

EARTH OBSERVATION SYMPOSIUM (B1)
International Cooperation in Earth Observation Missions (1)

Author: Ms. Shannon Valley
United States, shannon.valley@nasa.gov

EARTH OBSERVATIONS IN CLIMATE CHANGE SCENARIOS AND THE GLOBAL EXPANSION OF
SPACE ACTIVITIES

Abstract

The United Nations and the European Union have identified climate change as a “threat multiplier”, a force amplifying problems of scarcity and displacement in areas already long-suffering. The principle challenge for state and non-governmental actors in planning for potential crises is the vast uncertainty of the regional effects climate changes will impose- when will these effects start to present themselves, and in what form will they take shape? To help answer such questions, climate models require a firm understanding of the interconnected earth systems processes, including among them: the hydrological cycle, atmospheric gases’ cycles, cloud cover, and ice melt.

Given that developing countries are likely to be hit harder by climate change, the UN Intergovernmental Panel on Climate Change has recommended that more of these nations, especially island states, be brought into the climate change scenario creation and evaluation process. While the capacity to lend scientific expertise varies by nation, an increasing number of states are partnering in remote sensing programs. Today, the Group on Earth Observations has over 80 eighty state members.

This paper will explore the contributions needed from an expanding number of states to support further narrowing of the range of climate change models, investigate two examples of states with transitioning economies – India and Nigeria – that are benefiting from investments in earth observations, and examine the potential boom in worldwide space activities and technological development as a result of climate change research.