

IOCCG WG on lidar for ocean applications

Cédric Jamet, P. Chen and D. Dionisi
IOCCG Committee Meeting 30
20 May 2026

Current membership

- Kelsey Bisson, NASA HQ, USA
- Peng Chen, SEOD/SIO, China
- Brian Collister, NASA Langley, USA
- Davide Dionisi, CNR, Italy,
- Paolo Di Girolamo, Universita di Basilicata, Italy
- Cédric Jamet, LOG, France
- Xiaomei Lu, NASA Langley, USA
- Iwona Stachlewska, Warsaw University, Poland
- Siqi Zhang, SEOD/SIO, China
- Yudi Zhou, Zhejiang University, China

Activities

- Kick-off Meeting
 - 12 January 2026
 - Discussion about Term of references

Term of references

- To showcase the use of active remote sensing technique, Lidar, for studying the ocean
- To explain and to train ocean color community to the basics of lidar instrumentation and data processing
- To provide sample data and codes for visualizing and processing lidar data
- To provide examples of applications of lidar for oceanic studies
- To discuss the advantages and limitations of lidar to monitor the upper ocean layer
- To provide recommendations and actions for increasing the use of lidar in the ocean color community in term of training, instrumentation, algorithms and good practices
- To prepare a report on lidar for ocean applications with the IOCCG series

Activities

- **Kick-off Meeting**
 - 12 January 2026
 - Discussion about Term of references
 - Discussion about the nomination of co-leaders of chapters

Table of contents of the report

- **Chapter 1:** Fundamentals of lidar (D. Dionisi and I. Stachlewska)
- **Chapter 2:** Glossary (Y. Zhou)
- **Chapter 3:** Instrumentation (K. Bisson and P. Di Girolamo)
- **Chapter 4:** Lidar multiple scattering and RTE (P. Chen and Z. Zhang)
- **Chapter 5:** Lidar data processing (C. Jamet and B. Collister)
- **Chapter 6:** Lidar Applications (optical profiling; phytoplankton profiling; bathymetry; fishes; Internal waves; diel observation; polar observation) (X. Lu)
- **Chapter 7:** Lidar and ocean color fusion remote sensing (spatial fusion method; spectral fusion method: lidar-based QAA and so on; AI-based fusion method) (K. Bisson and P. Chen)
- **Chapter 8:** Recommendations (all)

Activities

- **Kick-off Meeting**
 - 12 January 2026
 - Term of references
 - Nomination of co-leaders of chapters
 - Refinement of the schedule

Schedule

ACTIVITY	0-3m	3m-6m	6m-9m	9m-12m	12m-15m	15m-18m	18m-21m	21m-24m
Refinement of the term of references								
Literature review on lidar applications for the ocean								
Evaluation of the advantages and limitations of lidar								
State-of-the-art of the algorithms for resolving the lidar multiple scattering effects								
State-of-the-art of the algorithms for processing lidar techniques								
Roadmap for training courses on lidar								
Future recommendations and actions								
Prepare-publish a report								

Activities

- **Kick-off Meeting**
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 - Refinement of the schedule
 - Possibility to add members

Activities

- **Kick-off Meeting**
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 - Targeted date for the report: Christmas 2027

Future activities

- **2nd meeting on 18 May 2026**
 - Updates on the progress
- **Next meetings**
 - Progress on the writing and references
 - Online meeting in July
 - First in-person meeting at Ocean Optics
 - May need IOCCG funding to book a room
 - Second in-person meeting
 - University of Warsaw
 - Spring 2027



THANK YOU