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* ISWI Newsletter - Vol. 2 No. 13　20 February 2010 *
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*　I S W I = International Space Weather Initiative *
*　(www.iswi-secretariat.org) *
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* Publisher: Professor K. Yumoto, SERC, Kyushu University, Japan *
* Editor-in-Chief: Mr. George Maeda, SERC (maeda@serc.kyushu-u.ac.jp) *
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Attachments:
(1) 3 pages, 23 KB.
Informal summary of the deliberations of the 47th session of the Scientific and Technical Subcommittee of UNCOPUOS, 8-19 Feb 2010. (Background of UNCOPUOS outlined in the previous issue of this newsletter.)
(2) 12 pages, 680 KB.
"International Space Weather Initiative", by Dr. Joseph M. Davila and Dr. Nat Gopalswamy, both with Goddard Space Flight Center, NASA, Greenbelt, Maryland, 20771, USA.

Dear ISWI Participant:

Attached are two documents that come from the recent COPUOS gathering in Vienna (47th session of the Scientific and Technical Subcommittee).

*** Soap Box Commentary by the Editor:

In my opinion, one slide that is particularly important is Page 6 (of 12 pages) of the second pdf (by Messrs. Davila and Gopalswamy). It lists the "key principles" of the ISWI Instrument Program. What is more, on the next page (Page 7), there is a fine list of instrument providers (in red letters) and instrument hosts (in green letters).

When it is asked by neophytes, "What is the purpose of ISWI? Why is it needed? What can it possibly amount to?" --- the reply is that IHY/ISWI partially resolves the hitherto unresolved problem of how to get scientifically significant instruments deployed in regions of the world where they are *needed* but (for one reason or another) could not get there.

In this respect, ISWI is a beaucoup formidable "barrier buster" (or "match maker") and I challenge anyone to come up with a better way to resolve this long-standing problem (i.e., making the links between instrument providers and instrument hosts for the benefit of space science).

To wrap up, my retort to the neophytes in the peanut gallery is:
----> "We have an agenda and so do not get in our way."

*** End of Editor's Commentary.

If you have a Commentary to share with the growing ISWI community, please send it my way for newsletter circulation. If possible, kindly package it in a pdf along with a photo of the author of the commentary. A photo gives the text "a face" (a human touch).

it my way.
Cordially yours,
George Maeda
Editor of ISWI Newsletter

International Space Weather Initiative (ISWI)

Informal summary of the deliberations of the Forty-seventh session of the Scientific and Technical Subcommittee of UNCOPUOS on agenda item 13. ISWI, 8-19 February 2010

In accordance with paragraph 10 of General Assembly resolution 64/86, the Scientific and Technical Subcommittee considered agenda item 13, "International Space Weather Initiative" under the workplan agreed for this item (A/AC.105/C.1/933, Annex I, paragraph 16).

The representatives of Canada, China, India, Indonesia, Japan and the United States made statements under agenda item 13. The observer for WMO also made a statement.

The Subcommittee heard the following scientific and technical presentations: need to check

(a) "International experiments of the Russian Academy of Sciences in the framework of the Space Weather Program", by the representative of the Russian Federation;

(b) "International Space Weather Initiative", by the representative of the United States;

(c) "Space Weather Impact on Radio Systems", by the representative of Germany;

(d) "Canadian space weather activities in support ot the International Space Weather Initiative" by the representative of Canada;

(e) "Japan's contribution to the ISWI", by the representative of Japan; and

(f) "Space debris, near-Earth Objects and space weather research and observation in Indonesia" by the representative of Indonesia.

The Subcommittee had before it reports on regional and international activities related to the International Space Weather Initiative (A/AC.105/967 and Add.1 and A/AC.105/C.1/2010/CRP.8).

The Subcommittee noted that International Space Weather Initiative (ISWI) would contribute to the observation of space weather through the deployment of instruments arrays and by means of sharing observed data among researchers around the world.

