

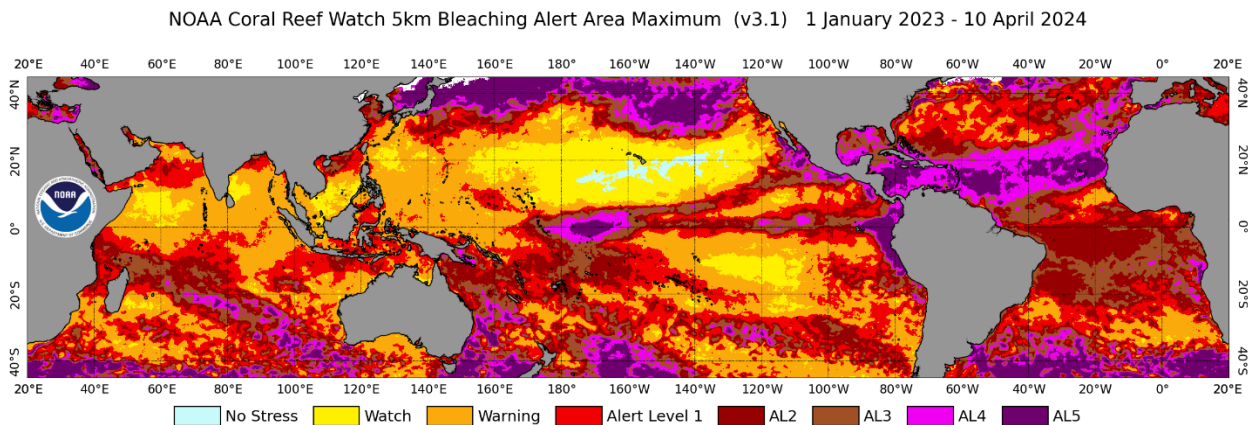
Weekly Report – April 19, 2024
Cooperative Institute for Satellite Earth System Studies (CISESS)
NOAA/NESDIS/STAR

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HIGHLIGHTS FOR NESDIS LEADERSHIP

NOAA Confirms 4th Global Coral Bleaching Event on Record. On April 15, 2024, NOAA [confirmed](#) the world has been experiencing a global coral bleaching event. Bleaching-level heat stress, as remotely monitored and predicted by [NOAA Coral Reef Watch \(CRW\)](#), has been – and continues to be – extensive across the Atlantic, Pacific and Indian Ocean basins.



NOAA Coral Reef Watch's global 5-km-resolution satellite Coral Bleaching Alert Area Maximum map, for January 1, 2023 to April 10, 2024. This figure shows the regions, around the globe, that experienced high levels of marine heat stress ([Bleaching Alert Levels 2-5](#)) that can cause reef-wide coral bleaching and mortality. (Image credit: NOAA).

Since early 2023, mass bleaching of coral reefs has been confirmed throughout the tropics, including in Florida; the Caribbean; Brazil; the eastern Tropical Pacific (including Mexico, El Salvador, Costa Rica, Panama, and Colombia); Australia's Great Barrier Reef; large areas of the South Pacific (including Fiji, Vanuatu, Tuvalu, Kiribati, the Samoas, and French Polynesia); the Red Sea (including the Gulf of Aqaba); the Persian Gulf; the Gulf of Aden; Tanzania; Kenya; Mauritius; the Seychelles; Tromelin; Mayotte; and off the western coast of Indonesia.

This is the fourth global coral bleaching event on record (following the 1998, 2010, and 2014-2017 global events), and the second in the last 10 years. The 2014-17 global event is considered the [longest, most widespread, and the most damaging coral bleaching event on record](#).

However, the ongoing global bleaching event is expected to surpass the extent and severity of the prior global event, in the weeks ahead, as the percentage of the world's coral reefs (i.e.,

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[satellite pixels containing coral reefs](#)), which have experienced bleaching-level heat stress, continues to increase.

