



Water in its various forms plays a dominant role in nearly all aspects of the Earth's climate system. Understanding the full cycle of evaporation, cloud formation, and precipitation is the highest scientific priority for predicting climate change and is the goal of GEWEX.

GEWEX Objectives

- Determine the hydrological cycle and energy fluxes by means of global measurements of observable atmospheric and surface properties.
- Model the global hydrological cycle and its impact on the atmosphere, oceans, and on the land surface.
- Develop the ability to predict the variations of global and regional hydrological processes and water resources, and their response to environmental change.
- Foster the development of observing techniques, data management, and assimilation systems suitable for operational application to long-range weather forecasts, hydrology, and climate predictions.



Energy and Water Cycle

GEWEX Activities

GEWEX Projects are organized by their relationship to the following three GEWEX Research Focus Areas.

Radiation – Determine atmospheric and surface radiation fluxes and heating with the precision needed to predict transient climate variations and decadal-to-centennial climate trends.

Hydrometeorology – Demonstrate skill in predicting changes in water resources and soil moisture on time scales up to seasonal and annual as an integral part of the climate system.

Modeling and Prediction – Develop accurate global model information of the energy and water budget and demonstrate predictability of their variability and response to climate forcing.

