



# International Ocean Colour Coordinating Group (IOCCCG) **Summary · July 2024 – June 2025**

SCOR Annual Meeting 2025 · Santa Marta, Colombia & Online

Shubha Sathyendranath, IOCCCG Chair  
Raisha Lovindeer, IOCCCG Project Coordinator



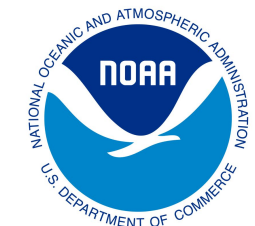
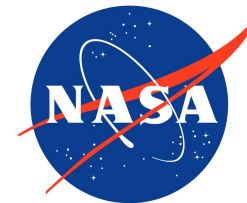
## Affiliated with



SCOR Affiliate Programme  
CEOS Associate Member

## Sponsored by

Canada



## Convenor



IOCS Meeting Coordinator

# 29th IOCCG Committee Meeting & Rotations

Online | 14 - 16 April 2025

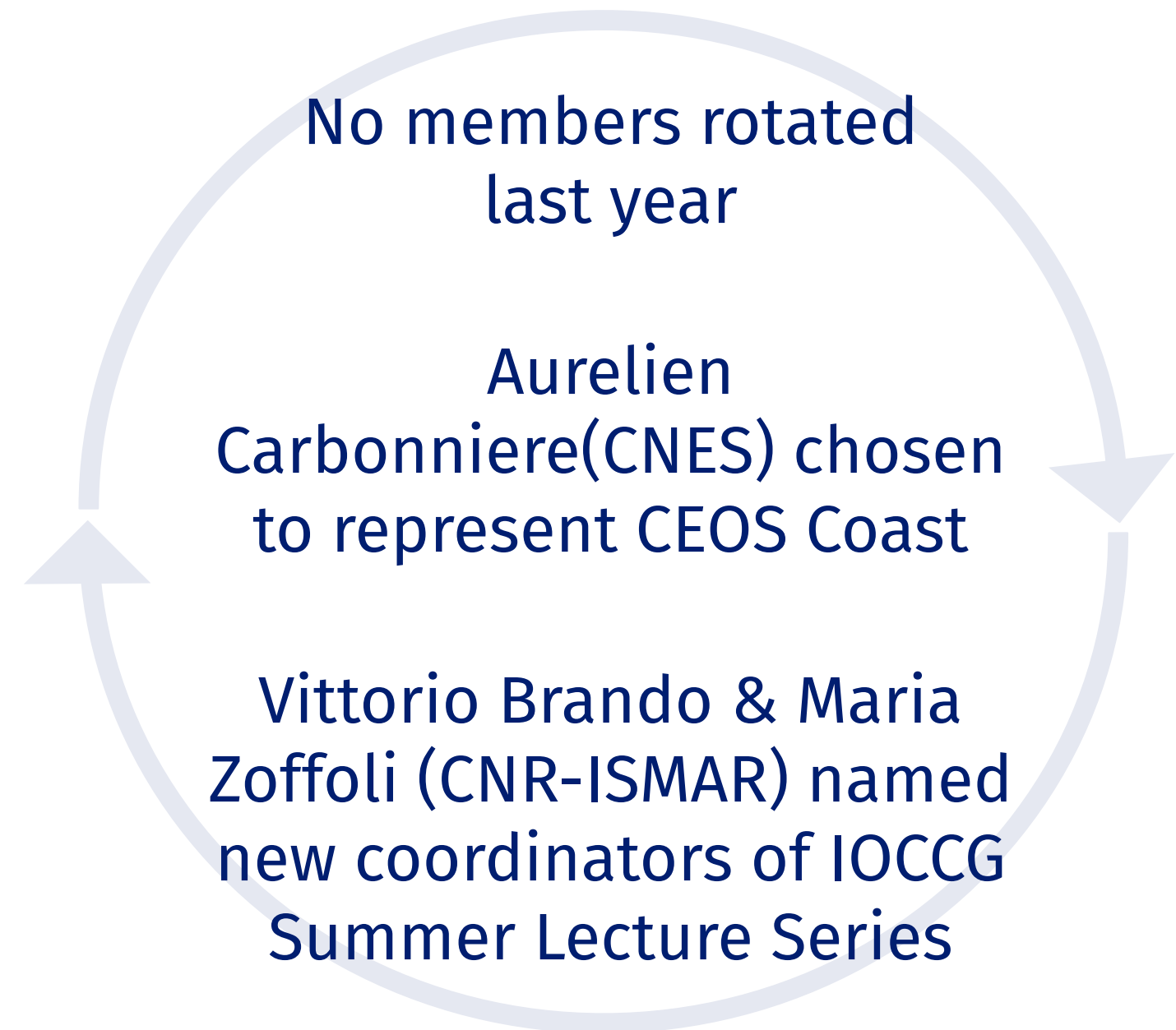


**Current chair**

Dr. Shubha Sathyendranath  
Plymouth Marine Lab, UK

- 27 members from the ocean colour community from Argentina, Australia, Brazil, Canada, China, India, Japan, South Korea, USA, UK, France, Germany, Italy, and the wider European Union.
- Priority for synergies across all waters, especially within CEOS

