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**SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE**

**Twenty-third session**

**Montreal, 28 November to 6 December 2005**

**Item 9 of the provisional agenda**

**Research and systematic observation**

**Views on the report on progress made towards implementing the initial ocean climate observing system, and on the final report on the analysis of data exchange issues in global atmospheric and hydrological networks**

**Submissions from Parties**

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its twenty-second session, welcomed a report on progress made towards implementing the initial ocean climate observing system and the final report on the analysis of data exchange in global atmospheric and hydrological networks provided by the Global Climate Observing System secretariat in consultation with the World Meteorological Organization. The SBSTA invited Parties to submit to the secretariat, by 15 September 2005, their views on these reports, and requested the secretariat to compile these submissions into a miscellaneous document (FCCC/SBSTA/2005/4, paras. 100–102).
2. The secretariat has received seven such submissions. In accordance with the procedure for miscellaneous documents, these submissions are reproduced\* in the language in which they were received and without formal editing.

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\* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

**FCCC/SBSTA/2005/MISC.15**

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\* This submission is supported by Bulgaria and Romania.

**Report on progress with the initial ocean climate observing system and  
Analysis of data exchange problems in global atmospheric and hydrological  
networks**

**Australian Submission to SBSTA-23**

**September, 2005**

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The 22nd session of the Subsidiary Body for Scientific and Technological Advice invited Parties to submit their views on:

a) A report on progress with the initial ocean climate observing system by the GCOS secretariat  
[Ref: Document FCCC/SBSTA/2005/MISC.5]

b) An analysis of data exchange problems in global atmospheric and hydrological networks the GCOS secretariat  
[<http://www.wmo.ch/web/gcos/gcoshome.html>]

**Introduction**

Australia welcomes the opportunity to submit views on the reports on progress with the initial ocean climate observing system, and the analysis of data exchange problems in global atmospheric and hydrological networks. Australia would like to thank the GCOS Secretariat for its efforts in reporting on progress in the ocean observing system. Australia also commends the GCOS Secretariat for its efforts in analysing the availability and accessibility of atmospheric, hydrological and related cryospheric data relevant to climate, highlighting data exchange problems and suggesting possible remedy options. The following comments relate to the specific reports requested by SBSTA-22.

**a) Report on progress with the initial ocean climate observing system by the GCOS Secretariat**

Australia notes with interest the significant progress made so far in implementing the Global Ocean Observing System (GOOS) in support of climate applications. Significant efforts have been made by the involved parties and participating countries in designing, and part implementing, an integrated *in situ* and remotely sensed ocean observing system to measure the essential climate variables identified in the Second Adequacy Report. Further efforts are now required, however, to ensure the complete design coverage is obtained for all the platforms and that this design is regularly reviewed. Australia recognises the need for further contributions to the development of observing systems in regions such as the Indian Ocean, which is known to act as a major controlling influence on the climates of many of the globe's most populous countries.

To implement and maintain observing systems long term and predictable funding is necessary. The Argo profiling float program, for example, has made a huge contribution to the amount and ready availability of data for climate research and applications. In combination with other existing observing system elements (such as upper ocean observations from ships-of-opportunity), the Argo program is dramatically improving our ability to monitor the ocean and better understand its role in the climate system. However,

the Argo program is currently supported as a predominantly research program and to be fully effective in the long term needs to be transitioned to an operational program, supported under long-term funding arrangements by appropriately mandated agencies. The array of moored buoys along the equator in the Pacific Ocean provides an excellent model of an operational observing system proven by research to be indispensable for monitoring and predicting the development and course of El Niño related events. The satellite altimeter, which is capable of providing highly accurate measurements of sea level, is another example of an essential observation platform without a guaranteed future beyond 2008.

Australia encourages the free exchange of data to maximise the utility of the Global Ocean Observing System. The impacts of the many Tropical Cyclones that occur each year, along with the devastating Tsunami of 26 December 2004 clearly demonstrate the necessity for effective and open data exchange between all countries. Australia also encourages continuing support for bodies such as the World Meteorological Organization (WMO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO, to ensure maximum cost-effectiveness, coordinated implementation and ongoing monitoring of global observing systems.

