International Federation of Digital Seismograph Networks

Activities of the FDSN:
Current and Future

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What is the FDSN?

1. Independent international organization
2. Open to all organizations collecting and managing seismographic network data
3. The FDSN has Commission Status within IASPEI

What are the goals of the FDSN?

1. Development of instrumentation standards
2. Development of standards for quality control, archiving, and data exchange
3. Facilitating coordination of station siting
4. Pursuing and promoting open access to data
5. Improving access to data in real time

an international forum for fostering and supporting international cooperation in broadband seismology
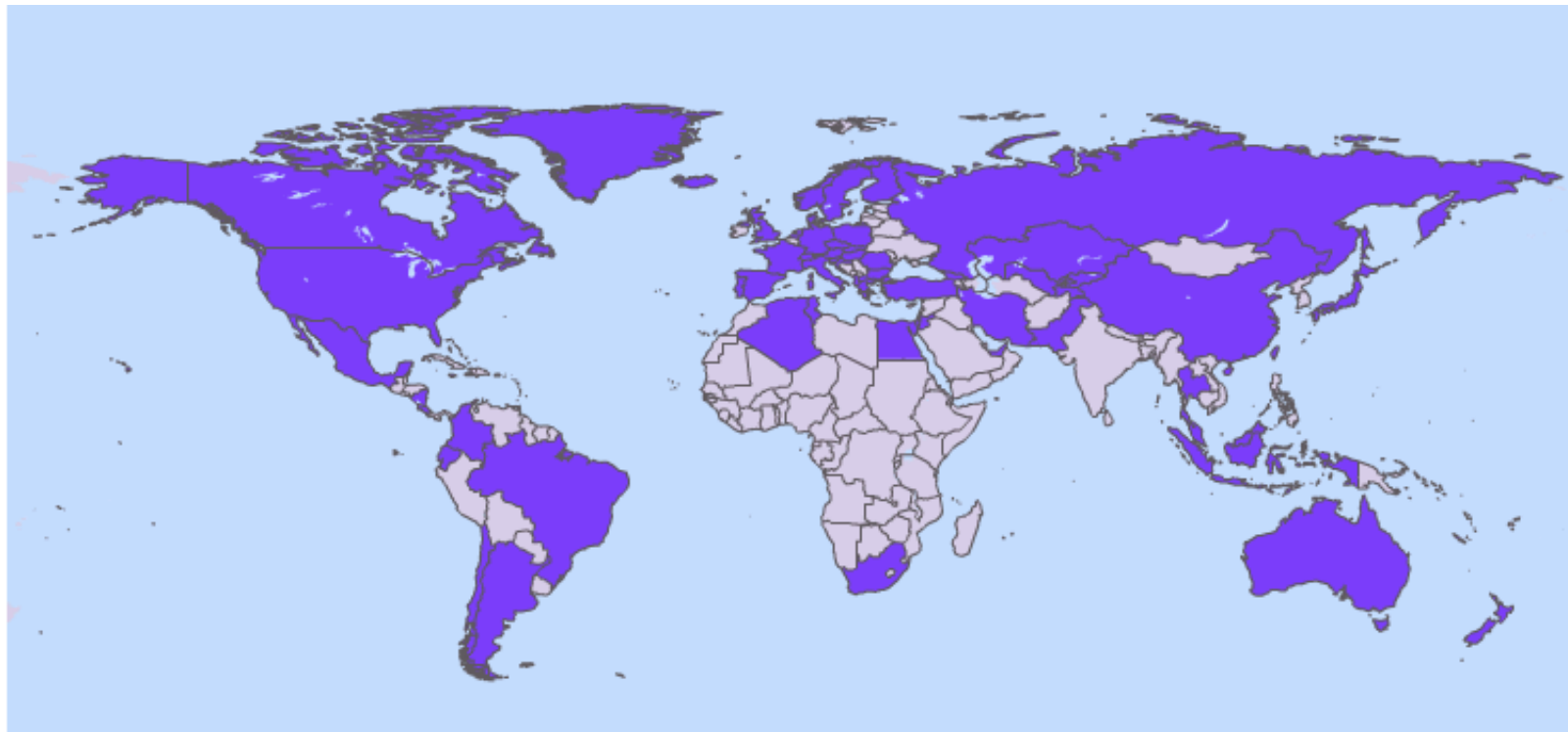
How does the FDSN work (1)?

1. The FDSN has no budget
2. The FDSN has no permanent staff
3. The FDSN has no inter-governmental status or authority
4. The FDSN operates by efforts and support offered by member institutions and individuals

and yet the FDSN has been very effective !

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Who are the members of the FDSN?

91 institutions in 67 countries

How does the FDSN work (2)?

A steering committee of member representatives elects an executive committee consisting of:

Chair - Göran Ekström, USA
Secretary - Michelle Grobbelaar, South Africa
WG 1 Chair - Seiji Tsubui, Japan
WG II Chair - Reinoud Sleeman, Netherlands
WG III Chair - Tim Ahern, USA
WG IV Chair - Florian Haslinger, Switzerland
WG V Chair - Bruce Beaudoin, USA

How does the FDSN work (3)?

Five working groups:

I. Station Siting and Instrumentation (Tsuboi)
II. Data Formats and Data Centers (Sleeman)
III. Products, Tools and Services (Ahern)
IV. CTBT Coordination (Haslinger)
V. Portable Instrumentation (Beaudoin)

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What does the FDSN do (1)?

