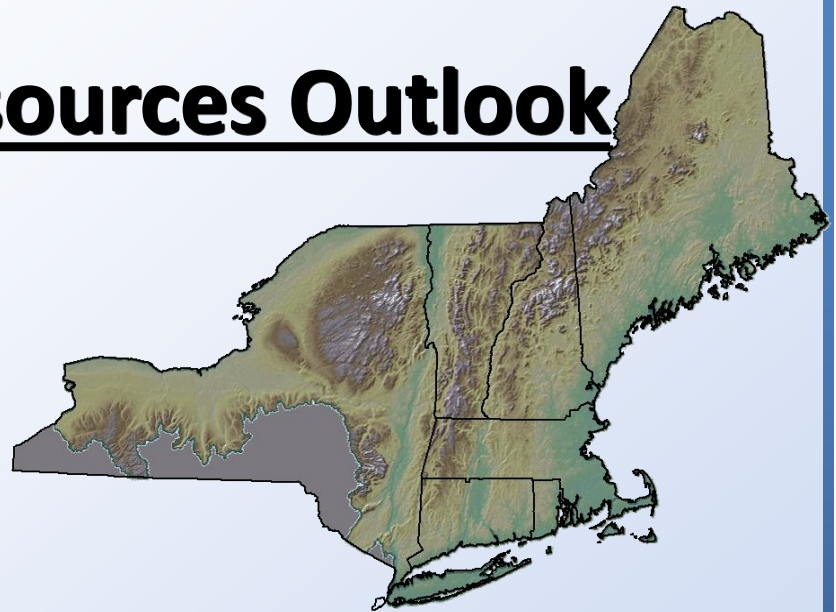


NERFC Area Water Resources Outlook

- **April 28th 2015**
- **Next Briefing – 4/30**



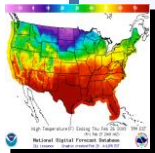
➤ **Brought to you by:**

➤ **Edward Capone - Service Coordination Hydrologist**

➤ **Overview to Include:**

- • **Potential flood outlook – convective/synoptic conditions**
- • **Snow Water/Melt Potential --- Ice Jam Potential---**
- • **Stream flow-Groundwater-Soil moisture and Snow Water Equivalent conditions**
- • **Antecedent –Current—Future precipitation forecasts**
- • **Short and Medium Range Met Forecasts (especially potentially significant events)**
- • **Flood or Drought Outlook (Near term & Longer term)**

National Weather Service
Protecting Lives and Property



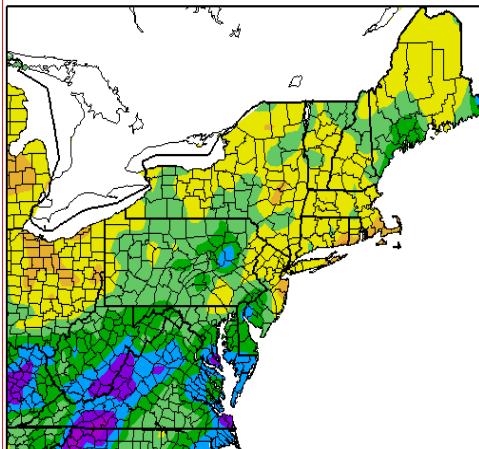
Service Area Highlights

➤ Apr 13th to Apr 26th

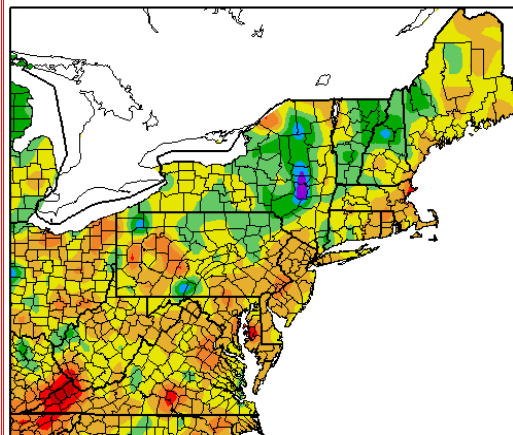
- Cold than normal recent...some warming last week
- Near Normal Temps ...across New England/ NY
- Snow Events continued far north
- Snow Depths/SWE dwindling in Maine
- Precipitation ... slightly above normal western NY/below normal for much of the last month

ional Weather Service
ecting Lives and Property

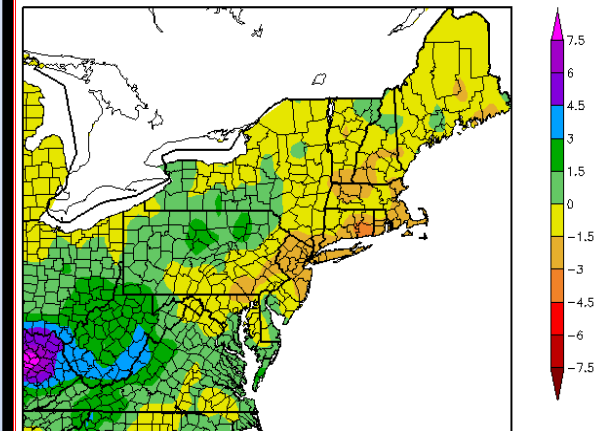
Departure from Normal Precipitation (in)
4/13/2015 - 4/26/2015



Departure from Normal Temperature (F)
4/13/2015 - 4/26/2015



Departure from Normal Precipitation (in)
3/28/2015 - 4/26/2015

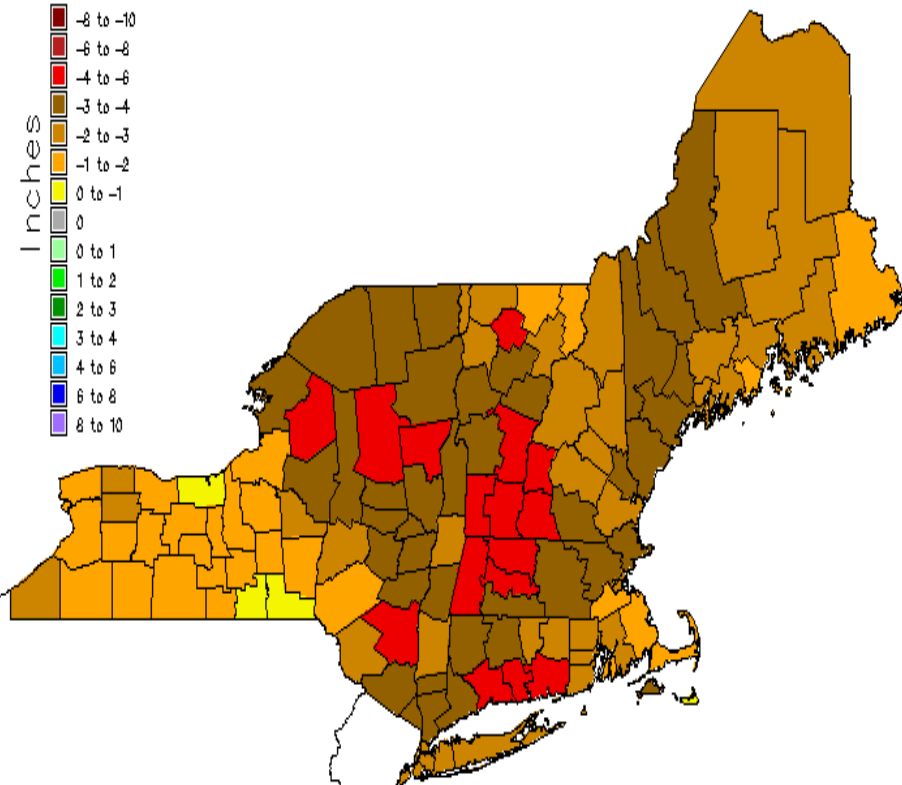
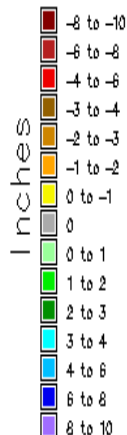


