ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

SUSTAINABILITY REPORT OF THE FINNISH METEOROLOGICAL INSTITUTE 2024

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Contents

Director General's review

Picture: Veikko Somerpuro

The year 2024 was the warmest ever recorded. For the first time, the average global temperature exceeded the 1.5-degree threshold in comparison to pre-industrial levels. Warming of the climate has adverse effects. Changes in rainfall patterns, dry soil, shrinking glaciers and population growth threaten global food security. Extreme weather phenomena are already affecting vulnerable areas, and it has been estimated that they will constitute the greatest risk to the global economy from the 2030s onwards.

Combating climate change requires a reduction in fossil fuel use, but extensive adaptation measures will also be needed at the same time. In 2023, the World Meteorological Organization (WMO) launched the *Early Warnings for All* project, the aim of which is to strengthen weather services and observation networks in approximately 100 countries. During 2024, the Finnish Meteorological Institute continued these adaptation and preparedness projects in Finland and internationally. Our goal in international development and consulting projects is to improve early warning, weather, observation and air quality services. We will provide examples of projects in this report.

The Finnish Meteorological Institute has further strengthened its activities related to comprehensive security. Authorities and other security actors have a growing need for condition information and services. At the end of 2024, a decision was made to establish a National Space Situational Awareness Centre. The National Space Situational Awareness Centre will monitor and predict potential danger and disturbance situations caused by the space environment, making it possible to prepare for and react to them in order to secure the functioning of society. A situation picture of space is also becoming increasingly important when monitoring weather and climate conditions. Reliable research data is needed to support Finnish, EU and UN policy measures on climate change. Here at the Finnish Meteorological Institute, we have developed our ability to produce accurate information on carbon dioxide and methane sources and sinks by using ground and satellite observations. Combining these measurements with carbon circulation research provides us with reliable data to support the assessment of national carbon emissions.

We also continuously pay attention to the footprint of our own activities. We monitor the negative impacts that our activities have on the environment and develop ways to reduce these impacts. We observe good scientific practices and ethical principles in our research activities. Financial sustainability is governed by legislation and decrees. The social sustainability theme is strongly linked to the well-being of our personnel. We conducted change negotiations in late 2024, which was a stressful process for our entire organisation. We simultaneously invested in maintaining work ability and developing competence and management. Sustainability is strongly integrated into our everyday work. Comprehensive observations, high-quality research and services to support anticipation are at the heart of Finnish Meteorological Institute activities. We want to support a safe, smooth and sustainable everyday life in which the conditions do not surprise anyone. At the same time, we are building a future in which the Finnish Meteorological Institute is a healthy and developing workplace.

Petteri Taalas
Director General, Finnish Meteorological Institute

The Finnish Meteorological Institute produces information for a safe tomorrow

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, and its activities are governed by the Act on the Finnish Meteorological Institute 212/2018.

The Finnish Meteorological Institute employs approximately 750 people (731 person-years in 2024). 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.

Director General's office
- Communications group
- Research Coordination group

Meteorological and Marine Research programme
- Meteorological Research
- Marine Research
- Weather and Climate Change Impact Research

Climate Research Programme
- Climate System Research
- Atmospheric Composition
- Atmospheric Research Centre of Eastern Finland

Space and Earth Observation
- Earth Observation Research
- Space Research and Observation Technologies
- Arctic Space Centre

Observing and Information Systems Centre
- Observation Services
- ICT and Data Production
- Service Development

Weather, Sea and Climate Service Centre
- Weather and Safety Centre
- Customer Services
- Expert Services

Administration
- Financial
- Personnel
- Administrative Services

International cooperation is an integral part of the meteorological sector. Our strategic goal is to be an international pioneer within our field. We seek leadership in the international community so that we can contribute to the development of our sector and promote the impact of our activities.

Together with our partners, we produce increasingly versatile and the best Nordic data on weather conditions, so that the conditions will not surprise anyone now or in the future. We anticipate the changing needs of our customers and other stakeholders to best serve our stakeholders.

The prerequisites for success will help us achieve our strategic goals and vision. Our everyday activities are guided by our values: cooperation, impact and pioneering.

Picture: Adobe Stock / Artem

Sustainability at the Finnish Meteorological Institute

Sustainability and sustainable action are woven into the Finnish Meteorological Institute's mission and everyday work. We promote economic, social, environmental and research sustainability in our activities. Examples of the activities and results of action related to sustainability at the Finnish Meteorological Institute in 2024 have been compiled in this sustainability report.

