1995 ANNUAL REPORT

Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

J. 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, SCAR, and URSI). New officers were elected in June 1994; they are: C.H. Liu (President), H. Oya (Vice-President), and J.H. Allen (Scientific Secretary). Participating body IAU selected B. Schmieder as their representative. The Council consists of representatives from 29 Adherents. Scientific Discipline Representatives are chosen for expertise in the various disciplines related to solar-terrestrial physics and involving scientists from differing geographical locations (21 countries are represented). 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.

Vital Statistics:

Number of Members: Bureau Members: 10; Scientific Discipline Representatives: 45; Adherent countries: 29; Representatives from Affiliates: 2; World Data Centres: 3; ICSU: 1; Finance Committee: 2; Awards Committee: 4; Steering Committee, Working Group and Panel Chairmen: 15; Honorary Members: 4 (Sir Granville Beynon died in 1995); Correspondents: 12. (Some persons hold more than one position.)

Organizational Matters:

Meetings: The Bureau, Council, STEP Steering Committee and other participants met 7-15 July 1995, in Boulder, Colorado, USA, during the XXIst IUGG General Assembly. The Scientific Planning Committee for the 9th Quadrennial STP Symposium also met during this time an outlined the program for the coming joint meeting in August 1997, in Uppsala, Sweden. At this meeting, SCOSTEP will hold its sessions in conjunction with IAGA and IAMAS-MAC. Only invited papers will be given in the Symposium sessions and contributed papers will be part of the other scientific assemblies.

Finances: The financial records of SCOSTEP are reviewed annually. Mr. James Menghi (CPA, CFE) is the auditor. SCOSTEP's audited annual statement of income and expenditures is reported to its finance committee and is provided to ICSU and to SCOSTEP members.

Secretariat: The SCOSTEP Secretariat consists of Mr. Joe H. Allen, Scientific Secretary, and Ms. Nancy Alkire, Administrative Secretary, and is located in offices provided by the US National Oceanic & Atmospheric Administration, National Geophysical Data Center. The mailing address is J. H. Allen, SCOSTEP, c/o NOAA-NGDC, 325 Broadway, Boulder, CO 80303, USA. The telephone number is (1)-(303)-497-7284. FAX may be sent to: (1)-(303)-497-6513. For most timely responses, we recommend e-mail to: JALLEN@NGDC.NOAA.GOV. A SCOSTEP homepage on the World Wide Web is located at the address: http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html (see appendix).

In 1995, the new Secretariat operated in Boulder for its first full year there and experienced many new and varied activities: planning and implementing the July meetings; conducting the Bureau's $40K STEP Supplemental Grant proposal project; attempting to salvage the US STEP Coordination Office; publishing the first of a new series of international newsletters to take the place of the suspended "STEP International NL"; and bringing SCOSTEP onto the World Wide Web for information, publications, directory, and project data (see below).

Activities Undertaken During 1995:

Prof. G. Rostoker, Chairman STEP Steering Committee, and Joe Allen, Scientific Secretary, met in Canada to initiate several projects proposed by the Bureau in the previous year. They were in electronic contact with SCOSTEP Executive Officers and the STEP Steering Committee about the $40K supplemental STEP grant project. Their results were announced via electronic bulletin boards and newsletter publications to the SCOSTEP and STEP communities, about 6,000 scientists and associates worldwide. A tentative Steering Committee for the first post-STEP program (S-RAMP) was identified for presentation to the Bureau in July, and the beginning program implementation planned.

Among July 1995 highlights were: Bureau approval of seven proposed "Supplementary STEP Grants" for research projects to be funded from accumulated unspent STEP budgets of prior years. Recipients were from five countries, including some in developing regions and others in developed countries who planned schools and workshops targeted at increasing capacities to perform modern scientific programs among developing country scientists. Another $40K grant program is planned for 1996.

The STEP-Results, Applications and Modeling Phase (S-RAMP) was outlined and names proposed to the Bureau were supplemented by others so that 8 scientists are the Steering Committee for this first post-STEP program. Prof D. Baker (USA) is interim chairman.

The Scientific Program Committee for the 9th STP Symposium met for the first time and outlined the invited tutorial lectures to be given, prospective speakers, and a plan for discipline special sessions based on the project results from STEP.

The General Council adopted a budget extension covering 1997 so that SCOSTEP's shift to meet quadrennially with IAGA scientific assemblies will be in-phase with the normal 2-year budget cycle. The Council adopted Bureau recommendations to accept two additional post-STEP projects: Equatorial Atmsophere Transport and Variation International Program (EATVIP) and Planetary Scale Mesopause Observing System (PSMOS). Russian colleagues were requested to reformulate and focus a proposed third program and resubmit it at the next Bureau meeting in 1996. Study groups were appointed to prepare tentative budgets and implementation plans for EATVIP and PSMOS for approval by the Bureau.

