

THE RESULTS OF THE SURVEY ON
THE IMPACTS OF ACHIEVED RESULTS ON MEMBERS
CONDUCTED IN FEBRUARY-OCTOBER 2012

SUMMARY



October 2012

INTRODUCTION

A survey on the “Impacts of Achieved Results on Members” was undertaken in February-October 2012. The Members were requested to respond to a questionnaire developed by the EC WG/SOP, which was comprised of 129 questions. As of October 2012, a total of 109 NMHSs (58%) had responded. Of these, six started the survey but only responded to a few questions. The response rate per Regional Association (RA) is as follows: RA I (Africa) – 42%; RA II (Asia) – 65%; RA III (South America) – 58%; RA IV (North America, Central America and the Caribbean) – 68%; RA V (South-West Pacific) – 50%; and RA VI (Europe) – 67%.

This report presents a summary of the key findings. The full report is available as a separate document at http://www.wmo.int/pages/about/documents/Full_report_IARM_Oct12_en.pdf

RESULTS OF THE SURVEY

Expected Result 1:

Enhanced capabilities of Members to deliver and improve access to high quality weather, climate, water and related environmental predictions, information and services in response to users' needs and to enable their use in decision-making by relevant societal sectors.

56% of 108 respondents have conducted analysis on the social and economic benefits of the services delivered. Of these, 97% have used the results for decision making in emergency management and the general public; 89% applied them in the area of agriculture, 82% in aviation, and 69% in the marine industry.

83% of 100 respondents indicated that the level of access to products provided by global and regional centres improved in the past two years and 68% had initiated new service delivery to user sectors, mostly in agriculture, marine, energy, transport, aviation, health and the environment. 72% of respondents indicated that there is an urgent need to develop service delivery capabilities, most notably in the agriculture and marine sectors.

98% of the NMHSs that responded provide meteorological and related reports or guidance to decision makers, with 53% reporting a significant improvement in responding to users' needs as a result of participation in WMO activities in the last two years.

Expected Result 2:

Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements.

69% of 101 respondents have an operational Multi-hazard early warning system, of which 16 were established during the period 2008-2011. 91% of respondents participate in a national emergency management system, mechanism or platform, and 89% of 99 respondents provide Disaster Risk Reduction (DRR) products and services. 86% have improved the DRR products and services provided, while 85% indicated that the latter had been recognized as effective contributions to the protection of life and property. 84% of 101 respondents have a flood management plan established or under development.

61% of respondents were from countries that are part of a transboundary river basin, and 70% of them had participated in a regional hydrological forecasting system for a transboundary river basin.

Expected Result 3:

Enhanced capabilities of NMHSs to produce better weather, climate, water and related environmental information, prediction and warnings to support in particular disaster risk reduction and climate impact and adaptation strategies.

44% of 95 respondents rated the quality of regional and national products as 'relatively high' to 'very high' on a scale of 1-5, where 1=very low and 5=very high. 46% of respondents gave them an average mark, while only 9% rated them as of relatively low quality.

53% of 98 respondents have been issuing standardized regional or national-scale products, including long-range forecasts and long-term projections.

79% of 96 respondents receive products and information from WMO Regional Climate Centres and 37% of 98 respondents conduct a national climate outlook forum to disseminate climate outlooks.

The sectors to which NMHSs provide climate services are diverse, as illustrated by Figure 1.

