

## 2000 ANNUAL REPORT

### SCIENTIFIC COMMITTEE FOR SOLAR-TERRESTRIAL PHYSICS (SCOSTEP)

Joe H. Allen, Scientific Secretary

#### INTRODUCTION:

In 1978, by virtue of an action of the 17th ICSU General Assembly, SCOSTEP (previously an Inter-Union Commission in 1966-72, and a Special Committee in 1972-1978) became a Scientific Committee of ICSU with the following principal tasks:

- To promote international interdisciplinary programmes in solar-terrestrial physics, and to organize and coordinate such programmes of interest to and approved by at least two of the Participating Bodies.
- To define the data relating to these programmes that should be exchanged through the World Data Centres.
- To provide such advice as may be required by the ICSU bodies and World Data Centres concerned with these programmes. And,
- To work with other ICSU bodies in the coordination of symposia in solar-terrestrial physics, especially on topics related to SCOSTEP's programmes.

#### MEMBERSHIP:

SCOSTEP's Bureau consists of a President, Vice President, Scientific Secretary, and one representative each from the Participating Bodies (COSPAR, IAMAP, IAGA, IAU, IUPAP, and URSI). Current officers were elected in July 1999; they are: M.A. Geller (President), R.A. Vincent (Vice-president). J.H. Allen continues as Scientific Secretary. The other Bureau members and organizations they represent are: S.K. Avery (URSI), Yu.I. Galperin (COSPAR), B. Schmieder (IAU), F. W. Sluijter (IUPAP), T. Tsuda (IAMAS), and D. J. Williams (IAGA).

The General Council consists of representatives from 29 subscribing Adherents. Scientific Discipline Representatives (SDRs) are chosen for expertise in the various disciplines related to solar-terrestrial physics and involving scientists from differing geographical locations (47 scientists from some 19 countries are SDRs). Other members are Steering Committee, Working Group, and Panel Chairmen, as well as members of the Finance and Awards Committees. In addition, there are Representatives of three World Data Centres for STP; Representatives of two Affiliates (IUWDS and WMO); Representatives from eight ICSU participating bodies, and an ICSU Representative plus Correspondents from 12 countries. In total, some 400 scientists worldwide comprised SCOSTEP at the end of 1999. The distribution list for SCOSTEP publications includes some 4,000 currently active scientists. Membership changes monthly in both groups, but an up-to-date list of the SCOSTEP Directory of members is on-line on the World Wide Web at:

<http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html>.

### VITAL STATISTICS:

Number of Members: Bureau Members - 9; Scientific Discipline Representatives - 47; Adherent countries - 29; Representatives from Affiliates - 2; World Data Centres - 3; ICSU - 1; Finance Committee - 2; Awards Committee - 3; Steering Committee and Working Group members - 150; Honorary Members - 4 (Sir Granville Beynon died in 1995); Correspondents - 12. (Some persons hold more than one position.)

### ORGANIZATIONAL MATTERS:

SCOSTEP provides annual support of various levels to many different scientific meetings organized by ICSU bodies and other international scientific groups. Support ranges from co-sponsorship without funding, to a modest contribution toward the cost of some meetings in which SCOSTEP takes particular interest. Often, we provide support through participation by SCOSTEP members who provide expertise in Solar-Terrestrial physics and may represent on-going SCOSTEP scientific programs. As a minimum, the "International SCOSTEP Newsletter" provides a printed and on-line distribution mechanism for information about meetings involving some aspects of Solar-Terrestrial physics.

