



North Carolina Institute for Climate Studies

NC STATE
UNIVERSITY

November 26, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: Weekly Report (11/17/25–11/21/25)

NCICS Highlights

- Carl Schreck gave an interview to a Columbia Journalism School student for an upcoming report on Hurricane Melissa and climate change.

Administrative

- April Lamb and Jessica Allen hosted the November 19 “Data Visualization Lunch & Learn” workshop for Institute staff.

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
 - Mark Essig reviewing alt text and participating in engagement planning,
 - Kate Johnson completing High Plains content layout on the report website,
 - Andrea McCarrick updating alt text, preparing documents for production, and quality-controlling web content,
 - Laura Stevens working on Alaska summary updates and finalizing figures for Hawaii and Puerto Rico with Ronald Opio and James Anheuser,
 - Stevens, Johnson, April Lamb, Tom Maycock, Alexis Visovatti (intern), and NEMAC’s Dave Michelson, Jeff Bliss, and Greg Dobson discussing Data Explorer tool development,
 - Opio making final adjustments to O-CONUS plots and preparing CSV data files for the Data Explorer tool, and
 - Visovatti working on alt text development.
- *United By Nature* activities continued, with
 - Jessica Allen working with Essig, Lamb, Maycock, Visovatti, Ciara Lemery, and Tessa Francis (University of Washington) on graphics development and strategies,
 - Johnson onboarding authors and working on User Interface (UI) troubleshooting,
 - Essig and Maycock continuing review of chapters, and
 - Maycock revising the Statement of Work and cost estimates for Phase II support.

- *Intergovernmental Panel on Climate Change (IPCC) v.2* work continued, with
 - Maycock and Lamb working on Author Handbook revisions for Working Group III (WGIII) and participating in planning meetings, and
 - Maycock providing support for author workspace onboarding and preparing templates for chapter teams' use.
- *North Carolina Climate Science Report* plans continued, with
 - Maycock working on the proposal for NCICS scientific and technical support.
- *Assessment Collaboration Environment (ACE) V2* finalization continued, with
 - Johnson adding support for unique filename uploads and preparing to host new projects on the platform, and
 - Ryan Cox adding resource tags across services, working with team members to resolve a UI bug, and continuing to build traceability and monitoring infrastructure.
- Xiangdong Zhang continued to review statistical downscaling methods and train data sources for the downscaling review report.

Access Development and Information Technology Services

- James Anheuser reran the MRMS pipeline historical compaction for the Industry Proving Ground project and developed a pipeline management plan for the MAPP project.
- Ankur Banerji prepared documentation on ARC air quality datasets from EPA and their access methods for an upcoming discussion with the ARC team.
- Iype Eldho worked on machine learning flow architecture.
- Aashish Malik presented information to team members on VirtualiZarr, and worked on correcting latitude and longitude values in the GOES FCDR project output files.
- Dhruv Patel continued to explore STAC catalogs and assess their structure and usability, and worked on gridded data project pre-processing of the Infrared Sounder Atmospheric Temperature and Humidity Profiles dataset for Air Temperature.

Science and Services

- Optimum Interpolation Sea Surface Temperature (OISST) v3 work continued, with
 - Ankur Bannerji debugging the OISST application on Amazon Web Services (AWS) and reporting missing services from the intended architecture, and
 - Alethia Kielbasa completing the sea ice concentration to sea surface temperature calibration calculations for the entire record in the Northern Hemisphere, beginning to evaluate the quality of this regression, and working to improve processing times for the Southern Hemisphere.
- Iype Eldho continued effort on standardized precipitation index chi score distributions.
- Ronald Opio worked on the gridded data project, retraining the neural process Tmax, Tmin, and Tavg models over the continental U.S. using elevation data as context and target input.
- ARC project team members (Jen Runkle, Shuhai Li, Garrett, Graham, James Anheuser, Ankur Banerji, Parth Katlana, and Sucharitha Nadendlla) completed a drought outlook pipeline for the Centers for Disease Control and Prevention (CDC) and began developing pipelines for hurricane risks, wildfire smoke, and air quality.
- Haiyan Teng continued MAPP project coordination, discussed project plans with Otis Brown, Anheuser, Runkle, Schreck, Jenny Dissen, Ken Kunkel, Lori McCaleb, and Russ Vose (NCEI), and participated in the MAPP climate projection task force monthly meeting.

- Carl Schreck and John Uehling worked on the September and October State of the Climate tropical cyclone and synoptic reports, with Schreck generating maps and Uehling drafting text.
- Sucharitha Nadendla worked with ARC project team members on the development of a multi-hazard data pipeline, focusing on cloud-optimizing Uehling and Schreck’s enhanced rainfall hurricane severity indicator.
- Intern Bryttani Wooten worked on operationalizing UTCI as a thermal comfort metric and completed a second population-based study on exposure-response curves for preterm birth in the context of cold and heat extremes.

Communications, Outreach, and Engagement

- Mark Essig worked with Jen Runkle and Charlie Reed to draft a web story detailing their recently released [journal article](#) on the impact of heatwaves on youth emergency visits.

Partnerships and Collaborations

- Douglas Rao worked with Tulane University collaborators on the development of a proposal related to integrated data systems and services.
- *14th Weather Squadron* work continued, with
 - Carl Schreck testing the STAR pipeline,
 - John Uehling continuing GFDL-SPEAR bias correction,
 - Shuhai Li and Kyle Wodzicki working on wet-bulb globe temperature downscaling code improvements, and
 - Wodzicki continuing STAR code updates.
- Xia Sun updated the Atlas 15 project hourly adjustment factors to resolve a jump at the historical–projection transition.
- Laura Stevens provided Florida temperature projections data with Paul Julian (The Everglades Foundation) for use in a modeling study, and shared rain-on-snow events information with Bill Donahue (journalist) for a story about climate change in Vermont.
- Haiyan Teng worked on the proposed cross-World Climate Research Programme (WCRP) webinar series, “Translating Future Climate Information into Actionable Risk: Challenges, Pitfalls, and Paths Forward,” and joined the WCRP Regional Information for Society (RIfS) Working Group on Annual Assessment of Weather and Climate Extremes (AWCE).
- Xiangdong Zhang participated in the CLIVAR Northern Oceans Regional Panel (NORP) meeting to discuss their upcoming heat energy workshop.

Publications

- **Runkle J. D., C. Reed,** K. Weidner, J. Rothschild, T. Chandrasekhar, and M. M. Sugg, 2025: Assessing the impact of heatwaves on emergency visits for major depression and suicidal ideation in youth with attention-deficit/hyperactivity disorder. *PLOS Ment Health*. doi.org/10.1371/journal.pmen.0000444
- **Runkle, J. D., K. Herbst,** J. Bradley, and E. Braasch, 2025: Health inequalities at the intersection of race and poverty in Southern Appalachia: A community health needs assessment panel survey 2012–2024. *North Carolina Medical Journal*. doi.org/10.18043/001c.143959