

WMO MONITORING AND PERFORMANCE EVALUATION REPORT

January 2012–December 2015

I. Summary

This report covers the period January 2012 – December 2015. It is based on results of the three surveys on impacts of achieved results on Members and data gathered during the sessions of constituent bodies. Data collected at the WMO Secretariat was also used.

The following are highlights of the most significant achievements in the financial period and areas identified for improvement by Expected Result:

Expected Result 1

Members enjoyed 'high' or 'mostly reliable' access to products from global centres throughout the financial period. User satisfaction with NMHS products was high, especially in terms of timeliness. Most improvement was observed in user satisfaction with the range of products. Satisfaction with the availability of products and contribution to decision-making also saw a modest increase. In Region I, satisfaction was lower than the global average along all categories, whereas in Region III it was lower with respect to reliability, range of products and contribution to decision-making.

Expected Result 2

Active NMHS contribution to the implementation of multi-hazard early warning systems and good participation in regional hydrological forecasting systems for transboundary river basins were sustained throughout the financial period. Almost all Members who responded to the Survey on Impacts of Achieved Results on Members had a flood management plan established or under development by 2015, except for Regions IV and V where the rate was slightly lower. The number of NMHSs and Regional Centres issuing drought early warnings doubled between 2012 and 2015.

Expected Result 3

The proportion of Members issuing climate watch bulletins rose significantly in the financial period. Climate watch bulletins were also the climate product which saw considerable improvement in terms of perceived quality. Monthly and seasonal predictions were the timeliest products issued, whereas seasonal predictions were the most commonly issued climate product. Their production remained stable throughout the financial period.

The proportion of Members issuing the following climate products noticeably increased from 2013 to 2015: national climate watch advisories and bulletins; specialized products for major climate-sensitive sectors; downscaled long-term climate projections; risk identification/risk assessment products; policy-oriented climate information and products.

Areas for improvement include the quality and timeliness of long-term predictions as well as the development of new models/analytical tools, policy-oriented climate information, and products based on interdisciplinary models. There was further only a limited use of Quality Management Frameworks for Hydrology, with the lowest level of utilization in Region I.

Expected Result 4

The percentage of registered WIS centres almost doubled between 2012 and 2015, as did the portion of Members reporting improvements in observational data as a result of WIS implementation. Moderate progress was achieved in executing the WIGOS Implementation Plan and the functions defined in the Manual on WMO Information System (WIS). Most progress was achieved in Region II (in terms of WIGOS and WIS) and Region VI (WIS only).

There was only limited progress in Region IV in terms of WIGOS and to a lesser extent Region I, whereas the WIS functions were least prevalent in Regions I and III.

Good progress was achieved on the GCOS Implementation Plan, though a fifth of the tasks remain to be carried out or further developed. The national climate user community further enjoyed high level of access to data archives at national or global climate centres operated by NMHSs. They were most accessible in Regions III, IV and VI and least accessible in Regions I and V. A continued need for WMO-coordinated data rescue projects was further identified (highest in Region IV, followed by Regions I, V, and III) as well as improvement of climate data management systems, particularly in Regions I and II.

Expected Result 5

Thirteen new research activities were launched in the past financial period, aimed at advancing climate research capacity at the global and regional level. Another 13 research projects were initiated on operational products and services. Over 400 early career scientists and researchers from developing and least developed countries were funded to participate in climate research activities in 2012-2015.

The operational products and services of NMHSs were also enhanced as a result of WMO research projects, specifically with respect to operational nowcasting services in Regions I, II and IV and access and use of outputs of ensemble modelling systems in Regions I and V. The design and operational use of mesoscale prediction systems saw fewer advances. The level of skill of climate predictions could also be improved, especially in Regions I and VI.

Satisfaction with the skill of climate predictions remained the same throughout the financial period. Member satisfaction was high with the usefulness of a) GAW measurement guidelines and reports and (b) sand-and-dust storm forecasting system and information. It was slightly lower regarding the GURME chemical weather activities.

Expected Result 6

NMHSs achieved improved visibility and relevance in national development agendas, mostly as a result of user accessibility to forecasts and warnings and awareness by users on the types of services delivered. Least improvement was noted in terms of contribution to national policy setting. Regarding infrastructure and operational facilities, most progress was achieved in improving surface observing networks and forecasting across all regions. Region VI performed best in numerical weather prediction, followed by Region II. Regarding early warning and hazard risk assessment, Regions V and VI saw the greatest advances, closely followed by Region II. Improvements in the upper-air observing network proved most challenging, especially in Region I.

Throughout the financial period, there was very high level of satisfaction with the WMO Fellowship Programme and the Regional Training Centres (RTCs), especially in Region VI but also in Regions IV and II.

Expected Result 7

NMHSs were involved at a sustained level in international projects with United Nations and other international organizations throughout the financial period. WMO and its co-sponsored programmes further contributed with reports to the UN Framework Convention on Climate Change, the UN Convention to Combat Desertification, and the UN Convention on Biological Diversity. Regarding communications, there was a high level of utilization of WMO public information outputs (e.g. website, press releases, videos, World Met Day materials, In the Media, etc.). The number of unique visitors to the WMO website increased fivefold from 2012 to 2015. A similar upsurge was observed in response to WMO presence on social media.

Expected Result 8

Throughout the financial period, the External Auditor provided an unqualified opinion on the financial statements of the Organization. The large majority of oversight recommendations provided by the International Oversight Office and the Joint Inspection Unit were also implemented. The results of evaluation surveys conducted following constituent body meetings were extremely positive with respect to conference support services and moderately positive regarding documentation. Significant efficiencies were achieved in terms of translation and publication costs, with an increasing number of exclusively online publications since 2012.

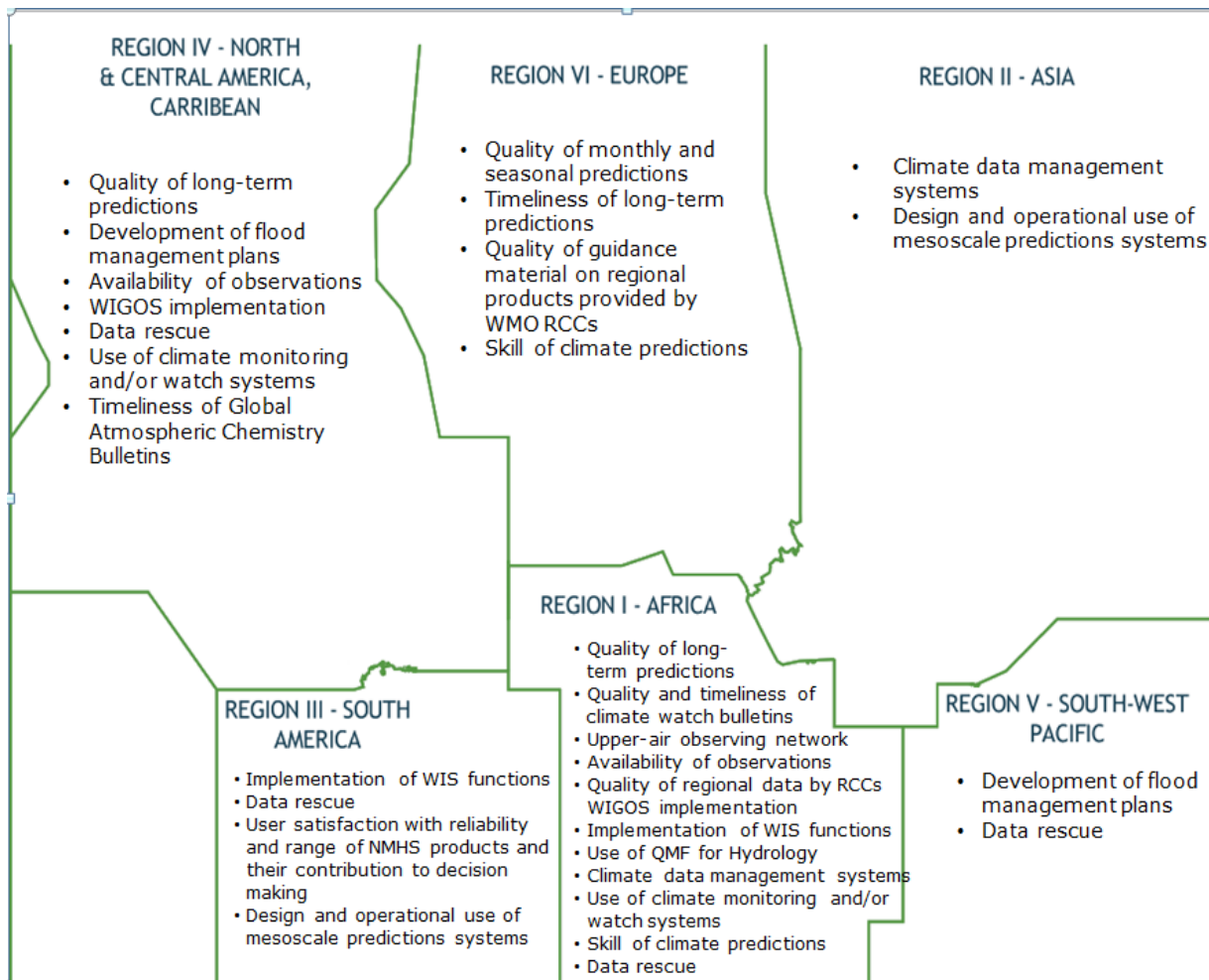


Figure 1: Areas for Improvement by Region

Potential Actions for Consideration

Based on the analysis conducted, Figure 1 presents areas for improvement by region. Enhancements to the following products, services and infrastructure are specifically recommended:

- Quality of monthly and seasonal predictions in Region VI.
- Quality of long-term predictions in Region I and IV and their timeliness in Region VI.
- Quality and timeliness of climate watch bulletins in Region I.
- Quality of regional data provided by WMO Regional Climate Centres (RCCs) in Region I.
- Quality of guidance material on regional products provided by WMO RCCs in Region I and VI.

- User satisfaction with NMHS products in terms of availability, reliability, range of products and contribution to decision-making in Regions I and III, and availability of products in Region I.
- Development of flood management plans in Regions IV and V.
- Use of Quality Management Framework for Hydrology, especially in Region I.
- Availability of observations to users in Regions I and IV.
- WIGOS implementation in Region IV and to a lesser extent Region I.
- Implementation of WIS functions in Regions I and III.
- Data rescue, especially in Region IV, but also in Regions I, III and V.
- Climate data management systems in Regions I and II.
- Use of climate monitoring and/or watch systems in Regions I and IV.
- Skill of climate predictions in Regions I and VI.
- Design and operational use of mesoscale prediction systems in Regions II and III.
- Timeliness of Global Atmospheric Chemistry Bulletins in Regions I and IV.
- Upper-air observing network in Region I.
- Numerical weather prediction in all regions.

II. Background

The current report assesses progress on performance in the sixteenth financial period (2012-2015). It is structured along the eight WMO Expected Results (ERs) and follows the result chain (Resources→Activities→Deliverables→Key Outcomes→Expected Results) as presented in the WMO M&E System (WMO-No 1089).

The majority of the data comes from the results of the three Surveys on Impacts of Achieved Results on Members conducted in 2012 (to establish the baselines), in 2013 (to measure performance in the first biennium), and in 2015 (to assess performance at the end of the financial period).

Other data sources include surveys conducted at constituent body sessions on the quality of documents and conference services. The term 'survey respondents,' which is extensively used in the report, refers to Members who responded to these surveys. The report also presents information collected by the WMO Secretariat (for example, the number of Regional Training Centres providing education and training support on GFCS-related activities, the percentage of oversight recommendations implemented, etc.).

In 2015, a total of 104 Members (54%) replied to the Survey on Impacts of Achieved Results on Members. The level of response was similar to 2012 and 2013 when 58% and 51% of Members responded, respectively. The breakdown by region was as follows in 2015: Region I (Africa): 53%; Region II (Asia): 44%; Region III (South America): 75%; Region IV (North America, Central America and the Caribbean): 68%; Region V (South-West Pacific): 29%; and Region VI (Europe): 63%.

Following the first year of full implementation of the WMO M&E System, the Key Outcomes (KOs) and Key Performance Indicators (KPIs) were reviewed to enhance the quality and measurability of the indicators, align them better to the KOs, and address limitations observed in the data collection process. The baseline for KPIs introduced in 2013 was established in the same year and is indicated accordingly.

Throughout the report, comparison is made, to the extent possible, between performance at the beginning and the end of the financial period. Nevertheless, it should be noted that fluctuations in the level of response to the Survey on Impacts of Achieved Results on Members made the comparison of data and the establishment of trends difficult at times.

III. Performance Assessment by Expected Result

Expected Result 1: Enhanced capabilities of Members to deliver and improve access to high quality weather, climate, water and related environmental predictions, information, warnings, and services in response to users' needs, and to enable their use in decision-making by relevant societal actors

Key Outcome 1.1: Improved access to seamless weather, climate, water, and related environmental products and services

KPI 1.1.1: Number of Members demonstrating quantitative measurements of the socio-economic benefits of their products and services

The proportion of Members that indicated beneficial effects of the products and services provided to the sectors presented in Figure 2 was sustained throughout the financial period. As of 2015, NMHS products and services were mostly used in emergency management (92%), the general public (91%), agriculture (81%), the aviation industry (77%), and the marine industry (53%). A third of respondents indicated that their services were beneficial to other sectors, such as the energy, construction and water sectors. The use in health, tourism, environment, transportation, and mining sectors as well as the educational sector, academia, urban planning and the media was also mentioned.

