

Editorial

Framing Vulnerability and Adaptation to Environmental Change in Africa

The launch of the **Advanced Journal of Environmental Science** coincides with the highly publicized release of international assessment of climate change. The latest, on 6th April, 2007 was the 21-page summary for policy makers from the Intergovernmental Panel on Climate Change (IPCC) working group on “Impacts, Adaptation, and Vulnerability”¹. Regional press conferences were planned to announce the details of this important documents, with four on the African continent, all on 10th April. The briefing on West Africa was hosted by Mrs. Isabelle Niang Diop in Dakar, Senegal; East Africa briefing was hosted at the headquarters of the United Nations Environment Program by UNEP director Mr. Achim Steiner, Mr. Anthony Nyong from Nigeria, and Mr. Andrew Githeko from Kenya. The North Africa regional briefing held at the library of Alexandria in Egypt was hosted by Mr. Mahmoud Medany from Egypt, Mr. Abdelkader Allali from Morocco, Mrs Balgis Osman from Sudan, Mr. Mostafa Jafari from Iran, and the Chair of IPCC, Mr. Mr. Rajendra Pachauri. For Southern Africa, the event in Johannesburg was hosted by Mrs. Coleen Vogel from South Africa, Mr. Guy Midgley also from South Africa, and Mrs Pauline Dube from Botswana.

It is extremely important for all Africans whether they are scientists, government officials, community leaders, advocates, working people, and indeed all friends of Africa to pay attention to these pronouncements and to know those who are making them. What they have to say is profound and has strong implications for the future of the continent. The Africa Environment is changing rapidly. The changes are driven in part by internal events, but largely, as many other episodes in African history by external events implemented by those who may have never set foot on African soil. Africans will likely bear the brunt of the impacts of climate change because pre-existing conditions and the paucity of social ecological tools for adaptation will exacerbate the effects of higher ambient temperatures on food production, incidence of diseases, natural disasters, and population migration.

Between 1970 and 2004, the average ambient temperature of practically all parts of Africa has increased by 0.2°C – 2.0°C (Figure 1). To avoid any inconsistencies in paraphrasing, it is perhaps best to quote directly from the assessment report² regarding the current and future impacts of climate change on Africa:

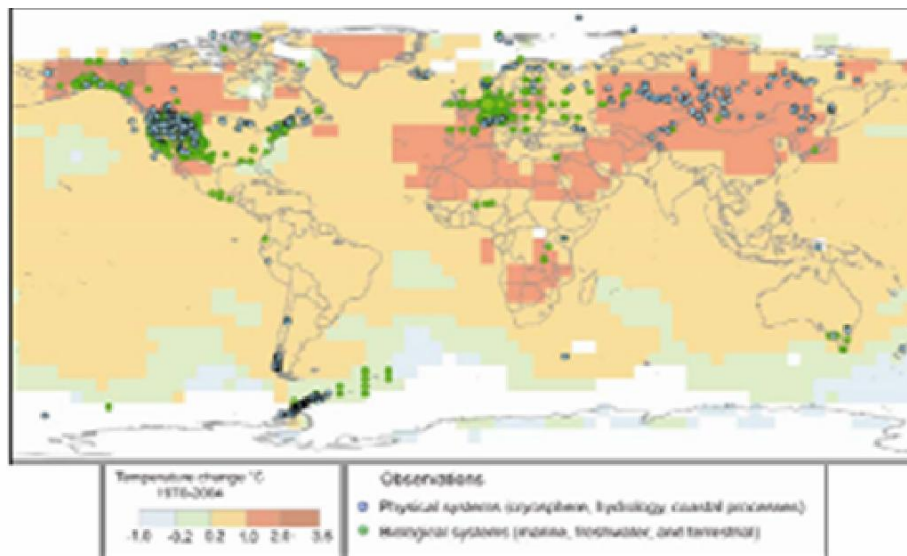


Figure 1. Changes in global temperatures between 1970 and 2004 and the impacts on physical and biological systems².

¹ Intergovernmental Panel on Climate Change. <http://www.ipcc.ch/>

² Working Group II Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability. Summary for Policymakers. <http://www.ipcc.ch/SPM6avr07.pdf>.

“By 2020, between 75 and 250 million people are projected to be exposed to an increase of water stress due to climate change. If coupled with increased demand, this will adversely affect livelihoods and exacerbate water-related problems. Agricultural production, including access to food, in many African countries and regions is projected to be severely compromised by climate variability and change. The area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. This would further adversely affect food security and exacerbate malnutrition in the continent. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020. Local food supplies are projected to be negatively affected by decreasing fisheries resources in large lakes due to rising water temperatures, which may be exacerbated by continued over-fishing. Towards the end of the 21st century, projected sea-level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5-10% of GDP. Mangroves and coral reefs are projected to be further degraded, with additional consequences for fisheries and tourism. New studies confirm that Africa is one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity. Some adaptation to current climate variability is taking place; however, this may be insufficient for future changes in climate.”

These are dire predictions indeed, and the response of African scientists and technologists must be considered urgent. Of course, policymakers are the audience targeted by the IPCC report, but African scientists must now assume the role of practitioners and advocates. **The Advanced Journal of Environmental Science** will provide the forum for the exchange of ideas, inventions, analyses, assessments, and policy instruments that are focused primarily on the Africa environment. There is no better time in history to launch this journal. There is no better audience than all who have the interest of Africa and African at heart.

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