90 and 180 Day Precipitation Departures



90 Day Departures from Normal

Ending 2015-04-27

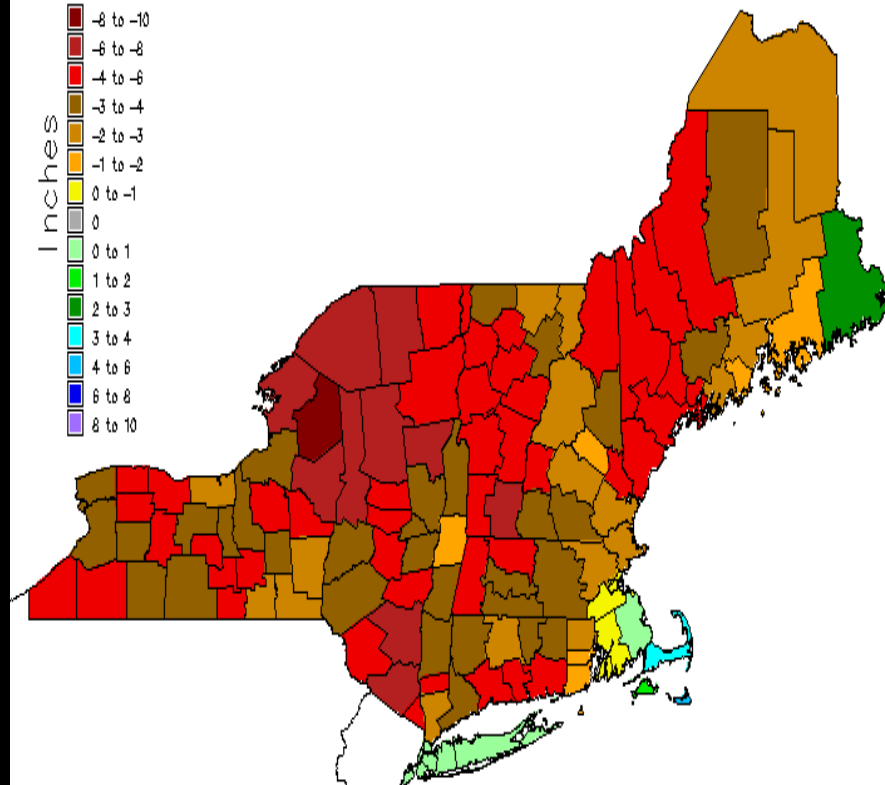
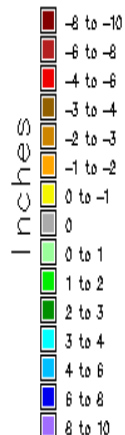


Source: NOAA Northeast River Forecast Center, Taunton, MA



180 Day Departures from Normal

Ending 2015-04-27



Source: NOAA Northeast River Forecast Center, Taunton, MA

USA Drought Monitor

U.S. Drought Monitor

Northeast

April 21, 2015

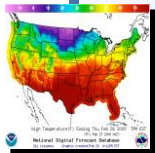
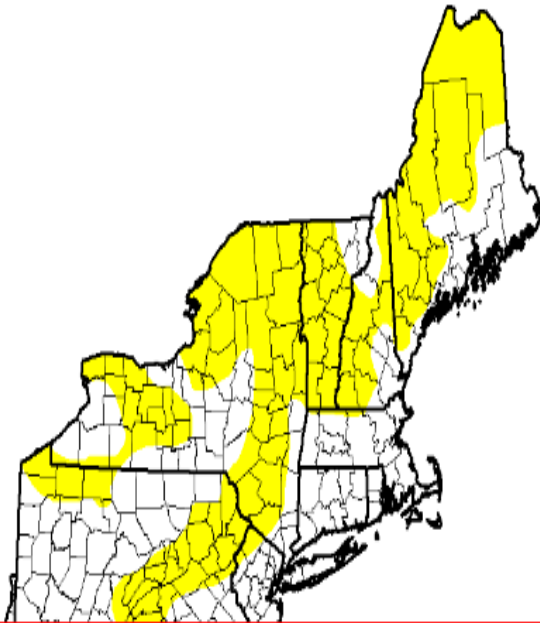
(Released Thursday April 23, 2015)

Valid 8 a.m. EDT

Statistics type: Traditional (D0-D4, D1-D4, etc.) Categorical (D0, D1, etc.)

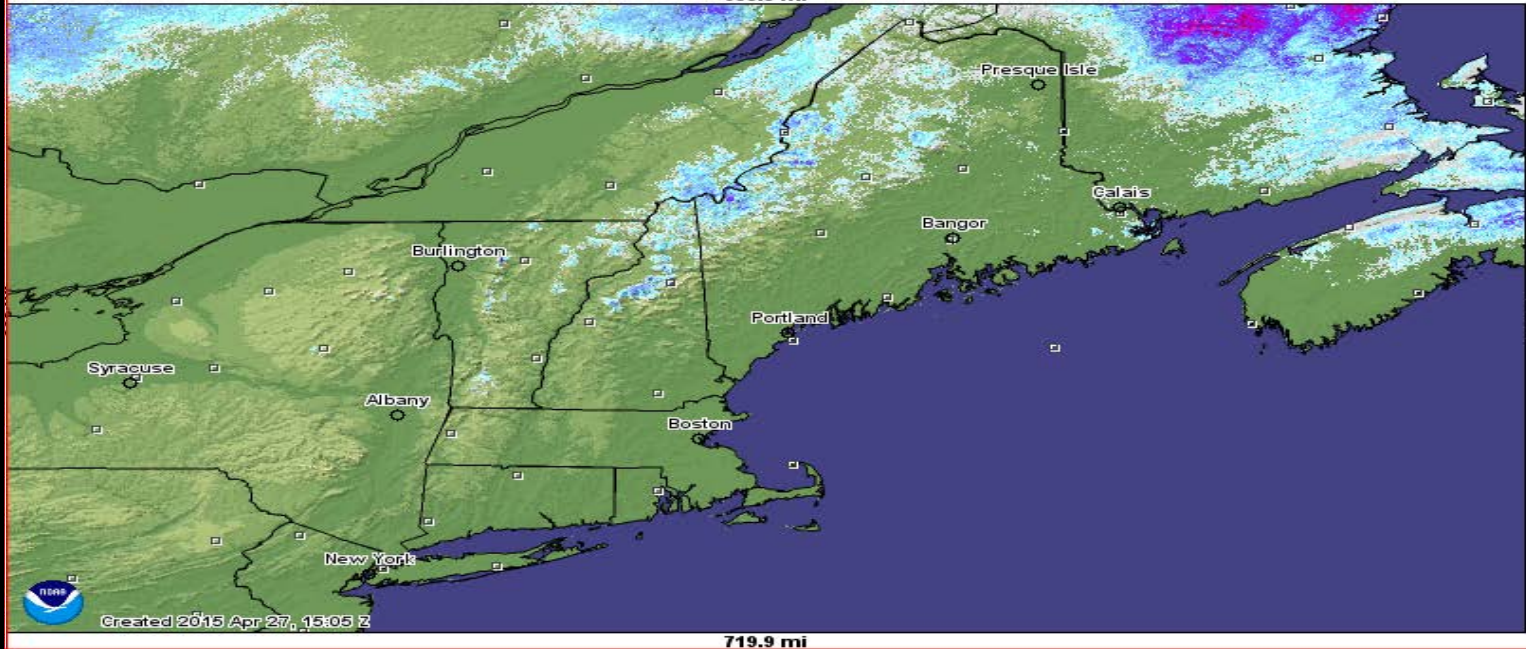
Drought Condition (Percent Area):

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2015-04-21	59.99	40.01	0.00	0.00	0.00	0.00
Last Week	2015-04-14	54.77	45.23	0.00	0.00	0.00	0.00
3 Months Ago	2015-01-20	83.70	16.30	0.00	0.00	0.00	0.00
Start of Calendar Year	2014-12-30	86.73	13.27	0.00	0.00	0.00	0.00
Start of Water Year	2014-09-30	65.88	34.12	3.56	0.00	0.00	0.00
One Year Ago	2014-04-22	95.78	4.22	0.00	0.00	0.00	0.00

