

# Met Éireann Strategic Plan 2017–2027



## Making Ireland Weather and Climate Prepared

Helping Irish society to be ready  
for and responsive to weather  
and climate risks



An Roinn Tithíochta, Pleanála  
agus Rialtais Áitiúil  
Department of Housing, Planning  
and Local Government









# MAKING IRELAND WEATHER AND CLIMATE PREPARED

INFRA-  
STRUCTURE

IMPACT  
BASED  
SERVICES

AUTHORITATIVE  
VOICE

CLIMATE  
INFORMATION  
SERVICES

EXPERTISE

FLOOD  
FORECASTING



An Roinn Tithíochta, Pleanála  
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and Local Government



# Our Mission

To monitor, analyse and predict Ireland's weather and climate and to provide a range of high quality meteorological and related information.

# Our Vision

Making Ireland Weather and Climate Prepared.

# Our Goals

- GOAL 1:** Enhance support for impact-based decision making for weather events
- GOAL 2:** Provide climate information services which promote the safety of citizens and supports economic and environmental resilience
- GOAL 3:** Deliver a high quality national flood forecasting service
- GOAL 4:** Continue to provide an effective authoritative voice on meteorology in Ireland
- GOAL 5:** Maintain and support an expert, professional workforce
- GOAL 6:** Lead a modern, integrated meteorological infrastructure and support an enterprise environment for weather and climate services









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# Minister's Foreword





It is with great pleasure that I welcome Met Éireann's Strategic Plan 2017-2027. Met Éireann has been one of the key foundation pillars of the modern Irish State since 1936. At that time its aviation observations and forecasts facilitated the development of Ireland's national airline and hence our international connectivity. Met Éireann has also worked in tandem with our national broadcaster RTÉ from its inception providing vital information to our citizens on weather conditions to protect the safety of people and property.

Over the years, its team of forecasters have developed a strong and enduring relationship with the Irish people and are uniquely trusted as the nation's authoritative voice on the weather. During severe weather events, Met Éireann plays a key role in guiding the Government Task Force on Emergency Planning and works closely with other parts of the Department, particularly the National Directorate for Fire and Emergency Management.

Met Éireann continues to strive to improve its service to the Irish people, and this has been a key focus of attention since Met Éireann became a part of my Department in 2002. This Strategy sets out a clear vision and an ambitious body of work over the coming decade to ensure that Met Éireann maintains and builds on its expertise as it continues to support weather related decision making and meets the growing challenges of Climate Change and its impacts. It is a highly focused Strategy with significant input from Met Éireann's staff as well as key external stakeholders in Irish society.

The professional and dedicated workforce of Met Éireann is of course its greatest asset and there will be a continued focus on maintaining, developing and supporting workforce excellence over the coming years. The continued development of Met Éireann's meteorological infrastructure nationwide will also ensure that the Irish people will receive the highest quality information on weather conditions. A strong focus will be placed on educating the public in relation to weather events and their impacts so that society may take appropriate and timely action to safeguard life and property.

Met Éireann will be engaging in a variety of new and challenging projects over the coming decade. Foremost of these will be the establishment of a Flood Forecast Centre with the OPW to assist the public and the emergency services in preparing for major flood events. This will be an exciting time of change for our National Meteorological Service and along with the rest of the Department, I wish Met Éireann well as it embarks on this journey.

Eoghan Murphy, TD  
Minister of Housing, Planning and Local Government TD



# A Word from The Director





Weather is so much a part of our everyday life that access to high quality information on the weather is expected or taken for granted as a normal convenience of modern life — whether it's a storm or a flood that threatens life and property, fog or icy conditions that disrupt road transport or air traffic, or just a minor inconvenience due to summer showers.

The changing climate and, the increased frequency of extreme weather events, in tandem with increased urbanisation, is making Ireland more vulnerable to the impacts of weather. Since our beginnings over 80 years ago Met Éireann has been serving Ireland by providing public weather information, forecasts and warnings to help protect life and property. Over the next decade we will rise to the growing challenges of climate change by supporting Ireland in becoming weather and climate prepared.

This strategic plan anticipates service needs over the next decade, points at what is likely to be scientifically and technologically possible and outlines key outcome-oriented goals and objectives as milestones in the journey of supporting Ireland in becoming weather and climate prepared. It is intended to provide a roadmap for Met Éireann to meet the opportunities and challenges of the coming years. In this way the Weather and Climate Prepared strategy will serve as a wider, longer-term view to inform and enhance strategies and plans implemented on shorter timeframes through the Department of Housing, Planning and Local Government Statements of Strategy.

Our strategic plan is the result of a collaborative effort by our staff and Met Éireann management, in consultation with the wider Department, and partners in the public, private and academic/research communities. It is closely aligned with the Programme for Government, the National Planning Framework, national climate change policy, the National Adaptation Framework, the National Mitigation Plan, Innovation 2020, the 2016-2025 Strategy of European National Meteorological and Hydrological services and the WMO 2016-2019 strategic plan. It comprehensively incorporates and closely reflects stakeholder inputs and the latest strategic thinking of all key international meteorological organisations.

