

# Let Us Help Tell Your Research Story: In Two (Painless) Ways!

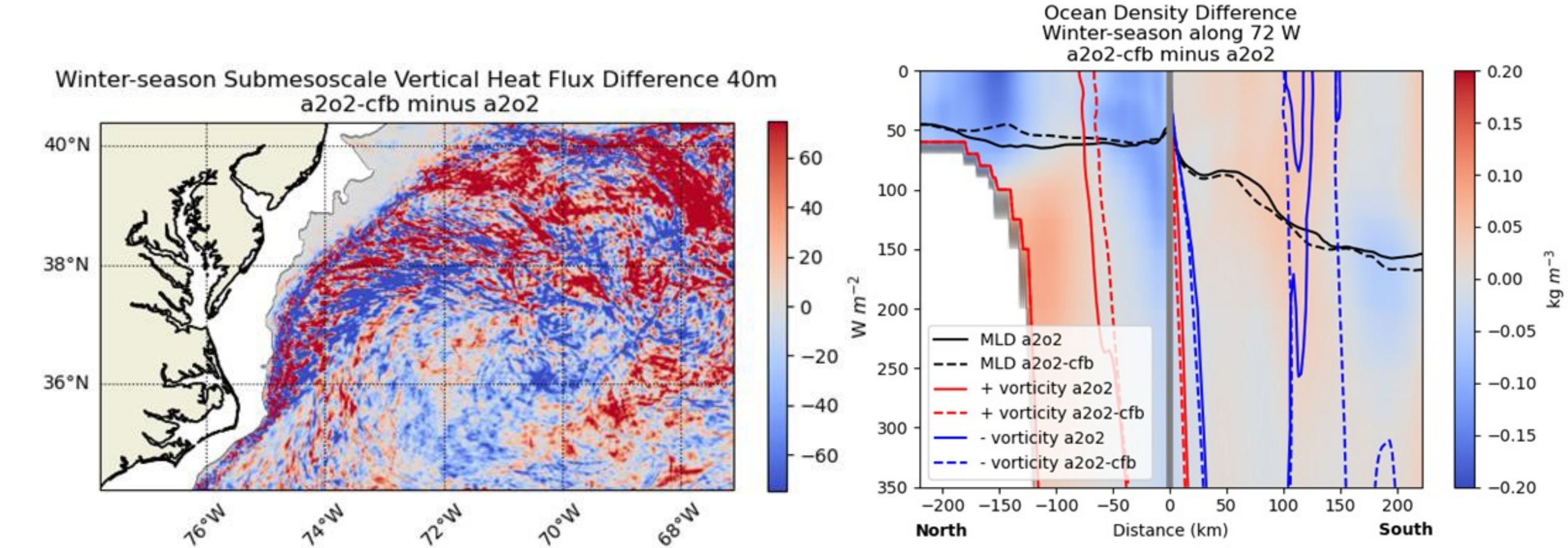
Annette deCharon, ODYSEA LLC, [avdecharon@gmail.com](mailto:avdecharon@gmail.com)  
Mark Bourassa, Florida State University, [bourassa@coaps.fsu.edu](mailto:bourassa@coaps.fsu.edu)



## #1 We Can Help You Craft a One-pager Based on a Publication

- **Contact us by email** to let us know you're interested in sharing your NASA-funded winds research
- **Create your own draft** (Powerpoint slide) or **share your take-home messages** and which figure(s) you'd like to include
- We will **suggest text edits and ideas for a layout** based on your content
- In most cases, **we will reformat the figures** and may ask for original versions
- We will **iterate with you to get a final version** for Headquarters and add it to the *NASA Winds* website

### Example Original Content (1250 characters)



**Ocean Surface Currents modify the ocean's vertical structure**  
**Question:** How do ocean surface currents change the vertical transport of energy in the ocean and into the atmosphere?

**Physical Process:** Current-induced changes in surface stress modify vertical sub-mesoscale and mesoscale ocean motion, which changes the vertical structure of temperature, salinity and density. A high-resolution coupled Ocean/Atmosphere model is used to examine the impacts of total surface currents on the ocean and atmosphere.

This image above shows the differences in surface heat fluxes averaged over one winter season. These changes are large enough to impact weather.

The sub-mesoscale ocean processes change ocean density structure in a manner that is organized by meso-scale ocean rotation.

Ocean water density is dependent on temperature and salinity. Current-induced pattern of temperature and salinity have additional submesoscale structure. These changes and the related vertical motions are very likely to be important for ocean biology and biogeochemical processes.

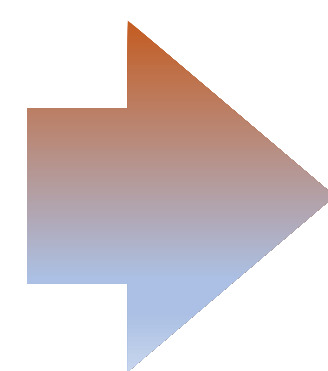
The figure above shows how coupling shows how coupling winds and currents changes the ocean density structure (colors).

How these density changes align with modeled ocean current curl (vorticity)

Solid lines for the model without current and wind coupling

Dashed lines for the model with current and wind coupling

The density response is a better match to the model with current and wind coupling.