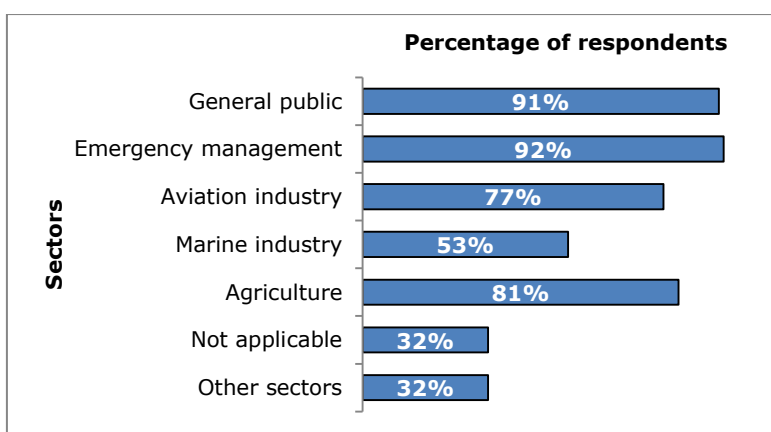


Figure 2: Sectors in which NMHS products and services are used (2015)

KPI 1.1.2: Percentage of NMHSs with regular access to products provided by global and regional centres

The percentage of NMHSs with regular access to products provided by global and regional centres was sustained from 2012 to 2015. The survey results indicated that half of 103 respondents in 2015 had 'mostly reliable' access to products, whereas another 43% rated their access as 'highly reliable' (Figure 3). Seven percent regarded their access as intermittent. Of these, three respondents belonged to Region I, one to Region II and another one to Region III. Only one Member from Region I, standing for 1% of the overall respondents, reported no access to products at all.

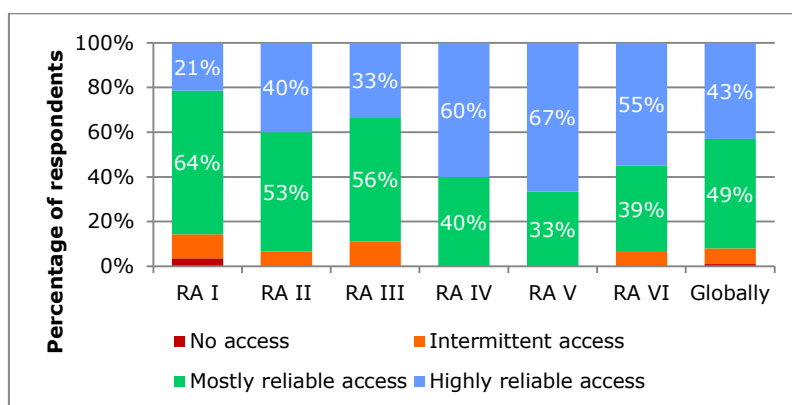


Figure 3: Access to products delivered by WMO Global and Regional Centres shown as number of NMHSs (2015)

Key Outcome 1.2: Delivery of weather, climate, water and related environmental products and services to users' communities is improved

KPI 1.2.1: Number of NMHSs expressing user satisfaction with the (a) availability, (b) reliability and (c) range of products that are (d) received in time and (e) are an essential contribution to decision-making

Figure 4 presents user satisfaction as reported by the survey respondents in 2015. As compared to 2013 when this KPI was introduced, considerable improvement was observed along all categories, except reliability of products which remained at 76% (based on ratings of 4 and 5). Satisfaction was highest with the timeliness of NMHS products which reached 80% in 2015. The highest improvement was marked in terms of user satisfaction with the range of products, which rose from 53% in 2012 to 69% in 2015. Satisfaction with the availability of products and contribution to decision-making also saw a modest increase from 81% in 2015 to 76% in 2015 (Figure 4).

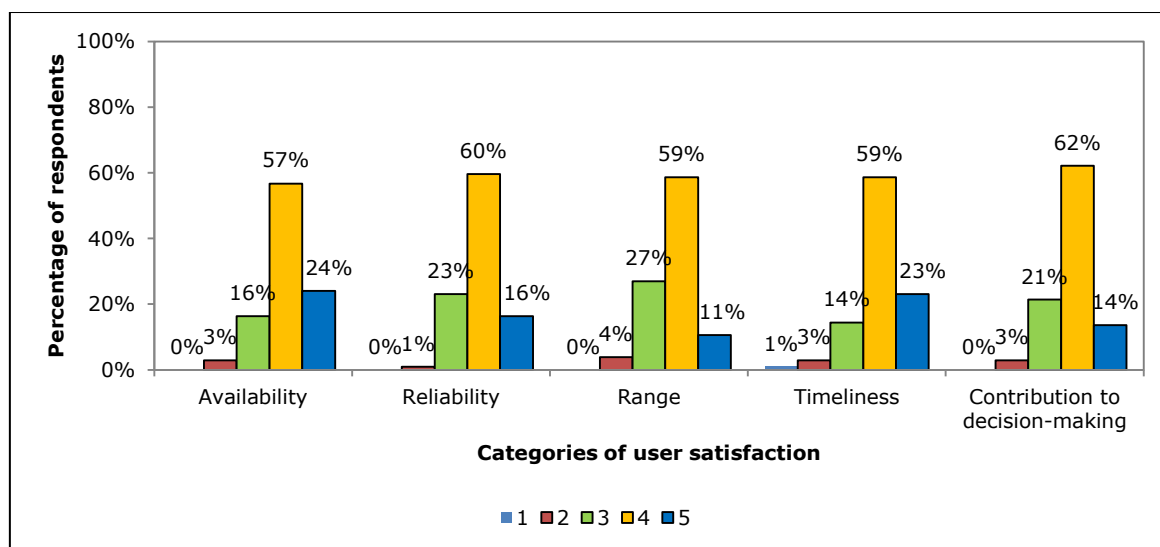


Figure 4: User satisfaction with NMHS products as related to availability, reliability, range, timeliness and contribution to decision-making, 2015 (1=very dissatisfied; 5=very satisfied)

Further analysis of the 2015 data points to some regional differences from the results presented in Figure 4. As compared to the global average, user satisfaction was at a much lower level (50-60%) in Region I in all categories of user satisfaction except timeliness, where

it stood at 68%. Satisfaction was similarly lower in Region III with respect to reliability (56%), range of products (67%) and contribution to decision-making (67%).

Expected Result 2: Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements

Key Outcome 2.1: Multi-hazard early warning systems are implemented

KPI 2.1.1: Number of NMHSs contributing to implementation of multi-hazard early warning systems

Globally, 93% of 103 respondents were contributing to the implementation of a multi-hazard early warning system in their respective countries in 2015. The proportion was roughly the same at the beginning of the financial period (95%). This includes all respondents from Regions II, III and V, 93% of respondents from Region IV, and 94% from Region VI. In Region I, 86% of respondents were contributing to multi-hazard early warning systems, as indicated in Figure 5.

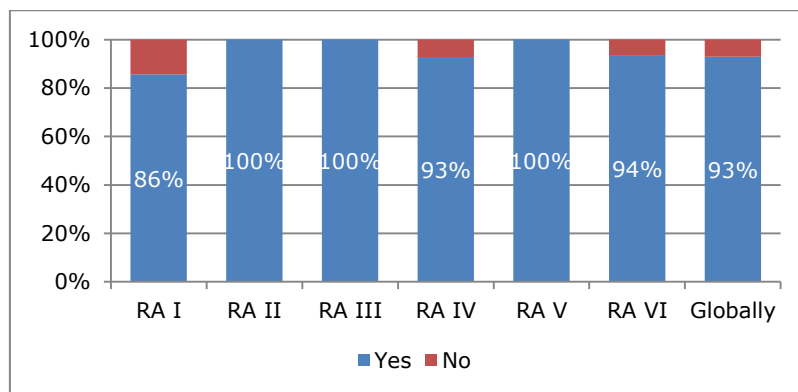


Figure 5: NMHSs contributing to multi-hazard early warning systems (2015)

Key Outcome 2.2: National integrated flood management plans are developed

KPI 2.2.1: Number of Members establishing flood management plans

From 2012 to 2015, the proportion of Members with flood management plans established or under development went up from 84% to 90% of respondents. In 2015, this rate was below the global average in Region IV and V at 80% and 83%, respectively (Figure 6).

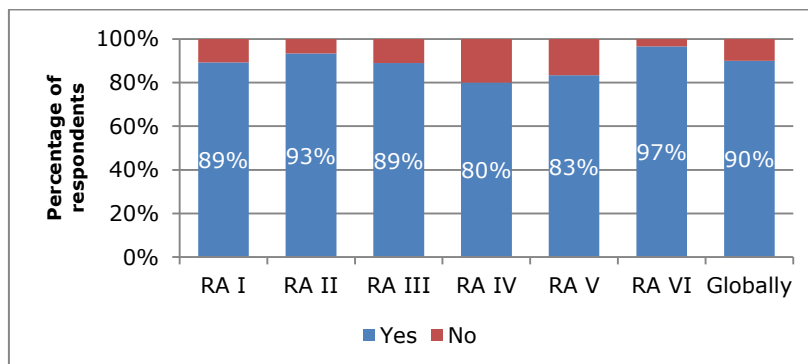


Figure 6: Members with flood management plans established or under development (2015)

KPI 2.2.2: Number of NMHSs participating in regional hydrological forecasting systems for transboundary river basins

As illustrated in Figure 7, over half of 101 survey respondents participated in regional hydrological forecasting systems for transboundary river basins in 2015. The same level of participation was measured in 2013.

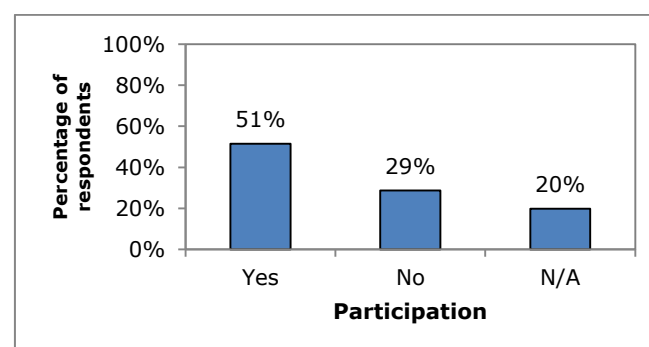


Figure 7: NMHS participation in regional hydrological forecasting systems for transboundary river basins (2015)

Key Outcome 2.3: Drought early warning systems are improved

KPI 2.3.1: NMHSs and Regional Centres that issue drought early warnings

The number of NMHSs and Regional Centres issuing drought early warnings doubled from 20 to 44 between 2012 and 2015.

Expected Result 3: Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support in particular disaster risk reduction and climate impact and adaptation strategies

Key Outcome 3.1: Improved climate monitoring, long range forecasts and long-term projections

KPI 3.1.1: Number of Members issuing (a) monthly predictions, (b) seasonal predictions, (c) climate watch bulletins and (d) long-term projections

With respect to climate information and products, the highest improvement was observed in the proportion of Members issuing climate watch bulletins, which rose from 54% of survey respondents in 2012 to 73% of respondents in 2015. In Regions II, III and IV, 80-89% of respondents released climate watch bulletins in 2015, whereas in the other regions two-thirds of respondents did so.

Seasonal predictions constituted the most common climate product issued by Members globally (85% of 99 respondents in 2015) which remained stable throughout the financial period. Based on 2015 data, Region VI is the only exception in this respect, where 62% of respondents issued seasonal predictions. Climate watch bulletins were released by the majority of respondents (80-89%) in Regions II, III and IV and by two-thirds of respondents from other regions in 2015.

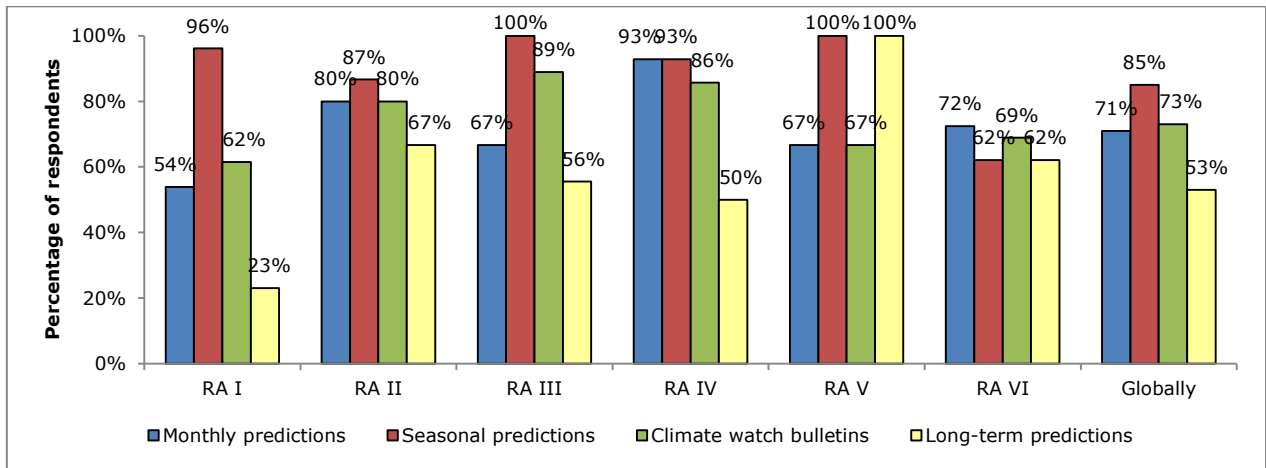


Figure 8: Regional and national-scale products issued in Member states (by region in 2015)

The proportion of Members issuing monthly predictions remained roughly the same, whereas that of Members making long-term projections increased from 45% to 53% between 2012 and 2015. Regional analysis of 2015 data indicates that monthly predictions were most prevalent in Region IV (93%) and Region II (80%). In Region I, half of respondents issued monthly predictions, whereas only 23% prepared long-term predictions. In the rest of the regions, 50-67% of respondents issued monthly and long-term predictions. All six respondents from Region V produced long-term predictions, as indicated on Figure 8.

KPI 3.1.2: Perceived quality of the issued (a) monthly predictions, (b) seasonal predictions, (c) climate watch bulletins and (d) long-term projections

Climate watch bulletins were the only product which saw considerable improvement in terms of quality. In 2013, 59% of respondents believed that the climate watch bulletins issued were of high to very high quality. Two years later, this proportion reached 68%. The perceived quality of the rest of the climate products presented on Figure 9 remained roughly the same.

In 2015, over 50% of respondents rated their products to be of high to very high quality. Only long-term predictions scored slightly lower, though 45% of respondents still rated them as 'high' to 'very high' quality. Seventeen percent and 13% of respondents gave a low rating to the quality of long-term predictions and seasonal projections, respectively. This portion was slightly lower for the quality of monthly predictions and climate watch bulletins at 10% and 9%, respectively.

