

# Carolinas Climate Connection

Carolinas Integrated Sciences & Assessments, a NOAA RISA Team  
Integrating Climate Science and Decision Making in the Carolinas



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## Public Comment Period Open for the 4th National Climate Assessment

The U.S. Global Change Research Program (USGCRP) began producing the National Climate Assessment (NCA) in 2000. The NCA is an overview of current and potential impacts of climate change to the country, with region-specific chapters to convey more localized information. It details adaptation and mitigation strategies and is authored by a team of America's top experts in climate change science, including representatives from the federal government, national laboratories, universities, and the private sector. To date, there have been three complete assessments produced in 2000, 2009, and 2014.

The *Climate Science Special Report*, Volume 1 of the NCA4 and an authoritative account of the physical science of climate change with a focus on the United States, was released in November 2017. It underwent six rounds of expert, technical review and serves as the foundation for an assessment of climate-related impacts, risks and adaptation, as reflected in NCA4 Vol. II.

The public draft of NCA4 Volume II, "Climate Change Impacts, Risks, and Adaptation in the United States" is currently available for public review and comment. The deadline is January 31, 2018. The USGCRP's Review and Comment system for the Third Order Draft of NCA4 Vol. II can be accessed [HERE](#).

## Upcoming Events

Social Coast  
February 5-8, 2018  
Charleston, SC

North Carolina Water Resources Research Institute Annual Conference  
March 14-15, 2018  
Raleigh, NC

Carolinas Climate Resilience Conference  
September 17-19, 2018  
Columbia, SC

South Carolina Water Resources Conference  
October 17-18, 2018  
Columbia, SC

## Carolinas Climate Listserv

Subscribe to the [Carolinas Climate Listserv](#) to learn about the latest climate research and information, upcoming events, funding opportunities, and other relevant news for the Carolinas.



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**RISA**  
Regional Integrated Sciences  
and Assessments



UNIVERSITY OF  
SOUTH CAROLINA

### Getting to Know Your RISA

*Featured Team Member: Sarah Watson*

Sarah Watson is the Coastal Climate and Resilience Specialist for CISA and the SC Sea Grant Consortium. Based in Charleston, Sarah cultivates relationships with many stakeholders as well as helps bridge the gap between coastal climate science and decision making. She is passionate about helping residents and communities understand how coastal hazards and climate change may affect them as well as what they can do to address those risks. Her engagement methods incorporate and apply multiple types of social science research and communication principles.

Sarah graduated from Rutgers University in May, 2017, with a Master's degrees in Public Policy and City and Regional Planning, with focuses on climate adaptation and coastal resilience. While she was in graduate school, Sarah worked part-time via subcontract for NOAA's Office for Coastal Management to develop risk communication training and outreach materials. Prior to her career in resilience, Sarah was an environmental journalist for newspapers in Virginia and New Jersey. She most recently covered Superstorm Sandy recovery for The Press of Atlantic City, where her personal and professional experience with disaster recovery and communication about resilience inspired her to change careers. She holds a B.A. in Journalism from Temple University. When she's not working, Sarah is a devoted open water swimmer, gardener, and photographer. She prefers the cold water of the Pacific and the Northeast U.S., but is working on acclimating to South Carolina's warmth.



In 2015, Sarah competed in the US Winter Swimming National Championships on frozen Lake Memphremagog in Newport, VT. Winter swimming events are held in water that is 41 degrees F or colder. In this event, the "pool" was cut out of ice that was three-feet thick.

