

Section Strategy for Atmospheric Measurements 2023 - 2026

1. Introduction

The Section for Atmospheric Measurements (ATMI) perform research and monitoring work in the field of atmospheric physical, biological and chemical processes as well as climate that control the level and trend of air pollutants development and atmospheric fluxes (deposition and emission). The group undertakes the national air quality monitoring, Arctic contaminant and climate studies, and it is active in the area of atmospheric research, consultancy, monitoring and teaching. The research focuses on the impact of air pollution and quality on human health, aquatic and terrestrial environment and interaction with climate.

2. Mission and vision

The mission of ATMI is to create value for society contributing to the 17 Sustainable Development Goals defined by United Nations and the green transition through enhancing the fundamental knowledge of the interaction between air pollution, air quality, climate and health, supporting environmentally sustainable solutions for society by providing research driven consultancy to e.g., industry and policy makers. To support the mission we will provide high impact state-of-the-art research that contributes significantly to improving the understanding of the fate of the air pollutants that change the atmosphere through physical and chemical processes.

Our vision of ATMI is to become a leading department in atmospheric science in the world and the leading atmospheric science group in Denmark being a chosen partner in EU collaborating projects and keynote lectures in the most important conferences and workshops, in order to achieve our mission.

3. International position and strength

ATMI fosters a strong, interdisciplinary research environment building on expertise of atmospheric sciences ranging from meteorology, atmospheric chemistry, aerosol physics, aerobiology and effects on health, climate and ecosystems.

We have extensive experience in air pollution and air quality measurements in large monitoring networks – data acquisition and analysis of large data set following the principle of Findability, Accessibility, Interoperability, and Reusability (FAIR). We have a unique position in Denmark as reference laboratory for the Danish EPA and National Reference Centre for the EEA and accreditation according to ISO 17025 for sampling and analysis of air pollution by DANAK. ATMI has expert knowledge of air pollution and quality with focus on large-scale pollution phenomena, “forever pollutants”, aerosols and air pollution exposure assessment as well as strong competences in advising and communicating science to policy makers. This make us a strong collaborator in international air pollution and air quality monitoring projects and we are invited for collaboration in several EU projects (DivAirCity, LEARN, ICOS, ACTRIS).

We are among the world leading research groups in Arctic atmospheric chemistry, physics and transport processes and experts in Arctic air pollution measurements. We operate the Arctic Villum Research Station in the Northeast Greenland, which is a multidisciplinary research facility for principally climate related research.

4. Strategy

Focus area	Strategic goals
Research and talent development	
System understanding	<p>We will enhance our current understanding of <i>air quality and effects on human health</i> in indoor and outdoor air.</p> <p>We will enhance our current understanding of <i>air quality and effects on climate</i>.</p> <p>We will enhance our current understanding of <i>air quality and effects on ecosystems</i>.</p> <p>We will enhance our current understanding of <i>air quality and effects on climate, ecosystem and human health in the Arctic</i>.</p>
Leadership in science	We will become one of the most <i>attractive research partners in Atmospheric Science</i> projects.
new methods	Implement the newest techniques within atmospheric measurements (e.g. Remote sensing, low cost sensors)
talent development	To ensure our atmospheric research at AU will be continued and renewed.
Green transition	<p>We will increase awareness among scientists, stakeholders and society, of sources and sinks affecting the air quality.</p> <p>Increased awareness will impact behavior and regulation practices contributing to a green transition.</p>
-Digitalisation	<p>Improve research data management and work towards FAIR data.</p> <p>Enhance our Data analysis skills in order to process large data sets from national as well as international monitoring network (NOVANA, AMAP, ACTRIS, ICOS, GIOS)</p>
Public sector consultancy and industrial collaboration	
national consulting	We will strengthen our position as reference laboratory for air quality measurements in order to enhance the collaboration with environmental policy makers, national counties and industry. We can provide research based assessments and guidance, leading to resilient and sustainable solutions for activities and developments affecting the environment and climate.
international consulting	We will increase the number of international public sector consulting projects.
Education	
	It is our obligation to educate the society as well as the next generation of scientists in this field. Therefore, we will contribute to university

	education at all levels (bachelor, master and summer schools) and to continued education to supply professionals, working in industry and in the public sectors, with state of the art knowledge in order to make actions/decisions considering a sustainable future in terms of climate and environment
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