

## **SUMMARY OF THE SPANISH REPORT FOR GCOS ON SYSTEMATIC OBSERVATION, ADDITIONAL TO THE INFORMATION PROVIDED IN THE FOURTH NATIONAL COMMUNICATION TO THE UNFCCC**

In response to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat's invitation made on 2 April 2008 on additional information on National activities with respect to the Global Climate Observing System Implementation Plan, and in accordance with the UNFCCC guidelines, the sections of the report describe Spanish climate monitoring activities as follows:

1. Introduction
2. Meteorological and atmospheric observations
3. Oceanic observations
4. Terrestrial observations
5. Observations from space
6. Capacity building activities in developing countries related to research and systematic observation

The various Spanish agencies involved in observing the climate system provide the required long-term observations of the variables identified in the GCOS Implementation Plan.

The atmospheric domain is operated by the Agencia Estatal de Meteorología (AEMet) but there are other national and regional entities, such as Puertos del Estado (PE) or Instituto Nacional de Técnica Aeroespacial (INTA) that also participate in the variable measurements related to this domain. It should be mentioned the Izaña Atmospheric Observatory (AEMet) belonging to the Global Atmospheric Watch, where several measurements programs of global importance are carried out.

The oceanic domain is responsibility of Instituto Español de Oceanografía (IEO) and Puertos del Estado (PE). The networks of these institutions focus their studies and measurements from a multidisciplinary perspective.

Several networks in Spain contribute to the measurements of the essential climate variables in terrestrial domain, such as the measurements for the World Glacier Monitoring Service and the one for monitoring river discharge. A compilation of this information will be included for the 5th National Communication

Spain also participates in systematic observation programs by means of sensors installed on satellites, such as in the EUMETSAT programs. This observation includes atmospheric and meteorological components at terrestrial ground level and at altitudes, as well as terrestrial components (surface albedo, temperature, soil moisture, vegetation, etc.) and oceanographic components (wave height by altimetry, roughness of the sea surface, etc.).