The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

AGGREGATED PRECIPITATION DATA for N.H. DROUGHT MANAGEMENT AREAS

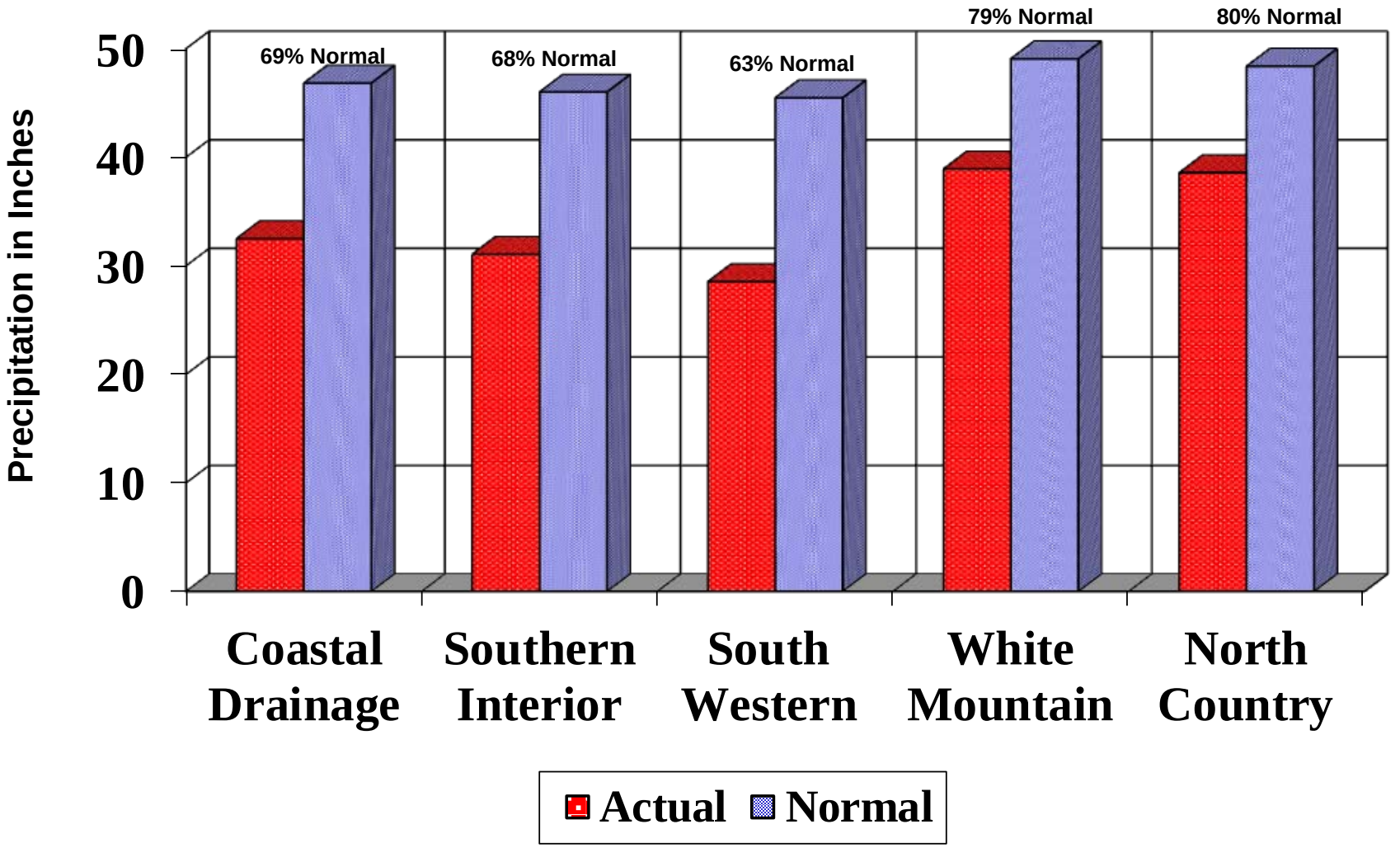
	Actual Rainfall (inches)	Normal Rainfall (inches)	Deviation from Normal (inches)	Percent of Normal
Coastal Drainage: Rockingham, Strafford counties				
four month	8.65	16.62	-7.97	52%
six month	14.59	23.27	-8.68	63%
nine month	23.47	35.78	-12.31	66%
twelve month	32.50	46.83	-14.33	69%
Southern Interior: Belknap, Hillsborough, Merrimack counties				
four month	8.81	15.99	-7.18	55%
six month	14.05	22.47	-8.42	63%
nine month	22.08	34.74	-12.66	64%
twelve month	31.06	46.00	-14.94	68%
South Western: Cheshire, Sullivan counties				
four month	8.62	15.54	-6.93	55%
six month	11.84	21.81	-8.39	54%
nine month	19.08	33.86	-13.21	56%
twelve month	28.54	45.47	-15.35	63%
White Mountain: Carroll, Grafton counties				
four month	11.72	16.64	-4.92	70%
six month	17.86	23.21	-5.35	77%
nine month	27.00	36.50	-9.50	74%
twelve month	38.92	49.07	-10.15	79%
North Country: Coos county				
four month	11.46	15.83	-4.37	72%
six month	17.00	21.75	-4.75	78%
nine month	25.35	34.90	-9.55	73%
twelve month	38.57	48.38	-9.81	80%

four month period : March 2016 - June 2016
six month period : January 2016 - June 2016
nine month period : October 2015 - June 2016
twelve month period: July 2015 - June 2016

Source: Northeast River Forecast Center, NH Des Dam Bureau

DES Web site: **www.des.nh.gov**
P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095
Telephone: (603) 271-3503 • Fax: (603) 271-6120 • TDD Access: Relay NH 1-800-735-2964

TWELVE MONTH AGGREGATED PRECIPITATION DATA for N.H. DROUGHT MANAGEMENT AREAS from July 2015 through June 2016



