

so that all countries have the capacity to benefit from and contribute to the implementation of WMO Programmes, by continuing a comprehensive programme of technical publications, and by assisting in the incorporation of advances in marine science into marine observing systems and the provision of services.

These responsibilities exclude those aspects specifically handled by other WMO constituent bodies.

COMMISSION FOR CLIMATOLOGY (CCI)

The Commission shall be responsible for matters relating to climate and its relationship with human well-being, human activities and sustainable development, including:

- (a) The coordination and consolidation of general data requirements, including those for observations, data collection, supply and exchange, for all components of the WCP and its associated activities such as GCOS (in cooperation with other relevant bodies) as the Commission having the lead role in the World Climate Data and Monitoring Programme (WCDMP);
- (b) The identification and promotion of best practices in the collection, quality control, archiving, access and further management of climate data, proxy data, remote sensing data and metadata, taking into consideration that some of these aspects are also the responsibility of other commissions;
- (c) The development and promotion of objective statistical methods for describing and interpreting climate data, including assessment of representativeness and reliability, spatial and temporal interpolation, extreme value analysis, homogeneity analysis and trend detection in climatological series, taking into consideration that some of these aspects are also the responsibility of other commissions;
- (d) The analysis and monitoring of climate, its spatial and temporal variations and the issue of climate data and products in support of research, applications and impact assessments;

- (e) The evaluation and review of operational climate predictions;
- (f) The preparation of authoritative statements on climate;
- (g) As lead Commission in the World Climate Applications and Services Programme (WCASP), the development and improvement of services and applications methodologies in cooperation with other relevant commissions, particularly for the use of climate information in the fields of:
 - (i) Energy;
 - (ii) Land use, urban planning and building design;
 - (iii) Transportation (especially on land) and communication;
 - (iv) Tourism and recreation;
 - (v) Drought management and combat of desertification;
 - (vi) Environmental management, including air quality;
 - (vii) Retail trade, commerce and law;
- (h) Identification of priority areas for investigation of human effects on local and regional climate and for promotion of existing knowledge and methods for alleviating problems;
 - (i) The promotion of capacity building and technology transfer in respect to climatological practices and activities in support of WMO Programmes;
 - (j) The development of methods, in particular for the purposes of the WCASP, for effective presentation to users of climatological information, and for the promotion of climatological services and their value, including cost-benefit information;
 - (k) The development of methods for application of climate predictions to socio-economic activities;
 - (l) Advising the appropriate WMO bodies of issues and scope of commercialization of climatological data and services.

NOTE: The terms of reference of CHy and CAgM remain unchanged.

RESOLUTION 40 (Cg-XII)

WMO POLICY AND PRACTICE FOR THE EXCHANGE OF METEOROLOGICAL AND RELATED DATA AND PRODUCTS INCLUDING GUIDELINES ON RELATIONSHIPS IN COMMERCIAL METEOROLOGICAL ACTIVITIES

THE CONGRESS,

NOTING:

- (1) Resolution 23 (EC-XLII) – Guidelines on international aspects of provision of basic and special meteorological services,
- (2) Resolution 20 (EC-XLVI) – WMO policy on the exchange of meteorological and related data and products,
- (3) Resolution 21 (EC-XLVI) – Proposed new practice for the exchange of meteorological and related data and products,
- (4) Resolution 22 (EC-XLVI) – WMO guidelines on commercial activities,
- (5) The report to Twelfth Congress of the chairman of the Executive Council Working Group on the Commercialization of Meteorological and Hydrological Services,

established at the request of Eleventh Congress by the Executive Council in Resolution 2 (EC-XLIII) – Working Group on the Commercialization of Meteorological and Hydrological Services,

RECALLING:

- (1) The general policies of the Organization, as set down in the Third WMO Long-term Plan (1992–2001) adopted by Eleventh Congress, which include, *inter alia*, that Members should reaffirm their commitment to the free and unrestricted international exchange of basic meteorological data and products, as defined in WMO Programmes (*Third WMO Long-term Plan*, Part I, Chapter 4, paragraph 127),
- (2) The concern expressed by Eleventh Congress that commercial meteorological activities had the potential to undermine the free exchange of meteorological data and products between national Meteorological Services,

