

RV METEOR

M179/2 FjordFlux (GPF 19-1_077)

15.01. - 20.02.2022

Punta Arenas - Montevideo



2. Weekly Report (24. - 30.01.2022)

The week has started with very good news, namely a notice of change from the Chilean Ministry of Foreign Affairs, transmitted through the Embassy in Santiago, lifting all bans on working areas with the exception of Yendegaia Fjord, which remains closed due to shallow water depth and poor nautical mapping. Thus, the planned work in Bahía Fitton, Canal Gabriel and Seno Garibaldi (Fig. 1) will be reinstated in the program according to the original plan.

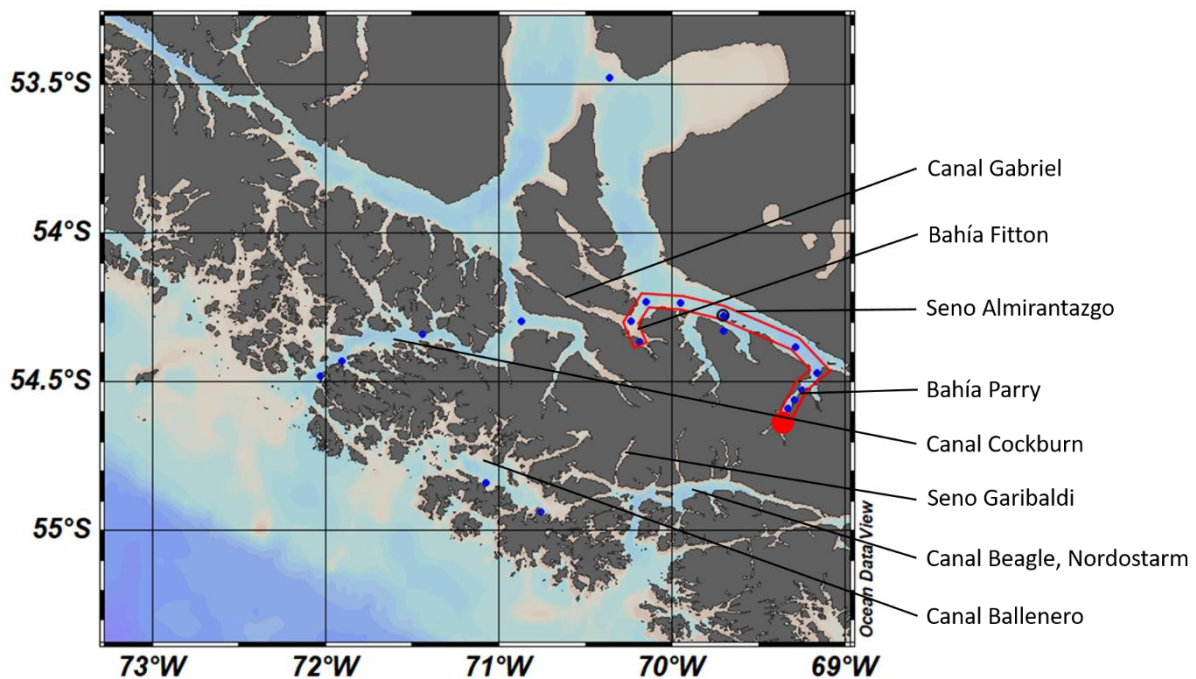


Fig.1: Work area of the first 10 days of M179/2.

On Monday, January 24, after the start of the station work in Seno Almirantazgo, there was nevertheless a nasty surprise. After the final PCR group screening of the entire crew, a group test of five scientific crewmembers turned out positive. Consequently, all station work was immediately stopped and the five affected persons were sent to their chambers. However, further individual PCR tests of the five affected scientists were negative. In addition, the number of cycles of the originally positive group test was very high at 43 (the RKI rates positive PCR tests with more than 30 cycles as negative). One explanation for the positive group test is that one member of this group had a COVID infection a few weeks ago and obviously, carries a small residual viral load, which can be positive or negative depending on the sensitivity of the test and the swab. When all other group tests were also negative by the evening, the precautionary measures were lifted again and work continued the following morning in Bahía Fitton.