The Subcommittee noted that ISWI would explore the solar corona, deepen understanding of the function of the Sun and the effects that the variability of the Sun could have on Earth's magnetosphere, environment and climate, explore the ionized environments of planets, determine the limits of the heliosphere and deepen understanding of its interaction with interstellar space.

The Subcommittee welcomed that participation in ISWI was open to scientists from all countries, as instrument hosts or instruments providers.

The Subcommittee noted that ISWI offered Member States with the opportunity to coordinate global monitoring of space weather using space and ground-based assets, assist in consolidating common knowledge and develop essential forecast capabilities to improve the safety of space-based assets.

The Subcommittee noted that space weather related events were of significant concern to all countries due to technological and economic interdependence, and the growing dependence on space assets to deliver vital services.

The Subcommittee noted with appreciation that information on the ground-based world-wide instrument arrays was being distributed through a Newsletter being published by the Space Environment Research Centre (SERC) of Kyushu University of Japan and through the ISWI website http://www.iswi-secretariat.org.

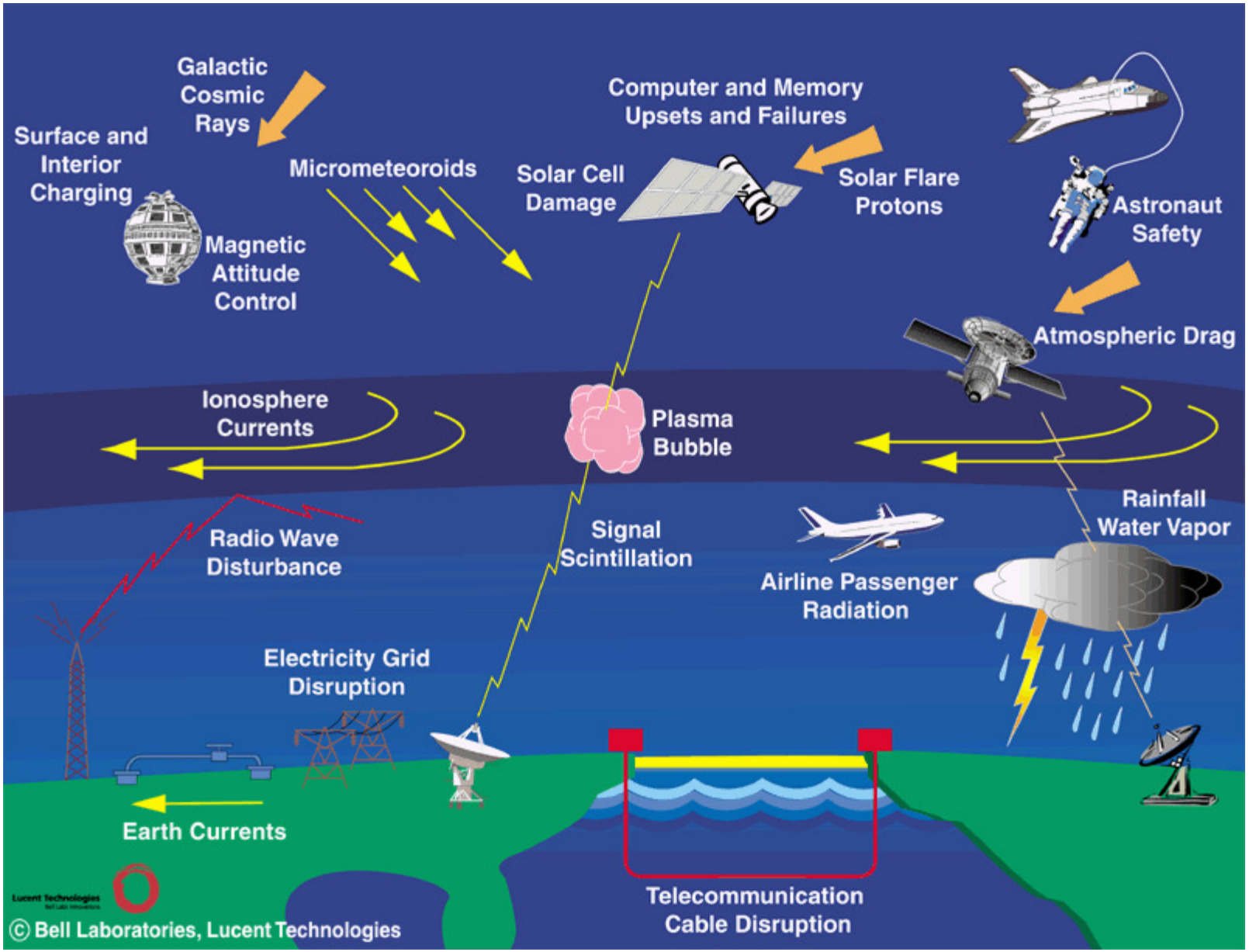
The Subcommittee noted with appreciation that the Office for Outer Space Affairs had joined the study of the effect of sudden disturbances on the ionosphere with the installation of a Sudden Ionospheric Disturbance Monitor (SID) instrument at its permanent outer space exhibit. The SID daily data sets recorded by the Office were being transferred to Stanford University of the United States for scientists worldwide to use in their analysis of the complex relationship between the Earth and the Sun.