## **b) An analysis of data exchange problems in global atmospheric and hydrological networks the GCOS secretariat**

A common cornerstone of the WMO and IOC policies on data exchange is that meteorological, oceanographic and related data and products that are essential for the provision of services in support of the protection of life and property and the well-being of all nations be made available freely and without restriction. Australia unequivocally supports the relevant resolutions of the WMO and IOC in this regard. Unfortunately, there is still a less than adequate exchange of climatological data throughout the world.

Australia considers this document, prepared by the GCOS Secretariat, to be a useful synopsis of the data exchange problems that, in many cases, prevent effective implementation of climate-related services for the well-being of many of the world's nations. The problems discussed are characteristic of many that exist in the region of the South West Pacific, and Australia is currently involved in developing and implementing several projects in the region that attempt to directly address issues such as Data Rescue and effective Climate Data Management Systems. These projects provide, in our view, examples of effective (albeit localised) responses to the problems and could serve as case studies for consideration in other regions. Australia would be happy to provide information on these projects to delegates who may be interested (A brief synopsis of each project is attached below).

Much of the analysis in the GCOS document concentrates on the technical problems associated with data exchange and this it does very well. However, a high level of sensitivity exists in some developing countries regarding data ownership and the principles of free and open exchange of data, and this issue is only discussed briefly within the document. There are concerns within many developing countries in particular that their data will be exploited, perhaps commercially in other countries, thus depriving the countries themselves of opportunities for revenue. These concerns are understood. Australia's experience in working with partner countries in the region in the PI-GCOS has demonstrated the importance of building a foundation of trust that the free exchange of data principle is for the benefit of all and not something to be exploited for the profit of a few.

A problem not discussed in the report is the matter of maintaining networks in developing countries using donor funds. Operating an observational network within the context of common foreign aid principles and practices is never going to be sustainable as funding availability and priorities shift rapidly. Long term, sustainable meteorological services supported by a robust and reliable observation network requires host country support and long term, reliable funding. Short-term or project-based funding such as through

development assistance, is best used to leverage additional contributions from stakeholders and host country governments.

The approach applied in many of the PI-GCOS projects is to target such short term funding for building capacity in the developing country Meteorological Services and raising their profile and importance within government. Thus the effort is not just to improve their capacity in taking observations, as given emphasis in the report, but also to build a broader capacity to produce quality climate services for their own countries. A key aim of such a strategy is to demonstrate the value of these services to their respective governments, to industry stakeholders and to their communities at large. As the long-term sustainability of these services require a robust and reliable observation network, it is hoped that the significance of the networks for long term sustainable development will be recognised and that the networks will gradually improve over time. Ultimately it must be the governments of developing nations that provide for the sustainability of their own networks. Again, Australia believes that the presentation of the aforementioned case studies within PI-GCOS could be usefully cited as adjuncts to this report to expose potential solutions to these non-technical problems (see below).

It is important to note that climate data needs are different in some respects to the data needs that support other activities of National Meteorological Services (NMSs). There is a need to carefully balance the resource needs for short-term operational systems (e.g., weather forecasting; and even the generation of some routine climate products), against longer-term needs for data quality, security, homogeneity and continuity that are essential for detecting and monitoring climate change. The issues of data rescue and quality control are two particularly relevant issues in this regard.

As a final comment, Australia would like to strongly support the development of the WMO Information System (WIS). In particular, transmission costs are often a significant load to bear for many developing countries in providing data. Cutting costs through the introduction of new technologies relevant to NMSs should be given high priority e.g., modernisation of the existing Global Telecommunication System for transmitting meteorological and related data and information through, for example, the Internet and using satellite systems. Making communication systems easier to use, and the need for adequate training and capacity building, are also pertinent issues. The growth in the use of the internet (relying more on a climate data user's ability to "pull" products of an information system rather than the NMS of a developing country needing to develop a complex distribution system to "push" data) or the expanding of the RANET system that is being rolled out should also assist in this area.

#### Possible case studies

- Australia is participating in international efforts to provide RA V countries with access to a Climate Database (DB) Management System appropriate for the countries in the Region. A Training workshop for one such candidate system, an Excel-based DB Management system, developed by the UK Meteorological Office, called ClimSoft, is taking place in Fiji 26 Sept – 7 Oct 2005.
- Australia, in cooperation with the USA and New Zealand, has commenced a project aimed at preservation and rescue of data records in Pacific Island countries. Such data are needed for studies on climate change and its impacts, and in order to fully benefit from initiatives such as the PI-GCOS Climate Prediction Project.

