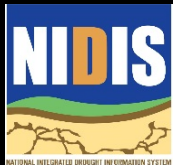


Quantifying drought metrics, time scales, and tools to support management of different drought types in the Northeastern United States

A NOAA Climate Program Office (CPO) Sectoral Applications Research Program (SARP) funded project

Team: **Dan McEvoy** (PI; WRCC/DRI), Mike Hobbins (CIRES/CU), Imtiaz Rangwala (CIRES/CU), Heather Yocum (CIRES/CU), Art DeGaetano (NRCC)

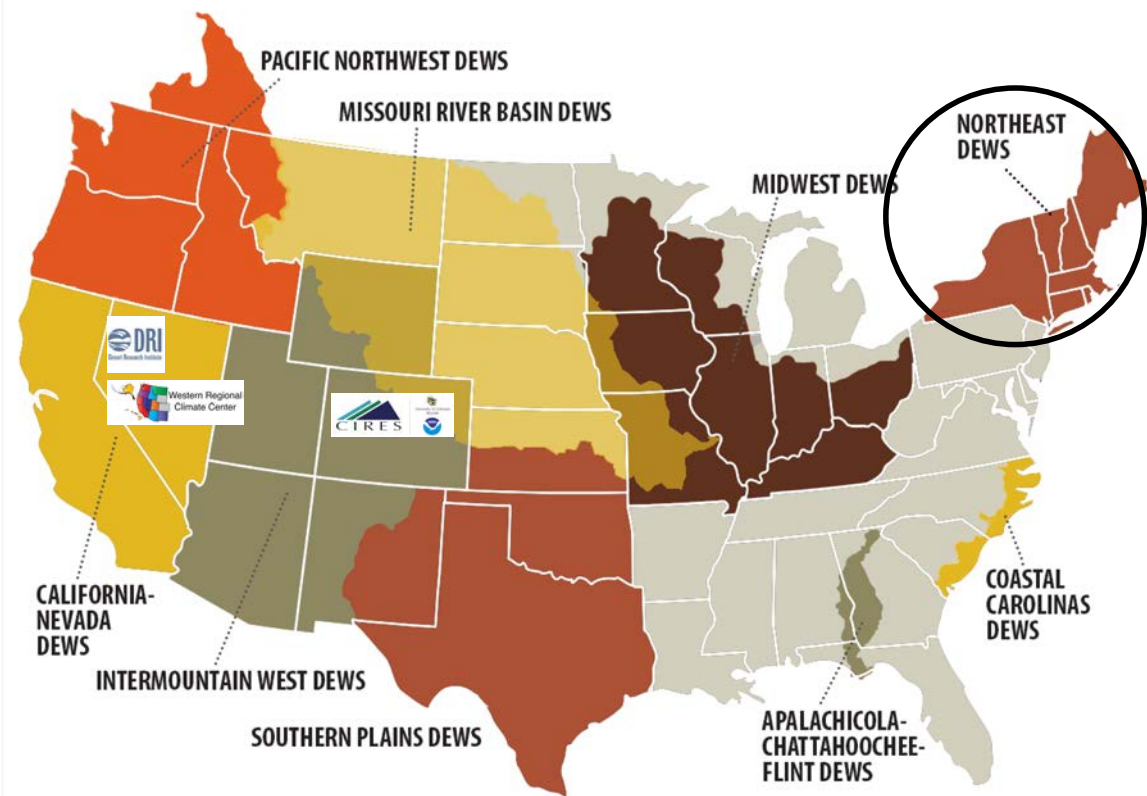


REGIONS

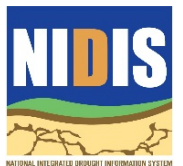
Drought Early Warning

A Drought Early Warning System (DEWS) utilizes new and existing networks of federal, tribal, state, local and academic partners to make climate and drought science accessible and useful for decision makers.

