



Polar
Space
Task
Group

Polar Space Task Group Meeting 6

The Year of Polar Prediction

European Space Agency
European Space Research and Technology Centre
13-15 September, 2016



YOPP mission

Enable a significant improvement in environmental prediction capabilities for the polar regions and beyond, by coordinating a period of intensive observing, modelling, prediction, verification, user-engagement and education activities.

- YOPP is a flagship activity of WMO's Polar Prediction Project
- YOPP contributes to the implementation of the Globally Integrated Polar Prediction System (GIPPS)

YOPP objectives

- Improve the polar observing system to provide better coverage of high-quality observations for prediction in a cost-effective manner.
- Gather additional observations through field programmes aimed at improving understanding of key polar processes.
- Improve representation of key-processes in uncoupled and coupled models used for prediction.
- Develop improved data assimilation systems that account for challenges in polar regions (e.g. sparse data, steep orography).



YOPP objectives

- Explore the predictability of the atmosphere-cryosphere-ocean system, with a focus on sea ice, on time scales from days to a season.
- Improve understanding of linkages between polar regions and lower latitudes and assess skill of models representing these.
- Improve verification of polar weather and environment predictions to obtain quantitative knowledge on model performance, and on the skill of operational forecasting systems for user-relevant parameters; and efficiently monitor progress.