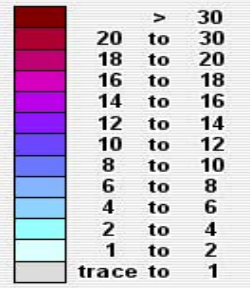


Snow Conditions -----SWE and Temps

Modeled Snow water Equivalent forecasted for 2015 April 28, 12:00 UTC



Inches of water equivalent

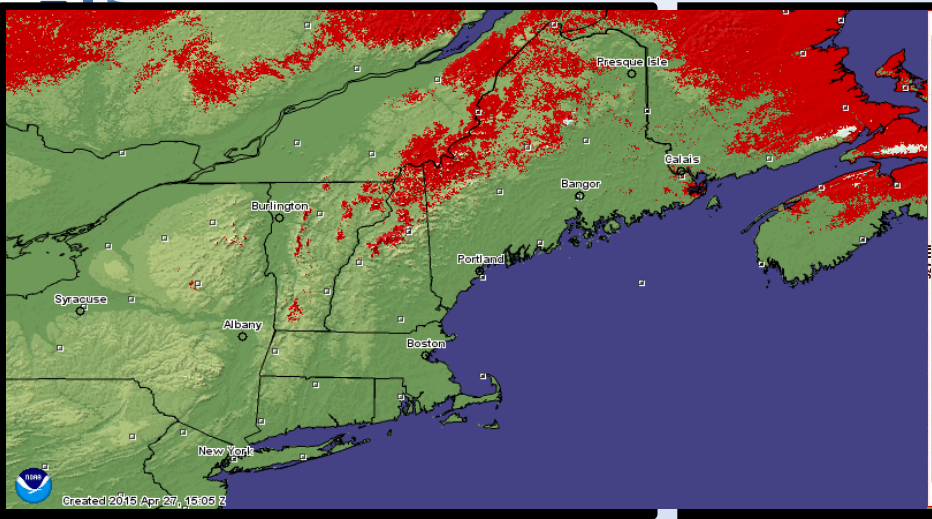


Not Estimated

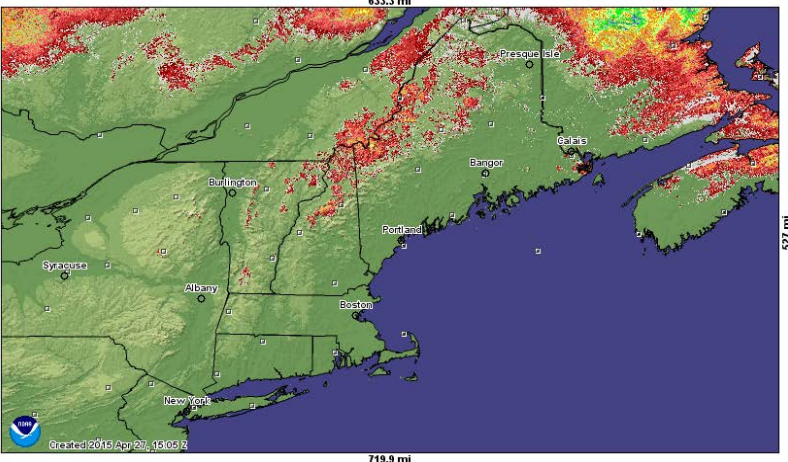
Elevation in feet



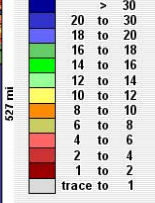
Created 2015 Apr 27, 15:05 Z



Modeled Snow Water Equivalent forecasted for 2015 April 28, 12:00 UTC



Inches of water equivalent



Not Estimated

Elevation in feet



Created 2015 Apr 27, 15:05 Z

Created 2015 Apr 27, 15:05 Z

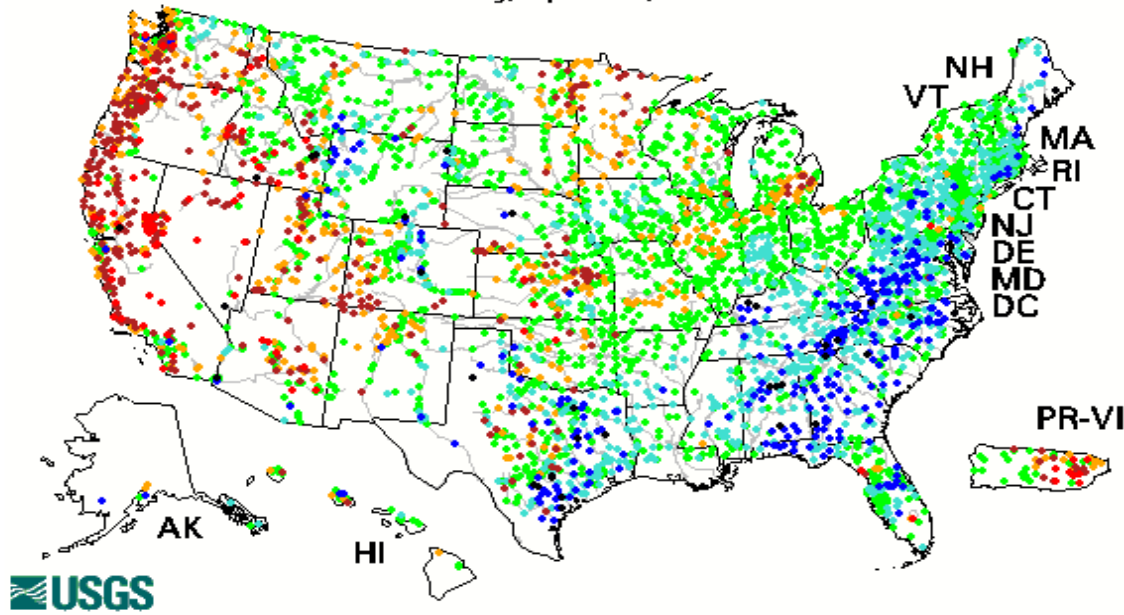
719.9 mi

USGS Real-Time Streamflow Conditions

Map of 7-day average streamflow compared to historical streamflow for the day of the year (United States)

State or Water-Resources Regions All Days

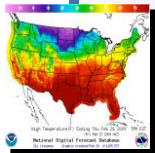
Monday, April 27, 2015



Choose a data retrieval option and select a location on the map

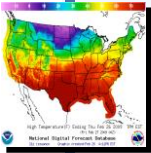
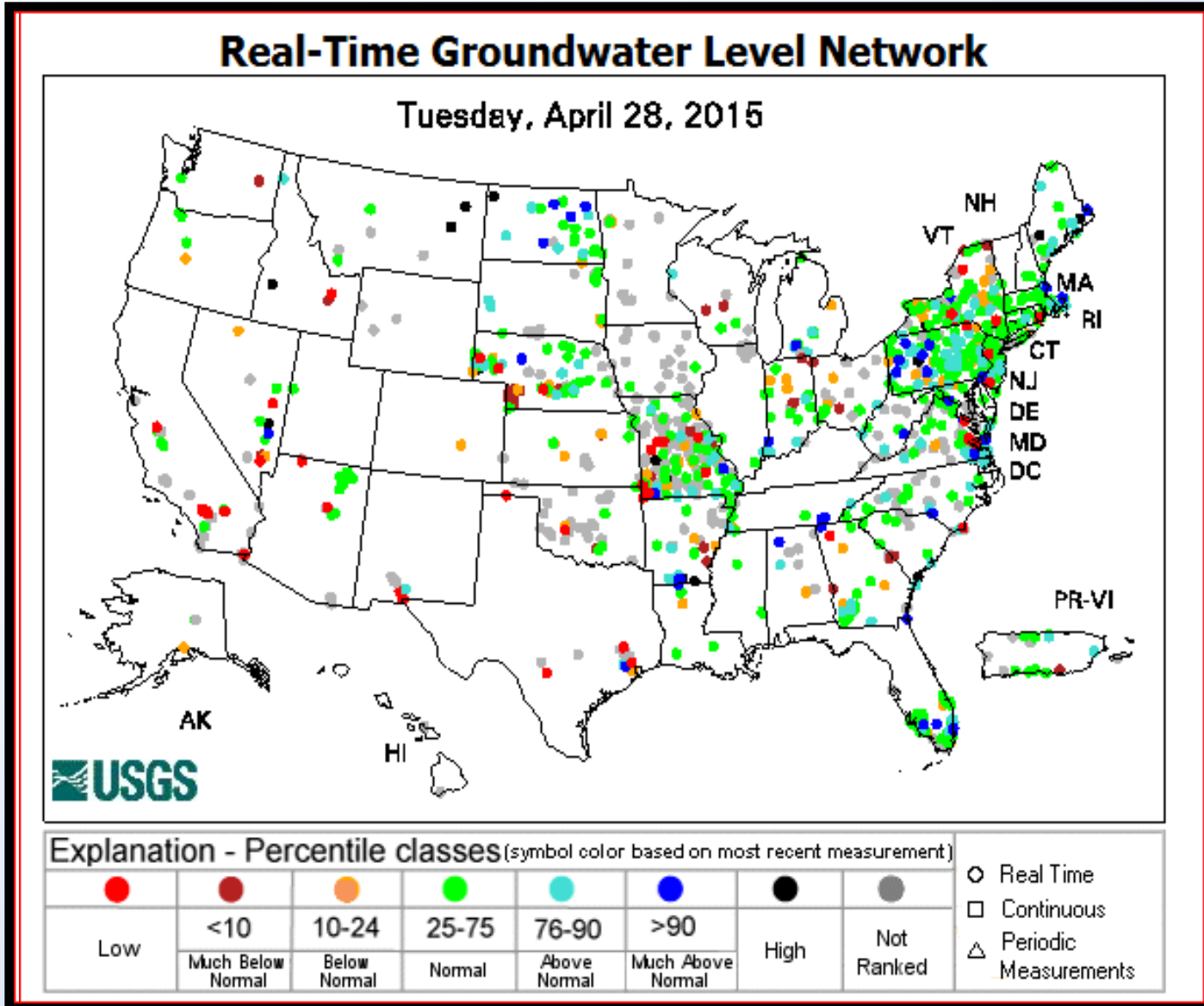
- List of all stations in state, State map, or Nearest stations

Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



USGS -- Current Groundwater Conditions

National Weather Service
Protecting Lives and Property



Water Supply/Lake Levels

New York City's Water Supply System

April 27, 2015

Total Storage (% of Capacity)

Current: 98.0

Normal: 98.5

Consumption (billion gallons)

4/26/15 1.04

Average Precipitation (inches)

