

Communicating science research



hashtag is #AGU16

Please use it!



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Today's update for GLOBE ENSO campaign:

La Niña WATCH cancelled



Communicating science research through poster or oral presentation at #AGU16



Abstract ID and Title: 187225: The impact of multi-decadal sub-surface circulation changes on sea surface chlorophyll patterns in the tropical Pacific Final Paper Number: OS43C-03 Presentation Type: Oral Session Date and Time: Thursday, 15 December 2016; 13:40 - 15:40 Presentation Length: 14:10 - 14:25 Session Number and Title: OS43C: Biogeochemistry and Ecosystems of Tropical Pacific and Upwelling Systems I Location: Moscone West; 3011

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Introduction – what is already known, what motivated this study Data used – how did you collect it or get it from another source Method – how did you analyze the data Results – data analysis and statistics Conclusions – what's significant about these findings within the broader picture

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Increasing awareness of the need to tell a story: ...and...but...therefore



Since continuous observations by ocean color satellites began in 1997, we have seen the impact of physical forcing upon ocean biology at seasonal to interannual scales (e.g. ENSO).



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AND



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BUT



Since continuous observations by ocean color satellites began in 1997, we have seen the impact of physical forcing upon ocean biology at seasonal to interannual scales (e.g. ENSO). Change in phytoplankton abundance has important implications for the marine food web and the ocean's role as a carbon sink. Slower, large-scale impacts on biology have not yet been quantified. Using closely correlated physical variables as proxies, we have reconstructed chloroptal over five decades in the tropical Pacific. We now see basin-wide changes in chlorophyll primarily associated with ENSO and also linked to slow changes in sub-surface circulation patterns.

THEREFORE



Since continuous observations by ocean color satellites began in 1997, we have seen the impact of physical forcing upon ocean biology at seasonal to interannual scales (e.g. ENSO). Change in phytoplankton abundance has important implications for the marine food web and the ocean's role as a carbon sink. Slower, large-scale impacts on biology have not yet been quantified. Using closely correlated physical variables as proxies, we have reconstructed chlorophyll over five decades in the tropical Pacific. We now see basin-wide changes in chlorophyll primarily associated with ENSO and also linked to slow changes in sub-surface circulation patterns.



Summary



- Humans are more receptive to stories than a list of facts
- Science communicated as a story is more 'sticky'.
- A few resources:



CORPERIA DEAN. am 1 making myself clear? SCIENTIST'S OUIDE TO TALLING TO THE PUBLIC



...and many more

Upcoming science research underway





A month-long campaign across the Pacific on the *R/V Falkor* will monitor the diversity of oceanic phytoplankton, microscopic plant-like organisms, and their impact on the marine carbon cycle. Novel measurements will be compared to satellite observations and used in the formulation of the upcoming Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission.

Sea to Space Particle Investigation

Citizen science connections: existing or in development



<u>Ocean biology</u> Hydrocolor app –monitors water quality, turbidity: <u>http://misclab.umeoce.maine.edu/research/HydroColor.php</u> NOAA phytoplankton monitoring network: volunteers monitor coastal waters: <u>https://products.coastalscience.noaa.gov/pmn/default.aspx</u> Eyeonwater app <u>–</u> to assess color, clarity and physiology of ulva (sea lettuce): <u>http://www.eyeonwater.org/</u>

<u>Aerosols</u> Sunphotometer <u>http://aeronet.gsfc.nasa.gov/new_web/maritime_aerosol_network.html</u>

<u>Clouds</u> GLOBE cloud app

Meteorology

Aerocats

http://www.iccarsproject.net/resources/remote-sensing-resources/nasaaerokats

Citizen science connections: existing or in development



Will attempt 1st shipboard use of Aerocats





90



Sea to Space Particle Investigation



Learn more about the expedition!

Jan 17: GLOBE webinar – Chief Scientist Ivona Cetinic Feb 1: 2pm EST shipboard webinar for students (45 min) Feb 6: *time TBD -* Facebook live on @NASAEarth Feb 15: 7pm EST shipboard webinar for educators







