

**1993 WCRP - AGREEMENT BETWEEN THE WORLD METEOROLOGICAL ORGANIZATION, THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS AND THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION ON THE WORLD CLIMATE RESEARCH PROGRAMME**

The World Meteorological Organization, the International Council of Scientific Unions and the Intergovernmental Oceanographic Commission,

**NOTING:**

- (1) Resolution XVI-3 of the sixteenth session of the IOC Assembly on the sponsorship of the World Climate Research Programme,
- (2) Resolution 7 (Cg-XI) of the eleventh World Meteorological Congress on the continuation and sponsorship of the World Climate Research Programme by WMO, ICSU and IOC,
- (3) The decision of the fifty-ninth meeting of the Executive Board of ICSU to include the oceanic aspects in climate research and therefore accept the offer of the IOC to join as a co-sponsor with WMO and ICSU.

**RECOGNIZING:**

- (1) The importance of developing the scientific understanding of the physical processes which control climate, as human activities are reaching a scale which can influence regional and global climate and climate variability.
- (2) The value of developing the scientific basis for predicting climate variations, on all time-scales, in order to assist in the adaptation of social and economic activities to climate change.
- (3) The importance of reducing uncertainties associated with predictions of climate change and the assessment of subsequent regional impacts on sea level and ecosystems, as noted in the scientific assessment produced by the Intergovernmental Panel on Climate Change.

**CONSIDERING:**

- (1) That the World Climate Research Programme, a principal component of the World Climate Programme, provides the organizational framework for international co-operative scientific research to understand the physical climate system and climate change,
- (2) That the WMO/ICSU Agreement on the World Climate Research Programme provides an effective institutional arrangement for the international planning and co-ordination of research on climate,
- (3) The role of the Intergovernmental Oceanographic Commission of UNESCO in promoting global and regional ocean research and systematic observations, in support of the World Climate Research Programme.

**AGREE:**

- (1) That there should be a single World Climate Research Programme, sponsored jointly by the three organizations;
- (2) That the WCRP should have, as its long-range objective, a better understanding of the climate system and the causes of climate variability and change;
- (3) To invite and call upon all other appropriate national and international organizations, and the world community of scientists, to collaborate in this task;
- (4) To establish a Joint WMO/IOC/ICSU Scientific Committee (JSC): to provide scientific guidance in all aspects of the World Climate Research Programme, and a Joint Planning Staff to assist the JSC.
- (5) To ensure that the administrative and financial arrangements provide for a large measure of flexibility to the JSC and to its supporting staff.

**FURTHER AGREE** that the Joint Scientific Committee will be regarded by the three organizations as the main scientific body for formulating the overall scientific concept and science goals of the World

Climate Research Programme, as well as organizing the required international co-ordination of research efforts.

**APPROVE** the details and procedures to be followed in the practical application of this Agreement which are specified in the following annexes to this Agreement:

- Annex A: Definition of the World Climate Research Programme
- Annex B: Financial arrangements
- Annex C: Terms of reference, structure and functions of the Joint Scientific Committee and Joint Planning Staff

**AGREE:**

- (1) That this Agreement shall replace the WMO/ICSU Agreement on the World Climate Research Programme which entered into force on 1 January 1980;
- (2) That this Agreement shall be reviewed every four years by the sponsoring organizations;
- (3) That this Agreement may be terminated by any of the three sponsoring organizations with two years' notice.

**AGREE** that this Agreement shall come into force on the first day of the month of January 1993.

President International Council of Scientific Unions	Chairman Intergovernmental Oceanographic Commission	President World Meteorological Organization
Place: .....	Place: .....	Place: .....
Date: .....	Date: .....	Date: .....

## ANNEX A

### Definition of the World Climate Research Programme

#### Objectives

Social and economic life is vulnerable to periods of climate stress. Conversely, human activity may itself influence local, regional and global climate. These are problems which the scientific community is addressing through the international World Climate Research Programme (WCRP), aiming to determine why, how and where climate changes and variations occur, and thereby attempt prediction of their future occurrence.

The general objectives of a World Climate Research Programme are to determine:

- To what extent climate can be predicted;
- The extent of human influence on climate.