The Subcommittee welcomed that the United Nations Programme on Space Applications had organized, in 2009, in the Republic of Korea, the first of a series of United Nations workshops, co-sponsored by ESA, NASA and JAXA to address ISWI and that the next workshop was scheduled to take place in Egypt in November 2010. The third and fourth workshop in the series would be hosted by Nigeria in 2011,and Ecuador in 2012.

International Space Weather Initiative

Joseph M. Davila (GSFC) and Nat Gopalswamy (GSFC)

For additional information go to http://iswi-secretariat.org


Galactic Cosmic Rays
Surface and Interior Charging
Micrometeoroids
Magnetic Attitude Control
Solar Cell Damage
Computer and Memory Upsets and Failures
Solar Flare Protons
Astronaut Safety
Atmospheric Drag
Ionosphere Currents
Plasma Bubble
Radio Wave Disturbance
Signal Scintillation
Airline Passenger Radiation
Rainfall Water Vapor
Electricity Grid Disruption
Earth Currents
Telecommunication Cable Disruption
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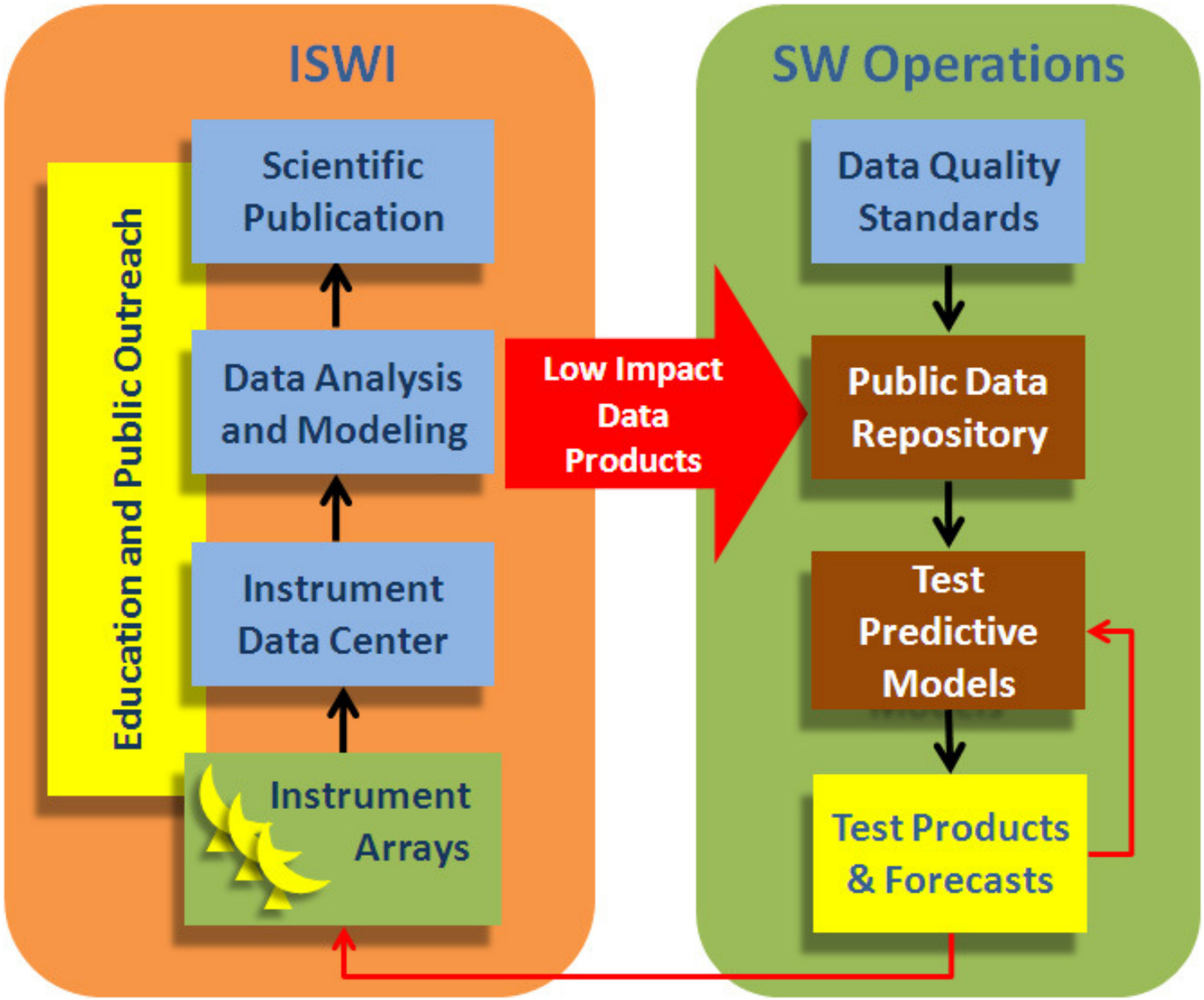
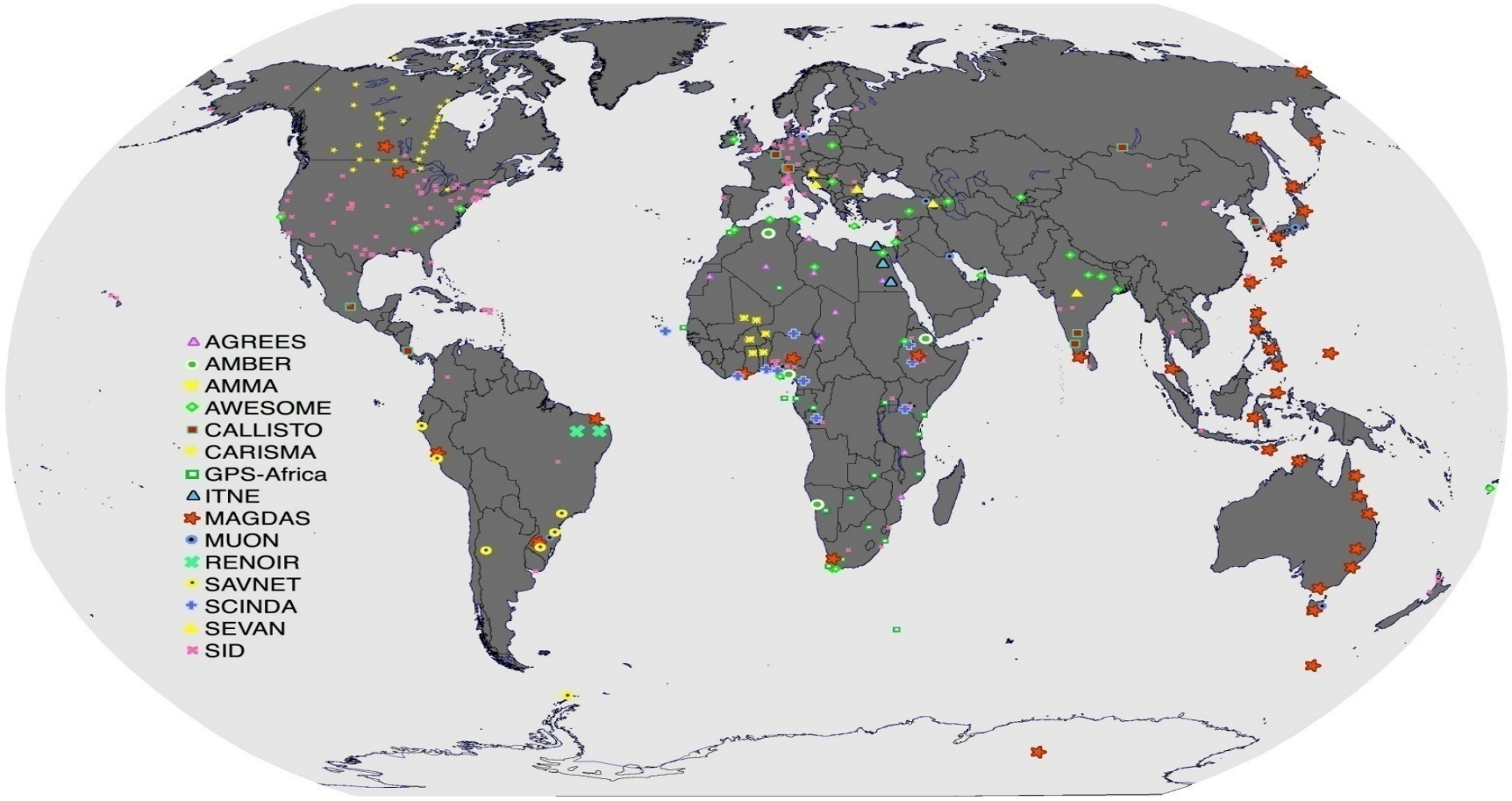
Objectives

