SCOSTEP
Scientific Committee on Solar-Terrestrial Physics

DECEMBER 2012

NEWSLETTER

In this issue:

1. Editorial – Message from the President

Happy New Year 2013, Everyone!

The year 2012 was very eventful, including the Sun attaining partial solar maximum of cycle 24 – just in the northern hemisphere! SCOSTEP accomplished a lot in 2012 and has much more to do this year.

SCOSTEP enhanced its capacity building activities in 2012. We competed and received a grant from ICSU to run Space Science Schools in collaboration with the International Space Weather Initiative (ISWI). The first school was conducted successfully in Ciloto, Indonesia, hosted by LAPAN in September 2012. Sixty eight students participated from 10 countries. The next School will be conducted in South Africa in September 2013, to be hosted by Hermanus Observatory. Initial planning has already started.

In addition to the space science schools and cartoon-book activities, we would like to expand the SCOSTEP capacity building program by creating an expert group, "Dr. SCOSTEP" that will provide answers to questions from the public on issues related to Earth's climate, space weather, and other science issues.

SCOSTEP applied and received Permanent Observer status with the United Nations Committee on Peaceful Use of Outer Space (UNCOPUOS) in 2012. This provides a better opportunity to interact with SCOSTEP's member states and provide information to other states that might consider SCOSTEP membership.

The International Symposium on Solar Terrestrial Physics (ISSTP) in Pune, India was a very successful meeting with a significant participation from students and young scientists. ISSTP featured poster presentation from SCOSTEP member states on their solar terrestrial physics activities. Papers presented at the symposium will be reviewed and published in the Bulletin of Astronomical Society of India as Proceedings.

Arrangements are underway for the International CAWSES-II Symposium in Nagoya (November 18-23, 2013). This symposium will serve as the grand finale of the CAWSES-II program.

We have just made the preliminary announcement for SCOSTEP's 13th Quadrennial Symposium on Solar Terrestrial Physics (STP13) next year in Xi'An, China (the city of Terra Cotta Warriors) during October 12-17, 2014.

SCOSTEP is also in the process of instituting a few awards to recognize outstanding scientific contributions by members of the scientific community and those who provided unconditional support and service to SCOSTEP.

SCOSTEP is busy to define the next scientific program. We solicited white papers on the next scientific program and received nine of them. In addition, the International Space Science Institute (ISSI) in Bern has agreed to host a discussion forum for brainstorming the next scientific program. The Bureau will meet with white paper authors and selected experts from the community at large in the forum to define the next scientific program in May this year. SCOSTEP is grateful to ISSI for providing the forum and significant financial support in running the forum.

I am pleased to announce that SCOSTEP declares 2013 to be the year of "Mini-Max24" to focus on the peculiar behavior of the Sun around the maximum of cycle 24. We are living in an exciting time: the sunspot numbers are very low indicating subdued activity of the Sun, which may have widespread implications to our atmosphere, ionosphere, and magnetosphere. A Year-long campaign is planned to monitor the Sun and learn more about its peculiar behavior. An official memo will be soon issued detailing the planned activities.

Nat Gopalswamy, SCOSTEP President

2. Reports on Meetings

2.1 7th IAGA/ICMA/CAWSES Workshop on Long-Term Changes and Trends in the Atmosphere, Buenos Aires, Argentine, September 11-14, 2012

The 7th IAGA/ICMA/CAWSES workshop on Long-term changes and trends in the atmosphere, attended by 54 participants, was held in Buenos Aires, Argentina, during 11 - 14, September 2012. Altogether 46 oral talks (including 12 invited) and 14 posters were presented with sufficient time for lively discussions. The workshop included also a general discussion on open problems and the preparation of a new SCOSTEP project in the area of climate change in the upper atmo-sphere. The workshop began with overview of progress during the last two years by J. Lastovička who provided new results about trends in ion and electron temperatures, thermospheric density and total electron content (TEC); the impact of ozone trend reversal on mesospheric and mesopause region temperatures; agreement between observational and model simulated trends in polar mesospheric clouds.