In order to achieve these objectives, it is necessary:

- To improve the knowledge of the climate systems, its temporal variations and the mechanisms which cause such changes, on the basis of observations and theoretical models;
- To assess the evidence for significant trends in global and regional climates;
- To develop and improve physical-mathematical models capable of simulating the behaviour of the climate system and assessing its predictability over all space and time scales;
- To investigate the sensitivity of climate to possible natural and man-made stimuli and to estimate the changes in climate likely to result from specific disturbing influences.

#### Time and space scales

The WCRP is intended to provide a quantitative understanding of climate and to establish the basis for prediction of global and regional changes in the physical climate system on all time-scales. Initially, the Programme is primarily concerned with time-scales from several weeks to several decades, including the ensemble properties of individual weather events. The limitation to several decades is consistent with the availability of sufficiently comprehensive data sets, the practicalities of numerical modelling and the major concern of planners and decision makers. Consideration of longer time-periods is required for paleoclimatic reconstructions as well as assessments of climate change induced by increases in the atmospheric greenhouse effect.

The WCRP is primarily concerned with space-scales varying from regional, about 1000 km, to global. The emphasis on these large scales is consistent with the technical limitations of climate modelling and the scale of recognizable climatic anomalies or "climate signals". It is recognized that small-scale processes can play a significant role in climate. Understanding these processes and refining the parameterization or representation of their effects in the global climate system is also a legitimate research problem for the Programme.

#### Scope of the Programme

Achieving the objectives of the WCRP requires quantitative understanding of the physical climate system, comprised of four major components:

- The **global atmosphere**, which is the most rapidly varying component and also the most energetically active, since it is the heat engine that drives the climate system.
- The world **ocean**, which interacts with the overlying atmosphere on periods of months to years within its upper layers, while the deeper ocean interacts over periods of decades to centuries.

The **cryosphere** which comprises the continental ice-sheets and ice-caps, mountain glaciers and sea-ice.

The **land surface** of the continents, including terrestrial vegetation and sub-surface flow systems, that control evaporation from land and water storage in the ground.

In addition to these primary tasks, the WCRP will be called upon to co-operate, as appropriate, with other cognate programmes in the field of earth system science. In particular, the WCRP will continue to develop its co-operation with the International Geosphere-Biosphere Programme (IGBP) of ICSU, in order to introduce the chemical, biological and ecological dimensions into models and field studies of the environment, thus promoting further advances in the knowledge of the total earth system and the understanding of global change.

### **Research priorities**

The initial research priorities of the WCRP are embodied in three major internationally-coordinated core projects:

The study of **Tropical Ocean and Global Atmosphere (TOGA)** interactions and the dynamics of the coupled atmosphere-ocean system, associated with the most prominent mode of climatic variability from year to year (Southern Oscillation).

The **Global Energy and Water Cycle Experiment (GEWEX)** to study, model and predict the transport and exchanges of radiation, heat and water within the atmosphere and at the earth surface, as well as the impact of climate change on global and regional rainfall and evaporation regimes.

The **World Ocean Circulation Experiment (WOCE)** aiming to provide, within a relatively short time, comprehensive observations of all oceans, as a basis for the development of realistic mathematical models of the global ocean circulation and heat transport, similar in principle to those which exist for the atmosphere.

The further developments planned by WCRP include the **Arctic Climate System Study (ACSYS)**, aiming to understand and model the oceanic, atmospheric and hydrological processes that control the mass balance of the Greenland ice-sheet, the circulation of the Arctic ocean, the formation and export of sea-ice and the impact on the deep oceanic circulation. Also essential will be the further development, validation and refinement of **Global Climate Models** of the coupled atmosphere-ocean-ice system, and their application to the assessment of the intrinsic variability of climate and the prediction of climate change.