The sustainability report has been prepared by a cross-organisational working group, which included representatives from the divisions of Administration, Weather, Marine and Climate Services, Climate Research and Communications. In addition, several experts from the Finnish Meteorological Institute have produced information for the report. The Management Group of the Finnish Meteorological Institute has approved the sustainability report.

We publish the sustainability report annually according to the State Treasury's guidelines.
In 2024, the Finnish Meteorological Institute continued its collaboration with Aalto University student Vilma Lindqvist. Her master's thesis assessed the sustainability work of the Finnish Meteorological Institute and the results will be used to develop the institute's sustainability work. The business potential of the Finnish Meteorological Institute's sustainability services was also examined.

The handprint of our activities and the UN Sustainable Development Goals

In the sustainability report, we discuss our activities related to four of the UN Sustainable Development Goals.

Ensure healthy lives and promote well-being for all at all ages (SDG 3)

- SDG 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.

Make cities and human settlements inclusive, safe, resilient and sustainable (SDG 11)

- 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.

Take urgent action to combat climate change and its impacts (SDG 13)

- SDG 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- SDG 13.2: Integrate climate change measures into national policies, strategies and planning.
- SDG 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development (SDG 17).

- SDG 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.

Good health and well-being (SDG 3)

The Finnish Meteorological Institute is responsible for numerous statutory tasks related to air quality and related services for authorities, different sectors of society and citizens in Finland. For example, we produce national air quality forecasts and air quality measurement services and assessments for cities and industry in Finland. We collect and share Finland's statutory air quality monitoring data from all measurement networks in our Air Quality in Finland service and as open data.

In addition, we are responsible for the activities of the National Reference Laboratory for Air Quality and the Air Chemistry Laboratory and for monitoring air quality in Finland's background areas far removed from potential sources of emissions as part of international agreements and legislation.

Each year, we ensure the correctness of air quality measurements in Finland by means of various comparison measurements and audits. These focus, for example, on ensuring the accuracy of results obtained when measuring fine particles particularly harmful to health.

Air quality measurements related to industry and cities are performed for many customers in Finland. In 2024, the Finnish Meteorological Institute had a total of 23 measuring stations, including background air quality stations. Based on an order from Sweco, three new stations were implemented to monitor air quality at data centre projects in Kirkkonummi, Espoo and Vihti.

During 2024, the EU completed negotiations on a new Ambient Air Quality Directive, which took effect on 11 December 2024. The main objective of the new Directive is to reduce air pollution in the EU to achieve a clean and healthy environment for citizens by 2050. This non-pollution target includes stricter air quality standards, increased measurement obligations, communications, and improving the legal protection of and compensation for citizens. In this process, the Ministry of the Environment relied heavily on the expertise of the Finnish Meteorological Institute, for example, when participating in the negotiations of the Council Working Party on the Environment between Member States, when formulating new legislative proposals and when preparing Finland's statements. The aim of these efforts was to produce more effective legislation in the EU, which is also practical from the Finnish perspective. Finland's negotiation objectives were achieved well.

The Finnish Meteorological Institute's expertise in air quality is also exported. The aim is to strengthen the ability of developing countries to produce better air quality services for their citizens. The Finnish Meteorological Institute has carried out various projects aimed at improving air quality in more than 30 countries. Many projects have developed comprehensive monitoring and management of air quality in the target country, from legislation to improving air quality. In 2024, air quality projects were carried out in the following countries: Ukraine, Moldova, Tajikistan, Kyrgyzstan, Uzbekistan, Vietnam, Indonesia, Rwanda, Kenya, Tanzania and Turkish Cypriot community, as well as a regional project in Southeast Asia.

Our activities in 2024

New tools launched in air quality research

Picture: Adobe Stock / Michelangeloop

In 2024, the EU Horizon 2020 RI-URBANS project produced 16 new tools to support air quality monitoring. The aim was to particularly strengthen implementation of new monitoring obligations in the updated Ambient Air Quality Directive. These included the publication of protocols for measuring ultra-fine particles and black carbon that are harmful to health, as well as protocols for measuring and modelling many other air pollutants of concern.

Air pollutants are being studied in a multidisciplinary project

Picture: Harry Hykko

A project launched in 2024 is studying the role of indoor and outdoor air pollution sources from the perspective of indoor air quality. The aim of the GIANT project is to obtain better information on the impact of air pollutants on health. The Finnish Meteorological Institute's participation in the project focuses on measurements and modelling of fine particles and volatile organic compounds in different environments. Among other things, the Finnish Meteorological Institute is leading a project-related work package related to developing scientific understanding of aerosol phenomena in indoor air.

