Arctic-HYCOS Arctic Hydrological Cycle Observing System



Arctic-HYDRA The Arctic-HYDRA project is a network for the observation and studies of the Arctic Hydrological Cycle.





About the project

The Arctic-HYCOS is a component of the World Hydrological Cycle Observing System, WHYCOS, which was launched in 1993 by WMO in co-operation with the World Bank. WHYCOS is a worldwide network of key stations linked with a quality controlled data base. The Arctic-HYCOS is the core network for the monitoring of the Arctic Hydrological Cycle (AHC) and will serve as a key component within the IPY endorsed project Arctic HYDRA: The Arctic Hydrological Cycle Monitoring, Modelling and Assessment Program. This system will provide an important benchmark for understanding future change to the AHC; information essential to the longer term ICARP-II WG7 Program.

The objectives of Arctic-HYCOS

- To establish and operate regional networks for measuring basic hydrological components within the territory of the Arctic drainage basin. Existing observation networks should be fully utilized and the decline of networks in some countries should be counteracted.
- To establish and operate a hydrological information system. The information system shall generate and provide regularly reliable data on the hydrological cycle, and information needed for water resources management and research. Data management practice must respect the WMO Resolution 25 on hydrological data exchange.

- To provide reliable assessment of freshwater inflow and energy flux into the Arctic Ocean in both the short and longer term. Long-term objectives should include sediment transport and other selected water quality parameters.
- To assist National Hydrological Services (NHSs) in the Arctic region with regard to improved data management, hydrological observation methodology and generation of information products by adopting international standards.
- To facilitate co-operation among countries sharing the same water resources.
- To stimulate international co-operation in studying and assessing hydrological processes in the Arctic, in particular those related to climate change.
- To serve as a contribution to other Arctic observation systems, in particular to research groups and monitoring programs dealing with Arctic snow hydrology, permafrost, glaciers and glacial runoff.
- To serve as a contribution to Global observation systems, in particular to the Global WHYCOS network, GOS, STOS, GCOS and GTN-H.
- To improve methods for hydrological computations and forecasting in poorly gauged basins, thereby contributing to solving scientific as well as applied problems.

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