We remain committed to continuing close collaboration with our partners and stakeholders as we develop more detailed implementation plans arising from this strategy. Following this approach will enable Met Éireann to become more capable, better equipped and more agile in delivery of services. In this way we will provide users with more tailored, timely, accurate, actionable weather and climate information to support decision making at all levels and thereby contribute to a safer, healthier and more productive society and economy.

Eoin Moran  
Director



# Met Éireann Our People Our Strength

A cross section of Met Éireann staff engaged in Strategy development.





# Introduction

Met Éireann, the National Meteorological Service, a line division of the Department of Housing, Planning and Local Government, is the public-service scientific organisation responsible to the Irish State for:

- the collection and production of high-quality meteorological data;
- the communication of authoritative weather and climate services to protect life and property, and to promote wider societal and economic wellbeing;
- conducting research into weather and climate, to improve customer services and inform decision-making;
- representing Ireland to the WMO (World Meteorological Organization), ECMWF (European Centre for Medium-Range Weather Forecasts) and EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites)

Met Éireann also participates in a range of international weather and climate networks including EUMETNET (European Meteorological Services Network), HIRLAM (High Resolution Limited Area Model), Met Alliance (Alliance of Aeronautical Meteorological Service Providers in Europe), EC-Earth (Climate Research Consortium) and ECOMET (European Co-operation in Meteorology).

Met Éireann, is Ireland's primary centre of knowledge and expertise on weather and climate; the leading provider of meteorological information and services in the State. Building on our culture of scientific excellence, the organisation has embodied a commitment to public service, delivering authoritative weather information that has contributed to the nation's well-being and economic development.

Forecasting the weather has always been a challenging activity given Ireland's climate. Now, however, the climate itself is changing, and society faces new choices in the realm of long-term planning, choices which will determine how best we can sustainably benefit from the rich and diverse natural resources of our island.

The important decisions and choices we make over the crucial decades to come — both in our personal capacity and as a society — will be critically informed by the services we receive relating to weather, climate and the wider environment. For sustainable societal and economic development through the 21st century, Ireland needs to be fully prepared for both its future weather and its changing climate. Underpinning that preparation with services based on excellent science, expertly delivered, is the challenge for Met Éireann.

## Our Core Values

- Scientific and technical rigour and objectivity
- Integrity and professionalism
- Commitment to Public Service and the Customer







# Weather-and-Climate Prepared Vision

## The challenge — delivering a Weather-and-Climate Prepared Ireland

Over the past 80 years Met Éireann has provided an authoritative voice for weather and climate in Ireland. It provides trusted information to the public, to government and to key users, such as the aviation sector and agriculture. Its unique 24/7 forecast operation has enabled Met Éireann to be ever-present, providing routine daily forecasts and warnings of threatening severe weather as required.

National Meteorological Services around the world are undergoing radical change in their provision of services to the public. These changes come from advances in science and technology, from a developing understanding of the potential benefits of impact-based forecasts, and from the exploitation of new communication pathways, bringing weather information to all age groups via the fast changing digitally-driven media. There is a growing requirement for better climate services from different sectors of society, stemming from an increased awareness of the growing socio-economic impacts of climate change. In response to these challenges Met Éireann now puts forward its vision for the next 10 years, and the strategy it has developed to achieve this vision. This vision aims to position Met Éireann as a modern and customer-centric organisation providing the best value-for-money services to the State and its people.

The challenges of the coming decade will include those which we cannot yet discern; disruptive changes from technology and innovation as well as conceptual leaps in meteorological science. Thus the organisation must be agile and flexible; ready to respond to the rapid change and evolution of its ecosystem while maintaining and developing excellence in its services to the Irish public.

Met Éireann's vision is to make Ireland **Weather and Climate Prepared** through helping Irish society to be ready for and responsive to weather-related challenges.



# GOAL 1: Enhance support for impact-based decision making for weather events





## Introduction

Irish society is increasingly vulnerable to the impact of weather due to climate change and increasing urbanisation. We face threats from high impact weather events such as windstorms, heavy rain episodes, or prolonged warm/cold spells. In addition, weather-related hazards such as flooding and wildfires have the potential to cause personal injury or loss of life, and to damage property, infrastructure and the environment. As climate change progresses, Ireland's future weather is likely to become even more challenging, with an increased frequency and severity of extreme events. People living on coasts and river plains are particularly vulnerable. Fisheries, the built infrastructure, agriculture, water resources, forestry, energy and transport infrastructure are among the most vulnerable sectors within our economy.

Supporting impact-based decision making focuses on users' needs and increases the relevance of weather information to users concerns. It is a partnership approach to managing weather related risks involving close association between Met Éireann and end users. Met Éireann will support citizens, public agencies and sectoral interests in decision making, and facilitate a significant mitigation of the possible losses from high impact weather events. Providing enhanced local meteorological information will help identify the expected impact of particular weather threats, and the regions where these threats are greatest. Information will be tailored for the specific needs of users, including emergency response, transport, agriculture, marine, tourism and the public.

## Indicators of Success

Met Éireann's goal to enhance support for impact-based decision making will lead to better societal preparedness and improved capacity for civil protection in the face of natural hazards. There will be better management of weather related risks leading to the prevention of injuries and deaths; lower costs associated with damage to property and State infrastructure, and faster societal recovery from high impact events.

