

# Launch of the Northeast Drought Early Warning System (DEWS)

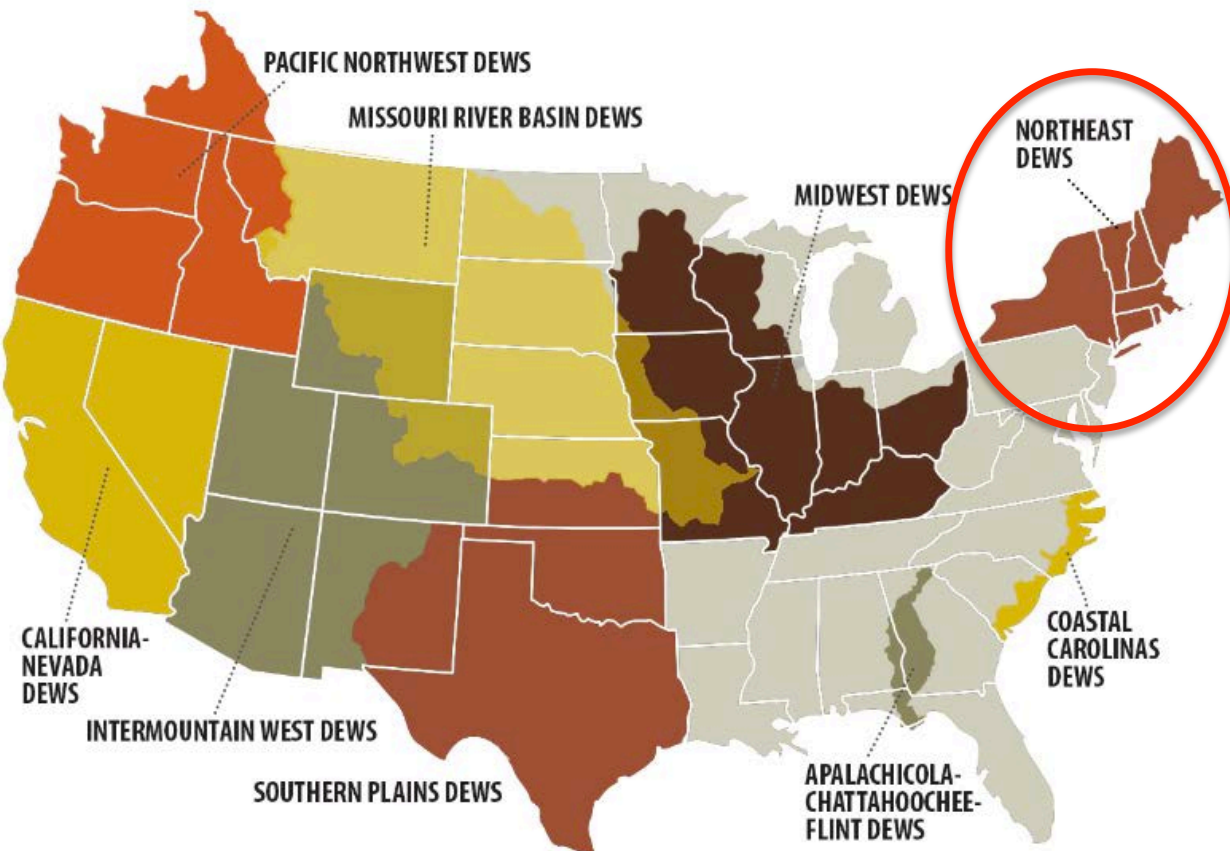
Jessica Spaccio, Climatologist



Northeast Regional  
Climate Center



# Nine Regional Drought Early Warning Information Systems (DEWS)



# Agriculture & Major Cities

Land in Farms – Measured in Acres



New York	7.30m
Maine	1.45m
Vermont	1.25m
Massachusetts	520.00k
New Hampshire	470.00k
Connecticut	440.00k
Rhode Island	70.00k



