



North Carolina Institute for Climate Studies

NC STATE
UNIVERSITY

September 24, 2025

MEMORANDUM

TO: Jess Beck-Stimpert
Chief of Staff, NCEI

FROM: Otis Brown
Director, NCICS

SUBJECT: Weekly Report (9/15/25–9/19/25)

NCICS Highlights

- Carl Schreck was interviewed by FOX Weather for a [report](#) on the current hurricane season, “Examining the State of the Tropics.”

Administrative

- N/A

Science and Project Updates

Assessments

- *State Climate Summaries* work continued, including
 - Team members [Mark Essig, Tom Maycock, Andrea McCarrick, Laura Stevens, Alexis Visovatti (intern)] working on West region drafts,
 - Jessica Allen continuing visual direction and graphics refinement,
 - Essig researching extreme events,
 - McCarrick updating post-review documents,
 - Ronald Opio developing a file shape to divide Washington State into east and west, and modifying the threshold analysis code to remove modal functionality, and
 - Visovatti working on metadata and figure review.
- *Assessment Collaboration Environment (ACE) V2* work continued, with
 - Web team members demonstrating functionality and collecting feedback,
 - Ryan Cox working on AI-assisted coding to accelerate development workflows, preparing for production deployment, and implementing secure data backups, domain readiness, and SES email support.
 - Aaron Goodman working on the Chapters section of Admin,
 - Kate Johnson building out the Copyright management section for Figures, and
 - Angel Li refining webpages.
- *Intergovernmental Panel on Climate Change (IPCC)* work continued, with
 - Tom Maycock meeting with the Working Group III (WGIII) Head of Science and attending an all-author kickoff webinar.

- Johnson, Maycock, Stevens, James Anheuser, Jonathan Brannock, Haiyan Teng, and NOAA CPO's David Herring and Dan Barrie discussing NCICS' support for the Climate Resilience Information System and Climate Mapping for Resilience & Adaptation projects.
- Visovatti virtually participating in the Duke University Center for Data and Visualization Sciences "Intro to ArcGIS Pro" course.

Access Development and Information Technology Services

- James Anheuser moved the Multi-Radar/Multi-Sensor compaction pipeline to production.
- Iype Eldho worked on identifying memory issues in the AI Downscaling continental U.S. (CONUS) model training.
- Parth Katlana researched model suitability for AI Downscaling station data and continued ARC drought pipeline CI/CD work.
- Aashish Malik created sample NetCDF files for GOES imagery data.
- Dhruv Patel evaluated the Neural Processes model over CONUS and North America, comparing TMAX and TMIN outputs against nClimGrid, PRISM, and Daymet datasets.

Science and Services

- Philip Casey inventoried NOAA Open Data Dissemination (NODD) VIIRS data for processing to VGAC (VIIRS Global Area Coverage) data and created a lambda function to alert when a VIIRS orbit is complete.
- Iype Eldho worked on generating parameters for the domain-based Standardized Precipitation Index (SPI) accumulation gamma distribution.
- Pooja Hari Ambrish worked on re-calculating the anomaly and regional anomaly for the Normalized Difference Vegetation Index (NDVI) Climate Data Record (CDR) and integrating the Snow Cover Extent CDR into the dashboard.
- Alethia Kielbasa continued Optimum Interpolation Sea Surface Temperature (OISST) v3 project work, calibrating the sea ice concentration to SST equation.
- Ronnie Leeper completed a report on the utility of short-term drought and hydrological monitor metrics derived for Upper Missouri River Basin mapping project, began a report on the regional characterization of rapid drought change frequency across the U.S., and developed a methodology to detect vegetation brown down events using NOAA's Vegetation Health Index.
- Ronald Opio added Daymet and GPM IMERG datasets to the gridded data project analysis pipeline, and compared model-generated and calculated average temperature.
- Emma Scott compared USCRN short-duration precipitation extremes with the ratios used to calculate frequency estimates in NOAA Atlas 14, and drafted a report on rapid drought change project activities for NIDIS.
- Haiyan Teng coordinated MAPP project science activities.
- John Uehling highlighted recent tropical activity events for NCEI and generated seasonal trend data for streamflow over the U.S. as part of the Streamflow project.
- Kyle Wodzicki worked on Wildfire project model training and final report.
- Townes Ellum, Chloe Green, Angelina Herbert, and Valerie Scull (interns) integrated critical theta into the analysis of Soil Moisture Active-Passive (SMAP)-based fractional available water and developed the manuscript Introduction, Data, and Methods sections.

Communications, Outreach, and Engagement

- Liz Cox worked on plans for “Mountains to Sea” teacher training program collaboration, participated in a discussion with American Meteorological Society (AMS) Applied Climatology Conference Chairs, and engaged with Asheville Museum of Science (AMOS) partners on a potential grant submission.
- Carl Schreck recorded video presentations on Hurricane Helene for YouTube, and worked with Jessica Allen to optimize presentation slides.
- Mark Essig and Tom Maycock worked on NCICS website design updates.
- Maycock highlighted the new NCEI story map on Hurricane Helene via social media.

Travel

- 9/16-9/17: Douglas Rao chaired the 7th NOAA AI Workshop in Boulder, CO.

Partnerships and Collaborations

- Douglas Rao, Christine Wiedinmyer (UCAR Community Program), and Stephen Haddad (Met Office) discussed AI-related collaboration.
- *14th Weather Squadron* work continued, with:
 - Carl Schreck performed a literature review on downscaling cross-validation, and
 - Alethia Kielbasa worked with John Uehling on the GFDL-SPEAR data bias correction pipeline.
- Parth Katlana worked on Atlas 15 data processing and analysis for CMIP6 models.
- Xiangdong Zhang worked with NCSU Marine, Earth & Atmospheric Sciences (MEAS) department students on an AMS student conference abstract, and participated in a National Plan for Arctic Research informational meeting.
- Haiyan Teng explored potential collaboration opportunities with the NSF National Center for Atmospheric Research (NCAR) via their Innovator Program.

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*, In Press.
- 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*, In Press.