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11.NCCWP.46

OFFICE OF THE CHIEF EXECUTIVE OFFICER

South African  
Weather Service

Mr J de Lange  
Chairperson of the Portfolio Committee of Water and Environmental Affairs  
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Dear Chairperson

SAWS COMMENTS ON THE NATIONAL CLIMATE CHANGE RESPONSE WHITE PAPER

Introduction

The Department of Environment Affairs is congratulated on a well thought through and balance document that accurately reflects the unique situation that South Africa faces in the Climate Change Debate. Furthermore, a healthy balanced is achieved between mitigation and adaptation actions envisaged. South Africa has played a significant role in international climate change negotiations and the White Paper underscores the responsibility and commitment that South Africa has to ensure a sustainable, competitive future economy geared at attainment of sustainable development of all its peoples. It forms a firm foundation to arguments to gain access to resources and technologies for climate change mitigation and adaptations.

Specific input

SAWS is of the opinion that it is important to emphasize that the best way to build resilience to a future climate is to learn how to deal with the current climate and its variability. In South Africa the loss of live and damage to property due to current weather events is disproportionately high when compared to internationally. As a matter of fact, about 90% of all disasters in South Africa are weather related. The following specific comments are provided for consideration:

- 1. South Africa's climate is characterised by large natural variability at all time scales. It is changes in the magnitude of variability due to climate change that will have the largest impact just as it is the current variability that places the biggest strain on the country.

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2. Climate change will primarily be experienced through changes in the intensity and frequency of individual weather events (floods, droughts, severe storms, coastal storm surges etc.) and secondary through changes in the climate baseline (average temperature, average rainfall etc.)
3. In general the South African population is not well informed to identify and take basic precautionary actions regarding hazardous weather conditions (lightning, heavy rainfall etc.). A well structured public awareness that includes this topic is desperately needed.
4. The national weather and climate observation infrastructure is not optimally coordinated in terms of its planning and funding to ensure that SAWS can optimally maintain and expand the National Climate Database and to holistically inform climate change research.
5. The role and responsibilities of various government institutions and departments with regards to climate change matters are not clarified to the extent that South Africa benefits from the collective effort by all role players and that duplication is avoided.
6. Enhanced capacity of climate change scientists, modellers and air quality scientists are in desperate need in South Africa.

From the above it becomes quite clear that a well resourced and capable National Meteorological Service will form a critical link in building resilience against the impacts of a future climate in South Africa. In this regard cognisance should be taken of the fact the SAWS, in relations to its international counterparts, is one of the smallest National Meteorological Services, especially if the population of South Africa, its surface area (including that of the ocean areas for which South Africa is responsible) and the complexity of the weather and climate of South Africa is considered.

To aid disaster management efforts, SAWS is committed to continuing to develop and improve its Early Warning Systems in response to severe weather events which progressively inflict harm on people and property.

SAWS plays a role in marine forecasts and modelling in that way responding to saving life at sea and protecting our marine biodiversity.

#### **Comment on p15 of the White Paper**

The statement *"Based on current projections South Africa will exceed the limits of economically viable land-based water resources by 2050."* should take into account the Third Assessment Report of the Intergovernmental Panel for Climate Change (IPCC) which says: at the current rate of economic growth, energy consumption, population

increase, etc, South Africa will be a water-scarce country by the year 2050. If climate change enters the accounting equation, the period of water stress for South Africa shrinks to 2025. Water stress here is defined as water availability below the threshold of 1 000 m<sup>3</sup> per capita.

Since 2010, with the implementation of the SAWS position statement on climate change, we have had a number of workshops with users of our products in agriculture, hydrology and health sectors, including animal health, as well as other stakeholders. Based on their feedback, we are repackaging products to suit their specific needs.

**Comment on p17 of the White Paper:**

5.2.5 should be expanded to include "other water augmentation technologies" . It should read:

5.2.5 Exploring new, unconventional and unused resources, particularly groundwater, re-use of effluent, desalination and other water augmentation technologies such as rainfall enhancement.

