

ISWI Steering Committee Meeting 2017  
Conference Room C6, 7th floor, C-building  
Vienna International Centre (VIC), Vienna Austria  
10 AM to 6 PM, February 1, 2017  
Agenda

1. Introduction & Report (Nat Gopalswamy, Chair)
2. Secretariat update
3. Steering Committee update
4. ISWI National Coordinators (Report by Christine Amory)
5. ISWI Instruments update (Shing Fung)
6. Data Subcommittee Report (Shing Fung)
7. ISWI – UNOOSA Collaboration (Sharafat Gadimova)
8. Expert Group update (Ian Mann)
9. ISWI/NASA report: Elsayed Talaat
10. ISWI School Report (Nat Gopalswamy)
11. ISWI/CALLISTO Workshop (Christian Monstein)
12. UN/US Workshop in Boston (July 31-August 4, 2017 – Patricia Doherty)
13. VarSITI Report Katya Georgieva
14. National/Regional Coordinator reports
15. Any other matter

**ISWI Steering Committee UN Vienna Feb 1 2017**

# Attendance

- 12 out of 19 Steering Committee members attended
- Apologies:

Jean Lilensten  
Katya Georgieva  
Keith Groves  
Lika Guhathakurta  
Terry Onsager  
Jean-Pierre Raulin  
Kazunari Shibata

# 1. Introduction by the Chair

- 2016 Nov 7-17 SCOSTEP/ISWI School in Sangli, Maharashtra India was conducted successfully with a record number of students. The school report is available on line (...). Lecture notes are also available on line: [http://www.iiap.res.in/meet/school\\_meet/index.php](http://www.iiap.res.in/meet/school_meet/index.php)
- ISWI instruments have shown a healthy expansion. ISWI Data policy has been established. It is important to use the ISWI data to obtain scientific results and publish them. More details from the Data Policy Subcommittee.
- The Space Weather Expert Group and ISWI will promote UNISPACE+50 activities including global response to space weather extremes
- The United Nations/United States of America Workshop on International Space Weather Initiative: The Decade after the International Heliophysical Year 2007, 31 July - 4 August 2017, Chestnut Hill, MA, USA. UN web site: <http://www.unoosa.org/oosa/en/ourwork/psa/schedule/2017/2017-un-usa-workshop-on-international-space-weather-initiative.html>; Boston College web site: <http://iswi2017.bc.edu>
- The ISWI Web site (Mitko Danov and Katya Georgieva) and ISWI Newsletter (George Maeda) are going strong. The ISWI community should make use of it for sharing any and all information on space weather.

- United States Space Weather Action Plan (SWAP) benchmark documents are published in the Federal register:  
<https://www.federalregister.gov/documents/2017/01/23/2017-01333/notice-of-availability-of-and-request-for-public-comment-on-space-weather-phase-1-benchmarks>
- [http://www.ofcm.gov/publications/spacewx/DRAFT\\_SWx\\_Phase\\_1\\_Benchmarks.pdf](http://www.ofcm.gov/publications/spacewx/DRAFT_SWx_Phase_1_Benchmarks.pdf)
- Comments (<2000 words each) can be made online until March 20, 2017

# Submit comments!

The screenshot shows the Federal Register website interface. At the top, there is a navigation bar with links for Sections, Browse, Search, Reader Aids, and My FR. A search box labeled "Search Documents" is on the right. Below the navigation bar is the Federal Register logo and the text "FEDERAL REGISTER The Daily Journal of the United States Government". A "Notice" icon is visible on the right side. The main content area features a large heading: "Notice of Availability of and Request for Public Comment on Space Weather Phase 1 Benchmarks". Below this heading, it states "A Notice by the National Oceanic and Atmospheric Administration on 01/23/2017". A green button labeled "SUBMIT A FORMAL COMMENT" is prominently displayed. A message bubble indicates "This document has a comment period that ends in 47 days. (03/20/2017)". At the bottom of the page, a "PUBLISHED DOCUMENT" label is visible.

You can also email comments: [spwxbenchmarks@noaa.gov](mailto:spwxbenchmarks@noaa.gov). Include [Space Weather Phase 1 Benchmarks] in the subject line of the message.

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## 2. Secretariat

- Nat Gopalswamy - *Executive Director*
- George Maeda - *Newsletter Editor*
- Katya Georgieva & Mitko Danov - *Webmaster*
- Sharafat Gadimova - *UN Liaison*
- Pat Doherty - *Workshop Coordinator*
- Shing Fung - *Data Coordinator*

<http://iswi-secretariat.org>

**No changes since the  
2016 Steering committee  
meeting.**

## 3. Steering Committee

Christine Amory-Mazaudier  
Sharafat Gadimova  
Katya Georgieva  
J Americo Gonzalez Esparza  
Nat Gopalswamy  
Keith Groves  
M. Lika Guhathakurta  
Norbert Jakowski  
Jean Lilensten  
Ian Mann  
Richard Marshall  
Christian Monstein  
Terry Onsager  
Babatunde Rabi  
Jean-Pierre Raulin  
Kazunari Shibata  
Elsayed Talaat  
Chi Wang  
Akimasa Yoshikawa