Scientific and Planning Meetings receiving SCOSTEP participation and/or financial support in 2000:

- SCOSTEP Bureau, Program Directors and Long-Range Planning Group
- First S-RAMP Conference, Sapporo, Japan (major SCOSTEP meeting)
- Spring-2000 American Geophysical Union scientific sessions, USA
- Fall-2000 American Geophysical Union scientific sessions, USA.
- INTERBALL KIEV-2000 meeting in Ukraine.
- COSPAR Colloquium on Space Weather, Taipei, Taiwan
- World Data Center Panel survey trip to Australia
- SPARC General Assembly, Argentina
- MST-9/COST-79 Toulouse, France
- WPGM meeting, Tokyo, Japan
- COSPAR-2000, Warsaw, Poland
- PSMOS-2000 Workshop, York, Canada
- Space Weather Week-2000, Boulder, Colorado

The SCOSTEP Bureau provides co-sponsorship of scientific meetings involving STP disciplines upon assurance that they are international in scope and that some representation among the program planning committee and meeting organization is accorded SCOSTEP. Current programs of SCOSTEP may, upon decision by their Steering Committee, provide co-sponsorship of meetings independently of the Bureau.

Bureau co-sponsorship may be at the highest level with financial support and direct involvement in planning. It may be at the medium level with no financial support from the Bureau but with a support recommendation to an existing program steering committee, or it may be at the lowest level involving only listing SCOSTEP as a co-sponsor.

#### International Scientific Programs Conducted by SCOSTEP in CY-2000

Four new Post-STEP scientific programs began in January 1998 and continued operations during 2000. Each is scheduled to run for five years. Their activities are reported in the pages of the quarterly "International SCOSTEP Newsletter" (March, June, Sept and Dec 2000) and summarized in annual reports to the Bureau and the SCOSTEP General Council (see reports "STP Newsletter 1999", published June 2000; and "STP Newsletter 2000", published December 2000). The programs are:

- (I) S-RAMP (STEP Results, Applications and Modeling Program);
- (II) EPIC (Equatorial Processes Including Coupling);
- (III) PSMOS (Planetary Scale Mesosphere Observing System); and
- (IV) ISCS (International Solar Cycle Study).

Each of the programs has one or more websites on WWW. All may be accessed through the SCOSTEP homepage at: <http://www.ngdc.noaa.gov/stp/SCOSTEP>. The Space Weather Clearing House website serves as a self-contained site on the topic, but also provides a "clearinghouse" function to provide efficient links to both real-time monitoring and research sites devoted to Space Weather topics. In 1999, this site became the primary coordinator for the S-RAMP "Space Weather Month Campaign", September 1999. Results of that international effort coordinated by SCOSTEP were presented at the "First S-RAMP Conference", Sapporo, Japan, 2-6 October 2000.

A summary report of the "First S-RAMP Conference" was published in the December "International SCOSTEP Newsletter". Y. Kamide and H. Matsumoto were Co-Convenors of this extremely well-organized meeting. Some 600 scientists gave over 800 papers in 19 scientific symposia and 3 workshops. There were many side meetings (e.g., SCOSTEP Bureau). The Conference received generous support from many organizations and entities, including City and Prefecture governments, industry, and an extensive group of enthusiastic non-scientist volunteers who helped with many different phases of the meeting for the opportunity to interact with visiting foreign scientists and their families.

## SCOSTEP Publications in 2000:

### "STP Newsletter-1999 and -2000"

The "STP Newsletter" was started in 1976, in support of the International Magnetospheric Study (IMS). From 1976-1979 it was a monthly hard-copy newsletter mailed directly to up to 4,000 persons worldwide. From 1980, it became an annual publication printed and distributed for SCOSTEP by World Data Center-A for Solar-Terrestrial Physics at the end of each year. In 1995, the first full year for the Secretariat to operate from Boulder, Colorado, and under a new Scientific Secretary, it was not possible to maintain publication of the "STP NL" and begin publication of a new quarterly "International STEP Newsletter." The series was slipped to a biennial publication through 1998. From 1999, the Secretariat returned to an annual publication, completing two in CY-2000. The series has value to individuals and for libraries and Adherent offices because it is the official record of minutes of Bureau and General Council meetings, and for meetings of program Steering Committees.

The combined "STP Newsletter 1999" and "2000" issues (published in June and December 2000) comprised 98 pages. These included draft minutes of the Bureau and General Meetings in the United Kingdom (summer 1999), reports of national Adherent Representatives, reports of Post-STEP Steering Committee leaders about the activities of their programs in 1999 and 2000, and documents summarized from ICSU that conveyed new information about international science policy and objectives.

