



North Carolina Institute for Climate Studies

NC STATE
UNIVERSITY

October 7, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: Weekly Report (9/29/25–10/3/25)

NCICS Highlights

- N/A.

Administrative

- N/A.

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
 - Mark Essig, Tom Maycock, Andrea McCarrick, Laura Stevens, and Alexis Visovatti (intern) updating West region summaries and sending five states to the Regional Climate Center for review,
 - Jessica Allen continuing visual direction and refinement for figures,
 - Essig researching extreme events,
 - Stevens, Maycock, Visovatti, April Lamb, Kate Johnson, and Dave Michelson (NEMAC) discussing “Data Explorer” tool development, and
 - Visovatti investigating Hawaii wildfire data for a potential new figure.
- *Assessment Collaboration Environment* (ACE) V2 work continued, with
 - Ryan Cox enabling automated emails in Amazon SES production mode, and exploring and implementing Cloud systems administration best practices to strengthen security in the Cloud, and
 - Johnson continuing AI-assisted development work to style HTML automated system emails and build out various features.
- Maycock and Lamb participated in the first of two onboarding webinar sessions for Coordinating Lead Authors of the Intergovernmental Panel on Climate Change (IPCC) Working Group III report.
- United by Nature Assessment work began, including consulting on author guidance, beginning editorial reviews of chapters, and preparing tracking platforms for figure and content development.

Access Development and Information Technology Services

- Ankur Banerji and Iype Eldho began work on the AI co-scientist project.
- Dhruv Patel continued gridded data project analysis pipeline development, analyzing climate indices, including the Diurnal Temperature Range, from model outputs.

Science and Services

- Optimum Interpolation Sea Surface Temperature (OISST) v3 work continued, with
 - Ankur Banerji working with Garrett Graham on the dashboard,
 - Alethia Kielbasa preprocessing in situ Arctic SST and freezing point temperature data for a sea ice concentration sea surface temperature regression, and
 - Shuhai Li evaluating potential Advanced Clear Sky Processor for Ocean (ACSP0) satellite data rejection by the quality control filters.
- David Coates began a preliminary analysis of heat in Florida and continued to transfer plotting code to Amazon Web Services (AWS) format.
- Iype Eldho worked on alpha-beta calculations of precipitation accumulation.
- Pooja Hari Ambrish worked on integrating the Snow Cover Extent Climate Data Record (CDR) into the dashboard.
- Carl Schreck completed the prototype cloud-based pipeline and web interface for weekly maps of nClimGrid-daily rankings used in climate monitoring.
- Emma Scott generated updated figures for the Monthly Accumulated Climate Extremes Index, and updated Madden-Julian Oscillation (MJO) and rapid drought change relationship code to look at ENSO patterns.
- Haiyan continued MAPP project scientific coordination.
- John Uehling continued streamflow project work, analyzing teleconnections and their relationship to streamflow.

Communications, Outreach, and Engagement

- Jenny Dissen, Liz Cox, Carl Schreck, Haiyan Teng, and Erika Wagner participated in the NCSU Kenan Fellow's Program for Teacher Leadership "Mountains to Sea" Western Session on October 4, with Cox coordinating NCICS involvement and Schreck presenting, "Hurricane Helene and Climate Change."
- Schreck, Tom Maycock, and Laura Stevens participated in the second session of the UNC Asheville Osher Lifelong Learning Institute (OLLI) adult education course, "The Science of Climate Change," on October 3, with Schreck presenting "Hurricanes and Climate" and Maycock and Stevens managing online Q&A.
- Jessica Allen published 4 of Carl Schreck's 7 Hurricane Helene [videos](#) on the NCICS YouTube channel, with Maycock and Mark Essig sharing highlights on social media.
- Essig edited a story about NCICS for Results: the Research and Innovation Magazine of NC State.

Partnerships and Collaborations

- 14th Weather Squadron work continued, with:
 - Alethia Kielbasa and John Uehling working on a bias correction pipeline for GFDL-SPEAR data, and
 - Kyle Wodzicki debugging code and testing precipitation downscaling in STAR-ESDM code.

- Kenneth Kunkel, with Xia Sun, revised the Future Conditions Rain Loads Standard for the American Society of Civil Engineers (ASCE) publication 7-28, in response to review comments from subcommittee members.
- The NCICS NOAA Atlas 15 project team (Kunkel, Sun, Parth Katlana, David Easterling), who are developing adjustments for future global warming, and the team working on historically based rainfall design values met to coordinate near-term activities.
- Kunkel and Sandra Pavlovic (NWS Office of Water Prediction) discussed medium-term activities and deadlines.
- Kelsey Herbst began work on an analysis of ambulatory care sensitive conditions among adults in WNC and statewide, in the context of Hurricane Helene.

Publications

- Klotzbach, P. J., E. Bercos-Hickey, K. M. Wood, **C. J. Schreck**, M. M. Bell, E. S. Blake, S. G. Bowen, L.-P. Caron, D. R. Chavas, J. M. Collins, E. J. Gibney, K. A. Hansen, A. T. Hazelton, J. J. Jones, M. R. Lowry, A. T. Nieves-Jimenez, C. M. Patricola, L. G. Silvers, R. E. Truchelut, and **J. Uehling**, 2025: The Remarkable 2024 North Atlantic Mid-Season Hurricane Lull. *Geophysical Research Letters*. doi.org/10.1029/2025GL116714
- Silvers, L. G., P. J. Klotzbach, C. J. T. Allen, M. M. Bell, S. G. Bowen, S. S. Chand, M. Ekström, M. Hemmati, and **C. J. Schreck**, 2025: The Global Influence of ENSO on Rapid Intensification of Tropical Cyclones. *Geophysical Research Letters*. doi.org/10.1029/2025GL115334.
- Luo, B., D. Luo, C. Xiao, D. Chen, I. Simmonds, **X. Zhang**, S. Li, W. Zhang, J. Shi, and Y. Diao, 2025: Recent decadal shift in winter temperature extreme patterns across North America under anthropogenic warming. *Earth's Future*, accepted.