PAPER NO. 2: CHINA

**China's views on  
Report on Progress with Initial Ocean Climate Observing System and  
Analysis of Data Exchange Problems in Global Atmospheric and  
Hydrological Networks**

September 27, 2005

China welcomes the opportunity to provide comments on *the Report on Progress with Initial Ocean Climate Observing System* and *the Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks* in response to the requirement contained in document FCCC/SBSTA/2005/L.9.

China would like to express its appreciation to the Secretariats of GCOS and GOOS for their efforts towards these two reports, and believes the reports have provided the Parties with useful information on the ocean climate observing system and the current status of global exchanges of atmospheric and hydrological data.

China recognizes the fact that the purpose of the climate system related observation and data exchanges is to meet the needs of the UNFCCC in order to make the world community fully aware of the climate change and its potential impact. China believes that only when the shared data necessary for the research on climate change and related problems are extensively used in the developing countries, will more developing countries realize the importance of building up observing infrastructures and exchanging data, and China feels that, comparing with developed country, the capacity of data application in developing country is still at a very fundamental level.

As both reports covered in the Conclusion FCCC/SBSTA/2005/L.9 mention the current inadequacy of the developing countries in relevant capacity and participation, the China holds the view that SBSTA should recommend GCOS and GOOS to take more effective measures to help the developing countries enhance their capacity in view of their vulnerability in data application.

With regard to *the Report on Progress with Initial Ocean Climate Observing System*, we have the following comments:

Concerning the data application and quality control, the regional coordinating bodies should take their full responsibility in helping the developing countries with capacity building. The national laws and regulations on data collection and exchange should be respected and observed when we coordinate the national participation in ocean observing programs.

China notes that the Initial Ocean Climate Observing System will be finished by 2010. SBSTA should recommend relevant bodies to develop new plans to help the developing Parties to the UNFCCC in reinforcing their ocean observing systems and exchanges on data application to ensure the maintenance of the ocean observing system and the continuity of relevant data beyond 2010.

In respect of *the Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks*, we have the following comments:

There are diverse data sources for the exchanges, including those from the governments, research projects and even the individual scientists. The Chinese government holds the view that GCOS should have the function to distinguish or differentiate the data sources with an identifier for the exchanged data.

PAPER NO. 3: EGYPT

**At the request of Acting Deputy Executive Secretary, Mr. Richard Kinley on item 6:**  
Cooperation with relevant international organizations:

"Views of Parties on two reports ...."

Egypt's view on item 6 (a and b) is that the two reports include important information both on implementing the initial ocean observing system, and on the analysis of data exchange issues in global atmosphere and hydrological networks. However, some additional information concerning the borders of different countries, locations of border stations and width of regional water and marine borders should be clearly identified

PAPER NO. 4: UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES

**SUBMISSION BY THE UNITED KINGDOM ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES**

**This submission is supported by Bulgaria and Romania**

**London, 19 September 2005**

**Subject: Cooperation with relevant international organizations**

**Views from Parties on two reports:**

- a) **The report on progress made towards implementing the initial ocean climate observing system, prepared by the secretariat of the Global Ocean Observing System of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, in cooperation with the Global Climate Observing System (GCOS), and presented in document FCCC/SBSTA/2005/MISC.5**
- b) **The final report on the analysis of data exchange issues in global atmospheric and hydrological networks provided by the GCOS secretariat in consultation with the World Meteorological Organization**

**a) Report on the Initial Ocean Observing System**

The EU considers that sustained ocean observations are a crucial component of the Global Climate Observing System (GCOS) and welcomes the report (FCCC/SBSTA/2005/MISC.5) on progress made towards implementing the initial ocean observing system for climate and in particular the progress made since early 2003.

The EU notes those Essential Climate Variable (ECVs) identified by GCOS for the oceanic domain (including the surface atmospheric ECVs required over the ocean) and the need for high quality global datasets of these variables. The EU recognises the importance of both surface and sub-surface observations in order to determine the state of the oceans; and the need to sustain these measurements in order to identify, understand and predict climate variability and climate change. The EU also notes that a full understanding of the ocean depends not just on ocean observations but also on observations of the ocean-ice-atmosphere system. All have to be observed together for the purposes of predicting climate.