NH DES Dam Bureau, Northeast River Forecast Center

MONTHLY PRECIPITATION DATA FOR N.H COUNTIES

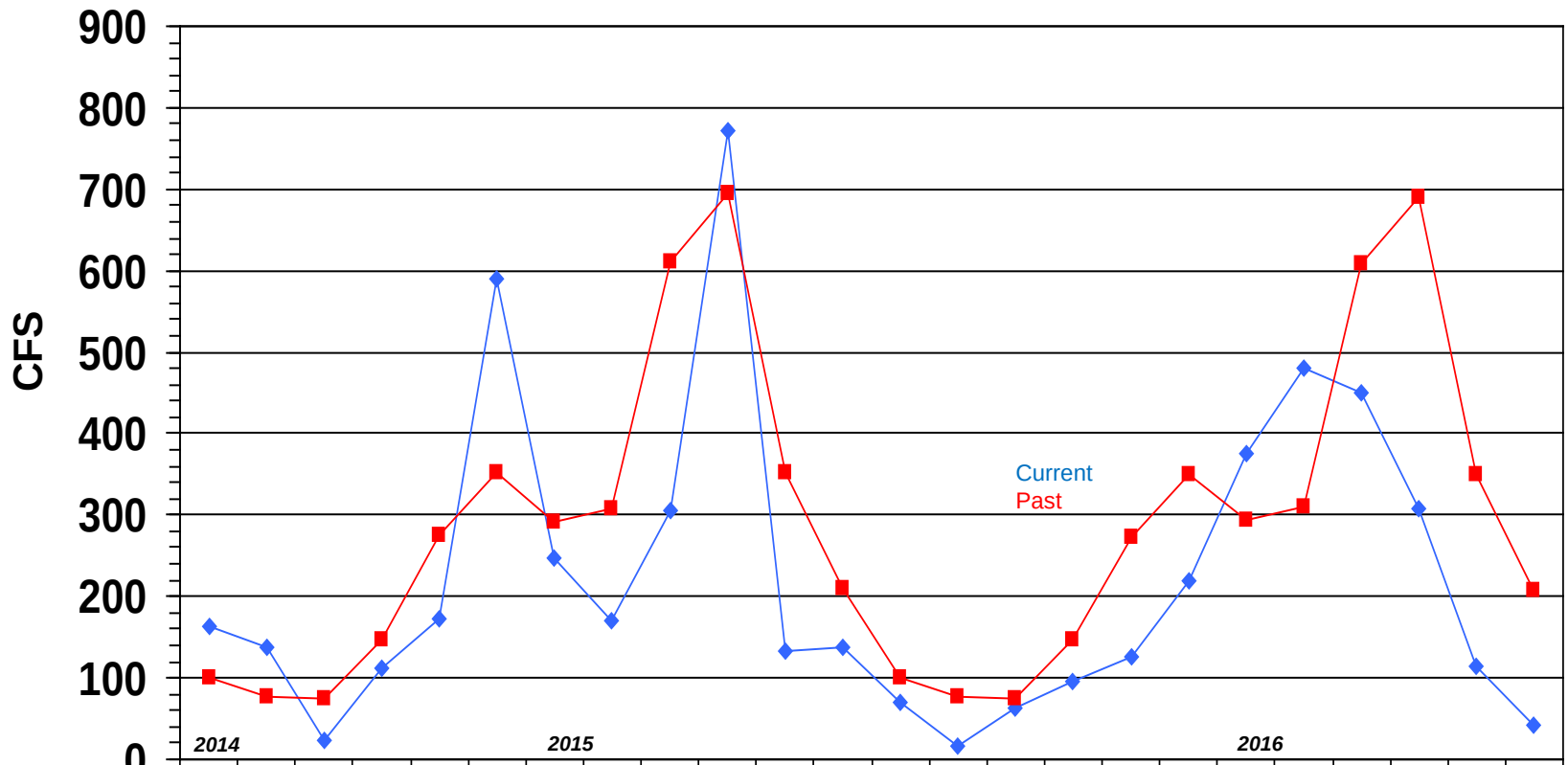
		2015 JULY	AUG	SEPT	OCT	NOV	DEC	2016 JAN	FEB	MARCH	APRIL	MAY	JUNE
Coastal drainage													
STRAFFORD	actual	1.97	2.69	5.23	2.47	2.18	4.42	1.68	4.51	2.72	2.09	1.65	2.58
	normal	3.75	3.69	3.76	4.38	4.50	3.76	3.21	3.41	4.16	4.22	4.10	4.16
	deviation	-1.78	-1.00	1.47	-1.91	-2.32	0.66	-1.53	1.10	-1.44	-2.13	-2.45	-1.58
ROCKINGHAM	actual	1.77	2.09	4.30	2.16	2.15	4.39	1.71	3.98	2.45	2.10	1.76	1.94
	normal	3.59	3.55	3.76	4.35	4.30	3.73	3.27	3.41	4.19	4.20	4.10	4.10
	deviation	-1.82	-1.46	0.54	-2.19	-2.15	0.66	-1.56	0.57	-1.74	-2.10	-2.34	-2.16
Average	actual	1.87	2.39	4.77	2.32	2.17	4.41	1.70	4.25	2.59	2.10	1.71	2.26
	normal	3.67	3.62	3.76	4.37	4.40	3.75	3.24	3.41	4.18	4.21	4.10	4.13
	deviation	-1.80	-1.23	1.01	-2.05	-2.24	0.66	-1.55	0.84	-1.59	-2.12	-2.40	-1.87
Southern Interior													
HILLSBOROUGH	actual	2.33	1.97	4.35	2.11	1.75	4.10	1.39	3.75	2.39	1.91	1.98	1.80
	normal	3.75	3.78	3.67	4.46	4.22	3.80	3.38	3.40	3.95	4.14	4.10	4.22
	deviation	-1.42	-1.81	0.68	-2.35	-2.47	0.30	-1.99	0.35	-1.56	-2.23	-2.12	-2.42
MERRIMACK	actual	2.31	2.52	4.02	2.12	1.80	4.14	1.27	4.05	2.31	1.78	2.50	2.42
	normal	3.81	3.78	3.52	4.43	4.15	3.65	3.26	3.20	3.73	3.95	4.01	4.34
	deviation	-1.50	-1.26	0.50	-2.31	-2.35	0.49	-1.99	0.85	-1.42	-2.17	-1.51	-1.92
BELKNAP	actual	2.29	2.57	4.60	2.11	1.74	4.20	1.41	3.87	2.25	1.81	2.32	2.95
	normal	4.08	3.84	3.55	4.48	4.03	3.58	3.07	3.14	3.58	3.75	3.95	4.25
	deviation	-1.79	-1.27	1.05	-2.37	-2.29	0.62	-1.66	0.73	-1.33	-1.94	-1.63	-1.30
Average	actual	2.31	2.35	4.32	2.11	1.76	4.15	1.36	3.89	2.32	1.83	2.27	2.39
	normal	3.88	3.80	3.58	4.46	4.13	3.68	3.24	3.25	3.75	3.95	4.02	4.27
	deviation	-1.57	-1.45	0.74	-2.34	-2.37	0.47	-1.88	0.64	-1.44	-2.11	-1.75	-1.88
South Western													
CHESHIRE	actual	2.52	2.21	4.65	2.10	1.42	3.86	1.23	3.62	2.21	1.83	2.38	2.06
	normal	4.03	4.05	3.57	4.61	3.97	3.68	3.42	3.28	3.73	3.78	4.10	4.20
	deviation	-1.51	-1.84	1.08	-2.51	-2.55	0.18	-2.19	0.34	-1.52	-1.95	-1.72	-2.14
SULLIVAN	actual	1.93	2.60	5.01	2.08	1.34	3.68	1.17	3.93	2.07	1.64	2.50	2.54
	normal	4.00	3.93	3.63	4.51	3.85	3.49	2.72	3.11	3.51	3.67	3.91	4.18
	deviation	-2.07	-1.33	1.38	-2.43	-2.51	0.19	-1.90	0.82	-1.44	-2.03	-1.41	-1.64
Average	actual	2.23	2.41	4.83	2.09	1.38	3.77	-0.55	3.78	2.14	1.74	2.44	2.30
	normal	4.02	3.99	3.60	4.56	3.91	3.59	3.07	3.20	3.62	3.73	4.01	4.19
	deviation	-1.79	-1.59	1.23	-2.47	-2.53	0.19	-2.05	0.58	-1.48	-1.99	-1.57	-1.89
White Mountain													
GRAFTON	actual	2.87	2.84	5.83	2.30	1.68	4.75	1.50	4.34	2.45	2.34	3.13	3.85
	normal	4.34	4.42	4.05	4.68	4.36	3.70	3.19	2.94	3.45	3.76	4.20	4.58
	deviation	-1.47	-1.58	1.78	-2.38	-2.68	1.05	-1.69	1.40	-1.00	-1.42	-1.07	-0.73
CARROLL	actual	2.82	3.01	6.47	2.42	2.06	5.08	1.78	4.65	3.00	2.40	2.35	3.92
	normal	4.25	4.21	3.88	4.96	4.72	4.16	3.57	3.43	4.02	4.46	4.32	4.49
	deviation	-1.43	-1.20	2.59	-2.54	-2.66	0.92	-1.79	1.22	-1.02	-2.06	-1.97	-0.57
Average	actual	2.85	2.93	6.15	2.36	1.87	4.92	1.64	4.50	2.73	2.37	2.74	3.89
	normal	4.30	4.32	3.97	4.82	4.54	3.93	3.38	3.19	3.74	4.11	4.26	4.54
	deviation	-1.45	-1.39	2.19	-2.46	-2.67	0.99	-1.74	1.31	-1.01	-1.74	-1.52	-0.65
North Country													
COOS	actual	3.27	3.41	6.54	2.16	1.80	4.39	1.56	3.98	2.38	2.77	2.92	3.39
	normal	4.53	4.70	4.25	4.53	4.24	4.38	3.10	2.82	3.21	3.62	4.21	4.79
	deviation	-1.26	-1.29	2.29	-2.37	-2.44	0.01	-1.54	1.16	-0.83	-0.85	-1.29	-1.40