- **Develop the scientific insight necessary to understand the science, and to reconstruct and forecast near-Earth space weather**
  - **Instrumentation**
    - **Expand and continue deployment of new and existing instrument arrays**
  - **Data analysis**
    - **Expand data analysis effort for instrument arrays and existing data bases**
  - **Coordinate data products to provide input for physical modeling**
    - **Input instrument array data into physical models of heliospheric processes**
    - **Develop data products that reconstruct past conditions in order to facilitate assessment of problems attributed to space weather effects**
  - **Coordinate data products to allow predictive relationships to be developed**
    - **Develop data products to allow predictive relationships that enable the forecasting of Space Weather to be established**
    - **Develop data products that can easily be assimilated into real-time or near real-time predictive models**
- **Education, Training, and Public Outreach**
  - **University and Graduate Schools**
    - **Encourage and support space science courses and curricula in Universities that provide instrument support**
  - **Public Outreach**
    - **Develop public outreach materials unique to the ISWI, and coordinate the distribution**


ISWI
Scientific Publication
Data Analysis and Modeling
Instrument Data Center
Instrument Arrays
Education and Public Outreach
Low Impact Data Products
SW Operations
Data Quality Standards
Public Data Repository
Test Predictive Models
Test Products & Forecasts

Current Instrument Installations

A Proven Track Record



This model for developing instrument networks was proven during the IHY

Principles of the Instrument Program

- The lead scientist or principle investigator funded by his/her country provides instrumentation (or fabrication plans) and data distribution service
- The host country provides the workforce, facilities, and operational support typically at a local university or research institute.
- Host scientists become part of science team
- All data and data analysis activity is shared
- All scientists participate in publications and scientific meetings where possible