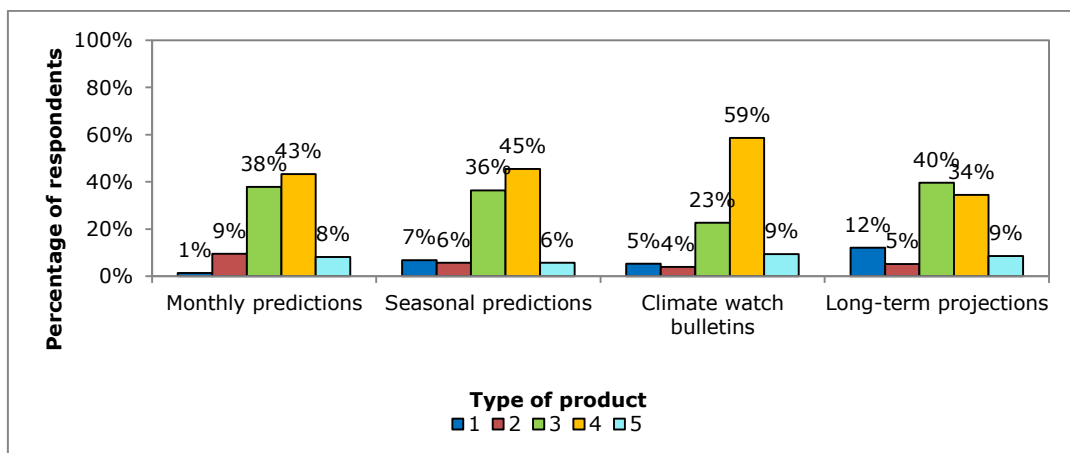


Figure 9: Quality of the regional and national-scale products issued in 2015 (1=very low; 5=very high)

Whereas the majority of respondents by region provided an average or above-average rating, it should be noted that 22% of respondents from Region VI rated the quality of the issued monthly predictions to be low (rating 2) in 2015. A similar proportion of respondents from the same region (29%) assessed the quality of seasonal predictions as very low to low (rating 1 and 2). Similar ratings were observed in Region I where 20% of respondents rated the quality of climate watch bulletins to be very low to low. More than 40% of respondents from Regions I and IV disapproved of the quality of long-term predictions.

KPI 3.1.3: Perceived timeliness of the issued (a) monthly predictions, (b) seasonal predictions, (c) climate watch bulletins and (d) long-term projections

Since the introduction of this KPI in 2013, no significant improvement was noted in terms of the perceived timeliness of climate products. More than 70% of respondents rated the timeliness of monthly and seasonal predictions as 'timely' or 'very timely' in 2015 (see 4-5 rating categories in Figure 10), whereas a fifth rated them as average. Only 6-8% rated them in the lowest categories 1 and 2.

Regarding climate watch bulletins, 68% rated their issuance as 'timely' or 'very timely,' as presented in Figure 10, and 22% provided an average rating. Nine percent of respondents gave a low rating (categories 1 and 2) to their timeliness.

The timeliness of long-term projections was rated by 61% of respondents in categories 4 and 5, whereas 17% of respondents rated them as 'very untimely' or 'untimely'.

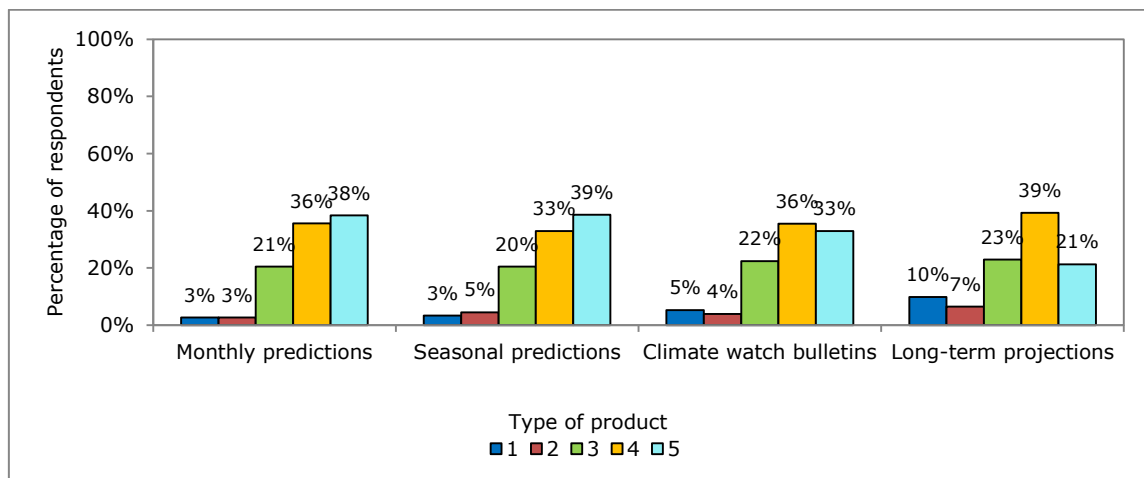


Figure 10: Timeliness of the regional and national-scale products issued in 2015 (1=very untimely; 5=very timely)

Regional analysis did not reveal any serious issues on timeliness, with the exception of Region I where 20% of respondents found the issuance of climate watch bulletins to be untimely or very untimely. The same proportion in Region VI assessed negatively the timeliness of long-term predictions. Regarding the latter, the percentage was significantly higher in Region I where 44% of respondents disapproved of their timeliness.

Key Outcome 3.2: Climate information and prediction products for climate adaptation and risk management are improved

KPI 3.2.1: Perceived quality of the products of WMO Regional Climate Centres used at the national level

KPI 3.2.1 was only introduced in 2013, and therefore does not show any significant changes yet. In 2015, about 15-20% of 96 respondents did not find the question applicable to their country. For the rest, the quality of the four products provided by WMO RCCs is presented in Figure 11. Regional climate monitoring products constituted the best rated product, with 66% of respondents globally assessing their quality as 'high' to 'very high.' In Regions II, III and IV, satisfaction was as high as 73-78%. Long-range forecasts were next in term of rating (58%), with Regions II and III exceeding this average again at 67% and 71%, respectively.

In terms of regional data, 54% of respondents globally provided a rating of 4-5 in 2015. The satisfaction of respondents from Regions III and IV was above this average at 67%, whereas respondents from Region I were least satisfied (only 35% provided a rating in the 4-5 categories). The quality of the guidance material on regional products was least appreciated, with less than half of respondents assessing it highly. In Regions II, IV and V, satisfaction was above this average at around 60%.

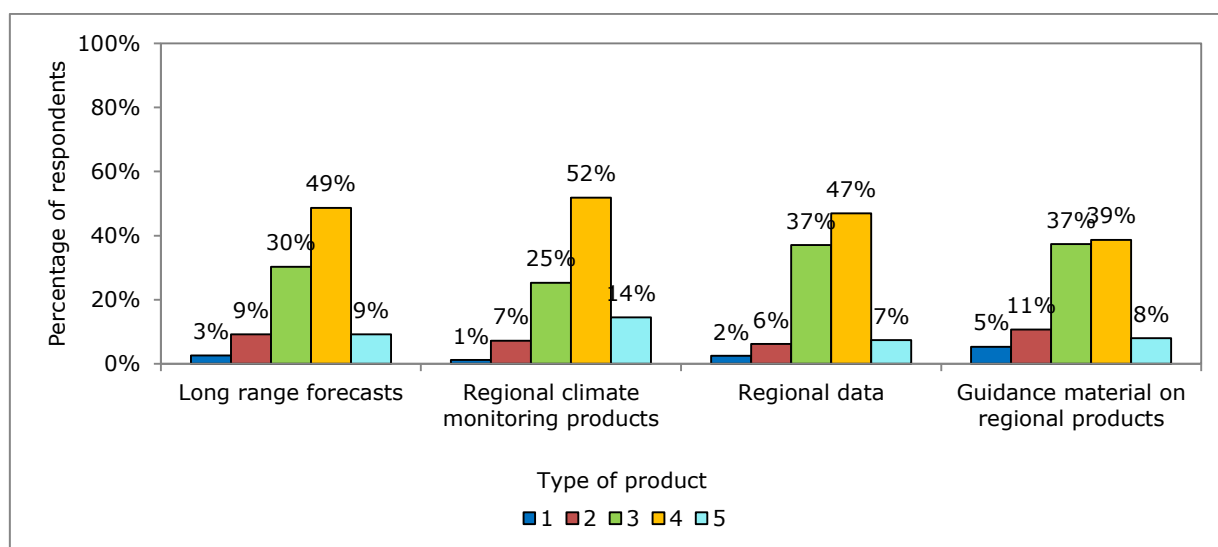


Figure 11: Quality of WMO RCC products based on use by NMHSs in 2015 (1=very low; 5=very high)

Disapproval was slightly greater with the quality of guidance material on regional products and that of long range forecasts, with global ratings of 16% and 12% in the lowest categories, respectively. Almost all respondents who expressed dissatisfaction with these two types of RCC products came from Regions I and VI. Globally, 8% assigned a low rating to the quality of regional climate monitoring products and regional data, also predominantly from Regions I and VI.

KPI 3.2.2: Number of Members operationally developing and disseminating climate products and information for national needs

The proportion of Members issuing the following climate products increased significantly from 2013 (when the KPI was introduced) to 2015, as indicated below:

- National climate watch advisories and bulletins (from 71% to 80%);
- Specialized products for major climate-sensitive sectors (from 74% to 83%);
- Downscaled long-term climate projections (from 52% to 58%);
- Risk identification/risk assessment products (from 52% to 58%);
- Policy-oriented climate information and products (from 60% to 68%).

Figures 12 and 13 present the proportion of Members developing and disseminating climate products and information for national needs as of 2015. Between 93 and 104 responses were received to this set of questions. As evident from Figure 12, almost all Members who responded contributed to national local climate assessments (94%) and provided basic climate products derived from national climate data (92%). A large segment of respondents also provided climate diagnostics and climate analysis (89%), conducted hazards and extreme value analysis (84%) as well as issued specialized climate products (83%). Many NMHSs further published national climate watch advisories and bulletins (80%), while 78% published monthly and longer climate predictions, including seasonal climate outlooks.

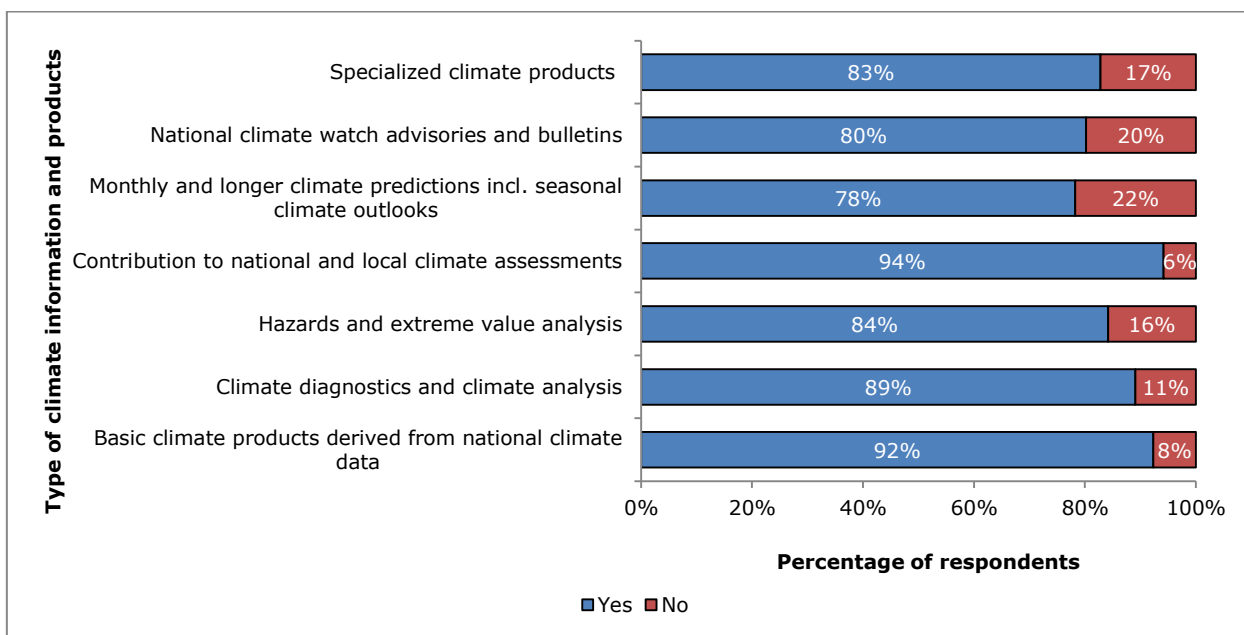


Figure 12: Climate information and products developed and disseminated for national needs

Considerably fewer NMHSs developed and disseminated the climate information and products presented in Figure 13.

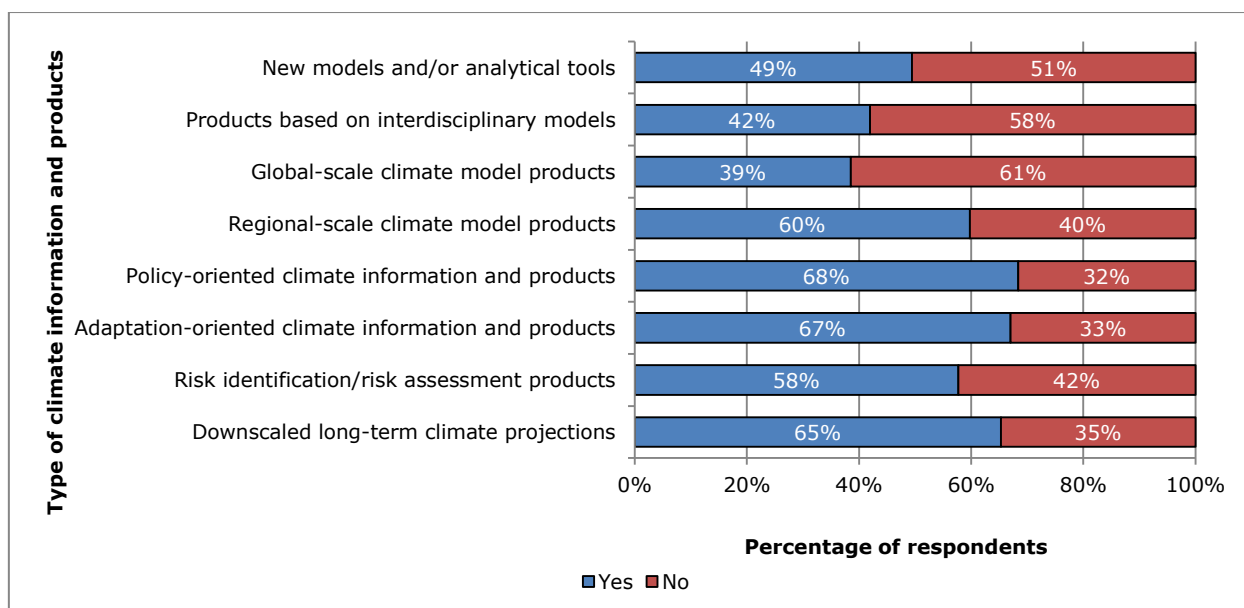


Figure 13: Climate information and products developed and disseminated for national needs – continued

KPI 3.2.3: Perceived quality of the national climate information and products available in Member countries

KPI 3.2.3 was only introduced in 2013. Given that improvements in quality usually require longer time to materialize, no significant change was yet noticeable at the end of the financial period. Figures 14-16 present Members’ ratings of the quality of climate information and products in 2015, based on 97-104 responses to this set of questions.