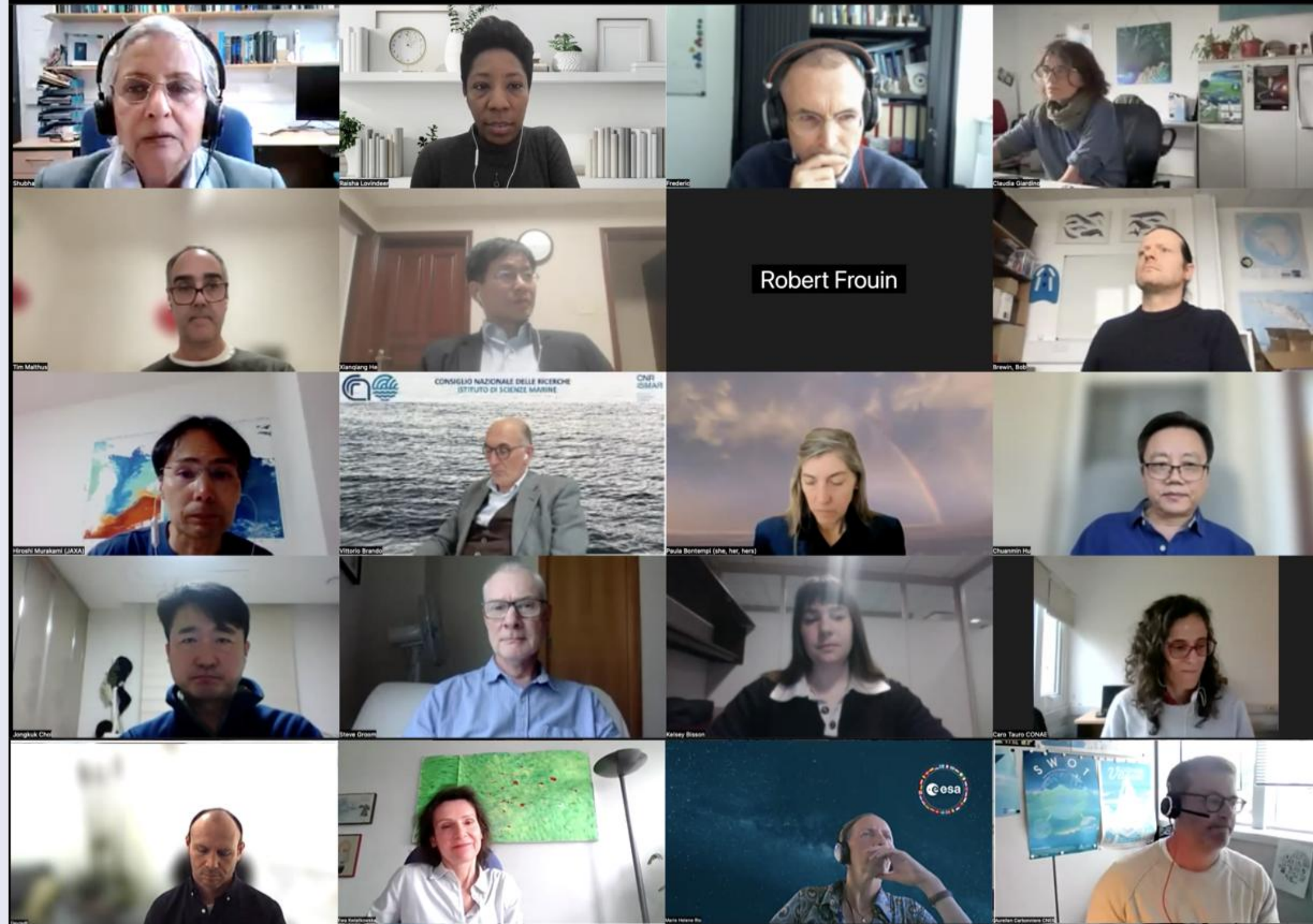
IOCCG Committee Member rotations →



# 29th IOCCG Committee Meeting Highlights

Online | 14 - 16 April 2025

- Discussion on long-term time series ocean colour data products
- Advancing aquatic carbon roadmap & other CEOS initiatives
- Assisting the SabiaMAR ocean colour mission in South America
- Full minutes available online [ioccg.org/what-we-do/committee-meetings](https://ioccg.org/what-we-do/committee-meetings)



29th IOCCG Committee Meeting, 2025  
Selection of participants online →



# Outreach & Capacity-Building Accomplishments

# 6th IOCCG Lecture Series

4 - 16 November 2024, hosted by INCOIS in India

- Biennial 2-week advanced training course on the fundamentals of ocean optics, bio-optics and ocean colour remote sensing to help produce future leaders in the field.
- Local coordinator Dr. Nimit Kumar
- 28 participated for 2024.



- Full report of the training is available at [ioccg.org/what-we-do/training-and-education/reports-of-past-ioccg-training-courses-workshops](https://ioccg.org/what-we-do/training-and-education/reports-of-past-ioccg-training-courses-workshops)

Location of the 2024 Lecture Series →



# IOCCG Support to the ESA Ocean Synergy Training Course, April - June, 2025

Part of the One Ocean Expedition—a scientific and educational voyage around the Northern Hemisphere oceans aboard the tall ship Statsraad Lehmkuhl, the training was conducted on the leg from Tromø, Norway to Nice, France.