The project focuses on WHO's latest global air quality recommendations and their potential impacts on international markets, especially the market for advanced indoor air solutions.

Sustainable cities and communities (SDG 11)

The Finnish Meteorological Institute strives to improve the safety of cities and residential communities by producing information on weather, seas, climate and its change, and natural disasters. Warnings about hazardous weather are produced all year round at all times of the day. The information can be used by different actors in society, including those maintaining critical infrastructure. The purpose of the services is to give operators time to prepare and to describe the impacts of harmful and dangerous conditions on their activities. The Emergency Response Centre of the European Commission makes use of the preparedness information produced as cooperation between the Finnish Meteorological Institute and its European sister institutions in its plans to send humanitarian aid to different locations. The Finnish Meteorological Institute's responsibility in this cooperation increased significantly in 2024, and today the institute has a leading role in coordinating weather forecasts with the French Meteorological Service, Météo France.

The Finnish Meteorological Institute's research activities continuously produce new information to support local and regional adaptation in a changing climate. Among other things, the projects develop climate economic preparedness and prepare sector-specific climate risk management reports for such purposes as 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.

A practical guide to accelerate climate-proof urban planning

Picture: Jarkko Sydänmaanlakka

Together with the Finnish Environment Institute, we published a guide containing comprehensive instructions to support climate-proof urban planning. The guide is designed to promote climate change mitigation and adaptation in land use planning, zoning and construction.

The guide emphasises that all actors can participate and that different objectives are reconciled in urban planning. It is for all actors operating in connection with urban planning, such as planners, designers, developers, as well as municipal and urban residents and decision-makers.

Cities play an important role in combating and adapting to climate change, as urbanisation means that an increasing number of people will live in urban environments in the future. Climate resilience refers to the conscious and proactive ability to act flexibly during changes and disruptions in the weather and climate, recover from them and develop activities and preparedness after they are over.

The guide is freely available on the Climateguide.fi website.

National Space Situational Awareness Centre being established in Finland promotes the safety of society

Picture: Adobe Stock

The National Space Situational Awareness Centre will monitor and predict potential danger and disturbance situations caused by the space environment, making it possible to prepare for and react to them in order to secure the functioning of society. The establishment of the centre contributes to Finland's comprehensive security; it improves national crisis resilience, critical infrastructure maintenance and security of supply, as well as cyber security. Actions to establish the centre began in December 2024. It will be fully operational in 2028.

The National Space Situational Awareness Centre will operate in a decentralised manner: a civilian command centre will be established for the Finnish Meteorological Institute in cooperation with the National Land Survey of Finland, and a military command centre will be established in connection with the Finnish Defence Forces. Both command centres will operate independently, but in close cooperation. Existing official functions and structures will be utilised when implementing the centre.

Our activities in 2024

New guide published to help people prepare for incidents and crises

Picture: Pirjo Latva-Mantila

The Preparing for incidents and crises guide intended for the entire population was published in November 2024. The guide collects information and instructions from different operators in one place.

The guide contains instructions on preparedness and what to do in disruptions and crisis situations that would have a wide impact on society and communities as well as on people's everyday lives. Situations that require preparedness include long power and water outages, disruptions in telecommunications, extreme weather events and major accidents, and longer-term crises, such as a pandemic or military conflict. The Finnish Meteorological Institute produced content for the guide on preparing for natural phenomena, such as storms, floods and wildfires.

The guide is freely available on the Suomi.fi website.

Climate action (SDG 13)

The Finnish Meteorological Institute promotes climate change mitigation and adaptation by conducting climate research and developing tools to support the implementation and impact assessment of mitigation and adaptation measures. The Institute's research data supports decision-making internationally, nationally and locally.

Our research supports climate change mitigation measures, for example, by producing information on the possibilities of carbon sequestration in terrestrial ecosystems. In addition, we promote adaptation to climate change in different sectors of society with the aim of developing an understanding of the urgency, significance and prioritisation of the measures together with operators.

In 2024, we participated actively in the activities of the Climate Change Panel, the Nature Panel, the Forest Bioeconomy Panel and the Sámi Climate Council. These bodies operate at the interface between science and policy and aim to promote decision-making based on reliable and up-to-date scientific knowledge. As part of these scientific panels, we were involved in preparing several reports that support the preparation of policy measures and in submitting expert opinions to parliamentary committees. The scientific expertise of the Finnish Meteorological Institute was extensively utilised in the panels' research projects. In addition, we actively participated in several ministry-funded and Government-funded projects, developing climate risk management together with Finnish actors to support an effective and knowledge-based adaptation policy.