Actual Historical

February: 1.60 2.50

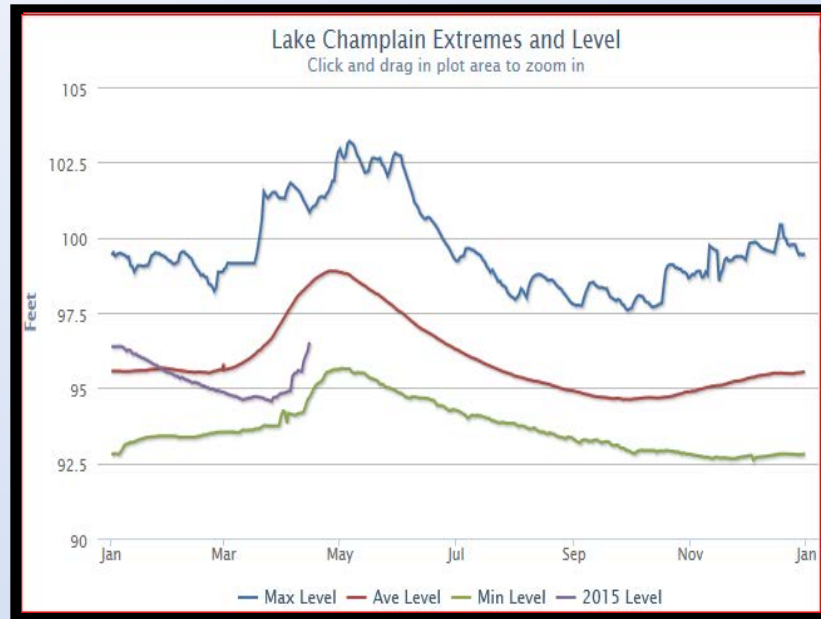
March: 2.19 3.62

April: 2.83 3.22

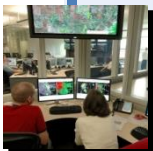
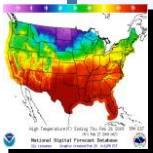
Current Conditions Status = Normal Operations

Quabbin Level	Normal Operations	Below Normal	Drought Warning	Drought Emergency 1	Drought Emergency 2	Drought Emergency 3
	100%- 80%	80%-65%	65%-50%	50% -30%	38% -25%	25% -0%

Scituate Reservoir Elevation (feet)	284.74	(103.4 % of Capacity)
Plant Influent (mgd)	71.233154	(110.21 CFS)
Cumulative Reservoir Evap. (gal)	8,277,778	
Downstream Discharge (mgd)	15.68	(24.26 CFS)



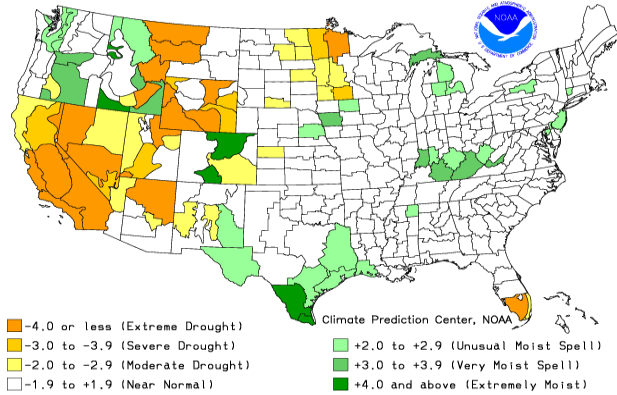
National Weather Service
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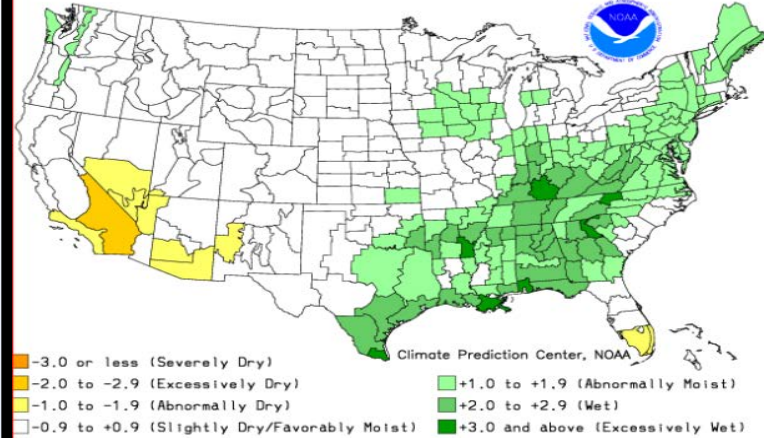
Drought Severity-Soils-Fire Weather

National Weather Service
Protecting Lives and Property

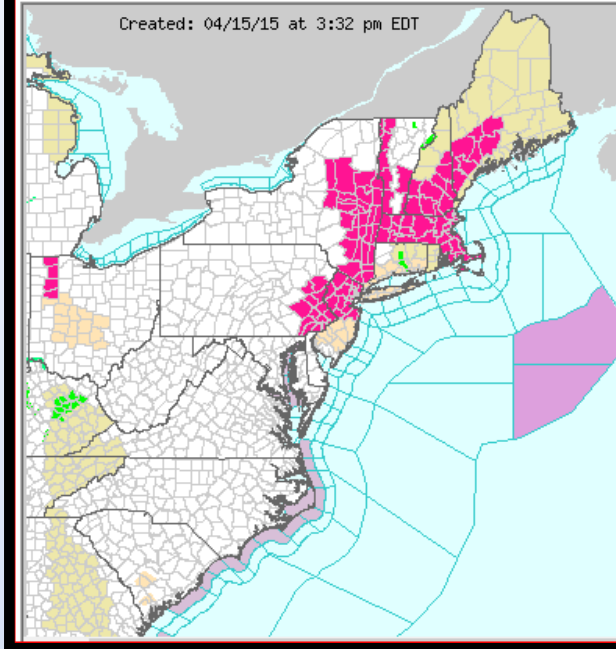
Drought Severity Index by Division
Weekly Value for Period Ending APR 25, 2015
Long Term Palmer



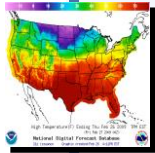
Crop Moisture Index by Division
Weekly Value for Period Ending APR 25, 2015
Short Term Need vs. Available Water in a Shallow Soil Profile



Created: 04/15/15 at 3:32 pm EDT

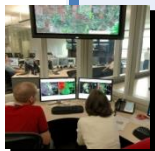
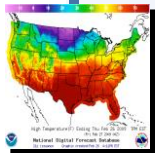


- Flood Warning
- Gale Warning
- Red Flag Warning
- Flood Advisory
- Small Craft Advisory
- Special Weather Statement
- Hazardous Weather Outlook
- Short Term Forecast



River Ice and Ice Jamming – Over for 2015

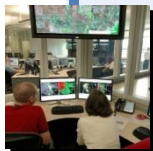
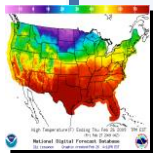
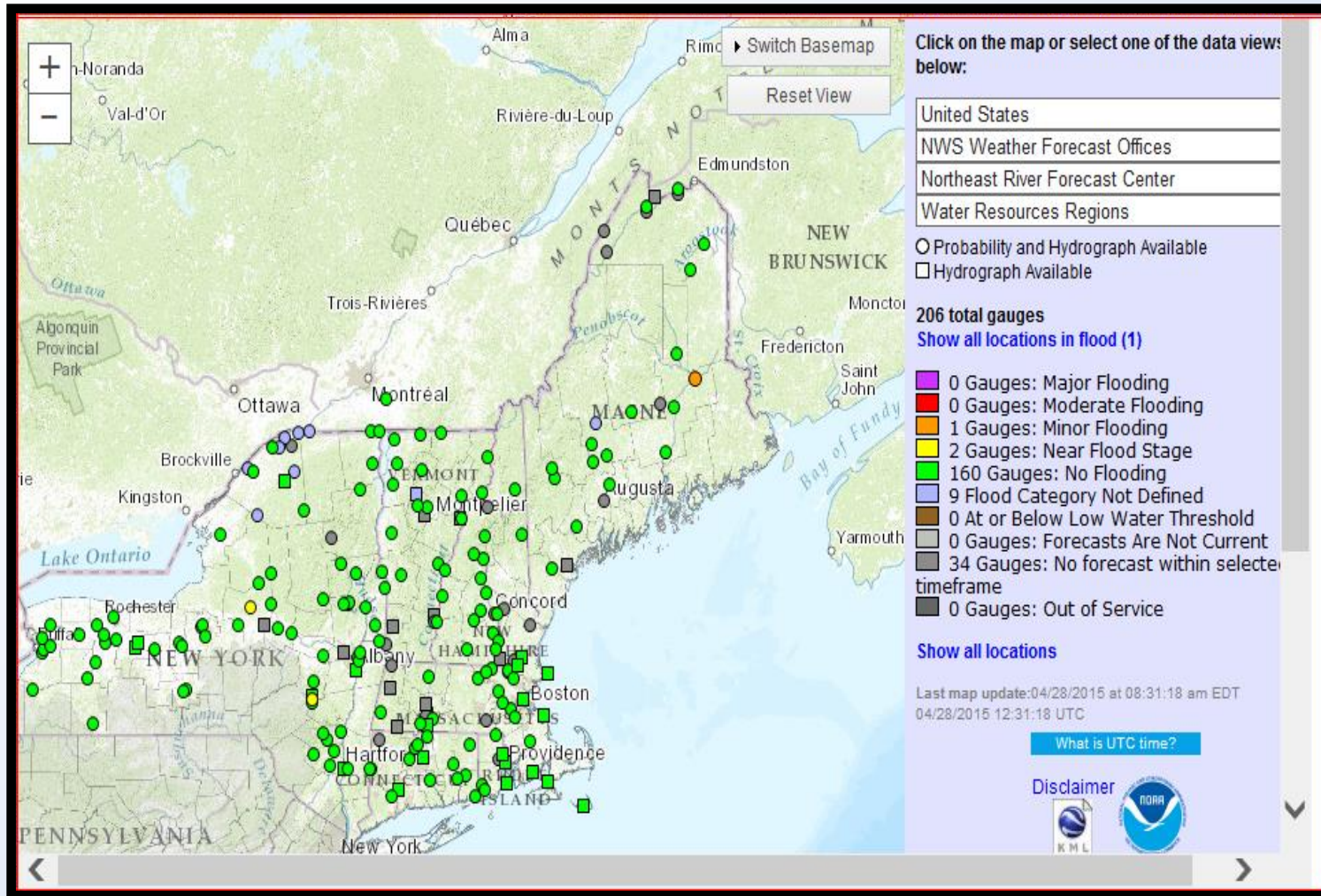
- St John River at Dickey, Maine
- Aroostook River at Washburn
- Penobscot River East Branch d/s of Grindstone
- Pleasant River near Milo
- Many smaller rivers now mixed/open from ice in Maine