IOCCG facilitated participation for 8 non-EU participants.

Photo provided by IOCCG-sponsored participant Alba Guzmán-Morales →



# IOCCG Platt Scholarship

2026 applications open until 12 November

USD \$5000 awarded to a student / scholar from a developing country to conduct hands-on research or receive in-depth training in ocean colour at a foreign institution for up to 3 months.



Our 2025 awardee →



**R Chandra Sekhar Naik**  
**India**

Completed Advancing marine optics & remote sensing training in the USA at Lamont Doherty Earth Observatory (LDEO) and NASA Goddard Space Flight Center with Joaquim Goes and Antonio Mannino.

Will present scholarship work at the 2026 Ocean Sciences Meeting, Glasgow, Scotland.

# IOCCG Platt Scholarship

2026 applications open until 12 November

USD \$5000 awarded to a student / scholar from a developing country to conduct hands-on research or receive in-depth training in ocean colour at a foreign institution for up to 3 months.



[Update on 2024 awardee →](#)



**2024 IOCCG Platt Scholar  
Hellen Joseph Kizenga**

**Tanzania**

Conducted research at the Bedford Institute of Oceanography on *Seasonal and interannual variability in phytoplankton biomass and phenology (bloom timing) along the Tanzanian waters using ocean colour sensors* with Emmanuel Devred.

