REMARCO

REd de Investigación de Estresores **MAR**inos - **CO**steros en Latinoamérica y El Caribe

Research Network on Marine-Coastal Stressors in Latin America and the Caribbean

Eutrophication

https://remarco.org/

Leader: Dr. Eddy H. Gómez-Ramírez
University of Costa Rica

Presenter: Prof. Joan-Albert Sanchez-Cabeza
Institute of Marine Sciences and Limnology, UNAM

Science and **communication** network,
composed of **18 countries** in Latin America and the Caribbean.

The Network addresses the challenges and vulnerabilities of the **marine-coastal ecosystems** of LAC, through the work of **interdisciplinary teams** made up of scientists, specialists and communicators from the different countries.

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14 VIDA SUBMARINA

Science and **communication** cooperation network, composed of **18 countries** in Latin America and the Caribbean.

Marine chemical pollution

Ocean Acidification (OA)

Harmful algal blooms (HAB)

Microplastics

Eutrophication

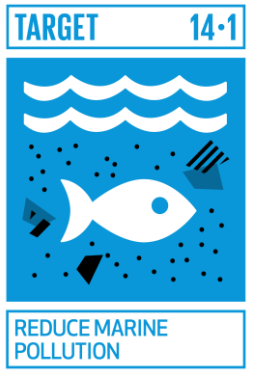
Through the **IAEA** Regional Technical Cooperation Project RLA7025 "***Strengthening Capacities in Marine and Coastal Environments Using Nuclear and Isotopic Techniques***" the REMARCO network is strengthened,

Goals are set to improve **regional capacities** to implement science-based strategies and policies for the conservation and sustainable management of coastal zones and marine resources in LAC.

IAEA
International Atomic Energy Agency

Sustainable Development Goals (SDGs)

- Target: national reports on SDG indicators 14.1.1: Index of **coastal eutrophication** (and floating plastic debris density).



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DATA

National Focal Points (SDGs)

Results to be achieved

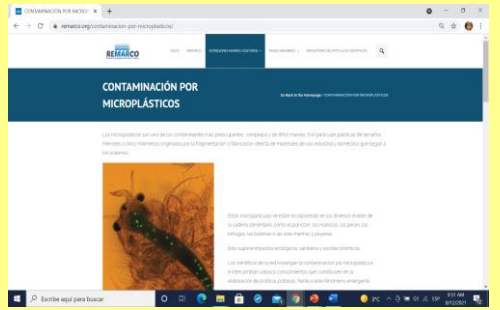
Monitoring programmes with harmonized protocols

Acquisition of **equipment** for sampling and analysis

Produce harmonized **protocols** in Spanish

Compile **data** in a Regional Repository

Communication strategy to present results to decision-makers and stakeholders



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Regional capabilities

- Temperature, salinity, dissolved oxygen.
- Carbonate system.
- Nutrients.
- Chlorophyll-a.
- Satellite images.

Proposed pilot study sites

- Argentina.
- Colombia:
  - 30 monthly stations
  - 1 buoy (2017-2019)
- Costa Rica.
- Cuba:
  - Cienfuegos Bay.
  - 25 4-month stations.
- México:
  - 10 monthly stations (since 2017)

Colombia: Chlorophyll “a”

INVEMAR has an **accredited laboratory** (ISO 17025) for the measurement of chlorophyll "a" in marine and inland waters.
Trichromatic method by Spectrophotometry APHA et al., 2017 (N° 10200 H)

INVEMAR is working on **remote sensing** for the determination of chlorophyll “a”, particulate matter, but requires a spectrophotometer for validation.

