

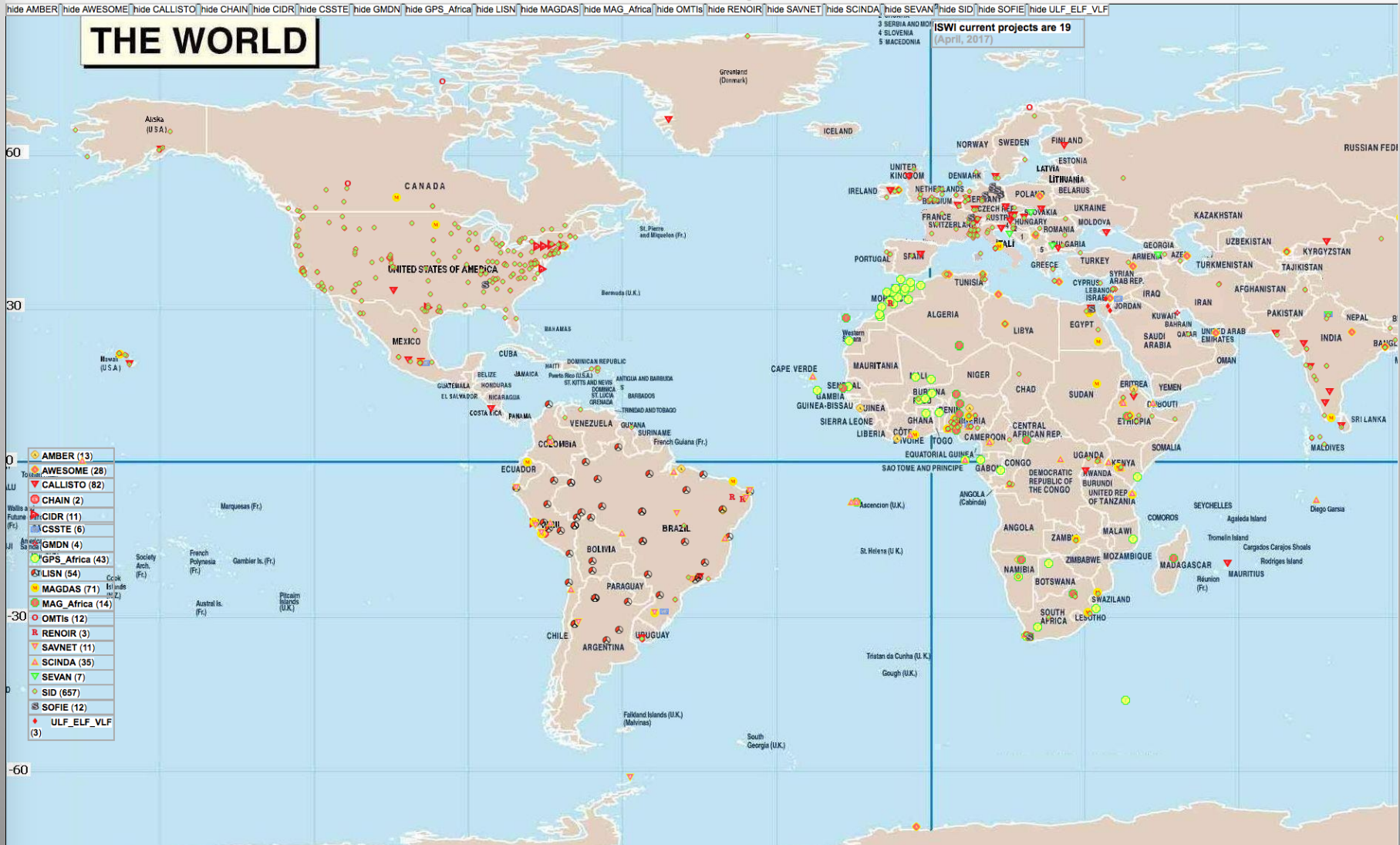
ISWI Open Data Policy: An Instrument of International Cooperation