Will present scholarship work at the 2025 International Ocean Colour Science Meeting, Darmstadt, Germany





# Scientific Accomplishments

# CEOS ARD Aquatic Reflectance Product Family Specification, v2.0

IOCCG (through the CEOS Ocean Colour Radiometry Virtual Constellation) contributed to, and endorsed, Version 2 of the CEOS Analysis Ready Data Aquatic Reflectance Product Family Specification, which now includes specification for the open ocean as well as coasts.

*“CEOS Analysis Ready Data (CEOS-ARD) Product Family Specifications (PFS) are a suite of documents that detail minimum requirements for ‘analysis ready’ satellite Earth observation data across various domains.”*

CEOS-ARD Product  
Family Specification

## Aquatic Reflectance

Version 2.0  
May 2025



# System Vicarious Calibration (SVC) for Climate and Global Long-Term Operational Ocean Color Applications

- Published *Bulletin of the American Meteorological Society (BAMS)* in February 2025 by the chairs of the IOCCG Task Force on System Vicarious Calibration
- Outlines and emphasizes the essential need for long-term sustained SVC infrastructures and associated services.
- Summarizes the primary requirements for establishing a comprehensive ocean colour SVC framework.

## System Vicarious Calibration for Climate and Global Long-Term Operational Ocean Color Applications

Giuseppe Zibordi,<sup>a,b</sup> B. Carol Johnson,<sup>c</sup> Ewa Kwiatkowska,<sup>d</sup> Kenneth J. Voss,<sup>e</sup> David Antoine,<sup>f,g</sup> Andrew Barnard,<sup>h</sup> Brian B. Barnes,<sup>i</sup> Frédéric Mélin,<sup>j</sup> Menghua Wang,<sup>k</sup> Agnieszka Bialek,<sup>l</sup> Sean Bailey,<sup>a</sup> and Shuguo Chen<sup>m</sup>

**KEYWORDS:**  
Climate change;  
In situ oceanic  
observations;  
Satellite  
observations

**ABSTRACT:** System vicarious calibration (SVC) enhances the accuracy of satellite ocean color radiometric data products by removing the bias due to the intrinsic inaccuracies affecting both the responsivity of the space sensor and the correction for the atmospheric and sea surface contributions to the measured signal. Various SVC procedures have been implemented and applied for regional studies, specific mission goals, and the most challenging quantification of global long-term climate-driven changes that require accurate and consistent data products across multiple missions. This paper summarizes the outcome of a workshop organized by the ocean color SVC task force of the International Ocean Color Coordinating Group (IOCCG) to review requirements for SVC supporting ocean color missions for climate and global long-term operational applications. The work emphasizes the essential need for long-term sustained SVC infrastructures and associated services, summarizes the primary requirements for establishing a comprehensive ocean color SVC framework, and provides directions for new investigations to tackle arising needs on SVC advancements and methods.

**SIGNIFICANCE STATEMENT:** System vicarious calibration is the process applied to satellite ocean color missions to achieve the required accuracy over time for data products targeting climate and global long-term operational applications. This process requires access to dedicated long-term marine infrastructures and services to sustain the creation of consistent multimission time series. Aiming at unifying system vicarious calibration across missions managed by independent space agencies, this work streamlines the requirements for establishing the necessary infrastructures and services, standardizing the methods, and providing guidance to new advancements as well as maintaining current capabilities to enable steady linkage to historical satellite ocean color missions.

DOI: 10.1175/BAMS-D-24-0085.1

Corresponding author: Giuseppe Zibordi, giuseppe.zibordi@eoscience.eu

Manuscript received 18 March 2024, in final form 25 November 2024, accepted 20 December 2024

© 2025 American Meteorological Society. This published article is licensed under the terms of the default AMS reuse license. For information regarding reuse of this content and general copyright information, consult the AMS Copyright Policy ([www.ametsoc.org/PUBSReuseLicenses](http://www.ametsoc.org/PUBSReuseLicenses)).