### Climate Change

Climate change refers to large-scale, long-term changes in the earth's weather patterns or average temperature. An overwhelming scientific consensus maintains that current climate change is due primarily to the human use of fossil fuels, which releases carbon dioxide and other greenhouse gases into the air.

### Weather-related Hazards

Events that occur naturally as a consequence of weather that may cause loss of life, injury or illness, social and economic disruption or environmental degradation. Examples include floods and coastal storm surges, drought, heatwaves and cold spells, landslides, wildfires, epidemics and the transport and dispersal of toxic substances or volcanic eruption material.



#### OBJECTIVE 1.1:

### Create a partnership approach to impact-based decision making

What we will do:

- **Continue to build a network of partners** — Facilitate ongoing knowledge exchange and learning focussed on how weather services can best support impact-based decision making, in particular in relation to severe weather events.
- **Develop a clear understanding of how citizens use weather information** — Achieved through engagement with the public and research activities in the social and behavioural sciences.

#### OBJECTIVE 1.2:

### Engage in focussed meteorological and climatological research

What we will do:

- **Develop deeper impact-based expertise** — Understanding regional and local weather related vulnerabilities, and actively participating in research networks that support the development of impact-based forecast services.
- **Enhance excellent numerical weather prediction modelling capacity** — Develop a capability that focuses on locally-tuned, high resolution, mathematical models of the atmosphere designed to provide optimum forecast support for high impact weather events.

#### Impact-based forecast

A paradigm shift from a forecast of what the weather will be to what the weather will do or cause to happen. This alignment of forecast information with hazard vulnerability will make it easier to make decisions or take actions to mitigate the effects of high impact weather events.





### OBJECTIVE 1.3:

## Provide high quality weather services

What we will do:

- **Improve forecast production and communications systems** — Maximising usefulness and reach to decision makers, incorporating the development of probabilistic and long range forecasts to enhance decision-making capability.
- **Deliver enhanced aviation weather services** — Through ongoing development and modernisation of infrastructure and systems, contributing to flight safety and airport efficiency.
- **Develop resilient and agile operations** — Built around an organisational model with the capacity, training and expertise to respond efficiently and effectively during extreme weather events.
- **Provide a suite of public warnings relating to weather hazards** — Through enhanced weather related services and products developed in conjunction with user needs, public agencies and the research community.

