



# COLLABORATION BETWEEN AWI AND CHILE

DynAMo (BMBF)

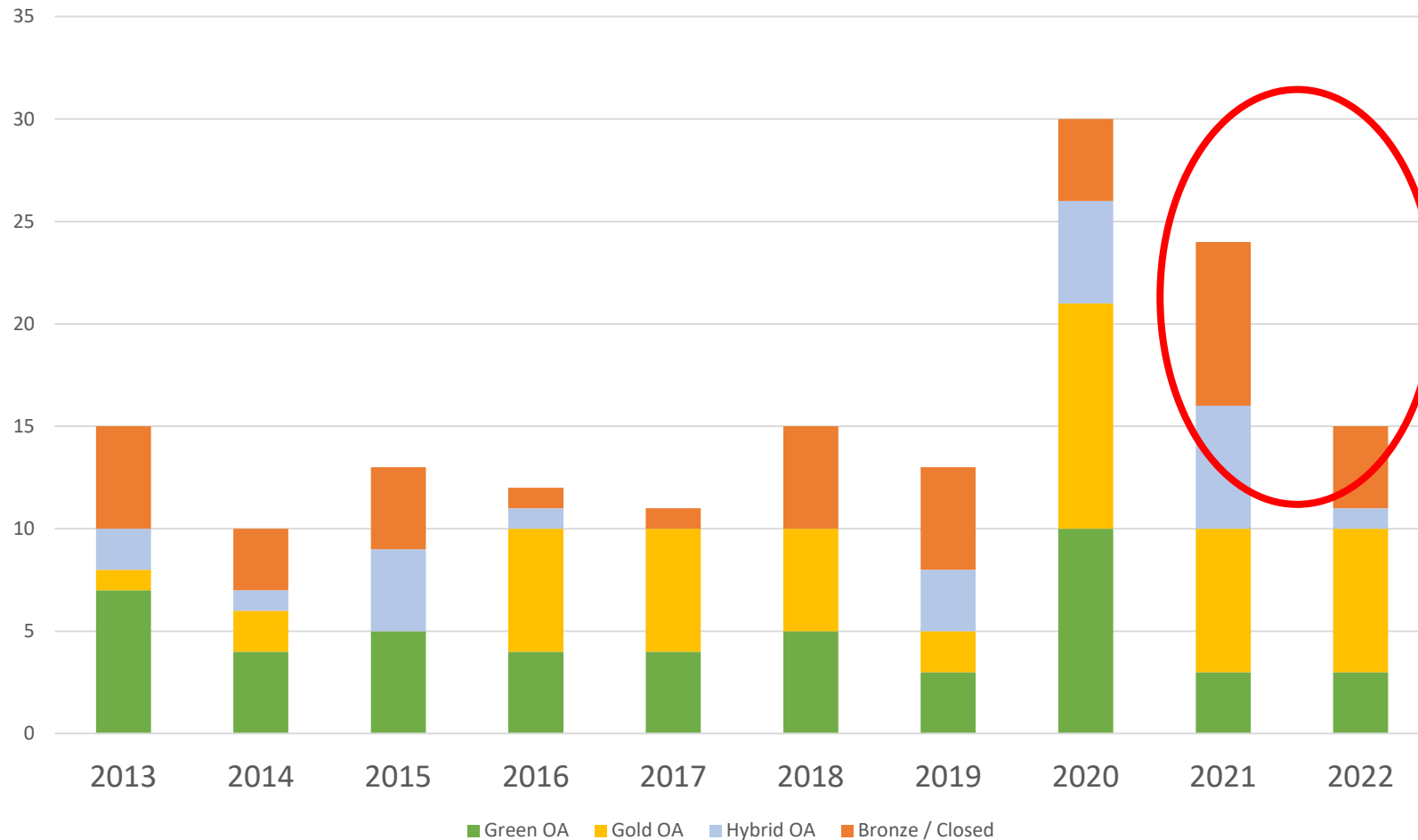
CoastCarb (EU)

FjordFlux (RV Meteor)



# Past cooperations (last 10 years)

## Publications per year: AWI-Chile



Year	Publications
2022	15
2021	24
2020	30
2019	13
2018	15
2017	11
2016	12
2015	13
2014	10
2013	15
<b>Total</b>	<b>158</b>