### **Functions of the Programme**

Recognizing that diagnostic, theoretical and experimental research activities relevant to climate are carried out by scientific research establishments within nations, the broad aim of the WCRP is to co-ordinate and enhance these national efforts, in order to constitute a comprehensive international research programme implemented through concerted actions of participation institutions. The principal functions of the WCRP are then:

To initiate specific regional or global experiments for the study of particular phenomena or processes;

To identify research priorities for recommendation to national scientific institutes and funding agencies;

To propose and facilitate the implementation of relevant international research activities as required;

To arrange for the rapid and effective dissemination of information on current results and new developments in climate research

## **ANNEX B Financial Arrangements**

1. A special account, to be known as the Joint Climate Research Fund (JCRF), will be established by the Secretary-General of WMO, in accordance with Articles 9.7 and 9.8 of the WMO Financial Regulations. Contributions to the Fund will normally be made in equal amounts by WMO, IOC and ICSU. Each organization may unilaterally subscribe an additional amount to the Fund.
2. The administration of the Fund shall be the responsibility of the Secretary-General of WMO, according to the procedures described below.
3. Unless otherwise specified below, the WMO Financial Regulations shall apply, including the arrangements for external audit.
4. Biennial contributions assessed on the parties shall be paid in equal instalments to the JCRF.
5. Budget estimates for activities of the JSC and its supporting staff in the following biennium shall be prepared by the Joint Scientific Committee, and submitted for approval to the executive bodies of WMO, IOC and ICSU by their respective Executive Heads. Should there be any divergence between the level of biennial appropriations approved by the respective executive bodies, then the lowest approved level shall prevail. However, if one of these bodies is prepared to fund at a greater level without matching funds from the other organizations, the total level of appropriations may exceed that jointly agreed upon.
6. Disbursements from the Fund shall be made only upon the financial authority of the Secretary-General of WMO, in conformity with the recommendations of the JSC, with the provisions of this Agreement and with any relevant decision which may be taken by the executive bodies of the sponsoring organizations.
7. The Fund shall be maintained on a continuous basis and amounts standing to the credit of the Fund at the end of any biennium shall remain in the Fund, for re-appropriation to the corresponding parts of the JCRF budget. The WMO will produce a statement of the account of revenue and expenditure of the Joint Climate Research Fund for each biennial financial period and will submit this statement to ICSU and IOC no later than the first day of April in the following year.

### **Supplementary estimates**

8. Supplementary estimates, prepared in the same form as that of the applicable portions of the estimates for the biennium, may be submitted by the Secretary-General of WMO. Subject to the concurrence of the Secretary of IOC and the Secretary-General of ICSU, these estimates shall be submitted to the respective executive bodies of WMO, IOC and ICSU for approval.
9. Additional contributions or grants to the JCRF from sources other than WMO, IOC or ICSU may be accepted by the Secretary-General of WMO provided that the purposes of such contributions or grants are to support activities consistent with the aims and interests of the sponsoring organizations. The specific activities funded from such additional grants will be considered as increases of the total level of expenditure approved for the JCRF.

### **Liquidation of the assets of the Joint Climate Research Fund**

10. Should either the activities of the Joint Scientific Committee or the commitment of one of the parties concerned, i.e. WMO, IOC, or ICSU, be brought to an end, then the remaining balance of the JCRF, after the settlement of all financial commitments by the Secretary-General of WMO, will be

shared between WMO, IOC and ICSU or their liquidating authorities, in proportion to their respective contributions to the Fund.

#### **Administration of the JCRF**

11. The Secretary-General of WMO shall be responsible for the provision of services to the Joint Scientific Committee and its supporting staff within the cash resources available in the JCRF, and in accordance with the procedures approved by the executive bodies of WMO, IOC and ICSU. The Secretary-General of WMO will consult the Executive Heads of IOC and ICSU on any important questions that may arise.

#### **Travel arrangements**

12. Travel and subsistence expenses authorized for payment from the Fund shall be in conformity with WMO rules and regulations. All travel costs charged to the Fund shall be in accord with the programme established by the JSC. Travel authorizations shall be issued by the Secretary-General of WMO.

#### **Logistic support**

13. Indirect support costs and administrative services provided within the WMO Secretariat will normally be provided by WMO, from the resources approved for this purpose in the regular WMO budget.

#### **Other provisions**

14. These Financial Arrangements may be modified at any time by mutual agreement between WMO, IOC and ICSU, provided that no modification would result in conflict with applicable WMO Financial Regulations.
15. In case of doubt as to the interpretation or application of any of the present provisions, the Secretary-General of WMO is authorized to rule thereon, subject to prior consultation with the Secretary of IOC and the Secretary-General of ICSU.