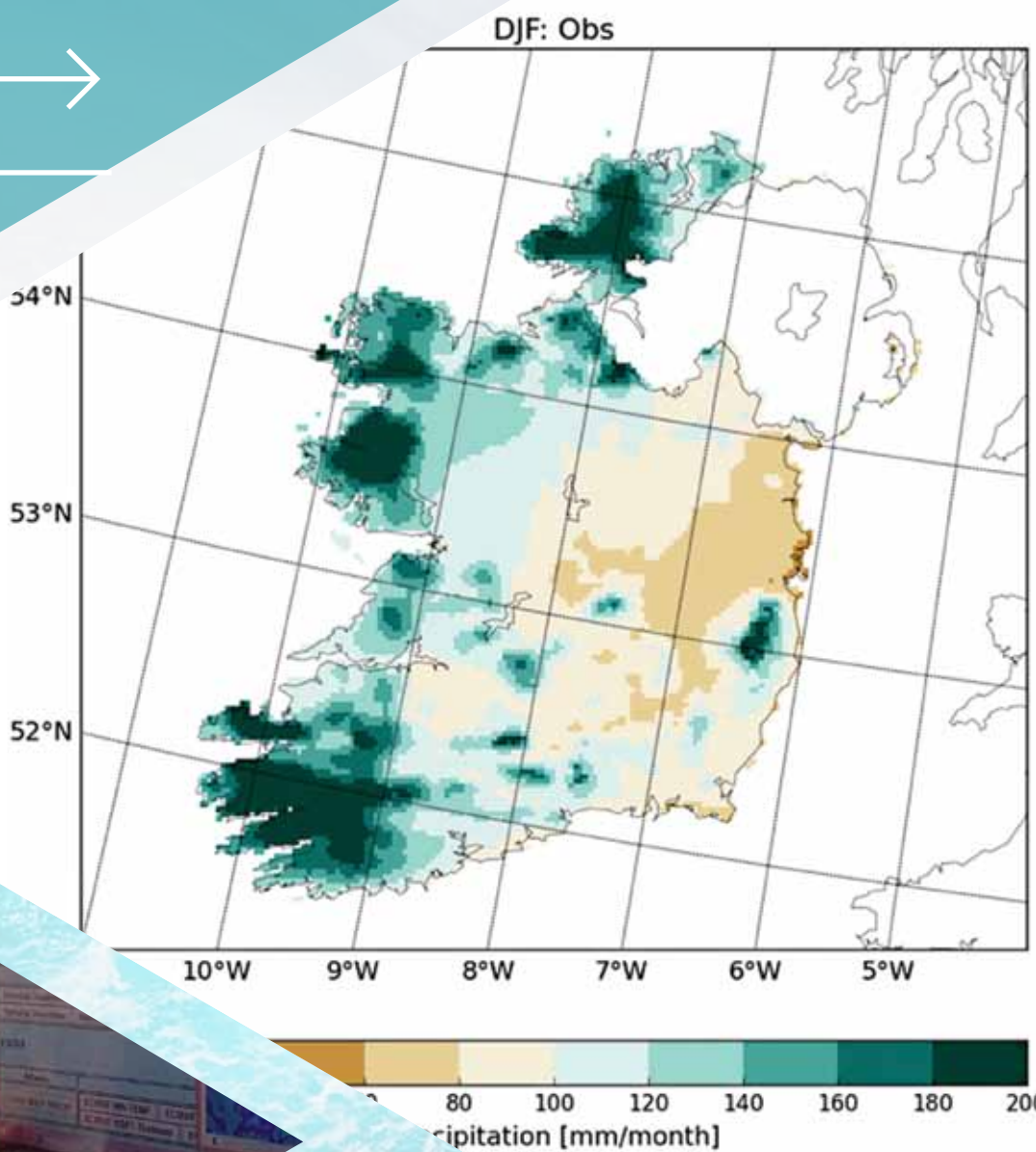
#### Aviation Weather Services

Specialised services provided to the aviation sector, consisting of observations and forecasts at aerodromes and airports, warnings of severe weather in Irish air space, and support to the Aer Corps and the Irish Coastguard.





**GOAL 2: Provide climate information services which promote the safety of citizens and supports economic and environmental resilience**





## Introduction

Changes in Ireland's climate will impact significantly on society, on the economy, and on the natural environment. High quality, integrated climate services will help define and meet the challenges of climate change faced by the State, its citizens and industry. High quality weather observations are fundamental to the analysis of our climate, but the provision of climate services also demands investment in the best global and regional climate models which can be used to downscale information to a local level.

Met Éireann will combine observations of the climate system with the latest science to develop authoritative, quality-assured information about the past, current and future states of the climate and weather in Ireland, on regional and on local scales. Research capacity will be strengthened, and partnerships built with other organisations in Ireland, the EU and the wider international meteorological community. Users will be engaged in the development of climatological products, whose use will be promoted through educational and interpretative services. Climate services provided by Met Éireann will underpin national climate adaptation policies and ensure that Government, the broader public sector, academia and industry have tailored information that enables them to make informed decisions based on robust scientific evidence.

## Indicators of Success

The availability and use of high quality, local and regional, climate and weather information will lead to an improved understanding of how the Irish climate is actually changing. This knowledge will facilitate informed climate mitigation and adaptation planning, leading to better management of resources targeted at infrastructure and economic development.

### Climate

Climate is the average of weather conditions over a long period of time, usually taken as 30 years. Long term averages of meteorological parameters such as rainfall, temperature and sunshine are sometimes referred to as 'normals'.

### Climate Services

The production and provision of high quality climate data and products to decision makers, supporting society at large, and facilitating the development and evaluation of adaptation and mitigation strategies.



#### OBJECTIVE 2.1:

### Produce climate information services across the whole weather — climate continuum

What we will do:

- **Publish definitive analysis of Ireland's climate** — Through the ongoing provision of expert information on the status of Ireland's climate on monthly, annual and decadal and extended time-frames.
- **Deliver future weather and climate information** — Leveraging the latest developments in meteorological science to produce a suite of seamless, local scale services from monthly forecasts and seasonal predictions through to climate projections and analysis.

**Future Weather** Weather is the day to day variation in atmospheric conditions. Climate is the average of weather, where extreme events have a theoretical boundary. In a changed climate weather patterns and limits of extreme events all change. Future weather refers to the weather conditions and extremes which will occur in a changed climate.

#### OBJECTIVE 2.2:

### Develop specific products and services for weather and climate sensitive sectors

What we will do:

- **Produce demand driven tailored weather and climate services** — Informing decision making through provision of sector-specific services, developed through engagement with partners and key stakeholders to support policy, planning and risk management.



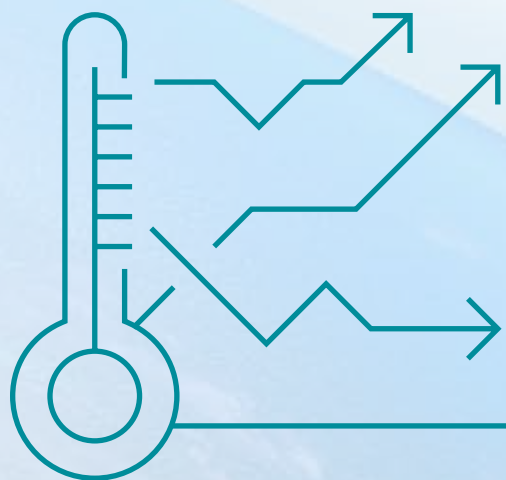


### OBJECTIVE 2.3:

## Make climate service products widely available and promote their use

What we will do:

- **Deliver Climate Information** — Through a portal which delivers an integrated suite of Climate Services developed in partnership with national and international agencies and organisations.
- **Provide impact-focused interpretative services** — Engaging with and providing expertise, advice and interpretive tools to users to ensure that socio-economic outcomes are enhanced through full and appropriate use of climate products.





# GOAL 3: Deliver a high quality national flood forecasting service





## Introduction

Since the beginning of the millennium Ireland has suffered a number of damaging flood events. In response, the Government made a decision in January 2016 to establish a National Flood Forecast and Warnings Service (NFFWS). The first phase in development of this service is the establishment of a national Flood Forecast Centre in Met Éireann.

