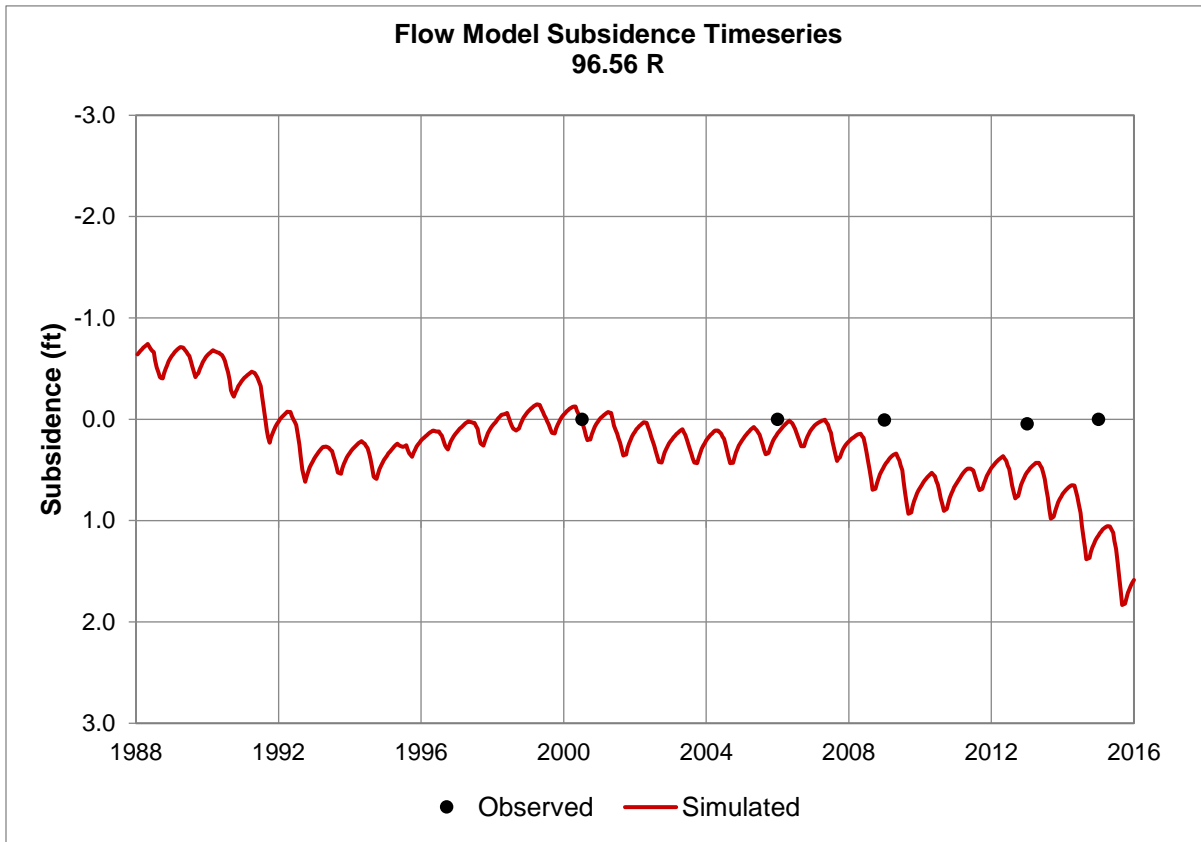
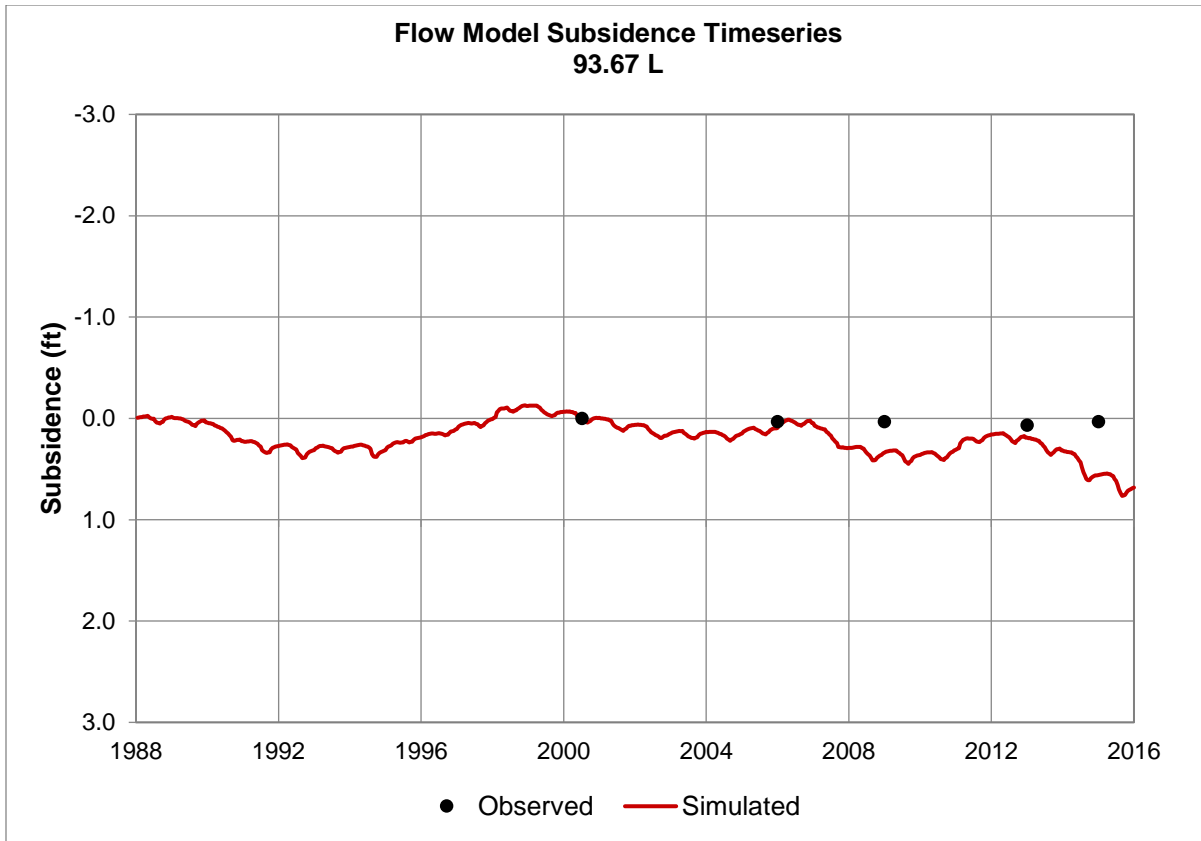


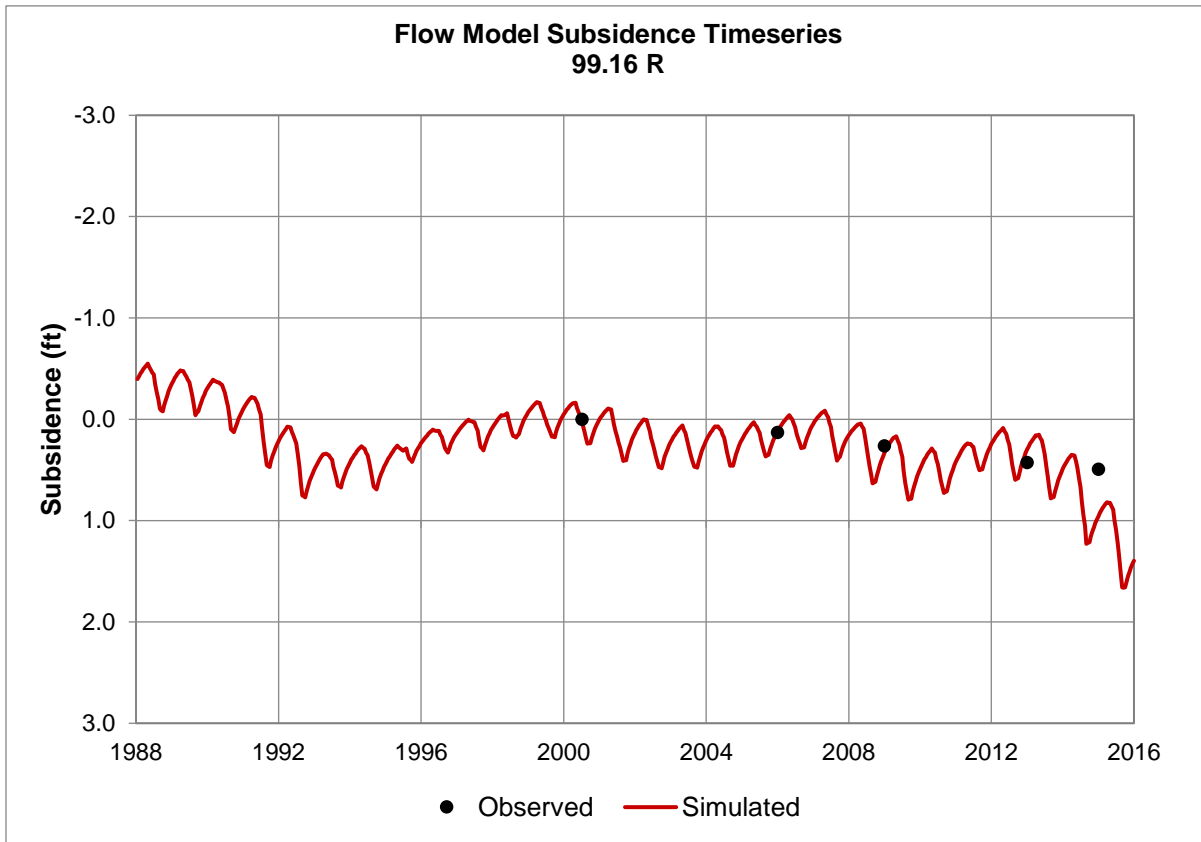
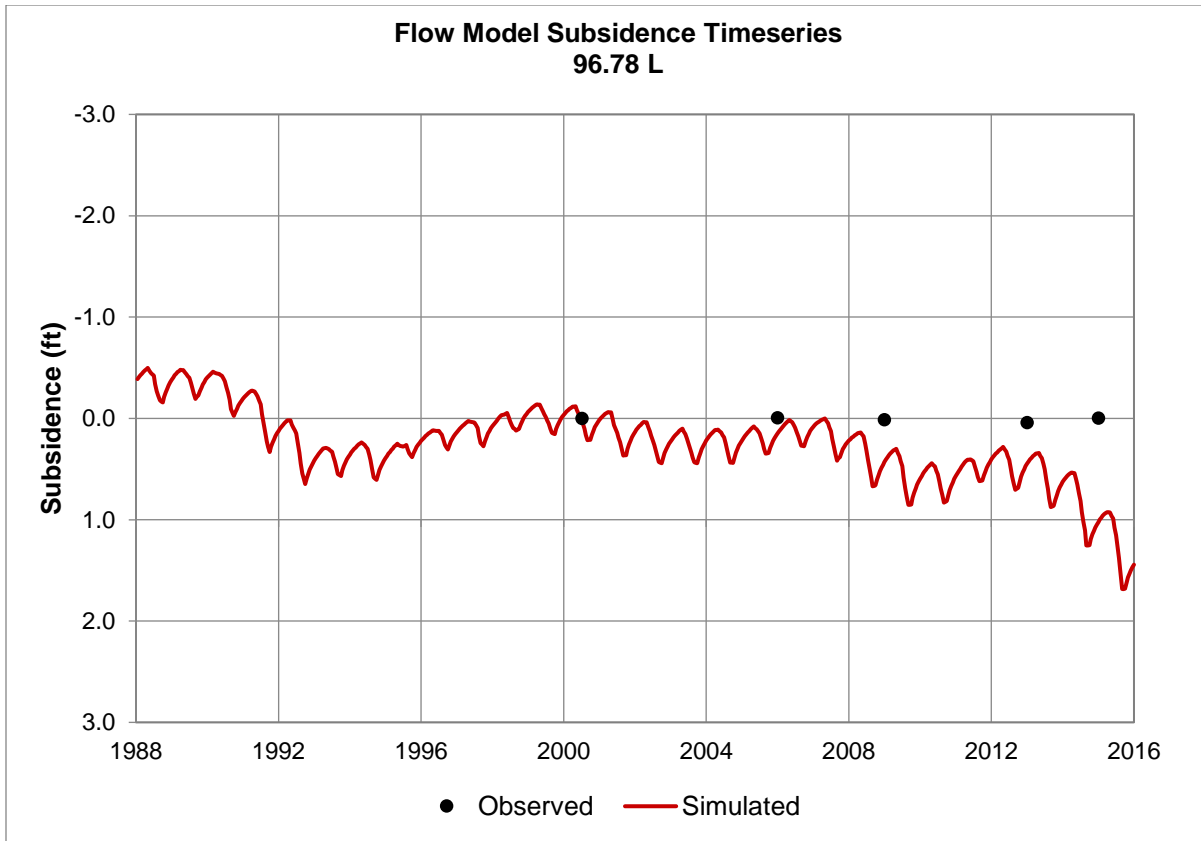


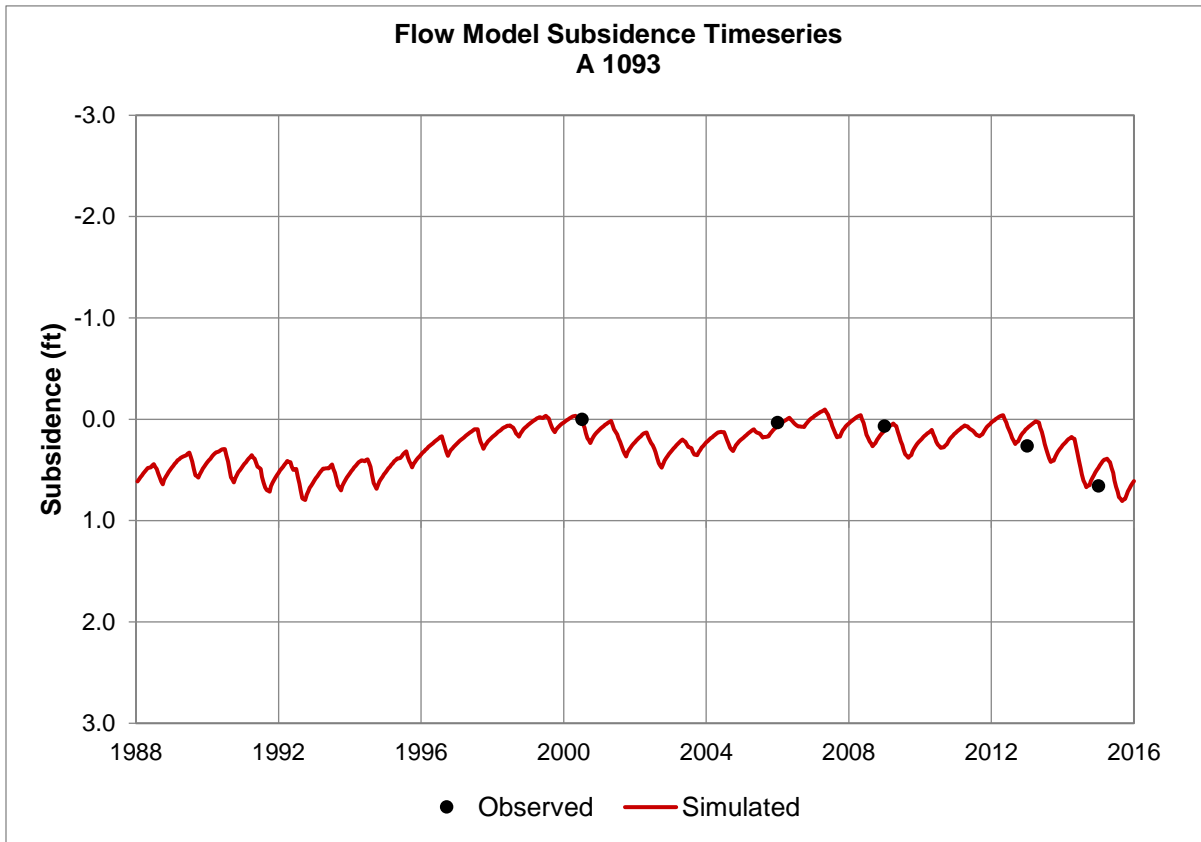
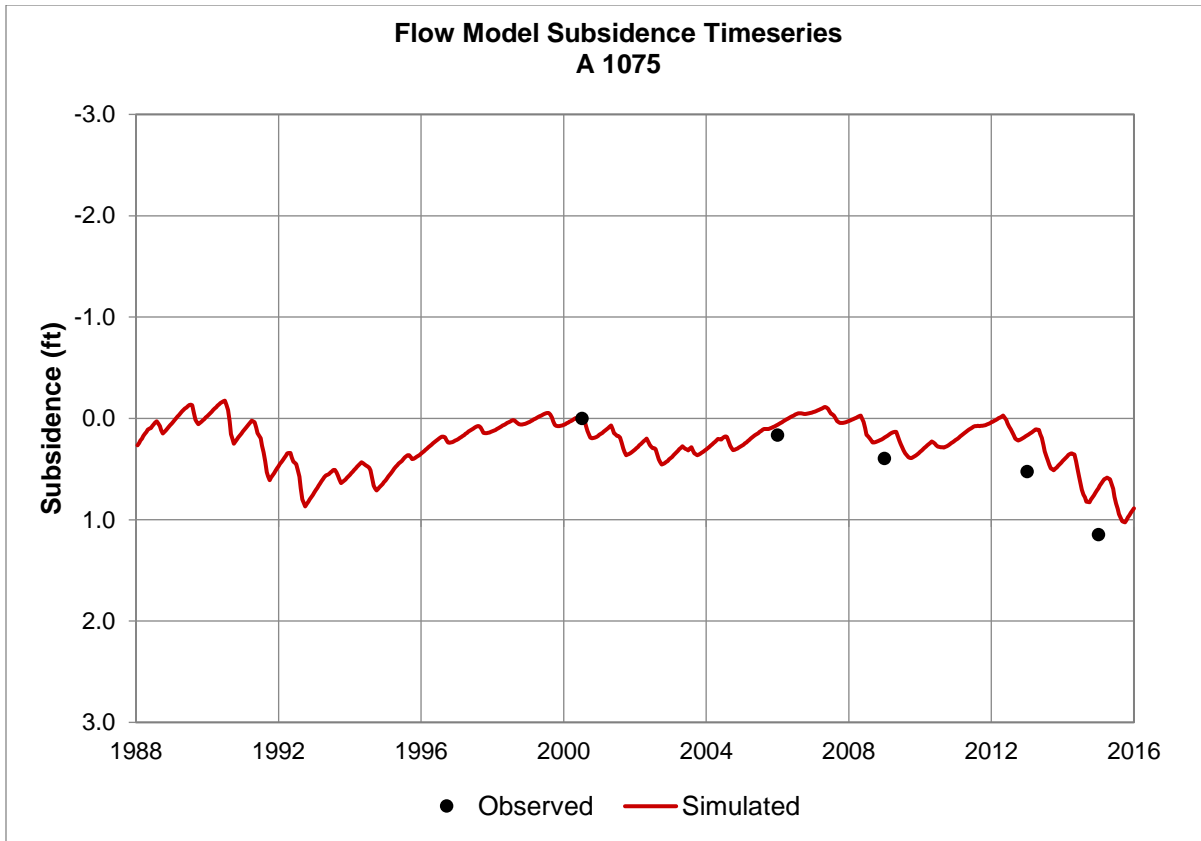


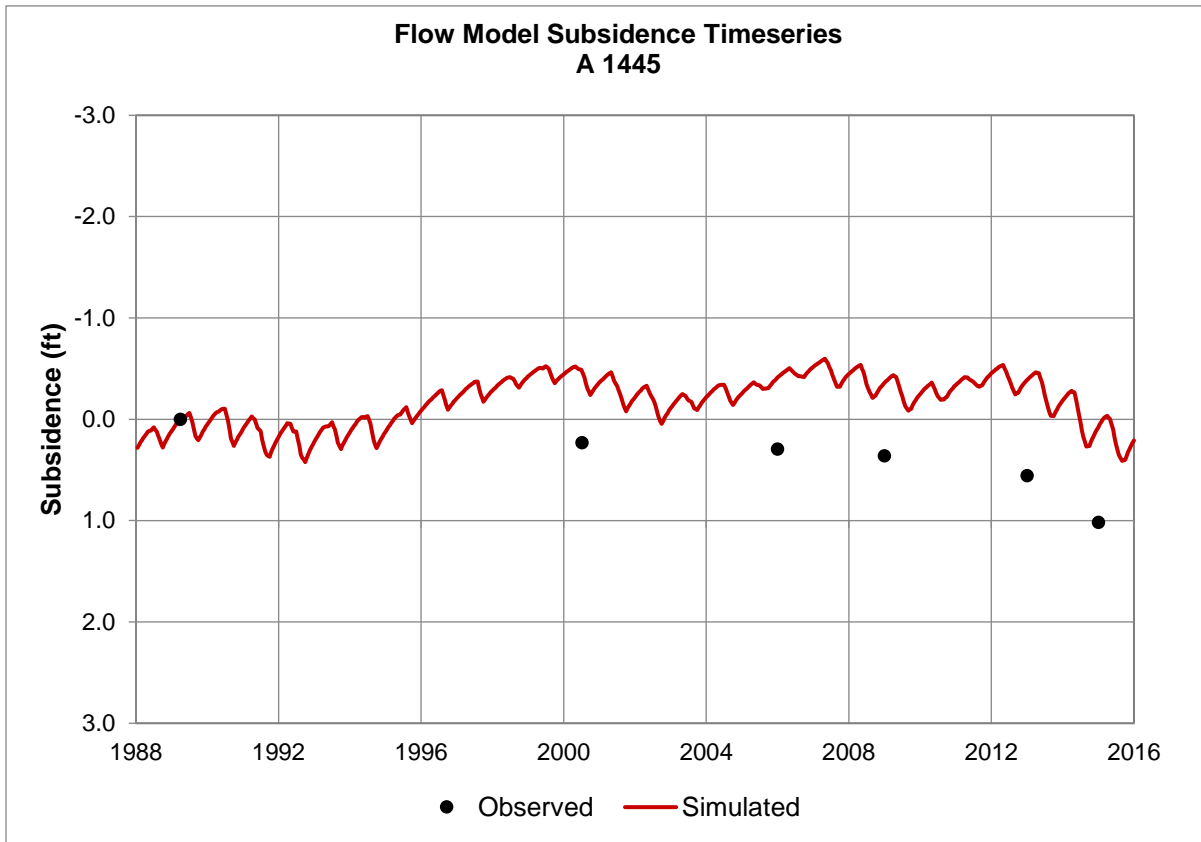
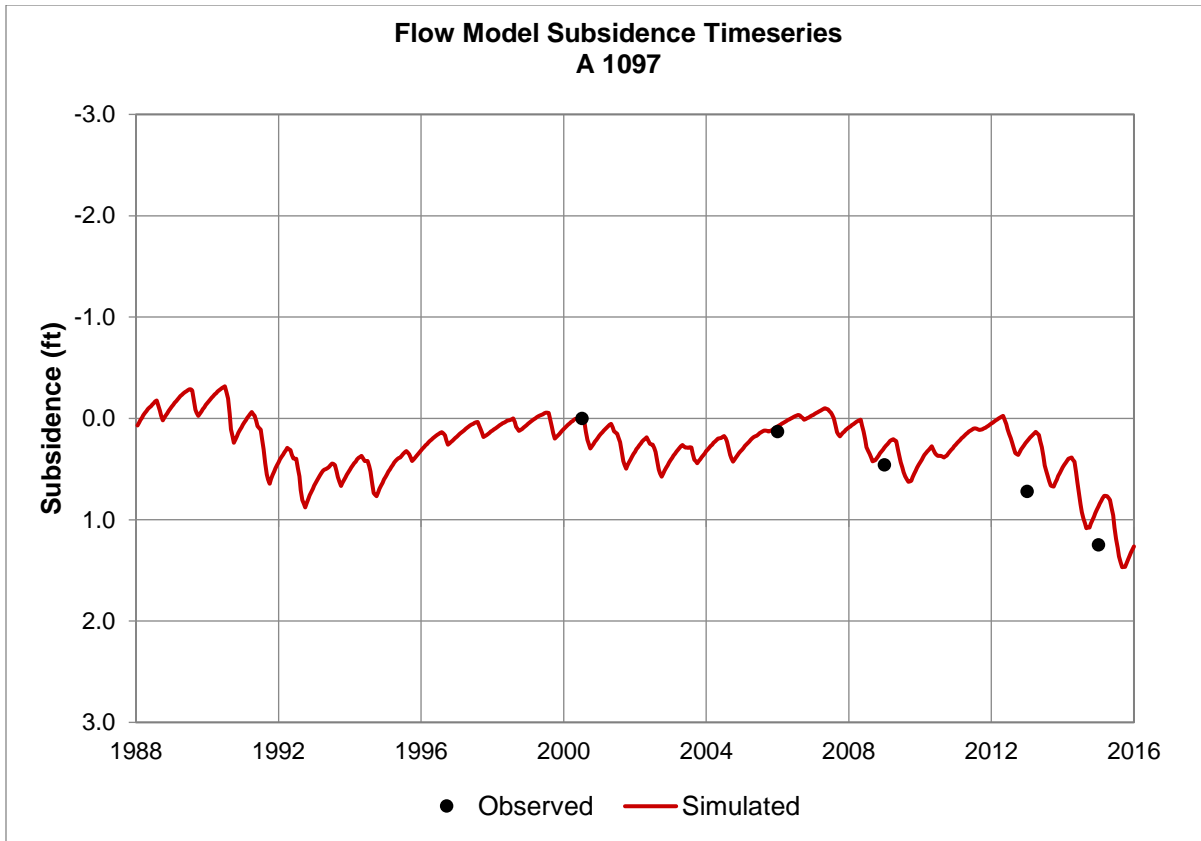


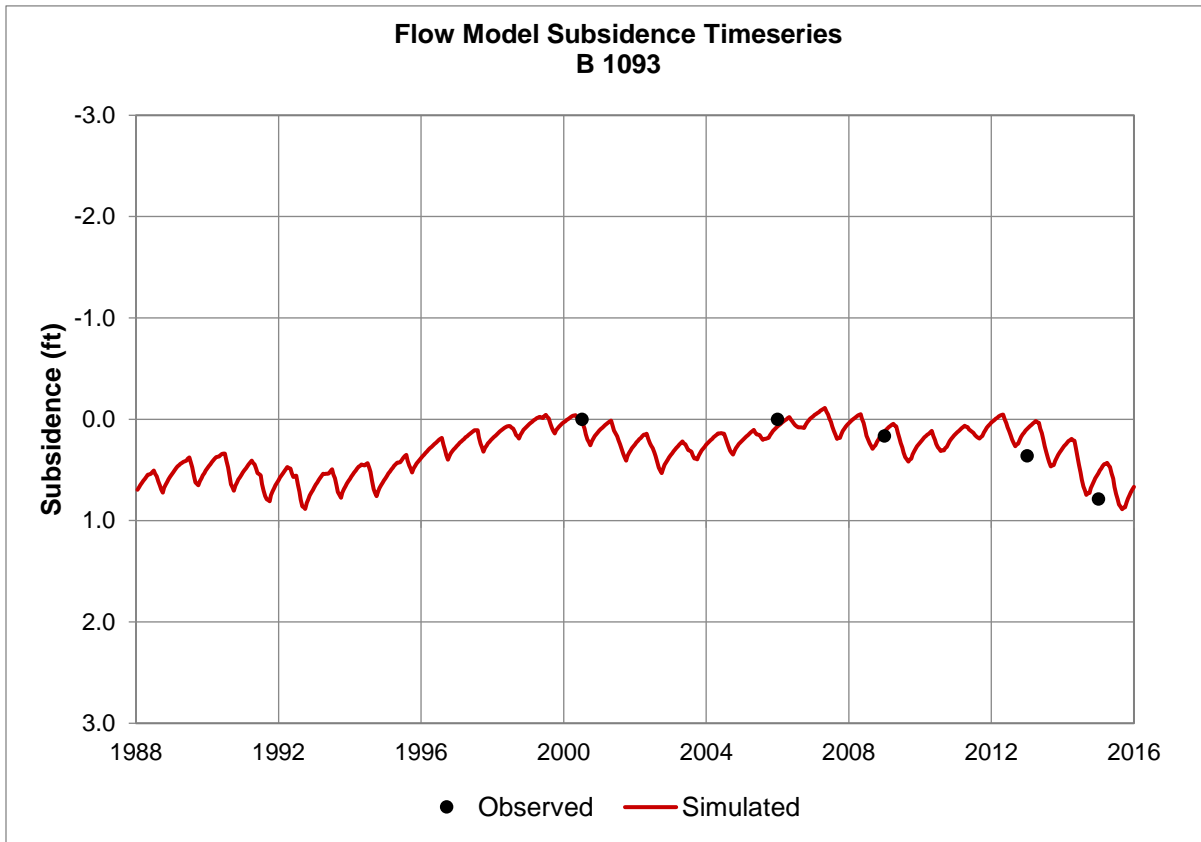
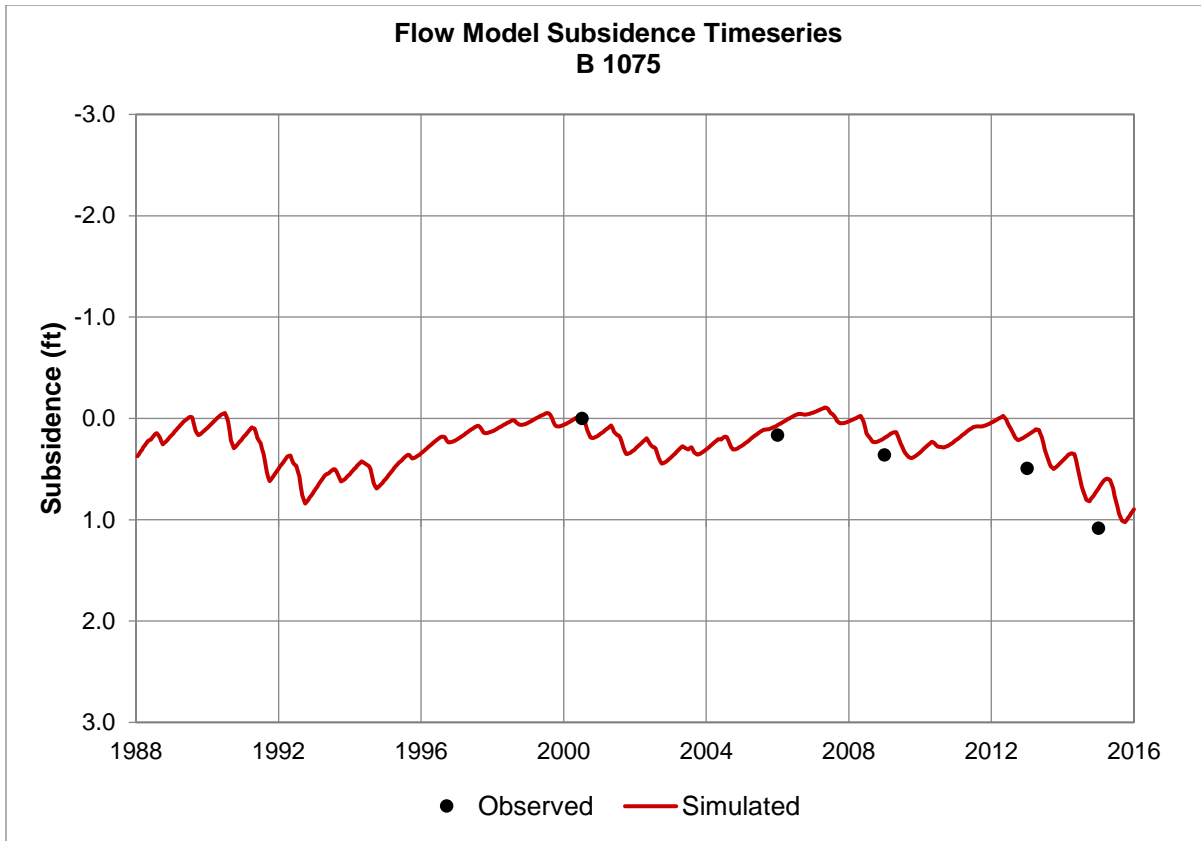


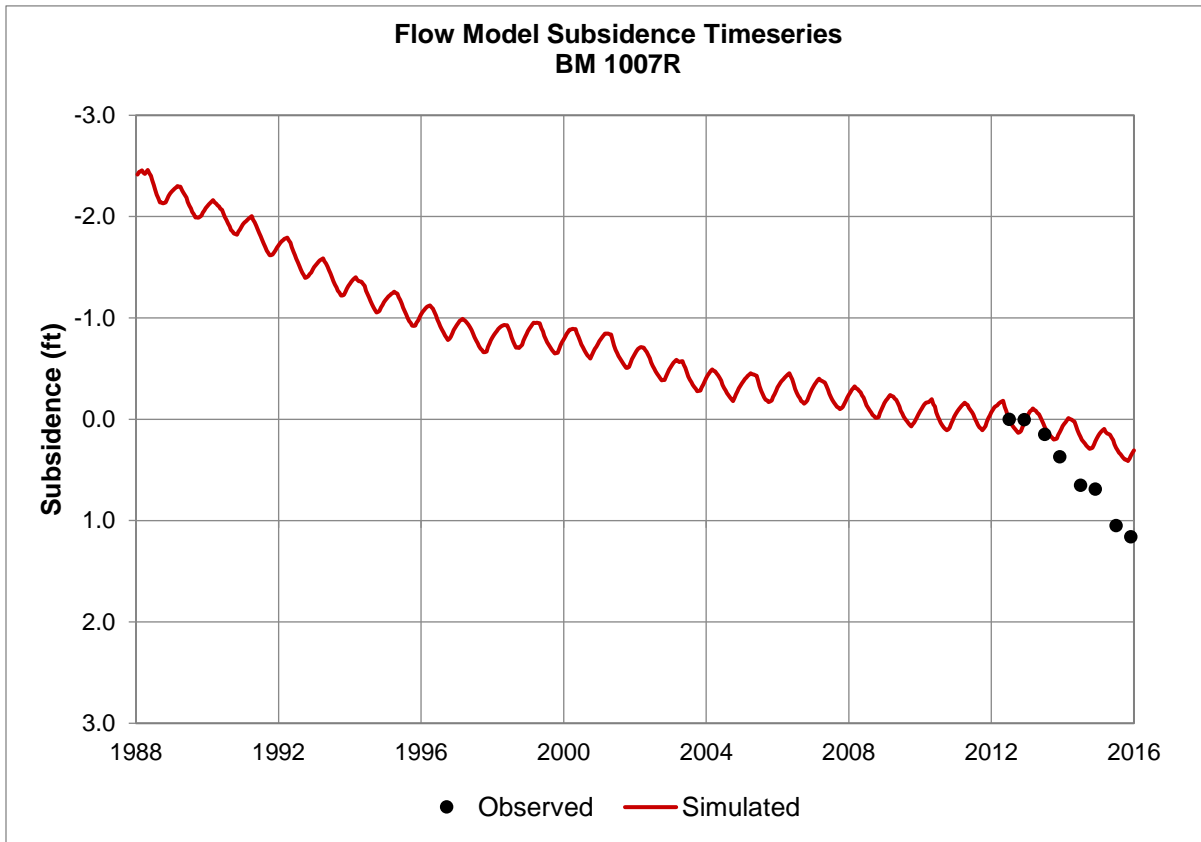
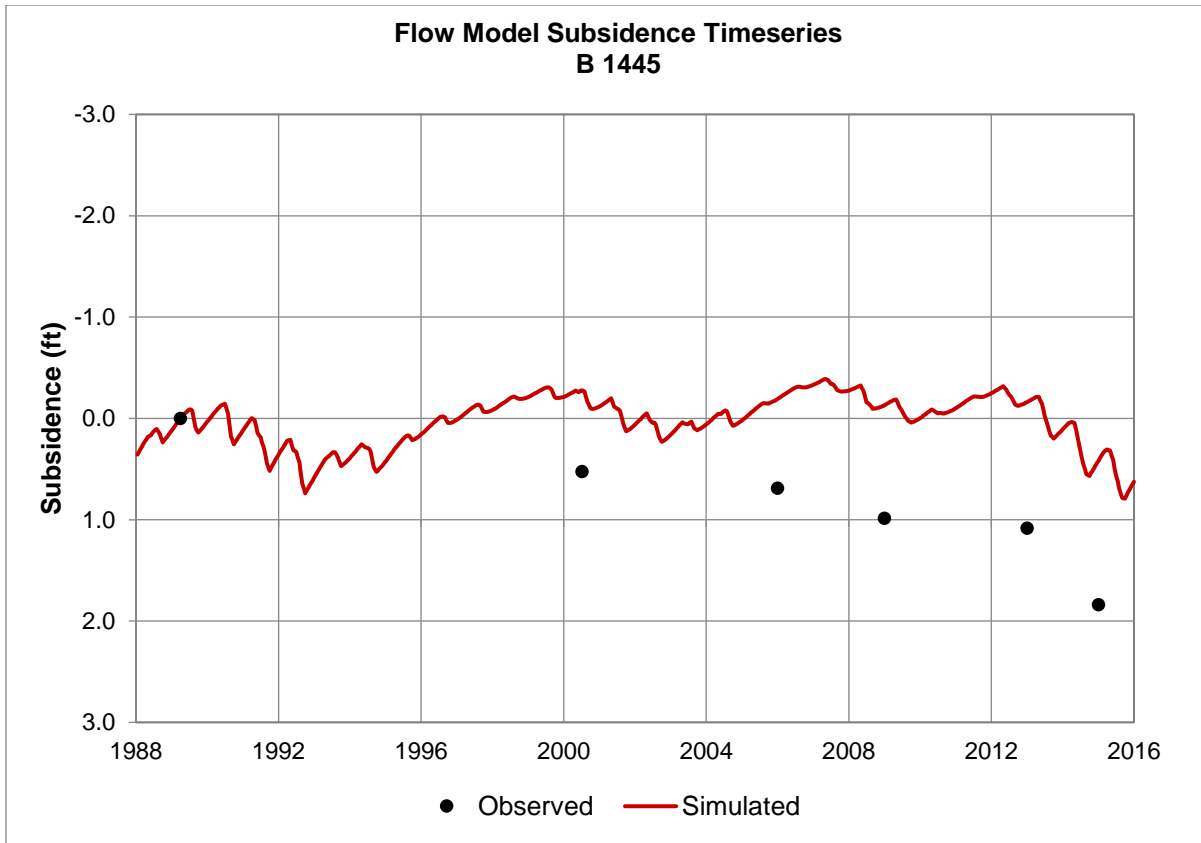


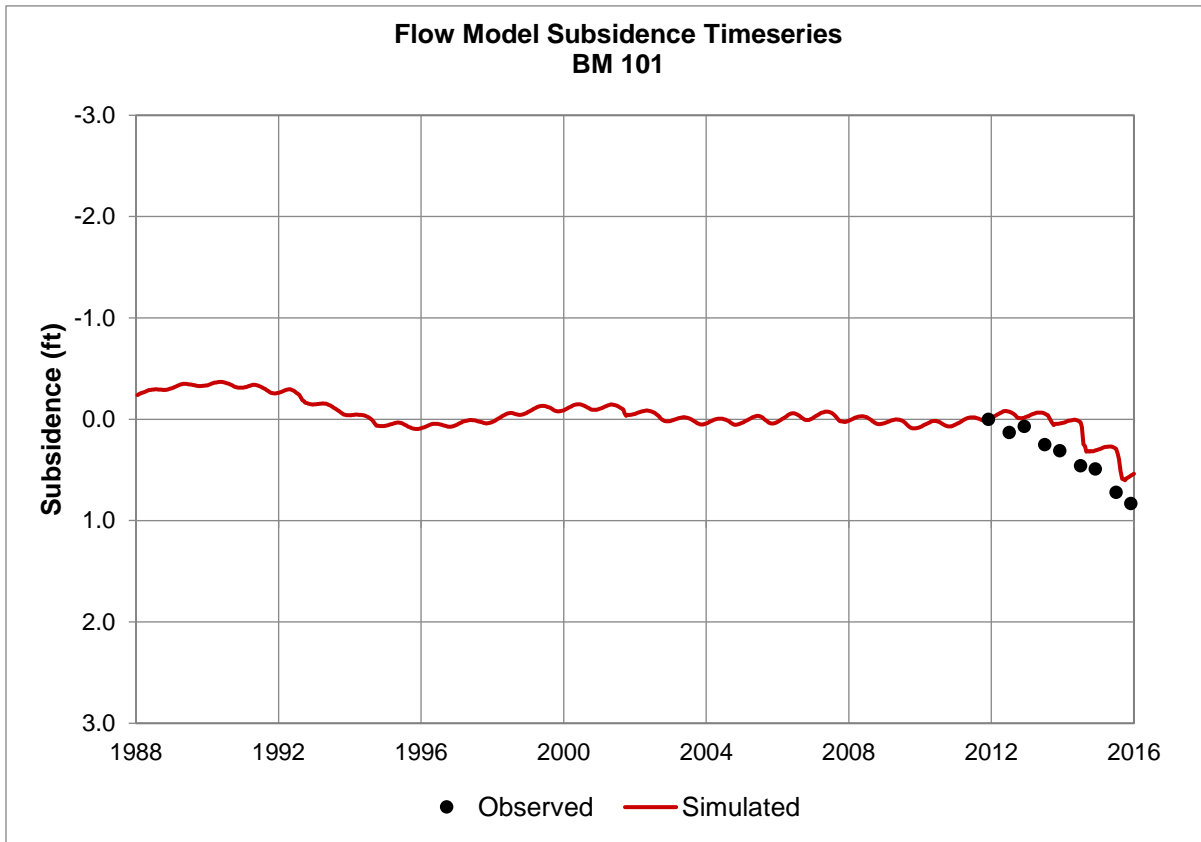
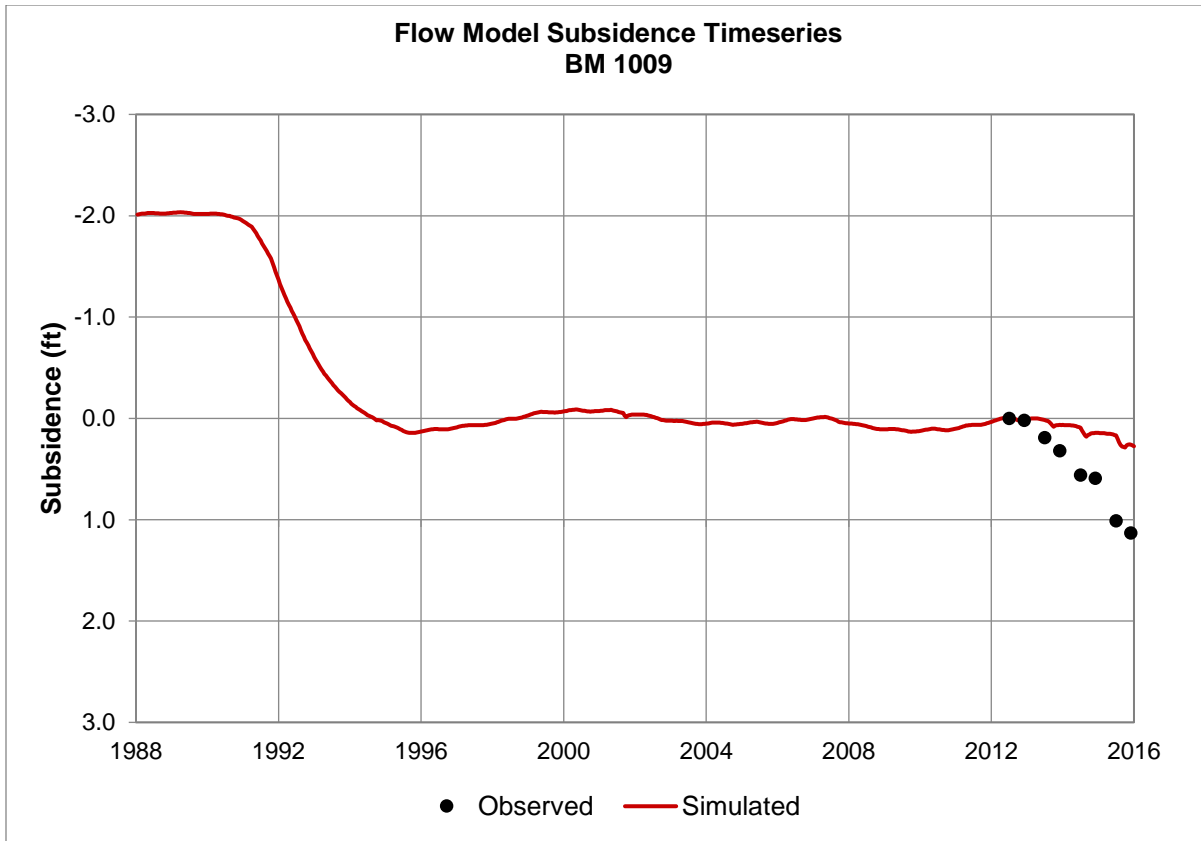


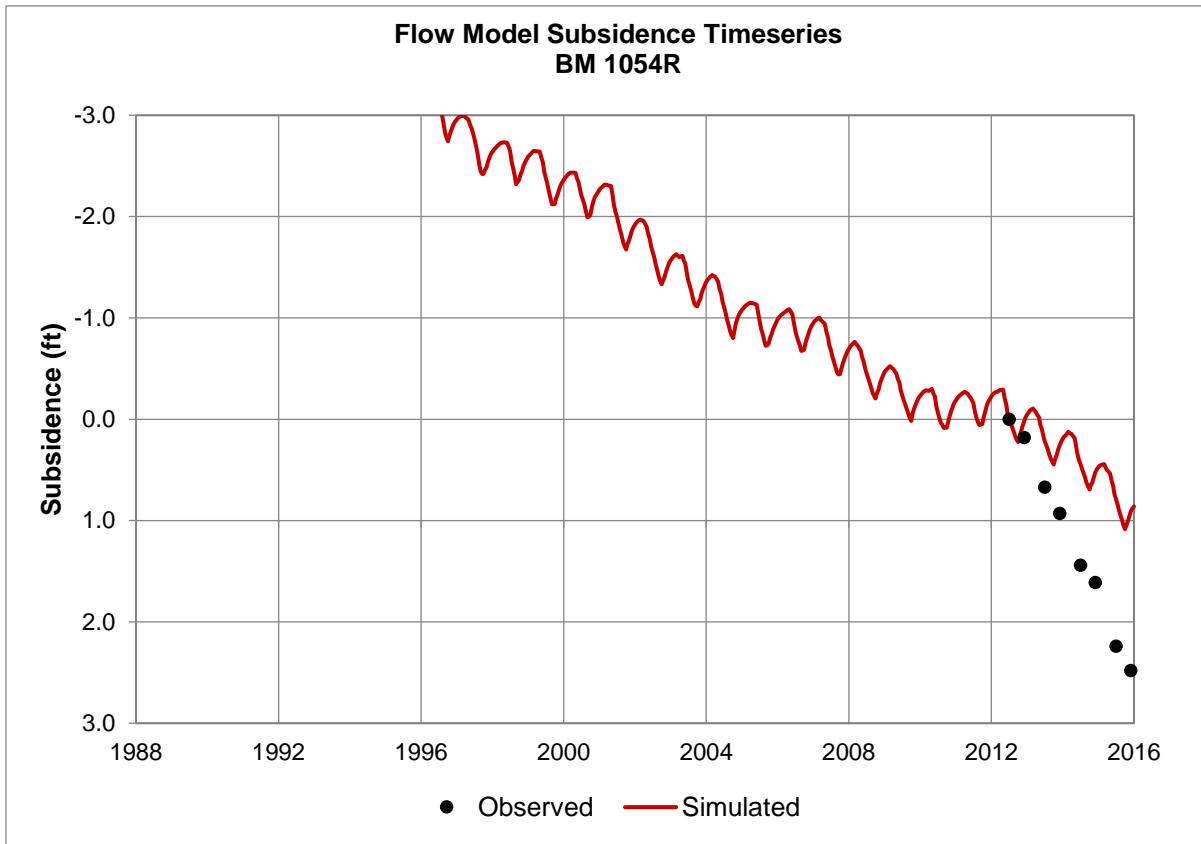
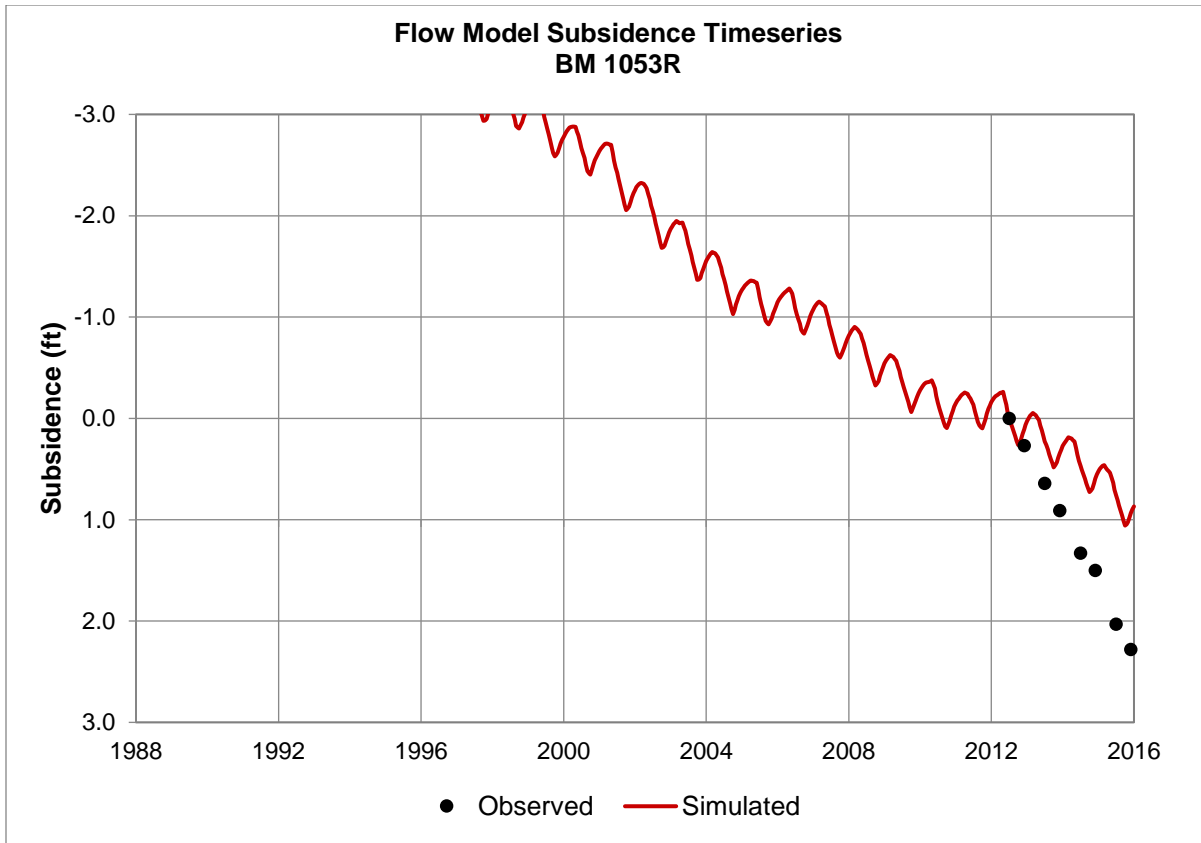


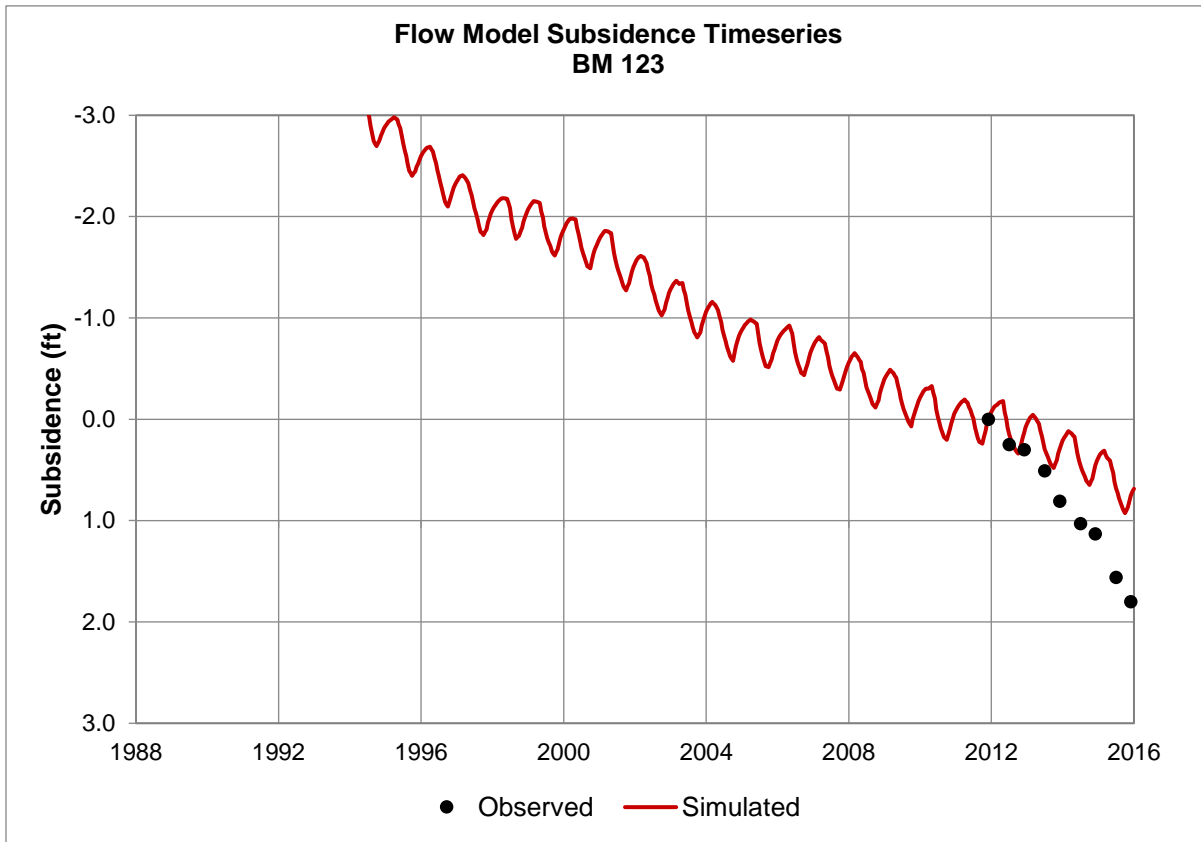
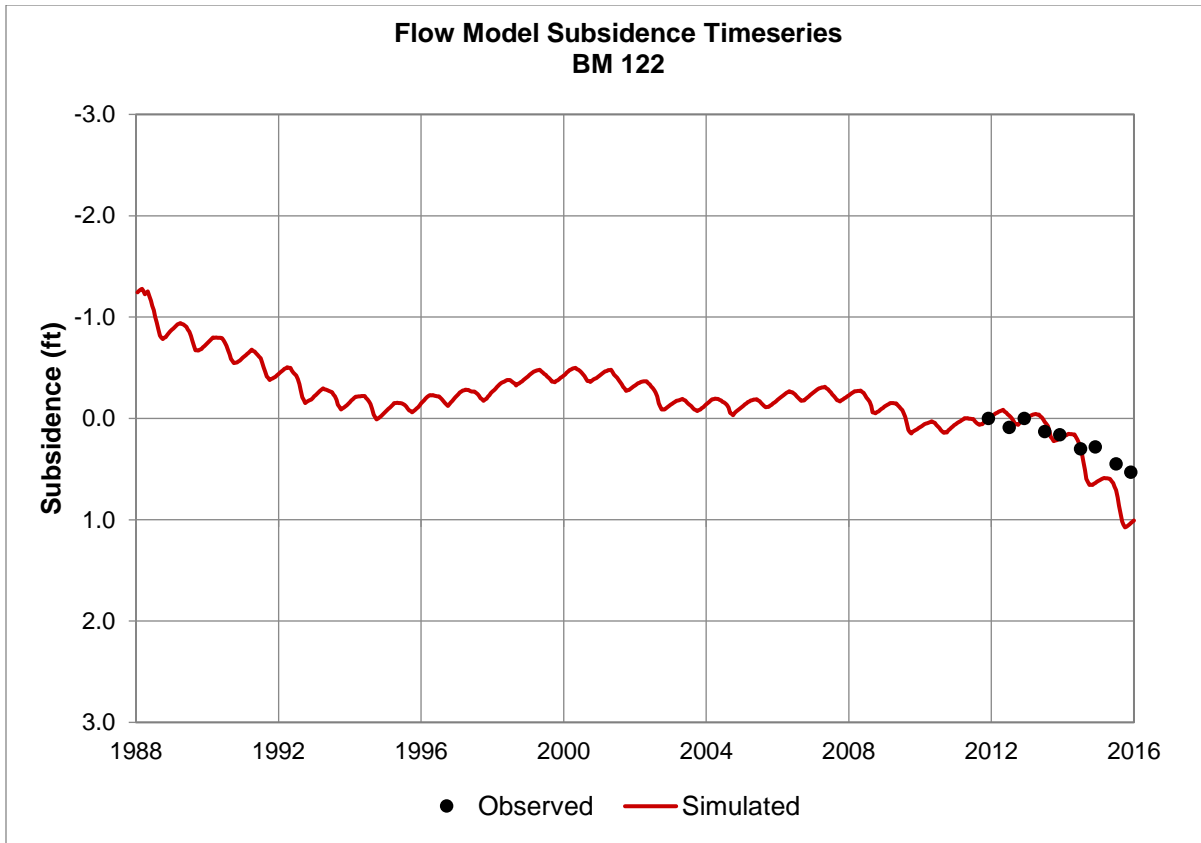


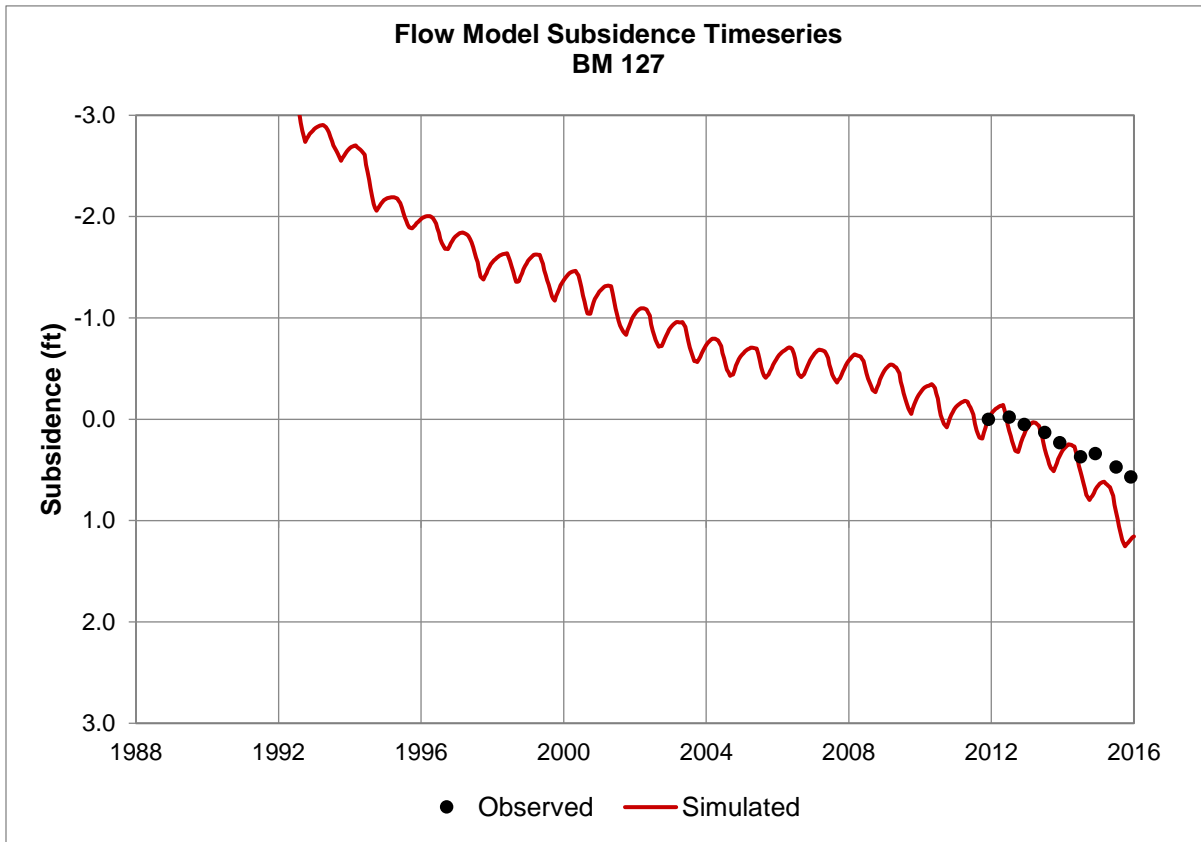
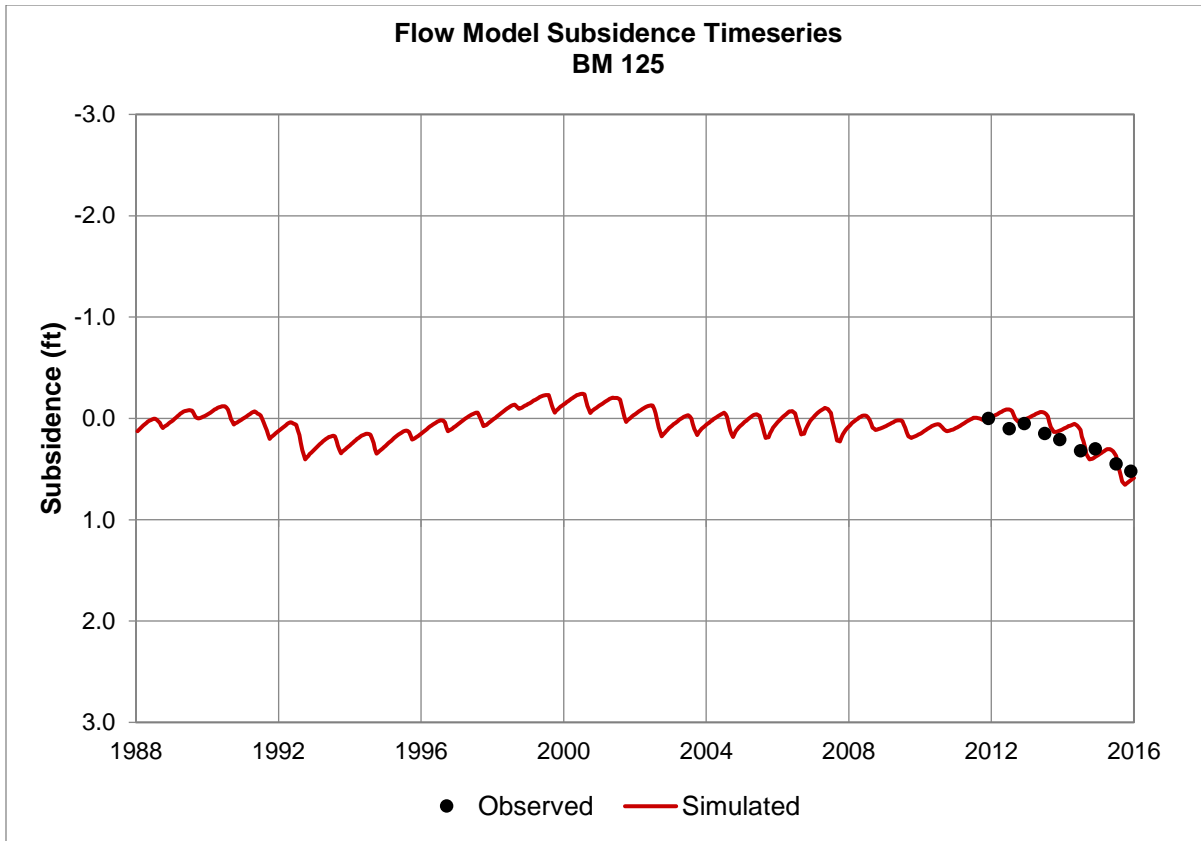


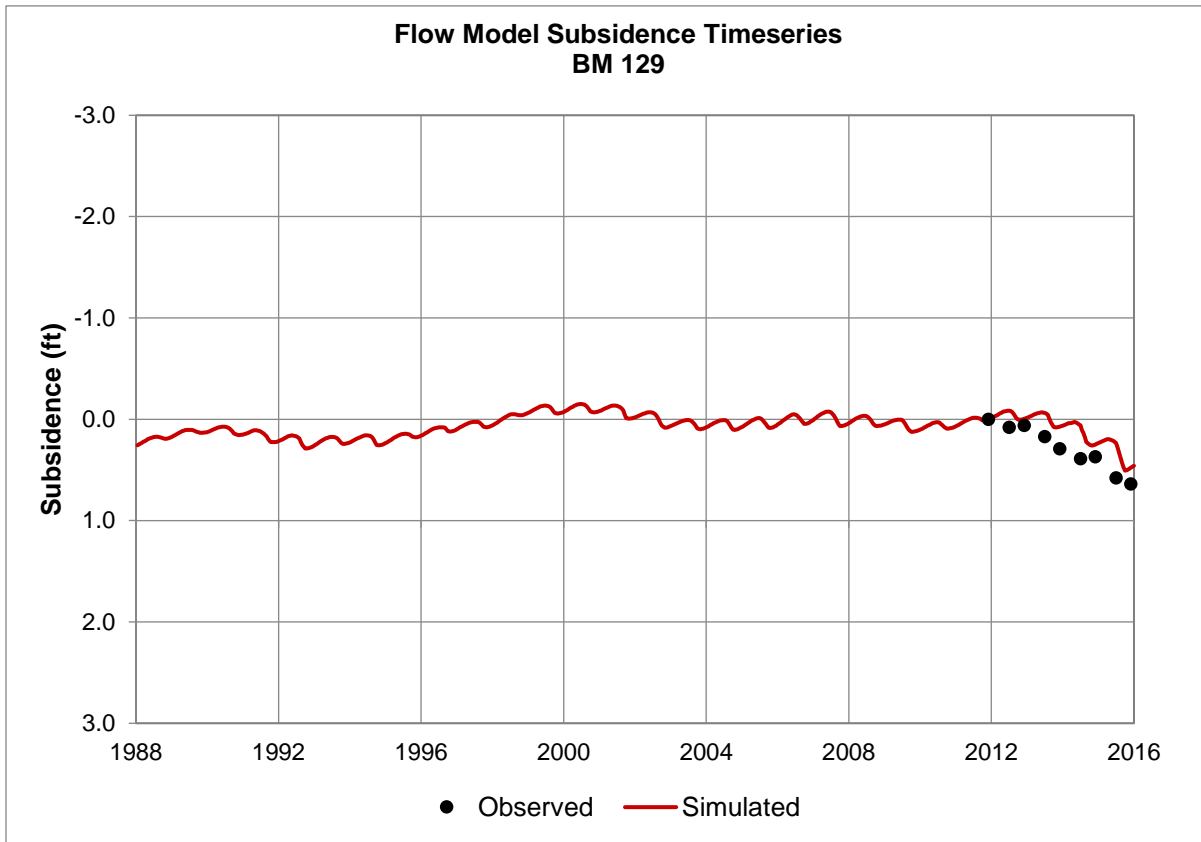
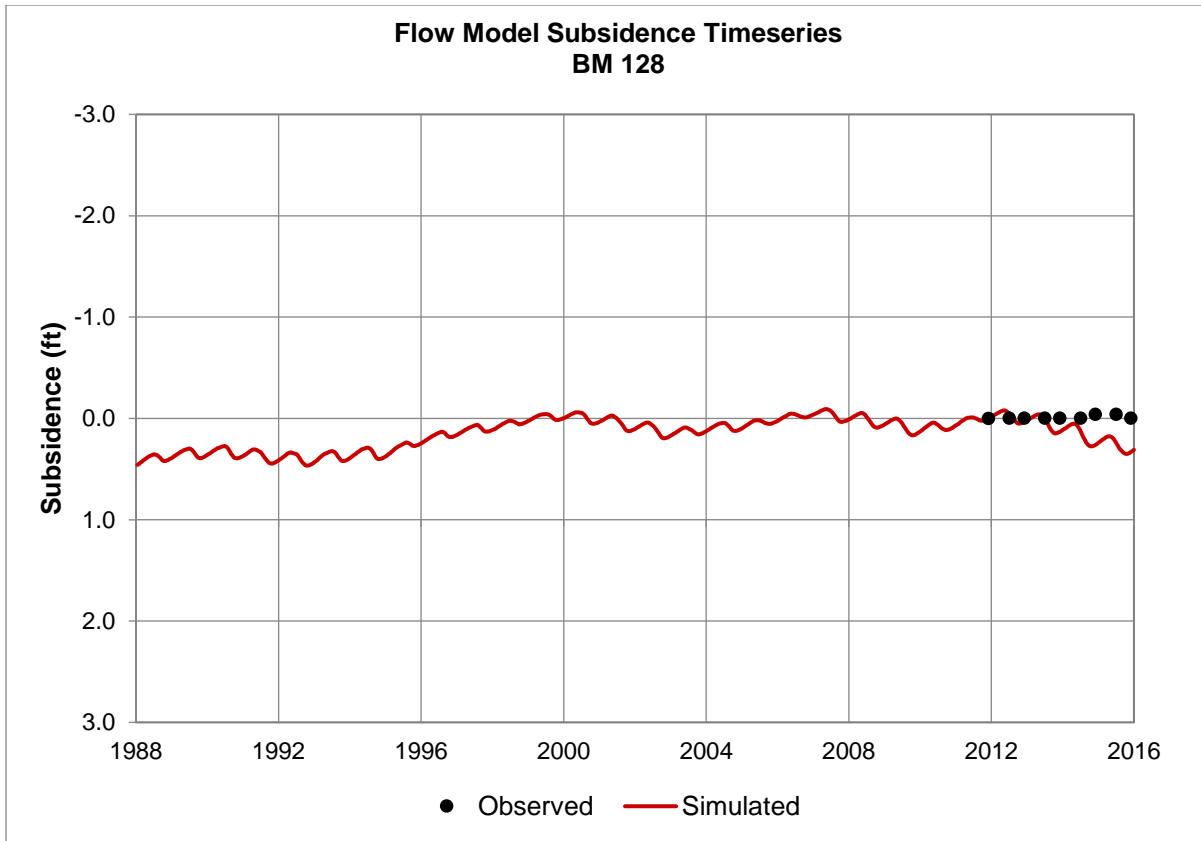


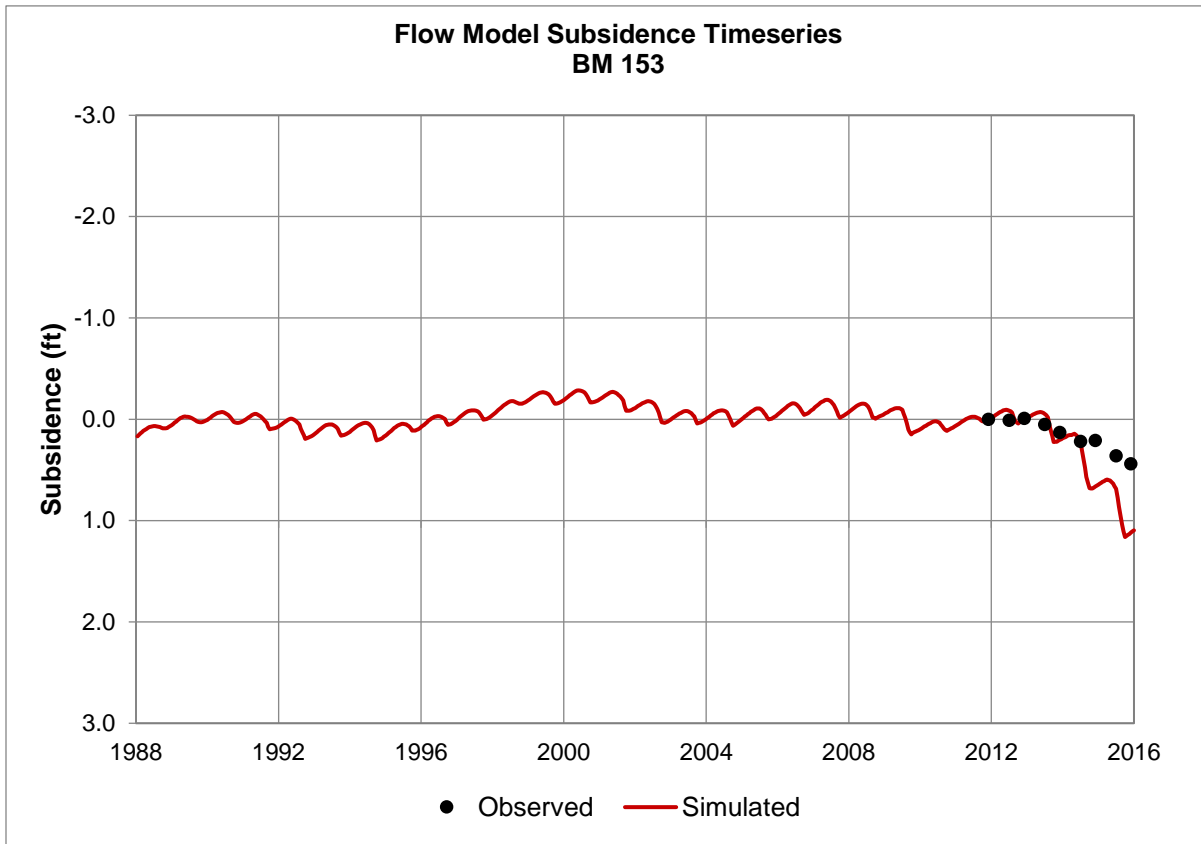
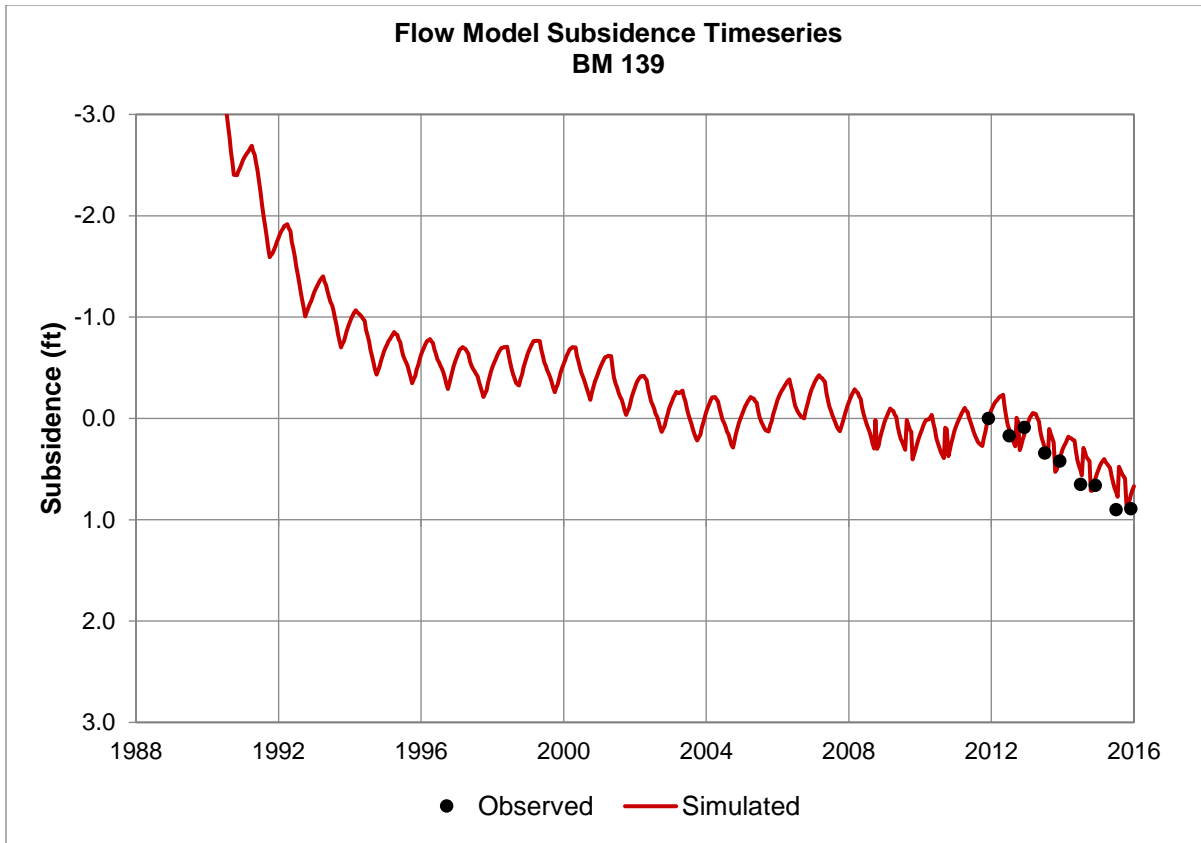


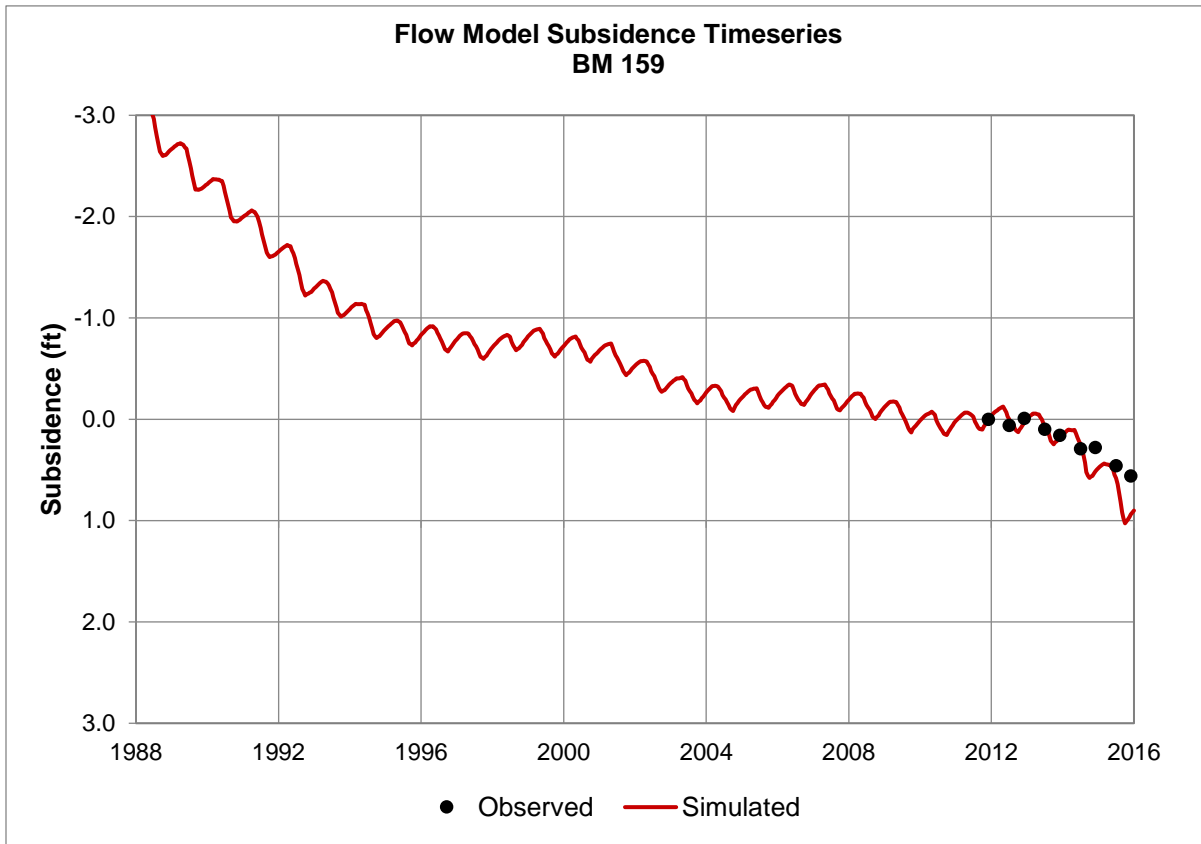
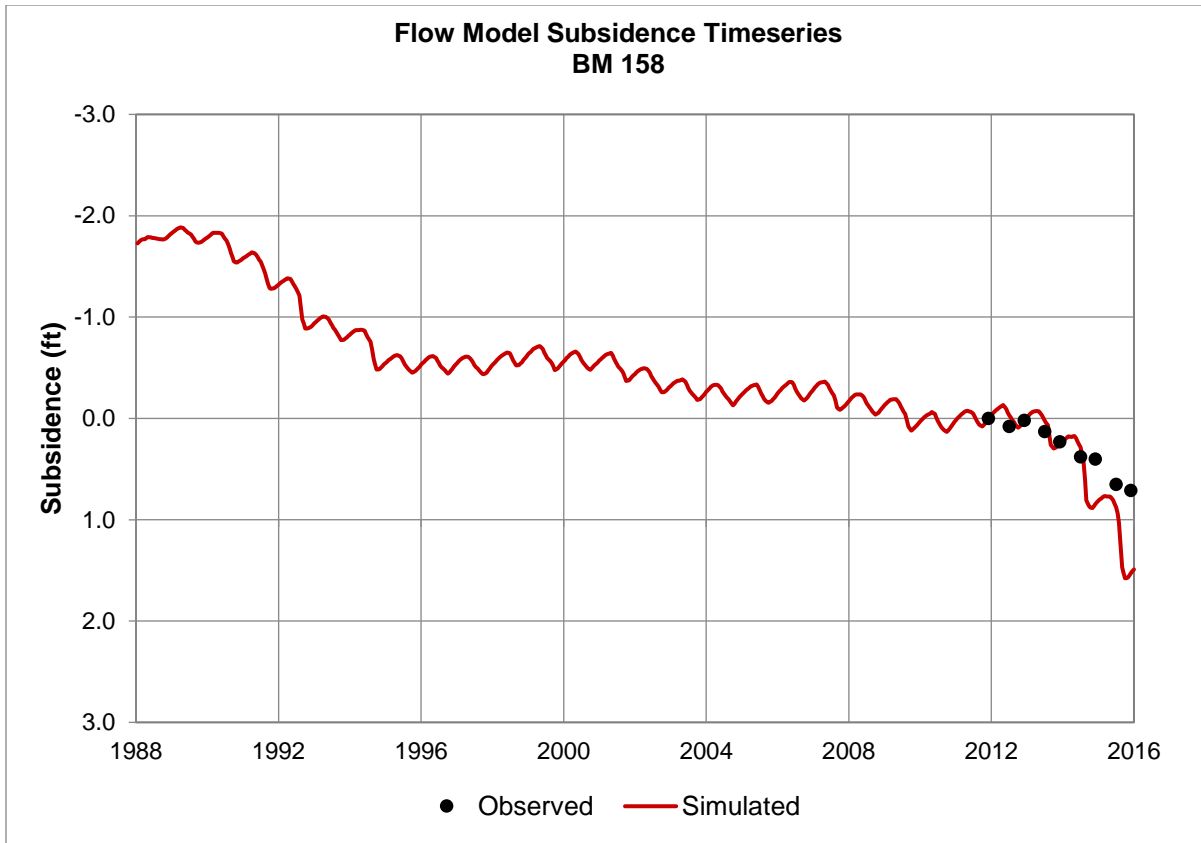


