

2016 Drought Assessment & Building Drought Early Warning Capacity

On February 27 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:

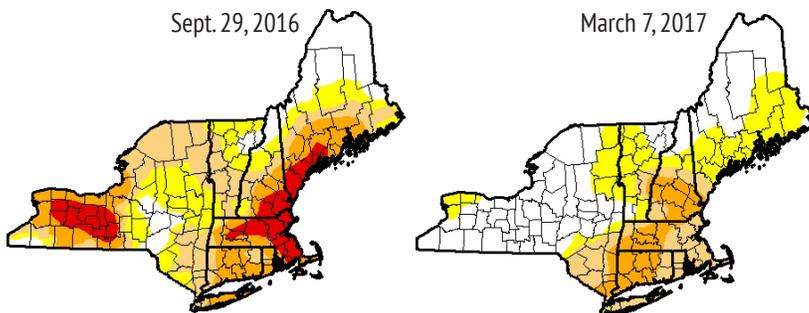
- ◆ conduct an assessment of the 2016 drought in the Northeast;
- ◆ understand specific impacts that occurred, and actions that would have strengthened drought response through the drought period; and

◆ 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?

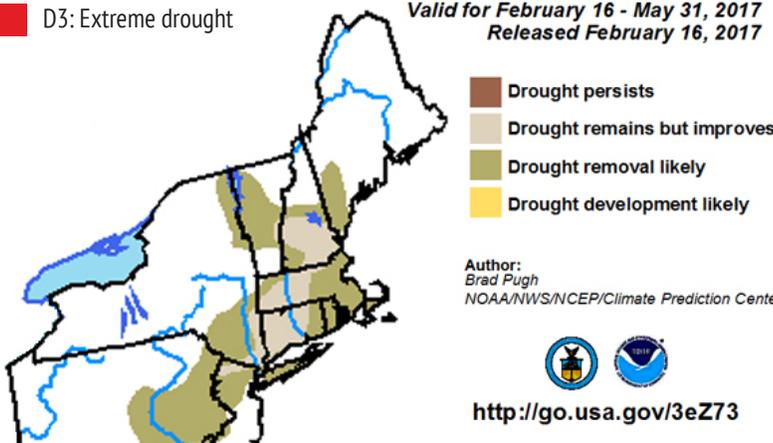
U.S. DROUGHT MONITOR



- D0: Abnormally dry
- D1: Moderate drought
- D2: Severe drought
- D3: Extreme drought

SEASONAL DROUGHT OUTLOOK

Valid for February 16 - May 31, 2017
Released February 16, 2017



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

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<http://go.usa.gov/3eZ73>

Drought conditions intensified across the Northeast during the summer of 2016, with extreme drought (D3) introduced in parts of New York and New England in August 2016, and expanding in these areas into the fall.

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, running off into rivers as opposed to slowly entering the ground to recharge ground water.

Key messages:

◆ 2016 was 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 removal** 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.

NORTHEAST DROUGHT INFORMATION GAPS AND NEEDS

Over 100 community leaders across the Northeast representing sectors including water resource management, local and state government, agriculture, tourism, and community watershed groups shared insights on information gaps they experienced during the 2016 drought, including:

- ◆ **Planning efforts** could have been strengthened by a longer-term historical view of drought indices that may have revealed red flags for future drought conditions.

- ◆ Decision-makers require more accurate and timely **predictions** for response planning and budget cycles (60-day lead time), as well as advance knowledge of where to expect stressors, and where slight variations in climate would leave a community particularly vulnerable.

- ◆ Agricultural producers could have benefitted from improved **access to and delivery of existing short-term forecasting tools**, like those that warn of flash droughts, thunderstorms, and frost, to respond with crop management changes.

RECOMMENDATIONS FOR IMPROVED DROUGHT EARLY WARNING

Discussions during the meetings suggest that there are several actions that could be taken to improve impact data collection, enhance observation and monitoring systems, and support drought preparedness and response in the region, including:

- ◆ Work with states and other partners to provide **timely drought information to those who rely on private wells**, including real-time surveys of impacts.

- ◆ Encourage efforts to **crowd-source observations for more detailed geographic coverage** through existing partner networks like the Community Collaborative Rain, Hail and Snow Network or social media applications for reporting real-time observations.

- ◆ Develop a centralized, consistent starting point for **integrated drought messaging** at the regional level, employing social media, app technology, highway signage, text messaging, and/or other partner communication vehicles to define drought in actionable terms for the general public.

- ◆ Add **soil moisture sensors** to existing observation networks, using standard depths – a valuable measurement for fire managers, watershed managers, and agriculture specialists.



REGIONAL PARTNERS

National Oceanic and Atmospheric Administration	www.noaa.gov
National Integrated Drought Information System	www.drought.gov
National Centers for Environmental Information	www.ncei.noaa.gov
National Weather Service	www.weather.gov
Office of Oceanic and Atmospheric Research	www.research.noaa.gov
Northeast Regional Climate Center	www.nrcc.cornell.edu
Northeast Region State Climatologists	www.stateclimate.org
U.S. Department of Agriculture, Northeast Climate Hub	www.usda.gov/wps/portal/usda/usdahome
US Geological Survey, New England Water Science Center	www.usgs.gov