



MOSAiC Status Update Nr. 4/2019

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1. MOSAiC Timeline

As we finalize the planning, there have been a few minor changes regarding the timeline of MOSAiC. We will now depart in Tromsø on the 20th of September 2019 and end in Bremerhaven on the 14th of October 2020. (Discussions about a potential stop in Tromsø on the way back are still ongoing, the expedition will end however in that place where all the equipment and boxes are stored that will be left in Tromsø after departure).

| | Start | Rotation Leg I => II | Rotation Leg II => III | Rotation Leg III => IV | Rotation Leg IV => V | Rotation Leg V => VI | End |
|-------------------|--------------------|-------------------------|------------------------------|-----------------------------------------|--------------------------|-------------------------|---------------------------|
| supply vessel | | Makarov | Makarov | 3 x Antonov AN47 | Oden | Xue Long | |
| departure point | Tromsø | Tromsø | Tromsø | Longyearbyen | Tromsø | Tromsø | 14 October Bremerhaven |
| departure date | 20 September | ~ 23 November | ~25 January | | 1 June | ~1 August | |
| exchange date | | ~ 15 December | ~15 February | ~13-17 April | 12 June | ~15 August | |
| arrival date | | ~ 4 January | ~7 March | | 25 June | ~30 August | |
| arrival point | | Tromsø | Tromsø | Longyearbyen | Tromsø | Tromsø | |
| pax | | ~100 | ~ 100 | ~40 | 50 scientists | tbc. | |
| Additional vessel | RV Federov | | alternative | alternative A: departure Khatanga | Leg IV => V crew Oden | | |
| departure point | Tromsø | | exchange with Helicopters | alternative B: Helicopters | Tromsø | | |
| departure date | 20 September | | via Cape Baranova | via Cape Baranova | 30 June | | |
| leaves Polarstern | ~15 October | | | | 12 July | | |
| arrival date | ~30 October | | | | 22 July | | |
| arrival point | Tromsø | | | | Longyearbyen | | |
| pax | max. 160 | | | | 50 crew | | |
| | 2xMI-8 helicopters | | | | | | |

2. SetUp phase in Tromsø

We will have an extensive preparation phase in Tromsø before departure. Phase 1 will be the reorganisation of all cargo and the packing of our storage containers. Phase 2 will be the set up on board Polarstern. Please not, that all work visits as well as support personell (meaning, persons that need to help with the set up but are not participants of Leg 1) have to be announced beforehand. We will publish a list shortly.

All participants for Leg 1 have to be in Tromsø latest by the 14th of September in the evening to attend the mandatory safety briefing.



| date | scientists | Vessel | date | |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------|--------|
| Tue 2 | deadline freight delivery | | 2 Tue | |
| Sat 6 | shuffling' cargo; preparation of 'storage containers'; preparation of instruments | | 6 Sat | |
| Sun 7 | | 7 Sun | | |
| Mon 8 | | 8 Mon | | |
| Tue 9 | | 9 Tue | | |
| Wed 10 | | 10 Wed | | |
| Thu 11 | | 11 Thu | | |
| Fri 12 | | 12 Fri | | |
| Sat 13 | | arrival Polarstern, unloading PS121 | 13 Sat | |
| Sun 14 | | Arrival all participants | emptying/clean up | 14 Sun |
| Mon 15 | | all participants: safety briefing | loading PS122 (incl. lab containers & radar) | 15 Mon |
| Tue 16 | preparation walkway etc. | | 16 Tue | |
| Wed 17 | installation of instruments, set up on board | | 17 Wed | |
| Thu 18 | --> support personnel has to be announced to ships coordination | | 18 Thu | |
| Fri 19 | --> any assistance from crew has to be coordinated with Chief Mate) | | 19 Fri | |
| Sat 20 | 8:30 - 14:00 check in of participants of Leg 1a 14:00 all support personnel has to leave the ship 14:00 farewell ceremony departure | | 20 Sat | |

3. Powersupply

The electric power supply of Polarstern is divided in several electric circuits. There is a clean electric circuit for electronic devices and a power conversion network for electric devices. The whole power supply is based on a frequency of 50 Hz and a total wattage of 4400 kW. Out of this 390 kW are maintained for the clean network. Electric networks of RV Polarstern:

- o 660 Volt, 50 Hz
- o 380/220 Volt, 50Hz
- o 380/220 Volt / 50Hz via converter for laboratories and nautic instruments
- o 24 Volt direct current

All functional spaces, laboratories and bunk rooms are equipped with 220 Volt electrical sockets, which are supplied by the clean network and additionally are buffered by two uninterrupted power supplies (UPS) with 120 kVA electric capacity each (red sockets). Computers and sensitive scientific instruments can be connected to the protected network using the sockets highlighted in red, the two UPS ensuring an undisturbed and buffered power supply. Other consumer especially those belonging to the machinery are connected to the 380 Volt network.