# Past cooperations (last 10 years)

## BMBF-CONICYT (2012-2014): **01DN12102 - CHL 11/011** “Investigation of toxic algae in Antarctic coastal waters”

Polar Biology (2020) 43:263–277

<https://doi.org/10.1007/s00300-020-02628-z>

ORIGINAL PAPER



## Detection of the phycotoxin pectenotoxin-2 in waters around King George Island, Antarctica

Bernd Krock<sup>1</sup> · Irene R. Schloss<sup>2,3,4</sup> · Nicole Trefault<sup>5</sup> · Urban Tillmann<sup>1</sup> · Marcelo Hernando<sup>6</sup> · Dolores Deregibus<sup>2,8</sup> · Julieta Antoni<sup>7,8</sup> · Gastón O. Almandoz<sup>7,8</sup> · Mona Hoppenrath<sup>9</sup>

Received: 29 April 2019 / Revised: 29 January 2020 / Accepted: 8 February 2020 / Published online: 23 February 2020

© Springer-Verlag GmbH Germany, part of Springer Nature 2020



# Present collaborations

## Current Memoranda of Understanding (MoU):



Universidad Austral de Chile  
*Conocimiento y naturaleza*

**AWI – Universidad Austral de Chile/Centro IDEAL: 29.06.2018**



**AWI – Universidad de Concepción: 09.01.2023**



Universidad  
de Magallanes

**AWI – Universidad de Magallanes: in preparation**



Bundesministerium  
für Bildung  
und Forschung



**DYNAMO**  
BEAGLE CHANNEL  
OBSERVATORY



ALFRED-WEGENER-INSTITUT  
HELMHOLTZ-ZENTRUM FÜR POLAR-  
UND MEERESFORSCHUNG

2018-2023 DYNAMO LAT16STRUC039



**DYNAMO**  
BEAGLE CHANNEL  
OBSERVATORY

International  
Cooperation



**Aim:**

Dynamic impact of ice mass loss in the Andes on terrestrial,  
limnic and marine ecosystems

**WP1**

Terrestrial measurements (Glaciology)

- Weather station installation (CHI-GER)
- Aerial infrared camera measurements of glaciers in the Darwin Cordillera (GER)

**WP2**

Marine environmental monitoring

- Oceanographic Buoy Ushuaia – Real time (ARG-GER)
- FerryBox – real time (Pta Arenas – Pto Williams) (CHI-GER)
- Long-term oceanographic mooring Yendegaia (CHI-GER)

**WP3**

Assessment of marine biodiversity

- eDNA sampling methods (GER-CHI-ARG)
- Molecular monitoring methods (GER-ARG)
- Phycotoxin monitoring (GER-CHI-ARG)





## Meetings & Workshops:

- Kick-off DynAMo (Ushuaia, April 2018)
- Plankton intercalibration workshop and FerryBox installation (Pta. Arenas, March 2022)
- FjordFlux Workshop Post-cruise Meeting (Pta. Arenas, Oct. 2022)
- Dynamo Assembly (Pta. Arenas, October 2022)
- **Constitution of Advisory Board (Bremerhaven, July 2023)**

### Advisory Board:

2 Scientists from GER, CHI, ARG, each  
Guest Scientist from USA  
External consultant: NOR



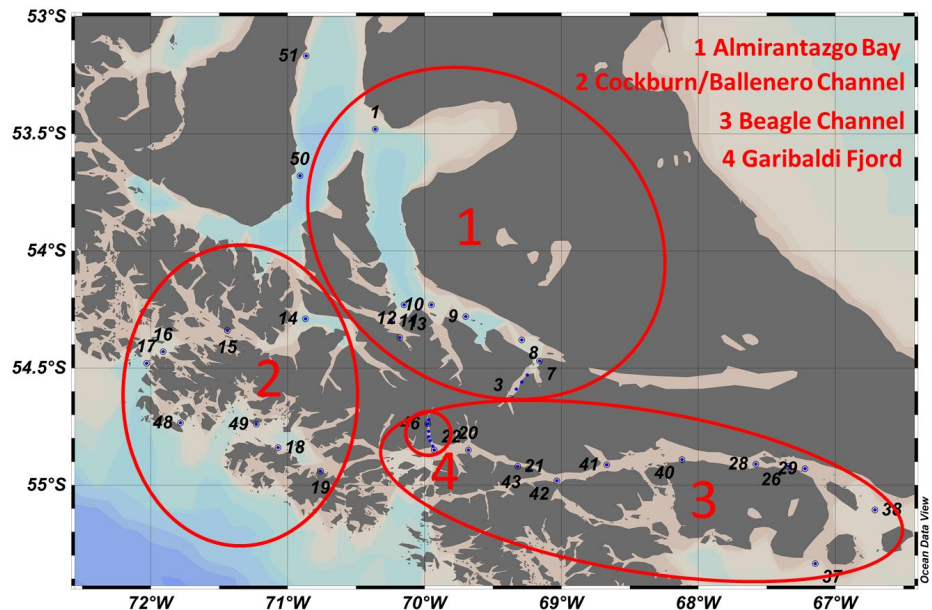
Dynamo Assembly (Pta. Arenas, Oct. 2022)

