North Carolina Institute for Climate Studies

NC STATE UNIVERSITY

September 16, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: **Weekly Report (9/8/25–9/12/25)**

NCICS Highlights

- John Uehling was interviewed for a Fox Weather report, "Atlantic Basin Begins to Stir with Activity" and participated in a WLOS roundtable discussion on Hurricane Helene.

Administrative

- Scott Wilkins deployed new Coder infrastructure in the Amazon Web Services (AWS) AI-Sandbox account to support the September 8-12 Unifying Innovations in Forecasting Workshop.
- Wilkins and Steven Marcus performed monthly IT maintenance.

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
  - Team members finalizing several Southeast region summaries for review by the SE Regional Climate Center at UNC Chapel Hill,
  - April Lamb continuing metadata documents assembly and survey updates, discussing plans for remaining regions, and assembling West region maps,
  - Mark Essig researching extreme events, and
  - Ronald Opio reviewing code in preparation for upcoming graphics development.
- *Assessment Collaboration Environment* (ACE) V2 work continued, with
  - Ryan Cox expanding support for AI-Assisted cloud-based development, enabling image thumbnail resizing, working on launch requirements and align features, and integrating user feedback,
  - Aaron Goodman working on the User Permissions user interface, and
  - Angel Li adding permission checks to buttons.
- *Intergovernmental Panel on Climate Change* (IPCC) work continued, with
  - Tom Maycock began development of a handbook for Working Group III authors.
- Angel Li worked on configuring the Fifth National Climate Assessment website in an AWS bucket.

Access Development and Information Technology Services

- James Anheuser updated and tested the Multi-Radar/Multi-Sensor (MRMS) pipeline compaction strategy.
- Iype Eldho worked on extending DDP parallelization to the continental U.S. (CONUS) for the AI downscaling project.
- Parth Katlana implemented data parallelization on the downscaling training script and ran the base model on CONUS, and scripted ARC pipeline coding checks and formatting.
- Dhruv Patel completed Neural Processes model training over CONUS using 74 years of data, evaluated model outputs, and initiated large-scale model inferencing across the period to generate gridded products for further analysis and validation.

Science and Services

- Alethia Kielbasa worked on the *Optimum Interpolation Sea Surface Temperature* (OISST) v3 project, calculating freezing point temperature using a 1991-2020 salinity climatology, and then using the data with sea ice concentration (SIC) and SST observations to calibrate the SIC to SST equation.
- Shuhai Li reviewed the OISST v2.1 codebase satellite data quality control implementation.
- Pooja Hari Ambrish worked on integrating the regional climatology and anomaly for HUC2 regions and the Snow cover Extent Climate Data Record into the dashboard, and on recalculating the anomaly and regional anomaly for Leaf Area Index CDR.
- Ronald Opio worked on model inferencing and data analysis for precipitation data over CONUS.
- Haiyan Teng continued MAPP project scientific coordination.
- John Uehling completed the State of the Climate Tropical Cyclone and Synoptic reports.
- Kyle Wodzicki worked on Wildfire Prediction model training and State of the Flood data back filling.

Communications, Outreach, and Engagement

- Dissen and Cera Schrems (Case Consultants) facilitated case study discussions with Montana Eck (Mastercard) and Johsua Witt (Dollar Tree), focusing on their experience with perils, NOAA data use, and the limitations of risk-based projections, and analyzed summary perspectives from multiple case study interviews.
- Dissen attended the 2025 Buncombe County Tourism Development Authority Annual Meeting, discussing climate impacts and resilience related to events such as Hurricane Helene with AMOS, Explore Asheville, and Economic Development members.
- Dissen and Mallory McMahon (intern) worked on a summary of research related to the users and applications of the NC Climate Science Report.
- NCICS members participated in the September 9-11 Southeast CASC Regional Science Symposium in Asheville, with
    - Dissen participating as a panelist in the Community Partnership discussion,
    - Liz Cox assisting with NCICS participation in the event,
    - Cox, Laura Stevens, and Tom Maycock hosting a table at the World Cafe session,
    - Alexis Visovatti (intern) presenting a poster, “State Climate Summaries: Informing Adaptation in the Southeastern United States,” and
    - Mark Essig, Andrea McCarrick, and Douglas Rao attending.

- April Lamb met with Ronald Opio, and Dhruv Patel to discuss figure layout and polishing edits for their upcoming publication, and created 2 mockups for consideration/feedback.

Travel

- *9/11:* Douglas Rao presented the "NOAA AI Learning Journeys Tutorial" at the 2025 Unifying Innovations in Forecasting Capabilities Workshop in Boulder, CO.

Partnerships and Collaborations

- Douglas Rao participated virtually in the Coupled Model Intercomparison Project (CMIP) extended panel meeting on September 9.
- *14th Weather Squadron* work continued, with:
  - John Uehling continued GDFL-SPEAR bias correction pipeline development, and
  - Kyle Wodzicki continued STAR code bug fixes and performance improvements.
- Kenneth Kunkel gave a virtual, invited oral presentation, "Preliminary CONUS estimates for Volume 2" at the NOAA Atlas 15 Volumes 1 and 2 technical exchange meeting for federal partners on September 11.
- Parth Katlana worked on Atlas Vol 2 annual maximum series plotting and calculations using the EPA Dynamically Downscaled Ensemble (EDDE) dataset.
- Kelsey Herbst developed an Expanded Child Tax Credit (ECTC) graphical abstract to accompany an upcoming publication.
- Xiangdong Zhang participated in a Climate and Ocean - Variability, Predictability, and Change (CLIVAR) panel workshop planning meeting, and co-chaired an International Arctic Science Committee meeting to discuss future research priorities and urgent needs.
- Haiyan Teng explored collaboration opportunities with National Center for Atmospheric Research (NCAR) via their Innovator Program.

Publications

- N/A.