



WORLD
METEOROLOGICAL
ORGANIZATION

WEATHER CLIMATE WATER

WEATHER, CLIMATE AND HYDROLOGICAL SERVICES: HOW WMO SUPPORTS THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Weather, climate and water can either disrupt sustainable development or advance it. The providers of weather, climate, hydrological, marine and related environmental services therefore have a critical role to play in assisting countries to implement the 2030 Agenda and the Sustainable Development Goals (SDGs). High-quality meteorological services empower decision-makers to better manage agriculture, public health, water resources, energy production, transportation and other sectors that are critical for national development.

The products and services delivered by National Meteorological and Hydrological Services (NMHSs) are best known for protecting lives and property on a daily basis. Thanks to timely and user-friendly weather alerts, predictions and information, people are more prepared for, and less vulnerable to, hydrometeorological hazards than ever before. They are also better able to maximize their productivity and plan their day-to-day activities.

But the products and services delivered by NMHSs are also essential to decision-makers responsible for meeting the longer-term challenges of sustainable development. The demand for accessible and accurate weather, climate, hydrological, marine and related environmental services will continue to grow in the years ahead. It will be driven in good part by concern over climate change and the changing patterns of weather, hydrology, storms, flooding and drought.



SUSTAINABLE
DEVELOPMENT
GOALS

Rising demand will also reflect the need to respond to new human vulnerabilities resulting, for example, from migration and the expansion of megacities and coastal development. The contributions that meteorological services can make to the 2030 Agenda will only increase with every passing year.

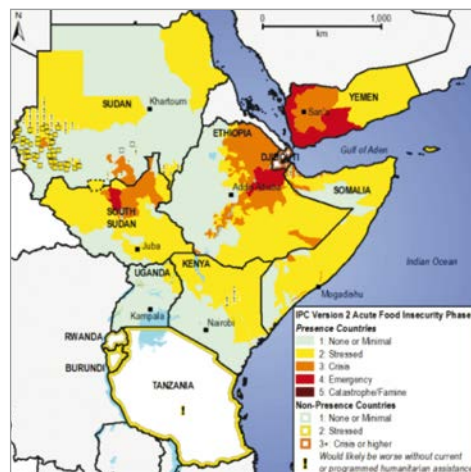
Fortunately, continuing advances in weather and climate science will make it possible for the WMO community to satisfy this demand for continuously improved services. WMO and its Members collaborate on accelerating this trend through collaboration on observations and research, technology transfer, capacity development, training and public outreach. With a strengthened emphasis on partnerships, new technologies and consensus science they will also pursue innovative approaches to delivering services. In this way, the WMO community will provide today's decision-makers and those of future generations the tools and information they need to manage an increasingly complex and challenging environment.

HOW METEOROLOGICAL SERVICES SUPPORT THE SDGs: A FEW EXAMPLES



Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

Farmers, herders and fishers rely extensively on weather and climate services for anticipating and reducing risks, adapting their strategies and tactics, and maximizing productivity. By providing increasingly targeted services to the agricultural sector, NMHSs have become central to ensuring global food security. WMO Roving Seminars on Weather, Climate and Farmers, for example, assist farmers to apply the best available weather and climate information to their operational decisions.



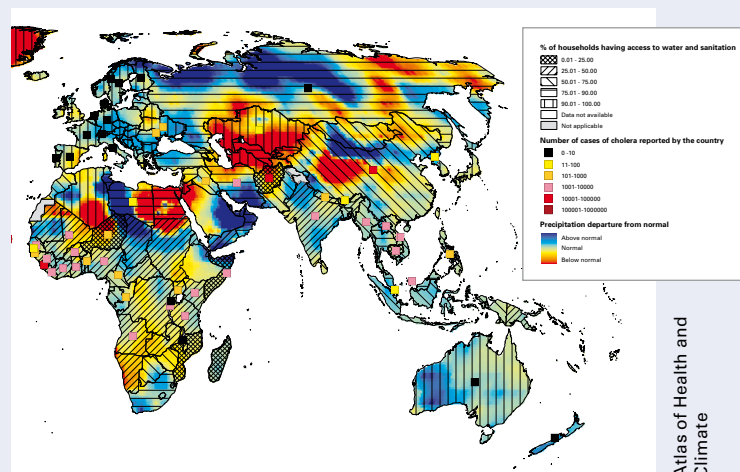
FEWS Food Security Outlook

Regional climate outlooks can guide decisions on ensuring food security



Goal 3: Ensure healthy lives and promote well-being for all at all ages

The arrival of mosquitoes, ticks and other insects that transmit illnesses is frequently influenced by weather, climate and water. Deaths and injuries also result from floods, droughts and weather-related transport accidents. The forecasts and advice that NMHSs and other service providers deliver to health agencies and to the public are therefore vital for saving lives. The WMO/WHO Atlas of Health and Climate defines the key risks that climate poses to public health in various countries and regions and illustrates the value of climate services for addressing these risks.



Atlas of Health and Climate

Information on water and sanitation as well as precipitation anomalies can help to predict the spread of illnesses such as cholera



Goal 6: Ensure availability and sustainable management of water and sanitation for all

Observations and information on the hydrological cycle, including wetlands, aquifers, lakes, reservoirs and rainfall, are vital for guiding sustainable water management. The data and analyses provided by NMHSs and other service providers also help to ensure that drinking water is safe and that human activities do not pollute aquatic ecosystems. Their work is supported by the World Hydrological Cycle Observing System (WHYCOS), which is improving basic observations, strengthening international cooperation and promoting the free exchange of data in the field of hydrology.

