



World Meteorological Day 2003 “Our Future Climate”

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I am extremely pleased to make a contribution to the celebration of the 2003 World Meteorological Day, an event that each year provides for a moment of reflection around the world, on the purpose of the work performed every day by a very large number of professionals, especially in meteorological and hydrological services.

It was the work of these professionals that contributed to the improvement of the quality of weather forecasts, to the better understanding of climate, and then provided the basic data that allowed us to perceive that climate is not only variable, naturally, but also that it is changing in an unprecedented measure due to human action.

The patient work of scientists in all countries to push forward the frontiers of predictability of the state of the atmosphere, in addition to the development of the space-based observational capability and the technological progress in high-performance computing, slowly but surely resulted in the advancement of our capacity to predict the weather and the short term climate variability. It also laid the foundation for the science of climate change.

The World Meteorological Organization and its predecessor, the International Meteorological Organization, have been a most useful forum for the international co-ordination of meteorological and more recently hydrological activities throughout the world for over a century now. The early realization that weather in any place depends upon what happens in the atmosphere elsewhere in the world has helped greatly in shaping a truly world-wide cooperation, which is the basis for the modern thinking about our climate.

The International Geophysical Year in 1958, together with the dawn of the space age, have increased our ability to observe the planet as a whole, and in particular its constantly changing patterns.



It was not long ago that the countries of the world decided to prepare, through WMO, climatological atlases of the world, with the patient compilation of 30 years of data and the manual preparation of maps. Those beautiful volumes somehow conveyed the idea that we finally knew everything about climate that we ever needed to know.

At the same time, the World Meteorological Organization in its glossary, has long defined climate as being the statistics of the elements of the atmosphere, without prejudging whether those statistics were stationary in time or not.

The ultimate validation of the predictions of climate change must necessarily include the demonstration of our ability to reproduce the recent evolution of climate, including its natural variability and the anthropogenic change resulting from the emission of greenhouse gases at rates higher than nature can deal with.

The decision by the Executive Council of the World Meteorological Organization and the Governing Council of the United Nations Environment Program to establish the Intergovernmental Panel on Climate Change in 1988, was a historically decisive one. There is no doubt that the governments of the world continue to take the work of the IPCC into account while formulating their policy positions regarding climate change. The careful assessments of the status of scientific knowledge made by thousands of scientists working under the framework of the IPCC, have progressively led governments to deal with climate change through a combination of mitigation measures aimed at limiting the anthropogenic change of climate, and adaptation measures aimed at reducing the effects of change.

In spite of the on-going debate on how exactly to do this, and most importantly, what should be done by each country, let us recall that the United Nations Framework Convention of Climate Change (UNFCCC), is a very much universal international treaty. This can and should be interpreted as a clear signal of the consensus among the nations of the world that, for the sake of the future generations, we all have a responsibility for working even harder towards the achievement of the ultimate objective of the Convention: “to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner”.

It is evident that the issue of climate change is not a problem that can be solved speedily nor immediately. We know that climate will continue to change, and that efforts will continue to be aimed at mitigating and adapting to it.

Still, action is required as a matter of urgency. We now know that the effect of today's greenhouse gas emissions will change the climate many decades into the future,



both because of the time lag in the removal of carbon dioxide from the atmosphere and because of the long time it takes to warm the oceans. Conversely, it is also true that current emission reductions will take a long time to limit the change in the climate. Hence action is urgent. We have to develop less carbon intensive means of satisfying our requirements for personal comfort, transportation and mechanical work.

This will imply a change in the existing infrastructure in industrialized countries and the choice of a sustainable path for developing countries.

There are many facets to the sustainability of development. Climate change is one of them. While we cannot expect that the core development issues will be solved by climate change policies it is possible to affirm that development policies that do not take climate change concerns into account will turn out to be unsustainable.

Successfully dealing with climate change and development hinges on the capacity at the national level to pursue the integrated management of natural resources in the context of development planning. The energy sector is especially critical. Policies here must clearly take into account the requirement for a less carbon intensive energy matrix.

For a very large portion of mankind, the availability of fresh water is almost a question of survival. The double challenge of managing increasingly scarce water resources and taking into account the changes in precipitation due to climate change must become an integral part of development policies in the future. The 3rd World Water Forum has just been concluded in the city that gave its name to the protocol under the convention, Kyoto, a unique opportunity to address inter-linkages.

