

## FAO's support to strengthen climate services

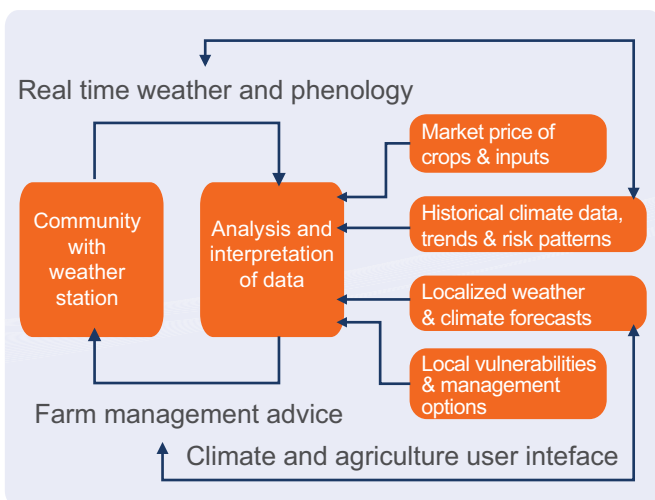
FAO facilitates effective use of climate information to reduce the vulnerability and manage climate risks in food and agriculture with specific focus on vulnerable developing countries, Small Island Developing States (SIDS) and Least Developed Countries (LDCs). The value added climate information is made available to public and users ranging from policymakers, planners, service providers to local communities. FAO's assistance covers international, regional, national and sub-national domains especially on operational crop and food security monitoring and early warning.

FAO supports institutional partnerships, cross-disciplinary collaboration, development of decision support tools and acquisition and wider dissemination of value added products, risk management and adaptation practices, capacity building and awareness rising.

### Localized climate service for agriculture

Climate impacts are location specific. FAO recognizes the importance of localized climate service at decentralized levels with an objective to bridge the gap between the climate information providers and the information users.

The four main elements of the localized climate services for agriculture are: collection and synthesis of data on local weather, climate, crop and market price of crops and input; use of weather and climate forecasts; analysis and



development of impact outlooks and management options; and communicating to end-users. Localized climate service considers community perceptions, traditional knowledge, livelihood patterns, gender and reliable communication channels.

Decentralized climate service promotes community participation and enhances two-way feedback. The value added climate services for agriculture assists to identify, analyse and prioritize the current and future vulnerabilities and climate risks and design management strategies to promote proactive decision making.

### Capacity building, advocacy and policy support

FAO offers need based capacity building to transfer value added climate information products. Capacity building for agriculture extension system focuses on interpretation of climate information and preparation of management alternatives and communication of the uncertainties to end-users.

In-order to enhance the sustainability, FAO supports member countries in mainstreaming climate related priorities into national policies, agriculture development plans, plans of action and risk reduction plans at all levels. Agriculture and food security perspectives are being integrated into National Adaptation Programme of Action (NAPA).



### For further information

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# Climate Services for Food and Agriculture



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Enabling use of climate information for adaptation to climate variability and change in agriculture and food security



## Climate, agriculture and food security

Climate variability and change place significant stress on food production and availability. Highly variable seasonal rainfall, increasing trends of temperature and extreme climate events together with growing demand for food and energy places additional pressure on the food systems and the natural resources. Innovative climate services, adaptation strategies, and sustained policy support are necessary to address the current and emerging challenges of attaining sustainable agriculture and food security.

## Efforts to strengthen climate services

Decision makers at international, national and local level are increasingly concerned by the escalating risks of climate variability and change, and there is a growing demand for better climate information at all levels. In 2009, the Third World Climate Conference (WCC) decided to establish a Global Framework for Climate Services (GFCS) to strengthen the production, availability, delivery and application of science-based climate prediction and services. The GFCS is a long-term cooperative arrangement which enables better management of the climate related risks and adaptation to climate change.

## FAO's role in agriculture user interface

FAO's support to strengthen climate information services within the agriculture user interface of GFCS recognizes five major pillars.

### Monitoring, data, tools and methods

- Acquisition and dissemination of climate data
- Down-scaling climate change scenarios
- Crop monitoring and yield forecasting
- Climate change impact assessment
- Estimating local climate for regions where the coverage of weather stations is scarce
- Global Terrestrial Observing System (GTOS) to strengthen modeling and analysis of terrestrial ecosystems

### Managing risks of climate variability and change

- Assessing local risks and vulnerabilities
- Provision of customized weather and climate forecasts for agriculture management
- Provision of need based advisories to farmers, herders and fishers for pro-active decision making
- Promoting local coping and improved adaptation strategies to build resilience of food systems

### Managing food systems and its resources

- Land use planning and agro-ecological zoning
- Planning and design of water conservation strategies and enhancing water productivity
- Designing cropping patterns conditioned on climate variation and change
- Supporting agricultural research to develop new crop types tolerant to stresses
- Monitoring ecosystems and biodiversity hotspots

### Advancing payment for environment services and risk transfer mechanisms

- Defining resource conservation practices
- Promoting economic incentives to farmers for managing ecosystems
- Protecting livelihoods through weather based insurance mechanisms

### Contributing to food security information and emergency response

- Analysing food security and information on livelihoods
- Strengthening Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS)
- Global Information and Early Warning System on food and agriculture (GIEWS) for providing advance information about impending food crises
- Facilitating Disaster Risk Management (DRM) in agriculture
- Monitoring crop and livestock pest and diseases

### Climate Services for Food and Agriculture

#### Key pillars of agriculture user interface

Monitoring, data, tools and methods

Managing risks of climate variability and change

Managing food systems and its resources

Payment for environment services and risk transfer mechanisms

Food security information and emergency response

