



North Carolina Institute for Climate Studies

NC STATE
UNIVERSITY

September 8, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: Weekly Report (9/1/25–9/5/25)

NCICS Highlights

- N/A.

Administrative

- Institute staff observed the September 1st *Labor Day* federal holiday.

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
 - Jessica Allen working on visual direction and graphics refinement,
 - Mark Essig updating Southeast and West reports and researching extreme events,
 - Kate Johnson facilitating a discussion to garner feedback on the report website and assess the need for additional development, and then implementing feedback,
 - Andrea McCarrick editing and preparing reports for review by the Regional Climate Center (RCC),
 - Laura Stevens completing updates for seven Northeast region states, providing them for review by the RCC, and working on Southeast region updates,
 - Alexis Visovatti working on Western region text updates, and
 - Stevens, Allen, Visovatti, April Lamb, and Tom Maycock working on a poster to highlight State Climate Summaries work at the upcoming SE CASC Regional Science Symposium.
- *Assessment Collaboration Environment* (ACE) V2 work continued, with
 - Ryan Cox providing a demonstration of ACE v2, with Allen, Essig, and Stevens participating, and leveraging AI-assisted coding to accelerate development and ensure high-quality performance,
 - Kate Johnson continuing Figures section development to support multi-panel graphics, creating styled HTML emails to validate account creation, and gathering feedback on the current version of the application, and
 - Aaron Goodman working on the privilege permission feature in Admin.

Access Development and Information Technology Services

- Ankur Banerji worked with Shuhai Li and Jen Runkle on the ARC drought pipeline.
- Jonathan Brannock, Ryan Cox, and Tom Maycock discussed NODD Metrics, AI Initiatives, Django backend, and Cert Management work, as well as the potential migration of solutions to decoupled cloud architecture.
- Shuhai Li continued ARC project work, revising and refactoring the drought data pipeline code and testing the pipeline on Amazon Web Services.
- Aashish Malik worked on modifying GOES Imagery project NetCDF files.

Science and Services

- David Coates worked on a heat wave index code bug-fix and on the August heat evaluation.
- Iype Eldho worked with Coates and Olivier Prat on Standardized Precipitation Index (SPI) parameters-based clustering and region-based histograms for SPI accumulation
- Pooja Hari Ambrish worked on integrating the Snow Cover Extent Climate Data Record (CDR) into the dashboard.
- Alethia Kielbasa conducted a literature review on sea ice concentration to sea surface temperature (SST) conversion methods, and began converting National Snow and Ice Data Center v5 sea ice concentration data to SST for Optimum Interpolation Sea Surface Temperature (OISST) v3.
- Ronald Opio analyzed model output for precipitation and average temperature.
- Haiyan Teng worked on MAPP project scientific coordination and continued to explore potential collaboration with the US CLIVAR Working Group.
- John Uehling wrote the draft State of the Climate Tropical Cyclone and Synoptic reports.
- Kyle Wodzicki worked on backfilling stream gauge data for State of the Flood project.

Communications, Outreach, and Engagement

- Liz Cox investigated local and regional engagement efforts to recognize the anniversary of Hurricane Helene, and attended the UNC Asheville Landslide Workshop (9/3) and David Ellum's (Warren Wilson College) "Ecological Resilience post Helene" seminar (9/4).
- Jessica Allen, with Tom Maycock, reviewed the recordings and presentation for Carl Schreck's Hurricane Helene video series, providing creative input, editing suggestions, and recording tips.
- Mark Essig worked on updates to the NCICS website.

Partnerships and Collaborations

- Douglas Rao discussed scientific governance of the upcoming Earth System Model Rapid Evaluation Framework for CMIP7 and related activities with World Climate Research Programme (WCRP) Earth System Modeling and Observation Project Scientific Steering Committee members.
- *14th Weather Squadron* work continued, with:
 - Alethia Kielbasa comparing xclim and ibicus quantile mapping bias correction python packages for use in bias correcting GFDL-SPEAR model data,
 - John Uehling regridding ERA5 historical data to match GFDL-SPEAR resolution and testing bias correction models on GFDL-SPEAR data, and
 - Kyle Wodzicki building the final comparison pipelines for STAR code.

- Kelsey Herbst finalized an intersectional multilevel analysis of individual heterogeneity and discriminatory accuracy (MAIHDA) manuscript.
- Xiangdong Zhang completed preparation for two upcoming American Geophysical Union (AGU) Annual Meeting sessions with co-conveners from several institutions.

Publications

- Yang, X., **X. Zhang**, X. Gong, M. Frey, S. González-Herrero, A. Weiss, R. Engbers, P. O. G. Persson, M. Radenz, I. Gorodetskaya, T. Bracegirdle, and R. Halla, 2025: Why Polar Winter Climate and Processes? *Bulletin of the American Meteorological Society*, accepted.