Inside the ship, the sockets are of type CEE 7/3. The corresponding plugs need to be of type CEE 7/4 or CEE 7/7 (international type "F", German acronym "Schuko").

Outside ship there are also IP44 protected sockets of type CEE, following norm IEC 60309 / DIN EN 60309. The blue cases covers 3 pins (L+N+PE,6h). The red coloured sockets for 380 Volt three phase provide 16 A (some 32 A, 63 A or 125 A). The corresponding plugs following norm IEC 60309 / DIN EN 60309 and have 5 pins: 3L+N+PE,6h.

Consumers with a high electric consumption are supplied via the 660 Volt network.

There is no dedicated supply for 110 Volt.

For the Central Observatory, we will provide a powerline from the ship, with powerhubs at Ocean City (Ben Rabe), Met City (Matthew Shupe), the ROV Site (Marcel Nicolaus) and the Remote Sensing Site (Gunnar Spreen). Any installation that needs access to the powerline must be announced to the coordinator of that Hub.

The power hubs will be equipped with 16/32 A, 380 V, 5-pin (3Phasen+N+earth), 6h16 A, 220 V, 3-pin (2Phasen+N+earth) outlets, same type as on the vessel.

Regarding the connection of Lab&Workcontainers, the concerned parties will be contacted directly.



4. Polar bear protection & shooting training

Every participant that wants to handle a rifle for polar bear protection has to pass the AWI polar bear protection & rifle training. At least two people per group should be able to carry a rifle. In general the more people are able to be a polar bear guard, the more flexible we are to organise work on the ice.

We will have 6 courses in 2019 in Bremerhaven for the participants of Leg 1,2 and 3:

25.04.19

16.05.19

22.08.19

05.09.19

October (tba),

November (tba)

The course includes a theoretical part about polar bears, polar bear watch and rifle handling, a practical shooting training, an exam and a night shooting. It will be one full day (9:00 – 24:00), so for all external people two overnight stays in BHV are needed. We will have dinner on site, please bring a sandwich or snacks for lunch. The price for the course is 100 EURO per person.

To register for the course please write an email to Elena Tschertkowa-Paulenz (Elena.Tschertkowa-Paulenz@awi.de), stating course date, name, institute, invoice address and which cruise leg you will be on.

5. STCW Basic safety training

Due to the fact that there was some confusion regarding the content of the trainings and the issue of certificates you will find the most important aspects here:

- You do not necessarily have to participate in a training that is taking place in Germany. There are basic safety courses all over the world. Just make sure that they are acc to STCW A-VI/1-1,1-2,1-3 & 1-4 (Basic safety training for seafarers). (If you are not sure whether you have chosen the correct training, don't hesitate to contact Bjela.koenig@awi.de)
- In Germany the training takes 2 weeks. There are some other countries which offer the same course in one week. This does not matter as long as the above mentioned training standard is certified.
- If you participated in the basic safety training (A-VI/1-1,1-2,1-3 & 1-4) before, you only have to make a refresher course, which is shorter. But this does only apply if your certificate is not older than 5 years. If it is older you have to make the whole course again. Like the basic safety training, the refresher course might differ in length depending on the country. Again the only important thing is the correct description on the refresher certificate, which will be handed out as an addition to your basic safety training certificate. The refresher certificate is only valid together with the initial basic safety training document.
- For those of you who plan to do the training in Germany: It is not correct that it will take several month to receive the certificate from the BSH (German federal agency for shipping) after the training. If you do the training in Elsfleth (http://www.marikom-elsfleth.de/schiffsmechaniker/Inhalt-STCW_Lehrgaenge_Basic_Safety/) you need to hand in your passport copy, your medical certificate copy (medical certificate for seamen) and the application from the BSH (<https://formulare.bsh.de/lip/form/display.do?%24context=CB2A69A617B796328D39>) at the beginning of the training. The training center will apply for all participants certificates so that you will directly receive them after the examination at the end of the training. If you plan to



do the course in Rostock for example (<https://www.afz-rostock.de/stcw-training-seeleute.html>) you will receive a certificate of attendance. This one should be sent to Bjela König, together with your passport copy, your medical certificate copy (medical certificate for seamen) and the application from the BSH (<https://formulare.bsh.de/lip/form/display.do?%24context=CB2A69A617B796328D39>) and then Bjela will arrange all certificates via collective application at BSH which will take approx. 2 weeks.