Met Éireann will engage with the Office of Public Works (OPW) and other stakeholders in the establishment of the NFFWS, in particular supporting the NFFWS through ensuring that the Flood Forecast Centre is delivered in a timely and efficient manner. This will involve the acquisition and development of new skills and capacities, building a team of hydro-meteorologists and support staff, and the installation of related technical infrastructure. The operational delivery of national-level flood alerts and advisories will be enabled, providing the level of confidence in flood forecasts that is currently evident for Met Éireann's weather forecast services and enhancing Ireland's climate resilience with respect to flooding.

## Indicators of Success

A reduction in the impacts of large scale flood events in Ireland. A national-scale flood forecast model running daily, with flood guidance statements and alerts issued as required to the appropriate bodies.



### OBJECTIVE 3.1:

## Build partnerships with other relevant agencies and centres of hydrological expertise in Ireland and abroad

What we will do:

- **Develop close working relationships** — Support the OPW through effective partnerships with national and international stakeholders, including centres of hydrological and oceanographic expertise and users of flood alert and forecast services.
- **Collect operational information on water levels** — All available hydrometric observations will be collected in a unified database in partnership with other agencies, made available for operational use, and archived.

### OBJECTIVE 3.2:

## Establish a Flood Forecasting Centre

What we will do:

- **Establish a team of expert hydro-meteorologists** — Building on Met Éireann's knowledge and expertise in providing weather services, construct a similar service in the realm of Flood Forecasting. Hire highly qualified staff, provide first-class training, and ensure a high level of infrastructural support.
- **Develop operational flood forecasting tools** — Hydrological and oceanographic models developed and tuned to the specific needs of the Irish context, augmented by a class-leading decision-support system.





### OBJECTIVE 3.3:

## Ensure optimum dissemination of flood alerts

What we will do:

- **Communicate flood alerts and warnings effectively to all users** — Key users of flood alerts and flood guidance statements provided with targeted products and services thereby ensuring widespread public awareness of flood risks and appropriate mitigating actions.





GOAL 4: Continue to provide  
an effective authoritative voice  
on meteorology in Ireland







## Introduction

As Ireland's National Meteorological Service, Met Éireann enjoys a long standing relationship and a high profile with the Irish public, developed through the quality of its forecasts and weather information and its broad reach in media, including television and radio broadcasts. Despite the wide availability of alternative forecasts on multiple information channels, Met Éireann remains the main source for weather information in Ireland; its website is among the most popular in the country.

If Ireland is to be properly prepared for future weather in a changing climate, the State and its citizens must continue to have access to a high quality weather service. Met Éireann must retain the trust of the Irish people as the provider of reliable weather forecasts and warnings conforming to international scientific standards.

Met Éireann will provide the authoritative voice for weather and climate information in Ireland to protect life and property and to contribute to society's general well-being. It will achieve this through focussed scientific research which will drive the provision of the best meteorological services possible for Ireland. The media presence of Met Éireann across traditional, digital and social media platforms will be enhanced. Met Éireann will ensure that the State, the public and industry are fully aware of the services it provides, and how best to use them, through engagement with educational and outreach activities.

This will be underpinned by Met Éireann's strong ongoing commitment to excellent customer service standards which requires continuous assessment and measurement of customer outcomes and user satisfaction. This is a core element of our values and is central to our approach to serving the Irish public.

## Indicators of Success

Met Éireann will verifiably maintain its trusted voice as the preferred provider of weather and climate services in Ireland across all age groups, and via a variety of information platforms.



#### OBJECTIVE 4.1:

### Enhanced engagement in the Meteorological and Climatological Research Community

What we will do:

- **Strengthen capacity in key research areas** — In areas such as NWP, probabilistic forecasting, climate change and flood forecasting, through national and international collaboration within the research community and other partners; integrating scientific and technological research to continuously improve the timeliness, accuracy and usefulness of weather information for Irish citizens.
- **Target the transfer of research knowledge to user services** — Through support of and participation in targeted user orientated applied research projects relevant to the provision of meteorological and climate services. This will include secondments, partnerships, engagement in post graduate, fellowship and post-doctoral programmes; collaboration with industry, academia, and national and international research organisations.
- **Secure research funding grants** — to support research activities in partnership with relevant academic and research institutions.

#### OBJECTIVE 4.2:

### Effectively communicate weather risk and uncertainty with an understanding of human behaviour

What we will do:

- **Support a weather and climate prepared society** — Through user engagement, simulation workshops and communication development programmes to ensure that the public receive the appropriate weather risk message and fully understand how to interpret it.
- **Enhance Met Éireann's strong media presence on all platforms** — Through full exploitation of digital, social and broadcast media allowing Met Éireann to communicate effectively and directly with the Irish public.
- **Enhance knowledge of user response to weather and climate information** — Through social and behavioural research, behavioural and attitudes surveys and use of user data analytics.





#### OBJECTIVE 4.3:

### Develop outreach, education and promotion activities

What we will do:

- **Provide an educational resource for weather and climate information** — Met Éireann will support public education in understanding meteorology, climatology, climate change, forecasts and forecast uncertainty, to help optimum use of impact-based forecasts and warnings through provision of multimedia and online services.
- **Engage in weather and climate outreach** — Through broad-reaching direct public engagement at national events, school and college visits, and support for community initiatives, Met Éireann will foster a culture of weather and climate awareness and understanding in Ireland.