NERFC Forecast

<http://www.weather.gov/nerfc/>

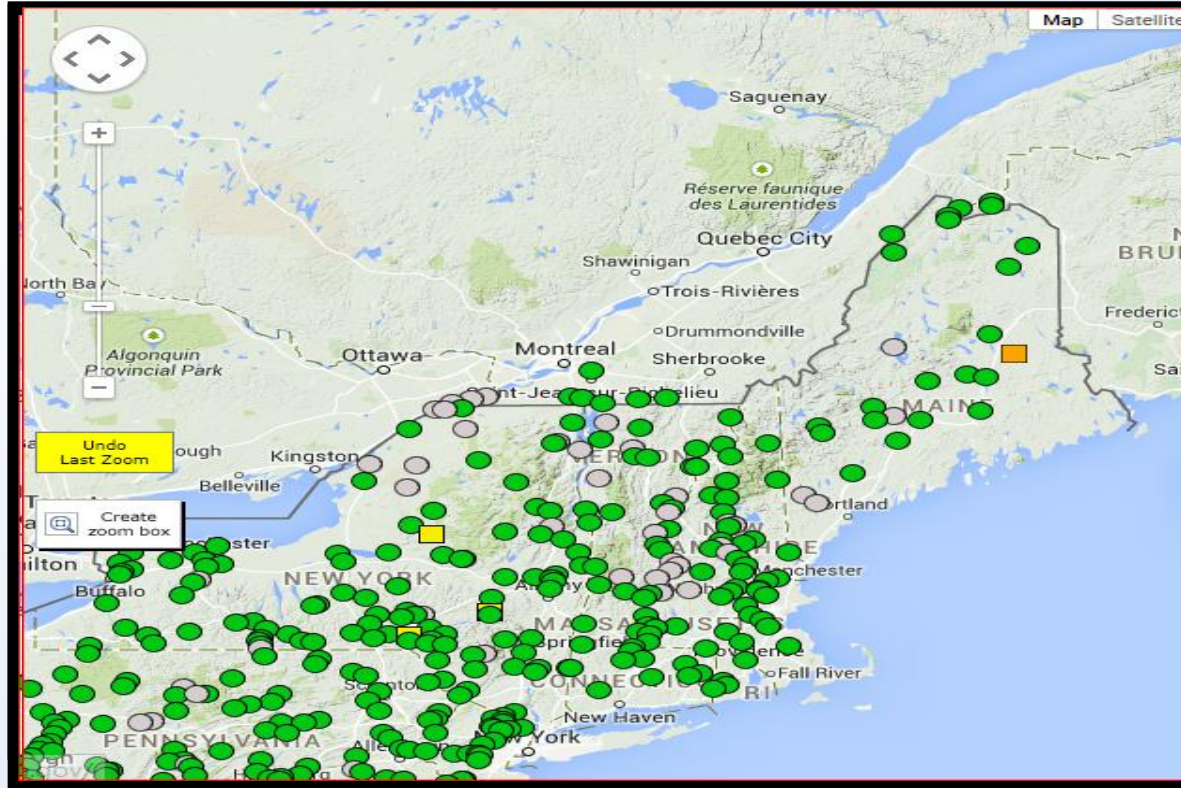
National Weather Service
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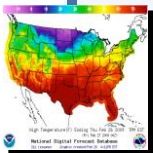
MMEFS – Met Model Ensemble Forecast System

<http://www.erh.noaa.gov/mmefs/index.php?Lat=44&Lon=-73&Zoom=6>

National Weather Service
Protecting Lives and Property



Chance of Exceedance			River Forecast Centers	
30%	Level	70%		
	Action		Middle Atlantic River Forecast Center	
	Minor Flood		Northeast River Forecast Center	
	Moderate Flood		Ohio River Forecast Center	
	Major Flood		Southeast River Forecast Center	
	= less than 30% chance of reaching Action level			
	= no critical levels defined for this point			

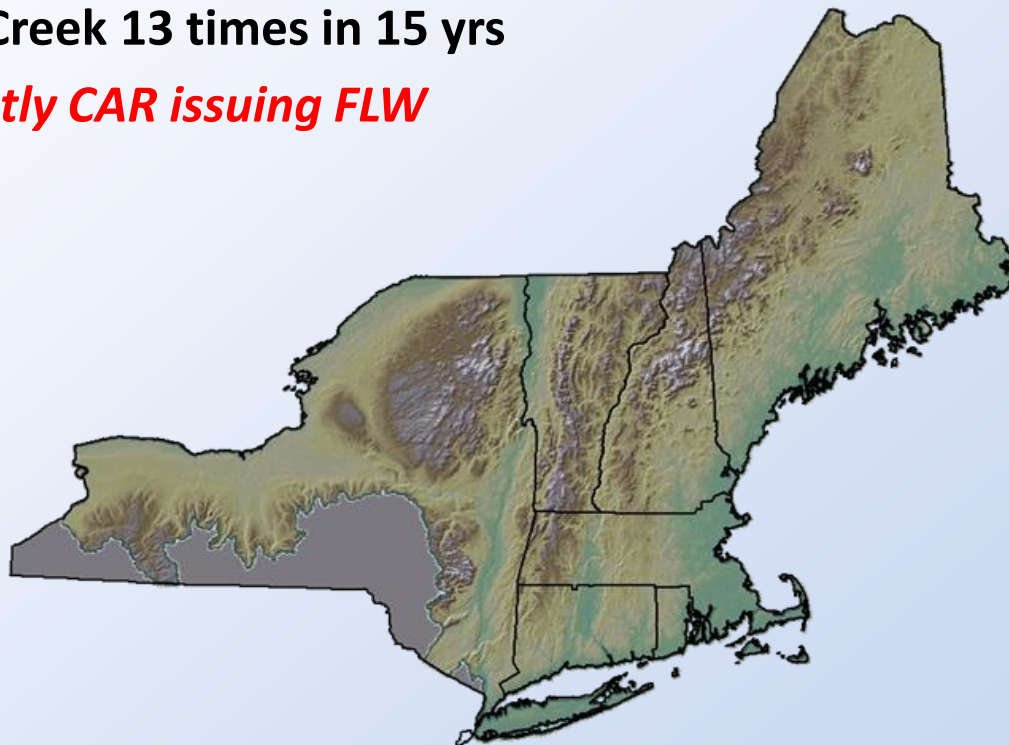


Where does Spring flooding occur at the NERFC? Who are the big offenders?

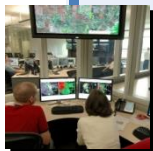
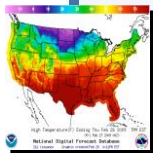
➤ Jan – May number of flood events since 2000

- Lower Connecticut River 20 times in 15 yrs
- Lower Housatonic River 16 times in 15 yrs
- Pawtuxet River 14 times in 15 yrs
- Otter Creek 13 times in 15 yrs

Currently CAR issuing FLW



lid	count
HFDC3	20
MDDC3	16
STVC3	16
CRAR1	14
CENV1	13
WOON3	11
ASFN6	11
DNSM3	11
GVVN6	11
NCHN3	10
GAYC3	10
SIMC3	9
SAXM3	9
RVRN6	9
MTRN6	9
PLMN3	9
EBKV1	9
CNWN3	9
HOPN6	9
MAYM3	9
AUGM1	9
WLMM3	8
TMVC3	8
FLVC3	8
HENN3	8
YTCC3	8
GOFN3	8
MOOV1	7
PTRN3	7

