



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

RESPONSIBILITY REPORT OF THE FINNISH METEOROLOGICAL INSTITUTE





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Introduction

Responsibility and responsible actions are an essential part of the Finnish Meteorological Institute's mission and everyday work. We study and observe the weather, the sea, the atmosphere and inner space. Our task is to produce weather services and physical marine services to meet the needs of public safety, transport and citizens in Finland. We work in close cooperation with our international partners, and since the 1970s we have exported our expertise and Finnish technology to support developing regions to help them safeguard lives and property.

The Finnish Meteorological Institute has just reformed its strategy for 2022-2025 and prepared a roadmap to support its implementation. The themes of responsibility are included in our strategy. We want to produce information to safeguard the future so that no one will be caught out by the weather. Cooperation with domestic and international stakeholders is the cornerstone of our operations. We observe, study and develop services so that we can produce information to support both short-term and long-term decision-making and preparedness.

The activities of the Finnish Meteorological Institute are linked to several UN Sustainable Development Goals and sub-goals. In this first responsibility report of the Finnish Meteorological Institute, we have selected three Sustainable Development Goals (SDGs) in cooperation with the Finnish Meteorological Institute's management team and the working group that compiled the report. The report describes the activities related to these goals. These objectives are:

- Ensuring a healthy life and well-being for people of all ages
- Ensuring safe and sustainable cities and human settlements
- Taking urgent action against climate change and its impacts

In the upcoming responsibility reports, our goal is to expand the description of our work to also promote other goals.

In Helsinki, 28 March 2022

Jussi Kaurola

Director General



Description of the Finnish Meteorological Institute

The Finnish Meteorological Institute observes and studies the atmosphere, inner space and seas. It also produces services on the weather, sea, climate, air quality and inner space for the needs of public security, business life and citizens. The Finnish Meteorological Institute is an administrative branch of the Ministry of Transport and Communications.

The Finnish Meteorological Institute employs approximately 700 people (673 person-years in 2021). The headquarters of the Finnish Meteorological Institute is located in Helsinki. It also has other locations in Kuopio, Rovaniemi and Sodankylä. In addition, the Finnish Meteorological Institute carries out sounding activities in Jokioinen.

In addition to the Director General and their Office, the Finnish Meteorological Institute has six branches: Administration; Observing and Information Systems Centre; Weather, Sea and Climate Service Centre; Meteorological and Marine Research Programme; Climate Research Programme; and Space and Earth Observation Centre.

The Director General of the Finnish Meteorological Institute is Jussi Kaurola. In addition, the Finnish Meteorological Institute's Management Team includes the directors of the divisions, the scientific director and the Director of Communications.

The organisational term of the Finnish Meteorological Institute is four years. The current organisational term is 1 January 2022 to 31 December 2025. The organisation consists of divisions, units and teams. In addition, the organisation has cross-organisational roles related to production, safety, risk management and quality management.

The Finnish Meteorological Institute's responsibility report describes the activities of 2021.

Responsibility management and administration

The preparation of the responsibility report has been discussed by the Management Group of the Finnish Meteorological Institute, which has also approved the responsibility goals selected for the report. The Finnish Meteorological Institute's Management Group has approved the finished report which was prepared by a cross-organisational working group. Two members of the management group have participated in the working group and in the preparation of the report.



Image 1: The global goals for sustainable development

Responsibility goals: Significant handprint on the identified UN Sustainable Development Goals

Three key SDGs were selected for this report:

1. Ensuring a healthy life and well-being for people of all ages
2. Ensuring safe and sustainable cities and human settlements
3. Taking urgent action against climate change and its impacts

Handprint 1: Ensuring a healthy life and well-being for people of all ages (SDG 3)

Goal 3.9. Significantly reduce the number of deaths and diseases caused by hazardous chemicals and the pollution and contamination of air, water and soil by 2030.

Indicator 3.9.1 Mortality rate attributed to household and ambient air pollution.

The Finnish Meteorological Institute is an expert institution in air quality in Finland and is thus responsible for numerous statutory tasks related to air quality and related services for authorities, different sectors of society and citizens in Finland. In addition, the Finnish Meteorological Institute participates in internationally significant air quality research, and air quality expertise is exported abroad to strengthen developing countries' ability to provide better air quality services to their residents.