The EU recognizes the importance of ocean measurements for validating climate models, for providing starting conditions for seasonal to decadal time-scale climate prediction and for assessing the role of the ocean in the carbon cycle (noting the potential, significant impact of ocean acidification on marine biota from absorption of carbon dioxide from the atmosphere).

The EU notes that the global ocean observing systems rely on both in situ networks and satellites and the key roles of the Joint World Meteorological Organization (WMO) – International Oceanographic Commission (IOC) Technical Commission for Oceanography and Marine Meteorology (JCOMM) and the Committee on Earth Observation Satellites (CEOS) in their coordination and implementation. The complementary nature of in situ and space-based observing systems is recognised. EU countries make significant contributions to the in situ networks and to the space-based component through the European Space Agency (ESA) and EUMETSAT.

The EU recognises that the existing in situ networks for surface and sub-surface observations are built upon a number of different components (tide gauges, buoys, mooring stations, profiling floats, ship



observations etc.) and that these networks have largely been developed for research purposes and need to be maintained operationally in the long term.

The EU notes with satisfaction the excellent progress on implementation of the Argo profiling float array, which was initiated in 1999, with the array now 2/3 complete and providing data globally. The increased spatial and temporal resolution of temperature and salinity data from Argo are already helping to understand better the variability of the climate system. Achieving full coverage (3,000 operating floats) and sustaining this level of coverage globally over the coming years is a major challenge, and the EU urges Parties to maintain their commitments to Argo.

The EU recognizes that meteorological observations from Voluntary Observing Ships (VOS) and derived surface fluxes are an important part of the GCOS. In 2004 European VOS, now coordinated through the EUMETNET Composite Observing System (EUCOS) surface marine programme (E-SURFMAR), contributed around 50% of the observations over the world's oceans. Over recent years there has been a substantial decline in VOS numbers; Parties are encouraged to stem this decline and to contribute to the VOSclim (a subset of VOS providing climate quality data). Although VOSclim is over 50% complete in terms of ships recruited, there are problems with data submission which need urgent attention.

The EU notes that responsibility for implementing the global ocean observing system lies, to a great extent, with developed countries, and it also notes the need for appropriate capacity-building activities in this regard. Noting that some 2/3 of the world's oceans are in the Southern Hemisphere, Parties are urged to ensure adequate commitments to the remoter regions of the Southern Hemisphere to ensure the genuinely global ocean observing system required for reliable forecasts of global as well as European climate.

The EU notes that satellite observations of the ocean surface (sea surface temperature, ocean topography, ocean roughness and ocean colour) make crucial contributions to understanding ocean behaviour and climate, but that satellite instruments are dependent upon high quality in situ measurements for calibration. Continuity of key satellite missions is vital, as is the addition of new sensors, e.g. ESA's SMOS for ocean surface salinity.

The EU recognises there are significant benefits of ocean observations to areas other than climate, e.g. for weather prediction at medium to long ranges, to support safe and efficient offshore activities, environmental management, security, and sustainable use of marine resources. This is the rationale behind the Global Ocean Observing System (GOOS) of which the climate component provides the ocean component of the GCOS. The EU notes that EuroGOOS, an association of 31 European agencies from 17 countries, provides the focus for GOOS activities on the European scale. The EU recognizes that ocean forecasting models can also be used to generate reanalyses of ocean conditions, helping to place available observations into synoptic context and investigate ocean climate signals and have potential for use to further optimize the design of the ocean observation network.

The EU recognises that GOOS and GCOS provide the ocean and climate aspects of the Global Earth Observation System of Systems (GEOSS) and that many countries and international organizations have formally endorsed at ministerial level the GEOSS 10-year Implementation Plan (which, for climate, is essentially the GCOS Implementation Plan as endorsed by COP-10). The European initiative Global Monitoring for Environment and Security (GMES) will form an important European contribution to GEOSS.

In conclusion, the EU notes that while there has been good progress in building the in situ observing system, which is now just over 50% complete, there is a considerable way to go to achieve the target of 100% completion of the system by 2010 which is the priority for the coming 5 years. The EU recognises

the need for long-term operation of these networks and encourages Parties to provide increased and sustained funding for operational implementation of the initial ocean observing system.

#### **b) Report on Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks**

The EU welcomes the GCOS Report 'Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks' (GCOS-96; WMO/TD No. 1255) which identifies the major problems concerning the availability and accessibility of data, highlights data exchange problems and suggests remedy options for improvement.