# New IOCCG Task Force on Harmonizing Global Ocean Colour Products for Long-Term Climate and Ecosystem Monitoring

- To fill the need for multi-sensor, long-term time series of ocean-colour products.
- Arises from the need to blend multiple sensors to create time series that are longer than the life-span of individual sensors for a variety of applications.
- Aims to provide optimal technology and the best multi-sensor time series products to the community.

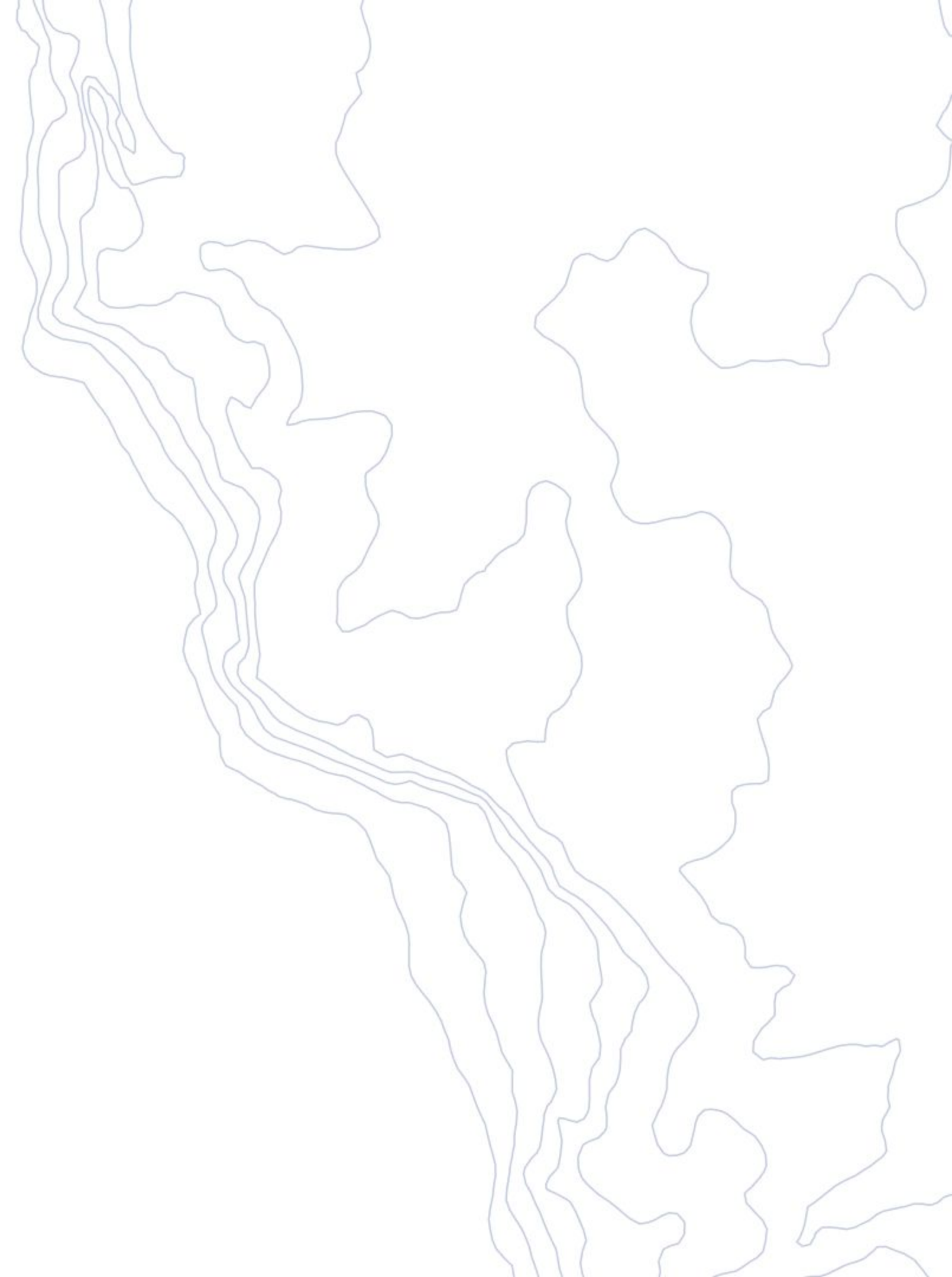




# Plans for Scientific Development & Implementation

# Current IOCCG Working Groups

- **Intercomparison of atmospheric correction algorithms over optically-complex waters**  
*ioccg.org/group/atm-corr*  
established 2014 → draft in publication
- **Conducting benthic reflectance measurements**  
*ioccg.org/group/benthic*  
established 2020 → draft in compilation
- **Ocean primary production from space**  
*ioccg.org/group/oceanpp*  
established 2023
- **Classification of optical water types in aquatic radiometry**  
*ioccg.org/group/owt*  
established 2023
- **Lidar for ocean applications**  
*ioccg.org/group/lidar/*  
established 2025





# International Ocean Colour Science Meeting 2025

- 1 - 5 December 2025, Darmstadt, Germany
- Hosted by ESA & EUMETSAT
- Theme: “*Ocean Colour: serving Earth system science & our society*”
  - >230 Poster abstracts on ocean colour science and application to ocean carbon & climate, biodiversity, water quality
- Training sessions
  - Processing in-situ data
  - LIDAR for ocean colour applications



# Multi-Sensor Satellite Ocean Colour Course, 7–11 December

- EUMETSAT, in partnership with the IOCCG
- highly interactive advanced training in key aspects of satellite ocean colour, including atmospheric correction, bio-optical algorithm selection, product quality, validation and multi-sensor synergy.
- supported by Copernicus Sentinel-3 OLCI, NASA PACE OCI and Copernicus Sentinel-2 MSI experts

<https://classroom.eumetsat.int/course>

Training venue →



# 7th IOCCG Summer Lecture Series

July 2026, hosted by CNR-ISMAR in partnership with the Venice International University (VIU), Italy

- Biennial 2-week advanced training course on the fundamentals of ocean optics, bio-optics and ocean colour remote sensing.
- Applications open in early 2026.
- All information about the course and the application process is available on the IOCCG website.