The Ministry of the Environment appointed a new national IPCC working group to prepare Finland's participation in the Intergovernmental Panel on Climate Change (IPCC) for the term 11 March 2024–31 December 2028. The Director General of the Finnish Meteorological Institute chairs the national IPCC working group.

During the year, information related to climate change was distributed in many ways to various target groups in different channels.

The Finnish Meteorological Institute maintains and develops the Climateguide.fi website together with the Finnish Environment Institute and the Natural Resources Institute Finland. The website provides research-based information on climate change, its impacts, ways of adapting to it and its mitigation.

During the year, several media releases and news items on the impacts of climate change, its mitigation and adapting to it were published on our website. We also organised an event on climate change for journalists in autumn 2024.

Our activities in 2024

Researchers published policy recommendations for increasing climate competence

Picture: Shutterstock

Researchers at the University of Helsinki and the Finnish Meteorological Institute published policy recommendations that take a stand on deficiencies in climate expertise and propose ways to improve the climate expertise of citizens.

The recommendations are based on the ClimComp research project, which has studied the ability of the school system to teach climate change mitigation and adaptation. The recommendations target education providers and working life actors, and they support the Finnish Government's goal of achieving carbon neutrality by 2035.

Coastal Baltic Sea areas can be a source of carbon dioxide in the atmosphere

Picture: Ismo ja Brita Willström

Observations collected over a 5-year period at the Utö research station show that the sea around the island is a source of carbon dioxide. The results obtained in Utö indicate that carbon drifts into the researched Archipelago Sea ecosystem from other places, such as the land. Variations of up to 100% were observed in the annual carbon balance due to, for example, fluctuations in the intensity and duration of algae blooms in spring and summer.

The research results help with assessing the carbon balance in the Baltic Sea and the impacts of measures aimed at reducing emissions. Researchers from the Finnish Meteorological Institute and the Finnish Environment Institute participated in the study.

Determining the significance of the carbon cycle in coastal seas requires long-term measurement activities. Utö is the leading atmospheric and marine research station in the Baltic Sea, and it has been measuring carbon exchange between the sea and the atmosphere as well as the physical and biological factors affecting this exchange on a continuous basis since 2017.

Methane has been measured in Pallas for 20 years

Picture: Ahti Ovaskainen

Finland has the longest record of measuring methane concentration in the atmosphere at the Pallas Supersite. Even on a global scale, the long time series shows a strong increase in methane concentration: The concentration has increased from approximately 160 ppb (parts per billion) to 1870 ppb over a period of 20 years, and this pace of growth continues to accelerate.

Since 2017, greenhouse gas measurements at Sammaltunturi Fell have also been part of the European ICOS (Integrated Carbon Observation System) measurement network, which ensures that the quality of the measurements is high and the results are available to anyone.

Partnerships for the goals (SDG 17)

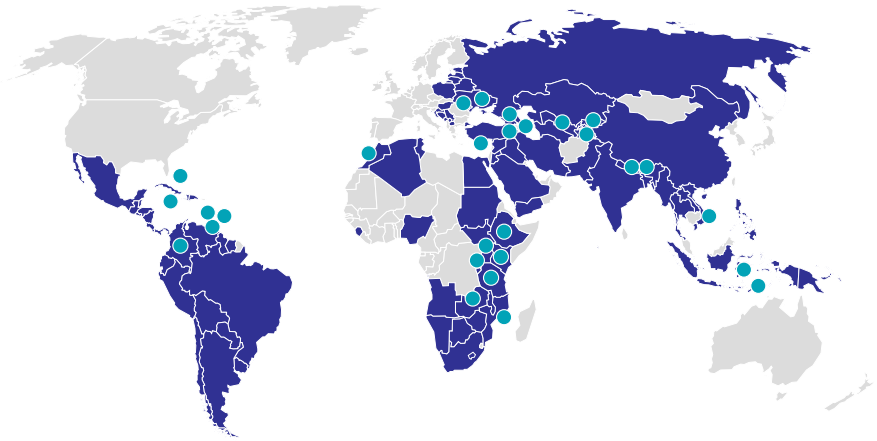
The Finnish Meteorological Institute represents Finland in the World Meteorological Organisation (WMO), which is the UN's specialised agency for matters of weather, climate and water resources, whose tasks include hosting the Intergovernmental Panel on Climate Change (IPCC). The WMO aims to ensure that its 193 member states have access to the best technical and material opportunities to manage statutory weather services and the associated warnings. To achieve this, the WMO promotes the free exchange of weather observation data and products between member states.