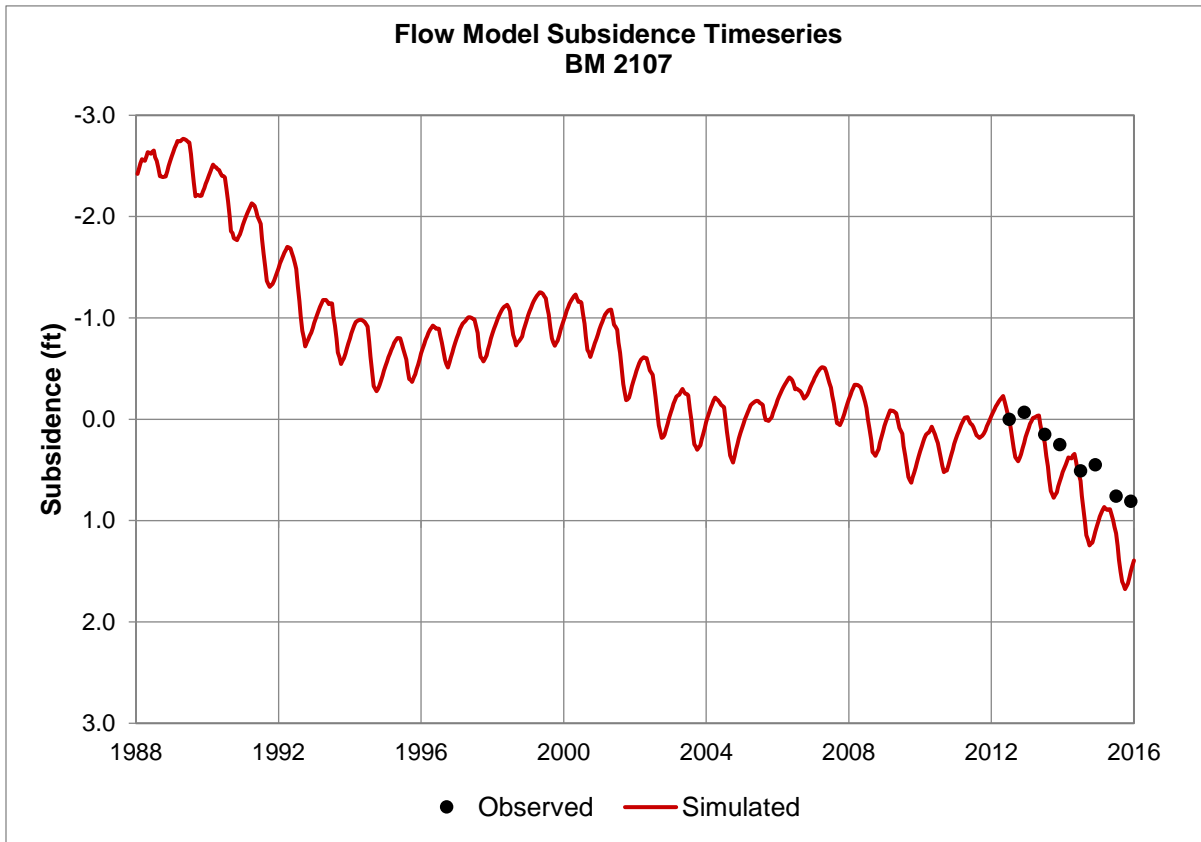
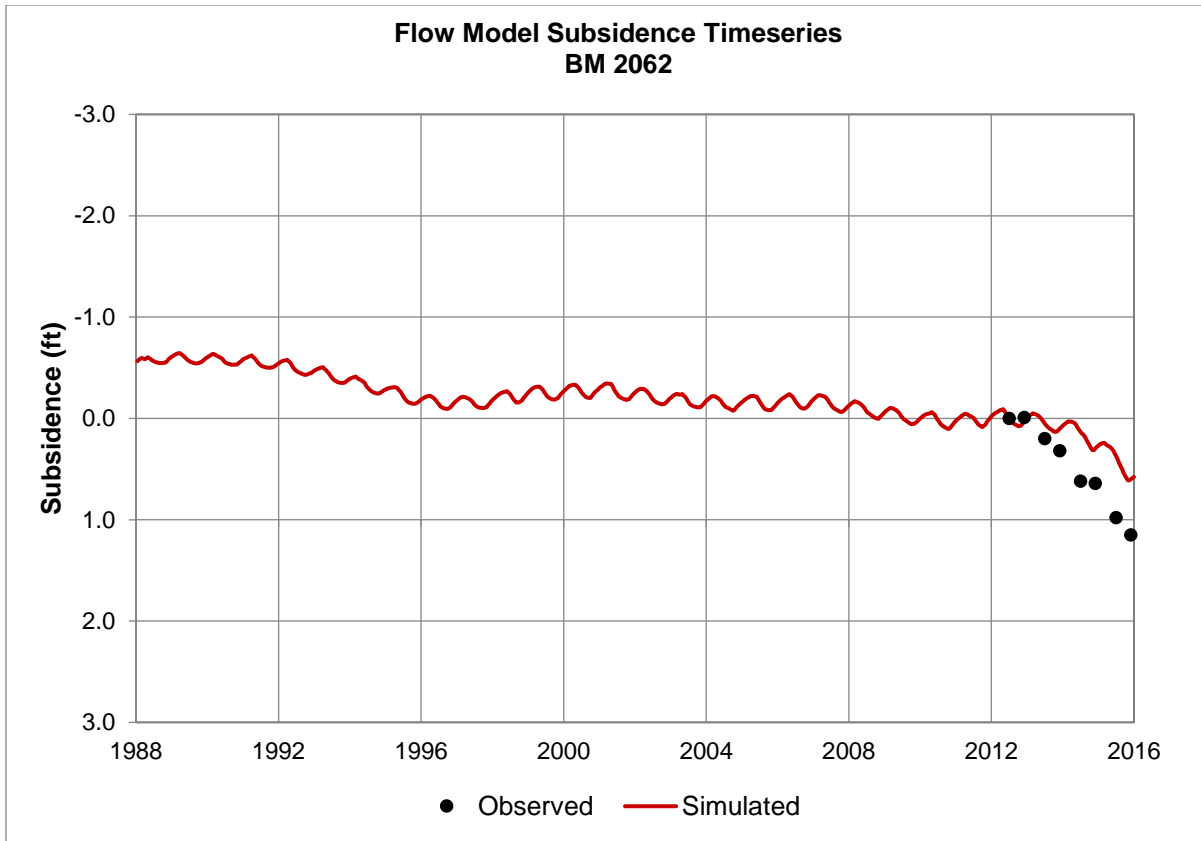


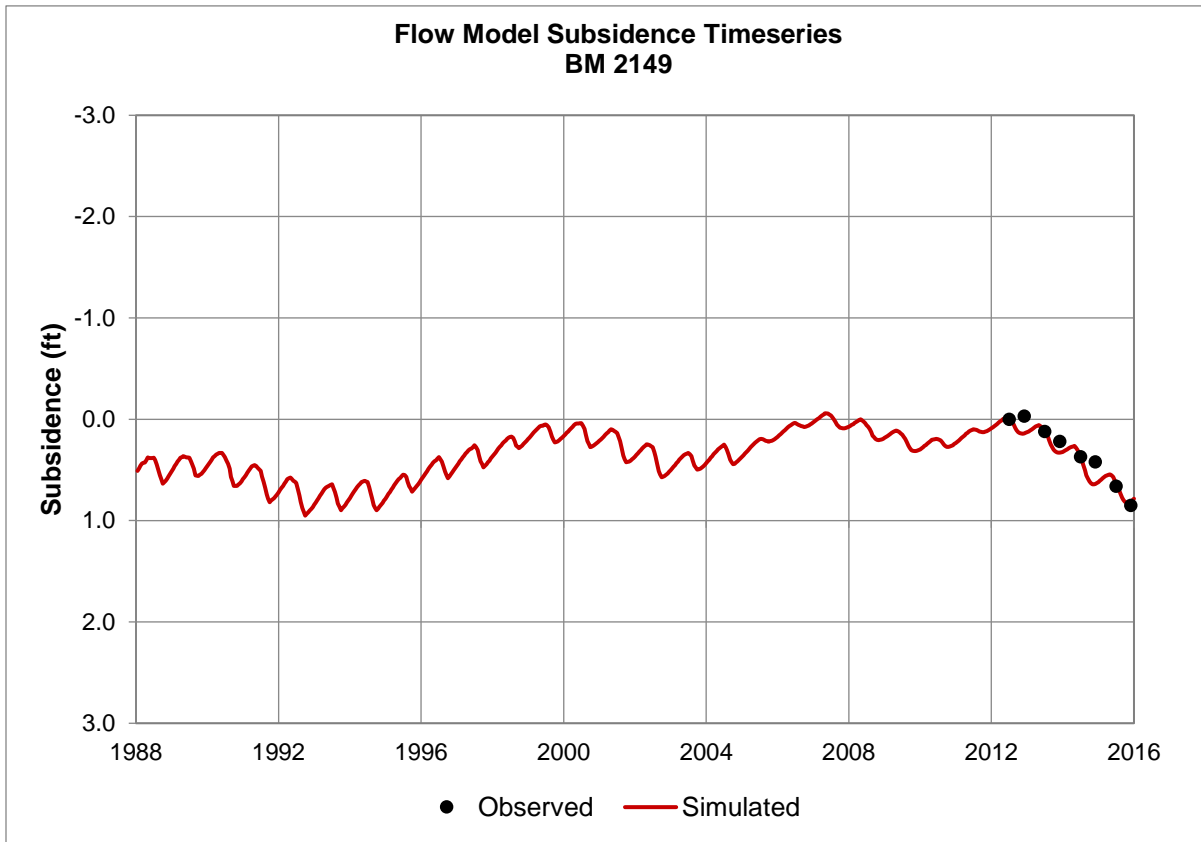
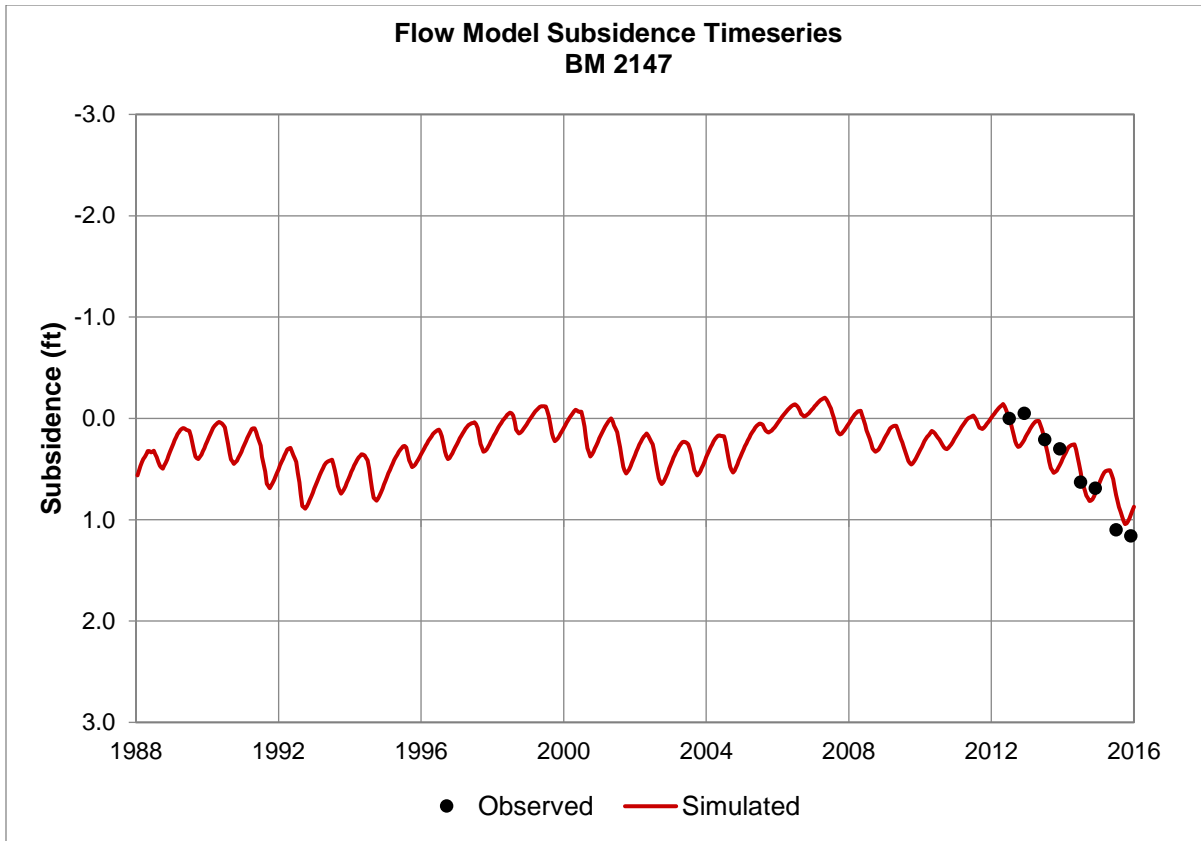


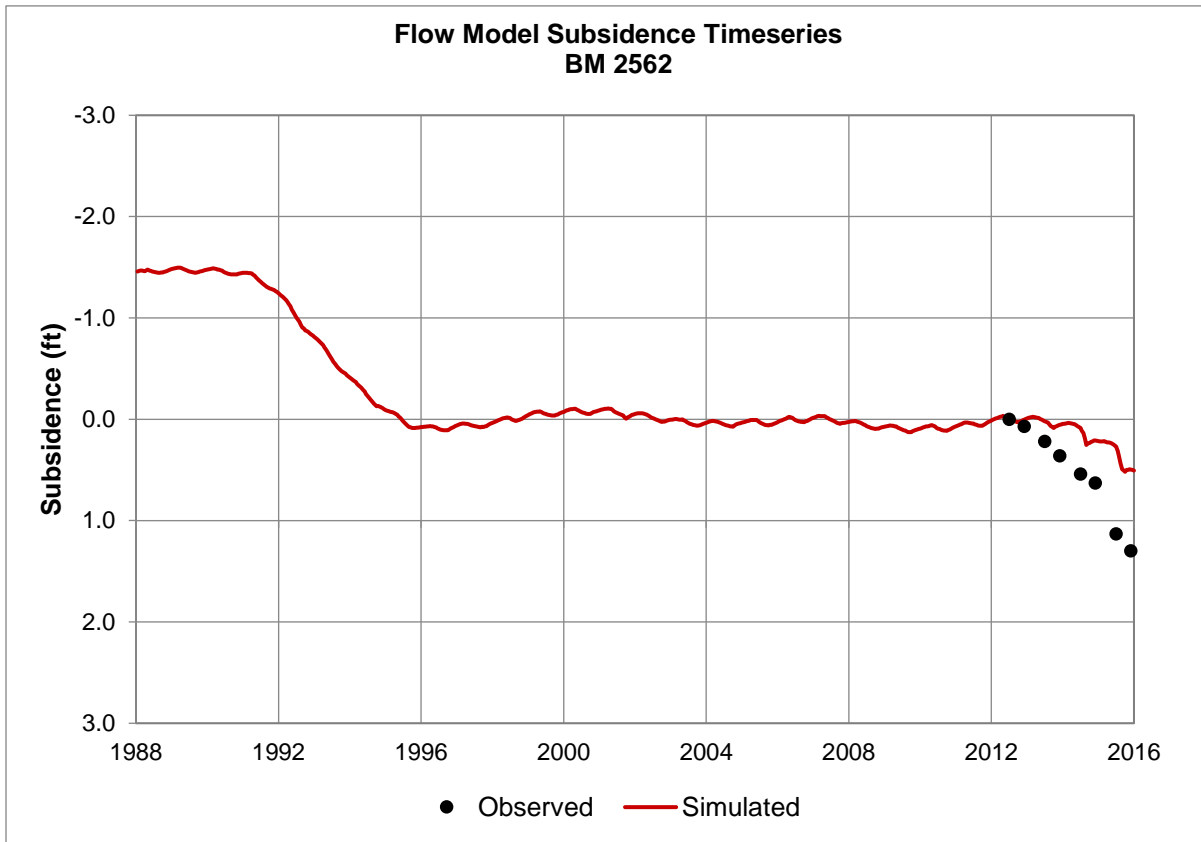
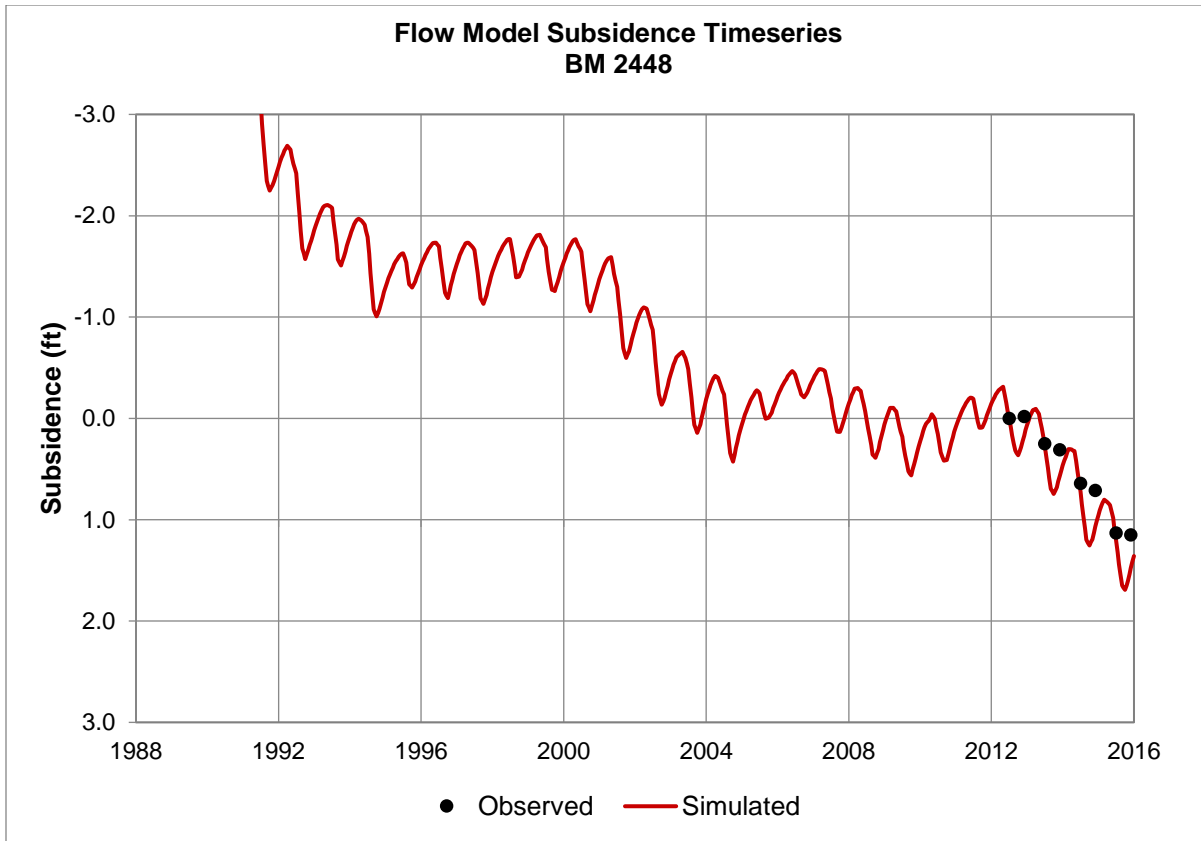


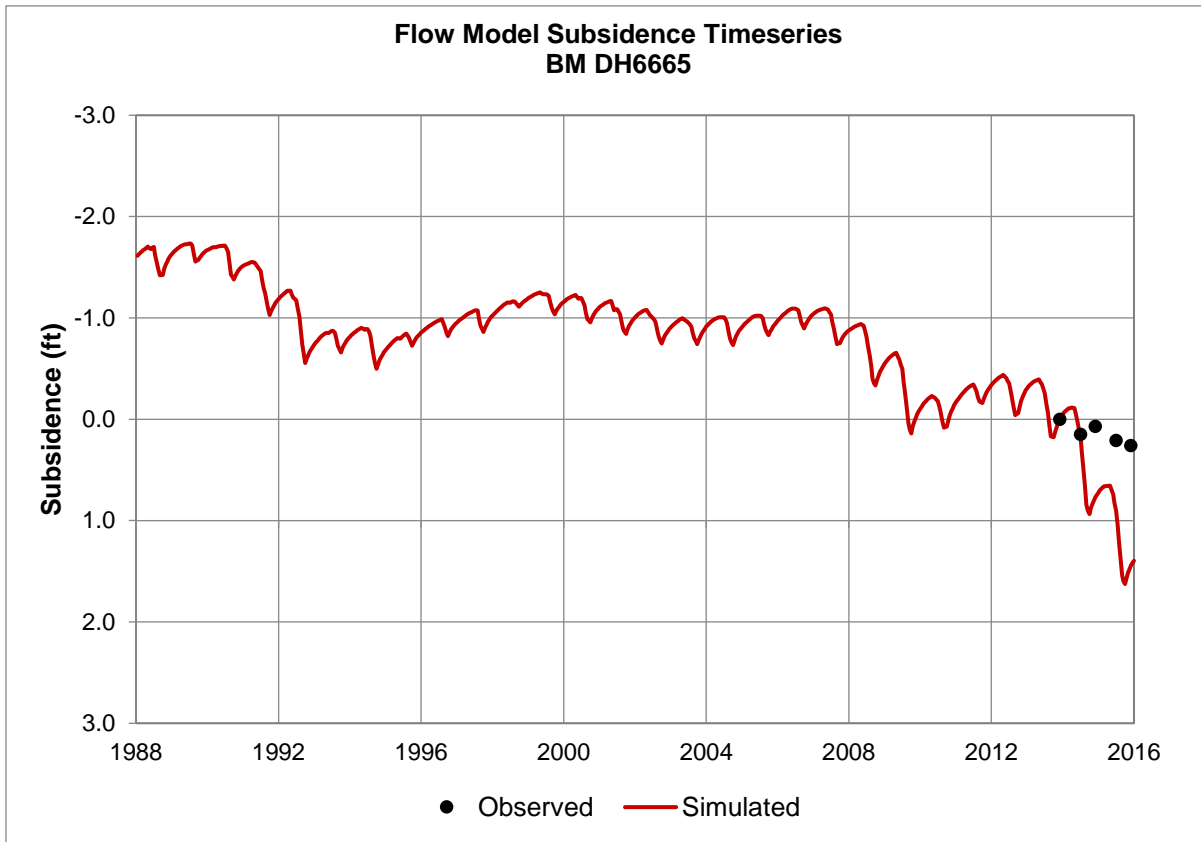
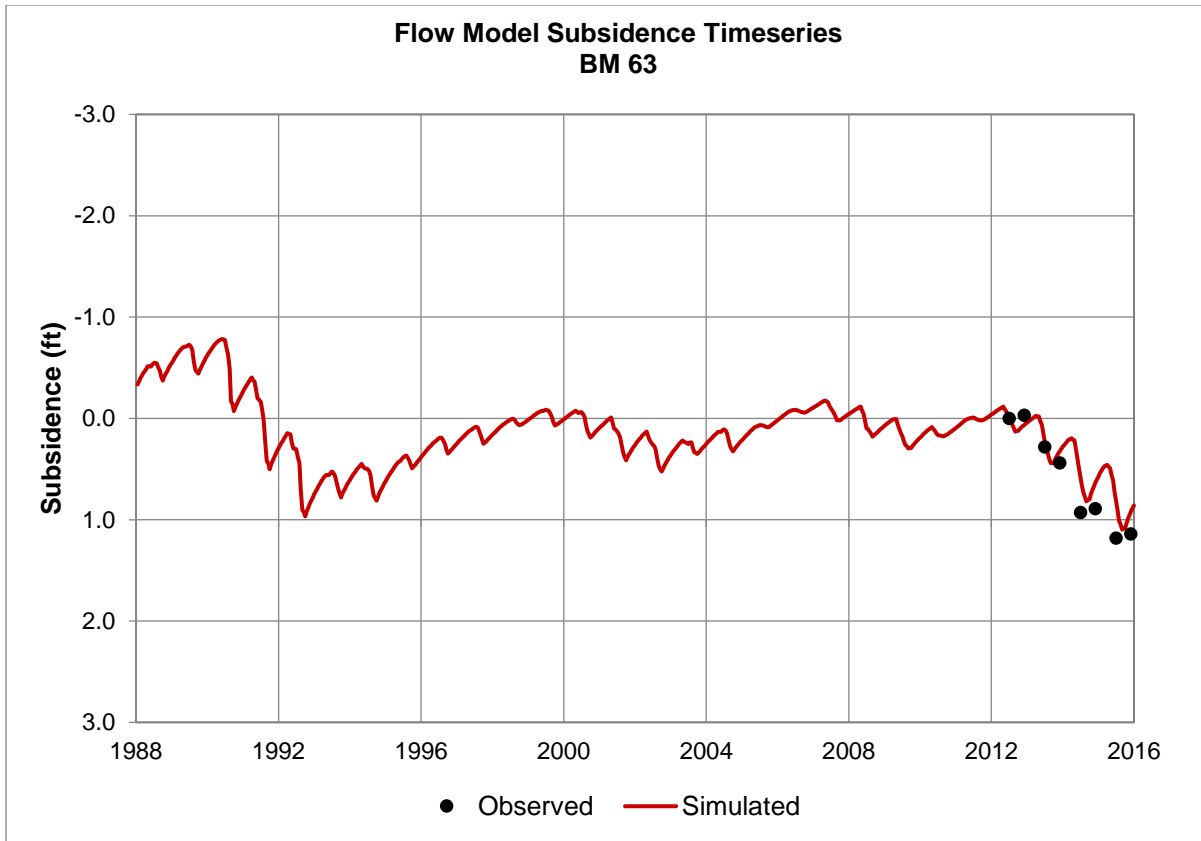


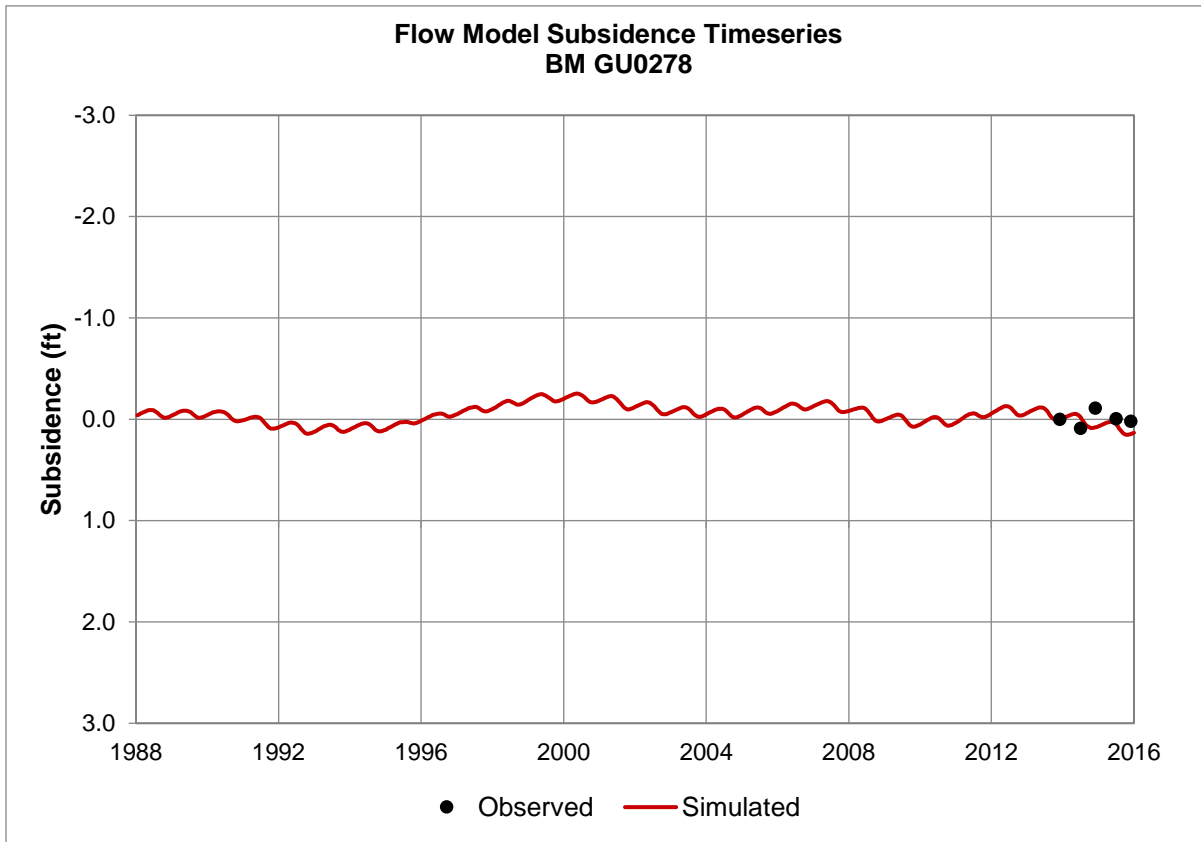
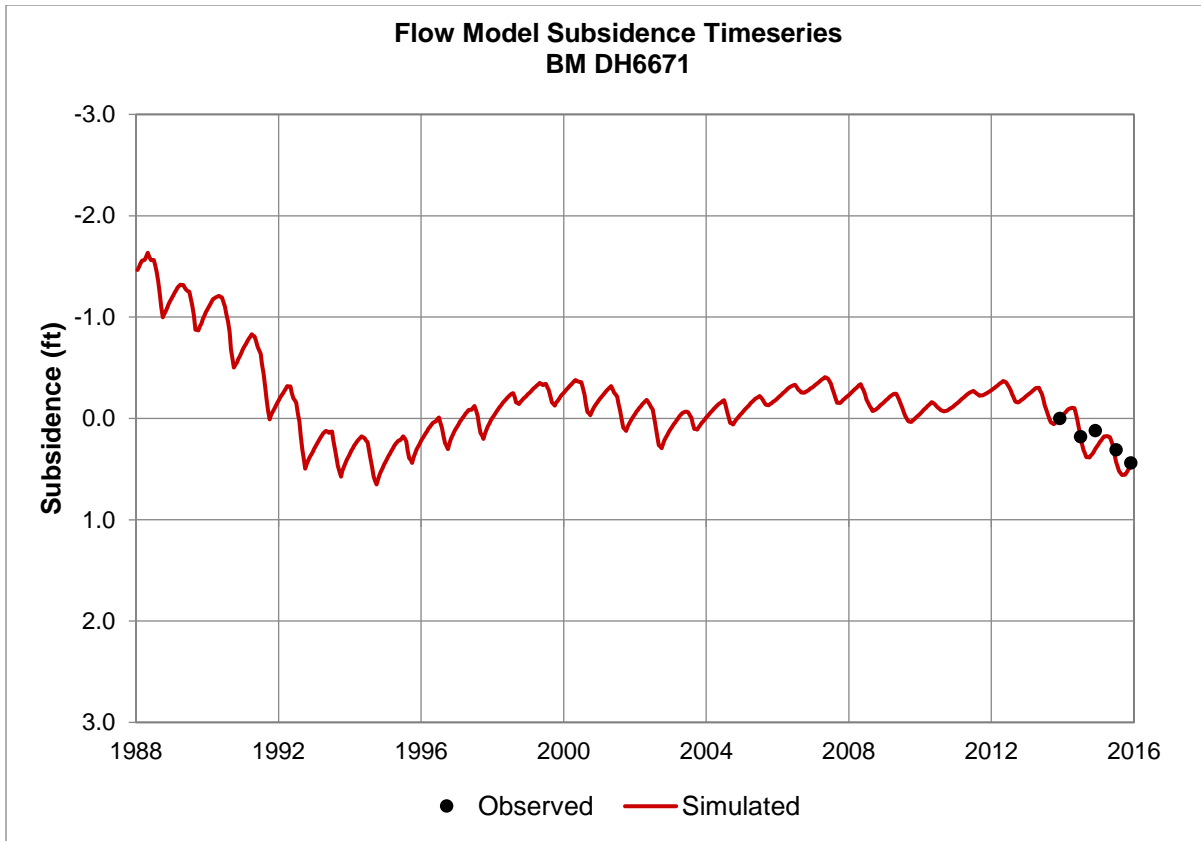


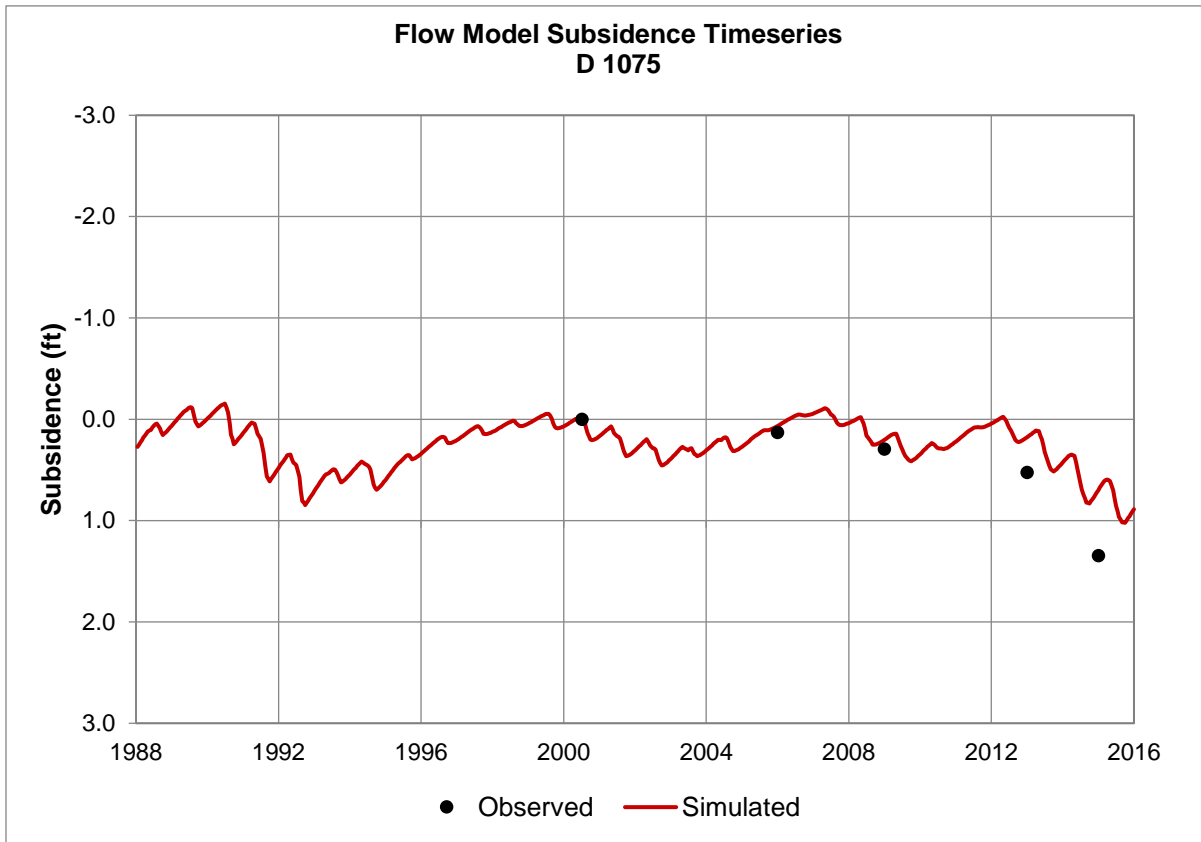
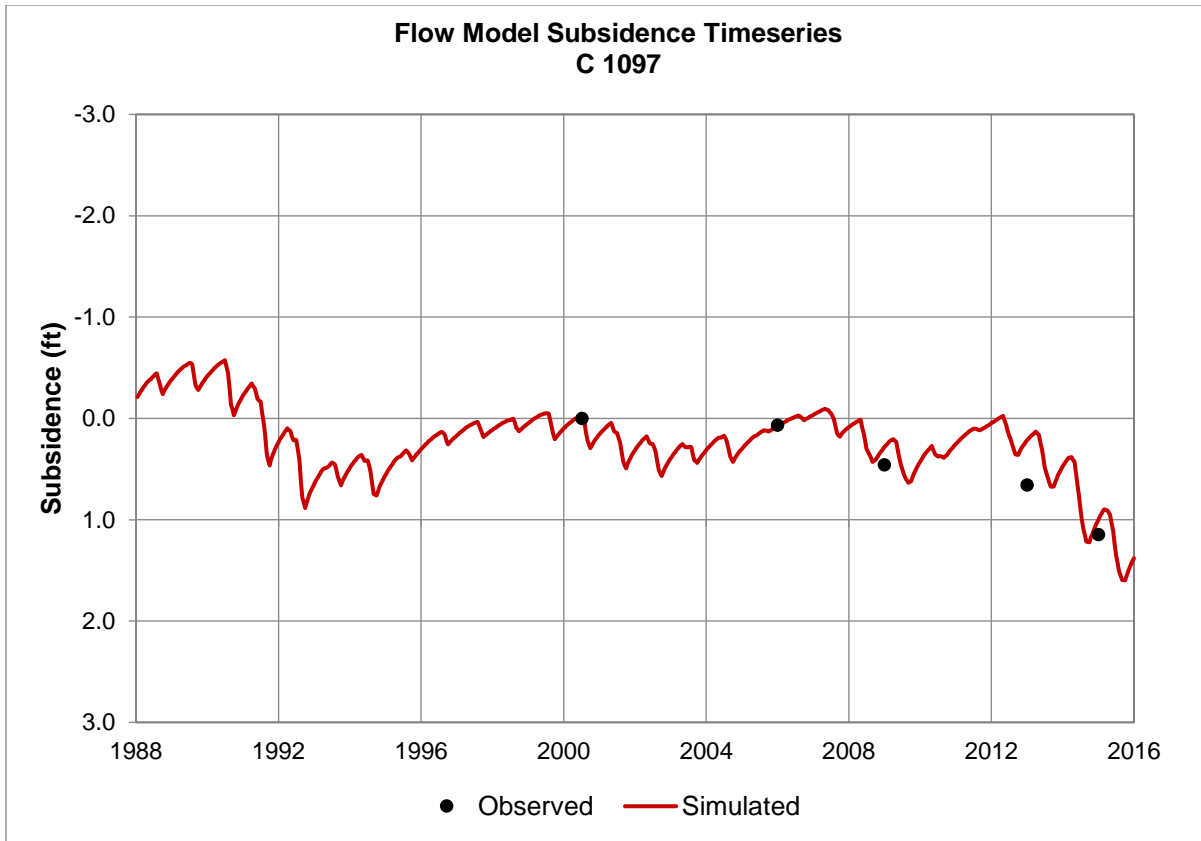


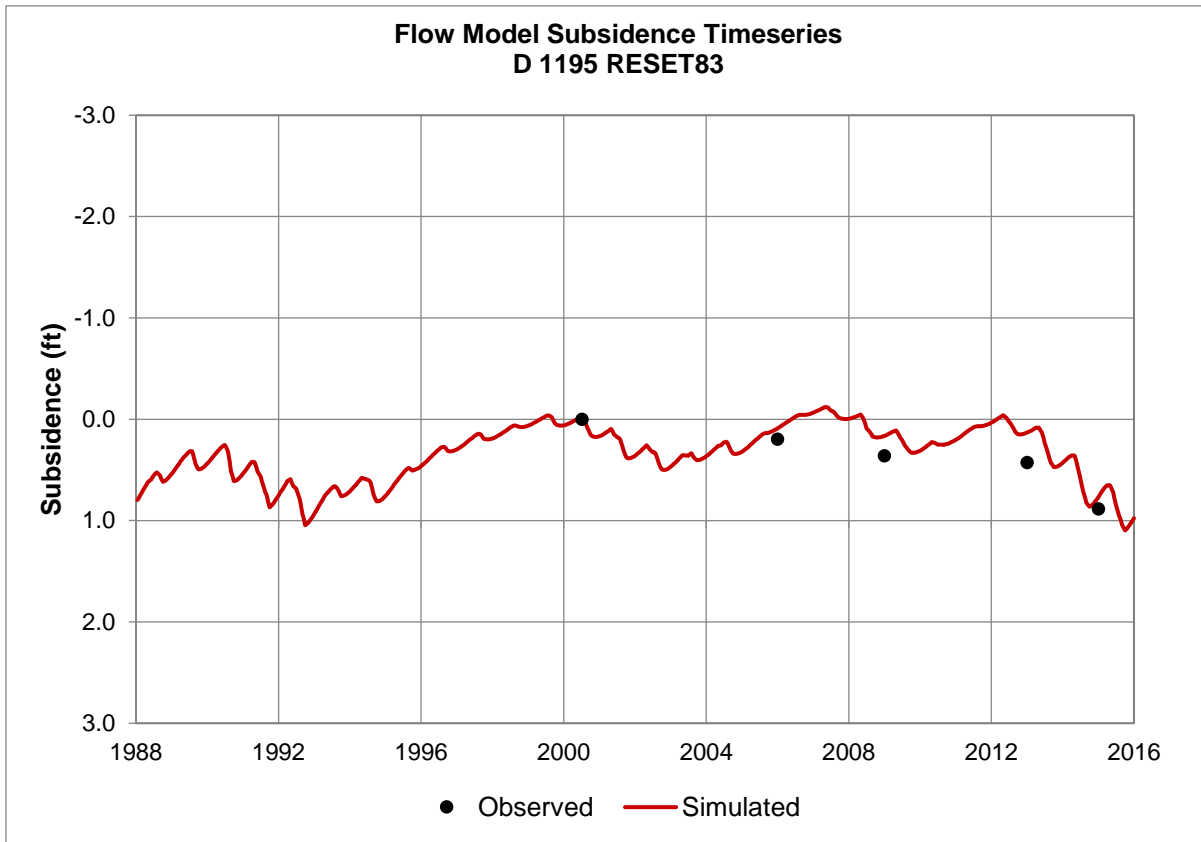
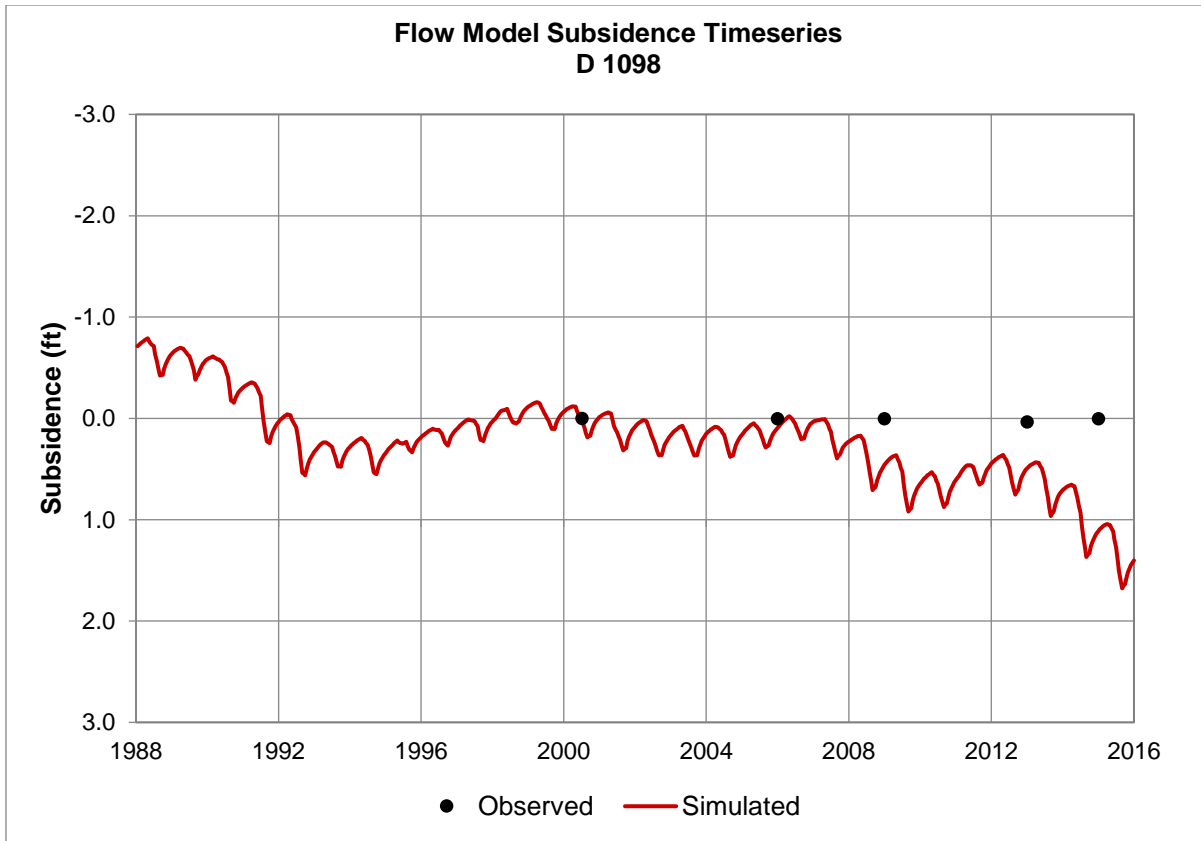


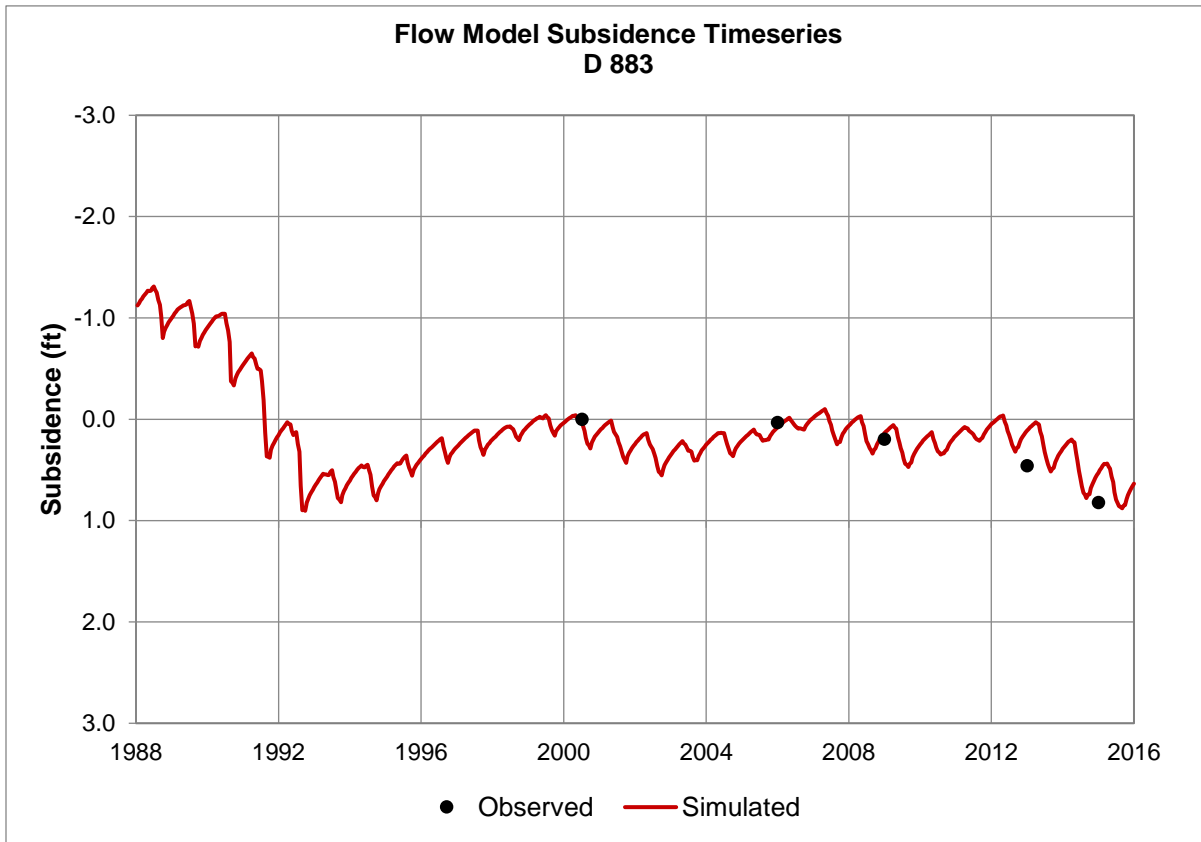
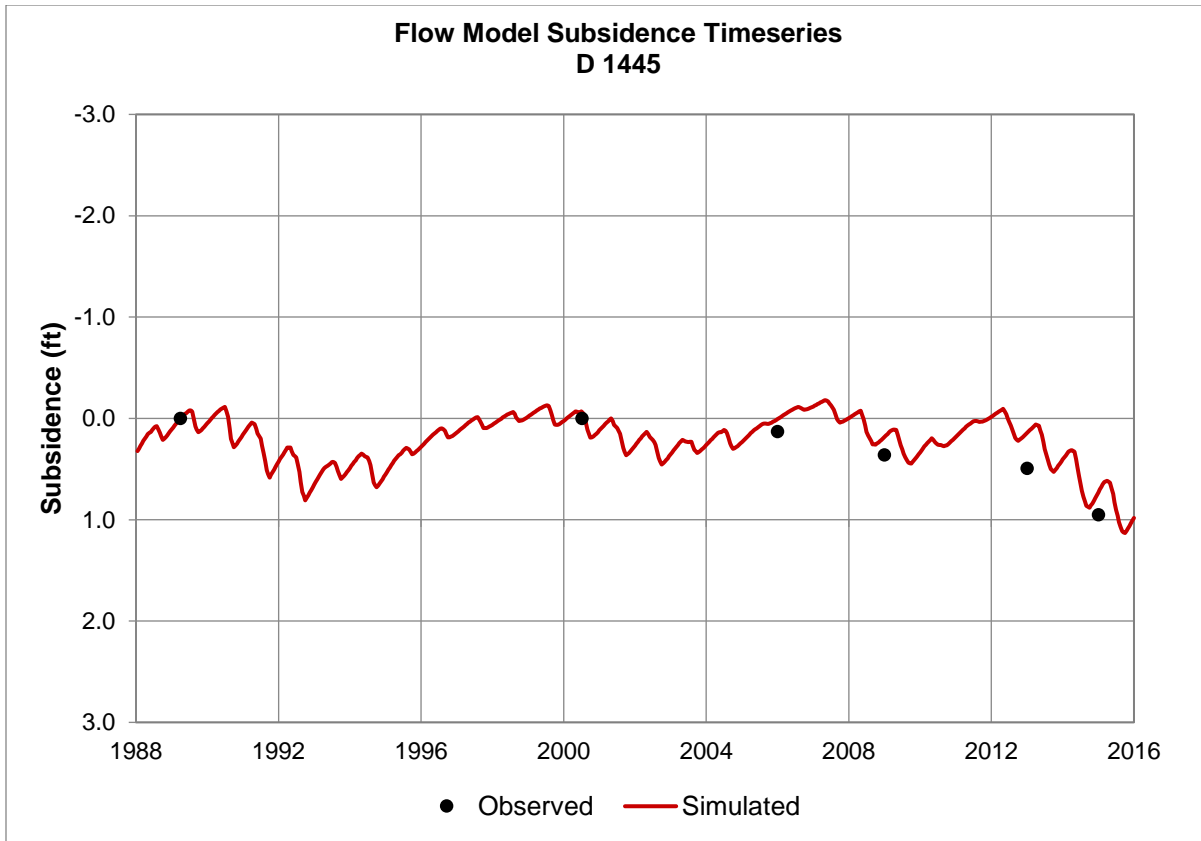


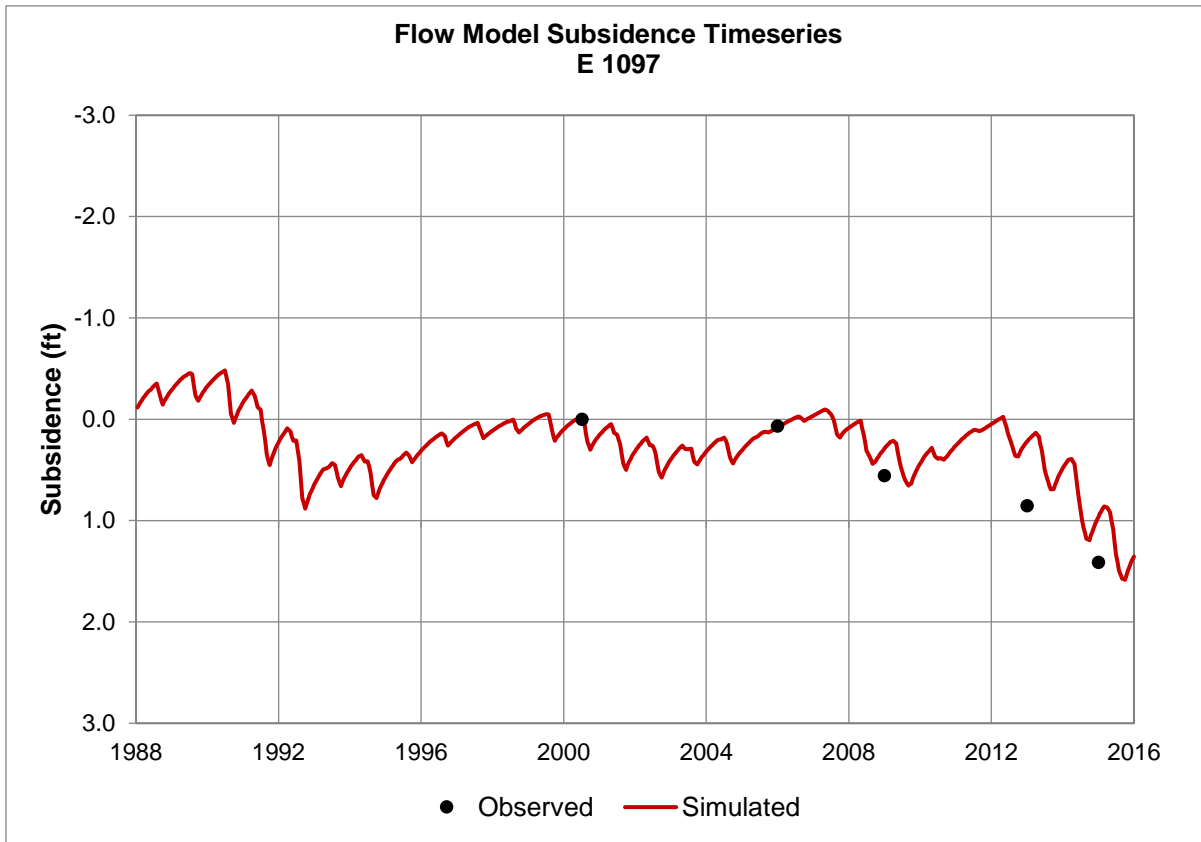
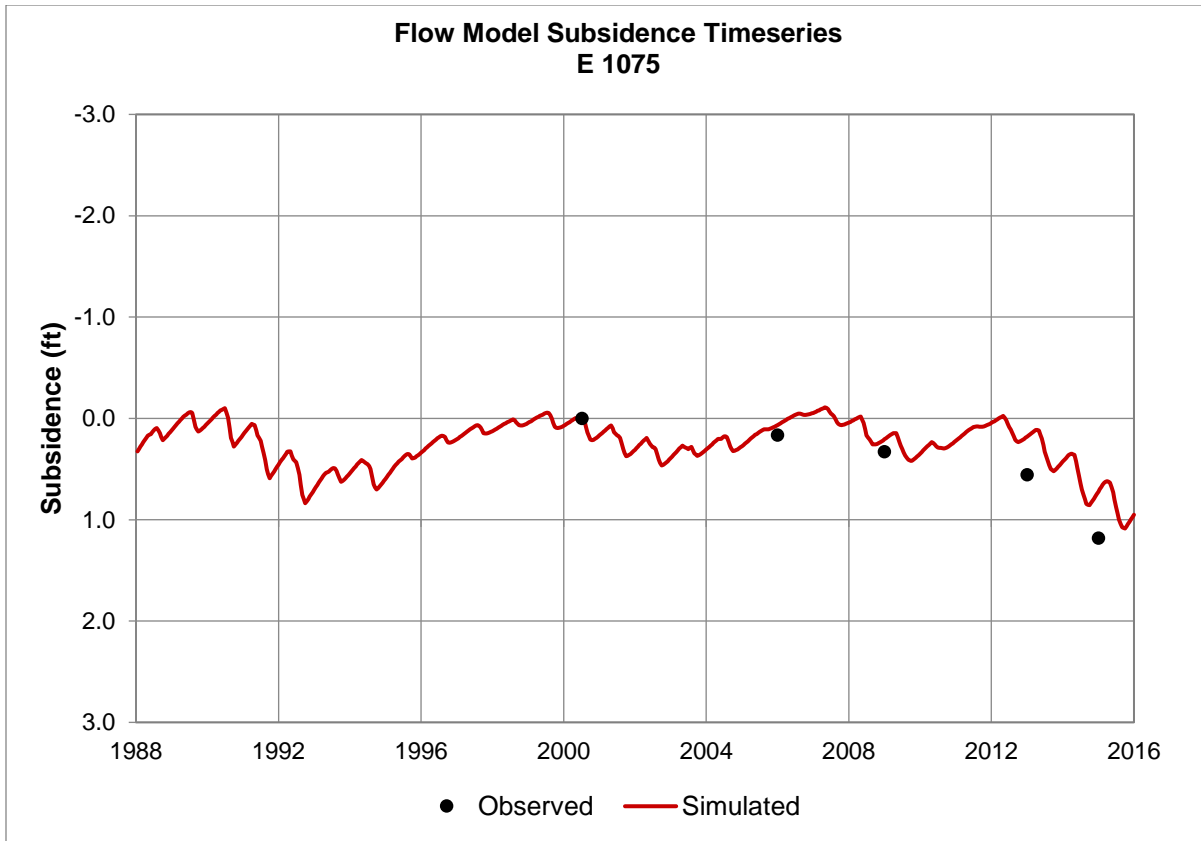


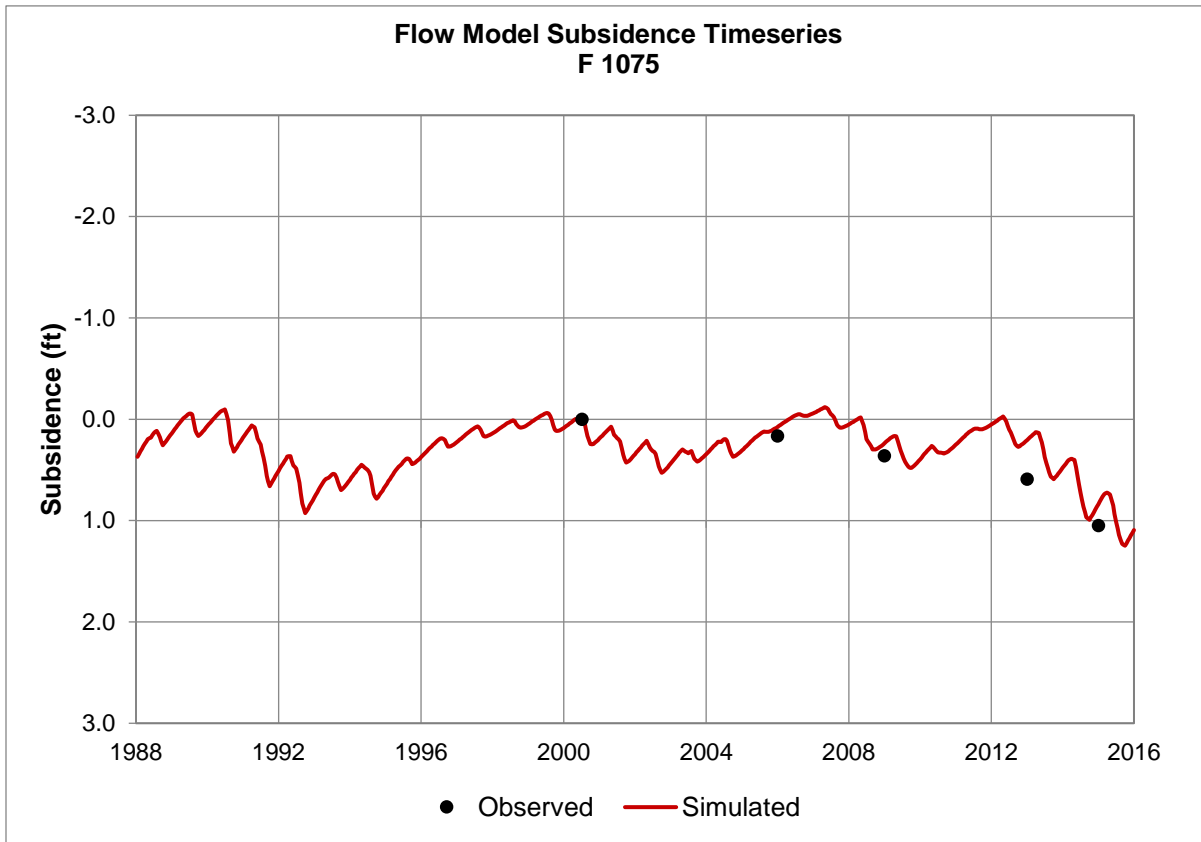
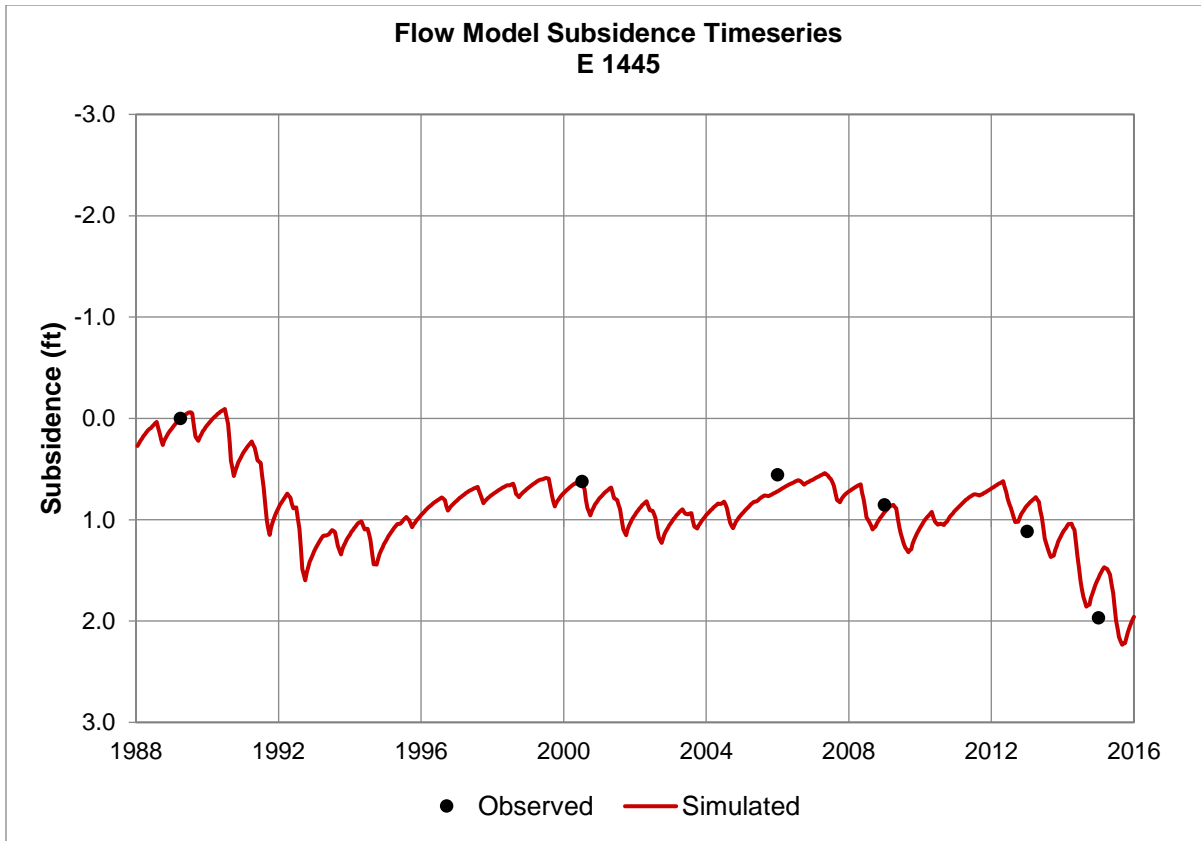


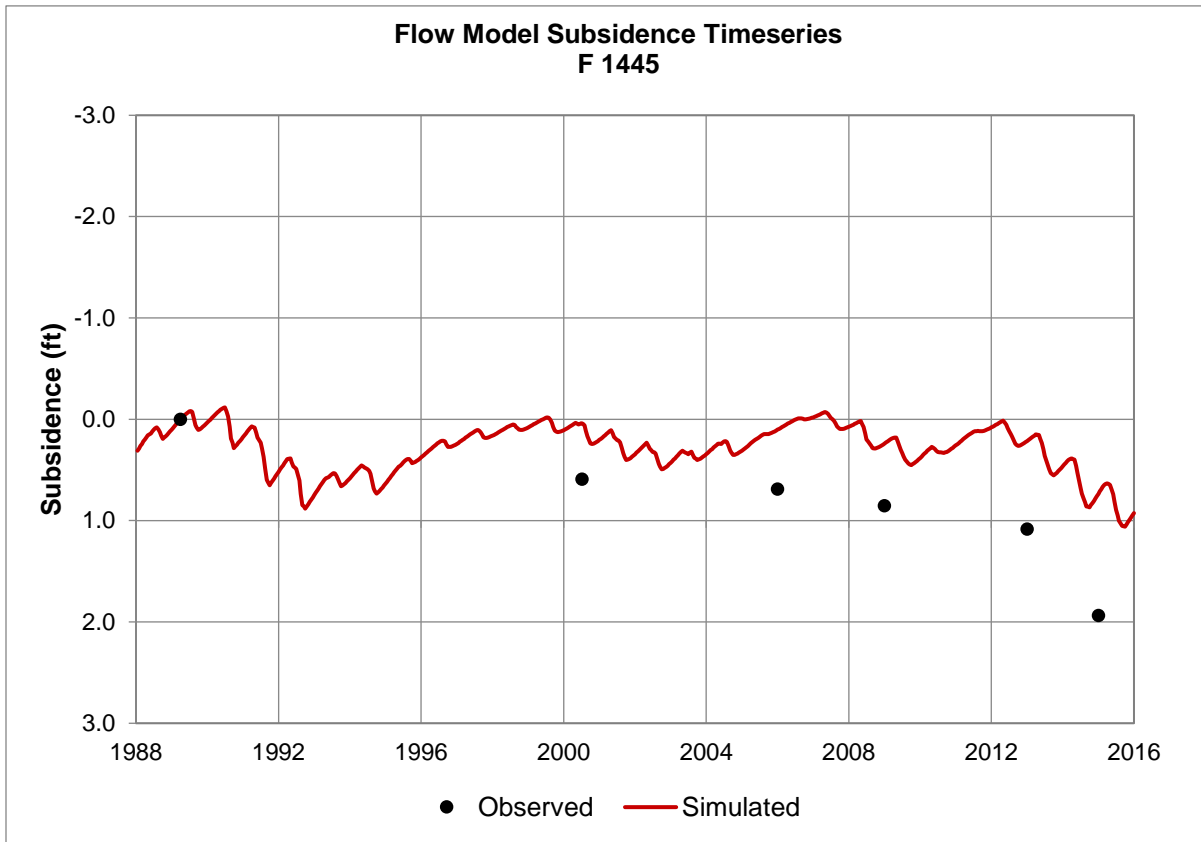
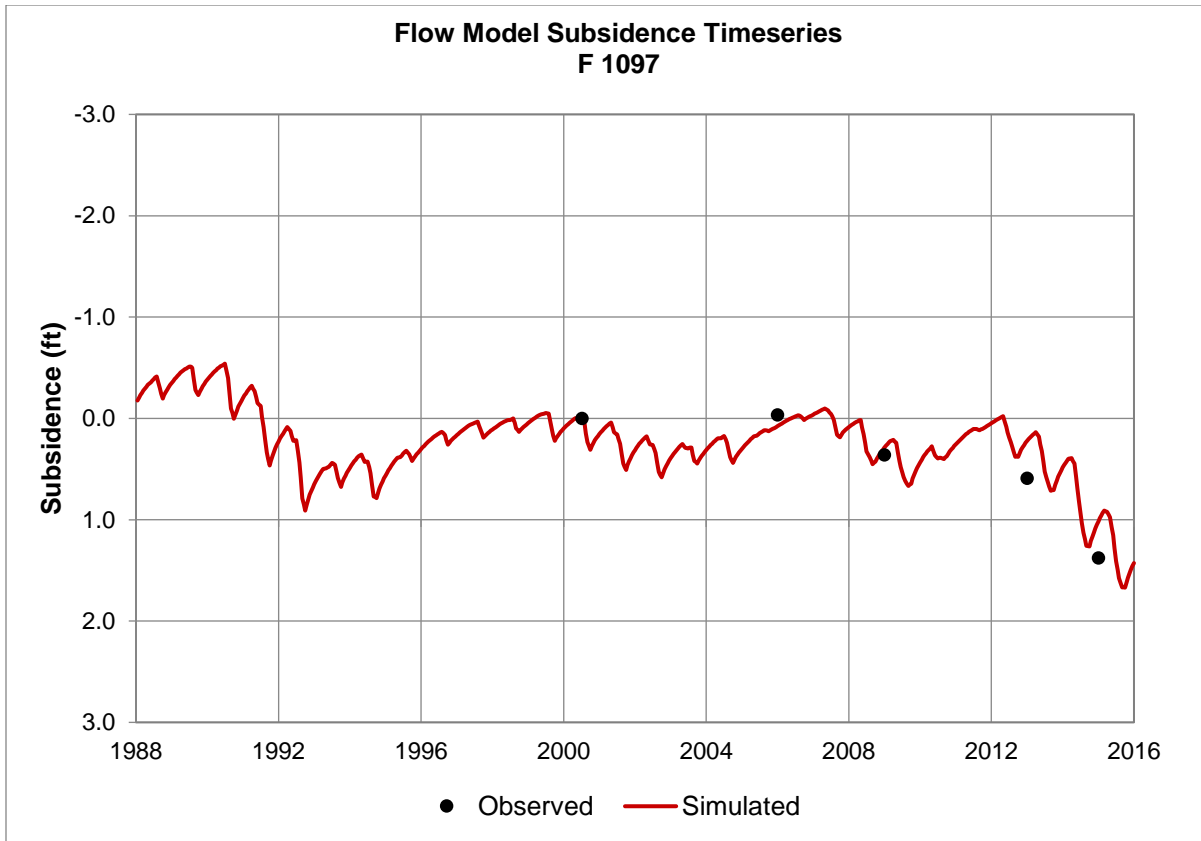


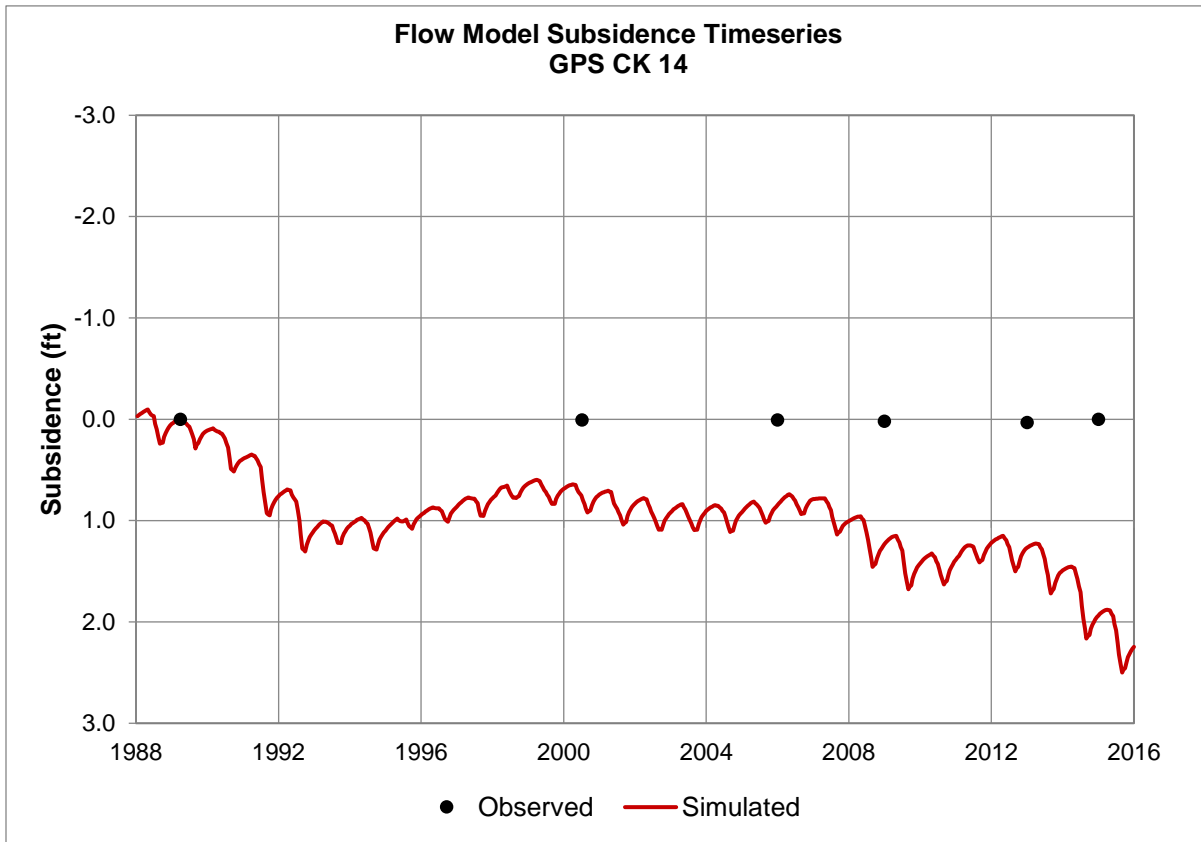
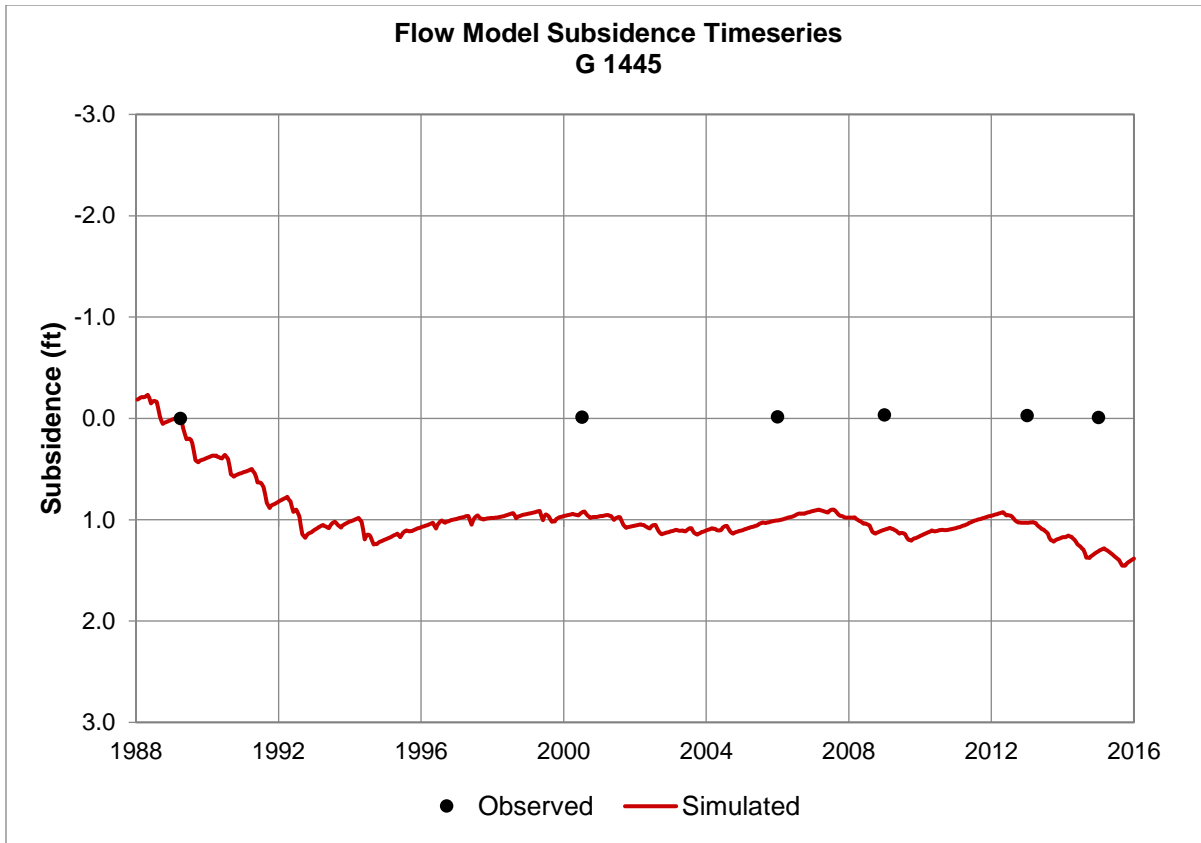


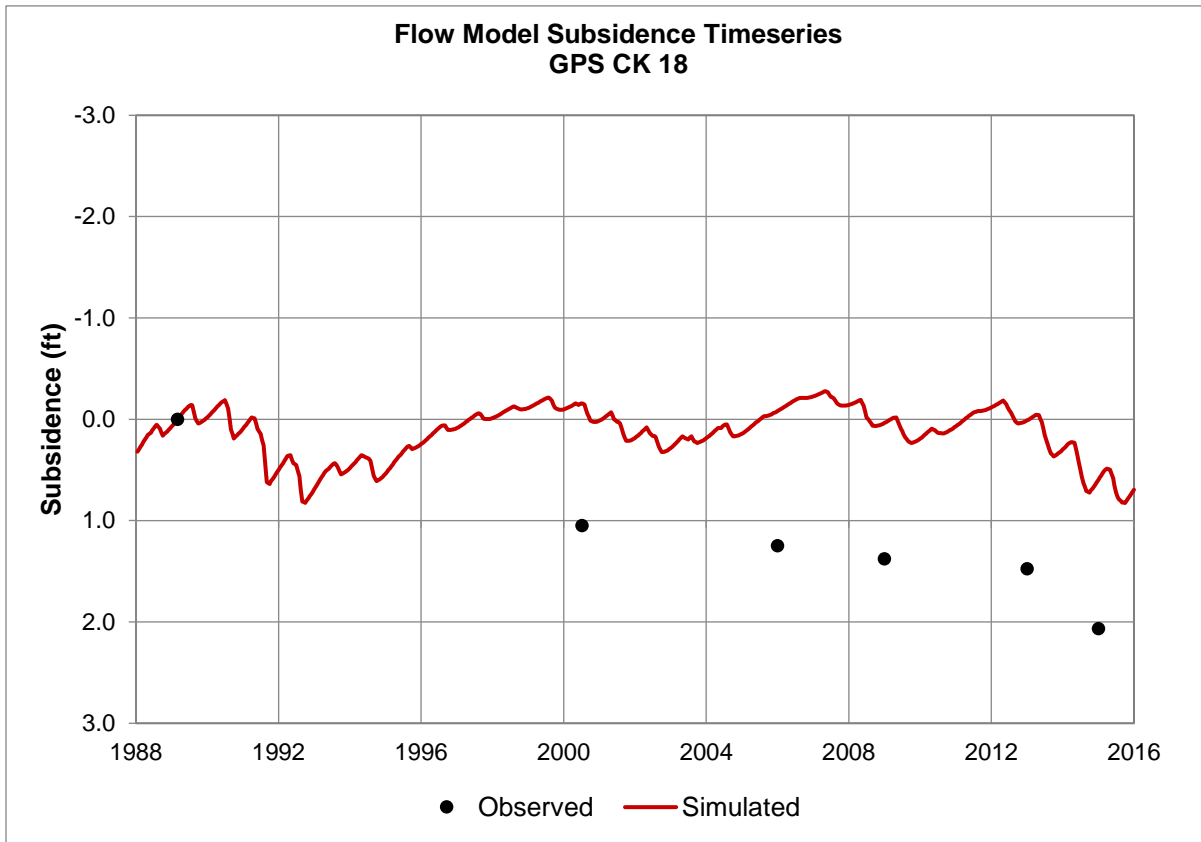
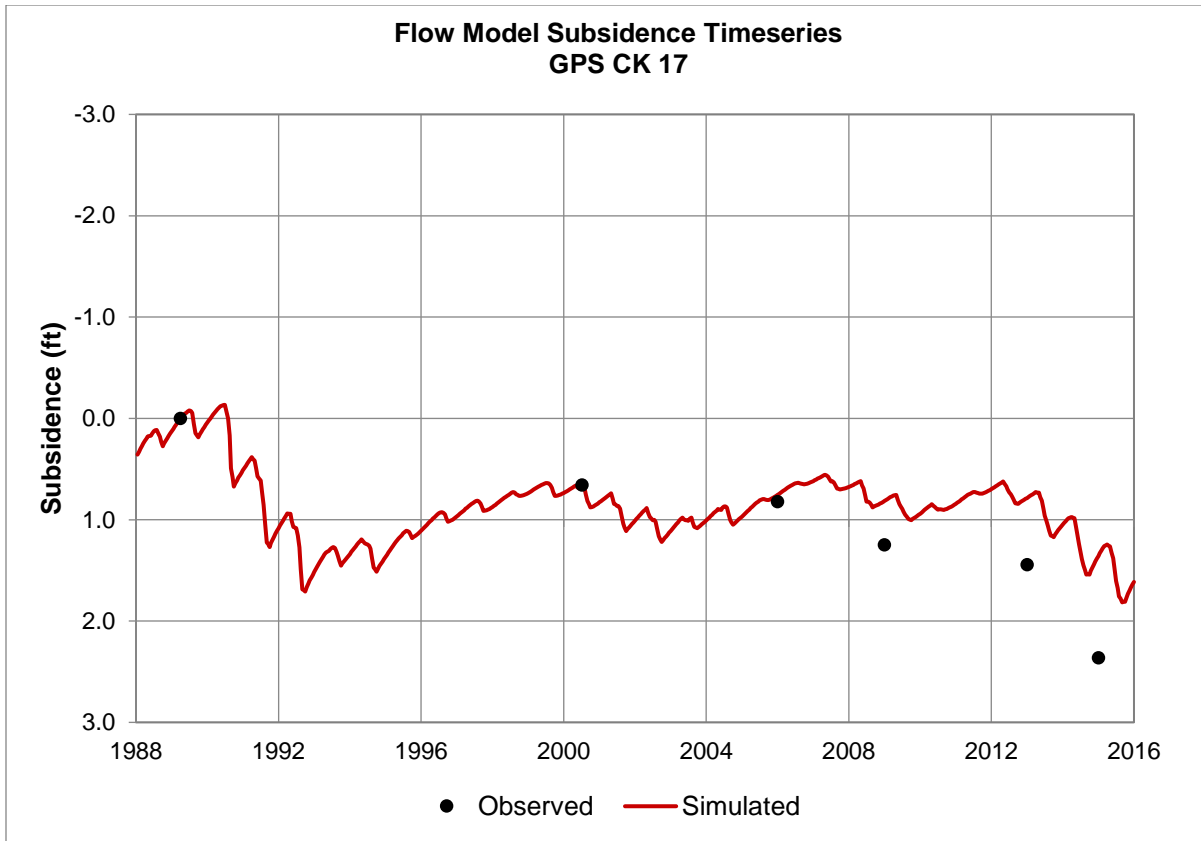