In the block of tropospheric papers J.P. Rozelot examined the question of why the Earth has not warmed as much as expected. R. Abarca del Rio et al. evaluated various long-term oscillations of the atmospheric momentum angular transport, which they consider to be an important climatic factor. Some open aspects of controversial relation between the solar cycle length variations and surface temperatures were revisited by R. Abarca del Rio and A. Foppiano, while C. Tsuchiya and K. Sato analyzed the frontogenesis function and showed that this is an important source of gravity waves. A. de la Torre et al. dealt with mountain waves derived from the radio occultation GPS observations and documented that these stationary waves can well penetrate into the stratosphere. H. Schmidt reported on the side effects of various climatic engineering methods and the final state, which would differ from the present state of the atmosphere.

A couple of papers were devoted to long-term changes in the stratosphere. P. Canziani reviewed ozone and stratospheric temperature trends and pointed out that ozone recovery below 10 hPa is much stronger than the one due to a pure chemical recovery due to substantial role of dynamics in trends. P. Krizan and J. Lastovicka updated ozone laminae series and confirmed turnover of laminae trend in the mid-1990s. E. Savenkova et al. found over the last two decades the most growing SPW1 (Stationary Planetary Wave with zonal wave number 1) amplitudes in winter in December at heights above 30 km and peak of their weakening near 40 km in January and February. A. Pogoreltsev and E. Savenkova discussed the impact of these changes on stratospheric dynamics, while S. Sharma et al. reported negative temperature trend in the upper stratosphere based on lidar measurements near Ahmedabad, India. D. Marsh simulated evolution of climate over 1850-2100 with model CESM-WACCM and found that the line of no thermal shrinking to be located near 30 km; the model simulated well the evolution of the Antarctic ozone hole.

Many papers were focused on the mesosphere and mesopause region. M. Mlynczak summarized the results of the measurements from SABER (Sounding of the Atmosphere using Broadband Emission Radiometry) instrument orbiting on the TIMED (Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics) satellite, particularly from the point of view of solar cycle. A much larger solar cycle effect in the NO radiative cooling than in the CO_2 radiative cooling was reported, which explains stronger trends of some parameters in the solar cycle minimum. M. Bittner et al. described the Network for Detection of Mesospheric Change (NDMC) and some of its results. CO_2 concentration in 60-120 km reveals a positive trend of ~6 %/decade, whereas according to J. Emmert et al ACE (Atmospheric Chemistry Experiment) measurements in 90-110 km provide 8 %/decade. This difference could be explained by a 15 %/ decade intensification of eddy diffusion. Offermann et al. have examined the quasi 4-year and 15-year oscillations in various mesospheric parameters including temperature and gravity wave activity. These oscillations must be taken into account when searching for trends. G. Sonnemann and M. Grygalashvyly discussed the decreasing lifetime of CO_2 in the atmosphere and its potential impact on future CO_2 concentrations, while J. Scheer and E. Reisin treated Simpson's paradox in trend analysis in the case of airglow data.

G. Beig reported clear change both in the long-term trends and solar cycle effect in mesospheric and mesopause region over tropical India in the mid-late 1990s, probably as a response to ozone trend change. F.J. Lübken and U. Berger have studied temperature and ice layer trends in the summer mesosphere with

focus on polar mesospheric clouds (PMC) employing the LIMA (Leibniz-Institute Middle Atmosphere Model). It was found that the PMC's height is controlled by local temperature and, therefore, its trend was essentially negligible. M. Deland et al. summarized SBUV (Solar Backscatter Ultraviolet instrument) observations of PMCs. The increase of both PMC occurrence frequency and brightness is caused by increasing concentrations of CO_2 (lower temperature) and methane (more water vapor). An analysis by R. Latteck and J. Bremer revealed slightly positive but statistically insignificant trend in polar mesospheric summer echoes as observed above ALOMAR (69°N, 16°E). G. Sonnemann et al. have simulated the behavior of OH* layer and reported that its long-term shrinking in winter (but not in summer).

P. Hoffmann et al. reported negative trends in winds below 80 km at both ALOMAR (69°N, 16°E) and Juliusruh (54.6°N, 13.4°E). Wind measurements at both sites revealed an opposite trend in gravity wave activity in summer at high and middle latitudes. C. Jacobi et al. reported an opposite solar cycle effect in winter and in summer in winds measurements at 82-94 km over Collm, Germany. Positive trends were also found in gravity waves activity in the MLT region over Germany (C. Jacobi and P. Hoffmann), which were stronger in winter than in summer. S. Wüst et al. investigated height-dependence of the gravity wave activity inferred from temperature measurements by GRIPS (GRound-based Infrared P-branch Spectrometer) near 87 km and by SABER/TIMED, which revealed a ~22-year cycle of solar magnetic origin. Therefore it is necessary to distinguish between ~22-year variation and real long-term trend when analyzing temperatures.