The International STEP Coordinator, Prof. Juan G. Roederer, continued his "ambassadorial" role in 1995, promoting the integration of individual countries' efforts into a coherent international program, briefing government agencies in participating countries on the progress of STEP and the significance of their scientists' contributions, and proposing specific actions to the STEP Steering Committee. During 1995, he represented STEP and SCOSTEP at meetings in

San Francisco, South Africa, Brazil and Argentina, at the ICTP in Trieste, Italy, at the SCOSTEP meetings in Boulder, in Beijing, and at the COSTED meeting in Mexico. Emphasis at the latter meeting was on "South-South" cooperation, to promote cooperation between scientists in South and Central America with those in Africa and Austral-Asia. Prof. Roederer was almost the sole spokesman for space sciences and solar-terrestrial physics at this meeting. At the IAU Cosmic Ray Conference in Rome, Italy, there was discussion about the final Canadian plans to discontinue operation of neutron monitors within their territory. Although the Canadian government offered to allow external bodies to pay the cost of continuing operation of these facilities, the funding was not available among the international community using these data.

Joe Allen represented SCOSTEP at the "All Data Centers" meeting organized by the ICSU Panel on World Data Centers in Wageningen, Netherlands. Here the topic again arose of the termination of synoptic monitoring in nations under adverse financial pressure. The loss of significant global cosmic ray monitoring coverage due to closure of the Canadian observing sites was discussed by the Japanese Director of WDC-C2 for Cosmic Rays, Prof. T. Watanabe.

Education/Training Activities: SCOSTEP contributed financial and tutorial support for the international School in Trieste, Italy in February 1996. Topic of the workshop was "Downward & Upward Coupling in the Middle and Upper Atmosphere." SCOSTEP provided both lecturers for the courses and funds to offset tuition and expenses for young scientists from developing countries.

Publications: Actions arising from the SCOSTEP and STEP meetings in Boulder during July are given in the minutes published in the STP Newsletter for 1995 (in press). Publication of this annual report was delayed at the end of 1995 due to the assumption of new newsletter duties by the Secretariat in order to rescue the failing US STEP Coordination Office's publication effort for the "STEP International Newsletter".

Activities Involving Developing Countries: Scientists from developing countries participate in STEP projects and are active within the different Working Groups. They receive copies of STEP and SCOSTEP publications without charge and financial aid is available to support their participation at meetings. SCOSTEP joins other groups in providing support for STP meetings and workshops held in developing countries. Special care is taken in selecting members of the Working Groups and Panels of STEP to assure that scientists from developing countries are full and equal participants.

During 1995, SCOSTEP supported scientific meetings in Indonesia and Argentina, and approved funding to support the participation of scientists from developing countries in the Workshop organized at the international school in Trieste, Italy. Other scientific meetings were supported in Argentina and Indonesia.

Publications: SCOSTEP tried to inject additional funding in order to stabilize the US STEP Coordination Office (USSCO) when support from NASA and the NSF terminated unexpectedly. Dr Michael Teague, USSCO, and staff had prepared the valued monthly "STEP International Newsletter" for some three years. However, support for printed publications had waned among their sponsors at the cost incurred by that office. After a valiant attempt to continue the newsletter at USSCO (STEP Working Group Chairmen, the Chairman of the STEP Steering Committee and others contributed over a third of their annual budgets to the effort), the office closed and it became incumbent on the SCOSTEP Secretariat to intervene. Two "Interim International STEP Newsletter" issues have been prepared without additional staff or resources and distributed to over 5,000 scientists worldwide through the good offices of NOAA's National Geophysical Data Center (NGDC), where the Secretariat is hosted. Copies are attached to this report.

Two STEP projects headquartered in Japan continued publication of newsletters for their specialities. The Solar-Terrestrial Environment Laboratory (Nagoya University) and the Department of Environmental Sciences (Ibaraki University) continued cooperation to publish the "GBRSC Newsletter" with information about ground-based programs in STEP. They published a special issue in June 1995 (Serial No. 14) of the "Proceedings of the 4th Japanese STEP Symposium" (70 pages). This issue was edited by Prof. T. Watanabe and is introduced by Prof. H. Oya (Vice President SCOSTEP). The STEP Simulation Promotion Office (SIMPO) continued publication of its newsletter in 1995. Other STEP Working Groups publish specialized newsletters which are sent to members interested in their particular topics.

Special Projects: SCOSTEP's only current major scientific project is the Solar-Terrestrial Energy Program (STEP). It has a Steering Committee chaired by Prof. Gordon Rostoker (Canada). Also, there is an International STEP Coordinator (Prof. Juan G. Roederer, USA).