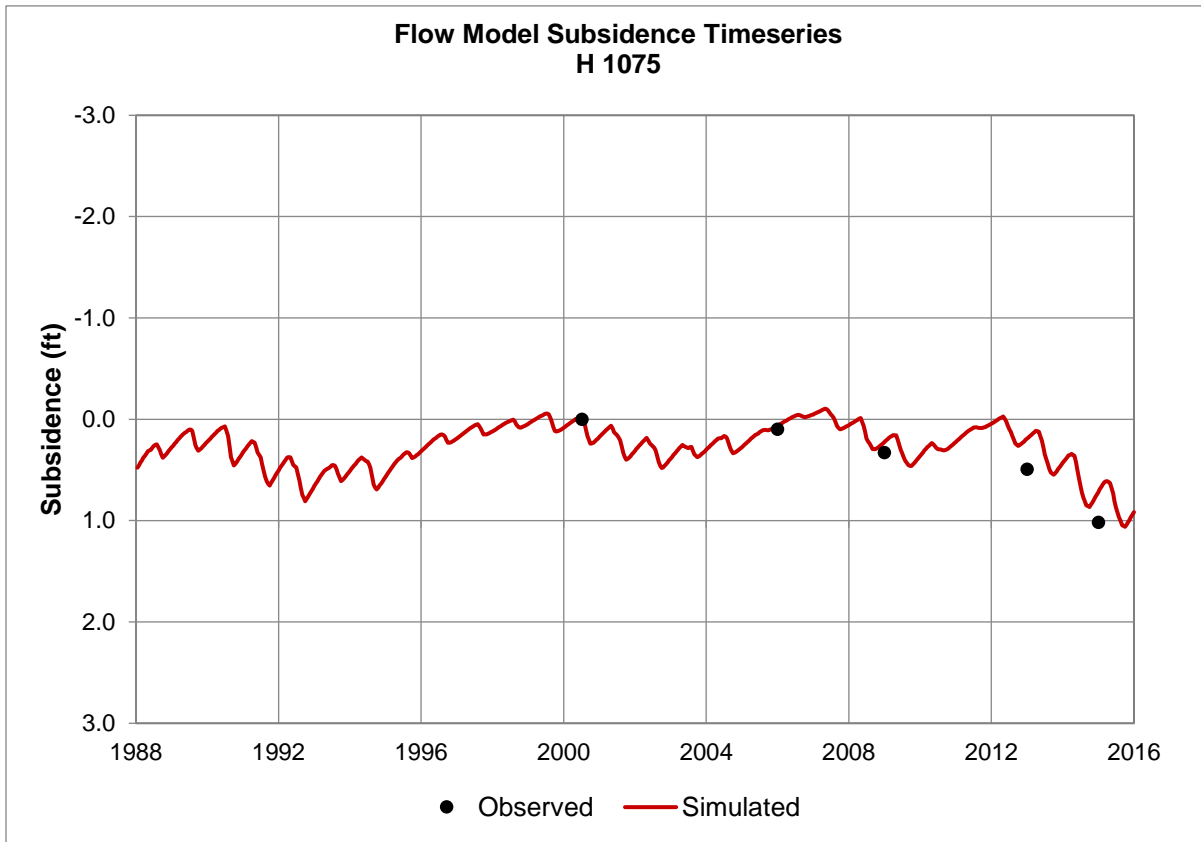
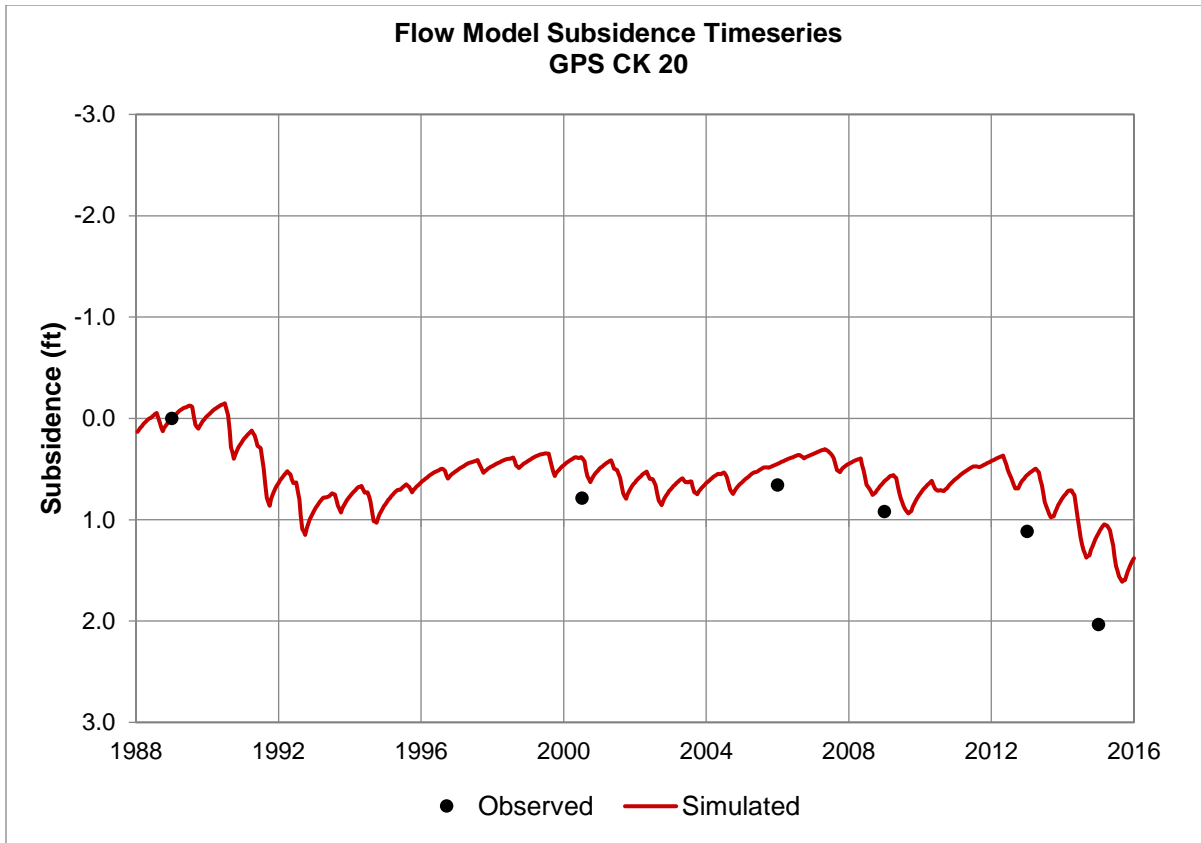


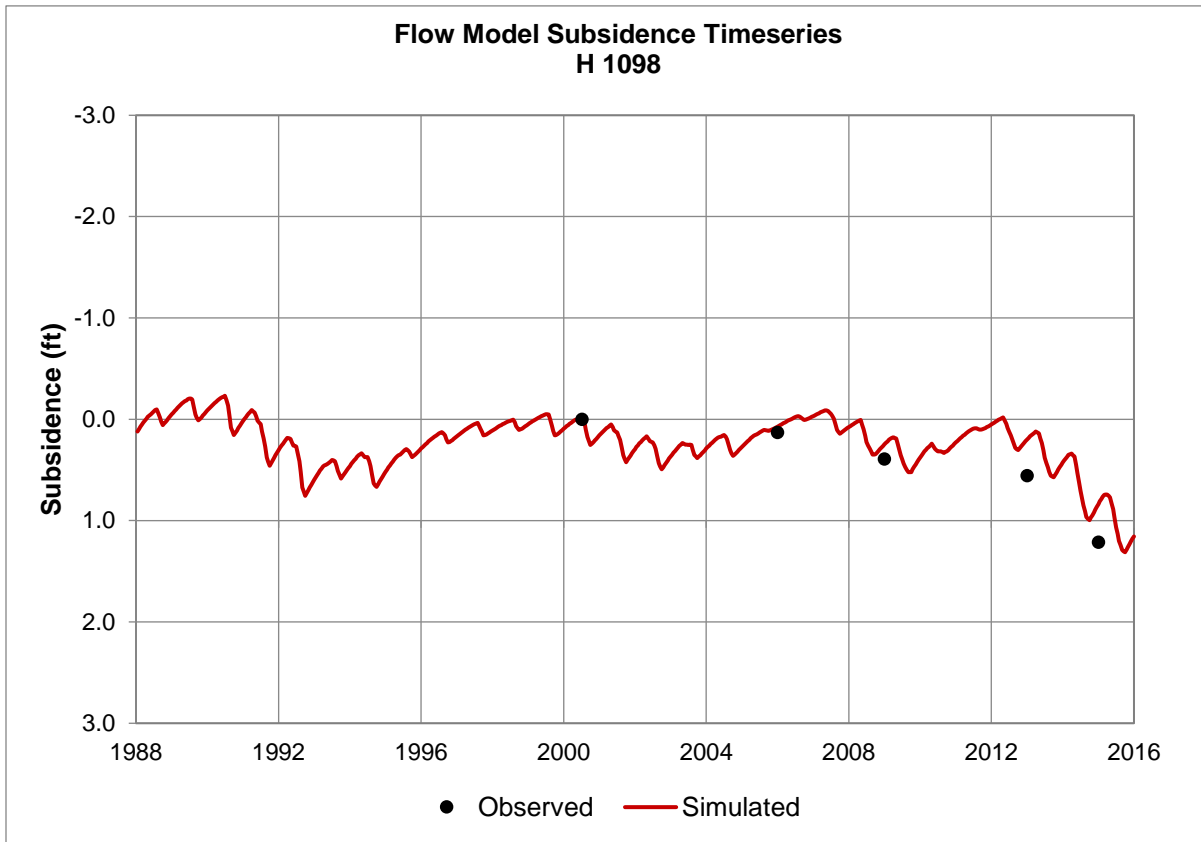
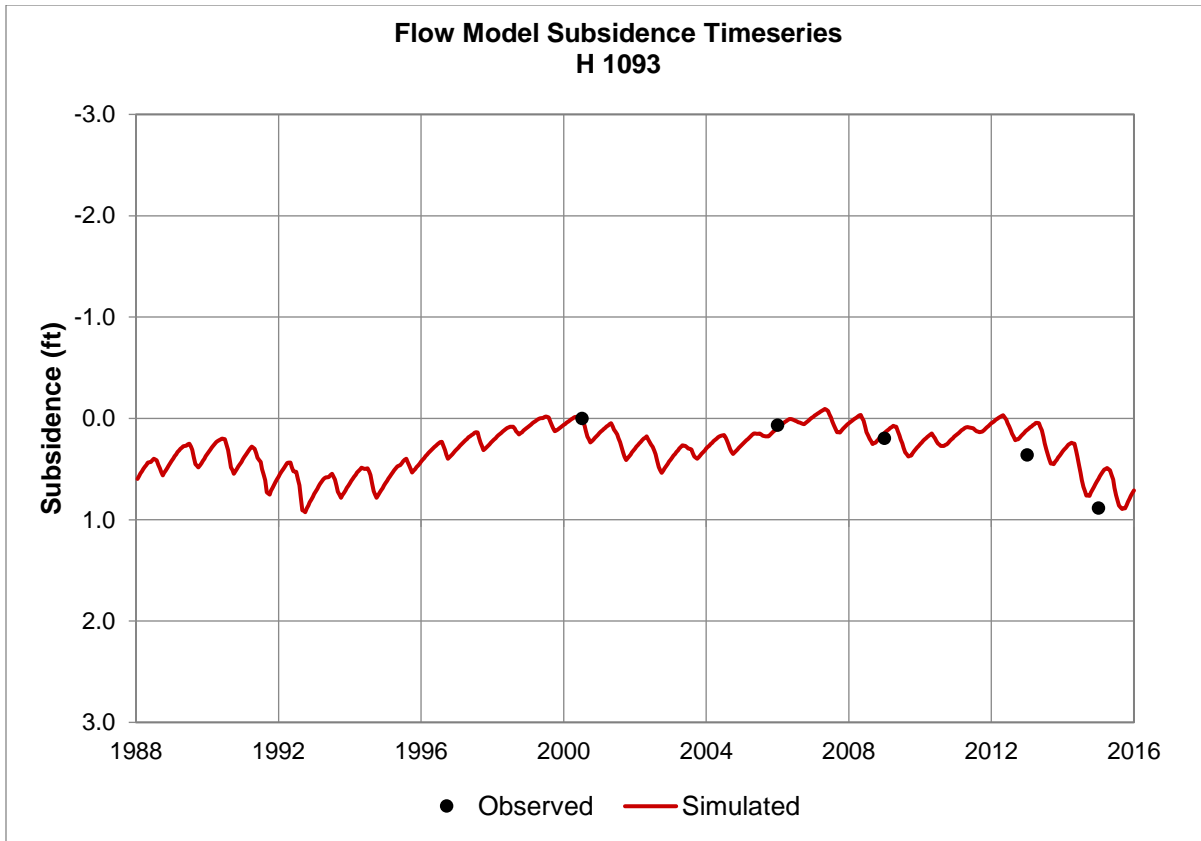


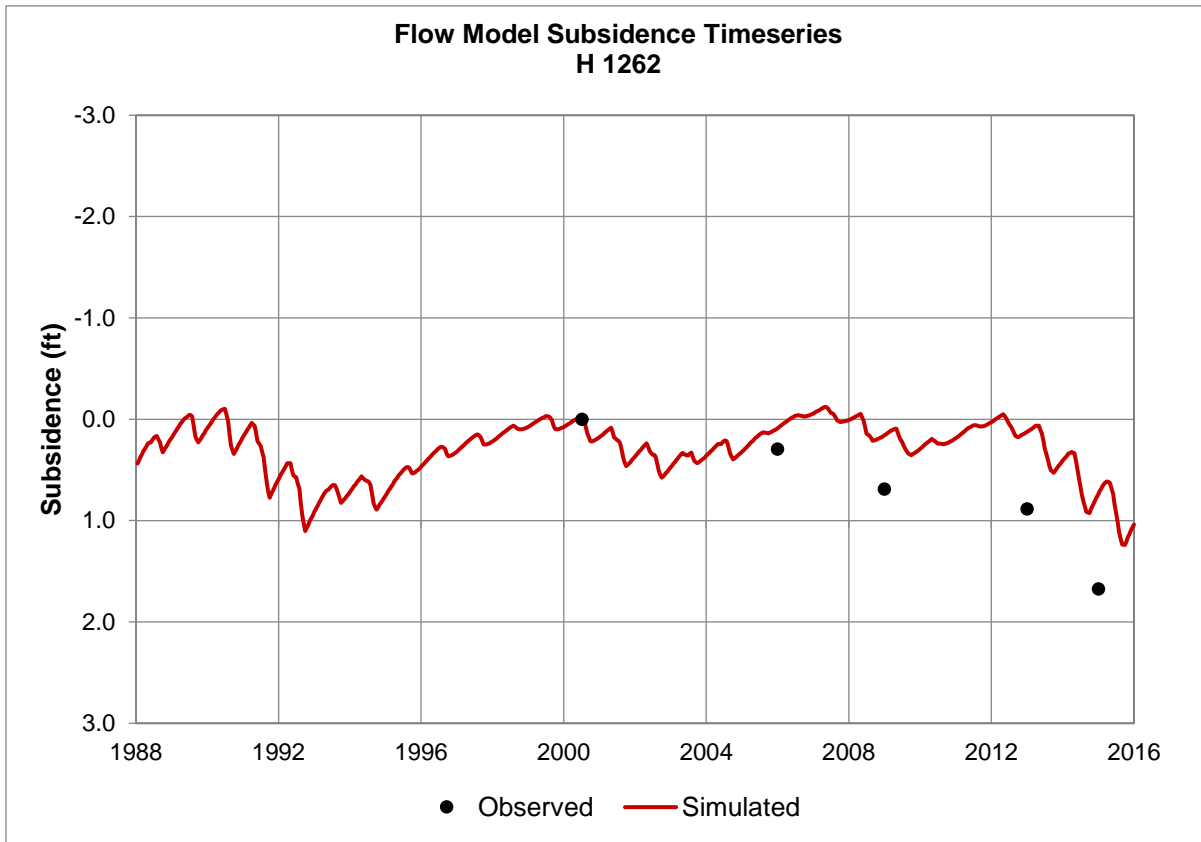
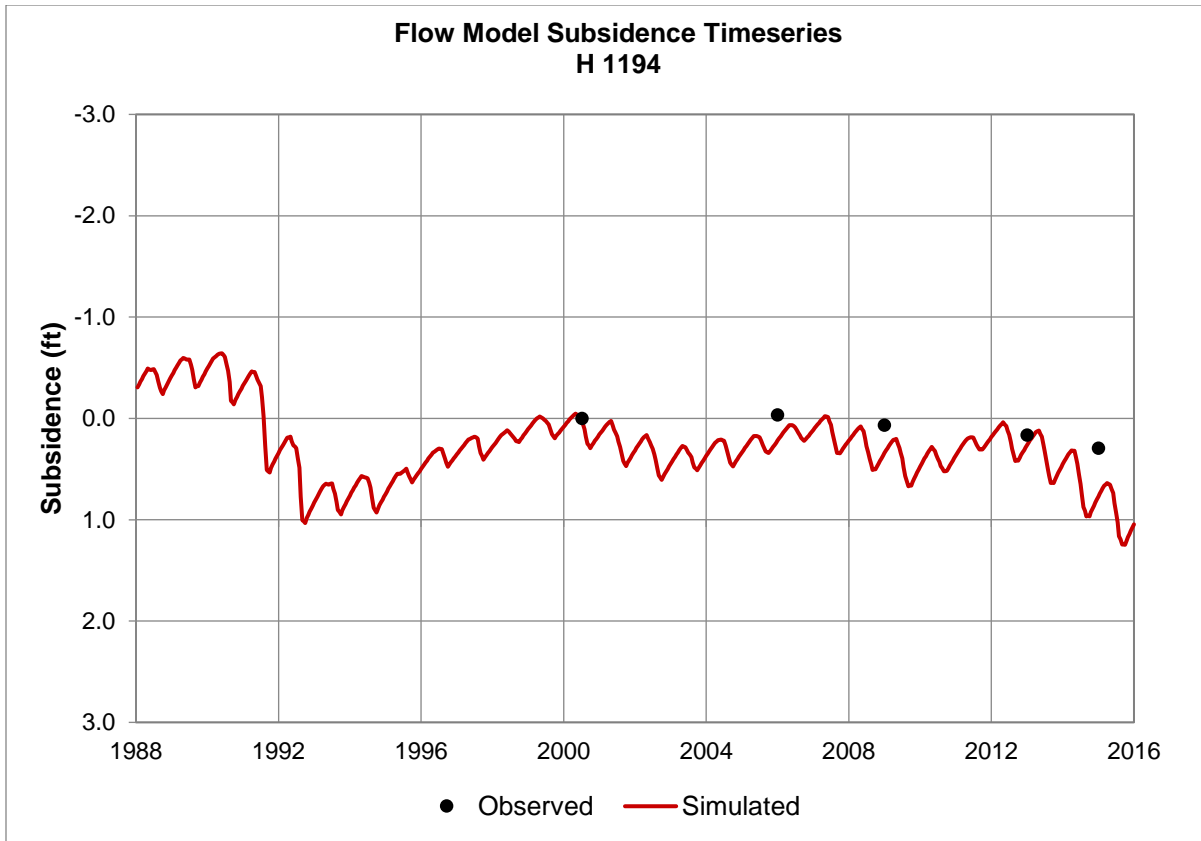


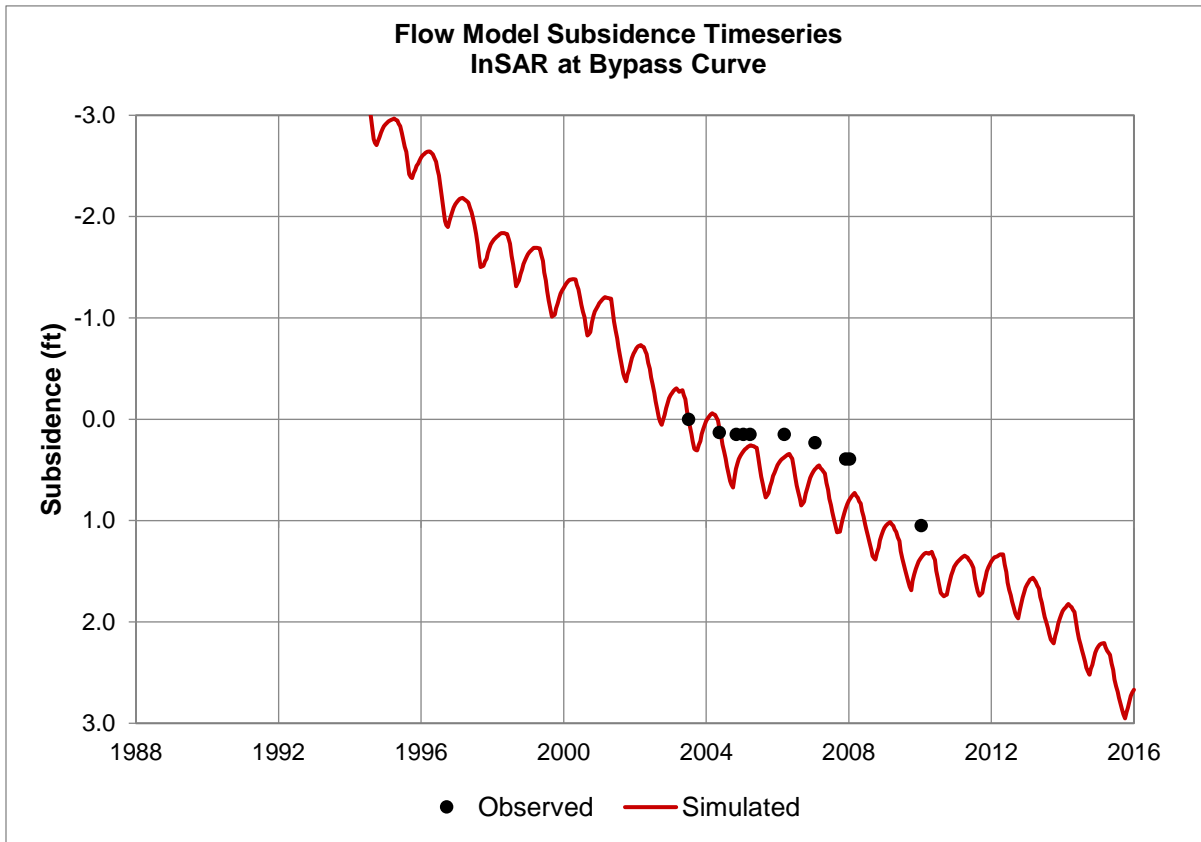
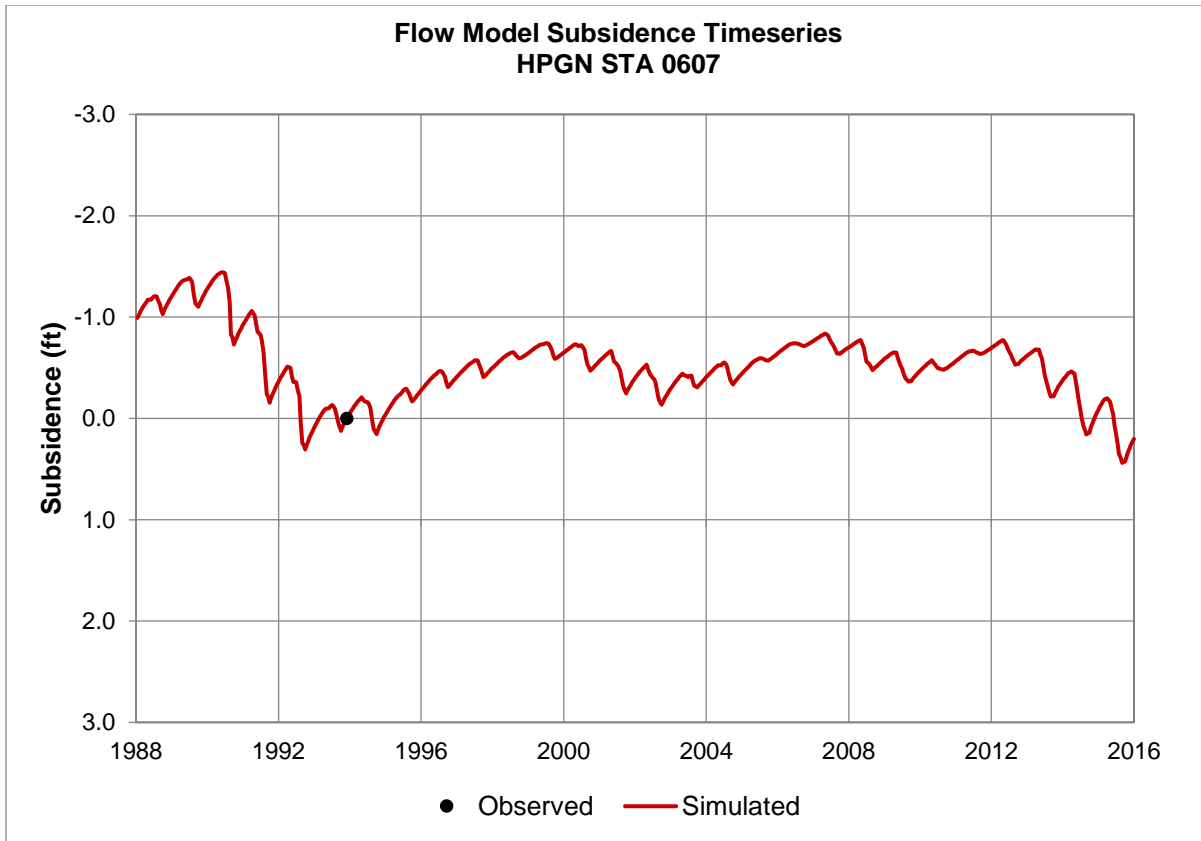


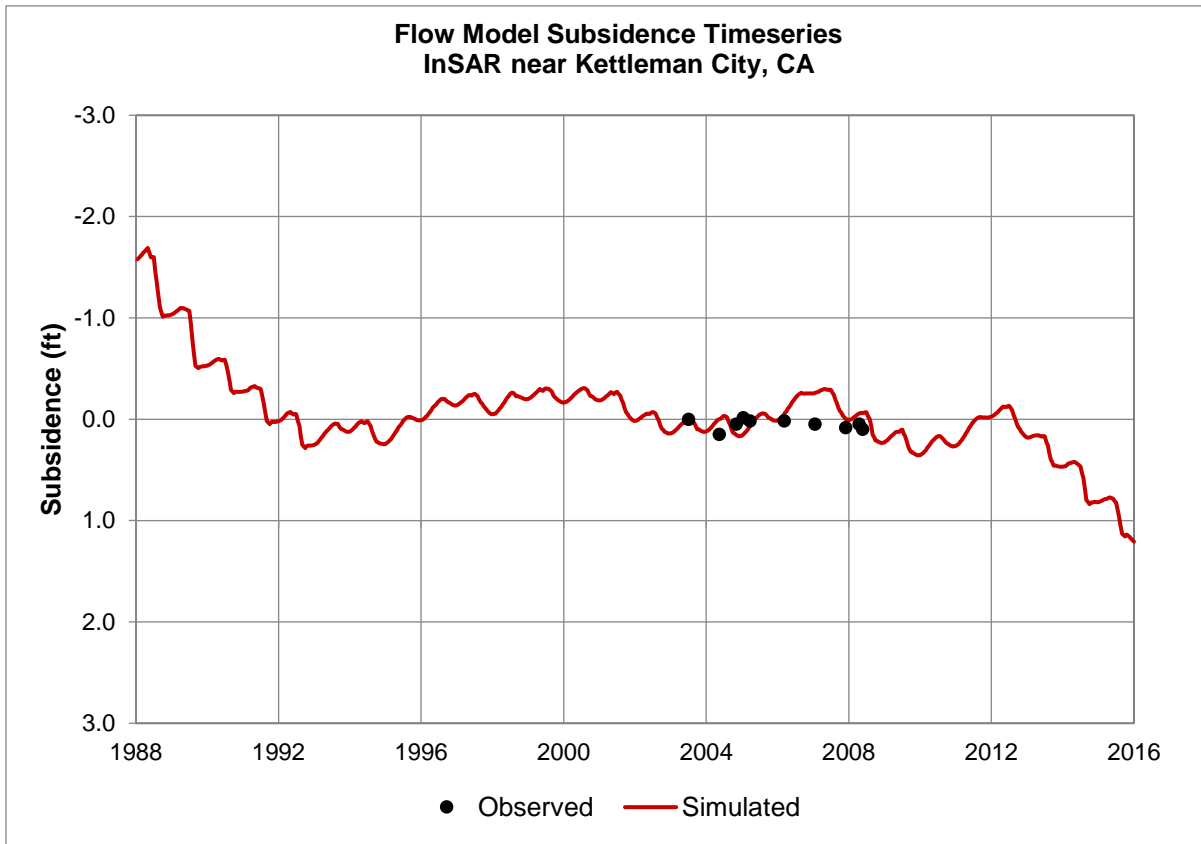
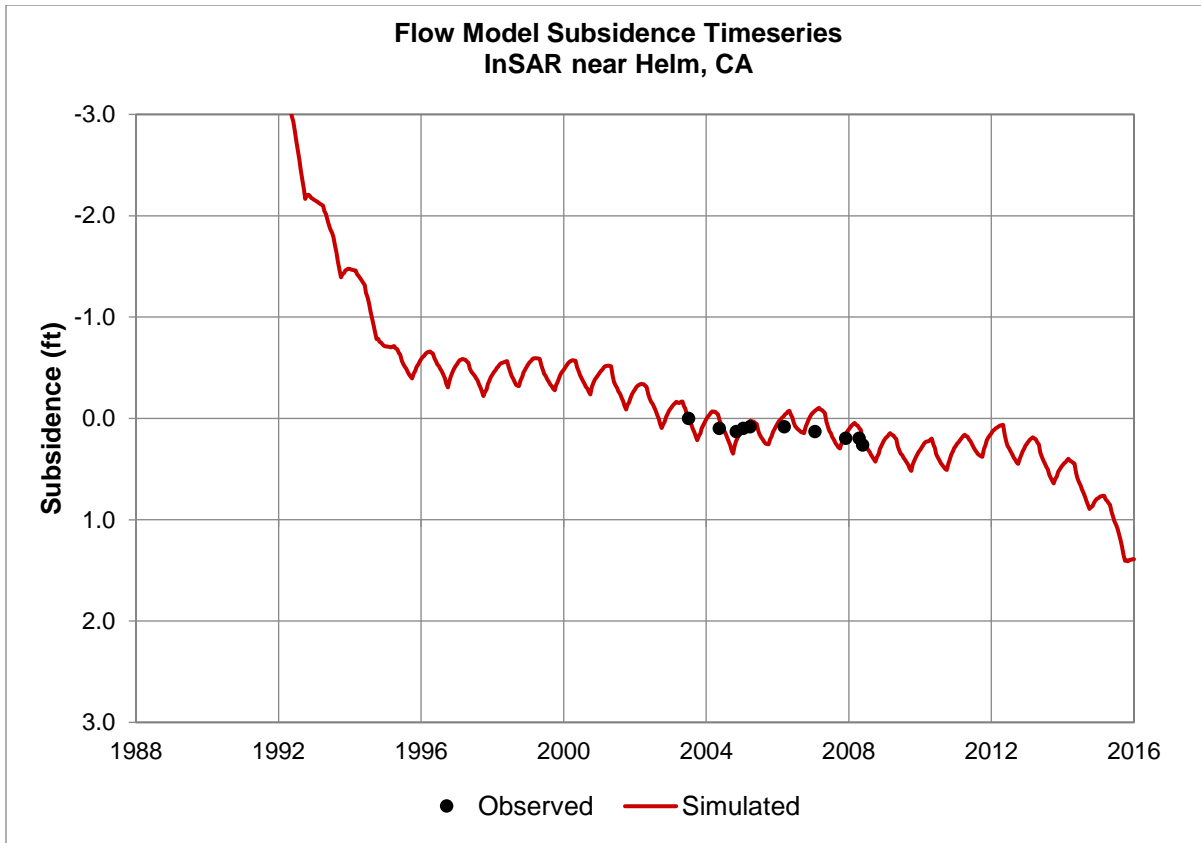


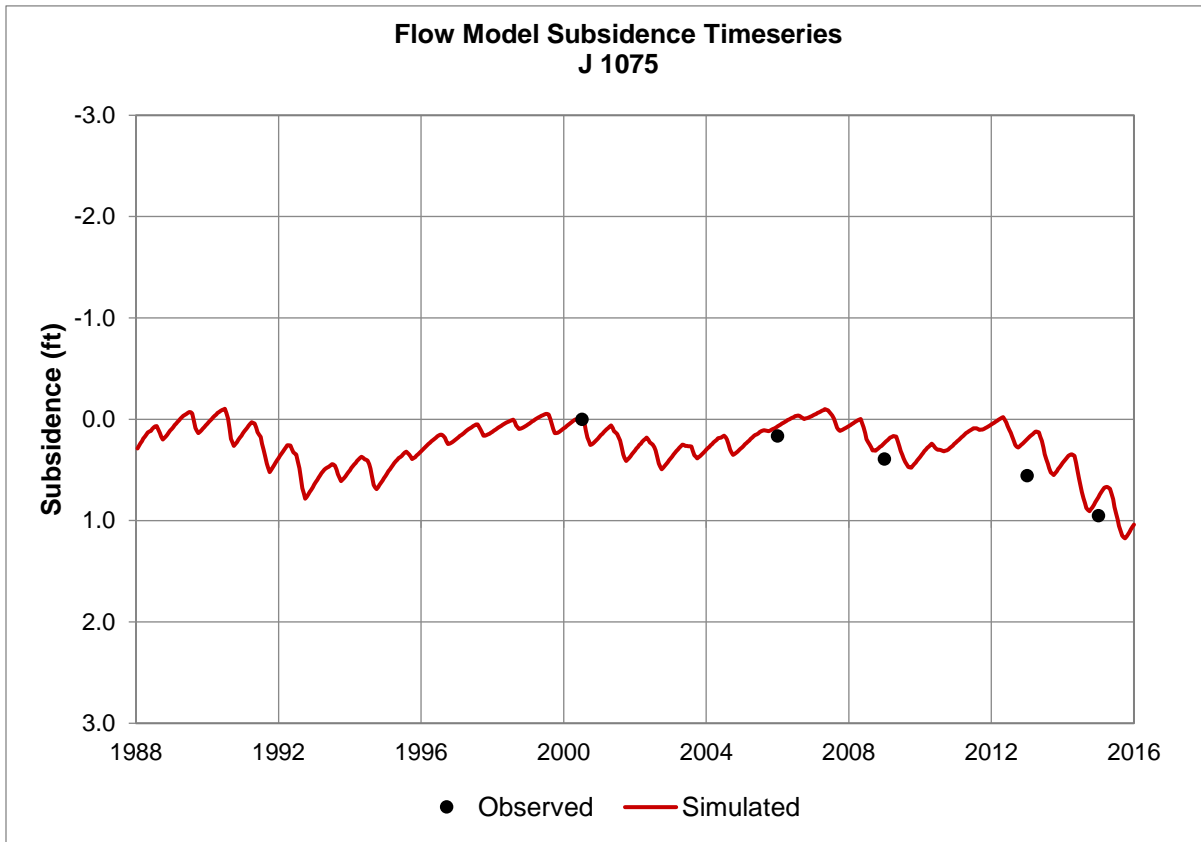
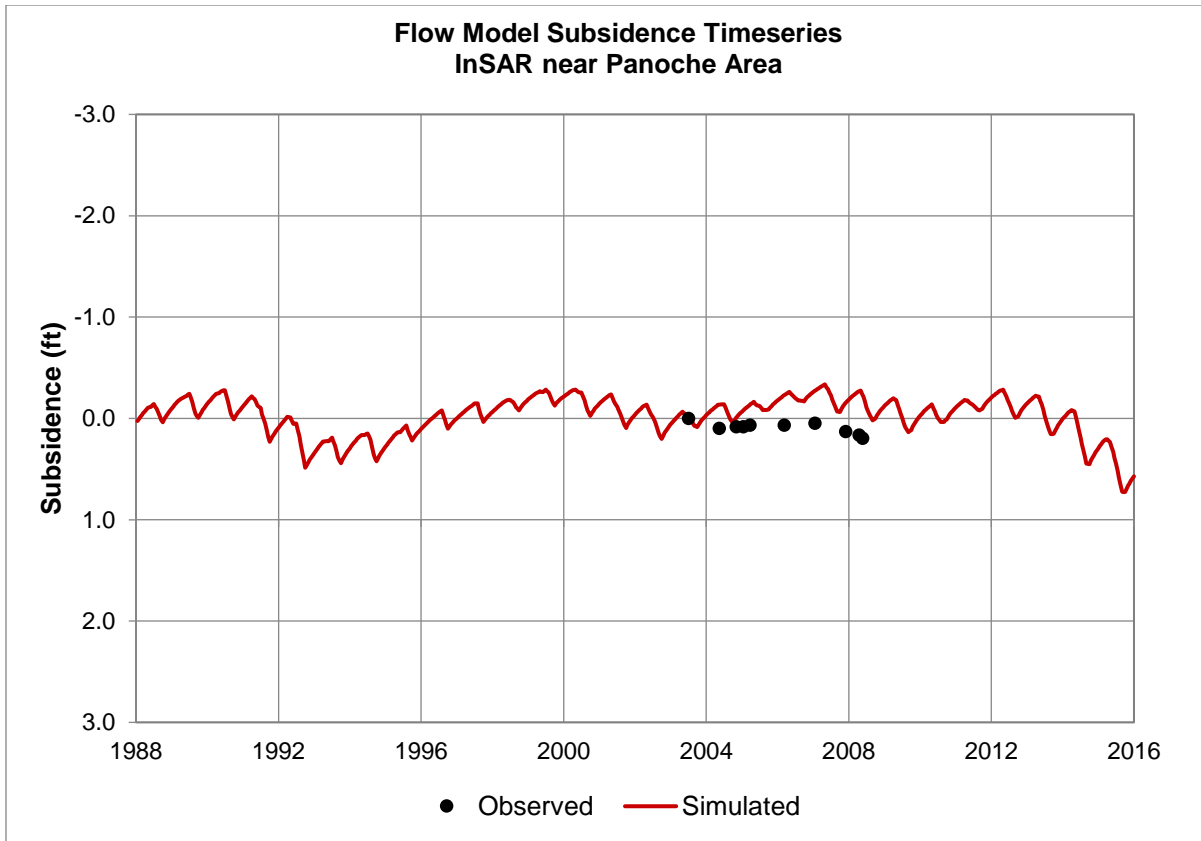


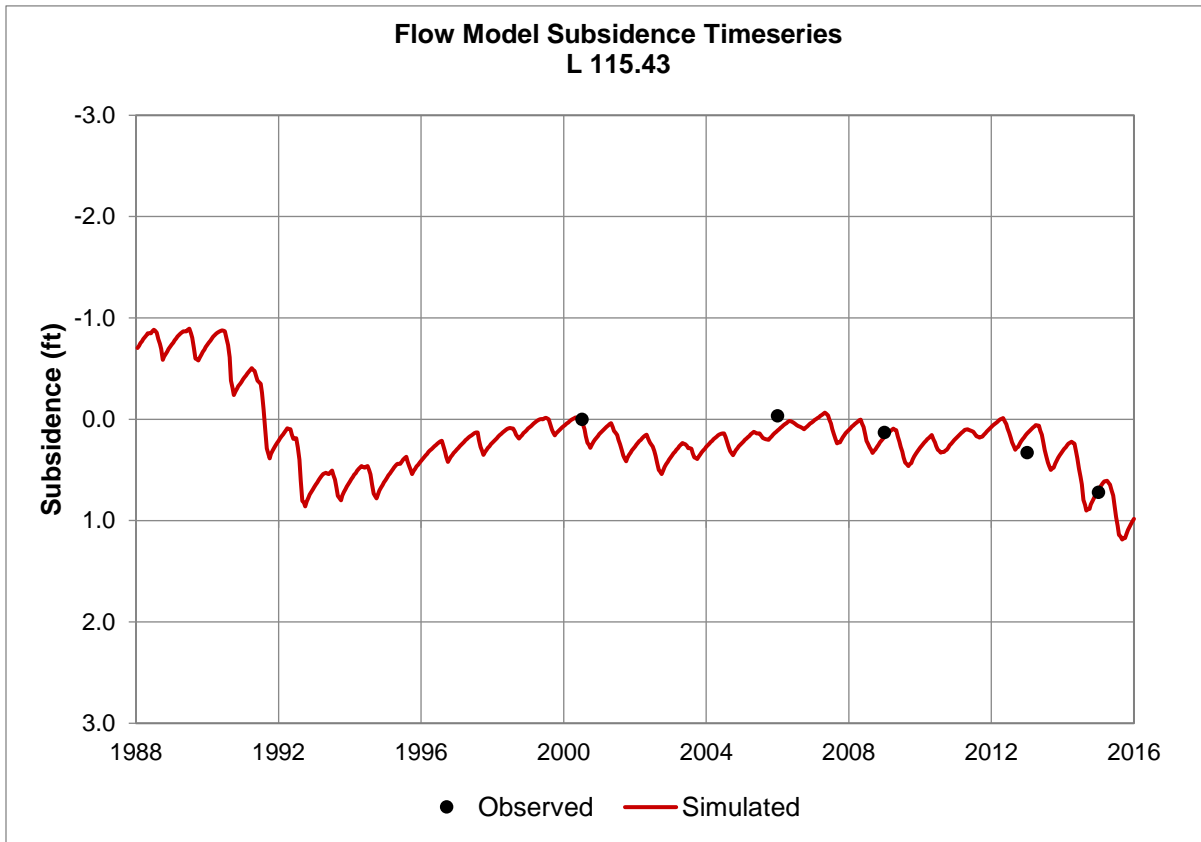
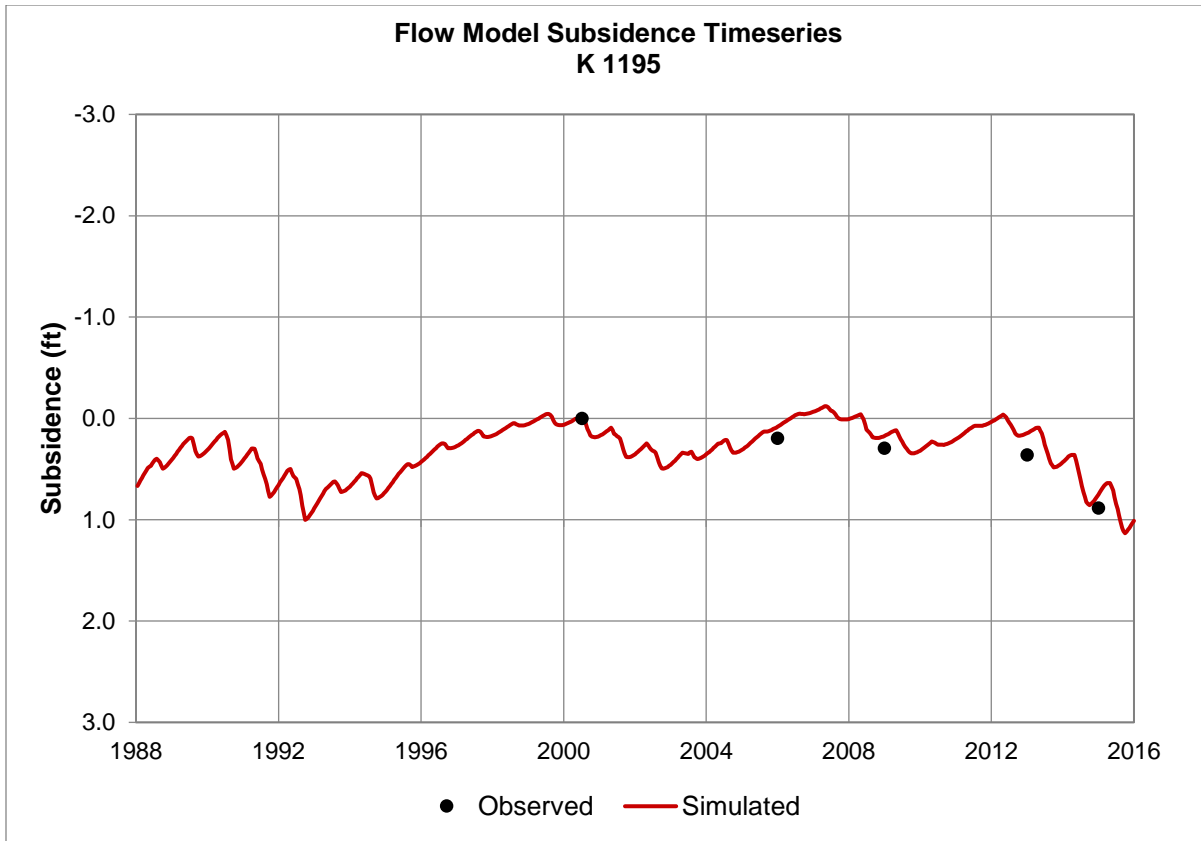


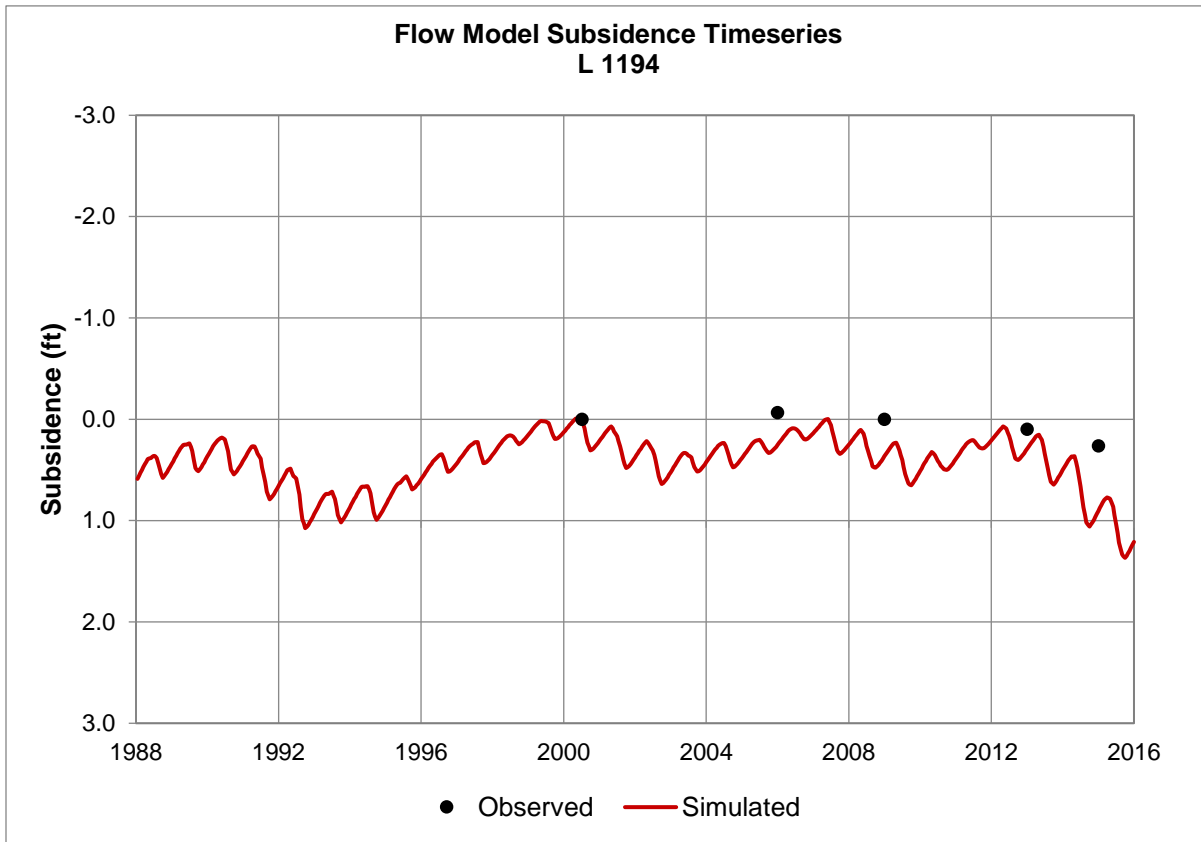
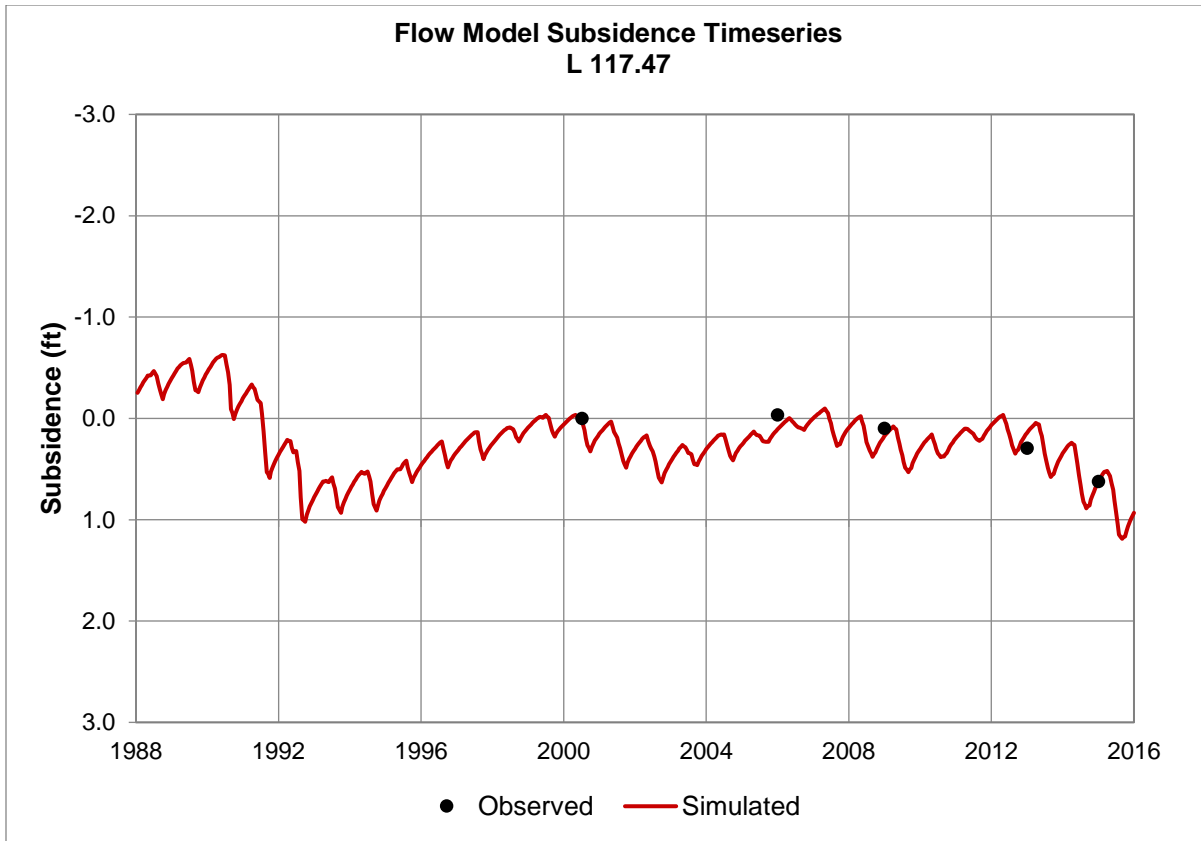


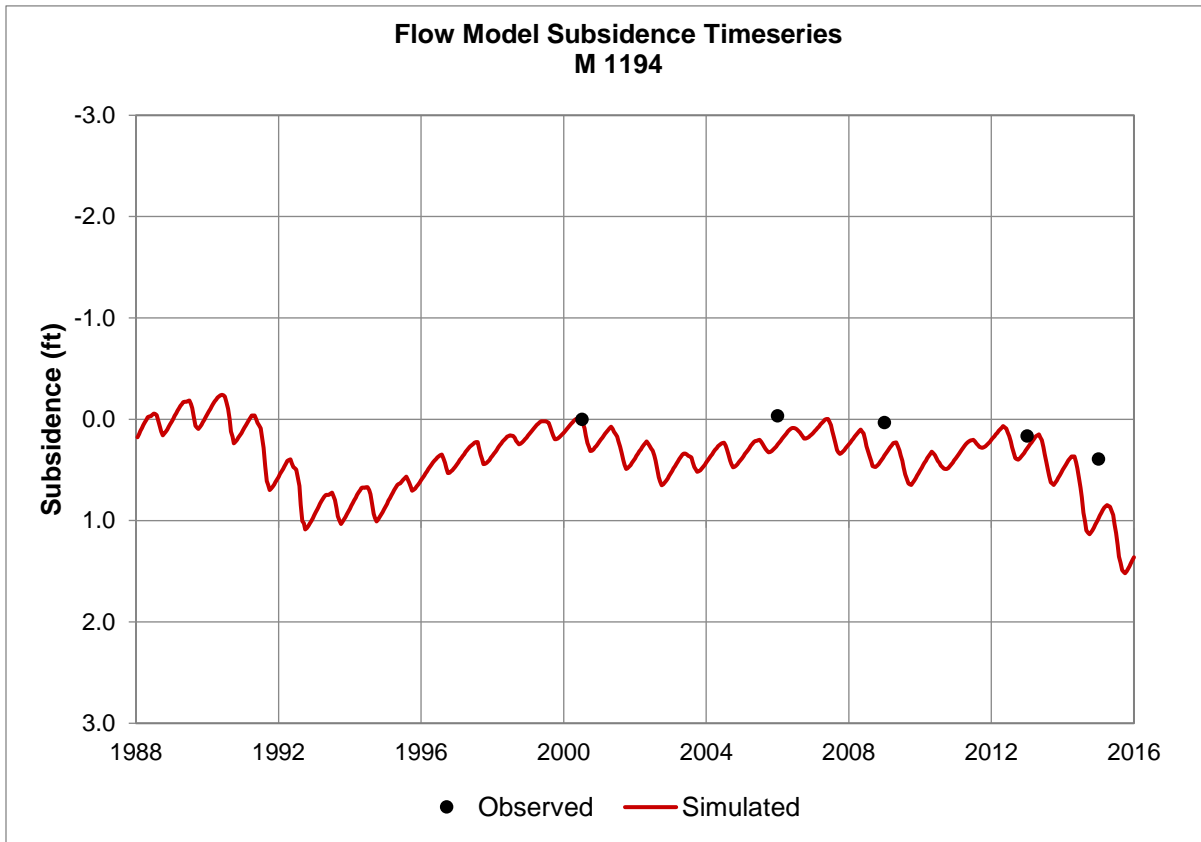
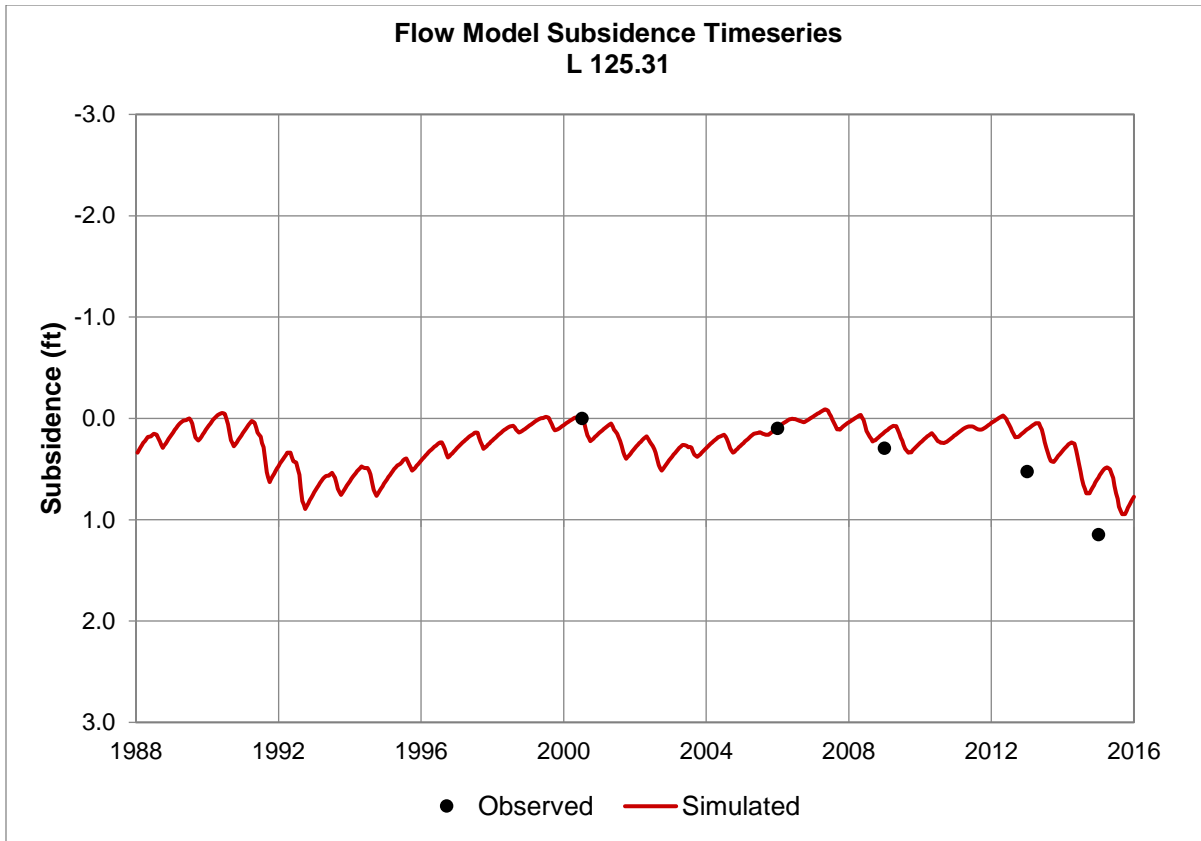


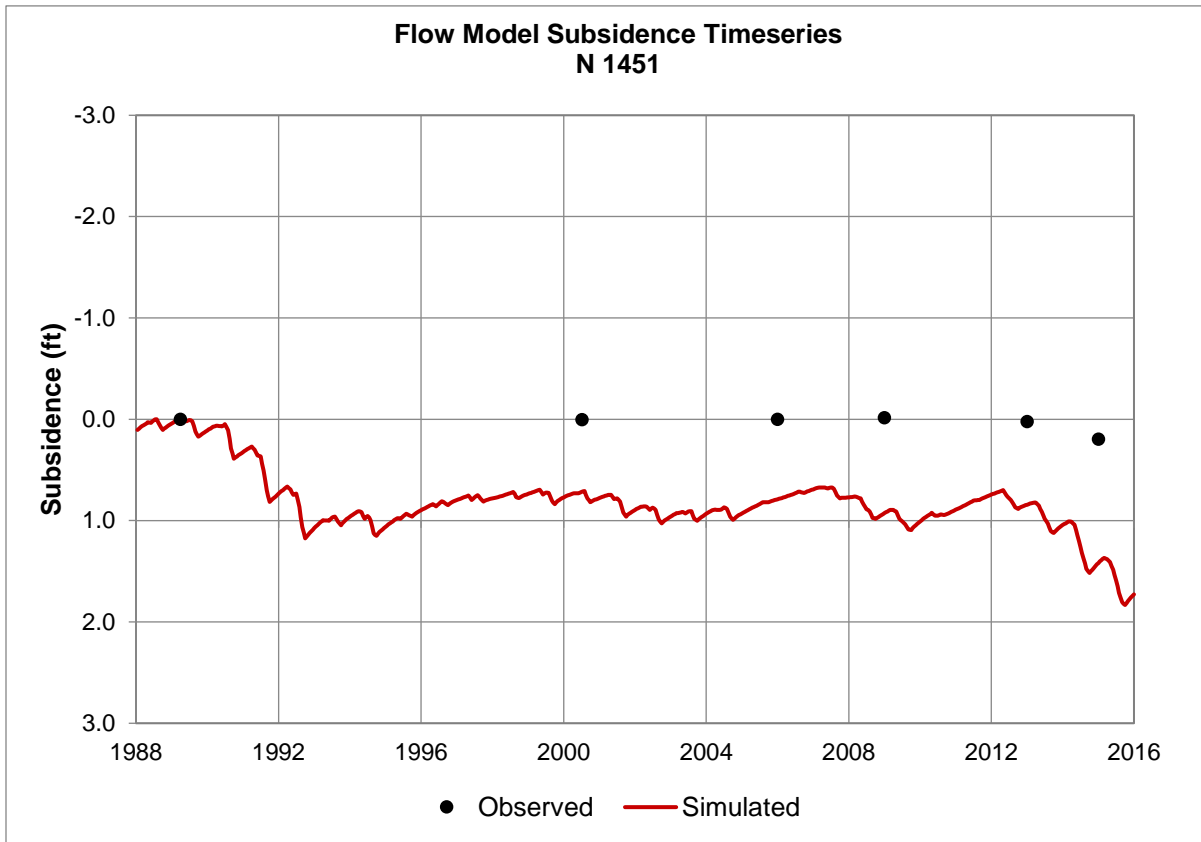
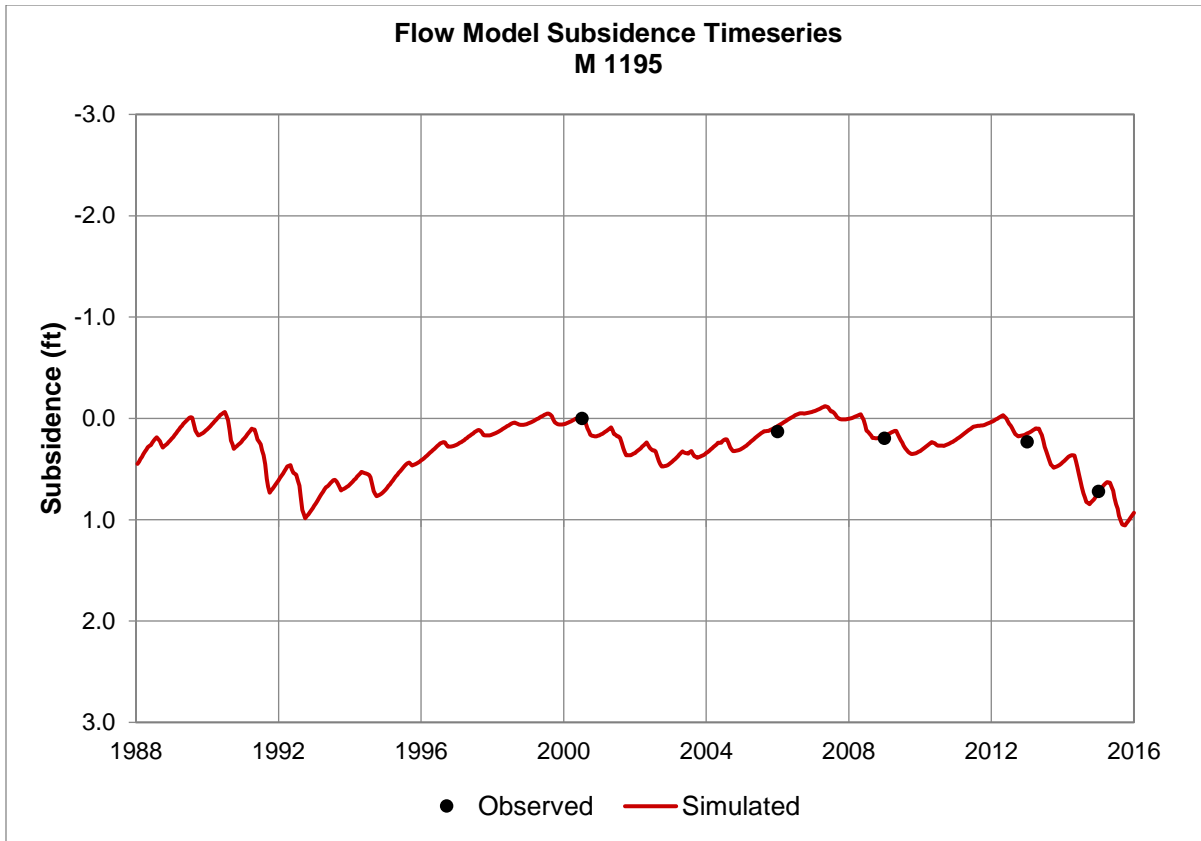


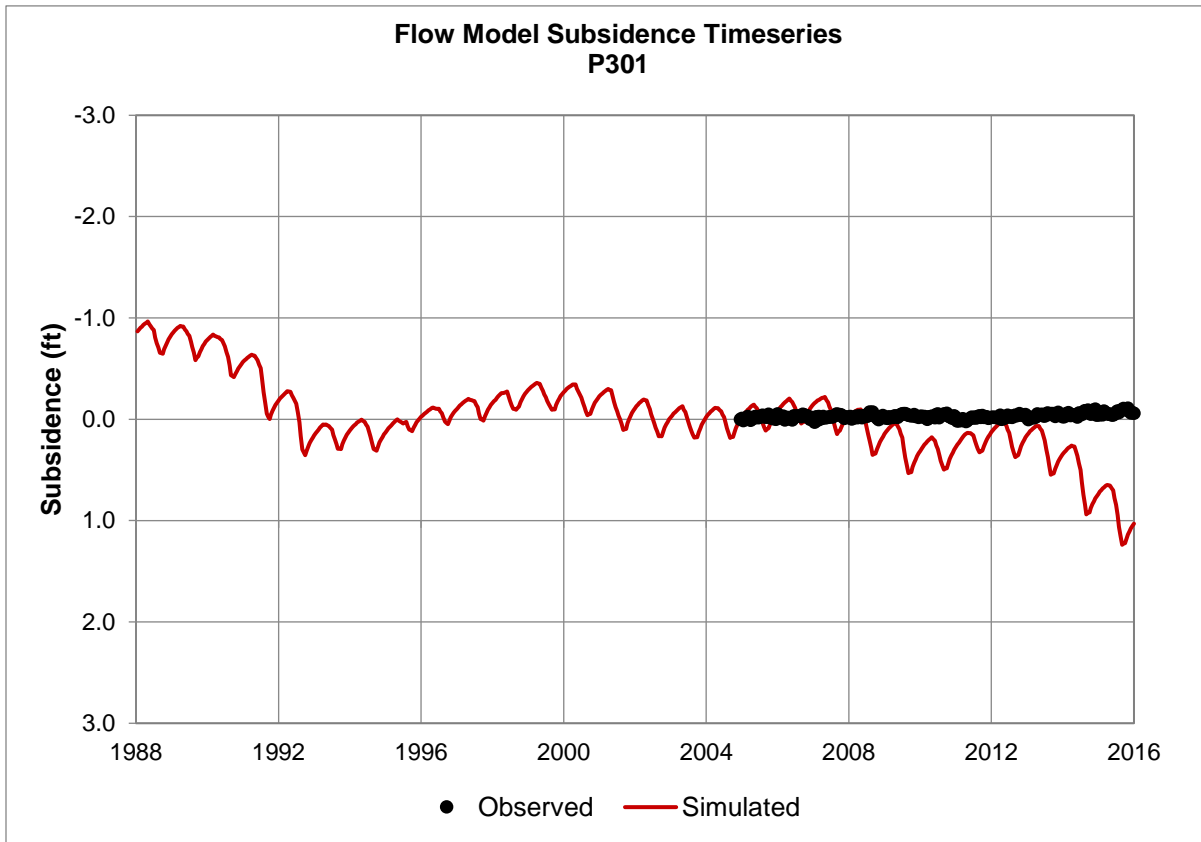
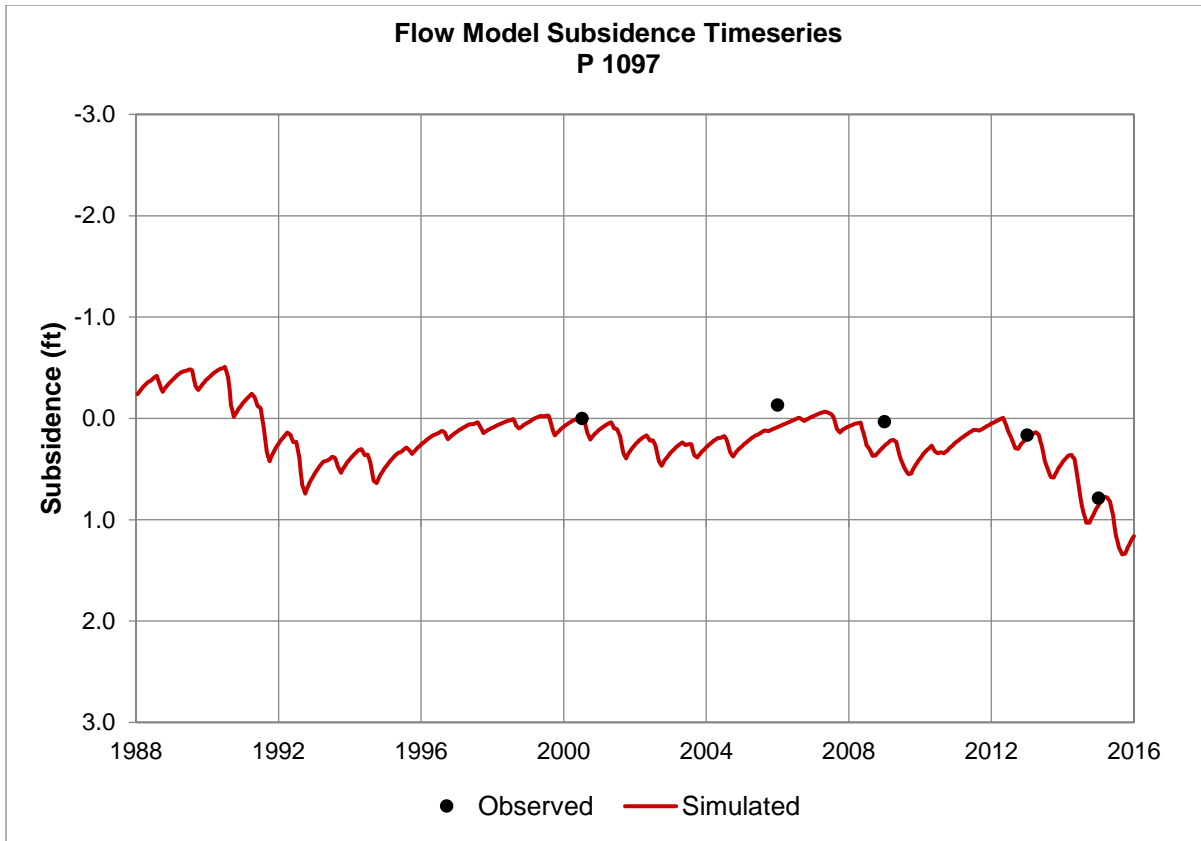


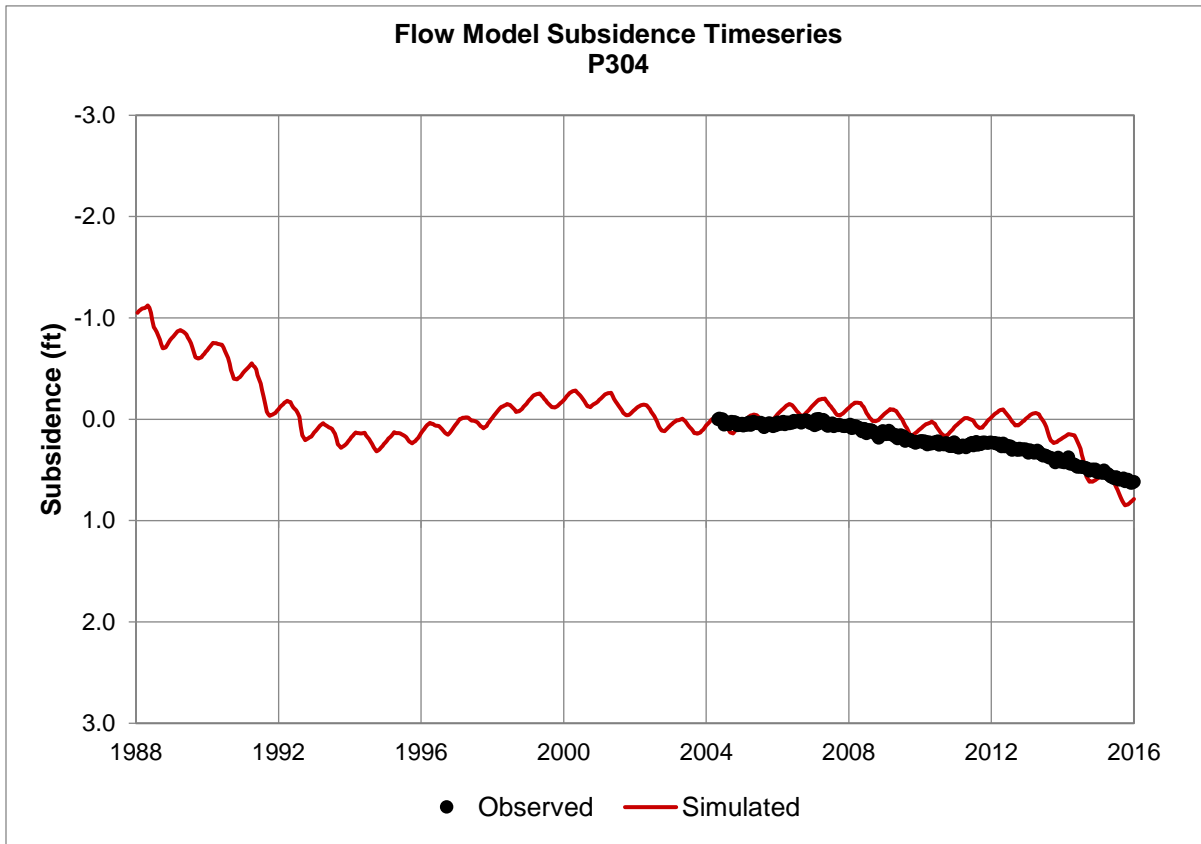
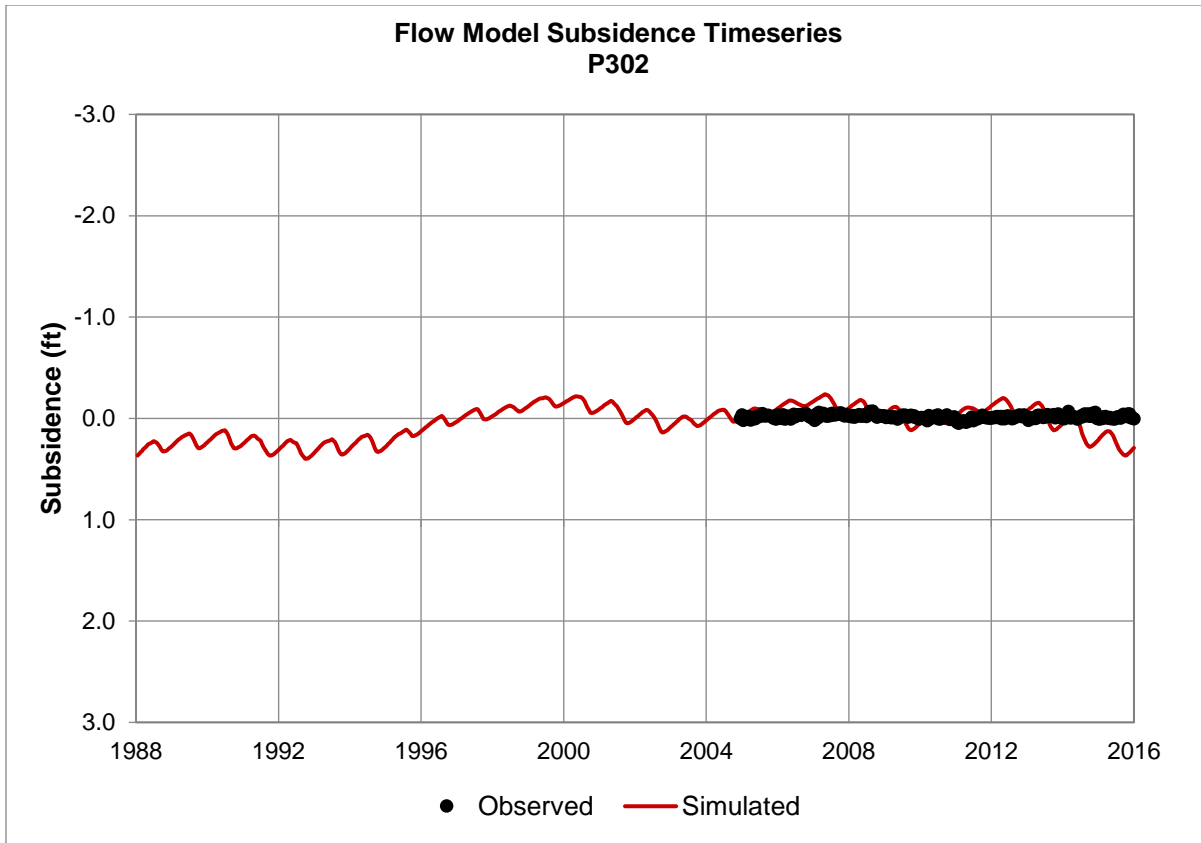


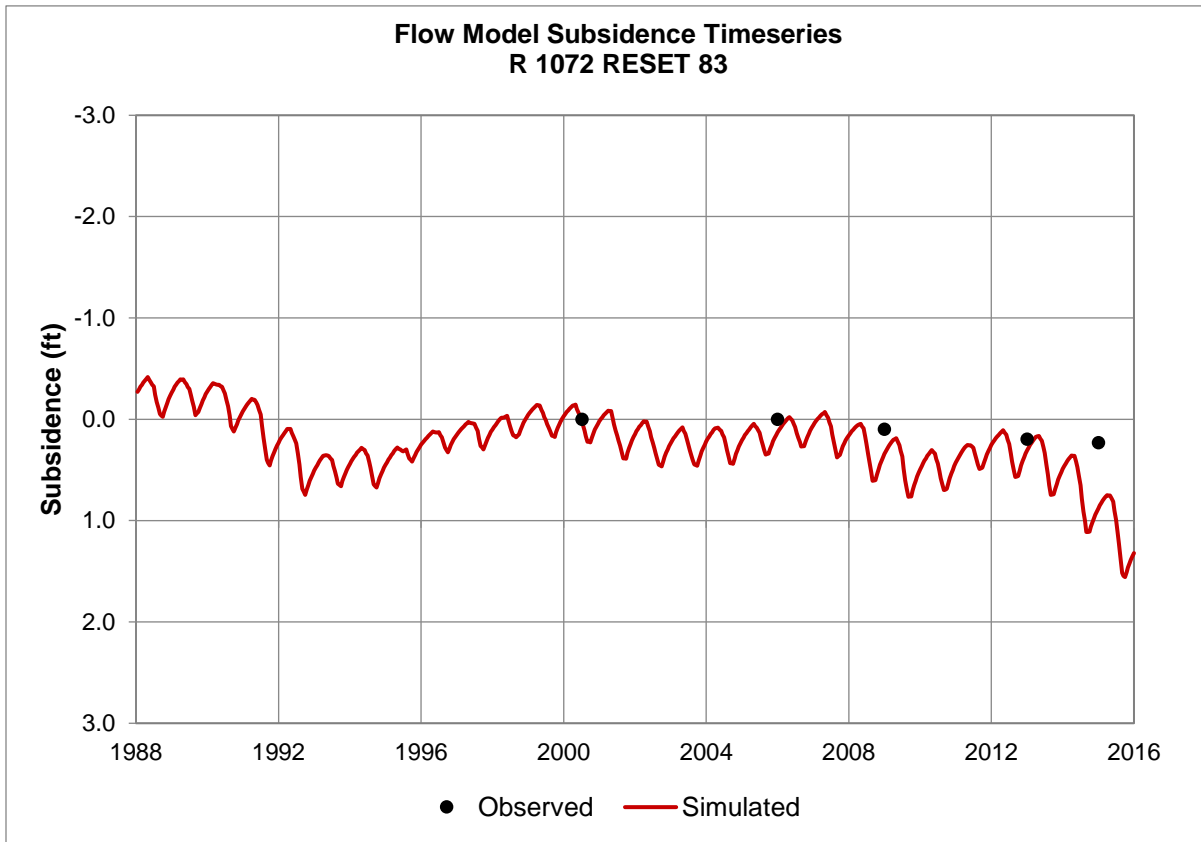
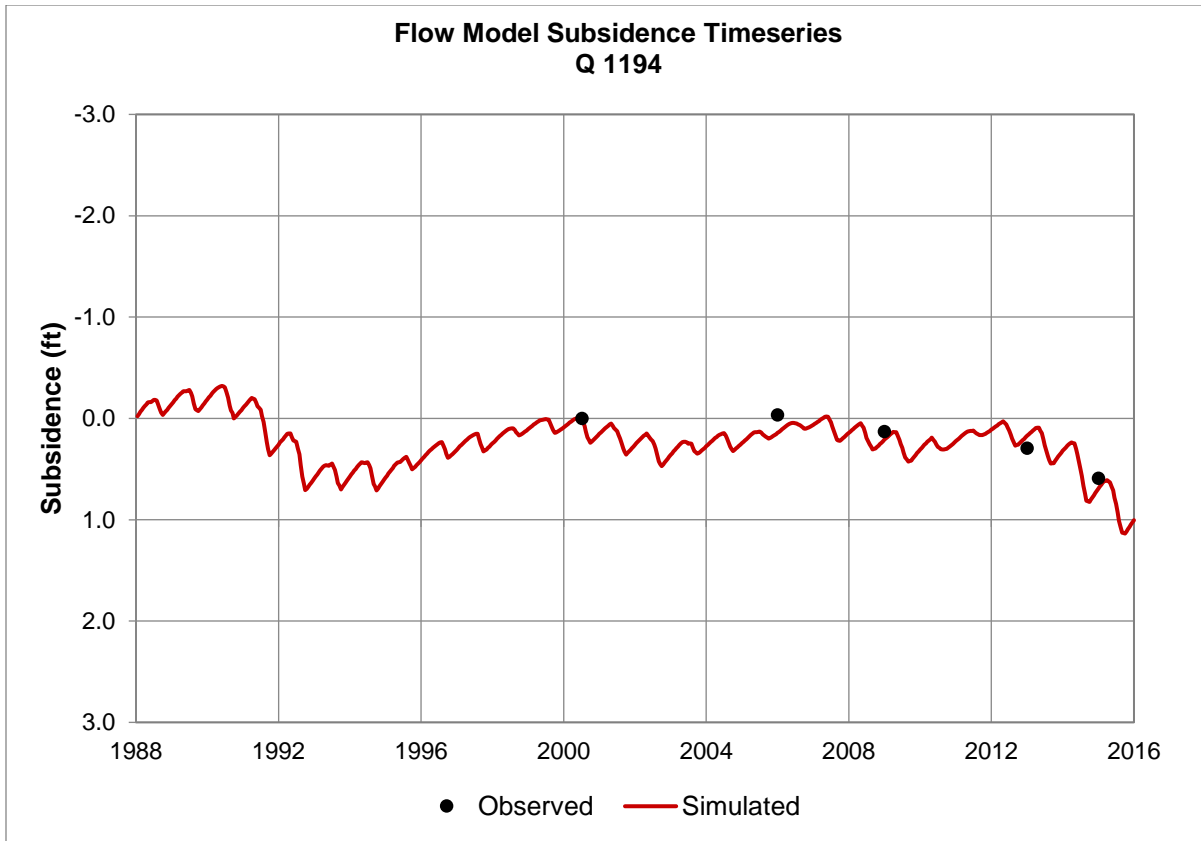