# 20 Newsletter issues in 2016



Editor – George Maeda  
Kyushu Institute of Technology  
Kitakyushu, JAPAN

# ISWI web site

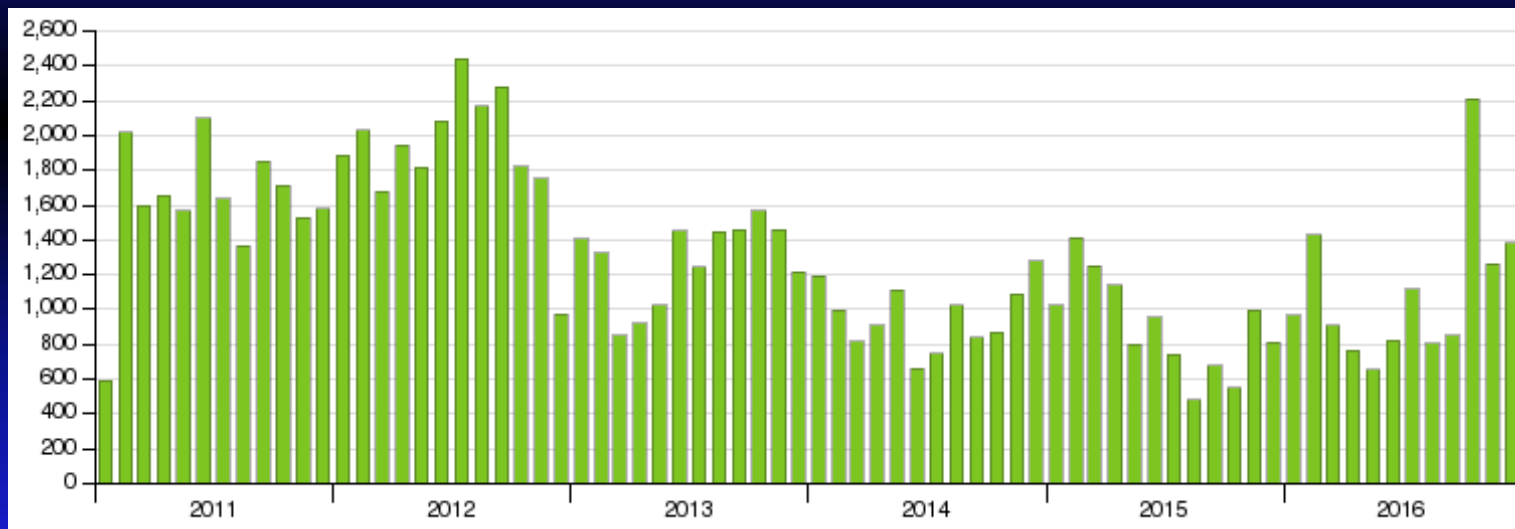
<http://iswi-secretariat.org/>



Web master: **Mitko Danov**  
Space Research and Technology Institute  
Bulgarian Academy of Sciences



# Monthly number of visits to ISWI Web site from January 2011 to December 2016



# 72 new or updated pages in 2016



The screenshot shows the homepage of the International Space Weather Initiative (ISWI). At the top left is the ISWI logo, which is a circular emblem with the text "International Space Weather Initiative" around the perimeter and "ISWI" in the center. To the right of the logo, the text "International Space Weather Initiative" is written in a red, serif font, with "ISWI" in a smaller, black, sans-serif font below it. In the top right corner, there is a small rectangular box displaying visitor statistics: "38,292 Visitors" and "19 Nov 2006 - 3 Dec 2013", along with a small world map and a "Click Here" link.

Below the header, there is a horizontal navigation menu with the following items: "About", "Organization", "Projects", "Meetings", "Publications", and "News&Blogs". Below the menu is a "HOME" link.

The main content area begins with the text "Good Afternoon. Welcome to:". Below this is a large, oval-shaped graphic. The graphic features a blue background with a sun on the left and the Earth on the right. The text "INTERNATIONAL SPACE WEATHER INITIATIVE" is written in a white, sans-serif font along the top edge of the oval. In the center of the oval, the letters "ISWI" are written in a large, black, serif font with a white outline.

Below the graphic is a paragraph of text: "ISWI is a program of international cooperation to advance the space weather science by a combination of instrument deployment, analysis and interpretation of space weather data from the deployed instruments in conjunction with space data, and communicate the results to the public and students. ISWI is a follow-up activity to the successful IHY 2007, but focusing exclusively on space weather."