Slide courtesy of Amanda Sheffield, NIDIS

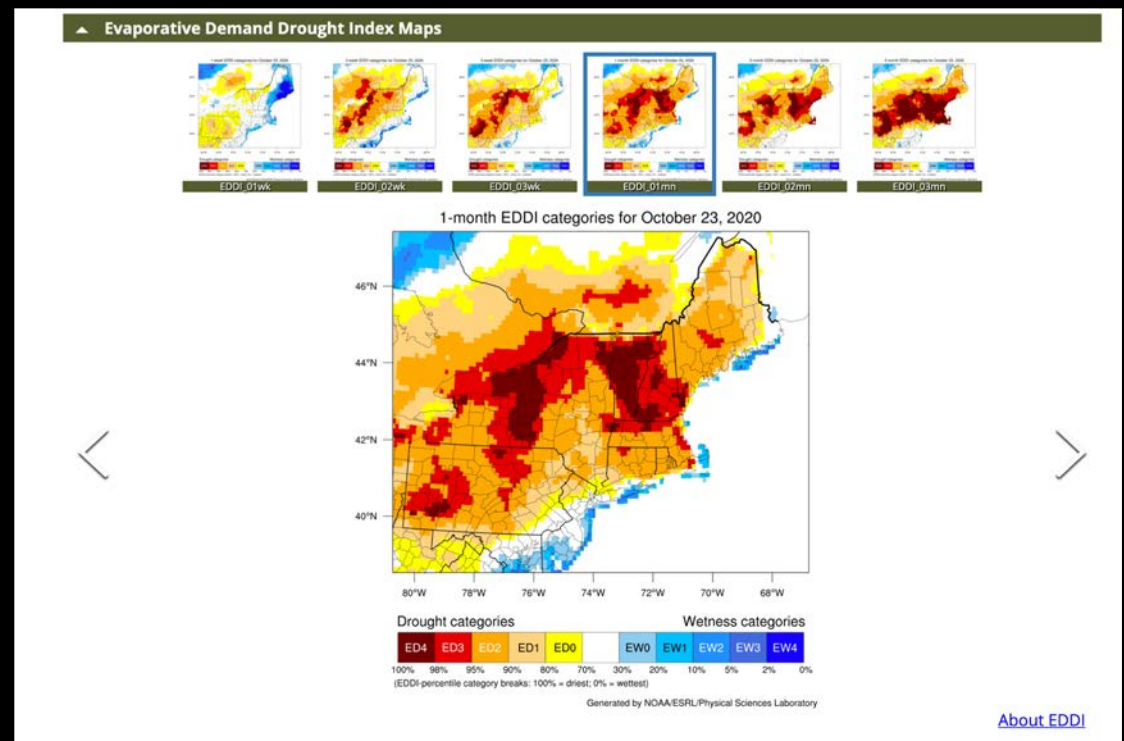


National Integrated Drought Information System



Project Objectives

- Identify the most effective drought indicators for various drought types in the Northeast DEWS region
- Integrate findings and data into the Northeast DEWS and incorporate into US Drought Monitor process, management, planning, and decision-making



<http://nedews.nrcc.cornell.edu>

Which drought indicators and time scales provide the most information related to detecting early onset of crop stress?

