



Plankton, Aerosol, Cloud, ocean Ecosystem Science and Applications Team

Agenda for Nov. 13 2020

Paper feature:

15 min. B.B. Cael: Paper: Information content of absorption spectra and implications for ocean color inversion.

PACE Simulated Data Presentations:

15 min. Hubert Loisel

15 min Bryan Franz

15 min. Patricia Castellanos

15 min. Pengwang Zhai

15 min. Bastian Van Dierenhoven

WELCOME to PACE SAT Meeting!

- PACE Update from Jeremy Werdell
- Images of instrument being built



CASUAL *FRIDAY* THE 13TH

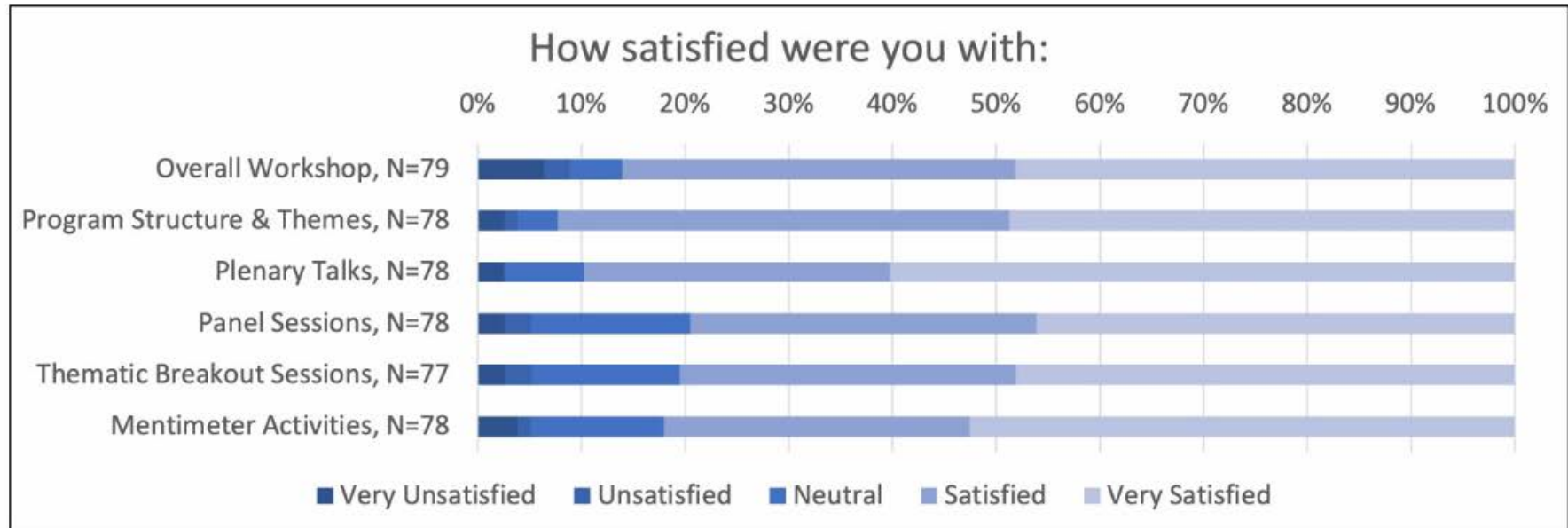


Joel Scott



ERIN URQUHART

Quantitative Results





Meeting Reports

- NASA's *The Earth Observer*
 - Comprehensive workshop report (~6000 words)
 - Tone: achieving programmatic and workshop objectives through strategic event activities
 - In press (Nov/Dec issue)
- TOS's *Oceanography*
 - Meeting highlight (~1100 words)
 - Tone: the importance of assessing community needs and considering user experience for applied research and workshop design
 - In review

Over Thirty Years Reporting on NASA's Earth Science Program

The Earth Observer

National Aeronautics and Space Administration 

July – August 2020, Volume 32, Issue 4

The Editor's Corner
Steve Platnick
EOS Senior Project Scientist

It is with deep sorrow that we report the passing of Michael ("Mike") Freilich, Former Director of NASA's Earth Science Division (ESD) from 2006 to 2019, on August 5, 2020. Mike was instrumental in moving forward the mission of the ESD during his tenure, with contributions ranging from programmatic advances to fostering the growth and development of many researchers and engineers and their respective scientific research and technology activities. His activities covered all the best parts of leadership, partnership, and membership. Mike's energies covered a broad range of activities beyond the professional, to the benefit of all with whom he came into contact.¹

Mike had great passion for NASA Earth Science, which was evident whenever he spoke about it. Whether he was in front of NASA's Hyperwall at a conference (see photo below and on page 20), speaking before a Senate sub-committee, meeting with international partners to discuss a new mission, or at the many other venues he found himself interacting with others as Director of ESD, Mike's energy and enthusiasm for what he did was always evident—and often made a lasting impression on his colleagues. His enthusiasm and passion for our planet was evident in the remarks he made for the fiftieth anniversary of Earth Day just a few months before his passing (<https://www.nasa.gov/feature/458621main-earth-day-2018>).