In addition to the WMO, the Finnish Meteorological Institute also represents Finland in the European Centre for Medium-Range Weather Forecasts ECMWF and the European Organisation for the Exploitation of Meteorological Satellites EUMETSAT. The information and products produced by EUMETSAT satellites serve as essential basic data for ECMWF weather forecasting models and are important for monitoring the environment and climate change. The Finnish Meteorological Institute is an active producer of EU Copernicus services, participating in all Copernicus service themes from climate change and atmospheric composition monitoring to producing flood and wildfire information. The Finnish Meteorological Institute also participates in the EU Destination Earth project, working with other countries to develop a digital twin of the Earth. The European Union has given EUMETSAT the responsibility to use four Sentinel satellite missions of the Copernicus Space Component to monitor the atmosphere, the oceans and the climate. EUMETSAT will perform these tasks in cooperation with the European Space Agency (ESA) and is already making use of the Sentinel-3 and Sentinel-6 ocean missions.

Other important international cooperation bodies for the Finnish Meteorological Institute include EUMETNET, a European cooperation network between meteorological institutes, and the Nordic cooperation network NORDMET.

The Finnish Meteorological Institute's production of operative weather models functions as part of the MetCoOp cooperation, which produces probability forecasts at the kilometre scale; it is an example of joint weather model production between the Finnish, Swedish, Norwegian and Estonian meteorological institutes. MetCoOp is part of the more extensive United Weather Centre (UWC) collaboration consisting of meteorological institutes in 11 countries (the Nordics, Estonia, Latvia, Lithuania, the Netherlands, Ireland and Spain). The UWC is a weather model collaboration network divided into two operational centres: MetCoOp and UWC West. In addition, the Institute's research activities are closely linked to many international collaboration networks and also serve scientific cooperation.

Over 100 countries of development co-operation



Past co-operation projects On-going projects 2024–2025

The Finnish Meteorological Institute also maintains relations and builds opportunities for collaboration with its sister institutions through bilateral meetings and other channels. The aim is to develop and implement activities in international cooperation to the greatest extent possible. An example of this is the open-source code Geoweb cloud service for on-call meteorologists, which has been developed in cooperation between the Finnish, Dutch and Norwegian meteorological institutes. Artificial intelligence offers enormous opportunities to develop the accuracy and cost-effectiveness of weather forecasts. These development steps will be taken in cooperation with European sister institutions. In 2024, the Finnish Meteorological Institute carried out approximately 45 international development projects in 30 countries. The projects involved exporting expertise and Finnish technology to sister institutions in developing countries so that they would be better equipped to provide services to protect citizens and society in their home countries. Project activities have grown in recent years, and 2024 saw a record-breaking project portfolio and funding situation.

Our activities in 2024

The Finnish Meteorological Institute makes a strong contribution to developing the Ukrainian weather service

Picture: Pexels

The Finnish Meteorological Institute has supported development of the Ukrainian weather service since January 2022. This cooperation continued in 2024: The weather service operating environment at the Ukrainian Hydrometeorological Center (UHMC) headquarters in Kiev was modernised, with a focus on operative facilities and equipment. Test use of the SmartMet meteorological tool developed by the Finnish Meteorological Institute also began in Ukraine. The tool helps meteorologists make more accurate weather forecasts. The weather service was modernised with support from Finland's Ministry for Foreign Affairs.

Picture: Adobe Stock / Jani Riekkinen

The footprint of our activities

Environmental sustainability

The Finnish Meteorological Institute is involved in the WWF Green Office programme. We monitor the negative impacts that our activities have on the environment and develop ways to reduce these impacts. Regularly monitored issues include the energy consumption, waste volumes and paper consumption of the Finnish Meteorological Institute's office building, and commuting.

As part of Senate Properties' carbon neutrality targets, the Dynamicum premises of the Finnish Meteorological Institute in Kumpula, Helsinki use zero-emission electricity and district heating. There are solar panels on the roof of the Finnish Meteorological Institute's office, producing 18.2 MWh of electricity in 2024.

The Finnish Meteorological Institute has diverse waste sorting possibilities and the sorting rate is at a good level. In 2024, 78.2% of waste ended up in recycling and reuse.

The consumption of office paper has decreased significantly thanks to secure printing and electronic documents and has stabilised to a very low level.

