

Highlights of the MOSAiC Science Implementation Workshop held in Potsdam (Germany) on 22-24 July 2015

With the objectives to:

- Start building an implementation plan to accomplish the MOSAiC Science Plan,
- Identify specific logistics requirements to support science activities,
- Identify specific roles and scientific contributions of the participating groups,
- Maintain tight coupling between observational and modeling activities,
- Focus on MOSAiC activities, but identify opportunities for broader connections and collaborations,

the Science Implementation Workshop of the “Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC)” took place at the Alfred Wegener Institute in Potsdam (Germany) on 22-24 July 2015, sponsored by IASC.

The workshop started with overview talks by Matthew Shupe about “Observations: Needs and possibilities for MOSAiC” and by Klaus Dethloff “Modelling approaches for MOSAiC”. Rainer Knust introduced the research vessel Polarstern “Polarstern: a unique base for a transpolar drift station: options and requirements”.

In the following, the 60 participants from 12 countries presented their ideas of proposed MOSAiC activities in the subsystems atmosphere, ocean, sea ice, and ecosystem followed by parallel breakout sessions to outline specific activities and their implementation needs, to consider different scales: central observatory, local measurements, distributed network, large-scale, to identify requirements for specific platforms: laboratory space, deck space, winches, sea-containers, on ice, unmanned systems, helicopter operations, sample storage and to document ideas, e. g. which measurements are needed, groupings/systems, who can/will take the lead on different aspects, and logistical requirements.

After the disciplinary sessions interdisciplinary plans for observing and modelling the coupled Arctic climate system were presented by overview talks of Wieslaw Maslowski and Annette Rinke “Modelling the coupled system within MOSAiC” and Ola Persson “Observing the coupled A-O-I system”. This included discussions on bridging disciplines to address the coupled system, coordinated observational design, support for coupled-system modelling and data assimilation and the role of satellite observations and coordinated activities.

In parallel breakout sessions the participants developed plans for overarching coordination and requirements with respect to activities on POLARSTERN, local ice-camp activities, airborne (planes and helicopters) activities, distributed networks (buoys, etc.) and coordinated ship activities and transects during refueling.

The last session dealt with funding and large infrastructure challenge and overview talk by Nicole Biebow “EU Call for Large Infrastructure” and Klaus Dethloff, Matthew Shupe “ Future MOSAiC Plans for Funding”. The discussion topics focused on:

- Major infrastructure: Polarstern requirements (fuel, crew change frequency, etc.); Implementing re-supply and crew change; On-ice runway.
- Funding considerations
- Connections with YOPP and partner activities
- Data access and management

- Documenting Implementation plan

The workshop ended with concrete decisions for developing the MOSAiC science implementation plan until February 2016.

For more information on MOSAiC please see: <http://www.mosaicobservatory.org>