

World Meteorological Organization

FIFTEENTH CONGRESS

GENEVA, 2007



Cg-XV/Doc. 3.1.1

Submitted by: Secretary-General,

Date: 8.III.2007

Original Language: English

Agenda item: 3.1.1

GLOBAL OBSERVING SYSTEM (GOS)

SUMMARY

ACTION REQUIRED:

The Fifteenth WMO Congress is requested to approve the attached draft text for inclusion in the general summary of Cg-XV.

REFERENCE:

Abridged Final Report with Resolutions and Recommendations of the 2006 Extraordinary Session of the Commission for Basic Systems (WMO-No. 1017)

CONTENT OF DOCUMENT:

Appendix for inclusion in the final report:

Draft text for inclusion in the general summary of Cg-XV

Appendix for information:

Cg-XV/Rep. 3.1.1: Progress/Activity Report

DRAFT TEXT FOR INCLUSION IN THE GENERAL SUMMARY OF Cg-XV

3.1.1 GLOBAL OBSERVING SYSTEM (GOS) (*agenda item 3.1.1*)

3.1.1.1 Congress noted with appreciation that the GOS, through coordinated efforts of Members, continued to provide unique and sustainable observational data and information on the state of the Earth and its atmosphere to meet evolving requirements of various users. It underlined that along with the broadening satellite data and services, especially through R&D satellites, further improvements were achieved in the availability of data produced by other components of the GOS, notably marine and AMDAR data. Congress specifically noted NOAA activities to move GOES-10 to 60 degrees West in order to enhance coverage of the Americas. By significantly improving satellite detection of such natural hazards as severe storms, floods, drought, landslides, and wildfires, the move would help to protect lives and property in North, Central and South America as well as the Caribbean. Congress also welcomed EUMETSAT's decision to relocate Meteosat-7 to continue the Indian Ocean Data Coverage mission until 2008, as well as the DCP service provided in support of the Indian Ocean Tsunami Warning System.

3.1.1.2 The Congress noted with satisfaction that the major activities of CBS in the domain of observations were concentrated on the evolution of the GOS, coordination and advice on satellite system matters, satellite utilization and products, requirements and representation of data from AWSs, scientific evaluation of OSEs and OSSEs, cooperation with GCOS, integration of AMDAR in WWW operations, revision and updating of GOS regulatory material. As a result of individual and collective activities of Members and the Secretariat during 2004-2007, the availability of reports on the Main Telecommunication Network (MTN) had shown an increasing stability, globally, constituting the following:

- Surface data: 76 % of expected reports (with 1% oscillation over the period);
- Upper-air data: 69 % of expected (positive trend from 63% in 2003);
- BUOY reports increased from 11,000 to 34,000;
- AIREP varied between 3,400 and 5,200;
- AMDAR reports increased from 15,000 to 42,000.

3.1.1.3 Congress appreciated and supported recent proposals of CBS in the context of the operations and development of the future composite GOS which aimed to contribute markedly to alleviating deficiencies in the surface and upper-air data coverage. In particular, it decided to:

- Urge Members to ensure sustainable operation of the GOS and encourage activities with respect to the optimization of observing elements and development and deployment of the advanced composite system; the highest priority should be given to:
 - (a) Maintaining the RBSN and RBCN, noting that GSN/GUAN stations are part of the RBSN;
 - (b) Rehabilitating observing sites in critical locations;
- Urge Members and regional associations to follow guidelines and recommendations contained in the *Implementation Plan for Evolution of Space and Surface-Based Sub-systems of the GOS* (EGOS-IP), published as WMO/TD-No. 1267 and nominate a national point of contact responsible for reporting progress and plans in their country related to EGOS-IP;

- Encourage Members operating NWP centres to keep supporting the studies of observation targeting strategies based on the THORPEX, AMMA and IPY results;
- Encourage Members concerned to communicate historical data and metadata from their GCOS network stations to newly established CBS Lead Centres for GCOS;
- Based on the guidance given in the Implementation Plan for Evolution of Space and Surface-Based Sub-systems of the GOS, to recommend for developing countries a wider use of observing systems (satellite, AMDAR, and AWSs) that were less dependent on infrastructure, expertise, and funding.