Source: Northeast River Forecast Center, NH DES Dam Bureau

LAMPREY RIVER near NEWMARKET NH
Gage# 01073500

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



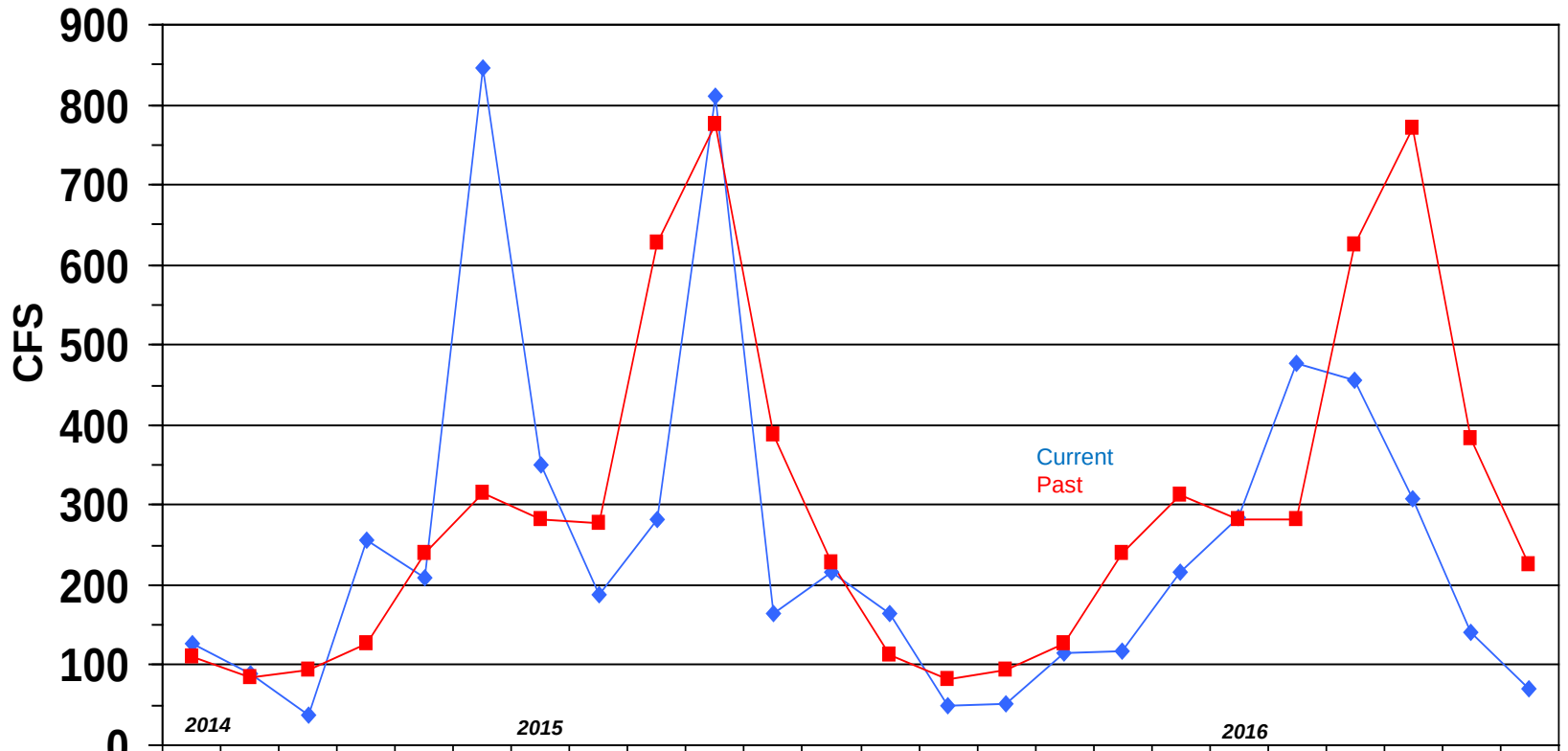
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	163	138	24	111	173	590	248	170	305	771	132	137	70	17	63	95	127	219	376	481	450	308	115	43
Mean of Monthly Flows	101	77	75	147	275	351	292	307	611	695	353	209	101	76	75	146	273	349	293	309	609	691	350	207
% of Normal	161%	179%	31%	75%	63%	168%	85%	55%	50%	111%	37%	66%	70%	23%	84%	65%	46%	63%	128%	156%	74%	45%	33%	21%