Press coverage of NOAA's and associated partners' (including the [International Coral Reef Initiative \[ICRI\]](#)) announcements of the fourth global coral bleaching event has been substantial. As of April 17, the NOAA Coral Reef Watch (CRW) Coordinator, Dr. Derek Manzello, has interviewed or provided content for more than 30 news articles already, including those published by: [Reuters](#) (3 pieces), [The New York Times](#), [The Washington Post](#), [CNN](#), [NBC News](#), [CBS News](#), [FOX Weather](#), [WFLA News \(Channel 8\) – Tampa](#), [Inside Climate News](#), [Newsweek](#), [Mongabay](#), [Bloomberg](#), [AXIOS](#), [Grist](#), [The Guardian \(Australia\)](#), [Australian Broadcasting Corporation \[ABC\] \(Sydney\)](#), [ABC News Australia](#), the [BBC](#) (2 pieces), [The Times of London](#), [CBC-Radio Canada](#), [Truthout.org](#), and Al Jazeera English (which included an on-air interview and an [associated article](#)). Additionally, colleagues within the broader NOAA Coral Reef Conservation Program (CRCP) matrix (of which NOAA CRW is a part), in other Line Offices, and other NOAA colleagues not associated with the CRCP matrix, have been interviewed for pieces associated with the fourth global coral bleaching event and the work their programs are doing to support resilience-based management, restoration, and research on coral reefs in a rapidly warming world.

The NOAA press release confirming the 4th global coral bleaching event can be accessed [here](#). For more information, please contact NOAA Coral Reef Watch (coralreefwatch@noaa.gov) and visit the ICRI's "[Coral Bleaching Hub](#)". (POCs: Derek Manzello, derek.manzello@noaa.gov, Derek Manzello, derek.manzello@noaa.gov, 240-410-3371; Jacqueline De La Cour, jacqueline.shapo@noaa.gov, 301-683-3317).

(Jacqueline De La Cour, CISESS, jacqueline.shapo@noaa.gov, Funding: NOS)

This item was submitted in the SOCD Weekly Report.

TRAVEL AND MEETING REPORTS

CISESS Participation at the European Geosciences Union General Assembly, 14–19 April 2024, Vienna, Austria (and online)

Poster presentations (CISESS Scientists in bold)

- **Alexey Mishonov**, Dan Seidov, and James Reagan, "Multidecadal Variability of Ocean Climate and Circulation of the North Atlantic Ocean", <https://doi.org/10.5194/egusphere-egu24-2054>
- David Tobin, Joe Taylor, **Larrabee Strow**, Hank Revercomb, Graeme Martin, **Sergio DeSouza-Machado**, Jess Braun, Daniel DeSlover, Ray Garcia, Michelle Loveless, Robert

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Knuteson, **Howard Motteler**, Greg Quin, and William Roberts, “The Cross-track Infrared Sounder Level 1B Product: NASA’s Accurate and Stable Infrared Hyperspectral Radiance Record”, <https://doi.org/10.5194/egusphere-egu24-12167>

- Chantelle Burton, Stephen Plummer, Noah Liguori-Bills, Morgane Perron, Douglas Kelley, Miriam Morrill, Boris Vanni re, **Joanne Hall**, Stijn Hantson, Matthias Forkel, Christoph V lker, Kebonye Dintwe, Cristina Santin, Jessie Thoreson, Benjamin Poulter, Matthew Jones, and Douglas Hamilton, “The FLARE Workshop perspective on Fire’s Role in the Carbon Cycle”, <https://doi.org/10.5194/egusphere-egu24-17935>
- Noah Liguori-Bills, Morgane Perron, Stephen Plummer, Christoph Voelker, Boris Vanni re, **Joanne Hall**, Matthias Forkel, Kebonye Dintwe, Cristina Santin, Miriam Morrill, Jessie Thoreson, Benjamin Poulter, Matthew Jones, Douglas Kelley, Chantelle Burton, Stijn Hantson, and Douglas Hamilton, “The FLARE Workshop’s Future Directions for Defining Extreme Fire”, <https://doi.org/10.5194/egusphere-egu24-12863>