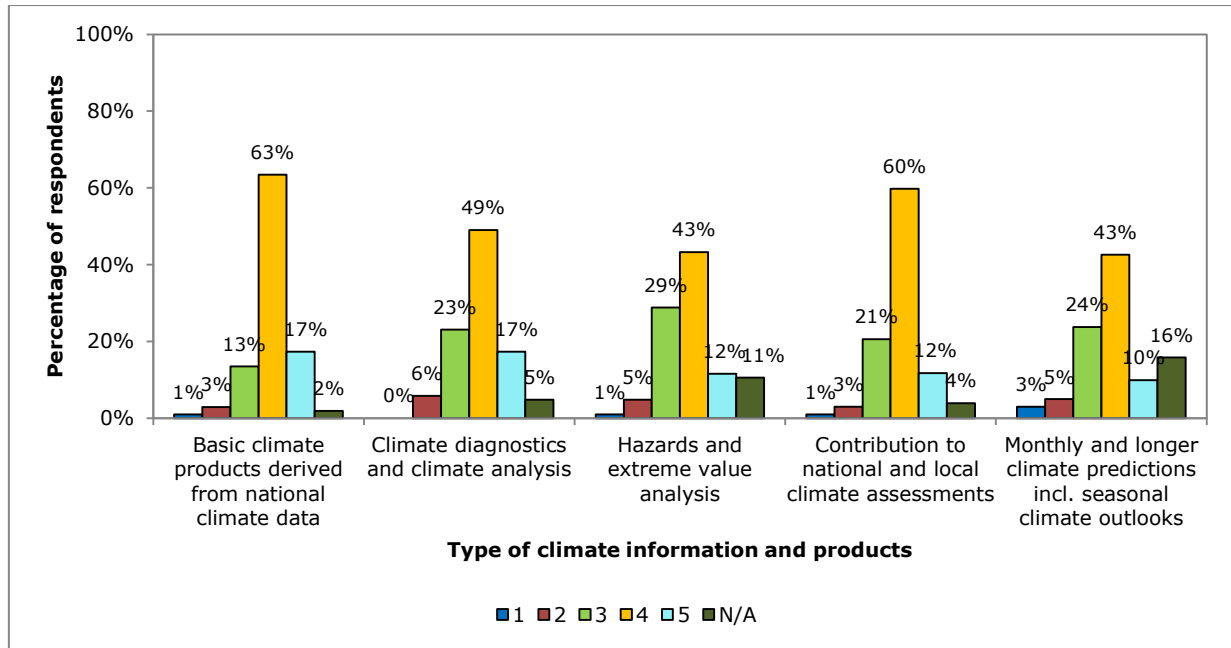


Figure 14: Quality of the climate information and products developed and disseminated for national needs in 2015 (1=very low, 5=very high)

The two products/services considered of highest quality included (1) the basic climate products derived from national climate data, with 80% of respondents rating their quality as above average and (2) NMHS contribution to national and local climate assessments, with 72% of respondents rating their quality as above average (4-5 categories). These were followed by climate diagnostics and analysis which were given such a rating by 66% of respondents. About half assessed the quality of the hazards/extreme value analysis and the monthly and longer climate predictions, including statistical and model-based seasonal climate outlooks, as above average. Only 13-23% of respondents rated the quality of the products in Figure 14 as average (category 3).

Figure 15 shows that over half of respondents rated the quality of specialized climate products and that of national climate watch advisories and bulletins as above average (4-5 categories). The quality of specialized climate products and national climate watch advisories/bulletins received an average rating by 24% and 23% of respondents, respectively; they were negatively rated by 8%. For 17%-29% of respondents, the climate information and products displayed in Figure 15 were not applicable. The specialized climate products were the only exception, which were not relevant to 12% of respondents only.

The quality of the rest of the products and information presented in Figure 15 received slightly lower ratings. Forty-five percent of respondents assessed the quality of downscaled long-term climate projections as above average, 42% that of adaptation-oriented climate information and products, and 39% that of risk identification and risk assessment products. Eleven percent of respondents considered the latter to be of low to very low quality. Thirteen percent provided a

negative rating to the quality of downscaled long-term climate projections, while 10% were dissatisfied with that of adaptation-oriented climate information.

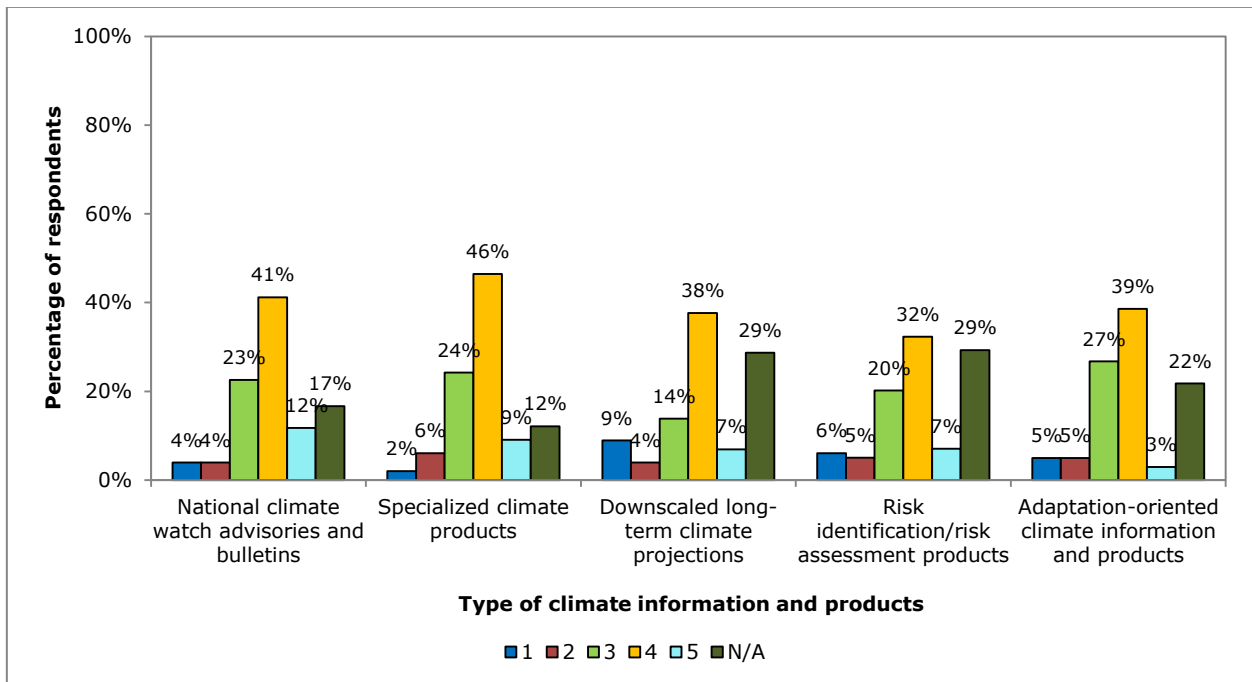


Figure 15: Quality of the climate information and products developed and disseminated for national needs (continued); 1=very low, 5=very high

Figure 16 shows that 15% of respondents rated negatively the quality of new models and analytical tools, 13% that of policy-oriented climate information and products, and 12% that of products based on interdisciplinary models. Only 18% rated the quality of products based on interdisciplinary models as above average. The rating was slightly higher for global-scale climate model products (31%) and new models and analytical tools (29%).

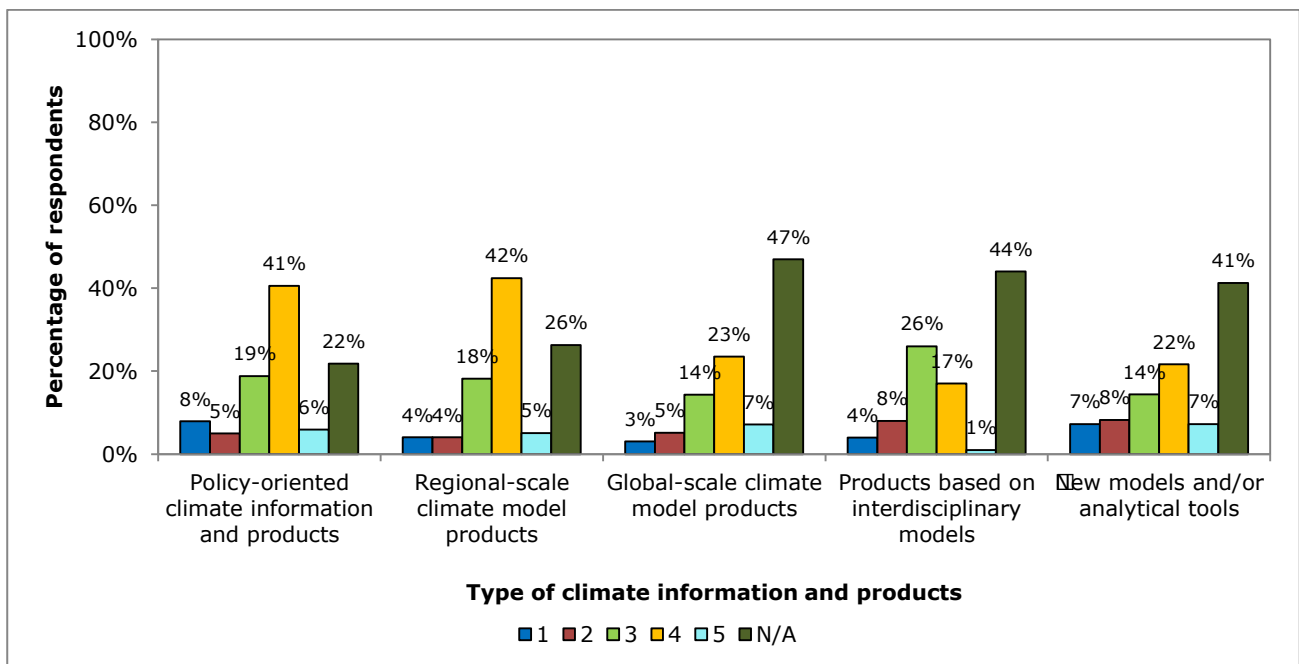


Figure 16: Quality of the climate information and products developed and disseminated for national needs (continued); 1=very low, 5=very high

It should be noted that products based on interdisciplinary models, new models and/or analytical tools, and global-scale climate model products were not applicable to 43-44% of respondents. They also represented the products with the poorest rating in terms of quality.

KPI 3.2.4: Number of Members providing targeted/tailored climate information, products and services, through formal mechanisms including National Climate Outlook Forums, to support user requirements in their countries for adaptation and climate risk management in key socio-economic sectors

As evident from Figure 17, the general public was the sector to which the vast majority of the 103 respondents (94%) provided targeted/tailored climate information, products and services in 2015. Other sectors widely serviced by Members included agriculture, including fisheries and livestock (90%), emergency management (89%) and water resources management (88%). Between 83% and 85% of respondents provided products and services to the transport and energy sectors as well as to government, policy makers, agencies, NGOs, etc. Three-quarters serviced the public health sector. Over 60% provided information, products and services for urban design/management as well as for tourism and recreation. A fifth of respondents serviced other sectors, such as the academia (including education and scientific research), insurance, forestry, and the justice system. Other sectors mentioned included the media, the private sector, and public works, though these were mentioned by individual respondents only.

No major differences were observed since 2013 or among regions.

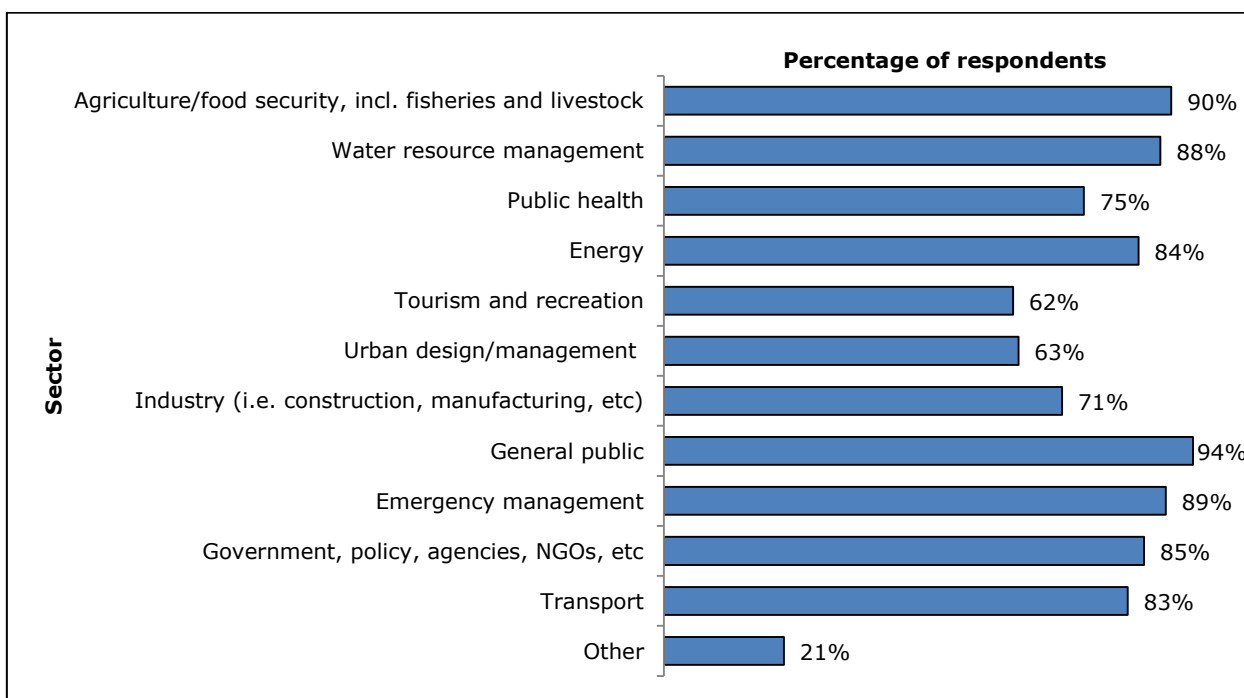


Figure 17: Sectors to which NMHSs provide targeted/tailored climate information, products and services (2015)

Key Outcome 3.3: Hydrological information and products, including water resources, are improved

KPI 3.3.1: Number of Members using a Quality Management Framework for Hydrology based on current guidance materials

The proportion of WMO Members using a Quality Management Framework (QMF) for Hydrology increased from 26% in 2012 to 39% in 2015 (out of 97 respondents). The breakdown by region is presented in Figure 18. Only a fifth of respondents from Region I reported its use in 2015.