GEOVISORS

http://anh.invemar.org.co/visor

https://siam.invemar.org.co/redcam-geovisor/

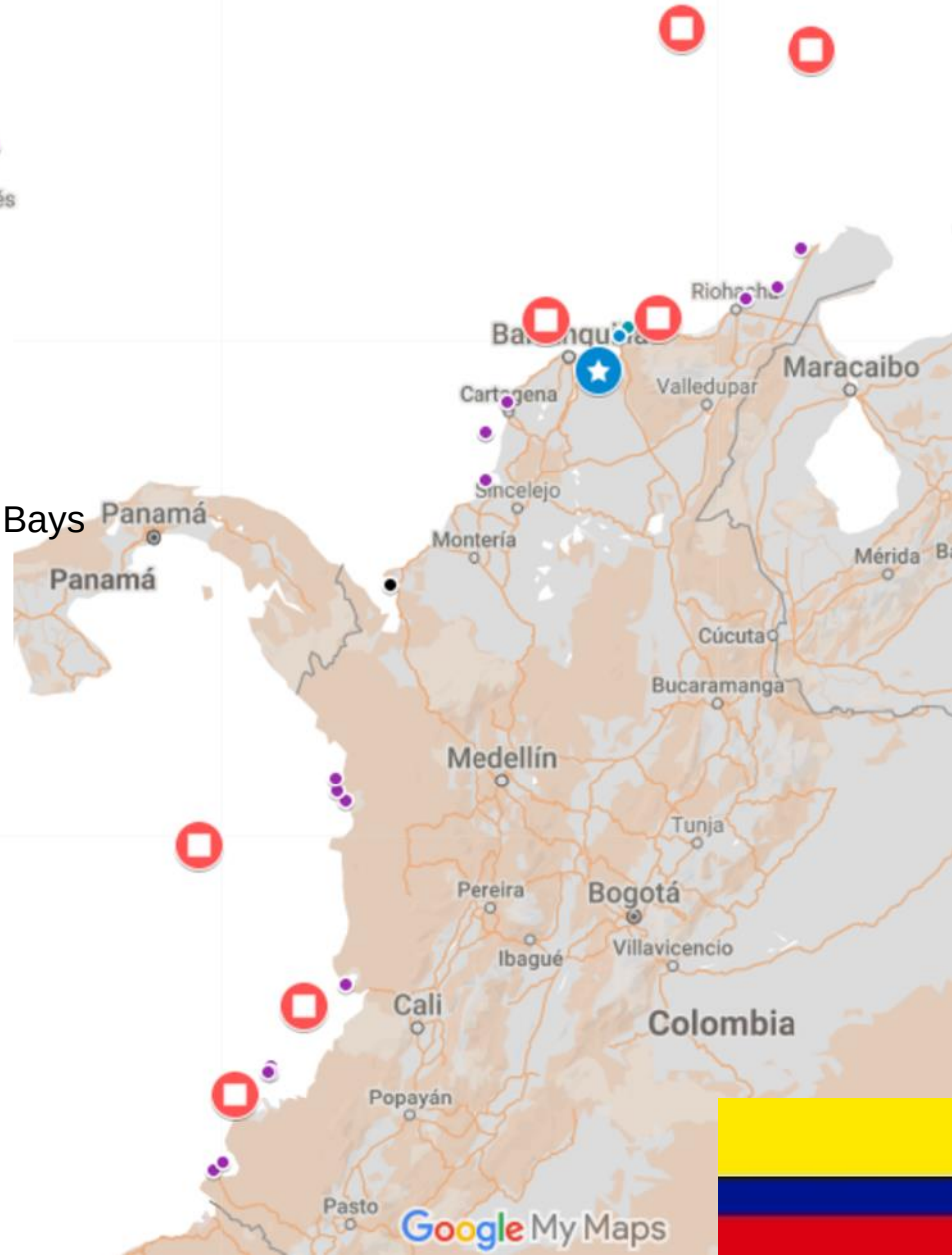
REDCAM monitoring
Semi-annual/annual
> 10 years

