



Joint SBI/SBSTA Special Event on the Impact of the Implementation of Response Measures

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⇒ *To ensure that the data required to meet the needs of users for climate information are obtained and made available for:*

- **Climate system monitoring, climate change detection and attribution;**
- **Research to improve understanding, modelling and prediction of the climate system;**
- **Application to sustainable economic development; and**
- **Assessing impacts of, and vulnerability to, climate variability and change**

⇒ *The availability of data—long-term, high-quality, reliable—is essential in order to assess the effectiveness of response measures*

- **Establishes requirements for climate observations**
 - The Essential Climate Variables that need to be observed
 - Climate Monitoring Principles
 - Guidelines for generation of datasets and products
- **Assesses adequacy of observing system networks on a periodic basis and evaluates progress**
- **Provides advice and guidance to those responsible for the individual components of the observing system**
- **Prepares, updates, and monitors an Implementation Plan**
- **Promotes and facilitates specific improvements in observing systems, especially in developing countries**

- **Mitigation Examples**

- Composition ECVs: CO₂, methane, other long-lived GHGs, ozone, aerosols (including estimation of net sources and sinks)

- **Adaptation Examples**

- Terrestrial ECVs: water use, groundwater, land cover, fire disturbance, *etc.*
- Atmospheric variables: weather variables (for linking with socioeconomic data and for detecting changing extremes); urban air quality, etc.
- Ocean ECVs: ocean acidity, nutrients, oxygen

- **Socioeconomic data**

- Health indicators, agricultural productivity, land use, disaster loss data, *etc.*

- **GEO Global Forest Observations Initiative (GFOI):** monitoring the changing condition of the world's forests
- **Tropical Ecology Assessment & Monitoring Network (TEAM):** monitors long-term trends in biodiversity
- **President's Malaria Initiative:** assesses impact of malaria interventions
- **GEO Global Agricultural Monitoring Initiative (GEO-GLAM):** monitoring global agricultural production and food security
- **GTN-H, WHYCOS:** monitoring water variables

- **Better understanding is needed of how improved observations can aid assessment of the impacts of response measures. This requires:**
 - Dialogue among physical, biological, social scientists, and policy makers
 - Comprehensive assessment of observing system needs for mitigation and adaptation and for monitoring impacts of response measures
- **GCOS is willing to engage in such a dialogue and to assist in further activities as decided by Parties**