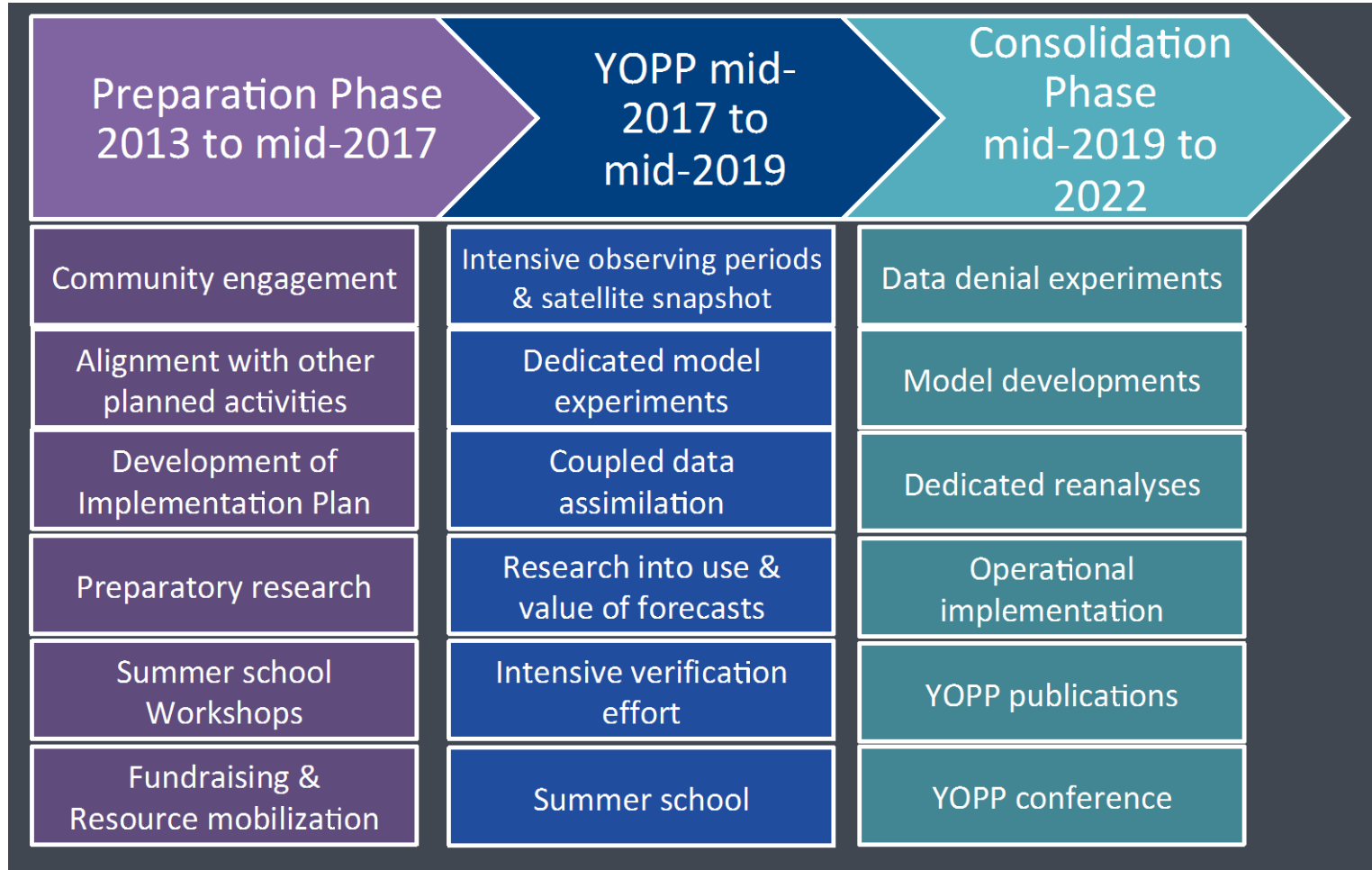


YOPP objectives

- Improve understanding of the benefits of using prediction information and services in the polar regions, differentiated across the spectrum of user types and benefit areas.
- Provide training opportunities to generate a sound knowledge base on polar prediction related issues.