Several talks were devoted to thermospheric trends. J. Emmert reviewed thermospheric climate and climatic change. The regular negative trend in thermospheric density has been perturbed in the years 2008-2009 (the last deep extraordinary solar minimum) by a deep gap –the 2008-2009 thermospheric density at 400 km was lower by about 36% than in the previous solar minimum in 1996-1997. Most of this decrease (but not all) was explained by extraordinary low solar and geomagnetic activity. S. Solomon et al. claimed that the thermosphere cooled quicker than models forecasted due to lower model radiative cooling by CO_2 than that based on SABER/TIMED measurements. L. Qian et al. simulated impact of middle atmosphere trace gas trends on the mesosphere and thermosphere. They found almost no effect of CO_2 well in the thermosphere and a weak positive effect of the increasing concentration of methane.

Photo 1: *Participants in the Trends-2012 Workshop*

Trends in the ionosphere (in its F2 layer – ionospheric maximum) have been studied in the maximum electron density/critical frequency foF2, its height hmF2, TEC, and ion and electron temperatures, Ti and Te respectively. A specific feature in that regard is the influence of secular changes in the Earth's magnetic field. M. Abdu et al. documented substantial impact of this secular change on the ionosphere over Brazil due to the westward shift of the South Atlantic magnetic Anomaly (SAA). I. Cnossen et al. simulated the effect of this secular change of Earth's magnetic field and showed that both the decreasing dipole moment and the changing tilt angle of dipole influence ionospheric conductivity and Joule heating and its distribution, the largest effect being observed during daytime (the effect is almost absent at night) in the SAA region.

A.D. Danilov pointed out the necessity for careful examination of data taken from various databases. Based on the difference between the periods 1958-1979 versus 1998-2010 he obtained a global trend in foF2 of about -0.02 MHz/year, and in hmF2 of -0.6 to -0.8 km/year over the last 30 years. S. Sharma and H. Chandra analyzed Ahmedabad foF2 data over 1960-1991 and found a trend of -0.032 MHz/year.

R. Khaitov reported trends of foF2 around -0.014 MHz/year for spring summer and fall and –0.008 MHz/year for winter for Tomsk (southwestern Siberia) based on long data series of 1937-2011. A.D. Danilov and A.V. Konstantinova provided evidence that the relation between trends in foF2 and hmF2 became significantly weaker after 1980. J. Lastovička studied trends in TEC and foF2 over 1995-2010 and

found them to be more positive than in the past. S. Zhang and J. Holt analyzed long data series of measurements of Ti by the incoherent scatter radar in Millstone Hill. The Ti trend is strongly negative during daytime but weak and around 250-300 km heights even slightly positive at night; it is much stronger in solar minimum than in solar maximum.

The Working Group decided to prepare a white paper highlighting key scientific question which need be addressed in coming years and which is anticipated to form the basis of a new program of SCOSTEP following the end of CAWSES II in 2013.

Photo 2: *Poster Session – Trends-2012 Workshop*

A special issue of Journal of Geophysical Research will publish with selected papers from this 7th Trend Workshop 2012.

The next workshop will be organized in Cambridge, U.K. in late July 2014.

(Reported by Anna Elias)

2.2 HEPPA/SOLARIS-2012 Workshop, Boulder, Colorado, September 9-12, 2012.

In recent years it has become increasingly apparent that there are many common mechanisms by which variations in solar irradiance and energetic particle precipitation (EPP) affect the atmosphere. The HEPPA/ SOLARIS 2012 meeting brought together the High Energy Particle Precipitation in the Atmosphere (HEPPA) and SOLARIS (Solar Influences for SPARC (Stratosphere/Troposphere Processes and their Role in Climate)) communities for the first joint meeting. This workshop, which was held 9-12 October 2012, followed three previous HEPPA workshops in Helsinki, Finland (2008), Boulder, Colorado, USA (2009), and Granada, Spain (2011).