NH DES, Dam Bureau, Source: USGS

Start of record 1934

SOUHEGAN RIVER at MERRIMACK NH
Gage# 01094000

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



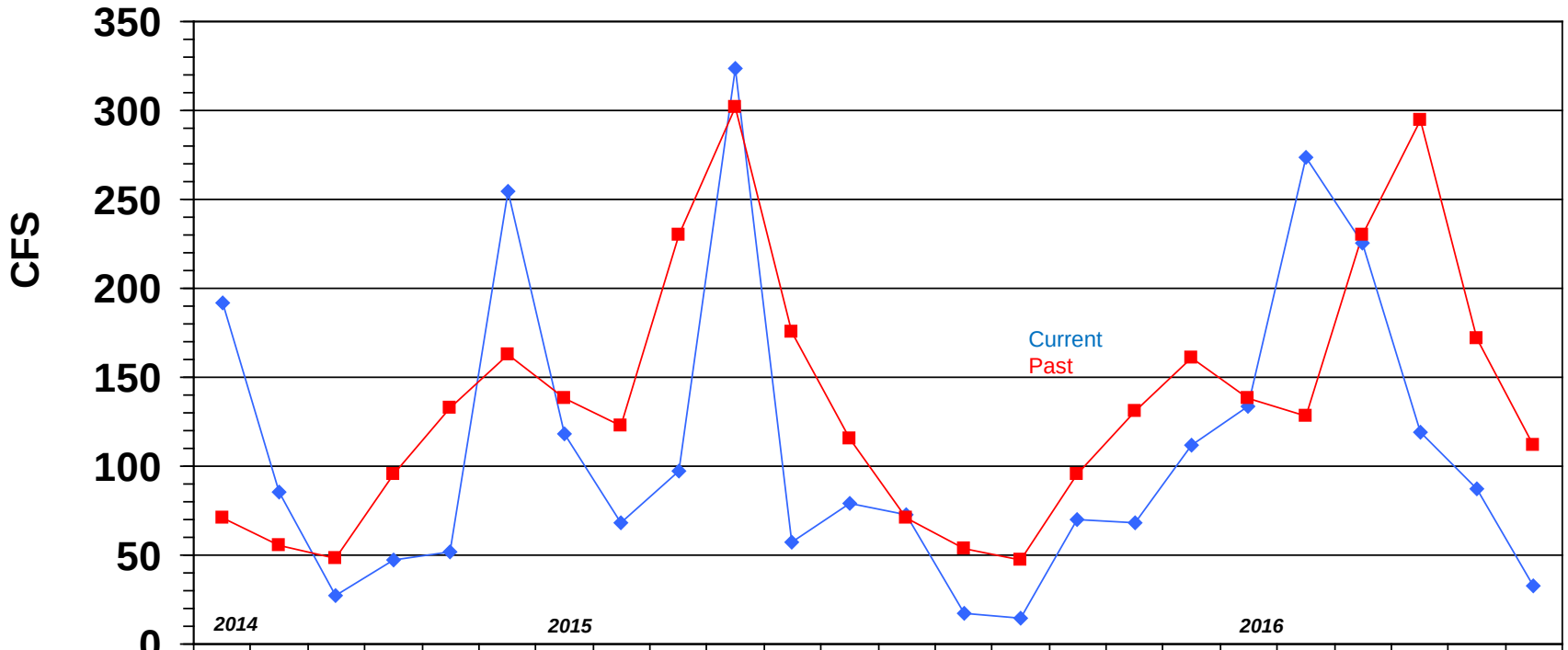
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	127	89	38	255	210	847	350	189	283	811	164	216	165	50	52	116	118	216	285	476	457	309	141	71
Mean of Monthly Flows	111	84	94	128	240	315	283	278	628	776	387	227	112	83	94	128	239	313	283	281	626	770	384	225
% of Normal	114%	105%	41%	199%	87%	269%	124%	68%	45%	104%	42%	95%	147%	61%	55%	91%	49%	69%	101%	169%	73%	40%	37%	32%