## **ANNEX C**

### **Terms of reference, structure and functions of the Joint Scientific Committee and the Joint Planning Staff**

#### **1. Terms of reference**

- 1.1 The function of the Joint Scientific Committee (JSC) is to provide scientific guidance on all aspects of the Programme, in harmony with the overall aims and interests of the sponsoring organizations.
- 1.2 The specific tasks of the JSC are:
  - (a) To formulate the concept and scope of the WCRP, define the inter-disciplinary scientific strategy and determine the specific objectives and priorities for the Programme;
  - (b) To review and assess the development of all elements of the WCRP, formulate recommendations to guide further actions and report periodically on the progress of the Programme to the sponsoring organizations;

- (c) To facilitate the exchange of information among the scientists participating in the Programme and the earth system science community in general, and relevant scientific institutions and agencies, at the national and international levels.

1.3 The JSC will be assisted in these tasks by a Joint Planning Staff, comprised of personnel seconded by sponsoring or other organizations, or supported directly by the Joint Climate Research Fund.

## **2. Membership**

2.1 The JSC shall consist of eighteen scientists selected for their scientific knowledge, capability and breadth of vision. The members of the JSC will be selected by mutual agreement between WMO, IOC and ICSU and appointed jointly by the three organizations. In the case mutual agreement cannot be reached, the Committee shall continue for one year with the existing membership and the matter will be reviewed again by the sponsoring organizations on the following year.

2.2 Each member will be nominated for an initial term of appointment of four years, renewable by successive two-year increments. The membership of the JSC shall be reviewed by the three sponsoring organizations every second year (on even-numbered years), bearing in mind the need to ensure reasonable continuity in the Committee's membership.

2.3 The membership of the JSC shall aim to include a balanced representation of relevant disciplines in atmospheric, oceanic, hydrological and polar sciences. To this end, the sponsoring organizations will each be called upon to submit a list of candidates for their joint biennial review of the membership.

2.4 The nomination of new members or renewal of the term of appointment of members will be notified by the Secretary-General of WMO, on behalf of the three sponsoring organizations, before the end of the year of the review and active membership shall begin on 1 January of the following year.

## **3. Chairman and Officers**

3.1 The Officers of the JSC shall consist of a Chairman, a Vice-chairman and three members of the JSC elected by the full Committee for two-year terms.

3.2 The Chairman may call for a meeting of Officers between regular meetings of the full Committee when warranted by urgent matters.

3.3 The Executive Heads of WMO, IOC and ICSU shall be informed of the decision to convene a meeting of the Officers and may send observers to the meeting, without expense to the Joint Climate Research Fund.

3.4 The Director of the WCRP (as defined in paragraph 6) shall keep the members of the JSC, as well as the Executive Heads of ICSU, IOC and WMO, informed of decisions and recommendations made by the Officers.

3.5 The duties of the Chairman of the JSC shall be:

- (a) To preside over the sessions of the JSC and ensure that the Committee's activities, decisions and recommendations are in harmony with the overall aims and interests of the sponsoring organizations, as expressed in the present Agreement;
- (b) To act on behalf of the Committee between meetings;
- (c) To guide the scientific and technical activities of the Joint Planning Staff for WCRP, in conformity with the recommendations of the Committee;
- (d) To carry out such specific duties as may be requested by any of the sponsoring organizations, within the scope and general objectives of the WCRP, as defined by the present Agreement;

- (e) To conduct, either directly or through the Joint Planning Staff and appropriate sponsoring organization, correspondence on all matters related to the planning, scientific steering and implementation of the WCRP, and to maintain files of his official correspondence as Chairman of the JSC, with copies to the JPS;
- (f) To arrange for the views of the JSC to be presented to the sponsoring organizations;
- (g) To prepare annually a report of WCRP activities, including the considerations and recommendations of the JSC, and to present this report to the sponsoring organizations.

#### **4. Sessions**

4.1 The JSC shall meet at least annually, the venue and dates of the sessions to be decided by the

Chairman of the JSC. Sessions shall normally be arranged so as to avoid scheduling conflicts with meetings of executive bodies of the sponsoring organizations.

4.2 The Director of the WCRP, on behalf of the Chairman of the JSC and after consultation with the Secretary-General of WMO on administrative matters, shall notify the sponsoring organizations, the members and other invited participants for each session of the JSC, and shall make practical arrangements for the sessions, as appropriate.

