

SURVEY ON EFFECTIVENES OF NATIONAL PUBLIC WEATHER SERVICES (PWS) PROGRAMMES OR ACTIVITIES



As a deliverable for one of the Terms of References (ToRs) for the PWS Core Implementation Coordination Team (ICT), concerning conducting of surveys for assessing the effectiveness of national PWS programmes and activities, a survey involving the following countries was carried out: South Africa, Kenya, Botswana, Malawi, Zambia, Australia, Germany, India, Israel and Vanuatu. The results of the survey were presented by the Co-Chair of the ICT during the ICT meeting held in Dublin, Republic of Ireland (17-21 October 2005).

Consolidated Summary

- Most NMHSs issue weather forecasts and warnings through radio;
- Local media such as community-based radio stations are in use in some countries in Africa as effective means of reaching rural communities. This is the case in Zambia and Kenya through the RANET project;
- Television weather presentations associated with the news, attract more viewers;
- Telephony, comprising live and recorded weather information is popular in forecast dissemination;
- Web sites have become a common means of presentation of weather forecasts and warnings;
- Nowcasts for severe weather warnings are sent through SMS and through community radio stations;
- The Project Atmosphere which is an outreach collaboration programme between South Africa and the US is a successful undertaking;
- The Team encourages the further translation to other languages; Kenya NMHS has already confirmed its progress in this regard;
- Countries reflect improvement on working relationship with emergency response groups;
- There are meteorological public awareness activities or programs being carried by NMHSs (campaigns, talks, distribution of pamphlets, and identification of target groups);
- WMO activities such as the World Met Day (WMD) and publications such as PWS pamphlets are widely used to promote awareness of services available in NMHSs;
- There is a lot more taking place from developed countries that might be shared with developing countries e.g. well structured and collaborative dissemination of early warnings, cross-boarder warnings;
- The Team noted that the WMO information and materials are sometimes customised by NMHS for effective local use;
- Language is limiting access to PWS information. - PWS Information is available on WMO web site in only one language.

Country Information

1. South Africa

South African Weather Services

- Educational Information available in the web site and on pamphlets;
- Participates and exhibits during air shows;
- Organizes exhibitions on internationally declared meteorological and related atmospheric observing days;
- SMS widely used for nowcast severe weather warnings;
- Press release on advisories (up to 5 days lead time) for SYNOPTIC scale Weather Systems is popular and widely covered by the media. Small scale farmers have expressed that this product is highly beneficial;

Effectiveness of PWS programs or activities and/or partnerships

The SA Weather Service is actively involved in the following activities:

1. Annual SASOL Science Festival (SciFest) in Grahamstown -16 to 22 March 2005.

Some 33 000 people attended this year's festival with many school groups coming from as far a field as Johannesburg, Kimberley, Durban, Pietermaritzburg, George, and even Botswana. The South African Weather Service exhibition highlighted the importance of our monitoring of trace gases at Cape Point. Issues around climate change were also discussed with visitors. A fully operational forecasting desk was a major attraction at the stand with a forecaster on duty to answer questions related to weather forecasting. The South African Weather Service also ran two formal weather workshops a day to learners, educators and interested parties (about 60 people per day).

Effectiveness of programme:

The event provided a platform to interact with a wide range of people. It also provided an atmosphere of fun in which to educate people about weather related topics. People do come back year after year to visit our stand and this year, the SA Weather Service won best exhibitor at the festival. There is always a call from the organizers of the festival for more weather related workshop and talks.

2. Annual Sasolburg TechnoX – exhibition

About 35 000 people, mostly school children, attended the exhibition.

Effectiveness of programme

Much the same as SciFest - Provides a highly visual platform to interact with a wide range of people.

3. The provision of meteorological and climatological information/data for educational purposes to school learners as well as students at tertiary institutions.

On average 100 inquiries from learners and students are answered per month by SA Weather Service staff.

Effectiveness of programme

This public-good service makes a big impact on the people studying weather or climate related topics. Because they have access to the data they may be more inclined to do further studies using our data.

4. Project Atmosphere

The US funds and conducts training while South Africa supplies learners and mentors.

