

United States Bureau of Reclamation - Mid Pacific Region, Central Valley Operations Office
Forecast of CVP Generation with Uncertainty Bounds Bracketing a Randomly Distributed Population
Based on USBR 50 Pct Forecast -B2, Dated 12/19/2017
Losses are Estimated per WAPA Contractual Provisions
Uncertainty Bounded Energy Generation (All values in GWh)

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Energy at Tracy			
													Expected Proj Use	Exp Est Net CVP	Low Est Net CVP	High Est Net CVP
DEC	10	5	6	160	30	64	8	40	0	0	323	6	155	160	100	200
JAN	7	0	10	298	53	110	7	45	0	0	530	9	70	450	290	540
FEB	7	1	17	312	55	93	5	52	0	0	542	10	45	490	270	610
MAR	21	18	30	187	36	104	6	62	0	0	464	8	45	410	230	520
APR	26	19	8	204	35	58	7	80	12	0	449	8	35	410	230	510
MAY	49	12	13	208	36	85	10	95	45	1	554	9	60	490	320	580
JUN	53	36	31	212	39	71	8	79	47	0	576	10	125	440	330	510
JUL	60	45	41	260	48	76	9	53	57	0	649	11	155	480	360	560
AUG	46	48	44	238	47	61	7	45	12	0	548	10	140	400	290	460
SEP	43	46	46	185	39	56	7	35	0	0	457	8	115	330	240	390
OCT	17	13	20	184	36	40	5	35	0	0	350	6	115	230	130	290
NOV	15	13	10	136	27	30	4	6	0	0	241	4	145	90	0	150
Total	354	256	276	2584	481	848	83	627	173	1	5683	99	1205	4380	2790	5320

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Forecast of CVP Generation
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Expected Capacity Based on Estimated Gross Head (All values in MW)

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	At Plant Total	Total Losses	Total Capacity at Tracy			
													Expected CVP	Schd. Out	Expected Proj Use	Expected Net CVP
DEC	63	78	182	700	40	116	6	382	0	0	1568	27	1540	170	145	1395
JAN	0	154	182	426	75	115	5	382	0	0	1339	23	1315	305	85	1230
FEB	65	77	182	568	88	172	4	382	0	0	1537	27	1510	170	70	1440
MAR	66	77	182	710	50	175	4	191	0	0	1455	26	1430	290	70	1360
APR	67	75	91	710	50	186	5	191	182	0	1557	26	1530	305	55	1475
MAY	68	147	91	710	50	201	13	192	153	1	1626	28	1600	170	85	1515
JUN	67	147	91	710	56	207	12	383	133	0	1806	30	1775	130	175	1600
JUL	131	147	182	710	69	201	12	383	114	0	1949	33	1915	0	225	1690
AUG	129	147	182	710	66	188	10	383	101	0	1916	33	1885	0	200	1685
SEP	127	148	182	426	56	59	5	381	0	0	1383	24	1360	265	160	1200
OCT	125	150	182	414	50	56	7	379	0	0	1363	23	1340	275	155	1185
NOV	125	154	182	407	37	108	6	378	0	0	1398	24	1375	225	150	1225

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Project Use Pumping

Expected Project Energy Use at Tracy Load Center (All values in GWh)

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									Exp CVP PU	Expected On Peak	Expected Off Peak
DEC	62	0	3	14	61	2	7	9	155	50	105
JAN	33	0	2	7	14	1	6	5	70	30	40
FEB	23	0	2	4	4	1	8	5	45	25	20
MAR	20	0	2	4	3	2	8	5	45	25	20
APR	11	0	2	1	0	3	8	10	35	20	15
MAY	12	0	2	0	0	4	17	28	60	35	25
JUN	57	0	2	0	0	5	27	32	125	70	50
JUL	64	0	2	0	0	7	37	47	155	85	75
AUG	64	0	2	6	0	7	21	38	140	80	60
SEP	62	0	2	7	12	5	10	18	115	55	60
OCT	61	0	3	8	16	4	10	16	115	60	60
NOV	62	0	3	13	44	2	7	12	145	55	90
Total	531	0	28	65	153	41	165	226	1205	590	620

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Project Use Pumping

Expected Project Capacity Use at Tracy Load Center (All values in MW)

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
DEC	96	96	0	0	4	4	20	20	0	178	2	2	12	12	12
JAN	51	51	0	0	3	3	12	12	0	49	1	1	12	12	7
FEB	36	36	0	0	3	3	8	8	0	24	1	1	12	12	8
MAR	36	36	0	0	3	3	8	8	0	24	2	2	12	12	7
APR	18	18	0	0	3	3	4	4	0	0	4	4	12	12	14
MAY	18	18	0	0	3	3	0	0	0	0	5	5	24	24	37
JUN	81	81	0	0	2	2	0	0	0	0	7	7	42	42	45
JUL	96	96	0	0	2	2	0	0	0	0	9	9	54	54	64
AUG	96	96	0	0	3	3	8	8	0	0	9	9	30	30	51
SEP	96	96	0	0	3	3	12	12	0	50	6	6	18	18	24
OCT	96	96	0	0	4	4	12	12	0	60	5	5	18	18	22
NOV	96	96	0	0	4	4	20	20	0	137	3	3	12	12	17