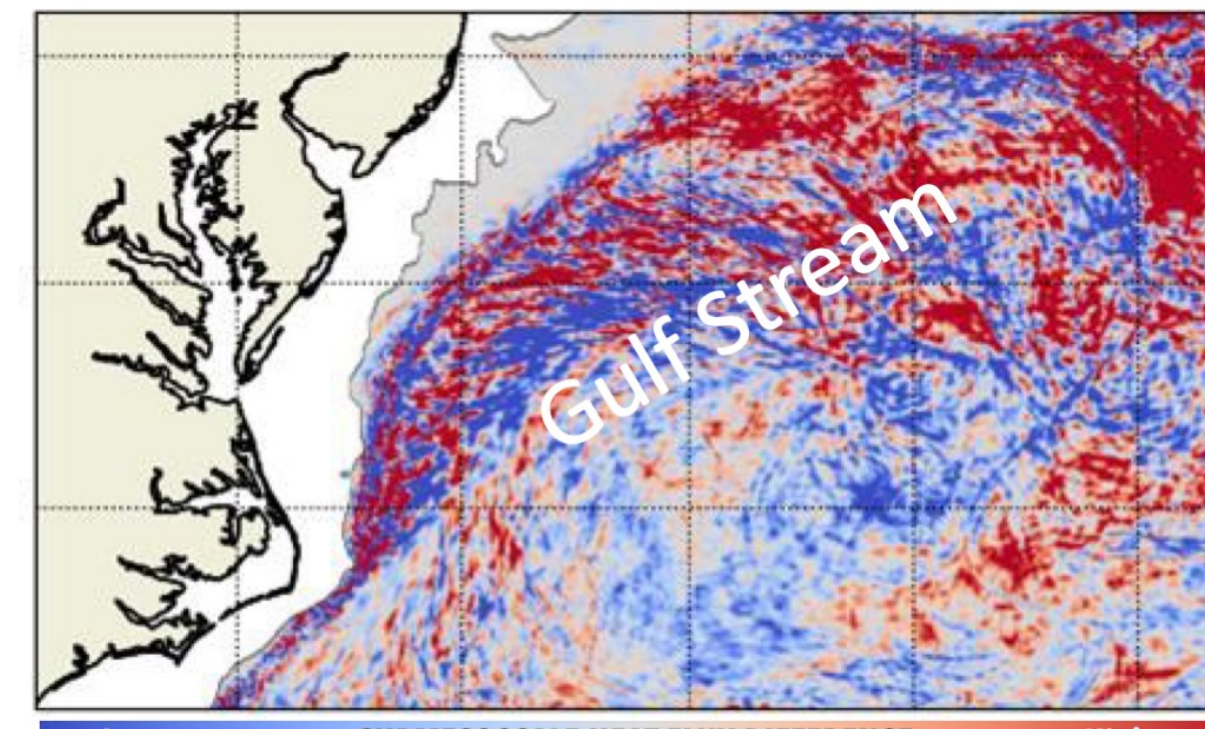
### Resulting One-pager (950 characters)

#### Surface Currents Modify the Ocean's Vertical Structure

**How do ocean surface currents change the vertical transport of energy in the ocean and into the atmosphere?**

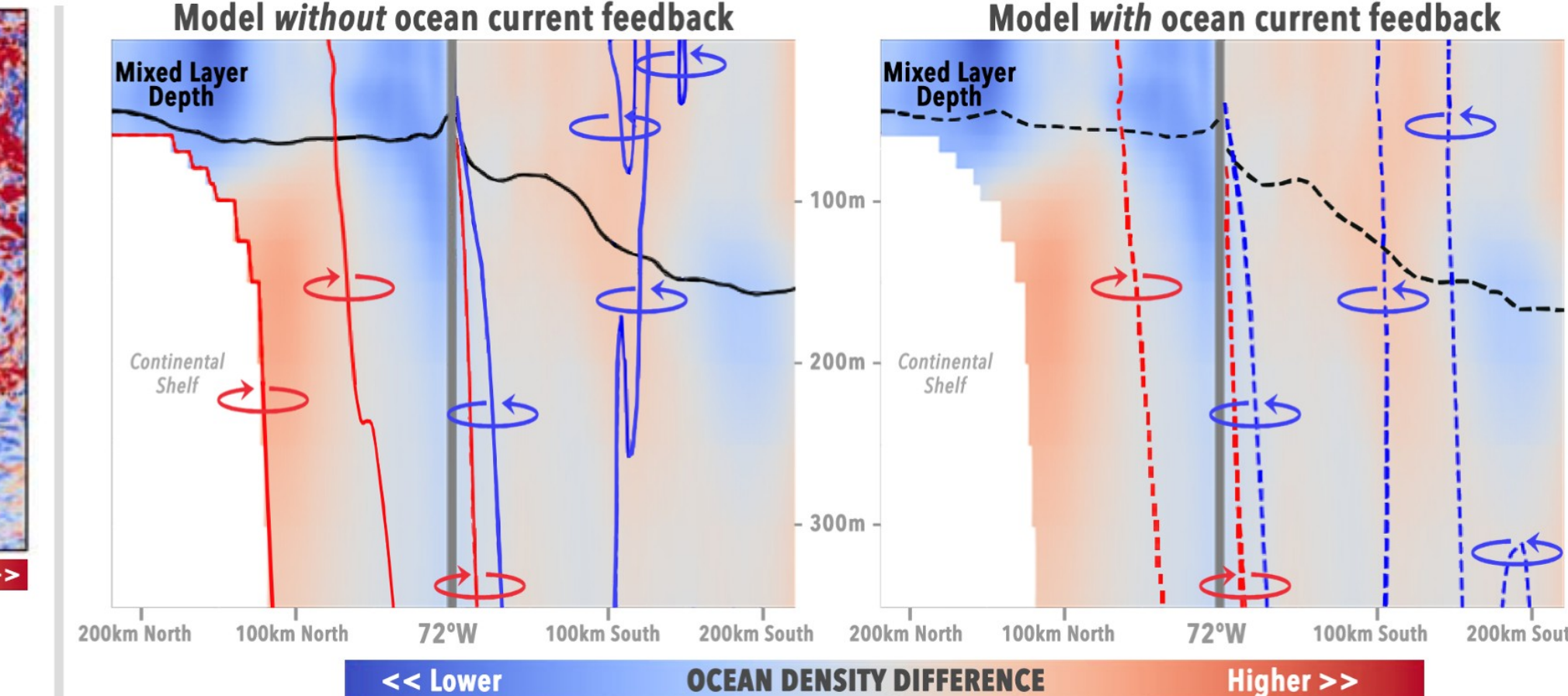
A high-resolution coupled ocean-atmosphere model is used to **examine the impacts of total surface currents on the ocean and atmosphere**. We find that physical processes such as current-induced changes in surface stress **modify vertical sub-mesoscale and mesoscale ocean motion**. This, in turn, **changes the vertical structure of temperature, salinity and density**.