NH DES, Dam Bureau, Source: USGS

Start of record 1909

SOUCOOK RIVER at PEMBROKE ROAD
near CONCORD NH, Gage# 01089100

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



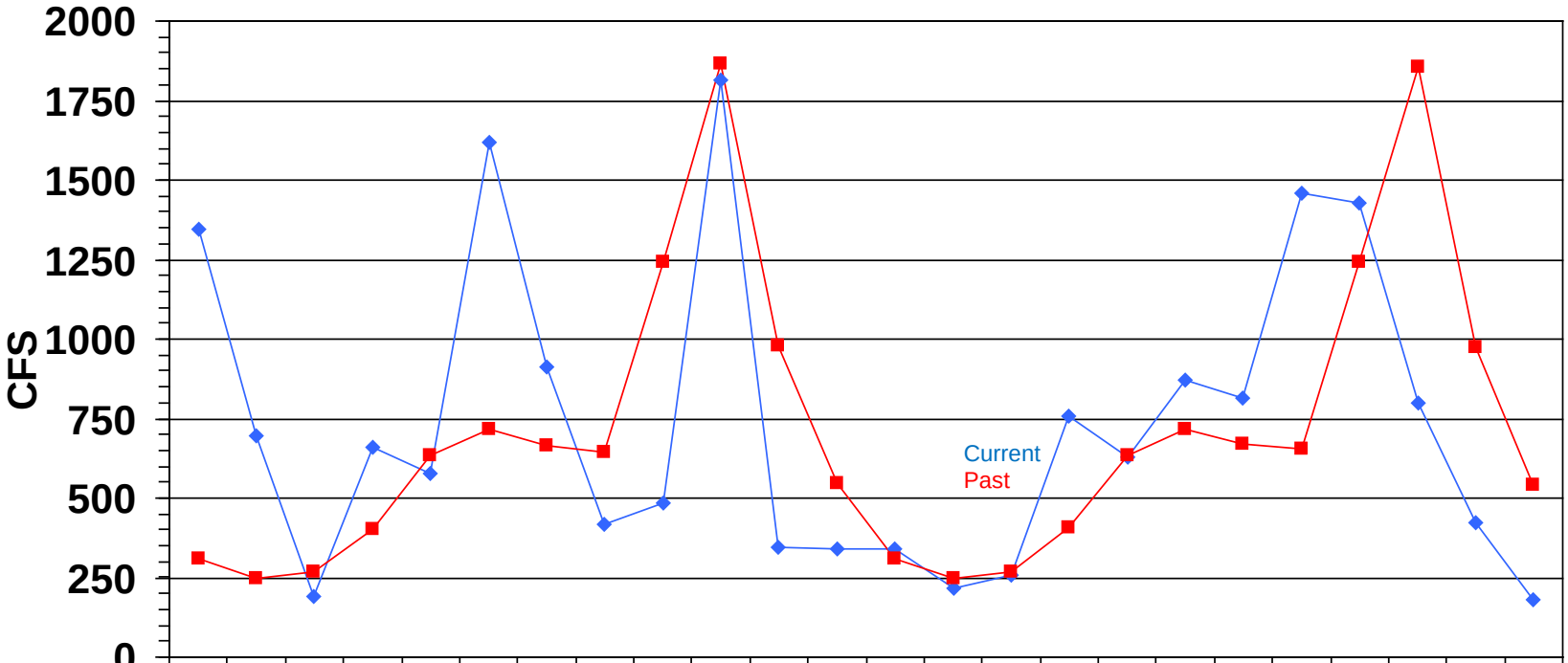
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	192	85	27	47	52	255	118	68	97	324	57	79	73	17	15	70	68	112	134	274	225	119	87	33
Mean of Monthly Flows	71	55	48	95	133	163	138	123	230	302	175	115	71	54	47	95	131	161	138	128	230	295	172	112
% of Normal	270%	154%	56%	49%	39%	156%	85%	56%	42%	107%	32%	69%	103%	32%	32%	74%	52%	69%	97%	214%	98%	40%	51%	29%

NH DES, Dam Bureau, Source: USGS

Start of record 1988

ASHUELOT RIVER at HINSDALE NH
Gage# 01161000

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	1345	696	193	658	577	1618	912	418	484	1815	344	340	341	216	257	757	629	870	814	1457	1430	799	425	180
Mean of Monthly Flows	310	246	266	404	632	718	667	645	1240	1865	981	544	310	246	266	407	632	719	668	653	1242	1855	975	541
% of Normal	434%	282%	72%	163%	91%	225%	137%	65%	39%	97%	35%	62%	110%	88%	97%	186%	99%	121%	122%	223%	115%	43%	44%	33%