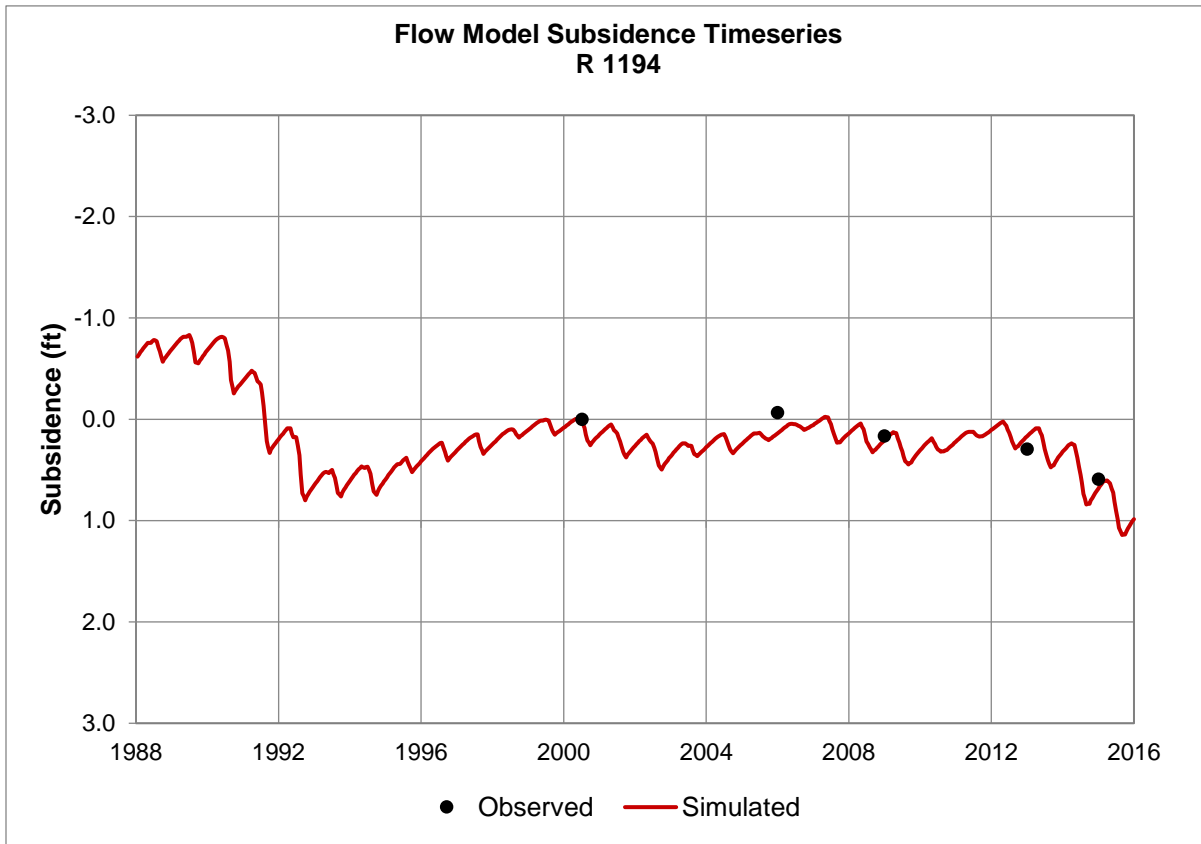
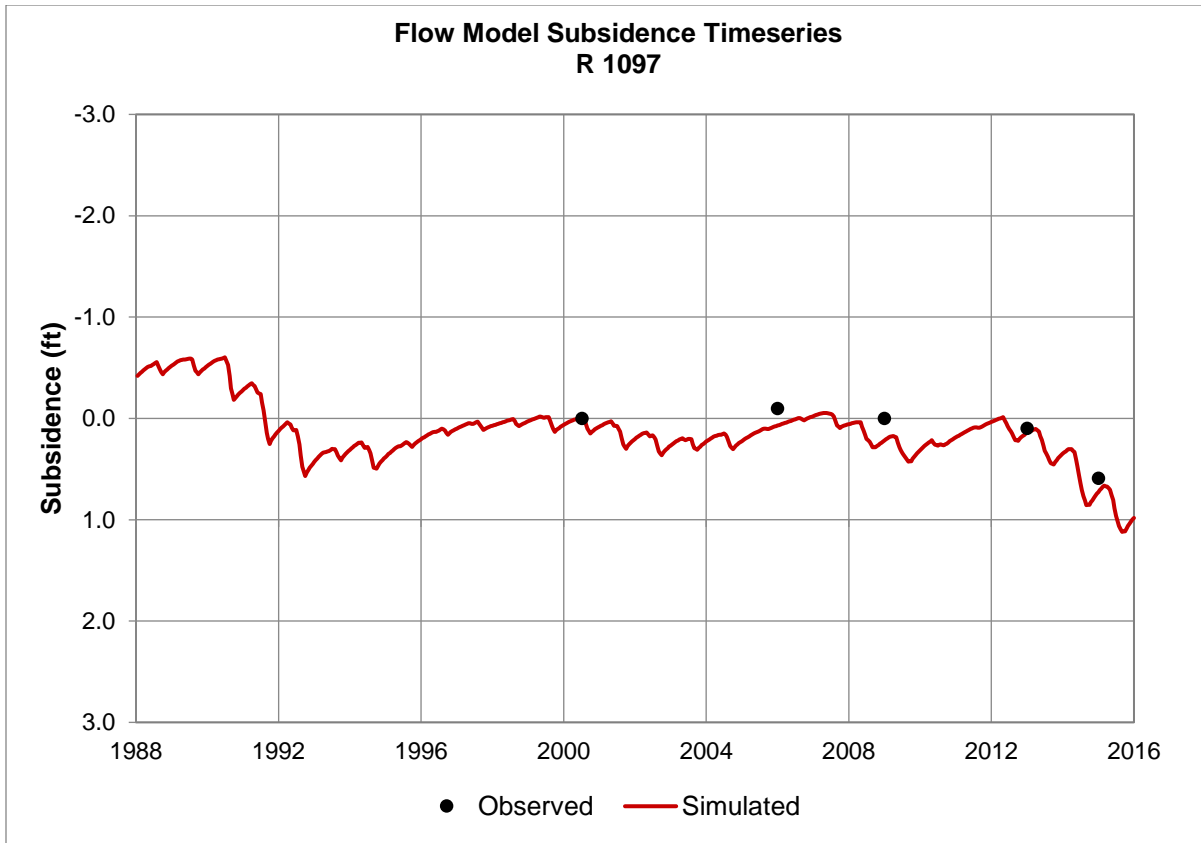


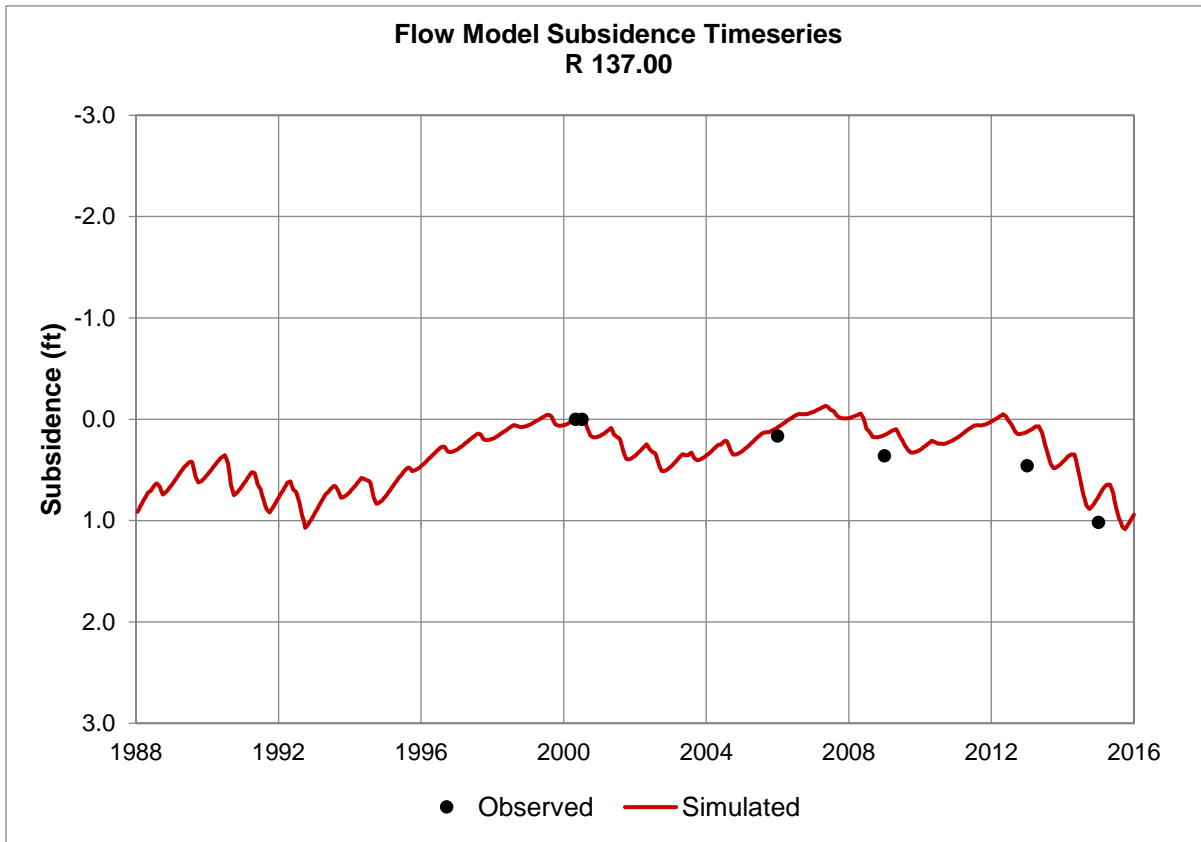
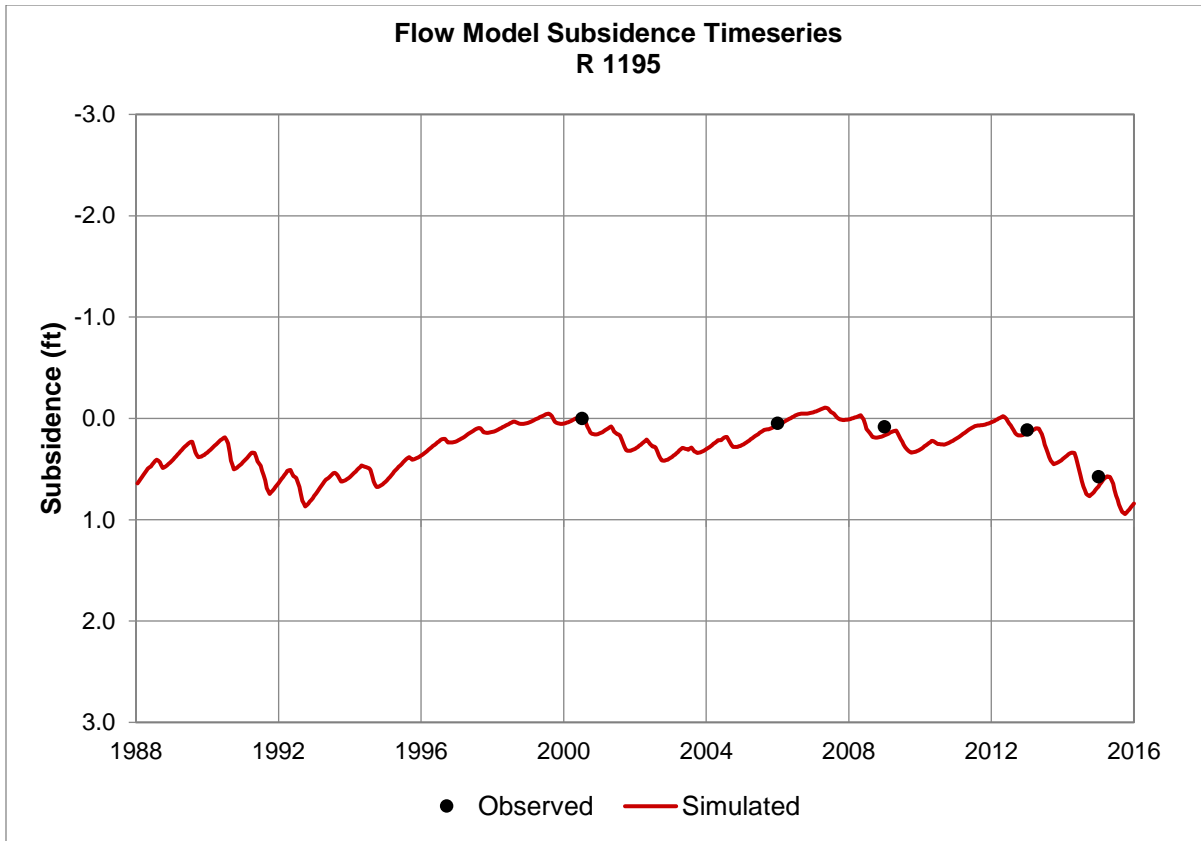


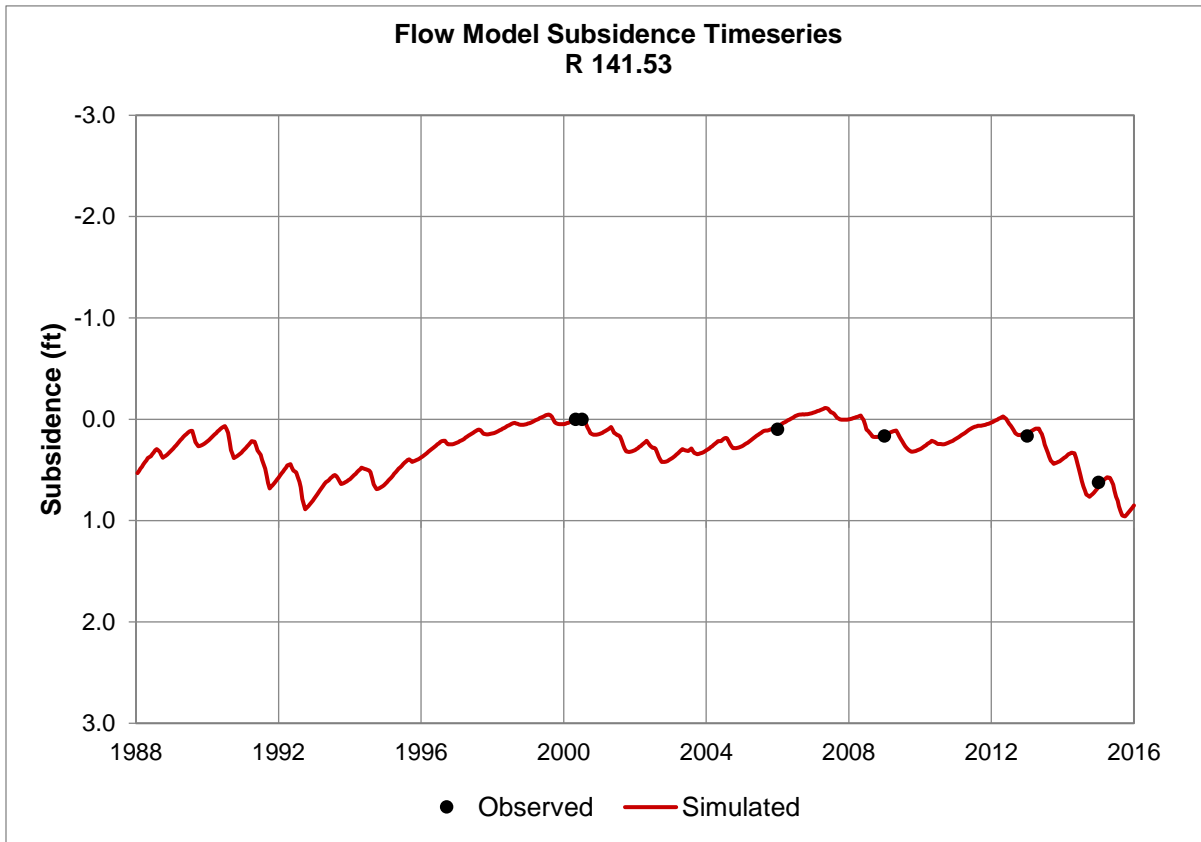
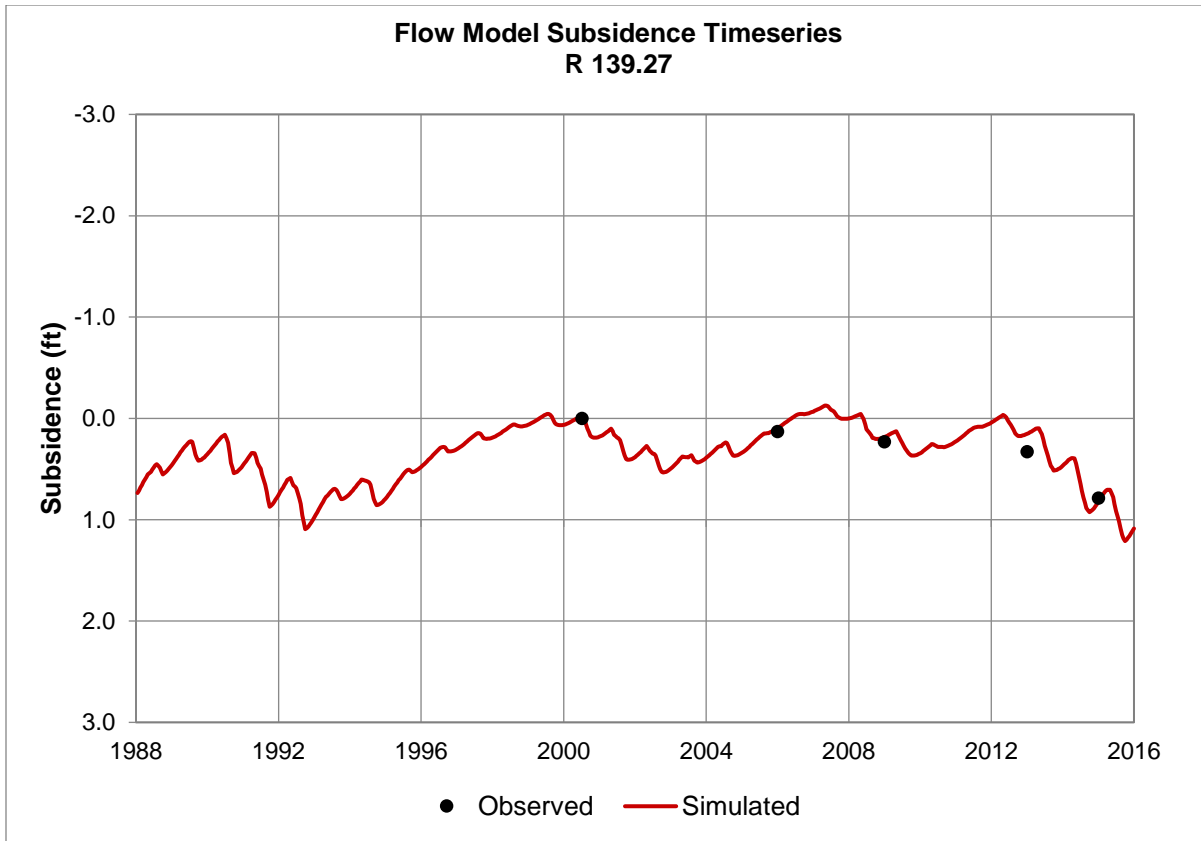


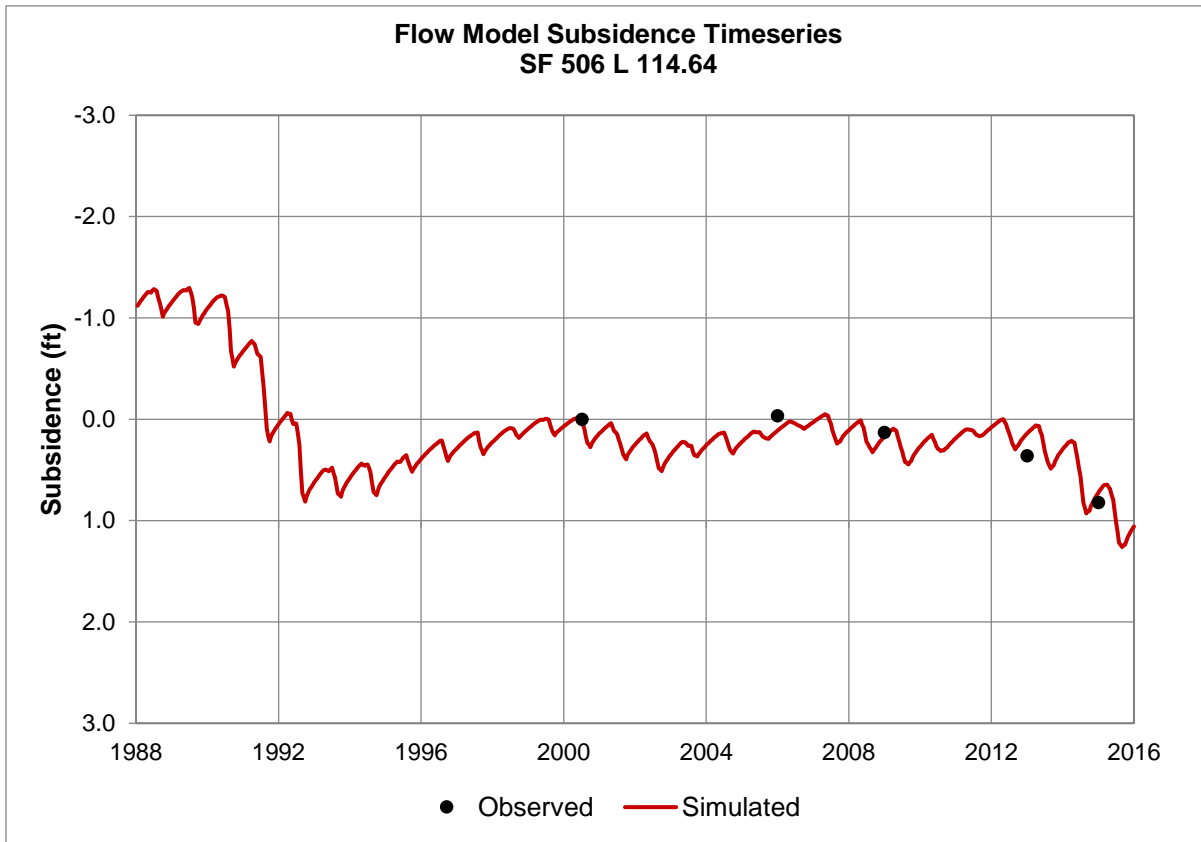
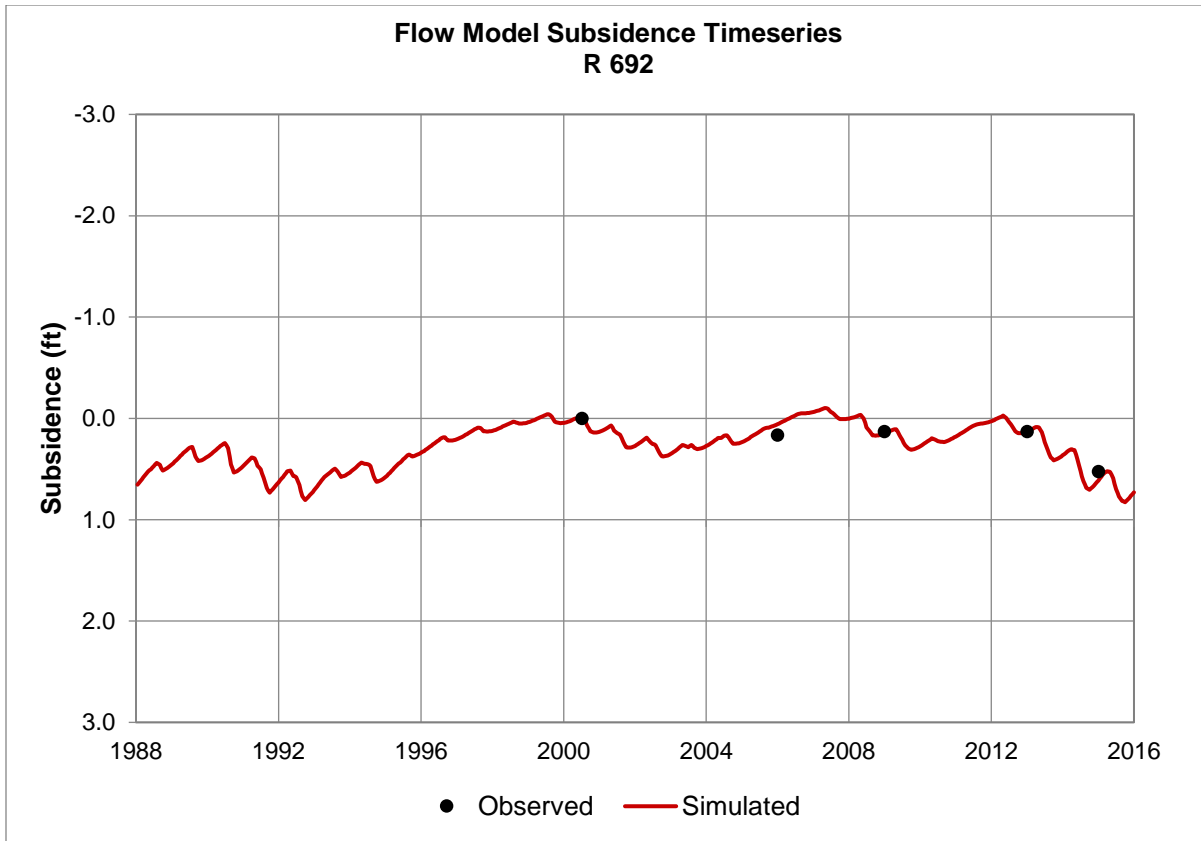


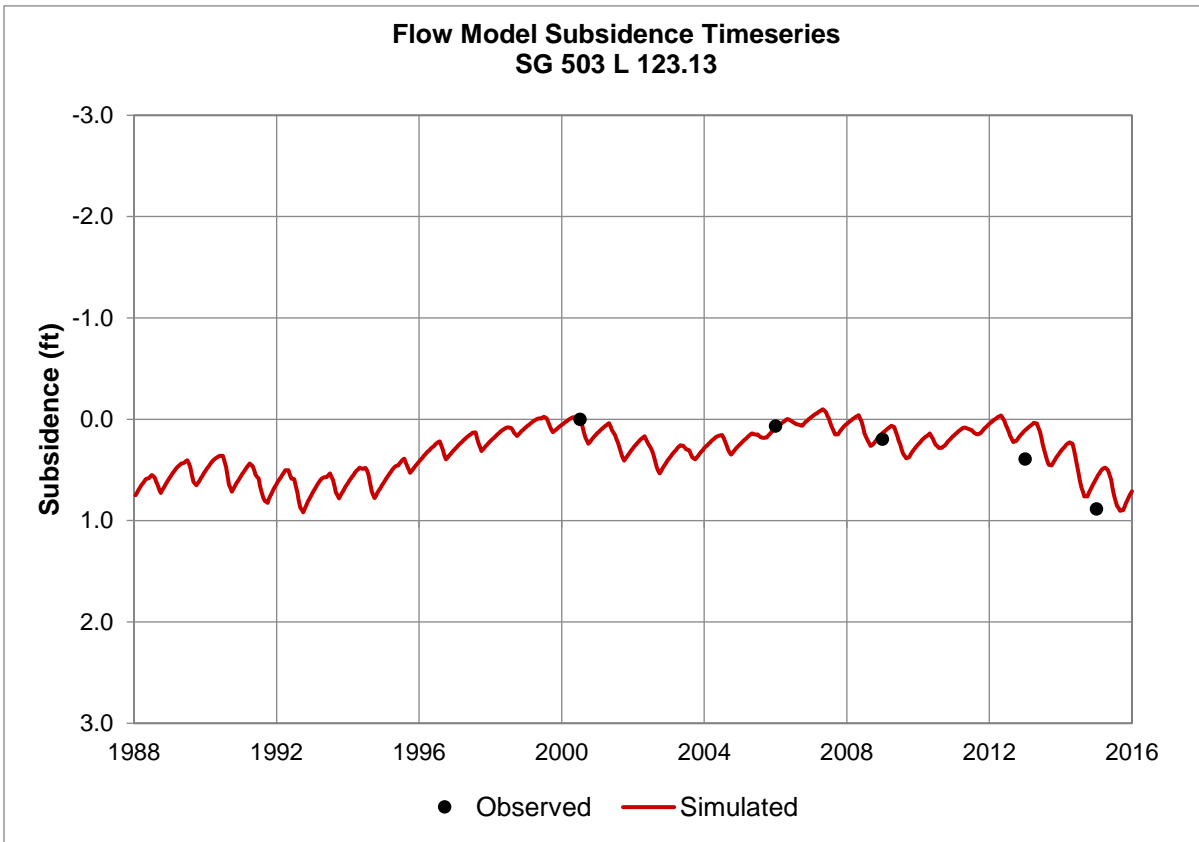
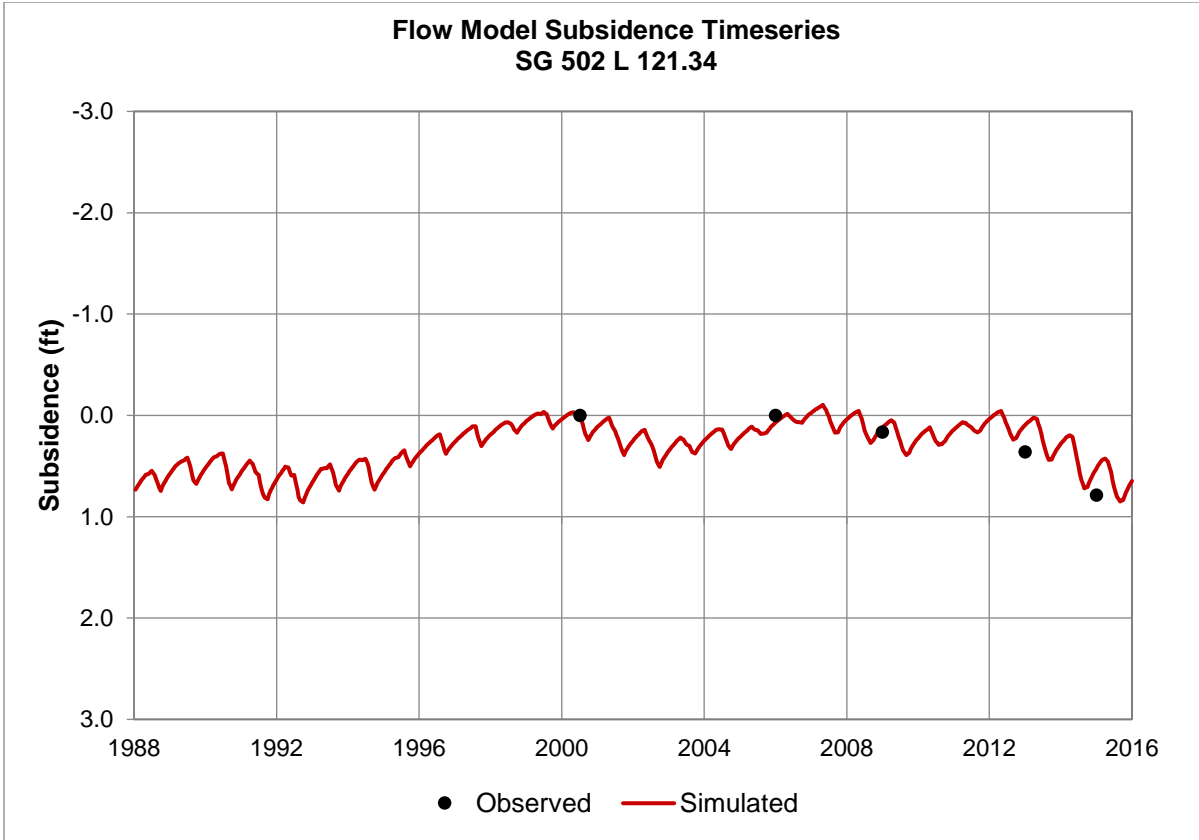


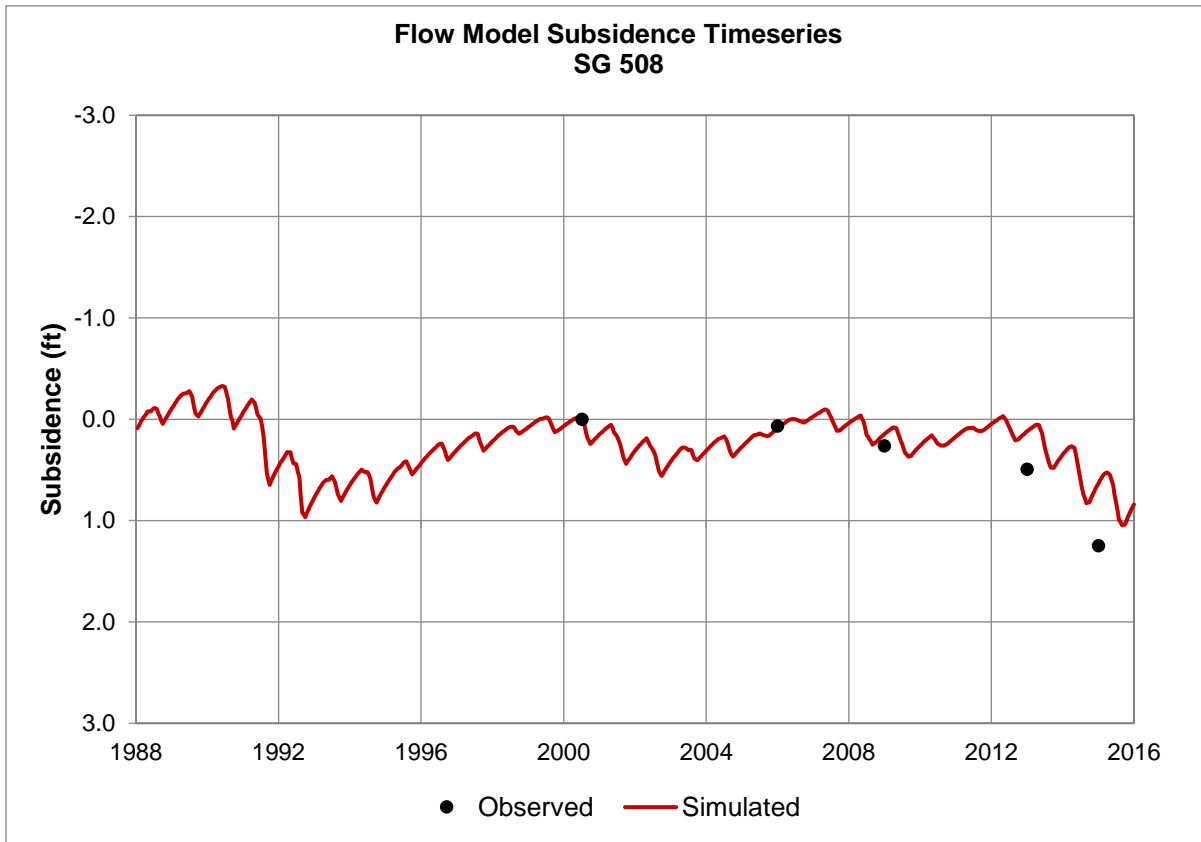
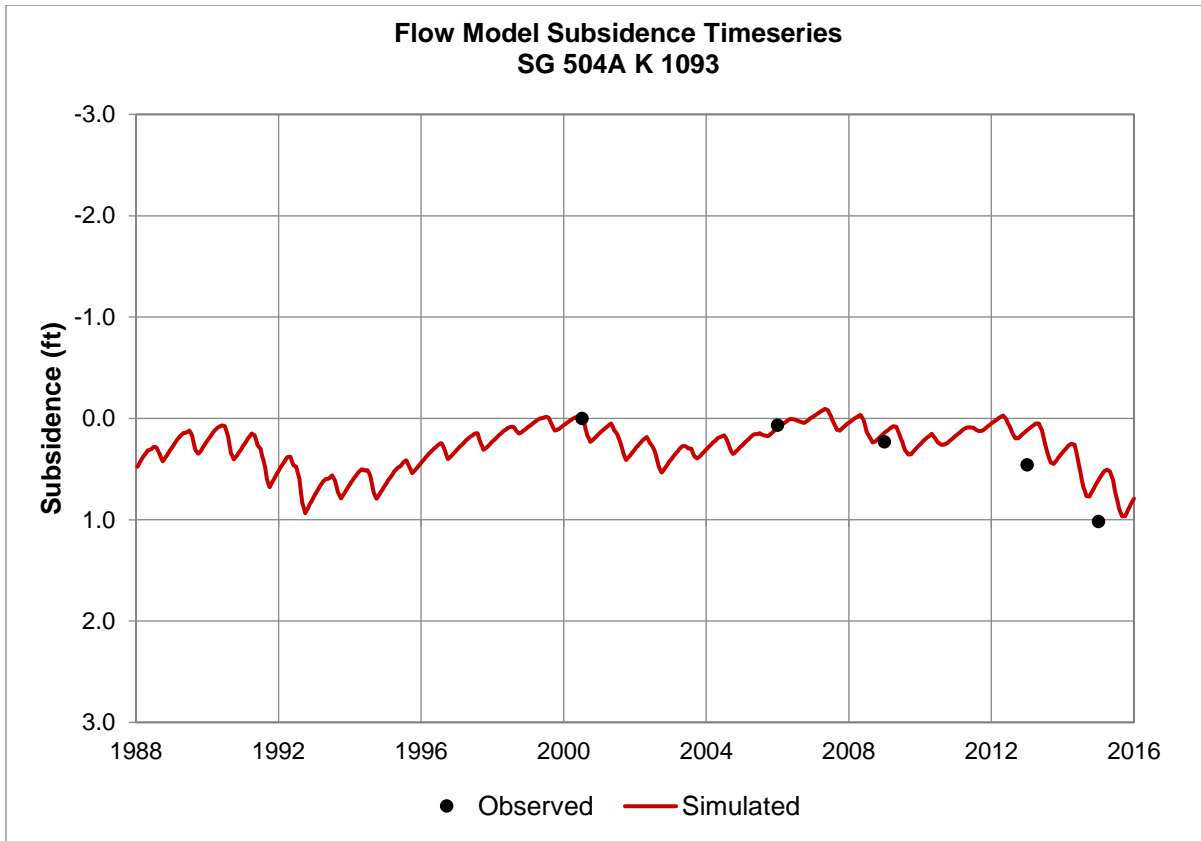


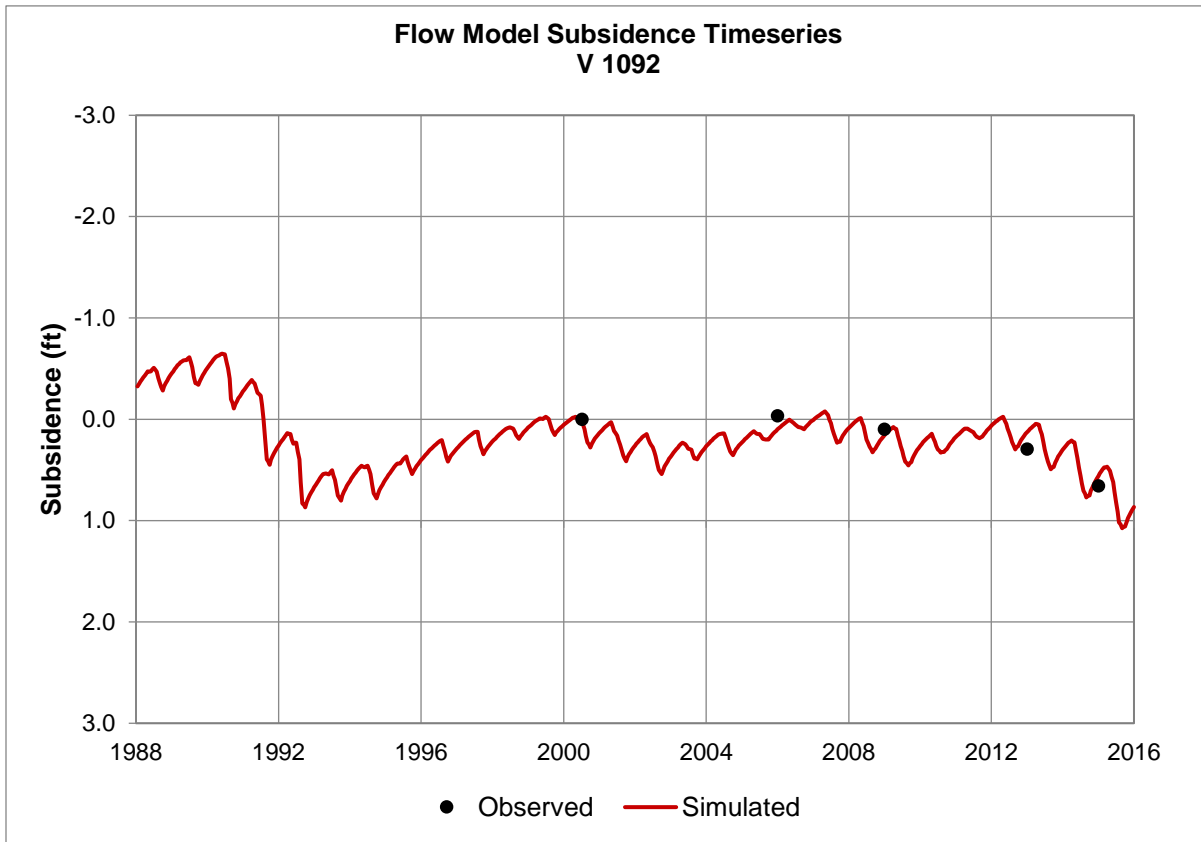
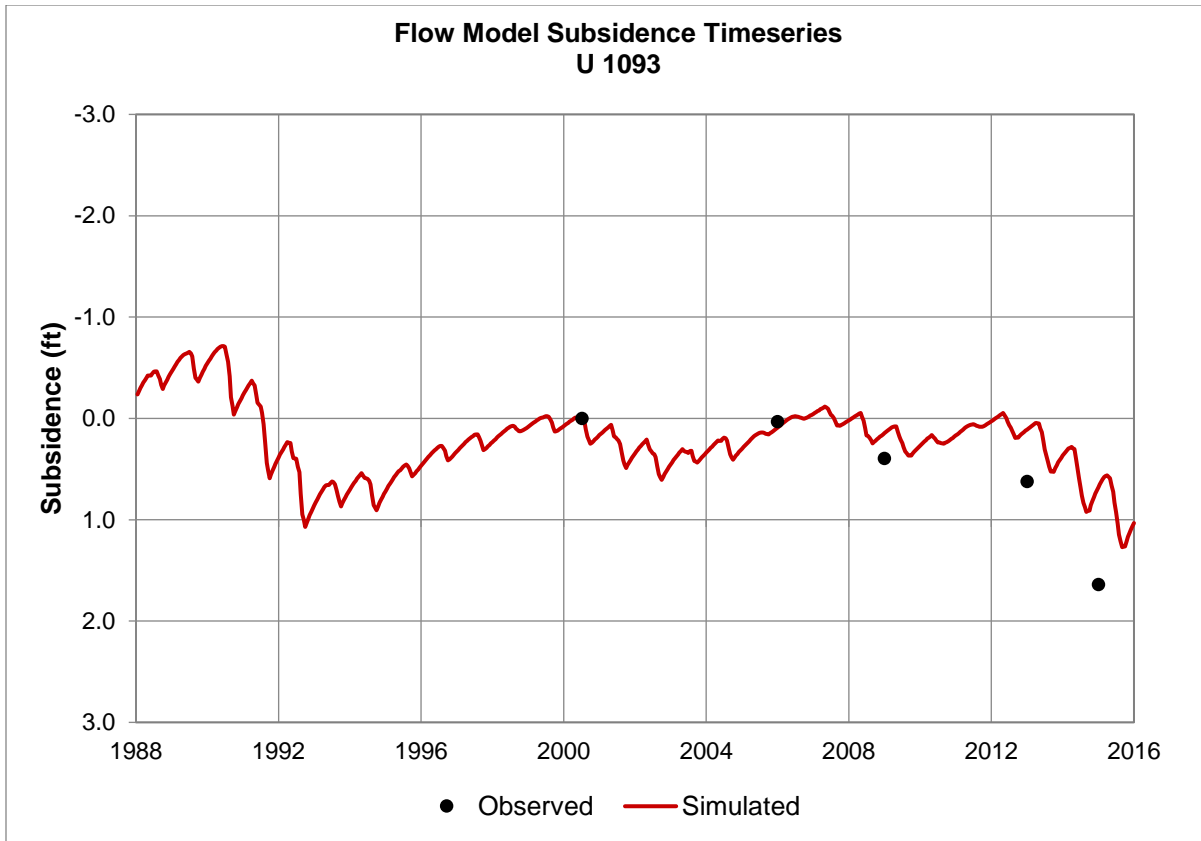


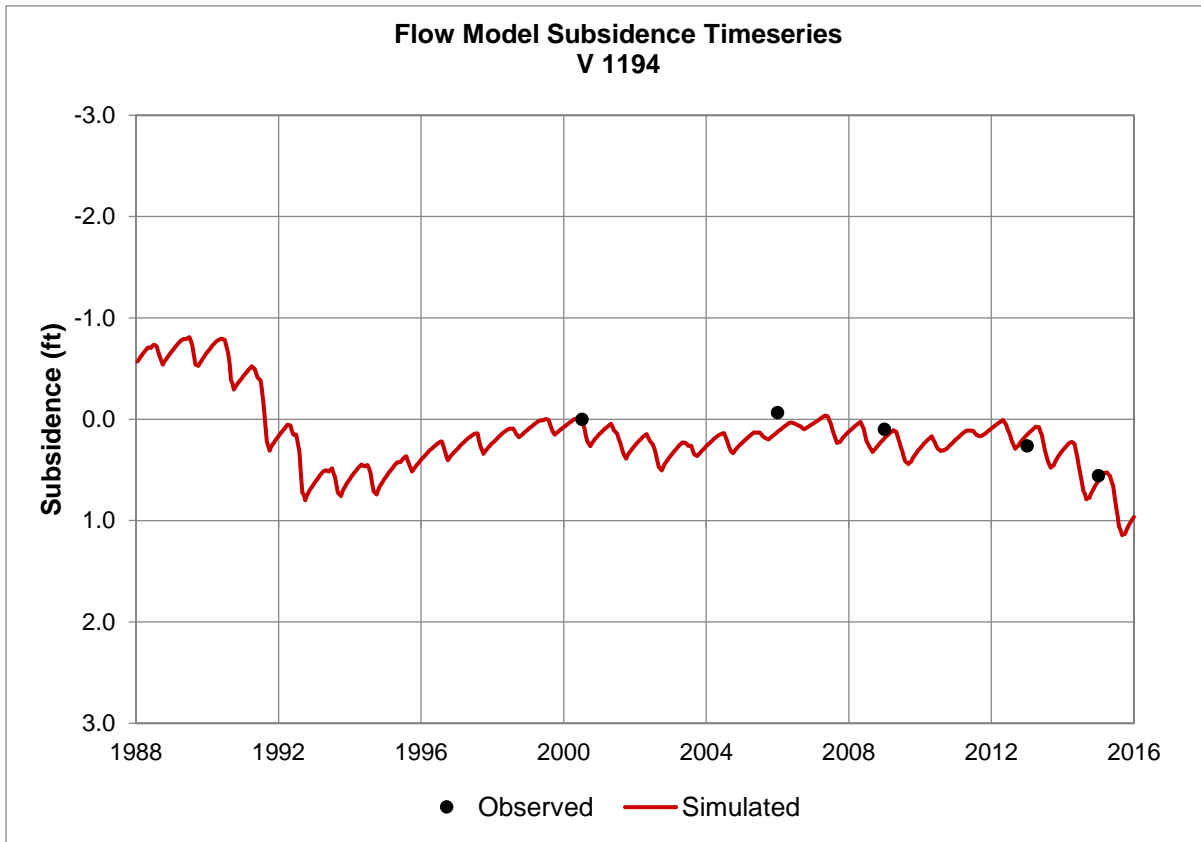
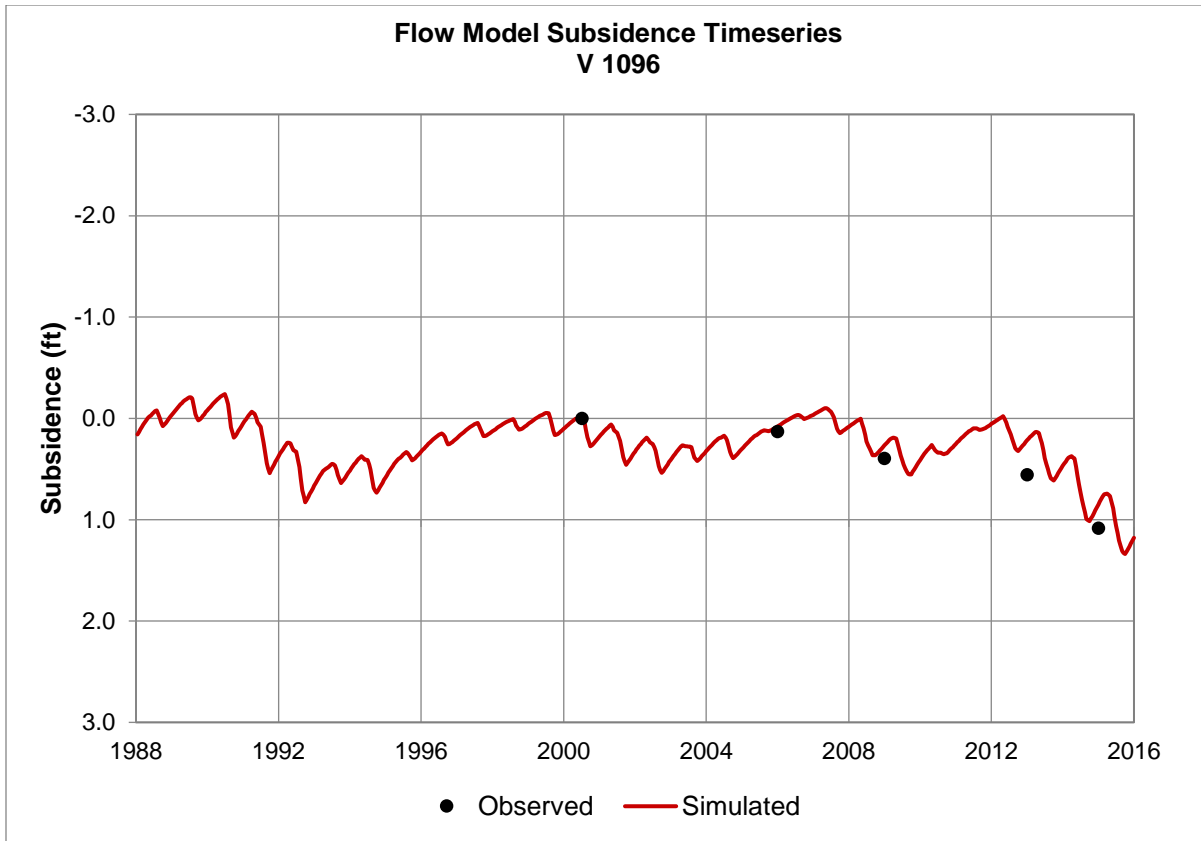


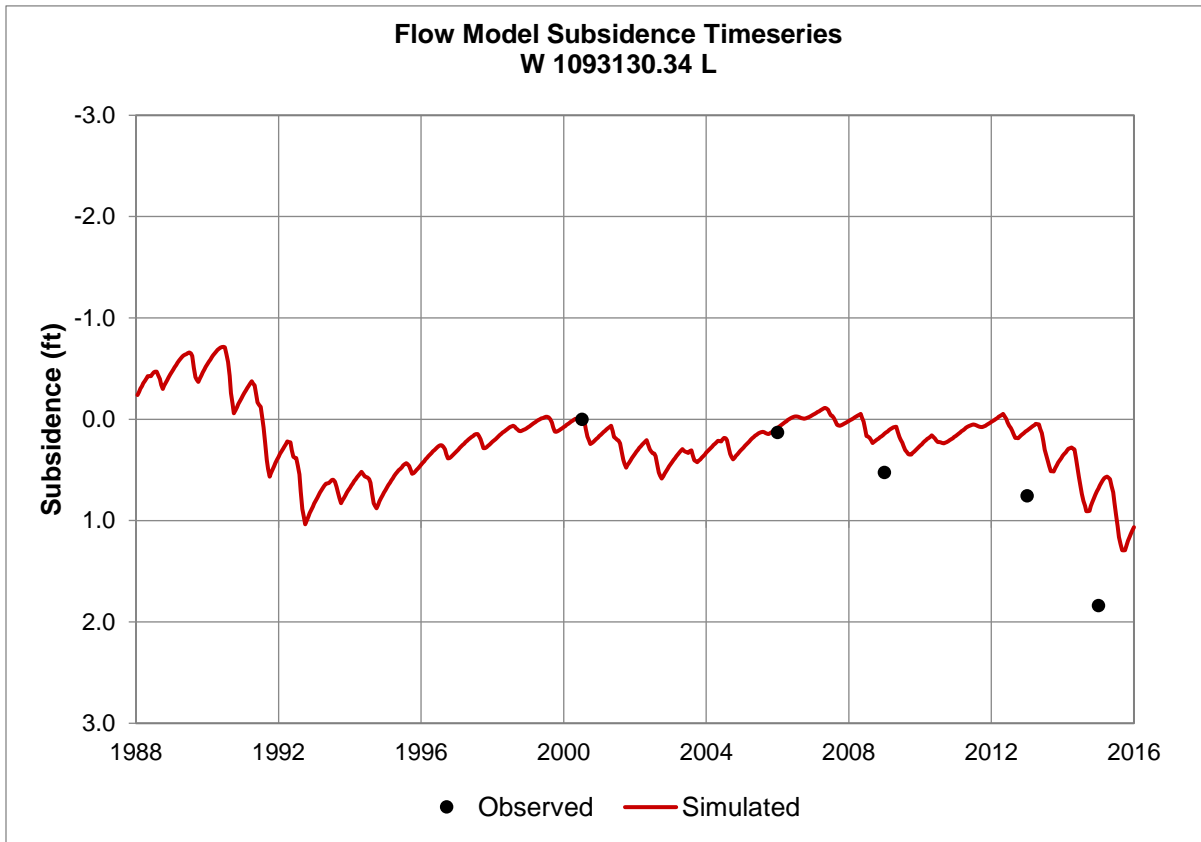
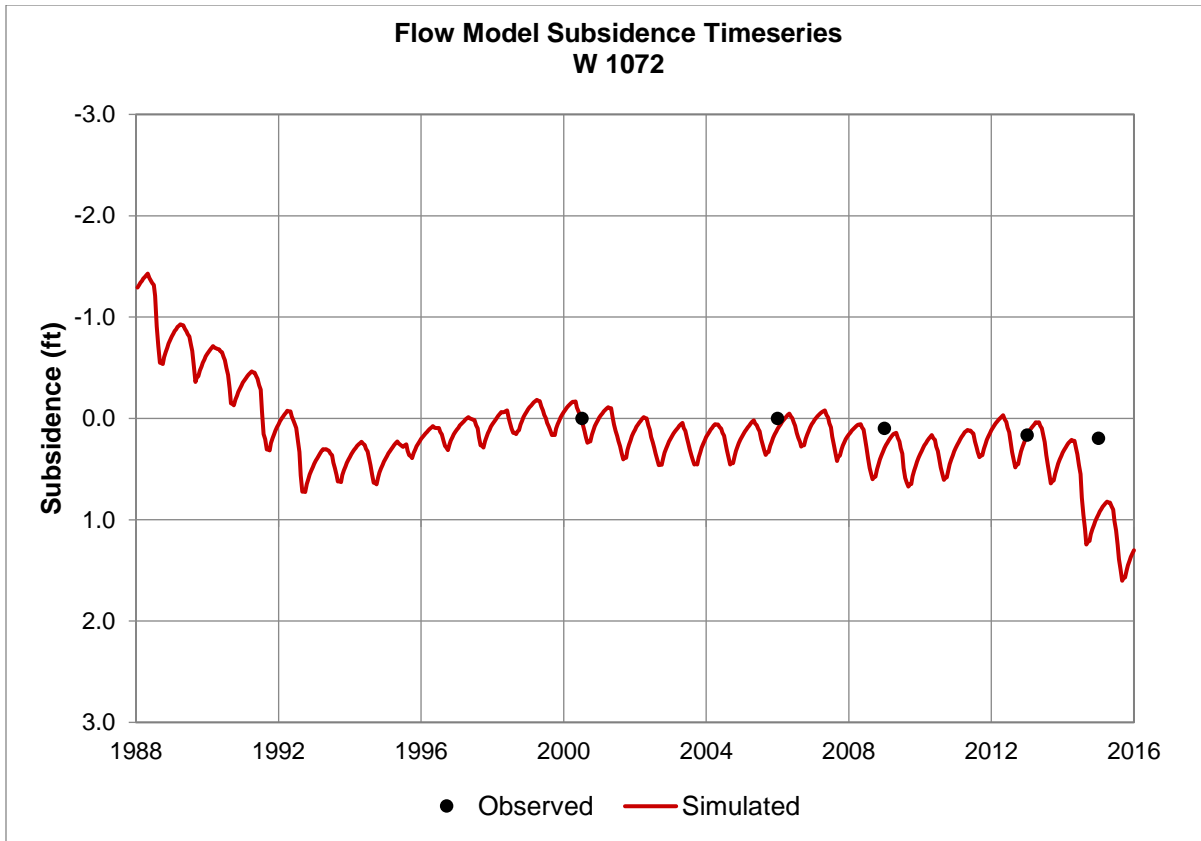


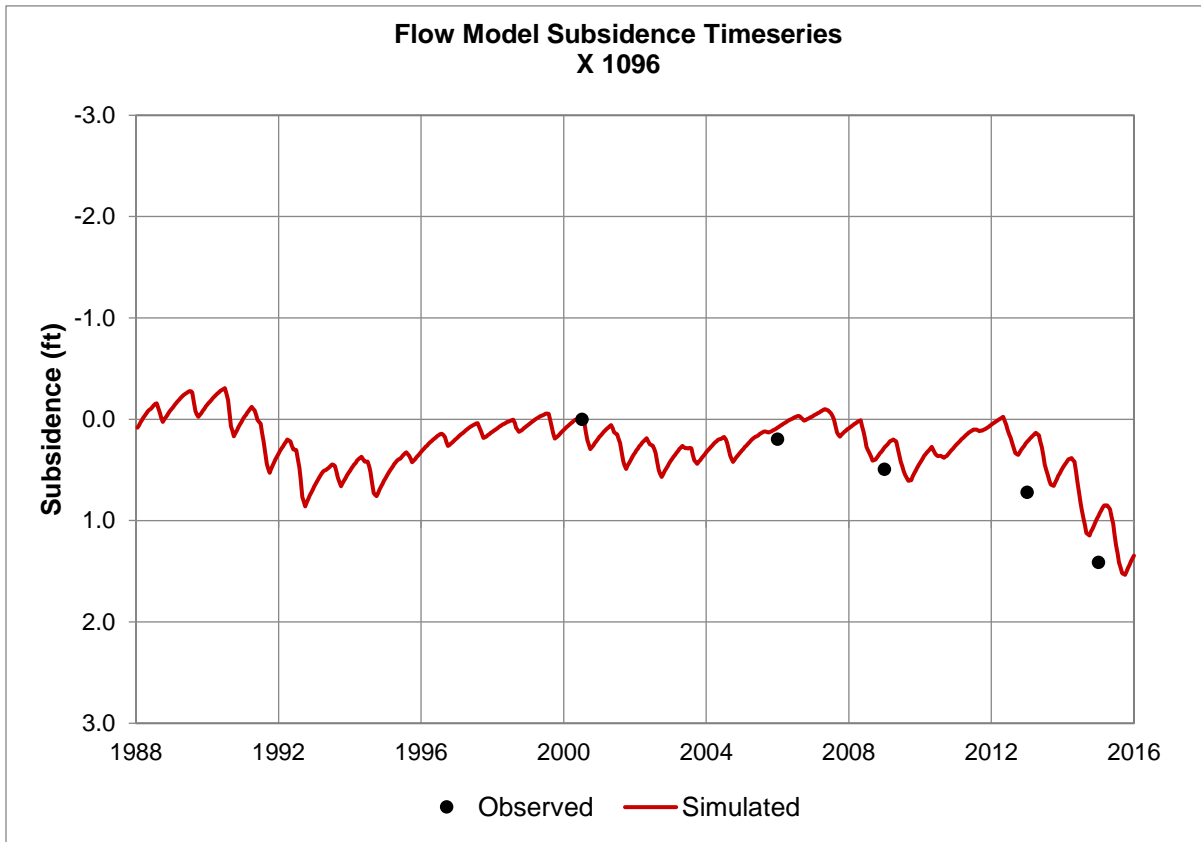
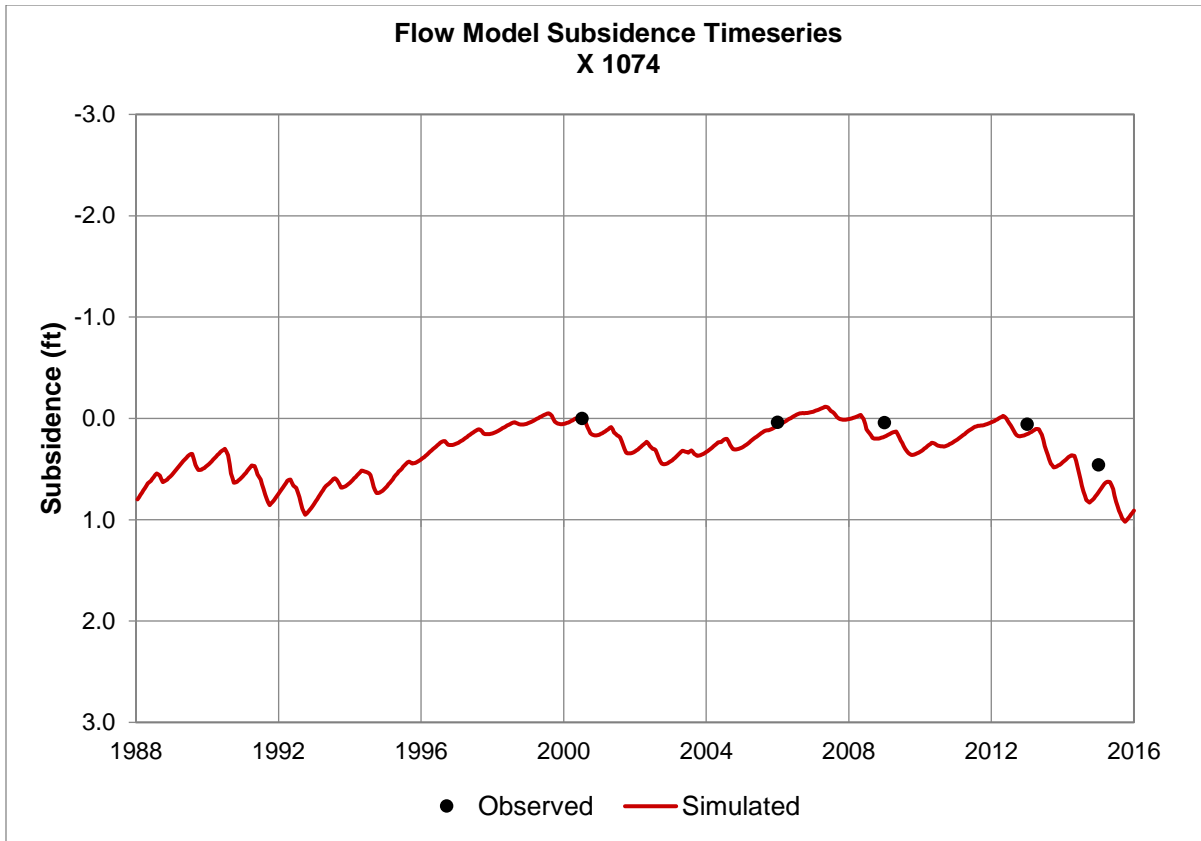


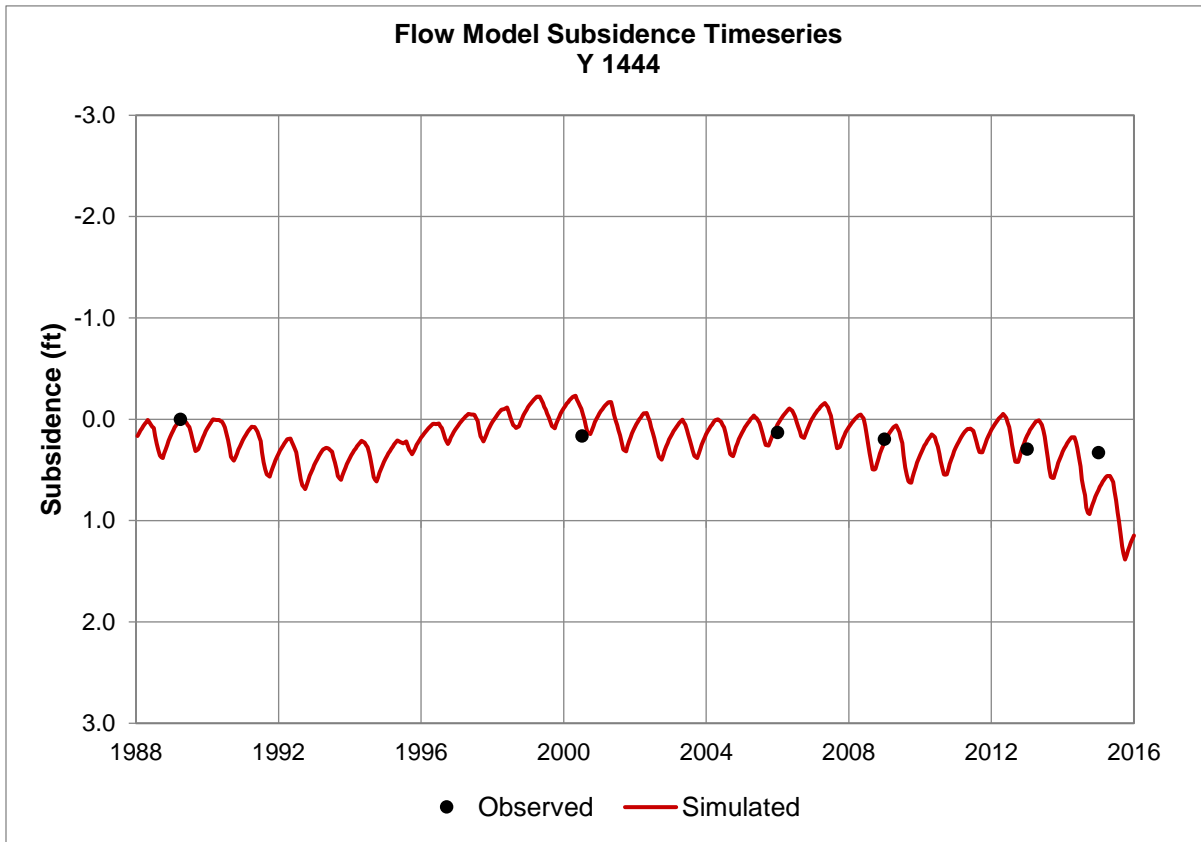
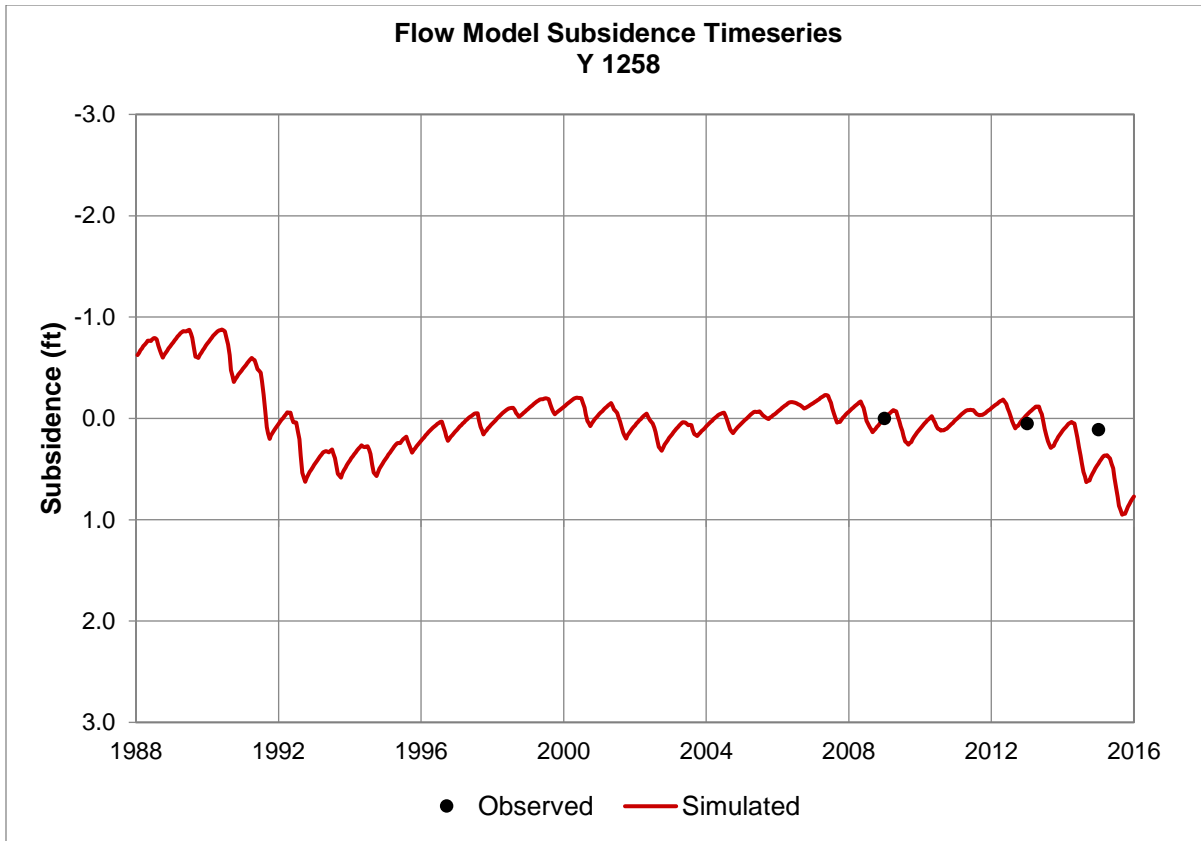


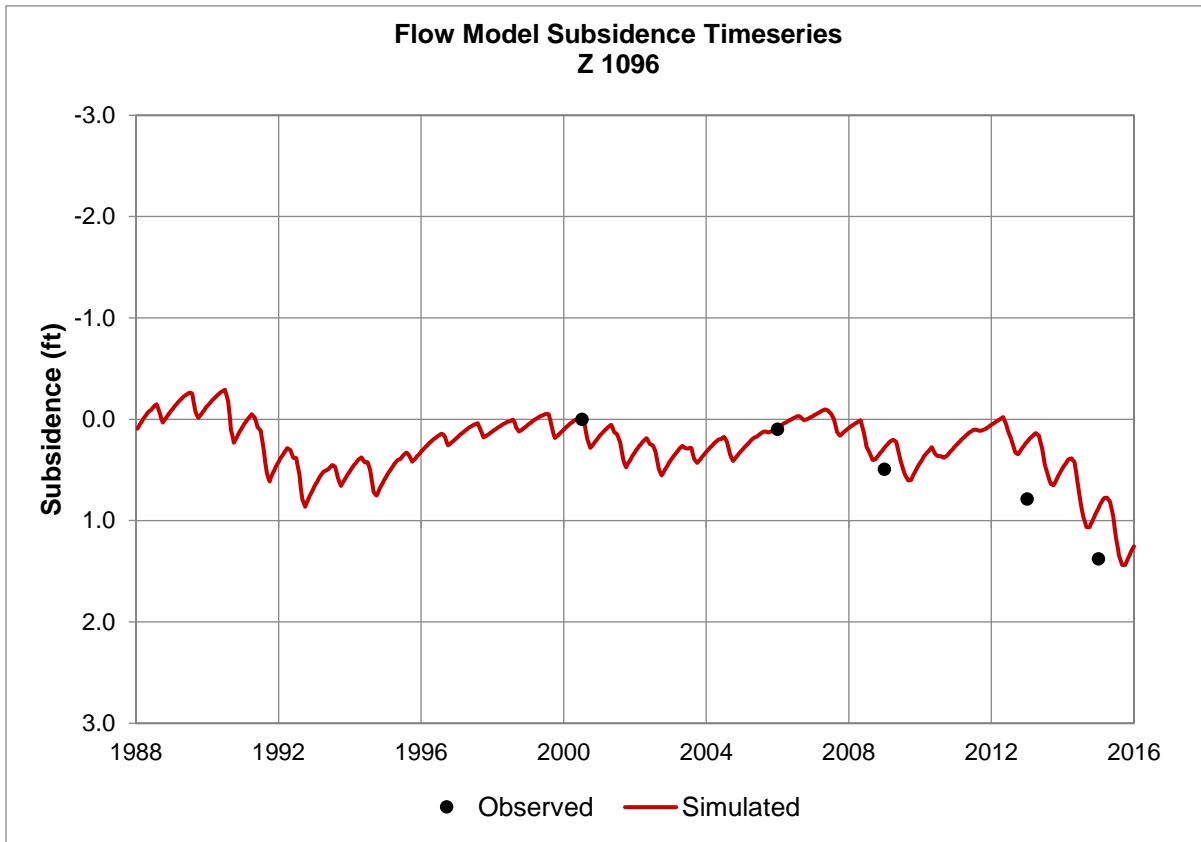
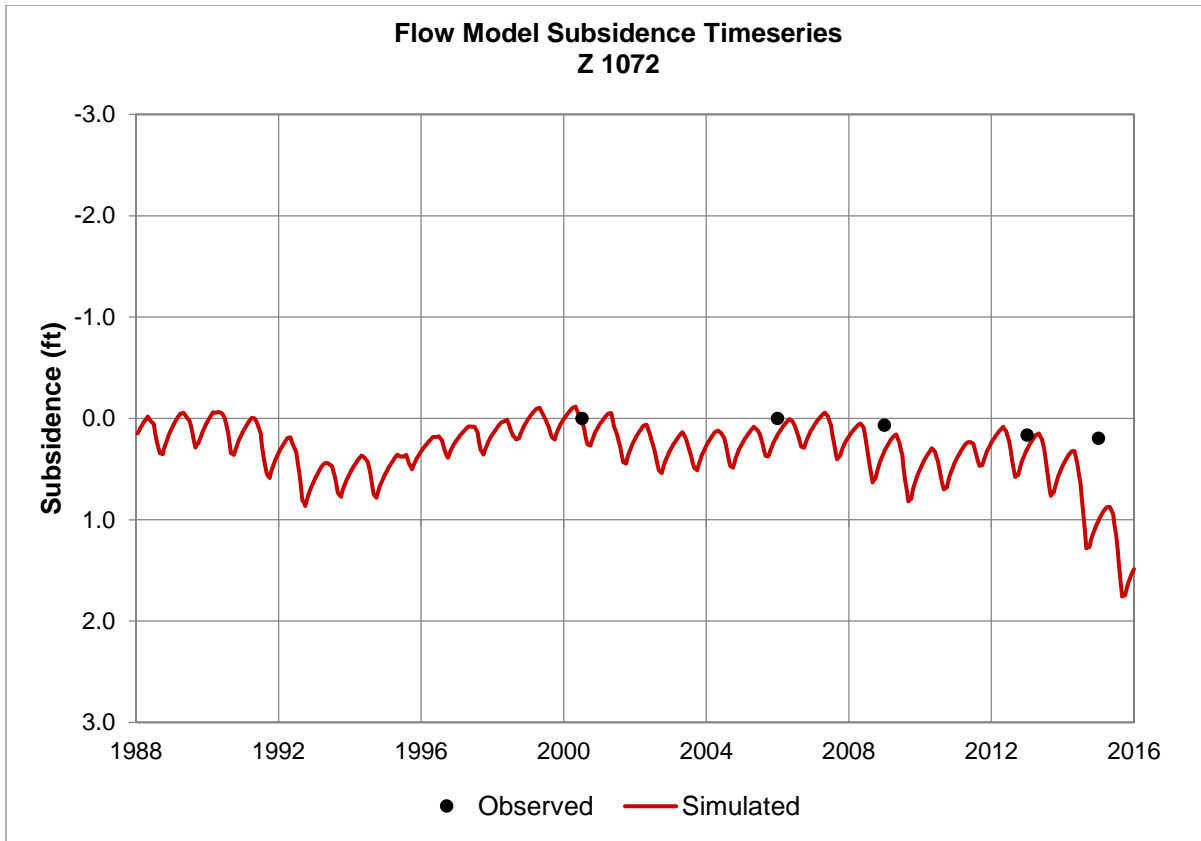


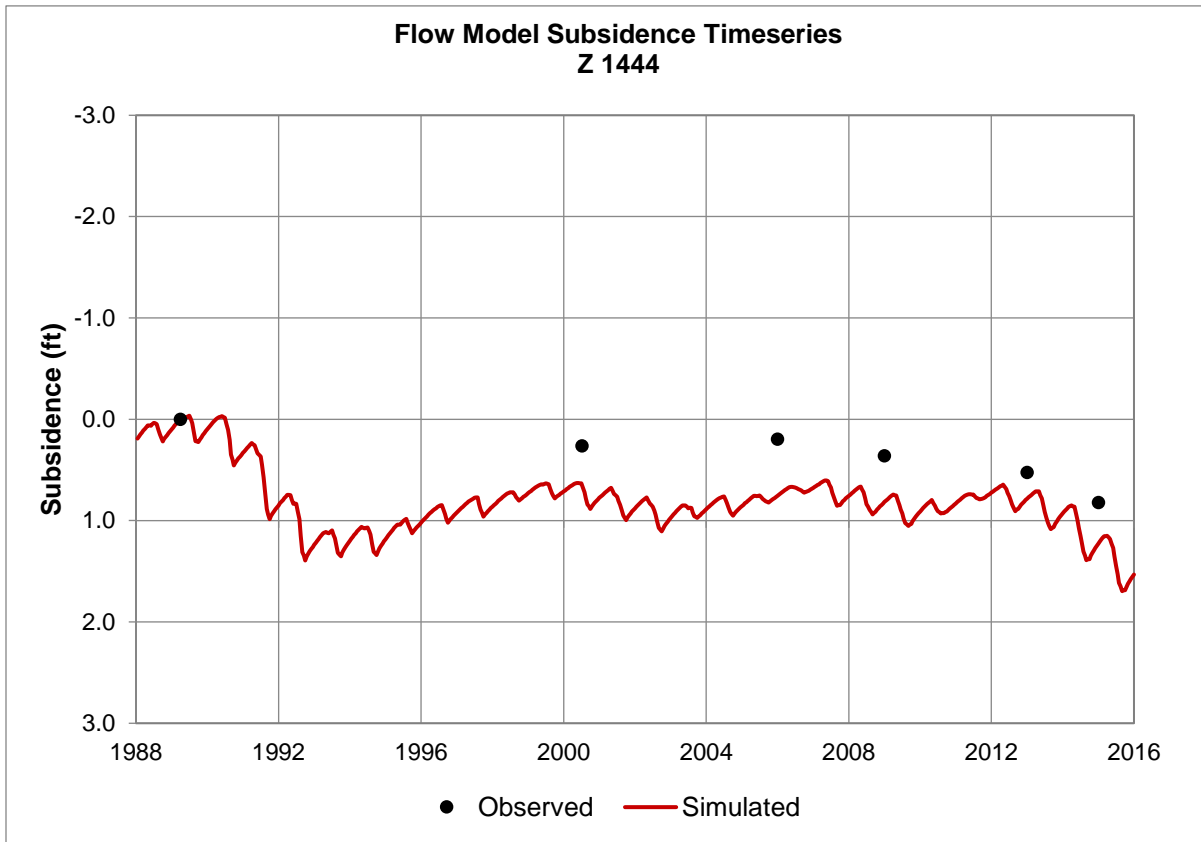
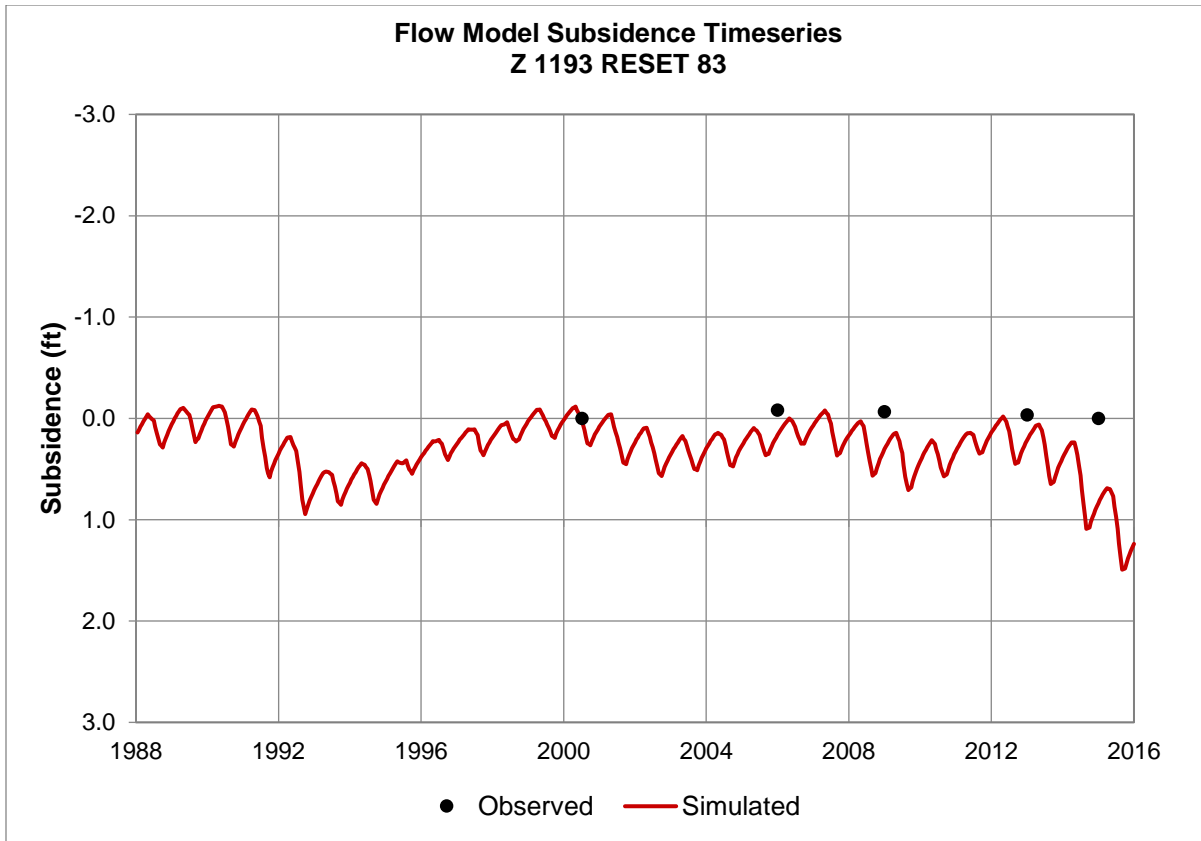