#### OBJECTIVE 4.4:

### Enhance Met Éireann's service delivery model

- **Link service delivery and development needs to user needs** — Through consultation with users to develop tailored product and services; maintaining a customer focus to deliver best possible services
- **Evaluate and monitor service performance and outcomes** — Maintain commitment to high quality services through continual review, measurement and improvement of performance; using new technologies as appropriate; engaging in ongoing customer feedback review to develop services.





## GOAL 5: Maintain and support an expert, professional workforce





## Introduction

A modern National Meteorological Service must maintain and support an expert and professional workforce. The range of activities undertaken and planned by Met Éireann, and the pace of scientific and technological change, demands highly motivated, skilled and flexible personnel. A key priority for Met Éireann is to support and develop its highly committed staff and to maintain and expand expertise through continuous professional development and competitive recruitment of highly-qualified candidates. Met Éireann must ensure that it retains and develops its profile as a high quality workplace in disciplines relevant to meteorology, hydrology and related STEM areas.

A skilled and motivated expert workforce with increased and varied career options will lead to greater job satisfaction, and the continued provision of high quality and reliable products and services to customers.

## Indicators of Success

That Met Éireann is recognised as an attractive workplace with an energetic, highly skilled professional workforce and high levels of staff retention. Met Éireann weather services and scientific research activities are recognised as being conducted to a high quality both nationally and internationally.



#### OBJECTIVE 5.1:

### Attract and retain a highly skilled workforce

What we will do:

- **Sustain a high performing and diverse workforce** — Through effective workforce planning, succession management, continuous professional development and recruitment.
- **Develop a flexible and adaptive working environment** — Attained through effective cross stream and mobility programmes, catering to the interests and career development plans of individuals.
- **Actively engage in workplace health and wellbeing promotion** — Focusing on staff development, training, human resource management, consultation, communication and rehabilitation that shifts the emphasis from a healthy workplace to a healthy organisation.

#### OBJECTIVE 5.2:

### Facilitate continuous professional development and build institutional knowledge capacity

What we will do:

- **Strengthen our management culture** — Through transparent communication and feedback, underpinned by staff empowerment within a professional working environment providing both challenge and opportunity for development.
- **Develop a continuous professional development programme** — A dedicated CPD programme will be established to ensure knowledge and skills remain up to date.
- **Improve knowledge management** — Ensure optimum application of expertise through effective information sharing, knowledge transfer systems and organisation-wide Quality Management Systems.
- **Expand scientific and technical capacity and expertise** — through short-term scientific missions, exchange programmes and secondments with national and international partners; a programme of fellowships operated in conjunction with the research community.
- **Continue to develop partnerships with the research community and industry** — Through engagement with targeted research and collaboration, building internal expertise and institutional knowledge.





### OBJECTIVE 5.3:

## Optimised organisational working arrangements

What we will do:

- **Put in place an optimal service-oriented organisational structure** — Through cross-organisational interaction and unified structures and roles, maximise the focus on excellent service delivery.





**GOAL 6: Lead a modern,  
integrated meteorological  
infrastructure and support  
an enterprise environment for  
weather and climate services**





## Introduction

Met Éireann must support a robust and resilient national meteorological infrastructure as a foundation for the production and delivery of weather and climate services. In a rapidly evolving technological landscape Met Éireann needs to continually develop its core capacity and infrastructure, while ensuring that continuity of systems and processes enable “business as usual”.

Met Éireann needs to maintain a capacity to anticipate and react to constantly evolving requirements. As technologies advance, observing networks will be upgraded and developed. ICT services will be effectively organised to meet increasing demands, among them the availability of observational data and the delivery of Open Data. Met Éireann must provide for the availability of sufficient high performance computing (HPC) capacity to drive modelling and prediction improvements. An agile and flexible approach to systems development will underpin the delivery of services which meet society's needs.

In addition, Met Éireann will support the development of a robust meteorological research and development community both in academia and the private sector in Ireland, enabling improved products and services to adapt to climate change and creating potential for significant positive economic impact.

## Indicators of success

Improved weather and climate services achieved through increased HPC capacity, improved observational data, and resilient, robust and agile ICT services. Meteorological and climate research generating knowledge, new products and new forms of industrial cooperation. Meteorology as a driving force for innovation contributing to competitiveness, growth and job creation.

### Open Data

The provision of data and products for free use and reuse under an open license.

### Modelling the Weather and Climate

Sophisticated mathematical models are run to predict the evolution of weather and climate. These models assimilate, process and produce huge quantities of data over a range of time steps. In order to meet the computation capacity requirements, Met Éireann must have access to high performance computing (HPC).



#### OBJECTIVE 6.1:

### Expand, develop and modernise Met Éireann's observational infrastructure

What we will do:

- **Develop Met Éireann's weather observation infrastructure** — Building on a surface reference network maintained to World Meteorological Organisation standards, Met Éireann will fully exploit remote sensing technologies and explore new approaches to observing weather, maximising the integration of third party data. A particular focus will be improved observation data from areas of known weather vulnerability.
- **Maintain a secure repository for Ireland's weather and climate data** — Maintaining and developing the national meteorological archive.

