North Carolina Institute for Climate Studies

NC STATE UNIVERSITY

September 30, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: **Weekly Report (9/22/25–9/26/25)**

NCICS Highlights

- N/A.

Administrative

- Institute staff participated in the NCICS Quarterly Science Meeting held at the North Carolina Arboretum on September 23.
- Arrival (9/22): Kelly Speicher, Health Resilience and Communications Fellow.

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
  - Jessicca Allen providing visual direction and refinement,
  - Team members [Mark Essig, Tom Maycock, Andrea McCarrick, Laura Stevens, Alexis Visovatti (intern)] working on West region drafts,
  - Essig researching extreme events,
  - Ronald Opio generating threshold plots for eastern and western Washington, and
  - Visovatti working on a wildfire trend analysis.
- *Assessment Collaboration Environment* (ACE) V2 work continued, with
  - Ryan Cox redeploying V2 to a new Amazon Web Services (AWS) account which demonstrates product portability,
  - Aaron Goodman integrating Monday.com for project management capabilities,
  - Kate Johnson continuing to build out and style features, and working with the IT team to set up a new hosting domain, and
  - Web Team members conducting a demonstration to highlight recent progress and gather feedback.

Access Development and Information Technology Services

- James Anheuser, Ankur Banerji, Parth Katlana, Shuhai Li, Jen Runkle, Sucharitha Nadendla (intern), and Centers for Disease Control and Prevention (CDC) members discussed ARC project drought product requirements.

- Banerji worked on refactoring ARC architecture services.
- Li completed the ARC prototype drought data pipeline and deployed it to development.
- Iype Eldho worked on calculating gamma parameters for the SPI accumulation dataset.
- Aashish Malik began GOES Imagery project navigation component development and began work on an outline of the Solar Data Valuation project.
- Dhruv Patel worked on the gridded data project analysis pipeline, focusing on visualizing and evaluating the Neural Processes model outputs for TMAX and TMIN, and compared the results with other datasets to assess performance, consistency, and spatial patterns.

Science and Services

- David Coates continued work on the September heat analysis and developed a more optimized approach using a different graphics scheme.
- Iype Eldho worked on identifying memory issues with the AI downscaler for the Standardized Precipitation Index (SPI) Continental U.S. (CONUS) dataset.
- Pooja Hari Ambrish recalculated the normalized difference vegetation index (NDVI) regional anomaly for HUC2 regions and integrated the Snow Cover Extent Climate Data Record (CDR) into the dashboard.
- Alethia Kielbasa is preparing University of Washington Polar Science Center's UpTempO buoy data for the sea ice concentration to sea surface temperature conversion.
- Ronald Opio continued gridded data project development, adding temperature anomalies as one of the analysis products.
- Emma Scott analyzed El Niño-Southern Oscillation (ENSO) occurrence during rapid drought change events, and reviewed and edited the report on rapid drought change for NIDIS.
- Haiyan Teng continued to coordinate MAPP project science activities.

Communications, Outreach, and Engagement

- Jenny Dissen and Jonathan Brannock participated in the NOAA Open Data Dissemination (NODD) NOAA Ocean Service Huddle discussions.
- Dissen, Allison Crimmins (NOAA), Cera Schrems (CASE Consultants), and Cadmus Group's Bridget Smith and Margaret Coates reviewed abstracts for the upcoming National Adaptation Forum.
- Dissen, Schrems, and Arcadis Engineering members discussed a CSX physical risk assessment data request and worked on plans for the upcoming 27th Railroad Environmental Conference.
- Dissen, Tom Maycock, Mark Essig, and Michael Cheek (NC Forest Service) reviewed an article for an upcoming NCSU Office of Research and Innovation newsletter.
- Dissen and the NCEI Industry Applications team discussed the Climate Atlas, Wind Climatology, Precipitation Time Series, and Storm Events Data.
- Carolina Cardona worked on engagement plans for the Helene Flooding Map and created a new NODD case study.
- Liz Cox engaged with representatives from Explore Asheville, Asheville Fire Department, UNC Asheville Department of Sustainability, and WLOS at local Helene-related events.
- Carl Schreck, Emma Scott, Douglas Rao, Tom Maycock, Laura Stevens, and Jared Rennie (NCEI) hosted the initial session of the UNC Asheville Osher Lifelong Learning Institute

(OLLI) adult education course, "The Science of Climate Change," on September 26 with Schreck presenting "Climate 101" and Scott presenting "Climate Variability and Trends."
- Schreck gave a presentation, "The Weather and Climate of Hurricane Helene," at the N.C. Arboretum on Sep 25, with Scott leading a tour of the weather station.
- Schreck recorded a Hurricane Helene video series for the NCICS YouTube channel, with Jessicca Allen assisting with edits.

Partnerships and Collaborations

- The American Meteorological Society and the American Geophysical Union announced an initiative, "U.S. Climate Collection: Informing Assessment of Risks and Solutions," soliciting research papers supporting national and subnational assessments, with Kenneth Kunkel serving as one of the lead organizers.
- *14th Weather Squadron* work continued, with:
    - Alethia Kielbasa working with 14th Weather Squadron members to test quantile mapping bias correction using GFDL-SPEAR and ERA5 for surface temperature in the Southeast U.S. region.
- Xia Sun refined adjustment factors for future precipitation frequency, focusing on confidence interval estimates with high-resolution model output.
- Laura Stevens and Xiangdong Zhang participated in the Lawrence Berkeley National Lab Downscaling Workstream Telecon to discuss LOCA2 downscaling work.
- Zhang remotely participated in the September 22-26 Pan-CLIVAR 2025 meeting.

Publications

- Yang, X., **X. Zhang**, X. Gong, M. Frey, S. González-Herrero, A. Weiss, R. Engbers, O. Persson, M. Radenz, I. Gorodetskaya, T. Bracegirdle, and R. Hall, 2025: Why Polar Winter Climate and Processes? *Bulletin of the American Meteorological Society*. doi.org/10.1175/BAMS-D-25-0216.1