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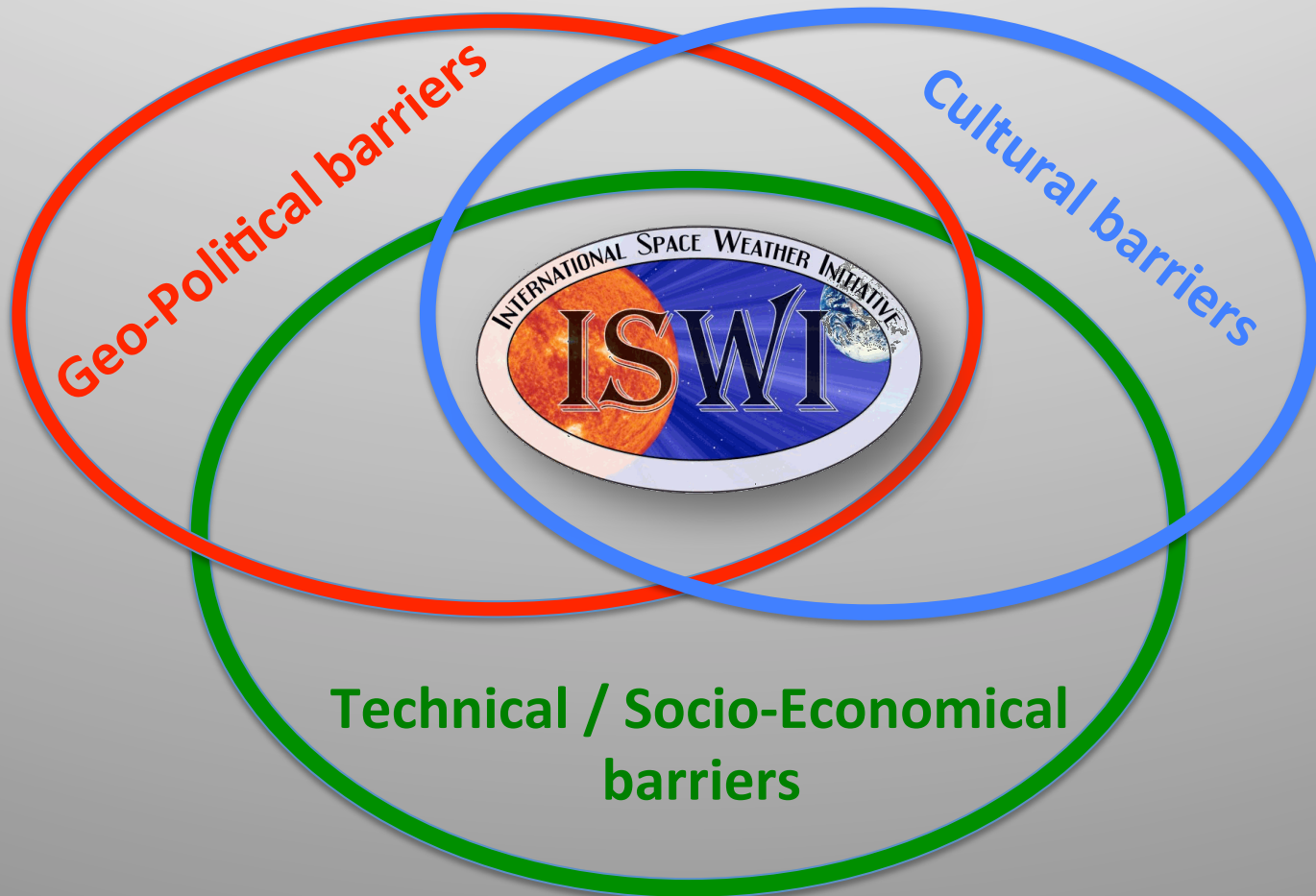
Global Distributions of ISWI Instruments

[<http://www.iswi-secretariat.org/>]



Data Flow Barriers

- Programmatic barriers: Provenance or authority of data
- Technical barriers: Diversity in data contents, formats, storage mechanisms, access protocols, etc.



