

Arctic Research Centre (ARC) An interdisciplinary centre at Aarhus University

The Arctic is undergoing dramatic changes under the pressure of climate change, globalization, and economic development. The Arctic Research Centre recognizes the need to adopt an interdisciplinary approach to adequately address contemporary and critical Arctic issues both in terms of environment and society balances. The Arctic is borderless, and so is ARC. Therefore, a large number of researchers from a wide variety of disciplines join forces to investigate effects of climate changes and impacts of geoeconomic and geopolitical changes both on the Arctic ecosystems, and on human societies, today and historically. ARC intends to be an internationally leading centre for Arctic research, education, knowledge exchange and consultancy, on an interdisciplinary basis.

Vision

To research, educate and disseminate knowledge about Arctic matters, for the benefit of nature, environment, people and society.

Mission

ARC's mission is to be an internationally leading centre for Arctic research, education and consultancy, on an interdisciplinary basis.

Values Inclusiveness, performance, innovation

Goals

To fulfil our mission, ARC pursues the following broad goals:

- 1. Research**
 - To disseminate and produce new knowledge about the Arctic in the areas of nature, environment, culture, society and health, as well as the interactions between them
 - Advance interdisciplinary collaboration between human, social, natural and health sciences
- 2. Education and talent development**
 - Ensure future generations' knowledge and expertise in Arctic matters
 - Ensure interdisciplinary, locally rooted Arctic education at all educational levels
- 3. Knowledge exchange**
 - Disseminate research findings and provide consultancy services for the benefit of the scientific community, students, authorities, businesses and the general public
 - Increase knowledge about the interaction between Arctic nature, environment, culture, history, governance, economy, health and life quality, in close partnership with local communities

Research questions

Overall research questions

1. What is the interaction between nature and society in the Arctic in historical, local and global perspectives?
2. What are the effects of globalization and climate change on Arctic society and the Arctic environment in time and space?

Specific research questions

1. What controls change in (i) snow, sea ice area extent and thickness, (ii) the glacier-sea ice-ocean interactions and (iii) the permafrost thaw and the associated atmosphere-land interactions?
2. What controls the marine and atmospheric transport of pollutants to the Arctic?
3. What are the consequences of these changes (1-2) for (i) ecosystem ecology, structure and function and (ii) chemical contaminants affecting ecosystems and human exposure and health?
4. How can proxies of palaeoclimate/ecology inform us of changes in ocean current, wind systems, precipitation, future Arctic climates and their ecological consequences?
5. What are the impacts of the transition and environmental changes on the Arctic population's lifestyle and changes in disease patterns?
6. What will be the combined effects of natural and anthropogenic forcing on ecosystems and their services?
7. What are the feedbacks between the Arctic and Earth climate system?
8. How can we assess the impacts of sustainable development and energy security on social, political and natural environments? Specifically, how are the rights of Arctic indigenous people recognized and ensured in the context of local and national stakeholder negotiations with extractive industries?
9. How to understand the policies of China and Asian countries in the Arctic, and their participation in the framing of Arctic governance?
10. How to analyze the dynamics of local, regional, national and international governance in the Arctic, and the evolution of the EU Arctic Policy?
11. How to examine the law in the Arctic Region of the Danish Realm as an example of a pluralistic order characterized by a multi-level system of norms created by multiple actors beyond the traditional notion of a legal system?
12. How to examine the perspectives of economic development in the light of resource-abundant economies?
13. What are the antiquity and the drivers of human cultural adaptations in the Arctic?
14. How can different comparative methods borrowed from biology, the humanities and social sciences be used to disentangle history and convergence in the development of Arctic societies?
15. What are the cultural and historical linkages between indigenous societies across the circumpolar area?
16. What are the roles of climate and history in the transmission from one subsistence practice to another, such as the transmission from hunting to reindeer herding or from sea mammal hunting to farming?
17. How does interdisciplinary research inform Greenlandic society about the socio-environmental impacts of climate change and resource extraction?
18. How do we operationalize research concepts such as 'ecosystems' or 'environments' in interdisciplinary research?