Appendix C:

Projected Water Budget Tables

Table C-1: Baseline Projected Land Surface Inflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	577,000	1,296,000	853,000	111,000	75,000	1,615,000
2018	AN	344,000	805,000	720,000	156,000	63,000	1,283,000
2019	D	255,000	457,000	456,000	498,000	57,000	1,266,000
2020	W	333,000	791,000	791,000	232,000	53,000	1,409,000
2021	BN	322,000	862,000	842,000	155,000	65,000	1,384,000
2022	W	462,000	1,282,000	689,000	143,000	71,000	1,366,000
2023	D	279,000	712,000	693,000	334,000	67,000	1,373,000
2024	W	775,000	1,310,000	716,000	131,000	133,000	1,755,000
2025	AN	297,000	755,000	742,000	206,000	91,000	1,336,000
2026	BN	328,000	626,000	626,000	293,000	81,000	1,328,000
2027	D	146,000	386,000	386,000	596,000	69,000	1,197,000
2028	AN	622,000	853,000	722,000	155,000	108,000	1,607,000
2029	W	391,000	981,000	878,000	144,000	91,000	1,504,000
2030	W	353,000	884,000	867,000	155,000	72,000	1,448,000
2031	C	402,000	665,000	665,000	235,000	64,000	1,365,000
2032	C	231,000	238,000	238,000	721,000	55,000	1,245,000
2033	W	851,000	822,000	642,000	173,000	123,000	1,789,000
2034	AN	424,000	753,000	749,000	279,000	98,000	1,550,000
2035	W	460,000	955,000	740,000	146,000	85,000	1,432,000
2036	D	338,000	772,000	766,000	178,000	80,000	1,362,000
2037	W	484,000	1,179,000	658,000	148,000	73,000	1,362,000
2038	W	757,000	1,325,000	741,000	148,000	125,000	1,770,000
2039	AN	214,000	897,000	886,000	165,000	93,000	1,357,000
2040	D	270,000	662,000	662,000	320,000	75,000	1,327,000
2041	W	503,000	740,000	740,000	210,000	78,000	1,531,000
2042	C	284,000	345,000	345,000	595,000	62,000	1,285,000
2043	C	338,000	227,000	227,000	694,000	51,000	1,310,000
2044	C	275,000	482,000	482,000	508,000	49,000	1,315,000
2045	C	249,000	235,000	235,000	747,000	41,000	1,272,000
2046	C	343,000	397,000	397,000	572,000	52,000	1,364,000
2047	C	409,000	511,000	511,000	457,000	54,000	1,432,000
2048	W	719,000	974,000	772,000	150,000	96,000	1,736,000
2049	C	369,000	602,000	597,000	336,000	60,000	1,362,000
2050	W	728,000	977,000	694,000	151,000	111,000	1,685,000
2051	W	374,000	1,194,000	826,000	138,000	94,000	1,431,000
2052	W	517,000	747,000	745,000	232,000	131,000	1,624,000
2053	W	865,000	1,304,000	592,000	147,000	158,000	1,762,000
2054	AN	296,000	906,000	795,000	144,000	110,000	1,344,000
2055	AN	397,000	722,000	720,000	199,000	106,000	1,421,000
2056	D	420,000	354,000	354,000	640,000	87,000	1,502,000
2057	D	271,000	603,000	603,000	423,000	71,000	1,369,000
2058	BN	388,000	760,000	758,000	171,000	63,000	1,381,000
2059	D	277,000	827,000	822,000	159,000	67,000	1,326,000
2060	W	645,000	657,000	657,000	189,000	92,000	1,583,000
2061	W	462,000	1,316,000	709,000	147,000	89,000	1,407,000
2062	C	167,000	513,000	498,000	466,000	68,000	1,198,000
2063	C	308,000	234,000	234,000	743,000	70,000	1,356,000
2064	BN	263,000	353,000	353,000	623,000	52,000	1,291,000
2065	AN	484,000	680,000	680,000	207,000	62,000	1,433,000
2066	W	599,000	735,000	686,000	156,000	89,000	1,530,000
2067	D	276,000	781,000	774,000	162,000	62,000	1,274,000
2068	C	200,000	342,000	341,000	659,000	54,000	1,254,000
2069	C	163,000	281,000	281,000	742,000	42,000	1,228,000
2070	C	254,000	505,000	505,000	482,000	43,000	1,284,000
Average (2020 - 2040)		416,000	843,000	700,000	241,000	84,000	1,441,000
Average (2020 - 2070)		404,000	726,000	620,000	320,000	79,000	1,423,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-2: Baseline Projected Land Surface Outflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	244,000	700,000	116,000	75,000	315,000	156,000	1,615,000
2018	AN	10,000	144,000	620,000	142,000	63,000	149,000	156,000	1,283,000
2019	D	8,000	156,000	692,000	89,000	57,000	108,000	156,000	1,266,000
2020	W	13,000	196,000	749,000	129,000	53,000	113,000	156,000	1,409,000
2021	BN	18,000	148,000	721,000	60,000	65,000	216,000	156,000	1,384,000
2022	W	9,000	189,000	582,000	159,000	71,000	199,000	156,000	1,366,000
2023	D	13,000	167,000	753,000	92,000	67,000	126,000	156,000	1,373,000
2024	W	7,000	253,000	598,000	125,000	133,000	483,000	156,000	1,755,000
2025	AN	9,000	180,000	686,000	85,000	91,000	130,000	156,000	1,336,000
2026	BN	14,000	148,000	654,000	107,000	81,000	167,000	156,000	1,328,000
2027	D	16,000	82,000	710,000	30,000	69,000	135,000	156,000	1,197,000
2028	AN	5,000	238,000	627,000	113,000	108,000	361,000	156,000	1,607,000
2029	W	9,000	225,000	752,000	105,000	91,000	166,000	156,000	1,504,000
2030	W	10,000	215,000	752,000	121,000	72,000	121,000	156,000	1,448,000
2031	C	10,000	190,000	641,000	169,000	64,000	135,000	156,000	1,365,000
2032	C	15,000	141,000	689,000	88,000	55,000	100,000	156,000	1,245,000
2033	W	6,000	254,000	570,000	214,000	123,000	466,000	156,000	1,789,000
2034	AN	13,000	240,000	754,000	112,000	98,000	177,000	156,000	1,550,000
2035	W	7,000	214,000	632,000	111,000	85,000	226,000	156,000	1,432,000
2036	D	7,000	154,000	684,000	138,000	80,000	142,000	156,000	1,362,000
2037	W	4,000	215,000	562,000	201,000	73,000	150,000	156,000	1,362,000
2038	W	4,000	309,000	638,000	203,000	125,000	335,000	156,000	1,770,000
2039	AN	18,000	140,000	771,000	46,000	93,000	135,000	156,000	1,357,000
2040	D	12,000	163,000	713,000	70,000	75,000	138,000	156,000	1,327,000
2041	W	7,000	280,000	690,000	149,000	78,000	171,000	156,000	1,531,000
2042	C	9,000	172,000	678,000	101,000	62,000	107,000	156,000	1,285,000
2043	C	15,000	202,000	655,000	120,000	51,000	111,000	156,000	1,310,000
2044	C	17,000	151,000	716,000	74,000	49,000	152,000	156,000	1,315,000
2045	C	17,000	141,000	707,000	95,000	41,000	114,000	156,000	1,272,000
2046	C	9,000	111,000	704,000	105,000	52,000	226,000	156,000	1,364,000
2047	C	8,000	195,000	705,000	101,000	54,000	213,000	156,000	1,432,000
2048	W	4,000	249,000	668,000	144,000	96,000	420,000	156,000	1,736,000
2049	C	14,000	209,000	668,000	144,000	60,000	111,000	156,000	1,362,000
2050	W	5,000	216,000	598,000	157,000	111,000	441,000	156,000	1,685,000
2051	W	12,000	176,000	698,000	100,000	94,000	196,000	156,000	1,431,000
2052	W	12,000	199,000	710,000	71,000	131,000	346,000	156,000	1,624,000
2053	W	6,000	296,000	502,000	224,000	158,000	421,000	156,000	1,762,000
2054	AN	12,000	163,000	675,000	84,000	110,000	145,000	156,000	1,344,000
2055	AN	11,000	179,000	658,000	126,000	106,000	185,000	156,000	1,421,000
2056	D	5,000	239,000	732,000	140,000	87,000	143,000	156,000	1,502,000
2057	D	15,000	157,000	751,000	64,000	71,000	155,000	156,000	1,369,000
2058	BN	13,000	191,000	665,000	124,000	63,000	169,000	156,000	1,381,000
2059	D	16,000	146,000	709,000	56,000	67,000	175,000	156,000	1,326,000
2060	W	4,000	272,000	599,000	170,000	92,000	290,000	156,000	1,583,000
2061	W	6,000	181,000	606,000	148,000	89,000	221,000	156,000	1,407,000
2062	C	15,000	105,000	694,000	61,000	68,000	100,000	156,000	1,198,000
2063	C	16,000	143,000	705,000	51,000	70,000	214,000	156,000	1,356,000
2064	BN	15,000	169,000	706,000	78,000	52,000	117,000	156,000	1,291,000
2065	AN	9,000	209,000	631,000	130,000	62,000	236,000	156,000	1,433,000
2066	W	5,000	251,000	595,000	145,000	89,000	289,000	156,000	1,530,000
2067	D	7,000	144,000	677,000	123,000	62,000	105,000	156,000	1,274,000
2068	C	15,000	130,000	727,000	54,000	54,000	119,000	156,000	1,254,000
2069	C	15,000	94,000	747,000	68,000	42,000	107,000	156,000	1,228,000
2070	C	19,000	120,000	711,000	65,000	43,000	171,000	156,000	1,284,000
Average (2020 - 2040)		10,000	194,000	678,000	118,000	84,000	201,000	156,000	1,441,000
Average (2020 - 2070)		11,000	187,000	677,000	113,000	79,000	200,000	156,000	1,423,000

Table C-3: Baseline Projected Groundwater Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	15,000	204,000	620,000	110,000	160,000	269,000	341,000
2018	AN	245,000	11,000	139,000	396,000	155,000	172,000	326,000	63,000
2019	D	210,000	1,000	152,000	363,000	494,000	188,000	681,000	-317,000
2020	W	218,000	12,000	173,000	403,000	230,000	194,000	424,000	-28,000
2021	BN	311,000	1,000	137,000	449,000	153,000	200,000	354,000	91,000
2022	W	288,000	23,000	111,000	421,000	142,000	155,000	297,000	120,000
2023	D	218,000	10,000	114,000	343,000	330,000	187,000	517,000	-172,000
2024	W	515,000	32,000	116,000	663,000	130,000	148,000	278,000	380,000
2025	AN	199,000	5,000	97,000	302,000	204,000	187,000	391,000	-92,000
2026	BN	246,000	2,000	110,000	359,000	290,000	201,000	491,000	-134,000
2027	D	226,000	1,000	172,000	399,000	591,000	198,000	789,000	-388,000
2028	AN	415,000	13,000	182,000	611,000	154,000	171,000	324,000	277,000
2029	W	236,000	11,000	124,000	372,000	143,000	190,000	332,000	35,000
2030	W	208,000	11,000	107,000	327,000	154,000	203,000	357,000	-35,000
2031	C	230,000	8,000	107,000	345,000	233,000	204,000	436,000	-91,000
2032	C	203,000	0	175,000	378,000	714,000	200,000	914,000	-532,000
2033	W	506,000	21,000	197,000	725,000	171,000	162,000	333,000	383,000
2034	AN	241,000	4,000	150,000	394,000	276,000	185,000	461,000	-69,000
2035	W	301,000	21,000	133,000	455,000	145,000	177,000	322,000	127,000
2036	D	222,000	1,000	110,000	333,000	176,000	200,000	376,000	-46,000
2037	W	236,000	23,000	99,000	358,000	146,000	162,000	308,000	48,000
2038	W	373,000	22,000	92,000	487,000	146,000	137,000	283,000	199,000
2039	AN	203,000	4,000	84,000	291,000	163,000	193,000	356,000	-68,000
2040	D	222,000	1,000	101,000	324,000	317,000	210,000	527,000	-200,000
2041	W	253,000	30,000	121,000	405,000	208,000	194,000	402,000	-2,000
2042	C	204,000	6,000	168,000	377,000	589,000	194,000	782,000	-402,000
2043	C	218,000	2,000	242,000	462,000	687,000	191,000	879,000	-417,000
2044	C	261,000	0	260,000	521,000	503,000	192,000	695,000	-177,000
2045	C	230,000	1,000	272,000	503,000	740,000	196,000	936,000	-433,000
2046	C	332,000	5,000	280,000	617,000	566,000	191,000	758,000	-146,000
2047	C	318,000	8,000	267,000	592,000	453,000	191,000	644,000	-58,000
2048	W	487,000	30,000	219,000	736,000	149,000	168,000	317,000	409,000
2049	C	211,000	3,000	170,000	383,000	333,000	185,000	518,000	-134,000
2050	W	493,000	31,000	155,000	679,000	150,000	162,000	312,000	362,000
2051	W	264,000	10,000	119,000	393,000	137,000	158,000	295,000	91,000
2052	W	380,000	17,000	110,000	507,000	229,000	178,000	407,000	96,000
2053	W	427,000	32,000	103,000	562,000	146,000	140,000	286,000	269,000
2054	AN	196,000	6,000	91,000	293,000	142,000	172,000	314,000	-23,000
2055	AN	241,000	5,000	92,000	338,000	197,000	190,000	387,000	-51,000
2056	D	216,000	10,000	161,000	387,000	634,000	195,000	829,000	-438,000
2057	D	244,000	1,000	215,000	460,000	419,000	198,000	617,000	-159,000
2058	BN	264,000	3,000	182,000	449,000	169,000	194,000	363,000	78,000
2059	D	268,000	1,000	138,000	406,000	158,000	201,000	359,000	43,000
2060	W	359,000	26,000	121,000	505,000	187,000	187,000	373,000	128,000
2061	W	292,000	12,000	114,000	418,000	146,000	150,000	296,000	118,000
2062	C	192,000	0	142,000	334,000	462,000	183,000	645,000	-304,000
2063	C	304,000	6,000	214,000	524,000	736,000	199,000	935,000	-411,000
2064	BN	224,000	0	266,000	491,000	617,000	195,000	812,000	-324,000
2065	AN	333,000	12,000	229,000	574,000	205,000	186,000	391,000	173,000
2066	W	361,000	23,000	170,000	554,000	154,000	171,000	325,000	221,000
2067	D	201,000	1,000	142,000	344,000	160,000	185,000	345,000	-2,000
2068	C	223,000	0	182,000	406,000	653,000	201,000	854,000	-442,000
2069	C	222,000	0	262,000	485,000	735,000	203,000	937,000	-456,000
2070	C	286,000	0	271,000	557,000	477,000	198,000	675,000	-123,000
Average (2020 - 2040)		277,000	11,000	128,000	416,000	238,000	184,000	422,000	-9,000
Average (2020 - 2070)		281,000	10,000	160,000	451,000	317,000	185,000	501,000	-53,000

Table C-4: Baseline Projected Upper Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	15,000	34,000	576,000	39,000	103,000	187,000	329,000	110,000
2018	AN	245,000	11,000	29,000	286,000	52,000	113,000	146,000	312,000	-32,000
2019	D	210,000	1,000	31,000	241,000	151,000	123,000	121,000	394,000	-148,000
2020	W	218,000	12,000	33,000	262,000	81,000	126,000	146,000	353,000	-95,000
2021	BN	311,000	1,000	31,000	343,000	52,000	128,000	143,000	323,000	14,000
2022	W	288,000	23,000	28,000	339,000	47,000	102,000	137,000	286,000	47,000
2023	D	218,000	10,000	29,000	257,000	108,000	122,000	114,000	344,000	-84,000
2024	W	515,000	32,000	29,000	576,000	43,000	98,000	145,000	286,000	282,000
2025	AN	199,000	5,000	28,000	232,000	70,000	121,000	120,000	311,000	-80,000
2026	BN	246,000	2,000	29,000	277,000	96,000	129,000	115,000	341,000	-62,000
2027	D	226,000	1,000	33,000	260,000	179,000	128,000	128,000	434,000	-168,000
2028	AN	415,000	13,000	34,000	462,000	53,000	110,000	170,000	333,000	120,000
2029	W	236,000	11,000	30,000	277,000	47,000	123,000	141,000	311,000	-40,000
2030	W	208,000	11,000	30,000	249,000	51,000	130,000	128,000	309,000	-62,000
2031	C	230,000	8,000	29,000	267,000	78,000	131,000	115,000	324,000	-57,000
2032	C	203,000	0	33,000	236,000	209,000	129,000	123,000	460,000	-214,000
2033	W	506,000	21,000	35,000	562,000	60,000	104,000	173,000	338,000	217,000
2034	AN	241,000	4,000	31,000	276,000	94,000	121,000	133,000	348,000	-74,000
2035	W	301,000	21,000	30,000	353,000	48,000	114,000	144,000	306,000	41,000
2036	D	222,000	1,000	29,000	252,000	60,000	126,000	126,000	312,000	-62,000
2037	W	236,000	23,000	28,000	287,000	47,000	104,000	132,000	283,000	-1,000
2038	W	373,000	22,000	26,000	422,000	47,000	92,000	128,000	267,000	150,000
2039	AN	203,000	4,000	27,000	234,000	54,000	126,000	113,000	293,000	-59,000
2040	D	222,000	1,000	29,000	252,000	102,000	133,000	107,000	342,000	-85,000
2041	W	253,000	30,000	31,000	314,000	72,000	124,000	127,000	323,000	-11,000
2042	C	204,000	6,000	33,000	243,000	174,000	125,000	122,000	422,000	-172,000
2043	C	218,000	2,000	37,000	257,000	205,000	124,000	148,000	477,000	-214,000
2044	C	261,000	0	37,000	298,000	161,000	122,000	159,000	442,000	-143,000
2045	C	230,000	1,000	37,000	269,000	219,000	125,000	147,000	490,000	-218,000
2046	C	332,000	5,000	38,000	376,000	177,000	121,000	154,000	452,000	-75,000
2047	C	318,000	8,000	38,000	364,000	147,000	119,000	154,000	420,000	-60,000
2048	W	487,000	30,000	36,000	553,000	51,000	106,000	170,000	326,000	215,000
2049	C	211,000	3,000	32,000	245,000	109,000	118,000	128,000	355,000	-112,000
2050	W	493,000	31,000	32,000	556,000	50,000	102,000	149,000	301,000	246,000
2051	W	264,000	10,000	28,000	302,000	45,000	105,000	134,000	283,000	13,000
2052	W	380,000	17,000	28,000	426,000	78,000	117,000	113,000	308,000	116,000
2053	W	427,000	32,000	28,000	486,000	47,000	91,000	133,000	271,000	210,000
2054	AN	196,000	6,000	26,000	228,000	47,000	111,000	122,000	280,000	-54,000
2055	AN	241,000	5,000	27,000	273,000	66,000	123,000	109,000	298,000	-25,000
2056	D	216,000	10,000	32,000	258,000	181,000	125,000	113,000	419,000	-151,000
2057	D	244,000	1,000	36,000	280,000	136,000	125,000	145,000	406,000	-125,000
2058	BN	264,000	3,000	34,000	301,000	59,000	123,000	156,000	337,000	-44,000
2059	D	268,000	1,000	31,000	300,000	53,000	128,000	136,000	316,000	-22,000
2060	W	359,000	26,000	30,000	414,000	64,000	117,000	125,000	307,000	103,000
2061	W	292,000	12,000	28,000	332,000	47,000	100,000	130,000	277,000	49,000
2062	C	192,000	0	29,000	222,000	138,000	121,000	108,000	368,000	-139,000
2063	C	304,000	6,000	36,000	345,000	213,000	126,000	129,000	469,000	-116,000
2064	BN	224,000	0	39,000	263,000	189,000	123,000	153,000	464,000	-197,000
2065	AN	333,000	12,000	36,000	380,000	74,000	115,000	163,000	352,000	19,000
2066	W	361,000	23,000	32,000	416,000	52,000	107,000	148,000	307,000	100,000
2067	D	201,000	1,000	29,000	231,000	53,000	120,000	126,000	299,000	-72,000
2068	C	223,000	0	33,000	256,000	187,000	128,000	114,000	429,000	-162,000
2069	C	222,000	0	38,000	261,000	215,000	127,000	142,000	484,000	-217,000
2070	C	286,000	0	38,000	324,000	153,000	124,000	152,000	429,000	-104,000
Average (2020 - 2040)		277,000	11,000	30,000	318,000	77,000	119,000	132,000	329,000	-13,000
Average (2020 - 2070)		281,000	10,000	32,000	323,000	100,000	118,000	135,000	353,000	-32,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-5: Baseline Projected Lower Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	170,000	187,000	357,000	70,000	56,000	127,000	232,000
2018	AN	110,000	146,000	256,000	102,000	58,000	161,000	95,000
2019	D	122,000	121,000	242,000	343,000	65,000	408,000	-169,000
2020	W	140,000	146,000	286,000	149,000	68,000	216,000	67,000
2021	BN	106,000	143,000	249,000	102,000	72,000	173,000	76,000
2022	W	82,000	137,000	219,000	95,000	53,000	148,000	73,000
2023	D	85,000	114,000	199,000	223,000	64,000	287,000	-88,000
2024	W	87,000	145,000	232,000	87,000	50,000	137,000	99,000
2025	AN	69,000	120,000	189,000	134,000	66,000	200,000	-11,000
2026	BN	81,000	115,000	196,000	193,000	72,000	265,000	-72,000
2027	D	139,000	128,000	267,000	412,000	70,000	482,000	-221,000
2028	AN	149,000	170,000	318,000	100,000	60,000	161,000	157,000
2029	W	94,000	141,000	235,000	95,000	67,000	162,000	74,000
2030	W	78,000	128,000	206,000	103,000	73,000	176,000	27,000
2031	C	78,000	115,000	192,000	154,000	73,000	227,000	-35,000
2032	C	142,000	123,000	265,000	505,000	71,000	576,000	-318,000
2033	W	162,000	173,000	336,000	111,000	58,000	169,000	166,000
2034	AN	119,000	133,000	251,000	182,000	64,000	246,000	5,000
2035	W	103,000	144,000	246,000	97,000	62,000	159,000	86,000
2036	D	80,000	126,000	206,000	116,000	73,000	190,000	16,000
2037	W	71,000	132,000	203,000	99,000	58,000	157,000	49,000
2038	W	65,000	128,000	193,000	99,000	45,000	144,000	50,000
2039	AN	57,000	113,000	170,000	109,000	67,000	176,000	-8,000
2040	D	72,000	107,000	179,000	215,000	77,000	292,000	-115,000
2041	W	91,000	127,000	217,000	136,000	70,000	206,000	9,000
2042	C	135,000	122,000	257,000	415,000	68,000	483,000	-230,000
2043	C	205,000	148,000	353,000	482,000	68,000	550,000	-203,000
2044	C	223,000	159,000	382,000	342,000	69,000	411,000	-34,000
2045	C	234,000	147,000	381,000	521,000	72,000	593,000	-215,000
2046	C	241,000	154,000	395,000	389,000	71,000	460,000	-71,000
2047	C	229,000	154,000	383,000	306,000	72,000	377,000	2,000
2048	W	183,000	170,000	353,000	98,000	62,000	160,000	194,000
2049	C	138,000	128,000	266,000	224,000	66,000	290,000	-22,000
2050	W	123,000	149,000	272,000	100,000	60,000	160,000	116,000
2051	W	91,000	134,000	224,000	92,000	53,000	145,000	78,000
2052	W	81,000	113,000	195,000	152,000	61,000	213,000	-20,000
2053	W	75,000	133,000	208,000	99,000	50,000	148,000	59,000
2054	AN	65,000	122,000	187,000	95,000	61,000	156,000	31,000
2055	AN	65,000	109,000	174,000	131,000	67,000	198,000	-25,000
2056	D	129,000	113,000	241,000	453,000	70,000	523,000	-287,000
2057	D	180,000	145,000	325,000	283,000	73,000	355,000	-34,000
2058	BN	148,000	156,000	304,000	111,000	72,000	182,000	123,000
2059	D	107,000	136,000	242,000	105,000	73,000	178,000	65,000
2060	W	91,000	125,000	216,000	123,000	69,000	192,000	25,000
2061	W	86,000	130,000	216,000	99,000	51,000	149,000	69,000
2062	C	113,000	108,000	221,000	323,000	62,000	385,000	-164,000
2063	C	178,000	129,000	308,000	523,000	73,000	596,000	-295,000
2064	BN	228,000	153,000	380,000	428,000	72,000	500,000	-127,000
2065	AN	193,000	163,000	357,000	131,000	71,000	202,000	154,000
2066	W	138,000	148,000	286,000	103,000	64,000	166,000	121,000
2067	D	113,000	126,000	239,000	108,000	65,000	172,000	69,000
2068	C	149,000	114,000	263,000	466,000	74,000	539,000	-280,000
2069	C	225,000	142,000	367,000	520,000	75,000	595,000	-240,000
2070	C	233,000	152,000	385,000	324,000	74,000	398,000	-19,000
Average (2020 - 2040)		98,000	132,000	230,000	161,000	65,000	226,000	4,000
Average (2020 - 2070)		128,000	135,000	263,000	217,000	66,000	283,000	-21,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-6: Baseline Projected Land Surface Inflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	579,000	1,296,000	804,000	112,000	73,000	1,569,000
2018	AN	347,000	805,000	652,000	185,000	61,000	1,246,000
2019	D	267,000	457,000	456,000	460,000	56,000	1,239,000
2020	W	345,000	791,000	791,000	271,000	56,000	1,462,000
2021	BN	317,000	862,000	758,000	218,000	64,000	1,357,000
2022	W	471,000	1,282,000	614,000	144,000	66,000	1,295,000
2023	D	283,000	712,000	662,000	349,000	67,000	1,362,000
2024	W	810,000	1,310,000	641,000	134,000	135,000	1,719,000
2025	AN	306,000	755,000	726,000	213,000	93,000	1,339,000
2026	BN	333,000	626,000	625,000	287,000	82,000	1,328,000
2027	D	151,000	386,000	385,000	545,000	67,000	1,147,000
2028	AN	628,000	853,000	719,000	175,000	108,000	1,630,000
2029	W	401,000	981,000	886,000	151,000	94,000	1,532,000
2030	W	367,000	884,000	875,000	182,000	73,000	1,496,000
2031	C	442,000	665,000	636,000	301,000	64,000	1,443,000
2032	C	233,000	238,000	238,000	674,000	53,000	1,198,000
2033	W	895,000	822,000	642,000	166,000	126,000	1,829,000
2034	AN	436,000	753,000	706,000	267,000	99,000	1,508,000
2035	W	471,000	955,000	714,000	145,000	88,000	1,418,000
2036	D	342,000	772,000	715,000	167,000	80,000	1,304,000
2037	W	482,000	1,179,000	608,000	148,000	74,000	1,312,000
2038	W	779,000	1,325,000	742,000	148,000	129,000	1,798,000
2039	AN	222,000	897,000	853,000	186,000	95,000	1,356,000
2040	D	278,000	662,000	653,000	282,000	75,000	1,288,000
2041	W	515,000	740,000	690,000	199,000	77,000	1,481,000
2042	C	291,000	345,000	345,000	534,000	61,000	1,230,000
2043	C	348,000	227,000	227,000	614,000	50,000	1,239,000
2044	C	286,000	482,000	482,000	515,000	52,000	1,335,000
2045	C	266,000	235,000	235,000	751,000	43,000	1,295,000
2046	C	368,000	397,000	397,000	514,000	53,000	1,332,000
2047	C	425,000	511,000	511,000	483,000	59,000	1,478,000
2048	W	739,000	974,000	689,000	178,000	100,000	1,706,000
2049	C	380,000	602,000	593,000	335,000	62,000	1,369,000
2050	W	749,000	977,000	643,000	151,000	115,000	1,659,000
2051	W	389,000	1,194,000	765,000	138,000	96,000	1,388,000
2052	W	543,000	747,000	745,000	242,000	140,000	1,669,000
2053	W	879,000	1,304,000	543,000	146,000	164,000	1,732,000
2054	AN	302,000	906,000	769,000	142,000	114,000	1,327,000
2055	AN	407,000	722,000	644,000	179,000	108,000	1,338,000
2056	D	440,000	354,000	354,000	642,000	95,000	1,532,000
2057	D	281,000	603,000	599,000	367,000	73,000	1,320,000
2058	BN	399,000	760,000	758,000	190,000	68,000	1,415,000
2059	D	297,000	827,000	800,000	191,000	70,000	1,357,000
2060	W	675,000	657,000	641,000	195,000	97,000	1,607,000
2061	W	461,000	1,316,000	698,000	147,000	92,000	1,399,000
2062	C	174,000	513,000	495,000	491,000	72,000	1,232,000
2063	C	305,000	234,000	234,000	736,000	73,000	1,348,000
2064	BN	268,000	353,000	353,000	568,000	51,000	1,240,000
2065	AN	505,000	680,000	657,000	200,000	64,000	1,425,000
2066	W	606,000	735,000	612,000	166,000	92,000	1,475,000
2067	D	301,000	781,000	698,000	183,000	64,000	1,246,000
2068	C	212,000	342,000	342,000	664,000	55,000	1,272,000
2069	C	176,000	281,000	281,000	641,000	41,000	1,140,000
2070	C	250,000	505,000	505,000	448,000	43,000	1,247,000
Average (2020 - 2040)		428,000	843,000	676,000	245,000	85,000	1,434,000
Average (2020 - 2070)		416,000	726,000	598,000	316,000	81,000	1,411,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-7: Baseline Projected Land Surface Outflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	10,000	245,000	657,000	117,000	73,000	311,000	156,000	1,569,000
2018	AN	9,000	146,000	585,000	139,000	61,000	149,000	156,000	1,246,000
2019	D	8,000	165,000	658,000	91,000	56,000	105,000	156,000	1,239,000
2020	W	15,000	205,000	781,000	132,000	56,000	118,000	156,000	1,462,000
2021	BN	21,000	149,000	699,000	59,000	64,000	209,000	156,000	1,357,000
2022	W	9,000	194,000	515,000	157,000	66,000	199,000	156,000	1,295,000
2023	D	11,000	170,000	738,000	93,000	67,000	127,000	156,000	1,362,000
2024	W	8,000	265,000	532,000	127,000	135,000	498,000	156,000	1,719,000
2025	AN	9,000	184,000	679,000	86,000	93,000	132,000	156,000	1,339,000
2026	BN	15,000	152,000	647,000	107,000	82,000	168,000	156,000	1,328,000
2027	D	15,000	85,000	663,000	31,000	67,000	132,000	156,000	1,147,000
2028	AN	5,000	241,000	641,000	113,000	108,000	365,000	156,000	1,630,000
2029	W	10,000	231,000	765,000	106,000	94,000	171,000	156,000	1,532,000
2030	W	10,000	225,000	782,000	125,000	73,000	125,000	156,000	1,496,000
2031	C	11,000	209,000	673,000	188,000	64,000	142,000	156,000	1,443,000
2032	C	15,000	144,000	647,000	88,000	53,000	96,000	156,000	1,198,000
2033	W	4,000	268,000	566,000	222,000	126,000	487,000	156,000	1,829,000
2034	AN	13,000	247,000	704,000	113,000	99,000	177,000	156,000	1,508,000
2035	W	6,000	217,000	607,000	111,000	88,000	232,000	156,000	1,418,000
2036	D	5,000	158,000	630,000	136,000	80,000	139,000	156,000	1,304,000
2037	W	4,000	218,000	517,000	195,000	74,000	147,000	156,000	1,312,000
2038	W	5,000	319,000	638,000	210,000	129,000	341,000	156,000	1,798,000
2039	AN	19,000	145,000	758,000	48,000	95,000	135,000	156,000	1,356,000
2040	D	13,000	168,000	671,000	71,000	75,000	135,000	156,000	1,288,000
2041	W	7,000	287,000	635,000	153,000	77,000	167,000	156,000	1,481,000
2042	C	10,000	179,000	622,000	101,000	61,000	101,000	156,000	1,230,000
2043	C	16,000	211,000	582,000	121,000	50,000	103,000	156,000	1,239,000
2044	C	19,000	156,000	720,000	76,000	52,000	156,000	156,000	1,335,000
2045	C	18,000	152,000	711,000	99,000	43,000	116,000	156,000	1,295,000
2046	C	9,000	119,000	652,000	113,000	53,000	229,000	156,000	1,332,000
2047	C	8,000	202,000	728,000	102,000	59,000	223,000	156,000	1,478,000
2048	W	5,000	259,000	618,000	142,000	100,000	427,000	156,000	1,706,000
2049	C	14,000	217,000	663,000	147,000	62,000	112,000	156,000	1,369,000
2050	W	5,000	220,000	552,000	158,000	115,000	453,000	156,000	1,659,000
2051	W	12,000	184,000	643,000	100,000	96,000	197,000	156,000	1,388,000
2052	W	13,000	211,000	717,000	76,000	140,000	355,000	156,000	1,669,000
2053	W	4,000	298,000	458,000	217,000	164,000	435,000	156,000	1,732,000
2054	AN	11,000	165,000	652,000	83,000	114,000	147,000	156,000	1,328,000
2055	AN	10,000	186,000	572,000	123,000	108,000	183,000	156,000	1,338,000
2056	D	5,000	253,000	734,000	143,000	95,000	146,000	156,000	1,532,000
2057	D	14,000	162,000	696,000	66,000	73,000	152,000	156,000	1,320,000
2058	BN	13,000	198,000	682,000	126,000	68,000	174,000	156,000	1,415,000
2059	D	18,000	157,000	716,000	60,000	70,000	181,000	156,000	1,357,000
2060	W	4,000	285,000	590,000	173,000	97,000	303,000	156,000	1,607,000
2061	W	4,000	181,000	598,000	147,000	92,000	220,000	156,000	1,399,000
2062	C	16,000	109,000	711,000	64,000	72,000	105,000	156,000	1,232,000
2063	C	18,000	143,000	697,000	49,000	73,000	212,000	156,000	1,348,000
2064	BN	15,000	173,000	656,000	77,000	51,000	113,000	156,000	1,240,000
2065	AN	10,000	221,000	603,000	133,000	64,000	240,000	156,000	1,425,000
2066	W	5,000	254,000	537,000	141,000	92,000	291,000	156,000	1,475,000
2067	D	7,000	154,000	628,000	137,000	64,000	100,000	156,000	1,246,000
2068	C	16,000	136,000	732,000	57,000	55,000	121,000	156,000	1,272,000
2069	C	15,000	102,000	657,000	72,000	41,000	96,000	156,000	1,140,000
2070	C	21,000	119,000	679,000	66,000	43,000	163,000	156,000	1,247,000
Average (2020 - 2040)		11,000	200,000	660,000	120,000	85,000	204,000	156,000	1,434,000
Average (2020 - 2070)		11,000	194,000	653,000	115,000	81,000	202,000	156,000	1,411,000

Table C-8: Baseline Projected Groundwater Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	15,000	204,000	618,000	111,000	158,000	269,000	338,000
2018	AN	246,000	12,000	141,000	399,000	184,000	169,000	353,000	42,000
2019	D	207,000	1,000	149,000	357,000	455,000	189,000	644,000	-286,000
2020	W	220,000	12,000	175,000	407,000	268,000	201,000	469,000	-67,000
2021	BN	305,000	1,000	152,000	458,000	216,000	193,000	409,000	46,000
2022	W	292,000	23,000	123,000	438,000	142,000	147,000	289,000	144,000
2023	D	219,000	10,000	118,000	348,000	346,000	186,000	532,000	-182,000
2024	W	528,000	32,000	126,000	685,000	132,000	149,000	281,000	398,000
2025	AN	200,000	5,000	103,000	308,000	211,000	185,000	396,000	-89,000
2026	BN	246,000	3,000	112,000	361,000	284,000	202,000	486,000	-126,000
2027	D	225,000	1,000	163,000	389,000	539,000	198,000	738,000	-347,000
2028	AN	419,000	13,000	180,000	613,000	173,000	169,000	343,000	259,000
2029	W	239,000	12,000	126,000	377,000	149,000	195,000	344,000	27,000
2030	W	212,000	11,000	111,000	334,000	180,000	206,000	386,000	-55,000
2031	C	237,000	8,000	118,000	363,000	298,000	202,000	499,000	-134,000
2032	C	201,000	0	187,000	388,000	667,000	198,000	866,000	-475,000
2033	W	524,000	22,000	196,000	742,000	165,000	159,000	323,000	410,000
2034	AN	240,000	4,000	149,000	393,000	264,000	189,000	453,000	-64,000
2035	W	305,000	22,000	132,000	458,000	143,000	176,000	319,000	132,000
2036	D	220,000	1,000	107,000	328,000	166,000	191,000	357,000	-32,000
2037	W	232,000	22,000	97,000	351,000	146,000	159,000	306,000	42,000
2038	W	376,000	22,000	91,000	489,000	146,000	141,000	288,000	196,000
2039	AN	201,000	4,000	87,000	292,000	185,000	195,000	379,000	-90,000
2040	D	220,000	1,000	100,000	321,000	280,000	211,000	491,000	-165,000
2041	W	249,000	30,000	115,000	395,000	197,000	191,000	388,000	1,000
2042	C	199,000	6,000	154,000	359,000	529,000	193,000	722,000	-358,000
2043	C	212,000	2,000	224,000	437,000	608,000	190,000	798,000	-360,000
2044	C	263,000	0	252,000	516,000	510,000	192,000	702,000	-190,000
2045	C	231,000	1,000	267,000	499,000	744,000	198,000	943,000	-443,000
2046	C	336,000	6,000	271,000	613,000	509,000	193,000	702,000	-96,000
2047	C	324,000	8,000	267,000	599,000	478,000	194,000	672,000	-78,000
2048	W	491,000	30,000	224,000	745,000	176,000	161,000	337,000	397,000
2049	C	209,000	3,000	174,000	386,000	331,000	183,000	514,000	-129,000
2050	W	500,000	31,000	156,000	687,000	149,000	159,000	308,000	370,000
2051	W	262,000	10,000	119,000	392,000	136,000	150,000	287,000	101,000
2052	W	383,000	18,000	111,000	512,000	240,000	175,000	415,000	93,000
2053	W	434,000	32,000	103,000	570,000	144,000	137,000	281,000	282,000
2054	AN	195,000	6,000	90,000	291,000	141,000	173,000	314,000	-23,000
2055	AN	237,000	6,000	88,000	331,000	177,000	185,000	362,000	-31,000
2056	D	213,000	10,000	157,000	380,000	636,000	196,000	832,000	-446,000
2057	D	239,000	1,000	203,000	442,000	363,000	196,000	559,000	-118,000
2058	BN	265,000	3,000	170,000	438,000	189,000	198,000	387,000	46,000
2059	D	271,000	1,000	142,000	414,000	189,000	199,000	388,000	22,000
2060	W	368,000	27,000	124,000	518,000	193,000	184,000	377,000	135,000
2061	W	288,000	13,000	117,000	418,000	145,000	149,000	294,000	119,000
2062	C	192,000	0	142,000	335,000	486,000	181,000	667,000	-325,000
2063	C	300,000	6,000	221,000	527,000	729,000	197,000	926,000	-399,000
2064	BN	220,000	0	260,000	480,000	562,000	193,000	756,000	-276,000
2065	AN	336,000	12,000	226,000	574,000	198,000	185,000	382,000	181,000
2066	W	360,000	24,000	168,000	552,000	164,000	166,000	330,000	213,000
2067	D	195,000	1,000	143,000	339,000	182,000	179,000	360,000	-24,000
2068	C	224,000	8,000	185,000	417,000	657,000	202,000	859,000	-437,000
2069	C	213,000	2,000	260,000	475,000	635,000	198,000	833,000	-360,000
2070	C	278,000	0	263,000	542,000	444,000	200,000	644,000	-108,000
Average (2020 - 2040)		279,000	11,000	131,000	421,000	243,000	183,000	426,000	-8,000
Average (2020 - 2070)		281,000	10,000	160,000	451,000	313,000	183,000	496,000	-47,000

Table C-9: Baseline Projected Upper Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	15,000	34,000	576,000	40,000	102,000	187,000	329,000	107,000
2018	AN	246,000	12,000	29,000	287,000	62,000	113,000	143,000	318,000	-36,000
2019	D	207,000	1,000	30,000	239,000	141,000	124,000	121,000	385,000	-143,000
2020	W	220,000	12,000	34,000	266,000	93,000	130,000	142,000	365,000	-102,000
2021	BN	305,000	1,000	33,000	339,000	72,000	126,000	142,000	341,000	-7,000
2022	W	292,000	23,000	29,000	343,000	48,000	97,000	145,000	289,000	46,000
2023	D	219,000	10,000	29,000	258,000	108,000	121,000	120,000	349,000	-89,000
2024	W	528,000	32,000	30,000	590,000	44,000	99,000	149,000	292,000	290,000
2025	AN	200,000	5,000	28,000	233,000	71,000	119,000	125,000	315,000	-83,000
2026	BN	246,000	3,000	29,000	278,000	94,000	129,000	119,000	342,000	-63,000
2027	D	225,000	1,000	32,000	258,000	163,000	128,000	127,000	418,000	-154,000
2028	AN	419,000	13,000	34,000	467,000	60,000	109,000	167,000	336,000	122,000
2029	W	239,000	12,000	31,000	281,000	50,000	126,000	141,000	317,000	-41,000
2030	W	212,000	11,000	30,000	253,000	60,000	131,000	126,000	317,000	-66,000
2031	C	237,000	8,000	30,000	276,000	94,000	128,000	121,000	343,000	-67,000
2032	C	201,000	0	34,000	235,000	197,000	128,000	132,000	457,000	-214,000
2033	W	524,000	22,000	35,000	581,000	57,000	101,000	175,000	334,000	238,000
2034	AN	240,000	4,000	31,000	275,000	89,000	124,000	134,000	347,000	-74,000
2035	W	305,000	22,000	30,000	357,000	47,000	114,000	143,000	304,000	47,000
2036	D	220,000	1,000	29,000	249,000	56,000	121,000	127,000	304,000	-58,000
2037	W	232,000	22,000	27,000	282,000	47,000	102,000	131,000	280,000	-2,000
2038	W	376,000	22,000	26,000	425,000	47,000	94,000	127,000	268,000	151,000
2039	AN	201,000	4,000	27,000	232,000	60,000	127,000	112,000	300,000	-67,000
2040	D	220,000	1,000	29,000	250,000	89,000	133,000	112,000	334,000	-80,000
2041	W	249,000	30,000	31,000	310,000	67,000	122,000	127,000	316,000	-9,000
2042	C	199,000	6,000	32,000	237,000	157,000	124,000	118,000	400,000	-157,000
2043	C	212,000	2,000	36,000	249,000	184,000	123,000	144,000	451,000	-197,000
2044	C	263,000	0	37,000	300,000	161,000	123,000	159,000	443,000	-141,000
2045	C	231,000	1,000	37,000	269,000	218,000	127,000	147,000	492,000	-219,000
2046	C	336,000	6,000	37,000	379,000	161,000	122,000	156,000	439,000	-61,000
2047	C	324,000	8,000	38,000	371,000	153,000	122,000	154,000	429,000	-60,000
2048	W	491,000	30,000	36,000	556,000	61,000	101,000	170,000	331,000	214,000
2049	C	209,000	3,000	32,000	243,000	109,000	117,000	130,000	356,000	-114,000
2050	W	500,000	31,000	32,000	563,000	49,000	100,000	150,000	300,000	255,000
2051	W	262,000	10,000	28,000	301,000	45,000	99,000	135,000	279,000	16,000
2052	W	383,000	18,000	28,000	429,000	78,000	116,000	116,000	310,000	118,000
2053	W	434,000	32,000	27,000	494,000	46,000	88,000	134,000	269,000	220,000
2054	AN	195,000	6,000	26,000	226,000	46,000	112,000	122,000	280,000	-55,000
2055	AN	237,000	6,000	27,000	269,000	58,000	119,000	111,000	289,000	-20,000
2056	D	213,000	10,000	31,000	254,000	181,000	126,000	112,000	418,000	-152,000
2057	D	239,000	1,000	35,000	274,000	118,000	124,000	147,000	389,000	-115,000
2058	BN	265,000	3,000	33,000	301,000	64,000	125,000	150,000	339,000	-45,000
2059	D	271,000	1,000	31,000	303,000	61,000	126,000	137,000	324,000	-26,000
2060	W	368,000	27,000	30,000	424,000	65,000	115,000	129,000	309,000	109,000
2061	W	288,000	13,000	28,000	329,000	47,000	99,000	133,000	278,000	45,000
2062	C	192,000	0	29,000	222,000	142,000	121,000	109,000	372,000	-143,000
2063	C	300,000	6,000	36,000	342,000	211,000	126,000	133,000	469,000	-119,000
2064	BN	220,000	0	38,000	258,000	174,000	122,000	154,000	450,000	-189,000
2065	AN	336,000	12,000	36,000	384,000	70,000	115,000	165,000	350,000	25,000
2066	W	360,000	24,000	32,000	415,000	55,000	104,000	148,000	306,000	100,000
2067	D	195,000	1,000	28,000	224,000	60,000	117,000	125,000	302,000	-81,000
2068	C	224,000	8,000	34,000	266,000	188,000	128,000	113,000	430,000	-155,000
2069	C	213,000	2,000	38,000	253,000	191,000	124,000	146,000	462,000	-202,000
2070	C	278,000	0	38,000	316,000	143,000	125,000	152,000	421,000	-105,000
Average (2020 - 2040)		279,000	11,000	30,000	320,000	78,000	119,000	134,000	331,000	-13,000
Average (2020 - 2070)		281,000	10,000	32,000	323,000	98,000	118,000	136,000	352,000	-30,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-10: Baseline Projected Lower Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	171,000	187,000	358,000	71,000	55,000	127,000	231,000
2018	AN	112,000	143,000	255,000	122,000	57,000	178,000	78,000
2019	D	119,000	121,000	240,000	314,000	65,000	380,000	-143,000
2020	W	142,000	142,000	284,000	175,000	70,000	245,000	35,000
2021	BN	120,000	142,000	262,000	143,000	67,000	210,000	53,000
2022	W	94,000	145,000	239,000	95,000	50,000	145,000	98,000
2023	D	89,000	120,000	209,000	238,000	65,000	302,000	-93,000
2024	W	95,000	149,000	244,000	88,000	50,000	138,000	108,000
2025	AN	75,000	125,000	200,000	140,000	65,000	205,000	-6,000
2026	BN	83,000	119,000	203,000	190,000	73,000	263,000	-63,000
2027	D	131,000	127,000	258,000	376,000	71,000	447,000	-193,000
2028	AN	146,000	167,000	313,000	113,000	60,000	173,000	137,000
2029	W	96,000	141,000	236,000	99,000	68,000	168,000	68,000
2030	W	80,000	126,000	206,000	120,000	75,000	195,000	10,000
2031	C	88,000	121,000	209,000	204,000	73,000	277,000	-68,000
2032	C	153,000	132,000	284,000	470,000	70,000	540,000	-262,000
2033	W	162,000	175,000	337,000	107,000	57,000	165,000	173,000
2034	AN	117,000	134,000	252,000	175,000	64,000	240,000	10,000
2035	W	102,000	143,000	245,000	96,000	62,000	159,000	85,000
2036	D	79,000	127,000	206,000	110,000	70,000	180,000	25,000
2037	W	69,000	131,000	200,000	99,000	57,000	156,000	44,000
2038	W	64,000	127,000	191,000	99,000	47,000	147,000	45,000
2039	AN	60,000	112,000	171,000	124,000	67,000	192,000	-23,000
2040	D	71,000	112,000	182,000	190,000	78,000	268,000	-85,000
2041	W	85,000	127,000	212,000	130,000	69,000	199,000	9,000
2042	C	122,000	118,000	240,000	371,000	69,000	440,000	-202,000
2043	C	188,000	144,000	332,000	423,000	68,000	491,000	-164,000
2044	C	215,000	159,000	374,000	349,000	69,000	418,000	-49,000
2045	C	230,000	147,000	377,000	526,000	72,000	598,000	-224,000
2046	C	234,000	156,000	390,000	349,000	71,000	420,000	-35,000
2047	C	228,000	154,000	383,000	325,000	72,000	397,000	-17,000
2048	W	189,000	170,000	358,000	116,000	60,000	176,000	182,000
2049	C	142,000	130,000	272,000	223,000	66,000	289,000	-14,000
2050	W	124,000	150,000	275,000	100,000	59,000	159,000	116,000
2051	W	91,000	135,000	226,000	92,000	51,000	143,000	85,000
2052	W	83,000	116,000	199,000	162,000	60,000	221,000	-25,000
2053	W	75,000	134,000	209,000	98,000	49,000	146,000	62,000
2054	AN	65,000	122,000	187,000	95,000	61,000	156,000	32,000
2055	AN	62,000	111,000	173,000	119,000	66,000	185,000	-12,000
2056	D	126,000	112,000	238,000	456,000	70,000	526,000	-293,000
2057	D	168,000	147,000	315,000	245,000	72,000	317,000	-3,000
2058	BN	137,000	150,000	287,000	124,000	73,000	198,000	91,000
2059	D	111,000	137,000	248,000	128,000	73,000	201,000	47,000
2060	W	94,000	129,000	223,000	128,000	69,000	196,000	26,000
2061	W	89,000	133,000	221,000	98,000	50,000	148,000	74,000
2062	C	113,000	109,000	222,000	344,000	60,000	404,000	-182,000
2063	C	185,000	133,000	317,000	518,000	72,000	590,000	-280,000
2064	BN	222,000	154,000	377,000	388,000	72,000	460,000	-87,000
2065	AN	190,000	165,000	355,000	128,000	70,000	198,000	156,000
2066	W	136,000	148,000	284,000	109,000	62,000	171,000	113,000
2067	D	114,000	125,000	239,000	122,000	62,000	183,000	57,000
2068	C	151,000	113,000	265,000	469,000	74,000	543,000	-282,000
2069	C	222,000	146,000	369,000	444,000	74,000	518,000	-158,000
2070	C	225,000	152,000	378,000	301,000	75,000	375,000	-3,000
Average (2020 - 2040)		101,000	134,000	235,000	164,000	65,000	229,000	5,000
Average (2020 - 2070)		128,000	136,000	264,000	214,000	66,000	280,000	-17,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-11: Baseline Projected Land Surface Inflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	578,000	1,295,000	907,000	111,000	77,000	1,673,000
2018	AN	355,000	759,000	750,000	190,000	67,000	1,361,000
2019	D	248,000	210,000	210,000	804,000	57,000	1,320,000
2020	W	327,000	560,000	560,000	532,000	51,000	1,471,000
2021	BN	315,000	553,000	553,000	506,000	55,000	1,429,000
2022	W	472,000	1,105,000	731,000	162,000	60,000	1,425,000
2023	D	275,000	665,000	653,000	449,000	55,000	1,431,000
2024	W	840,000	1,057,000	763,000	141,000	125,000	1,869,000
2025	AN	320,000	606,000	601,000	404,000	86,000	1,410,000
2026	BN	313,000	525,000	525,000	469,000	67,000	1,375,000
2027	D	142,000	233,000	233,000	813,000	56,000	1,244,000
2028	AN	658,000	611,000	611,000	323,000	95,000	1,687,000
2029	W	405,000	691,000	691,000	402,000	80,000	1,577,000
2030	W	364,000	715,000	707,000	308,000	56,000	1,435,000
2031	C	458,000	380,000	380,000	570,000	53,000	1,461,000
2032	C	217,000	231,000	231,000	798,000	45,000	1,291,000
2033	W	942,000	665,000	659,000	200,000	117,000	1,918,000
2034	AN	461,000	651,000	651,000	439,000	92,000	1,643,000
2035	W	490,000	683,000	683,000	263,000	82,000	1,519,000
2036	D	358,000	690,000	690,000	318,000	74,000	1,440,000
2037	W	492,000	881,000	704,000	163,000	63,000	1,422,000
2038	W	810,000	1,320,000	803,000	148,000	113,000	1,874,000
2039	AN	206,000	692,000	683,000	435,000	79,000	1,404,000
2040	D	265,000	558,000	558,000	488,000	59,000	1,371,000
2041	W	531,000	569,000	569,000	444,000	63,000	1,606,000
2042	C	311,000	356,000	356,000	649,000	49,000	1,365,000
2043	C	334,000	227,000	227,000	761,000	41,000	1,363,000
2044	C	290,000	238,000	238,000	809,000	41,000	1,378,000
2045	C	271,000	227,000	227,000	816,000	36,000	1,351,000
2046	C	381,000	230,000	230,000	793,000	49,000	1,453,000
2047	C	446,000	230,000	230,000	793,000	52,000	1,521,000
2048	W	780,000	679,000	679,000	303,000	94,000	1,856,000
2049	C	389,000	506,000	506,000	486,000	54,000	1,436,000
2050	W	776,000	645,000	645,000	259,000	111,000	1,792,000
2051	W	406,000	1,109,000	882,000	144,000	90,000	1,521,000
2052	W	550,000	589,000	588,000	449,000	124,000	1,711,000
2053	W	914,000	1,301,000	649,000	153,000	155,000	1,871,000
2054	AN	306,000	714,000	695,000	310,000	104,000	1,416,000
2055	AN	430,000	710,000	710,000	276,000	105,000	1,521,000
2056	D	461,000	243,000	243,000	809,000	84,000	1,596,000
2057	D	267,000	507,000	507,000	586,000	62,000	1,421,000
2058	BN	385,000	655,000	655,000	345,000	54,000	1,439,000
2059	D	305,000	556,000	556,000	485,000	57,000	1,403,000
2060	W	677,000	656,000	656,000	258,000	77,000	1,667,000
2061	W	481,000	1,316,000	772,000	150,000	76,000	1,478,000
2062	C	178,000	510,000	497,000	526,000	56,000	1,258,000
2063	C	326,000	234,000	234,000	806,000	61,000	1,428,000
2064	BN	274,000	240,000	240,000	795,000	45,000	1,355,000
2065	AN	519,000	568,000	568,000	382,000	58,000	1,527,000
2066	W	618,000	590,000	590,000	318,000	81,000	1,607,000
2067	D	272,000	589,000	589,000	410,000	53,000	1,324,000
2068	C	181,000	353,000	353,000	711,000	42,000	1,287,000
2069	C	180,000	232,000	232,000	855,000	35,000	1,301,000
2070	C	218,000	229,000	229,000	824,000	33,000	1,303,000
Average (2020 - 2040)		435,000	670,000	603,000	397,000	75,000	1,509,000
Average (2020 - 2070)		423,000	586,000	530,000	471,000	71,000	1,495,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-12: Baseline Projected Land Surface Outflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	245,000	748,000	117,000	77,000	321,000	156,000	1,673,000
2018	AN	11,000	148,000	675,000	137,000	67,000	167,000	156,000	1,361,000
2019	D	9,000	159,000	745,000	86,000	57,000	108,000	156,000	1,320,000
2020	W	15,000	194,000	810,000	128,000	51,000	116,000	156,000	1,471,000
2021	BN	19,000	167,000	776,000	64,000	55,000	192,000	156,000	1,429,000
2022	W	9,000	198,000	635,000	159,000	60,000	208,000	156,000	1,425,000
2023	D	14,000	175,000	819,000	91,000	55,000	121,000	156,000	1,431,000
2024	W	8,000	267,000	648,000	126,000	125,000	539,000	156,000	1,869,000
2025	AN	11,000	181,000	735,000	86,000	86,000	156,000	156,000	1,410,000
2026	BN	16,000	159,000	720,000	103,000	67,000	153,000	156,000	1,375,000
2027	D	17,000	85,000	765,000	29,000	56,000	136,000	156,000	1,244,000
2028	AN	6,000	252,000	676,000	121,000	95,000	382,000	156,000	1,687,000
2029	W	11,000	224,000	813,000	105,000	80,000	188,000	156,000	1,577,000
2030	W	10,000	227,000	744,000	126,000	56,000	116,000	156,000	1,435,000
2031	C	11,000	198,000	686,000	189,000	53,000	170,000	156,000	1,461,000
2032	C	16,000	134,000	751,000	83,000	45,000	107,000	156,000	1,291,000
2033	W	6,000	276,000	608,000	233,000	117,000	522,000	156,000	1,918,000
2034	AN	14,000	253,000	810,000	117,000	92,000	201,000	156,000	1,643,000
2035	W	8,000	212,000	685,000	108,000	82,000	267,000	156,000	1,519,000
2036	D	8,000	158,000	740,000	137,000	74,000	167,000	156,000	1,440,000
2037	W	5,000	228,000	617,000	205,000	63,000	148,000	156,000	1,422,000
2038	W	5,000	332,000	693,000	216,000	113,000	358,000	156,000	1,874,000
2039	AN	19,000	140,000	829,000	46,000	79,000	134,000	156,000	1,404,000
2040	D	14,000	171,000	770,000	72,000	59,000	130,000	156,000	1,371,000
2041	W	8,000	296,000	745,000	158,000	63,000	180,000	156,000	1,606,000
2042	C	10,000	190,000	736,000	107,000	49,000	117,000	156,000	1,365,000
2043	C	17,000	210,000	714,000	116,000	41,000	109,000	156,000	1,363,000
2044	C	18,000	161,000	765,000	83,000	41,000	154,000	156,000	1,378,000
2045	C	18,000	147,000	761,000	95,000	36,000	137,000	156,000	1,351,000
2046	C	10,000	119,000	752,000	111,000	49,000	256,000	156,000	1,453,000
2047	C	9,000	205,000	753,000	106,000	52,000	240,000	156,000	1,521,000
2048	W	5,000	264,000	721,000	147,000	94,000	470,000	156,000	1,856,000
2049	C	15,000	221,000	720,000	148,000	54,000	123,000	156,000	1,436,000
2050	W	6,000	208,000	650,000	150,000	111,000	511,000	156,000	1,792,000
2051	W	13,000	186,000	752,000	99,000	90,000	225,000	156,000	1,521,000
2052	W	12,000	209,000	763,000	75,000	124,000	372,000	156,000	1,711,000
2053	W	7,000	307,000	557,000	220,000	155,000	469,000	156,000	1,871,000
2054	AN	13,000	161,000	734,000	82,000	104,000	166,000	156,000	1,416,000
2055	AN	12,000	182,000	718,000	121,000	105,000	228,000	156,000	1,521,000
2056	D	5,000	255,000	783,000	146,000	84,000	167,000	156,000	1,596,000
2057	D	16,000	165,000	809,000	64,000	62,000	149,000	156,000	1,421,000
2058	BN	14,000	202,000	727,000	122,000	54,000	165,000	156,000	1,439,000
2059	D	17,000	159,000	761,000	62,000	57,000	191,000	156,000	1,403,000
2060	W	4,000	289,000	659,000	173,000	77,000	309,000	156,000	1,667,000
2061	W	7,000	185,000	664,000	147,000	76,000	243,000	156,000	1,478,000
2062	C	16,000	111,000	746,000	65,000	56,000	106,000	156,000	1,258,000
2063	C	18,000	150,000	760,000	50,000	61,000	234,000	156,000	1,428,000
2064	BN	16,000	176,000	758,000	78,000	45,000	126,000	156,000	1,355,000
2065	AN	10,000	221,000	686,000	130,000	58,000	266,000	156,000	1,527,000
2066	W	6,000	261,000	653,000	144,000	81,000	306,000	156,000	1,607,000
2067	D	8,000	136,000	732,000	127,000	53,000	112,000	156,000	1,324,000
2068	C	15,000	122,000	783,000	55,000	42,000	114,000	156,000	1,287,000
2069	C	17,000	105,000	802,000	73,000	35,000	114,000	156,000	1,301,000
2070	C	20,000	120,000	768,000	66,000	33,000	140,000	156,000	1,303,000
Average (2020 - 2040)		12,000	201,000	730,000	121,000	75,000	215,000	156,000	1,509,000
Average (2020 - 2070)		12,000	195,000	731,000	115,000	71,000	216,000	156,000	1,495,000

Table C-13: Baseline Projected Groundwater Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	15,000	204,000	624,000	110,000	165,000	275,000	339,000
2018	AN	260,000	12,000	145,000	416,000	188,000	184,000	371,000	38,000
2019	D	209,000	1,000	195,000	405,000	797,000	191,000	988,000	-582,000
2020	W	223,000	11,000	256,000	491,000	527,000	190,000	717,000	-231,000
2021	BN	297,000	1,000	256,000	554,000	502,000	191,000	693,000	-140,000
2022	W	307,000	23,000	214,000	543,000	160,000	162,000	323,000	214,000
2023	D	225,000	10,000	183,000	418,000	444,000	191,000	635,000	-215,000
2024	W	579,000	32,000	175,000	786,000	140,000	162,000	302,000	477,000
2025	AN	231,000	6,000	155,000	392,000	400,000	191,000	591,000	-198,000
2026	BN	245,000	2,000	195,000	442,000	464,000	196,000	660,000	-220,000
2027	D	238,000	1,000	249,000	489,000	806,000	200,000	1,006,000	-518,000
2028	AN	449,000	14,000	248,000	711,000	320,000	181,000	501,000	199,000
2029	W	269,000	12,000	220,000	501,000	398,000	195,000	593,000	-94,000
2030	W	218,000	12,000	207,000	438,000	305,000	195,000	500,000	-65,000
2031	C	275,000	10,000	227,000	512,000	564,000	192,000	756,000	-244,000
2032	C	220,000	0	269,000	489,000	790,000	200,000	991,000	-504,000
2033	W	568,000	23,000	239,000	831,000	198,000	175,000	373,000	445,000
2034	AN	271,000	4,000	204,000	479,000	435,000	192,000	627,000	-147,000
2035	W	346,000	23,000	203,000	572,000	261,000	190,000	451,000	112,000
2036	D	253,000	1,000	180,000	434,000	315,000	199,000	514,000	-85,000
2037	W	244,000	22,000	161,000	427,000	161,000	176,000	337,000	83,000
2038	W	408,000	23,000	130,000	561,000	146,000	142,000	289,000	266,000
2039	AN	215,000	4,000	142,000	361,000	431,000	192,000	623,000	-261,000
2040	D	230,000	1,000	193,000	423,000	484,000	205,000	689,000	-264,000
2041	W	277,000	30,000	228,000	535,000	439,000	190,000	630,000	-99,000
2042	C	226,000	6,000	259,000	492,000	643,000	195,000	837,000	-346,000
2043	C	226,000	2,000	289,000	517,000	754,000	200,000	954,000	-440,000
2044	C	272,000	0	302,000	574,000	802,000	203,000	1,005,000	-434,000
2045	C	258,000	1,000	304,000	562,000	809,000	204,000	1,013,000	-451,000
2046	C	365,000	6,000	308,000	680,000	785,000	201,000	987,000	-313,000
2047	C	348,000	9,000	313,000	669,000	786,000	200,000	986,000	-322,000
2048	W	538,000	31,000	270,000	840,000	300,000	183,000	483,000	344,000
2049	C	227,000	3,000	243,000	473,000	482,000	193,000	675,000	-201,000
2050	W	563,000	32,000	232,000	828,000	257,000	175,000	432,000	383,000
2051	W	297,000	11,000	176,000	485,000	143,000	173,000	316,000	160,000
2052	W	413,000	18,000	175,000	606,000	445,000	184,000	629,000	-24,000
2053	W	479,000	32,000	171,000	682,000	152,000	141,000	293,000	380,000
2054	AN	223,000	6,000	147,000	376,000	307,000	177,000	484,000	-107,000
2055	AN	286,000	7,000	157,000	449,000	273,000	191,000	464,000	-20,000
2056	D	244,000	11,000	230,000	486,000	801,000	197,000	999,000	-511,000
2057	D	246,000	1,000	293,000	540,000	581,000	201,000	782,000	-246,000
2058	BN	270,000	3,000	263,000	536,000	342,000	198,000	540,000	-11,000
2059	D	294,000	1,000	251,000	546,000	480,000	201,000	681,000	-137,000
2060	W	393,000	27,000	237,000	657,000	255,000	183,000	439,000	206,000
2061	W	327,000	14,000	184,000	524,000	148,000	152,000	300,000	217,000
2062	C	209,000	0	194,000	403,000	521,000	186,000	707,000	-297,000
2063	C	332,000	7,000	264,000	604,000	799,000	203,000	1,002,000	-399,000
2064	BN	238,000	0	313,000	552,000	788,000	203,000	991,000	-443,000
2065	AN	367,000	13,000	281,000	662,000	379,000	190,000	568,000	87,000
2066	W	386,000	23,000	245,000	654,000	315,000	177,000	492,000	155,000
2067	D	217,000	1,000	238,000	457,000	406,000	190,000	596,000	-143,000
2068	C	230,000	10,000	274,000	514,000	704,000	204,000	908,000	-395,000
2069	C	236,000	2,000	318,000	556,000	847,000	207,000	1,054,000	-501,000
2070	C	265,000	0	324,000	589,000	816,000	208,000	1,024,000	-438,000
Average (2020 - 2040)		301,000	11,000	205,000	517,000	393,000	187,000	579,000	-66,000
Average (2020 - 2070)		305,000	11,000	231,000	547,000	467,000	189,000	656,000	-112,000

Table C-14: Baseline Projected Upper Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	15,000	34,000	453,000	39,000	107,000	186,000	332,000	110,000
2018	AN	260,000	12,000	30,000	301,000	65,000	121,000	138,000	324,000	-28,000
2019	D	209,000	1,000	33,000	243,000	229,000	125,000	128,000	482,000	-230,000
2020	W	223,000	11,000	37,000	271,000	169,000	122,000	162,000	453,000	-179,000
2021	BN	297,000	1,000	37,000	335,000	162,000	123,000	159,000	443,000	-108,000
2022	W	307,000	23,000	35,000	364,000	56,000	104,000	174,000	335,000	18,000
2023	D	225,000	10,000	33,000	268,000	140,000	123,000	131,000	393,000	-123,000
2024	W	579,000	32,000	33,000	645,000	48,000	104,000	163,000	315,000	319,000
2025	AN	231,000	6,000	31,000	268,000	127,000	123,000	127,000	378,000	-107,000
2026	BN	245,000	2,000	34,000	282,000	146,000	126,000	138,000	410,000	-126,000
2027	D	238,000	1,000	37,000	277,000	234,000	128,000	145,000	507,000	-224,000
2028	AN	449,000	14,000	38,000	500,000	111,000	113,000	165,000	389,000	104,000
2029	W	269,000	12,000	36,000	317,000	130,000	124,000	146,000	400,000	-85,000
2030	W	218,000	12,000	35,000	266,000	102,000	124,000	149,000	375,000	-113,000
2031	C	275,000	10,000	37,000	322,000	170,000	122,000	144,000	436,000	-112,000
2032	C	220,000	0	38,000	258,000	230,000	127,000	147,000	504,000	-240,000
2033	W	568,000	23,000	38,000	629,000	71,000	108,000	172,000	350,000	269,000
2034	AN	271,000	4,000	35,000	310,000	138,000	121,000	135,000	394,000	-84,000
2035	W	346,000	23,000	35,000	404,000	91,000	120,000	146,000	357,000	41,000
2036	D	253,000	1,000	34,000	287,000	105,000	126,000	134,000	365,000	-81,000
2037	W	244,000	22,000	32,000	298,000	55,000	111,000	148,000	314,000	-23,000
2038	W	408,000	23,000	30,000	461,000	48,000	95,000	137,000	279,000	172,000
2039	AN	215,000	4,000	30,000	249,000	132,000	127,000	112,000	370,000	-115,000
2040	D	230,000	1,000	35,000	265,000	150,000	130,000	130,000	410,000	-139,000
2041	W	277,000	30,000	38,000	345,000	142,000	119,000	145,000	406,000	-61,000
2042	C	226,000	6,000	39,000	271,000	193,000	123,000	145,000	461,000	-185,000
2043	C	226,000	2,000	40,000	268,000	220,000	125,000	148,000	493,000	-219,000
2044	C	272,000	0	40,000	312,000	231,000	126,000	146,000	504,000	-186,000
2045	C	258,000	1,000	40,000	299,000	233,000	126,000	144,000	503,000	-198,000
2046	C	365,000	6,000	41,000	413,000	227,000	123,000	146,000	496,000	-78,000
2047	C	348,000	9,000	43,000	399,000	227,000	121,000	147,000	495,000	-92,000
2048	W	538,000	31,000	40,000	609,000	105,000	111,000	158,000	374,000	226,000
2049	C	227,000	3,000	37,000	267,000	151,000	120,000	138,000	408,000	-141,000
2050	W	563,000	32,000	37,000	633,000	91,000	107,000	153,000	351,000	272,000
2051	W	297,000	11,000	33,000	341,000	48,000	111,000	148,000	307,000	25,000
2052	W	413,000	18,000	33,000	464,000	138,000	118,000	118,000	374,000	92,000
2053	W	479,000	32,000	33,000	544,000	51,000	91,000	154,000	295,000	239,000
2054	AN	223,000	6,000	29,000	258,000	102,000	115,000	120,000	336,000	-78,000
2055	AN	286,000	7,000	31,000	324,000	92,000	124,000	122,000	338,000	-16,000
2056	D	244,000	11,000	36,000	291,000	224,000	124,000	126,000	474,000	-171,000
2057	D	246,000	1,000	40,000	287,000	179,000	124,000	157,000	461,000	-167,000
2058	BN	270,000	3,000	39,000	311,000	116,000	122,000	156,000	394,000	-88,000
2059	D	294,000	1,000	38,000	333,000	151,000	124,000	141,000	417,000	-85,000
2060	W	393,000	27,000	37,000	458,000	90,000	113,000	154,000	357,000	91,000
2061	W	327,000	14,000	33,000	374,000	49,000	99,000	149,000	297,000	66,000
2062	C	209,000	0	33,000	241,000	154,000	120,000	116,000	390,000	-142,000
2063	C	332,000	7,000	39,000	378,000	226,000	126,000	135,000	487,000	-100,000
2064	BN	238,000	0	42,000	281,000	227,000	124,000	151,000	501,000	-212,000
2065	AN	367,000	13,000	40,000	420,000	126,000	115,000	156,000	397,000	20,000
2066	W	386,000	23,000	38,000	447,000	108,000	108,000	146,000	362,000	78,000
2067	D	217,000	1,000	35,000	253,000	129,000	119,000	132,000	380,000	-128,000
2068	C	230,000	10,000	39,000	278,000	203,000	126,000	135,000	464,000	-178,000
2069	C	236,000	2,000	42,000	279,000	239,000	125,000	147,000	511,000	-221,000
2070	C	265,000	0	43,000	307,000	232,000	125,000	147,000	504,000	-187,000
Average (2020 - 2040)		301,000	11,000	35,000	347,000	124,000	119,000	146,000	389,000	-45,000
Average (2020 - 2070)		305,000	11,000	36,000	352,000	143,000	119,000	144,000	406,000	-54,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-15: Baseline Projected Lower Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	170,000	186,000	356,000	70,000	59,000	129,000	229,000
2018	AN	115,000	138,000	252,000	122,000	63,000	185,000	66,000
2019	D	162,000	128,000	291,000	568,000	66,000	634,000	-352,000
2020	W	219,000	162,000	381,000	358,000	67,000	426,000	-51,000
2021	BN	219,000	159,000	378,000	340,000	69,000	409,000	-33,000
2022	W	179,000	174,000	353,000	104,000	58,000	162,000	195,000
2023	D	150,000	131,000	280,000	304,000	68,000	372,000	-91,000
2024	W	142,000	163,000	305,000	92,000	58,000	150,000	158,000
2025	AN	124,000	127,000	251,000	273,000	68,000	341,000	-90,000
2026	BN	161,000	138,000	299,000	318,000	70,000	388,000	-94,000
2027	D	212,000	145,000	357,000	572,000	72,000	644,000	-294,000
2028	AN	210,000	165,000	375,000	208,000	68,000	276,000	95,000
2029	W	184,000	146,000	330,000	268,000	71,000	339,000	-9,000
2030	W	172,000	149,000	321,000	203,000	71,000	274,000	48,000
2031	C	191,000	144,000	335,000	395,000	70,000	464,000	-131,000
2032	C	231,000	147,000	377,000	560,000	73,000	634,000	-264,000
2033	W	202,000	172,000	373,000	127,000	68,000	195,000	176,000
2034	AN	169,000	135,000	304,000	297,000	71,000	367,000	-63,000
2035	W	167,000	146,000	314,000	170,000	70,000	240,000	71,000
2036	D	146,000	134,000	280,000	209,000	74,000	283,000	-4,000
2037	W	128,000	148,000	276,000	107,000	65,000	171,000	105,000
2038	W	101,000	137,000	238,000	99,000	48,000	147,000	93,000
2039	AN	112,000	112,000	223,000	299,000	66,000	365,000	-145,000
2040	D	158,000	130,000	288,000	334,000	75,000	409,000	-124,000
2041	W	190,000	145,000	335,000	298,000	71,000	368,000	-38,000
2042	C	221,000	145,000	365,000	449,000	71,000	521,000	-160,000
2043	C	249,000	148,000	397,000	534,000	75,000	609,000	-220,000
2044	C	261,000	146,000	408,000	570,000	77,000	648,000	-248,000
2045	C	264,000	144,000	407,000	575,000	78,000	653,000	-252,000
2046	C	267,000	146,000	413,000	558,000	78,000	636,000	-234,000
2047	C	270,000	147,000	417,000	558,000	79,000	637,000	-230,000
2048	W	230,000	158,000	388,000	195,000	71,000	266,000	118,000
2049	C	206,000	138,000	344,000	331,000	73,000	405,000	-59,000
2050	W	195,000	153,000	347,000	165,000	68,000	233,000	111,000
2051	W	143,000	148,000	291,000	95,000	62,000	157,000	135,000
2052	W	142,000	118,000	261,000	307,000	66,000	373,000	-115,000
2053	W	138,000	154,000	292,000	101,000	50,000	151,000	141,000
2054	AN	118,000	120,000	237,000	206,000	62,000	268,000	-30,000
2055	AN	126,000	122,000	248,000	181,000	67,000	249,000	-4,000
2056	D	194,000	126,000	320,000	577,000	73,000	650,000	-339,000
2057	D	253,000	157,000	410,000	401,000	77,000	478,000	-79,000
2058	BN	224,000	156,000	380,000	225,000	76,000	301,000	77,000
2059	D	213,000	141,000	354,000	329,000	77,000	406,000	-52,000
2060	W	199,000	154,000	353,000	165,000	70,000	235,000	115,000
2061	W	151,000	149,000	300,000	99,000	53,000	152,000	151,000
2062	C	161,000	116,000	277,000	367,000	65,000	433,000	-155,000
2063	C	225,000	135,000	360,000	573,000	77,000	650,000	-299,000
2064	BN	271,000	151,000	422,000	561,000	80,000	641,000	-231,000
2065	AN	241,000	156,000	397,000	252,000	75,000	327,000	68,000
2066	W	207,000	146,000	353,000	207,000	69,000	276,000	78,000
2067	D	203,000	132,000	335,000	277,000	71,000	348,000	-15,000
2068	C	235,000	135,000	370,000	501,000	78,000	579,000	-217,000
2069	C	277,000	147,000	423,000	608,000	82,000	690,000	-280,000
2070	C	282,000	147,000	429,000	584,000	83,000	666,000	-251,000
Average (2020 - 2040)		170,000	146,000	316,000	268,000	68,000	336,000	-22,000
Average (2020 - 2070)		195,000	144,000	339,000	323,000	70,000	393,000	-58,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-16: PMA No. 2 Projected Land Surface Inflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	577,000	1,304,000	1,112,000	138,000	76,000	1,903,000
2018	AN	344,000	799,000	795,000	273,000	79,000	1,491,000
2019	D	255,000	453,000	453,000	371,000	79,000	1,158,000
2020	W	333,000	795,000	795,000	385,000	62,000	1,575,000
2021	BN	322,000	864,000	864,000	363,000	86,000	1,634,000
2022	W	462,000	1,289,000	906,000	174,000	103,000	1,646,000
2023	D	279,000	702,000	693,000	596,000	100,000	1,668,000
2024	W	775,000	1,316,000	924,000	149,000	186,000	2,033,000
2025	AN	297,000	750,000	743,000	283,000	129,000	1,452,000
2026	BN	328,000	622,000	622,000	214,000	113,000	1,277,000
2027	D	146,000	387,000	387,000	462,000	92,000	1,086,000
2028	AN	622,000	858,000	858,000	271,000	131,000	1,882,000
2029	W	391,000	980,000	980,000	273,000	129,000	1,774,000
2030	W	353,000	883,000	883,000	275,000	109,000	1,619,000
2031	C	402,000	663,000	663,000	207,000	100,000	1,371,000
2032	C	231,000	238,000	238,000	587,000	84,000	1,140,000
2033	W	851,000	828,000	827,000	228,000	160,000	2,067,000
2034	AN	424,000	748,000	748,000	341,000	143,000	1,657,000
2035	W	460,000	961,000	945,000	193,000	126,000	1,724,000
2036	D	338,000	766,000	766,000	262,000	127,000	1,493,000
2037	W	484,000	1,183,000	867,000	172,000	118,000	1,640,000
2038	W	757,000	1,327,000	948,000	160,000	197,000	2,062,000
2039	AN	214,000	892,000	886,000	249,000	146,000	1,494,000
2040	D	270,000	659,000	659,000	236,000	118,000	1,283,000
2041	W	503,000	741,000	741,000	219,000	108,000	1,571,000
2042	C	284,000	344,000	344,000	466,000	98,000	1,191,000
2043	C	338,000	227,000	227,000	557,000	73,000	1,195,000
2044	C	275,000	482,000	482,000	366,000	66,000	1,189,000
2045	C	249,000	236,000	236,000	604,000	55,000	1,143,000
2046	C	343,000	397,000	397,000	407,000	68,000	1,214,000
2047	C	409,000	512,000	512,000	534,000	66,000	1,521,000
2048	W	719,000	978,000	973,000	201,000	134,000	2,027,000
2049	C	369,000	598,000	598,000	452,000	96,000	1,515,000
2050	W	728,000	982,000	896,000	178,000	173,000	1,974,000
2051	W	374,000	1,190,000	1,047,000	160,000	150,000	1,731,000
2052	W	517,000	747,000	746,000	457,000	198,000	1,918,000
2053	W	865,000	1,313,000	803,000	158,000	226,000	2,051,000
2054	AN	296,000	899,000	887,000	285,000	163,000	1,631,000
2055	AN	397,000	717,000	717,000	224,000	156,000	1,494,000
2056	D	420,000	353,000	353,000	502,000	134,000	1,409,000
2057	D	271,000	603,000	603,000	274,000	98,000	1,246,000
2058	BN	388,000	764,000	764,000	324,000	84,000	1,560,000
2059	D	277,000	825,000	825,000	412,000	102,000	1,616,000
2060	W	645,000	659,000	659,000	311,000	143,000	1,758,000
2061	W	462,000	1,323,000	925,000	173,000	139,000	1,699,000
2062	C	167,000	503,000	495,000	334,000	116,000	1,112,000
2063	C	308,000	235,000	235,000	597,000	103,000	1,243,000
2064	BN	263,000	354,000	354,000	479,000	71,000	1,166,000
2065	AN	484,000	683,000	683,000	428,000	83,000	1,678,000
2066	W	599,000	736,000	736,000	268,000	132,000	1,735,000
2067	D	276,000	780,000	780,000	253,000	98,000	1,406,000
2068	C	200,000	338,000	338,000	523,000	90,000	1,152,000
2069	C	163,000	281,000	281,000	226,000	66,000	736,000
2070	C	254,000	506,000	506,000	130,000	51,000	940,000
Average (2020 - 2040)		416,000	843,000	771,000	289,000	122,000	1,599,000
Average (2020 - 2070)		404,000	726,000	673,000	325,000	116,000	1,518,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-17: PMA No. 2 Projected Land Surface Outflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	252,000	903,000	108,000	76,000	365,000	190,000	1,903,000
2018	AN	10,000	163,000	753,000	116,000	79,000	189,000	181,000	1,491,000
2019	D	7,000	163,000	597,000	80,000	79,000	90,000	143,000	1,158,000
2020	W	13,000	203,000	865,000	122,000	62,000	142,000	168,000	1,575,000
2021	BN	18,000	160,000	880,000	43,000	86,000	261,000	186,000	1,634,000
2022	W	8,000	214,000	753,000	123,000	103,000	254,000	190,000	1,646,000
2023	D	12,000	189,000	936,000	66,000	100,000	175,000	190,000	1,668,000
2024	W	7,000	283,000	750,000	89,000	186,000	529,000	190,000	2,033,000
2025	AN	9,000	198,000	738,000	65,000	129,000	146,000	168,000	1,452,000
2026	BN	14,000	154,000	594,000	97,000	113,000	159,000	147,000	1,277,000
2027	D	14,000	81,000	612,000	30,000	92,000	114,000	143,000	1,086,000
2028	AN	5,000	245,000	808,000	100,000	131,000	412,000	182,000	1,882,000
2029	W	9,000	253,000	913,000	75,000	129,000	208,000	186,000	1,774,000
2030	W	10,000	238,000	844,000	96,000	109,000	148,000	174,000	1,619,000
2031	C	10,000	199,000	618,000	155,000	100,000	137,000	153,000	1,371,000
2032	C	13,000	140,000	592,000	89,000	84,000	80,000	143,000	1,140,000
2033	W	6,000	260,000	742,000	178,000	160,000	540,000	182,000	2,067,000
2034	AN	12,000	264,000	795,000	83,000	143,000	194,000	166,000	1,656,000
2035	W	7,000	238,000	806,000	81,000	126,000	277,000	190,000	1,724,000
2036	D	7,000	169,000	739,000	117,000	127,000	165,000	169,000	1,493,000
2037	W	4,000	238,000	721,000	161,000	118,000	209,000	190,000	1,640,000
2038	W	4,000	340,000	785,000	142,000	197,000	404,000	190,000	2,062,000
2039	AN	17,000	153,000	826,000	32,000	146,000	152,000	169,000	1,494,000
2040	D	12,000	173,000	650,000	57,000	118,000	126,000	146,000	1,283,000
2041	W	7,000	275,000	695,000	149,000	108,000	179,000	159,000	1,571,000
2042	C	8,000	173,000	582,000	96,000	98,000	91,000	143,000	1,191,000
2043	C	13,000	195,000	561,000	127,000	73,000	91,000	135,000	1,195,000
2044	C	15,000	148,000	617,000	76,000	66,000	131,000	135,000	1,189,000
2045	C	15,000	136,000	609,000	99,000	55,000	93,000	135,000	1,143,000
2046	C	8,000	101,000	587,000	122,000	68,000	195,000	134,000	1,214,000
2047	C	8,000	191,000	769,000	103,000	66,000	230,000	155,000	1,521,000
2048	W	4,000	274,000	842,000	101,000	134,000	482,000	190,000	2,027,000
2049	C	13,000	233,000	747,000	117,000	96,000	136,000	173,000	1,515,000
2050	W	5,000	241,000	752,000	107,000	173,000	506,000	190,000	1,974,000
2051	W	11,000	201,000	865,000	68,000	150,000	246,000	190,000	1,731,000
2052	W	11,000	219,000	863,000	47,000	198,000	391,000	190,000	1,918,000
2053	W	6,000	332,000	650,000	160,000	226,000	487,000	190,000	2,051,000
2054	AN	11,000	187,000	834,000	58,000	163,000	188,000	190,000	1,631,000
2055	AN	10,000	195,000	671,000	103,000	156,000	198,000	161,000	1,494,000
2056	D	4,000	241,000	628,000	128,000	134,000	130,000	143,000	1,409,000
2057	D	13,000	153,000	647,000	67,000	98,000	134,000	135,000	1,246,000
2058	BN	12,000	196,000	782,000	118,000	84,000	199,000	169,000	1,560,000
2059	D	16,000	161,000	886,000	37,000	102,000	225,000	190,000	1,616,000
2060	W	4,000	301,000	683,000	128,000	143,000	326,000	174,000	1,758,000
2061	W	6,000	208,000	772,000	109,000	139,000	276,000	190,000	1,699,000
2062	C	13,000	113,000	595,000	52,000	116,000	81,000	143,000	1,112,000
2063	C	14,000	141,000	605,000	52,000	103,000	194,000	135,000	1,243,000
2064	BN	13,000	164,000	606,000	80,000	71,000	96,000	135,000	1,166,000
2065	AN	9,000	214,000	793,000	121,000	83,000	281,000	178,000	1,678,000
2066	W	5,000	276,000	705,000	105,000	132,000	332,000	179,000	1,735,000
2067	D	7,000	157,000	742,000	107,000	98,000	126,000	170,000	1,406,000
2068	C	13,000	137,000	625,000	47,000	90,000	98,000	143,000	1,152,000
2069	C	8,000	76,000	338,000	84,000	66,000	47,000	117,000	736,000
2070	C	9,000	114,000	501,000	71,000	51,000	122,000	73,000	940,000
Average (2020 - 2040)		10,000	209,000	760,000	95,000	122,000	230,000	172,000	1,599,000
Average (2020 - 2070)		10,000	199,000	716,000	95,000	116,000	218,000	164,000	1,518,000