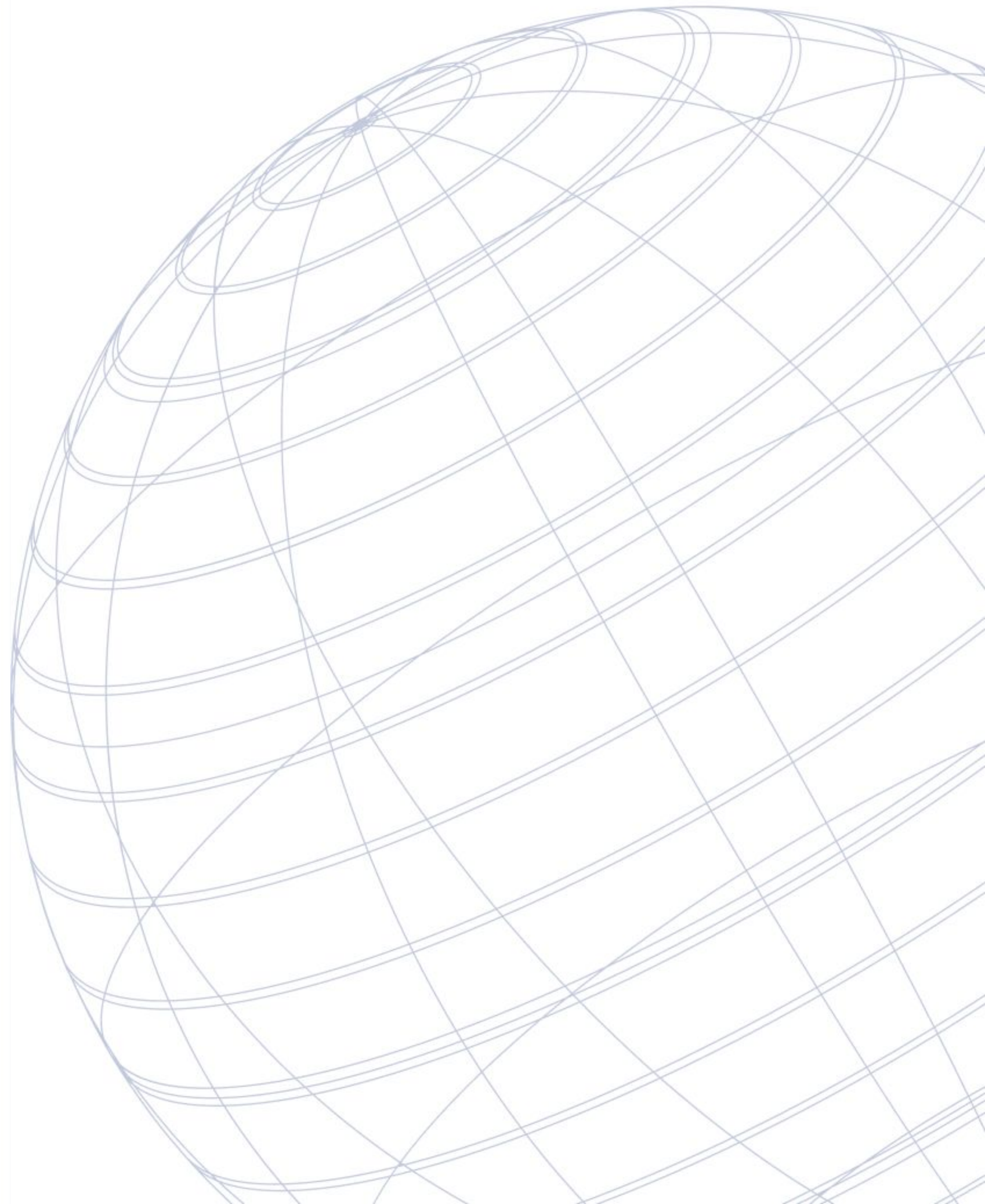
[ioccg.org/what-we-do/training-and-education/ioccg-sls/](https://ioccg.org/what-we-do/training-and-education/ioccg-sls/)

Location of the 2026 SLS →



# On-going activities

- Active NASA grant with SCOR (2023-2026) for continued activities of working groups and task forces
- CEOS Aquatic Carbon Roadmap
- Open call for 2026 IOCCG Platt Scholarship
- Symposium with Japanese ocean colour community at IOCCG-30 Committee meeting in Tokyo, Japan in 2026.
- Training course in conjunction with the Trends Reflection Evolution & Vision in Ocean Research (TREVOR) Symposium, Hyderabad & Kochi, India, November 2026



# Communication Channels

## Quarterly news bulletins

[ioccg.org/news](http://ioccg.org/news)

- News from IOCCG, sponsoring agencies, SCOR, and the community
- Upcoming events
- Released Feb, May, Aug, & Nov annually

## Our mailing list

[ioccg.org/news/subscribe-ioccg-mailing-list](http://ioccg.org/news/subscribe-ioccg-mailing-list)

- Official communications from the IOCCG Project Office
- Community announcements

## Our websites

[ioccg.org](http://ioccg.org)

- Training & education resources
- Committee meeting minutes
- IOCCG scientific reports, protocols, & task force white papers
- Employment and funding opportunities
- Ocean colour bibliography

[iocs.ioccg.org](http://iocs.ioccg.org)

- Community recommendations for advancing ocean colour science
- Past IOCS meeting proceedings, presentations, and documents



### **IOCCG Chair**

Shubha Sathyendranath (ssat@pml.ac.uk)

### **IOCCG Project Office**

Raisha Lovindeer (raisha@ioccg.org)

### **Other ways to stay in touch**

[ioccg.org/news/subscribe-ioccg-mailing-list](https://ioccg.org/news/subscribe-ioccg-mailing-list)

[ioccg.org](https://ioccg.org) • [iocs.ioccg.org](https://iocs.ioccg.org)