**Comment on p18 of the white Paper**

The statement on this page "... South Africa's air quality is generally good, ..." could be qualified to "... South Africa's background air pollution levels are low, ..." to reduce insensitivity of the statement to people living in Priority Areas and other areas of high pollution levels. Recognition at the end of this statement could also be given to challenges in ambient air quality in many areas of South Africa related to persistent air pollution problems, high ambient SO<sub>2</sub> and fine particulate concentrations, arising primarily from fuel burning within the domestic, industrial, and power-generation sectors.

**Comment on p22 of the White Paper (5.7 Human settlements- Rural Settlements)**

The addition of an additional bullet:

- Rural communities are generally not well equipped to deal with hazardous weather conditions (lightning, heavy rain etc.)

The response to the above:

Point 5.7.2 can be expanded to read:

Empower local communities, particularly women who are often primary producers, in the process of designing and implementing adaptation strategies which include amongst others a structured multi stakeholder education programme.

**Comment on p26 of the White Paper (6.3 Mitigation potential)**

With regard to paragraph 2 of this section, note should also be made to the abundance of renewable energy sources in the country, most notably solar energy. It should be borne in mind that South Africa's coastal areas in particular have a high wind energy potential which can be harnessed and we SAWS have linkages with other parties e.g. Riso in Denmark to generate a wind atlas for selected areas in the country. The WMO (*meteorological aspects of the utilisation of wind as an energy source*, Technical Note 175, 1-33) set a minimum threshold at 3 ms<sup>-1</sup> for sufficient wind energy resource to be harnessed for water pumping and electricity generation. According to this prescript, most of coastal South Africa qualifies for wind energy extraction.

**Comment on p39 of the White Paper**

The statement "South Africa will use Section 29(1) of the Air Quality Act to manage GHG emissions from all significant industrial sources ...." should recognized non-industrial sources too such as vehicle emissions which bear major pollution problems in South Africa.

**Comment on p44 of the White Paper (11.1.4 Financing the National Climate Change Response Policy)**

With regard to Section 11.1.4.e "*Establish and/or support public platforms to assimilate and disseminate climate science, finance, technology and other related research and information to enable effective decisions about risk and investment*", SAWS will provide valuable coordinating role on the multi-stakeholder working group on assimilation and dissemination of climate science (Section 11.1.4 e) as a world-renowned institution of climate science.

**Comment on p44 of the White Paper (11.2 Education)**

SAWS has role to play in building capacity in climate change education through formal education curricula, to prepare the country for changing climate and a move to low GHG emissions. The science of weather and climate are highly specialised and therefore institutional and human resource capacity building initiatives to attain a critical mass of scientists are fundamentally important for climate change research. The success of SAWS Training Centre is critical in developing a continuous stream of well-trained climate modellers, forecasters, and researchers. SAWS commits to partnering with research institutes and institutions of higher learning, government departments, and other role players in the climate change arena to address societal capacity to respond to climate change. The country should capitalize on SAWS mine of experience in the field of climate science shown by recent recognition by WMO as Regional Meteorological Training Centre.

**Comment on p45 of the White Paper (11.3.1 Highly informed decision-making)**

SAWS proposes that there be two (instead of the proposed one) Chief Scientific Advisors to the Minister of Science and Technology, one on Climate Change Science and the other on Technology working together. The reason being that these are two different areas of specialization which should complement each other. The role of the Chief Advisor: Climate Change Science could be limited to a climate scientific role, while the Chief Advisor: Technology over and above the scientific role in the field of technology could have the additional administrative coordination role.

Secondly, the Advisory Council should be established and constituted by the Ministers taking into account the available scientific expertise in the country rather than the Chief Scientific Advisors as proposed.

**Comment on p46 (12.1 Monitoring Climate Change)**

This section of the White Paper pertains to a national climate change observation strategy which will, among other things, identify role players involved in monitoring and measuring climate change indicators (changes in temp., rainfall severity of extreme weather events, etc.). It must be remembered that SAWS has a mandate in regard to climate and weather and it is sensible for the organisation to play a coordinating role. The observation, data archival, analysis and climate research roles played by SAWS are critical for gauging changes in the climate baseline.

Kind Regards,

**Dr L Makuleni  
Chief Executive Officer  
31 October 2011**