



Earth observations use tools like buoys and satellites to measure and record signals on, above and below the earth's surface, in the oceans and atmosphere, and from space.

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IMAGES OF THE EARTH

SATELLITES MAY WARN US OF FLOODS TO COME

Understanding the earth system, its climate, oceans, atmosphere, water, land, natural resources, ecosystems and hazards, can help governments predict and mitigate the impact of natural and human-induced disasters like earthquakes, floods, tornadoes, tsunamis and droughts.

Unfortunately this wasn't the case earlier this year, when the heavens opened and flooded 22 African countries between Sahel and the Horn of Africa. Already in July there were warnings that the combination of tropical wind patterns over the Pacific Ocean and cooler than normal sea



temperatures off western Latin America could have a "planetary" impact.

The downpour was blamed on the "La Niña" weather phenomenon and the link between "La Niña" and flooding in western Africa had already been established in the 1990s.

So this begs the question, why were governments caught off guard by the torrential rains if all this information was available?

Much of the flood damage, which many describe as being the worst in Africa in living memory, could have been avoided if governments had had prior warning. Whatever the reason, this was another shocking reminder of the urgent need to improve global collaboration on earth observations.

The intergovernmental Group on Earth Observations (GEO), which includes 71 member countries, the European Commission and 46 participating organisations, was established in 2005 to improve synergy among institutions involved in collecting and storing earth observation data.

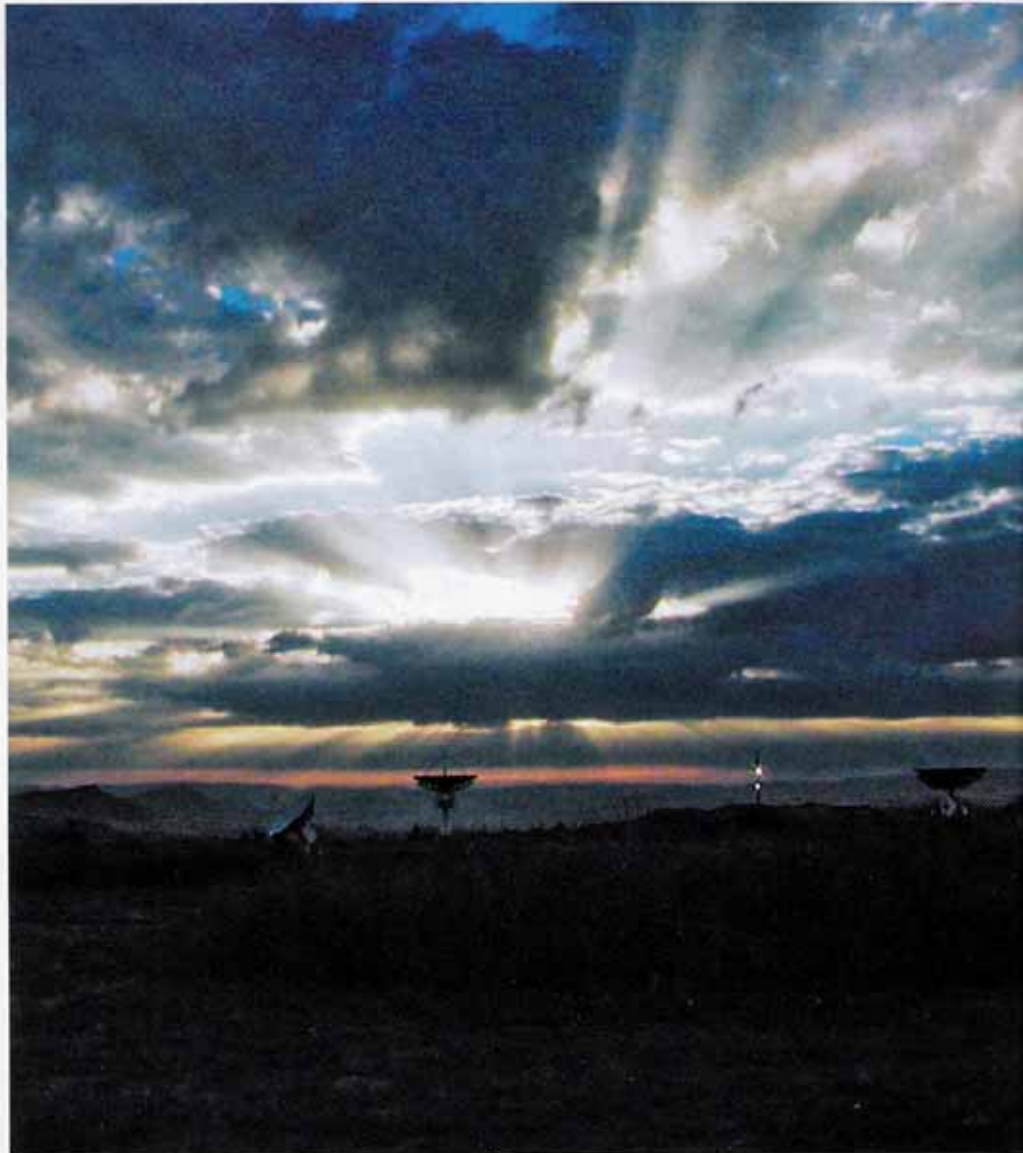
Through GEO these international institutions operate under one umbrella, the Global Earth Observation System of Systems (GEOSS). All contribute to the coordination of observations and benefit from them.

The vision for GEOSS is to realise a future in which decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained earth observations and information.

The Director of the GEO Secretariat, Prof. Jose Achache, says because the Earth behaves as a system of systems interacting with each other, any single problem requires many different data and any individual information will benefit many users.

"Hence GEO addresses nine Societal Benefit Areas including disasters, health, energy, climate, water, weather, ecosystems, agriculture and biodiversity."

This cross-cutting approach in establishing GEOSS will build the



capacities of developing countries, for example ensuring that all nations enjoy access to severe weather information in order to mitigate the loss of life and property.

This year, GEO Ministers are meeting in Cape Town, from 28 to 30 November, for the fourth GEO Ministerial Summit to examine what progress has been made towards improving global collaboration on earth observations. The ministers will also be briefed on emerging earth observation priorities and receive feedback on the GEOSS 10-Year Implementation Plan.

South Africa played a leading role in the development of this plan, which builds on and adds value to existing earth observation systems by coordinating their efforts, sharing information, reaching a common understanding of

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user requirements and improving the provision of information to users, among other benefits.

South Africa's Minister of Science and Technology, Mosibudi Mangena, says GEO has a critical responsibility to ensure the targets committed to in the GEOSS Ten-Year Implementation Plan are met.

"I believe now is an opportune time to reflect on the progress made in the implementation of this plan, and to provide further guidance towards its success," he said.

As part of its engagement with the international community in promoting an integrated global earth observation system, South Africa's Department of Science and Technology developed the South African Earth Observation System

(SAEOS) Strategy and established the South African Environmental Observation Network (SAEON).

SAEOS has been developed to create a framework for coordinating and integrating South Africa's existing earth observation capacities, linking them to complementary capabilities in neighbouring countries and to the Global Earth Observation System of Systems (GEOSS). SAEON has been established to deliver an integrated earth observation system and research platform for South Africa.

We may not be able to control nature when it flexes its muscles, but all these developments promise a future in which decisions and actions for the benefit of humankind are informed by sustained earth observations. ■



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