Oral presentations (CISESS Scientists in bold)

- Guido van der Werf, James Randerson, Dave van Wees, Yang Chen, Roland Vernooij, **Louis Giglio**, **Joanne Hall**, Douglas Morton, Kelley Barsanti and Bob Yokelson, “Burned area and fire emissions according to the fifth version of the Global Fire Emissions Database (GFED)”, <https://doi.org/10.5194/egusphere-egu24-10947>
- Otmar Olsina, Jennifer Hewson, Diane Davies, Asen Radov, Brad Quayle, **Louis Giglio**, and **Joanne Hall**, “NASA’s FIRMS: Enabling the Use of Earth System Science Data for Wildfire Management”, <https://doi.org/10.5194/egusphere-egu24-16475>
- **Kyle Duncan** and **Sinead Farrell**, “Annual Cycle of Antarctic Sea Ice Deformation from ICESat-2”, <https://doi.org/10.5194/egusphere-egu24-10502>
- **Sinead L. Farrell**, **Reint Fischer**, **Kyle Duncan**, Donghui Yi, John M. Kuhn, Eric Leuliette, and Laurence Connor, “Early Assessment of SWOT’s Swath-mapping Capabilities over Arctic Sea Ice”, <https://doi.org/10.5194/egusphere-egu24-13614>
- **Joseph Knisely**, **Jonathan Poterjoy**, Elizabeth Satterfield, and William Campbell, “Scalable Bias Correction Techniques Investigated with a Low-dimensional Dynamical Model”, <https://doi.org/10.5194/egusphere-egu24-13340>
- Satya Kalluri and **Changyong Cao**, “Calibration and Validation of Low Earth Orbit Observations from NOAA to Support Global Environmental Monitoring”, <https://doi.org/10.5194/egusphere-egu24-6427>

This item was submitted in the SMCD Weekly Report.

- Vijay Tallapragada, Jeffrey Whitaker, and **Jim Kinter**, “NOAA’s Unified Forecast System Research to Operations (UFS R2O) Project Phase II - Accomplishments, Progress and Future Plans”, <https://doi.org/10.5194/egusphere-egu24-2930>

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CISESS Participation at the 17th Specialist Meeting on Microwave Radiometry and Remote Sensing of the Environment, 8–11 April 2024, Alexandria, Virginia

Matthew Sammons, Alexandra Bringer, Flavio Iturbide-Sanchez, Edward Kim, Ninghai Sun, and **Hu (Tiger) Yang**, “NOAA Near Earth Orbit Network (NEON) Quicksounder Advanced Technology Microwave Sounder (ATMS)”

AWARDS AND HONORS

Maryland Research Excellence Celebration honors CISESS Scientist Veljko Petković



Dr. Veljko Petković of CISESS, UMD has been honored at the Maryland Research Excellence Celebration as a faculty who has demonstrably elevated the visibility and reputation of the University of Maryland Research. As an internationally recognized researcher in the remote sensing of precipitation, he received the recognition for his transformative research and the work that brought significant impact and advances to precipitation science at NASA and NOAA.

Veljko Petković (left) and Ralph Ferraro (right) at the University of Maryland Research Excellence Celebration. April 15, 2024

(Veljko Petkovic, CISESS, veljko@umd.edu; Funding: JSTAR GCOM, METOP-SG, HPCC)

CISESS Scientist Isaac Moradi receives the University of Maryland 2024 College of Computer, Mathematical, and Natural Sciences Distinguished Research Scientist Award

Dr. Isaac Moradi will be honored at the College of Computer, Mathematical, and Natural Sciences Awards Ceremony on April 19, 2024. This award recognizes the vital role played by research scientists in advancing the mission of the College.

(Adapted from the following article: <https://webhost.essic.umd.edu/isaac-moradi-receives-2024-cmns-distinguished-research-scientist-award/>)

(Isaac Moradi, CISESS, isaac.moradi@noaa.gov, Funding: JPSS PGRR)

(Maureen Cribb, CISESS, mcribb@umd.edu, Funding: Task I)