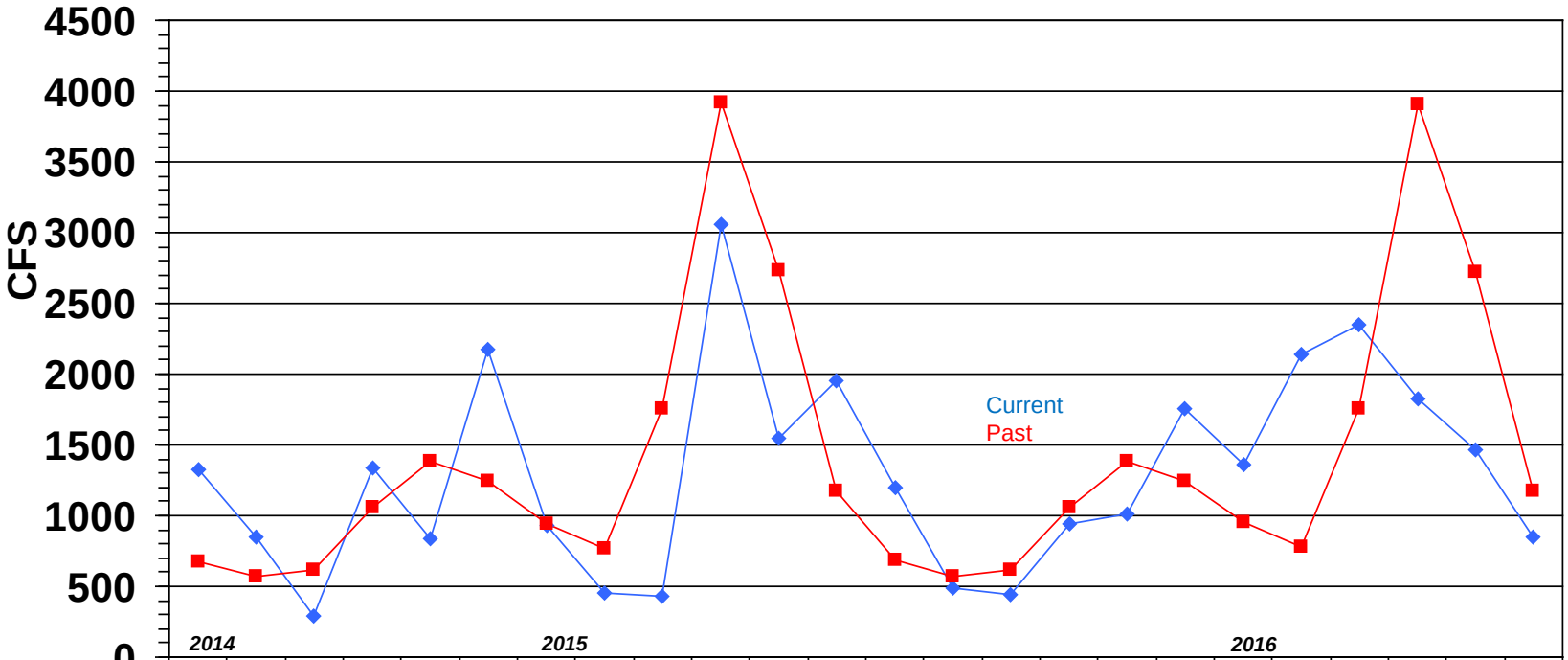
2014 2015 2016

NH DES, Dam Bureau, Source: USGS

Start of record 1907

PEMIGEWASSET RIVER at PLYMOUTH NH
Gage# 01076500

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS



	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	1330	850	290	1343	839	2169	934	456	431	3059	1543	1952	1201	491	443	943	1016	1759	1357	2142	2348	1831	1463	845
Mean of Monthly Flows	677	568	614	1063	1384	1242	946	766	1755	3921	2730	1178	682	567	612	1062	1381	1247	949	778	1760	3903	2719	1175
% of Normal	196%	150%	47%	126%	61%	175%	99%	54%	25%	78%	56%	166%	176%	87%	72%	89%	74%	141%	143%	275%	133%	47%	54%	72%

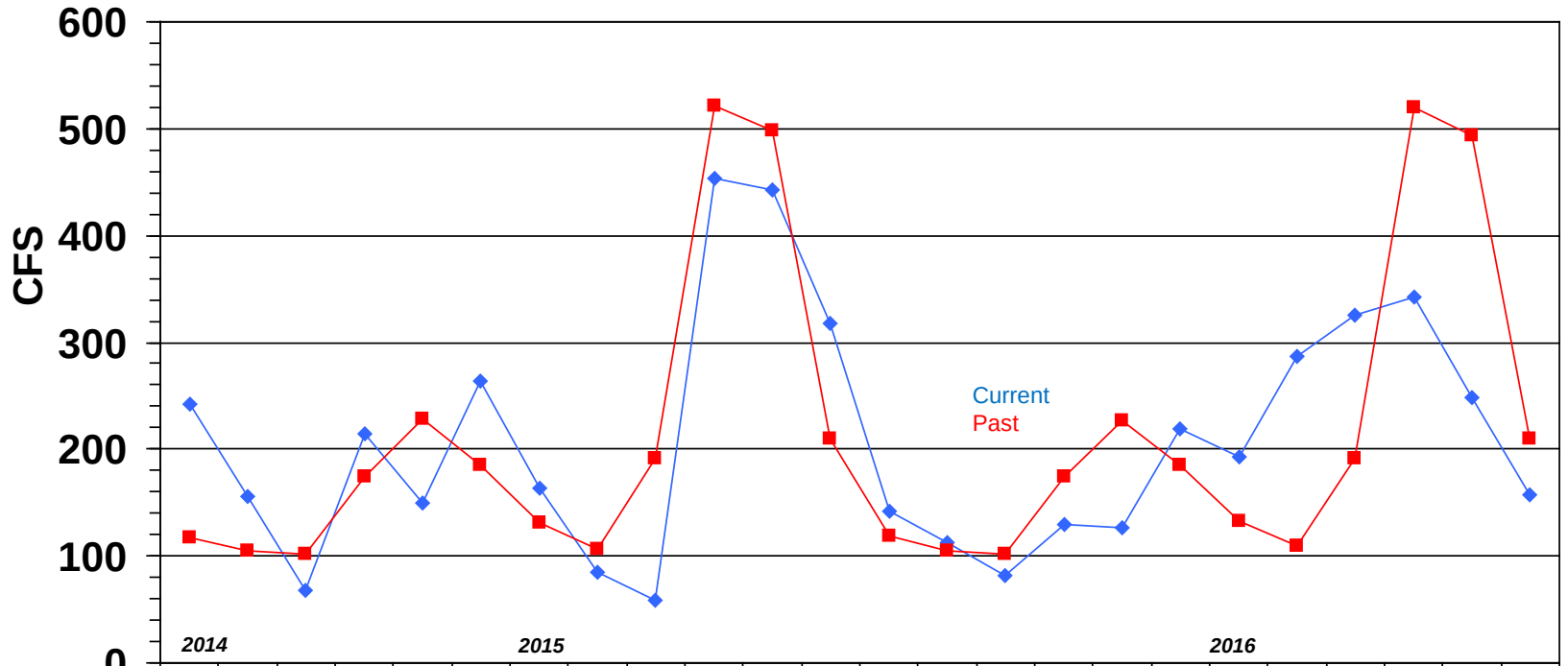
NH DES, Dam Bureau, Source: USGS

Start of record 1903

AMMONOOSUC RIVER at BETHLEHEM JUNCTION NH
Gage# 01137500

MONTHLY MEAN FLOW COMPARED TO MEAN OF MONTHLY FLOWS

This station replaces gage# 01137000 which was discontinued by DES at the end of Sept 2004



	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Monthly Mean Flow	242	156	68	215	150	263	163	85	59	453	443	317	142	112	81	129	126	219	193	287	325	342	249	157
Mean of Monthly Flows	117	105	102	175	228	185	131	106	191	522	498	210	118	105	102	174	227	185	132	109	192	520	494	209
% of Normal	207%	149%	67%	123%	66%	142%	124%	80%	31%	87%	89%	151%	120%	107%	79%	74%	55%	118%	146%	263%	169%	66%	50%	75%