CONSIDERING:

- (1) The continuing fundamental importance, for the provision of meteorological services in all countries, of the exchange of meteorological data and products between WMO Members' national Meteorological or Hydrometeorological Services (NMSs), WMCs, and RSMCs of the WWW Programme,
- (2) Other programmes of world importance such as GCOS, GOOS, WCRP, and IGOSS, which are sponsored and implemented in cooperation with other international organizations,
- (3) The basic role of WMO Members' NMSs in furthering applications of meteorology to all human activities,
- (4) The call by the world leaders at UNCED (Brazil, 1992) for increasing global commitment to exchange scientific data and analysis and for promoting access to strengthened systematic observations,
- (5) The provision in the UN/FCCC committing all Parties to the Convention to promote and cooperate in the full, open, and prompt exchange of information related to the climate system and climate change,

RECOGNIZING:

- (1) The increasing requirement for the global exchange of all types of environmental data in addition to the established ongoing exchange of meteorological data and products under the auspices of the WWW,
- (2) The basic responsibility of Members and their NMSs to provide universal services in support of safety, security and economic benefits for the peoples of their countries,
- (3) The dependence of Members and their NMSs on the stable, cooperative international exchange of meteorological and related data and products for discharging their responsibilities,
- (4) The continuing requirement for Governments to provide for the meteorological infrastructure of their countries,
- (5) The continuing need for, and benefits from, strengthening the capabilities of NMSs, in particular in developing countries, to improve the provision of services,
- (6) The dependence of the research and education communities on access to meteorological and related data and products,

- (7) The right of Governments to choose the manner by, and the extent to, which they make data and products available domestically or for international exchange,

RECOGNIZING FURTHER:

- (1) The existence of a trend towards the commercialization of many meteorological and hydrological activities,
- (2) The requirement by some Members that their NMSs initiate or increase their commercial activities,
- (3) The risk arising from commercialization to the established system of free and unrestricted exchange of data and products, which forms the basis for the WWW, and to global cooperation in meteorology,
- (4) Both positive and negative impacts on the capacities, expertise and development of NMSs, and particularly those of developing countries, from commercial operations within their territories by the commercial sector including the commercial activities of other NMSs,

REMINDS Members of their obligations under Article 2 of the WMO Convention to facilitate worldwide cooperation in the establishment of observing networks and to promote the exchange of meteorological and related information; and of the need to ensure stable ongoing commitment of resources to meet this obligation in the common interest of all nations;

ADOPTS the following policy on the international exchange of meteorological and related data and products:

As a fundamental principle of the World Meteorological Organization (WMO), and in consonance with the expanding requirements for its scientific and technical expertise, WMO commits itself to broadening and enhancing the free and unrestricted¹ international exchange of meteorological and related data and products;

ADOPTS the following practice on the international exchange of meteorological and related data and products²:

- (1) Members shall provide on a free and unrestricted basis essential data and products which are necessary for the provision of services in support of the protection of life and property and the well-being of all nations, particularly those basic data and products, as, at a minimum, described in Annex 1 to this resolution, required to describe and forecast accurately weather and climate, and support WMO Programmes;
- (2) Members should also provide the additional data and products which are required to sustain WMO Programmes at the global, regional, and national levels and, further, as agreed, to assist other Members in the provision of meteorological services in their countries. While increasing the volume of data and products available to all Members by providing these additional data and products, it is understood that WMO Members may be justified in placing conditions on

¹ "Free and unrestricted" means non-discriminatory and without charge [Resolution 23 (EC-XLII) – Guidelines on international aspects of provision of basic and special meteorological services]. "Without charge", in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.