Drought Indices Compared to NASS
Annual Crop Yields: Corn Silage

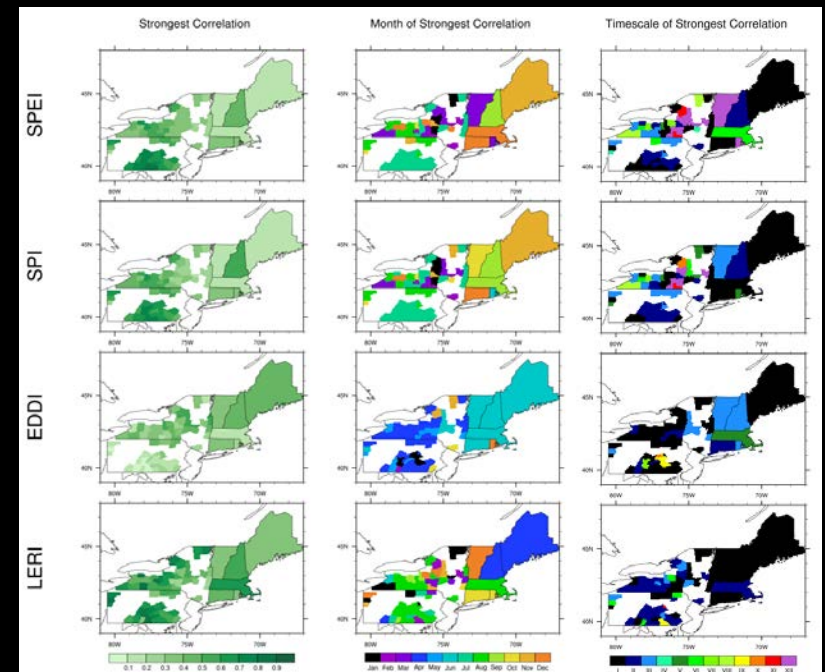
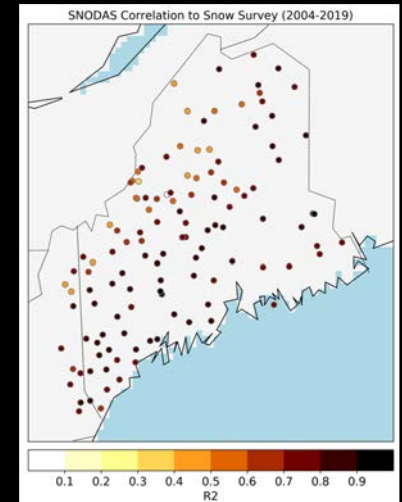
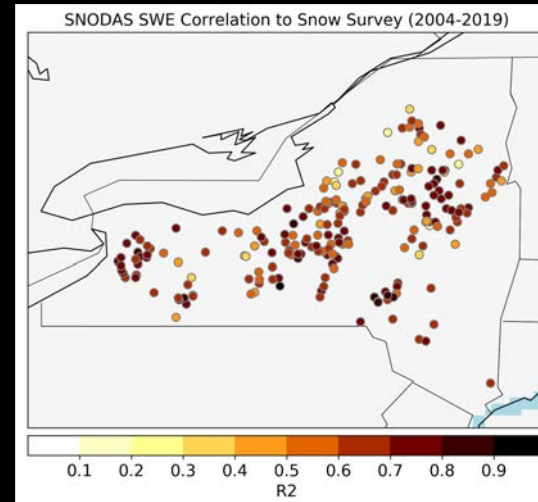