The Finnish Meteorological Institute conducts research to develop better air quality measurement, forecasting and assessment methods. In Finland, the Finnish Meteorological Institute is responsible for measuring air quality (national network for measuring air quality in background areas) and producing information for citizens and the environmental administration to support the planning of legislation, strategies and actions aiming at improving air quality. In addition, the Finnish Meteorological Institute produces national air quality forecasts in Finland and is responsible for the operations of the national air quality reference laboratory and the air chemistry laboratory. The Finnish Meteorological Institute conducts national air quality assessments and surveys to support the improvement of air quality. The Finnish Meteorological Institute produces air quality measurement services and assessments for cities and industry to support the planning of air quality improvement measures. The Finnish Meteorological Institute is responsible for the national and international reporting and communication of air quality and for educating citizens and environmental authorities on air quality issues.



Goal 3: Good health and well-being (SDG 3)



Handprint 1: Ensuring a healthy life and well-being for people of all ages (SDG 3)

The Finnish Meteorological Institute has carried out various projects aimed at improving air quality globally in more than 30 countries. Some projects have developed the partner country's air quality monitoring and management in a comprehensive manner, covering the entire value chain (legislation, air quality monitoring, air quality forecasts, air quality assessment, air quality information, health impact assessments, assessment of the impact of different emission sources, air quality improvement measures). Currently (2021), we have ongoing air quality projects in the following countries: Tajikistan, Kyrgyzstan, Chile, Vietnam, Iran, South Africa, India, China, Russia.

Handprint 2: Ensuring safe and sustainable cities and human settlements (SDG 11)

Goal SDG 11.b By 2020, substantially increase the number of cities and human settlements by adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation of and adaptation to climate change, resilience to disasters, and develop and implement holistic disaster risk management at all levels in line with the Sendai Framework for Disaster Risk Reduction 2015-2030.

Indicator 11.b.1. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.

The Finnish Meteorological Institute produces up-to-date and predictive information on the weather, the physical state of the sea, the climate and the most significant natural disasters in Finland and abroad. The 24/7 warning service provided by the Finnish Meteorological Institute and advance information on weather phenomena causing danger and harm and their impacts in Finland and elsewhere in the world can be utilised in proactive measures that maintain the safety of Finnish society and Finns. The services provided by the Finnish Meteorological Institute also include a targeted service forecasting dangerous weather produced for different actors in society, such as different operators maintaining critical infrastructure. The purpose of these services is to provide operators with time to prepare and to describe the impacts of harmful and dangerous conditions. This information helps actors proactively allocate resources to their own activities, thus promoting the safety of cities and communities and speeding up recovery from challenging conditions.



Goal 11: Sustainable cities and communities (SDG 11)



Each year, the Finnish Meteorological Institute participates in numerous national and international projects that develop local and regional adaptation to climate change and also develop climate economy related preparedness (<https://www.ilmatieteentaitos.fi/siv-hankkeet>). The Finnish Meteorological Institute prepares sector-specific climate risk management reports, for example for construction and urban planning, so that changing climate risks are taken into account in a way that considers the special features of the area in question. In addition, the Finnish Meteorological Institute participates in the development of weather and climate models in order to produce better forecasts for constantly changing conditions.



Handprint 2: Ensuring safe and sustainable cities and human settlements (SDG 11)

The Finnish Meteorological Institute also participates in the extensive European Aristotle consortium (<http://aristotle.ingv.it/>) to produce 24/7 global preparedness data on natural phenomena causing multiple threats. The service is produced as a support to the EU Civil Protection Mechanism for the Emergency Response Coordination Centre (ERCC) and the Situational Awareness Sector (SAS). The European Commission's Emergency Response Coordination Centre uses this information to plan the deployment of humanitarian aid to different destinations.

Handprint 3: Taking urgent action to combat climate change and its impacts (SDG 13)

Goal SDG 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Indicator 13.1.3: Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies.