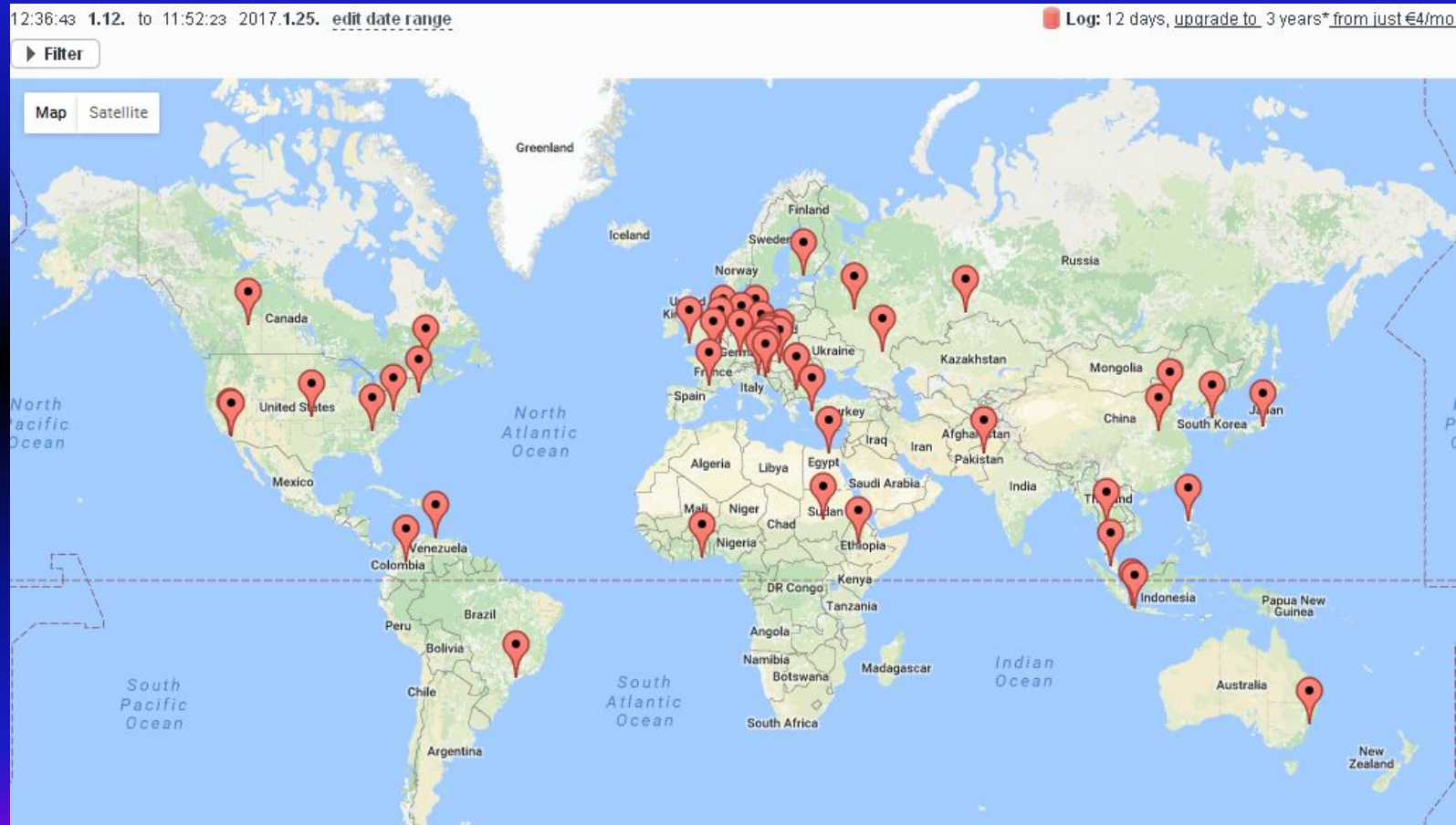
Below the paragraph is another line of text: "The goal of the ISWI is to develop the scientific insight necessary to understand the science, and to".

At the bottom of the page, there is a "Latest News" section with the text: "Latest News: to stop scrolling text, move the mouse over it".

ISWI instrument distribution: last updated on June 30, 2016  
added: **AMBER** (+3), **CALLISTO** (+6)  
a total of 1045 instruments located in 112 countries  
next network to be updated: **LISN**