Due to the nature of the Finnish Meteorological Institute's international activities, the largest single source of carbon dioxide emissions clearly comes from flight kilometres. In 2024, air and train travel decreased slightly from the previous year, which also decreased the emission intensity per employee calculated for the entire year. In accordance with the State Travel Regulations, the recommendation is to take trips shorter than 500 kilometres by train instead of by plane. In 2023, train trips and short flights were included as a Green Office indicator to allow us to monitor how their mutual ratios develop in post-pandemic times. In 2024, 90.5% of trips under 500 kilometres were made by train.

TOTAL CO_2 EMISSIONS

TOTAL EMISSIONS (–)

1,600.61 tCO_2

Part of the emission factors are carbon dioxide equivalent factors.

EMISSION INTENSITY (–)

2.13 tCO_2

per employee

CONSUMPTION

ENERGY (+)

5.2 million kWh

WATER (–)

4.4 million liters

MOBILITY (–)

8.7 million pkm

PAPER (–)

813 kg

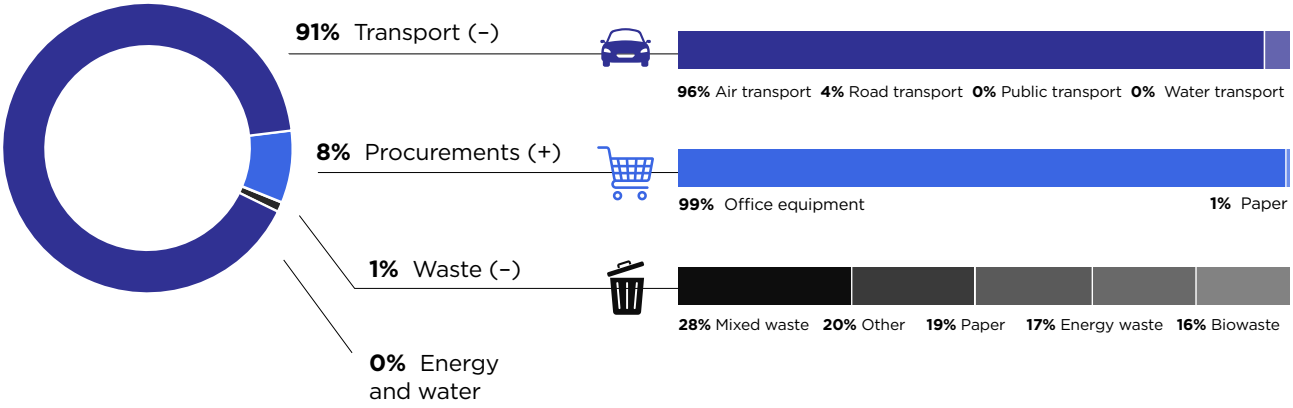
DEVICES (+)

436 pcs

WASTE (–)

80,317 kg

DISTRIBUTION OF EMISSIONS



The image shows the amount of carbon dioxide emissions from the Finnish Meteorological Institute's operations, along with consumption figures and the distribution of emissions by theme. The plus or minus sign in parentheses indicates the change compared to 2023.

In everyday work at the office, environmentally sustainable choices are promoted with campaigns. The Finnish Meteorological Institute participates in the annual energy saving week, the Earth Hour campaign and the Kilometrikisa cycling competition, among other events. The Finnish Meteorological Institute favours plant-based alternatives for catered meetings, and the impact of the recommendation on catering at meetings is monitored.

Social sustainability

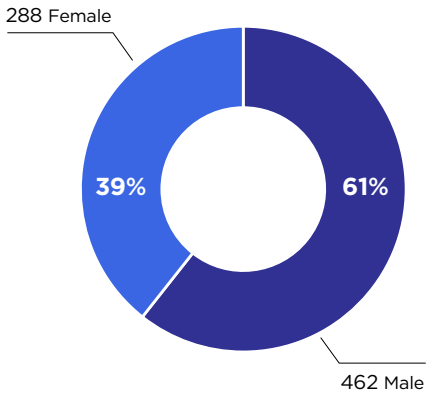
In accordance with its strategy, the Finnish Meteorological Institute is a healthy and developing workplace. The annual job satisfaction survey conducted in 2024 yielded excellent results once again, as the personnel's overall job satisfaction index was at 3.87 (scale 1–5). Themes related to job satisfaction development in 2024 included hybrid work and sense of community, collaboration and interaction as well as the organisation of work and management.

Preparation of the Finnish Meteorological Institute's personnel strategy continued in 2024. The cornerstones for preparing the strategy are personnel involvement and the openness of the preparations. All members of the personnel were able to participate in the preparation of the strategy through workshops intended for employees and supervisors.