Much remains to be done, but progress is being made. It is expected that the Kyoto Protocol to the Convention will enter into force this year, in view of the commitment by the Government of the Russian Federation to seek its ratification by Parliament. When this condition is met, the Clean Development Mechanism established by the Protocol will become an important practical exercise in international cooperation aiming at ensuring a more sustainable path of development.

Under the CDM, specific projects in developing countries are already being designed. They will assist in promoting sustainable development in these countries. Concurrently, they will contribute to emission reductions that industrialized countries must realize in order to meet their commitments under the Kyoto Protocol. CDM projects have begun to attract the attention of the private sector in industrialized countries. Over time, this project-based experience may naturally become part of development strategies of developing countries.

In future, the work of meteorological and hydrological observers, in addition to contributing to better forecasts and therefore to better informed socio-economic development, will be increasingly relevant to reducing the uncertainties on the magnitude of



climate change and, very importantly, on the regional aspects of climate change. Adaptation to climate change will require the forecast of seasonal variability, and its change. Such forecasts currently have very coarse resolution and significant uncertainties at the spatial and temporal scales at which development planning is done. Efforts are urgently required to improve those space and time scales, pushing the forecasts closer to the limits of predictability.

Maintaining and improving the observational networks, as well as making sure they evolve to include the variables directly associated with climate change will be a constant challenge to governments. But it is a challenge that must be accepted and dealt with. The on-going effort to consider the adequacy of the Global Climate Observing System in relation to the requirements of the UNFCCC is receiving increased attention of governments in meetings of the COP and its subsidiaries.

The Parties to the United Nations Framework Convention on Climate Change, in its Article 5, engaged in a full participation in the establishment and operation of the Global Climate Observing System (GCOS). The Parties agreed to "...support international and intergovernmental efforts to strengthen systematic observation". In this regard the Convention stresses importance of capacity building in the area of systematic observation, and commits Parties to "take into account particular needs and concerns of developing countries, and cooperate in improving their capacities to participate in the effort" (Article 5).

As a result, the Conference of the Parties to the Convention and its Subsidiary Bodies have repeatedly considered the issue of strengthening the global observing systems relevant to climate change, including the invitation to the Secretariat of the Global Climate Observing System and the agencies participating in the Climate Agenda to undertake various activities to this end.

The Fourth Conference of the Parties to the Climate Change Convention, in 1998, was made aware of the fact that the number and quality of atmospheric data from systematic observations were declining. As a consequence, it decided to organize regional workshops, to develop specific proposals to address deficiencies in the climate observing networks, and to identify the capacity-building and funding requirements in developing countries, in order to enable them to collect, exchange and utilize data on a continuing basis in pursuance of the Convention commitments.

Under the United Nations Framework Convention on Climate Change, all Parties are required to submit periodically national communications containing a report of the actions taken to deal with the climate change issue. It is now required that the Parties include, as a specific item, a report on their actions in the development of the Global Climate Observing System.



There will be an increasing number of observations, beyond the classical meteorological and hydrological observations, that must become part of the observational routine in the future. In coordinating the development of the future GCOS, I expect that WMO will help design observational systems that include, for instance, the atmospheric concentration of radiatively active gases and substances, and the amount of carbon that the atmosphere stores in the terrestrial biosphere.

It is of paramount importance that the data not only be collected but also that they be made part of global data sets. The full use of the data can only be ensured after they are fully assimilated with the help of global and regional models of climate change.

The rising interest on the part of all countries to learn more about their vulnerabilities in the face of climate change, and the design of strategies to adapt to it can only be satisfactorily fulfilled if there is climatological data for each and every country properly collected and processed. The tradition of WMO in promoting the international exchange of observational data must be put to work to face the new challenges brought about by the emergence of the climate change issue.

We know that increasingly stronger measures are necessary, both in mitigating and adapting to climate change. Such stronger measures must be based on the best evidence that can be produced. This will add to the demand for observational data and for modeling results, in support of future negotiations.

I am aware of the fact that there is a tradition for the statements made during the World Meteorological Day to be distributed to meteorologists and hydrologists around the world, through the national services. I could not miss this opportunity to commend and to thank the professionals around the world who are today working on taking observations, transmitting them and modeling our atmosphere and oceans. They deserve our highest recognition for the relevance of their work on the issue of climate change and therefore for our common future.

Thank you.

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