Boston, MA

Providence, RI

New York, NY



# Four Distinct Seasons

spring



- Spring snowmelt, flooding
- Peak Streamflows

summer



- Summer heat
- High water demand
- Growing season



- Winter drought
- Snow cover

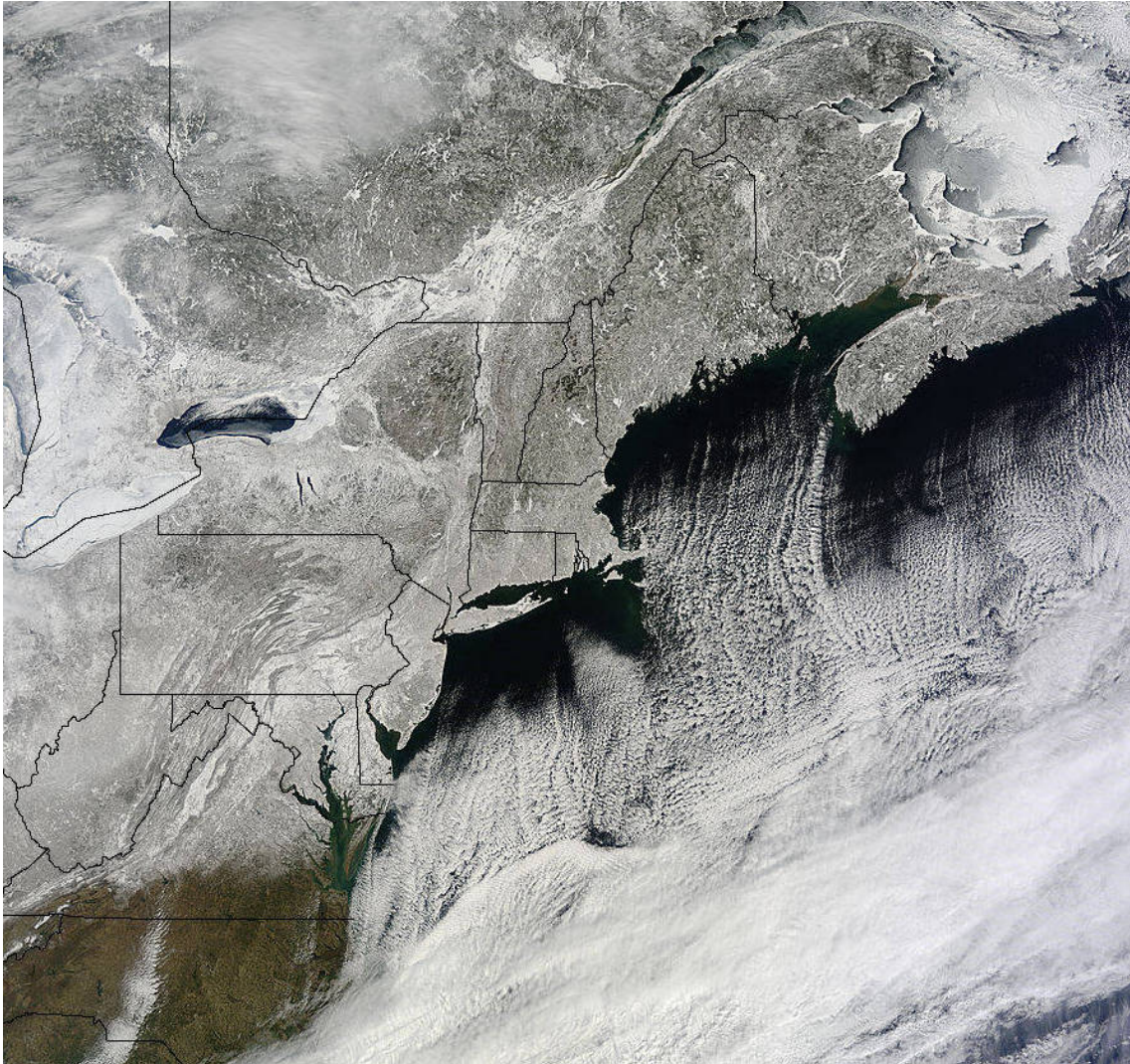
winter



- Continued summer heat
- Peak hurricane season

autumn

# Abundant Water – Atlantic Ocean & Great Lakes



- Moisture source