The South African Weather Service helps to identify 2 South African teachers per year to attend the American Meteorological Society's Project Atmosphere programme.

Effectiveness of programme

Participants who have attended the course in the past have reported that the course provides them with an in-depth understanding of meteorological processes. They feel they will now be able to integrate the topic of meteorology into other areas of their teaching, be able to answer learners' questions and be confident in teaching the subject. The workshop also gives the teachers hands-on activities which they feel are vital in explaining difficult concepts to learners. Thus learners will benefit from these teaching methods. Project Atmosphere also provides an opportunity for teachers to share their ideas and experiences related to the teaching of meteorology. This opportunity to talk about teaching is important for professional development of teachers. Some South African participants still share ideas and resources with each other many years after attending the

workshops. This programme has improved meteorological awareness, especially in some remote areas.

5. Expo for Young Scientists - adjudication of projects

Two SA Weather Service personnel help with the judging of science-related projects. These projects are done by learners from a wide range of backgrounds.

Effectiveness of programme

It is important that learners who have done weather-related projects are judged by someone who has knowledge of the topic so they can provide advice, encouragement and help. These learners have shown increased interest in the science, bearing witness to the fact that the encouragement and learning that takes place at this event is helping to develop our future scientist, some of whom could become future meteorologists and climatologists.

2. Kenya

Kenya Meteorological Department

All weather broadcasts in Kenya are associated with the news and hence enjoy a wide audience. They expect that soon all the radio and television stations in the country will be receiving weather forecasts directly from KMD and in fact there have been suggestions to have the weather forecasts broadcasted on radio in the local dialects which KBC offers.

The print media

The print media consists of the documentation and newspaper units, both of which are responsible for the public information and education. This is done through the production of brochures and leaflets that target specific groups and focus on particular aspects of weather. These brochures have proved very useful and are issued to visitors to the Department, at the International Agricultural Society of Kenya shows and during major events such as World Meteorological Day (WMD). Some of the brochures have been translated to the national language, *Kiswahili*. The unit is currently working on other educational information targeting primary and secondary schools in particular and encourages organized visits to the National Meteorological centre (NMC). There is a proposal for a Public Education campaign titled "*Know your Weather*", which is intended to go on both the print and electronic media. The comprehensive proposal has now been finalized. Its main objective is to enhance public awareness on meteorology and weather forecasting by use of televised documentaries. The project will consist of weekly episodes to be aired on National Television each episode highlighting a particular aspect of weather. We note that a number of such documentaries are already available in other member countries of WMO.

Conclusion

The Kenya meteorological department has already taken major steps towards the implementation of the PWSP as recommended in the second expert meeting on public weather services and the WMO guide to PWS in spite of the limited resources. Its Public Understanding, Education and information programmes have already taken off and remain promising. Whereas the public relations unit has not yet been able to survey the user requirements fully and do a cost benefit analysis, the feedback that comes through this unit has enabled the PWSP improve its dissemination techniques and this has earned KMD a positive image in the eyes of the public. However a lot still remains to be accomplished as the project proposals are implemented in order to have a fully functional PWSP. Forecasts whose contents, presentation and dissemination techniques are formulated by professional Meteorologists with basic education in media production, public relations and marketing are effective

3. Botswana

Botswana Meteorological Services

- Issuing warnings of floods, severe storms, heat waves, cold spells and other adverse weather conditions likely to endanger life and/or property.
- Publication of meteorological bulletins.
- Cooperation with other meteorological services regionally and internationally.
- The Service also provides weather forecasts for the general public on a daily basis as well as special forecasts during cases of flash floods, heat waves etc. Specialized forecasts are issued on request for specific users within and outside the country.

4. Malawi

Malawi Meteorological Services

The Service monitors, predicts and provides information on weather and climate contributing towards the socio-economic development of the country.

Advisory in natural disaster early warnings.

Provides weather and climate data and information for various socio-economic sectors such as Aviation, Agriculture, Water, Marine, Construction industry, insurance, Tourism, Health, sports and Recreation.

Carries out research for all aspects of meteorology inter-alia general public through mass media.

