

Possible SWWT & IHY Activities

A. Glover, A. Hilgers (ESA-ESTEC)

With contribution from D. Boteler (ISES)

Goals of IHY?

1. Develop the basic science of heliophysics through cross-disciplinary studies of universal processes.
2. Determine the response of terrestrial and planetary magnetospheres and atmospheres to external drivers.
3. Promote research on the Sun-heliosphere system outward to the local interstellar medium - the new frontier.
4. Foster international scientific cooperation in the study of heliophysical phenomena now and in the future
5. Communicate unique IHY results to the scientific community and the general public

Structure of IHY

Science working Groups coordinate analysis and modelling efforts, and are responsible for planning IHY meetings, symposia and workshops through the three major thrusts:

- 1. Scientific Campaigns:** oversees the IHY coordinated observing campaigns. The team reviews proposals for IHY campaigns, coordinates the input from the observatory representatives, and maintains the IHY observing and campaign schedule.
- 2. Scientific Meetings and Publications:** arranges for communication of scientific results to broader science community.
- 3. Public Outreach:** responsible for increasing public awareness of IHY activities. This committee produces newsletters, maintains the website(s), writes articles, coordinates media affairs, and develops outreach products.

Possible role of SWWT:

SWENET?

- Thinking back to the 3 main thrusts of the IHY:
 1. *Scientific Campaigns*
 2. *Scientific Meetings and Publications*
 3. *Education and Outreach*
- How could SWENET contribute to the goals of IHY in this context?

Scientific Missions

- SWENET as a cross-thematic coordination support.
 - infrastructure already in place to accept data from a variety of different sources: low effort to add a new one (also applicable for eGY?).
- Could (should?) emphasise the importance of the availability of data in near-real time and the global nature of the system
 - (i.e. ground based products through ionosphere to solar indices).
- System could form a “final link in the chain”: illustration of the practical benefits of the IHY campaigns and publications.
 - (overlap with the education concept?)



Scientific Missions: Community Suggestions

- High resolution real-time measurement campaign
- Planetary/solar system scale measurement campaigns
- New indices: understanding the benefits of new planetary (& beyond) scale indices: incorporation of space based measurements.

Coordination a priority with ongoing COST actions

Meetings

- ESWW (2007): An IHY associated conference? Could focus on IHY.
 - Additional support would cover e.g. renting large meeting facilities
 - additional funding could cover education/ outreach/exhibition event(s) to run parallel

Outreach

- SWENET as an educational resource?
 - student projects to design services.
 - Aim to develop new and innovative ideas for products based on SW data.
 - Aim to give students experience of science and industry.
 - University level (or possibly ages 16-18) in the context of normal studies or as a summer programme:
 - set up a resource of universities for science b/g and support/ supervision plus pool of industry sponsors providing "customer" input/suggestions and feedback in the context of projects of a few months duration
 - A final presentation of the students projects: mock "customer delivery" day with the customers and supervisors present.

Outreach II

- Educational arm of the SWENET site. Could include:
 - website translation into several different European languages
 - incorporation and update of the outreach material from e.g. the SW CD-Rom into an educational website
 - online educational games and quizzes: virtual "space weather control centre" for kids.
 - an "ask the expert" page
- brochures & education material for a range of interests: user communities, schools, service developers, decision makers (Note: the NASA-education officer we spoke to was only thinking in terms of schools education)

ISES activities

- Last meeting: 2nd April 2005: Discussion of IPY, IHY, eGY & IYPE.
- Agreed to offer assistance with: IPY, IHY, eGY and IYPE
 - Provide a forecast/alert service as for original IGY
- Other ideas:
 - IPY+ISES: improving forecasts of HF radio propagation in polar regions
 - IHY+ISES: forecasting space weather throughout the solar system
 - eGY+ISES: improvements in data exchange and communication between RWCs and between RWCs and users
 - IYPE+ISES: appreciation of a space weather as another 'natural hazard'

Status & Collaboration with SWWT

- ISES projects currently at conceptual stage
- Already agreed that ESA act to represent non-RWC European entities at ISES level
- Likely to be overlap between ISES & SWWT initiatives (several RWCs represented at SWWT)
- ISES welcomes joint projects
- Ready to collaborate and support as necessary

Conclusion

- Several options
- SWWT the natural forum for a proposal based on European space weather applications
- Collaboration with ISES
- Collaboration with other organisations/ activities including COST 724 & 296.
- Next steps:
 - Dates: SSA deadline 13th July (~11 weeks).