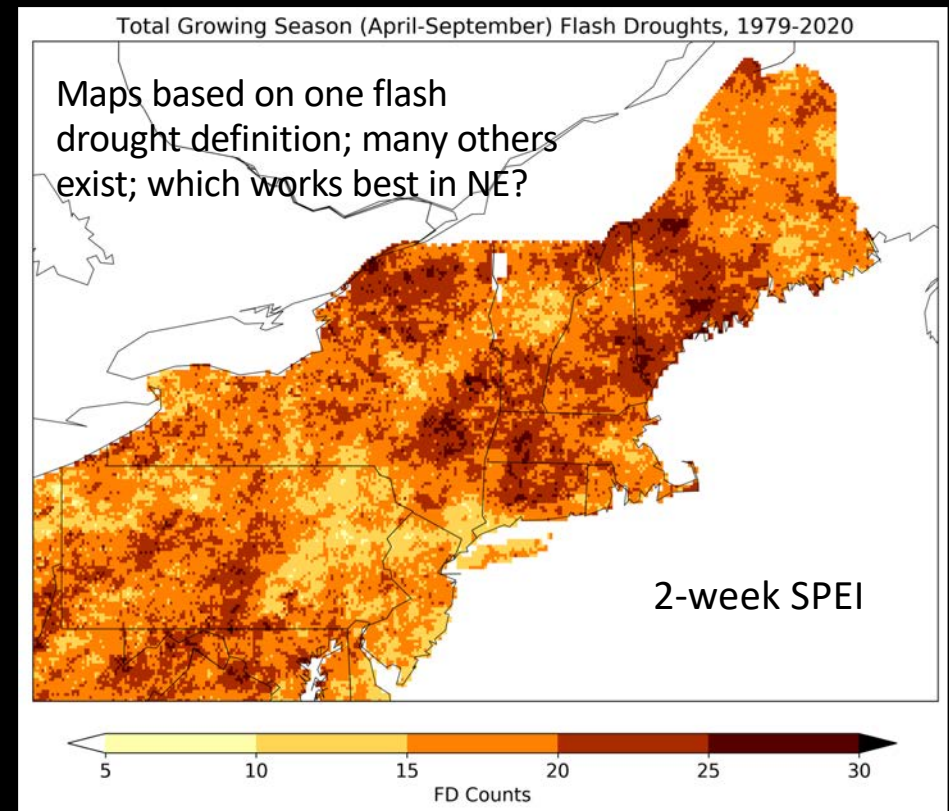
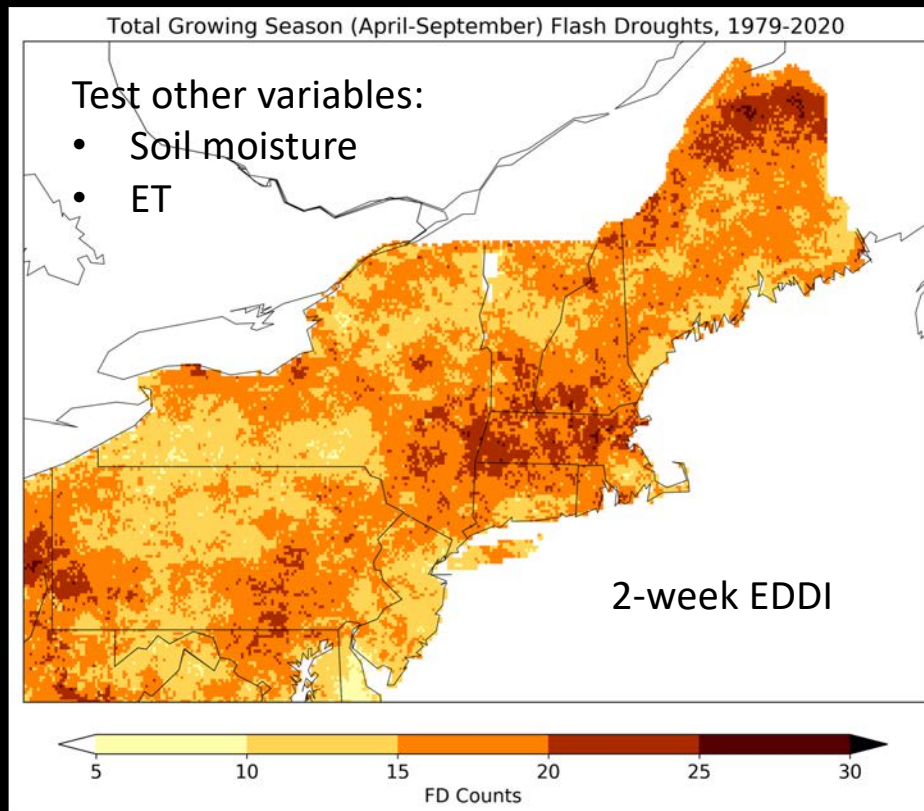
Figure: Adam Xia, DRI

How does snow drought impact the following spring and summer drought conditions?



- Impacts of more precipitation falling as rain instead of snow in a warming climate?
- Identify recent temperature-driven snow droughts
- Best spatial SWE estimates for snow drought tracking?