The EU stresses the importance of free and unrestricted data exchange for climate purposes. Only when this has been achieved can measured data be fully used to help improve our understanding of global change. The key role of the various designated international data centres in compiling these data into global datasets and products is acknowledged, as is the role of the real-time data monitoring centres in ensuring that data quality standards are maintained.

The EU notes that a basic infrastructure exists for exchange of data in the atmospheric (meteorological and atmospheric composition) and cryospheric domains, but realises that gaps remain and that improvements are still necessary. In particular, assistance is required by many developing countries to improve the infrastructure for sustained observations and exchange of data. The EU notes with great concern that major problems still exist in the hydrological domain due to the fragmentation of data holdings and lack of an institutionalized process for data exchange, and urges Parties to provide the hydrological observations required by GCOS.

The EU notes that existing problems are due to a variety of reasons, such as insufficient awareness of the importance of data for understanding climate, technical issues and limitations, resource limitations, lack of standardisation (e.g. data and metadata formats) and the reluctance of many institutions to provide required data to the designated international data centres. In some cases the potential commercial value of data, or institutional limitations, hamper the exchange.

The EU urges Parties to fully subscribe to the importance of free and unrestricted data exchange for climate purposes and encourages international bodies to further request access to climate data and recommends that Parties carry out actions for further improvement in data exchange as identified in this report. Members of the European Union are providing funds and/ or equipment to enable and/or ensure sustained observations in developing countries and efforts have been undertaken to enhance these contributions, inter alia in the framework of the GCOS Regional Workshops.

The EU requests the GCOS Secretariat to continue to monitor the development of the GCOS and progress in data exchange and report back on progress in two years' time.

PAPER NO. 5: UNITED STATES OF AMERICA

**Submission of the United States  
Reports from the Secretariat of the Global Climate Observing System  
FCCC/SBSTA/2005/Misc.5 and GCOS-96  
15 September 2005**

The Twenty-second Session of the Subsidiary Body for Scientific and Technical Advice in May 2005 (SBSTA-22) invited Parties to submit their views on the following two reports submitted by the Secretariat of the Global Climate Observing System (GCOS):

- 1) "Report on Progress with the Initial Ocean Climate Observing System," prepared by the Secretariat of the Global Ocean Observing System of the Intergovernmental Oceanographic Commission in cooperation with GCOS; and
- 2) "Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks," provided by GCOS in consultation with the World Meteorological Organization.

The United States is pleased to provide the Secretariat with views on these two reports. We look forward to discussing these reports in the context of SBSTA's consideration of the GCOS Implementation Plan at its 23<sup>rd</sup> Session.

Both documents are excellent summary reports, well written, and useful in moving the discussion forward. The United States thanks the GCOS and GOOS Secretariats, as well as the IOC and WMO, for their extensive work in developing the reports. We also thank the managers of data archive and monitoring centers for their contributions to the survey, which provided the basis of the analysis of data exchange problems. The U.S. National Climatic Data Center is the archive center for the GCOS Surface Network (GSN) and GCOS Upper-Air Network in addition to being a WMO lead center for GSN and GUAN data and the World Data Center for Meteorology under the International Council of Science. Our National Climatic Data Center was pleased to participate in the survey and discuss problems related the exchange of and access to climate data.

Both reports provide comprehensive descriptions of the problems and challenges encountered within their domains. To succeed in our common endeavor to understand, monitor, and predict potential changes to our climate we, as Parties and implementers of climate observations, should do our utmost in our respective capacities to meet these challenges and resolve these problems. Many of these problems are not new and have been hampering advances for a decade or more. What is missing is a common resolve to overcome these problems and take the actions necessary to correct them. Accurate, timely, and sustained observations, as well as the full and open exchange of the data and related information produced from these observations, are the foundations of climate science. Observations improve our understanding of the climate system and thus provide a sound basis for informed decision-making.

While the challenges described in the report on analysis of data exchange problems focus primarily on the atmospheric, hydrological, and cryospheric networks, similar problems exist in the ocean and terrestrial domains. Sharing of data with the global community through the designated data centers directly enhances our ability to improve global and regional data products and predictions. It is particularly important to share research data, as well as operational data, in a timely and easily accessible manner.