CGSM monitoring
Monthly
> 10 years

Chengue and Santa Marta Bays
Monthly
4 years

INVEMAR allied buoy
Continuous measurement
3 years

Oceanographic cruises



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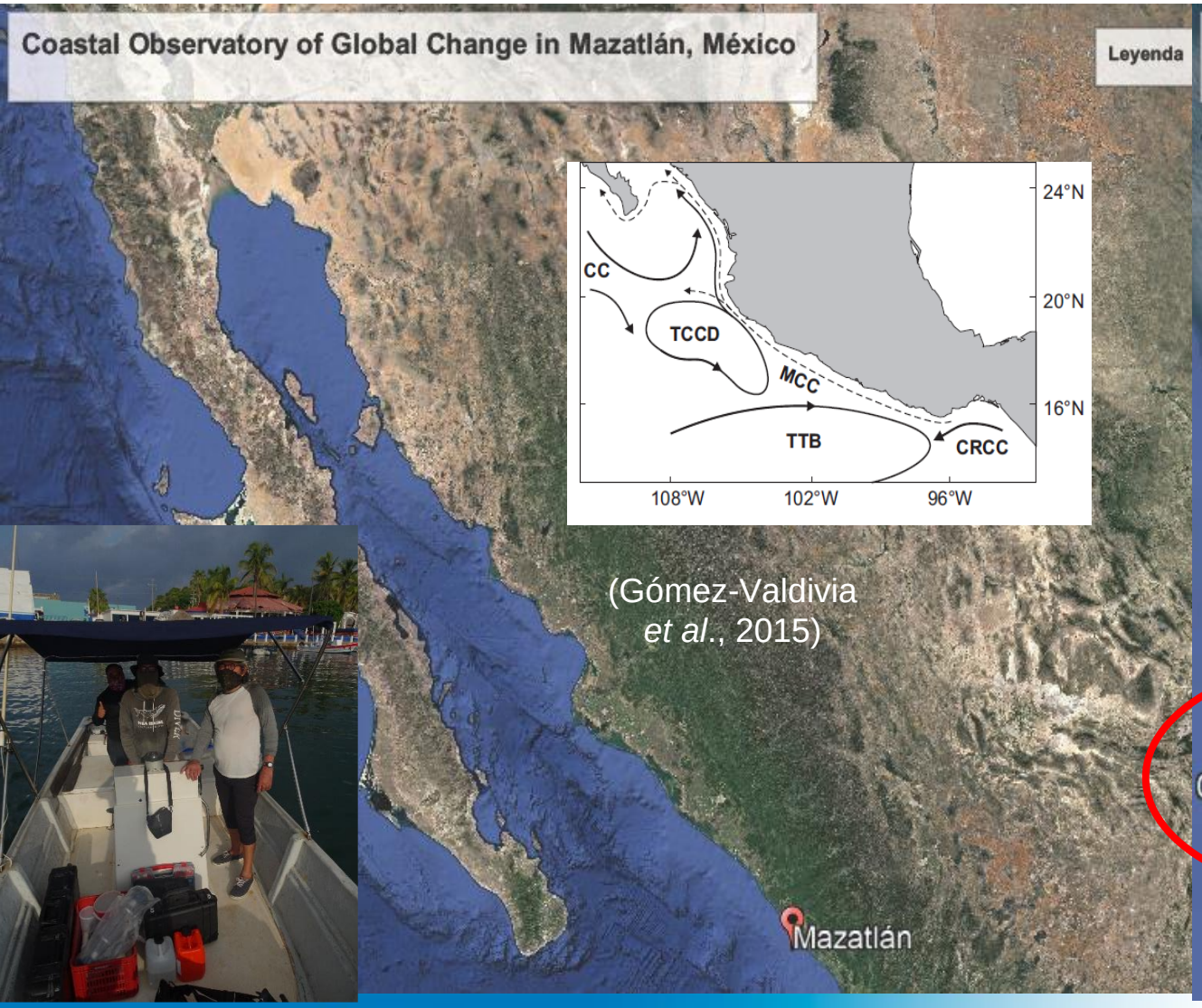
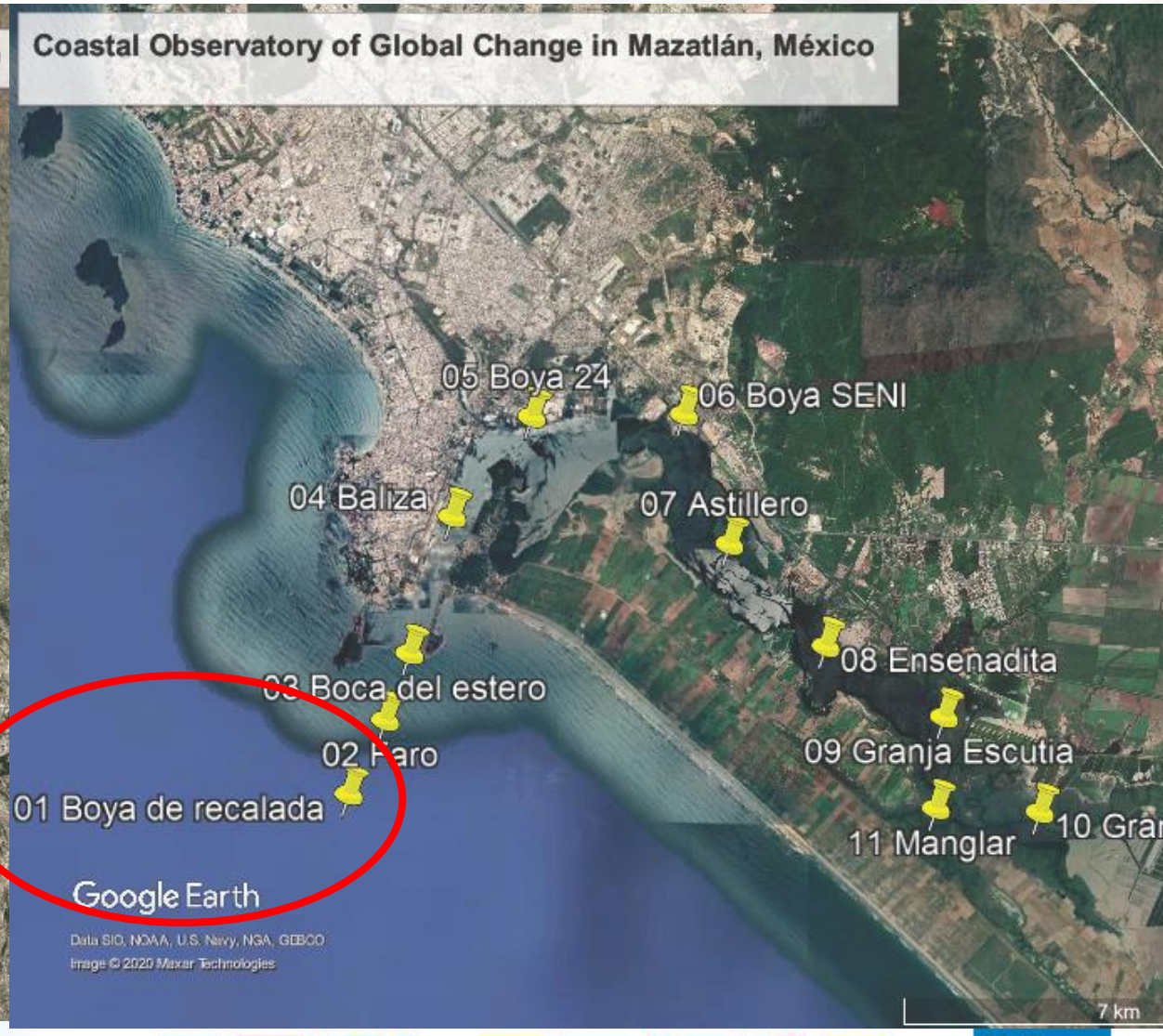
Some data from Mexico