NH DES, Dam Bureau, Source: USGS

Start of record 1939

Streamflow data for selected NH stations as of July 5, 2016

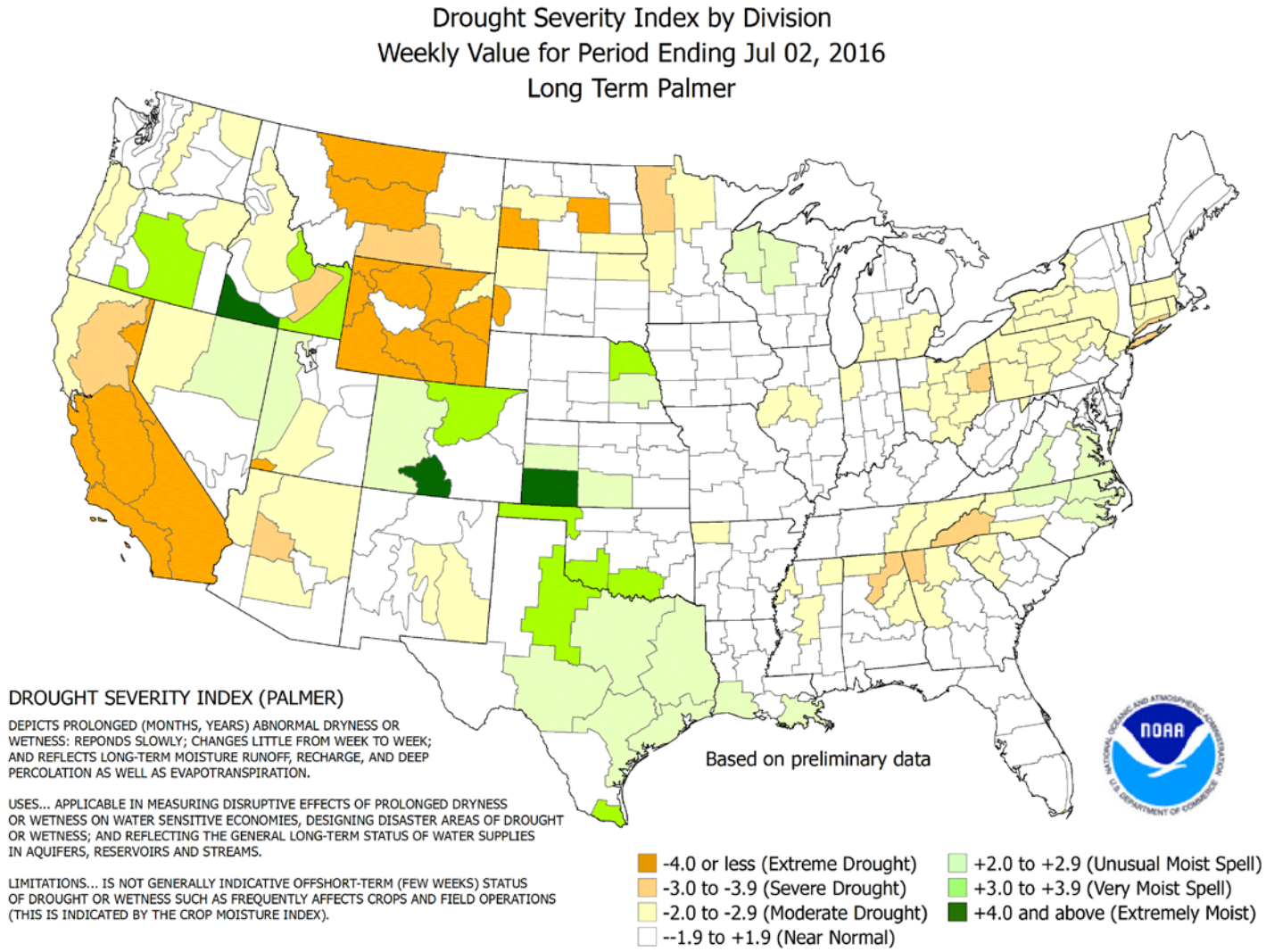
Station number	Station name	Est Mean flow (ft3/s)	Long term median flow (ft3/s)	99% flow (ft3/s)	7Q10 flow (ft3/s)	Lowest Period of Record daily flow(ft3/s)	% of Median flow	Below 0.99 Flow?	Below 7Q10 Flow?	Below Record Flow?
Androscoggin River Basin										
01052500	Diamond River near Wentworth Location, NH	62	117	22	16	6.8	53%			
01053500	Androscoggin River at Errol, NH	1230	1719	500	451	0	72%	FALSE	FALSE	FALSE
01054000	Androscoggin River near Gorham, NH	1260	1950	1300	1310	795	65%	TRUE	TRUE	FALSE
Saco River Basin										
01064500	Saco River near Conway, NH	288	383	105	97	66	75%	FALSE	FALSE	FALSE
01064801	BEARCAMP RIVER AT SOUTH TAMWORTH, NH	18	37	6	4.8	4.5	49%	FALSE	FALSE	FALSE
Piscataqua River Basin										
01072800	COCHECO RIVER NEAR ROCHESTER, NH	12	41	--	--	2.2	29%			FALSE
01073500	LAMPREY RIVER NEAR NEWMARKET, NH	11	62	7	5	--	18%	FALSE	FALSE	
Merrimack River Basin										
01074520	EAST BRANCH PEMIGEWASSET RIVER AT LINCOLN, NH	127	156		49	46	81%	FALSE	FALSE	FALSE
01075000	PEMIGEWASSET RIVER AT WOODSTOCK, NH	187	211		56	--	89%	FALSE	FALSE	
01076000	BAKER RIVER NEAR RUMNEY, NH	50	75		15	--	67%	FALSE	FALSE	
01076500	PEMIGEWASSET RIVER AT PLYMOUTH, NH	433	490		118	45	88%	FALSE	FALSE	FALSE
01078000	SMITH RIVER NEAR BRISTOL, NH	23	37		6.2	2.7	62%	FALSE	FALSE	FALSE
01081000	WINNIPESAUKEE RIVER AT TILTON, NH	416	328		136	48	127%	FALSE	FALSE	FALSE
01081500	MERRIMACK RIVER AT FRANKLIN JUNCTION, NH	995	1220		551	--	82%		FALSE	
01082000	CONTOOCOOK RIVER AT PETERBOROUGH, NH	9.9	34		6.3	--	29%	FALSE	FALSE	
01085000	CONTOOCOOK RIVER NEAR HENNIKER, NH	59			37	--		FALSE	FALSE	
01085500	CONTOOCOOK R BL HOPKINTON DAM AT W HOPKINTON, NH	68	181		39	--	38%	FALSE	FALSE	
01086000	WARNER RIVER AT DAVISVILLE, NH	36	49		5.3	--	73%	FALSE	FALSE	
01087000	BLACKWATER RIVER NEAR WEBSTER, NH	44			13.7	--		FALSE	FALSE	
01090800	PISCATAQUOG RIVER BL EVERETT DAM, NR E WEARE, NH	9.3			1.2	--		FALSE	FALSE	
01091500	PISCATAQUOG RIVER NEAR GOFFSTOWN, NH	25			8.8	--		FALSE	FALSE	
01092000	MERRIMACK R NR GOFFS FALLS, BELOW MANCHESTER, NH	1320	2020		644	98*	65%		FALSE	
01094000	SOUHEGAN RIVER AT MERRIMACK, NH	34	72		12.9	--	47%	FALSE	FALSE	
Connecticut River Basin										
01129200	CONNECTICUT R BELOW INDIAN STREAM NR PITTSBURG, NH	332	386		42	30	86%		FALSE	FALSE
01129500	CONNECTICUT RIVER AT NORTH STRATFORD, NH	616	752		176	108	82%		FALSE	FALSE
01131500	CONNECTICUT RIVER NEAR DALTON, NH	1340	1429		389	115	94%		FALSE	FALSE
01137500	AMMONOOSUC RIVER AT BETHLEHEM JUNCTION, NH	86	96		28	21	90%	FALSE	FALSE	FALSE
01138500	CONNECTICUT RIVER AT WELLS RIVER, VT	1360	2340		690	152*	58%	FALSE	FALSE	
01144500	CONNECTICUT RIVER AT WEST LEBANON, NH	1090	3300	380*	902	82*	33%		FALSE	
01152500	SUGAR RIVER AT WEST CLAREMONT, NH	77	133	40	38	14	58%	FALSE	FALSE	FALSE
01154500	CONNECTICUT RIVER AT NORTH WALPOLE, NH	2320	4170	260*	1058	115*	56%		FALSE	
01158000	ASHUELOT RIVER BELOW SURRY MT DAM, NEAR KEENE, NH	14	41	4.5	2.7	0.4	34%	FALSE	FALSE	FALSE
01158600	OTTER BROOK BELOW OTTER BROOK DAM, NEAR KEENE, NH	7	18	1.6	1.1	0.3	39%	FALSE	FALSE	FALSE
01160350	ASHUELOT RIVER AT WEST SWANZEY, NH	39	201	32	--	--	19%	FALSE		