Standards:

1. The SEED format for data exchange
2. Assignment of network codes (permanent and temporary)
3. An XML standard for storing and distributing station information
4. Standards for data exchange protocols (for example, web services)
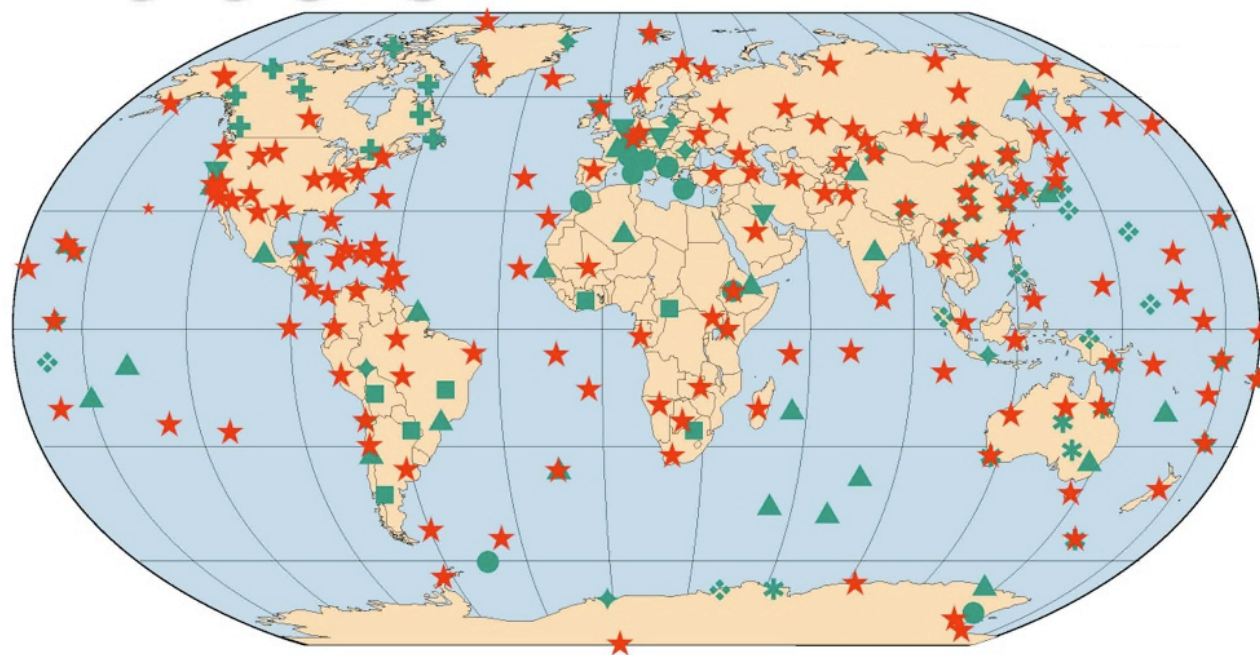
What does the FDSN do (2)?

Preserves and manages data and metadata:

1. The IRIS Data Management Center (DMC) serves as the first FDSN Data Center
2. FDSN network and station information is maintained and distributed by the IRIS DMC
3. Facilitates the archiving and dissemination of FDSN member data at the IRIS DMC and other Data Centers (e.g., at ORFEUS)

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The FDSN Global Network, ~200 stations

IRIS GSN	Australia	Canada	France	Germany	Italy	Japan	U.S.	Other
★	✳	✚	▲	◆	●	❖	■	▼

*but there are data from ~2000 FDSN network
stations in the FDSN Data Center at IRIS*

What does the FDSN do (3)?

Training, advocacy, facilitation:

1. Co-sponsors (with IASPEI, IRIS, IUGG and FDSN member institutions) international metadata and data-management workshops
2. Advocates and facilitates open access to seismological data

Challenges for the FDSN community:

1. Ensuring preservation of collected data and metadata
2. Enabling discovery of collected data sets
3. Maintaining and improving quality of seismological data and metadata
4. Facilitating open access to seismological data

Opportunities for the FDSN:

Encourage and support the development and
implementation of tools for societal benefit,
for example:

1. Earthquake damage assessment
2. Tsunami and earthquake early warning
3. Development of shake and hazard maps
4. Scientific research and discovery
5. Source characterization and monitoring

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Some current FDSN activities:

1. Refinement and implementation of web-services standards and tools for data distribution
2. Development of standards and tools for modern citation of seismological data sets
3. Development of tools and standards for assessing data quality
4. Engagement with the IMS on data-access issues
5. Coordinating discussions with Quanterra on upgrades of legacy equipment

Some possible FDSN projects:

1. Strengthening of data-preservation awareness, data access through the FDSN Data Center, as well as through other data centers
2. Promotion of data-quality metrics and test-case application to FDSN data
3. Coordination and gathering of information on temporary/portable experiments and data sets
4. Additional engagement with IMS on data access, technical developments, and network sustainability
5. Expanding portfolio of training and workshops with regional and international partners

How can your network support the FDSN?

1. Become a member of the FDSN
2. Adopt and use FDSN standards for data and data and data exchange
3. Provide and promote free and open access to network data
4. Contribute data from one or more stations to the FDSN Data Center in real time

Other FDSN information

1. The Working Groups and the Steering Committee will have meetings at the IUGG meeting in Prague, June 22 - July 2, 2015
2. Information about the FDSN can be found at www.fdsn.org
3. Membership application can be made at http://www.fdsn.org/forms/membership_form.htm