

farming for tomorrow

One-stop shop for climate change

Scientists and policy-makers are deciding what they want from a new atlas that will make climate change information available to whoever needs it, including farmers. **Chris Nel** reports.

TO BRIDGE THE GAP BETWEEN science and policy in addressing global climate change, researchers and government decision-makers recently met to discuss what they require from the South African Risk and Vulnerability Atlas (SARVA). The workshop was held at the Council for Scientific and Industrial Research (CSIR) in Pretoria.

The first version of the atlas, in both electronic and hard-copy format, will be released in January 2010.

Dr Bob Scholes, CSIR systems ecologist and principal investigator in the Southern African Millennium Assessment, said risk and vulnerability was a common currency between the research and application sectors. He explained the atlas would facilitate access to information on global change.

"It will be continually updated, easy to navigate, provide interactive spatial information at many scales, and will include case studies on global change adaptation responses and planning," he said.

"The final product will be a comprehensive storehouse of global change information."

Dr Emma Archer, principal climate change scientist on the atlas project, stressed that South Africa's climate change research is world-class. "We must ensure it's put to good use to shape policy," she said.

The Department of Science and Technology's Imraan Patel, general manager of science and technology for economic impact, lauded the atlas as a key component of a scientific global change

bureau the department is establishing. "Such a bureau will draw together South Africa's global change research, broker knowledge between researchers and parliamentary policy-makers," he said.

He also called for the establishment of an atlas user forum, regular meetings, and for workshop participants to push the limits of innovation in global change.

According to Dr Rebecca Maserumule, SARVA project manager, one of South Africa's neighbouring countries has "produced a truly admirable risk and vulnerability atlas, but struggles to persuade decision-makers to use it. Our atlas must create a platform for researchers and potential users to cooperate from the outset, and ensure it meets users' requirements."

'... the atlas could be used in decision-making.'

Researchers presented six global change case studies to show how the atlas could be used in decision-making. These dealt with environmental health (malaria), the effect of climate change on the coastal zone, adapting to climate change in a diverse landscape (the Kruger to Canyons Biosphere Reserve), building resilience to climate change in Johannesburg, climate change and water resources, and climate change implications on water and land in Garden Route agriculture.

Government decision-makers discussed their requirements with the researchers, identifying gaps in existing climate change research and the inaccessibility of some findings. Dr Maserumule explained that the

atlas would help coordinate research and identify gaps. New information would be added continually.

"The atlas will become a one-stop shop for climate change findings and projections of global change, land cover change and biogeochemical change for the region," she said. "It will add value to raw research data, making information accessible to decision-makers in a practical format. Linked to other databases, it will build a community providing a spatial date on global change, risk and vulnerability."

Requirements for the atlas

The workshop discussed the atlas's important features, including maps of climate extremes, risk indices, and links to other important databases. It also contains base maps of population growth, economic activity, physical parameters influencing coastal sensitivity, coastal zones, land-use and environmental resources.

Participants felt the Atlas should provide a platform to share environmental impact assessments and allow under-resourced municipalities affordable access to this information.

Stakeholders asked that the Atlas should function as a decision-support tool in risk associated with specific developments, land reform vulnerability, highly sensitive areas before developments such as mining took place, and the vulnerability of different sectors such as forestry and tourism.

Dr Maserumule asked decision-makers to input their case study conclusions into the Atlas system.

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Satellite photo of a portion of the West Coast of South Africa, taken in 1978 (far left) and the same area as 1, taken in 2007. Note the dramatic change in the land due to changes in land use. Climate change introduces an additional risk in terms of reduced economic, social and ecological sustainability to the environment. The South African Risk and Vulnerability Atlas (SARVA) is set to make a crucial contribution to managing the problems.