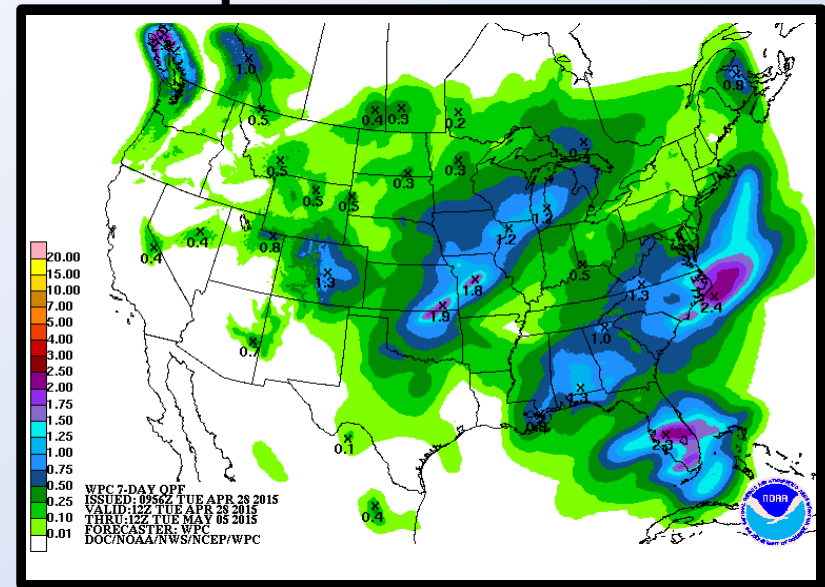
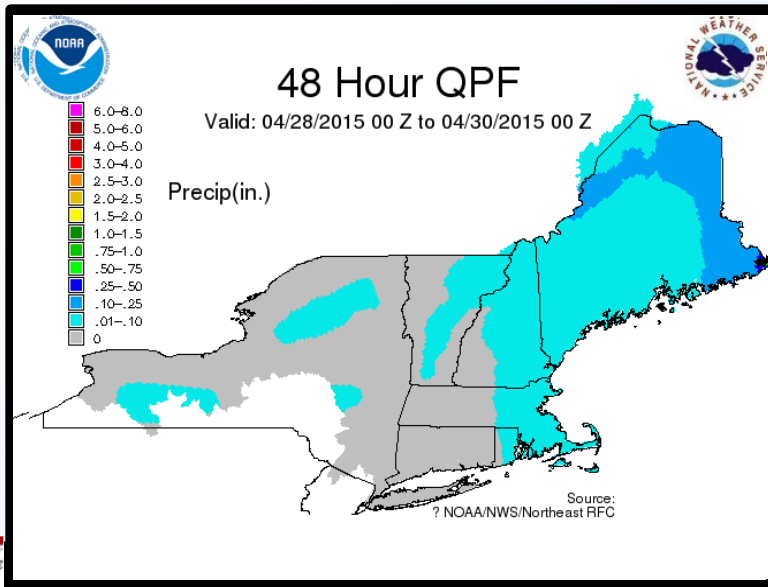


Looking Ahead – Pattern Change

➤ Week 1

➤ Above Normal Temps

➤ Below Normal Precipitation



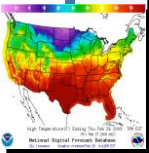
➤ Week 2

➤ Above Normal Temps

➤ --Slightly Above Normal Precipitation.

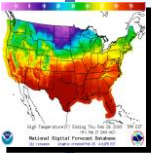
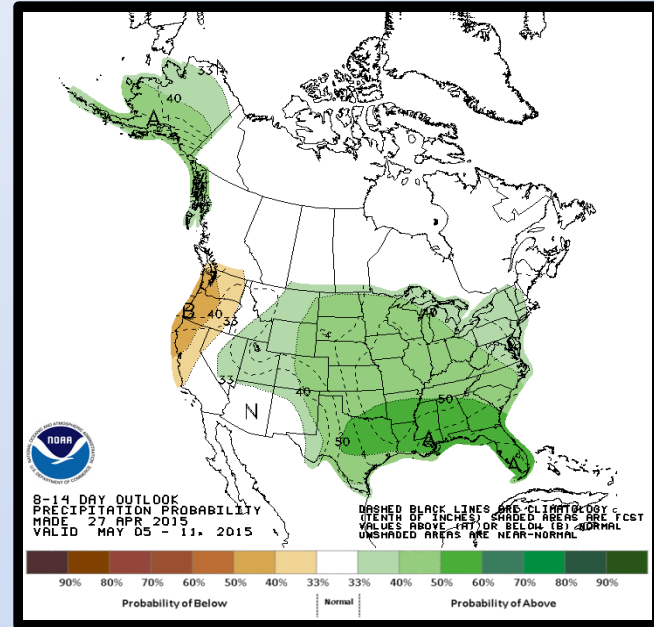
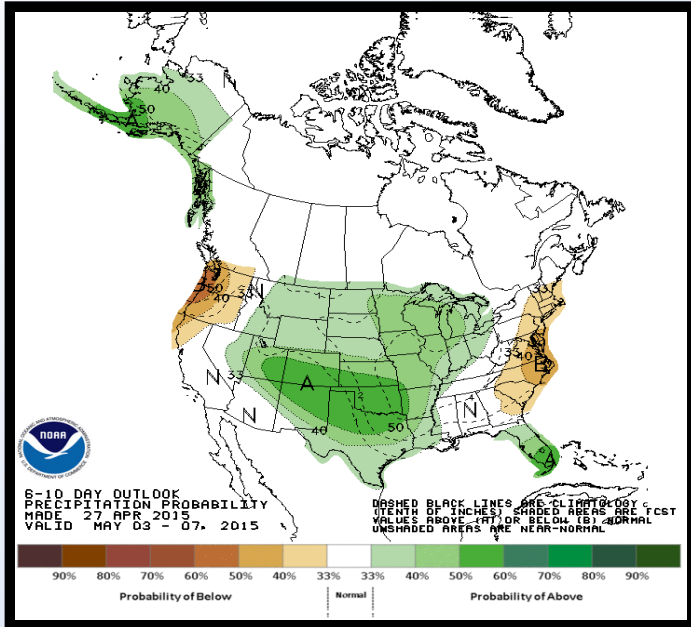
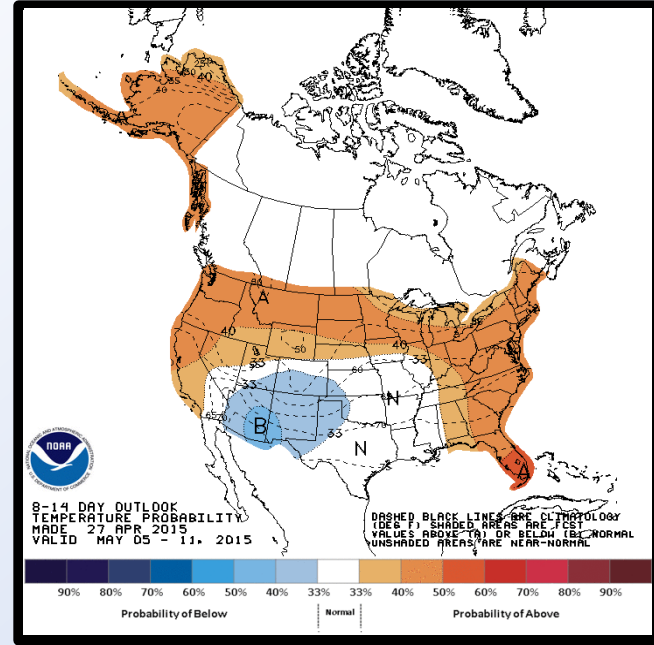
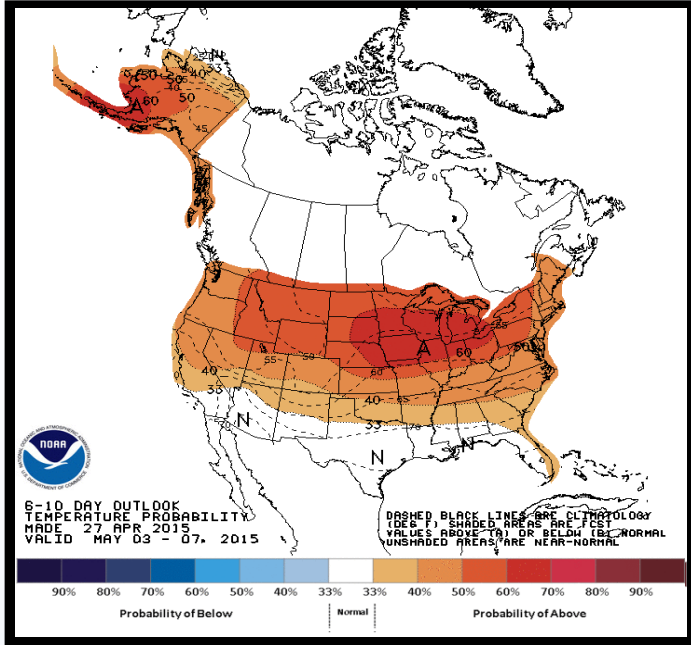
➤ Snowmelt not a big player