Projects and services within STEP are the responsibility of six Working Groups and three Panels, listed below:
Working Groups:
The Sun as a Source of Energy and Disturbance;
Energy and Mass Transfer Through the Interplanetary Medium and the Magnetosphere-Ionosphere System;
Ionosphere-Thermosphere Coupling and Response to Energy and Momentum Inputs;
Middle Atmosphere Response to Forcing from Above and Below;
Solar Variability Effects in the Human Environment; and
Informatics.

Panels: Long-Term Data Bases; Experimental Techniques; and Simulation and Modeling.

The Working Groups appoint chairpersons and are divided into Projects according to the various aspects of the field of interest. A Leader is appointed for each Project. Dr. Monique Pick (France) was appointed co-chairman of WG1 and, with K. Shibata (Japan), she is leader of a new STEP project Solar Coronal Physical Processes (SCPP) adopted at the July meeting. Chairs are appointed for each Panel and they work in conjunction with the Working Groups. A listing of STEP projects and members of Working Groups was published in "SCOSTEP: Constitution and Directory", distributed in January 1996.

New areas of interest: STEP On-Line Data and Information on WWW and CD-ROM

Digital geomagnetic data collected during 1992 by a worldwide network of national observatories were sent to World Data Center-A for STP and organized into a common format database with those from 1990-91 (see 1994 report). The results were written onto s "soft" CD-ROM and made available for FTP or Gopher computer-to-computer transfer or for WWW access on the STEP Project 6.4 homepage maintained at NGDC (adjacent to the Secretariat). Users able to get onto the World Wide Web can find these data at:
http://www.ngdc.noaa.gov/stp/STEP/step6_4.html
as described for earlier years in the "ICSU Annual Report for 1994". Data for 1990-91 are distributed for the cost of shipping in a 2-CD boxed set with a booklet that describes the software and data. Data for 1992 are to be distributed on a single CD in mid-1996. They were made available for on-line access in 1995.

In 1995, as described in the "Interim International STEP Newsletter", the SCOSTEP Secretariat placed SCOSTEP onto the WWW using facilities and programming assistance provided by NGDC. We may be accessed via the NGDC homepage or directly at: http://www.ngdc.noaa.gov/stp/SCOSTEP/.

Printed copies of the homepages involved are included as attachments to this report. They include the text from the newsletters prepared at the Secretariat, a copy of SCOSTEP's constitution, and a Directory of members of SCOSTEP organized for efficient access. Use of these data and information sources has led to significant improvement of the databases.

Brief Report of Use of 1994 ICSU Grant and UNESCO Subvention:

Funds from UNESCO ($5,000) were used to help defray expenses involved in publishing STEP International. This newsletter is distributed to over 6,000 scientists in more than 80 countries. The Newsletter contains articles

furnished by the STEP Steering Committee Chairman, the STEP International Coordinator, Working Group Chairs and Panel Leaders, various news notes, and brief papers on experiments and results of interest to STEP scientists. News about satellite, rocket, balloon, ground-based and ocean experiments are given. Special emphasis on planned campaign dates and goals is provided in order to encourage voluntary coordination among separate programs and to provide a means for learning about the opportunity to increase the scope of an observing program by effective scheduling.

Funds from ICSU ($3,900) were used to help support the office of the International STEP Coordinator, Prof. J. G. Roederer. Prof. Roederer attended international meetings and gave talks on STEP-related topics. On request, he provided input about STEP projects to national academies and agencies concerned with how their national programs integrate with those of other countries in gaining the largest possible research return from funds expended on solar-terrestrial research. Details about some of his more important activities are provided above in the Activities Undertaken in 1995 section of this report.

Because of payment through ICSU of national Adherent subscriptions due for past years, SCOSTEP had more income there than immediately needed in 1995 and left $9,000 on reserve in the ICSU treasury. This is approximately the amount of the combined ICSU and UNESCO contributions. but there is no specific source identification of the amounts left on deposit there.

Conclusion and Future Plans:

SCOSTEP will continue to coordinate the activities of the six Working Groups and three Panels of STEP, including the planning of symposia and workshops as appropriate, and the publication of proceedings and reports resulting from them. Main emphasis will be on planning the 9th Quadrennial STP Symposium and the associated Bureau, General Council, and Steering Committee meetings in Uppsala, Sweden during August 1997.

The next SCOSTEP Bureau Meeting will take place in July 1996 in the London area (UK) during the week before the COSPAR scientific assembly in Birmingham, UK. The STEP Steering Committee and S-RAMP SCs will also meet at this time. Here the decision will be made about the recipient of the next Bureau $40K Supplemental STEP Project Grant.