- Nor'easters & tropical systems
- Lake-effect precipitation



# Droughts



New York - 2001



Maine - 2016

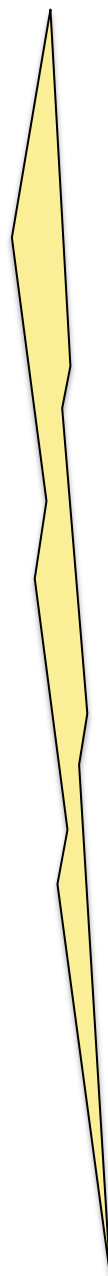
# & Floods



New Hampshire 2017

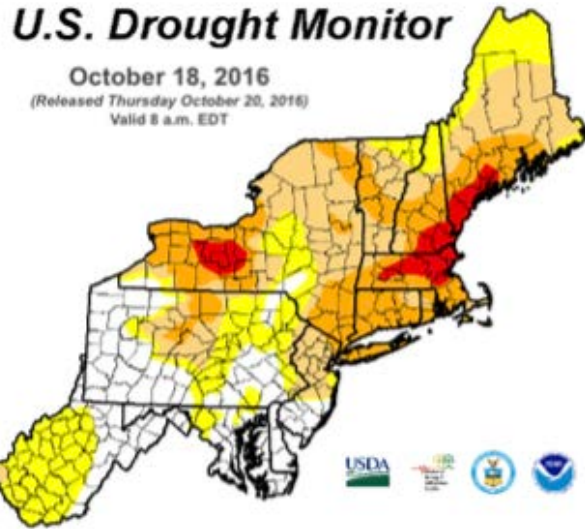


New York 2006



# Meetings

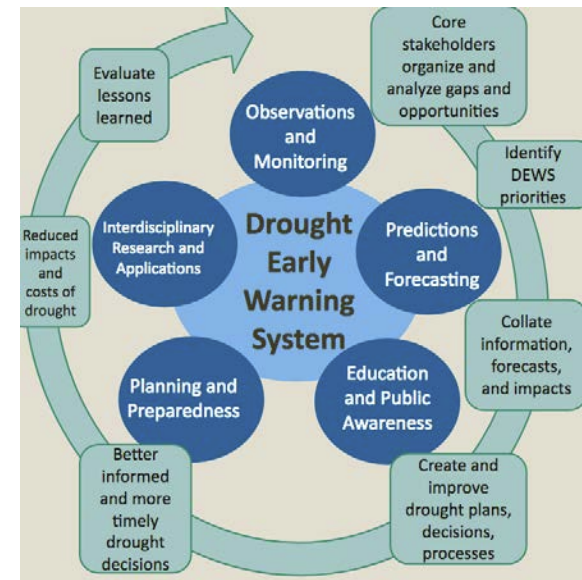
Forum in October 2016 to discuss conditions & outlooks.