### Quarterly "International SCOSTEP Newsletters"

These quarterly newsletters (March, June, September, and December 2000) comprised 65 pages. Two were published jointly with an "STP Newsletter" to save on printing and distribution costs. These newsletters contained current information about activities of the Post-STEP scientific programs, news about Solar-Terrestrial events of significance (e.g. the "Bastille Day 2000" solar flare, energetic proton event, geomagnetic storm, and extensive satellite anomalies), and summaries of scientific meetings in which SCOSTEP members took part.

These two SCOSTEP publications are sent directly to about 4,000 individual scientists and institutions in 86 different countries. These countries comprise some 82% of ICSU's National Scientific Members, and 40% of ICSU's National Scientific Associates (total 67 countries). In addition, these information sources go to persons in 20 other countries.

All SCOSTEP newsletters are put on-line on our website, where they can be accessed by anyone not on our distribution list, or anyone seeking electronic means of searching for published information using key words, dates or names.

### HONORS TO SCOSTEP Members:

- Prof. Carl McIlwain was awarded the Year-2000 Hannes Alfvén Medal of the European Geophysical Society "in recognition of his creation of the magnetospheric L-coordinate system, which constitutes the principal tool for organizing magnetospheric phenomena, and his pioneering observations of magnetospheric particles and electric fields."

### LONG-RANGE PLANNING COMMITTEE (LRPC):

SCOSTEP's Long-Range Planning Committee (LRPC) is Chaired by Dr. Brigitte Schmieder (France). It comprises of a mix of senior and younger scientists from across the range of STP disciplines and member countries. They met in January 2000 at the US National Science Foundation, hosted by Dr. Sunanda Basu. Ad hoc or other invited persons included the new President (Prof. M. Geller) and others asked to participate.

Results of this first LRPC meeting were published in the June "International SCOSTEP Newsletter" so that our community could begin to make comments. Many of the committee were in Sapporo, Japan in October and an Ad Hoc Open LRPC meeting was held one evening with about 40 participants attending.

It is planned that the final report of the LRPC will be presented to the greater SCOSTEP community for review in April 2001, to other ICSU bodies, and then to the Bureau and General Council in June 2001. Given satisfactory progress at each stage of review, the report will be discussed in a special session of the "10<sup>th</sup> Quadrennial STP Symposium" in June and submitted to ICSU for their approval. At this time, the developing new program is called "CAWSES" for "Climate and Weather of the Sun-Earth-System". The beginning date and duration of the program are among the points to be negotiated with national adherents.

### CONCLUSION AND FUTURE PLANS:

SCOSTEP is fully involved with the new Post-STEP programs listed above. All their respective programs will be represented in scientific symposia and side meetings or workshops in June 2001 at the STP-10/CEDAR-2001 Symposium. The SCOSTEP Bureau and General Council meetings precede STP-10, and will be held in Boulder, Colorado. They will be hosted by the US National Center for Atmospheric Research (NCAR) at their Mesa Facility.

The new President (Geller) and Vice-President (Vincent) are active in directing a dynamic, growing SCOSTEP. Particular emphasis is being placed on the Long-Range Planning Committee (LRPC) chaired by Dr. Brigitte Schmieder (France).

The ICSU-related body SPARC (Stratospheric Processes and their Role in Climate) is joining with SCOSTEP in projects to **Assess Long-Term Trends in the Upper Atmosphere**, and to **Assess Proposed Solar-Climate Relations (including mechanisms)**.

We anticipate considerable interest in our community in the proposed new program CAWSES, described above. If this program runs in its opening phase from 2003/2004 through 2007/2008, then its conclusion will coincide with the 50<sup>th</sup> Anniversary of the International Geophysical Year (IGY: 1957-58). Since IGY was the focus out of which ICSU's interests in Solar-Terrestrial physics were to give birth to SCOSTEP, it will be particularly fitting for CAWSES to commemorate this significant anniversary.