HEPPA/SOLARIS 2012 brought together 80 participants from ten different countries. The workshop consisted of invited tutorials that were targeted at a level appropriate for scientists and students from various disciplines, as well as contributed posters. A total of 14 tutorials and 56 poster presentations were given during the 4-day meeting. In addition, on the fourth day of the meeting parallel HEPPA and SOLARIS model/measurement inter-comparison working group sessions were held. Presentations were grouped according to five broad topics that included: (1) Solar and particle variability; (2) Solar and particle effects on the stratosphere and above; (3) Solar and particle effects on the troposphere; (4) Atmosphere and ocean/atmosphere coupling; (5) Tools for assessing solar and particle influences.

Significant advances have been made recently in our understanding of solar irradiance and particle influences on the atmosphere and climate. Global models increasingly include solar cycle variations in both total solar irradiance and spectral solar irradiance. There is more recognition of the importance of not only the "top-down" solar mechanism but also the "bottom-up", or ocean-atmosphere coupling mechanism. A new value of the solar constant, based on NASA satellite observations, is now accepted. There have been improvements in calculations of EPP ionization rates and of both simulations and measurements of the chemical effects that follow atmospheric ionization. Some recent data analysis and modeling studies suggest that EPP induces coupling of different atmospheric regions, and might affect even surface temperatures by triggering wave-mean flow interactions. Ionization from galactic cosmic rays (GCR) has been included in global models, and measurements at CERN show that it is possible for GCR to stimulate aerosol nucleation at tropospheric temperatures.

There was also substantial discussion about future work and the outstanding questions. Predictions of solar cycle and longer effects on climate are problematic. Much of our knowledge is based on the last three solar cycles, but we do not know how representative these cycles are. There are disagreements in the measurements of spectral solar irradiance variations over the solar cycle. Measurements of the sources of EPP at different energies are severely lacking. Substantially more work must be done to understand the precise coupling

mechanisms that are triggered by either solar irradiance or EPP forcing. With the demise of ENVISAT the community lacks global measurements of the most important atmospheric trace constituents for unraveling the effects of EPP. The investigations of GCR effects are really just in their infancy.

Photo 3: *Participants at the HEPPA/SOLARIS-2012 Workshop in Boulder, CO, 9-12 October 2012.*

The HEPPA organizers received financial support from SCOSTEP/CAWSES. The next HEPPA workshop is scheduled for May, 2014, in Karlsruhe, Germany. The next joint HEPPA/ SOLARIS workshop will be held in 2015 at a location TBD.

(Reported by Cora Randall)

2.3 *International Conference on Solar and Heliospheric Influences on the Geospace, Bucharest, Romania, October 1-5, 2012*

The Conference was the fourth one organized in the frame of the *Balkans, Black Sea and Caspian Sea Regional Network on Space Weather Studies (BBC SWS*). Its main goals were to bring together experts in different areas of solar-terrestrial physics and to give a more complete picture of the origin of heliospheric phenomena that influence the geospace. The conference included aspects on theory, models and observations of the solar eruptive events; solar drivers of geoeffective events; solar wind and heliosphere; ionosphere and magnetosphere physics; physics of the middle and lower atmosphere.

The Conference was organized by the Institute of Geodynamics of the Romanian Academy (IGAR) in collaboration with the Romanian Space Agency (ROSA). The program was structured in the following sessions: (1) Solar magnetism as driver of the short- and long-term solar variability; (2)Solar wind: sources and structures; (3)High-energetic solar events (Flares, CMEs, SEPs); (4) Heliosphere: its magnetic structure, ICMEs, Cosmic Rays; (5) Magnetosphere variability under the solar & heliospheric forcing; (6) Ionosphere and its induced disturbances; (7) Middle and lower atmosphere long-term variability / Climate change, and (8) Education, Dissemination, and Outreach in the Space Weather Field.

There were 33 participants from: Europe (12), USA (2) and Romania (19); among them there were 13 young scientists (MSc and PhD students).