Colors on this map show differences in **heat surface fluxes** averaged over one winter season. **These changes are large enough to impact weather.**



Submesoscale processes change ocean density structure – which depends on temperature and salinity – in a manner that is organized by mesoscale rotation:

- Current-induced patterns of temperature and salinity have **added submesoscale structure**
- These changes and the related vertical motions **are very likely to be important for ocean biology and biogeochemical processes**



Cross sections above show how coupling winds and currents:

- Change the ocean density structure (background colors)
- Align with modeled ocean current curl / vorticity (arrows)

The density response is a **better match to the model with current and wind coupling**.

May, J.C., and Bourassa, M. A. (2024) *Upper Ocean Thermodynamic Response to Coupling Currents to Wind Stress over the Gulf Stream*, *J. Marine Science and Engineering*, 12 (11), 1994.

Visit the interactive story:  
<https://arcg.is/1XCpXj>

Funded through NASA's Ocean Vector Winds Science Team & the Office of Naval Research

Check out other one-pagers at [nasawinds.org/research.htm](https://nasawinds.org/research.htm)

## #2 We Can Create an Interactive Story Based on a Publication or Other Topic

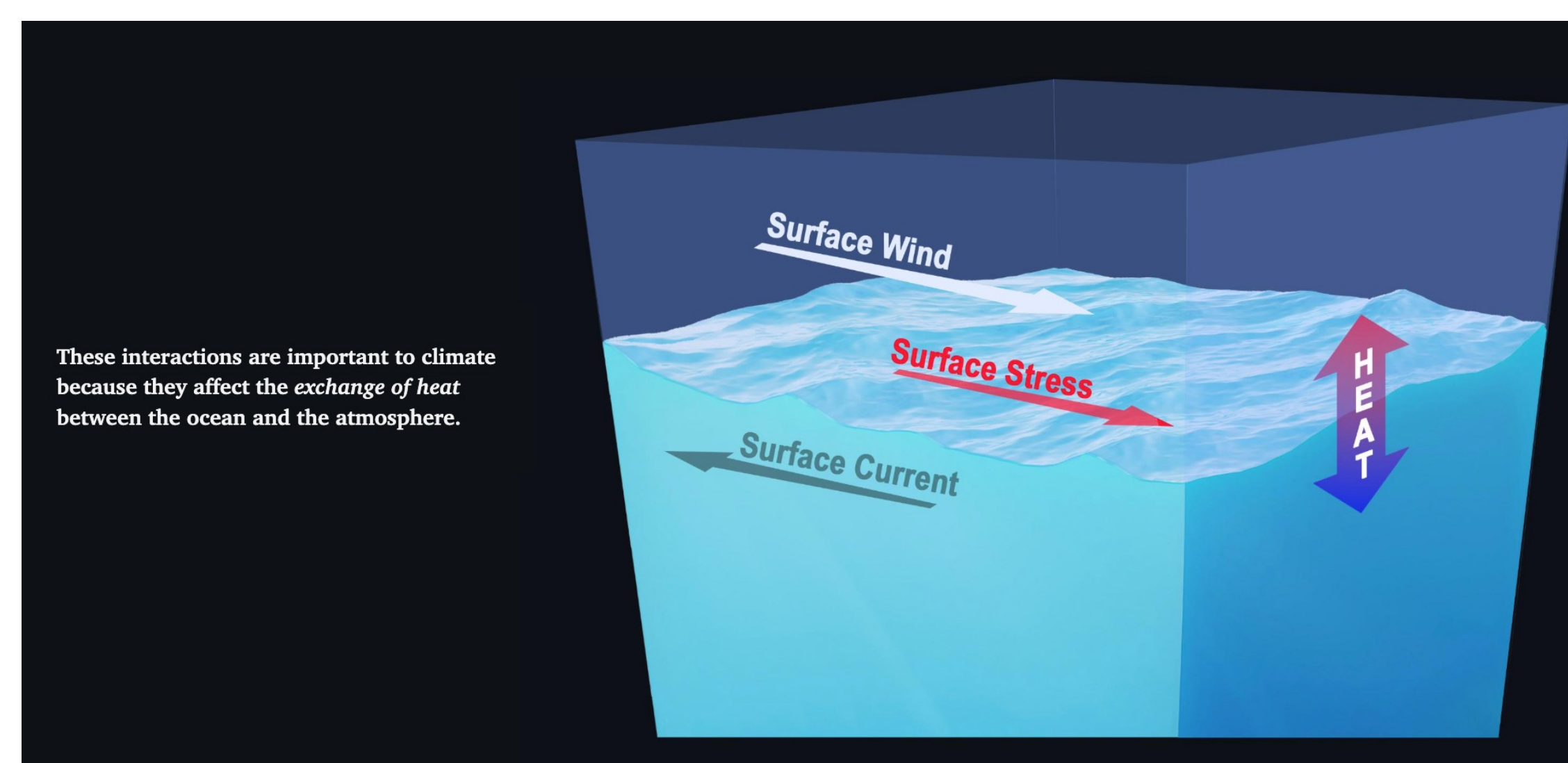
- **Contact us by email** to let us know you're interested (we can use your one-pager as a starting point)
- We will **create a first draft interactive StoryMap**, which usually takes a couple of weeks
- We will **add background information and context as needed** for lay audiences
- We will **reformat the figures** and probably ask for original versions
- We will **iterate content with you to get a final version published** on the *NASA Winds* website
- We will **send embed code** in case you want to add the interactive story to your own website

"This looks great! Wow!"