YOPP phases





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YOPP planning meetings

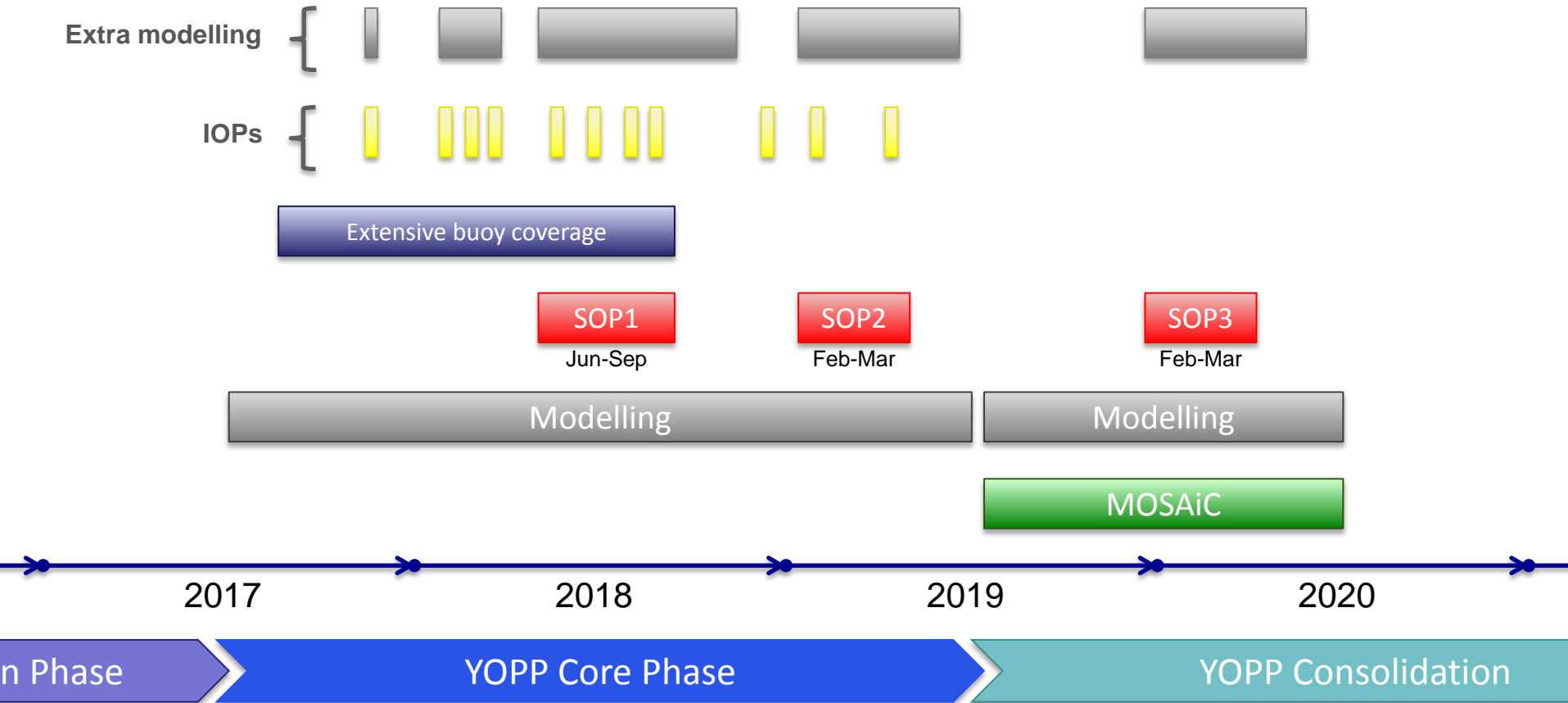


5-9 September 2016, ECMWF, Reading, UK



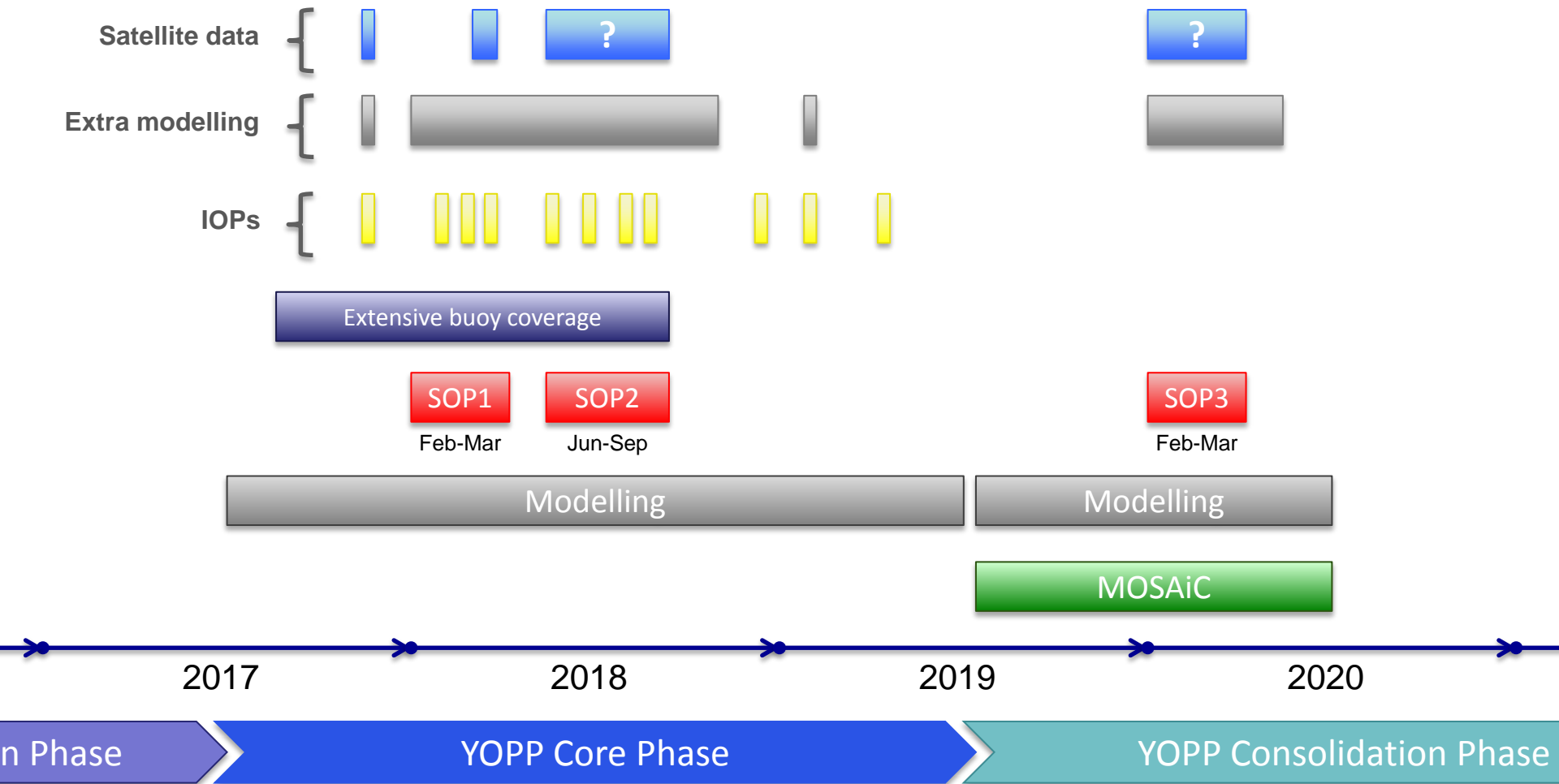
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YOPP planning





YOPP planning—Option 2





Coordination through endorsement

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YOPP Endorsement

The Steering Group (SG) of the Polar Prediction Project (PPP) provides endorsement for projects, programs and initiatives that plan to contribute to the aims of the [Year of Polar Prediction \(YOPP\)](#), as outlined in the [YOPP Implementation Plan](#).

Projects seeking endorsement through YOPP may either be funded or in the process of seeking funding.

