# Working Group I

## meeting minutes

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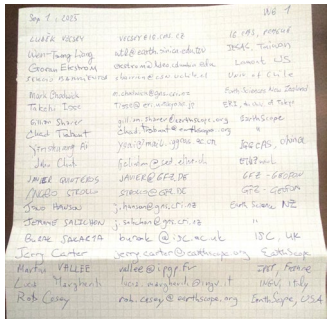
FDSN@IASPEI2025_Lisbon

# WG1 Meeting

2025-09-01 12:30-13:30

- Agenda
  - Metadata revision for seismic network configuration
  - Candidate of FDSN stations
  - Compilation of PSD-PDF ambient noise levels
  - Adjourn



- 18 attendees

- two presentations:
  - _FDSN metadata QC
  - _FDSN data QC

# FDSN backbone network (_FDSN)

action: harmonize station lists provided by different services and find why the numbers of stations are different:

- iris.edu/mda/_FDSN [206] (primary source of information)
- iris.edu/gmap/_FDSN [221]
- service.iris.edu/irisws/virtualnetwork/ [214 lines, 206 unique stations] http://service.iris.edu/irisws/virtualnetwork/1/query?code=_FDSN&format=text
- ObsPy + RoutingClient("iris-federator") [199]

hint: two or more Station elements in one station metadata.

# FDSN backbone network – metadata QC

action: revise _FDSN station metadata

- perform various metadata consistency tests – done
- put metadata QC reports on a dedicated WG1 website
- inform WG1 members and network/station operators
- check for metadata corrections

# FDSN backbone network – data QC and SoH

action: perform _FDSN data quality checks and monitor State of Health

- select QC matrices and procedures that can be easily and repeatedly applied to data from EarthScope and EIDA archives:
  - data availability - done
  - daily metrics (median, max, min, std, …) – done
  - PSD/PDF – so far only for EarthScope data
- perform QC and SoH test
- inform network/station operators

# Candidate FDSN Stations

action: new stations to a virtual FDSN network

- **High quality broadband stations with excellent data availability that effectively bridge station coverage gaps.**

**Strategy:**

- Step #1: Retain the existing FDSN backbone stations and identify new candidates located near the decommissioned sites
- Step #2: Supplement coverage by selecting suitable stations from other member networks to address remaining gaps.
- Step #3: Selecting top-performing stations from the three major global networks.

- **Overview of metadata integrity and data reliability.**

# Candidate FDSN Stations and QC metrics

- Working platform to archive the candidate list (and station QC reports): https://tecdc.earth.sinica.edu.tw/FDSN/

**Proposals:**

- Leave the original ***_FDSN*** backbone network without any station changes.
- In the future, create two new virtual networks in IRIS WS, one for FDSN candidates [***_FDSN-Candidate***] and the second for a final extended FDSN backbone network [***_FDSN-New***] (i.e., *_FDSN-New =_FDSN+_FDSN-candidate*)

# Areas of interest to the working group include:

**(as on the WG1 webpage)**

1. Maintenance of a comprehensive computer-readable inventory of existing, planned, proposed, and closed broadband stations.
2. Identification of stations that form the Federation network (a subset of stations chosen based on hardware standards, noise characteristics, geographical location, and operational status) for which waveform data are compiled on FDSN CD-ROMs.
3. Issues related to instrumentation.

Action: revise the WG1 webpage

- compiled on FDSN CD-ROMs → available on FDSN Web Service
- add a link to the station list: https://ds.iris.edu/mda/_FDSN/

# Other proposals:

- Send emails to encourage all members to contact operators, whose networks are not in the federated data centers. The FDSN community would be able to provide necessary technical assistance.
- Notify members to upload metadata for their networks.
- Advertise the FDSN backbone network

# AOB

- Prof. Göran Ekström volunteers to lead the discussion in WG1 on the concept of FDSN network.
- A smaller group will be established within the WG1 to work on this topic.