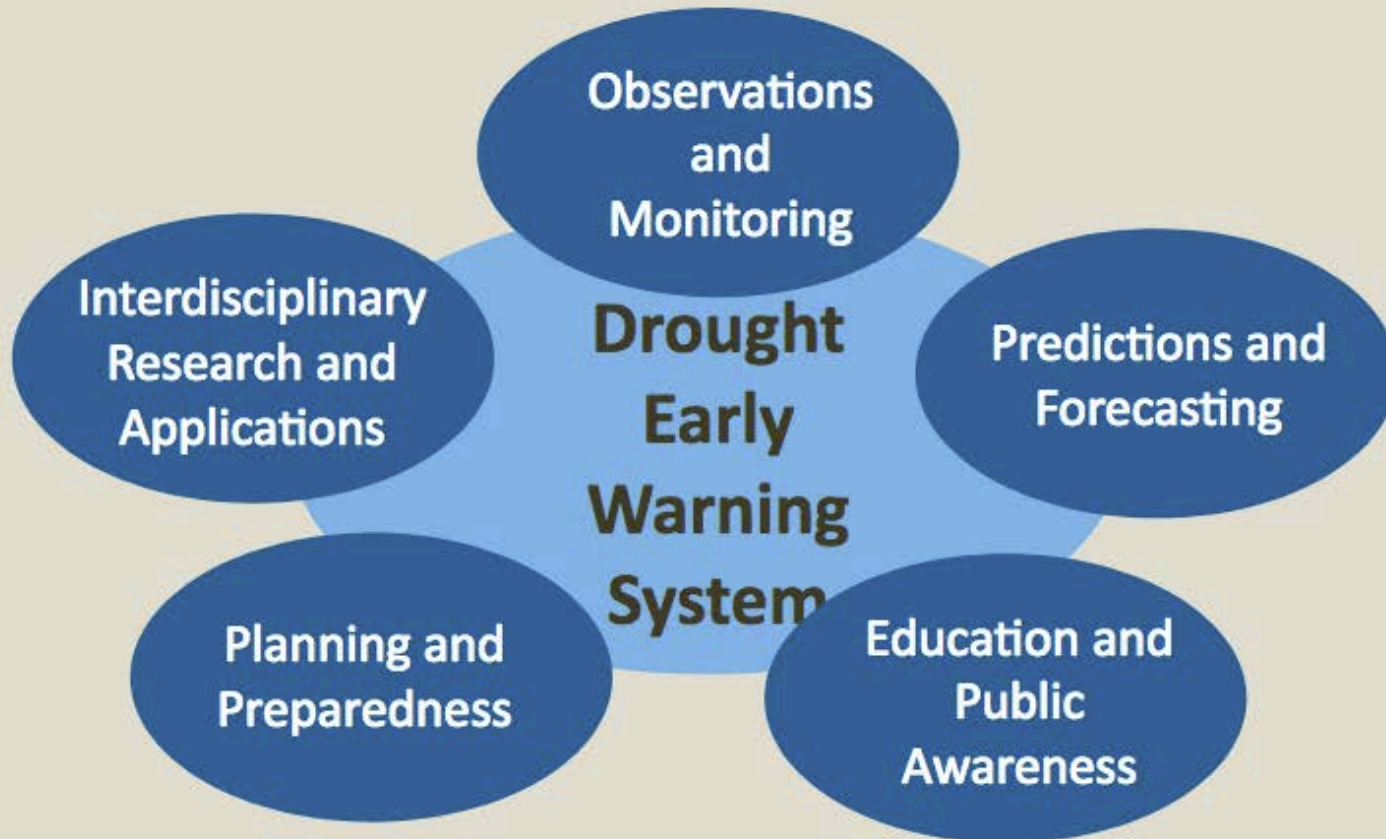
Assessment workshops in February/March 2017.



Strategic planning meeting in November 2017.



# Components of a Drought Early Warning System





# Strategic Plan

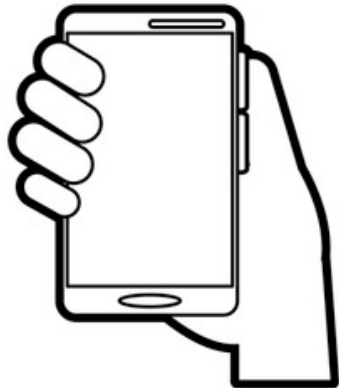
Determining priorities and actions of the Northeast DEWS.