Removal of Barriers: ISWI Success

- An Open data policy can
 - Remove political, cultural, & administrative barriers
 - Ensure data availability & accessibility
- Using standard data & metadata formats can
 - Reduce technical barriers
 - Promote usability and interoperability

ISWI Data Policy Timeline

- **March 2015** - Open data policy proposed & recommended at ISWI at UN/Japan ISWI workshop in Fukuoka, Japan
- **April 2015** - ISWI data policy subcommittee formed
- **February 2016** - Draft open data policy approved by ISWI Steering Committee (EC)
- **February 2017** – Minor text revision approved by ISWI EC
- **Will be posted** at <http://www.iswi-secretariat.org> shortly after the UN/US ISWI workshop

ISWI Data Policy Subcommittee

Shing Fung (Chair), *NASA Goddard Space Flight Center, USA*

Christine Amory-Mazaudier, *CNRS, France*

Keith Groves, *Boston College, USA*

Christian Monstein, *ETHZ, Switzerland*

Terry Onsager, *NOAA, USA*

Babatunde Rabiou, *University of Nigeria, Nigeria*

George Maeda, *Kyushu Institute of Technology, Japan*

Jesper Gjerloev, *Johns Hopkins University, USA*

ISWI Data Policy

- ISWI Data Policy consists of
 - *Policy statements*
 - *Project data management plan (PDMP)*
- The policy stipulates that **all ISWI data should be**
 - *Available* promptly after their acquisitions;
 - *Accessible* freely and openly;
 - *Usable* independently (*calibrated, documented, in standard formats*);
 - *Utilized with compliance* to the *rules of the road*.
- The PDMP consists of individual instrument PDMPs
 - *Represent teams' commitment to support ISWI*
 - *Describe the instruments, data products, access methods, etc.*
 - *Maintained by instrument teams*

Use Standards to Develop “*Lingua Franca*” for Removing Technical Barriers

- Standard **data formats**
 - Data organization
 - CDF, HDF, netCDF, FITS, ASCII, etc.
- Standard **data access protocol**
 - Data retrieval
 - **Heliophysics Application Programming Interface (HAPI)**
- Standard **metadata model & data dictionary**
 - Data descriptions and search mechanism
 - *SPASE*

SPASE--Space Physics Archive Search & Extract <www.spase-group.org>

- Community-developed metadata model
- Designed for heliophysics datasets
 - Observations & simulations
- Metadata are stored in XML documents
- Web-based editor under development
 - Will be available to all instrument data providers

The screenshot shows the 'SPASE Metadata Interactive Generator' web interface. On the left, a sidebar contains a list of metadata categories: 'Spase', 'Spase Root', '3. NumericalData' (highlighted), '4. ResourceHeader', '5. Contact', '6. AccessInformation', '7. AccessURL', and '8. Export'. The main area is titled 'What elements do you want to keep in 'NumericalData'?'. It features a table with columns for element names, input types, and numerical values. A dropdown menu is open over the 'MeasurementType' row, listing various data types such as 'EnergeticParticles', 'Ephemeris', 'ImageIntensity', etc. The 'Previous' and 'Next' buttons are visible at the bottom right.

Element Name	Input Type	Value	Buttons
ProviderResourceName	Enter value (optional)	0	- 0 +
ProviderProcessingLevel	Enter value (optional)	0	- 0 +
ProviderVersion	Enter value (optional)	0	- 0 +
Caveats	Enter value (optional)	0	- 0 +
InputResourceID	Enter value (optional)	0	- 0 +
InstrumentID	Enter value (optional)	0	- 0 +
MeasurementType	Enter value (required)	1	- 1 +
TemporalDescription	Enter value (optional)	0	0 +
Extension	Enter value (optional)	0	- 0 +
SpectralRange	Enter value (optional)	0	- 0 +
Parameter	Enter value (optional)	0	0 +

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**Successful
International
Cooperation!**

Open data policy + data standards

The screenshot shows the 'SPASE Metadata Interactive Generator' web interface. On the left, a sidebar contains a tree view of metadata categories: 'Spase', 'Spase Root', and '3. NumericalData'. Under '3. NumericalData', there are sub-items: '4. ResourceHeader', '5. Contact', '6. AccessInformation', '7. AccessURL', and '8. Export'. The main area is titled 'What elements do you want to keep in 'NumericalData'?'. It contains a table of metadata elements with input fields for values and range controls. A dropdown menu is open over the 'MeasurementType' field, listing various options such as 'ActivityIndex', 'Dopplergram', 'Dust', 'ElectricField', 'EnergeticParticles' (which is selected), 'Ephemeris', 'ImageIntensity', 'InstrumentStatus', 'IonComposition', 'Irradiance', 'MagneticField', 'Magnetogram', 'NeutralAtomImages', 'NeutralGas', 'Profile', 'Radiance', 'Spectrum', 'ThermalPlasma', and 'Waves'. At the bottom right, there are 'Previous' and 'Next' buttons.