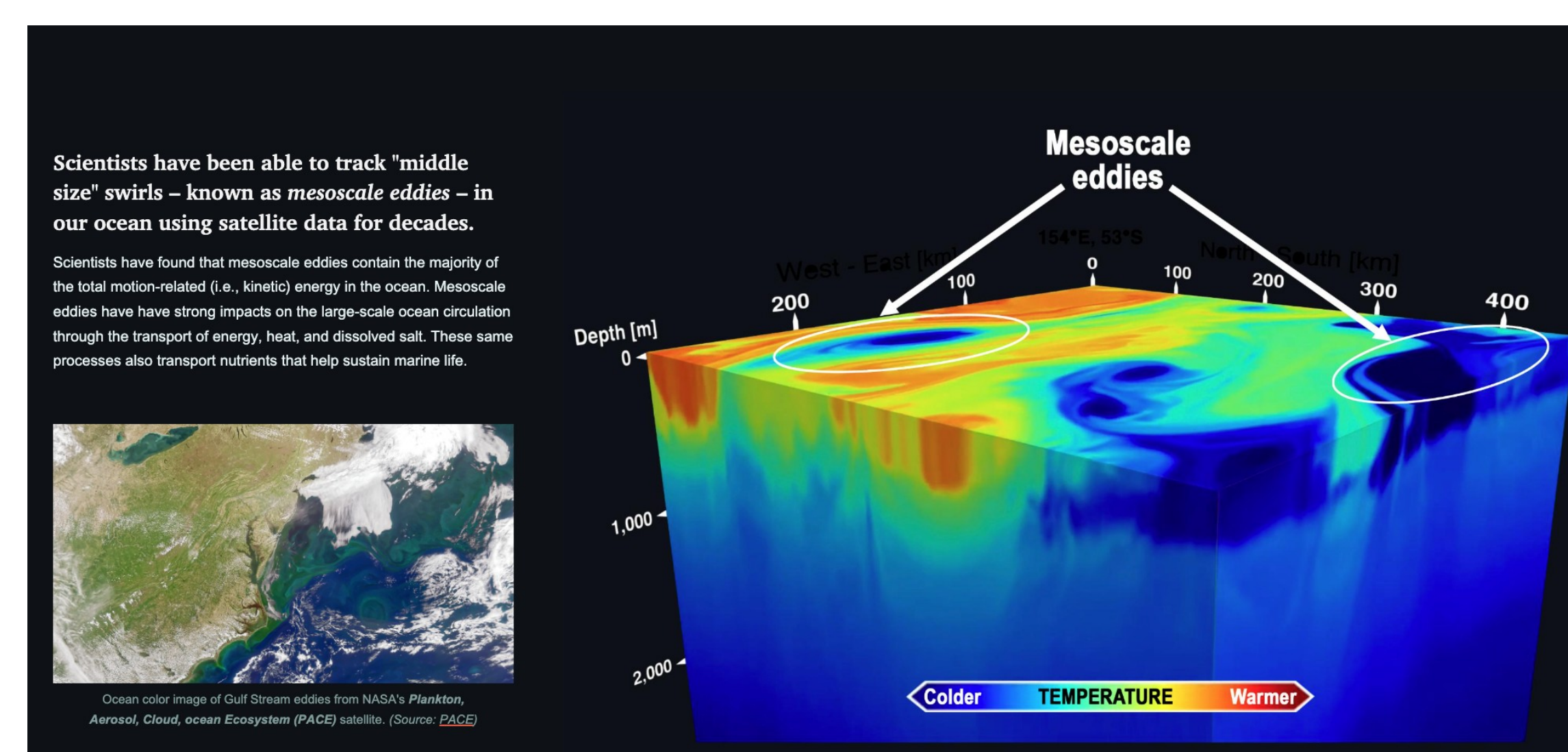
"You did a great job in writing an engaging story for the public."

"It has been very pleasant working with you!"