Table C-18: PMA No. 2 Projected Groundwater Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	483,000	15,000	211,000	709,000	137,000	132,000	270,000	429,000
2018	AN	294,000	12,000	163,000	469,000	270,000	104,000	375,000	87,000
2019	D	158,000	1,000	165,000	324,000	367,000	97,000	465,000	-141,000
2020	W	249,000	12,000	164,000	426,000	382,000	107,000	488,000	-64,000
2021	BN	367,000	1,000	165,000	533,000	359,000	108,000	468,000	61,000
2022	W	346,000	23,000	137,000	506,000	172,000	116,000	289,000	211,000
2023	D	270,000	10,000	158,000	438,000	590,000	135,000	725,000	-284,000
2024	W	546,000	32,000	166,000	743,000	147,000	117,000	264,000	470,000
2025	AN	192,000	5,000	125,000	322,000	280,000	108,000	389,000	-69,000
2026	BN	198,000	2,000	114,000	315,000	212,000	108,000	319,000	-11,000
2027	D	171,000	1,000	133,000	305,000	457,000	121,000	578,000	-270,000
2028	AN	469,000	13,000	152,000	634,000	269,000	107,000	375,000	248,000
2029	W	272,000	11,000	134,000	418,000	270,000	102,000	372,000	39,000
2030	W	219,000	11,000	123,000	352,000	272,000	104,000	376,000	-30,000
2031	C	196,000	8,000	107,000	311,000	205,000	106,000	311,000	-6,000
2032	C	144,000	0	149,000	293,000	582,000	123,000	705,000	-409,000
2033	W	570,000	21,000	163,000	754,000	226,000	119,000	346,000	397,000
2034	AN	226,000	4,000	141,000	370,000	338,000	110,000	448,000	-81,000
2035	W	347,000	21,000	129,000	496,000	191,000	106,000	297,000	191,000
2036	D	214,000	1,000	107,000	321,000	259,000	110,000	370,000	-52,000
2037	W	287,000	22,000	97,000	406,000	171,000	149,000	320,000	83,000
2038	W	409,000	22,000	88,000	519,000	159,000	125,000	284,000	230,000
2039	AN	184,000	4,000	87,000	275,000	247,000	111,000	357,000	-85,000
2040	D	162,000	1,000	89,000	251,000	234,000	116,000	350,000	-102,000
2041	W	235,000	30,000	93,000	358,000	216,000	110,000	326,000	26,000
2042	C	141,000	6,000	138,000	284,000	461,000	99,000	560,000	-272,000
2043	C	156,000	2,000	200,000	358,000	552,000	97,000	649,000	-288,000
2044	C	204,000	0	200,000	403,000	363,000	97,000	460,000	-63,000
2045	C	176,000	1,000	232,000	408,000	598,000	99,000	697,000	-284,000
2046	C	265,000	5,000	215,000	485,000	403,000	113,000	516,000	-37,000
2047	C	323,000	8,000	209,000	540,000	529,000	127,000	656,000	-116,000
2048	W	546,000	30,000	192,000	767,000	199,000	112,000	311,000	444,000
2049	C	218,000	3,000	167,000	387,000	448,000	114,000	562,000	-171,000
2050	W	533,000	31,000	154,000	718,000	176,000	129,000	305,000	405,000
2051	W	294,000	10,000	110,000	414,000	158,000	146,000	305,000	103,000
2052	W	396,000	17,000	133,000	546,000	452,000	134,000	586,000	-43,000
2053	W	463,000	32,000	132,000	627,000	156,000	124,000	280,000	338,000
2054	AN	223,000	6,000	118,000	347,000	282,000	114,000	396,000	-53,000
2055	AN	212,000	5,000	114,000	331,000	221,000	109,000	330,000	-6,000
2056	D	147,000	10,000	156,000	313,000	497,000	102,000	599,000	-285,000
2057	D	176,000	1,000	150,000	327,000	272,000	103,000	375,000	-54,000
2058	BN	288,000	3,000	131,000	422,000	321,000	111,000	432,000	-11,000
2059	D	318,000	1,000	148,000	467,000	408,000	119,000	527,000	-61,000
2060	W	365,000	25,000	155,000	546,000	308,000	111,000	419,000	119,000
2061	W	333,000	12,000	134,000	479,000	171,000	110,000	282,000	191,000
2062	C	114,000	0	126,000	240,000	330,000	99,000	430,000	-186,000
2063	C	232,000	6,000	189,000	427,000	592,000	102,000	694,000	-265,000
2064	BN	165,000	0	215,000	380,000	474,000	105,000	579,000	-202,000
2065	AN	379,000	12,000	200,000	591,000	424,000	117,000	540,000	46,000
2066	W	387,000	23,000	188,000	598,000	266,000	104,000	370,000	217,000
2067	D	202,000	1,000	158,000	361,000	250,000	96,000	346,000	10,000
2068	C	156,000	0	184,000	341,000	519,000	98,000	617,000	-272,000
2069	C	102,000	0	159,000	262,000	224,000	104,000	328,000	-73,000
2070	C	147,000	0	98,000	245,000	129,000	111,000	240,000	-1,000
Average (2020 - 2040)		287,000	11,000	130,000	428,000	287,000	115,000	401,000	22,000
Average (2020 - 2070)		273,000	10,000	148,000	431,000	322,000	112,000	434,000	-7,000

Table C-19: PMA No. 2 Projected Upper Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	483,000	15,000	32,000	576,000	50,000	80,000	188,000	317,000	201,000
2018	AN	294,000	12,000	28,000	334,000	96,000	65,000	142,000	302,000	24,000
2019	D	158,000	1,000	29,000	189,000	124,000	61,000	133,000	317,000	-131,000
2020	W	249,000	12,000	27,000	288,000	128,000	67,000	135,000	330,000	-42,000
2021	BN	367,000	1,000	27,000	394,000	122,000	69,000	138,000	329,000	62,000
2022	W	346,000	23,000	25,000	394,000	59,000	72,000	153,000	285,000	103,000
2023	D	270,000	10,000	27,000	306,000	179,000	87,000	124,000	390,000	-77,000
2024	W	546,000	32,000	29,000	606,000	52,000	73,000	171,000	296,000	300,000
2025	AN	192,000	5,000	25,000	222,000	98,000	68,000	131,000	298,000	-80,000
2026	BN	198,000	2,000	23,000	224,000	75,000	68,000	133,000	277,000	-58,000
2027	D	171,000	1,000	24,000	196,000	146,000	77,000	121,000	343,000	-143,000
2028	AN	469,000	13,000	27,000	509,000	96,000	69,000	141,000	306,000	196,000
2029	W	272,000	11,000	26,000	309,000	95,000	66,000	134,000	295,000	10,000
2030	W	219,000	11,000	24,000	254,000	95,000	68,000	129,000	292,000	-40,000
2031	C	196,000	8,000	23,000	226,000	72,000	68,000	130,000	270,000	-48,000
2032	C	144,000	0	26,000	170,000	177,000	77,000	120,000	374,000	-197,000
2033	W	570,000	21,000	28,000	619,000	81,000	77,000	154,000	312,000	299,000
2034	AN	226,000	4,000	26,000	256,000	115,000	73,000	130,000	319,000	-65,000
2035	W	347,000	21,000	25,000	392,000	66,000	69,000	146,000	281,000	105,000
2036	D	214,000	1,000	23,000	238,000	91,000	69,000	124,000	285,000	-49,000
2037	W	287,000	22,000	23,000	332,000	57,000	92,000	134,000	283,000	47,000
2038	W	409,000	22,000	23,000	454,000	52,000	79,000	130,000	261,000	187,000
2039	AN	184,000	4,000	22,000	210,000	85,000	71,000	116,000	272,000	-64,000
2040	D	162,000	1,000	22,000	184,000	82,000	72,000	121,000	274,000	-91,000
2041	W	235,000	30,000	23,000	287,000	76,000	69,000	123,000	268,000	17,000
2042	C	141,000	6,000	29,000	175,000	147,000	62,000	116,000	325,000	-146,000
2043	C	156,000	2,000	35,000	194,000	174,000	59,000	134,000	367,000	-169,000
2044	C	204,000	0	31,000	235,000	125,000	60,000	147,000	332,000	-102,000
2045	C	176,000	1,000	40,000	217,000	188,000	59,000	139,000	387,000	-167,000
2046	C	265,000	5,000	29,000	299,000	136,000	71,000	149,000	357,000	-60,000
2047	C	323,000	8,000	29,000	360,000	169,000	82,000	142,000	393,000	-33,000
2048	W	546,000	30,000	30,000	605,000	71,000	71,000	166,000	307,000	288,000
2049	C	218,000	3,000	26,000	247,000	144,000	73,000	130,000	348,000	-101,000
2050	W	533,000	31,000	27,000	591,000	61,000	79,000	157,000	297,000	286,000
2051	W	294,000	10,000	24,000	327,000	54,000	93,000	139,000	286,000	37,000
2052	W	396,000	17,000	26,000	439,000	143,000	86,000	118,000	347,000	94,000
2053	W	463,000	32,000	26,000	521,000	53,000	77,000	157,000	287,000	227,000
2054	AN	223,000	6,000	24,000	253,000	97,000	73,000	128,000	298,000	-48,000
2055	AN	212,000	5,000	23,000	241,000	78,000	71,000	131,000	280,000	-44,000
2056	D	147,000	10,000	30,000	187,000	155,000	65,000	122,000	342,000	-152,000
2057	D	176,000	1,000	26,000	203,000	97,000	66,000	140,000	303,000	-104,000
2058	BN	288,000	3,000	25,000	315,000	110,000	70,000	130,000	310,000	4,000
2059	D	318,000	1,000	25,000	344,000	134,000	78,000	130,000	341,000	3,000
2060	W	365,000	25,000	27,000	417,000	107,000	72,000	141,000	320,000	93,000
2061	W	333,000	12,000	25,000	371,000	58,000	70,000	149,000	277,000	87,000
2062	C	114,000	0	24,000	139,000	110,000	67,000	119,000	296,000	-157,000
2063	C	232,000	6,000	37,000	275,000	183,000	62,000	127,000	372,000	-92,000
2064	BN	165,000	0	33,000	198,000	156,000	64,000	148,000	368,000	-170,000
2065	AN	379,000	12,000	29,000	420,000	140,000	75,000	147,000	362,000	55,000
2066	W	387,000	23,000	31,000	441,000	95,000	67,000	151,000	313,000	120,000
2067	D	202,000	1,000	26,000	229,000	88,000	64,000	135,000	287,000	-64,000
2068	C	156,000	0	34,000	191,000	163,000	61,000	124,000	348,000	-154,000
2069	C	102,000	0	26,000	128,000	82,000	65,000	144,000	290,000	-167,000
2070	C	147,000	0	20,000	167,000	50,000	70,000	128,000	248,000	-86,000
Average (2020 - 2040)		287,000	11,000	25,000	323,000	96,000	73,000	134,000	303,000	17,000
Average (2020 - 2070)		273,000	10,000	27,000	310,000	107,000	71,000	136,000	314,000	-7,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-20: PMA No. 2 Projected Lower Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	178,000	188,000	366,000	87,000	52,000	140,000	228,000
2018	AN	135,000	142,000	277,000	175,000	40,000	214,000	63,000
2019	D	136,000	133,000	269,000	244,000	37,000	281,000	-10,000
2020	W	138,000	135,000	272,000	253,000	40,000	293,000	-22,000
2021	BN	138,000	138,000	276,000	237,000	40,000	276,000	-1,000
2022	W	112,000	153,000	265,000	113,000	44,000	157,000	108,000
2023	D	131,000	124,000	255,000	411,000	48,000	459,000	-207,000
2024	W	137,000	171,000	308,000	96,000	44,000	140,000	170,000
2025	AN	100,000	131,000	231,000	183,000	40,000	222,000	11,000
2026	BN	91,000	133,000	224,000	136,000	39,000	176,000	47,000
2027	D	109,000	121,000	230,000	312,000	44,000	356,000	-127,000
2028	AN	124,000	141,000	265,000	173,000	38,000	210,000	52,000
2029	W	108,000	134,000	242,000	175,000	36,000	212,000	28,000
2030	W	98,000	129,000	227,000	177,000	36,000	213,000	10,000
2031	C	85,000	130,000	215,000	132,000	38,000	171,000	42,000
2032	C	123,000	120,000	243,000	404,000	46,000	450,000	-212,000
2033	W	136,000	154,000	290,000	145,000	43,000	188,000	98,000
2034	AN	115,000	130,000	245,000	223,000	37,000	260,000	-16,000
2035	W	104,000	146,000	251,000	125,000	37,000	163,000	86,000
2036	D	83,000	124,000	208,000	169,000	41,000	209,000	-2,000
2037	W	74,000	134,000	208,000	113,000	58,000	171,000	37,000
2038	W	65,000	130,000	196,000	106,000	47,000	153,000	43,000
2039	AN	66,000	116,000	181,000	162,000	39,000	201,000	-21,000
2040	D	67,000	121,000	188,000	152,000	45,000	197,000	-11,000
2041	W	71,000	123,000	193,000	140,000	41,000	181,000	9,000
2042	C	109,000	116,000	225,000	314,000	37,000	351,000	-126,000
2043	C	164,000	134,000	298,000	378,000	38,000	416,000	-120,000
2044	C	169,000	147,000	315,000	237,000	37,000	274,000	39,000
2045	C	191,000	139,000	331,000	409,000	40,000	449,000	-118,000
2046	C	186,000	149,000	334,000	266,000	42,000	308,000	23,000
2047	C	180,000	142,000	323,000	360,000	46,000	405,000	-83,000
2048	W	162,000	166,000	328,000	128,000	42,000	170,000	156,000
2049	C	141,000	130,000	271,000	303,000	40,000	344,000	-71,000
2050	W	127,000	157,000	284,000	115,000	50,000	165,000	120,000
2051	W	87,000	139,000	226,000	105,000	53,000	158,000	66,000
2052	W	107,000	118,000	225,000	309,000	48,000	358,000	-137,000
2053	W	107,000	157,000	264,000	103,000	47,000	150,000	111,000
2054	AN	94,000	128,000	221,000	185,000	40,000	225,000	-5,000
2055	AN	90,000	131,000	221,000	143,000	37,000	181,000	38,000
2056	D	126,000	122,000	248,000	342,000	36,000	378,000	-132,000
2057	D	124,000	140,000	264,000	175,000	38,000	213,000	50,000
2058	BN	106,000	130,000	236,000	211,000	41,000	252,000	-15,000
2059	D	123,000	130,000	253,000	274,000	41,000	316,000	-65,000
2060	W	128,000	141,000	269,000	201,000	39,000	240,000	26,000
2061	W	108,000	149,000	257,000	113,000	41,000	154,000	105,000
2062	C	102,000	119,000	221,000	221,000	32,000	253,000	-29,000
2063	C	151,000	127,000	278,000	409,000	40,000	449,000	-174,000
2064	BN	182,000	148,000	330,000	318,000	41,000	359,000	-32,000
2065	AN	171,000	147,000	318,000	283,000	42,000	325,000	-9,000
2066	W	158,000	151,000	309,000	171,000	38,000	208,000	97,000
2067	D	132,000	135,000	267,000	162,000	32,000	194,000	74,000
2068	C	150,000	124,000	274,000	356,000	37,000	393,000	-118,000
2069	C	134,000	144,000	277,000	142,000	39,000	181,000	94,000
2070	C	78,000	128,000	206,000	79,000	41,000	120,000	85,000
Average (2020 - 2040)		105,000	134,000	239,000	190,000	42,000	232,000	5,000
Average (2020 - 2070)		121,000	136,000	257,000	215,000	41,000	256,000	-1,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-21: PMA No. 2 Projected Land Surface Inflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	579,000	1,307,000	1,069,000	134,000	74,000	1,856,000
2018	AN	347,000	794,000	790,000	280,000	79,000	1,496,000
2019	D	267,000	453,000	453,000	340,000	80,000	1,140,000
2020	W	345,000	802,000	802,000	369,000	66,000	1,581,000
2021	BN	317,000	858,000	858,000	373,000	86,000	1,635,000
2022	W	471,000	1,298,000	830,000	171,000	101,000	1,573,000
2023	D	283,000	693,000	686,000	627,000	106,000	1,703,000
2024	W	810,000	1,320,000	859,000	143,000	193,000	2,004,000
2025	AN	306,000	747,000	740,000	283,000	134,000	1,464,000
2026	BN	333,000	624,000	624,000	216,000	117,000	1,290,000
2027	D	151,000	384,000	384,000	435,000	89,000	1,059,000
2028	AN	628,000	858,000	858,000	288,000	136,000	1,910,000
2029	W	401,000	980,000	980,000	266,000	136,000	1,782,000
2030	W	367,000	883,000	883,000	268,000	111,000	1,628,000
2031	C	442,000	664,000	664,000	204,000	99,000	1,408,000
2032	C	233,000	240,000	240,000	544,000	81,000	1,099,000
2033	W	895,000	827,000	825,000	224,000	167,000	2,110,000
2034	AN	436,000	749,000	749,000	362,000	148,000	1,696,000
2035	W	471,000	966,000	920,000	189,000	137,000	1,718,000
2036	D	342,000	760,000	759,000	273,000	131,000	1,505,000
2037	W	482,000	1,181,000	819,000	171,000	125,000	1,596,000
2038	W	779,000	1,329,000	981,000	163,000	207,000	2,130,000
2039	AN	222,000	892,000	887,000	252,000	153,000	1,513,000
2040	D	278,000	660,000	660,000	245,000	121,000	1,304,000
2041	W	515,000	740,000	740,000	228,000	114,000	1,597,000
2042	C	291,000	342,000	342,000	412,000	105,000	1,151,000
2043	C	348,000	227,000	227,000	485,000	74,000	1,134,000
2044	C	286,000	485,000	485,000	369,000	73,000	1,213,000
2045	C	266,000	233,000	233,000	609,000	59,000	1,167,000
2046	C	368,000	397,000	397,000	439,000	69,000	1,272,000
2047	C	425,000	512,000	512,000	549,000	78,000	1,564,000
2048	W	739,000	982,000	930,000	179,000	146,000	1,995,000
2049	C	380,000	595,000	594,000	457,000	102,000	1,533,000
2050	W	749,000	981,000	846,000	172,000	182,000	1,949,000
2051	W	389,000	1,190,000	989,000	153,000	154,000	1,685,000
2052	W	543,000	753,000	751,000	460,000	210,000	1,965,000
2053	W	879,000	1,312,000	752,000	153,000	232,000	2,017,000
2054	AN	302,000	896,000	885,000	267,000	169,000	1,623,000
2055	AN	407,000	717,000	717,000	244,000	160,000	1,528,000
2056	D	440,000	355,000	355,000	498,000	150,000	1,444,000
2057	D	281,000	600,000	600,000	254,000	101,000	1,236,000
2058	BN	399,000	765,000	765,000	323,000	91,000	1,579,000
2059	D	297,000	825,000	825,000	419,000	106,000	1,647,000
2060	W	675,000	663,000	663,000	311,000	150,000	1,799,000
2061	W	461,000	1,323,000	912,000	172,000	144,000	1,690,000
2062	C	174,000	500,000	494,000	345,000	120,000	1,132,000
2063	C	305,000	235,000	235,000	591,000	108,000	1,240,000
2064	BN	268,000	351,000	351,000	431,000	71,000	1,121,000
2065	AN	505,000	685,000	685,000	427,000	86,000	1,702,000
2066	W	606,000	736,000	736,000	278,000	139,000	1,758,000
2067	D	301,000	778,000	778,000	268,000	106,000	1,453,000
2068	C	212,000	339,000	339,000	530,000	101,000	1,182,000
2069	C	176,000	280,000	280,000	507,000	63,000	1,026,000
2070	C	250,000	508,000	508,000	308,000	62,000	1,128,000
Average (2020 - 2040)		428,000	843,000	762,000	289,000	126,000	1,605,000
Average (2020 - 2070)		416,000	726,000	665,000	331,000	121,000	1,534,000

Table C-22: PMA No. 2 Projected Land Surface Outflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	10,000	254,000	860,000	108,000	74,000	361,000	190,000	1,856,000
2018	AN	9,000	167,000	750,000	112,000	79,000	196,000	183,000	1,496,000
2019	D	7,000	172,000	568,000	81,000	80,000	87,000	144,000	1,140,000
2020	W	14,000	207,000	865,000	129,000	66,000	138,000	161,000	1,581,000
2021	BN	20,000	159,000	878,000	44,000	86,000	259,000	188,000	1,635,000
2022	W	8,000	220,000	682,000	119,000	101,000	253,000	190,000	1,573,000
2023	D	10,000	193,000	953,000	66,000	106,000	184,000	190,000	1,703,000
2024	W	7,000	296,000	685,000	89,000	193,000	545,000	190,000	2,004,000
2025	AN	8,000	204,000	735,000	64,000	134,000	149,000	169,000	1,464,000
2026	BN	14,000	158,000	595,000	96,000	117,000	161,000	148,000	1,290,000
2027	D	14,000	84,000	581,000	31,000	89,000	115,000	145,000	1,059,000
2028	AN	5,000	248,000	820,000	99,000	136,000	416,000	185,000	1,910,000
2029	W	9,000	258,000	910,000	77,000	136,000	209,000	183,000	1,782,000
2030	W	10,000	246,000	847,000	102,000	111,000	145,000	169,000	1,628,000
2031	C	11,000	217,000	622,000	172,000	99,000	138,000	149,000	1,408,000
2032	C	13,000	142,000	553,000	89,000	81,000	77,000	144,000	1,099,000
2033	W	4,000	273,000	738,000	184,000	167,000	563,000	181,000	2,110,000
2034	AN	12,000	275,000	799,000	79,000	148,000	208,000	175,000	1,696,000
2035	W	6,000	244,000	780,000	77,000	137,000	284,000	190,000	1,718,000
2036	D	5,000	179,000	731,000	106,000	131,000	175,000	178,000	1,505,000
2037	W	4,000	242,000	676,000	153,000	125,000	207,000	190,000	1,596,000
2038	W	4,000	350,000	813,000	147,000	207,000	419,000	190,000	2,130,000
2039	AN	19,000	159,000	825,000	33,000	153,000	155,000	171,000	1,513,000
2040	D	12,000	180,000	647,000	57,000	121,000	133,000	154,000	1,304,000
2041	W	6,000	289,000	687,000	145,000	114,000	188,000	168,000	1,597,000
2042	C	9,000	184,000	531,000	92,000	105,000	86,000	144,000	1,151,000
2043	C	14,000	203,000	495,000	128,000	74,000	85,000	135,000	1,134,000
2044	C	16,000	153,000	621,000	78,000	73,000	136,000	135,000	1,213,000
2045	C	16,000	147,000	612,000	104,000	59,000	95,000	135,000	1,167,000
2046	C	9,000	113,000	605,000	119,000	69,000	218,000	140,000	1,272,000
2047	C	8,000	201,000	773,000	100,000	78,000	238,000	165,000	1,564,000
2048	W	4,000	284,000	784,000	99,000	146,000	488,000	190,000	1,995,000
2049	C	13,000	242,000	747,000	118,000	102,000	138,000	174,000	1,533,000
2050	W	5,000	246,000	702,000	106,000	182,000	519,000	190,000	1,949,000
2051	W	11,000	211,000	806,000	67,000	154,000	247,000	190,000	1,685,000
2052	W	12,000	231,000	869,000	51,000	210,000	401,000	190,000	1,965,000
2053	W	4,000	335,000	603,000	154,000	232,000	499,000	190,000	2,017,000
2054	AN	10,000	190,000	816,000	57,000	169,000	191,000	190,000	1,623,000
2055	AN	10,000	210,000	664,000	92,000	160,000	215,000	177,000	1,528,000
2056	D	4,000	262,000	626,000	124,000	150,000	134,000	144,000	1,444,000
2057	D	14,000	159,000	621,000	68,000	101,000	136,000	137,000	1,236,000
2058	BN	13,000	202,000	783,000	120,000	91,000	201,000	170,000	1,579,000
2059	D	18,000	171,000	891,000	40,000	106,000	231,000	190,000	1,647,000
2060	W	4,000	316,000	683,000	128,000	150,000	342,000	176,000	1,799,000
2061	W	4,000	208,000	761,000	107,000	144,000	275,000	190,000	1,690,000
2062	C	14,000	117,000	601,000	54,000	120,000	83,000	144,000	1,132,000
2063	C	16,000	140,000	598,000	50,000	108,000	193,000	135,000	1,240,000
2064	BN	13,000	168,000	561,000	81,000	71,000	93,000	135,000	1,121,000
2065	AN	10,000	226,000	786,000	122,000	86,000	291,000	181,000	1,702,000
2066	W	5,000	284,000	698,000	94,000	139,000	348,000	190,000	1,758,000
2067	D	7,000	175,000	741,000	112,000	106,000	134,000	179,000	1,453,000
2068	C	14,000	144,000	631,000	48,000	101,000	101,000	144,000	1,182,000
2069	C	13,000	94,000	564,000	79,000	63,000	77,000	135,000	1,026,000
2070	C	19,000	116,000	585,000	69,000	62,000	143,000	135,000	1,128,000
Average (2020 - 2040)		10,000	216,000	749,000	96,000	126,000	235,000	173,000	1,605,000
Average (2020 - 2070)		10,000	207,000	709,000	95,000	121,000	225,000	167,000	1,534,000

Table C-23: PMA No. 2 Projected Groundwater Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	480,000	15,000	210,000	705,000	133,000	133,000	266,000	428,000
2018	AN	303,000	12,000	164,000	479,000	277,000	104,000	381,000	92,000
2019	D	155,000	1,000	158,000	314,000	337,000	97,000	433,000	-120,000
2020	W	236,000	12,000	158,000	406,000	365,000	106,000	471,000	-67,000
2021	BN	365,000	1,000	161,000	527,000	370,000	110,000	479,000	45,000
2022	W	347,000	23,000	136,000	506,000	169,000	118,000	287,000	215,000
2023	D	272,000	10,000	161,000	443,000	621,000	136,000	757,000	-310,000
2024	W	555,000	31,000	170,000	756,000	141,000	119,000	260,000	487,000
2025	AN	192,000	5,000	126,000	323,000	280,000	108,000	388,000	-69,000
2026	BN	199,000	3,000	116,000	318,000	214,000	108,000	322,000	-11,000
2027	D	175,000	1,000	129,000	305,000	430,000	121,000	552,000	-246,000
2028	AN	473,000	13,000	149,000	635,000	285,000	108,000	393,000	231,000
2029	W	264,000	12,000	132,000	408,000	263,000	103,000	367,000	34,000
2030	W	209,000	11,000	122,000	342,000	265,000	103,000	369,000	-34,000
2031	C	194,000	8,000	104,000	306,000	202,000	108,000	310,000	-7,000
2032	C	143,000	0	138,000	281,000	539,000	126,000	665,000	-380,000
2033	W	586,000	22,000	154,000	761,000	221,000	118,000	340,000	410,000
2034	AN	244,000	4,000	139,000	387,000	359,000	110,000	469,000	-85,000
2035	W	344,000	21,000	131,000	496,000	188,000	105,000	293,000	194,000
2036	D	229,000	1,000	109,000	339,000	271,000	109,000	379,000	-42,000
2037	W	277,000	22,000	98,000	397,000	169,000	149,000	318,000	74,000
2038	W	415,000	22,000	89,000	526,000	161,000	124,000	286,000	234,000
2039	AN	183,000	4,000	88,000	275,000	250,000	111,000	361,000	-91,000
2040	D	174,000	1,000	89,000	263,000	243,000	117,000	360,000	-97,000
2041	W	247,000	30,000	96,000	373,000	226,000	109,000	334,000	33,000
2042	C	131,000	6,000	128,000	265,000	408,000	97,000	505,000	-232,000
2043	C	149,000	2,000	172,000	323,000	480,000	97,000	577,000	-252,000
2044	C	202,000	0	181,000	383,000	365,000	97,000	462,000	-81,000
2045	C	174,000	1,000	224,000	399,000	603,000	99,000	702,000	-297,000
2046	C	294,000	6,000	216,000	515,000	435,000	115,000	550,000	-40,000
2047	C	330,000	8,000	217,000	556,000	544,000	130,000	674,000	-118,000
2048	W	542,000	30,000	189,000	761,000	177,000	114,000	291,000	457,000
2049	C	215,000	3,000	163,000	381,000	452,000	114,000	567,000	-183,000
2050	W	537,000	30,000	149,000	717,000	170,000	134,000	304,000	405,000
2051	W	291,000	10,000	106,000	407,000	151,000	148,000	299,000	102,000
2052	W	396,000	18,000	132,000	546,000	456,000	135,000	591,000	-49,000
2053	W	469,000	32,000	131,000	633,000	151,000	124,000	275,000	349,000
2054	AN	221,000	6,000	114,000	340,000	264,000	114,000	379,000	-43,000
2055	AN	241,000	6,000	113,000	360,000	242,000	109,000	351,000	1,000
2056	D	136,000	10,000	156,000	302,000	494,000	103,000	596,000	-291,000
2057	D	178,000	1,000	145,000	323,000	251,000	105,000	356,000	-41,000
2058	BN	284,000	3,000	127,000	414,000	320,000	112,000	433,000	-21,000
2059	D	320,000	1,000	145,000	467,000	415,000	121,000	536,000	-70,000
2060	W	376,000	26,000	152,000	555,000	308,000	112,000	420,000	123,000
2061	W	327,000	13,000	132,000	472,000	170,000	112,000	282,000	182,000
2062	C	114,000	0	126,000	240,000	341,000	100,000	441,000	-195,000
2063	C	227,000	6,000	189,000	423,000	586,000	101,000	687,000	-263,000
2064	BN	161,000	0	202,000	363,000	427,000	105,000	532,000	-171,000
2065	AN	391,000	12,000	189,000	592,000	423,000	117,000	540,000	50,000
2066	W	407,000	23,000	185,000	616,000	275,000	104,000	379,000	224,000
2067	D	212,000	1,000	161,000	374,000	265,000	95,000	361,000	6,000
2068	C	150,000	8,000	187,000	346,000	525,000	97,000	623,000	-274,000
2069	C	152,000	2,000	219,000	373,000	502,000	98,000	600,000	-225,000
2070	C	219,000	0	192,000	411,000	305,000	100,000	405,000	-3,000
Average (2020 - 2040)		289,000	11,000	129,000	429,000	286,000	115,000	401,000	23,000
Average (2020 - 2070)		278,000	10,000	148,000	436,000	328,000	112,000	441,000	-8,000

Table C-24: PMA No. 2 Projected Upper Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	480,000	15,000	32,000	576,000	48,000	80,000	188,000	316,000	199,000
2018	AN	303,000	12,000	28,000	343,000	98,000	64,000	141,000	303,000	33,000
2019	D	155,000	1,000	28,000	184,000	115,000	60,000	133,000	309,000	-127,000
2020	W	236,000	12,000	27,000	276,000	124,000	67,000	133,000	323,000	-49,000
2021	BN	365,000	1,000	27,000	393,000	125,000	70,000	135,000	330,000	60,000
2022	W	347,000	23,000	25,000	395,000	58,000	73,000	153,000	284,000	105,000
2023	D	272,000	10,000	28,000	310,000	186,000	88,000	123,000	398,000	-81,000
2024	W	555,000	31,000	29,000	615,000	49,000	75,000	174,000	298,000	307,000
2025	AN	192,000	5,000	25,000	222,000	98,000	68,000	132,000	298,000	-80,000
2026	BN	199,000	3,000	23,000	225,000	76,000	69,000	133,000	278,000	-58,000
2027	D	175,000	1,000	24,000	200,000	139,000	77,000	120,000	336,000	-133,000
2028	AN	473,000	13,000	27,000	513,000	101,000	70,000	139,000	310,000	197,000
2029	W	264,000	12,000	25,000	301,000	93,000	67,000	135,000	295,000	2,000
2030	W	209,000	11,000	25,000	245,000	93,000	68,000	129,000	290,000	-48,000
2031	C	194,000	8,000	22,000	225,000	71,000	69,000	130,000	270,000	-49,000
2032	C	143,000	0	25,000	168,000	166,000	79,000	118,000	364,000	-188,000
2033	W	586,000	22,000	27,000	635,000	79,000	76,000	151,000	306,000	321,000
2034	AN	244,000	4,000	26,000	273,000	121,000	73,000	129,000	323,000	-51,000
2035	W	344,000	21,000	25,000	390,000	65,000	68,000	148,000	281,000	103,000
2036	D	229,000	1,000	24,000	254,000	95,000	68,000	126,000	288,000	-36,000
2037	W	277,000	22,000	23,000	322,000	57,000	91,000	136,000	284,000	36,000
2038	W	415,000	22,000	23,000	460,000	53,000	77,000	131,000	262,000	192,000
2039	AN	183,000	4,000	22,000	209,000	86,000	72,000	116,000	274,000	-67,000
2040	D	174,000	1,000	21,000	196,000	85,000	73,000	121,000	278,000	-83,000
2041	W	247,000	30,000	23,000	300,000	80,000	68,000	124,000	272,000	25,000
2042	C	131,000	6,000	27,000	164,000	134,000	61,000	117,000	312,000	-144,000
2043	C	149,000	2,000	31,000	182,000	155,000	60,000	129,000	343,000	-158,000
2044	C	202,000	0	30,000	232,000	126,000	60,000	140,000	326,000	-96,000
2045	C	174,000	1,000	40,000	215,000	189,000	59,000	137,000	386,000	-166,000
2046	C	294,000	6,000	30,000	329,000	146,000	73,000	148,000	367,000	-40,000
2047	C	330,000	8,000	30,000	369,000	174,000	84,000	145,000	403,000	-33,000
2048	W	542,000	30,000	30,000	601,000	63,000	72,000	171,000	306,000	285,000
2049	C	215,000	3,000	26,000	244,000	144,000	74,000	133,000	351,000	-106,000
2050	W	537,000	30,000	26,000	594,000	58,000	83,000	160,000	301,000	286,000
2051	W	291,000	10,000	23,000	324,000	51,000	94,000	140,000	285,000	35,000
2052	W	396,000	18,000	26,000	440,000	143,000	86,000	121,000	349,000	92,000
2053	W	469,000	32,000	26,000	528,000	51,000	76,000	160,000	287,000	233,000
2054	AN	221,000	6,000	24,000	251,000	91,000	73,000	130,000	295,000	-47,000
2055	AN	241,000	6,000	24,000	271,000	84,000	71,000	131,000	287,000	-20,000
2056	D	136,000	10,000	30,000	177,000	153,000	66,000	125,000	345,000	-164,000
2057	D	178,000	1,000	26,000	204,000	90,000	67,000	144,000	301,000	-101,000
2058	BN	284,000	3,000	25,000	312,000	109,000	71,000	131,000	311,000	-1,000
2059	D	320,000	1,000	25,000	346,000	134,000	79,000	132,000	345,000	2,000
2060	W	376,000	26,000	27,000	430,000	106,000	73,000	144,000	323,000	101,000
2061	W	327,000	13,000	25,000	365,000	58,000	71,000	151,000	280,000	78,000
2062	C	114,000	0	24,000	138,000	112,000	68,000	121,000	301,000	-161,000
2063	C	227,000	6,000	37,000	270,000	180,000	62,000	130,000	372,000	-98,000
2064	BN	161,000	0	31,000	193,000	142,000	64,000	150,000	357,000	-165,000
2065	AN	391,000	12,000	28,000	431,000	139,000	75,000	146,000	360,000	70,000
2066	W	407,000	23,000	31,000	462,000	97,000	66,000	153,000	316,000	137,000
2067	D	212,000	1,000	27,000	240,000	92,000	64,000	138,000	293,000	-60,000
2068	C	150,000	8,000	36,000	194,000	165,000	61,000	126,000	352,000	-155,000
2069	C	152,000	2,000	36,000	190,000	162,000	59,000	144,000	365,000	-173,000
2070	C	219,000	0	30,000	249,000	108,000	62,000	149,000	319,000	-77,000
Average (2020 - 2040)		289,000	11,000	25,000	325,000	96,000	73,000	134,000	303,000	19,000
Average (2020 - 2070)		278,000	10,000	27,000	315,000	109,000	71,000	137,000	317,000	-4,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-25: PMA No. 2 Projected Lower Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	178,000	188,000	366,000	84,000	53,000	137,000	229,000
2018	AN	136,000	141,000	277,000	180,000	40,000	220,000	59,000
2019	D	130,000	133,000	263,000	221,000	37,000	258,000	7,000
2020	W	131,000	133,000	264,000	241,000	39,000	280,000	-18,000
2021	BN	134,000	135,000	269,000	244,000	40,000	284,000	-16,000
2022	W	111,000	153,000	264,000	111,000	45,000	156,000	110,000
2023	D	133,000	123,000	256,000	435,000	48,000	483,000	-229,000
2024	W	141,000	174,000	315,000	92,000	44,000	136,000	180,000
2025	AN	101,000	132,000	234,000	182,000	40,000	222,000	12,000
2026	BN	93,000	133,000	226,000	138,000	39,000	177,000	47,000
2027	D	105,000	120,000	225,000	292,000	44,000	336,000	-112,000
2028	AN	122,000	139,000	261,000	184,000	38,000	222,000	35,000
2029	W	107,000	135,000	241,000	171,000	36,000	207,000	32,000
2030	W	97,000	129,000	226,000	172,000	36,000	208,000	14,000
2031	C	82,000	130,000	211,000	131,000	38,000	169,000	43,000
2032	C	114,000	118,000	232,000	373,000	47,000	419,000	-191,000
2033	W	126,000	151,000	278,000	142,000	43,000	185,000	89,000
2034	AN	114,000	129,000	243,000	238,000	37,000	275,000	-34,000
2035	W	106,000	148,000	254,000	123,000	37,000	160,000	91,000
2036	D	85,000	126,000	211,000	176,000	41,000	217,000	-7,000
2037	W	75,000	136,000	210,000	112,000	58,000	169,000	38,000
2038	W	66,000	131,000	197,000	108,000	47,000	155,000	42,000
2039	AN	66,000	116,000	183,000	164,000	40,000	203,000	-23,000
2040	D	68,000	121,000	188,000	158,000	44,000	202,000	-14,000
2041	W	74,000	124,000	198,000	146,000	41,000	187,000	7,000
2042	C	101,000	117,000	218,000	275,000	36,000	310,000	-89,000
2043	C	141,000	129,000	270,000	325,000	37,000	362,000	-94,000
2044	C	152,000	140,000	291,000	240,000	36,000	276,000	15,000
2045	C	184,000	137,000	321,000	414,000	40,000	453,000	-130,000
2046	C	186,000	148,000	335,000	290,000	42,000	331,000	0
2047	C	187,000	145,000	332,000	370,000	46,000	416,000	-85,000
2048	W	160,000	171,000	331,000	114,000	42,000	156,000	172,000
2049	C	137,000	133,000	270,000	308,000	40,000	349,000	-77,000
2050	W	123,000	160,000	283,000	112,000	52,000	163,000	119,000
2051	W	83,000	140,000	223,000	101,000	54,000	155,000	67,000
2052	W	106,000	121,000	227,000	313,000	49,000	363,000	-142,000
2053	W	105,000	160,000	265,000	100,000	48,000	148,000	116,000
2054	AN	90,000	130,000	220,000	173,000	41,000	214,000	4,000
2055	AN	89,000	131,000	220,000	158,000	38,000	196,000	21,000
2056	D	126,000	125,000	251,000	340,000	36,000	377,000	-127,000
2057	D	119,000	144,000	263,000	161,000	38,000	200,000	60,000
2058	BN	102,000	131,000	233,000	211,000	42,000	253,000	-20,000
2059	D	121,000	132,000	252,000	280,000	42,000	322,000	-72,000
2060	W	125,000	144,000	269,000	202,000	40,000	241,000	23,000
2061	W	106,000	151,000	258,000	113,000	41,000	154,000	103,000
2062	C	102,000	121,000	223,000	229,000	32,000	261,000	-35,000
2063	C	152,000	130,000	282,000	405,000	39,000	445,000	-165,000
2064	BN	170,000	150,000	321,000	285,000	40,000	325,000	-6,000
2065	AN	161,000	146,000	307,000	284,000	42,000	325,000	-20,000
2066	W	154,000	153,000	308,000	178,000	38,000	216,000	87,000
2067	D	134,000	138,000	272,000	173,000	32,000	205,000	66,000
2068	C	152,000	126,000	278,000	361,000	37,000	398,000	-119,000
2069	C	183,000	144,000	327,000	339,000	40,000	379,000	-52,000
2070	C	163,000	149,000	312,000	197,000	38,000	235,000	74,000
Average (2020 - 2040)		104,000	134,000	237,000	190,000	42,000	232,000	4,000
Average (2020 - 2070)		121,000	137,000	258,000	219,000	41,000	260,000	-4,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-26: PMA No. 2 Projected Land Surface Inflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	578,000	1,303,000	1,177,000	144,000	79,000	1,978,000
2018	AN	355,000	751,000	748,000	223,000	82,000	1,408,000
2019	D	248,000	210,000	210,000	667,000	73,000	1,199,000
2020	W	327,000	559,000	559,000	271,000	62,000	1,219,000
2021	BN	315,000	553,000	553,000	258,000	55,000	1,181,000
2022	W	472,000	1,115,000	995,000	158,000	62,000	1,688,000
2023	D	275,000	656,000	653,000	740,000	73,000	1,740,000
2024	W	840,000	1,061,000	976,000	174,000	170,000	2,161,000
2025	AN	320,000	599,000	598,000	271,000	130,000	1,319,000
2026	BN	313,000	526,000	526,000	322,000	84,000	1,246,000
2027	D	142,000	234,000	234,000	425,000	75,000	875,000
2028	AN	658,000	609,000	609,000	232,000	98,000	1,598,000
2029	W	405,000	691,000	691,000	195,000	97,000	1,389,000
2030	W	364,000	716,000	716,000	243,000	63,000	1,385,000
2031	C	458,000	379,000	379,000	191,000	74,000	1,102,000
2032	C	217,000	233,000	233,000	441,000	51,000	942,000
2033	W	942,000	670,000	670,000	413,000	128,000	2,153,000
2034	AN	461,000	644,000	644,000	363,000	123,000	1,590,000
2035	W	490,000	685,000	685,000	234,000	103,000	1,513,000
2036	D	358,000	689,000	689,000	231,000	98,000	1,375,000
2037	W	492,000	887,000	887,000	246,000	86,000	1,711,000
2038	W	810,000	1,322,000	1,032,000	163,000	173,000	2,177,000
2039	AN	206,000	684,000	679,000	287,000	132,000	1,304,000
2040	D	265,000	558,000	558,000	337,000	83,000	1,244,000
2041	W	531,000	570,000	570,000	295,000	86,000	1,481,000
2042	C	311,000	357,000	357,000	502,000	68,000	1,238,000
2043	C	334,000	226,000	226,000	192,000	58,000	810,000
2044	C	290,000	237,000	237,000	101,000	41,000	669,000
2045	C	271,000	226,000	226,000	68,000	32,000	597,000
2046	C	381,000	232,000	232,000	323,000	45,000	981,000
2047	C	446,000	230,000	230,000	470,000	52,000	1,199,000
2048	W	780,000	677,000	677,000	212,000	104,000	1,772,000
2049	C	389,000	507,000	507,000	480,000	64,000	1,440,000
2050	W	776,000	652,000	652,000	519,000	145,000	2,092,000
2051	W	406,000	1,106,000	1,098,000	200,000	130,000	1,833,000
2052	W	550,000	588,000	587,000	541,000	178,000	1,856,000
2053	W	914,000	1,310,000	887,000	163,000	207,000	2,171,000
2054	AN	306,000	704,000	694,000	311,000	148,000	1,459,000
2055	AN	430,000	709,000	709,000	241,000	146,000	1,527,000
2056	D	461,000	243,000	243,000	664,000	120,000	1,487,000
2057	D	267,000	505,000	505,000	229,000	92,000	1,093,000
2058	BN	385,000	657,000	657,000	263,000	62,000	1,368,000
2059	D	305,000	556,000	556,000	416,000	74,000	1,351,000
2060	W	677,000	658,000	658,000	345,000	104,000	1,783,000
2061	W	481,000	1,322,000	1,013,000	175,000	115,000	1,783,000
2062	C	178,000	500,000	493,000	387,000	99,000	1,158,000
2063	C	326,000	235,000	235,000	650,000	92,000	1,305,000
2064	BN	274,000	241,000	241,000	321,000	69,000	904,000
2065	AN	519,000	567,000	567,000	329,000	67,000	1,482,000
2066	W	618,000	588,000	588,000	217,000	111,000	1,533,000
2067	D	272,000	591,000	591,000	186,000	77,000	1,125,000
2068	C	181,000	352,000	352,000	134,000	56,000	723,000
2069	C	180,000	232,000	232,000	109,000	36,000	557,000
2070	C	218,000	230,000	230,000	68,000	30,000	546,000
Average (2020 - 2040)		435,000	670,000	646,000	295,000	96,000	1,472,000
Average (2020 - 2070)		423,000	586,000	561,000	300,000	93,000	1,377,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-27: PMA No. 2 Projected Land Surface Outflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	254,000	965,000	108,000	79,000	374,000	190,000	1,978,000
2018	AN	11,000	159,000	697,000	122,000	82,000	177,000	160,000	1,408,000
2019	D	8,000	165,000	644,000	79,000	73,000	87,000	143,000	1,199,000
2020	W	10,000	180,000	617,000	142,000	62,000	78,000	130,000	1,219,000
2021	BN	14,000	165,000	609,000	66,000	55,000	156,000	116,000	1,181,000
2022	W	9,000	209,000	835,000	140,000	62,000	263,000	169,000	1,688,000
2023	D	14,000	200,000	1,025,000	66,000	73,000	173,000	190,000	1,740,000
2024	W	8,000	298,000	817,000	91,000	170,000	587,000	190,000	2,161,000
2025	AN	9,000	191,000	635,000	73,000	130,000	137,000	143,000	1,319,000
2026	BN	14,000	156,000	619,000	106,000	84,000	131,000	135,000	1,246,000
2027	D	9,000	85,000	471,000	29,000	75,000	83,000	123,000	875,000
2028	AN	6,000	236,000	645,000	133,000	98,000	372,000	107,000	1,598,000
2029	W	8,000	216,000	657,000	111,000	97,000	159,000	140,000	1,389,000
2030	W	10,000	219,000	717,000	133,000	63,000	109,000	135,000	1,385,000
2031	C	5,000	193,000	387,000	185,000	74,000	129,000	130,000	1,102,000
2032	C	8,000	131,000	523,000	85,000	51,000	56,000	88,000	942,000
2033	W	6,000	273,000	793,000	210,000	128,000	590,000	154,000	2,153,000
2034	AN	14,000	274,000	750,000	92,000	123,000	192,000	146,000	1,590,000
2035	W	8,000	209,000	665,000	108,000	103,000	267,000	153,000	1,513,000
2036	D	8,000	150,000	677,000	142,000	98,000	155,000	146,000	1,375,000
2037	W	5,000	240,000	802,000	179,000	86,000	209,000	189,000	1,711,000
2038	W	5,000	364,000	860,000	155,000	173,000	431,000	190,000	2,177,000
2039	AN	16,000	152,000	716,000	33,000	132,000	111,000	143,000	1,304,000
2040	D	12,000	167,000	664,000	75,000	83,000	108,000	135,000	1,244,000
2041	W	7,000	283,000	641,000	169,000	86,000	160,000	135,000	1,481,000
2042	C	9,000	178,000	634,000	118,000	68,000	96,000	135,000	1,238,000
2043	C	6,000	193,000	261,000	133,000	58,000	45,000	114,000	810,000
2044	C	5,000	154,000	255,000	89,000	41,000	77,000	48,000	669,000
2045	C	4,000	133,000	220,000	109,000	32,000	56,000	43,000	597,000
2046	C	2,000	86,000	458,000	168,000	45,000	171,000	50,000	981,000
2047	C	5,000	176,000	544,000	134,000	52,000	195,000	92,000	1,199,000
2048	W	5,000	250,000	679,000	154,000	104,000	462,000	118,000	1,772,000
2049	C	15,000	219,000	716,000	149,000	64,000	123,000	155,000	1,440,000
2050	W	6,000	219,000	836,000	115,000	145,000	581,000	190,000	2,092,000
2051	W	13,000	213,000	942,000	67,000	130,000	279,000	190,000	1,833,000
2052	W	12,000	228,000	825,000	51,000	178,000	392,000	169,000	1,856,000
2053	W	7,000	341,000	728,000	164,000	207,000	535,000	190,000	2,171,000
2054	AN	13,000	175,000	731,000	66,000	148,000	169,000	158,000	1,459,000
2055	AN	11,000	188,000	690,000	108,000	146,000	230,000	153,000	1,527,000
2056	D	4,000	244,000	674,000	151,000	120,000	150,000	143,000	1,487,000
2057	D	9,000	155,000	540,000	72,000	92,000	99,000	126,000	1,093,000
2058	BN	14,000	191,000	699,000	132,000	62,000	155,000	115,000	1,368,000
2059	D	17,000	157,000	711,000	61,000	74,000	182,000	148,000	1,351,000
2060	W	4,000	292,000	720,000	165,000	104,000	331,000	167,000	1,783,000
2061	W	6,000	211,000	850,000	110,000	115,000	301,000	190,000	1,783,000
2062	C	14,000	120,000	640,000	55,000	99,000	85,000	143,000	1,158,000
2063	C	16,000	147,000	652,000	50,000	92,000	212,000	135,000	1,305,000
2064	BN	7,000	171,000	388,000	82,000	69,000	68,000	119,000	904,000
2065	AN	9,000	205,000	692,000	144,000	67,000	264,000	102,000	1,482,000
2066	W	6,000	272,000	578,000	127,000	111,000	295,000	145,000	1,533,000
2067	D	7,000	117,000	565,000	145,000	77,000	79,000	135,000	1,125,000
2068	C	7,000	110,000	334,000	67,000	56,000	47,000	102,000	723,000
2069	C	5,000	71,000	251,000	106,000	36,000	33,000	55,000	557,000
2070	C	4,000	114,000	225,000	73,000	30,000	58,000	41,000	546,000
Average (2020 - 2040)		9,000	205,000	690,000	112,000	96,000	214,000	145,000	1,472,000
Average (2020 - 2070)		9,000	195,000	631,000	111,000	93,000	204,000	134,000	1,377,000

Table C-28: PMA No. 2 Projected Groundwater Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	489,000	15,000	212,000	716,000	142,000	133,000	275,000	430,000
2018	AN	261,000	12,000	157,000	429,000	221,000	105,000	326,000	95,000
2019	D	160,000	1,000	222,000	384,000	661,000	100,000	760,000	-375,000
2020	W	150,000	11,000	201,000	362,000	268,000	103,000	371,000	-17,000
2021	BN	220,000	1,000	142,000	363,000	256,000	110,000	366,000	-5,000
2022	W	372,000	23,000	117,000	511,000	157,000	111,000	268,000	240,000
2023	D	294,000	10,000	171,000	474,000	733,000	138,000	871,000	-391,000
2024	W	619,000	32,000	189,000	840,000	172,000	116,000	288,000	540,000
2025	AN	159,000	6,000	134,000	298,000	269,000	106,000	375,000	-81,000
2026	BN	186,000	2,000	137,000	326,000	319,000	102,000	421,000	-100,000
2027	D	136,000	1,000	147,000	284,000	420,000	118,000	538,000	-254,000
2028	AN	386,000	14,000	144,000	544,000	230,000	107,000	336,000	198,000
2029	W	208,000	12,000	119,000	339,000	193,000	103,000	296,000	37,000
2030	W	183,000	12,000	103,000	299,000	240,000	103,000	344,000	-49,000
2031	C	190,000	10,000	93,000	292,000	190,000	107,000	297,000	-6,000
2032	C	96,000	0	108,000	204,000	437,000	134,000	570,000	-362,000
2033	W	622,000	23,000	165,000	810,000	409,000	115,000	524,000	282,000
2034	AN	225,000	4,000	174,000	403,000	360,000	107,000	467,000	-68,000
2035	W	322,000	23,000	149,000	494,000	232,000	102,000	334,000	149,000
2036	D	208,000	1,000	120,000	329,000	229,000	106,000	335,000	-12,000
2037	W	315,000	22,000	108,000	444,000	244,000	139,000	383,000	58,000
2038	W	460,000	23,000	104,000	587,000	161,000	122,000	283,000	296,000
2039	AN	131,000	4,000	102,000	238,000	284,000	105,000	389,000	-154,000
2040	D	164,000	1,000	118,000	283,000	334,000	106,000	440,000	-157,000
2041	W	214,000	30,000	130,000	374,000	292,000	100,000	392,000	-22,000
2042	C	167,000	6,000	174,000	348,000	497,000	94,000	591,000	-238,000
2043	C	104,000	2,000	147,000	254,000	190,000	99,000	289,000	-44,000
2044	C	87,000	0	83,000	170,000	100,000	109,000	209,000	-45,000
2045	C	69,000	1,000	57,000	127,000	67,000	116,000	183,000	-61,000
2046	C	179,000	6,000	71,000	255,000	320,000	134,000	454,000	-193,000
2047	C	239,000	9,000	131,000	379,000	466,000	132,000	598,000	-214,000
2048	W	482,000	31,000	143,000	657,000	210,000	107,000	317,000	329,000
2049	C	218,000	3,000	152,000	373,000	475,000	112,000	587,000	-210,000
2050	W	635,000	32,000	197,000	864,000	514,000	120,000	634,000	224,000
2051	W	346,000	11,000	178,000	536,000	198,000	137,000	334,000	189,000
2052	W	398,000	18,000	180,000	596,000	536,000	132,000	668,000	-74,000
2053	W	530,000	32,000	169,000	730,000	161,000	120,000	281,000	439,000
2054	AN	187,000	6,000	139,000	332,000	308,000	112,000	420,000	-89,000
2055	AN	246,000	7,000	133,000	386,000	239,000	107,000	346,000	32,000
2056	D	181,000	11,000	209,000	401,000	658,000	102,000	760,000	-354,000
2057	D	139,000	1,000	186,000	325,000	227,000	101,000	328,000	-12,000
2058	BN	211,000	3,000	128,000	342,000	261,000	109,000	370,000	-31,000
2059	D	260,000	1,000	149,000	410,000	412,000	115,000	527,000	-118,000
2060	W	400,000	27,000	161,000	588,000	341,000	110,000	451,000	128,000
2061	W	382,000	14,000	143,000	538,000	173,000	110,000	283,000	249,000
2062	C	135,000	0	143,000	278,000	384,000	98,000	482,000	-198,000
2063	C	260,000	7,000	216,000	484,000	644,000	101,000	745,000	-262,000
2064	BN	124,000	0	198,000	322,000	318,000	107,000	425,000	-109,000
2065	AN	302,000	13,000	157,000	472,000	326,000	118,000	445,000	24,000
2066	W	335,000	23,000	156,000	515,000	215,000	102,000	317,000	189,000
2067	D	141,000	1,000	127,000	270,000	184,000	93,000	277,000	-13,000
2068	C	97,000	10,000	85,000	192,000	133,000	104,000	237,000	-47,000
2069	C	53,000	2,000	57,000	112,000	108,000	118,000	226,000	-114,000
2070	C	70,000	0	46,000	117,000	67,000	125,000	192,000	-78,000
Average (2020 - 2040)		269,000	11,000	135,000	415,000	292,000	112,000	405,000	7,000
Average (2020 - 2070)		252,000	11,000	139,000	401,000	297,000	112,000	409,000	-11,000

Table C-29: PMA No. 2 Projected Upper Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	489,000	15,000	32,000	576,000	51,000	81,000	187,000	319,000	206,000
2018	AN	261,000	12,000	27,000	299,000	79,000	65,000	146,000	291,000	0
2019	D	160,000	1,000	41,000	203,000	201,000	59,000	133,000	393,000	-186,000
2020	W	150,000	11,000	30,000	191,000	97,000	63,000	159,000	319,000	-135,000
2021	BN	220,000	1,000	24,000	245,000	92,000	70,000	137,000	298,000	-57,000
2022	W	372,000	23,000	23,000	418,000	54,000	69,000	143,000	267,000	145,000
2023	D	294,000	10,000	28,000	331,000	213,000	89,000	122,000	424,000	-82,000
2024	W	619,000	32,000	30,000	681,000	60,000	73,000	176,000	310,000	360,000
2025	AN	159,000	6,000	25,000	190,000	94,000	67,000	136,000	298,000	-112,000
2026	BN	186,000	2,000	26,000	214,000	110,000	64,000	129,000	303,000	-91,000
2027	D	136,000	1,000	25,000	162,000	137,000	75,000	128,000	340,000	-176,000
2028	AN	386,000	14,000	26,000	426,000	84,000	69,000	140,000	294,000	126,000
2029	W	208,000	12,000	24,000	244,000	69,000	66,000	135,000	270,000	-32,000
2030	W	183,000	12,000	22,000	218,000	85,000	66,000	121,000	271,000	-55,000
2031	C	190,000	10,000	21,000	220,000	66,000	68,000	124,000	259,000	-42,000
2032	C	96,000	0	21,000	117,000	136,000	84,000	111,000	330,000	-206,000
2033	W	622,000	23,000	30,000	675,000	136,000	72,000	133,000	341,000	333,000
2034	AN	225,000	4,000	28,000	257,000	122,000	70,000	141,000	333,000	-78,000
2035	W	322,000	23,000	26,000	371,000	83,000	66,000	141,000	291,000	73,000
2036	D	208,000	1,000	24,000	233,000	81,000	67,000	131,000	279,000	-49,000
2037	W	315,000	22,000	23,000	360,000	84,000	89,000	124,000	297,000	62,000
2038	W	460,000	23,000	24,000	506,000	53,000	78,000	134,000	265,000	233,000
2039	AN	131,000	4,000	23,000	158,000	96,000	69,000	116,000	281,000	-124,000
2040	D	164,000	1,000	24,000	189,000	113,000	66,000	120,000	298,000	-108,000
2041	W	214,000	30,000	26,000	270,000	102,000	62,000	127,000	291,000	-24,000
2042	C	167,000	6,000	33,000	207,000	158,000	59,000	124,000	341,000	-130,000
2043	C	104,000	2,000	25,000	131,000	70,000	63,000	143,000	275,000	-150,000
2044	C	87,000	0	19,000	106,000	40,000	69,000	124,000	233,000	-130,000
2045	C	69,000	1,000	17,000	87,000	27,000	70,000	113,000	210,000	-126,000
2046	C	179,000	6,000	18,000	202,000	101,000	82,000	96,000	279,000	-69,000
2047	C	239,000	9,000	24,000	272,000	145,000	86,000	114,000	344,000	-67,000
2048	W	482,000	31,000	26,000	540,000	77,000	69,000	139,000	285,000	246,000
2049	C	218,000	3,000	25,000	246,000	149,000	73,000	123,000	345,000	-96,000
2050	W	635,000	32,000	32,000	698,000	165,000	74,000	138,000	377,000	321,000
2051	W	346,000	11,000	27,000	385,000	69,000	88,000	161,000	319,000	59,000
2052	W	398,000	18,000	29,000	446,000	165,000	83,000	132,000	380,000	67,000
2053	W	530,000	32,000	28,000	589,000	56,000	74,000	169,000	298,000	282,000
2054	AN	187,000	6,000	25,000	218,000	105,000	72,000	131,000	308,000	-92,000
2055	AN	246,000	7,000	25,000	278,000	84,000	71,000	133,000	288,000	-15,000
2056	D	181,000	11,000	39,000	231,000	196,000	63,000	129,000	388,000	-150,000
2057	D	139,000	1,000	30,000	169,000	83,000	62,000	157,000	302,000	-140,000
2058	BN	211,000	3,000	24,000	238,000	92,000	68,000	130,000	290,000	-56,000
2059	D	260,000	1,000	25,000	286,000	133,000	75,000	125,000	334,000	-46,000
2060	W	400,000	27,000	27,000	454,000	116,000	70,000	137,000	322,000	127,000
2061	W	382,000	14,000	26,000	421,000	59,000	69,000	149,000	276,000	137,000
2062	C	135,000	0	25,000	161,000	123,000	66,000	119,000	308,000	-144,000
2063	C	260,000	7,000	41,000	308,000	196,000	61,000	132,000	389,000	-77,000
2064	BN	124,000	0	29,000	154,000	112,000	67,000	152,000	330,000	-181,000
2065	AN	302,000	13,000	25,000	340,000	110,000	76,000	135,000	321,000	16,000
2066	W	335,000	23,000	28,000	386,000	77,000	65,000	142,000	284,000	95,000
2067	D	141,000	1,000	23,000	165,000	64,000	63,000	127,000	254,000	-95,000
2068	C	97,000	10,000	20,000	127,000	47,000	65,000	118,000	231,000	-108,000
2069	C	53,000	2,000	17,000	73,000	42,000	69,000	107,000	218,000	-147,000
2070	C	70,000	0	17,000	87,000	28,000	70,000	105,000	203,000	-119,000
Average (2020 - 2040)		269,000	11,000	25,000	305,000	98,000	72,000	133,000	303,000	-1,000
Average (2020 - 2070)		252,000	11,000	26,000	288,000	99,000	71,000	132,000	302,000	-16,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-30: PMA No. 2 Projected Lower Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	179,000	187,000	366,000	91,000	52,000	143,000	224,000
2018	AN	130,000	146,000	276,000	142,000	40,000	181,000	94,000
2019	D	181,000	133,000	314,000	460,000	40,000	500,000	-190,000
2020	W	171,000	159,000	330,000	171,000	39,000	210,000	117,000
2021	BN	118,000	137,000	254,000	164,000	40,000	204,000	52,000
2022	W	94,000	143,000	237,000	102,000	42,000	144,000	95,000
2023	D	143,000	122,000	265,000	520,000	49,000	569,000	-309,000
2024	W	159,000	176,000	335,000	112,000	43,000	154,000	180,000
2025	AN	108,000	136,000	245,000	175,000	39,000	213,000	31,000
2026	BN	111,000	129,000	241,000	210,000	38,000	248,000	-9,000
2027	D	123,000	128,000	250,000	284,000	43,000	326,000	-78,000
2028	AN	118,000	140,000	259,000	145,000	38,000	183,000	72,000
2029	W	95,000	135,000	231,000	125,000	37,000	161,000	69,000
2030	W	81,000	121,000	201,000	156,000	37,000	193,000	7,000
2031	C	72,000	124,000	196,000	123,000	39,000	162,000	36,000
2032	C	87,000	111,000	197,000	301,000	50,000	351,000	-155,000
2033	W	135,000	133,000	268,000	274,000	42,000	316,000	-51,000
2034	AN	146,000	141,000	287,000	238,000	37,000	274,000	11,000
2035	W	123,000	141,000	264,000	149,000	36,000	185,000	76,000
2036	D	96,000	131,000	226,000	148,000	39,000	187,000	37,000
2037	W	84,000	124,000	209,000	160,000	50,000	210,000	-5,000
2038	W	80,000	134,000	214,000	108,000	44,000	152,000	63,000
2039	AN	80,000	116,000	195,000	188,000	36,000	224,000	-30,000
2040	D	94,000	120,000	214,000	221,000	40,000	262,000	-48,000
2041	W	105,000	127,000	232,000	190,000	37,000	227,000	2,000
2042	C	141,000	124,000	265,000	339,000	35,000	375,000	-108,000
2043	C	122,000	143,000	265,000	120,000	36,000	156,000	106,000
2044	C	64,000	124,000	188,000	59,000	40,000	100,000	85,000
2045	C	40,000	113,000	153,000	40,000	46,000	86,000	66,000
2046	C	53,000	96,000	149,000	219,000	52,000	271,000	-124,000
2047	C	107,000	114,000	221,000	321,000	46,000	367,000	-147,000
2048	W	117,000	139,000	256,000	132,000	38,000	170,000	84,000
2049	C	127,000	123,000	250,000	326,000	39,000	365,000	-115,000
2050	W	166,000	138,000	304,000	349,000	46,000	395,000	-97,000
2051	W	151,000	161,000	312,000	128,000	48,000	177,000	130,000
2052	W	151,000	132,000	283,000	370,000	49,000	420,000	-141,000
2053	W	141,000	169,000	310,000	105,000	46,000	152,000	157,000
2054	AN	114,000	131,000	245,000	203,000	40,000	243,000	3,000
2055	AN	109,000	133,000	242,000	154,000	37,000	191,000	47,000
2056	D	170,000	129,000	298,000	462,000	39,000	501,000	-203,000
2057	D	156,000	157,000	313,000	144,000	39,000	183,000	129,000
2058	BN	104,000	130,000	235,000	168,000	41,000	210,000	26,000
2059	D	124,000	125,000	249,000	279,000	40,000	319,000	-72,000
2060	W	134,000	137,000	270,000	226,000	40,000	265,000	1,000
2061	W	117,000	149,000	266,000	115,000	41,000	155,000	112,000
2062	C	117,000	119,000	236,000	260,000	32,000	293,000	-54,000
2063	C	176,000	132,000	307,000	448,000	40,000	488,000	-185,000
2064	BN	168,000	152,000	320,000	206,000	40,000	247,000	72,000
2065	AN	132,000	135,000	267,000	217,000	42,000	259,000	7,000
2066	W	128,000	142,000	270,000	138,000	37,000	175,000	94,000
2067	D	104,000	127,000	232,000	119,000	31,000	150,000	81,000
2068	C	65,000	118,000	184,000	85,000	39,000	125,000	62,000
2069	C	40,000	107,000	146,000	66,000	49,000	115,000	33,000
2070	C	30,000	105,000	135,000	40,000	54,000	94,000	41,000
Average (2020 - 2040)		110,000	133,000	244,000	194,000	41,000	235,000	8,000
Average (2020 - 2070)		113,000	132,000	245,000	198,000	41,000	239,000	5,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-31: PMA No. 3 Projected Land Surface Inflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	577,000	1,296,000	853,000	111,000	75,000	1,615,000
2018	AN	344,000	805,000	720,000	156,000	63,000	1,283,000
2019	D	255,000	457,000	456,000	498,000	57,000	1,266,000
2020	W	333,000	791,000	791,000	232,000	53,000	1,409,000
2021	BN	322,000	862,000	841,000	155,000	65,000	1,384,000
2022	W	462,000	1,282,000	689,000	143,000	72,000	1,366,000
2023	D	279,000	712,000	693,000	332,000	69,000	1,374,000
2024	W	775,000	1,310,000	713,000	131,000	138,000	1,757,000
2025	AN	297,000	755,000	742,000	204,000	95,000	1,338,000
2026	BN	328,000	626,000	626,000	291,000	85,000	1,330,000
2027	D	146,000	386,000	386,000	595,000	71,000	1,198,000
2028	AN	622,000	853,000	721,000	155,000	111,000	1,608,000
2029	W	391,000	981,000	876,000	144,000	94,000	1,505,000
2030	W	353,000	884,000	866,000	155,000	76,000	1,449,000
2031	C	402,000	665,000	665,000	233,000	68,000	1,367,000
2032	C	231,000	238,000	238,000	719,000	59,000	1,246,000
2033	W	851,000	822,000	640,000	173,000	128,000	1,792,000
2034	AN	424,000	753,000	749,000	277,000	102,000	1,551,000
2035	W	460,000	955,000	738,000	146,000	89,000	1,433,000
2036	D	338,000	772,000	766,000	176,000	84,000	1,364,000
2037	W	484,000	1,179,000	655,000	147,000	77,000	1,364,000
2038	W	757,000	1,325,000	738,000	148,000	132,000	1,773,000
2039	AN	214,000	897,000	886,000	161,000	99,000	1,360,000
2040	D	270,000	662,000	662,000	316,000	82,000	1,330,000
2041	W	503,000	740,000	740,000	207,000	84,000	1,534,000
2042	C	284,000	345,000	345,000	592,000	67,000	1,287,000
2043	C	338,000	227,000	227,000	692,000	54,000	1,312,000
2044	C	275,000	482,000	482,000	506,000	52,000	1,316,000
2045	C	249,000	235,000	235,000	745,000	43,000	1,272,000
2046	C	343,000	397,000	397,000	570,000	55,000	1,365,000
2047	C	409,000	511,000	511,000	456,000	57,000	1,433,000
2048	W	719,000	974,000	770,000	150,000	99,000	1,738,000
2049	C	369,000	602,000	597,000	335,000	62,000	1,363,000
2050	W	728,000	977,000	692,000	151,000	116,000	1,687,000
2051	W	374,000	1,194,000	824,000	138,000	98,000	1,433,000
2052	W	517,000	747,000	745,000	228,000	138,000	1,627,000
2053	W	865,000	1,304,000	588,000	147,000	167,000	1,767,000
2054	AN	296,000	906,000	791,000	143,000	118,000	1,348,000
2055	AN	397,000	722,000	720,000	194,000	114,000	1,425,000
2056	D	420,000	354,000	354,000	636,000	94,000	1,505,000
2057	D	271,000	603,000	603,000	420,000	76,000	1,371,000
2058	BN	388,000	760,000	758,000	169,000	67,000	1,382,000
2059	D	277,000	827,000	821,000	158,000	71,000	1,327,000
2060	W	645,000	657,000	657,000	186,000	96,000	1,585,000
2061	W	462,000	1,316,000	706,000	147,000	94,000	1,409,000
2062	C	167,000	513,000	498,000	464,000	71,000	1,200,000
2063	C	308,000	234,000	234,000	741,000	74,000	1,357,000
2064	BN	263,000	353,000	353,000	622,000	54,000	1,292,000
2065	AN	484,000	680,000	680,000	206,000	65,000	1,434,000
2066	W	599,000	735,000	685,000	156,000	92,000	1,532,000
2067	D	276,000	781,000	773,000	161,000	65,000	1,275,000
2068	C	200,000	342,000	341,000	658,000	56,000	1,255,000
2069	C	163,000	281,000	281,000	740,000	44,000	1,229,000
2070	C	254,000	505,000	505,000	481,000	45,000	1,285,000
Average (2020 - 2040)		416,000	843,000	699,000	240,000	88,000	1,443,000
Average (2020 - 2070)		404,000	726,000	619,000	318,000	83,000	1,424,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-32: PMA No. 3 Projected Land Surface Outflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	244,000	700,000	116,000	75,000	315,000	156,000	1,615,000
2018	AN	10,000	144,000	620,000	142,000	63,000	149,000	156,000	1,283,000
2019	D	8,000	156,000	692,000	89,000	57,000	108,000	156,000	1,266,000
2020	W	13,000	196,000	749,000	129,000	53,000	113,000	156,000	1,409,000
2021	BN	18,000	148,000	721,000	60,000	65,000	216,000	156,000	1,384,000
2022	W	9,000	189,000	582,000	159,000	72,000	199,000	156,000	1,366,000
2023	D	13,000	167,000	752,000	92,000	69,000	125,000	156,000	1,374,000
2024	W	7,000	253,000	596,000	124,000	138,000	483,000	156,000	1,757,000
2025	AN	9,000	180,000	684,000	85,000	95,000	130,000	156,000	1,338,000
2026	BN	14,000	148,000	652,000	107,000	85,000	167,000	156,000	1,330,000
2027	D	16,000	82,000	709,000	30,000	71,000	135,000	156,000	1,198,000
2028	AN	5,000	238,000	625,000	113,000	111,000	361,000	156,000	1,608,000
2029	W	9,000	225,000	750,000	104,000	94,000	166,000	156,000	1,505,000
2030	W	10,000	215,000	750,000	121,000	76,000	121,000	156,000	1,449,000
2031	C	10,000	190,000	639,000	169,000	68,000	135,000	156,000	1,367,000
2032	C	15,000	141,000	688,000	88,000	59,000	100,000	156,000	1,246,000
2033	W	6,000	254,000	568,000	213,000	128,000	467,000	156,000	1,792,000
2034	AN	12,000	240,000	753,000	112,000	102,000	177,000	156,000	1,551,000
2035	W	7,000	214,000	631,000	111,000	89,000	226,000	156,000	1,433,000
2036	D	7,000	154,000	682,000	138,000	84,000	142,000	156,000	1,364,000
2037	W	4,000	215,000	560,000	200,000	77,000	150,000	156,000	1,364,000
2038	W	4,000	309,000	635,000	202,000	132,000	335,000	156,000	1,773,000
2039	AN	17,000	140,000	767,000	46,000	99,000	135,000	156,000	1,360,000
2040	D	12,000	163,000	710,000	70,000	82,000	138,000	156,000	1,330,000
2041	W	7,000	280,000	687,000	149,000	84,000	171,000	156,000	1,534,000
2042	C	9,000	172,000	676,000	101,000	67,000	107,000	156,000	1,287,000
2043	C	15,000	202,000	653,000	120,000	54,000	111,000	156,000	1,312,000
2044	C	17,000	151,000	714,000	74,000	52,000	152,000	156,000	1,316,000
2045	C	17,000	141,000	706,000	95,000	43,000	114,000	156,000	1,272,000
2046	C	9,000	111,000	703,000	105,000	55,000	226,000	156,000	1,365,000
2047	C	8,000	195,000	704,000	100,000	57,000	213,000	156,000	1,433,000
2048	W	4,000	249,000	666,000	143,000	99,000	420,000	156,000	1,738,000
2049	C	14,000	209,000	666,000	144,000	62,000	111,000	156,000	1,363,000
2050	W	5,000	216,000	596,000	156,000	116,000	442,000	156,000	1,687,000
2051	W	12,000	176,000	696,000	100,000	98,000	196,000	156,000	1,433,000
2052	W	12,000	199,000	706,000	71,000	138,000	345,000	156,000	1,627,000
2053	W	6,000	296,000	498,000	222,000	167,000	422,000	156,000	1,766,000
2054	AN	12,000	163,000	671,000	83,000	118,000	145,000	156,000	1,348,000
2055	AN	10,000	179,000	654,000	125,000	114,000	186,000	156,000	1,425,000
2056	D	5,000	239,000	729,000	139,000	94,000	143,000	156,000	1,505,000
2057	D	15,000	157,000	749,000	64,000	76,000	155,000	156,000	1,371,000
2058	BN	13,000	191,000	663,000	124,000	67,000	169,000	156,000	1,382,000
2059	D	16,000	146,000	707,000	56,000	71,000	175,000	156,000	1,327,000
2060	W	4,000	272,000	597,000	170,000	96,000	290,000	156,000	1,585,000
2061	W	6,000	181,000	604,000	148,000	94,000	221,000	156,000	1,409,000
2062	C	15,000	105,000	692,000	61,000	71,000	100,000	156,000	1,200,000
2063	C	16,000	143,000	703,000	51,000	74,000	214,000	156,000	1,357,000
2064	BN	15,000	169,000	705,000	78,000	54,000	117,000	156,000	1,292,000
2065	AN	9,000	209,000	630,000	130,000	65,000	236,000	156,000	1,434,000
2066	W	5,000	251,000	594,000	145,000	92,000	289,000	156,000	1,532,000
2067	D	7,000	144,000	675,000	123,000	65,000	105,000	156,000	1,275,000
2068	C	15,000	130,000	726,000	54,000	56,000	119,000	156,000	1,255,000
2069	C	15,000	94,000	746,000	68,000	44,000	107,000	156,000	1,229,000
2070	C	19,000	120,000	710,000	65,000	45,000	171,000	156,000	1,285,000
Average (2020 - 2040)		10,000	194,000	676,000	118,000	88,000	201,000	156,000	1,443,000
Average (2020 - 2070)		11,000	187,000	675,000	112,000	83,000	200,000	156,000	1,424,000

Table C-33: PMA No. 3 Projected Groundwater Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	0	15,000	204,000	620,000	110,000	160,000	269,000	341,000
2018	AN	245,000	0	11,000	139,000	396,000	155,000	172,000	326,000	63,000
2019	D	210,000	0	1,000	152,000	363,000	494,000	188,000	681,000	-317,000
2020	W	218,000	0	12,000	173,000	403,000	230,000	194,000	424,000	-28,000
2021	BN	311,000	36,000	1,000	130,000	477,000	153,000	206,000	359,000	115,000
2022	W	287,000	50,000	23,000	97,000	456,000	142,000	164,000	305,000	147,000
2023	D	216,000	99,000	10,000	90,000	415,000	329,000	206,000	535,000	-119,000
2024	W	511,000	0	32,000	101,000	643,000	130,000	152,000	282,000	358,000
2025	AN	196,000	87,000	5,000	75,000	364,000	201,000	206,000	407,000	-47,000
2026	BN	242,000	0	2,000	96,000	341,000	288,000	206,000	494,000	-154,000
2027	D	223,000	0	1,000	163,000	387,000	589,000	200,000	789,000	-400,000
2028	AN	413,000	0	13,000	177,000	603,000	153,000	171,000	324,000	269,000
2029	W	233,000	50,000	11,000	111,000	405,000	142,000	198,000	339,000	61,000
2030	W	205,000	51,000	11,000	91,000	358,000	153,000	215,000	368,000	-14,000
2031	C	227,000	86,000	8,000	84,000	404,000	230,000	224,000	454,000	-51,000
2032	C	200,000	0	0	161,000	361,000	712,000	204,000	916,000	-551,000
2033	W	503,000	0	21,000	190,000	714,000	171,000	162,000	334,000	371,000
2034	AN	237,000	47,000	4,000	134,000	421,000	274,000	191,000	465,000	-47,000
2035	W	298,000	2,000	21,000	123,000	444,000	144,000	179,000	324,000	114,000
2036	D	219,000	99,000	1,000	88,000	407,000	174,000	219,000	393,000	8,000
2037	W	233,000	0	23,000	86,000	341,000	146,000	167,000	313,000	27,000
2038	W	368,000	50,000	22,000	75,000	514,000	146,000	147,000	293,000	215,000
2039	AN	197,000	99,000	4,000	62,000	362,000	159,000	219,000	379,000	-20,000
2040	D	216,000	99,000	1,000	73,000	388,000	313,000	240,000	552,000	-162,000
2041	W	247,000	0	30,000	101,000	378,000	205,000	201,000	406,000	-32,000
2042	C	199,000	45,000	6,000	144,000	395,000	586,000	203,000	789,000	-392,000
2043	C	215,000	0	2,000	230,000	447,000	685,000	193,000	878,000	-432,000
2044	C	258,000	0	0	254,000	513,000	501,000	192,000	694,000	-185,000
2045	C	228,000	0	1,000	267,000	497,000	738,000	197,000	935,000	-437,000
2046	C	330,000	0	5,000	278,000	613,000	565,000	192,000	757,000	-150,000
2047	C	316,000	0	8,000	265,000	589,000	452,000	191,000	643,000	-62,000
2048	W	484,000	0	30,000	217,000	731,000	149,000	169,000	317,000	404,000
2049	C	208,000	50,000	3,000	157,000	417,000	331,000	191,000	522,000	-106,000
2050	W	489,000	0	31,000	147,000	667,000	150,000	164,000	314,000	348,000
2051	W	260,000	79,000	10,000	99,000	447,000	136,000	171,000	307,000	133,000
2052	W	373,000	68,000	17,000	86,000	545,000	225,000	194,000	419,000	123,000
2053	W	420,000	50,000	32,000	80,000	581,000	146,000	153,000	299,000	277,000
2054	AN	189,000	91,000	6,000	65,000	350,000	141,000	195,000	336,000	13,000
2055	AN	233,000	77,000	5,000	65,000	381,000	192,000	214,000	406,000	-28,000
2056	D	210,000	0	10,000	141,000	361,000	630,000	202,000	832,000	-467,000
2057	D	239,000	0	1,000	201,000	441,000	416,000	201,000	617,000	-178,000
2058	BN	261,000	1,000	3,000	172,000	436,000	167,000	197,000	364,000	66,000
2059	D	264,000	0	1,000	131,000	396,000	157,000	203,000	360,000	32,000
2060	W	355,000	0	26,000	115,000	496,000	184,000	189,000	373,000	119,000
2061	W	288,000	0	12,000	110,000	410,000	146,000	152,000	298,000	109,000
2062	C	189,000	50,000	0	128,000	366,000	459,000	191,000	650,000	-278,000
2063	C	300,000	0	6,000	206,000	512,000	734,000	201,000	934,000	-421,000
2064	BN	222,000	0	0	262,000	485,000	616,000	195,000	811,000	-329,000
2065	AN	331,000	0	12,000	226,000	568,000	204,000	187,000	390,000	168,000
2066	W	358,000	0	23,000	167,000	548,000	154,000	171,000	326,000	215,000
2067	D	198,000	50,000	1,000	129,000	379,000	159,000	192,000	351,000	25,000
2068	C	221,000	0	0	175,000	396,000	651,000	204,000	855,000	-452,000
2069	C	221,000	0	0	258,000	480,000	733,000	203,000	937,000	-461,000
2070	C	284,000	0	0	269,000	553,000	476,000	199,000	675,000	-126,000
Average (2020 - 2040)		274,000	41,000	11,000	113,000	438,000	237,000	194,000	431,000	4,000
Average (2020 - 2070)		277,000	28,000	10,000	148,000	462,000	315,000	192,000	507,000	-47,000