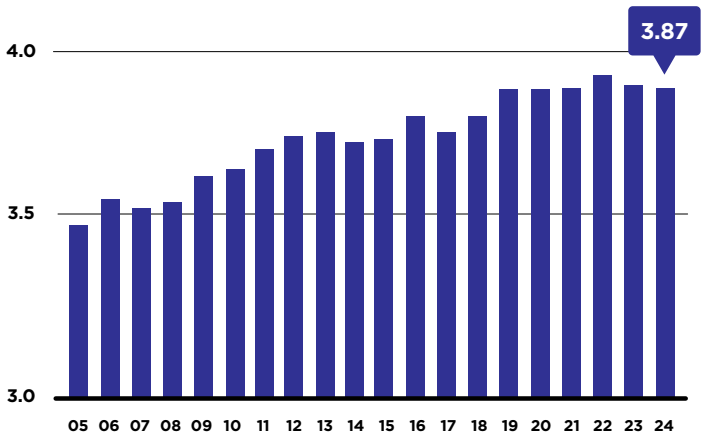
In 2024, we invested in personnel well-being, maintaining work ability, competence development, and management in a variety of ways. A webinar package on flexibility to change flexibility and resilience was organised for the entire personnel. Utilisation of artificial intelligence and the related information security were also key themes for competence development in 2024. The divisions and units also organised coaching and events for their personnel based on the competence needs in their field. HR offered support to supervisors with everyday HR matters, such as supporting work ability and recruitment.

Change negotiations were conducted at the Finnish Meteorological Institute in autumn 2024. The change negotiations and the uncertain financial situation affected the number of recruitments in 2024. Vacancies in the Institute are filled either through the internal registration procedure or as a public call for applications. In order to support the career development of personnel, information on vacancies is also communicated internally, and personnel are encouraged to develop their skills also by applying for new positions. Recruitments comply with the central government's joint recruitment process and investments are made in applicant communications. In the year following the change negotiations, statutory obligations to offer other work and rehire will be taken into account

GENDER BALANCE



JOB-SATISFACTION (1–5)



in recruitments. Each year, the Finnish Meteorological Institute offers internships to Finnish and international students as well as short work practice opportunities for secondary school students, non-military service placements and other positions supporting employment as agreed with municipal employment services.

The Finnish Meteorological Institute prepares an equality and non-discrimination plan every two years. The measures of the plan promote equal pay, equal recruitment practices, equal opportunities for career development and professional development, the creation of equal and non-discriminating working opportunities, the balancing of work and private life, and management at different stages of a career. In the 2024 job satisfaction survey, the result of the question "Gender equality is realised in my work community" was 4.27 and the result of the question "Equality of people is realised in my work community" was 4.11 (scale 1–5).

The activities of the Finnish Meteorological Institute are characterised by international mobility, and the institute employs a large number of international personnel. Issues related to international mobility were a focus in 2024. A cross-administrative international mobility group was established at the institute to assess, for example, the risks associated with doing remote work in other countries. The investments in issues related to international mobility are intended to ensure that mobility periods that are strategically important for the institute's activities can be implemented safely, with consideration to the employer's statutory obligations.

Research sustainability

The Finnish Meteorological Institute conducts research in three fields: meteorology and marine sciences, climate, and space. The research activities of the Finnish Meteorological Institute support sustainable development, society's preparedness for changes, and decision-making related to climate actions.

The Finnish Meteorological Institute is committed to complying with the Code of Conduct for Research Integrity and Procedures for Handling Alleged Violations of Research Integrity (the RI guidelines) produced by the Finnish Advisory Board on Research Integrity (TENK). The Finnish Meteorological Institute has a designated support person for research ethics, who serves as the contact person for questions related to research ethics and provides advice on such matters. The Finnish Meteorological Institute complies with national and European principles of open science in its activities and has invested heavily in the implementation of these principles in recent years. Open science promotes the extensive utilisation of research in society and promotes the efficiency and quality of research.

The Finnish Meteorological Institute continued to apply advanced open science principles in its research work in 2024. In 2024, the Finnish Meteorological Institute published 398 scientific publications, 376 of which were openly available. This means that openly available publications accounted for over 80% of our research articles.

The amount of all the Finnish Meteorological Institute's openly available publications has increased in recent years: it was 87.5% in 2022 and 92.4% in 2023. This figure includes all scientific publications, also those that were not peer-reviewed.