ISWI Participation

Albania, Algeria, Argentina, Australia, Austria, Belgium, Benin, Bolivia, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Hungary, Germany, Greece, India, Indonesia, Iran, Iraq, Italy, Japan, Kazakhstan, Kenya, Lebanon, Libyan Arab Jamahiriya, Malaysia, Mexico, Mongolia, Morocco, Netherlands, Nicaragua, Niger, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, the Russian Federation, Saudi Arabia, Senegal, Sierra Leone, Slovakia, South Africa, Spain, Sudan, Sweden, Switzerland, Syrian Arab Republic, Thailand, Turkey, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Ukraine, Uruguay, Venezuela , and Viet Nam

Key: Instrument Lead Instrument Host

Scientific Benefits

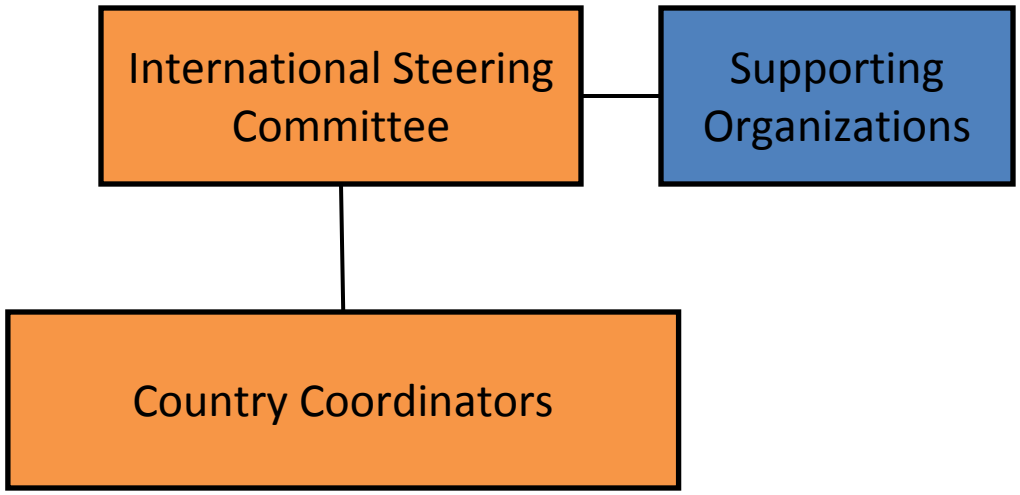
- By observing in new geographical regions, a more global picture of Earth's response to various inputs can be obtained
- New and interesting global phenomena along the magnetic dipole equator and in other regions can be studied for the first time
- Arrays provide 3D information that can be used in tomographic reconstructions
- Long term these networks will provide real-time data valuable for forecasting and nowcasting
- Modeling projects allow better exploitation of existing data sets

First ISWI Coordination Meeting

- June 2009 Organizational Meeting at the Academy of Science
- Nov 18-19, 2009 Coordination Workshop in Rabat Morocco
- Resulted in the plans for the installation of 6 new instruments at various Moroccan universities
- Follow-on meeting planned for next year
- **Would like to arrange similar workshops in other interested countries**

Contact Joseph.M.Davila@nasa.gov

Simple Organization



- Steering committee to meet once/yr to decide policy
- Country coordinators organize activities at the grass roots level

Outreach Activity

- Plans for Hands-on space science and Public Nights

Example in Morocco (November 2009)

- A collaboration with Tree of Hope (US-NGO)
- More than 6000 students age 8-15 engaged in 3 cities over 1-week period
- 10 Outreach specialists, and former astronaut Loren Acton

- Similar events are in the planning process for other countries

Planned Activities

- Major ISWI Workshop in Luxor, Egypt, Nov 6-10, 2010
- Follow-on workshops in Nigeria (2011) and Ecuador (2012)
- Planning additional single country events similar to the Workshop in Morocco
- First Steering Committee Meeting early summer 2010
- For more information see website:

http://iswi-secretariat.org