The program consisted of 8 invited talks, 9 contributed oral presentations and 10 poster presentations. The invited talks summarized recent advances in our understanding in those fields whereas the contributed and posters papers presented the authors' relevant research. The section dedicated to "Education, Dissemination, and Outreach in the Space Weather Field" included eight invited lectures about the main aspects of space weather in the Sun-Earth system dedicated to the young researchers as well as some aspects relating to education and public outreach.

The program and abstracts, as well as all relevant information could be found at http://www.geodin.ro/CONFERENCE2012/second%20announcement.htm.

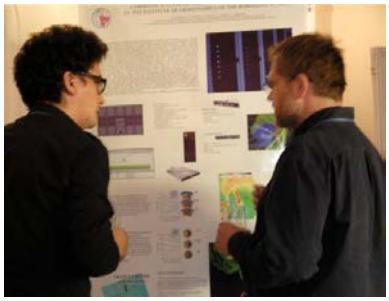

Photo 4: *Participants at the workshop(Prof. Remus Gabriel Hanea and Mihai Pomeran)*

The Proceedings of the Conference (invited talks, contributed oral and poster presentations) will be published, after peer-review, in a special issue (no. 1/2013) of SUN and GEOSPHERE (ISSN: 1819 – 0839) – the journal of the Balkan, Black Sea, and Caspian Sea Network for Space Weather Studies (new webpage: http://sungeosphere.org).

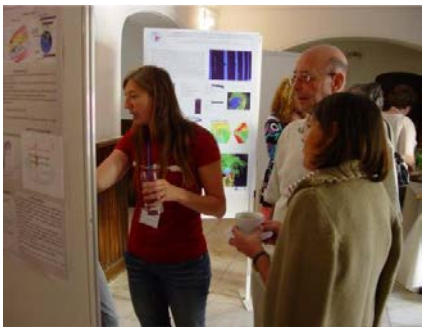

Photo 5: *Poster session (Petra Vanlomnel, Crisan Demetrescu, Venera Dobrica)*

The invited lectures will be published in a review book entitled "**Solar and Heliospheric Influences on the Geospace**" (Eds. G. Maris Muntean and C. Demetrescu), that will be distributed to the participants as well as to other young interested scientists.

Support for the conference was provided by SCOSTEP and the ANCS.

(Reported by Georgeta Muntean)

2.4 International Symposium on Solar-Terrestrial Physics (ISSTP 2012) – November 6-9, 2012, Pune, India

The International Symposium on Solar-Terrestrial Physics (ISSTP 2012) was successfully conducted from Nov 6 - 9 2012 at the Indian Institute of Science Education and Research, (IISER) Pune, India. About 130 participants attended the meeting, which included 30 graduate students. In addition, several local students from IISER Pune attended some sessions. International participants for the symposium came from Nigeria, Kazhaksthan, Russia, Italy, France, UK, Japan, China, Canada, USA and Mexico.

The symposium was preceded by a one day tutorial session on Nov 5 2012 for graduate students, where subject experts gave tutorial lectures on areas ranging from magnetic field generation on the Sun to the physics of the Earth's magnetosphere and ionosphere. The 3 subsequent days (Nov 6 - 8) were packed with a mix of invited and contributed lectures from distinguished speakers reporting on a wide variety of research topics related to solar and solar-terrestrial physics. The meeting also featured 80 posters that were displayed throughout the duration of the event.

Photo 6: *Dr N Gopalswamy, SCOSTEP president and co-chair, SOC, ISSTP 2012, addressing the audience.*

The evening of Nov 7 saw a public talk on the Faint young Sun paradox by Petrus Martens followed by the conference banquet, and the participants were treated to a visit to the Giant Metre-wave Radio Telescope (GMRT) on Nov 8, followed by a dinner hosted by the director of the National Centre for Radio Astrophysics.

Photo 7: *Group photograph of the participants in the ISSTP 2012, Pune.*

The final day (Nov 9) featured panel discussions on the SCOSTEP/ CAWSES program and SCOSTEP's future scientific directions. The symposium also featured an Indian classical music concert on the evening of Nov 6, which was followed by the IISER director's dinner.

The full program is available on the conference website http://www.iiserpune.ac.in/~isstp2012 and proceedings of the meeting will be published with the conference series of the Astronomical Society of India.

The ISSTP 2012 conference was supported by SCOSTEP.