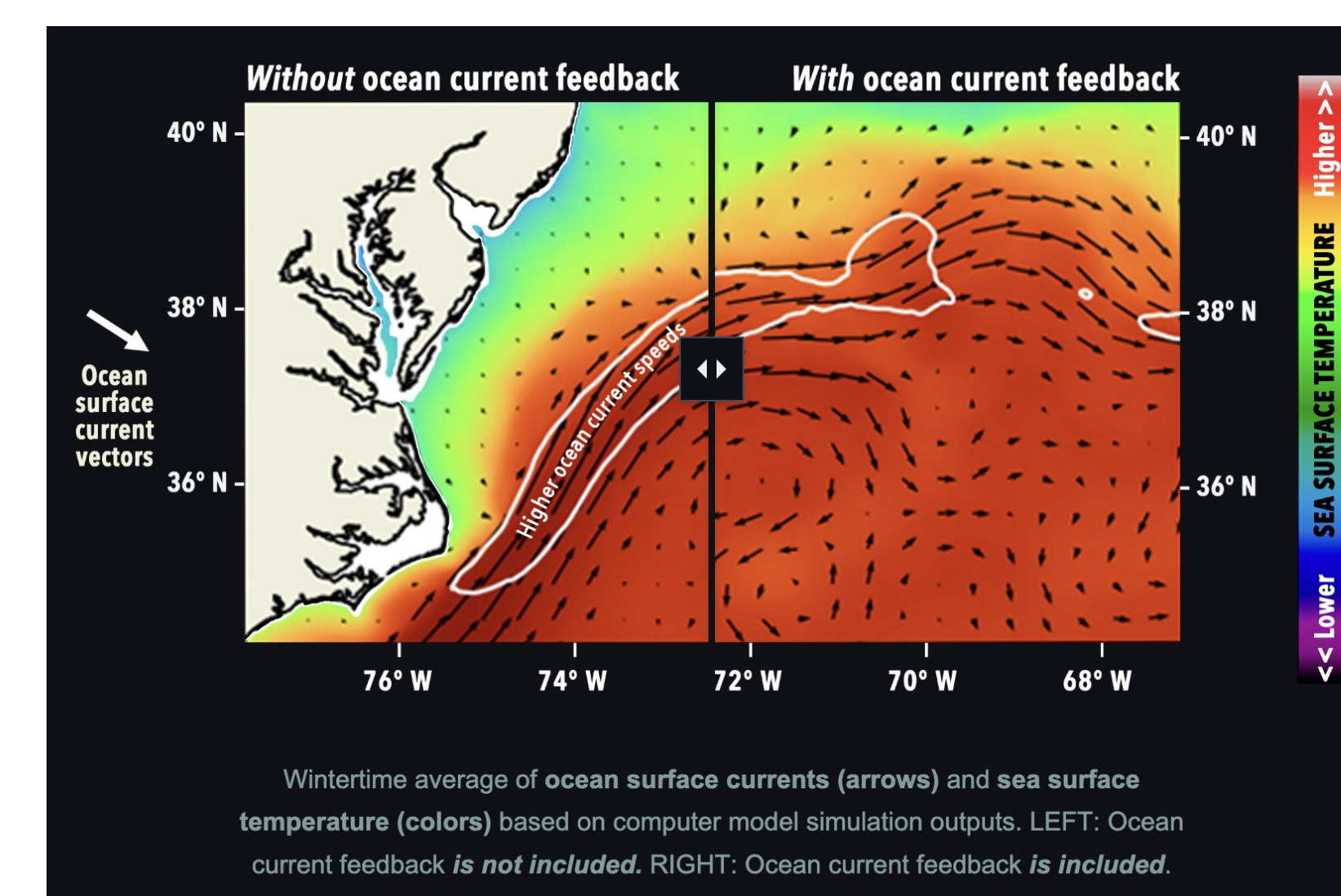
"Thank you for creating this amazing StoryMap! I'm excited to share this with my coworkers, friends, and family."



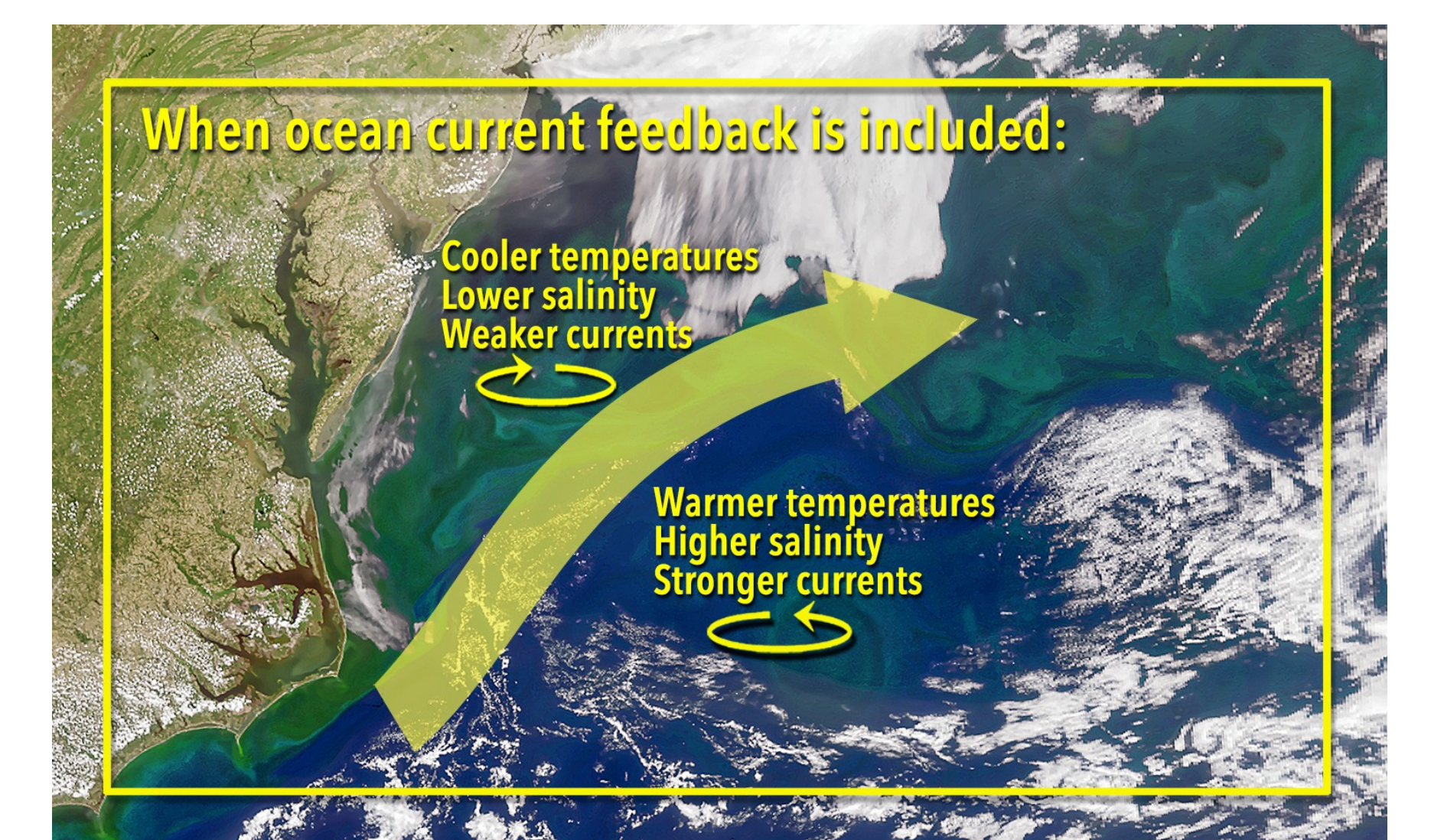
- ✓ Provide background information for lay audiences