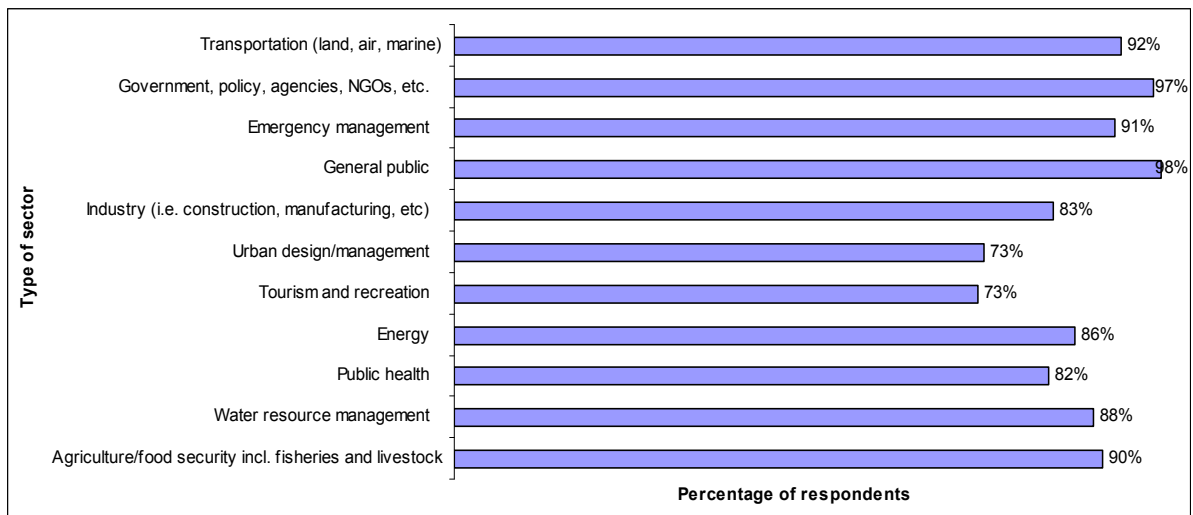


Figure 1: Proportion of respondents providing climate services to key sectors

23% of 95 respondents developed new regional hydrological databases for transboundary river basins.

Expected Result 4:

Enhanced capabilities of Members to access, develop, implement and use integrated and interoperable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO.

25% of 99 respondents are participating in WIGOS demonstration projects. 80% of 97 respondents increased the availability of observations for users/user groups over the past two years.

33% of 98 respondents have implemented some functions of the WIS defined in the *Manual on WMO Information System (WIS)* (WMO-No. 1060) over the past two years. Where the NMHS has implemented new WIS functions, data access has improved for 34% of respondents by obtaining more observational data and products. For NMHSs that have

implemented some WIS functions, 36% indicated that the functions enhanced the data processing and management capabilities.

76% of 97 respondents indicated that the national climate user community had access to data archives at national or global climate data centers operated by them.

The majority of 96 respondents rated relatively high the quality of climate observations provided in meeting user needs (Figure 2).

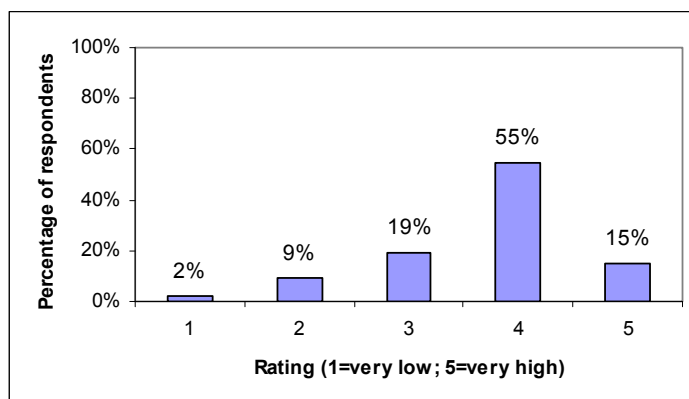


Figure 2: Quality of climate observations provided by NMHSs in meeting user needs

35% of 97 respondents have benefited from a WMO-coordinated data rescue project; 48% had a data rescue project carried out in their country during the past two years, and 84% indicated that there was a continued need for such projects. 73% of 96 respondents have a climate monitoring and/or watch systems in use in their country.

Expected Result 5:

Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and the related environmental science and technology development.

Of the 63 respondents from developing and least developed countries, 64% have participated in regional or international climate research initiatives.

76% of 97 respondents indicated that the NMHSs or other mandated institutions in the countries produce services based on climate predictions and projections. The rating of their level of skill is presented in Figure 3.

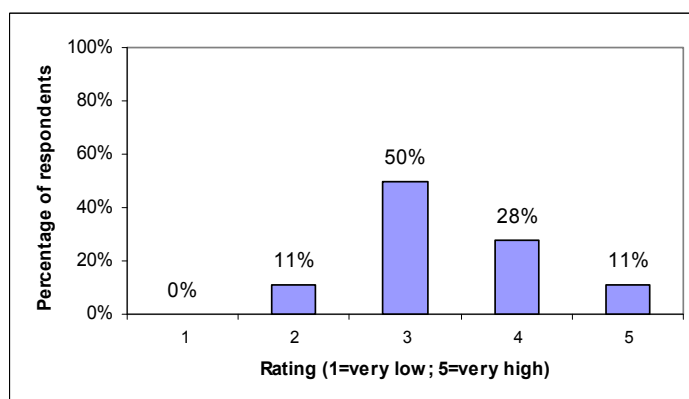


Figure 3: Level of skill of climate predictions and projections as rated by producers

The rating of the value of services based on climate predictions and projections, as provided by 90 respondents, is presented in Figure 4.