(Reported by Prasad Subramanian)

2.5 Chapman Conference on longitudinal and hemispheric dependence of space weather, November 12-16, 2012, Addis Ababa, Ethiopia

The AGU Chapman conference on longitudinal and hemispheric dependence of space weather, which was the first space weather Chapman conference in the African continent, was held successfully in Addis Ababa, Ethiopia during 12-16 November 2012. The conference organized primarily by Colorado University and Boston College was well attended by a large number of participants from more than 27 nations. Of these delegates about 45% came from more than 12 African countries, about 35% were from USA and Canada, and the remaining 20% were from other countries around the globe (see Figure 1). The Chapman conference was held at United Nation for Economic Commission of Africa (UN-ECA) meeting hall in Addis Ababa.

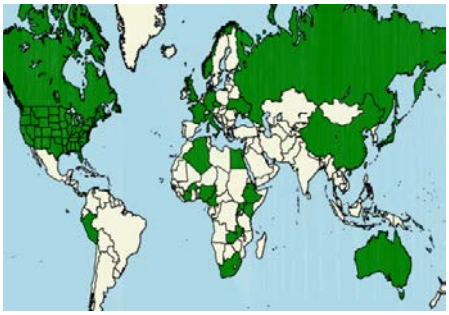

Figure 1: *Geographic distribution of countries (shaded in green) that were represented at the Chapman Conference in Addis Ababa*

There were two prime objectives for the conference: (1) to assemble an international group of heliophysics scientists to plan and discuss current and needed observations at middle and low latitudes in the African longitude sector, a region that has never been explored in detail using ground-based instruments, and (2) to enhance the space science education and research interest in Africa.

The six main scientific themes of the conference include: (1) Hemispherical Dependence of Magnetospheric Energy Injection and the Thermosphere-Ionosphere Response, (2) Longitude and Hemispheric Dependence of Storm-Enhanced Densities (SED), (3) Response of the Thermosphere and Ionosphere to X-Ray and EUV Time-History During Flares, (4) Quiet-Time Longitude Spatial Structure in Total Electron Content and Electrodynamics, (5) Temporal Response to Lower-Atmosphere Disturbances, and (6) Ionospheric Irregularities and Scintillations.

Photo 8: *Africa Hall at the United Nations Economic Commission for Africa (UNECA), the venue of the Chapman Conference.*

High-quality oral and poster papers were presented at the conference. Finally, the conference concluded by formally establishing the African Geophysical Society (AGS), which was officially inaugurated at the closing ceremony of the AGU Chapman Conference. Photo 9 shows the group pictures taken outside the meeting venue.

Photo 9: *Group photo of the participants in the Chapman Conference in Addis Ababa*

(Reported by Endawoke Yizengaw)

3. CAWSES News

During the 10th Annual AOGS (*Asia Oceania Geosciences Society*) Meeting, to be held from 24 to 28 June, 2013 in Brisbane, Australia there will be a SCOSTEP/CAWSES session listed under Solar-Terrestrial Sciences, ST-29, **Understanding climate and weather of the Earth-Sun System.**

The Main Conveners are: Toshitaka Tsuda (CAWSES Co-Chair, Kyoto University), and Joseph M. Davila (CAWSES Co-Chair, NASA GSFC), with Co-Conveners: Nat Gopalswamy, Franz-Josef Lübken, and Marianna G. Shepherd.

The deadline for submission of abstracts is **January 28, 2013.**

The CAWSES II (Climate and Weather of the Sun-Earth System: Towards Solar Maximum) program is a five-year (2009-2013) international program sponsored by SCOSTEP established with the aim of addressing the complex characteristics of the Sun-Earth system, its variability and impacts on life and society. The Sun, heliosphere, magnetosphere, ionosphere and atmosphere act as a system of systems. The aim is to bring together worldwide resources, including space- and ground-based instruments, data archives, and the cyber infrastructure to understand the short-term (Space Weather) and long-term (Space Climate) processes throughout the Sun-Earth system. Understanding the variability has societal implications including human activities in space, reliability of technological systems in space and on the ground, climate change and ozone depletion. The CAWSES program addresses four major themes: 1) What are the solar influences on the Earth's climate? 2) How will geospace respond to an altered climate? 3) How does short-term solar variability affect the geospace environment? What is the geospace response to variable inputs from the lower atmosphere?