6. Medical Checks

The validity of your medical certificate from the medical officer or your GP needs to cover **the entire length of the expedition**. If it expires at an earlier date before the leg ends you have to make a new medical examination before going on board.

Medical examination for seamen can be carried out at the following certified medical officers: https://www.deutsche-flagge.de/en/maritime-medicine/fitness-for-sea-service/authorized-physicians?set_language=en

7. Insurance

All participants of AWI expeditions are automatically protected by an accident insurance and by a travel health insurance. Generally there is no need for further action except for following persons:

- Passengers that are older than 67 years or will be 67 years old during the expedition
- Passengers that will be abroad longer than 180 days including journey to and from the destination

If any of these two cases apply, please contact schifskoord@awi.de.

Passengers that stay abroad right before or after the expedition should have additional insurances for this private stay.

8. Device Management List

The device management list is online again! Please add all your devices and complete existing entries until 15.4.2019.

The restructured version is available online under

[MOSAiC_all/General/Groups/Data/DataPanning_Lists](#). It is also linked in the MOSAiC_all Wiki at [Data Planning Lists in Wiki](#).

All sampling and measuring devices should be entered in the list. Please also recheck your entries for completeness. The information helps us estimate the amount of data generated, stored and transferred during the expedition. It further helps us to identify possible bottlenecks but also to prepare the infrastructure to meet your requirements.

Please contact Antonia Immerz (antonia.immerz@awi.de) or Mohammad Ajjan (mohammad.ajjan@awi.de) in case of any questions regarding the list.

9. Data Policy

The executive summary of the data policy is available for download under

<https://spaces.awi.de/confluence/display/EFPW/Data+policy> and in

[MOSAiC_all/General/Groups/Data](#). It is also included in the MOSAiC Handbook.



The MOSAIC Data Policy is to be signed by every individual MOSAIC member. It applies to everyone generating data within MOSAIC or using the respective data.

Please send a scanned version of the signed document per email to the MOSAIC Registration Office to anja.sommerfeld@awi.de containing the subject 'MOSAIC Data Policy Signature'.

Please contact Stephan Frickenhaus (stephan.frickenhaus@awi.de) or Antonia Immerz (antonia.immerz@awi.de) in case of any questions.

10. SensorWeb

All devices and sensors measuring or collecting data respectively must be registered in the SensorWeb (sensor.awi.de).

This provides the basis of having a complete meta data set for MOSAIC data publications and is prerequisite for data to be stored in the MOSAIC central storage.

Tutorials on how to use sensor.awi.de can be found under [Tutorials](#) and an introductory webinar is found also available in the MOSAIC_all Wiki at [Featured Webinars in Wiki](#).

Please contact the individual editors of your teams to get information on how the entry of devices is organised within your team and who will require a hands-on training with our SensorWeb-Support.

The list of initial editors for the SensorWeb is updated in the MOSAIC_all wiki at [SensorWeb-sensor.awi.de in Wiki](#).

For any questions regarding the SensorWeb please contact Janik Eilers or Antonia Immerz via sensor@awi.de.

When requesting a user account please give the following information:

Name, Surname, Institute, Telephone Nr., City, Country, Keyword 'MOSAIC',

11. Distributed Network

There will be a monthly webmeeting to organize the Distributed Network. The first will take place on Wednesday, 3rd of April at 8:45 CET. You find the link to the webmeeting on M365 in the [MOSAIC All Wiki](#).

12. List to be filled

Please check the list for freight and storage needs and update if needed until the 1st of April. We will use the status of that day to plan accordingly.

Especially for the freight – please also hand in your estimates for the supply cruises. This gives us the possibility to check for feasibility. In case something is not possible, the only other option is Polarstern, and the deadlines for this are approaching.

MOSAIC_All/groups/Logistics: [freight](#), [StorageNeeds](#)

13. Upcoming events

| Event | Date | Time | Location |
|--------------------------------|------------------|----------|-------------|
| Distributed Network Webmeeting | 03.04.19 | 8:45 CET | online |
| Snow & Ice Training 3 | 7.4.19 – 13.4.19 | All day | Barrow, USA |