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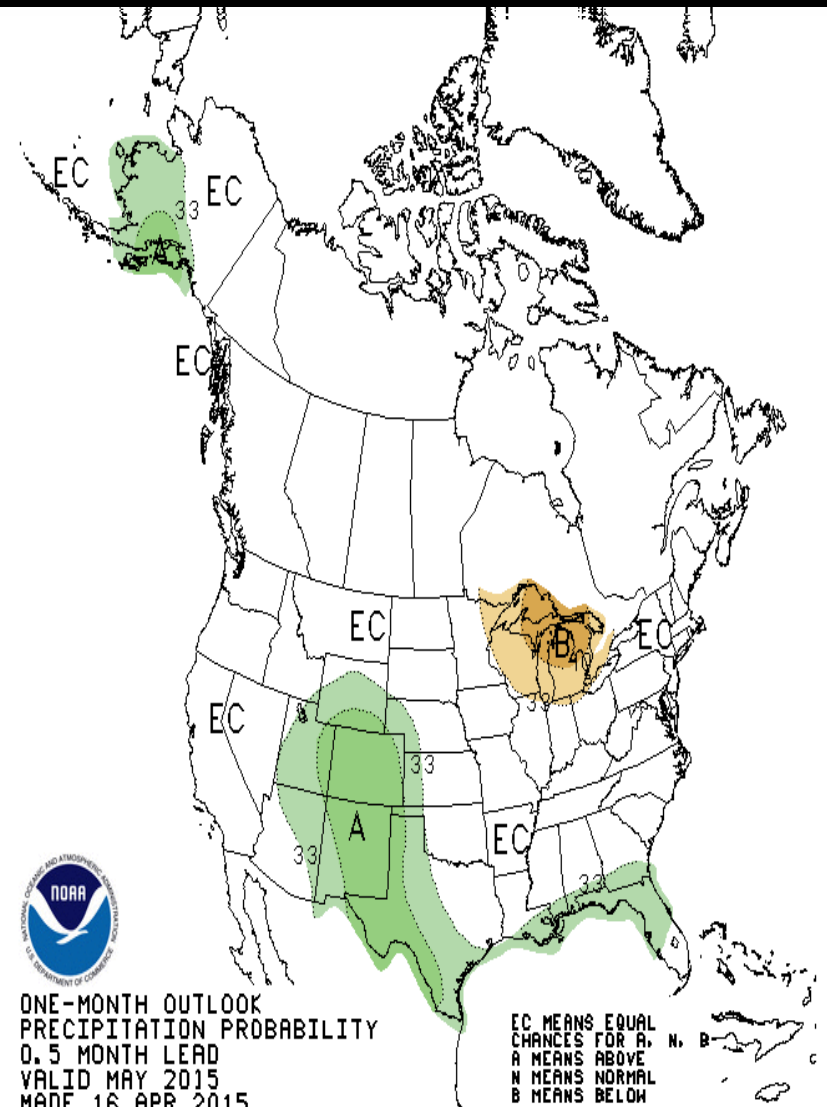
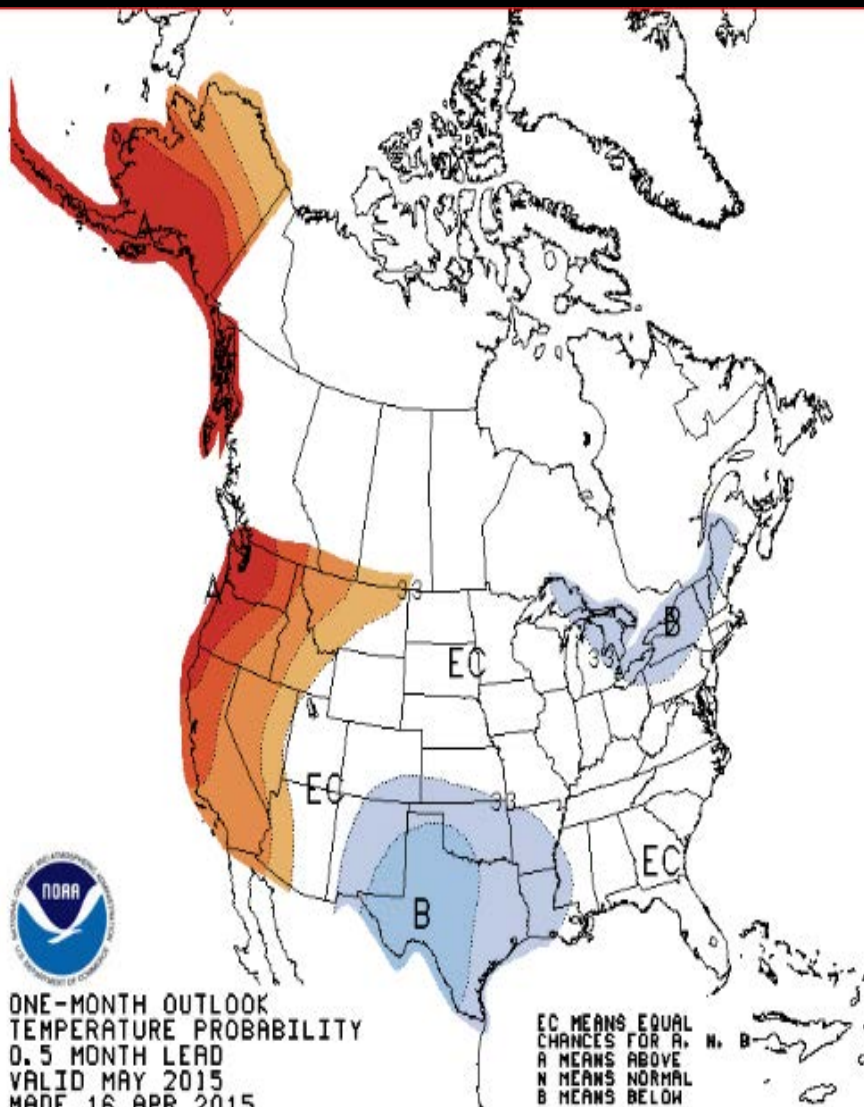


Outlooks – 6-10 and 8-14 day

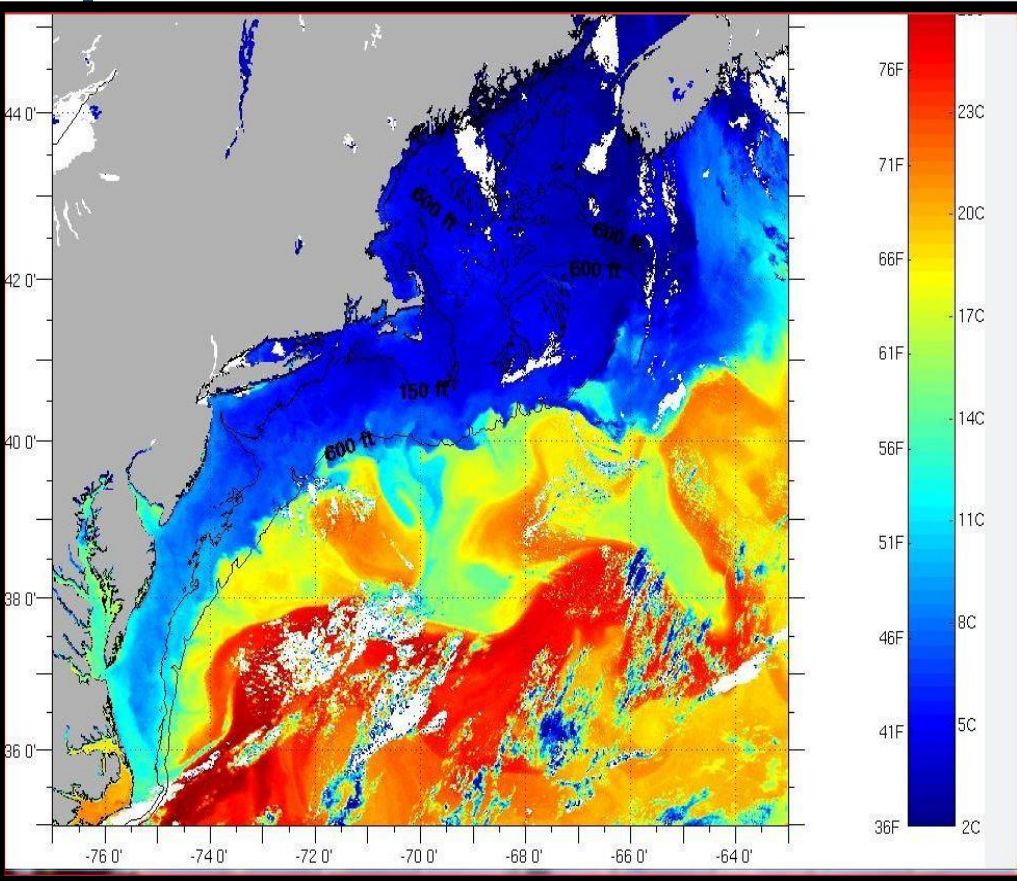
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CPC May 2015 Outlook



Ocean Temps and East Coast Late Spring/Early Summer Precipitation



Water Temperature Table of the Northern Atlantic Coast

IMPORTANT NOTICES:

- The table below shows the near real-time and average water temperatures in degrees Fahrenheit (°F).
- "NA" means that a recent temperature for that station is Not Available.
- Clicking on the hyperlinked "Recent Temperatures" will display station information for the location.
- Non-linked temperatures in the monthly columns are average water temperatures. ([Complete List of Average Temperatures](#))
- Use the near real-time water temperature data with discretion, because they may contain errors.

