

First Meeting



“History of toxic phytoplankton in Patagonia. Work plan and protocols for sediment analysis”

Project IGCP 681 - History of Toxic Phytoplankton in Patagonia.

October 16 – 17 – 18, 2019

Coastal Laboratory of Aquatic Resources in Calfuco, Valdivia, Chile.

Day 1 - 16.10.2019

14:00. Inscription to the meeting at Coastal Laboratory of Aquatic Resources in Calfuco.

15:00. Welcome to the project. Presentation by Dr. Mauricio Cubillos. Welcome to researchers and introduction to the facilities of the Coastal Laboratory of Aquatic Resources in Calfuco.

15:30. Dr. Claudia Aracena. Presentation of the project Paleoeological history of toxic algae in Patagonia: its application for environmental assessment in the fjord region (2019-2013).

16:00. Dr. Claudia Marcela Borel: Contribution of Argentina to the project. Organic-walled dinoflagellate cyst: recording harmful/potentially harmful species from recent and fossil sediments. Examples from Argentine Continental Shelf.

16:30. Coffee Brake

17:00. Lorenzo Palma. Journalist and Director of Ciencia in Chile. Internal and external communications of the project. Making it visible in local and national media.

17:30. MSc. Paula Mendoza. Marine Biologist. State of Art of the study and managing of Harmful Algal Blooms in Chile.

18:00. Open discussion about the journalistic communication plan, and inputs from researchers.

18:30. Ice break dinner at Laboratory of Aquatic Resources in Calfuco. Relaxed introduction to the members, and students involved in the project.

Day 2 - 17.10.2019

09:00. Dr. Iván Perez. Researcher Centro i-mar, Universidad de los Lagos. Puerto Montt, Chile. Physical and Biological time series data at Reloncaví sound, and it application to Early Warning of HAB's.

09:30: Dr. Carlos Lara. Centro de Investigación en Recursos Naturales y Sustentabilidad (CIRENYS), Universidad Bernardo O'Higgins. Satellite monitoring in North Patagonia: relation between ocean color and phytoplankton variability.

10:00. Paola Cardenas Biologist, Master in Oceanography. Research assistant from IDEAL Center at Paleoceanography Lab UDEC. Methods for preparation and identification of in marine diatoms in sediments.



10:30. Dr. Facundo Barrera. Center for Research on Biodiversity and Sustainable Environments Universidad Católica de la Santísima Concepción. Concepción, Chile. Biogeochemistry of the time series at Reloncaví and Puyuhuapi: What sediments had archived about HABs in Patagonia?

11:00. Coffee Brake

11:30. Carla Mellado. Analysis of Phytoplankton and its prospection in Chilean Patagonia: Case of study in Pia and Yendegaia fjords. Msc (c) in hydric resources, Universidad Austral de Chile. Valdivia, Chile.

12:00. Julio Poblete. Marine Biologist. Master student in Oceanography (UdeC). High frequency variability in the composition of surface phytoplanktonic communities of the continental shelf and inland seas of Patagonia.

12:30. Boris Ulloa-Lagos. Dinoflagellate cysts and diatom frustuls in bio-archeological sediments of Patagonia. Msc (c) in Paleontology, Instituto Ciencias de la Tierra, Universidad Austral de Chile. Valdivia, Chile.

13.00 LUNCH.

14.30 Dr. Patricio Diaz. Centro i~mar, Universidad de Los Lagos. Small-scale physical and biological interactions in Dinophysis populations: Puyuhuapi fjord as a study case.

15.00 Francisca Muñoz. Laboratory of Phytoplankton analysis and Bio-optics in Plankton Andino SPA. Phytoplankton monitoring and HAB in the aquaculture industry in Southern Chile.

15:30 Dr. Jimena Torres. Contribution of the project to Holocene archaeological history of the Strait of Magellan.

16:00. Coffee Brake

16:30. Open discussion and brainstorm about:

1. *Availability of sediment samples storaged, and still not studied in Chile and Argentina.*
2. *Facilities to work with age models in 210 Pb. Costs and potential collaborative work.*
3. *Update of the methods that used in the project as sediment cleaning, counting and identification.*
4. *Joining efforts for oceanographic platforms for the obtention of high resolution sediment samples. Samples storage, and analysis.*
5. *Phytoplankton composition time series vs satellite and hydrographic variability in Patagonia.*

18.30. Warm dinner at Coastal Laboratory of Aquatic Resources in Calfuco.

Day 3 - 18.10.2019.

09:00. Andrea Silva. Austral-Omics, UCh. Use of omic tools for environmental DNA studies: An example for toxic microalgae in the South of Chile.



09.30. Claudia Aracena. Presentation of the Planning for the second year (2020). The aim of this session is to organize:

- 1) *The research stays for master and PhD students*
- 2) *The next oceanographic campaigns for sediment collection in the fjords*
- 3) *Strategies for better cooperation networks with national research institutions, as IFOP, CONA, UDEC, UCh, UMAG, Austral-Omics, Natural History Museum of Rio Seco (Punta Arenas), primary and secondary schools in Patagonia.*
- 4) *List of potential publications in journals and congresses, as well as thesis, books, and catalogues that could be a result of this scientific interaction.*

10:00. Open Scientific and social discussions on harmful microalgae & future tasks. Organization of different groups by tasks (3-4 people) to fulfill the commitments established at the discussion of the previous days.

10:30 Presentation of the commitments of each group. Sediment analysis, in situ and satellite oceanography, outreach & science communicators.

11:00 Coffee Brake

11:30-17:00. Observation of samples at the Microscopy laboratory. Work with students, and specialists in methods for toxic phytoplankton identification. This activity will be done at the Faculty of Sciences of Universidad Austral de Chile in Valdivia.

13.00. Farewell Lunch.