Table C-34: PMA No. 3 Projected Upper Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Sub-surface Inflow (af)	Total Inflow (af)	Ground-water Pumping (af)	Lateral Sub-surface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	0	15,000	34,000	576,000	39,000	103,000	187,000	329,000	110,000
2018	AN	245,000	0	11,000	29,000	286,000	52,000	113,000	146,000	312,000	-32,000
2019	D	210,000	0	1,000	31,000	241,000	151,000	123,000	121,000	394,000	-148,000
2020	W	218,000	0	12,000	33,000	262,000	81,000	126,000	146,000	353,000	-95,000
2021	BN	311,000	5,000	1,000	31,000	347,000	48,000	131,000	139,000	318,000	23,000
2022	W	287,000	7,000	23,000	27,000	343,000	44,000	105,000	128,000	277,000	61,000
2023	D	216,000	14,000	10,000	28,000	268,000	101,000	130,000	97,000	329,000	-59,000
2024	W	511,000	0	32,000	28,000	571,000	43,000	100,000	138,000	280,000	284,000
2025	AN	196,000	12,000	5,000	27,000	239,000	65,000	128,000	104,000	297,000	-60,000
2026	BN	242,000	0	2,000	28,000	273,000	95,000	131,000	109,000	335,000	-60,000
2027	D	223,000	0	1,000	32,000	257,000	177,000	129,000	125,000	431,000	-167,000
2028	AN	413,000	0	13,000	34,000	459,000	53,000	111,000	169,000	333,000	118,000
2029	W	233,000	6,000	11,000	29,000	280,000	43,000	126,000	135,000	304,000	-30,000
2030	W	205,000	7,000	11,000	29,000	252,000	46,000	135,000	119,000	301,000	-50,000
2031	C	227,000	12,000	8,000	29,000	275,000	73,000	138,000	100,000	311,000	-38,000
2032	C	200,000	0	0	32,000	232,000	206,000	130,000	119,000	456,000	-212,000
2033	W	503,000	0	21,000	34,000	558,000	60,000	105,000	173,000	338,000	213,000
2034	AN	237,000	6,000	4,000	30,000	277,000	89,000	125,000	127,000	341,000	-67,000
2035	W	298,000	0	21,000	30,000	349,000	44,000	116,000	144,000	304,000	40,000
2036	D	219,000	14,000	1,000	28,000	261,000	55,000	134,000	110,000	299,000	-42,000
2037	W	233,000	0	23,000	27,000	282,000	47,000	106,000	126,000	279,000	0
2038	W	368,000	6,000	22,000	25,000	421,000	43,000	96,000	119,000	258,000	157,000
2039	AN	197,000	14,000	4,000	26,000	241,000	48,000	134,000	96,000	278,000	-38,000
2040	D	216,000	14,000	1,000	28,000	259,000	94,000	143,000	88,000	325,000	-62,000
2041	W	247,000	0	30,000	30,000	307,000	70,000	127,000	119,000	316,000	-10,000
2042	C	199,000	6,000	6,000	32,000	243,000	167,000	130,000	114,000	411,000	-161,000
2043	C	215,000	0	2,000	36,000	253,000	204,000	125,000	146,000	475,000	-216,000
2044	C	258,000	0	0	37,000	295,000	161,000	123,000	160,000	444,000	-148,000
2045	C	228,000	0	1,000	37,000	266,000	219,000	125,000	149,000	493,000	-223,000
2046	C	330,000	0	5,000	38,000	374,000	177,000	121,000	156,000	454,000	-80,000
2047	C	316,000	0	8,000	38,000	362,000	147,000	120,000	156,000	423,000	-65,000
2048	W	484,000	0	30,000	35,000	549,000	51,000	106,000	172,000	329,000	210,000
2049	C	208,000	6,000	3,000	31,000	248,000	104,000	122,000	123,000	350,000	-105,000
2050	W	489,000	0	31,000	31,000	551,000	50,000	103,000	148,000	301,000	243,000
2051	W	260,000	11,000	10,000	27,000	307,000	41,000	110,000	122,000	273,000	27,000
2052	W	373,000	9,000	17,000	27,000	427,000	72,000	123,000	101,000	296,000	130,000
2053	W	420,000	7,000	32,000	26,000	484,000	43,000	96,000	121,000	260,000	219,000
2054	AN	189,000	13,000	6,000	25,000	232,000	42,000	120,000	104,000	265,000	-36,000
2055	AN	233,000	11,000	5,000	26,000	276,000	59,000	132,000	92,000	283,000	-8,000
2056	D	210,000	0	10,000	31,000	250,000	179,000	128,000	107,000	413,000	-151,000
2057	D	239,000	0	1,000	35,000	275,000	135,000	127,000	143,000	405,000	-129,000
2058	BN	261,000	0	3,000	33,000	297,000	54,000	125,000	159,000	337,000	-48,000
2059	D	264,000	0	1,000	31,000	296,000	52,000	129,000	136,000	318,000	-27,000
2060	W	355,000	0	26,000	29,000	410,000	63,000	119,000	126,000	308,000	97,000
2061	W	288,000	0	12,000	28,000	328,000	47,000	101,000	131,000	279,000	44,000
2062	C	189,000	7,000	0	29,000	224,000	133,000	126,000	104,000	363,000	-133,000
2063	C	300,000	0	6,000	35,000	341,000	212,000	128,000	129,000	469,000	-119,000
2064	BN	222,000	0	0	38,000	260,000	189,000	124,000	154,000	467,000	-202,000
2065	AN	331,000	0	12,000	36,000	378,000	73,000	116,000	165,000	354,000	14,000
2066	W	358,000	0	23,000	32,000	413,000	52,000	108,000	149,000	309,000	95,000
2067	D	198,000	6,000	1,000	28,000	234,000	49,000	124,000	121,000	294,000	-64,000
2068	C	221,000	0	0	32,000	254,000	185,000	129,000	113,000	428,000	-163,000
2069	C	221,000	0	0	37,000	259,000	214,000	128,000	144,000	485,000	-220,000
2070	C	284,000	0	0	38,000	322,000	152,000	125,000	154,000	431,000	-108,000
Average (2020 - 2040)		274,000	6,000	11,000	29,000	319,000	74,000	123,000	124,000	321,000	-4,000
Average (2020 - 2070)		277,000	4,000	10,000	31,000	322,000	97,000	122,000	130,000	349,000	-28,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-35: PMA No. 3 Projected Lower Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Injection (af)	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	0	170,000	187,000	357,000	70,000	56,000	127,000	232,000
2018	AN	0	110,000	146,000	256,000	102,000	58,000	161,000	95,000
2019	D	0	122,000	121,000	242,000	343,000	65,000	408,000	-169,000
2020	W	0	140,000	146,000	286,000	149,000	68,000	216,000	67,000
2021	BN	31,000	99,000	139,000	238,000	105,000	75,000	180,000	91,000
2022	W	43,000	70,000	128,000	198,000	98,000	59,000	156,000	86,000
2023	D	84,000	62,000	97,000	159,000	227,000	76,000	303,000	-60,000
2024	W	0	73,000	138,000	211,000	87,000	52,000	139,000	73,000
2025	AN	75,000	49,000	104,000	153,000	137,000	78,000	214,000	14,000
2026	BN	0	68,000	109,000	177,000	193,000	75,000	268,000	-94,000
2027	D	0	131,000	125,000	255,000	412,000	71,000	483,000	-233,000
2028	AN	0	144,000	169,000	313,000	100,000	60,000	161,000	151,000
2029	W	43,000	82,000	135,000	216,000	98,000	71,000	170,000	91,000
2030	W	44,000	62,000	119,000	181,000	107,000	80,000	187,000	37,000
2031	C	73,000	55,000	100,000	155,000	157,000	86,000	243,000	-14,000
2032	C	0	128,000	119,000	248,000	505,000	74,000	579,000	-339,000
2033	W	0	156,000	173,000	329,000	111,000	58,000	169,000	158,000
2034	AN	41,000	103,000	127,000	230,000	185,000	66,000	251,000	20,000
2035	W	1,000	94,000	144,000	238,000	101,000	63,000	164,000	74,000
2036	D	85,000	60,000	110,000	170,000	119,000	86,000	205,000	50,000
2037	W	0	59,000	126,000	185,000	99,000	61,000	161,000	27,000
2038	W	43,000	49,000	119,000	169,000	103,000	51,000	154,000	58,000
2039	AN	84,000	36,000	96,000	132,000	111,000	85,000	196,000	18,000
2040	D	84,000	44,000	88,000	132,000	218,000	97,000	315,000	-100,000
2041	W	0	71,000	119,000	190,000	135,000	74,000	209,000	-22,000
2042	C	39,000	113,000	114,000	226,000	418,000	73,000	492,000	-231,000
2043	C	0	194,000	146,000	340,000	481,000	68,000	549,000	-216,000
2044	C	0	217,000	160,000	378,000	341,000	69,000	410,000	-37,000
2045	C	0	230,000	149,000	379,000	520,000	71,000	591,000	-214,000
2046	C	0	240,000	156,000	396,000	388,000	71,000	458,000	-69,000
2047	C	0	227,000	156,000	383,000	305,000	72,000	376,000	3,000
2048	W	0	182,000	172,000	353,000	98,000	62,000	160,000	195,000
2049	C	43,000	126,000	123,000	249,000	227,000	69,000	296,000	-1,000
2050	W	0	116,000	148,000	264,000	100,000	61,000	161,000	105,000
2051	W	68,000	72,000	122,000	194,000	95,000	61,000	156,000	106,000
2052	W	59,000	59,000	101,000	159,000	153,000	71,000	224,000	-7,000
2053	W	43,000	54,000	121,000	175,000	103,000	57,000	160,000	58,000
2054	AN	78,000	40,000	104,000	145,000	99,000	76,000	175,000	49,000
2055	AN	66,000	39,000	92,000	131,000	132,000	83,000	215,000	-19,000
2056	D	0	110,000	107,000	217,000	452,000	74,000	526,000	-316,000
2057	D	0	166,000	143,000	309,000	282,000	73,000	355,000	-50,000
2058	BN	1,000	139,000	159,000	297,000	113,000	72,000	186,000	114,000
2059	D	0	101,000	136,000	237,000	104,000	74,000	178,000	59,000
2060	W	0	86,000	126,000	212,000	121,000	70,000	191,000	22,000
2061	W	0	82,000	131,000	213,000	99,000	51,000	150,000	65,000
2062	C	43,000	99,000	104,000	203,000	326,000	65,000	391,000	-145,000
2063	C	0	170,000	129,000	299,000	522,000	73,000	595,000	-302,000
2064	BN	0	224,000	154,000	378,000	427,000	72,000	499,000	-127,000
2065	AN	0	190,000	165,000	355,000	130,000	71,000	201,000	154,000
2066	W	0	135,000	149,000	285,000	102,000	64,000	166,000	119,000
2067	D	43,000	101,000	121,000	222,000	111,000	68,000	179,000	89,000
2068	C	0	142,000	113,000	255,000	466,000	75,000	540,000	-289,000
2069	C	0	221,000	144,000	365,000	520,000	75,000	595,000	-241,000
2070	C	0	231,000	154,000	385,000	324,000	74,000	398,000	-18,000
Average (2020 - 2040)		35,000	84,000	124,000	208,000	163,000	71,000	234,000	8,000
Average (2020 - 2070)		24,000	116,000	130,000	246,000	218,000	70,000	288,000	-19,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-36: PMA No. 3 Projected Land Surface Inflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	579,000	1,296,000	804,000	112,000	73,000	1,569,000
2018	AN	347,000	805,000	652,000	185,000	61,000	1,246,000
2019	D	267,000	457,000	456,000	460,000	56,000	1,239,000
2020	W	345,000	791,000	791,000	271,000	56,000	1,462,000
2021	BN	317,000	862,000	758,000	218,000	64,000	1,357,000
2022	W	471,000	1,282,000	613,000	144,000	67,000	1,295,000
2023	D	283,000	712,000	662,000	348,000	69,000	1,362,000
2024	W	810,000	1,310,000	639,000	133,000	139,000	1,721,000
2025	AN	306,000	755,000	726,000	211,000	97,000	1,341,000
2026	BN	333,000	626,000	625,000	285,000	86,000	1,329,000
2027	D	151,000	386,000	385,000	543,000	69,000	1,148,000
2028	AN	628,000	853,000	717,000	175,000	112,000	1,632,000
2029	W	401,000	981,000	885,000	150,000	97,000	1,533,000
2030	W	367,000	884,000	873,000	181,000	76,000	1,497,000
2031	C	442,000	665,000	636,000	299,000	68,000	1,444,000
2032	C	233,000	238,000	238,000	672,000	56,000	1,199,000
2033	W	895,000	822,000	639,000	166,000	132,000	1,832,000
2034	AN	436,000	753,000	706,000	265,000	103,000	1,510,000
2035	W	471,000	955,000	712,000	144,000	92,000	1,419,000
2036	D	342,000	772,000	715,000	165,000	84,000	1,305,000
2037	W	482,000	1,179,000	606,000	148,000	78,000	1,313,000
2038	W	779,000	1,325,000	739,000	148,000	135,000	1,801,000
2039	AN	222,000	897,000	852,000	183,000	101,000	1,359,000
2040	D	278,000	662,000	653,000	279,000	81,000	1,291,000
2041	W	515,000	740,000	689,000	196,000	84,000	1,484,000
2042	C	291,000	345,000	345,000	531,000	66,000	1,233,000
2043	C	348,000	227,000	227,000	611,000	53,000	1,240,000
2044	C	286,000	482,000	482,000	513,000	55,000	1,336,000
2045	C	266,000	235,000	235,000	750,000	45,000	1,295,000
2046	C	368,000	397,000	397,000	513,000	55,000	1,332,000
2047	C	425,000	511,000	511,000	481,000	61,000	1,479,000
2048	W	739,000	974,000	687,000	178,000	104,000	1,708,000
2049	C	380,000	602,000	593,000	333,000	64,000	1,370,000
2050	W	749,000	977,000	641,000	151,000	120,000	1,661,000
2051	W	389,000	1,194,000	763,000	138,000	100,000	1,390,000
2052	W	543,000	747,000	744,000	239,000	147,000	1,672,000
2053	W	879,000	1,304,000	539,000	146,000	172,000	1,736,000
2054	AN	302,000	906,000	766,000	141,000	122,000	1,331,000
2055	AN	407,000	722,000	642,000	176,000	116,000	1,342,000
2056	D	440,000	354,000	354,000	638,000	102,000	1,535,000
2057	D	281,000	603,000	599,000	364,000	78,000	1,322,000
2058	BN	399,000	760,000	757,000	189,000	72,000	1,417,000
2059	D	297,000	827,000	798,000	190,000	74,000	1,359,000
2060	W	675,000	657,000	640,000	193,000	101,000	1,609,000
2061	W	461,000	1,316,000	696,000	147,000	96,000	1,401,000
2062	C	174,000	513,000	495,000	489,000	75,000	1,233,000
2063	C	305,000	234,000	234,000	734,000	77,000	1,350,000
2064	BN	268,000	353,000	353,000	566,000	53,000	1,241,000
2065	AN	505,000	680,000	657,000	199,000	66,000	1,426,000
2066	W	606,000	735,000	611,000	165,000	95,000	1,476,000
2067	D	301,000	781,000	697,000	183,000	67,000	1,247,000
2068	C	212,000	342,000	342,000	662,000	58,000	1,273,000
2069	C	176,000	281,000	281,000	640,000	43,000	1,140,000
2070	C	250,000	505,000	505,000	447,000	44,000	1,247,000
Average (2020 - 2040)		428,000	843,000	675,000	244,000	89,000	1,436,000
Average (2020 - 2070)		416,000	726,000	597,000	314,000	85,000	1,413,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-37: PMA No. 3 Projected Land Surface Outflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	10,000	245,000	657,000	117,000	73,000	311,000	156,000	1,569,000
2018	AN	9,000	146,000	585,000	139,000	61,000	149,000	156,000	1,246,000
2019	D	8,000	165,000	658,000	91,000	56,000	105,000	156,000	1,239,000
2020	W	15,000	205,000	781,000	132,000	56,000	118,000	156,000	1,462,000
2021	BN	21,000	149,000	699,000	59,000	64,000	209,000	156,000	1,357,000
2022	W	9,000	194,000	514,000	156,000	67,000	199,000	156,000	1,295,000
2023	D	11,000	170,000	737,000	93,000	69,000	127,000	156,000	1,362,000
2024	W	8,000	265,000	530,000	127,000	139,000	498,000	156,000	1,721,000
2025	AN	9,000	184,000	677,000	86,000	97,000	132,000	156,000	1,341,000
2026	BN	15,000	152,000	645,000	107,000	86,000	168,000	156,000	1,329,000
2027	D	15,000	85,000	661,000	31,000	69,000	132,000	156,000	1,148,000
2028	AN	5,000	241,000	640,000	112,000	112,000	365,000	156,000	1,632,000
2029	W	10,000	231,000	764,000	106,000	97,000	171,000	156,000	1,533,000
2030	W	10,000	225,000	781,000	125,000	76,000	125,000	156,000	1,497,000
2031	C	11,000	209,000	671,000	188,000	68,000	142,000	156,000	1,444,000
2032	C	15,000	144,000	645,000	88,000	56,000	95,000	156,000	1,199,000
2033	W	4,000	268,000	563,000	220,000	132,000	488,000	156,000	1,832,000
2034	AN	13,000	247,000	702,000	113,000	103,000	177,000	156,000	1,510,000
2035	W	6,000	217,000	605,000	110,000	92,000	232,000	156,000	1,419,000
2036	D	5,000	158,000	628,000	136,000	84,000	139,000	156,000	1,305,000
2037	W	4,000	218,000	515,000	195,000	78,000	147,000	156,000	1,313,000
2038	W	5,000	319,000	635,000	209,000	135,000	342,000	156,000	1,801,000
2039	AN	19,000	145,000	755,000	48,000	101,000	134,000	156,000	1,359,000
2040	D	13,000	168,000	668,000	71,000	81,000	135,000	156,000	1,291,000
2041	W	7,000	287,000	632,000	152,000	84,000	167,000	156,000	1,484,000
2042	C	10,000	179,000	620,000	101,000	66,000	101,000	156,000	1,233,000
2043	C	16,000	211,000	580,000	121,000	53,000	103,000	156,000	1,240,000
2044	C	19,000	156,000	718,000	76,000	55,000	156,000	156,000	1,336,000
2045	C	18,000	152,000	710,000	99,000	45,000	116,000	156,000	1,295,000
2046	C	9,000	119,000	651,000	113,000	55,000	229,000	156,000	1,332,000
2047	C	8,000	202,000	726,000	102,000	61,000	223,000	156,000	1,479,000
2048	W	5,000	259,000	616,000	142,000	104,000	427,000	156,000	1,708,000
2049	C	13,000	217,000	662,000	147,000	64,000	112,000	156,000	1,370,000
2050	W	5,000	220,000	550,000	157,000	120,000	453,000	156,000	1,661,000
2051	W	12,000	184,000	641,000	100,000	100,000	197,000	156,000	1,390,000
2052	W	13,000	211,000	714,000	76,000	147,000	355,000	156,000	1,672,000
2053	W	4,000	298,000	455,000	215,000	172,000	436,000	156,000	1,736,000
2054	AN	11,000	165,000	648,000	83,000	122,000	147,000	156,000	1,331,000
2055	AN	10,000	186,000	568,000	122,000	116,000	184,000	156,000	1,342,000
2056	D	5,000	253,000	730,000	142,000	102,000	147,000	156,000	1,535,000
2057	D	14,000	162,000	694,000	66,000	78,000	152,000	156,000	1,322,000
2058	BN	13,000	198,000	680,000	125,000	72,000	173,000	156,000	1,417,000
2059	D	18,000	157,000	714,000	59,000	74,000	181,000	156,000	1,359,000
2060	W	4,000	285,000	588,000	172,000	101,000	303,000	156,000	1,609,000
2061	W	4,000	181,000	596,000	146,000	96,000	220,000	156,000	1,401,000
2062	C	16,000	109,000	709,000	64,000	75,000	105,000	156,000	1,233,000
2063	C	18,000	143,000	695,000	49,000	77,000	212,000	156,000	1,350,000
2064	BN	15,000	173,000	655,000	77,000	53,000	112,000	156,000	1,241,000
2065	AN	10,000	221,000	601,000	132,000	66,000	240,000	156,000	1,426,000
2066	W	5,000	254,000	536,000	140,000	95,000	291,000	156,000	1,476,000
2067	D	7,000	154,000	627,000	137,000	67,000	100,000	156,000	1,247,000
2068	C	16,000	136,000	730,000	57,000	58,000	121,000	156,000	1,273,000
2069	C	15,000	102,000	656,000	72,000	43,000	96,000	156,000	1,140,000
2070	C	21,000	119,000	678,000	66,000	44,000	163,000	156,000	1,247,000
Average (2020 - 2040)		10,000	200,000	658,000	120,000	89,000	204,000	156,000	1,436,000
Average (2020 - 2070)		11,000	194,000	651,000	114,000	85,000	202,000	156,000	1,413,000

Table C-38: PMA No. 3 Projected Groundwater Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	0	15,000	204,000	618,000	111,000	158,000	269,000	338,000
2018	AN	246,000	0	12,000	141,000	399,000	184,000	169,000	353,000	42,000
2019	D	207,000	0	1,000	149,000	357,000	455,000	189,000	644,000	-286,000
2020	W	220,000	0	12,000	175,000	407,000	268,000	201,000	469,000	-67,000
2021	BN	305,000	36,000	1,000	145,000	486,000	215,000	198,000	413,000	69,000
2022	W	291,000	50,000	23,000	109,000	472,000	142,000	155,000	297,000	171,000
2023	D	217,000	99,000	10,000	93,000	419,000	344,000	205,000	549,000	-130,000
2024	W	524,000	0	32,000	110,000	665,000	132,000	152,000	284,000	376,000
2025	AN	196,000	87,000	5,000	80,000	369,000	209,000	202,000	411,000	-46,000
2026	BN	242,000	0	3,000	99,000	343,000	282,000	207,000	489,000	-147,000
2027	D	222,000	0	1,000	154,000	378,000	538,000	201,000	739,000	-359,000
2028	AN	417,000	0	13,000	174,000	604,000	173,000	170,000	343,000	250,000
2029	W	236,000	50,000	12,000	113,000	410,000	148,000	203,000	351,000	53,000
2030	W	209,000	51,000	11,000	94,000	365,000	179,000	218,000	397,000	-34,000
2031	C	234,000	86,000	8,000	93,000	421,000	295,000	221,000	516,000	-95,000
2032	C	198,000	0	0	172,000	369,000	665,000	202,000	867,000	-494,000
2033	W	520,000	0	22,000	189,000	731,000	165,000	159,000	324,000	398,000
2034	AN	236,000	47,000	4,000	133,000	420,000	262,000	195,000	457,000	-42,000
2035	W	301,000	2,000	22,000	123,000	447,000	143,000	179,000	321,000	119,000
2036	D	216,000	99,000	1,000	86,000	401,000	163,000	211,000	374,000	21,000
2037	W	228,000	0	22,000	83,000	334,000	146,000	165,000	311,000	21,000
2038	W	371,000	50,000	22,000	74,000	516,000	146,000	152,000	298,000	213,000
2039	AN	195,000	99,000	4,000	64,000	362,000	181,000	221,000	402,000	-43,000
2040	D	214,000	99,000	1,000	72,000	385,000	276,000	240,000	516,000	-129,000
2041	W	244,000	0	30,000	95,000	369,000	194,000	199,000	393,000	-29,000
2042	C	194,000	45,000	6,000	131,000	376,000	525,000	203,000	728,000	-348,000
2043	C	208,000	0	2,000	209,000	420,000	606,000	192,000	798,000	-378,000
2044	C	260,000	0	0	245,000	506,000	508,000	193,000	701,000	-198,000
2045	C	229,000	0	1,000	262,000	492,000	743,000	199,000	941,000	-448,000
2046	C	334,000	0	6,000	269,000	608,000	508,000	193,000	701,000	-99,000
2047	C	322,000	0	8,000	265,000	595,000	477,000	194,000	671,000	-81,000
2048	W	487,000	0	30,000	223,000	740,000	176,000	161,000	337,000	391,000
2049	C	207,000	50,000	3,000	160,000	419,000	329,000	189,000	518,000	-101,000
2050	W	496,000	0	31,000	148,000	675,000	149,000	161,000	310,000	358,000
2051	W	258,000	79,000	10,000	99,000	446,000	136,000	163,000	299,000	141,000
2052	W	375,000	68,000	18,000	87,000	549,000	236,000	191,000	427,000	119,000
2053	W	428,000	50,000	32,000	79,000	589,000	144,000	149,000	293,000	290,000
2054	AN	187,000	91,000	6,000	65,000	348,000	140,000	196,000	336,000	12,000
2055	AN	229,000	77,000	6,000	62,000	375,000	174,000	209,000	383,000	-9,000
2056	D	206,000	0	10,000	138,000	354,000	632,000	202,000	834,000	-473,000
2057	D	234,000	0	1,000	189,000	423,000	361,000	198,000	558,000	-137,000
2058	BN	261,000	1,000	3,000	160,000	425,000	187,000	200,000	387,000	33,000
2059	D	268,000	0	1,000	135,000	403,000	189,000	200,000	389,000	11,000
2060	W	363,000	0	27,000	118,000	508,000	191,000	185,000	376,000	127,000
2061	W	285,000	0	13,000	112,000	410,000	145,000	150,000	295,000	110,000
2062	C	189,000	50,000	0	128,000	367,000	484,000	188,000	672,000	-300,000
2063	C	296,000	0	6,000	212,000	515,000	727,000	198,000	925,000	-408,000
2064	BN	218,000	0	0	256,000	474,000	561,000	193,000	754,000	-282,000
2065	AN	334,000	0	12,000	222,000	568,000	197,000	185,000	381,000	177,000
2066	W	357,000	0	24,000	165,000	546,000	164,000	166,000	330,000	209,000
2067	D	192,000	50,000	1,000	129,000	372,000	181,000	185,000	366,000	3,000
2068	C	222,000	0	8,000	177,000	407,000	656,000	203,000	859,000	-447,000
2069	C	211,000	0	2,000	256,000	469,000	634,000	198,000	832,000	-365,000
2070	C	277,000	0	0	260,000	537,000	443,000	200,000	643,000	-111,000
Average (2020 - 2040)		276,000	41,000	11,000	116,000	443,000	242,000	193,000	435,000	5,000
Average (2020 - 2070)		278,000	28,000	10,000	147,000	463,000	311,000	190,000	501,000	-42,000

Table C-39: PMA No. 3 Projected Upper Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Sub-surface Inflow (af)	Total Inflow (af)	Ground-water Pumping (af)	Lateral Sub-surface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	0	15,000	34,000	576,000	40,000	102,000	187,000	329,000	107,000
2018	AN	246,000	0	12,000	29,000	287,000	62,000	113,000	143,000	318,000	-36,000
2019	D	207,000	0	1,000	30,000	239,000	141,000	124,000	121,000	385,000	-143,000
2020	W	220,000	0	12,000	34,000	266,000	93,000	130,000	142,000	365,000	-102,000
2021	BN	305,000	5,000	1,000	32,000	342,000	68,000	129,000	139,000	336,000	2,000
2022	W	291,000	6,000	23,000	28,000	348,000	44,000	100,000	136,000	280,000	59,000
2023	D	217,000	14,000	10,000	28,000	269,000	102,000	129,000	103,000	334,000	-64,000
2024	W	524,000	0	32,000	29,000	585,000	43,000	101,000	142,000	286,000	293,000
2025	AN	196,000	12,000	5,000	27,000	240,000	66,000	126,000	109,000	301,000	-63,000
2026	BN	242,000	0	3,000	29,000	273,000	92,000	131,000	114,000	337,000	-61,000
2027	D	222,000	0	1,000	32,000	255,000	162,000	129,000	124,000	415,000	-153,000
2028	AN	417,000	0	13,000	34,000	464,000	60,000	110,000	166,000	335,000	120,000
2029	W	236,000	6,000	12,000	30,000	284,000	46,000	130,000	134,000	310,000	-32,000
2030	W	209,000	7,000	11,000	29,000	256,000	55,000	136,000	117,000	308,000	-54,000
2031	C	234,000	12,000	8,000	29,000	283,000	88,000	136,000	106,000	330,000	-47,000
2032	C	198,000	0	0	33,000	231,000	195,000	130,000	127,000	452,000	-211,000
2033	W	520,000	0	22,000	34,000	576,000	57,000	102,000	175,000	334,000	234,000
2034	AN	236,000	6,000	4,000	31,000	276,000	83,000	128,000	129,000	340,000	-67,000
2035	W	301,000	0	22,000	30,000	353,000	43,000	115,000	144,000	302,000	46,000
2036	D	216,000	14,000	1,000	27,000	258,000	50,000	128,000	112,000	291,000	-38,000
2037	W	228,000	0	22,000	27,000	277,000	47,000	104,000	125,000	276,000	-1,000
2038	W	371,000	6,000	22,000	25,000	424,000	43,000	98,000	118,000	259,000	159,000
2039	AN	195,000	14,000	4,000	26,000	239,000	54,000	136,000	94,000	285,000	-47,000
2040	D	214,000	14,000	1,000	28,000	257,000	82,000	143,000	92,000	317,000	-57,000
2041	W	244,000	0	30,000	29,000	303,000	65,000	125,000	119,000	309,000	-7,000
2042	C	194,000	6,000	6,000	31,000	237,000	151,000	129,000	110,000	391,000	-148,000
2043	C	208,000	0	2,000	35,000	245,000	183,000	124,000	141,000	448,000	-197,000
2044	C	260,000	0	0	36,000	297,000	161,000	124,000	159,000	444,000	-146,000
2045	C	229,000	0	1,000	37,000	267,000	219,000	127,000	149,000	495,000	-224,000
2046	C	334,000	0	6,000	37,000	376,000	161,000	122,000	158,000	442,000	-66,000
2047	C	322,000	0	8,000	38,000	368,000	153,000	123,000	156,000	432,000	-65,000
2048	W	487,000	0	30,000	36,000	553,000	61,000	102,000	171,000	333,000	208,000
2049	C	207,000	6,000	3,000	31,000	246,000	104,000	121,000	126,000	350,000	-107,000
2050	W	496,000	0	31,000	31,000	558,000	49,000	101,000	149,000	299,000	251,000
2051	W	258,000	10,000	10,000	26,000	305,000	40,000	105,000	123,000	268,000	30,000
2052	W	375,000	9,000	18,000	27,000	430,000	72,000	122,000	104,000	298,000	131,000
2053	W	428,000	6,000	32,000	26,000	492,000	42,000	93,000	122,000	258,000	229,000
2054	AN	187,000	12,000	6,000	25,000	230,000	41,000	120,000	104,000	266,000	-38,000
2055	AN	229,000	11,000	6,000	25,000	272,000	52,000	127,000	95,000	274,000	-3,000
2056	D	206,000	0	10,000	30,000	247,000	178,000	128,000	106,000	412,000	-152,000
2057	D	234,000	0	1,000	34,000	269,000	117,000	125,000	145,000	387,000	-118,000
2058	BN	261,000	0	3,000	33,000	297,000	60,000	126,000	153,000	339,000	-48,000
2059	D	268,000	0	1,000	30,000	299,000	61,000	127,000	138,000	325,000	-30,000
2060	W	363,000	0	27,000	29,000	420,000	64,000	116,000	130,000	310,000	103,000
2061	W	285,000	0	13,000	28,000	325,000	47,000	99,000	134,000	280,000	39,000
2062	C	189,000	6,000	0	28,000	224,000	137,000	125,000	105,000	367,000	-137,000
2063	C	296,000	0	6,000	35,000	338,000	210,000	126,000	132,000	468,000	-122,000
2064	BN	218,000	0	0	38,000	256,000	174,000	122,000	156,000	452,000	-193,000
2065	AN	334,000	0	12,000	35,000	381,000	70,000	115,000	167,000	352,000	21,000
2066	W	357,000	0	24,000	31,000	412,000	55,000	104,000	149,000	308,000	96,000
2067	D	192,000	6,000	1,000	28,000	227,000	56,000	121,000	120,000	296,000	-74,000
2068	C	222,000	0	8,000	33,000	263,000	187,000	129,000	113,000	429,000	-156,000
2069	C	211,000	0	2,000	37,000	251,000	191,000	124,000	147,000	463,000	-205,000
2070	C	277,000	0	0	38,000	314,000	143,000	125,000	154,000	423,000	-109,000
Average (2020 - 2040)		276,000	6,000	11,000	30,000	322,000	75,000	123,000	126,000	323,000	-4,000
Average (2020 - 2070)		278,000	4,000	10,000	31,000	323,000	96,000	121,000	131,000	347,000	-26,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-40: PMA No. 3 Projected Lower Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Injection (af)	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	0	171,000	187,000	358,000	71,000	55,000	127,000	231,000
2018	AN	0	112,000	143,000	255,000	122,000	57,000	178,000	78,000
2019	D	0	119,000	121,000	240,000	314,000	65,000	380,000	-143,000
2020	W	0	142,000	142,000	284,000	175,000	70,000	245,000	35,000
2021	BN	31,000	112,000	139,000	251,000	147,000	69,000	216,000	68,000
2022	W	43,000	81,000	136,000	217,000	98,000	55,000	153,000	111,000
2023	D	85,000	65,000	103,000	169,000	242,000	76,000	318,000	-65,000
2024	W	0	81,000	142,000	222,000	89,000	52,000	140,000	83,000
2025	AN	75,000	53,000	109,000	163,000	143,000	76,000	219,000	18,000
2026	BN	0	70,000	114,000	184,000	189,000	76,000	265,000	-86,000
2027	D	0	123,000	124,000	247,000	376,000	72,000	448,000	-206,000
2028	AN	0	141,000	166,000	306,000	113,000	60,000	173,000	130,000
2029	W	43,000	83,000	134,000	217,000	103,000	73,000	175,000	85,000
2030	W	44,000	65,000	117,000	181,000	124,000	81,000	205,000	20,000
2031	C	73,000	64,000	106,000	170,000	208,000	84,000	292,000	-48,000
2032	C	0	139,000	127,000	265,000	470,000	72,000	542,000	-283,000
2033	W	0	155,000	175,000	330,000	107,000	57,000	164,000	164,000
2034	AN	41,000	103,000	129,000	231,000	178,000	67,000	246,000	25,000
2035	W	1,000	93,000	144,000	236,000	100,000	63,000	163,000	73,000
2036	D	85,000	58,000	112,000	170,000	113,000	82,000	195,000	60,000
2037	W	0	57,000	125,000	182,000	100,000	61,000	160,000	22,000
2038	W	43,000	49,000	118,000	167,000	103,000	54,000	157,000	54,000
2039	AN	85,000	38,000	94,000	132,000	127,000	84,000	211,000	4,000
2040	D	84,000	43,000	92,000	135,000	194,000	97,000	291,000	-72,000
2041	W	0	66,000	119,000	185,000	129,000	74,000	203,000	-22,000
2042	C	39,000	100,000	110,000	210,000	374,000	74,000	448,000	-200,000
2043	C	0	175,000	141,000	315,000	422,000	68,000	490,000	-181,000
2044	C	0	209,000	159,000	368,000	347,000	69,000	416,000	-52,000
2045	C	0	225,000	149,000	374,000	524,000	71,000	596,000	-224,000
2046	C	0	232,000	158,000	390,000	347,000	71,000	417,000	-34,000
2047	C	0	227,000	156,000	382,000	324,000	71,000	395,000	-16,000
2048	W	0	187,000	171,000	358,000	115,000	60,000	175,000	183,000
2049	C	43,000	129,000	126,000	255,000	226,000	69,000	294,000	7,000
2050	W	0	117,000	149,000	266,000	100,000	60,000	160,000	106,000
2051	W	68,000	72,000	123,000	195,000	95,000	58,000	153,000	111,000
2052	W	59,000	60,000	104,000	164,000	164,000	69,000	233,000	-11,000
2053	W	43,000	53,000	122,000	176,000	102,000	56,000	158,000	61,000
2054	AN	78,000	40,000	104,000	144,000	99,000	76,000	174,000	50,000
2055	AN	66,000	37,000	95,000	131,000	122,000	82,000	204,000	-6,000
2056	D	0	108,000	106,000	214,000	454,000	75,000	529,000	-321,000
2057	D	0	155,000	145,000	299,000	244,000	72,000	316,000	-19,000
2058	BN	1,000	128,000	153,000	281,000	127,000	74,000	201,000	82,000
2059	D	0	104,000	138,000	242,000	127,000	73,000	201,000	42,000
2060	W	0	89,000	130,000	219,000	127,000	69,000	196,000	23,000
2061	W	0	84,000	134,000	218,000	98,000	50,000	149,000	71,000
2062	C	43,000	99,000	105,000	205,000	347,000	63,000	410,000	-163,000
2063	C	0	177,000	132,000	309,000	517,000	72,000	589,000	-286,000
2064	BN	0	218,000	156,000	375,000	387,000	71,000	458,000	-89,000
2065	AN	0	187,000	167,000	354,000	127,000	70,000	196,000	156,000
2066	W	0	133,000	149,000	283,000	109,000	62,000	171,000	113,000
2067	D	43,000	102,000	120,000	222,000	125,000	65,000	190,000	77,000
2068	C	0	144,000	113,000	256,000	469,000	74,000	543,000	-290,000
2069	C	0	218,000	147,000	366,000	443,000	74,000	516,000	-159,000
2070	C	0	222,000	154,000	376,000	300,000	74,000	374,000	-2,000
Average (2020 - 2040)		35,000	86,000	126,000	212,000	167,000	71,000	237,000	9,000
Average (2020 - 2070)		24,000	116,000	131,000	247,000	215,000	70,000	285,000	-16,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-41: PMA No. 3 Projected Land Surface Inflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	578,000	1,295,000	907,000	111,000	77,000	1,673,000
2018	AN	355,000	759,000	750,000	190,000	67,000	1,361,000
2019	D	248,000	210,000	210,000	804,000	57,000	1,320,000
2020	W	327,000	560,000	560,000	532,000	51,000	1,471,000
2021	BN	315,000	553,000	553,000	506,000	55,000	1,429,000
2022	W	472,000	1,105,000	731,000	162,000	60,000	1,425,000
2023	D	275,000	665,000	653,000	448,000	56,000	1,432,000
2024	W	840,000	1,057,000	761,000	141,000	128,000	1,871,000
2025	AN	320,000	606,000	601,000	402,000	89,000	1,412,000
2026	BN	313,000	525,000	525,000	467,000	71,000	1,376,000
2027	D	142,000	233,000	233,000	812,000	59,000	1,245,000
2028	AN	658,000	611,000	611,000	321,000	98,000	1,688,000
2029	W	405,000	691,000	691,000	400,000	82,000	1,578,000
2030	W	364,000	715,000	707,000	307,000	57,000	1,435,000
2031	C	458,000	380,000	380,000	569,000	55,000	1,462,000
2032	C	217,000	231,000	231,000	797,000	47,000	1,292,000
2033	W	942,000	665,000	659,000	198,000	120,000	1,919,000
2034	AN	461,000	651,000	651,000	438,000	94,000	1,644,000
2035	W	490,000	683,000	683,000	262,000	85,000	1,520,000
2036	D	358,000	690,000	690,000	316,000	77,000	1,441,000
2037	W	492,000	881,000	703,000	163,000	66,000	1,423,000
2038	W	810,000	1,320,000	801,000	148,000	118,000	1,876,000
2039	AN	206,000	692,000	683,000	433,000	84,000	1,405,000
2040	D	265,000	558,000	558,000	486,000	63,000	1,373,000
2041	W	531,000	569,000	569,000	441,000	67,000	1,608,000
2042	C	311,000	356,000	356,000	647,000	52,000	1,367,000
2043	C	334,000	227,000	227,000	759,000	43,000	1,364,000
2044	C	290,000	238,000	238,000	808,000	42,000	1,379,000
2045	C	271,000	227,000	227,000	815,000	38,000	1,352,000
2046	C	381,000	230,000	230,000	792,000	51,000	1,453,000
2047	C	446,000	230,000	230,000	792,000	54,000	1,522,000
2048	W	780,000	679,000	679,000	301,000	97,000	1,857,000
2049	C	389,000	506,000	506,000	485,000	56,000	1,437,000
2050	W	776,000	645,000	645,000	257,000	115,000	1,793,000
2051	W	406,000	1,109,000	880,000	144,000	93,000	1,522,000
2052	W	550,000	589,000	588,000	446,000	131,000	1,714,000
2053	W	914,000	1,301,000	645,000	153,000	163,000	1,876,000
2054	AN	306,000	714,000	695,000	306,000	111,000	1,420,000
2055	AN	430,000	710,000	710,000	271,000	113,000	1,525,000
2056	D	461,000	243,000	243,000	805,000	90,000	1,599,000
2057	D	267,000	507,000	507,000	584,000	66,000	1,423,000
2058	BN	385,000	655,000	655,000	343,000	56,000	1,440,000
2059	D	305,000	556,000	556,000	483,000	60,000	1,404,000
2060	W	677,000	656,000	656,000	255,000	80,000	1,668,000
2061	W	481,000	1,316,000	770,000	150,000	80,000	1,480,000
2062	C	178,000	510,000	497,000	524,000	60,000	1,259,000
2063	C	326,000	234,000	234,000	804,000	64,000	1,429,000
2064	BN	274,000	240,000	240,000	794,000	48,000	1,356,000
2065	AN	519,000	568,000	568,000	381,000	60,000	1,528,000
2066	W	618,000	590,000	590,000	316,000	84,000	1,608,000
2067	D	272,000	589,000	589,000	408,000	55,000	1,325,000
2068	C	181,000	353,000	353,000	709,000	44,000	1,287,000
2069	C	180,000	232,000	232,000	854,000	37,000	1,302,000
2070	C	218,000	229,000	229,000	823,000	34,000	1,304,000
Average (2020 - 2040)		435,000	670,000	603,000	396,000	77,000	1,510,000
Average (2020 - 2070)		423,000	586,000	530,000	470,000	74,000	1,496,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-42: PMA No. 3 Projected Land Surface Outflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	245,000	748,000	117,000	77,000	321,000	156,000	1,673,000
2018	AN	11,000	148,000	675,000	137,000	67,000	167,000	156,000	1,361,000
2019	D	9,000	159,000	745,000	86,000	57,000	108,000	156,000	1,320,000
2020	W	15,000	194,000	810,000	128,000	51,000	116,000	156,000	1,471,000
2021	BN	19,000	167,000	776,000	64,000	55,000	192,000	156,000	1,429,000
2022	W	9,000	198,000	635,000	159,000	60,000	208,000	156,000	1,425,000
2023	D	14,000	175,000	819,000	91,000	56,000	121,000	156,000	1,432,000
2024	W	8,000	267,000	646,000	126,000	128,000	539,000	156,000	1,871,000
2025	AN	11,000	181,000	734,000	86,000	89,000	156,000	156,000	1,412,000
2026	BN	16,000	159,000	719,000	103,000	71,000	153,000	156,000	1,376,000
2027	D	17,000	85,000	764,000	29,000	59,000	136,000	156,000	1,245,000
2028	AN	6,000	252,000	675,000	120,000	98,000	382,000	156,000	1,688,000
2029	W	11,000	224,000	813,000	105,000	82,000	188,000	156,000	1,578,000
2030	W	10,000	227,000	743,000	126,000	57,000	116,000	156,000	1,435,000
2031	C	11,000	198,000	685,000	189,000	55,000	169,000	156,000	1,462,000
2032	C	16,000	134,000	750,000	82,000	47,000	107,000	156,000	1,292,000
2033	W	6,000	276,000	607,000	232,000	120,000	523,000	156,000	1,919,000
2034	AN	14,000	253,000	808,000	117,000	94,000	201,000	156,000	1,644,000
2035	W	8,000	212,000	684,000	108,000	85,000	267,000	156,000	1,520,000
2036	D	8,000	158,000	739,000	136,000	77,000	167,000	156,000	1,441,000
2037	W	5,000	228,000	615,000	204,000	66,000	148,000	156,000	1,423,000
2038	W	5,000	332,000	691,000	216,000	118,000	358,000	156,000	1,876,000
2039	AN	19,000	140,000	827,000	46,000	84,000	134,000	156,000	1,405,000
2040	D	14,000	171,000	767,000	72,000	63,000	130,000	156,000	1,373,000
2041	W	8,000	296,000	743,000	157,000	67,000	180,000	156,000	1,608,000
2042	C	10,000	190,000	734,000	107,000	52,000	117,000	156,000	1,367,000
2043	C	17,000	210,000	713,000	116,000	43,000	109,000	156,000	1,364,000
2044	C	18,000	161,000	764,000	82,000	42,000	154,000	156,000	1,379,000
2045	C	18,000	147,000	761,000	95,000	38,000	137,000	156,000	1,352,000
2046	C	10,000	119,000	751,000	111,000	51,000	256,000	156,000	1,453,000
2047	C	9,000	205,000	752,000	106,000	54,000	240,000	156,000	1,522,000
2048	W	5,000	264,000	720,000	146,000	97,000	470,000	156,000	1,857,000
2049	C	15,000	221,000	719,000	148,000	56,000	122,000	156,000	1,437,000
2050	W	6,000	208,000	648,000	149,000	115,000	511,000	156,000	1,793,000
2051	W	13,000	186,000	750,000	99,000	93,000	225,000	156,000	1,522,000
2052	W	12,000	209,000	760,000	74,000	131,000	372,000	156,000	1,714,000
2053	W	7,000	307,000	554,000	219,000	163,000	470,000	156,000	1,876,000
2054	AN	13,000	161,000	731,000	82,000	111,000	166,000	156,000	1,420,000
2055	AN	12,000	182,000	714,000	121,000	113,000	228,000	156,000	1,525,000
2056	D	5,000	255,000	779,000	145,000	90,000	168,000	156,000	1,599,000
2057	D	16,000	165,000	807,000	64,000	66,000	149,000	156,000	1,423,000
2058	BN	14,000	202,000	726,000	122,000	56,000	165,000	156,000	1,440,000
2059	D	17,000	159,000	760,000	61,000	60,000	191,000	156,000	1,404,000
2060	W	4,000	289,000	657,000	173,000	80,000	310,000	156,000	1,668,000
2061	W	6,000	185,000	663,000	147,000	80,000	243,000	156,000	1,480,000
2062	C	16,000	111,000	744,000	65,000	60,000	106,000	156,000	1,259,000
2063	C	18,000	150,000	758,000	50,000	64,000	233,000	156,000	1,429,000
2064	BN	16,000	176,000	756,000	78,000	48,000	126,000	156,000	1,356,000
2065	AN	10,000	221,000	685,000	129,000	60,000	266,000	156,000	1,528,000
2066	W	6,000	261,000	651,000	143,000	84,000	306,000	156,000	1,608,000
2067	D	8,000	136,000	730,000	127,000	55,000	112,000	156,000	1,325,000
2068	C	15,000	122,000	781,000	55,000	44,000	114,000	156,000	1,287,000
2069	C	17,000	105,000	801,000	73,000	37,000	114,000	156,000	1,302,000
2070	C	20,000	120,000	767,000	66,000	34,000	140,000	156,000	1,304,000
Average (2020 - 2040)		12,000	201,000	729,000	121,000	77,000	215,000	156,000	1,510,000
Average (2020 - 2070)		12,000	195,000	729,000	115,000	74,000	216,000	156,000	1,496,000

Table C-43: PMA No. 3 Projected Groundwater Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	0	15,000	204,000	624,000	110,000	165,000	275,000	339,000
2018	AN	260,000	0	12,000	145,000	416,000	188,000	184,000	371,000	38,000
2019	D	209,000	0	1,000	195,000	405,000	797,000	191,000	988,000	-582,000
2020	W	223,000	0	11,000	256,000	491,000	527,000	190,000	717,000	-231,000
2021	BN	297,000	36,000	1,000	248,000	581,000	501,000	194,000	695,000	-116,000
2022	W	306,000	0	23,000	212,000	540,000	160,000	163,000	322,000	211,000
2023	D	224,000	99,000	10,000	160,000	493,000	443,000	203,000	647,000	-155,000
2024	W	576,000	0	32,000	154,000	762,000	139,000	167,000	306,000	456,000
2025	AN	227,000	99,000	6,000	124,000	456,000	398,000	207,000	605,000	-150,000
2026	BN	242,000	0	2,000	169,000	413,000	462,000	203,000	664,000	-248,000
2027	D	236,000	0	1,000	237,000	474,000	804,000	202,000	1,006,000	-532,000
2028	AN	446,000	0	14,000	244,000	704,000	318,000	181,000	500,000	194,000
2029	W	267,000	0	12,000	217,000	496,000	396,000	196,000	592,000	-99,000
2030	W	217,000	9,000	12,000	203,000	441,000	304,000	197,000	501,000	-62,000
2031	C	274,000	87,000	10,000	206,000	576,000	563,000	201,000	763,000	-191,000
2032	C	219,000	0	0	262,000	480,000	789,000	201,000	990,000	-512,000
2033	W	566,000	0	23,000	237,000	826,000	196,000	176,000	372,000	442,000
2034	AN	269,000	50,000	4,000	190,000	512,000	433,000	197,000	630,000	-119,000
2035	W	344,000	10,000	23,000	192,000	569,000	259,000	192,000	451,000	108,000
2036	D	250,000	50,000	1,000	162,000	463,000	312,000	206,000	519,000	-61,000
2037	W	242,000	0	22,000	151,000	415,000	161,000	178,000	339,000	70,000
2038	W	405,000	50,000	23,000	114,000	591,000	146,000	150,000	296,000	287,000
2039	AN	211,000	99,000	4,000	114,000	427,000	428,000	210,000	638,000	-209,000
2040	D	225,000	99,000	1,000	153,000	478,000	481,000	223,000	703,000	-223,000
2041	W	273,000	0	30,000	203,000	507,000	437,000	194,000	631,000	-127,000
2042	C	223,000	50,000	6,000	237,000	516,000	640,000	200,000	840,000	-323,000
2043	C	224,000	0	2,000	281,000	507,000	752,000	201,000	953,000	-449,000
2044	C	270,000	0	0	300,000	570,000	800,000	204,000	1,004,000	-437,000
2045	C	256,000	0	1,000	302,000	559,000	808,000	205,000	1,012,000	-452,000
2046	C	364,000	0	6,000	307,000	676,000	784,000	202,000	986,000	-315,000
2047	C	346,000	0	9,000	311,000	666,000	785,000	201,000	985,000	-325,000
2048	W	536,000	0	31,000	268,000	835,000	298,000	183,000	482,000	341,000
2049	C	225,000	50,000	3,000	228,000	506,000	480,000	198,000	678,000	-174,000
2050	W	560,000	0	32,000	223,000	815,000	255,000	177,000	431,000	372,000
2051	W	294,000	85,000	11,000	152,000	542,000	142,000	184,000	326,000	206,000
2052	W	407,000	95,000	18,000	141,000	661,000	441,000	199,000	640,000	19,000
2053	W	472,000	50,000	32,000	138,000	692,000	151,000	148,000	300,000	383,000
2054	AN	216,000	97,000	6,000	110,000	430,000	303,000	194,000	497,000	-68,000
2055	AN	278,000	77,000	7,000	118,000	481,000	268,000	207,000	475,000	0
2056	D	238,000	0	11,000	204,000	453,000	797,000	203,000	999,000	-539,000
2057	D	242,000	0	1,000	272,000	515,000	578,000	205,000	782,000	-262,000
2058	BN	267,000	2,000	3,000	252,000	524,000	339,000	200,000	539,000	-22,000
2059	D	291,000	0	1,000	244,000	536,000	478,000	202,000	681,000	-146,000
2060	W	390,000	0	27,000	231,000	649,000	253,000	184,000	437,000	199,000
2061	W	324,000	0	14,000	171,000	508,000	148,000	156,000	303,000	206,000
2062	C	205,000	50,000	0	173,000	428,000	519,000	192,000	711,000	-277,000
2063	C	329,000	0	7,000	253,000	589,000	796,000	205,000	1,001,000	-412,000
2064	BN	236,000	0	0	309,000	545,000	786,000	204,000	990,000	-448,000
2065	AN	365,000	0	13,000	278,000	657,000	377,000	190,000	567,000	82,000
2066	W	383,000	0	23,000	231,000	637,000	312,000	180,000	492,000	146,000
2067	D	215,000	50,000	1,000	215,000	481,000	403,000	196,000	599,000	-122,000
2068	C	228,000	0	10,000	262,000	500,000	703,000	205,000	907,000	-409,000
2069	C	234,000	0	2,000	314,000	550,000	846,000	208,000	1,054,000	-507,000
2070	C	263,000	0	0	321,000	584,000	815,000	208,000	1,024,000	-443,000
Average (2020 - 2040)		298,000	33,000	11,000	191,000	533,000	391,000	192,000	584,000	-54,000
Average (2020 - 2070)		302,000	25,000	11,000	217,000	555,000	465,000	193,000	658,000	-107,000

Table C-44: PMA No. 3 Projected Upper Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Injection (af)	Stream Leakage (af)	Lateral Sub-surface Inflow (af)	Total Inflow (af)	Ground-water Pumping (af)	Lateral Sub-surface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	0	15,000	34,000	576,000	39,000	107,000	186,000	332,000	110,000
2018	AN	260,000	0	12,000	30,000	301,000	65,000	121,000	138,000	324,000	-28,000
2019	D	209,000	0	1,000	33,000	243,000	229,000	125,000	128,000	482,000	-230,000
2020	W	223,000	0	11,000	37,000	271,000	169,000	122,000	162,000	453,000	-179,000
2021	BN	297,000	4,000	1,000	37,000	339,000	157,000	125,000	156,000	438,000	-99,000
2022	W	306,000	0	23,000	35,000	364,000	52,000	105,000	177,000	334,000	19,000
2023	D	224,000	14,000	10,000	32,000	280,000	134,000	130,000	117,000	380,000	-101,000
2024	W	576,000	0	32,000	32,000	641,000	43,000	106,000	157,000	307,000	327,000
2025	AN	227,000	14,000	6,000	30,000	277,000	120,000	131,000	110,000	361,000	-84,000
2026	BN	242,000	0	2,000	33,000	277,000	139,000	130,000	131,000	400,000	-118,000
2027	D	236,000	0	1,000	37,000	274,000	232,000	129,000	142,000	504,000	-223,000
2028	AN	446,000	0	14,000	38,000	498,000	111,000	114,000	166,000	391,000	100,000
2029	W	267,000	0	12,000	36,000	315,000	125,000	125,000	150,000	400,000	-87,000
2030	W	217,000	1,000	12,000	35,000	265,000	97,000	126,000	151,000	374,000	-112,000
2031	C	274,000	12,000	10,000	35,000	330,000	163,000	127,000	134,000	424,000	-95,000
2032	C	219,000	0	0	38,000	256,000	230,000	128,000	146,000	503,000	-241,000
2033	W	566,000	0	23,000	37,000	627,000	70,000	108,000	173,000	351,000	265,000
2034	AN	269,000	6,000	4,000	34,000	313,000	133,000	125,000	130,000	387,000	-75,000
2035	W	344,000	1,000	23,000	35,000	402,000	86,000	121,000	146,000	353,000	43,000
2036	D	250,000	6,000	1,000	32,000	290,000	100,000	130,000	127,000	357,000	-70,000
2037	W	242,000	0	22,000	32,000	296,000	54,000	112,000	145,000	312,000	-22,000
2038	W	405,000	6,000	23,000	28,000	462,000	43,000	98,000	130,000	271,000	181,000
2039	AN	211,000	14,000	4,000	29,000	257,000	124,000	135,000	96,000	355,000	-94,000
2040	D	225,000	14,000	1,000	33,000	273,000	142,000	139,000	111,000	392,000	-115,000
2041	W	273,000	0	30,000	36,000	340,000	140,000	122,000	137,000	399,000	-59,000
2042	C	223,000	6,000	6,000	37,000	273,000	187,000	127,000	138,000	453,000	-176,000
2043	C	224,000	0	2,000	39,000	265,000	220,000	126,000	149,000	495,000	-223,000
2044	C	270,000	0	0	40,000	310,000	231,000	127,000	148,000	506,000	-190,000
2045	C	256,000	0	1,000	40,000	297,000	233,000	127,000	145,000	505,000	-202,000
2046	C	364,000	0	6,000	41,000	411,000	227,000	124,000	147,000	498,000	-82,000
2047	C	346,000	0	9,000	42,000	397,000	227,000	122,000	148,000	497,000	-96,000
2048	W	536,000	0	31,000	39,000	606,000	104,000	112,000	159,000	375,000	222,000
2049	C	225,000	6,000	3,000	36,000	270,000	145,000	123,000	133,000	402,000	-134,000
2050	W	560,000	0	32,000	37,000	629,000	90,000	109,000	151,000	350,000	270,000
2051	W	294,000	11,000	11,000	31,000	347,000	44,000	117,000	135,000	295,000	41,000
2052	W	407,000	13,000	18,000	31,000	469,000	130,000	126,000	102,000	358,000	112,000
2053	W	472,000	6,000	32,000	30,000	541,000	46,000	95,000	141,000	282,000	250,000
2054	AN	216,000	13,000	6,000	27,000	263,000	94,000	123,000	101,000	319,000	-58,000
2055	AN	278,000	11,000	7,000	29,000	325,000	85,000	132,000	105,000	322,000	2,000
2056	D	238,000	0	11,000	35,000	284,000	216,000	128,000	122,000	466,000	-168,000
2057	D	242,000	0	1,000	39,000	282,000	173,000	127,000	157,000	458,000	-168,000
2058	BN	267,000	0	3,000	38,000	308,000	112,000	124,000	161,000	396,000	-94,000
2059	D	291,000	0	1,000	37,000	329,000	151,000	126,000	143,000	419,000	-90,000
2060	W	390,000	0	27,000	37,000	454,000	89,000	114,000	155,000	359,000	85,000
2061	W	324,000	0	14,000	32,000	369,000	45,000	101,000	148,000	295,000	66,000
2062	C	205,000	7,000	0	31,000	244,000	149,000	125,000	110,000	383,000	-134,000
2063	C	329,000	0	7,000	38,000	375,000	226,000	127,000	134,000	487,000	-103,000
2064	BN	236,000	0	0	42,000	279,000	228,000	124,000	152,000	504,000	-217,000
2065	AN	365,000	0	13,000	40,000	418,000	126,000	116,000	157,000	399,000	15,000
2066	W	383,000	0	23,000	36,000	443,000	103,000	110,000	146,000	359,000	78,000
2067	D	215,000	6,000	1,000	33,000	256,000	124,000	123,000	125,000	372,000	-119,000
2068	C	228,000	0	10,000	38,000	276,000	203,000	127,000	134,000	464,000	-181,000
2069	C	234,000	0	2,000	41,000	278,000	240,000	126,000	147,000	514,000	-226,000
2070	C	263,000	0	0	42,000	306,000	234,000	126,000	148,000	507,000	-192,000
Average (2020 - 2040)		298,000	4,000	11,000	34,000	348,000	120,000	122,000	141,000	383,000	-37,000
Average (2020 - 2070)		302,000	3,000	11,000	35,000	352,000	140,000	122,000	140,000	402,000	-50,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-45: PMA No. 3 Projected Lower Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Injection (af)	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	0	170,000	186,000	356,000	70,000	59,000	129,000	229,000
2018	AN	0	115,000	138,000	252,000	122,000	63,000	185,000	66,000
2019	D	0	162,000	128,000	291,000	568,000	66,000	634,000	-352,000
2020	W	0	219,000	162,000	381,000	358,000	67,000	426,000	-51,000
2021	BN	31,000	211,000	156,000	367,000	344,000	69,000	414,000	-17,000
2022	W	0	177,000	177,000	354,000	107,000	58,000	165,000	192,000
2023	D	85,000	128,000	117,000	245,000	309,000	74,000	383,000	-53,000
2024	W	0	122,000	157,000	279,000	96,000	61,000	156,000	129,000
2025	AN	85,000	94,000	110,000	204,000	277,000	77,000	354,000	-66,000
2026	BN	0	136,000	131,000	267,000	322,000	73,000	395,000	-129,000
2027	D	0	201,000	142,000	343,000	572,000	72,000	644,000	-309,000
2028	AN	0	206,000	166,000	372,000	207,000	68,000	275,000	93,000
2029	W	0	181,000	150,000	331,000	271,000	71,000	342,000	-12,000
2030	W	8,000	168,000	151,000	318,000	207,000	71,000	278,000	50,000
2031	C	75,000	171,000	134,000	305,000	400,000	73,000	473,000	-96,000
2032	C	0	224,000	146,000	370,000	560,000	73,000	633,000	-271,000
2033	W	0	200,000	173,000	373,000	126,000	68,000	194,000	176,000
2034	AN	43,000	156,000	130,000	286,000	300,000	73,000	373,000	-44,000
2035	W	9,000	157,000	146,000	303,000	173,000	71,000	244,000	65,000
2036	D	43,000	130,000	127,000	257,000	212,000	77,000	289,000	10,000
2037	W	0	119,000	145,000	264,000	107,000	65,000	172,000	92,000
2038	W	43,000	86,000	130,000	215,000	103,000	51,000	154,000	106,000
2039	AN	85,000	85,000	96,000	181,000	304,000	75,000	379,000	-116,000
2040	D	85,000	120,000	111,000	231,000	339,000	83,000	422,000	-109,000
2041	W	0	167,000	137,000	304,000	297,000	72,000	369,000	-68,000
2042	C	43,000	199,000	138,000	338,000	453,000	72,000	525,000	-147,000
2043	C	0	242,000	149,000	391,000	533,000	74,000	607,000	-226,000
2044	C	0	260,000	148,000	408,000	569,000	77,000	646,000	-246,000
2045	C	0	262,000	145,000	407,000	575,000	77,000	652,000	-250,000
2046	C	0	266,000	147,000	412,000	557,000	78,000	635,000	-233,000
2047	C	0	269,000	148,000	417,000	558,000	78,000	636,000	-230,000
2048	W	0	229,000	159,000	388,000	194,000	71,000	265,000	119,000
2049	C	43,000	193,000	133,000	326,000	335,000	75,000	410,000	-40,000
2050	W	0	186,000	151,000	338,000	164,000	68,000	232,000	102,000
2051	W	73,000	121,000	135,000	256,000	99,000	67,000	165,000	165,000
2052	W	81,000	110,000	102,000	212,000	311,000	73,000	384,000	-93,000
2053	W	43,000	108,000	141,000	249,000	105,000	53,000	158,000	133,000
2054	AN	84,000	83,000	101,000	184,000	209,000	71,000	279,000	-11,000
2055	AN	66,000	89,000	105,000	194,000	183,000	75,000	258,000	-2,000
2056	D	0	169,000	122,000	291,000	580,000	75,000	655,000	-370,000
2057	D	0	233,000	157,000	390,000	404,000	77,000	482,000	-94,000
2058	BN	1,000	214,000	161,000	375,000	228,000	76,000	303,000	71,000
2059	D	0	206,000	143,000	349,000	328,000	77,000	404,000	-56,000
2060	W	0	194,000	155,000	350,000	164,000	70,000	234,000	113,000
2061	W	0	139,000	148,000	287,000	103,000	54,000	157,000	139,000
2062	C	43,000	142,000	110,000	251,000	370,000	68,000	438,000	-142,000
2063	C	0	215,000	134,000	348,000	570,000	77,000	647,000	-309,000
2064	BN	0	267,000	152,000	419,000	559,000	80,000	638,000	-231,000
2065	AN	0	239,000	157,000	396,000	251,000	75,000	325,000	67,000
2066	W	0	194,000	146,000	340,000	209,000	70,000	279,000	67,000
2067	D	43,000	182,000	125,000	307,000	280,000	72,000	352,000	-3,000
2068	C	0	224,000	134,000	358,000	499,000	78,000	577,000	-228,000
2069	C	0	272,000	147,000	420,000	606,000	82,000	687,000	-281,000
2070	C	0	278,000	148,000	426,000	582,000	82,000	664,000	-251,000
Average (2020 - 2040)		28,000	157,000	141,000	297,000	271,000	70,000	341,000	-17,000
Average (2020 - 2070)		22,000	181,000	140,000	321,000	325,000	72,000	397,000	-57,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-46: PMA No. 4 Projected Land Surface Inflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	577,000	1,296,000	853,000	111,000	75,000	1,615,000
2018	AN	344,000	805,000	720,000	156,000	63,000	1,283,000
2019	D	255,000	457,000	456,000	498,000	57,000	1,266,000
2020	W	333,000	791,000	791,000	232,000	53,000	1,409,000
2021	BN	322,000	862,000	842,000	155,000	65,000	1,384,000
2022	W	462,000	1,282,000	689,000	143,000	71,000	1,366,000
2023	D	279,000	712,000	693,000	334,000	67,000	1,373,000
2024	W	775,000	1,310,000	716,000	131,000	133,000	1,755,000
2025	AN	297,000	755,000	742,000	206,000	91,000	1,336,000
2026	BN	328,000	626,000	626,000	293,000	81,000	1,328,000
2027	D	146,000	386,000	386,000	596,000	69,000	1,197,000
2028	AN	622,000	853,000	722,000	155,000	108,000	1,607,000
2029	W	391,000	981,000	878,000	144,000	91,000	1,504,000
2030	W	353,000	884,000	867,000	155,000	72,000	1,448,000
2031	C	402,000	665,000	665,000	235,000	64,000	1,365,000
2032	C	231,000	238,000	238,000	721,000	55,000	1,245,000
2033	W	851,000	822,000	642,000	173,000	123,000	1,789,000
2034	AN	424,000	753,000	749,000	279,000	98,000	1,550,000
2035	W	460,000	955,000	740,000	146,000	85,000	1,432,000
2036	D	338,000	772,000	766,000	178,000	80,000	1,362,000
2037	W	484,000	1,179,000	658,000	148,000	73,000	1,362,000
2038	W	757,000	1,325,000	741,000	148,000	125,000	1,770,000
2039	AN	214,000	897,000	886,000	165,000	93,000	1,357,000
2040	D	270,000	662,000	662,000	320,000	75,000	1,327,000
2041	W	503,000	740,000	740,000	210,000	78,000	1,531,000
2042	C	284,000	392,000	392,000	547,000	62,000	1,285,000
2043	C	338,000	296,000	296,000	625,000	51,000	1,311,000
2044	C	275,000	533,000	533,000	457,000	50,000	1,315,000
2045	C	249,000	309,000	309,000	672,000	42,000	1,272,000
2046	C	343,000	454,000	454,000	514,000	54,000	1,364,000
2047	C	409,000	524,000	524,000	444,000	56,000	1,432,000
2048	W	719,000	974,000	771,000	150,000	98,000	1,737,000
2049	C	369,000	602,000	597,000	336,000	61,000	1,363,000
2050	W	728,000	977,000	694,000	151,000	113,000	1,686,000
2051	W	374,000	1,194,000	826,000	138,000	95,000	1,432,000
2052	W	517,000	747,000	745,000	231,000	133,000	1,625,000
2053	W	865,000	1,304,000	591,000	147,000	160,000	1,763,000
2054	AN	296,000	906,000	794,000	143,000	111,000	1,345,000
2055	AN	397,000	722,000	720,000	198,000	107,000	1,422,000
2056	D	420,000	354,000	354,000	640,000	88,000	1,502,000
2057	D	271,000	603,000	603,000	423,000	72,000	1,369,000
2058	BN	388,000	760,000	758,000	171,000	64,000	1,381,000
2059	D	277,000	827,000	822,000	159,000	68,000	1,326,000
2060	W	645,000	657,000	657,000	188,000	93,000	1,583,000
2061	W	462,000	1,316,000	708,000	147,000	90,000	1,407,000
2062	C	167,000	513,000	498,000	466,000	68,000	1,199,000
2063	C	308,000	234,000	234,000	743,000	71,000	1,356,000
2064	BN	263,000	353,000	353,000	623,000	52,000	1,291,000
2065	AN	484,000	680,000	680,000	207,000	63,000	1,433,000
2066	W	599,000	735,000	686,000	156,000	90,000	1,531,000
2067	D	276,000	781,000	774,000	162,000	63,000	1,274,000
2068	C	200,000	342,000	341,000	659,000	54,000	1,255,000
2069	C	163,000	281,000	281,000	741,000	42,000	1,229,000
2070	C	254,000	505,000	505,000	481,000	43,000	1,284,000
Average (2020 - 2040)		416,000	843,000	700,000	241,000	84,000	1,441,000
Average (2020 - 2070)		404,000	732,000	626,000	313,000	80,000	1,423,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-47: PMA No. 4 Projected Land Surface Outflows – No Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	244,000	700,000	116,000	75,000	315,000	156,000	1,615,000
2018	AN	10,000	144,000	620,000	142,000	63,000	149,000	156,000	1,283,000
2019	D	8,000	156,000	692,000	89,000	57,000	108,000	156,000	1,266,000
2020	W	13,000	196,000	749,000	129,000	53,000	113,000	156,000	1,409,000
2021	BN	18,000	148,000	721,000	60,000	65,000	216,000	156,000	1,384,000
2022	W	9,000	189,000	582,000	159,000	71,000	199,000	156,000	1,366,000
2023	D	13,000	167,000	753,000	92,000	67,000	126,000	156,000	1,373,000
2024	W	7,000	253,000	598,000	125,000	133,000	483,000	156,000	1,755,000
2025	AN	9,000	180,000	686,000	85,000	91,000	130,000	156,000	1,336,000
2026	BN	14,000	148,000	654,000	107,000	81,000	167,000	156,000	1,328,000
2027	D	16,000	82,000	710,000	30,000	69,000	135,000	156,000	1,197,000
2028	AN	5,000	238,000	627,000	113,000	108,000	361,000	156,000	1,607,000
2029	W	9,000	225,000	752,000	105,000	91,000	166,000	156,000	1,504,000
2030	W	10,000	215,000	752,000	121,000	72,000	121,000	156,000	1,448,000
2031	C	10,000	190,000	641,000	169,000	64,000	135,000	156,000	1,365,000
2032	C	15,000	141,000	689,000	88,000	55,000	100,000	156,000	1,245,000
2033	W	6,000	254,000	570,000	214,000	123,000	466,000	156,000	1,789,000
2034	AN	13,000	240,000	754,000	112,000	98,000	177,000	156,000	1,550,000
2035	W	7,000	214,000	632,000	111,000	85,000	226,000	156,000	1,432,000
2036	D	7,000	154,000	684,000	138,000	80,000	142,000	156,000	1,362,000
2037	W	4,000	215,000	562,000	201,000	73,000	150,000	156,000	1,362,000
2038	W	4,000	309,000	638,000	203,000	125,000	335,000	156,000	1,770,000
2039	AN	18,000	140,000	771,000	46,000	93,000	135,000	156,000	1,357,000
2040	D	12,000	163,000	713,000	70,000	75,000	138,000	156,000	1,327,000
2041	W	7,000	280,000	690,000	149,000	78,000	171,000	156,000	1,531,000
2042	C	9,000	172,000	678,000	101,000	62,000	107,000	156,000	1,285,000
2043	C	15,000	202,000	655,000	120,000	51,000	111,000	156,000	1,311,000
2044	C	17,000	151,000	715,000	74,000	50,000	152,000	156,000	1,315,000
2045	C	17,000	141,000	707,000	95,000	42,000	114,000	156,000	1,272,000
2046	C	9,000	111,000	704,000	105,000	54,000	226,000	156,000	1,364,000
2047	C	8,000	195,000	704,000	101,000	56,000	213,000	156,000	1,432,000
2048	W	4,000	249,000	667,000	143,000	98,000	420,000	156,000	1,737,000
2049	C	14,000	209,000	667,000	144,000	61,000	111,000	156,000	1,363,000
2050	W	5,000	216,000	598,000	157,000	113,000	442,000	156,000	1,686,000
2051	W	12,000	176,000	697,000	100,000	95,000	196,000	156,000	1,432,000
2052	W	12,000	199,000	709,000	71,000	133,000	346,000	156,000	1,625,000
2053	W	6,000	296,000	501,000	223,000	160,000	421,000	156,000	1,763,000
2054	AN	12,000	163,000	675,000	84,000	111,000	145,000	156,000	1,345,000
2055	AN	11,000	179,000	658,000	126,000	107,000	185,000	156,000	1,422,000
2056	D	5,000	239,000	732,000	140,000	88,000	143,000	156,000	1,502,000
2057	D	15,000	157,000	751,000	64,000	72,000	155,000	156,000	1,369,000
2058	BN	13,000	191,000	665,000	124,000	64,000	169,000	156,000	1,381,000
2059	D	16,000	146,000	709,000	56,000	68,000	175,000	156,000	1,326,000
2060	W	4,000	272,000	599,000	170,000	93,000	290,000	156,000	1,583,000
2061	W	6,000	181,000	606,000	148,000	90,000	221,000	156,000	1,407,000
2062	C	15,000	105,000	694,000	61,000	68,000	100,000	156,000	1,199,000
2063	C	16,000	143,000	705,000	51,000	71,000	214,000	156,000	1,356,000
2064	BN	15,000	169,000	705,000	78,000	52,000	117,000	156,000	1,291,000
2065	AN	9,000	209,000	631,000	130,000	63,000	236,000	156,000	1,433,000
2066	W	5,000	251,000	595,000	145,000	90,000	289,000	156,000	1,531,000
2067	D	7,000	144,000	677,000	123,000	63,000	105,000	156,000	1,274,000
2068	C	15,000	130,000	727,000	54,000	54,000	119,000	156,000	1,255,000
2069	C	15,000	94,000	747,000	68,000	42,000	107,000	156,000	1,229,000
2070	C	19,000	120,000	711,000	65,000	43,000	171,000	156,000	1,284,000
Average (2020 - 2040)		10,000	194,000	678,000	118,000	84,000	201,000	156,000	1,441,000
Average (2020 - 2070)		11,000	187,000	677,000	113,000	80,000	200,000	156,000	1,423,000

Table C-48: PMA No. 4 Projected Groundwater Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	15,000	204,000	620,000	110,000	160,000	269,000	341,000
2018	AN	245,000	11,000	139,000	396,000	155,000	172,000	326,000	63,000
2019	D	210,000	1,000	152,000	363,000	494,000	188,000	681,000	-317,000
2020	W	218,000	12,000	173,000	403,000	230,000	194,000	424,000	-28,000
2021	BN	311,000	1,000	137,000	449,000	153,000	200,000	354,000	91,000
2022	W	288,000	23,000	111,000	421,000	142,000	155,000	297,000	120,000
2023	D	218,000	10,000	114,000	343,000	330,000	187,000	517,000	-172,000
2024	W	515,000	32,000	116,000	663,000	130,000	148,000	278,000	380,000
2025	AN	199,000	5,000	97,000	302,000	204,000	187,000	391,000	-92,000
2026	BN	246,000	2,000	110,000	359,000	290,000	201,000	491,000	-134,000
2027	D	226,000	1,000	172,000	399,000	591,000	198,000	789,000	-388,000
2028	AN	415,000	13,000	182,000	611,000	154,000	171,000	324,000	277,000
2029	W	236,000	11,000	124,000	372,000	143,000	190,000	332,000	35,000
2030	W	208,000	11,000	107,000	327,000	154,000	203,000	357,000	-35,000
2031	C	230,000	8,000	107,000	345,000	233,000	204,000	436,000	-91,000
2032	C	203,000	0	175,000	378,000	714,000	200,000	914,000	-532,000
2033	W	506,000	21,000	197,000	725,000	171,000	162,000	333,000	383,000
2034	AN	241,000	4,000	150,000	394,000	276,000	185,000	461,000	-69,000
2035	W	301,000	21,000	133,000	455,000	145,000	177,000	322,000	127,000
2036	D	222,000	1,000	110,000	333,000	176,000	200,000	376,000	-46,000
2037	W	236,000	23,000	99,000	358,000	146,000	162,000	308,000	48,000
2038	W	373,000	22,000	92,000	487,000	146,000	137,000	283,000	199,000
2039	AN	203,000	4,000	84,000	291,000	163,000	193,000	356,000	-68,000
2040	D	222,000	1,000	101,000	324,000	317,000	210,000	527,000	-200,000
2041	W	253,000	30,000	121,000	405,000	208,000	194,000	402,000	-2,000
2042	C	204,000	6,000	160,000	370,000	542,000	197,000	739,000	-366,000
2043	C	218,000	2,000	229,000	448,000	618,000	194,000	812,000	-364,000
2044	C	261,000	0	240,000	501,000	452,000	194,000	646,000	-150,000
2045	C	230,000	1,000	250,000	480,000	665,000	197,000	862,000	-381,000
2046	C	331,000	5,000	257,000	594,000	509,000	192,000	701,000	-114,000
2047	C	316,000	8,000	248,000	573,000	439,000	191,000	630,000	-63,000
2048	W	485,000	30,000	205,000	721,000	149,000	167,000	316,000	396,000
2049	C	209,000	3,000	162,000	374,000	332,000	185,000	517,000	-142,000
2050	W	491,000	31,000	150,000	673,000	150,000	162,000	312,000	355,000
2051	W	263,000	10,000	116,000	388,000	137,000	158,000	295,000	87,000
2052	W	378,000	17,000	108,000	503,000	229,000	178,000	407,000	93,000
2053	W	425,000	32,000	102,000	559,000	146,000	141,000	287,000	267,000
2054	AN	195,000	6,000	90,000	291,000	142,000	172,000	315,000	-25,000
2055	AN	240,000	5,000	91,000	337,000	196,000	191,000	387,000	-52,000
2056	D	215,000	10,000	160,000	385,000	634,000	195,000	829,000	-440,000
2057	D	243,000	1,000	214,000	458,000	419,000	198,000	617,000	-161,000
2058	BN	264,000	3,000	181,000	448,000	169,000	194,000	363,000	78,000
2059	D	267,000	1,000	137,000	405,000	158,000	201,000	359,000	42,000
2060	W	359,000	26,000	120,000	504,000	186,000	187,000	373,000	127,000
2061	W	291,000	12,000	113,000	417,000	146,000	151,000	296,000	117,000
2062	C	192,000	0	142,000	334,000	461,000	183,000	644,000	-304,000
2063	C	303,000	6,000	213,000	522,000	736,000	199,000	935,000	-412,000
2064	BN	223,000	0	265,000	488,000	617,000	195,000	812,000	-327,000
2065	AN	332,000	12,000	228,000	572,000	205,000	186,000	391,000	171,000
2066	W	360,000	23,000	169,000	552,000	154,000	171,000	325,000	220,000
2067	D	201,000	1,000	141,000	343,000	160,000	185,000	345,000	-3,000
2068	C	223,000	0	181,000	405,000	653,000	202,000	854,000	-443,000
2069	C	222,000	0	261,000	483,000	734,000	203,000	937,000	-458,000
2070	C	286,000	0	270,000	555,000	477,000	198,000	675,000	-125,000
Average (2020 - 2040)		277,000	11,000	128,000	416,000	238,000	184,000	422,000	-9,000
Average (2020 - 2070)		280,000	10,000	157,000	448,000	310,000	185,000	495,000	-51,000