#### OBJECTIVE 6.2:

### Maintain and develop ICT capacity through a cost effective and sustainable model

What we will do:

- **Increase Met Éireann's High Performance Computing capacity** — Ensuring that Met Éireann can meet expanding numerical weather prediction computing requirements.
- **Further develop secure, efficient and agile ICT capacity** — To be achieved through the streamlining of existing systems and the implementation of modern technologies, underpinned by appropriate business continuity capability.





#### OBJECTIVE 6.3:

### Ensure a reliable, secure, climate aware work environment

What we will do:

- **Continue to develop enhanced resilience of operational services** — Through ongoing effective crisis management and fully tested, organisation-wide business continuity planning.
- **Continue to improve our energy efficiency** — Through pro-actively working in partnership with the Sustainable Energy Authority of Ireland's Public Sector Energy Programme to achieve national energy efficiency targets, promote low carbon green office practice and standards.
- **Encourage use of low carbon transport where ever possible** i.e. public transport, cycling and walking and engage with national programmes such as the National Transport Authority's **Smarter Travel Workplaces** programme

#### OBJECTIVE 6.4:

### Engage with the Irish meteorological enterprise ecosystem

What we will do:

- **Facilitate effective use of Open data** — Through effective and efficiently packaged data provision and support.
- **Support an active and vibrant Irish meteorological enterprise community** — Through open engagement and collaboration with industry in areas of mutual interest.
- **Put in place effective national governance** — Through the development of structures and systems to manage meteorological and hydrological datasets, warning protocols, hazard protocols and developing areas of responsibility at a national level.



## The Future

Irish society and Irish culture have for centuries been shaped by our weather and climate. As society becomes more complex, the risks and dependencies associated with weather and climate become more difficult to untangle and discern. Increasingly, innovation in and interaction with non-meteorological disciplines — especially the behavioural and social sciences — will be needed to underpin Met Éireann's authoritative voice as we develop greater multi-hazard awareness and a deeper understanding of weather and climate impacts.

Allied to this is the emergence of technological opportunities such as:

- (i) effective collaboration with information aggregators, working with them to combine information from many sources in a coherent and scientific manner, and
- (ii) embracing the digital edge, working with converging trends in cloud computing, digital collaboration, mobility, shared platforms and the Internet of Things.

### Internet of Things

The interconnection via the Internet of everyday objects, enabling them to send and receive data.

Like all National Meteorological Services, Met Éireann must plan and develop systems to collect weather data over time spans from decades to centuries ahead in ways which will be resilient to both economic upheaval and political evolution.

Monitoring and responding effectively to these diverse challenges will require both strategic foresight and tactical agility, allied to adequate resourcing. Investment in meteorological science and services will be a key component of investing in the future sustainability of Irish society. .





## Collaboration and Partnerships

Over the next ten years, key partnerships will enable Met Éireann to fulfil its duties and ambitions, both at national and at international levels. Resource mobilisation through third party co-funded projects will play an increasingly important role when tackling these and other new challenges.

These key partners will span a diverse range:

- Researchers and academia
  - » to develop greater knowledge and understanding in the underlying science;
- National and international agencies
  - » to keep up with scientific best practice and improve our capacity as an organisation;
- Civil protection, public health, environmental protection and media
  - » to ensure that the benefits of scientific know-how are fully realised for civil society;
- Weather-dependent economic sectors such as aviation, fisheries, agriculture, finance, and construction
  - » to contribute positively to sustainable national economic development.
- Industry and enterprise
  - » to foster the introduction of innovative technologies and services for commercial exploitation and wider societal benefit



## Implementation

Successful delivery of our ambition will require the continuing active involvement and engagement of the entire Met Éireann community. This Strategic plan provides a vision for the future direction for our organisation.

Over the next ten years, each part of Met Éireann will be required to produce a succession of 3 year implementation plans with associated targets aligned to this Strategy. The outputs of each of these operational plans will be reviewed on an annual basis by Met Éireann's Management Committee.

This is a living document; we will remain sensitive to changes in our operating environment throughout the period of the Strategic plan, responding to new opportunities and adapting as required.

Met Éireann's Director will oversee an annual review of the Strategic Plan, and formally report on progress to the Management Board of the Department of Housing, Planning and Local Government.





## Performance Evaluation

Met Éireann is committed to evaluate and report performance in objective and meaningful terms. Key performance metrics (e.g. forecast warning lead times, accuracies) augmented by periodic measures of satisfaction in key groups (e.g. emergency managers) will be evaluated while comprehensive and meaningful measures of the products and services provided will be developed.

In addition, the indicators of success highlighted above express a desired societal outcome that depends not only on Met Éireann outputs, but also an effective societal use of, and response to these outputs. Performance evaluation based on outcomes is more challenging, but also more meaningful — it seeks to find out how and to what extent Met Éireann products and services create value for society in terms of economic efficiency, economic output and improved public safety. Progress in measuring such outcomes will significantly depend on collaborative engagement with economic and other social science research and tools.

Met Éireann will use the indicators of success as a starting point to develop a detailed plan for how to define, baseline, and track more specific societal measures and targets.