# Present collaborations



## FjordFlux:

Dynamic Effects of glacial melting and human impact on fjordic ecosystems of the Beagle Channel and the Chilean fjord system of Southern Patagonia



## Participating Institutions:

Germany

AWI (Bremerhaven)  
ICBM (Wilhelmshaven)

Chile

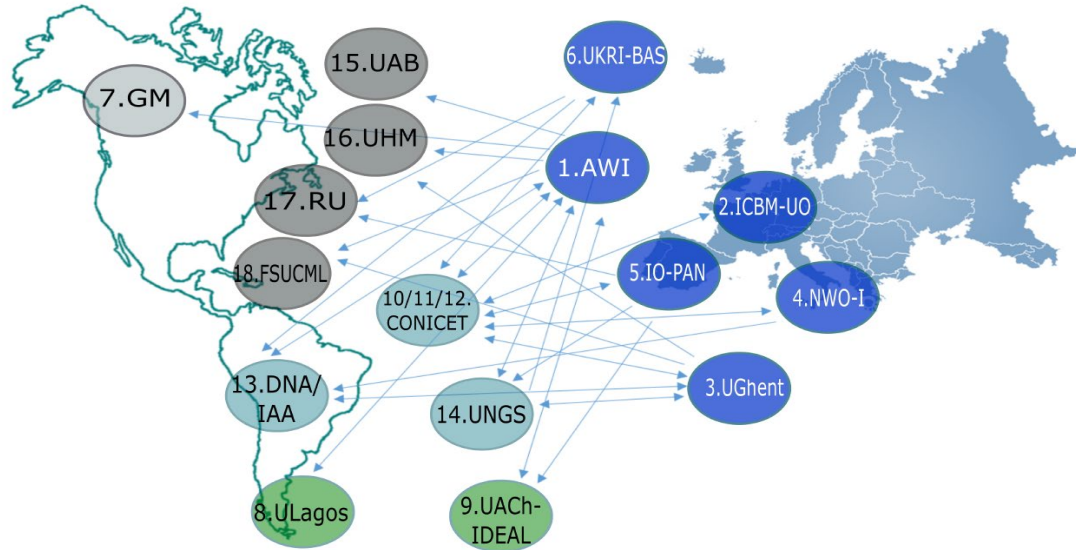
UMAYOR (Santiago)  
UdeC/COPAS Coastal (Concepción)  
UACH/IDEAL (Valdivia)  
CIEP/IDEAL (Coyhaique)  
IFOP (Pta. Arenas)



# Present collaborations



CoastCarb - An information system on CARBOn balance for South Patagonian and Antarctic COASTal ecosystems in times of rapid glacier melt (2020-2024)



## CoastCarb consortium:

1. Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI)
2. Carl von Ossietzky University of Oldenburg, Institute for Chemistry and Biology of Marine Environment (iCBM-UO)
3. Ghent University (UGhent)
4. Netherland Fundation of Scientific Research Institute (NWO-I), Royal Netherlands Institute for Sea Research (NIOZ)
5. Institute of Oceanology, Polish Academy of Science (IO-PAN)
6. United Kingdom Research and Innovation (UKRI)–British Antarctic Survey (BAS)
7. Greencoast Media Inc (GM)
8. University of Los Lagos (ULagos)
9. Research Center Dynamics of Hugh Latitude Marine Ecosystems, Universidad Austral de Chile (UACH-IDEAL)
10. National Scientific and Technical Research Council - Instituto de Diversidad y Ecología Animal (CONICET-IDEA)
11. National Scientific and Technical Research Council - Instituto Argentino de Oceanografía (CONICET- IADO)
12. National Scientific and Technical Research Council - Centro Austral de Investigaciones Científicas (CONICET-CADIC)
13. Dirección Nacional del Anrártico (DNA) / Instituto Antártico Argentino (IAA)
14. National University of General Sarmiento (UNGS)
15. University of Alabama at Birmingham (UAB)
16. University of Hawaii at Manoa (UHM)
17. Rutgers University (RU)
18. Florida State University Coastal and Marine Laboratory (FSUCML)

- about 100 scientists, 18 institutes, 9 countries
- 385 secondments months, about 54% between AWI & South Amerika



# Present collaborations



CoastCarb - An information system on CARBOn balance for South Patagonian and Antarctic COASTal ecosystems in times of rapid glacier melt (2020-2024)