# ISWI Web site visits – Recent 12 days



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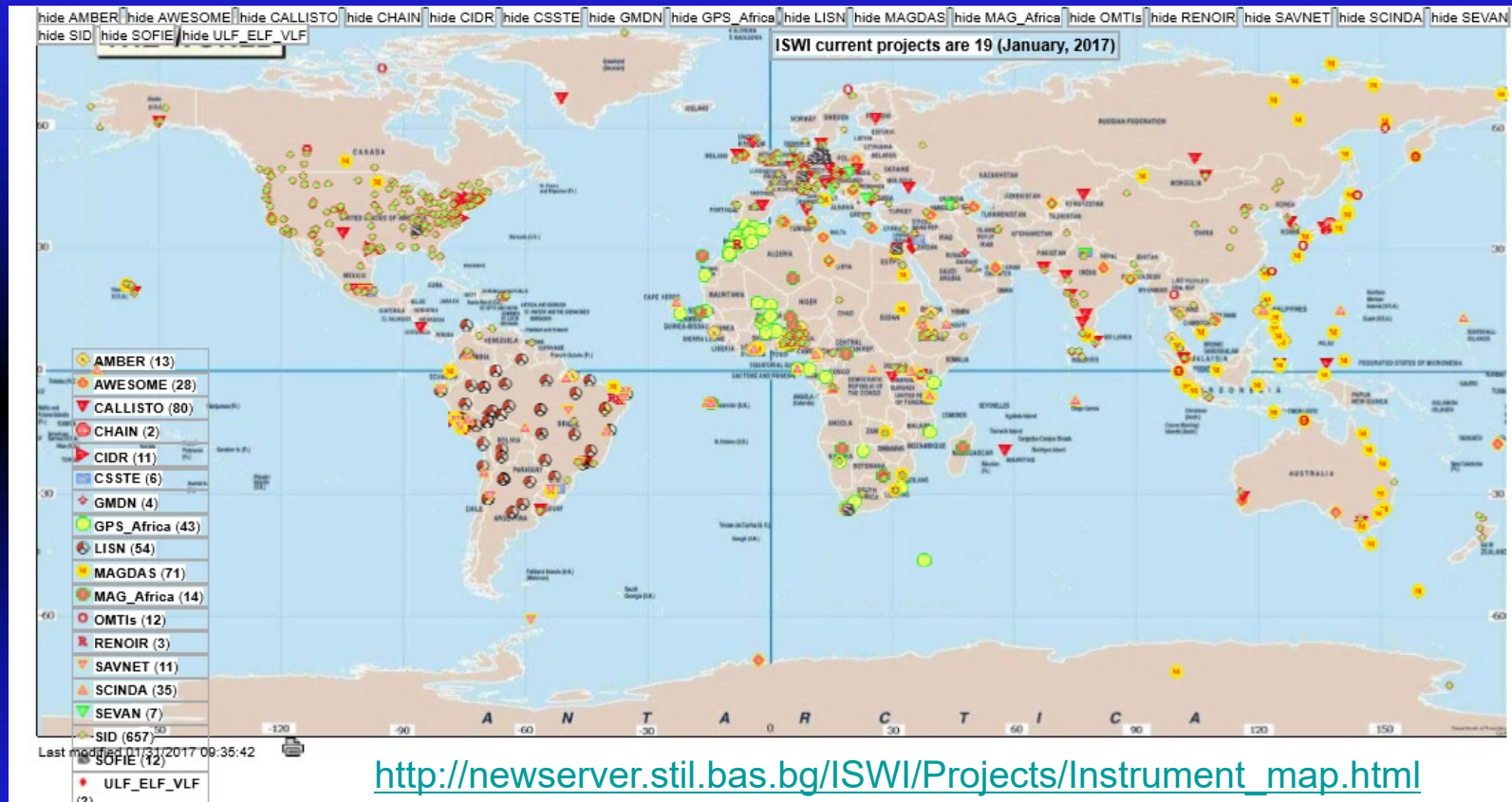


## >100 Countries now host one or more ISWI Instruments

90. **South Africa** (28) *CALLISTO(1), GPS\_Africa(7), MAGDAS(2), MAG\_Africa(2), SCINDA(2), SID(13), SOFIE(1)*
91. **South Korea** (2) *CALLISTO(2)*
92. **Spain** (5) *CALLISTO(3), MAG\_Africa(1), SID(1)*
93. **Sri Lanka** (2) *CALLISTO(1), SID(1)*
94. **Sudan** (1) *MAGDAS(1)*
95. **Sweden** (3) *SID(3)*
96. **Switzerland** (10) *CALLISTO(7), SID(3)*
97. **Taiwan** (4) *MAGDAS(1), SID(3)*
98. **Tanzania** (2) *MAGDAS(1), SCINDA(1)*
99. **Thailand** (8) *AMBER(2), OMTIs(1), SID(5)*
100. **Tunisia** (10) *AWESOME(1), SID(9)*
101. **Turkey** (3) *AWESOME(1), SID(2)*
102. **UAE** (1) *AWESOME(1)*
103. **UK** (20) *CALLISTO(1), MAG\_Africa(1), SCINDA(2), SID(16)*
104. **URUGUAY** (4) *SID(4)*
105. **USA** (275) *AWESOME(3), CALLISTO(5), CIDR(9), MAGDAS(2), SCINDA(2), SID(252), SOFIE(2)*
106. **US Virgin Islands** (2) *SID(2)*
107. **Uganda** (5) *SCINDA(1), SID(4)*
108. **Ukraine** (1) *CALLISTO(1)*
109. **Uruguay** (4) *CALLISTO(1), SID(3)*
110. **Uzbekistan** (3) *AWESOME(1), SID(2)*
111. **Venezuela** (2) *SID(2)*
112. **Vietnam** (3) *AWESOME(1), MAGDAS(1), SID(1)*
113. **Zambia** (3) *MAGDAS(1), SID(2)*

