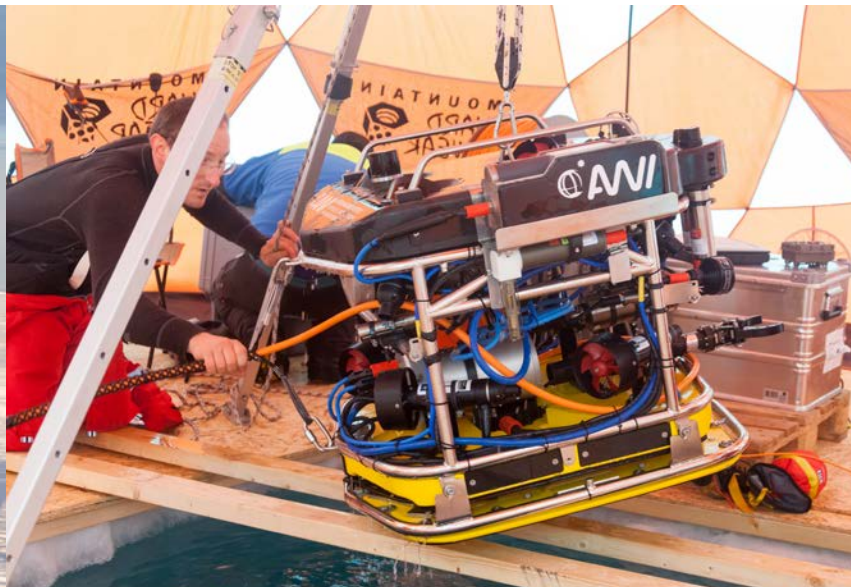


Task 3.1

Ice-tethered platforms & ROV

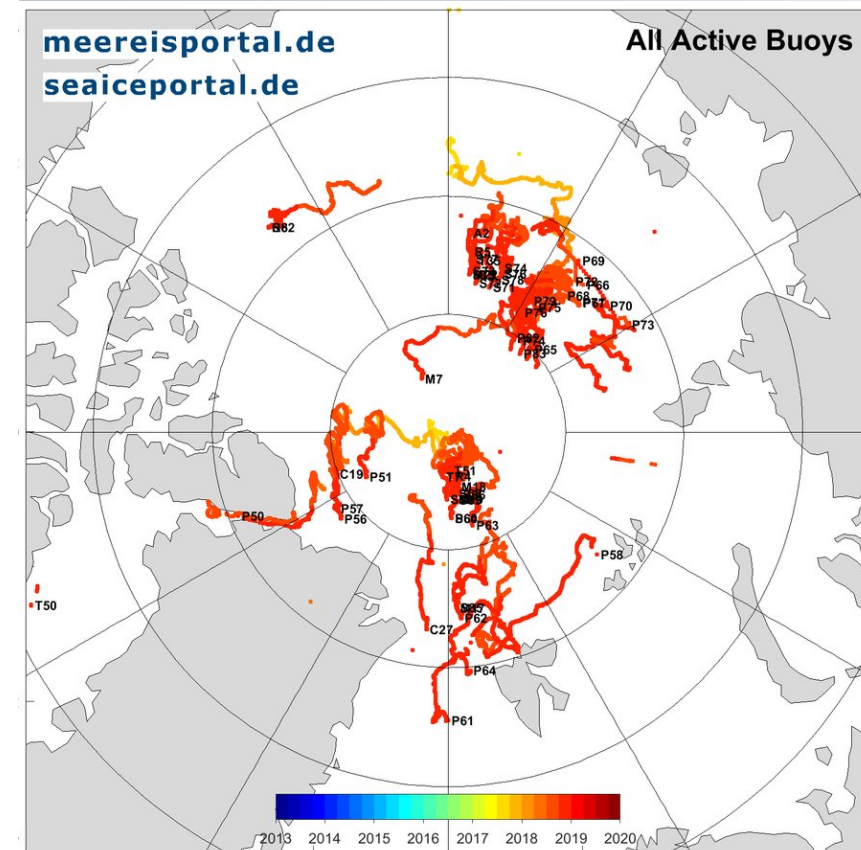
FRAM Workshop November 2018

B. Rabe, M. Nicolaus, C. Katlein, M. Hoppmann, F. Wenzhöfer, D. Scholz, Philipp Anhaus, Anja Nicolaus & colleagues



Main Achievements in 2018

- Large number of (newly developed) buoys deployed in the Arctic: we contributed to more than 70 deployments.
- Multi-basin coverage in 2018 achieved by several expeditions.
- Drift station at the North Pole during freeze-up (IB Oden): a dozen ROV deployments, MIDO buoy cluster deployment, YOPP buoy deployments during transit, lots of other data.
- 2 MIDO cluster deployments during NABOS/CATS/TICE north of the East Siberian and Laptev Seas.
- Other buoy deployments from Barneo, Araon, PS115-2, also in the Antarctic.
- Recovery of 150kEUR of equipment from Barneo!