Initial results from the Fluoroprobe, a sensor that detects discrete fluorescence signals and thus can detect different photosynthetically active pigments, show a general distribution of both green algae and diatoms along the 9 °C isotherm. While the distribution of both groups of algae coincides over long distances, significant differences are seen in Bahía Fitton (Fig. 2).

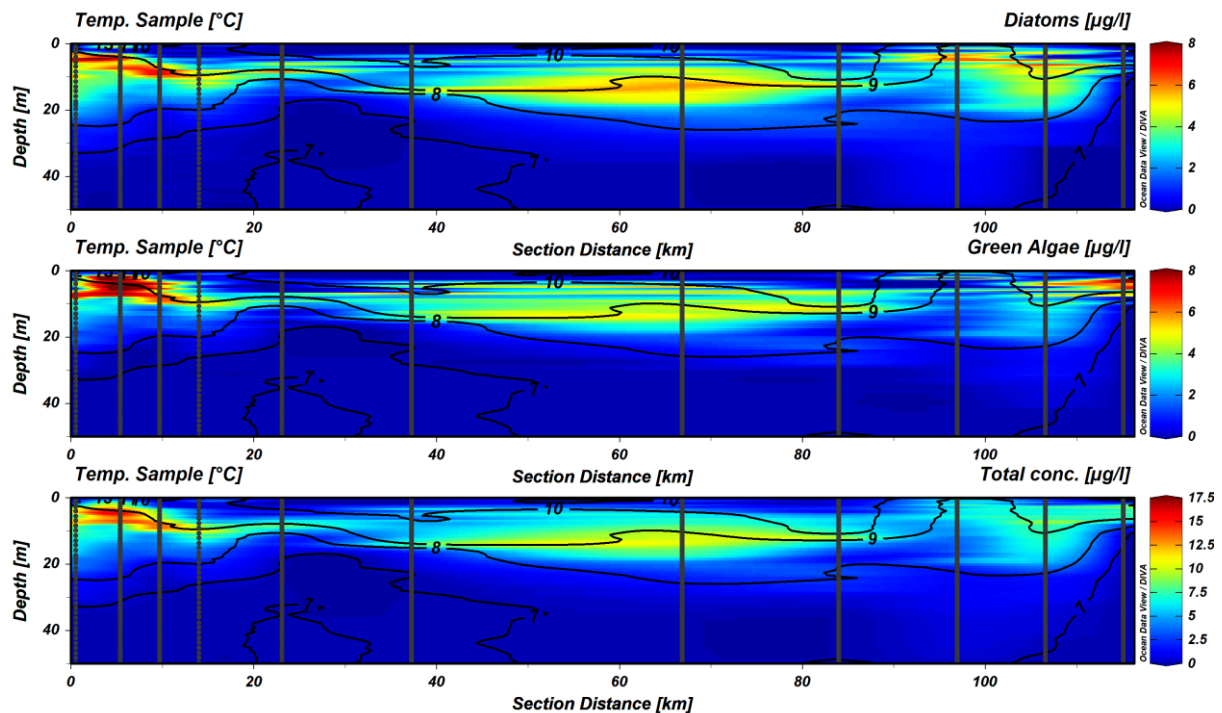
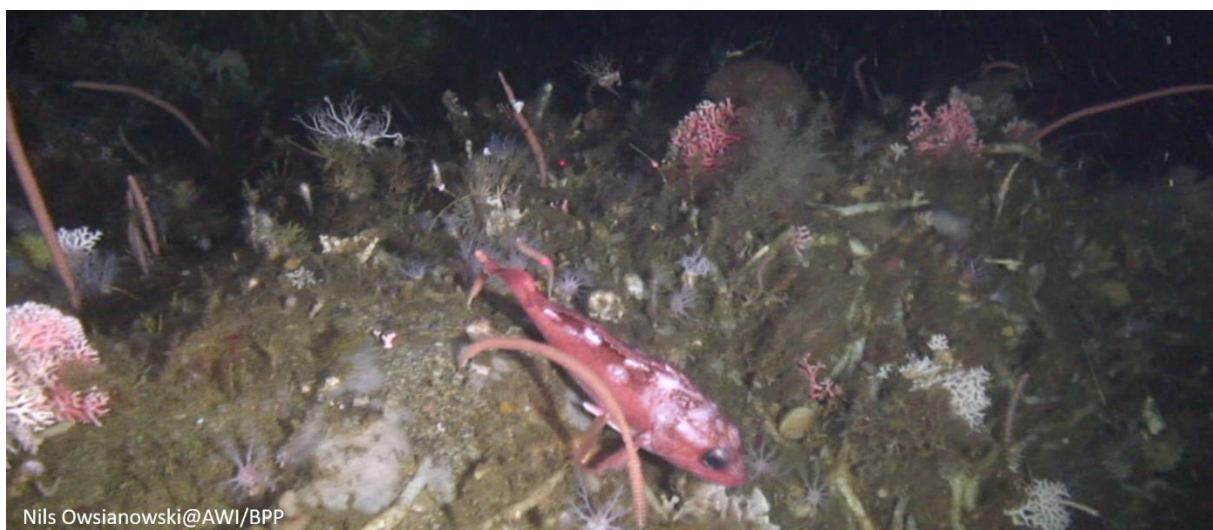