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# More than 1000 deployments in more than 100 countries



[http://newserver.stil.bas.bg/ISWI/instrMAPs/instr\\_map2017.html](http://newserver.stil.bas.bg/ISWI/instrMAPs/instr_map2017.html)

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## Low-latitude Ionosphere Sensor Network LISN instrument distribution



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## 5. ISWI Instruments updates

Space Weather and GNSS training (C. Amory & R. Fleury):

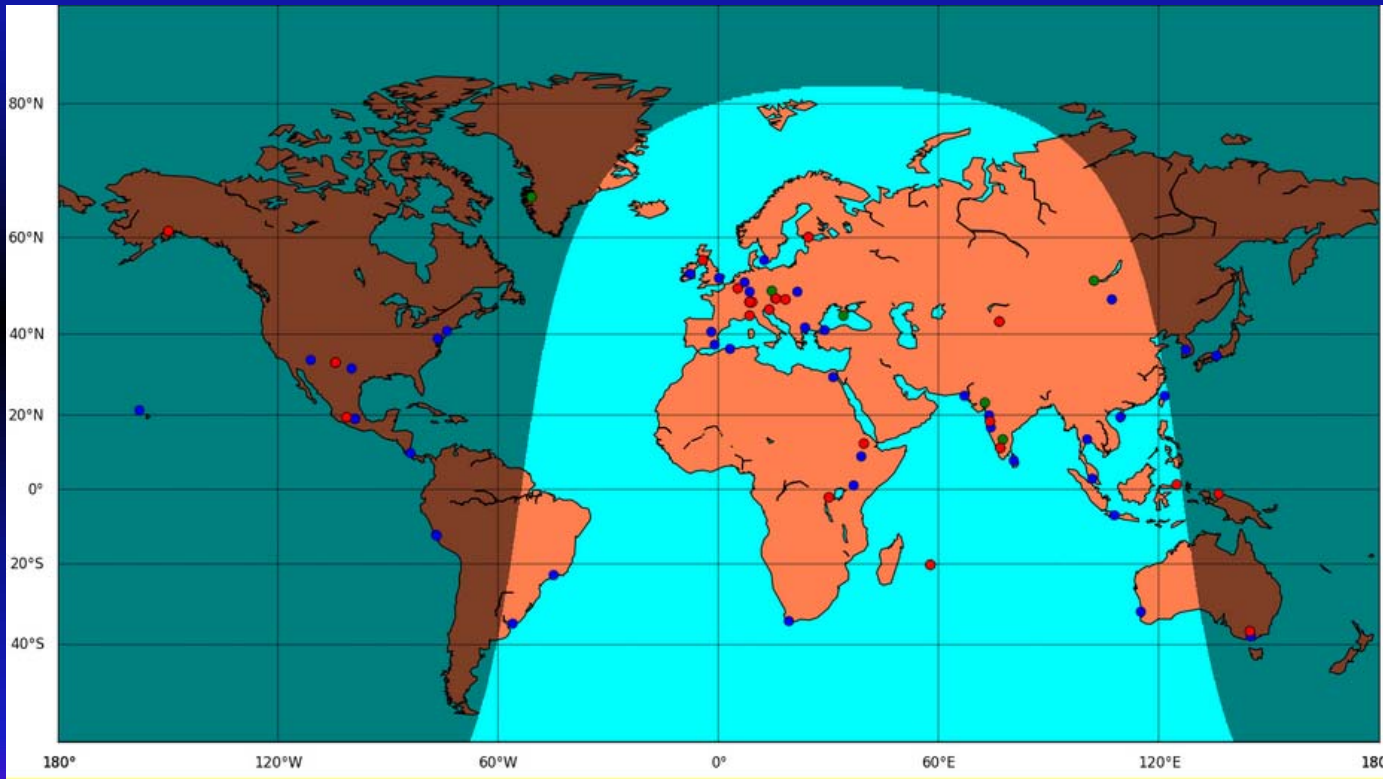
<http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-16..pdf>

\_Inner-Magnetospheric Array for Geospace Science: iMAGS (Endawoke Yizengaw):

<http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-12..pdf>

# ISWI CALLISTO Update (C. Monstein)

[http://e-callisto.org/Callisto\\_DataStatus\\_Vwww.pdf](http://e-callisto.org/Callisto_DataStatus_Vwww.pdf)



More than 133 instruments in  
more than 67 locations

Users from more than 132  
countries

ISWI Instrument Data  
Management Plan available

Quick-look data from 2002

Complete data access

All details in:  
<http://www.e-Callisto.org>

A Progress report in: <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-4..pdf>

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## 4. National Coordinators

### Membership Subcommittee

Chair: Christine Amory

Members: Mitko Danov

Babatunde Rabi

Christian Monstein

Richard Marshall;

J. Americo Gonzalez-Esparza

For a Detailed Report, see:

<http://www.unoosa.org/pdf/icg/2017/iswi-sc/4.pdf>

- The committee work is ongoing to replace coordinators who have not responded
- It was decided that only established scientists be appointed as national coordinators, unless there is no one available
- The subcommittee members to obtain annual reports from National Coordinators to be published in ISWI Newsletter.
- National coordinators will be invited to present posters on their national activities during the 2017 UN/US workshop on ISWI in Boston

## 6. Data Subcommittee Report (Shing Fung)

**Chair:** Shing Fung

**Members:**

Christine Amory

Keith Groves

Christian Monstein

Terry Onsager

Babatunde Rabiou

George Maeda

Jesper Gjerloev

- The data policy report was distributed to the UNCOPUOS member states as a conference room paper during the 54<sup>th</sup> session of the Science and Technology Subcommittee (STSC)
- Project Data Management Plan (PDMP) has been submitted by 11 instrument PIs
- Working to get the remaining PIs complete the PDMP
- Expect to complete before the UN/US ISWI meeting in Boston

## 7. ISWI – UNOOSA Collaboration (Sharafat Gadimova)

- **The United Nations/United States America Workshop on International Space Weather Initiative will consists of three parts:**
  - (i) **A High level international forum on the economic and societal effects of extreme space weather**
  - (ii) **ISWI, and**
  - (iii) **A flagship event for UNISPACE+50 focusing on international framework for space weather services**
- **International participants to the UN/US workshop need to apply via UN website: <http://www.unoosa.org/oosa/en/ourwork/psa/schedule/2017/2017-un-usa-workshop-on-international-space-weather-initiative.html>**
- **US participants need to apply via Boston College website: <http://iswi2017.bc.edu/>**
- Sharafat Gadimova also reported on the International Committee on Global Navigation Satellite Systems (ICG): Programme on GNSS applications. Her presentation is available at: <http://www.unoosa.org/pdf/icg/2017/iswi-sc/7.pdf>

## 8. Expert Group update (Ian Mann)

- Two sittings of the expert group during the STSC session: January 31 & February 2
- COPUOS will determine priorities for 2018-2030 during the UNISPACE+50 celebrations in June 2018
- Thematic Priority 4: “International framework for space weather services” was approved by COPUOS as one of 7 priorities.
- A dedicated workshop is planned for April 27 and 28, 2017 in Vienna to draft a document detailing the strategy to achieve the objectives of the thematic priority 4.
- The document will be further refined during the UNCOPUOS in June 2017 and discussed at the UN/US workshop in Boston (July-August 2017)

## 9. ISWI/NASA report (Elsayed Talaat)

- NASA continues to support ISWI Secretariat activities
- Science supported by NASA's Living with a Star program is highly relevant to understanding space weather
- NASA has representatives in the National Space Weather Action Plan Benchmark committees

## 10. ISWI School Report (Nat Gopalswamy)

- Continued the tradition of the joint school between SCOSTEP and ISWI held previously in Indonesia (2012), Kenya (2013), Peru (2014)
- School held in a rural area (mostly agricultural)
- Lectures, hands-on activities, instrument workshop and outreach activities
- Japan and India provided major additional support
- Report also available at: <http://www.unoosa.org/pdf/icg/2017/iswi-sc/10.pdf>



Smt. Kasturbai Walchand College of Science & Arts, Rajnemi  
Campus, Sangli, Maharashtra 416416, India

[http://www.iiap.res.in/meet/school\\_meet/index.php](http://www.iiap.res.in/meet/school_meet/index.php)







## International School on Space Science

- 28 lectures by 23 Professors from USA, Japan, India, and Norway on Sun-to-Earth topics
- ISWI Instruments workshop conducted by 8 scientists from USA, India, Japan, and Switzerland
- 74 students were selected from China, Egypt, Ethiopia, India, Indonesia, Ivory Coast, Kenya, Korea, Nigeria, Philippines, Rwanda, Thailand, Uganda, and Vietnam
- The lecturers interacted with 100s of high school students

Full report available: <http://www.iswi-secretariat.org>



Decorative art by the local organizers using color powders (Rangoli)



# Interactive Tutorial on Python – the free Software for Data Analysis



The school involved tutorials, lectures, hands-on activities, and instrument workshop

# Instrument workshop included the demonstration of CALLISTO and a two-element radio interferometer




Instruments to observe space weather from ground were deployed and demonstrated during the school



# Outreach Activities

- Lecturers visited and interacted with students from A. B. Patil High School on November 10, 2016
- A question-answer session was organized to interact with more than 100 science students from local high schools invited to the School venue