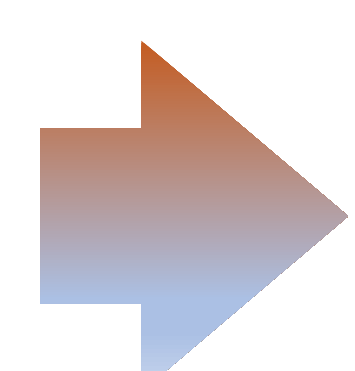
- ✓ Add context and ties to other remote sensing and modeling efforts



- ✓ Include interactive widgets such as left-right sliders

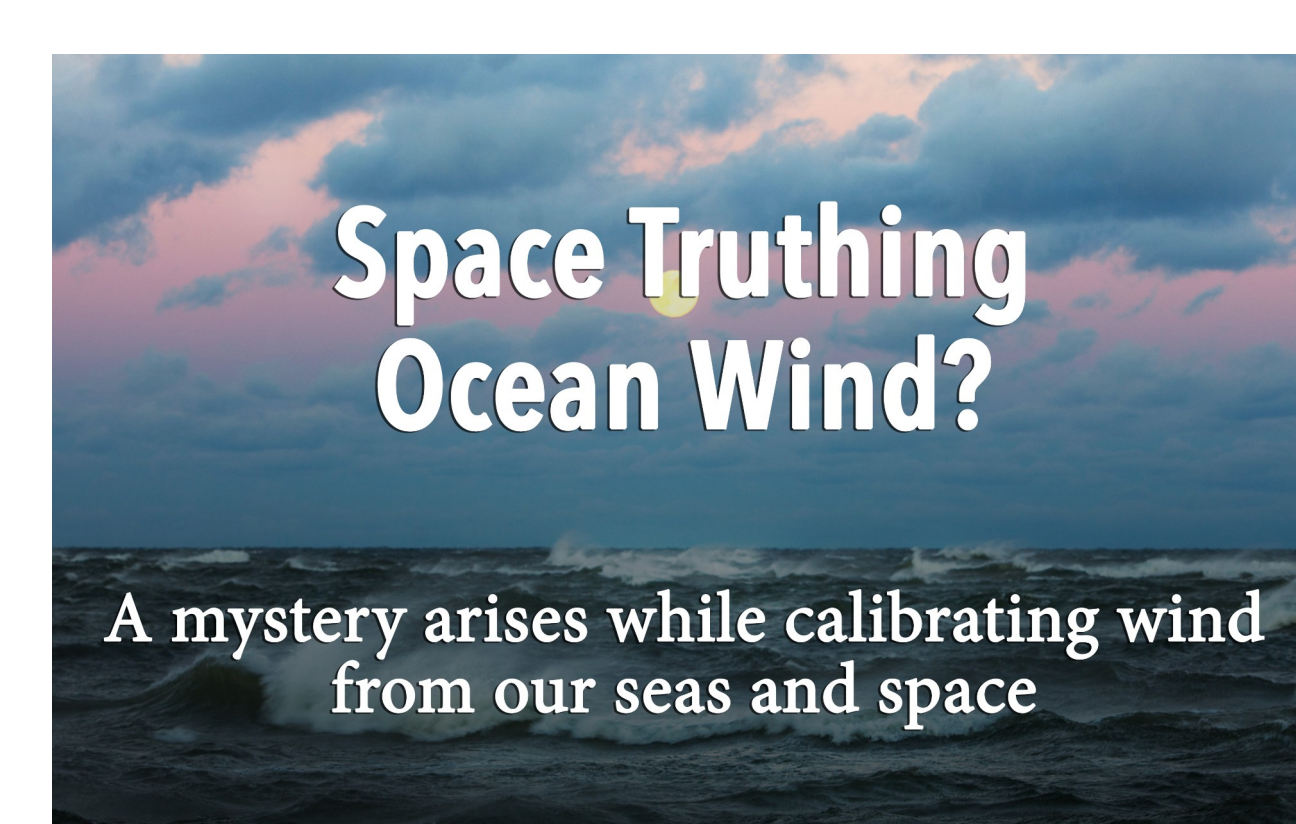
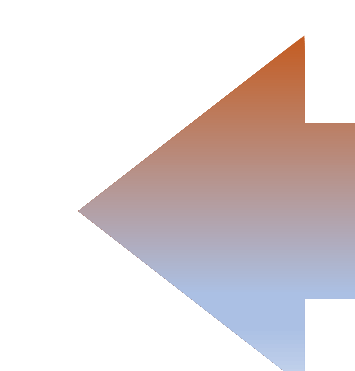