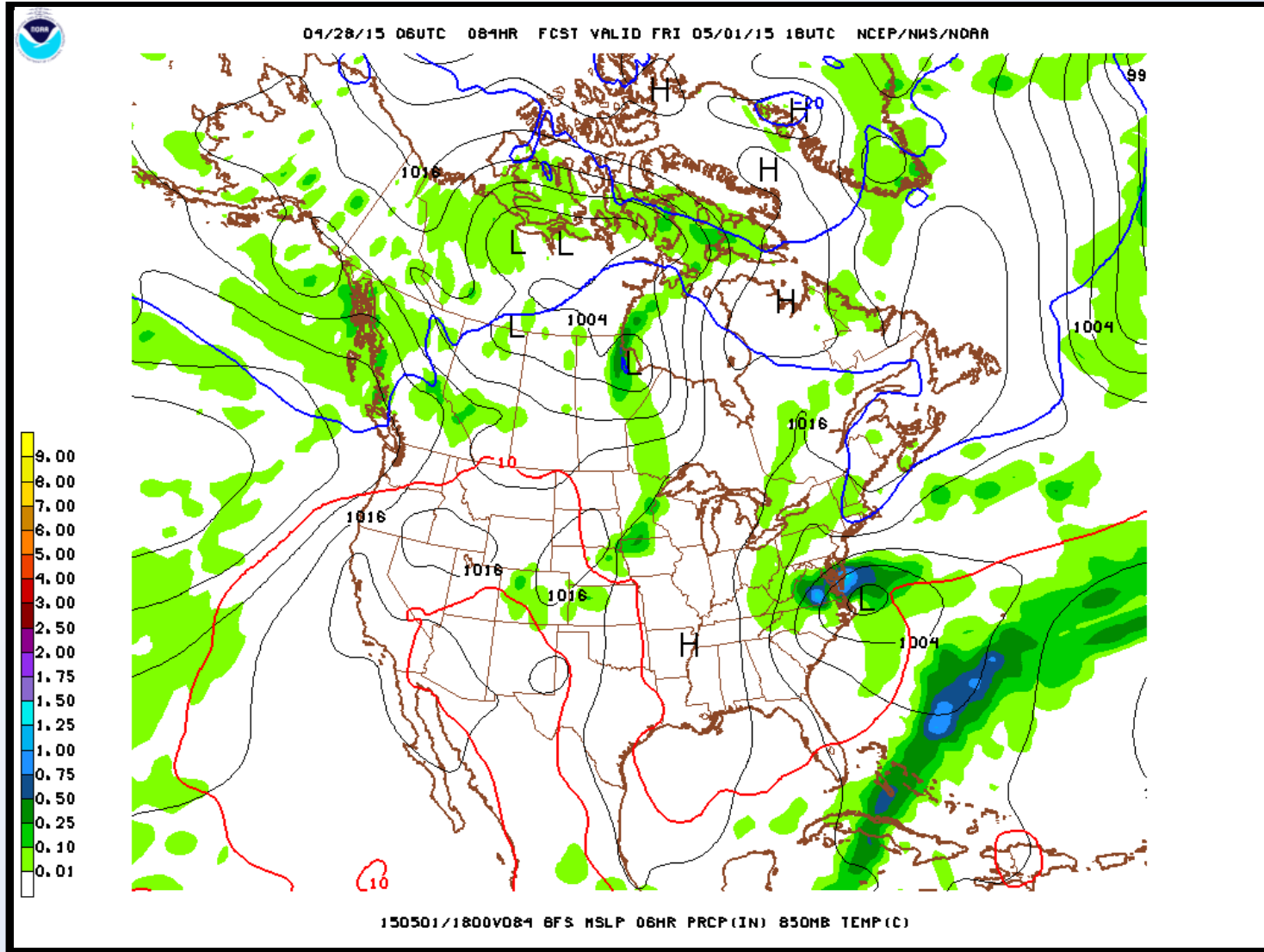
Water Temperature Table of the Northern Atlantic Coast ([Google Maps-based Web page](#))

Last Updated: Fri Apr 24, 12:03:53 UTC 2015

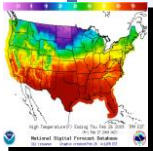
Location	Recent Temperatures	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY 1-15	MAY 16-31	JUN 1-15
Bar Harbor, ME	40.1 (04/24/2015 11:48 UTC)	38	36	38	42	45	47	51	54
Eastport ME	37.0 (04/24/2015 11:42 UTC)	40	37	38	39	41	43	44	46
Portland ME	35.6 (02/23/2015 19:50 UTC)	34	33	37	39	41	47	51	54
Portsmouth Harbor NH	N/A	40	35	37	41	45	48	52	54
Boston, MA	44.8 (04/24/2015 11:48 UTC)	40	36	41	45	49	54	58	61
Fall River MA	49.1 (04/24/2015 11:42 UTC)	37	36	41	47	51	55	60	65
Woods Hole MA	45.1 (04/24/2015 11:42 UTC)	34	35	37	44	47	54	56	61
Conimicut Light RI	48.0 (04/24/2015 11:54 UTC)	38	37	41	46	51	56	60	65



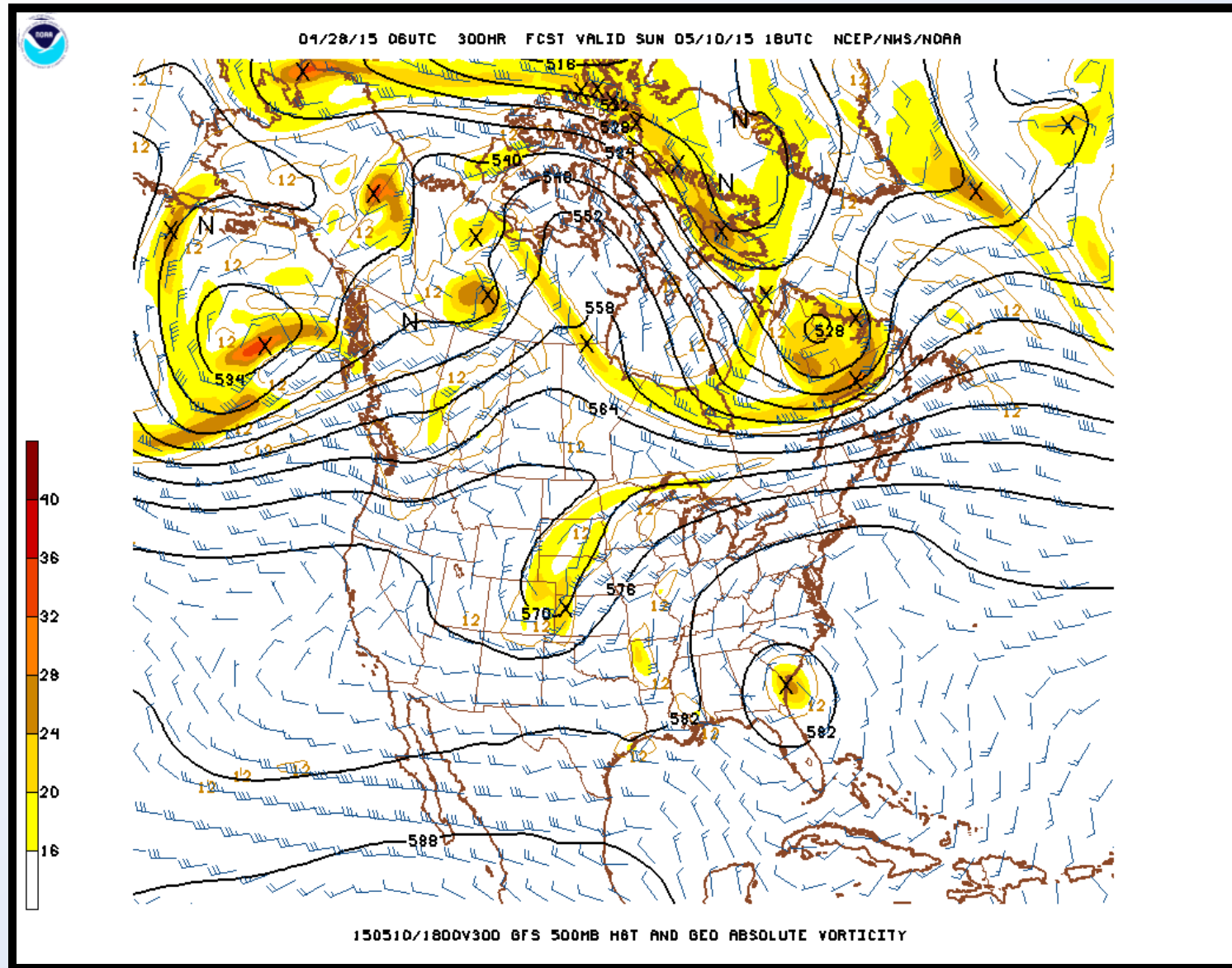
Surface Map – early May 1st



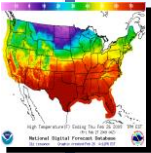
National Weather Service
Protecting Lives and Property



500 MB Height – May 10th



National Weather Service
Protecting Lives and Property



Penobscot River at Howland



East Branch of the Penobscot at Medway



Pleasant River in Milo



Ice jam only ¼ mile long and had shifted slightly downstream a couple of hours later. Water is flowing away from the viewer in this photo.

➤ Questions/Comments?

➤ Ed Capone