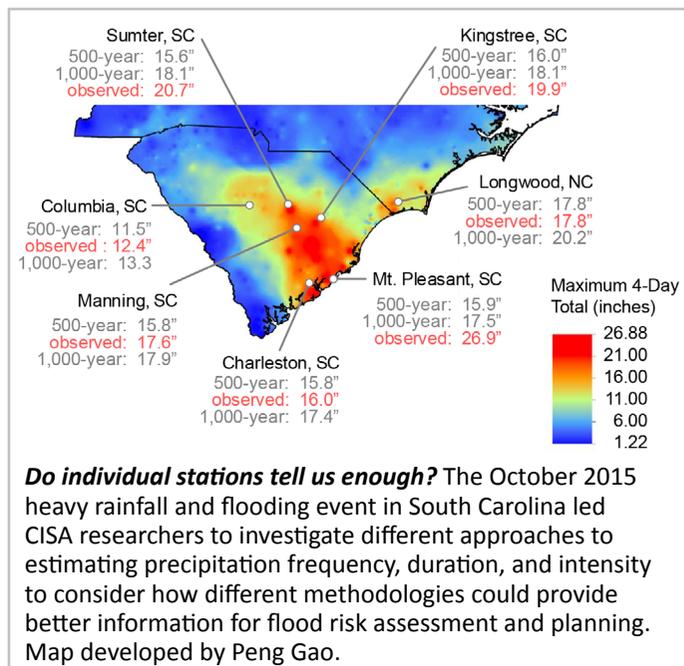
### New Publications from the CISA Team

#### *Estimating Extreme Precipitation Probabilities*

CISA researchers Greg Carbone, Peng Gao, and Junyu Lu recently published an article, *An Area-Based Approach for Estimating Extreme Precipitation Probability*, about work derived from their analysis of the October 2015 heavy rainfall and flooding event in South Carolina. This research, which was also presented at the 2016 Carolinas Climate Resilience Conference, examined two approaches to estimating the likelihood of similar extreme precipitation events. They found significant differences between station-based and areally-based approaches to estimating the frequency, duration, and intensity of precipitation extremes. These types of precipitation estimates are often used in stormwater and flood risk assessment. Their results suggest that hydrologic models, which are used for risk assessment and planning, may benefit from incorporating more than point-based precipitation estimates to improve planning for future extremes.

#### *CoCoRaHS Observers Contribute to "Condition Monitoring" in the Carolinas*

In September 2013, CISA researchers began recruiting citizen science volunteers in the Carolinas to submit "condition monitoring" reports as a pilot study to test a new way to capture local drought impacts. These volunteers, who are part of the Community Collaborative Rain, Hail, and Snow (CoCoRaHS) network, provide a variety of information about the ways rainfall, or a lack thereof, impacts their community and local environment. Positive feedback from decision makers who saw the utility of the information in drought-related decision making encouraged the project team to expand the effort through the development of a new condition monitoring report form and an [online web map](#). The initial phase of the pilot study is described in a new [Nowcast article](#) published in the Bulletin of the American Meteorological Society (BAMS). The project is now a national effort with reports submitted by CoCoRaHS observers throughout the U.S. As the Carolinas pilot concludes, feedback interviews with report users have once again shown the value of the reports in moving the ball forward on drought impacts monitoring and reporting.



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## Special Feature: From Fiji to Bonn, the World United for Climate Action at COP23

By: *Chandler Green*

This past November, the global community united to take climate action further, faster, and together. Under the Presidency of the Republic of Fiji, delegates from 197 countries came together in Bonn, Germany for , the most recent United Nations Conference on Climate Change.

As a communications and digital producer for climate and energy at the [United Nations Foundation](#), I had the privilege of covering events live at this year’s meeting and leading two global digital campaigns endorsed by the United Nations Climate Change Secretariat ([UNFCCC](#)). Although COP23 was originally supposed to be a “quiet COP,” with leaders focused on building a rulebook for the Paris Agreement, this meeting attracted widespread attention after an unprecedented year for climate change. I can say, as someone who has followed the meeting closely on-the-ground and online, the world is boldly moving ahead despite the U.S. administration’s intention to withdraw from the Paris Agreement.

Ahead of the meeting, the Fijian Prime Minister called for a “Grand Coalition” of civil society, the scientific community, the private sector, and all levels of government, including cities and regions, to accelerate action together. To support this inclusive message and to showcase how climate action extends well beyond national governments, the United Nations Foundation partnered with the COP23 Fijian Presidency and the World Bank to kick-off the conference with a global digital surge under the hashtag [#Uniting4Climate](#). On November 6, we ignited a global conversation with **28 online activations from Australia and Fiji to Ghana and Copenhagen to Bonn and beyond**, ranging from Facebook live discussions with Pacific youth to Twitter chats with members of the Ugandan Parliament. Although only 19,000 people attended COP23 in person, we extended this crucial message of unity to **22 million users in 103 countries** in less than 24 hours.