- ROV campaign in Alert, Canada in May 2018 with 14 ROV deployments (last workshop).
- Lots of resources dedicated to MOSAiC planning & implementation (OCEAN, ICE, Distributed Network).



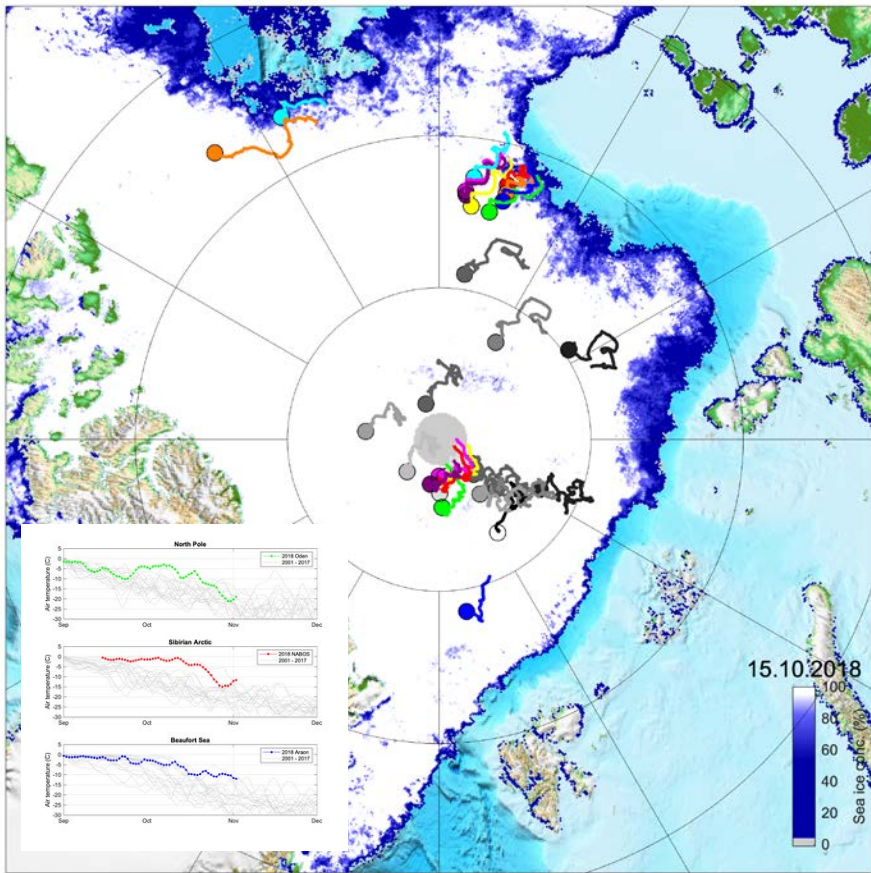
Cooperation in 2018

- IABP: deployment coordination, shared data cost
- Support of Year of Polar Prediction (YOPP)
- Support of Sea Ice Drift Forecast Experiment (SIDFEx)
- Deployments for FMI, PRIC, EUMETNET, NOAA
- LOCEAN: Profiler development/deployment (Ben, Mario)
- NERC/BMBF project “EcoLight” (Marcel)
- NERC/BMBF project „DiatomARCTIC“ (Marcel, Christian)
- NERC/BMBF project „APEAR“ (Ben)
- Université Laval : Sea-ice optical properties (Christian)
- „Sentinel North“ Summer School on Amundsen (Christian)
- SPOT pre-MOSAiC study (Mario)
- MOSAiC distributed network, ICE, OCEAN (Ben, Marcel, Mario)
- AUV (Christian)