² See Annex 4 to this resolution for definitions.

their re-export for commercial purposes outside of the receiving country or group of countries forming a single economic group, for reasons such as national laws or costs of production;

- (3) Members should provide to the research and education communities, for their non-commercial activities, free and unrestricted access to all data and products exchanged under the auspices of WMO with the understanding that their commercial activities are subject to the same conditions identified in **ADOPTS** (2) above;

STRESSES that all meteorological and related data and products required to fulfil Members' obligations under WMO Programmes will be encompassed by the combination of essential and additional data and products exchanged by Members;

URGES Members to:

- (1) Strengthen their commitment to the free and unrestricted exchange of meteorological and related data and products;
- (2) Increase the volume of data and products exchanged to meet the needs of WMO Programmes;
- (3) Assist other Members, to the extent possible, and as agreed, by providing additional data and products in support of time-sensitive operations regarding severe weather warnings;
- (4) Strengthen their commitments to the WMO and ICSU WDCs in their collection and supply of meteorological and related data and products on a free and unrestricted basis;
- (5) Implement the practice on the international exchange of meteorological and related data and products, as described in **ADOPTS** (1) to (3) above;
- (6) Make known to all Members, through the WMO Secretariat, those meteorological and related data and products which have conditions related to their re-export for commercial purposes outside of the receiving country or group of countries forming a single economic group;
- (7) Make their best efforts to ensure that the conditions which have been applied by the originator of

additional data and products are made known to initial and subsequent recipients;

FURTHER URGES Members to comply with:

- (1) The Guidelines for Relations among National Meteorological or Hydrometeorological Services Regarding Commercial Activities as given in Annex 2 to this resolution;
- (2) The Guidelines for Relations between National Meteorological or Hydrometeorological Services and the Commercial Sector as given in Annex 3 to this resolution;

INVITES Members to provide explanation of the WMO policy, practice, and guidelines to the commercial sector and other appropriate agencies and organizations;

REQUESTS the Executive Council to:

- (1) Invite the president of CBS, in collaboration with the other technical commissions as appropriate, to provide advice and assistance on the technical aspects of implementation of the practice;
- (2) Invite the president of CHy to continue his work on the issue of commercialization and the international exchange of hydrological data and products;
- (3) Keep the implementation of this resolution under review and report to Thirteenth Congress;

REQUESTS the Secretary-General to:

- (1) Keep Members informed on the impacts of commercialization on WMO Programmes and to facilitate the exchange of relevant information on commercialization among NMSs;
- (2) Report on a timely basis to all Members on those meteorological and related data and products on which Members have placed conditions related to their re-export for commercial purposes;
- (3) Maintain effective coordination with IOC and other involved international organizations in respect of joint programmes during WMO's implementation of the practice;

DECIDES to review the implementation of this resolution at Thirteenth Congress.

ANNEX 1 TO RESOLUTION 40 (Cg-XII)

DATA AND PRODUCTS TO BE EXCHANGED WITHOUT CHARGE AND WITH NO CONDITIONS ON USE

Purpose

The purpose of this listing of meteorological and related data and products is to identify a minimum set of data and products which are essential to support WMO Programmes and which Members shall exchange without charge and with no conditions on use. The meteorological and related data and products which are essential to support WMO Programmes include, in general, the data from the RBSNs and as many data as possible that will assist in defining the state of the atmosphere at least on a scale of the order of 200 km in the horizontal and six to 12 hours in time.

Contents

- (1) Six-hourly surface synoptic data from RBSNs, e.g. data in SYNOP, BUFR or other general purpose WMO Code;

- (2) All available *in situ* observations from the marine environment, e.g. data in SHIP, BUOY, BATHY, TESAC codes, etc.;
- (3) All available aircraft reports, e.g. data in AMDAR, AIREP codes, etc.;
- (4) All available data from upper air sounding networks, e.g. data in TEMP, PILOT, TEMP SHIP, PILOT SHIP codes etc.;
- (5) All reports from the network of stations recommended by the regional associations as necessary to provide a good representation of climate, e.g. data in CLIMAT/CLIMAT TEMP and CLIMAT SHIP/CLIMAT TEMP SHIP codes, etc.;
- (6) Products distributed by WMCs and RSMCs to meet their WMO obligations;

