

Understanding Changes in Climate (in support of the Global Stock Take)



Changes in the Energy Budget
Atmosphere and Ocean
Temperature, Heat Content

Changes in the Atmospheric Composition

Changes in Weather
Extreme Events

Changes in the Hydrological Cycle
River Discharge, Lakes,
Precipitation



ATMOSPHERE

CO₂, CH₄, N₂O, O₃, H₂O and others
Aerosols



Clouds

Atmosphere-Ice Interaction

Precipitation Evaporation

Volcanic Activity

Atmosphere-Biosphere Interaction

Land-Atmosphere Interaction

Heat Exchange

Wind Stress

Terrestrial Radiation

Ice Sheet

Sea Ice

Glacier

BIOSPHERE

HYDROSPHERE

Ocean

Human Influence

Land Surface
Droughts, Floods

Ice-Ocean Coupling

Soil Carbon

Rivers and Lakes

Changes in the Cryosphere

Snow, Frozen Ground, Sea Ice, Ice Sheets, Glaciers

Changes in the Ocean

Sea Level, Ocean Currents, Acidification

Changes in and on the Land Surface

Vegetation



WORLD METEOROLOGICAL ORGANIZATION



GCOS

GLOBAL CLIMATE OBSERVING SYSTEM



World Climate Research Programme



INTERGOVERNMENTAL PANEL ON climate change