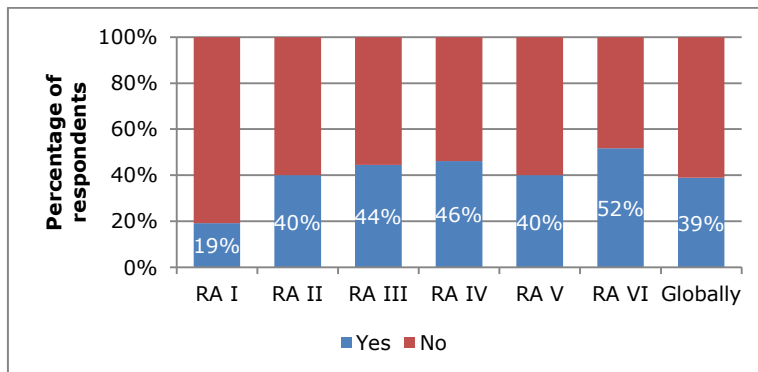


Figure 18: Members using QMF for Hydrology based on current guidance materials

KPI 3.3.2: Number of regional hydrological databases developed in transboundary river basins

Thirty-eight NMHSs reported the development of new regional hydrological databases for transboundary river basins in 2015, as compared to 22 in 2012.

The trans-boundary river basins listed in 2015 included: Amu Darya, Amur, Aral Sea, Arda, Catamayo, Chira-Piura, Congo, Cuareim, Danube, Desna, Dnieper, Drava, Elbe, Gambia, Hiitolanjoki, Ili, Irtysh, Ipel, Jänisjoki, Juba-Shebelle, La Plata, Latoritsa, Lempa, Limpopo, Mekong, Meuse-Moselle, Mono, Mur, Negro, Niger, Nile, Odra, Olopa, Omo, Oresecum, Ostua, Quemé, Praguachon, Pasvik, Prut, Prypiat, Pungwe, Puyango-Tumbes, Raab, Rhine, Sava, Senegal, Syr Darya, Tana, Tisza, Tobol, Tohmajoki, Tome, Ural, Usuri, Uzh, Versant, Volta, Vuoksi, Zambezi, Zarumilla.

In addition, the Lake of the Woods Control Board Secretariat set-up the WatFlood model for Winnipeg River basin (which includes boundary waters of Namakan Lake, Rainy Lake and Lake of the Woods) in 2013; this was updated with 2014 data.

Key Outcome 3.4: Drought information and predictions for risk management is improved

KPI 3.4.1: NMHSs and Regional Centres that issuing drought information and predictions

The number of NMHSs and Regional Centres issuing drought information and predictions doubled from 20 to 44 between 2012 and 2015.

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

Key Outcome 4.1: WMO Integrated Global Observing System implementation phase is completed

KPI 4.1.1: Percentage of progress in achieving the key implementation tasks, milestones and deliverables specified by the WIGOS Implementation Plan (WIP)

Thirty-five NMHSs, or 35% of 101 respondents, initiated or implemented a WIGOS demonstration national project in 2015, showing a 10% increase since the beginning of the financial period. Their geographical distribution is presented in Figure 19, while assessment of progress is shown in Figure 20.

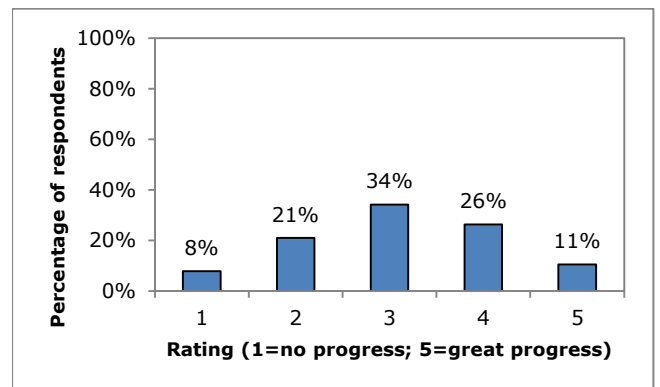
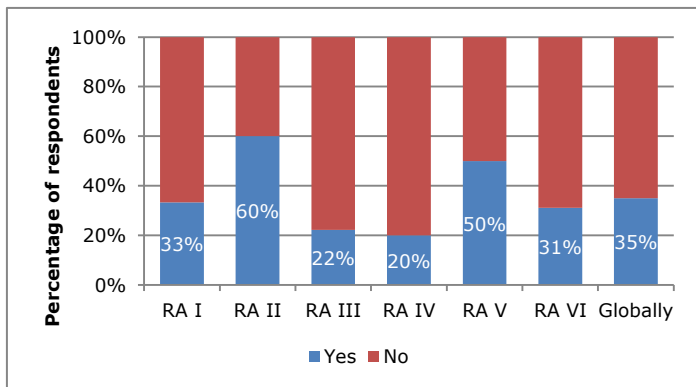


Figure 19: NMHSs with WIGOS demonstration national projects in 2015 (by region)

Figure 20: Progress in achieving the key implementation tasks, milestones, and deliverables specified in the WIGOS Implementation Plan (2015)

Whereas regional analysis was difficult to conduct due to the low number of respondents to this question in 2015, only limited progress took place in RA IV where four out of five respondents provided a low rating of 1-2. In Region I, three out of ten respondents assigned such a rating. Most progress was registered in RA II where 6 out of 9 respondents reported significant progress (4-5 categories). It was followed by RA VI where 4 respondents assessed progress as average and the same number as significant.

KPI 4.1.2: Increased availability of observations for users

Similar to the results obtained in 2012, 78% of 81 respondents indicated an increase in the availability of observations for users/user groups in 2015. Advances were most significant in Regions II, V and VI, as shown in Figure 21. They were least evident in Regions I and IV.

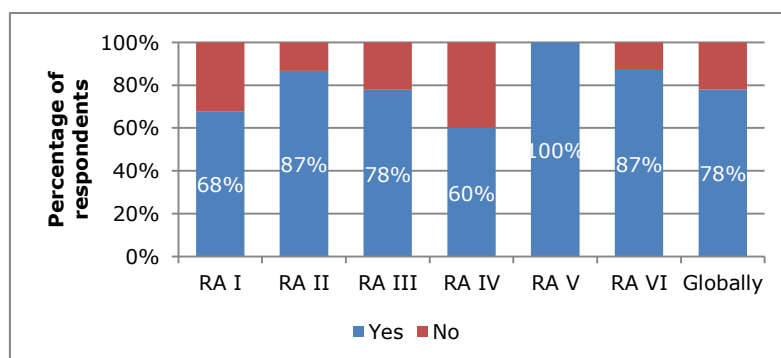


Figure 21: Members with increased availability of observations for users/user groups (2015)

Key Outcome 4.2: WMO information System is developed and implemented

KPI 4.2.1: Progress in the implementation of WIS by NMHSs as measured by (a) the percentage of registered WIS centres that have been endorsed as WIS compliant; (b) number of NMHSs with improved observational data and products as a result of implementation of WIS functions

The percentage of registered WIS centres almost doubled between 2012 and 2015 from 44% to 83%, respectively.

A similarly positive trend is noticeable with respect to observational data and products. The proportion of Members reporting improvements in data availability as a result of WIS implementation went up from 34% of 98 respondents in 2012 to 68% of 66 respondents in 2015. In terms of improved products, it increased from 34% to 58% in the same period.

KPI 4.2.2: Number of NMHSs whose data processing and management capabilities have enhanced as a result of implementation of WIS functions

In 2012, over a third of the 89 respondents who had implemented WIS functions indicated improvement in data processing and management capabilities. Four years later, this proportion had increased to 75% of 64 respondents. All five respondents from Region V and 75%-85% of those from Regions I, II, III and VI supported this statement in 2015. It should be noted that only five Members from Region IV replied to this question. Of these, three found their capabilities enhanced; the other two responded negatively.

Key Outcome 4.3: Progress in implementing the Global Climate Observing System (GCOS)

KPI 4.3.1: Percentage of progress in achieving the tasks of the GCOS implementation plan

The GCOS Status Report 2015 presented progress in implementation of the tasks of the GCOS Implementation Plan as follows: (a) very good (11%), (b) good (32%), (c) moderate (35%), (d) limited (15%) and (e) limited or none (7%). Comparison to 2012 is not feasible due to changes in the assessment categories.¹

Key Outcome 4.4: Data rescue and data management systems improved

KPI 4.4.1: Number of NMHSs undertaking data rescue or being involved in regional collaborative data rescue initiatives such as MEDARE

The proportion of NMHSs benefiting from a WMO-coordinated data rescue project remained stable during the financial period: 35% of 97 respondents in 2012 and 33% of 101 respondents in 2015, as presented in Figure 22.

¹ In 2012 and 2013, GCOS progress was measured along the following domains: atmospheric, oceanic, terrestrial, and cross-cutting.

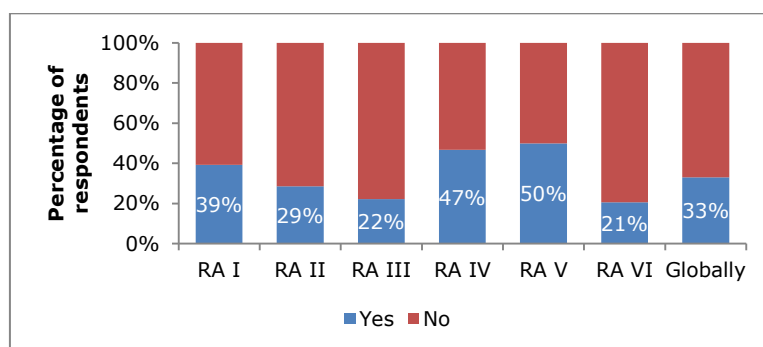


Figure 22: Members benefiting from WMO-coordinated data rescue projects (by region, 2015)

KPI 4.4.2: Number of Members implementing modern climate data management systems and/or climate monitoring systems

The proportion of Members implementing modern climate data management systems and/or climate monitoring systems increased from 73% of 97 respondents in 2012 to 82% of 102 respondents in 2015. Figure 23 presents the 2015 data by region. It should be noted that the response rate from Region V was very low; all 6 respondents (100%) indicated the existence of such systems in their countries. Climate data management systems were prevalent in Regions II, III and VI. According to 40% of respondents from Region IV and over a quarter from Region I, the climate monitoring and/or watch systems in their countries were not in use.

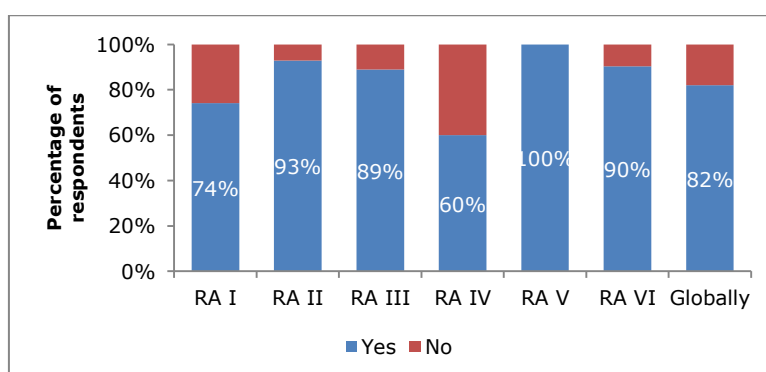


Figure 23: Members with climate monitoring and/or watch systems in use (by region, 2015)

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

Key Outcome 5.1: Research in climate prediction/projection to improve the skills of seasonal, decadal and longer timescales is enhanced

KPI 5.1.1: Number of new activities advancing climate research capacity at the global and regional level, especially for early career scientists and scientists from developing and LDC countries

Thirteen new research activities were launched in the past financial period, aimed at advancing climate research capacity at the global and regional level. These included:

- 2012-2013: WCRP Polar Climate Predictability Initiative; New domains in CORDEX (Coordinated Downscaling Experiment); Climate-Chemistry Modelling Initiative; Clouds, Circulation and Climate Sensitivity.
- 2014-2015: Grand Challenge on Water Availability; Grand Challenge on Regional Sea Level; Grand Challenge on Climate Extremes; Grand Challenge on Shrinking Snow and Ice; International Project Office for Coordinated Regional Modelling; and Young Earth System Scientist initiative.

KPI 5.1.2: Number of early career scientists and scientists from developing and least developed countries that WCRP funded to participate in activities to advance climate research

234 early career scientists and 212 researchers from developing and least developed countries were funded under WCRP to participate in climate research activities in 2012-2015. Assistance not only included an opportunity to participate in individual events but a set of systematic capacity building activities were also put into place, thus targeting the development of a future workforce that contributes to the WMO priorities in the domain of climate.

KPI 5.1.3: Degree of satisfaction among NMHSs with the skill of climate predictions

Satisfaction with the skill of climate predictions remained at the same level throughout the financial period. Figure 24 presents the results of the 2015 survey, based on 95 respondents. Of these, 38% assessed the skill of climate predictions as 'high' or 'very high,' whereas 44% provided an average rating. Seventeen percent found the level of skill to be 'low' or 'very low'. Whereas the majority of respondents in all regions rated the level of skill as average or above average (category 4 and 5), a quarter of respondents from Regions I and VI rated it as very low to low (category 1 and 2).