The Finnish Meteorological Institute conducts climate research and research related to the monitoring and measurement of greenhouse gases, both from the past and the future climate, locally, regionally and globally. This research also includes research related to the physical state of the sea. The Finnish Meteorological Institute develops climate models and climate impact modelling for the climate in the near and long term. The Finnish Meteorological Institute operates internationally and supports both Finnish and foreign actors by producing information for them.



Goal 13: Climate action (SDG 13)



The Finnish Meteorological Institute is part of the network of the World Meteorological Organization of the United Nations. When we develop observation and weather, sea and climate risk management services, our information flows to WMO interfaces and other international networks. We have developed an international quality assurance and availability service for all meteorological, marine and climate-related data to make global and quality-certified data available to everyone. We produce comparable global and regional climate change scenarios for the use of other Finnish research institutes. We have carried out tailored climate surveys for different sectors and companies following best scientific practices.

We have played a key role in significant development cooperation projects by developing climate services for project countries; the Finnish Meteorological Institute has carried out climate projects in more than 100 countries by improving their ability to provide weather, climate and early warning services to their citizens. At the moment, there are ongoing projects in around 20 countries.



Handprint 3: Taking urgent action to combat climate change and its impacts (SDG 13)

SDG 13.2: Integrating climate change measures into national policies, strategies and planning.

The Finnish Meteorological Institute produces researched information about climate change, its progress and needs to adapt to support decision-making. The Finnish Meteorological Institute shares information on climate change in its online service, through media cooperation and through active stakeholder cooperation.

The Finnish Meteorological Institute participates in the work of the Intergovernmental Panel on Climate Change (IPCC). Jussi Kaurola, Director General of the Finnish Meteorological Institute, chairs the Finnish IPCC working group appointed by the Ministry of the Environment. Heikki Tuomenvirta, an expert at the Finnish Meteorological Institute, acts as the secretary of the working group. Experts from the Finnish

Meteorological Institute have participated in writing the IPCC evaluation report, among other things. The Finnish Meteorological Institute cooperates with several administrative branches on the theme of climate change. Hannele Korhonen, Research Professor at the Finnish Meteorological Institute, is a member of the Climate Panel.

In 2021, the Finnish Meteorological Institute, together with the Ministry of the Environment, was responsible for publishing the first volume of the IPCC's 6th evaluation report in Finland.

We act in close cooperation with cities and municipalities in climate change work. The Finnish Meteorological Institute actively cooperates with actors in the energy, forestry, agriculture, transport and health sectors. The aim is to jointly develop an understanding of the urgency, significance and prioritisation of the measures. The Finnish Meteorological Institute also trains actors in different fields to ensure that information can be used in strategies and planning. In addition, we are part of the development of domestic and international climate change adaptation monitoring activities.

The Finnish Meteorological Institute maintains the Climateguide.fi website which is part of the EU's CLIMATE-ADAPT portal. We have carried out a technical reform on the service platform of the guide in 2020-2021, and in 2022 we will start managing the Climate Guide with a new administrative model. In 2022-2023, we will update the information base of the guide and the information producer network, and we will expand its range of services. We are involved in numerous ministry-funded and Government projects developing climate risk management together with Finnish operators.

Goal SDG 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

The Finnish Meteorological Institute started developing services and consulting related to climate services, climate change services as well as weather and climate risk management as early as in the 1990s. The Finnish Meteorological Institute has developed its ability to work in the field together with other research and service institutes and companies.

The Finnish Meteorological Institute has installed the Finnish Meteorological Institute's own open source weather and early warning system called SmartMet in approximately 30 countries and trained national institutions in using and maintaining the system.

The Finnish Meteorological Institute has a long history in different levels of educational and teaching cooperation and various stakeholder events also in Finland. The Finnish Meteorological Institute has offered Finnish journalists climate change training since 2007. Hundreds of journalists have participated in the training. We have taught citizens how to use long-range weather forecasts and carried out numerous different impact forecasting experiments. The Finnish Meteorological Institute is currently developing an English-language Climate University course "How to live and act with weather and climate risks in the current and future climate" together with universities.

Footprint, i.e. negative impacts of activities on the operating environment

The Finnish Meteorological Institute is involved in the WWF Green Office action programme. The Finnish Meteorological Institute monitors the negative impacts of its own activities on the environment.