## Glossary of Terms

|                 |                                                                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CPD</b>      | Continuous Professional Development                                                                                                                                                |
| <b>ECMWF</b>    | European Centre for Medium Range Weather Forecasts                                                                                                                                 |
| <b>ECOMET</b>   | The Economic Interest Grouping of the National Meteorological Services of the European Economic Area                                                                               |
| <b>EPA</b>      | Environmental Protection Agency                                                                                                                                                    |
| <b>EUMETNET</b> | European Meteorological Network, a grouping of European National Meteorological Services that provides a framework to organise co-operative programmes between its Members         |
| <b>EUMETSAT</b> | European Organisation for the Exploitation of Meteorological Satellites                                                                                                            |
| <b>HPC</b>      | High-performance computing — the use of super computers and parallel processing techniques for solving complex computational problems such as climate and weather forecast models. |
| <b>ICT</b>      | Information and Communication Technology                                                                                                                                           |
| <b>NM(H)S</b>   | National Meteorological (and Hydrological) Service                                                                                                                                 |
| <b>NWP</b>      | Numerical Weather Prediction — Using mathematical models to simulate and predict the state of the atmosphere in the future and guide weather forecasts and warnings                |
| <b>OPW</b>      | Office of Public Works                                                                                                                                                             |
| <b>SFI</b>      | Science Foundation Ireland                                                                                                                                                         |
| <b>STEM</b>     | Shorthand for Science, Technology, Engineering and Mathematics                                                                                                                     |
| <b>WMO</b>      | World Meteorological Organisation                                                                                                                                                  |





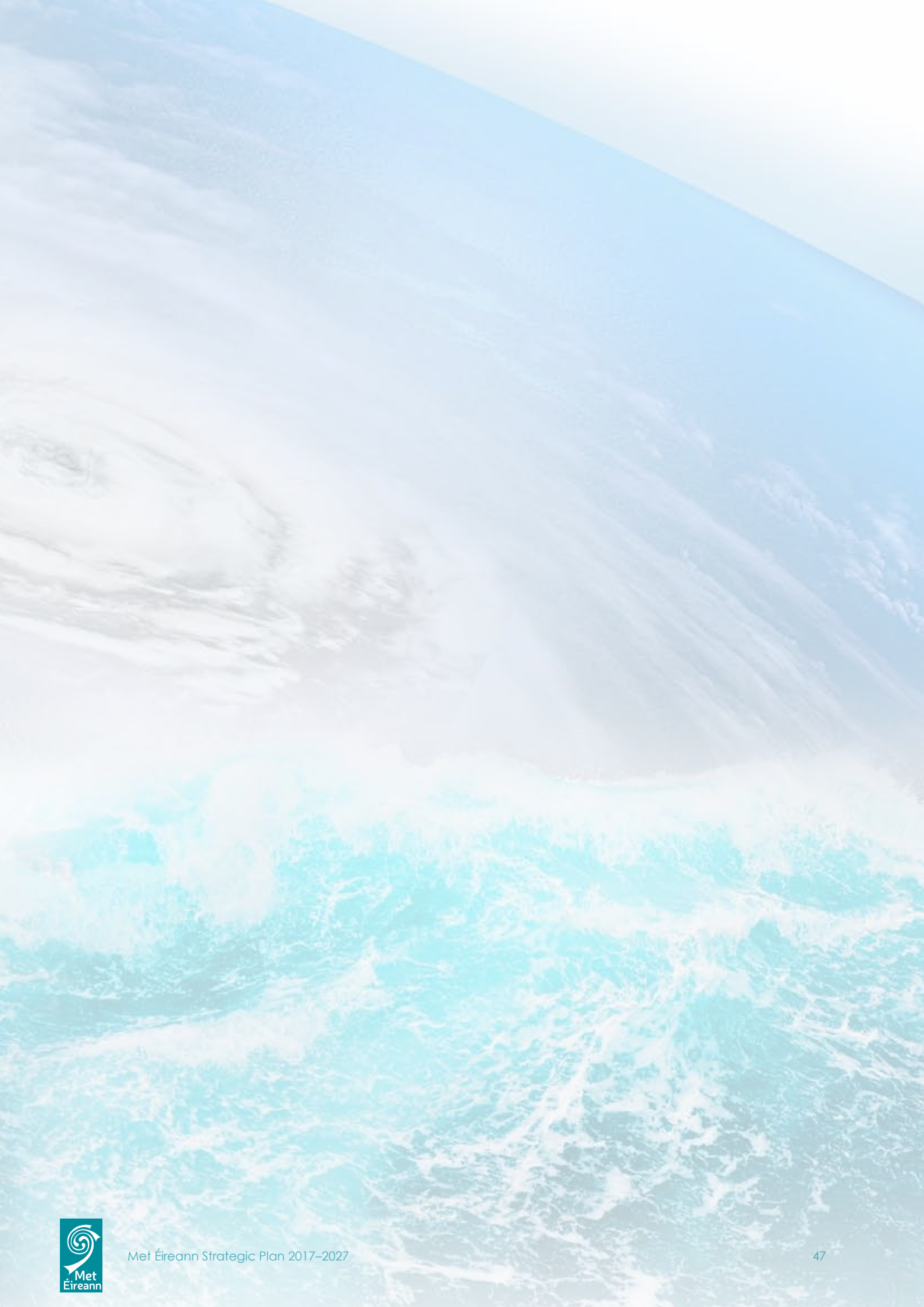
## Our international network











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