Many of our computational systems are available as open source code and documentation. In 2024, we promoted the use of open data by offering research data more extensively in the Finnish Meteorological Institute's open data service, by developing open model solutions, for example, in air quality and climate research, and by participating in several Finnish and international projects in which open data enables the development of research and applications that have an impact on society.

Researchers who are at the beginning of their careers are an important part of the Finnish Meteorological Institute's research community. The purpose of the Early Career Scientist award is to highlight the importance of young researchers for the Finnish Meteorological Institute's research work and to encourage all researchers during the early part of their career. In 2024, the Finnish Meteorological Institute granted the award to three young researchers who had published outstanding peer-reviewed research articles during the previous year.

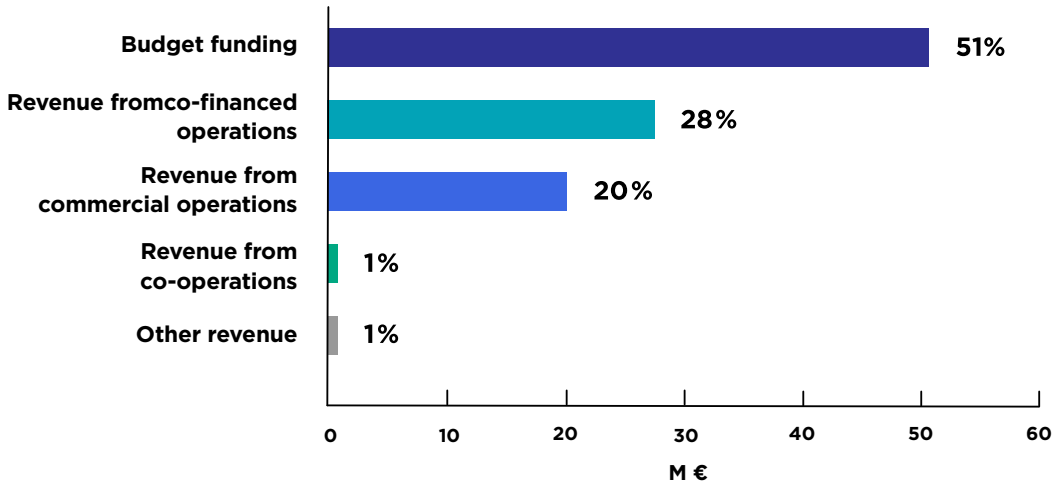
The impact of the research was promoted by communicating results to the general public, especially via the website and social media, actively communicating about research topics to the media and collaborating with data users.

Financial sustainability

The financial operations of the Finnish Meteorological Institute are governed by the State Budget Act and Decree and the regulations and instructions based on them. In 2024, there were no misconducts concerning the funds or assets of the Finnish Meteorological Institute.

The total expenditure of the Finnish Meteorological Institute was EUR 92.8 million in 2024. Expenditure decreased by EUR 2.7 million from the previous year. The increase in revenue was approximately EUR 3 million, focusing especially on jointly funded projects and business activities.

FUNDING OF OPERATIONS (TOTAL €92.8 MILLION)



The Finnish Meteorological Institute's financial information is available in more detail in the financial statements.

In addition to the Act on Public Procurement and Concession Contracts, our procurements are guided by the Finnish Meteorological Institute's procurement strategy and procurement rules, which contain guidelines on matters and requirements related to sustainability.

Public procurements are an effective way of implementing decisions on sustainability.

We require financial sustainability in our procurements. We require our suppliers to have sufficient financial performance that is measured by, for example, risk class requirements. We also set turnover requirements and monitor the financial performance of our contract suppliers throughout the contract period. Life-cycle costing is applied when calculating total costs and also as a comparison criterion when this is suitable to the nature of the procurement.

The procurements also support the Finnish Meteorological Institute's Green Office activities. This is also part of our procurement strategy: in line with our action plan, we use our public procurements to support Finland's goal of being carbon neutral by 2035 and implementing the circular economy. In 2024, a total of 461 pieces of office equipment were purchased, 60 of which were delivered to Tanzania and Kenya in development cooperation projects.

We also consider the sustainability of our service contract partners. For example, Compass Group, who provides the restaurant services at Dynamicum, offers the daily option of "climate lunch" and pays particular attention to the origin of the fish they use and to food waste. Another example is cleaning service provider ISS Palvelut Oy, who apply their own sustainability concept in operations and monitor operations with a carbon footprint calculator, among other efforts.

We continuously develop our sustainability competence in procurement and participate actively in events and training in the field.

LEARN MORE ABOUT US

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en.ilmatieteenlaitos.fi

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