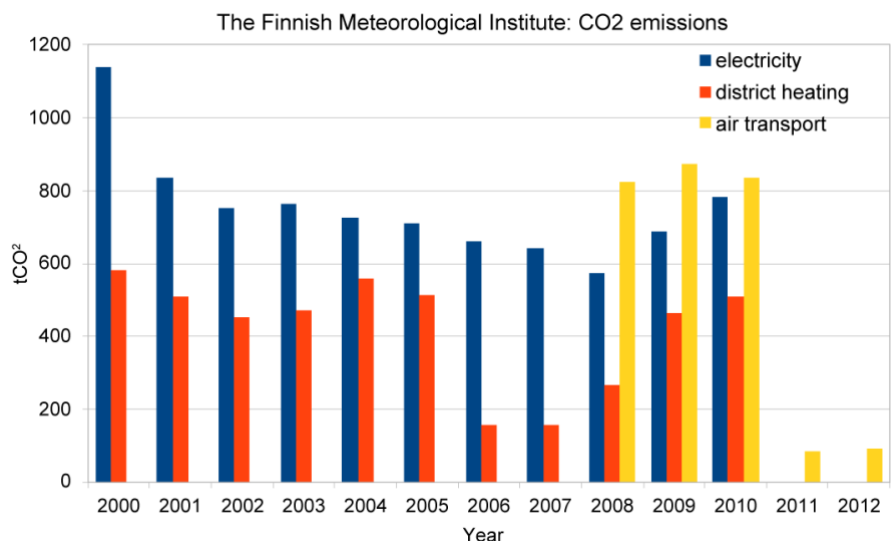


Table 1: Finnish Meteorological Institute's CO2 emissions from electricity, district heating and air transport in 2009-2021

Regularly monitored issues include the energy consumption, waste volumes and paper consumption of the Finnish Meteorological Institute's office building. Due to the nature of the Finnish Meteorological Institute's international activities, the largest single source of carbon dioxide emissions comes from flight kilometres. The next two largest emission sources are electricity and district heating. The Finnish Meteorological Institute has switched to emission-free electricity and district heating. Waste volumes and paper consumption are also decreasing. In 2015, solar panels were installed on the roof of the Finnish Meteorological Institute's office building. The electricity production of the panels has been approximately 18,500 kWh per year.

Emissions from air travel decreased significantly in 2020-2021 due to the pandemic. Presumably, remote meeting practices that were established during the pandemic may reduce flight kilometres to some extent in the future. In the future, increased hybrid work will also reduce the emissions and air quality impacts caused by commuting between home and workplace. On the other hand, the hybrid work model shifts electricity consumption to households.

Environmental impacts are also taken into account in the housekeeping services of the Finnish Meteorological Institute and in procurements.

The Finnish Meteorological Institute draws up an annual equality and non-discrimination plan that outlines practices related to, for example, equal pay, recruitment, career development and work opportunities as well as harassment and age management. Out of the personnel of the Finnish Meteorological Institute, 63% are men and 37% women (2021).

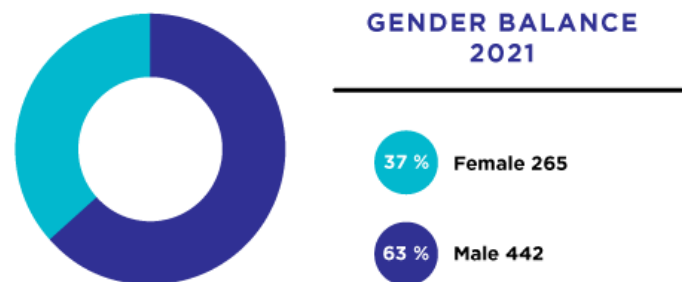


Table 2: Gender distribution 2021

How the report was prepared

The Finnish Meteorological Institute's responsibility report was prepared by a working group with representatives from the Finnish Meteorological Institute's Administration, Weather and Safety Services, Expert Services, the Unit for Impact Studies on Weather and Climate Change and Communications. The working group has met regularly and proposed the framework and themes of the responsibility report to the management group. The Management Group of the Finnish Meteorological Institute has approved the responsibility report.