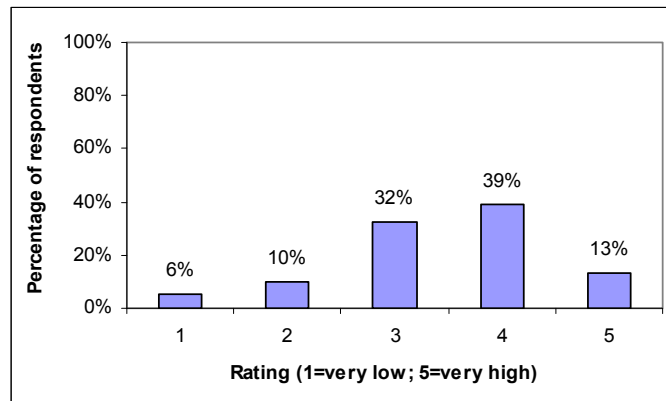


Figure 4: Value of climate predictions and projections as rated by producers

39% of the 63 respondents from developing and least developed countries have participated in regional or international research initiatives on high-impact weather or a severe weather forecasting demonstration project in the past two years. For those participating in the projects, the rating of improvement in capabilities in forecasting high-impact weather is generally high, as presented in Figure 5.

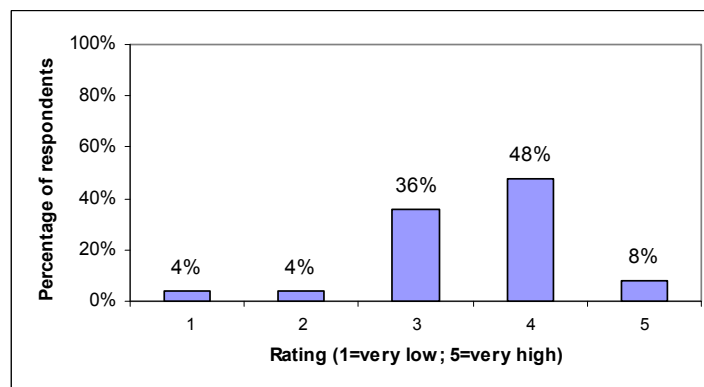


Figure 5: Improvements in capabilities in forecasting high-impact weather

The majority of the 95 respondents (both users and producers of monthly and seasonal products) believe that their application has considerably increased the value of service delivery to society, as evident from Figure 6.

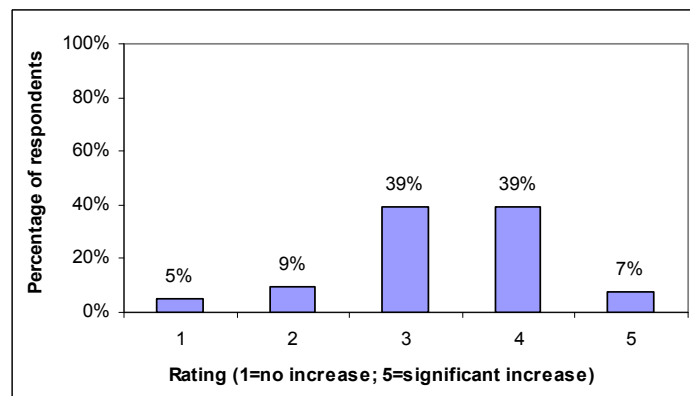


Figure 6: The rating of increase in the value of service delivery through the application of monthly and seasonal products

Expected Result 6:

Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfil their mandates.

66% of 95 respondents have been involved in national or regional socio-economic development activities in cooperation with international and regional development agencies; 64% of 94 respondents have a defined role in the National Development Plan, and 68% of 96 NMHSs have carried out programmes or become part of a network for collaborating on service delivery at the regional level over the past two years. 63% of 97 respondents carry out programmes or participate in networks on service delivery at the regional level.

92% of 97 respondents have implemented or developed improvements in service delivery capacity with 99% in the surface observing network, 51% in the upper-air observing network, 85% in equipment for meteorological/environmental satellite data and 92% in the data-processing/forecasting systems.

The respondents use various systems to communicate products and services to users, as presented in Figure 7.

