



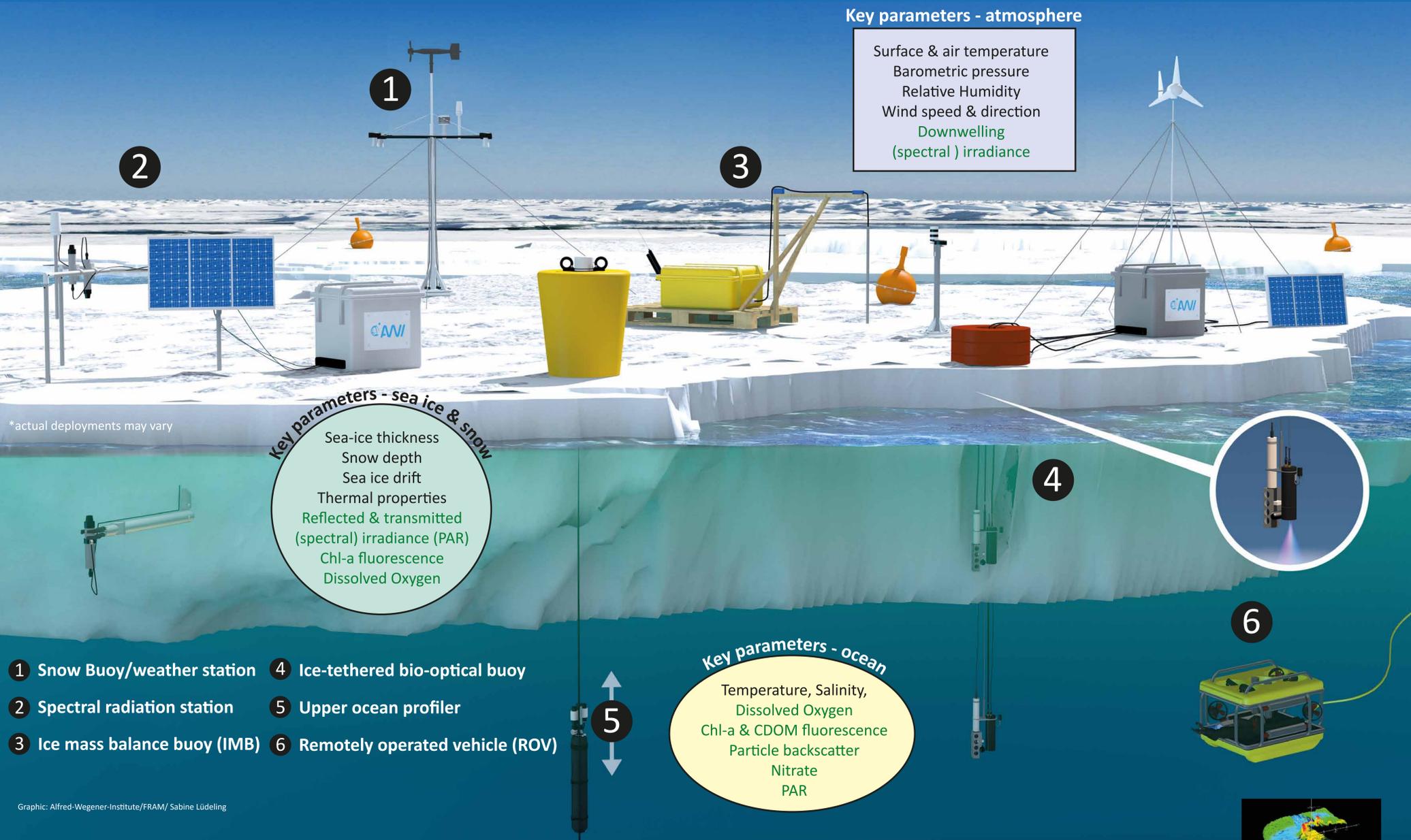
An autonomous, multi-disciplinary sea ice-atmosphere-ocean observatory in the central Arctic & in the Weddell Sea

to overcome the **Three main observational challenges in ice-covered oceans:**

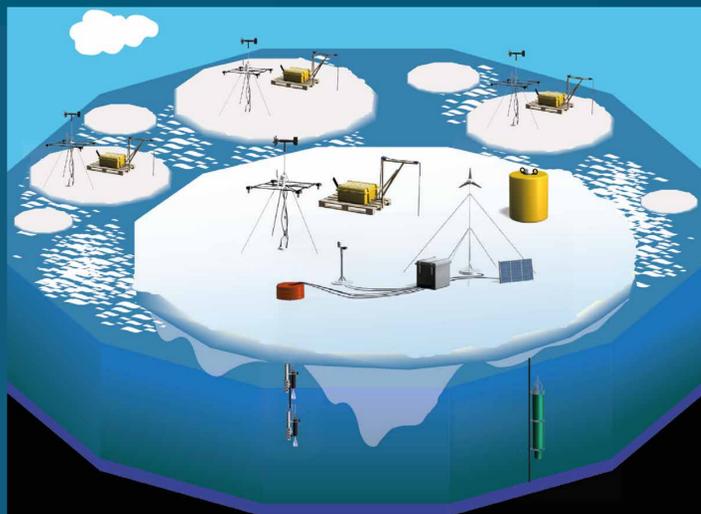
Spatial coverage:
the challenge of scales