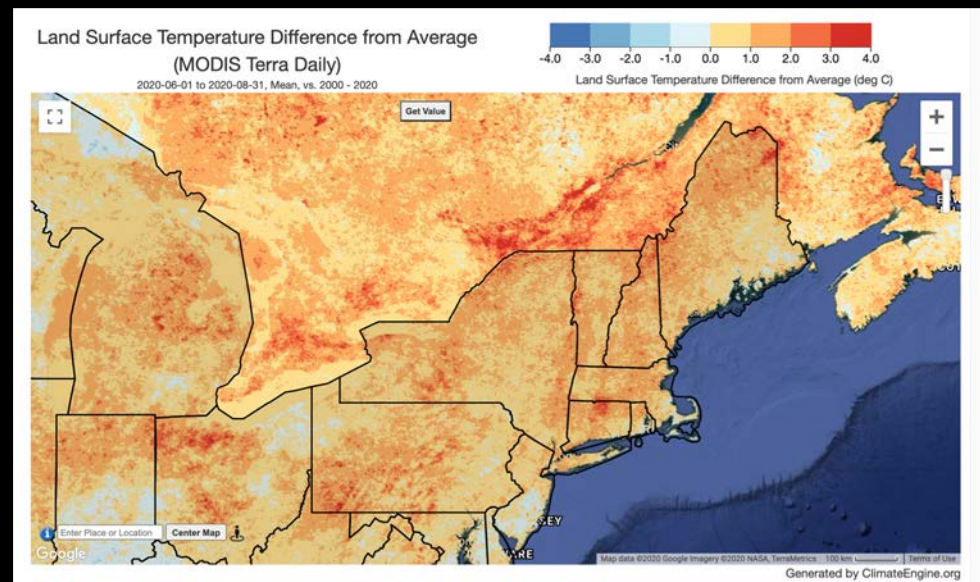
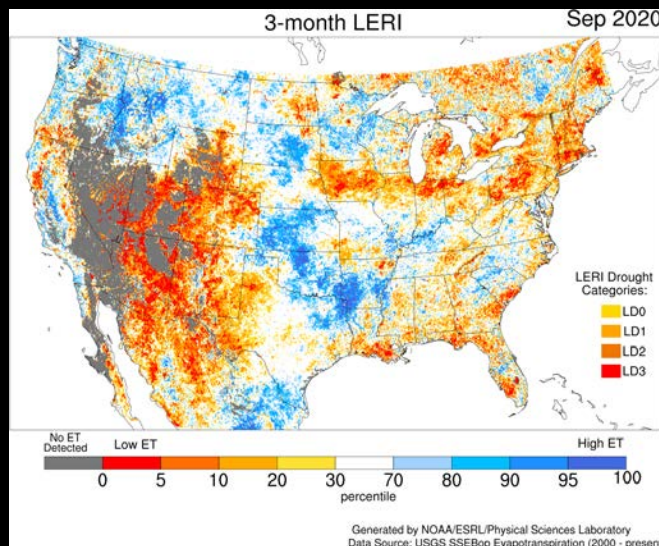
Quantifying Flash Droughts in the Northeast



Maps based on Pendergrass et al. (2020; *Nature*) flash drought definition

Drought Monitoring Web Tools Developed by the Team

- Climate Engine: <https://app.climateengine.org/climateEngine>
- NOAA EDDI CONUS: <https://psl.noaa.gov/eddi/>
- NOAA EDDI Northeast: ftp://ftp.cdc.noaa.gov/pub/Public/mhobbins/EDDI/NE_DEWS/
- NOAA LERI: <https://psl.noaa.gov/leri/>
- Drought Index Portal (DrIP): <https://droughtindexportal.colorado.edu/>
- West Wide Drought Tracker: <https://wrcc.dri.edu/wwdt/>



Thanks! Questions?
mcevoyd@dri.edu

Coming soon: virtual workshop to
summarize project results and
introduce web tools, **early summer
2021**

Fourth Lake, New York, July, 2020
Photo: Dan McEvoy