In this context there are several other challenges addressed in the Ocean Climate Observing System report worth emphasizing:

- The initial ocean climate observing system is half complete; much work remains to be done. This work will require long-term commitment and considerable additional investments by the Parties.
- Successful implementation will depend on sustained funding. Countries are presently funding most, if not all, of their contributions from research budgets. The United States has secured base

funding for its contribution of half of the global Argo array of 3,000 profiling floats, and we encourage other countries also to provide funding that will be sustained over time.

- Timely access to data and information remains one of the most critical challenges and provides important benefits to all Parties. We urge Parties to participate fully under the agreed data exchange practices.
- The collection and archival of marine metadata for both ships and buoys should be a priority for all marine variables, including sea surface temperature. This information is presently recorded in only two-thirds of the reports from voluntary observing ships.
- To facilitate coordination among government agencies and scientists contributing to the ocean observing system, we encourage Parties to strengthen or establish national infrastructures for sustained ocean observations, including the designation of national agents for implementation. Such a role would be similar to the functions performed by national meteorological services for the meteorological community.
- The Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) has adopted the ocean section of the GCOS Implementation Plan as a guiding document. We urge Parties to coordinate the implementation of their ocean observing system contributions through JCOMM.

PAPER NO. 6: UZBEKISTAN

**Opinion of Republic of Uzbekistan on final report  
on the analysis of the issues in the sphere of data  
exchange in the framework of global atmospheric  
and hydrological networks presented by GCOS  
Secretariat in consultation with WMO**

The Republic of Uzbekistan supports the efforts of SBSTA Secretariat on the evaluation of cooperation with the international organizations, in particular, on final report on the analysis of the issues in the sphere of data exchange in the framework of global atmospheric and hydrological networks presented by GCOS Secretariat in consultation with WMO.

The analysis of the final report shows that reduction of meteorological and hydrological observational networks is typical for many countries that is explained by the economical reasons, and it is reflected on the provision of the network with modern devices, equipment, spare parts, materials, means of data dissemination and archiving.

For the Republic of Uzbekistan as for the country with the economy in transition, the problem of safety of hydrometeorological network and its rigging with the modern equipment, means of data dissemination and archiving is very actual.

Especially actual task for our country is the provision of the demands in hydrological data from the neighbouring territories. It is known that Uzbekistan is situated in the lower reaches of the rivers Amudarya and Syrdarya which zone of flow formation is located on the territory of Tadjikistan and Kyrgyzstan. Hydrological data from the zone of flow formation are required for the evaluation forecasts of year watering, planning of water economical steps, rational water use. The lack of such data requires the great efforts on restoration of historical lines and creates difficulties in archiving.

The problem of safety of historical data is very important for our country. Particular attention is given to the completion of gaps in historical data, to the control of climatic data quality and removal of their unlikeness. In Uzbekistan hydrometeorological observations have been conducting from the second half of XIX century and they are based on the principles of the best practice and climate monitoring. However, due to the number of objective reasons (urbanization, growth of irrigated lands, drying of Aral Sea and others) the breach of homogeneous peculiarities of the ranges of climate observations and river flow observations is occurred.

The issue of hydrometeorological data archiving is very acute. Modern hydrometeorological fund of Republic of Uzbekistan is in the considerable degree still given in the form of tables, books, journals. In the connection with this, creation of climatic databases and databanks is needed for rendering support to a wide range of users and to give access to the reliable climatic data. The main databanks are "Meteorology", "Hydrology", "Aerology", "Glaciers", "Snow cover in the mountains and avalanches", "Pollution of atmosphere", "Hydrochemistry". The available databases and databanks have weak methodical and program link with each other that reduces the efficiency of their usage. It is required to bring to conformity growing demands in climatic data supplied with the technical equipment for the activities on preparation, safety and dissemination of information on the state of the climatic system.

Telecommunication system of Uzhydromet is designed to provide World Centres of the Global System of Data Processing and Forecasting, prognostic services of Uzhydromet and NHMS of Central Asia included into the zone of responsibility of the Regional Telecommunication Hub – Tashkent with the data of hydrometeorological observations transmitted from the network subdivisions located on the territory of Central Asia and with the prognostic production transmitted from the Global System of Data Processing and Forecasting. Telecommunication system of Uzhydromet is the complex system of operated network for dissemination of data, chains of the direct data dissemination which connects meteorological centres with each other on the base of coordinated procedures and types of servicing. It provides telecommunication servicing for compilation of observation data, in particular, GCOS data and their exchange as well as for dissemination of the processed information transmitted from the Global System of Data Processing and Forecasting.

