



## The Global Cryosphere Watch includes all components of the cryosphere, globally, regionally, nationally

The Global Cryosphere Watch (GCW) is establishing a sustained, global, robust, end-to-end cryosphere observing and monitoring system. GCW will provide data, information and products that will help to reduce the loss of life and property from disasters, improve management of energy and water resources, contribute to a better understanding of environmental factors affecting health, understand, assess, predict, mitigate and adapt to climate change, improve weather forecasts and hazard warnings, aid in management of ecosystems, and support sustainable agriculture.



### The Cryosphere

The cryosphere is a component of the Earth System that includes solid precipitation, snow cover, sea ice, lake and river ice, glaciers, ice caps, ice sheets, permafrost, and seasonally frozen ground. The cryosphere is global, existing not just in the Arctic, Antarctic and mountain regions, but at all latitudes and in approximately one hundred countries.

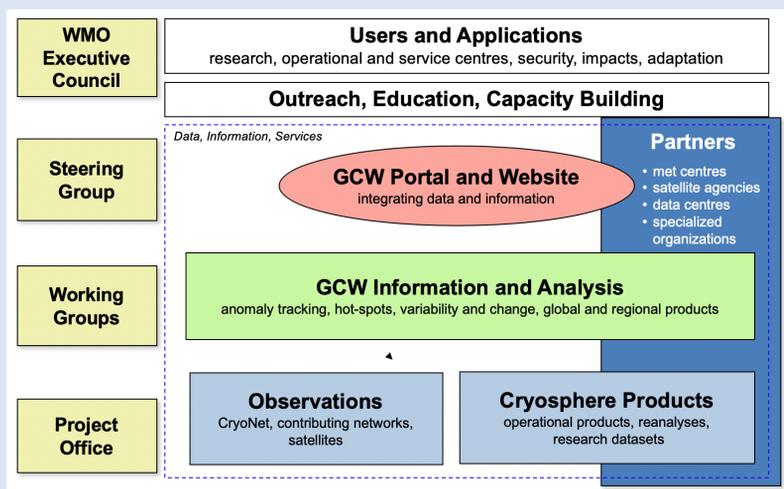
GCW encompasses:

- **Requirements:** Meet evolving observing requirements;
- **Integration:** Provide a framework to assess the state of the cryosphere and interactions in the Earth System;
- **Standardization:** Enhance the quality of observational data by improving measurement practices;
- **Access:** Improve exchange of, access to, and utilization of observations and products;
- **Coordination:** Foster research, development, and planning activities for future observing systems and global observing network optimization.



GCW, working with WMO Members and partners, will provide authoritative, clear, and useable data, information, and analyses on the past, current and future state of the cryosphere to meet the needs of Members and partners in delivering services to users, the media, public, decision and policy makers. *Partnering is essential.*

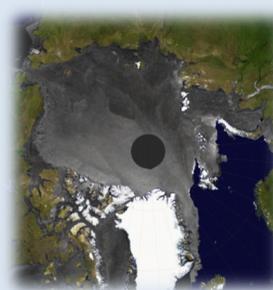
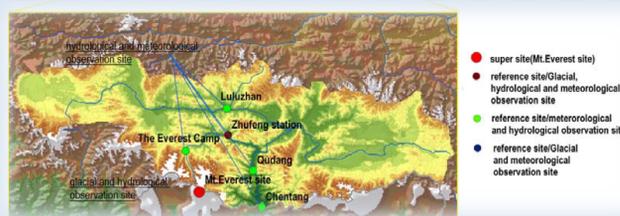
GCW is a cross-cutting activity. It is an essential component of the WMO Integrated Global Observing System (WIGOS) and will coordinate cryospheric activities with the Global Climate Observing System (GCOS), enhancing GCOS support to the UNFCCC. GCW will strengthen the WMO contribution to the Global Framework for Climate Services (GFCS). Through WIGOS and the WMO Information System (WIS), GCW is also providing a fundamental contribution to the Global Earth Observation System of Systems (GEOSS). GCW partners include government agencies, institutions and international bodies. Over 40 WMO Members have nominated GCW focal points.



**Conceptual Framework**  
Cryospheric data, information, and products are provided by NMHSs and partner organizations. GCW includes an interface with the user community. Capacity building and training are included throughout the framework. Expert teams are responsible for developing, implementing and managing tasks. A GCW Steering Group provides high-level guidance on GCW activities, tasks, and structure.

Current GCW activities include:

- developing a **core standardized network of surface observations** called "CryoNet", building on existing networks;
- developing **measurement guidelines**;
- refining **observational requirements**;
- **product intercomparisons**;
- creating **unique products ("trackers")**;
- engaging in **historical data rescue**;
- building a **snow and ice glossary**;
- providing **up-to-date information on the state of the cryosphere**;
- providing **access to data** through a portal.



GCW includes observation, monitoring, assessment, product development, prediction, and research. It provides the framework for reliable, comprehensive, sustained observing of the cryosphere through a coordinated and integrated approach on national to global scales, and delivers quality-assured global and regional products and services. For more information visit [globalcryospherewatch.org](http://globalcryospherewatch.org).