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Fall 2019 Newsletter

1 message

NOAA MAPP <oar.cpo.mapp@noaa.gov> Wed, Oct 23, 2019 at 12:01 PM
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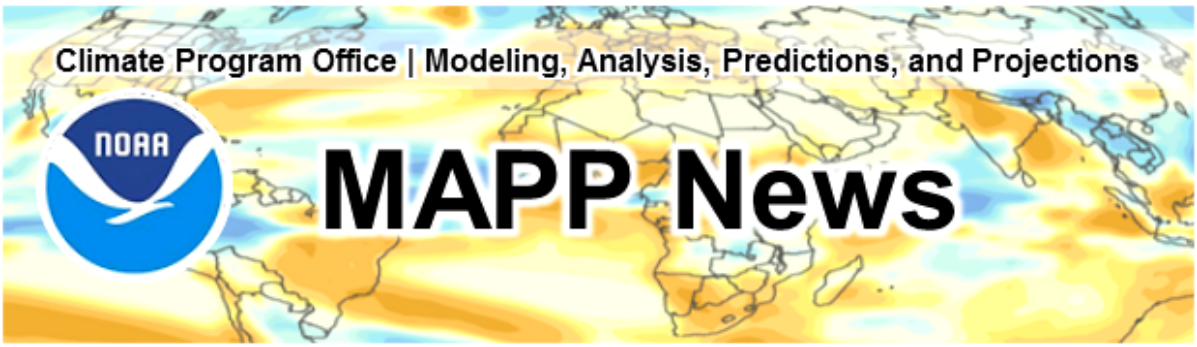
NOAA Climate Program Office | Modeling, Analysis, Predictions, and Projections



See what's happening this quarter in the MAPP community!

This Issue:

Program Updates
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Learn more about the MAPP Program here

MAPP Program Awards $5.3M in FY19

The MAPP Program, as a part of Climate Program Office's FY19 competition, awarded a total of $5.3M in grants and other awards for a total of 15 new projects.

13 of the new projects, totaling $2.6M, will build on the work of the Coupled Model Intercomparisons Project Phase 6 (CMIP6) to improve depictions of 21st century climate over the US. These projects will help to further the understanding and modeling capabilities of climate changes that will enhance U.S. climate planning and adaptation efforts.

Read more about MAPP's 21st Century Climate projects here>>

The remaining two Climate Process Teams projects, totaling $2.7M in awards and funded in collaboration with Department of Energy, aim to more accurately represent land processes and their interactions as part of the climate systems in NOAA models. The new projects will contribute to the broader US-CLIVAR Climate Process Team concept which brings together theoreticians, observationalists, climate process experts and large modeling centers to improve parameterizations of particular processes (like land processes) in models.

Find out more about the Climate Process Teams projects here>>

Research Highlights

NOAA Research shows promise for predicting marine heat

A new *Frontiers in Marine Science* study, lead by MAPP-funded researcher Michael Jacox, found that marine heatwaves like "the Blob" that occurred on the U.S. west coast from 2014-2016 could potentially be predicted to allow fisheries managers and stakeholders to plan for impacts.

Read more here>>

MAPP Program efforts helped advance understanding of tropical cyclone subseasonal variability and predictability

A new review paper describes how MAPP-funded and organized work has helped push the progress of understanding and predicting tropical cyclones on a subseasonal timescale. When extreme events, like tropical cyclones (TC), are likely to pose a threat to life and property it is important to have forecast systems in place for early warning. Unfortunately, most storm forecast systems can only predict an individual storm five days before it forms. Scientists have been working to extend this prediction time to the subseasonal range, about 10 to 30 days in advance. In order to predict TC activity at subseasonal timescales, you have to also understand the sources of predictability and variability.

In the new *Tropical Cyclone Research and Review* paper, MAPP-funded PI Suzana Camargo and co-authors discuss the recent progress in understanding TC subseasonal variability, sources of predictability, and prediction at subseasonal timescales. MAPP-organized efforts have contributed largely to the progress in this field. Specifically, the efforts of the SubX (The Subseasonal Experiment) and S2S (Seasonal to Subseasonal) Task Forces have made it possible to evaluate the forecast skill of TCs on subseasonal timescales in multiple forecasting systems. The advancement of this research is also of strong interest to the private sector which seeks to have forecasts with three-four weeks warning for

preparation and loss mitigation. Overall, it is important for the scientific community to continue making progress in understanding TC activity and predictability as it is beneficial across multiple sectors.

Read the review paper >>

MAPP-funded researchers find predictability of warm West Coast ocean temperatures not solely due to El Niño

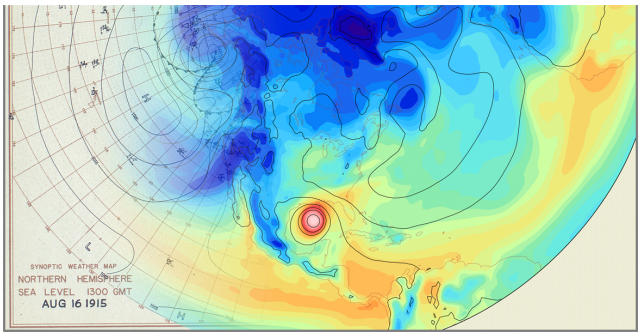
El Niño events are commonly thought of as important drivers of abnormally warm conditions along the U.S. West Coast. Such conditions can be disruptive and sometimes disastrous to marine ecosystems, so it's critical for scientists to be able to predict them. According to a recent study in *Nature Scientific Reports*, however, El Niño may not always be the one to blame.