Fig.2: Distribution of different phytoplankton groups between Bahía Parry, Seno Almirantazgo and Bahía Fitton.

On Wednesday, after lengthy preparation and installation of the periphery in the CTD laboratory as a command center, the ROV of the benthic group in Canal Cockburn was deployed for the first time and immediately provided high quality and impressive film recordings of the benthic fauna at depths of 180 to 300 m (Fig. 3). These recordings will form the basis of the study of changes in the benthic communities over the past 26 years by comparing these recordings at identical sites with those taken during the Victor Hensen cruise in this area.



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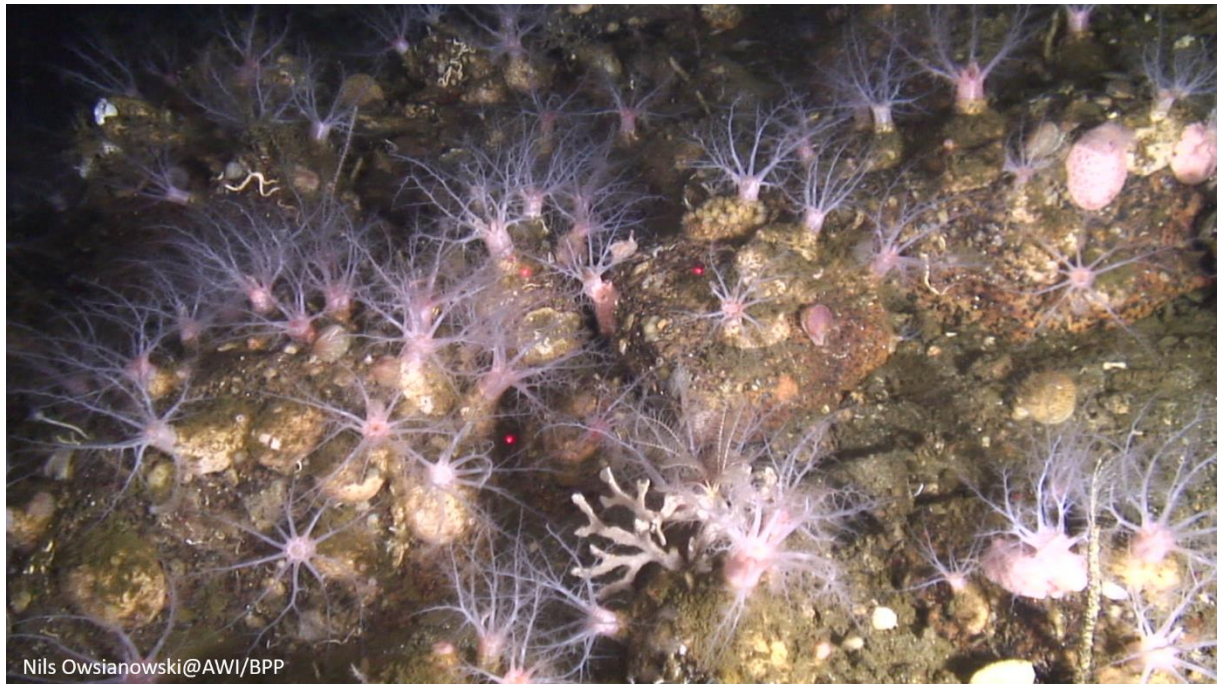
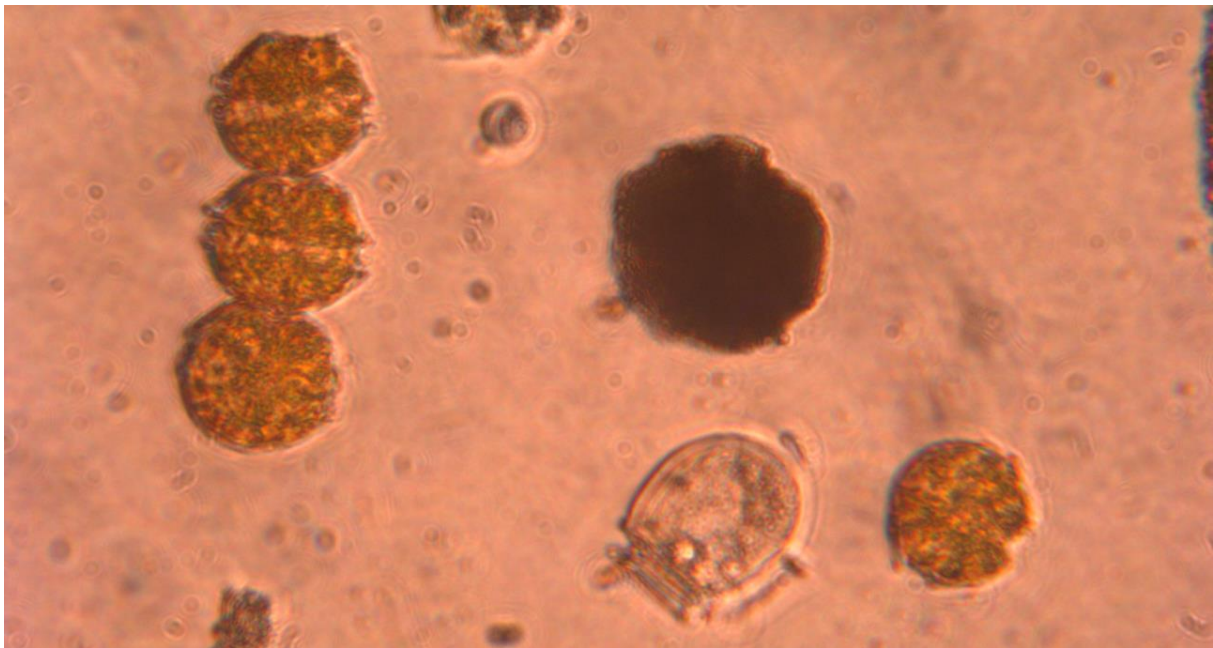


Fig.3: Snapshots of the film recordings of the benthic fauna in the work area.

During the week, work continued first in Canal Ballenero and then in the northeast arm of the Beagle Channel. In addition, increasing numbers of specimens of toxic microalgae of the genera *Alexandrium* and *Dinophysis* were discovered to the south (Fig. 4). Single living cells of these species were isolated under the microscope and transferred to culture medium. The aim is to establish monoclonal cultures of these algal species to characterize them taxonomically, morphologically and chemically and to investigate their toxin profiles in order to assess their risk potential.



*Fig.4: Microscope image of toxic microalgae of the genus *Alexandrium* (ocher spheres) and *Dinophysis* (transparent oval).*

Work began at Seno Garibaldi on January 30 in front of an impressive landscape and will continue there in the coming week.

All participants are well and send greetings home. They also continue to inform about the research activities and life on board on Twitter (<https://twitter.com/ThoelenClaudia>) and in blog posts (<https://icbm-auf-see.uni-oldenburg.de/>).

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