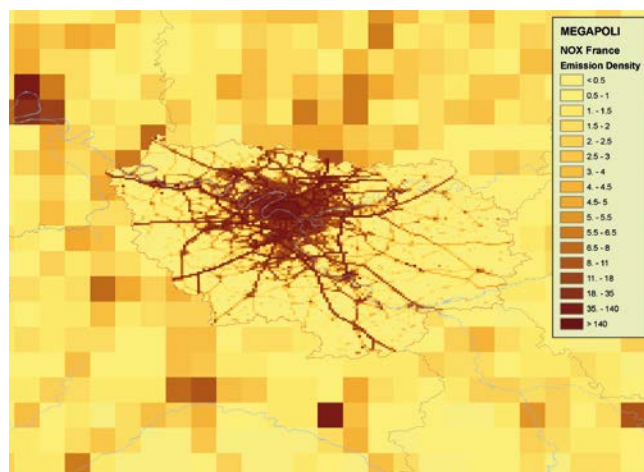


Information services for reservoir planning



Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

By helping planners to make cities more climate-resilient, national weather and climate services reduce deaths and injuries from natural hazards, empower the poor and vulnerable, and protect cultural and natural heritage sites. At the international level, WMO is responding to the Sendai Framework for Disaster Risk Reduction 2015-2030 by facilitating work on multi-hazard early warning systems, impact-based warnings, and other tools for building weather and climate resilience.



H.A.C. Denier van der Gon, MEGAPOLI, 2009-2011

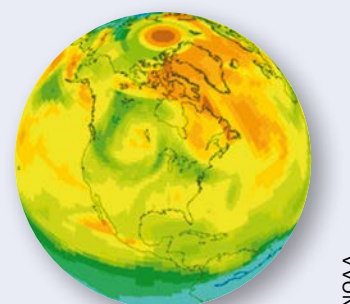
Data on pollutants and greenhouse gases at the urban scale can be useful for traffic management



Goal 13: Take urgent action to combat climate change and its impacts

The WMO community recognizes the need to provide decision-makers with the scientific facts and analyses they need to adapt to climate change impacts and build climate resilience. In addition to hosting the Intergovernmental Panel on Climate Change, the World Climate Research Programme, the Global Climate Observing System and the Global Framework for Climate Services, WMO is supporting the Paris Agreement on climate change by establishing Regional Climate Centres and Regional Climate Outlook Forums. Though these mechanisms WMO brings global observations and consensus science to support decision-makers at regional and national level.

“Carbon Weather”



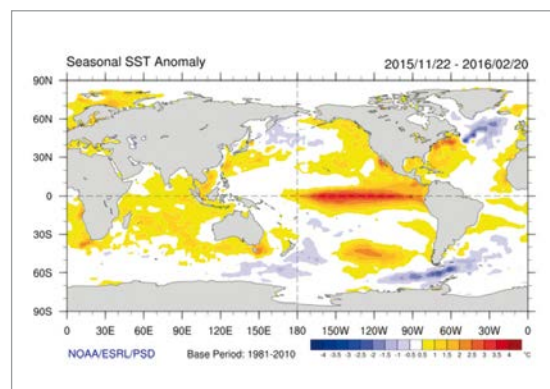
NOAA

An Integrated Global Greenhouse Gas Information System (IG3IS) will help to determine the effectiveness of policies for reducing greenhouse gases



Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

WMO, NMHSs and other national entities support international efforts to monitor ocean temperatures, currents, salinity, acidification and surface levels – all major drivers of weather and climate. They also support coastal management and resilience, particularly for Small Island Developing States and other vulnerable regions. As the oceans continue to warm and sea levels rise, the need for observations, research and operational services for the oceans will continue to grow. Activities such as the Coastal Inundation Demonstration Project will become increasingly important.



NOAA SST

Ocean observations can help to predict El Niño and La Niña events, which can have significant impacts on agriculture and other economic activities

SUSTAINABLE DEVELOPMENT GOALS AND WMO ACTIONS



	Improve observations and data exchange	Advance targeted research	Improve modeling and forecasts	Improve service quality and delivery	Reduce disaster risk	Strengthen capacity development
1 No poverty						
2 Zero hunger						
3 Good health and well-being						
4 Quality education						
5 Gender equality						
6 Clean water and sanitation						
7 Affordable and clean energy						
8 Decent work and economic growth						
9 Industry, innovation and infrastructure						
10 Reduced inequalities						
11 Sustainable cities and communities						
12 Responsible consumption and production						
13 Climate action						
14 Life below water						
15 Life on land						
16 Peace, justice and strong institutions						
17 Partnerships for the goals						

For more information, please contact:

World Meteorological Organization

7 bis, avenue de la Paix – P.O. Box 2300 – CH 1211 Geneva 2 – Switzerland

Communication and Public Affairs Office

Tel.: +41 (0) 22 730 83 14/15 – Fax: +41 (0) 22 730 80 27 – E-mail: cpa@wmo.int

public.wmo.int