4.3 The reports of each JSC session shall be furnished to the Executive Heads of ICSU, IOC and WMO with supporting documents considered by the Committee.

4.4 The Secretary-General of WMO shall provide such interpretation facilities as may be required, within budgetary provisions. Documents will normally be distributed in the original language in which they were submitted.

4.5 The sponsoring organizations may each nominate one or two representatives to attend the sessions of the JSC in the capacity as observers. The attendance of these representatives will not be charged to the Joint Climate Research Fund.

4.6 Observers from national or international scientific institutions or agencies, or individual experts may be invited to attend sessions upon decision of the Chairman of the JSC. The attendance of observers will not be charged to the Fund.

#### **5. Working groups and consultants**

5.1 The JSC shall be authorized to establish and convene working groups, panels of scientific and/or technical experts, special study groups, etc., within its field of responsibility and within the approved budget, taking account of relevant expert groups established by the sponsoring organizations and their constituent bodies.

5.2 The membership of JSC working groups and panels, terms of reference and special requests addressed to such groups will be notified by the Director of the WCRP, acting on behalf of the Chairman of the JSC.

5.3 Recommendations made by a working group, expert panel, or special study group established by the JSC, shall be addressed to the Chairman of the JSC.

#### **6. The Joint Planning Staff**

6.1 The general functions of the Joint Planning Staff (JPS) for the WCRP shall be to assist the JSC in formulating the concept and organizing the implementation of the WCRP, and any other organizational or technical task, as the JSC may decide. In particular, the JPS, under the responsibility of the Director of the WCRP, shall take charge for:

- (a) Assisting the JSC in preparing plans and other guidance materials for the development and implementation of the WCRP;
- (b) Providing secretarial support to the Joint Scientific Committee;



- (c) Assisting in the preparation of reports and supplying information material concerning the WCRP, as directed by the Joint Scientific Committee;
- (d) Following up the implementation of all components of the WCRP, and keeping the Joint Scientific Committee informed of the progress of the Programme and, generally, serving as the documentation and information centre for the WCRP;
- (e) Organizing the work of, making appropriate arrangements for, and providing secretarial support to working groups, study groups and panels of experts established by the JSC, following the guidelines set by the Committee;
- (f) Taking actions and making arrangements, as appropriate, for the implementation of WCRP projects and the promotion of WCRP objectives, following the guidelines set by the JSC and in conformity with the provisions of Annex B on Financial Arrangements.

6.2 The JPS shall be composed of the Director of the WCRP and supporting scientific, technical and clerical staff, as required. The personnel of JPS shall be staff members of the WMO, or staff seconded by other sponsoring organizations. Except for such seconded staff, the cost of the JPS shall be met from the Joint Climate Research Fund.

6.3 The Director of the WCRP will be selected by consensus agreement of the three sponsoring organizations, ICSU, IOC and WMO, being cognizant of the recommendation made by the Officers of the JSC on the basis of their assessment of the scientific qualifications and professional expertise of candidates. The Director of WCRP will normally have the status of a staff member of WMO and will be appointed by the Secretary-General of WMO.

6.4 The appointment of other staff members of the JPS on posts financed by the Joint Climate Research Fund will be made by the Secretary-General of WMO, following the normal procedure, and taking account of the assessment of the scientific (if applicable) and professional qualifications of the candidates, carried out by the Director of WCRP, acting on behalf of the JSC.

6.5 The Director of the WCRP will be responsible, for the scientific and technical tasks discharged by the JPS, to the Chairman of the JSC acting on behalf of the three sponsoring organizations and, for financial and administrative matters, to the Secretary-General of WMO, in accordance with the provisions in Annex B.

6.6 The duties of the Director of the WCRP shall be:

- (a) To direct the work of the JPS;
- (b) To guide and support the activities of the working groups, study groups and panels of experts set up by the JSC;
- (c) To maintain liaison with the Chairman and members of the JSC;
- (d) To serve as the channel of communication between the JSC and the sponsoring organizations or other agencies, institutions and scientific teams relevant to the Programme;
- (e) To collaborate, as required, with the Executive Heads of the sponsoring organizations.

6.7 The Office of the JPS shall be located in the WMO Secretariat. Members of the JPS may be authorized to discharge their duties, either for limited periods of time or permanently, in other organizations or research institutes participating in the World Climate Research Programme.