Funded in part by NOAA's Modeling, Analysis, Predictions, and Projections Program, the study identifies patterns not identical to El Niño that have a stronger influence on unusual West Coast warming, and could help improve predictability.

Find out more here>>

Old weather "time machine" opens a treasure trove for researchers

One key to the past is crowd-sourcing data recovery



This month, a research team, funded in part by CPO's Climate Observations and Monitoring (COM) Program and Modeling, Analysis, Predictions, and Projections (MAPP) Program, published an update to a weather "time machine" they've been developing since 2011. This third version of the 20th Century Reanalysis Project, or 20CRv3 for short, is a dauntingly complex, high-resolution, four-dimensional reconstruction of the global climate that estimates what the weather was for every day back to 1836.

Read more here>>

FIND MORE MAPP NEWS HERE

Want to see your research highlighted here?

MAPP PIs,

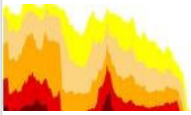
If you'd like to see your research highlighted in our newsletter use **this form** to let us know about papers supported through your MAPP award. A 2+ week notice in advance of publication is most useful.

Remember to include the following statement in your MAPP supported paper: "This study was supported by NOAA's Climate Program Office's Modeling, Analysis, Predictions, and Projections program through grant # (if applicable).

Task Force Updates

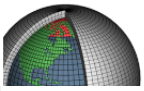
Marine Prediction (2017-2020)

Many members of the task force served as co-authors on a paper published in Frontiers in Marine Science: Ocean Observation in October titled "Observational Needs Supporting Marine Ecosystems Modeling and Forecasting: From the Global Ocean to Regional and Coastal Systems." The TF is exploring collaborative activities for its third year.



Drought (2017-2020)

An increase in drought across the country since August was the topic of the first task force call after the summer break. Currently, 14 papers are expected for submission to the DTF special collection. Other contributions are welcome.



Model Diagnostics (2015-2018)

Science updates on weather typing and extreme surface temperature diagnostics were discussed on the task force's first call back from summer break. The group also discussed the status of software development and GFDL's assumption of leadership in developing the software.

Subseasonal to Seasonal (2016-2019)

The NOAA MAPP Subseasonal-to-Seasonal Prediction Task Force wrapped-up the S2S special collection in GRL and JGR this month, with 42 published papers and over 110 submissions still in the pipeline. Expect the full collection to be available soon. The S2S Task Force continues to hold bi-monthly webinars on cutting-edge S2S science.

CMIP6 Task Force (2019-2022)

This new task force started in September, led by Ben Livneh, Angie Pendergrass, Kate Marvel, and Ryan Rykaczewski. The group is exploring common approaches to handling CMIP data and developing projections, including scenario usage.

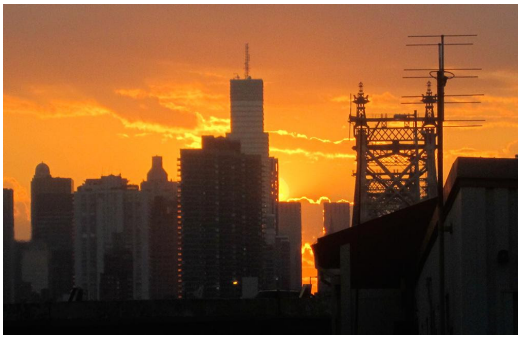
Events

CMIP6 Hackathon - October 16-18, 2019

The CMIP6 Hackathon took place October 16-18, 2019 concurrently at the NCAR Mesa Lab in Boulder, CO and and the Lamont Doherty Earth Observatory in Palisades, NY. The Hackathon explored new standards for community-driven analysis by providing 1) tutorials on cutting-edge analysis tools, 2) peer-learning opportunities, and 3) open-ended project work in a highly collaborative environment.

More information **here**

Registration for the Annual ESSM Community Workshop closes 10/26!



The Annual CPO/ESSM Community Workshop “Climate Research to Enhance Resilience to Extreme Heat” will take place on November 18-19, 2019 in Silver Spring, MD. The purpose of the workshop is to convene researchers, users, and stakeholders inside and outside NOAA to discuss and identify needs and opportunities for CPO/ESSM research programs to support climate research to enhance resilience to extreme heat. Participants will share key ideas, during small topical break-out sessions, that will be captured in the Workshop Report and inform CPO/ESSM future research directions and funding priorities. Registration is open until October 26, 2019 or when maximum capacity is reached.

View the agenda here and **Register for the workshop here**

Other Upcoming Events

- AGU Fall Meeting, December 9-13, 2019, San Francisco, CA
- AMS Annual Meeting, January 12-16, 2020, Boston, MA

Have input for the newsletter?

Use **this Google form** to let us know of any input you have for the newsletter.

MAPP
Modeling, Analysis, Predictions, and Projections

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Amara Huddleston, NOAA CPO Modeling, Analysis, Predictions, and Projections