- Center for Dynamic Research of High Latitude Marine Ecosystems (IDEAL) of the Austral University of Chile (UACH)
  - joint organization of CoastCarb GA in Punta Arenas 10/2022
  - acting as hosts, secondees, and WP1 & WP5 leaders
  - plan to organize a CoastCarb session at SCAR's Open Science Conference in 2024 in Pucón
  - cooperation in SIGMA II expedition 2024/2025
  - ongoing Memorandum of Understanding (MoU)
- University Los Lagos (ULL)
  - acting as hosts and secondees
  - supporting future cooperation with the Research and Center for Technical Assistance in Puerto Williams (UMAG) for joint scientific activities in the Beagle Channel
- Pontificia Universidad Católica de Valparaíso (PUCV)
  - acting as hosts and secondees
  - supported expedition SIGMA I
- University of Magallanes (UMAG) (associated)
  - a new MoU is in preparation
- Chilean Antarctic Institute (INACH) (associated)
  - provided logistic support for the SIGMA I expedition 2022/2023 (CARTA N°640)

# Future Perspectives



## Expeditions SIGMA I & II (2022/2023 & 2024/2025)

**S**ediment-rich **G**lacial **M**eltwater plumes affecting benthic-pelagic habitats at recently deglaciated coasts of Beagle Channel and King Georg Island, **A**ntarctica (**SIGMA**)

### Scientific collaboration

**UACH-IDEAL**: H. Gonzalez, A. Pinones, R. Giesecke

**PUCV**: J. Hofer

**ULL**: K. Paschke

**CONICET-CADIC**: G. Ferreyra, I. Schloss, et al.

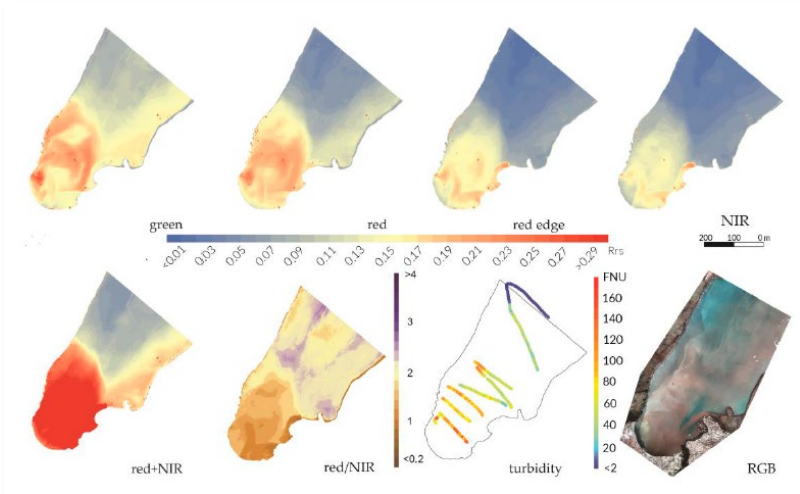
**IOPAN**: K. Błachowiak-Samołyk, M. Włodarska, et al.

### Collaboration with Antarctic scientific stations

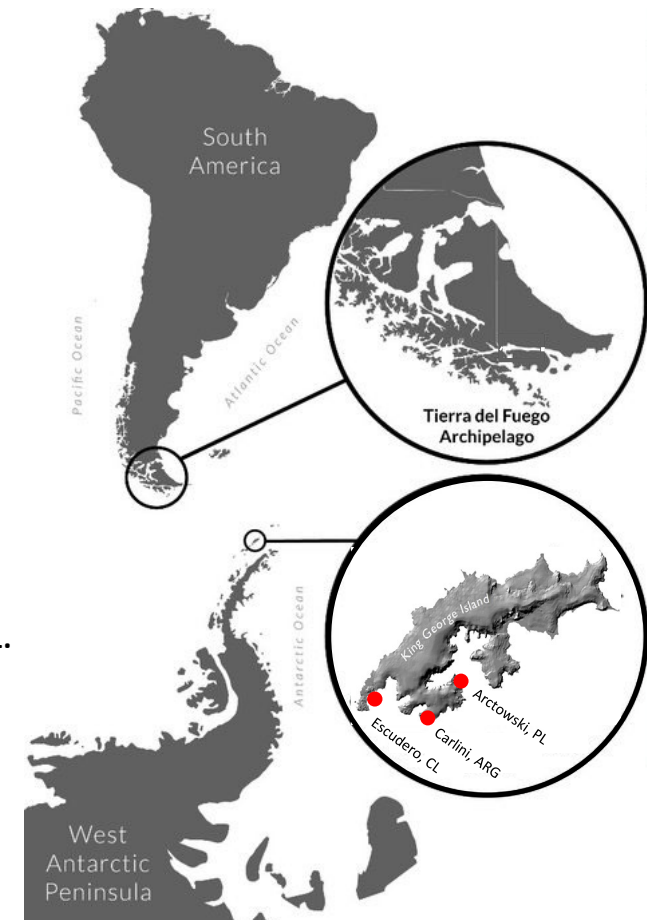
**Escudero Station** - INACH: Chilean Antarctic Institute, M. Leppe

