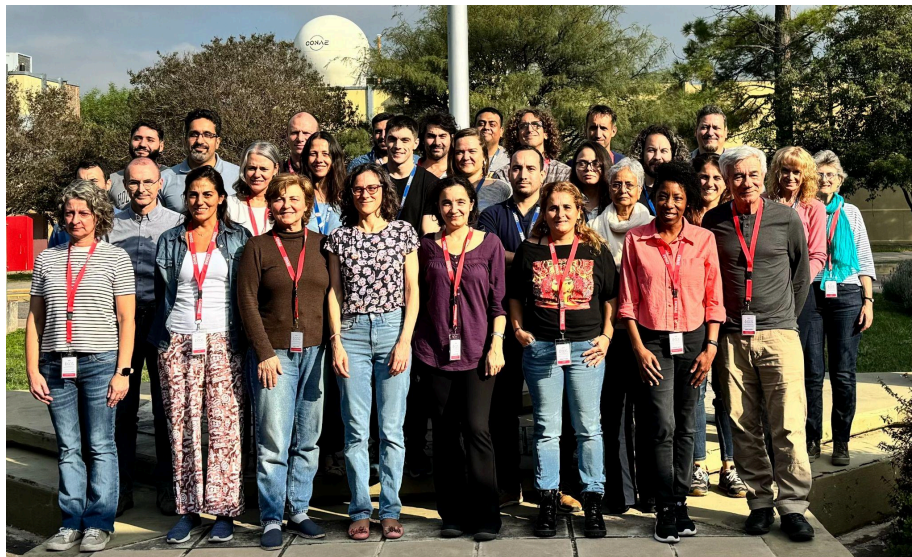# Report of Training:
Satellite Ocean Colour Validation

22 - 23 April 2024

Argentine Space Agency (Comisión Nacional de Actividades Espaciales - CONAE)

Centro Espacial Teófilo Tabanera (CETT)

Falda del Cañete, Córdoba, Argentina

Background

As part of the planning of the 28th IOCCG Committee meeting, hosted by CONAE at CETT in Córdoba, Argentina, a mutual desire between the host and IOCCG emerged to conduct a training course that would utilize the expertise of the IOCCG members and benefit the local participants. CONAE indicated that their largest gap in training needs was protocols for in situ measurements for validation. The training was therefore focussed around this need.

Limited funding from IOCCG was made available to fund travel for key training participants from the region who would not be able to participate otherwise.

Training Structure

Given the 2-day timeline, the training was structured around lectures and discussion rather than on practical or hands-on demonstrations. Lectures were arranged under the following topics: in situ data collection, metrology and uncertainty, validation techniques, and protocols for key variables. See **Appendix I** for a copy of the training agenda.

Poster sessions were also held so that participants could discuss their research directly with IOCCG members, and posters remained up for the entire duration of the 2-day training.

A total of eleven Committee members supported the training, either as lecturers, organizers, or support staff on the day of the training. See **Appendix II** for the full list of IOCCG Committee members who supported or organized the training.

Due to limitations on space, participants for the training were notified and selected by CONAE, and included CONAE staff members (mostly from the SABIA-Mar mission team) and collaborators, as well as scientists from institutions across Argentina and a few from Brazil.

The training was free of charge for all participants, and included meals. Local transportation as well as all coffee breaks and an "ocean-breaker" reception at the end of the first day were sponsored by CONAE, and lunch on both days was sponsored by IOCCG.

Highlights

The training was opened by Carolina Tauro, the CONAE representative on the IOCCG Committee, and Shubha Satheynedranath, the IOCCG Chair. A total of 22 people participated in the training and shared their science through discussions and poster sessions. The list of meeting participants is available in **Appendix III**.

Acknowledgements

Appendix I: Training Agenda

Training Agenda
Satellite Ocean Colour Validation

Monday 22 April 2024

Bus to CETT will leave Amerian Hotel, Bv. San Juan 165 (in front of Patio Olmos Shopping) at 07:45 hrs