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Energy Generation (All values in GWh)

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Total Losses	Total at Tracy		
												CVP	Proj Use	Net CVP
DEC	10	5	6	160	30	64	8	40	0	0	6	320	155	165
JAN	7	0	10	298	53	110	7	45	0	0	9	520	70	450
FEB	7	1	17	312	55	93	5	52	0	0	10	530	45	485
MAR	21	18	30	187	36	104	6	62	0	0	8	450	45	405
APR	26	19	8	204	35	58	7	80	12	0	8	440	35	405
MAY	49	12	13	208	36	85	10	95	45	1	9	540	60	480
JUN	53	36	31	212	39	71	8	79	47	0	10	570	125	445
JUL	60	45	41	260	48	76	9	53	57	0	11	640	155	485
AUG	46	48	44	238	47	61	7	45	12	0	10	540	140	400
SEP	43	46	46	185	39	56	7	35	0	0	8	450	115	335
OCT	17	13	20	184	36	40	5	35	0	0	6	340	115	225
NOV	15	13	10	136	27	30	4	6	0	0	4	240	145	95
Total	354	257	274	2582	482	846	85	625	174	1	99	5580	1205	4375

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Capacity Based on Estimated Gross Head (All values in MW)

Month	Trinity	JF Carr	Spring Creek	Shasta	Keswick	Folsom	Nimbus	New Melones	Federal San Luis	O'Neill	Tot. Cap. at Plant	Total Losses	Total Capacity at Tracy			
													CVP	Sch. Out	PU	Net CVP
DEC	63	78	182	700	40	116	6	382	0	0	1568	27	1540	170	145	1395
JAN	0	154	182	426	75	115	5	382	0	0	1339	23	1315	305	85	1230
FEB	65	77	182	568	88	172	4	382	0	0	1537	27	1510	170	70	1440
MAR	66	77	182	710	50	175	4	191	0	0	1455	26	1430	290	70	1360
APR	67	75	91	710	50	186	5	191	182	0	1557	26	1530	305	55	1475
MAY	68	147	91	710	50	201	13	192	153	1	1626	28	1600	170	85	1515
JUN	67	147	91	710	56	207	12	383	133	0	1806	30	1775	130	175	1600
JUL	131	147	182	710	69	201	12	383	114	0	1949	33	1915	0	225	1690
AUG	129	147	182	710	66	188	10	383	101	0	1916	33	1885	0	200	1685
SEP	127	148	182	426	56	59	5	381	0	0	1383	24	1360	265	160	1200
OCT	125	150	182	414	50	56	7	379	0	0	1363	23	1340	275	155	1185
NOV	125	154	182	407	37	108	6	378	0	0	1398	24	1375	225	150	1225

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Project Use Pumping

Project Energy Use at Tracy Load Center (All values in GWh)

Month	Tracy	Federal Banks	Contra Costa	O'Neill	Federal San Luis	San Felipe	Dos Amigos	Other Uses	Total at Tracy		
									CVP	On Peak	Off Peak
DEC	62	0	3	14	61	2	7	9	155	50	105
JAN	33	0	2	7	14	1	6	5	70	30	40
FEB	23	0	2	4	4	1	8	5	45	25	20
MAR	20	0	2	4	3	2	8	5	45	25	20
APR	11	0	2	1	0	3	8	10	35	20	15
MAY	12	0	2	0	0	4	17	28	60	35	25
JUN	57	0	2	0	0	5	27	32	125	70	50
JUL	64	0	2	0	0	7	37	47	155	85	75
AUG	64	0	2	6	0	7	21	38	140	80	60
SEP	62	0	2	7	12	5	10	18	115	55	60
OCT	61	0	3	8	16	4	10	16	115	60	60
NOV	62	0	3	13	44	2	7	12	145	55	90
Total	531	0	28	65	153	41	165	226	1205	590	620

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Project Use Pumping

Project Capacity Use at Tracy Load Center (All values in MW)

Month	Tracy		Federal Banks		Contra Costa		O'Neill		Federal San Luis		San Felipe		Dos Amigos		Other On/Off
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
DEC	96	96	0	0	4	4	20	20	0	178	2	2	12	12	12
JAN	51	51	0	0	3	3	12	12	0	49	1	1	12	12	7
FEB	36	36	0	0	3	3	8	8	0	24	1	1	12	12	8
MAR	36	36	0	0	3	3	8	8	0	24	2	2	12	12	7
APR	18	18	0	0	3	3	4	4	0	0	4	4	12	12	14
MAY	18	18	0	0	3	3	0	0	0	0	5	5	24	24	37
JUN	81	81	0	0	2	2	0	0	0	0	7	7	42	42	45
JUL	96	96	0	0	2	2	0	0	0	0	9	9	54	54	64
AUG	96	96	0	0	3	3	8	8	0	0	9	9	30	30	51
SEP	96	96	0	0	3	3	12	12	0	50	6	6	18	18	24
OCT	96	96	0	0	4	4	12	12	0	60	5	5	18	18	22
NOV	96	96	0	0	4	4	20	20	0	137	3	3	12	12	17