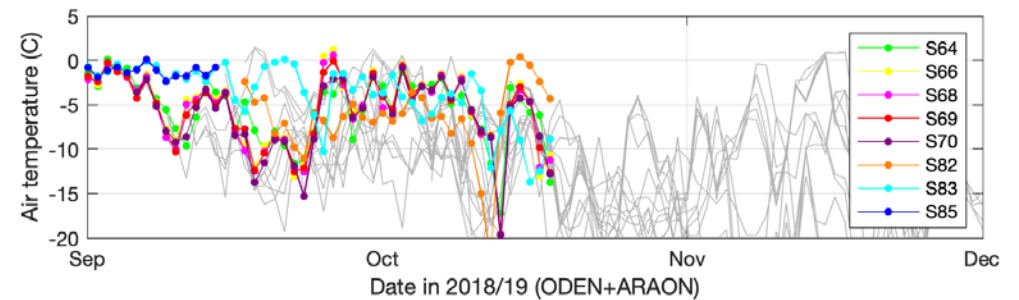
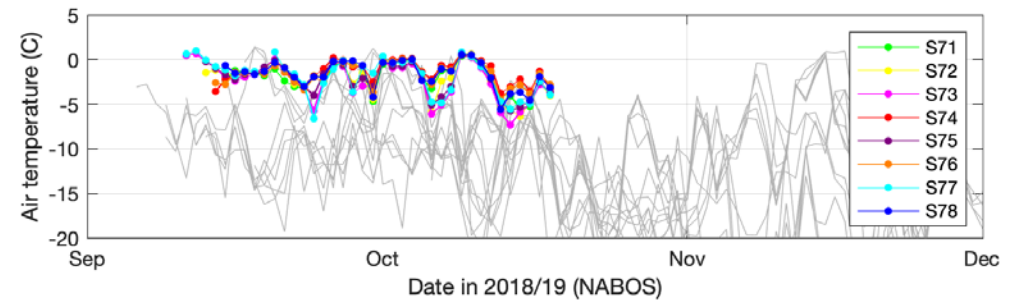
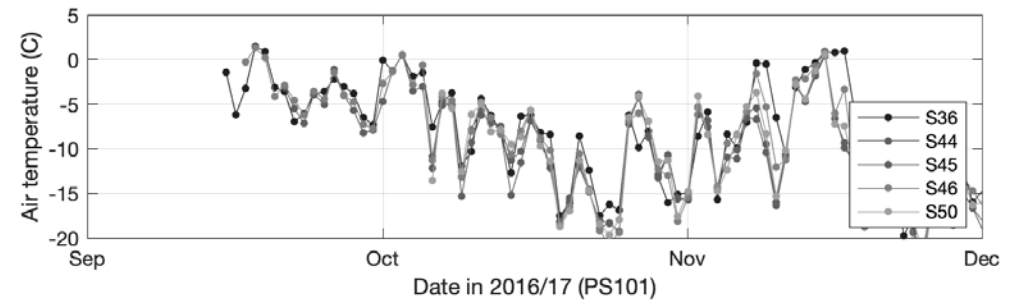
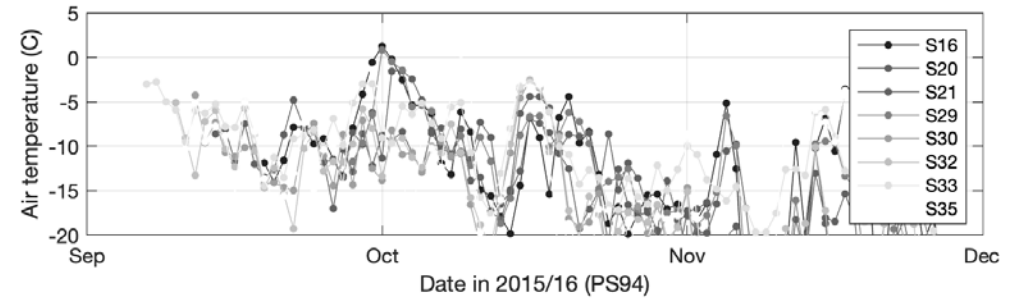
& countless more ...