The ongoing successes of NASA's Earth Science program, which *The Earth Observer* has been chronicling for over three decades, are part of Mike's legacy. Our team here at the Science Support Office specifically wishes to recognize Mike's encouragement for the continuation activities of the office—including *The Earth Observer*. His passing is a tremendous professional and personal loss to many—and he will be missed.

¹To learn more about Mike Freilich's life and legacy, see "Symposium on Earth Science and Applications from Space with Special Guest Michael Freilich," in the March–April 2020 issue of *The Earth Observer* (Volume 32, Issue 2, pp.4–18—<https://doi.org/10.1029/2019eo006401>).

continued on page 2



Michael ("Mike") Freilich, Former Director of NASA's Earth Science Division (ESD) from 2006 to 2019, passed away on August 5, 2020. Mike loved NASA Earth Science, which was evident whenever and wherever he spoke about it. He loved to tell the stories of NASA Earth Science and was extremely supportive of the division's communication activities. This photo of Mike was taken during NASA's Earth Day 2018 celebration at Union Station in Washington, DC, while he was waiting to give opening remarks in front of the Hyperwall. Photo credit: NASA.

www.nasa.gov

- Meetings moving to quarterly!



Survey on Radiometric Products

- Could you please share the link below with your email-lists subscribers. It concerns radiometric products for the upcoming PACE mission that may be of interest to your constituency (should interest, among many others, scientists engaged in IPCC modeling to those interested in in-situ rates of photo-oxidation and warming).
- https://docs.google.com/forms/d/e/1FAIpQLSf3rmVXuEkPIp4X8GdYTKRBdWclWJuLAKNGPL_p5RZaC5weAQ/viewform?usp=sf_link
- Open until end of November!

OTHER RECENT OR UPCOMING

Spaceborne Imaging Spectrometers

Sensor	Agency	Launch
1. DESIS*	(DLR)	(2017)
2. EnMAP	(DLR)	(2022?)
3. PRISMA	(ASI)	(2019)
4. EMIT*	(NASA/JPL)	(2022)
5. HISUI*	(Japan/METI)	(2019)
6. SHALOM	(ISA/ASI)	(2022)
7. CHIME	(ESA)	(2026?)
8. ARCSTONE	(NASA)	(2025?)
9. AquaWatch	(ASA)	(202x)

* - on ISS

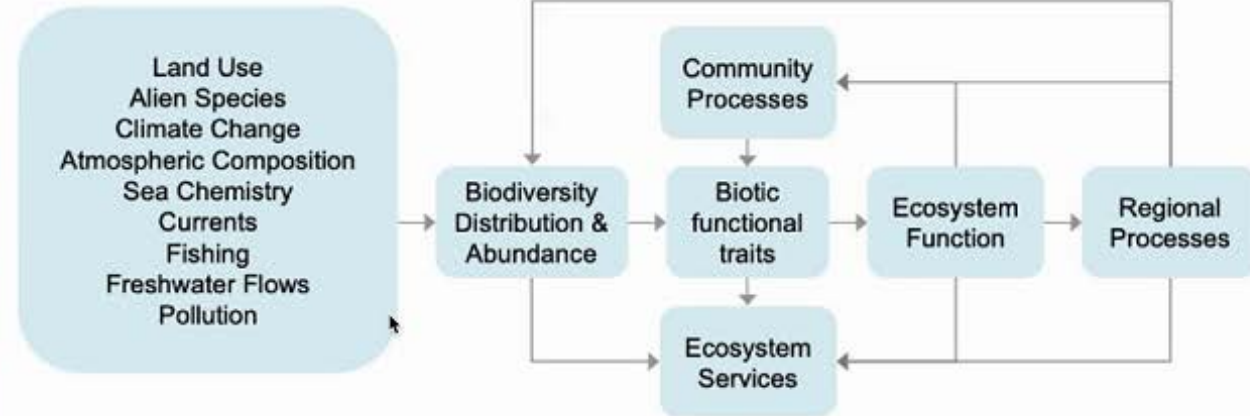
Airborne Spectrometer Missions (NASA)