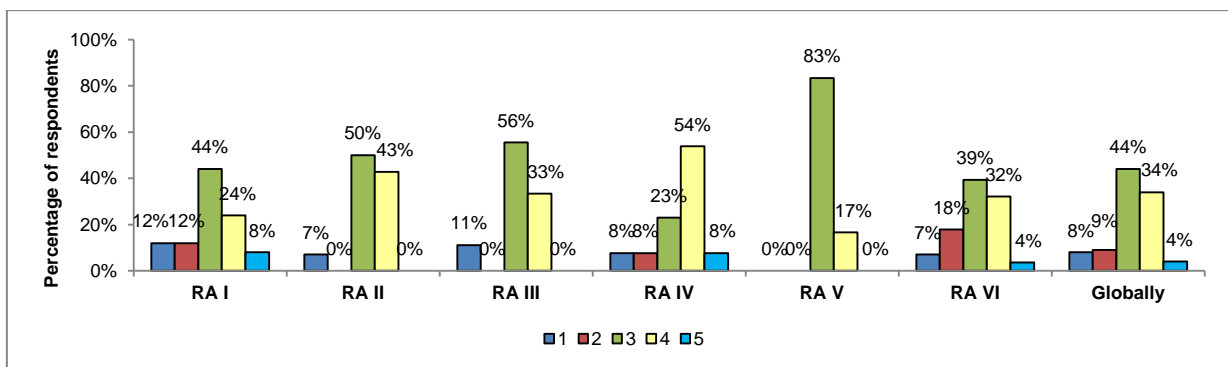


Figure 24: Level of skill of climate predictions issued by NMHSs and other mandated institutions (2015)

Key Outcome 5.2: Research in the prediction of high-impact weather on time scales of hours to seasons is enhanced

KPI 5.2.1: Number of total research projects (new, ongoing and completed) on operational products and services

The following 13 research projects on operational products and services were launched and implemented in 2012-2015:

- (1) Integrated Nowcasting System for the Central European Area;
- (2) Northwestern Pacific Tropical Cyclone Ensemble Forecast Project;
- (3) Typhoon Landfall Forecast Demonstration Project;
- (4) Tokyo Metropolitan Area Convection Study for Extreme Weather Resilient Cities;
- (5) Southern China Monsoon Rainfall Experiment;
- (6) Forecast and Research: The Olympic

Sochi Testbed; (7) Hydrological Cycle in Mediterranean Experiment; (8) Aviation Research and Development Project; (9) Understanding and Prediction of Rainfall Associated with Landfalling Tropical Cyclones; (10) PyeongChang Winter Olympics Games Research and Development Project; (11) Lake Victoria Project; (12) La Plata Basin Research and Development Project; (13) Mesoscale Verification over Complex Terrain Intercomparison Project.

KPI 5.2.2: Number of Members whose operational products and services have improved as a result of WMO research projects

This KPI was introduced in 2013. The 2015 results demonstrate sustained level of improvement in the past biennium, with over three-quarters of 74 respondents indicating that their operational nowcasting service had improved as a result of WMO research projects (Figure 25). A similar proportion (72%) saw the access and use of outputs of operational ensemble modelling systems enhanced. About half indicated advances in the design and operational use of mesoscale prediction systems as a result of WMO research projects. Other improvements mentioned were linked to seasonal predictions, flash floods, and climate predictions issued by Global Centres. Meteorological information systems for specific applications and weather prediction models used included ALADIN/Algeria, ALADIN/Dust and AROME/Algeria.

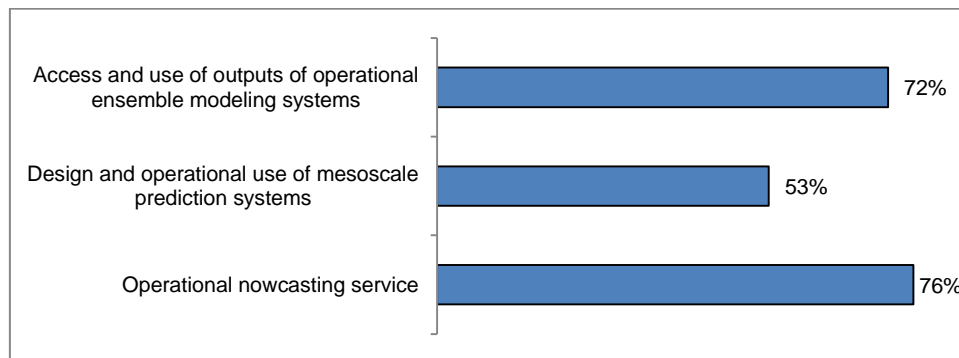


Figure 25: Areas in which operational products and services provided by NMHSs have improved as a result of WMO research projects (2015)

WMO research projects particularly contributed to advances in operational forecasting in Regions I, II and IV, with 82-90% of respondents supporting this statement. They were equally effective in Regions I and V with respect to access and use of outputs of operational ensemble modeling systems. In the rest of the regions, this was true for 50-70% of respondents. Efforts at enhancing the design and operational use of mesoscale prediction systems affected Regions II and III to a lesser extent, where only 36% and 22% of respondents indicated improvements as a result of WMO research projects, respectively.

KPI 5.2.3: Number of NMHSs in developing and least developed countries participating in regional and international research initiatives on high impact weather or severe weather forecasting demonstration projects

Thirty-three Members, representing 49% of the 67 survey respondents from developing and least developed countries, participated in regional or international research initiatives on high-impact weather or a severe weather forecasting demonstration projects in the past biennium. The proportion went up from 39% and 45% in 2012 and 2013, respectively.

Key Outcome 5.3: Atmospheric chemistry observations and assessment meet needs of environmental conventions and policy assessments

KPI 5.3.1: Degree of Member satisfaction with the (a) usefulness and (b) timeliness of Global Atmospheric Chemistry Bulletins

Since 2013, there was a slight increase in the level of satisfaction with the usefulness and timeliness of the Global Atmospheric Chemistry Bulletins. As presented in Figure 26, half of 79 respondents found the WMO Global Atmospheric Chemistry Bulletins to be useful or very useful in 2015, up from 43% two years earlier. Thirty percent rated them average, whereas close to a fifth doubted their value, mainly from Regions I, IV and VI.

The results were similar regarding the timeliness of the WMO Global Atmospheric Chemistry Bulletins, as evident from Figure 26. Forty-nine percent of 77 respondents found them 'timely' or 'very timely,' marking a 9% increase since 2013. About a third rated them as average, whereas 18% expressed dissatisfaction, mainly from Regions I, IV and VI.

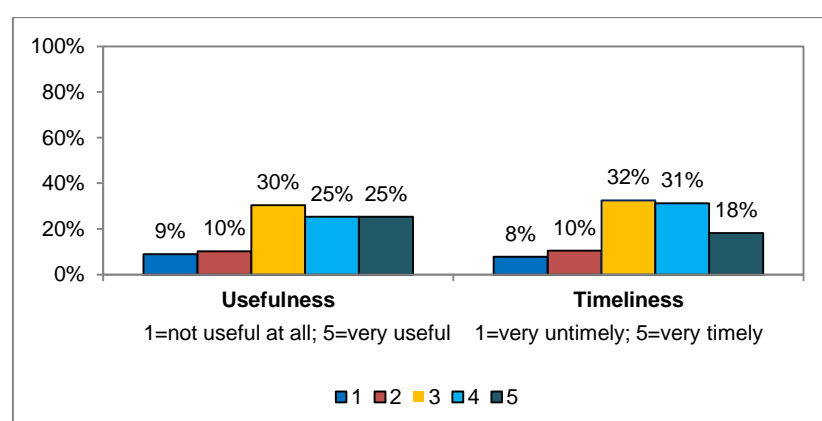


Figure 26: Rating of the usefulness and timeliness of the Global Atmospheric Chemistry Bulletins (2015)

KPI 5.3.2: Degree of Member satisfaction with the usefulness of (a) GAW measurement guidelines and reports, (b) Sand-and-Dust storm forecasting, and (c) the chemical weather activities of GURME

Satisfaction with the usefulness of the GAW measurement guidelines and reports increased from 68% of 47 respondents in 2012 to 78% of the 65 respondents in 2015 (see 4-5 rating categories in Figure 27(a)).

The proportion of survey respondents who positively assessed the usefulness of the sand-and-dust storm forecasting information similarly went up from 54% of 22 respondents in 2012 to 61% of 46 respondents in 2015 (Figure 27(b)).

The chemical weather activities of GURME were rated as highly valuable by half of 48 respondents in 2015, as presented in Figure 27(c), as compared to 70% of 27 respondents in 2012.

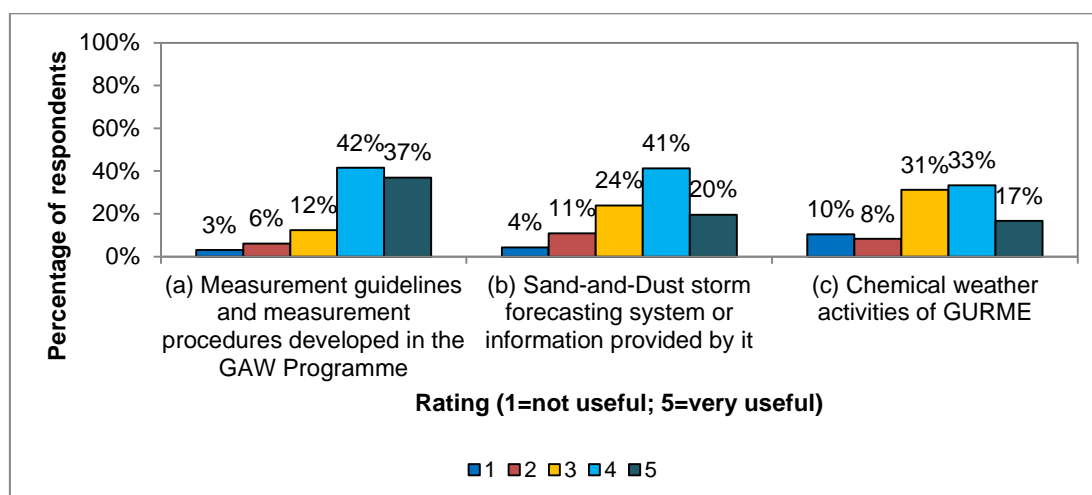


Figure 27: Rating of the usefulness of (a) measurement guidelines and measurement procedures developed in the GAW Programme; (b) Sand-and-Dust storm forecasting system or information; and (c) Chemical weather activities of GURME (2015)

Expected Result 6: Enhanced capabilities of NMHSs, in particular in developing and least developed countries, to fulfil their mandates

Key Outcome 6.1: Visibility and relevance of NMHSs in national and regional development agendas is improved, particularly in developing and least developed countries

KPI 6.1.1: Number of NMHSs with (a) increased contribution to national policy setting; (b) improved awareness by users on type of services NMHSs can deliver; (c) improved user accessibility; (d) improved timeliness; and (e) increased accuracy of forecasts and warnings

This KPI was introduced in 2013, and therefore requires longer monitoring in order to identify trends and patterns. In 2015, Members observed significant improvements in their visibility and relevance in the national development agenda, especially with regard to user accessibility to forecasts and warnings, as illustrated in Figure 28. Eighty-four percent of 103 respondents globally reported moderate to significant increases in this regard. A similar proportion (80%) indicated improvements in terms of awareness by users on the types of services which NMHSs provided.

Other important factors included the timeliness and accuracy of forecasts and warnings. The former contributed to enhanced visibility and relevance of NMHSs at the national level according to 75% of 103 respondents; the latter played a role in the opinion of 79% of 103 respondents.

Globally, close to two-thirds reported increased contribution to national policy setting, especially in Region II where 83% of respondents noted moderate to significant increase in visibility and relevance. For the rest of the regions, this area saw least improvement, with 33% of respondents globally indicating no change in the past two years. Impact on national policy was even lower in Regions III and VI, where 56% and 43% of respondents observed no change, respectively.

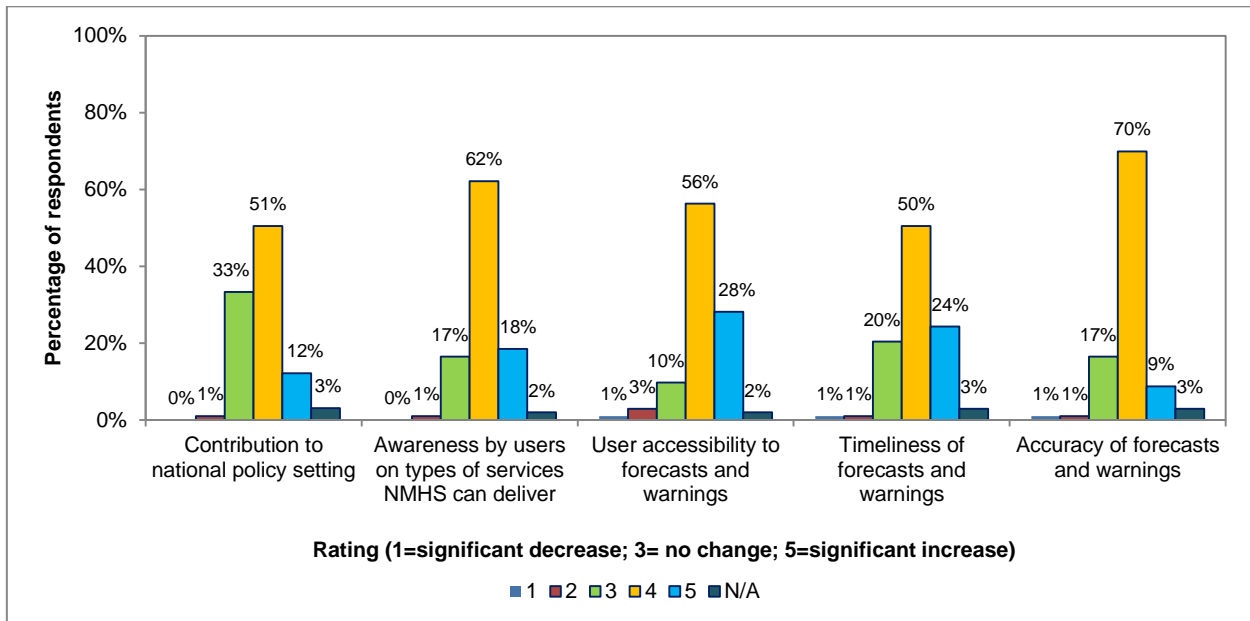


Figure 28: Change in the visibility and relevance of NMHSs in the national development agenda (2015)

About a third of respondents from Region I noted no change or even a decrease in their visibility and relevance with respect to user accessibility, as opposed to the rest of the regions where 90%-100% of respondents reported improvements. The same was true for Region I in terms of timeliness of forecasts. No change was further observed by 33% and 25% of respondents from Regions IV and VI, respectively. In terms of accuracy, no change in visibility and relevance was observed by a fifth of respondents from Regions I, IV, V and VI. Regarding awareness of the types of services delivered, no change was indicated by a third of respondents from Regions III and V and a fifth from Region I.