1.0	Welcome and Introduction	ART (UTC-3)
1.1	Welcome, logistics, review of the training schedule (Carolina Tauro)	09:00 - 09:30
1.2	Overview of IOCCG and introduction of the trainers (Shubha Sathyendranath + Trainers)	09:30 - 10:00
1.3	Introduction of the trainees (Trainees)	10:00 - 10:30
	TEA/COFFEE BREAK	**10:30 - 10:45**
1.4	Overview of the importance of satellite ocean color validation (Robert Frouin)	10:45 - 11:20
1.5	Connection between in-situ data and satellite algorithm development (Robert Frouin)	11:20 - 12:00
	LUNCH BREAK	**12:00 - 13:00**
2.0	In-Situ Data Collection	
2.1	Lab methods & IOCCG Protocols for data collection (Aurea Ciotti)	13:00 - 13:45
2.2	Field instruments and Protocols (IOPs and AOPs) (Ana Dogliotti)	13:45 - 14:30
2.3	Processing tools for AOPs - HyperCP and ThoMaS (Juan Gossn)	14:30 - 15:00
	TEA/COFFEE BREAK **POSTERS ON DISPLAY**	**15:00 - 15:45**
3.0	Metrology and Uncertainty	
3.1	Metrology and application to field radiometric data (Frederic Melin)	15:45 - 16:30
	Day 1 Q&A	16:30 - 17:00
	Posters and *Ocean Breaker* Reception	**17:00**

Bus leaves CETT to return to Cordoba City at 19:15 hrs

Tuesday 23 April 2024

Bus to CETT will leave Amerian Hotel, Bv. San Juan 165 (in front of Patio Olmos Shopping) at 07:45 hrs

		ART (UTC-3)
	Metrology and Uncertainty Continued	
3.2	Metrology: the case of EO data and their sources of uncertainties (Frederic Melin)	09:00 - 09:50
4.0	**Validation Techniques**	
4.1	Exploration of advanced validation techniques (Frederic Melin)	09:50 - 10:30
	TEA/COFFEE BREAK POSTERS ON DISPLAY	**10:30 - 10:45**
4.2	Comparison and Compatibility of data (Frederic Melin)	10:45 - 11:20
4.3	Your in-situ data and how you use it should define your interpretation of the remotely sensed products (Jeremy Werdell)	11:20 - 12:00
	LUNCH BREAK POSTERS ON DISPLAY	**12:00 - 13:00**
5.0	**Description, techniques, protocols, and methodologies of key variables**	
5.1	Chla & CDOM (Aurea Ciotti)	13:00 - 14:00
5.2	PAR (Robert Frouin)	14:00 - 15:00
	TEA/COFFEE BREAK POSTERS ON DISPLAY	**15:00 - 15:45**
6.0	**Open Q&A & Posters**	
6.1	Open Q&A with the trainers	15:45 - 16:15
6.2	Continue Poster Sesssion and one-on-one discussions	16:15 - 16:55
6.3	Closing	16:55 - 17:00
	Close of training	**17:00**

Bus leaves CETT to return to Cordoba City at 17:15 hrs

Appendix II: List of Organizers, Trainers, & Support from the IOCCG Committee

1. Carolina Taura, CONAE, organizer
2. Áurea Ciotti, Universidade de São Paulo, organizer, lecturer
3. Ana Dogliotti, CONICET/UBA Pabellon IAFE, organizer, lecturer
4. Emmanuel Devred, BIO, support
5. Frédéric Mélin, JRC, organizer, lecturer
6. Juan Gossn, EUMETSAT, organizer, lecturer
7. Jeremy Werdell, NASA, organizer, lecturer
8. Laura Lorenzoni, NASA, support
9. Raisha Lovindeer, IOCCG Project Office, organizer
10. Robert Frouin, UC San Diego, organizer, lecturer
11. Shubha Sathyendranath, IOCCG Chair, PML, organizer, support

Appendix III: List of Participants

1. Anabella Ferral, CONAE & CONICET
2. Martin Labanda, CONAE/SABIA-Mar team
3. Milagros Ávila, CONAE/SABIA-Mar team
4. Natalia Orozco Cano, CONAE/SABIA-Mar team
5. Facundo Godoy, CONAE/SABIA-Mar team
6. Mauro Vera Gonzalez, CONAE/SABIA-Mar team
7. Gabriel Crisnejo, CONAE/SABIA-Mar team
8. Raul Ezequiel Floreani, CONAE/SABIA-Mar team
9. Marina Compagnucci, CONAE
10. Francisco Nemiña, CONAE
11. Mauro Lopez Gregori, CONAE
12. Carolina Taura, CONAE
13. Gabriela Williams, CENPAT-CESIMAR, CONICET
14. Vivian Lutz, National Fisheries Research and Development Institute INIDEP
15. Ezequiel Cozzolino, INIDEP
16. Lucresia Allega, INIDEP
17. Guillermina Ruiz, INIDEP
18. Valeria Segura, INIDEP
19. Matias Bonansea, ICBIA, UNRC
20. Maximiliano Arenas, Instituto Argentino de Oceanografía, IADO-CONICET
21. Paula Pratolongo, CERZOS-CONICET, UNS
22. Lino Augusto Sander de Carvalho, Federal University of Rio de Janeiro, Brazil