Benefits

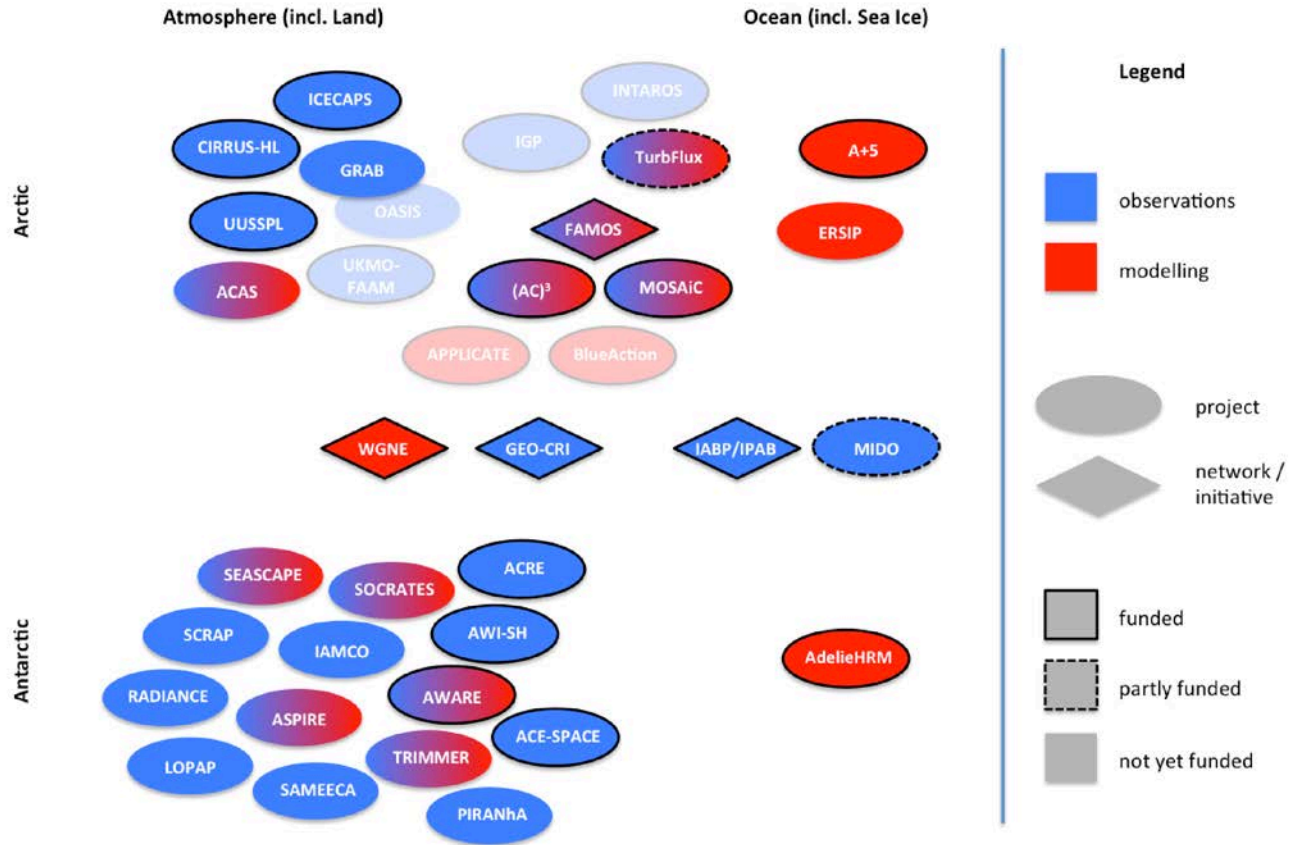
Guidelines

Endorsement process

<http://apps3.awi.de/YPP/>



YOPP endorsed projects (8th Sep 2016)



30 endorsed projects

Coordination through endorsement

NEW!



... institutional contributions

Progress through task forces

- YOPP Southern Hemisphere
- Special Observing Periods—SOPs (filling the gap)
- Operational prediction centres
- Airborne platforms
- SERA
- Outreach
- Data
- ...