Provision of additional financial resources for restoration and development of hydrometeorological network and the centres of data compilation for the provision of modern and necessary feedback with the deliverers of data will help both to increase the necessary volume of data and to improve the quality of their control and safety guarantee.

In our opinion, reduction of data fragmenting; widening of stations scope, particularly on the zone of flow formation of Central Asian rivers; increase of control and data quality guarantee; creation of modern archiving centres of hydrometeorological data and databases and wide and free access to the climatic data through the web-sites of scientists and interested persons as well as constant training of the specialists on the issues of data compilation, processing, dissemination and archiving are the priority problems on the improvement of data exchange.

## **6. COOPERATION WITH RELEVANT INTERNATIONAL ORGANISATIONS**

### **(a) Report on Progress Made on the Initial Ocean Climate Observing System**

The report outlines progress made in implementing the initial ocean climate observing system, pursuant to decision 11/CP.9 made by the Conference of Parties in December 2003. This decision requested the Global Climate Observing Systems (GCOS) secretariat to coordinate the development of a phased 5-10 year implementation plan for the integrated global observing systems for climate.

The initial ocean observing system seeks to measure the ocean essential climate variables (ECVs), including surface and sub-surface temperatures, sea surface salinity, nutrients, carbon and phytoplankton among others. It is intended to be used in the prediction of weather and marine hazards. A total of 66 countries are participating in the system while Zambia, having no sea coast is not. But as a party to the convention and due to global effect of ocean climate, the country is obliged to submit its views on the report. According to the report, the system was 51% complete by April 2005 as compared to 40% complete in December 2003. But the report notes that completing the system by 2010 as envisioned by the plan will require substantial additional yearly investment by the participating parties.

### **PROPOSED VIEW BY ZAMBIA ON THE REPORT**

Zambia is satisfied by the progress made so far in the implementation of the initial ocean climate observing system as outlined in the report of 12<sup>th</sup> April 2005. The country hopes that the system will be completed by 2010 as envisioned in the plan.

### **(b) The final Report on the Analysis of Data Exchange Issues in Global Atmospheric and Hydrological Networks**

The United Nations Convention on Climate Change (UNFCCC) has repeatedly identified the need for improving the availability and access to systematic global observations of climate variables as an urgent requirement of the convention.

The report under review was requested by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its 18<sup>th</sup> session in June 2003. It deals with the analysis of the issues and problems in data exchange and outlines potential remedies. The report focuses on the availability and accessibility of atmospheric and hydrological data relevant to climate, from the perspective of the monitoring and archiving centres.

The major problems and challenges identified in the report include:

- Reluctance of some countries to exchange data, due to a number of reasons.
- Need to improve the awareness of climate requirements for global data exchange.
- Technical problems in preparation, transmission and receipt of climate messages.
- Resource limitations in developing countries and, to some extent, in archive and monitoring centres.
- Data and Meta data (descriptive details about the data) standardisation and data stewardship.

Remedial measures proposed in the report include increasing awareness, on the political and scientific level within countries and funding agencies, of the importance and benefits of the free and unrestricted data exchange for climate purposes.

It also notes that continued encouragement will be required from international bodies (World Meteorological Organisation [WMO], United Nations Framework Convention on Climate Change [UNFCCC]) for efforts by the international data centres to obtain permission from countries for the release of data and the rescue of historical climate data. It also emphasises that a clearer expression of requirements by the scientific community would be useful in discussing with countries the need to exchange data.

### **Proposed View and Information by Zambia on the Report**

Zambia agrees with the problems and challenges outlined in the report. The country particularly identifies with the challenges relating to technical problems in preparation, transmission and receipt of climatic data as well as resource limitations. Until recently, Zambia's Meteorological department had no Automatic Message Switching System (ASMS), among other vital equipments, making it difficult to effectively exchange climatic data with other countries.

On the remedial measures outlined in the report, the country would like to place emphasis on creating awareness at the political level about the importance of investing in equipment for climatic data capture and exchange. While unrestricted exchange of real-time data should not be a problem, exchanging historical climatic data needs to be harmonised with the World Meteorological Organisation (WMO) resolutions relating to data stewardship and exchange of climatic data.

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