Recent scientific highlight: Air temperatures in the central Arctic



Coloured dots: Buoys in 2018 (Oden, NABOS)
Grey dots: Buoys in 2015/16 (PS94, PS101)



Publications 2014 - 2018

- EPIC: ~50 articles (12 tagged with „FRAM“),
- 98 presentations (33 tagged with „FRAM“)

Work in progress:

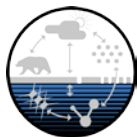
- Central Arctic FW pathways (Ben)
- Snow Buoy paper (Marcel)
- ITP93 (Christian, Mario)
- PS101 ITBOB (Mario, Christian)
- ROV data 2011-2017 (Christian, Marcel)
- Profiler recovery paper (Christian, Mario)
- IMB algorithm (Louisa)

...



Short- and midterm Activities and Goals 19/20/21:

- Better implement ROV data flow!
- Buoy data flow needs to be improved (MOSAiC!) Current progress too slow. Needs additional manpower!
- Concept for data costs! This is expensive for the sections!
- Personnel: Christian is in Canada until mid 2019, then contract runs out. Mario is 50% FRAM until mid 2019.
- Continuation as LKII: 520+260 kEUR, 3+2 FTE, Arc+Ant
- Manage SPOT & MOSAiC
- Continue developments, transfer all knowledge to AWI
- Submit pending manuscripts ...



Contributions to expeditions 2019:

- Support PS118 deployments, Larsen-C (Feb 2019)
- SPOT pre-MOSAiC study (Mar 2019)
- Alert (May 2019)
- RV ARAON (Chuckchi Sea, Aug 2019)
- MOSAiC (Sep 2019 – Sep 2020)

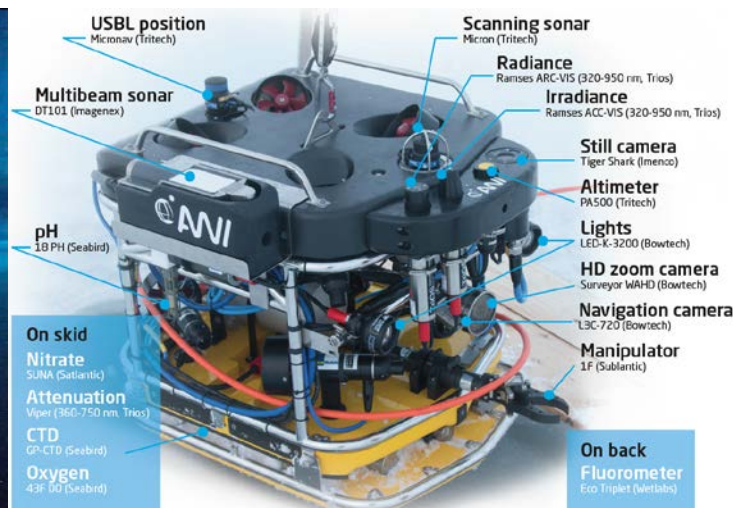


Budget Info 2018:

- Remaining 27kEUR from profiler upgrade moved to Jan 2019

Budget Info 2019 (ROV):

- LBL positioning system components 25 kEUR
- Better CTD 15 kEUR
- Oxygen Optode 4 kEUR
- Compass system 50 kEUR



FRAM Data Management update:

- availability of your FRAM working datasets
 - Decoded buoy data available from manufacturer database/website with login.
 - Automated basic processing on meereisportal IT infrastructure.
 - Data freely available, depending on buoy type (work in progress).
 - Buoy data are generally low volume.
 - Action required: better progress is needed, especially with regard to MOSAiC.