1. C-HARRIER
2. BioSCape (AVIRIS-NG, PRISM, HyTES, LVIS)
3. CORAL (PRISM)
4. Air-LUSI
5. GLiHT

ROSES Call for Campaign Science PI's in 2021



NASA's *first biodiversity-focused airborne campaign:*
Biodiversity Survey of the Cape (BioSCape)



Research Themes

- Distribution and abundance of biodiversity
- Role of biodiversity in ecosystem functions
- Feedbacks between global change, biodiversity change, and ecosystem services





<https://bioscape.wilsonlab.io/home>



Adam M. Wilson
Terrestrial Science
Lead
University at Buffalo



Erin Hestir
Marine Science
Lead
UC Merced



Henry Frye
University of



Jasper Slingsby
South African



Glenn Moncrieff
South African

 **frontiers**
in Marine Science

ORIGINAL RESEARCH
published: 14 February 2020
doi: 10.3389/fmars.2020.00061

PACE Early Adopter



Marié Smith
Earth Observation Re
**Hyperspectral sate
marine industries**

Satellite Ocean Color Based Harmful Algal Bloom Indicators for Aquaculture Decision Support in the Southern Benguela

Marié E. Smith^{1} and Stewart Bernard^{1,2}*

¹ Earth Observation, CSIR, Cape Town, South Africa, ² Department of Oceanography, University of Cape Town, Cape Town, South Africa

OPEN ACCESS

Edited by:
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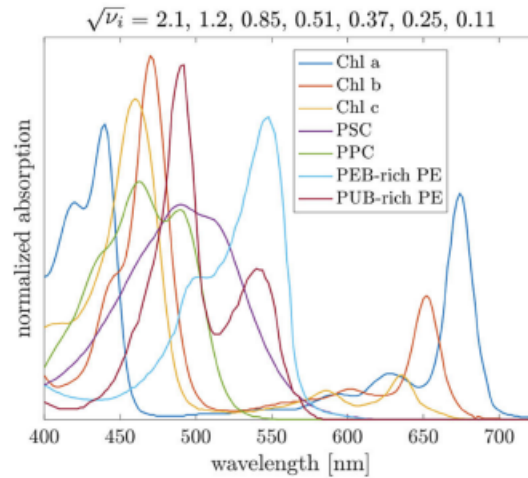
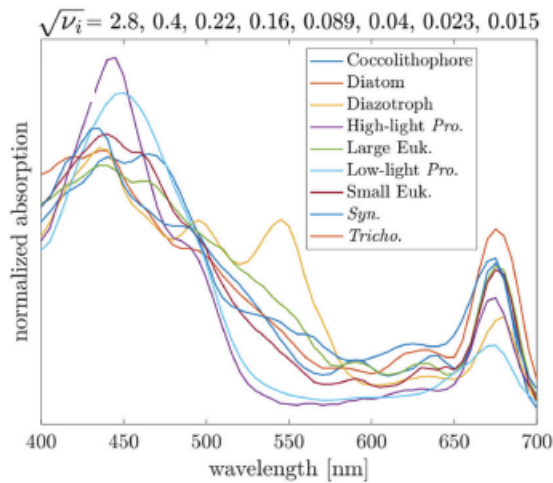
The aquaculture industry of southern Africa faces environmental threats from harmful algal blooms (HABs), which have the potential to cause devastating economic losses (Pitcher et al., 2019). Satellite earth observation offers a systematic and cost effective method for operational monitoring of HABs over large areas. Whilst the chlorophyll-a concentration ([Chl-a]) product, often used as a proxy for phytoplankton biomass, can

Information content of absorption spectra and implications for ocean color inversion

B. B. Cael, Alison P. Chase, & Emmanuel Boss

13 nov 20

PACE Science Team Meeting



**National
Oceanography
Centre**



Natural
Environment
Research Council





Synthetic Data Presentations

- Hubert Loisel
- Bryan Franz
- Patricia Castellanos

Synthetic Datasets

VanDiedenhoven	Synthetic Cloud Data .pdf	12/11/2020
Zhai	PACE Simulator .pdf	12/11/2020
Loisel	Synthetic Water Column Data .pdf	11/13/2020
Castellanos	GMAO Synthetic Data .pdf	11/13/2020

[Edit](#)