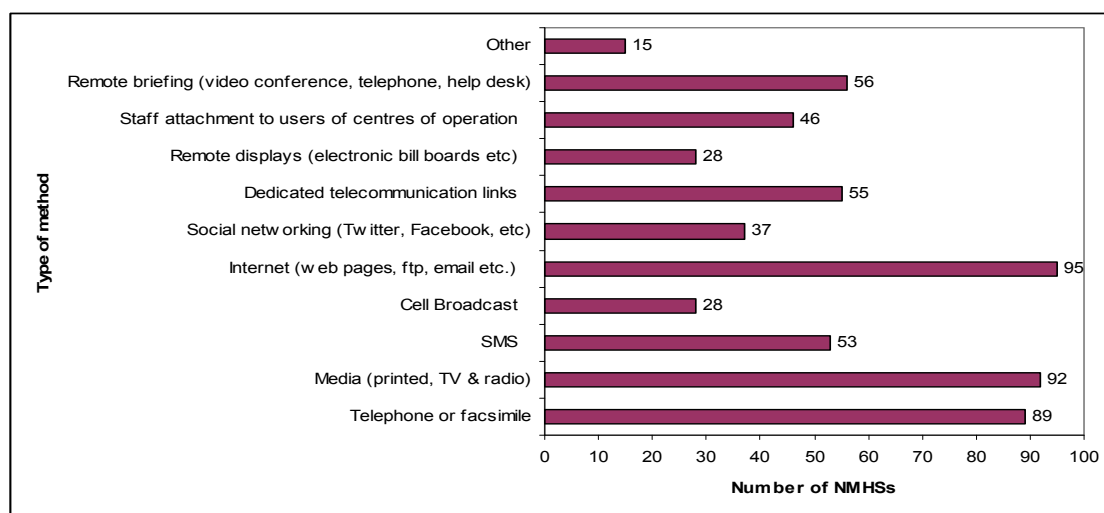


Figure 7: Distribution systems used to deliver products and services to users

In the past two years, 45 NMHSs have contributed to or had students under the WMO Fellowship Programme. Their rating of the Programme's value is presented in Figure 8.

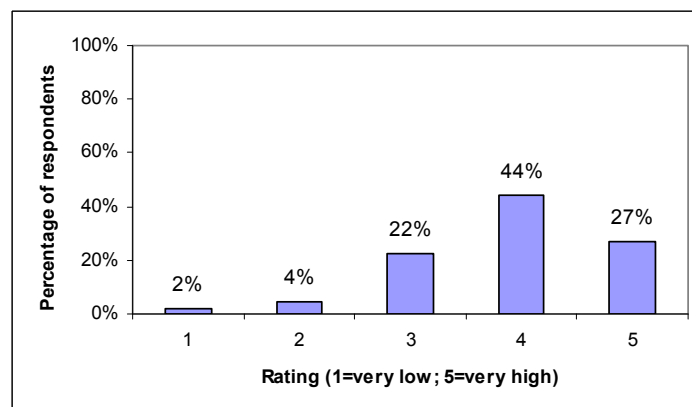


Figure 8: Perceived value obtained from the Fellowship Programme

Expected Result 7:

New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to increase the value of the contributions of WMO within the United Nations system, relevant international conventions and strategic issues.

72% of 96 respondents have implemented projects or activities in partnership with the UN and other international organizations over the last two years, and 63% are actively contributing to the work of the IPCC. Of these, 82% contribute by nominating and supporting authors and review editors. 93% contribute to government/expert review of IPCC reports.

51% of 96 respondents have participated in training activities in communication during the past two years, while 42% have implemented their own training in communication. 90% of respondents indicated that such training helped to improve service delivery activities.

Expected Result 8:

An effective and efficient Organization

The majority of respondents find the documents for sessions of Congress, the Executive Council, Technical Commissions and Regional Associations to be clear. However, they are relatively split with regard to their length, with over half of respondents finding the length to be 'just right' and a sizeable portion (30-40%) characterizing them as long or too long.

The vast majority of respondents are very satisfied with the interpretation services, conference services, and conference facilities.

WMO Services and Activities

The rating of the usefulness of WMO services and activities to each NMHS over the last two years is presented in Figure 9.

