

CS5 Yamal 2040: Scenarios for the Russian Arctic

Within the case study “Yamal 2040: Scenarios for the Russian Arctic”, IASS, Foresight Intelligence, and IMEMO developed a number of different scenarios as to how the Yamal region in the Russian Arctic could look like by 2040 and developed strategic policy options for different stakeholder groups with respect to each scenario.

Information about the changing climate in the Arctic is one of the most important uncertainties with respect to the future of the Yamal region as climate change affects the health and well-being of local communities, subsistence activities of the Yamal indigenous peoples, safety and future developments of Yamal infrastructure and petroleum projects, and prospects for shipping in the Kara Sea and the Northern Sea Route.

The scenarios were developed together with stakeholders from in and outside Yamal at a total of three workshops between late 2017 and late 2018. Scientists from WP 1-4 participated in the scenario workshops and in the revision of the scenarios as experts. As scenario construction is a structured group communication process, expert contributions usually come in form of active workshop participation, targeted input presentations for the workshop participants, and/or review of the developed scenario descriptions.

The data approach taken in this case study is **predominantly qualitative** in the sense of enabling a communication space with the workshop series between the climate scientists in Blue-Action and Yamal stakeholders and thus making existing data and data generated by WP1 and 4 usable for stakeholders on the ground.

Data sources

CS5 does not rely necessarily on the climate data provided by the WP1-4, as the other CS, but rather on the expertise of the scientists in WP1-4 and their contribution during the scenario construction process, by helping participants to distinguish between climate trends and uncertainties as well as by providing their perspective on how climate developments may play out.

Representatives of the WP 1-4 were requested to provide very specific information for the scenario workshops:

- Projections of sea ice cover in the Kara sea and along the Northern Sea Route – seasonal (especially differentiated between winter and summer) and decadal (until 2040);
- Projections of temperature increase for the Yamal-Nenets Autonomous Okrug – seasonal (especially differentiated between winter and summer) and decadal (until 2040);
- Projections of changes in wind, cloudiness, and precipitation in the Yamal-Nenets AO – seasonal (especially differentiated between winter and summer) and decadal (until 2040);
- Projections of permafrost thaw in the Yamal-Nenets AO by 2040.
- Input as to the reliability of the models behind the projections, error margins of estimates, diverging expert opinions, and deviating models/projections.
- Revision of the climate aspects in the three scenarios developed by CS5.



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