Observations  
and  
Monitoring

Need for Ag Self-Monitoring of  
Quality & Quantity



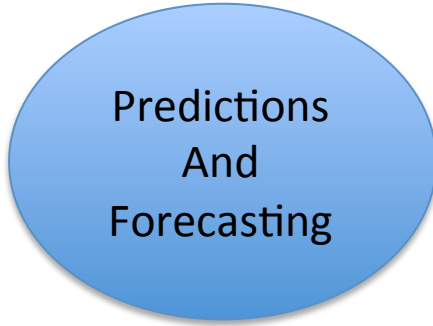
Crowd-sourced  
Observations



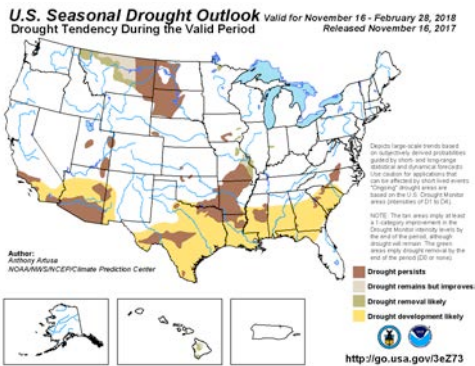
Reporting Impacts to DM



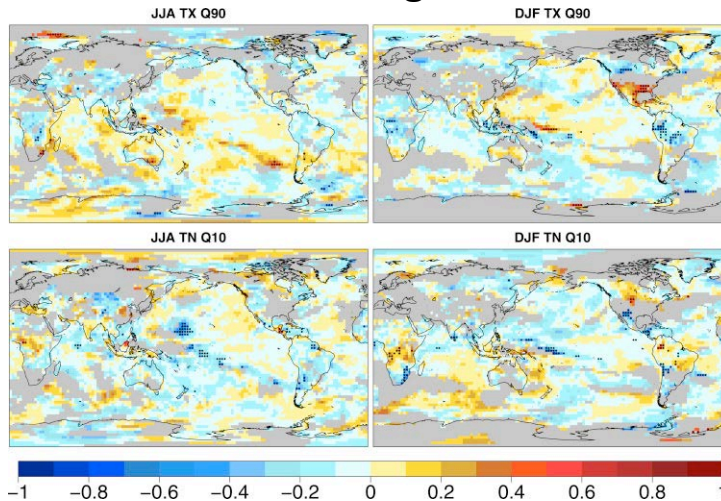
# Strategic Plan



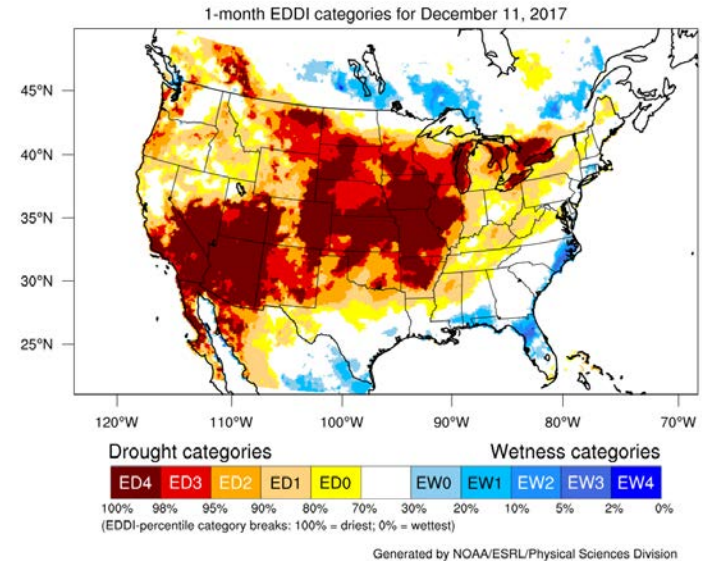
Improve Drought Outlooks



New Long-Lead Forecasting Tools



Better Access to & Understanding of Tools



# Strategic Plan

Education  
And Public  
Awareness

Increase Public  
Drought Awareness/  
Public Service  
Announcements

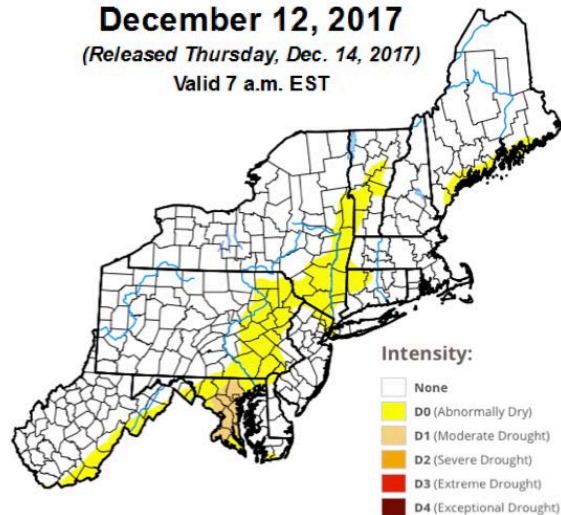


Increased Public  
Knowledge of  
Restricted Activities



Consistent Messaging

**December 12, 2017**  
(Released Thursday, Dec. 14, 2017)  
Valid 7 a.m. EST



# Drought Dashboard



Northeast Regional Climate Center

Recent and historic weather data exist to meet your needs

Northeast Drought Update

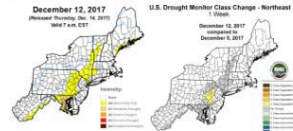
- Home
- Weather Station Data
- State & Regional Analyses
- Monthly Maps
- Daily Maps
- Summary Tables
- Narrative Overview
- US Regional Maps
- Climate Normal Maps
- NY Snow Survey Maps
- Northeast Drought
- El Niño Comparison Tool
- Analyses for Industry
- Climate Resources
- Publications & Services

## Northeast Drought Update

Posted December 14, 2017

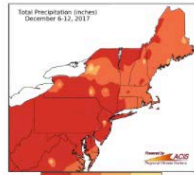
### U.S. Drought Monitor

Moderate drought persisted in central and southern Maryland. Abnormal dryness expanded in eastern Pennsylvania and lingered elsewhere in the region. The U.S. Drought Monitor released on December 14 showed 1% of the Northeast in a moderate drought and 16% of the region as abnormally dry compared to 1% and 14%, respectively, last week.



For more information watch this video on [Assessing Drought in the United States](#).

### Precipitation



Total precipitation for the last week.



- Quick Links
- Webinar
- Blog
- Links

We appreciate any feedback: [nccc@cornell.edu](mailto:nccc@cornell.edu)

# Strategic Plan



## Create Emergency Drought Plans



## Post-Drought Assessments & Studies

## Better Access to Water Supply Data

## Consider Adaptation Opportunities



**Drought Forum Summary** Northeast Region February/March 2017

### 2016 Drought Assessment & Building Drought Early Warning Capacity

On February 01 and March 1, 2017, a partnership of the National Oceanic and Atmospheric Administration (NOAA), the National Integrated Drought Information System (NIDIS), and the Northeast Regional Climate Center (NRCC) hosted meetings in New York and New England to:

- conduct an assessment of the 2006 drought in the Northeast;
- understand specific impacts that occurred, and actions that would have strengthened drought response through the drought period; and
- identify what types of drought indicators, messages, and early warning capacity are needed to improve drought preparedness and resilience.

Current drought conditions in the Northeast region as well as outlooks for the coming season were discussed. Regional stakeholders representing a breadth of different sectors and levels of government participated in discussions to inform the development of an integrated system that meets the drought information needs of decision-makers in the region.

**DROUGHT IN THE NORTHEAST: HOW DID WE GET HERE?**

**U.S. DROUGHT MONITOR**

September 29, 2017 March 1, 2017

Through the 2016-2017 winter, the drought continued and expanded southward across the region. Warmer than normal temperatures in February 2017 rapidly melted a significant amount of New England snowpack, resulting in fast rivers as opposed to slowly entering the ground to recharge ground water.

**SEASONAL DROUGHT OUTLOOK**

Winter for February 01 - May 31, 2017 Extended February 16, 2017

- Stronger drought
- Stronger recovery
- Stronger improvement
- Stronger drought
- Stronger recovery
- Stronger improvement

Key messages:

- It will take the first time several areas of the Northeast had experienced extreme drought (D3) conditions since the U.S. Drought Monitor data began in 1999.
- The seasonal drought outlook for Spring 2017 favors improvement or reversal of drought in many parts of the Northeast.
- Lack of groundwater recharge may prompt adjustments to agricultural practices in 2017, particularly if dry conditions return this summer.

Co-sponsors: NOAA, NIDIS, NRCC, and others.



# Strategic Plan

Links Between  
Drought & Water  
Quality

Flash Drought Research



Interdisciplinary  
Research and  
Applications



Impacts on Coastal Areas/Saltwater  
Estuaries



Harmful Algal Bloom Studies





Contact Information

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607-255-1751



**This drought is getting really bad. Today at lunch, my waiter asked if I wanted a glass of water or a future for my children.**

Conan O'Brien, July 23, 2014