KPI 6.1.1: Number of NMHSs with (a) increased contribution to regional policy setting; (b) improved awareness by regional users on type of services that can be provided; (c) improved regional user accessibility; (d) improved timeliness of forecasts and warnings delivered from Regional Centres; and (e) increased accuracy of forecasts and warnings delivered from Regional Centres

This KPI was also introduced in 2013 and requires longer monitoring time to track trends and patterns. As evident from Figure 29, slightly less improvement was noted in terms of the visibility and relevance of the regional services provided by NMHSs in the regional development agenda in 2015, as compared to the national one. Close to 60% of respondents globally indicated increased visibility and relevance due to improved user accessibility to forecasts and warnings delivered by Regional Centres. This percentage was as high as 75-100% of respondents from Regions II, III, IV and V and 55% of respondents from Regions I and VI.

Globally, over half of respondents observed improved visibility and relevance due to enhanced timeliness and accuracy of forecasts. This percentage was highest in Regions III and IV (77-79%) and average (55-69%) in the other regions. About a quarter of respondents globally reported no change in this regard.

In terms of contribution to regional policy setting, 39% indicated that the visibility and relevance of their NMHS had increased over the past two years. Regions V and VI were below

this average at 33% and 29%, respectively. Regions I, II and III were considerably above the average at 60%. No change was observed by 36% of respondents.

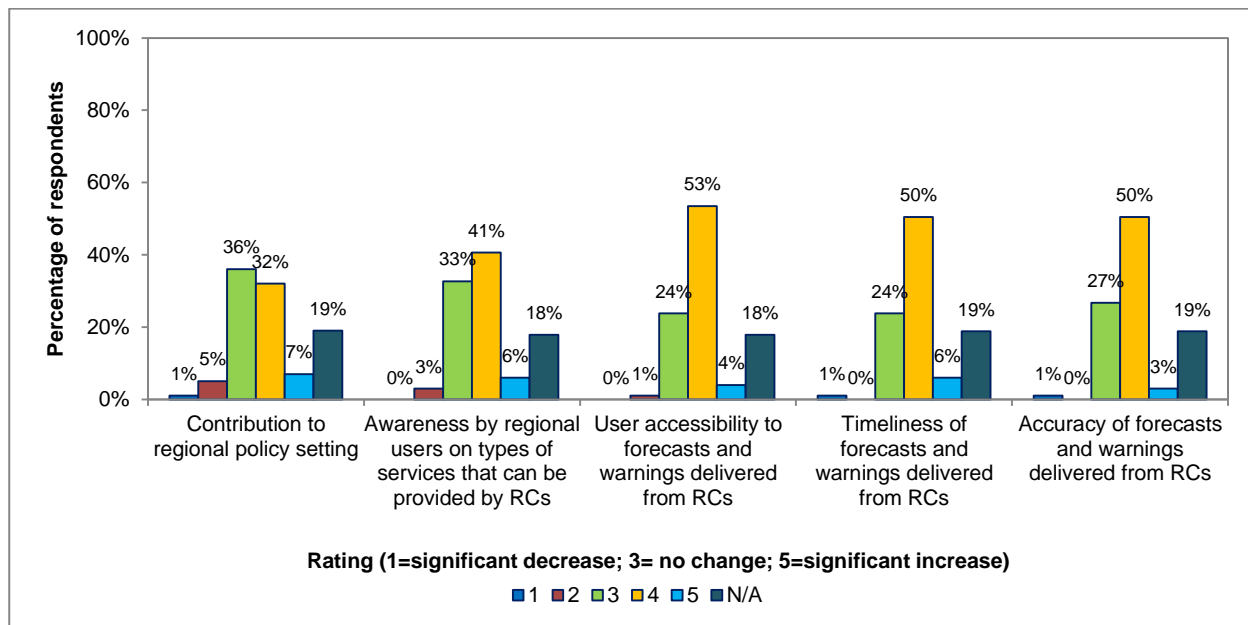


Figure 29: Change in the visibility and relevance of the regional services delivered by NMHSs in the regional development agenda (2015)

Regarding increased awareness by regional users of the types of services that are provided by Regional Centres, 47% noted increased visibility and relevance globally, with the highest gains in Region IV (85%), followed by Region II (69%), Region III (67%), and Regions I and V (50%).

Key Outcome 6.2: Infrastructure and operational facilities of NMHSs and Regional Centres are improved, particularly in developing and least developed countries

KPI 6.2.1: Number of NMHSs with improved infrastructure and operational facilities

Members continued to improve their infrastructure and operational facilities throughout the financial period. The following represent the reported improvements by 102 survey respondents in 2015:

- 84% in the surface observing network;
- 82% in forecasting (mostly with respect to the general public, agriculture, energy and emergency management, and to a lesser extent to aviation, surface transport, climatological forecasting, marine forecasting, and seasonal forecasting);
- 75% in early warning and hazard risk assessments;
- 72% in numerical weather prediction and data-processing;
- 64% in equipment for meteorological/environmental satellite data; and
- 36% in the upper-air observing network.

Improvements in the upper-air observing network were particularly challenging for Region I where only 15% of respondents reported enhancements. Region VI performed best in terms of numerical weather prediction, with 93% of respondents reporting progress, followed by Region II (79%). In the rest of the regions, 20%-30% of respondents did not observe any improvements in this respect.

Regarding early warning and hazard risk assessments, Regions V (100%)² and Region VI (80%) saw greatest enhancements, closely followed by Region II (79%). Regional performance was highest in terms of surface observing networks and forecasting, with results close to the global average in all regions. The regional results for improvements in equipment for meteorological/environmental satellite data were similarly close to the global average above, except for Region II and Region V where 77% and 100% of respondents reported improvements, respectively.

Key Outcome 6.3: Education and training development activities at national and regional levels are improved, especially in developing and least developed countries

KPI 6.3.1: Number of institutions providing education and training support for GFCS related activities

As of 2015, eleven RTCs provided education and training support for GFCS-related activities. Examples of the short courses provided included:

- International Training Course on Global Framework for Climate Services, RTC China, Beijing (May 2015);
- Advanced Workshop on "Climate Change and Agriculture," Israel (May 2015);
- International Training Course on Agrometeorology, RTC China, Nanjing (September 2015);
- Seasonal forecasts and water management, Italy (October 2015);
- Foundations of Climate Services Course, France (2015);
- "Methods for Short-term Climate Prediction," Nanjing and Beijing, China (April 2012 and 2013);
- International Training Course on "Application of Meteorological Satellites in Disaster Mitigation and Environmental Studies," October 2012, Beijing, China.

KPI 6.3.2: Degree to which Members are getting value for money from the WMO Fellowship Programme

The WMO Fellowship Programme sustained high level of Member satisfaction throughout the financial period. Based on the 2015 survey, 55 respondents indicated that they had requested one or more fellowships in the past four years. As evident from Figure 30, their satisfaction was extremely high, with 75% positively rating its value for money (categories 4 and 5). The proportion of respondents was similar in 2012 when 73% provided this rating.

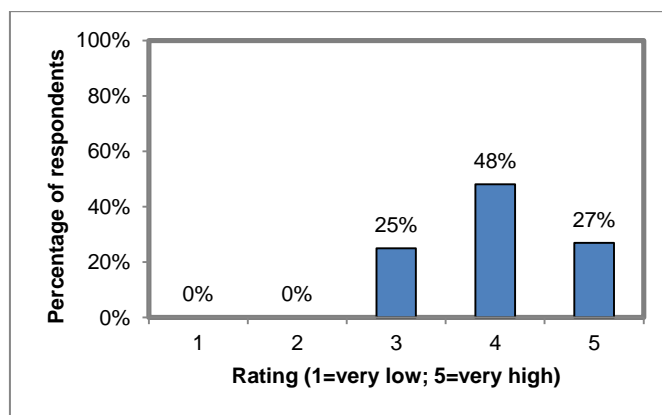


Figure 30: Value obtained from the WMO Fellowship Programme (2015)

² It should be noted that only six Members from Region V replied to this question.

KPI 6.3.3: Degree of Member satisfaction with the RTCs in use

The level of satisfaction with the RTCs in all regions was average to above average, as assessed by 79 respondents in 2015.³ Satisfaction was highest (96%) with the centres in Region VI, followed by Region IV and Region II where 88% and 84% of respondents assigned an above-average rating of 4 or 5, respectively (Figure 31). In the rest of the regions, this percentage was at about 70%, with the rest of respondents having provided an average score.

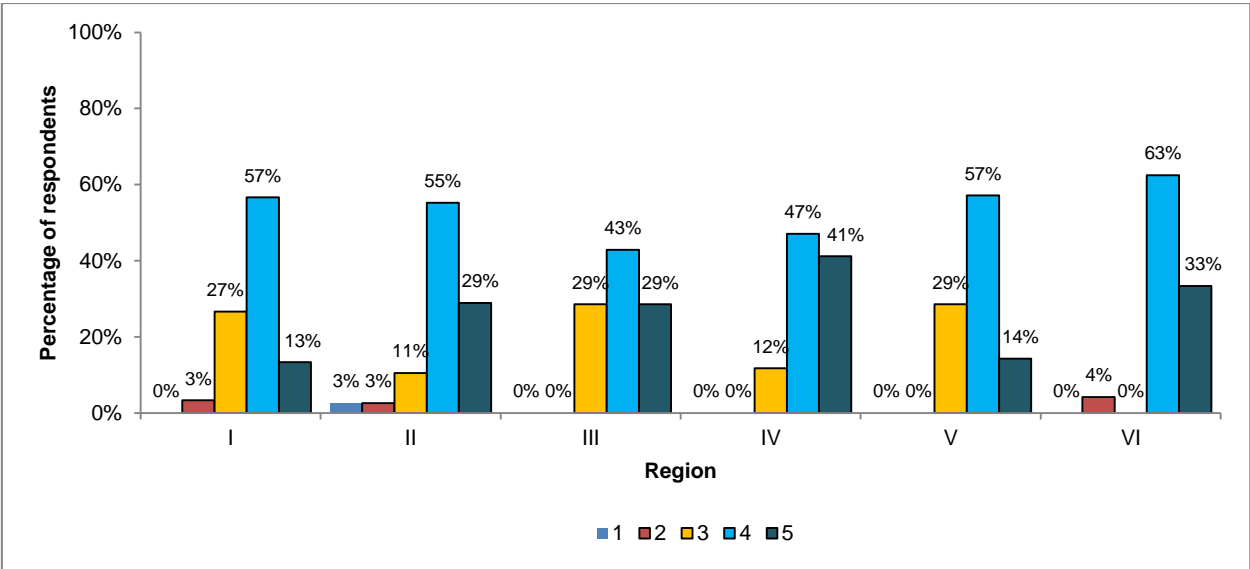


Figure 31: Rating of satisfaction with RTCs (by region, 2015), 1=very low and 5=very high

Key Outcome 6.4: Capacities of NMHSs are enhanced through cooperation and partnerships with other national and regional organizations

KPI 6.4.1: Development projects and activities funded through voluntary contributions

Since 2013, the proportion of NMHSs receiving development funding or assistance from international partners in support of projects/activities slightly increased from 55% of 91 respondents to 58% of 103 respondents in 2015. Of these, 78% indicated that the capacity of their NMHS had enhanced or significantly enhanced both in the short- and long-term as a result of the activities implemented (Figure 32). The proportion was lower in Regions III and VI where 50% and 62% of respondents indicated short-term improvement, respectively. The latter were more tangible in the long-term for Region III, with the percentage of respondents providing a score of 4 or 5 increasing to 71%; it stayed the same in Region VI. Long-term enhancements were also more palpable in Regions IV and V where all respondents considered them significant or very significant.

Globally, about a fifth of respondents were moderately satisfied with the impact of these activities in the short term, and a slightly lower portion (17%) in the long-term. Six percent saw no or limited improvement in the long term.

³ Comparison across years is not feasible due to changes in the questionnaire. As of 2015, breakdown by region is available, as presented above.

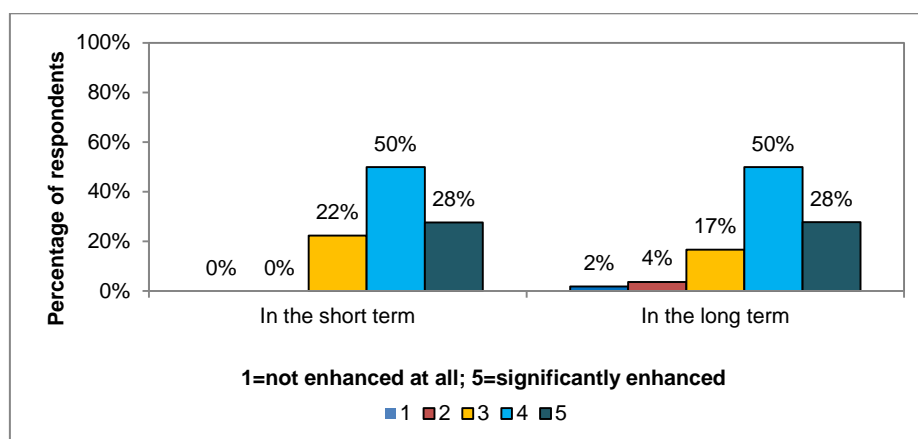


Figure 32: Rating of success in enhancing NMHS capacities as a result of projects and activities implemented with funding from international partners (2015)

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 UN system, relevant international conventions and national strategic issues

Key Outcome 7.1: WMO leadership and contribution in relevant UN system and other international partners’ initiatives and programmes is improved

KPI 7.1.1: Number of reports of WMO and its co-sponsored programmes submitted to UN and other international conventions, particularly the UNFCCC, UNCCD and UNCBD

In 2012-2015, WMO submitted 21 reports to the United Nations Framework Convention on Climate Change (UNFCCC). It further contributed to five reports of the United Nations Convention to Combat Desertification (UNCCD) and two of the United Nations Convention on Biological Diversity (UNCBD).