Table C-49: PMA No. 4 Projected Upper Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	401,000	15,000	34,000	576,000	39,000	103,000	187,000	329,000	110,000
2018	AN	245,000	11,000	29,000	286,000	52,000	113,000	146,000	312,000	-32,000
2019	D	210,000	1,000	31,000	241,000	151,000	123,000	121,000	394,000	-148,000
2020	W	218,000	12,000	33,000	262,000	81,000	126,000	146,000	353,000	-95,000
2021	BN	311,000	1,000	31,000	343,000	52,000	128,000	143,000	323,000	14,000
2022	W	288,000	23,000	28,000	339,000	47,000	102,000	137,000	286,000	47,000
2023	D	218,000	10,000	29,000	257,000	108,000	122,000	114,000	344,000	-84,000
2024	W	515,000	32,000	29,000	576,000	43,000	98,000	145,000	286,000	282,000
2025	AN	199,000	5,000	28,000	232,000	70,000	121,000	120,000	311,000	-80,000
2026	BN	246,000	2,000	29,000	277,000	96,000	129,000	115,000	341,000	-62,000
2027	D	226,000	1,000	33,000	260,000	179,000	128,000	128,000	434,000	-168,000
2028	AN	415,000	13,000	34,000	462,000	53,000	110,000	170,000	333,000	120,000
2029	W	236,000	11,000	30,000	277,000	47,000	123,000	141,000	311,000	-40,000
2030	W	208,000	11,000	30,000	249,000	51,000	130,000	128,000	309,000	-62,000
2031	C	230,000	8,000	29,000	267,000	78,000	131,000	115,000	324,000	-57,000
2032	C	203,000	0	33,000	236,000	209,000	129,000	123,000	460,000	-214,000
2033	W	506,000	21,000	35,000	562,000	60,000	104,000	173,000	338,000	217,000
2034	AN	241,000	4,000	31,000	276,000	94,000	121,000	133,000	348,000	-74,000
2035	W	301,000	21,000	30,000	353,000	48,000	114,000	144,000	306,000	41,000
2036	D	222,000	1,000	29,000	252,000	60,000	126,000	126,000	312,000	-62,000
2037	W	236,000	23,000	28,000	287,000	47,000	104,000	132,000	283,000	-1,000
2038	W	373,000	22,000	26,000	422,000	47,000	92,000	128,000	267,000	150,000
2039	AN	203,000	4,000	27,000	234,000	54,000	126,000	113,000	293,000	-59,000
2040	D	222,000	1,000	29,000	252,000	102,000	133,000	107,000	342,000	-85,000
2041	W	253,000	30,000	31,000	314,000	72,000	124,000	127,000	323,000	-11,000
2042	C	204,000	6,000	32,000	242,000	162,000	127,000	120,000	409,000	-161,000
2043	C	218,000	2,000	36,000	256,000	194,000	125,000	144,000	463,000	-203,000
2044	C	261,000	0	37,000	297,000	154,000	124,000	153,000	430,000	-133,000
2045	C	230,000	1,000	37,000	267,000	209,000	126,000	143,000	478,000	-208,000
2046	C	331,000	5,000	38,000	374,000	170,000	122,000	149,000	441,000	-66,000
2047	C	316,000	8,000	38,000	362,000	150,000	120,000	148,000	418,000	-58,000
2048	W	485,000	30,000	36,000	551,000	53,000	106,000	166,000	324,000	216,000
2049	C	209,000	3,000	32,000	244,000	109,000	119,000	126,000	354,000	-111,000
2050	W	491,000	31,000	32,000	554,000	50,000	102,000	148,000	300,000	246,000
2051	W	263,000	10,000	28,000	300,000	45,000	105,000	133,000	283,000	12,000
2052	W	378,000	17,000	28,000	424,000	78,000	117,000	113,000	308,000	115,000
2053	W	425,000	32,000	28,000	485,000	47,000	91,000	132,000	271,000	209,000
2054	AN	195,000	6,000	26,000	227,000	47,000	112,000	122,000	280,000	-55,000
2055	AN	240,000	5,000	27,000	273,000	66,000	124,000	109,000	298,000	-26,000
2056	D	215,000	10,000	32,000	257,000	182,000	125,000	113,000	420,000	-152,000
2057	D	243,000	1,000	36,000	280,000	136,000	126,000	145,000	407,000	-126,000
2058	BN	264,000	3,000	34,000	300,000	59,000	123,000	156,000	337,000	-45,000
2059	D	267,000	1,000	31,000	299,000	53,000	128,000	136,000	317,000	-23,000
2060	W	359,000	26,000	30,000	414,000	64,000	118,000	125,000	307,000	102,000
2061	W	291,000	12,000	28,000	332,000	47,000	100,000	130,000	277,000	49,000
2062	C	192,000	0	29,000	221,000	138,000	121,000	108,000	368,000	-140,000
2063	C	303,000	6,000	36,000	345,000	213,000	127,000	129,000	469,000	-116,000
2064	BN	223,000	0	39,000	262,000	189,000	123,000	152,000	464,000	-198,000
2065	AN	332,000	12,000	36,000	380,000	74,000	116,000	163,000	352,000	18,000
2066	W	360,000	23,000	32,000	415,000	52,000	107,000	148,000	307,000	100,000
2067	D	201,000	1,000	29,000	231,000	53,000	120,000	126,000	299,000	-72,000
2068	C	223,000	0	33,000	256,000	187,000	128,000	114,000	429,000	-163,000
2069	C	222,000	0	38,000	260,000	214,000	128,000	142,000	484,000	-217,000
2070	C	286,000	0	38,000	324,000	153,000	124,000	152,000	429,000	-105,000
Average (2020 - 2040)		277,000	11,000	30,000	318,000	77,000	119,000	132,000	329,000	-13,000
Average (2020 - 2070)		280,000	10,000	32,000	322,000	99,000	119,000	134,000	352,000	-31,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-50: PMA No. 4 Projected Lower Aquifer Budget – No Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	170,000	187,000	357,000	70,000	56,000	127,000	232,000
2018	AN	110,000	146,000	256,000	102,000	58,000	161,000	95,000
2019	D	122,000	121,000	242,000	343,000	65,000	408,000	-169,000
2020	W	140,000	146,000	286,000	149,000	68,000	216,000	67,000
2021	BN	106,000	143,000	249,000	102,000	72,000	173,000	76,000
2022	W	82,000	137,000	219,000	95,000	53,000	148,000	73,000
2023	D	85,000	114,000	199,000	223,000	64,000	287,000	-88,000
2024	W	87,000	145,000	232,000	87,000	50,000	137,000	99,000
2025	AN	69,000	120,000	189,000	134,000	66,000	200,000	-11,000
2026	BN	81,000	115,000	196,000	193,000	72,000	265,000	-72,000
2027	D	139,000	128,000	267,000	412,000	70,000	482,000	-221,000
2028	AN	149,000	170,000	318,000	100,000	60,000	161,000	157,000
2029	W	94,000	141,000	235,000	95,000	67,000	162,000	74,000
2030	W	78,000	128,000	206,000	103,000	73,000	176,000	27,000
2031	C	78,000	115,000	192,000	154,000	73,000	227,000	-35,000
2032	C	142,000	123,000	265,000	505,000	71,000	576,000	-318,000
2033	W	162,000	173,000	336,000	111,000	58,000	169,000	166,000
2034	AN	119,000	133,000	251,000	182,000	64,000	246,000	5,000
2035	W	103,000	144,000	246,000	97,000	62,000	159,000	86,000
2036	D	80,000	126,000	206,000	116,000	73,000	190,000	16,000
2037	W	71,000	132,000	203,000	99,000	58,000	157,000	49,000
2038	W	65,000	128,000	193,000	99,000	45,000	144,000	50,000
2039	AN	57,000	113,000	170,000	109,000	67,000	176,000	-8,000
2040	D	72,000	107,000	179,000	215,000	77,000	292,000	-115,000
2041	W	91,000	127,000	217,000	136,000	70,000	206,000	9,000
2042	C	128,000	120,000	248,000	380,000	70,000	450,000	-205,000
2043	C	193,000	144,000	337,000	424,000	69,000	493,000	-162,000
2044	C	203,000	153,000	356,000	298,000	70,000	368,000	-17,000
2045	C	213,000	143,000	356,000	455,000	71,000	526,000	-174,000
2046	C	219,000	149,000	368,000	339,000	70,000	409,000	-48,000
2047	C	210,000	148,000	358,000	289,000	71,000	360,000	-5,000
2048	W	169,000	166,000	335,000	96,000	61,000	157,000	180,000
2049	C	130,000	126,000	256,000	223,000	66,000	289,000	-31,000
2050	W	119,000	148,000	267,000	100,000	60,000	160,000	110,000
2051	W	88,000	133,000	221,000	92,000	53,000	145,000	75,000
2052	W	79,000	113,000	192,000	151,000	61,000	212,000	-22,000
2053	W	74,000	132,000	206,000	99,000	50,000	148,000	58,000
2054	AN	64,000	122,000	186,000	95,000	61,000	156,000	30,000
2055	AN	64,000	109,000	173,000	130,000	67,000	197,000	-26,000
2056	D	128,000	113,000	241,000	452,000	70,000	522,000	-287,000
2057	D	179,000	145,000	324,000	283,000	72,000	355,000	-35,000
2058	BN	147,000	156,000	303,000	110,000	71,000	182,000	123,000
2059	D	106,000	136,000	242,000	105,000	73,000	178,000	65,000
2060	W	91,000	125,000	216,000	122,000	69,000	192,000	25,000
2061	W	86,000	130,000	216,000	99,000	51,000	149,000	68,000
2062	C	112,000	108,000	221,000	323,000	62,000	385,000	-164,000
2063	C	177,000	129,000	307,000	523,000	73,000	596,000	-296,000
2064	BN	226,000	152,000	378,000	428,000	72,000	500,000	-129,000
2065	AN	192,000	163,000	355,000	131,000	71,000	202,000	153,000
2066	W	137,000	148,000	285,000	103,000	64,000	166,000	120,000
2067	D	112,000	126,000	238,000	108,000	65,000	172,000	69,000
2068	C	149,000	114,000	262,000	466,000	73,000	539,000	-280,000
2069	C	223,000	142,000	365,000	520,000	75,000	595,000	-241,000
2070	C	232,000	152,000	384,000	324,000	74,000	398,000	-20,000
Average (2020 - 2040)		98,000	132,000	230,000	161,000	65,000	226,000	4,000
Average (2020 - 2070)		126,000	134,000	260,000	211,000	66,000	278,000	-19,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-51: PMA No. 4 Projected Land Surface Inflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	579,000	1,296,000	804,000	112,000	73,000	1,569,000
2018	AN	347,000	805,000	652,000	185,000	61,000	1,246,000
2019	D	267,000	457,000	456,000	460,000	56,000	1,239,000
2020	W	345,000	791,000	791,000	271,000	56,000	1,462,000
2021	BN	317,000	862,000	758,000	218,000	64,000	1,357,000
2022	W	471,000	1,282,000	614,000	144,000	66,000	1,295,000
2023	D	283,000	712,000	662,000	349,000	67,000	1,362,000
2024	W	810,000	1,310,000	641,000	134,000	135,000	1,719,000
2025	AN	306,000	755,000	726,000	213,000	93,000	1,339,000
2026	BN	333,000	626,000	625,000	287,000	82,000	1,328,000
2027	D	151,000	386,000	385,000	545,000	67,000	1,147,000
2028	AN	628,000	853,000	719,000	175,000	108,000	1,630,000
2029	W	401,000	981,000	886,000	151,000	94,000	1,532,000
2030	W	367,000	884,000	875,000	182,000	73,000	1,496,000
2031	C	442,000	665,000	636,000	301,000	64,000	1,443,000
2032	C	233,000	238,000	238,000	674,000	53,000	1,198,000
2033	W	895,000	822,000	642,000	166,000	126,000	1,829,000
2034	AN	436,000	753,000	706,000	267,000	99,000	1,508,000
2035	W	471,000	955,000	714,000	145,000	88,000	1,418,000
2036	D	342,000	772,000	715,000	167,000	80,000	1,304,000
2037	W	482,000	1,179,000	608,000	148,000	74,000	1,312,000
2038	W	779,000	1,325,000	742,000	148,000	129,000	1,798,000
2039	AN	222,000	897,000	853,000	186,000	95,000	1,356,000
2040	D	278,000	662,000	653,000	282,000	75,000	1,288,000
2041	W	515,000	740,000	690,000	199,000	77,000	1,481,000
2042	C	291,000	386,000	386,000	493,000	61,000	1,230,000
2043	C	348,000	288,000	288,000	552,000	50,000	1,239,000
2044	C	286,000	533,000	533,000	463,000	53,000	1,335,000
2045	C	266,000	310,000	310,000	676,000	43,000	1,295,000
2046	C	368,000	448,000	448,000	462,000	54,000	1,332,000
2047	C	425,000	523,000	523,000	469,000	60,000	1,478,000
2048	W	739,000	974,000	688,000	178,000	102,000	1,708,000
2049	C	380,000	602,000	593,000	334,000	63,000	1,370,000
2050	W	749,000	977,000	642,000	151,000	117,000	1,660,000
2051	W	389,000	1,194,000	764,000	138,000	97,000	1,389,000
2052	W	543,000	747,000	745,000	241,000	141,000	1,670,000
2053	W	879,000	1,304,000	542,000	146,000	165,000	1,732,000
2054	AN	302,000	906,000	769,000	142,000	115,000	1,328,000
2055	AN	407,000	722,000	644,000	178,000	109,000	1,338,000
2056	D	440,000	354,000	354,000	642,000	96,000	1,532,000
2057	D	281,000	603,000	599,000	366,000	74,000	1,320,000
2058	BN	399,000	760,000	758,000	190,000	68,000	1,415,000
2059	D	297,000	827,000	799,000	191,000	70,000	1,357,000
2060	W	675,000	657,000	641,000	194,000	97,000	1,607,000
2061	W	461,000	1,316,000	698,000	147,000	93,000	1,399,000
2062	C	174,000	513,000	495,000	491,000	72,000	1,232,000
2063	C	305,000	234,000	234,000	736,000	73,000	1,348,000
2064	BN	268,000	353,000	353,000	568,000	51,000	1,240,000
2065	AN	505,000	680,000	657,000	200,000	64,000	1,426,000
2066	W	606,000	735,000	612,000	166,000	92,000	1,475,000
2067	D	301,000	781,000	698,000	183,000	64,000	1,246,000
2068	C	212,000	342,000	342,000	663,000	56,000	1,272,000
2069	C	176,000	281,000	281,000	641,000	42,000	1,140,000
2070	C	250,000	505,000	505,000	448,000	43,000	1,247,000
Average (2020 - 2040)		428,000	843,000	676,000	245,000	85,000	1,434,000
Average (2020 - 2070)		416,000	732,000	604,000	310,000	81,000	1,411,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-52: PMA No. 4 Projected Land Surface Outflows – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	10,000	245,000	657,000	117,000	73,000	311,000	156,000	1,569,000
2018	AN	9,000	146,000	585,000	139,000	61,000	149,000	156,000	1,246,000
2019	D	8,000	165,000	658,000	91,000	56,000	105,000	156,000	1,239,000
2020	W	15,000	205,000	781,000	132,000	56,000	118,000	156,000	1,462,000
2021	BN	21,000	149,000	699,000	59,000	64,000	209,000	156,000	1,357,000
2022	W	9,000	194,000	515,000	157,000	66,000	199,000	156,000	1,295,000
2023	D	11,000	170,000	738,000	93,000	67,000	127,000	156,000	1,362,000
2024	W	8,000	265,000	532,000	127,000	135,000	498,000	156,000	1,719,000
2025	AN	9,000	184,000	679,000	86,000	93,000	132,000	156,000	1,339,000
2026	BN	15,000	152,000	647,000	107,000	82,000	168,000	156,000	1,328,000
2027	D	15,000	85,000	663,000	31,000	67,000	132,000	156,000	1,147,000
2028	AN	5,000	241,000	641,000	113,000	108,000	365,000	156,000	1,630,000
2029	W	10,000	231,000	765,000	106,000	94,000	171,000	156,000	1,532,000
2030	W	10,000	225,000	782,000	125,000	73,000	125,000	156,000	1,496,000
2031	C	11,000	209,000	673,000	188,000	64,000	142,000	156,000	1,443,000
2032	C	15,000	144,000	647,000	88,000	53,000	96,000	156,000	1,198,000
2033	W	4,000	268,000	566,000	222,000	126,000	487,000	156,000	1,829,000
2034	AN	13,000	247,000	704,000	113,000	99,000	177,000	156,000	1,508,000
2035	W	6,000	217,000	607,000	111,000	88,000	232,000	156,000	1,418,000
2036	D	5,000	158,000	630,000	136,000	80,000	139,000	156,000	1,304,000
2037	W	4,000	218,000	517,000	195,000	74,000	147,000	156,000	1,312,000
2038	W	5,000	319,000	638,000	210,000	129,000	341,000	156,000	1,798,000
2039	AN	19,000	145,000	758,000	48,000	95,000	135,000	156,000	1,356,000
2040	D	13,000	168,000	671,000	71,000	75,000	135,000	156,000	1,288,000
2041	W	7,000	287,000	635,000	153,000	77,000	167,000	156,000	1,481,000
2042	C	10,000	179,000	622,000	101,000	61,000	101,000	156,000	1,230,000
2043	C	16,000	211,000	581,000	121,000	50,000	103,000	156,000	1,239,000
2044	C	19,000	156,000	720,000	76,000	53,000	156,000	156,000	1,335,000
2045	C	18,000	152,000	711,000	99,000	43,000	116,000	156,000	1,295,000
2046	C	9,000	119,000	652,000	113,000	54,000	229,000	156,000	1,332,000
2047	C	8,000	202,000	727,000	102,000	60,000	223,000	156,000	1,478,000
2048	W	5,000	259,000	617,000	142,000	102,000	427,000	156,000	1,708,000
2049	C	14,000	217,000	662,000	147,000	63,000	112,000	156,000	1,370,000
2050	W	5,000	220,000	551,000	158,000	117,000	453,000	156,000	1,660,000
2051	W	12,000	184,000	642,000	100,000	97,000	197,000	156,000	1,389,000
2052	W	13,000	211,000	717,000	76,000	141,000	355,000	156,000	1,670,000
2053	W	4,000	298,000	458,000	217,000	165,000	435,000	156,000	1,732,000
2054	AN	11,000	165,000	651,000	83,000	115,000	147,000	156,000	1,328,000
2055	AN	10,000	186,000	571,000	123,000	109,000	183,000	156,000	1,338,000
2056	D	5,000	253,000	733,000	143,000	96,000	146,000	156,000	1,532,000
2057	D	14,000	162,000	696,000	66,000	74,000	152,000	156,000	1,320,000
2058	BN	13,000	198,000	681,000	126,000	68,000	174,000	156,000	1,415,000
2059	D	18,000	157,000	716,000	60,000	70,000	181,000	156,000	1,357,000
2060	W	4,000	285,000	590,000	173,000	97,000	303,000	156,000	1,607,000
2061	W	4,000	181,000	598,000	147,000	93,000	220,000	156,000	1,399,000
2062	C	16,000	109,000	711,000	64,000	72,000	105,000	156,000	1,232,000
2063	C	18,000	143,000	697,000	49,000	73,000	212,000	156,000	1,348,000
2064	BN	15,000	173,000	656,000	77,000	51,000	113,000	156,000	1,240,000
2065	AN	10,000	221,000	602,000	133,000	64,000	240,000	156,000	1,426,000
2066	W	5,000	254,000	537,000	141,000	92,000	291,000	156,000	1,475,000
2067	D	7,000	154,000	628,000	137,000	64,000	100,000	156,000	1,246,000
2068	C	16,000	136,000	731,000	57,000	56,000	121,000	156,000	1,272,000
2069	C	15,000	102,000	657,000	72,000	42,000	96,000	156,000	1,140,000
2070	C	21,000	119,000	679,000	66,000	43,000	163,000	156,000	1,247,000
Average (2020 - 2040)		11,000	200,000	660,000	120,000	85,000	204,000	156,000	1,434,000
Average (2020 - 2070)		11,000	194,000	653,000	114,000	81,000	202,000	156,000	1,411,000

Table C-53: PMA No. 4 Projected Groundwater Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	15,000	204,000	618,000	111,000	158,000	269,000	338,000
2018	AN	246,000	12,000	141,000	399,000	184,000	169,000	353,000	42,000
2019	D	207,000	1,000	149,000	357,000	455,000	189,000	644,000	-286,000
2020	W	220,000	12,000	175,000	407,000	268,000	201,000	469,000	-67,000
2021	BN	305,000	1,000	152,000	458,000	216,000	193,000	409,000	46,000
2022	W	292,000	23,000	123,000	438,000	142,000	147,000	289,000	144,000
2023	D	219,000	10,000	118,000	348,000	346,000	186,000	532,000	-182,000
2024	W	528,000	32,000	126,000	685,000	132,000	149,000	281,000	398,000
2025	AN	200,000	5,000	103,000	308,000	211,000	185,000	396,000	-89,000
2026	BN	246,000	3,000	112,000	361,000	284,000	202,000	486,000	-126,000
2027	D	225,000	1,000	163,000	389,000	539,000	198,000	738,000	-347,000
2028	AN	419,000	13,000	180,000	613,000	173,000	169,000	343,000	259,000
2029	W	239,000	12,000	126,000	377,000	149,000	195,000	344,000	27,000
2030	W	212,000	11,000	111,000	334,000	180,000	206,000	386,000	-55,000
2031	C	237,000	8,000	118,000	363,000	298,000	202,000	499,000	-134,000
2032	C	201,000	0	187,000	388,000	667,000	198,000	866,000	-475,000
2033	W	524,000	22,000	196,000	742,000	165,000	159,000	323,000	410,000
2034	AN	240,000	4,000	149,000	393,000	264,000	189,000	453,000	-64,000
2035	W	305,000	22,000	132,000	458,000	143,000	176,000	319,000	132,000
2036	D	220,000	1,000	107,000	328,000	166,000	191,000	357,000	-32,000
2037	W	232,000	22,000	97,000	351,000	146,000	159,000	306,000	42,000
2038	W	376,000	22,000	91,000	489,000	146,000	141,000	288,000	196,000
2039	AN	201,000	4,000	87,000	292,000	185,000	195,000	379,000	-90,000
2040	D	220,000	1,000	100,000	321,000	280,000	211,000	491,000	-165,000
2041	W	249,000	30,000	115,000	395,000	197,000	191,000	388,000	1,000
2042	C	199,000	6,000	147,000	352,000	488,000	196,000	684,000	-328,000
2043	C	211,000	2,000	210,000	423,000	546,000	193,000	740,000	-316,000
2044	C	263,000	0	233,000	496,000	458,000	195,000	653,000	-161,000
2045	C	230,000	1,000	245,000	477,000	669,000	200,000	868,000	-390,000
2046	C	335,000	6,000	247,000	588,000	457,000	194,000	652,000	-69,000
2047	C	323,000	8,000	247,000	578,000	464,000	194,000	658,000	-85,000
2048	W	489,000	30,000	210,000	729,000	176,000	160,000	336,000	381,000
2049	C	208,000	3,000	165,000	375,000	331,000	183,000	513,000	-137,000
2050	W	499,000	31,000	151,000	680,000	149,000	159,000	308,000	363,000
2051	W	261,000	10,000	116,000	387,000	136,000	150,000	287,000	95,000
2052	W	381,000	18,000	109,000	508,000	239,000	175,000	414,000	90,000
2053	W	433,000	32,000	101,000	567,000	144,000	137,000	281,000	279,000
2054	AN	194,000	6,000	89,000	289,000	141,000	173,000	314,000	-25,000
2055	AN	236,000	6,000	88,000	329,000	177,000	185,000	362,000	-33,000
2056	D	212,000	10,000	156,000	379,000	636,000	196,000	832,000	-447,000
2057	D	238,000	1,000	202,000	441,000	363,000	196,000	559,000	-120,000
2058	BN	264,000	3,000	170,000	437,000	188,000	198,000	387,000	45,000
2059	D	271,000	1,000	141,000	413,000	189,000	199,000	388,000	21,000
2060	W	367,000	27,000	123,000	517,000	193,000	184,000	377,000	134,000
2061	W	288,000	13,000	116,000	417,000	145,000	149,000	294,000	118,000
2062	C	192,000	0	142,000	334,000	486,000	181,000	667,000	-325,000
2063	C	299,000	6,000	220,000	525,000	729,000	198,000	926,000	-400,000
2064	BN	220,000	0	259,000	479,000	562,000	194,000	756,000	-279,000
2065	AN	335,000	12,000	225,000	572,000	198,000	185,000	382,000	180,000
2066	W	360,000	24,000	167,000	550,000	164,000	166,000	330,000	212,000
2067	D	194,000	1,000	142,000	337,000	182,000	179,000	360,000	-26,000
2068	C	224,000	8,000	184,000	416,000	657,000	202,000	859,000	-438,000
2069	C	212,000	2,000	259,000	474,000	635,000	198,000	833,000	-362,000
2070	C	278,000	0	262,000	540,000	444,000	200,000	644,000	-108,000
Average (2020 - 2040)		279,000	11,000	131,000	421,000	243,000	183,000	426,000	-8,000
Average (2020 - 2070)		281,000	10,000	157,000	448,000	307,000	184,000	490,000	-45,000

Table C-54: PMA No. 4 Projected Upper Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	398,000	15,000	34,000	576,000	40,000	102,000	187,000	329,000	107,000
2018	AN	246,000	12,000	29,000	287,000	62,000	113,000	143,000	318,000	-36,000
2019	D	207,000	1,000	30,000	239,000	141,000	124,000	121,000	385,000	-143,000
2020	W	220,000	12,000	34,000	266,000	93,000	130,000	142,000	365,000	-102,000
2021	BN	305,000	1,000	33,000	339,000	72,000	126,000	142,000	341,000	-7,000
2022	W	292,000	23,000	29,000	343,000	48,000	97,000	145,000	289,000	46,000
2023	D	219,000	10,000	29,000	258,000	108,000	121,000	120,000	349,000	-89,000
2024	W	528,000	32,000	30,000	590,000	44,000	99,000	149,000	292,000	290,000
2025	AN	200,000	5,000	28,000	233,000	71,000	119,000	125,000	315,000	-83,000
2026	BN	246,000	3,000	29,000	278,000	94,000	129,000	119,000	342,000	-63,000
2027	D	225,000	1,000	32,000	258,000	163,000	128,000	127,000	418,000	-154,000
2028	AN	419,000	13,000	34,000	467,000	60,000	109,000	167,000	336,000	122,000
2029	W	239,000	12,000	31,000	281,000	50,000	126,000	141,000	317,000	-41,000
2030	W	212,000	11,000	30,000	253,000	60,000	131,000	126,000	317,000	-66,000
2031	C	237,000	8,000	30,000	276,000	94,000	128,000	121,000	343,000	-67,000
2032	C	201,000	0	34,000	235,000	197,000	128,000	132,000	457,000	-214,000
2033	W	524,000	22,000	35,000	581,000	57,000	101,000	175,000	334,000	238,000
2034	AN	240,000	4,000	31,000	275,000	89,000	124,000	134,000	347,000	-74,000
2035	W	305,000	22,000	30,000	357,000	47,000	114,000	143,000	304,000	47,000
2036	D	220,000	1,000	29,000	249,000	56,000	121,000	127,000	304,000	-58,000
2037	W	232,000	22,000	27,000	282,000	47,000	102,000	131,000	280,000	-2,000
2038	W	376,000	22,000	26,000	425,000	47,000	94,000	127,000	268,000	151,000
2039	AN	201,000	4,000	27,000	232,000	60,000	127,000	112,000	300,000	-67,000
2040	D	220,000	1,000	29,000	250,000	89,000	133,000	112,000	334,000	-80,000
2041	W	249,000	30,000	31,000	310,000	67,000	122,000	127,000	316,000	-9,000
2042	C	199,000	6,000	31,000	236,000	147,000	126,000	117,000	390,000	-148,000
2043	C	211,000	2,000	35,000	248,000	174,000	124,000	139,000	437,000	-185,000
2044	C	263,000	0	36,000	299,000	154,000	125,000	152,000	430,000	-130,000
2045	C	230,000	1,000	37,000	268,000	208,000	128,000	143,000	479,000	-208,000
2046	C	335,000	6,000	37,000	377,000	153,000	123,000	151,000	427,000	-51,000
2047	C	323,000	8,000	38,000	369,000	156,000	123,000	148,000	426,000	-59,000
2048	W	489,000	30,000	36,000	555,000	62,000	102,000	165,000	329,000	215,000
2049	C	208,000	3,000	31,000	242,000	108,000	118,000	128,000	354,000	-113,000
2050	W	499,000	31,000	31,000	561,000	49,000	100,000	149,000	299,000	254,000
2051	W	261,000	10,000	28,000	299,000	44,000	100,000	134,000	278,000	15,000
2052	W	381,000	18,000	28,000	427,000	78,000	116,000	116,000	310,000	117,000
2053	W	433,000	32,000	27,000	493,000	46,000	89,000	134,000	269,000	219,000
2054	AN	194,000	6,000	26,000	225,000	46,000	113,000	122,000	280,000	-57,000
2055	AN	236,000	6,000	27,000	268,000	58,000	119,000	111,000	289,000	-21,000
2056	D	212,000	10,000	31,000	254,000	181,000	126,000	112,000	419,000	-154,000
2057	D	238,000	1,000	35,000	274,000	118,000	124,000	147,000	389,000	-116,000
2058	BN	264,000	3,000	33,000	301,000	64,000	125,000	150,000	339,000	-46,000
2059	D	271,000	1,000	31,000	303,000	61,000	126,000	137,000	325,000	-26,000
2060	W	367,000	27,000	30,000	424,000	65,000	116,000	129,000	309,000	109,000
2061	W	288,000	13,000	28,000	329,000	47,000	99,000	133,000	279,000	44,000
2062	C	192,000	0	29,000	221,000	142,000	121,000	109,000	372,000	-144,000
2063	C	299,000	6,000	36,000	342,000	211,000	126,000	133,000	469,000	-120,000
2064	BN	220,000	0	38,000	258,000	174,000	122,000	154,000	451,000	-190,000
2065	AN	335,000	12,000	36,000	383,000	70,000	115,000	165,000	350,000	25,000
2066	W	360,000	24,000	31,000	415,000	55,000	104,000	148,000	306,000	100,000
2067	D	194,000	1,000	28,000	224,000	60,000	117,000	125,000	302,000	-82,000
2068	C	224,000	8,000	33,000	265,000	188,000	129,000	114,000	430,000	-156,000
2069	C	212,000	2,000	38,000	252,000	191,000	125,000	146,000	462,000	-203,000
2070	C	278,000	0	38,000	316,000	143,000	125,000	152,000	421,000	-105,000
Average (2020 - 2040)		279,000	11,000	30,000	320,000	78,000	119,000	134,000	331,000	-13,000
Average (2020 - 2070)		281,000	10,000	32,000	323,000	97,000	118,000	135,000	351,000	-29,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-55: PMA No. 4 Projected Lower Aquifer Budget – 2030 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	171,000	187,000	358,000	71,000	55,000	127,000	231,000
2018	AN	112,000	143,000	255,000	122,000	57,000	178,000	78,000
2019	D	119,000	121,000	240,000	314,000	65,000	380,000	-143,000
2020	W	142,000	142,000	284,000	175,000	70,000	245,000	35,000
2021	BN	120,000	142,000	262,000	143,000	67,000	210,000	53,000
2022	W	94,000	145,000	239,000	95,000	50,000	145,000	98,000
2023	D	89,000	120,000	209,000	238,000	65,000	302,000	-93,000
2024	W	95,000	149,000	244,000	88,000	50,000	138,000	108,000
2025	AN	75,000	125,000	200,000	140,000	65,000	205,000	-6,000
2026	BN	83,000	119,000	203,000	190,000	73,000	263,000	-63,000
2027	D	131,000	127,000	258,000	376,000	71,000	447,000	-193,000
2028	AN	146,000	167,000	313,000	113,000	60,000	173,000	137,000
2029	W	96,000	141,000	236,000	99,000	68,000	168,000	68,000
2030	W	80,000	126,000	206,000	120,000	75,000	195,000	10,000
2031	C	88,000	121,000	209,000	204,000	73,000	277,000	-68,000
2032	C	153,000	132,000	284,000	470,000	70,000	540,000	-262,000
2033	W	162,000	175,000	337,000	107,000	57,000	165,000	173,000
2034	AN	117,000	134,000	252,000	175,000	64,000	240,000	10,000
2035	W	102,000	143,000	245,000	96,000	62,000	159,000	85,000
2036	D	79,000	127,000	206,000	110,000	70,000	180,000	25,000
2037	W	69,000	131,000	200,000	99,000	57,000	156,000	44,000
2038	W	64,000	127,000	191,000	99,000	47,000	147,000	45,000
2039	AN	60,000	112,000	171,000	124,000	67,000	192,000	-23,000
2040	D	71,000	112,000	182,000	190,000	78,000	268,000	-85,000
2041	W	85,000	127,000	212,000	130,000	69,000	199,000	9,000
2042	C	116,000	117,000	233,000	341,000	70,000	411,000	-179,000
2043	C	175,000	139,000	314,000	372,000	69,000	441,000	-132,000
2044	C	197,000	152,000	349,000	304,000	70,000	375,000	-30,000
2045	C	209,000	143,000	351,000	460,000	72,000	532,000	-182,000
2046	C	211,000	151,000	361,000	304,000	71,000	375,000	-18,000
2047	C	209,000	148,000	356,000	308,000	71,000	379,000	-26,000
2048	W	174,000	165,000	339,000	114,000	58,000	172,000	166,000
2049	C	133,000	128,000	262,000	222,000	65,000	288,000	-24,000
2050	W	119,000	149,000	269,000	100,000	59,000	159,000	109,000
2051	W	88,000	134,000	222,000	92,000	51,000	143,000	80,000
2052	W	81,000	116,000	197,000	161,000	60,000	221,000	-27,000
2053	W	74,000	134,000	208,000	98,000	49,000	146,000	61,000
2054	AN	64,000	122,000	186,000	95,000	61,000	156,000	32,000
2055	AN	61,000	111,000	172,000	119,000	66,000	185,000	-12,000
2056	D	125,000	112,000	237,000	455,000	70,000	525,000	-293,000
2057	D	167,000	147,000	314,000	245,000	72,000	317,000	-4,000
2058	BN	136,000	150,000	286,000	124,000	73,000	198,000	91,000
2059	D	110,000	137,000	247,000	128,000	73,000	201,000	47,000
2060	W	93,000	129,000	222,000	128,000	69,000	196,000	26,000
2061	W	88,000	133,000	221,000	98,000	50,000	148,000	74,000
2062	C	113,000	109,000	222,000	344,000	60,000	404,000	-181,000
2063	C	184,000	133,000	317,000	518,000	71,000	590,000	-280,000
2064	BN	221,000	154,000	375,000	388,000	71,000	459,000	-89,000
2065	AN	189,000	165,000	354,000	128,000	70,000	197,000	155,000
2066	W	136,000	148,000	283,000	109,000	62,000	171,000	113,000
2067	D	114,000	125,000	238,000	122,000	62,000	183,000	56,000
2068	C	151,000	114,000	264,000	469,000	73,000	542,000	-283,000
2069	C	221,000	146,000	367,000	443,000	74,000	517,000	-159,000
2070	C	224,000	152,000	377,000	300,000	75,000	375,000	-3,000
Average (2020 - 2040)		101,000	134,000	235,000	164,000	65,000	229,000	5,000
Average (2020 - 2070)		125,000	135,000	261,000	209,000	66,000	275,000	-16,000

1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-56: PMA No. 4 Projected Land Surface Inflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Precipitation (af)	Imported Surface Water ¹ (af)	Utilized Surface Water ² (af)	Groundwater Pumping (af)	ET Groundwater (af)	Total (af)
2017	W	578,000	1,295,000	907,000	111,000	77,000	1,673,000
2018	AN	355,000	759,000	750,000	190,000	67,000	1,361,000
2019	D	248,000	210,000	210,000	804,000	57,000	1,320,000
2020	W	327,000	560,000	560,000	532,000	51,000	1,471,000
2021	BN	315,000	553,000	553,000	506,000	55,000	1,429,000
2022	W	472,000	1,105,000	731,000	162,000	60,000	1,425,000
2023	D	275,000	665,000	653,000	449,000	55,000	1,431,000
2024	W	840,000	1,057,000	763,000	141,000	125,000	1,869,000
2025	AN	320,000	606,000	601,000	404,000	86,000	1,410,000
2026	BN	313,000	525,000	525,000	469,000	67,000	1,375,000
2027	D	142,000	233,000	233,000	813,000	56,000	1,244,000
2028	AN	658,000	611,000	611,000	323,000	95,000	1,687,000
2029	W	405,000	691,000	691,000	402,000	80,000	1,577,000
2030	W	364,000	715,000	707,000	308,000	56,000	1,435,000
2031	C	458,000	380,000	380,000	570,000	53,000	1,461,000
2032	C	217,000	231,000	231,000	798,000	45,000	1,291,000
2033	W	942,000	665,000	659,000	200,000	117,000	1,918,000
2034	AN	461,000	651,000	651,000	439,000	92,000	1,643,000
2035	W	490,000	683,000	683,000	263,000	82,000	1,519,000
2036	D	358,000	690,000	690,000	318,000	74,000	1,440,000
2037	W	492,000	881,000	704,000	163,000	63,000	1,422,000
2038	W	810,000	1,320,000	803,000	148,000	113,000	1,874,000
2039	AN	206,000	692,000	683,000	435,000	79,000	1,404,000
2040	D	265,000	558,000	558,000	488,000	59,000	1,371,000
2041	W	531,000	569,000	569,000	444,000	63,000	1,606,000
2042	C	311,000	408,000	408,000	597,000	49,000	1,365,000
2043	C	334,000	303,000	303,000	685,000	41,000	1,363,000
2044	C	290,000	319,000	319,000	728,000	41,000	1,378,000
2045	C	271,000	308,000	308,000	735,000	37,000	1,351,000
2046	C	381,000	309,000	309,000	713,000	50,000	1,453,000
2047	C	446,000	243,000	243,000	779,000	53,000	1,521,000
2048	W	780,000	679,000	679,000	303,000	95,000	1,856,000
2049	C	389,000	506,000	506,000	486,000	55,000	1,437,000
2050	W	776,000	645,000	645,000	259,000	112,000	1,792,000
2051	W	406,000	1,109,000	881,000	144,000	90,000	1,522,000
2052	W	550,000	589,000	588,000	449,000	125,000	1,712,000
2053	W	914,000	1,301,000	649,000	153,000	155,000	1,872,000
2054	AN	306,000	714,000	695,000	310,000	105,000	1,417,000
2055	AN	430,000	710,000	710,000	276,000	105,000	1,521,000
2056	D	461,000	243,000	243,000	808,000	84,000	1,596,000
2057	D	267,000	507,000	507,000	586,000	62,000	1,422,000
2058	BN	385,000	655,000	655,000	345,000	54,000	1,439,000
2059	D	305,000	556,000	556,000	485,000	57,000	1,403,000
2060	W	677,000	656,000	656,000	257,000	77,000	1,667,000
2061	W	481,000	1,316,000	772,000	150,000	76,000	1,478,000
2062	C	178,000	510,000	497,000	526,000	57,000	1,258,000
2063	C	326,000	234,000	234,000	806,000	61,000	1,428,000
2064	BN	274,000	240,000	240,000	795,000	46,000	1,355,000
2065	AN	519,000	568,000	568,000	382,000	58,000	1,527,000
2066	W	618,000	590,000	590,000	318,000	82,000	1,607,000
2067	D	272,000	589,000	589,000	409,000	53,000	1,324,000
2068	C	181,000	353,000	353,000	711,000	42,000	1,287,000
2069	C	180,000	232,000	232,000	854,000	36,000	1,301,000
2070	C	218,000	229,000	229,000	824,000	33,000	1,304,000
Average (2020 - 2040)		435,000	670,000	603,000	397,000	75,000	1,509,000
Average (2020 - 2070)		423,000	593,000	537,000	464,000	71,000	1,495,000

1. Projected surface water imports from CVP and Supplemental Transfers

2. Simulated surface water imports (imports not utilized by model rejected and not included in FMP water budget)

Table C-57: PMA No. 4 Projected Land Surface Outflows – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Evaporation (af)		Transpiration (af)		ET Groundwater (af)	Deep Percolation (af)		Total (af)
		Irrigation	Precipitation	Irrigation	Precipitation		Irrigation & Precipitation	Cultural Practices	
2017	W	9,000	245,000	748,000	117,000	77,000	321,000	156,000	1,673,000
2018	AN	11,000	148,000	675,000	137,000	67,000	167,000	156,000	1,361,000
2019	D	9,000	159,000	745,000	86,000	57,000	108,000	156,000	1,320,000
2020	W	15,000	194,000	810,000	128,000	51,000	116,000	156,000	1,471,000
2021	BN	19,000	167,000	776,000	64,000	55,000	192,000	156,000	1,429,000
2022	W	9,000	198,000	635,000	159,000	60,000	208,000	156,000	1,425,000
2023	D	14,000	175,000	819,000	91,000	55,000	121,000	156,000	1,431,000
2024	W	8,000	267,000	648,000	126,000	125,000	539,000	156,000	1,869,000
2025	AN	11,000	181,000	735,000	86,000	86,000	156,000	156,000	1,410,000
2026	BN	16,000	159,000	720,000	103,000	67,000	153,000	156,000	1,375,000
2027	D	17,000	85,000	765,000	29,000	56,000	136,000	156,000	1,244,000
2028	AN	6,000	252,000	676,000	121,000	95,000	382,000	156,000	1,687,000
2029	W	11,000	224,000	813,000	105,000	80,000	188,000	156,000	1,577,000
2030	W	10,000	227,000	744,000	126,000	56,000	116,000	156,000	1,435,000
2031	C	11,000	198,000	686,000	189,000	53,000	170,000	156,000	1,461,000
2032	C	16,000	134,000	751,000	83,000	45,000	107,000	156,000	1,291,000
2033	W	6,000	276,000	608,000	233,000	117,000	522,000	156,000	1,918,000
2034	AN	14,000	253,000	810,000	117,000	92,000	201,000	156,000	1,643,000
2035	W	8,000	212,000	685,000	108,000	82,000	267,000	156,000	1,519,000
2036	D	8,000	158,000	740,000	137,000	74,000	167,000	156,000	1,440,000
2037	W	5,000	228,000	617,000	205,000	63,000	148,000	156,000	1,422,000
2038	W	5,000	332,000	693,000	216,000	113,000	358,000	156,000	1,874,000
2039	AN	19,000	140,000	829,000	46,000	79,000	134,000	156,000	1,404,000
2040	D	14,000	171,000	770,000	72,000	59,000	130,000	156,000	1,371,000
2041	W	8,000	296,000	745,000	158,000	63,000	180,000	156,000	1,606,000
2042	C	10,000	190,000	736,000	107,000	49,000	117,000	156,000	1,365,000
2043	C	17,000	210,000	714,000	116,000	41,000	109,000	156,000	1,363,000
2044	C	18,000	161,000	765,000	82,000	41,000	154,000	156,000	1,378,000
2045	C	18,000	147,000	761,000	95,000	37,000	137,000	156,000	1,351,000
2046	C	10,000	119,000	752,000	111,000	50,000	256,000	156,000	1,453,000
2047	C	9,000	205,000	753,000	106,000	53,000	240,000	156,000	1,521,000
2048	W	5,000	264,000	721,000	146,000	95,000	470,000	156,000	1,856,000
2049	C	15,000	221,000	720,000	148,000	55,000	123,000	156,000	1,437,000
2050	W	6,000	208,000	650,000	150,000	112,000	511,000	156,000	1,792,000
2051	W	13,000	186,000	752,000	99,000	90,000	225,000	156,000	1,522,000
2052	W	12,000	209,000	763,000	74,000	125,000	372,000	156,000	1,712,000
2053	W	7,000	307,000	557,000	220,000	155,000	470,000	156,000	1,872,000
2054	AN	13,000	161,000	734,000	82,000	105,000	166,000	156,000	1,417,000
2055	AN	12,000	182,000	718,000	121,000	105,000	228,000	156,000	1,521,000
2056	D	5,000	255,000	783,000	146,000	84,000	167,000	156,000	1,596,000
2057	D	16,000	165,000	809,000	64,000	62,000	149,000	156,000	1,422,000
2058	BN	14,000	202,000	727,000	122,000	54,000	165,000	156,000	1,439,000
2059	D	17,000	159,000	761,000	61,000	57,000	191,000	156,000	1,403,000
2060	W	4,000	289,000	659,000	173,000	77,000	309,000	156,000	1,667,000
2061	W	7,000	185,000	664,000	147,000	76,000	243,000	156,000	1,478,000
2062	C	16,000	111,000	746,000	65,000	57,000	106,000	156,000	1,258,000
2063	C	18,000	150,000	759,000	50,000	61,000	234,000	156,000	1,428,000
2064	BN	16,000	176,000	757,000	78,000	46,000	126,000	156,000	1,355,000
2065	AN	10,000	221,000	686,000	130,000	58,000	266,000	156,000	1,527,000
2066	W	6,000	261,000	652,000	143,000	82,000	306,000	156,000	1,607,000
2067	D	8,000	136,000	731,000	127,000	53,000	112,000	156,000	1,324,000
2068	C	15,000	122,000	782,000	55,000	42,000	114,000	156,000	1,287,000
2069	C	17,000	105,000	801,000	73,000	36,000	114,000	156,000	1,301,000
2070	C	20,000	120,000	768,000	66,000	33,000	140,000	156,000	1,304,000
Average (2020 - 2040)		12,000	201,000	730,000	121,000	75,000	215,000	156,000	1,509,000
Average (2020 - 2070)		12,000	195,000	731,000	115,000	71,000	216,000	156,000	1,495,000

Table C-58: PMA No. 4 Projected Groundwater Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	15,000	204,000	624,000	110,000	165,000	275,000	339,000
2018	AN	260,000	12,000	145,000	416,000	188,000	184,000	371,000	38,000
2019	D	209,000	1,000	195,000	405,000	797,000	191,000	988,000	-582,000
2020	W	223,000	11,000	256,000	491,000	527,000	190,000	717,000	-231,000
2021	BN	297,000	1,000	256,000	554,000	502,000	191,000	693,000	-140,000
2022	W	307,000	23,000	214,000	543,000	160,000	162,000	323,000	214,000
2023	D	225,000	10,000	183,000	418,000	444,000	191,000	635,000	-215,000
2024	W	579,000	32,000	175,000	786,000	140,000	162,000	302,000	477,000
2025	AN	231,000	6,000	155,000	392,000	400,000	191,000	591,000	-198,000
2026	BN	245,000	2,000	195,000	442,000	464,000	196,000	660,000	-220,000
2027	D	238,000	1,000	249,000	489,000	806,000	200,000	1,006,000	-518,000
2028	AN	449,000	14,000	248,000	711,000	320,000	181,000	501,000	199,000
2029	W	269,000	12,000	220,000	501,000	398,000	195,000	593,000	-94,000
2030	W	218,000	12,000	207,000	438,000	305,000	195,000	500,000	-65,000
2031	C	275,000	10,000	227,000	512,000	564,000	192,000	756,000	-244,000
2032	C	220,000	0	269,000	489,000	790,000	200,000	991,000	-504,000
2033	W	568,000	23,000	239,000	831,000	198,000	175,000	373,000	445,000
2034	AN	271,000	4,000	204,000	479,000	435,000	192,000	627,000	-147,000
2035	W	346,000	23,000	203,000	572,000	261,000	190,000	451,000	112,000
2036	D	253,000	1,000	180,000	434,000	315,000	199,000	514,000	-85,000
2037	W	244,000	22,000	161,000	427,000	161,000	176,000	337,000	83,000
2038	W	408,000	23,000	130,000	561,000	146,000	142,000	289,000	266,000
2039	AN	215,000	4,000	142,000	361,000	431,000	192,000	623,000	-261,000
2040	D	230,000	1,000	193,000	423,000	484,000	205,000	689,000	-264,000
2041	W	277,000	30,000	228,000	535,000	439,000	190,000	630,000	-99,000
2042	C	226,000	6,000	255,000	487,000	591,000	196,000	787,000	-300,000
2043	C	226,000	2,000	280,000	508,000	678,000	201,000	879,000	-374,000
2044	C	271,000	0	291,000	562,000	721,000	204,000	925,000	-366,000
2045	C	257,000	1,000	292,000	551,000	727,000	205,000	932,000	-382,000
2046	C	365,000	6,000	297,000	668,000	706,000	202,000	908,000	-246,000
2047	C	347,000	9,000	305,000	660,000	771,000	200,000	972,000	-317,000
2048	W	537,000	31,000	265,000	833,000	300,000	182,000	482,000	339,000
2049	C	227,000	3,000	239,000	468,000	482,000	193,000	674,000	-205,000
2050	W	562,000	32,000	230,000	824,000	256,000	175,000	432,000	381,000
2051	W	296,000	11,000	175,000	482,000	143,000	173,000	316,000	158,000
2052	W	412,000	18,000	174,000	604,000	444,000	184,000	629,000	-25,000
2053	W	478,000	32,000	170,000	681,000	152,000	141,000	293,000	379,000
2054	AN	223,000	6,000	146,000	375,000	307,000	177,000	484,000	-108,000
2055	AN	285,000	7,000	157,000	449,000	273,000	192,000	465,000	-21,000
2056	D	244,000	11,000	229,000	484,000	801,000	198,000	999,000	-512,000
2057	D	246,000	1,000	291,000	538,000	580,000	202,000	782,000	-249,000
2058	BN	269,000	3,000	261,000	533,000	341,000	198,000	540,000	-13,000
2059	D	293,000	1,000	250,000	544,000	480,000	202,000	682,000	-138,000
2060	W	393,000	27,000	236,000	656,000	255,000	184,000	439,000	204,000
2061	W	327,000	14,000	183,000	524,000	148,000	152,000	300,000	216,000
2062	C	208,000	0	194,000	402,000	521,000	186,000	707,000	-298,000
2063	C	332,000	7,000	263,000	602,000	798,000	204,000	1,002,000	-402,000
2064	BN	238,000	0	309,000	548,000	787,000	204,000	992,000	-447,000
2065	AN	367,000	13,000	278,000	658,000	378,000	190,000	568,000	83,000
2066	W	385,000	23,000	243,000	652,000	314,000	177,000	492,000	153,000
2067	D	217,000	1,000	237,000	455,000	406,000	191,000	596,000	-145,000
2068	C	230,000	10,000	272,000	512,000	704,000	204,000	908,000	-397,000
2069	C	235,000	2,000	315,000	552,000	847,000	208,000	1,055,000	-505,000
2070	C	264,000	0	321,000	585,000	816,000	208,000	1,024,000	-444,000
Average (2020 - 2040)		301,000	11,000	205,000	517,000	393,000	187,000	579,000	-66,000
Average (2020 - 2070)		305,000	11,000	229,000	545,000	459,000	189,000	648,000	-107,000

Table C-59: PMA No. 4 Projected Upper Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Net Deep Percolation (af)	Stream Leakage (af)	Lateral Subsurface Inflow (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Vertical Flow ¹ (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	405,000	15,000	34,000	576,000	39,000	107,000	186,000	332,000	110,000
2018	AN	260,000	12,000	30,000	301,000	65,000	121,000	138,000	324,000	-28,000
2019	D	209,000	1,000	33,000	243,000	229,000	125,000	128,000	482,000	-230,000
2020	W	223,000	11,000	37,000	271,000	169,000	122,000	162,000	453,000	-179,000
2021	BN	297,000	1,000	37,000	335,000	162,000	123,000	159,000	443,000	-108,000
2022	W	307,000	23,000	35,000	364,000	56,000	104,000	174,000	335,000	18,000
2023	D	225,000	10,000	33,000	268,000	140,000	123,000	131,000	393,000	-123,000
2024	W	579,000	32,000	33,000	645,000	48,000	104,000	163,000	315,000	319,000
2025	AN	231,000	6,000	31,000	268,000	127,000	123,000	127,000	378,000	-107,000
2026	BN	245,000	2,000	34,000	282,000	146,000	126,000	138,000	410,000	-126,000
2027	D	238,000	1,000	37,000	277,000	234,000	128,000	145,000	507,000	-224,000
2028	AN	449,000	14,000	38,000	500,000	111,000	113,000	165,000	389,000	104,000
2029	W	269,000	12,000	36,000	317,000	130,000	124,000	146,000	400,000	-85,000
2030	W	218,000	12,000	35,000	266,000	102,000	124,000	149,000	375,000	-113,000
2031	C	275,000	10,000	37,000	322,000	170,000	122,000	144,000	436,000	-112,000
2032	C	220,000	0	38,000	258,000	230,000	127,000	147,000	504,000	-240,000
2033	W	568,000	23,000	38,000	629,000	71,000	108,000	172,000	350,000	269,000
2034	AN	271,000	4,000	35,000	310,000	138,000	121,000	135,000	394,000	-84,000
2035	W	346,000	23,000	35,000	404,000	91,000	120,000	146,000	357,000	41,000
2036	D	253,000	1,000	34,000	287,000	105,000	126,000	134,000	365,000	-81,000
2037	W	244,000	22,000	32,000	298,000	55,000	111,000	148,000	314,000	-23,000
2038	W	408,000	23,000	30,000	461,000	48,000	95,000	137,000	279,000	172,000
2039	AN	215,000	4,000	30,000	249,000	132,000	127,000	112,000	370,000	-115,000
2040	D	230,000	1,000	35,000	265,000	150,000	130,000	130,000	410,000	-139,000
2041	W	277,000	30,000	38,000	345,000	142,000	119,000	145,000	406,000	-61,000
2042	C	226,000	6,000	38,000	271,000	180,000	124,000	145,000	450,000	-175,000
2043	C	226,000	2,000	39,000	267,000	209,000	126,000	147,000	483,000	-211,000
2044	C	271,000	0	40,000	311,000	222,000	127,000	145,000	494,000	-178,000
2045	C	257,000	1,000	39,000	298,000	224,000	127,000	142,000	493,000	-190,000
2046	C	365,000	6,000	41,000	412,000	218,000	124,000	143,000	486,000	-70,000
2047	C	347,000	9,000	43,000	398,000	234,000	122,000	143,000	499,000	-97,000
2048	W	537,000	31,000	40,000	608,000	107,000	112,000	155,000	374,000	226,000
2049	C	227,000	3,000	37,000	266,000	150,000	120,000	137,000	407,000	-141,000
2050	W	562,000	32,000	37,000	632,000	91,000	108,000	152,000	351,000	272,000
2051	W	296,000	11,000	33,000	340,000	48,000	111,000	147,000	307,000	25,000
2052	W	412,000	18,000	33,000	463,000	138,000	118,000	118,000	374,000	91,000
2053	W	478,000	32,000	33,000	543,000	51,000	91,000	154,000	295,000	239,000
2054	AN	223,000	6,000	29,000	258,000	101,000	115,000	120,000	336,000	-78,000
2055	AN	285,000	7,000	31,000	323,000	92,000	124,000	122,000	338,000	-17,000
2056	D	244,000	11,000	36,000	291,000	224,000	125,000	125,000	474,000	-172,000
2057	D	246,000	1,000	40,000	287,000	179,000	125,000	157,000	460,000	-167,000
2058	BN	269,000	3,000	39,000	311,000	116,000	122,000	155,000	394,000	-88,000
2059	D	293,000	1,000	38,000	332,000	151,000	125,000	141,000	417,000	-85,000
2060	W	393,000	27,000	37,000	457,000	90,000	113,000	154,000	357,000	90,000
2061	W	327,000	14,000	33,000	373,000	49,000	99,000	149,000	297,000	66,000
2062	C	208,000	0	33,000	241,000	153,000	121,000	116,000	390,000	-143,000
2063	C	332,000	7,000	39,000	378,000	225,000	126,000	134,000	486,000	-100,000
2064	BN	238,000	0	42,000	280,000	226,000	124,000	149,000	499,000	-210,000
2065	AN	367,000	13,000	40,000	420,000	126,000	115,000	155,000	396,000	20,000
2066	W	385,000	23,000	38,000	447,000	108,000	108,000	146,000	362,000	77,000
2067	D	217,000	1,000	35,000	253,000	128,000	119,000	132,000	380,000	-128,000
2068	C	230,000	10,000	39,000	278,000	203,000	126,000	135,000	463,000	-178,000
2069	C	235,000	2,000	42,000	279,000	238,000	126,000	145,000	509,000	-220,000
2070	C	264,000	0	42,000	307,000	232,000	126,000	146,000	503,000	-187,000
Average (2020 - 2040)		301,000	11,000	35,000	347,000	124,000	119,000	146,000	389,000	-45,000
Average (2020 - 2070)		305,000	11,000	36,000	352,000	143,000	119,000	144,000	405,000	-53,000

1. Vertical flow to Lower Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Table C-60: PMA No. 4 Projected Lower Aquifer Budget – 2070 Climate Change (2017-2070)

Water Year	Water Year Type	Lateral Subsurface Inflow (af)	Vertical Flow ¹ (af)	Total Inflow (af)	Groundwater Pumping (af)	Lateral Subsurface Outflow (af)	Total Outflow (af)	Change In Groundwater Storage (af)
2017	W	170,000	186,000	356,000	70,000	59,000	129,000	229,000
2018	AN	115,000	138,000	252,000	122,000	63,000	185,000	66,000
2019	D	162,000	128,000	291,000	568,000	66,000	634,000	-352,000
2020	W	219,000	162,000	381,000	358,000	67,000	426,000	-51,000
2021	BN	219,000	159,000	378,000	340,000	69,000	409,000	-33,000
2022	W	179,000	174,000	353,000	104,000	58,000	162,000	195,000
2023	D	150,000	131,000	280,000	304,000	68,000	372,000	-91,000
2024	W	142,000	163,000	305,000	92,000	58,000	150,000	158,000
2025	AN	124,000	127,000	251,000	273,000	68,000	341,000	-90,000
2026	BN	161,000	138,000	299,000	318,000	70,000	388,000	-94,000
2027	D	212,000	145,000	357,000	572,000	72,000	644,000	-294,000
2028	AN	210,000	165,000	375,000	208,000	68,000	276,000	95,000
2029	W	184,000	146,000	330,000	268,000	71,000	339,000	-9,000
2030	W	172,000	149,000	321,000	203,000	71,000	274,000	48,000
2031	C	191,000	144,000	335,000	395,000	70,000	464,000	-131,000
2032	C	231,000	147,000	377,000	560,000	73,000	634,000	-264,000
2033	W	202,000	172,000	373,000	127,000	68,000	195,000	176,000
2034	AN	169,000	135,000	304,000	297,000	71,000	367,000	-63,000
2035	W	167,000	146,000	314,000	170,000	70,000	240,000	71,000
2036	D	146,000	134,000	280,000	209,000	74,000	283,000	-4,000
2037	W	128,000	148,000	276,000	107,000	65,000	171,000	105,000
2038	W	101,000	137,000	238,000	99,000	48,000	147,000	93,000
2039	AN	112,000	112,000	223,000	299,000	66,000	365,000	-145,000
2040	D	158,000	130,000	288,000	334,000	75,000	409,000	-124,000
2041	W	190,000	145,000	335,000	298,000	71,000	368,000	-38,000
2042	C	216,000	145,000	362,000	411,000	72,000	483,000	-125,000
2043	C	241,000	147,000	388,000	468,000	75,000	544,000	-164,000
2044	C	251,000	145,000	395,000	499,000	77,000	576,000	-188,000
2045	C	253,000	142,000	395,000	503,000	78,000	581,000	-192,000
2046	C	256,000	143,000	399,000	488,000	78,000	566,000	-176,000
2047	C	262,000	143,000	405,000	537,000	78,000	615,000	-220,000
2048	W	225,000	155,000	380,000	193,000	71,000	264,000	113,000
2049	C	202,000	137,000	339,000	331,000	73,000	404,000	-64,000
2050	W	192,000	152,000	345,000	165,000	68,000	233,000	109,000
2051	W	142,000	147,000	289,000	95,000	62,000	157,000	133,000
2052	W	141,000	118,000	260,000	307,000	66,000	373,000	-116,000
2053	W	138,000	154,000	291,000	101,000	50,000	151,000	140,000
2054	AN	117,000	120,000	237,000	206,000	62,000	268,000	-30,000
2055	AN	125,000	122,000	248,000	181,000	68,000	249,000	-4,000
2056	D	193,000	125,000	319,000	577,000	73,000	651,000	-341,000
2057	D	251,000	157,000	407,000	401,000	77,000	479,000	-82,000
2058	BN	223,000	155,000	378,000	225,000	76,000	301,000	75,000
2059	D	212,000	141,000	353,000	329,000	77,000	406,000	-53,000
2060	W	198,000	154,000	352,000	165,000	70,000	235,000	114,000
2061	W	150,000	149,000	299,000	99,000	53,000	152,000	151,000
2062	C	161,000	116,000	277,000	367,000	65,000	433,000	-155,000
2063	C	224,000	134,000	359,000	573,000	78,000	651,000	-302,000
2064	BN	267,000	149,000	417,000	562,000	80,000	641,000	-236,000
2065	AN	238,000	155,000	393,000	252,000	75,000	327,000	64,000
2066	W	205,000	146,000	351,000	207,000	69,000	276,000	76,000
2067	D	202,000	132,000	334,000	277,000	71,000	349,000	-16,000
2068	C	234,000	135,000	369,000	501,000	78,000	580,000	-219,000
2069	C	273,000	145,000	419,000	608,000	82,000	691,000	-285,000
2070	C	279,000	146,000	425,000	584,000	83,000	667,000	-256,000
Average (2020 - 2040)		170,000	146,000	316,000	268,000	68,000	336,000	-22,000
Average (2020 - 2070)		193,000	144,000	336,000	317,000	70,000	387,000	-54,000

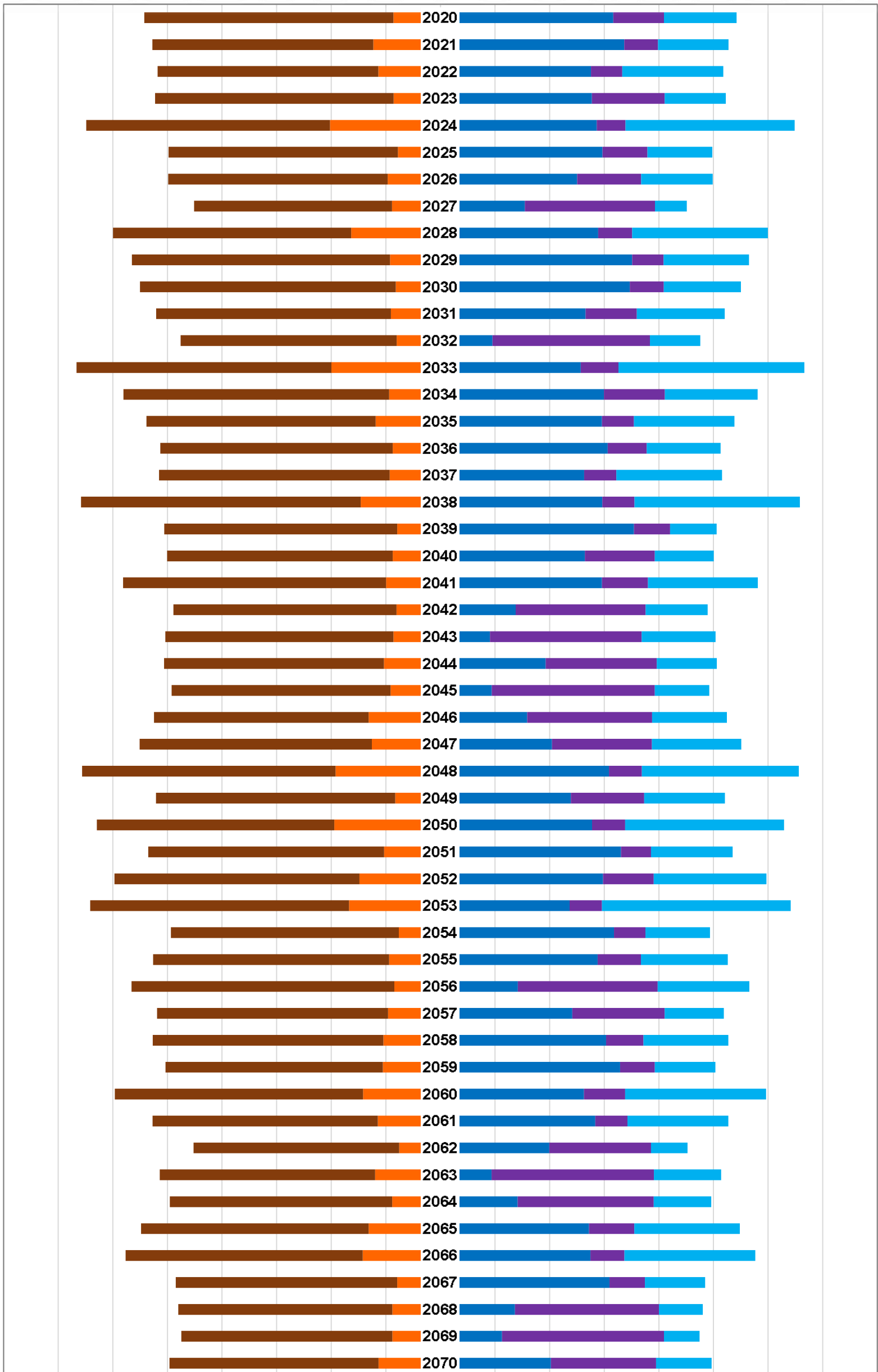
1. Vertical flow from Upper Aquifer. Sum of flow through Corcoran clay and intraborehole flow

Appendix D:

Projected Water Budget Figures

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

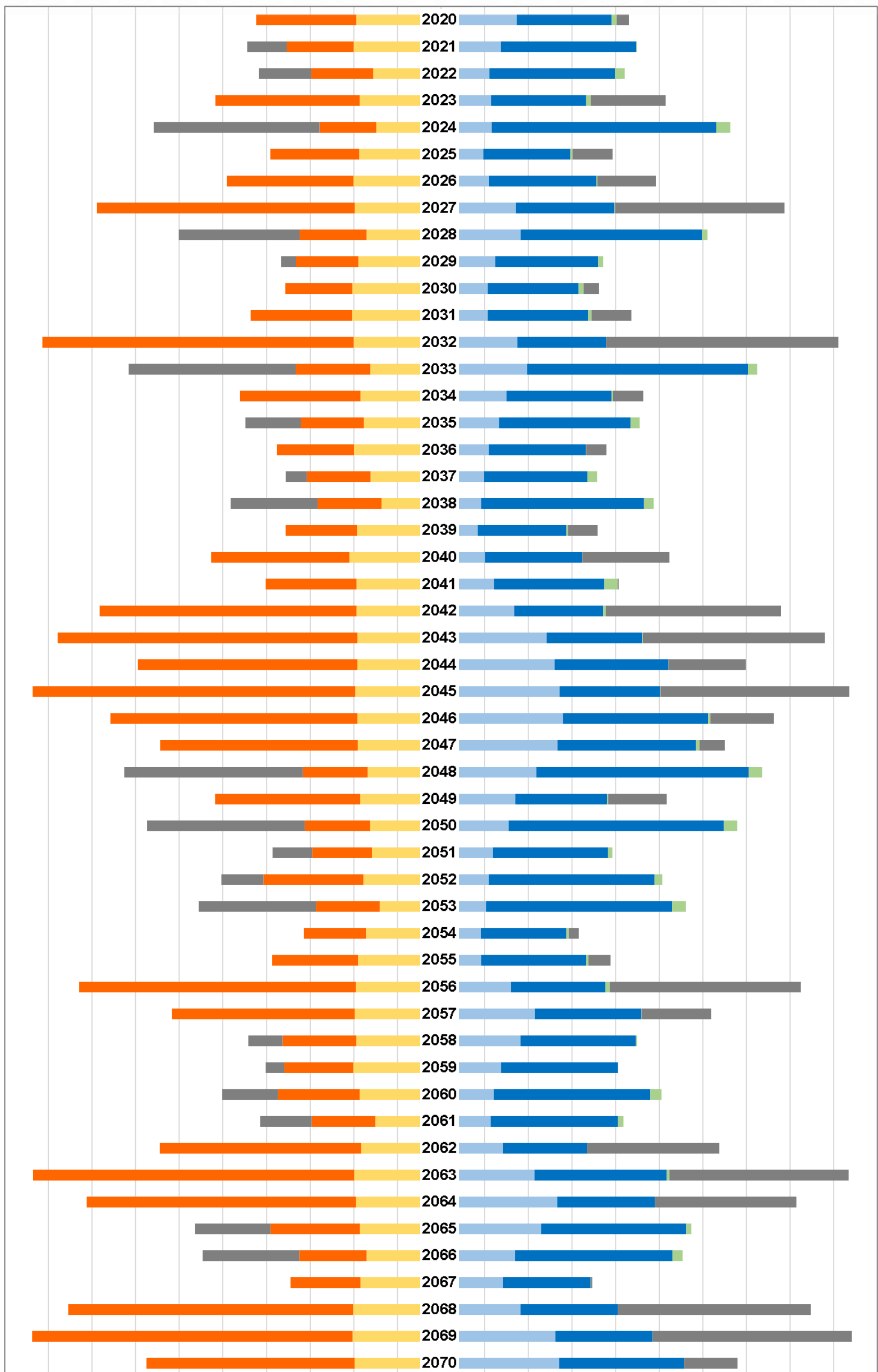
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■ Deep Percolation ■ Surface Water
■ Evapotranspiration ■ Pumping
■ Precipitation

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

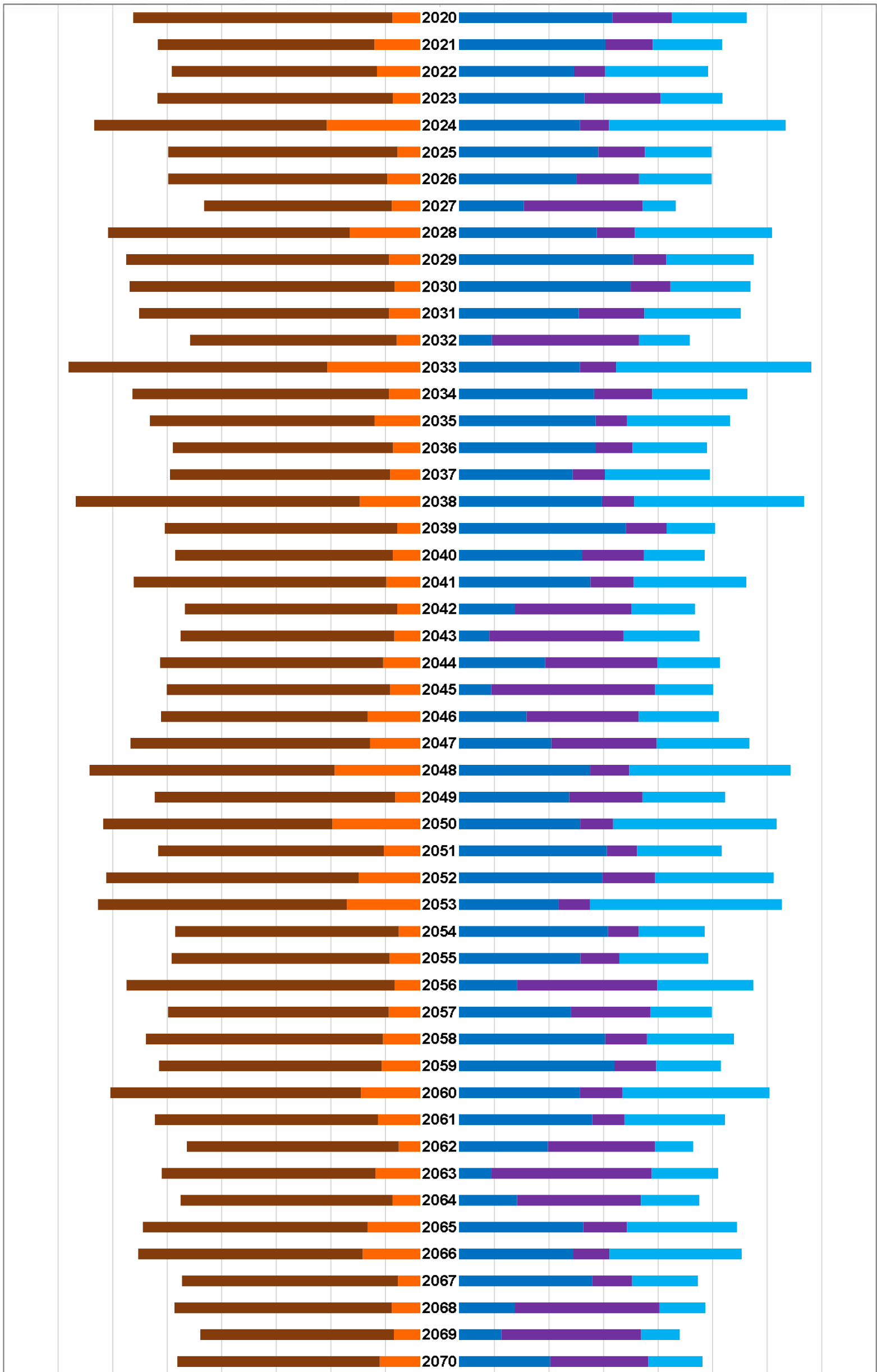
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Lateral Subsurface Outflow Lateral Subsurface Inflow
 Pumping Net Deep Percolation
 Stream Leakage Inflow GW Storage Change

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

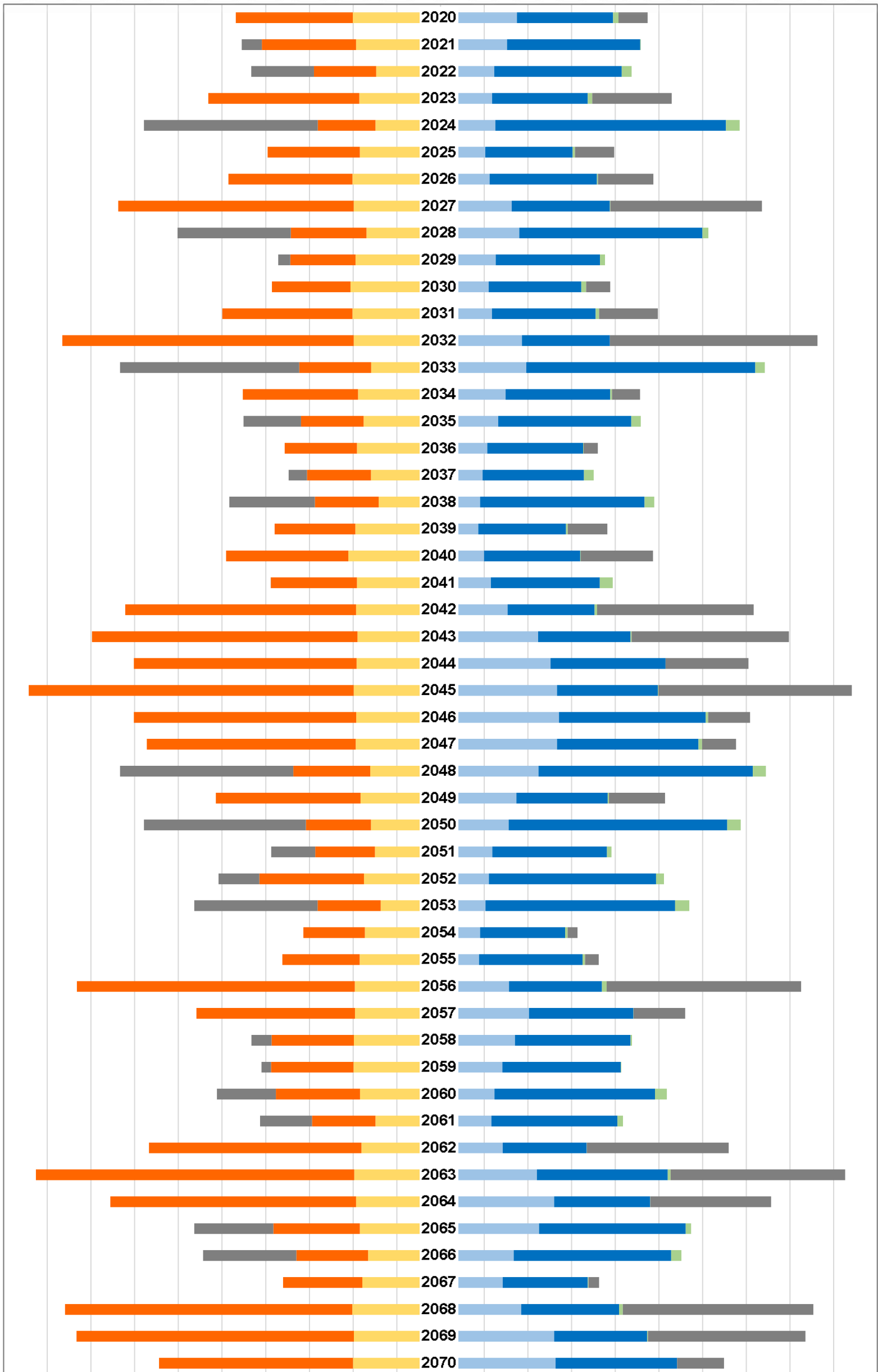
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■ Deep Percolation ■ Surface Water
■ Evapotranspiration ■ Pumping
■ Precipitation

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

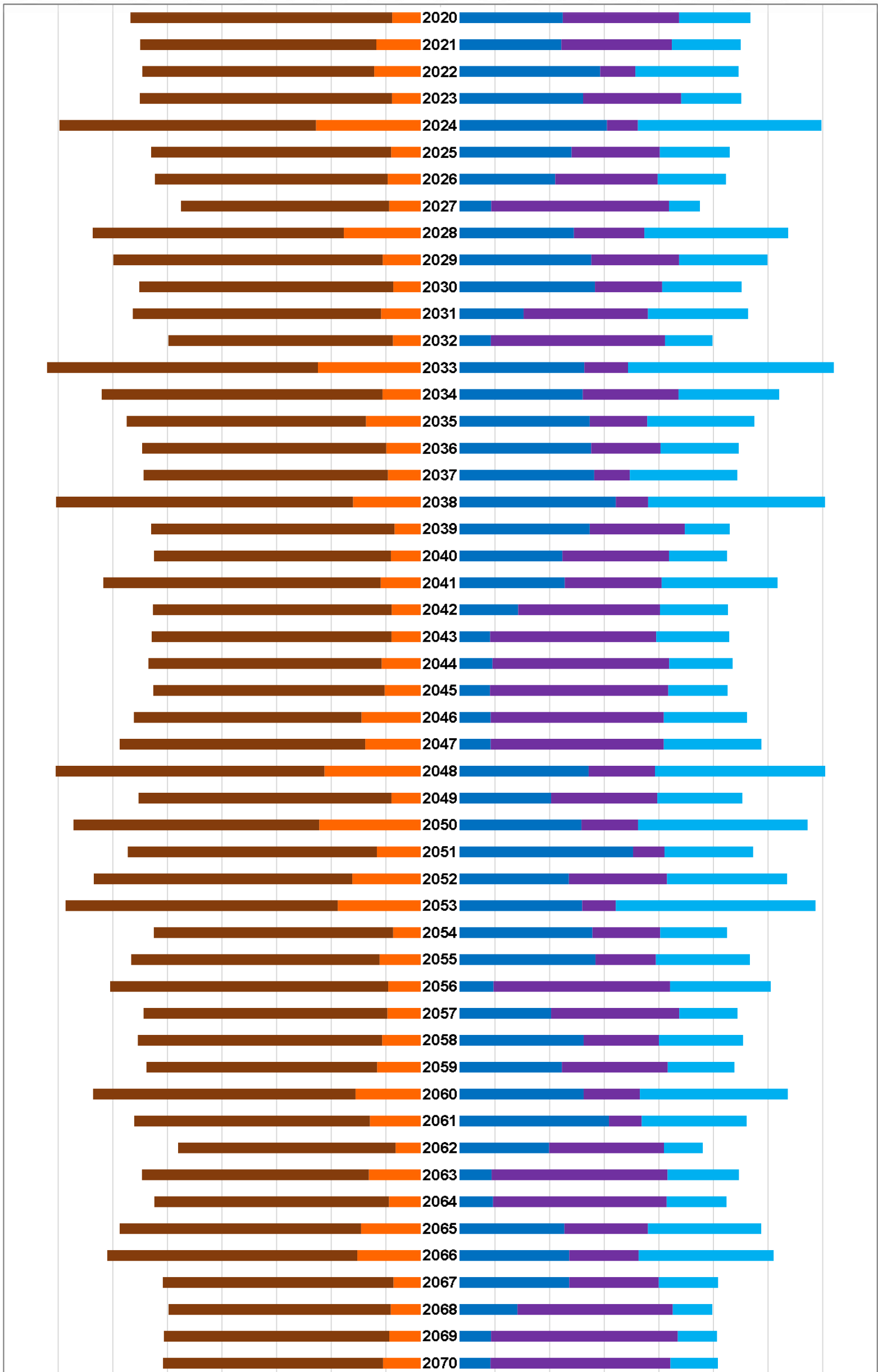
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Lateral Subsurface Outflow Lateral Subsurface Inflow
 Pumping Net Deep Percolation
 Stream Leakage Inflow GW Storage Change

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

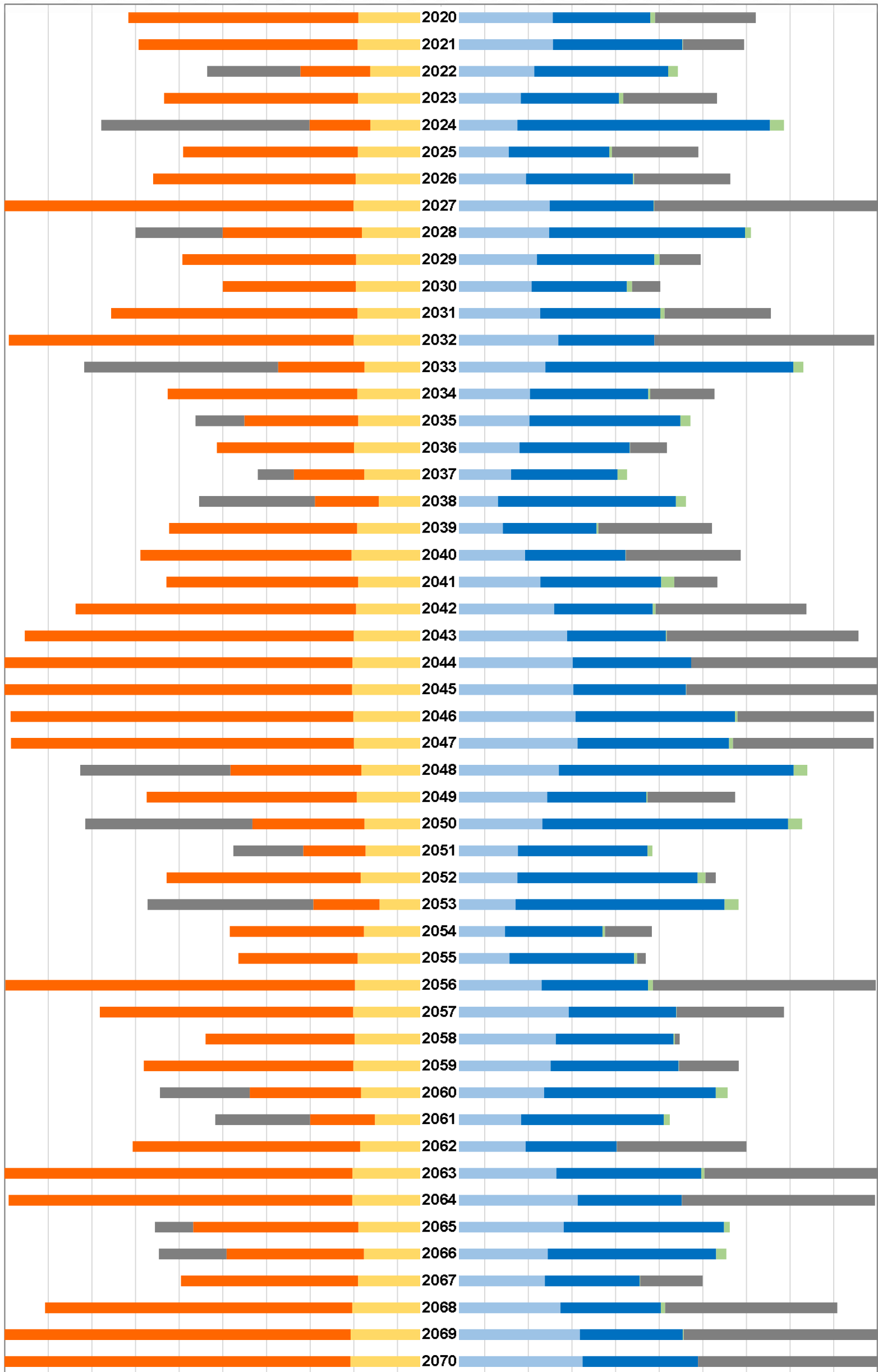
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■ Deep Percolation ■ Surface Water
■ Evapotranspiration ■ Pumping
■ Precipitation

Outflow **Volume (Thousand Acre-Feet)** **Inflow**

-1,000 -900 -800 -700 -600 -500 -400 -300 -200 -100 0 100 200 300 400 500 600 700 800 900 1,000



Lateral Subsurface Outflow
 Lateral Subsurface Inflow
 Pumping
 Net Deep Percolation
 Stream Leakage Inflow
 GW Storage Change