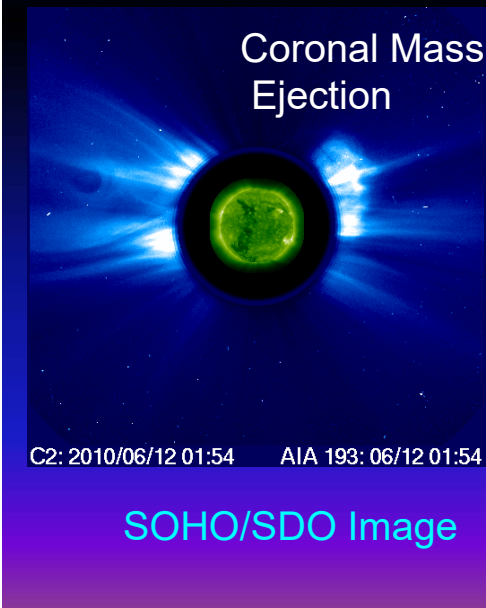
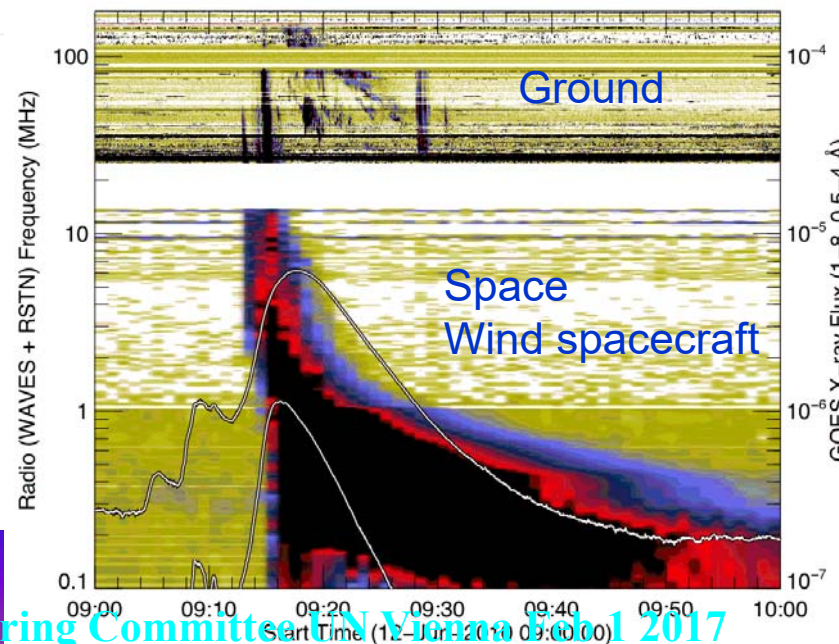
**Mekelle University**  
 College of Natural and Computational Science

Home   About CNCS   Administration   Academics   Research & Community   Collaboration

- Deploy radio telescope
- Train on space data and Python
- Scientific collaboration to enhance science return

11. Capacity Building in Space Weather:  
 Study using Ground-based and Space-based Data  
 See also:  
<http://www.unoosa.org/pdf/icg/2017/iswi-sc/11..pdf>

International Data Analysis Workshop on Coronal Mass Ejections and Solar Radio Bursts:  
 Coronal and Interplanetary Shocks

Feb 19-25, 2017

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# 12 UN/US Workshop in Boston (P. Doherty)

- **Key dates:**
- Formal Announcement by UN/US – February 10
- Abstract Submission Deadline – March 31<sup>st</sup>
- Applications for travel support deadline – March 31<sup>st</sup>
- Registration Deadline – May 15<sup>th</sup>
  - US registrants will register on BC site
  - Other registrants will register on UN site
  - Both sites should reflect this information
- Notification for financial support – April 15<sup>th</sup>

Complete details in: <http://www.unoosa.org/pdf/icg/2017/iswi-sc/12..pdf>

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# UN/US Topics

- Extreme Space Weather Impact and Awareness
- Space Weather Instrumentation
  - Ground-based
  - Space-based
- Solar Weather
  - National Activities
  - Response to Solar Cycle 24
- Coupling Processes
- Magnetosphere, Ionosphere and Atmosphere
- *Solar-Terrestrial Data Analysis Workshop - whole day in Japan – may not be able to support this in Boston with Day 1 dedicated to Extreme Space Weather Awareness and Preparedness*
- Sun-to-Earth Space Weather Modeling
- Capacity Building, Outreach and Education
- Observations, Recommendations and the way Forward



# UN/US Lodging

- BC will provide lodging for funded participants in private rooms with A/C and wifi.
- These rooms will be in shared suites on campus.
- Other participants may elect to stay in BC housing as well.
- The cost will be less than \$125/night.
- Hotel Boston in Brighton: ~\$225/night and include a continental breakfast and wifi. on MBTA Green line (5 stops from the campus).
- Courtyard Marriott in Cleveland Circle, Brookline: under negotiation

# UN/US Meals

- **Funded participants** will be housed in the on-campus housing. They will be given a dining card for on-campus dining halls for their breakfast and dinner expenses
- Lunch included for all participants



# Registration Material

- BC will be responsible for registration materials including name tags, souvenir bags and trinkets (perhaps a mug as suggested by Nat), pens and notebooks. Boston information to be obtained and provided:
- Boston visitor guides
- Information on how to ride the Trolley to Boston (note that Fenway Park is along the route and the Red Sox baseball team has home night games all this week – Cleveland Indians and Chicago White Sox; start time is 7PM)
- List of local restaurants
- Boston College maps and guides
- NASA flyers (Nat will provide)
- BC will also provide a USB drive containing the abstracts/papers to be delivered during the workshop.