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GLOBAL OBSERVING SYSTEM (GOS)

PROGRESS/ACTIVITY REPORT

SUMMARY

Reference: Cg-XV/Doc. 3.1.1

CONTENT OF DOCUMENT:

Appendix:

- Progress/Activity Report on the Global Observing System

PROGRESS/ACTIVITY REPORT ON THE GLOBAL OBSERVING SYSTEM

Implementation and operation of the surface-based subsystem of the GOS

1. Implementation activities were carried out through coordinated efforts by Members, constituent bodies and the Secretariat with a leading and consolidating role of the CBS OPAG on the Integrated Observing System (OPAG-IOS) comprising 5 Expert Teams and 7 Rapporteurs, established by CBS. In overall, during the reporting period 13 expert meetings and workshops were organized within the scope of CBS/OPAG-IOS together with appropriate studies and follow-up. The GOS performance based on WWW monitoring results has been made on regular basis

2. Overall, during 2004-2006, an increasing stability in surface and upper-air observational programmes was achieved and certain cost reductions accomplished. The total number of surface stations had increased globally from 4032 to 4169. The upper-air network density remained unchanged in RA I (104), RA III (58) and the Antarctic (13). The number of upper-air stations had been increased in RA V (from 109 to 119). As a part of the on-going optimization process, the number of upper-air stations had been decreased in RA II (from 328 to 322), RA IV (from 143 to 136) and RA VI (from 135 to 130). The number of AWSs included in RBSN globally had increased from 651 to 858.

3. Global availability of expected reports on the Main Telecommunication Network (MTN) constituted:

- 76% (with only 1% variation over the period) for surface observations;
- 69% (63% in 2003) for upper-air observations;
- 67% (65% in 2004) for CLIMAT reports;
- 65% (68% in 2004) for CLIMAT TEMP reports.
- The number of BUOY reports increased from 11,000 to 34,000;
- The number of AIREP reports reached 5,200 from 3,400;
- The number of AMDAR reports increased from 15,000 to 42,000.

4. Assistance and promotion of individual and collective efforts of Members to rehabilitate and strengthen observational programmes, especially in developing countries had been continued. Following the CBS guidelines for allocation of the priorities for technical cooperation, seven upper-air stations have been put in full operational mode in Armenia, Democratic People's Republic of Korea, Guinea Bissau, Kenya, Madagascar, Mauritius and Papua New Guinea. More than 20 on-going VCP projects related to the rehabilitation and upgrading of upper-air observing networks and six projects related to rehabilitation of surface synoptic stations, were launched.

5. Review of evolving observational data requirements from 11 application areas including Global and Regional NWP, Synoptic Meteorology, Nowcasting and Very Short-range Forecasting, Seasonal to Inter-annual Forecasts, Aeronautical Meteorology, Atmospheric Chemistry, JCOMM Ocean Applications Areas, Agrometeorology and Hydrology, was carried out and appropriate adjustments in the WMO data base and the GOS regulatory material have been made.

6. Over 20 Observing System Experiments (OSEs) were carried out at national and international levels to assess the impact of various observing systems on NWP which resulted in conceptual conclusions on the need for and management of specific observation programmes; a WMO Workshop in the Impact of Various Observing Systems on NWP was held in Alpbach, Austria, in March 2004, attended by 49 participants where 30 lectures were presented.

7. Eight semi-annual surface data quality monitoring reports for RA I, RA II, RA IV and RA V were reviewed and the national observational programmes adjusted to meet requirements and Members' capabilities.

8. Standardization of observing techniques and practices has been carried out within the frame of the IMOP programme (see agenda item 3.1.5)

9. In addition, the following specific accomplishments should be mentioned:

- Development and publishing as WWW Technical Report the *Implementation Plan for Evolution of Surface- and Space-based Subsystems of the GOS* (WMO/TD-No. 1267);
 - Publishing of the revised *Manual on the GOS*, Vol. I, Global Aspects, 2003 edition (WMO-No. 544);
 - Preparation of a revised version of the *Guide on the Global Observing System* (WMO-No. 488) to be published in 2007;
 - Revision of the content and development the database for the WMO publication *Weather Reporting, Observing Stations* (WMO-No. 9, Vol. A);
 - Publishing as WWW Technical Report (WMO/TD-No. 1228) the *Proceedings of the third WMO Workshop on the Impact of Various Observing Systems on Numerical Weather Prediction* held in Alpbach, Austria, 9-12 March 2004;
 - Publishing as WWW Technical Report (WMO/TD-No. 1188) the *Handbook on CLIMAT and CLIMAT TEMP Reporting (2004)*;
 - Eighty-three experts from 42 countries were trained on climatological data reporting during three joint WWW/WCP/GCOS Regional Training Seminars on CLIMAT and CLIMAT TEMP Reporting held in RA I (Casablanca, Morocco) RA III (Buenos Aires, Argentina) and RA II/RA VI (Moscow, Russian Federation);
 - Nine CBS Lead Centres for GSN and GUAN data were established;
 - To facilitate integration of the AMDAR programme into the WWW operations, a CBS IOS Rapporteur on AMDAR was established, and AMDAR regional training requirements were developed.
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