5. Zambia

Zambia Meteorological Department

They have established the project which they called RANET Zambia Project: The Aim of the RANET ZAMBIA Project is to rise to the challenge of exchanging vital developmental information with the rural communities by introducing new information and communication technologies to the rural areas.

The Objective:

To enhance the living standards of rural communities by way of increasing their access to vital information on health, agriculture, education, environment, weather, natural calamities and other information needed in order to improve their well being and increase their food security base.

Outputs:

- (a) Facilitate acquisition and installation of radio broadcasting equipment for community radio broadcasting stations and provide solar/windup radios to the communities for the reception of the broadcasts.
- (b) Timely weather and climate information to rural communities.
- (c) Timely warnings about impending natural disasters.
- (d) Monitoring and providing impact assessment on various natural disasters.
- (e) Training of personnel involved in the running of the radio stations.
- (f) Provide a forum for discussion of local issues so that it would lead to the solution of problems.
- (g) Encouraging creativity as a way of promoting self-reliance and development.
- (h) Support for the health and education of the communities.

6. Australia

Australia Bureau of Meteorology

About Services and Products

The Bureau of Meteorology provides several thousand products in a variety of formats using several delivery media. Most products are freely available. Products are provided free of charge to the public via the mass media and the Internet.

Types of Product

- Extracts and summaries from the national climate archive (tables and maps)
- Weather predictions for up to 7 days ahead (usually text format)
- Alerts on dangerous weather for up to 2 days ahead (usually text). This includes wind and storm warnings, fire weather warnings and flood warnings.
- Data reports updated at various frequencies (text, tables and maps)

7. Germany

German Federal Meteorological Service

The Statutory Tasks

- The provision of meteorological services;
- The meteorological safeguarding;
- The issuing of official warnings about dangerous weather phenomena;
- The monitoring of the atmosphere for radioactive trace elements and their forecasting and dissemination;
- The provision, storage, and documentation of meteorological data and products.

8. India

India Meteorological Department

The India Meteorological Department (IMD) has launched a new satellite-based broadcast service which will enable user at any site within the footprints of AsiaStar to receive the whole set of INSAT satellite imageries, weather data and meteorological information. This establishes a low cost forecasting service with all desired information available. This has specific application for coastal and shipping for weather warnings and forecasting through a low cost Satellite Digital Radio System. "The satellite broadcast technology can deliver meteorological forecasts and warnings to any part of globe without any distortion or loss of accuracy." The service is available in an area covered by AsiaStar-Footprints which covers Middle East, Central South Asia and Far East countries. Availability of service to close user group requires an authorisation from IMD for reception of met data.

Mandate

- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities;
- To warn against severe weather phenomena like tropical cyclones, north-wester's, dust storms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property;
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities;
- To conduct and promote research in meteorology and allied disciplines;
- To detect and locate earthquakes and to evaluate seismic activity in different parts of the country for development projects.

9. Israel

Israel Meteorological Service

Israel Meteorological Service (IMS) Forecasting Centre:

The IMS Forecasting Centre is responsible for the routine issue and updating of all meteorological forecasts and warnings, which are disseminated by the mass media, the press, and the various radio channels and TV stations. Recorded forecasts are also available via telephone. Most of the forecasts are custom-tailored and designed to answer the specific needs of the nation's public and private sectors, e.g. water management, national defence, road works, forestry, tourism etc.

Forecasting of Seasonal Rainfall

Seasonal rainfall forecasts are routinely prepared every year at the beginning of November and issued primarily to the water management authorities and related bodies.

10. Vanuatu

Vanuatu Meteorological Service

The Port Vila Forecasting provide weather forecasts for the general public, for the domestic and international aviation industry and marine weather forecasts for domestic shipping and all other off-shore activities (e.g. fishing) in the waters in the vicinity of Vanuatu. Meteorological observations taken in Vanuatu, or received in Vanuatu, provide the most important basis for these forecasts and specific warnings.

Forecast products

Severe Warnings: Produced especially during a severe weather event e.g. a tropical cyclone and severe storms.

Public Weather: Produced daily as in providing daily weather bulletins for the general