(Gómez-Valdivia *et al*., 2015)



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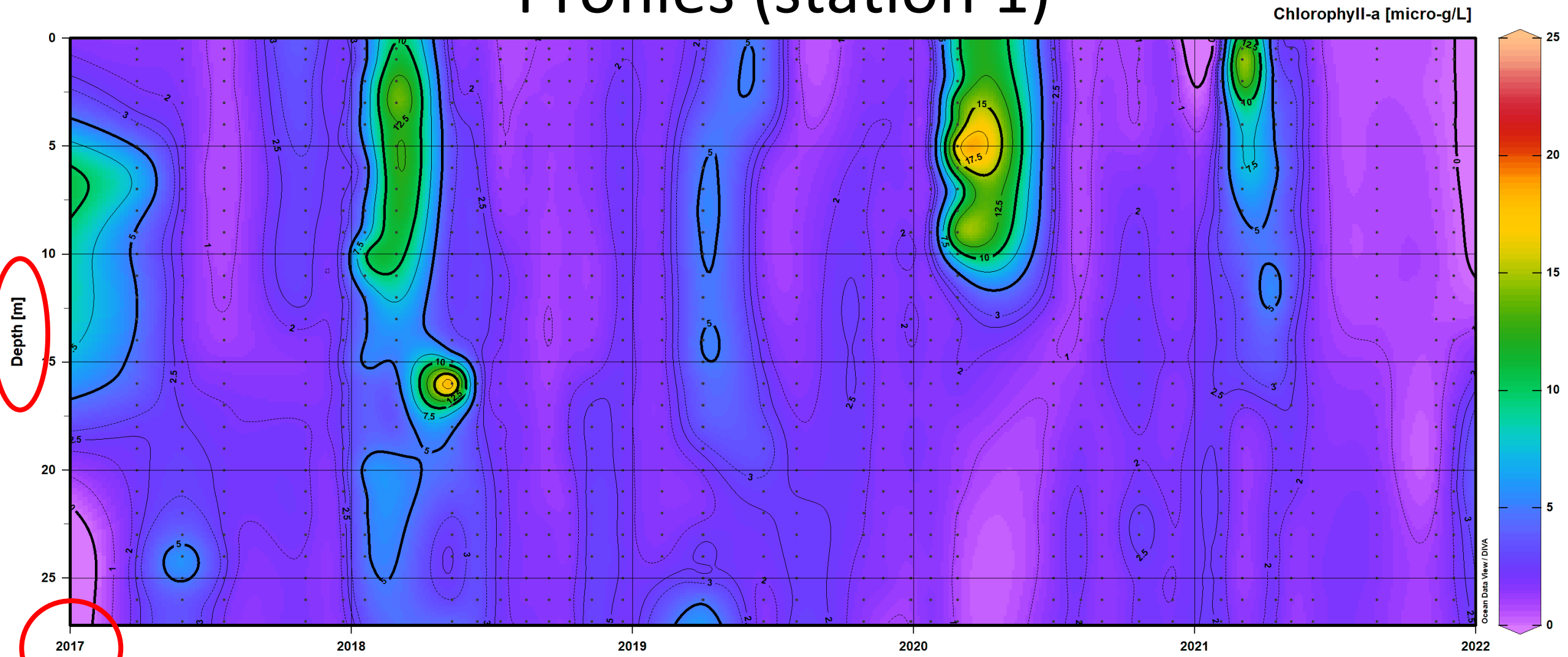
Profiles (station 1)