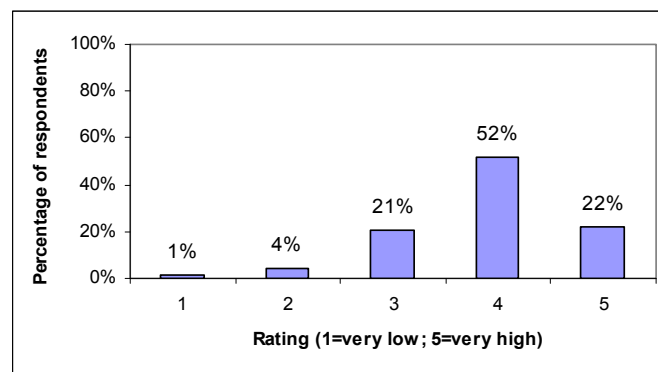


Figure 9: Usefulness of WMO services and activities to each NMHS over the last two years

WMO activities and services beneficial to NMHSs

- Education, training and fellowships are by far the WMO activities and services that respondents indicated as most beneficial.

Other WMO activities and services indicated to be of benefit include:

- Provision of technical support (including equipment, software, tools, expertise and the Voluntary Cooperation Programme);
- Data collection and exchange;

- Standardization and provision of guidelines, procedures, manuals and other publications.

The role of regional centres and several WMO Programmes, such as the Aeronautical Meteorology Programme, Quality Management Systems, Disaster Risk Reduction, the Severe Weather Forecasting Demonstration Project, the World Weather Research Programme, the Tropical Cyclone Programme, and the WMO Information System, have also been indicated to be of benefit.

The role of WMO as convener and sponsor of meetings/conferences has also been stressed as well as its function as a platform for cooperation with donors and among NMHSs.

Ability to respond to users' needs and contribute to decision making

Over half of 93 respondents have indicated significant improvement in their ability to respond to users' needs and contribute to decision making through participation in WMO activities. Over 40% have registered minor improvements, while only 4% do not assign any credit to WMO for their capacity development.

Major successes from leveraging off WMO activity in changing influence on decision makers or users of services

- Capacity building and technology transfer are the two areas where respondents indicated highest level of achievement, followed by communication to the public, the development of guidelines and tools, and early warning.
- Several respondents indicated elevated international status and improved reputation due to WMO's authority on the science of meteorology and hydrology.
- Strengthened cooperation and partnerships is another area considered successful.
- Events, such as the World Meteorological Day or the annual presentation of the Status of the Global Climate report, were also indicated to have raised the Organization's profile and functioned as a vital platform to reach out to decision-makers and the general public.

Services and programme activities in need of improvement

The majority of respondents indicated highest need for improvement in:

- Training and capacity building (including fellowships and distance learning)
- Observations
- Climate forecasting and prediction services, including GFCS and WCP

Other areas identified for improvement include:

- Infrastructure development
- Data exchange, management, rescue, and processing
- Quality Management Systems
- Regional priorities
- Scientific research (climate, weather and health impact, socio-economic benefits)
- Numerical weather prediction, forecasting and climate modelling, nowcasting
- Standards, methodological guidance, calibration of instruments
- Extreme weather event prediction (including early warning systems, drought indices, dust and sand storm forecasts, etc.)
- Public weather services

- Hydrological services, including flood risk assessments

Areas in which highest improvements were made over the past two years

The highest improvements have been made in:

- Observation networks
- Weather forecasting for the general public
- Communications (including media relations, Websites, social network, smartphones, bulletins and education materials for the general public)
- Human capacity development
- Early warning systems and crisis management
- Infrastructure development and technology transfer
- Climate products and services
- Data acquisition, rescue, digitization, modernization of data processing and dissemination
- Partnerships, stakeholder engagement, and resource mobilization

Areas in which more development is needed

Almost half of respondents have identified the following three areas as in greatest need of further improvement:

- Human capacity development
- Climate services, including climate predictions and climate monitoring
- Modernization of the observation network

Other areas frequently appearing in respondents' answers are:

- Infrastructure and technology transfer
- Data exchange, rescue and archiving
- Medium and long-term forecasting
- User-focused weather services, including for the health sector, and adaptation of production and services for different socio-economic sectors and government departments
- Instrument calibration, forecasting models, methods and standards
- Other forecasts, such as for heavy rain, volcanic ash, dust and sand storms, urban air, regional forecasts, chemical forecasting, probabilistic forecasting
- Early warning systems, hazard mapping, flood forecasting
- Research, including studies on the socio-economic benefits, agricultural meteorology, marine meteorology, health, etc.