<p>(7) Severe weather warnings and advisories for the protection of life and property targeted upon end-users;</p> <p>(8) Those data and products from operational meteorological satellites that are agreed between WMO and</p>	<p>satellite operators. (These should include data and products necessary for operations regarding severe weather warnings and tropical cyclone warnings).</p>
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ANNEX 2 TO RESOLUTION 40 (Cg-XII)

GUIDELINES FOR RELATIONS AMONG NATIONAL METEOROLOGICAL OR HYDROMETEOROLOGICAL SERVICES (NMSs) REGARDING COMMERCIAL ACTIVITIES

Purpose

The purpose of these guidelines is to maintain and strengthen in the public interest the cooperative and supportive relations among NMSs in the face of differing national approaches to the growth of commercial meteorological activities.

Guidelines

In order to ensure the maintenance of the international exchange of data and products among WMO Members, and to develop the applications of meteorology, while adapting to the new challenge from the growth of commercial meteorological activities:

1. NMSs should provide the first point of receipt within a country for WWW data and products, in order to have complete and timely access to all the information necessary for the production of weather forecasts and warnings and other meteorological/climatological services necessary for the protection of life and property and other public interest responsibilities entrusted to the NMSs and without prejudice to the national laws of their territory of location;
2. NMSs should make their best efforts to ensure that the conditions which have been applied by the originator of additional data and products³ are made known to initial and subsequent recipients;
3. In the case where conditions accompanying the exchange of additional data and products are not honoured, the originating NMS may take appropriate actions including denial of access of these additional data and products to the receiving Member;
4. NMSs may export NWP regional model products employing additional data and products for commercial purposes outside the country of the Member running the model, unless objected to by an affected Member. Every effort should be made to coordinate the provision of such services prior to implementation to avoid possible harm to other Members;
5. NMSs may distribute and export products from global NWP models without regard to conditions which were attached to the original data used in the models;
6. Services or products whose construction would suffer significant degradation by removal of the additional data or products and from which the additional data and/or products can be retrieved easily, or their use can be identified unambiguously, should carry the

³ "Additional data and products" means data and products additional to those with no conditions on their use.

same conditions on their re-export for commercial purposes as those additional data or products;

7. An NMS receiving a request from a local client for service that it cannot fulfil may seek assistance from another NMS with the capacity to provide it. Where appropriate to enhance the free and unrestricted exchange of data and products among WMO Members, the service should as far as possible be made available through the offices of the NMS of the country within which the client is located;
8. Similarly, unless other arrangements have been agreed to, an NMS receiving a request to provide service in another country should refer the request back to the NMS in that country, i.e. to the local NMS. In the event that the local NMS is unable to provide the service for lack of facilities or other legitimate reasons, the external NMS may seek to establish a collaborative arrangement with the local NMS to provide the service;
9. Where the service originated by one NMS is likely to affect other Members (e.g. in the provision of regional broadcasts of meteorological information or the wide distribution of seasonal or climate forecasts), the NMS originating the service should seek, well in advance, and take into account the response of the NMSs of the affected Members, to the extent possible;
10. NMSs should, to the extent possible, refrain from using basic WWW data and products received from other countries in ways which jeopardize the performance of the public interest responsibilities of the originating NMSs within their own countries. If an NMS finds that, in the undertaking of its public interest responsibilities it is affected adversely by a public or private organization in another country, it may warn the NMS in the country from which the organization is deriving the data and products. The latter NMS should consider measures to mitigate these adverse effects and take those actions appropriate under its national laws;
11. NMSs with experience in commercial activities should make their expertise available, on request, to other NMSs, especially NMSs of developing countries, through the WMO Secretariat and bilaterally, and provide relevant documentation, seminars and training programmes to developing countries, on request, on the same financial basis as other WMO education and training courses are provided.