Additionally, I’m pleased to share that the UN Foundation launched a brand new campaign around COP23 called [#EyeOnClimate](#), dedicated to elevating powerful climate change photography and storytelling. By sharing captivating images from photographers and photojournalists around the world, we are reaching millions of users with a compelling, urgent “lens” to climate change. The campaign has been shared by many influencers including, **oceanographer Sylvia Earle, National Geographic photographer Cristina Mittermeier, and actor Leonardo DiCaprio.**



In November, Chandler helped launch a climate change Instagram campaign called [#EyeOnClimate](#), which aims to elevate the personal perspectives of photographers and photojournalists documenting climate change impacts and solutions around the world.



Chandler (2nd from right) with colleagues at the UN Foundation. Formerly an intern with CISA, Chandler now works as a communications and digital producer for climate and energy at the United Nations Foundation.

Of course, my first real foray into climate storytelling occurred as a CISA intern a few years ago, when I worked with the team to create [documentary videos on climate and water resources across South Carolina](#). Having the opportunity to give authentic climate stories a global platform through the UN is a dream come true.

Looking ahead, all the exciting activity that occurred in and around COP23 represents a step in the right direction toward achieving the goals of the Paris Agreement. Clearly, this meeting demonstrated that tackling the global threat of climate change demands a global response – and that includes everyone from photographers in the field to leaders on the world stage.

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## CISA joins the SC State Climatology Office and SC Water Resources Center to host the 2nd Climate Connections Workshop Series

In 2012, the [SC State Climatology Office](#), supported by CISA, conducted a series of educational workshops across the state titled “The Climate Connection Workshop Series: Climate Variability and Impacts to South Carolina’s Natural Resources”. The purpose of these workshops was to increase awareness and utilization of climate knowledge to improve natural resource management. At each workshop, discussion was facilitated regarding the relationship between natural resources and climate, including the need for new approaches and partnerships to cope more effectively with climate variability. The series attracted a total of 151 participants including representatives from federal, state and local government, scientists, land and water resource managers, utility representatives, NGOs, media, private companies and other interested stakeholders.

Five years after this initial workshop series, Dr. Hope Mizzell from the SC State Climatology Office, the [SC Water Resources Center](#), and CISA determined that hosting another series of workshops would be beneficial to local decision makers. The workshop series is titled “Weathering the Storm: Impacts of Extremes to South Carolina’s Built & Natural Environments.” This workshop series is focused on how recent extreme events, such as the October 2015 heavy rainfall and flooding event in Columbia, SC, Hurricanes Matthew and Irma, and the drought and wildfires of 2016 have led state agencies to consider how to better prepare for similar future events. Each workshop will include presentations from state agencies to share information about how they have responded to these recent extremes and how they are using lessons learned to plan for the future.

The [first workshop](#), held in Greenville, SC on December 12, 2017 drew over 50 participants from state and local government, non-profit organizations, and the private sector. Following an overview of recent extreme events in the state by Hope Mizzell, presentations centered on the impacts of flooding. In the afternoon, speakers shifted gears to discuss the impacts of drought and fire risk in the state.

Messaging and communications were key takeaways from all of the speakers. Maria Lamm, the SC Flood Mitigation Program Coordinator, shared that changes in strategy to convey to property owners that EVERYONE is at risk of flooding. The degree of risk varies depending on a property’s location, but the potential for impact is always there. Darryl Jones, the SC Forest Protection Chief, shared information about the [National Fire Protection Association’s Firewise program](#) and how communities can educate residents about their risks, responsibilities, and ways to reduce the chance that their home might be lost due to a wildfire.

Each workshop will conclude with a discussion session, to allow attendees to share information and learn from others about how other agencies and organizations in the state are addressing climate-related risks. This session also includes audience polling to learn more about climate information needs and other ways that workshop organizers might support climate resilience efforts in the future.

Workshops are planned for Columbia and Charleston in 2018. Speakers will gear presentations to the weather events and impacts most relevant to stakeholders in these different regions of the state. More information about will be posted to the [workshop series website](#) in January.

