

Project: **1084**

Project title: **Applicate**

Principal investigator: **Claudia Hinrichs**

Report period: **2020-11-01 to 2021-08-31**

## **APPLICATE project**

The EU project APPLICATE has ended with a successful final project review in April. We contributed with our modeling results to the following deliverable reports:

- D2.5 Final Report on model developments and their evaluation in coupled mode,
- D2.7 Synthesis on priorities for future model developments for coupled models,
- D5.6 Report on integrated added-value from APPLICATE on weather and climate prediction and projection,
- D5.7 Synthesis report on priorities for future forecasting system development,
- and to the final project review.

We also contributed to or lead the following article submissions:

- **Improving Arctic weather and climate prediction: priorities for future forecast systems evolution**, Pablo Ortega, Edward W. Blockley, Morten Køltzow, François Massonnet, Irina Sandu, Gunilla Svensson, Juan C. Acosta Navarro, Gabriele Arduini, Lauriane Batté, Eric Bazile, Matthieu Chevallier, Rubén Cruz-García, Jonathan J. Day, Thierry Fichet, Daniela Flocco, Mukesh Gupta, Kerstin Hartung, Ed Hawkins, Claudia Hinrichs, Linus Magnusson, Eduardo Moreno-Chamarro, Sergio Pérez-Montero, Leandro Ponsoni, Tido Semmler, Doug Smith, Jean Sterlin, Michael Tjernström, Ilona Välisuo and Thomas Jung, *Bulletin of the American Meteorological Society* (submitted).
- Hinrichs C., Q. Wang, N. Koldunov, M. Longjiang, T. Semmler, D. Sidorenko, T. Jung: **Atmospheric wind biases: A challenge for simulating the Arctic Ocean in coupled models?** *Journal of Geophysical Research* (in review), <https://www.essoar.org/doi/abs/10.1002/essoar.10506855.1>
- Narges Khosravi, Qiang Wang, Nikolay Koldunov, Claudia Hinrichs, Tido Semmler, Sergey Danilov, Thomas Jung **Arctic Ocean in CMIP6 Models: Historical and 2 projected temperature and salinity in the deep basins**, *Earth's Future*, 2020, submitted, <https://www.essoar.org/doi/abs/10.1002/essoar.10505254.1> (in review)

The following publications are in preparation for submission:

- **Impact of sea-ice dependent momentum and heat flux parametrization on simulated climate in AWI-CM1**, Claudia Hinrichs, Christof Luepkes, Wolfgang Dorn, ..., Thomas Jung
- **Impact of ocean resolution on modeling the Arctic Climate system**, Claudia Hinrichs, ..., Thomas Jung