Actions items list

Action	Status
ACTION 5.4: PSTG to formulate a list of operational products that PSTG believe are suitable to YOPP and this should be complemented by research products. This requires that space agencies make their commitments and provide a table of proposed products for YOPP; this could be an appendix to the YOPP Implementation Plan.	open
ACTION 5.5: T. Jung to provide list of SAT products that are endorsed by national PIs.	open
ACTION 5.6: To add soil moisture in the Strategic Priorities 2015-2018 for Polar Prediction.	open

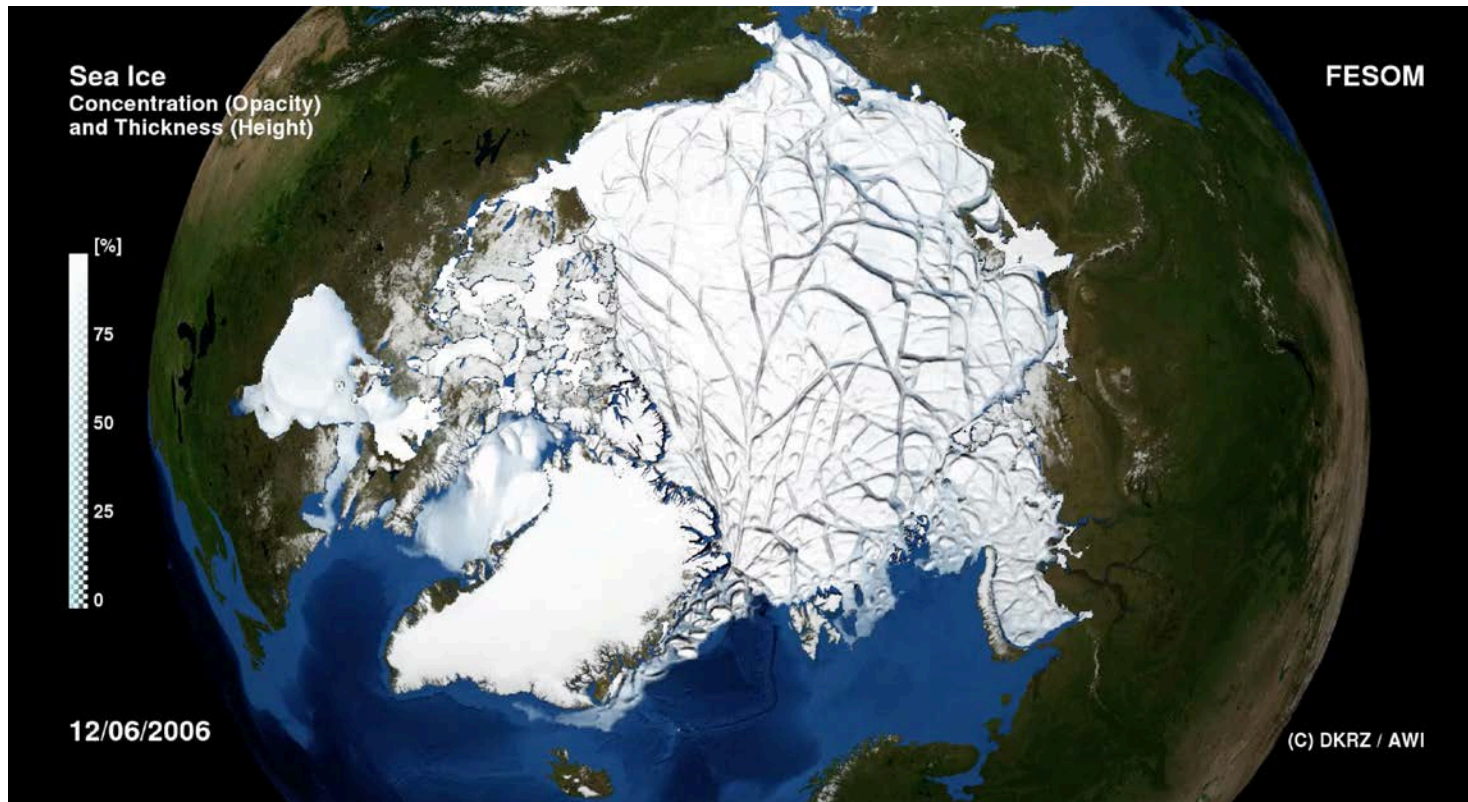
YOPP satellite activities

- Provide YOPP community with list of operational products (advertise through YOPP Newsletter and mailing list)
- Discuss additional research products (contributions to SOPs and IOPs)
- PSTG and PPP-SG to combine efforts in pushing for a strong YOPP buoy component
- PSTG to acknowledge the strong ties between YOPP and MOSAiC
- Need for multi-sensor sea ice thickness products
- Institutional YOPP endorsement



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High-resolution sea ice modelling



Wang et al. (2016), GRL

4.5 km in the Arctic; 25–100 km elsewhere



Discussion