# UN/US Excursion

- Pat suggested an excursion and dinner at Boston's Museum of Science.
- Bus transportation to the Museum from BC at ~3PM on Thursday.
- Participants can tour the museum or view the IMAX film on Journey to Space.
- From 6 to 9, we will host a banquet at the MOS Washburn Pavilion – an open air dining room located directly on the Charles River. In door space is there in case of rain.
- Return to BC by bus at 9PM
- BC to cover the cost of this excursion and dinner?

# UN/US Publication

- Papers presented at the workshop can be submitted in a special issue of SunGeo, JASTP, Annales Geophysicae or other journal. More ideas on this TBD.
- In preparation for publication, we should suggest that hopeful authors write the paper in advance of the workshop (6 pages?)

# 13. VarSITI Report (Katya Georgieva)

- VarSITI-related scientists (signed in to the VarSITI mailing list) are more than 900
- From 67 countries
- Some (India, Japan, China, USA, Russia) – with more than 80 each
- Others (Azerbaijan, Congo, Cuba, Georgia, Israel, Mauritius, Peru, Sri Lanka, Sudan, Tanzania, Zambia) – with just 1 participant, but still participating
- VarSITI functions by:
  - Organizing coordinated investigations (**campaigns**)
  - Supporting the creation and distribution of **databases** of solar-terrestrial data
  - Organizing and supporting topical **meetings** and sessions in general meetings
  - 130 different data bases have been established based on SCOSTEP-WDS collaboration

# VarSITI...

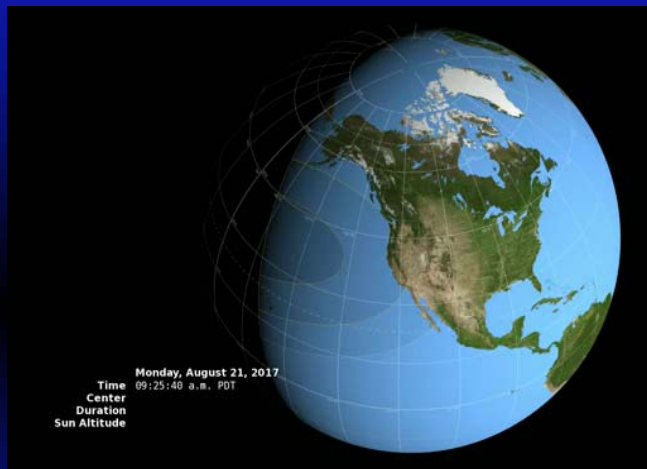
- 16 topical meetings and sessions supported by VarSITI in 2016
- First VarSITI General Symposium 06-10 June, 2016, Albena, Bulgaria was attended by 157 scientists from 29 countries
- Papers presented will be published in a special issue of Journal of Atmospheric and Solar-Terrestrial Physics (JASTP) to be published in 2017
- VarSITI-2017 will be held in Irkutsk, Russia during July 10-15, 2017 – July 15, 2017 (<http://varsiti2017.iszf.irk.ru/>)

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# 14. National/Regional Coordinator Reports

- Babatunde Rabi (African Region): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-1..pdf>
- Nikolai Ostgaard (Norway): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-2..pdf>
- Richard Marshall (Australia, SE Asia)
- US Eclipse 2017 (David Webb, Endawoke Yizengaw)
- Gonzalez-Esparza (Mexico): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-4..pdf>
- Vincenzo Romano (Italy): [http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-7.\\_17.pdf](http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-7._17.pdf)
- Manuela Temmer (Austria): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-6..pdf>
- Norbert Jakowski (Germany):
- Chi Wang (China): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-13..pdf>
- Susumu Saito (Japan): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-8..pdf> and <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-5..pdf>
- Clezio de Nardin (Brazil): <http://www.unoosa.org/pdf/icg/2017/iswi-sc/14-10..pdf>

# Multi-instrument Observation Campaign on the 2017 Total Solar Eclipse Impact on the Ionosphere-Thermosphere-Mesosphere (ITM) System!



- ➔ Multi-instrument (e.g., GNSS, magnetometers, LEO satellite, and other) observations are sought to investigate the 2017 Eclipse impact on ITM systems.
- ➔ We invite all ISWI instrument PIs, who have ground-based instruments in the continental of United States, to participate in this campaign.

For further information please contact: US ISWI Coordinators:  
Endawoke Yizengaw [kassie@bc.edu](mailto:kassie@bc.edu) and David Webb [david.webb@bc.edu](mailto:david.webb@bc.edu)

# 15. Any Other Matter

Meeting adjourned at 6 PM

Most presentations made during the ISWI Steering Committee Meeting are available at (Thanks to Shafa):

<http://www.unoosa.org/oosa/en/ourwork/icg/activities/iswi-sc2017.html>