*Flow duration and record low mean daily flow significantly affected by reservoir operations

**Estimated

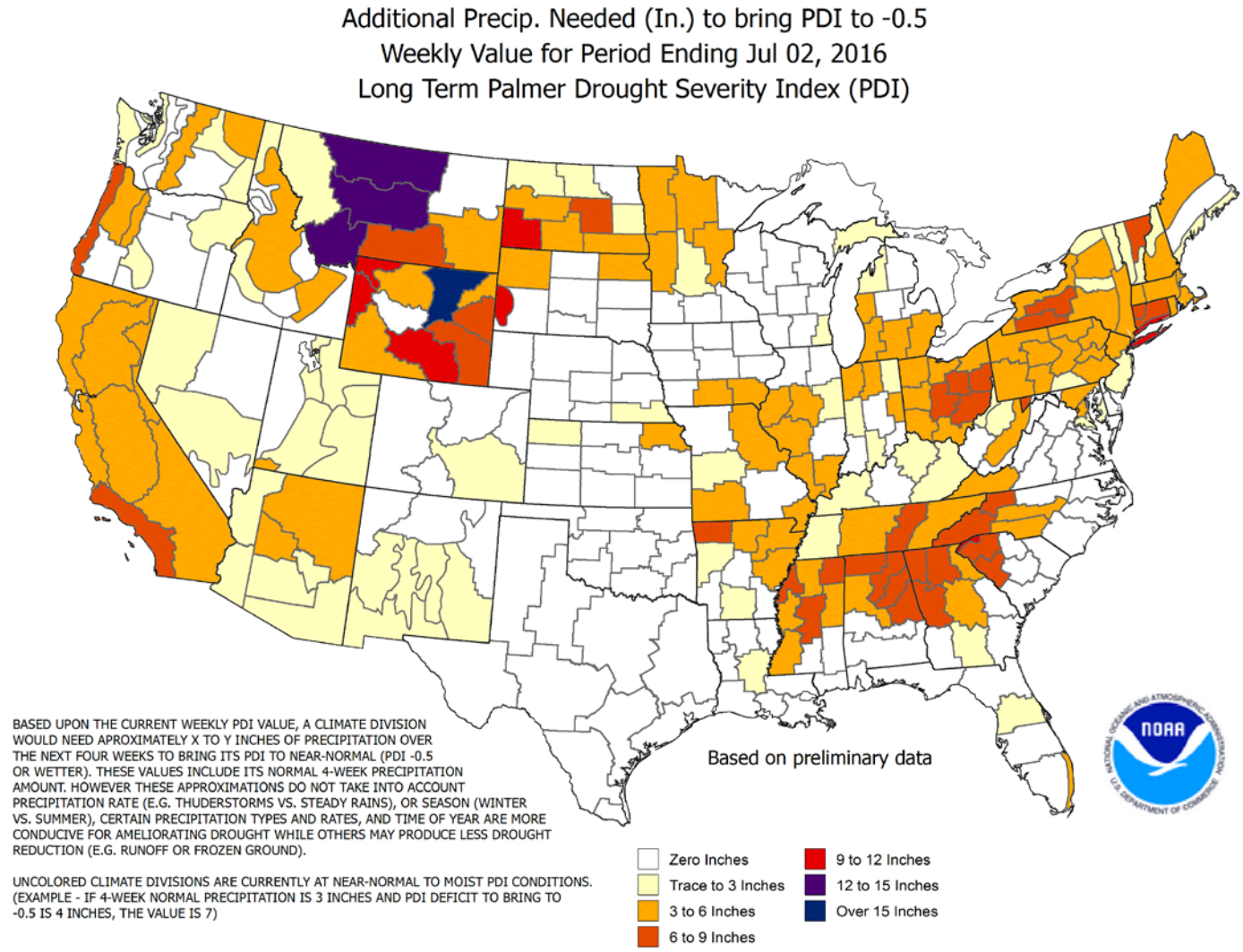
Average % of median for all basins 62%

SUMMARY	Below 0.99 Flow?	Below 7Q10 Flow?	Below Record Flow?
FALSE =	24	30	16
TRUE =	1	1	0



THE PALMER DROUGHT SEVERITY INDEX

The Palmer Index uses temperature and rainfall information in a formula to determine dryness. The advantage of the Palmer Index is that it is standardized to local climate.



This is the amount of rainfall required in a week's time to bring the index back to zero inches required.