Temporal coverage:
the challenge of seasonality

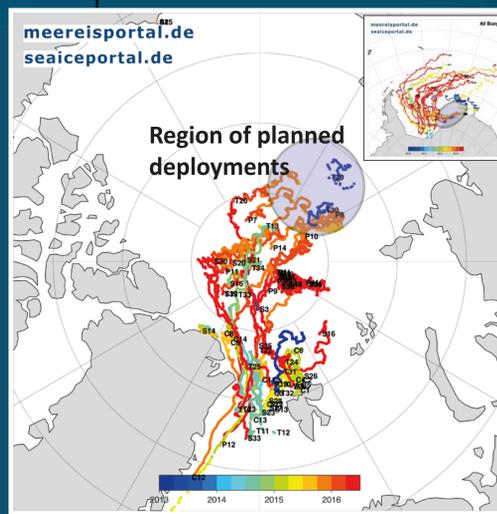
Interdisciplinarity:
climate- & ecosystem interaction



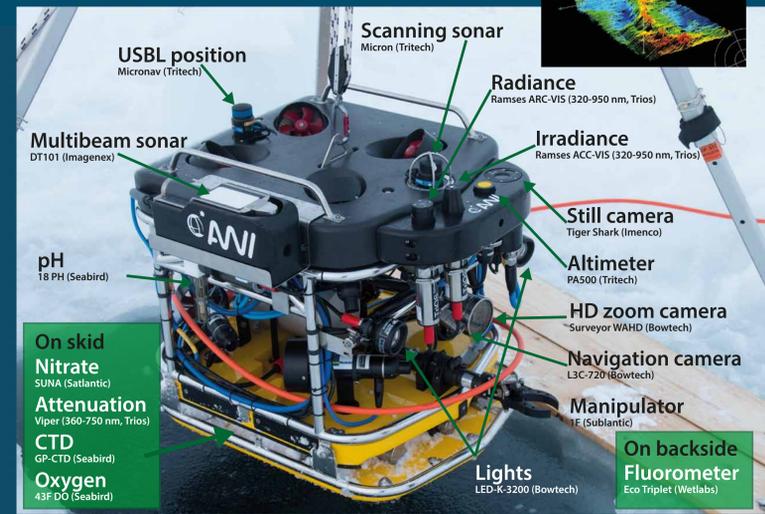
Graphic: Alfred-Wegener-Institute/FRAM/ Sabine Lüdeling



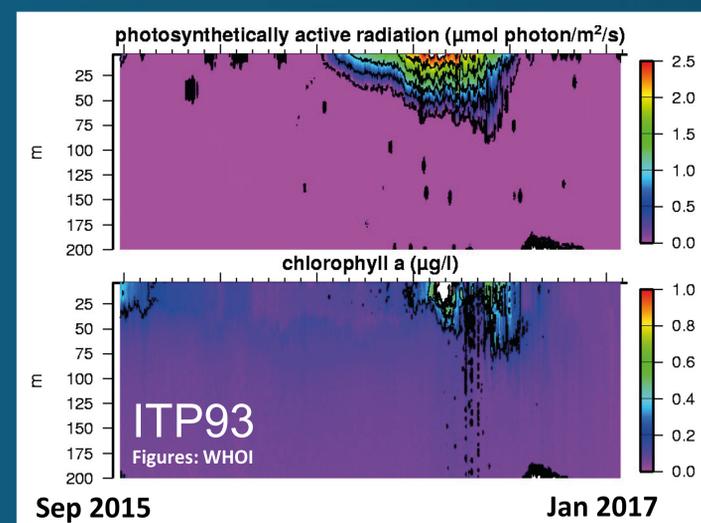
One central node and 3 sub-nodes represent one drifting observatory. Each year between 2017 and 2020, two such observatories will be deployed upstream the Transpolar Drift of the Arctic Ocean.



Central Arctic & Weddell Sea buoy deployments between 2013 and 2016, and region of planned deployments in 2017.



The remotely operated vehicle „BEAST“ is equipped with similar sensors as the buoys, and used to characterize the spatial variability of key parameters on floe scale.

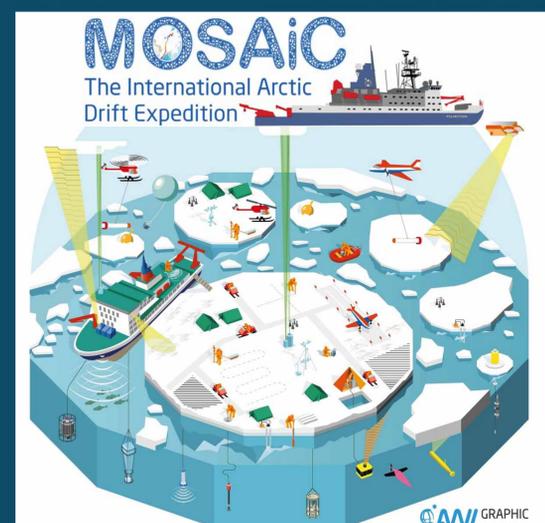


Highlight so far: ocean profiler ITP93 recorded 1,5 years of biophysical data in the Eurasian Basin.



Data availability

Arctic and Antarctic buoy data are available in near real time on <http://data.seaiceportal.de>. These buoys also contribute to the international buoy networks, as well as to the Global Telecommunication System (GTS). The data of all buoys are published and distributed through the online database PANGAEA.



Outlook: ROV operations & buoy observatories are critical elements of the MOSAic experiment in 2019/20.

This work is funded by the Helmholtz Association through the Frontiers in Arctic Marine Monitoring (FRAM), the Multidisciplinary Ice-based Distributed Observatory (MIDO) and the ACROSS infrastructure programs.