- ✓ Create eye-catching summary graphics & animations

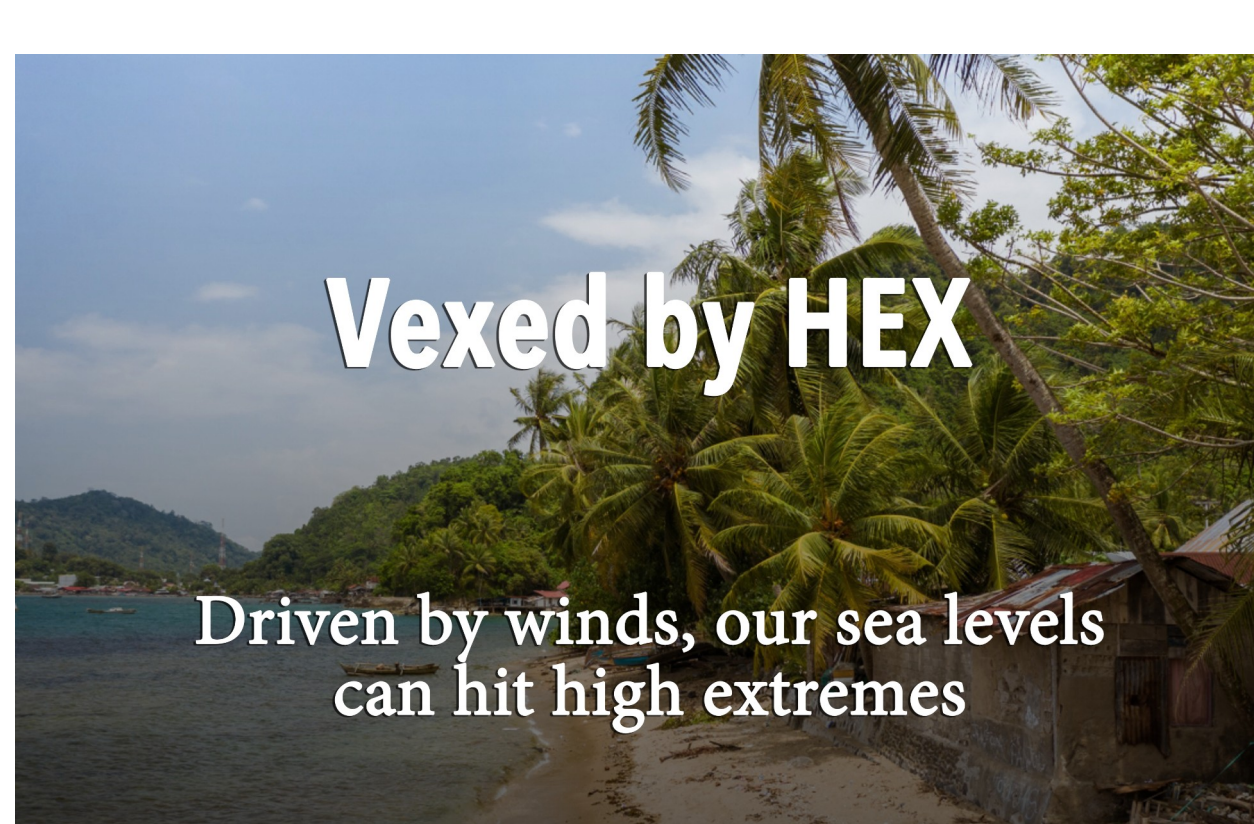


**Our interactive stories have been viewed 9500 times!**

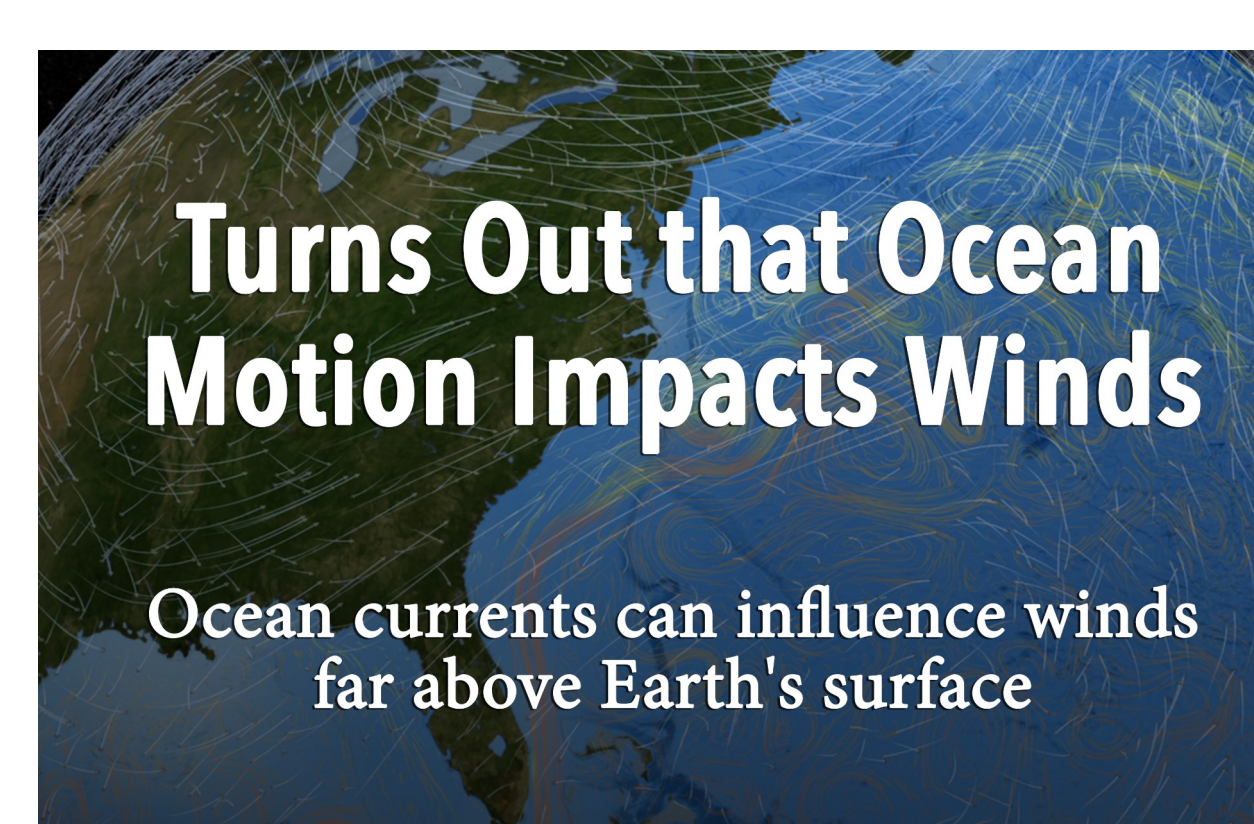
[nasawinds.org/science-overview.htm#stories](https://nasawinds.org/science-overview.htm#stories)