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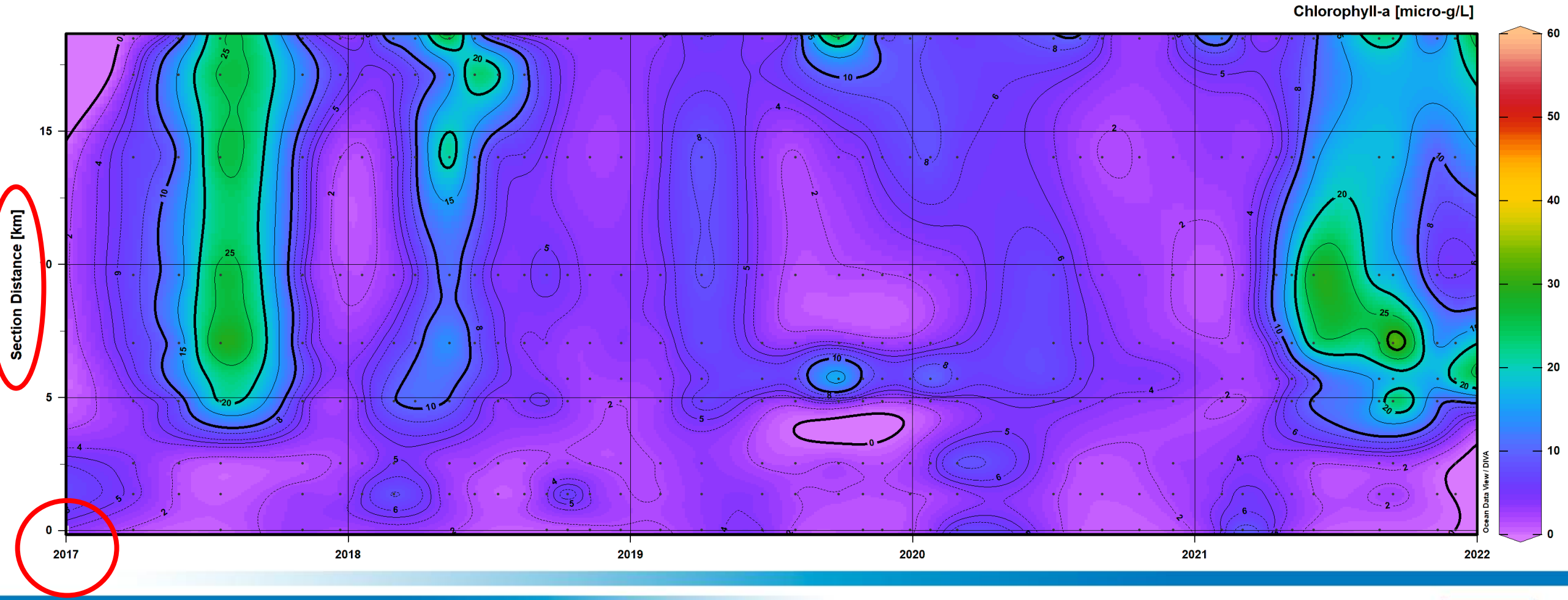
Transects (sea -> lagoon)



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