KPI 7.1.2: Number of contract/cooperation agreements within which WMO is engaged with partners

Memoranda of Understanding (MoUs) became the most common type of cooperation agreements in the past financial period. Table 1 presents the number of agreements, working arrangements, consultative status arrangements and Memoranda of Understanding (MoU) in 2012-2015.

Type of Contracts/Agreements	2012	2013	2015
Agreements	48	51	56
Working arrangements	48	48	49
Consultative status	20	20	20
MoUs	76	85	106

Table 1: Number of contracts and cooperation agreements between WMO and partners

KPI 7.1.3: Number of NMHSs implementing projects with the UN and other international and/or regional organizations

The proportion of NMHSs implementing projects or activities in partnership with United Nations (UN) and other international organizations remained unchanged from 2012 to 2015. The latest

survey results indicated that 73% of 101 respondents had implemented such joint initiatives in the last biennium.⁴ Figure 33 presents the breakdown by region. The vast majority were realized in cooperation with multilateral partners, including UN organizations and the World Bank. A large number of activities were implemented in partnership with regional institutions, such as the European Union, the Inter-American Development Bank (IDB), the Asia-Pacific Economic Cooperation (APEC), the Secretariat of the Pacific Regional Environment Programme (SPREP), etc. Quite a few involved the participation of bilateral partners, such as the Finnish Meteorological Institute (FMI), the Japan International Cooperation Agency (JICA), the China Meteorological Administration (CMA), the United States Agency for International Development (USAID), etc. Collaboration with universities, research institutes and NGOs involved the International Research Institute (IRI), the University Corporation for Atmospheric Research (UCAR), the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), the Hydrological Research Center (USA), Oxfam, and others.

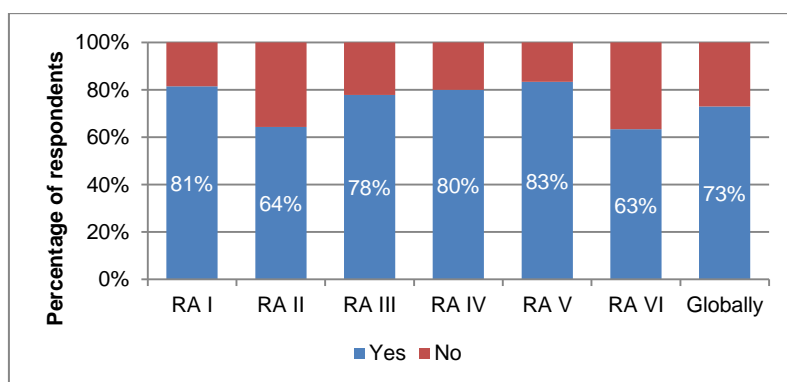


Figure 33: NMHSs implementing projects in partnership with UN and other international organizations (by region, 2015)

⁴ The following is an exhaustive list of the partner organizations mentioned: ACTS, Asian Development Bank (ADB), Asian Disaster Preparedness Centre (ADPC), APEC, APEC Climate Centre, Asia Pacific Space Cooperation Organization (APSCO), Australian Agency for International Development (AusAID), the Australia-Indonesia Centre, Barcelona Supercomputing Centre (BSC), the Caribbean Community Climate Change Centre (CCCC), Central American Institute for Aeronautical Training (ICCAE), Central European Initiative (CEI), Centre for International Climate and Environmental Research – Oslo (CICERO), CMA, CCAFS, Coordination Group for Meteorological Satellites (CGMS), Danube Commission, Department for International Development (DFID), Environment Canada, European Centre for Medium-Range Weather Forecasts (ECMWF), European Network of Environment Professionals (ENEP), EUMETNET, EUMETSAT, European Regional Development Fund (ERDF), the European Union, FMI, Finnish-Peruvian ICI Project Website (FINAMPO), French Research Institute for Development (IRD), Food and Agriculture Organization (FAO), Group on Earth Observations (GEO), Global Environmental Facility (GEF), GIZ (German Society for International Cooperation), GOAL, Hydrological Centre, USA, Indian Ocean Commission, Inter-American Climate Institute, IDB, Inter-American Institute for Cooperation on Agriculture (IICA), Inter-Governmental Panel on Climate Change (IPCC), International Atomic Energy Agency (IAEA), International Civil Aviation Organization (ICAO), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), International Hydrological Programme (IHD), International Red Cross (IRC), IRI, International Sava River Basin Commission, JICA, Japan Meteorological Agency (JMA), Korea International Cooperation Agency (KOICA), Korea Meteorological Administration (KMA), Mekong River Commission, MeteoSwiss, National Oceanic and Atmospheric Administration (NOAA), NORSAR, Norwegian Meteorological Institute, Oxfam, Programme on Climate Information for Resilient Development in Africa (CIRDA), Proyecto Relampago (Argentina), Regional Committee for Hydrological Resources (CRRH), RIMES, Secretariat of the Pacific Community (SPC), SPREP, Swiss Development Cooperation (SDC), Tropical Agricultural Research and Higher Education Centre (CATIE), UCAR, UK Met Office, United Nations Framework Convention for Climate Change (UNFCCC), United Nations Development Programme (UNDP), United Nations Economic Commission for Africa (UNECA), United Nations Environment Programme (UNEP), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Office for Disaster Risk Reduction (UNISDR), USAID, World Health Organization (WHO), World Food Programme (WFP) and the World Bank.

Key Outcome 7.2: Public, decision-makers and other stakeholders are increasingly aware of key WMO and NMHSs issues, activities and priorities through enhanced communication

KPI 7.2.1: Uptake of WMO public information outputs as measured by (a) number of unique visitors on the WMO website; (b) number of times WMO was mentioned in press articles; (3) number of Facebook fans; and (d) number of Twitter followers

The number of unique visitors to the WMO website increased fivefold from 1,027,000 in 2012 to 5,175,000 in 2015. A similar upsurge was observed in terms of WMO presence on social media, with the number of Facebook fans having gone up from 8,000 to 49,000 and that of Twitter followers from 4,690 to 22,500 from 2012 to 2015, respectively. References to WMO were continuously made in the traditional press, reaching 36,420 in 2015.

KPI 7.2.2: Degree to which NMHSs make use of WMO public information outputs

The level of utilization of WMO non-technical, public information outputs (e.g. website, press releases, videos, World Met Day materials, In the Media, Facebook, Twitter, etc) remained high throughout the financial period. Figure 34 presents the frequency of use in 2015.

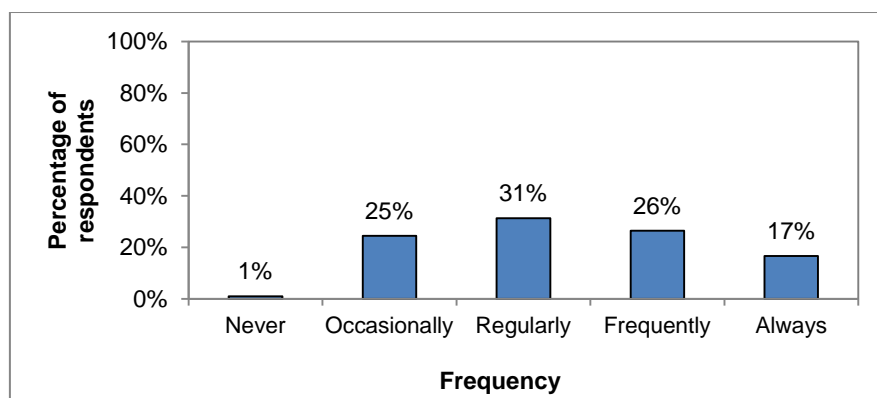


Figure 34: Frequency of use of non-technical, public information outputs (2015)

Of 102 respondents, 57% indicated that they used the WMO public information outputs frequently or on a regular basis. Seventeen percent indicated that they always made use of them, while a quarter of respondents only used them occasionally. Only 1% stated that they never used them.

KPI 7.2.3: Number of NMHSs that have provided training to senior managers and/or communication officers in media relations, social media or other aspects of communications

An increasing portion of NMHSs have been providing training in media relations to senior managers and communication officers. In 2013, this proportion stood at 51% of 96 survey respondents globally, whereas two years later it reached 60% of 102 Members. As evident from Figure 35, Members from Regions II and V were most active in providing communications training in 2014-2015. Fifty-seven percent of respondents in Regions I and VI and less than half in Region III provided such training.

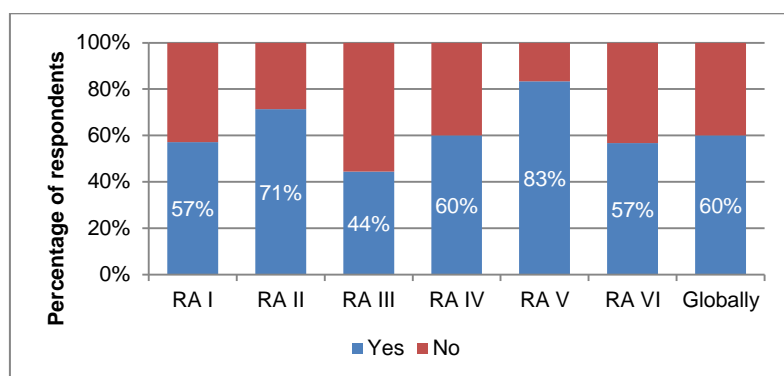


Figure 35: Communications training provided to senior managers and/or communication officers (by region, 2015)

Expected Result 8: An effective and efficient Organization

Key Outcome 8.1: Effective and efficient WMO Congress and EC

KPI 8.1.1: Degree of Member satisfaction (rating of 3-5) with documentation for Cg, EC and its working groups

Two-thirds of 130 respondents rated the technical content of Cg-17 and EC-67 documents as average to above average. For comparison, satisfaction stood at 62% at EC-64 and 73% at EC-65. With respect to the language quality of documents, 82% of 130 respondents provided an above-average rating at Cg-17 and EC-67. The level of satisfaction was roughly the same at EC-65 (80%) and 10% higher at EC-64.

KPI 8.1.2: Degree of Member satisfaction (rating of 3-5) with supporting services for Cg and EC (interpretation, conference activities and facilities)

Close to 80% of 130 respondents provided a rating of 3-5 (average to above average) to the quality of interpretation at Cg-17 and EC-67, as compared to 67% at EC-65 and 77% at EC-64. Delegates were particularly happy with the paperless sessions at Cg-17 and EC-67, with 94% having provided an above-average rating. This marks a significant increase from 73% of participants satisfied with the paperless session at EC-65. Satisfaction with the efficiency of badge delivery remained unchanged throughout the financial period (92%).

KPI 8.1.3: Decrease in the total cost of sessions held under similar conditions

A 7.5% decrease in the cost of EC-65 (2013) was achieved as compared to EC-64 (2012). The cost of EC-67 and Cg-17 in 2015 could not be compared to previous sessions as they were not held under similar conditions. In 2015, all information documents (INFs) were translated into the six official languages.

Key Outcome 8.2: An effective and efficient WMO Secretariat

KPI 8.2.1: Percentage of implemented accepted oversight recommendations for improved business effectiveness on the agreed deadline

Seventy-nine percent of the accepted oversight recommendations of the WMO Internal Oversight Office were implemented in 2015. The rate of implementation was similar in 2012

(75%) and 2013 (78%). The implementation rate of accepted recommendations of the Joint Inspection Unit was 86.2% in 2012 and 75% in 2013. Data for 2015 is still not available.

KPI 8.2.2: Unqualified opinion of the external auditor in the financial period

In 2012-2015, the External Auditor provided an unqualified opinion on the financial statements of the Organization, certifying that they represented fairly the financial position of WMO as well as its financial performance and cash flow, in accordance with the International Public Sector Accounting Standards and the Organization's Financial Regulations.

KPI 8.2.3: Increase in the efficiency of fulfilling requirements for linguistic and publishing services

Since the previous financial period, the share of publications and constituent body reports distributed exclusively online increased by 17%. Seventy such publications were released in 2015, up from 60 in 2012.

Significant efficiencies were also achieved in terms of translation costs. A 23% decrease in the direct cost per 1,000 words was achieved from For EC-64 to EC-65 due to more effective planning and management. EC-67 could not be compared as it took place under different conditions: it was held in conjunction to Cg-17 and observed the newly introduced requirement of translating information documents (INFs) into all languages.

KPI 8.2.4: Issuance of statements of internal control in the financial period

Statements of internal control were issued annually throughout the financial period.

Key Outcome 8.3: Effective and efficient constituent bodies (RAs and TCs)

KPI 8.3.1: Degree of Member satisfaction (rating of 3-5) with constituent body documentation

High level of satisfaction was measured in the first biennium in terms of the technical content of documents, which increased from 74% in 2012 (based on evaluations at CHy-14 and CBS-15) to 93% in 2013 (based on evaluations at CAS-16 and RA VI-16).

No sessions of regional associations and technical commissions were held in 2015, apart from RA I-16. Regarding the latter, no results are available due to the low number of respondents to the survey.

KPI 8.3.2: Degree of Member satisfaction (rating of 3-5) with constituent body supporting services

In the first biennium, 93% of respondents provided an above-average rating to the interpretation services at constituent body sessions held in 2013 (CAS-16 and RA VI-16), marking a considerable improvement from 74% the year before (based on evaluations at CHy-14 and CBS-15). The level of satisfaction with the paperless sessions also remained high at 91%-92% in 2012-2013, as did satisfaction with the efficiency of badge delivery (91% in 2012 and 86% in 2013).

No sessions of regional associations and technical commissions were held in 2015, apart from RA I-16. Regarding the latter, no survey results are available due to the low number of respondents to the survey.

KPI 8.3.3: Decrease in the total cost of constituent body sessions held under similar conditions

A baseline was established in 2012 based on the cost of CHy-14. However, the cost efficiency of subsequent constituent body sessions could not be measured during the financial period as meetings took place under different conditions (e.g. countries, venues, prices, etc.).