Based on Ricciardulli, L., Manaster, A. and Lindsley, R. (2025) *Investigation of a calibration change in the ocean surface wind measurements from the TAO buoy array*, Bull. Amer. Meteor. Soc., doi: 10.1175/BAMS-D-24-0072.1



Based on Kamp, W., Han, W., Zhang, L., Kido, S., and McCreary, J. (2024) *Tropical Atmospheric Intraseasonal Oscillations Leading to Sea Level Extremes in Coastal Indonesia during Recent Decades*, J. Clim., 37, 2867-2880, doi: 10.1175/JCLI-D-23-0374.s1



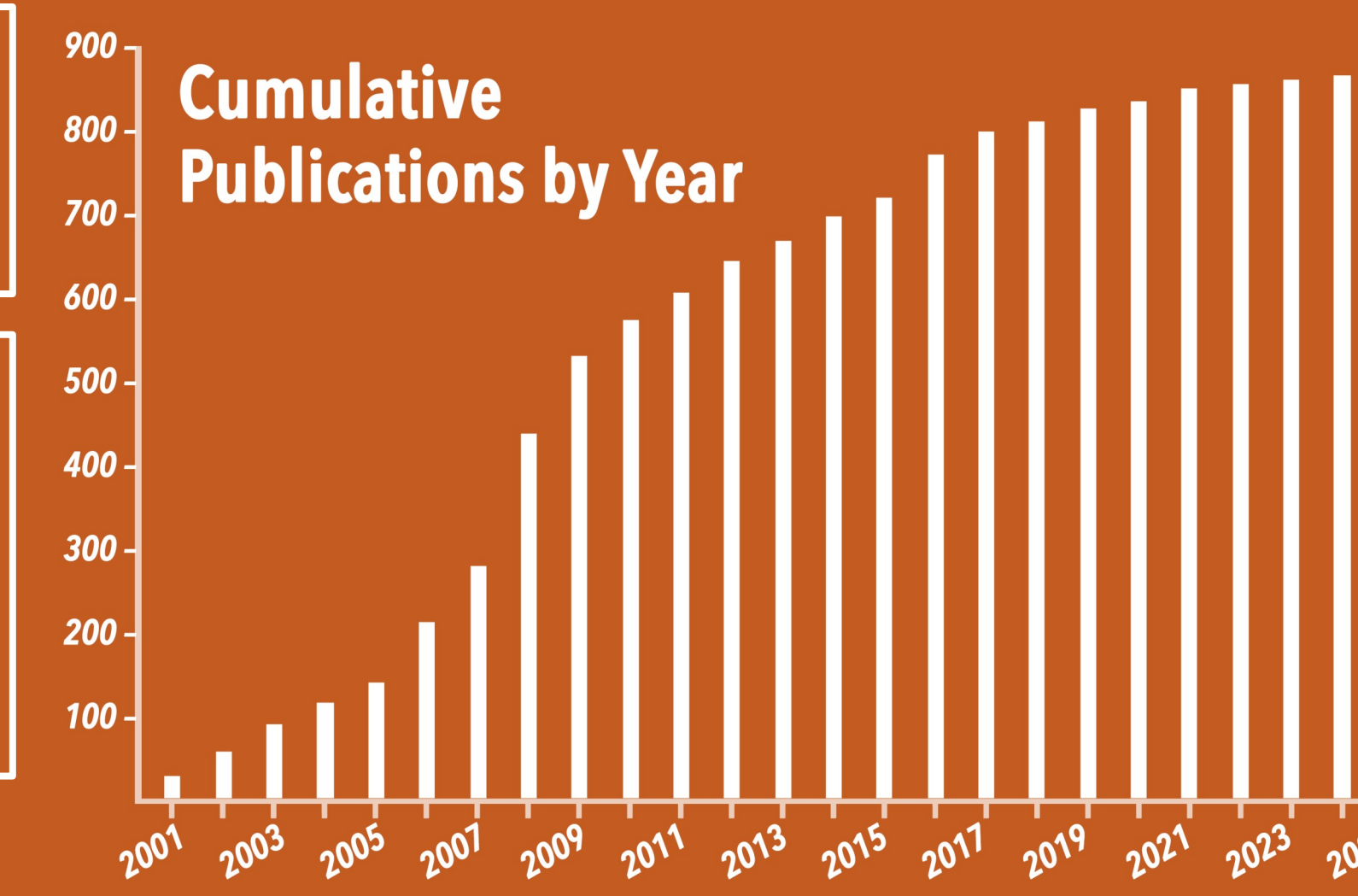
Based on May, J., and Bourassa, M. (2023) *Atmospheric Dynamic Response to Coupling Currents to Wind over the Gulf Stream*, Atmosphere, 14, 1216, doi: 10.3390/atmos1408121

## NASA Winds Website At-A-Glance

[nasawinds.org](https://nasawinds.org)

**16**  
ARCHIVED MEETINGS

**978**  
PRESENTATIONS  
Sortable by Author, Title or Session



**864**  
PUBLICATIONS  
Sortable by Author, Title or Year  
Filterable by Keyword

**10**  
RESEARCH ONE-PAGERS  
Looking to add more!

**10**  
STORIES  
Looking to add more!