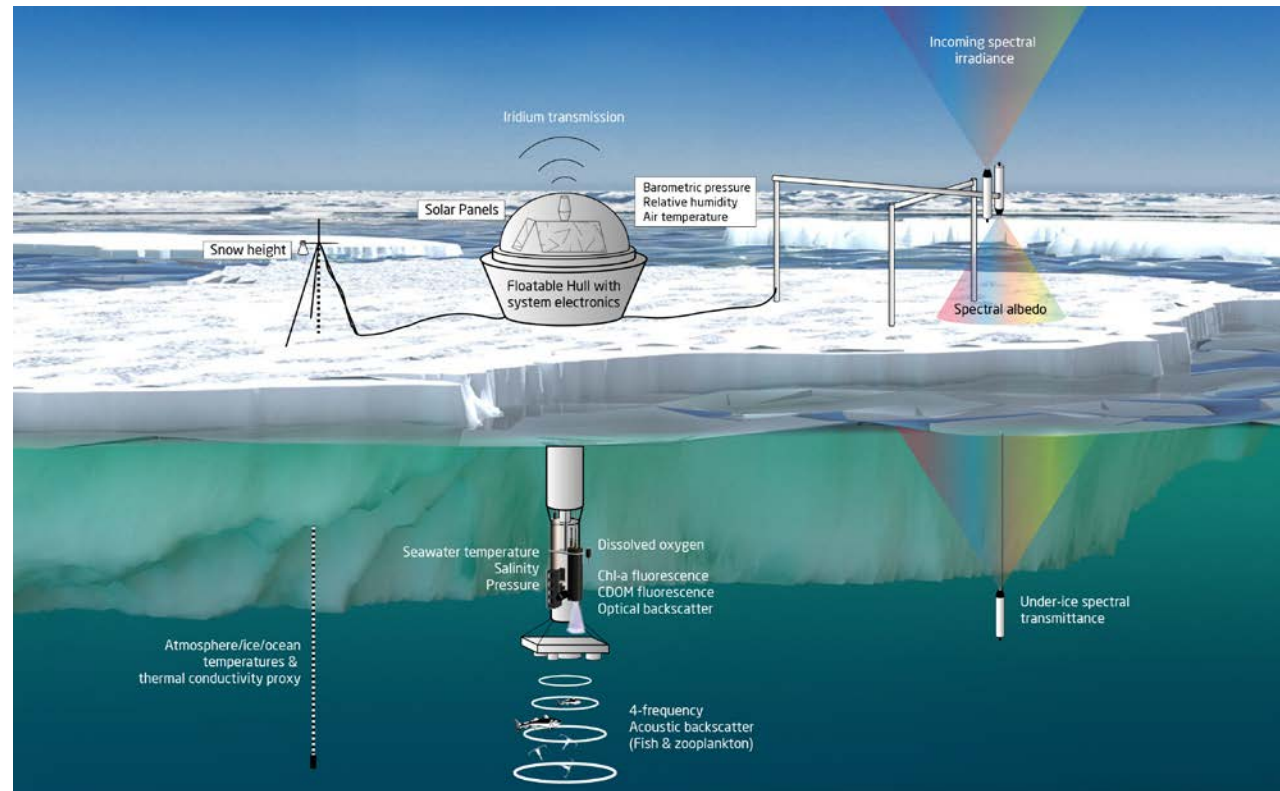
 - ROV campaign data stored on multiple hard drives. Partly provided to CC. Action required to establish ROV standard data flow!
 - ROV data are high volume (~2 TB per campaign).
 - Data are available on request.

- is this information updated in your data management plan? **More or less.**



Update of your SENSOR.awi.de listings:

- Please give a general update of your sensor metadata-management
- Nearly all buoys & sensors are listed (~330)
- Calibration certificates have been uploaded.
- Parameters etc. are still to be added.
- **Important! Have recent missions been properly documented/ updated?**
- All buoys from recent expeditions are included.
- All newly purchased sensors are included.
- ROV dives are not included yet.
- Sea ice database still the main tool for buoys.
- Meereisportal still the main buoy data portal.



Annex: List of Publications (2014-18)

http://epic.awi.de/cgi/search/archive/advanced?dataset=archive&screen=Search&_action_search=Search&eprintid=&awi_item_uri_merge=ALL&awi_item_uri=&creators_name_merge=ANY&creators_name=Hoppmann+nicolaus+rabe+katlein&title_merge=ALL&title=&date=2014-2018&abstract_merge=ALL&abstract=&documents_merge=ALL&documents=&type=article&type=conference_item&type=manual&publication_merge=ALL&publication=&divisions_merge=ANY&awi_platform=fram-station&awi_platform_merge=ANY&awi_campaign_merge=ANY&awi_allPrograms_merge=ANY&awi_optionalPrograms_merge=ANY&editors_merge=ALL&editors=&external_data_doi_merge=ALL&external_data_doi=&external_data_url_merge=ALL&external_data_url=&satisfyall=ALL&order=-date%2Fcreators_name%2Ftitle



Special thanks to Oden crew & Swedish Polar Research Secretariat!