**Carlini station** - IAA: Argentinean Antarctic Institute, L. Quartino

**Arctowski Station** - IOPAN: Institute of Biochemistry and Biophysics of the Polish Academy of Sciences, D. Puczeko



Reflectance maps, ortho-photo maps, and turbidity maps of a glacier bay in Admiralty Bay (Wójcik et al. 2019)



# Future Perspectives

## POLARIN: POLAR Research Infrastructure Network

Proposal submitted to:

**HORIZON-INFRA-2023-SERV-01-01: Research infrastructure services to enable R&I addressing main challenges and EU priorities**

On the topic:

For RI services for sustainable Arctic/polar regions

Coordinator: AWI

50 partners

### **POLARIN**

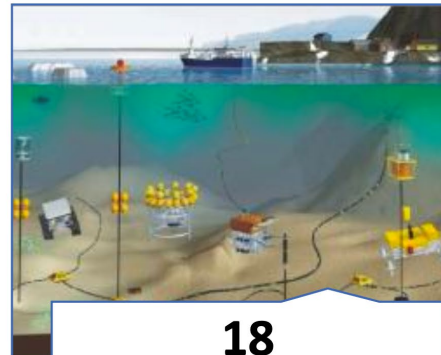
Access integration to  
**64**  
research infrastructures  
in **both poles**.



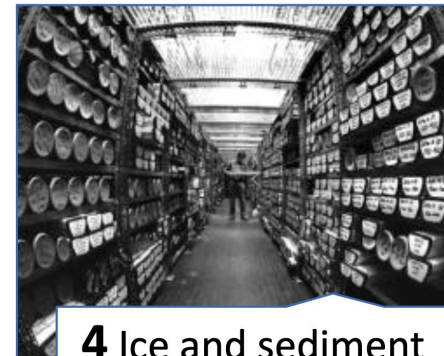
**38**  
Research stations



**12**  
Polar vessels



**18**  
Observatories



**4** Ice and sediment  
core repositories



**7** Data  
infrastructures



# Future Perspectives

## POLARIN: Sharing Access to Research Infrastructures

Contributions:



**INACH**



### **Escudero Station**

KGI, South Shetlands,  
Antarctica



### **RV Karpuj**

KGI, South Shetlands,  
Antarctica



### **Prat Station**

Greenwich Island, South  
Shetlands, Antarctica



### **RV Polarstern**

Arctic, Antarctica



### **Neumayer Station**

Antarctica

### **AWIPEV Station**

Svalbard, Arctic

### **FRAM Observatory**

Arctic Ocean

### **Ice & Sediment Core Deposits**

Bremerhaven, Germany

# Future Perspectives



## Approved Expedition „CHL-A-HAB“

RV M.S.Merian or RV Meteor

Duration: 30 days

Transect: Punta Arenas-  
Talcahuano

Time: not yet  
determined

	Name	Affiliation
1	Wollschläger, Jochen	ICBM
2	Krock, Bernd	AWI
3	Tillmann, Urban	AWI
4	Müller, Annegret	AWI
5	Max, Thomas	AWI
6	Tebben, Jan	AWI
7	N.N.	AWI
8	Henkel, Rohan	ICBM
9	Voß, Daniela	ICBM
10	Giebel, Helge-Ansgar	ICBM
11	Meyerjürgens, Jens	ICBM
12	N.N.	ICBM
13	Nicole Trefault	UMA
14	De la Iglesia, Rodrigo	PUC
15	Díaz, Patricio	ULL
16	Varela, Daniel	ULL
17	Pérez-Santos, Ivan	ULL
18	Pizarro, Gemita,	IFOP
19	Iachetti, Clara	CADIC
20	Malits, Andrea	CADIC
21	Salgado, Pablo	IFOP
22	Frangópulos, Máximo	UMAG
23*	Humberto González	UACH
24*	Ricardo Giesecke	UACH





**Any  
Questions?**

**Thanks for  
Your Attention!**