Presentations are solicited within these four themes which specifically deal with the coupling processes or coupled interactions in the Sun-Earth system. That is, those works that highlight how the variability in one latitude /altitude/ region is coupled with the variability in other location(s)/region(s). These include coupling processes in the lower-upper atmosphere, magnetosphere-ionosphere, high-to-low latitude, Solar-wind / interplanetary medium to the magnetosphere, in addition to neutral – plasma coupling processes. Realizing the importance of these coupling processes, global scale observational campaigns have been carried out under the auspices of major international programs such as CAWSES and the International Space Weather Initiative (ISWI), and several new insights are emerging from these experiments as well. Papers that deal with experiments, observations, modeling, and data analysis that advance our understanding of the coupling processes are welcome.

4. SCOSTEP News

4.1 SCOSTEP – Permanent Observer to UN COPUOS

At its 67th session on 18 December 2012 the UN General Assembly having considered the report of the Committee on the Peaceful Uses of Outer Space (COPUOS) on the work of its fifty-fifth session in June 2012, endorsed the decision of the Committee to grant ***permanent observer status*** to the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP).

4.2 International CAWSES II Symposium

The International CAWSES II Symposium will be held in Nagoya on **November 18-22, 2013**

This International CAWSES-II Symposium hosted by SCOSTEP will provide an excellent opportunity to discuss the scientific accomplishments of the CAWSES-II program and look forward to SCOSTEP's future programs at a moment toward the end of its five-year period. The symposium will cover the six major themes of CAWSES-II tasks: 1) What are the solar influences on the Earth's climate?, 2) How will geospace respond to an altered climate?, 3) How does short-term solar variability affect the geospace environment?, 4) What is the geospace response to variable inputs from the lower atmosphere?, 5) Capacity Building, 6) Informatics and eScience. The symposium offers keynotes/lectures that will be interesting for all participants every morning and more specific sessions of presentations in the afternoon. We welcome all those who are involved and/or interested in CAWSES-II to Nagoya in the autumn when we will have the pleasure of being surrounded by beautiful colorful leaves of this season

http://www.stelab.nagoya-u.ac.jp/cawses2013/

4.3 Solar-Terrestrial Physics 13th Symposium-STP13

Recently the President met with Dr. Chi Wang, the chief organizer of the STP 13 in Xi'An, China in 2014. The meeting was attended by three others from the LOC and Dr. ST Wu, past VP of SCOSTEP. The STP 13 will be held during **October 13-17, 2014**.

5. Upcoming Events

February 11-15, 2013: UN COPUOS Scientific and Technical Subcommittee (STSC): 2013 - Fiftieth session, Vienna, Austria

February 13, 2013: International Living With a Star (ILWS) Working Group meeting, Vienna, Austria

February 14, 2013: ILWS 10th Anniversary Symposium, Vienna, Austria
http://ilwsonline.org/tenthanniversary/

March 11-15, 2013: TOSCA Science School, Impact of solar variability on climate, Thessaloniki, Greece

April 7-12, 2013: European Geosciences Union General Assembly 2013, Vienna, Austria

May 5, 2013: SCOSTEP Bureau Meeting, Bern, Switzerland

May 6-8, 2013: SCOSTEP/ISSI panel meeting on SCOSTEP future scientific programs, Bern, Switzerland

May 14-17, 2013: Meeting of the Americas, Cancun, Mexico, http://moa.agu.org/2013/

June 10-14, 2013: IAUS300, Nature of prominences and their role in space weather, Paris, France
http://iaus300.sciencesconf.org/

June 17-20, 2013: International Study for Earth-Affecting Solar Transients (ISEST), Hvar, Croatia.

June 24-28, 2013: International Living With a Star (ILWS) Workshop on Space Weather Research with Space and Ground-based Observations, Irkutsk, Russia

June 24-28, 2013: 10th AOGS (*Asia Oceania Geosciences Society)* meeting, Brisbane, Australia – CAWSES II Session ST29.

6. General Information about SCOSTEP

6.1 SCOSTEP Web Site

Information on SCOSTEP can be found at:
http://www.yorku.ca/scostep/

6.2 SCOSTEP Contact

The Scientific Secretary is the main point of contact for all matters concerning SCOSTEP.

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