In implementing these guidelines, NMSs should take into account and, as far as possible, respect the different legal,

administrative, and funding frameworks which govern the practices of NMSs in other countries or group of countries forming a single economic group. NMSs should, in particular, note that other NMSs will be bound by their own national laws and regulations regarding any trade

restrictive practices. Furthermore, where a group of countries form a single economic group, the internal laws and regulations appropriate to that group shall, for all internal group activities, take precedence over any conflicting guidelines.

ANNEX 3 TO RESOLUTION 40 (Cg-XII)

GUIDELINES FOR RELATIONS BETWEEN NATIONAL METEOROLOGICAL OR HYDROMETEOROLOGICAL SERVICES (NMSs) AND THE COMMERCIAL SECTOR

Purpose

The purpose of these guidelines is to further improve the relationship between NMSs and the commercial sector. The development of the exchange of meteorological and related information depends greatly upon sound, fair, transparent, and stable relations between these two sectors.

Guidelines

These guidelines apply to the commercial sector engaged in meteorological activities, which includes government organizations engaged in commercial meteorological activities.

In order to enhance the relationship between the two sectors:

1. In the common interest, the commercial sector is urged to respect the international data exchange principles of the WWW and other WMO Programmes;
2. The commercial sector is urged to recognize and acknowledge the essential contribution of NMSs and of WMO to the activities of the commercial sector. NMSs and the commercial sector are urged to recognize the interdependence and mutual benefit possible from cooperative interaction;
3. In the case where the NMS of a country, particularly of a developing country, were to consider itself affected by the commercial sector's commercial use of data originated in its own country, all parties

- involved shall undertake negotiations to achieve appropriate and satisfactory agreements;
4. Unless authorized to do so by the relevant Member, commercial sector providers of meteorological services should not publicly issue warnings and forecasts relevant to the safety of life and property in the country or maritime area where they operate. Warnings and forecasts relevant to the safety of life and property publicly issued by the commercial sector should be consistent with those originated by NMSs or by other official originators in the course of the performance of their public service responsibilities;
 5. In providing services, the commercial sector should be encouraged to employ meteorological terminology consistent with established national and international practice;
 6. Commercial sector providers of meteorological services should respect the sovereignty and rules and regulations of the countries in which they deliver services;
 7. NMSs are encouraged to discuss with their countries' meteorological community and professional societies the issues associated with the international activities of the commercial sector;
 8. NMSs are encouraged to collaborate with their countries' commercial sector and their professional societies to maximize the use of meteorological information within their country.

ANNEX 4 TO RESOLUTION 40 (Cg-XII)

DEFINITIONS OF TERMS IN THE PRACTICE AND GUIDELINES

<i>Term</i>	<i>Definition</i>
Practice	Specifications for the classification of, and the conditions attached to, the use of data and products exchanged among WMO Members.
Re-export	Redistribute, physically or electronically, outside the receiving country or group of countries forming a single economic group, directly or through a third party.
For commercial purposes	For recompense beyond the incremental cost of reproduction and delivery.
Commercial sector	Governmental or non-governmental organizations or individuals operating for commercial purposes.

<p>Meteorological and related data and products</p>	<p>Geophysical (meteorological, oceanographic, etc.) observational data and products developed from these data acquired and/or produced by Members to support WMO Programme requirements.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. Meteorological and related data and products are considered to include climatological data and products. 2. Hydrological data and products, at this stage, are not included in the application of the practice. 3. Aeronautical information generated specifically to serve the needs of aviation and controlled under the Convention on International Civil Aviation (Chicago, 1944) is not included in the application of the practice.
<p>Free and unrestricted</p>	<p>Non-discriminatory and without charge (Resolution 23 (EC-XLII)) – Guidelines on international aspects of provision of basic and special meteorological services. “Without charge”, in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.</p>
<p>Research and education communities</p>	<p>Researchers, teachers and students in academic and research institutions, in other research institutions within governmental and non-governmental organizations, and these institutions themselves, as provided for in national laws and regulations.</p>
