

# The FDSN Archive at the IRIS DMC FDSN 2003 Meeting

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By

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## Data Archive and Data contributions

The IRIS DMC archive now contains just fewer than 40 terabytes of seismic waveform data. Data from non-IRIS FDSN sources totals 3.2 terabytes. All of the major FDSN data centers that contribute data to the FDSN archive on a routine basis have contributed data since the last FDSN meeting in June 2002.

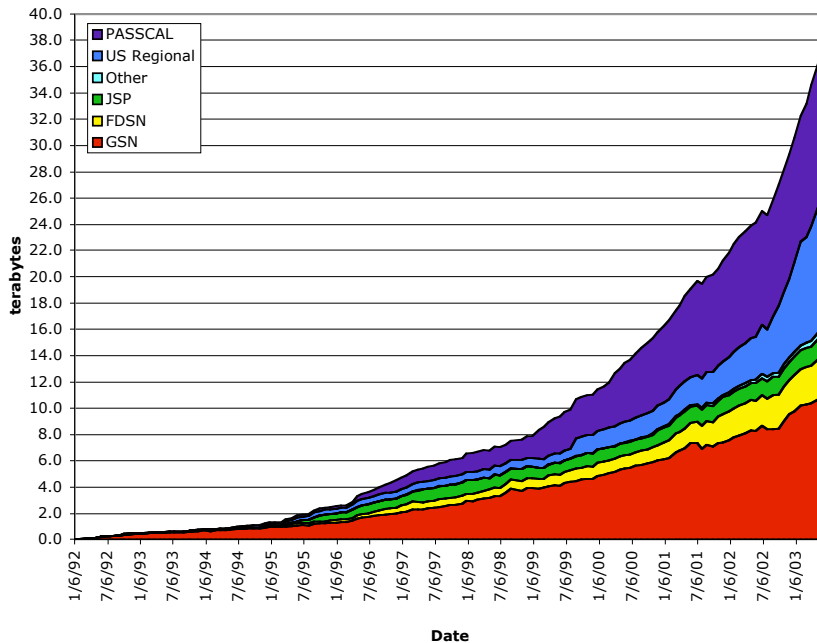


Figure 1. The above figure shows the growth of the IRIS DMC archive since 1992. The columns represent (from bottom to top): IRIS GSN, FDSN, JSP, a small amount of other network data, US Regional Networks and the top column is IRIS PASSCAL.

We now receive real time data from the following FDSN members:

- China (IC) via LISS
- Canada (CN) via autoDRM and SPYDER®
- GEOFON (GE) via SEEDlink
- IRIS via LISS and NRTS
- MEDNET via SEEDlink

- Netherlands via SEEDlink
- USNSN via Earthworm

All data that we receive in real time or near real time are also available in real time or near real time. The IRIS BUD system is a real time system that is currently receiving data from more than 750 stations worldwide. The IRIS DMC supports LISS, Data Handling Interface (DHI) and autoDRM access to the real time BUD system.

The following figure shows the data available from the FDSN members in the DMC archive. Other than data flow from IRIS involved sources such as China (IC), the following networks have contributed the most data to the FDSN archive; 1) GEOFON, 2) Canada, 3) GEOSCOPE, and 4) MEDNET. Taiwan and Japan have sent roughly equal amounts of data to the FDSN Archive.

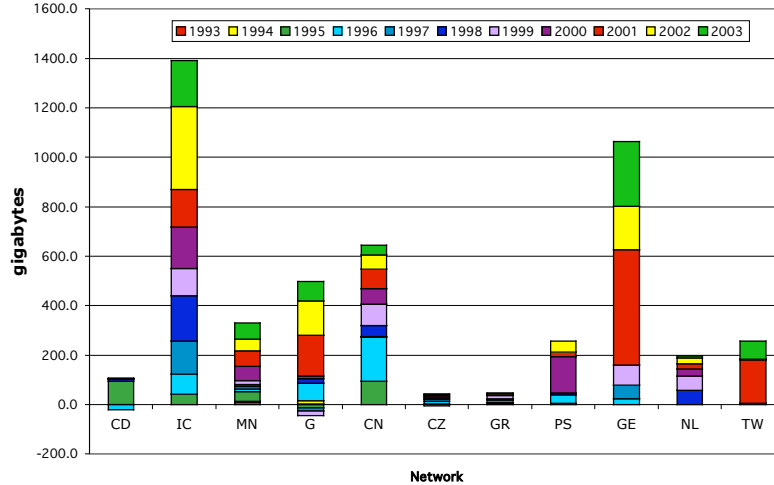


Figure 2. Contributions by Network Operators of data contributed to the FDSN archive at the IRIS DMC. Data are shown from 1993 onward.

The next figure shows annual growth in the FDSN archive holdings by year. More data was added to the archive in 2001 than in any other year but at the current rate of data ingestion, 2003 should exceed all other years. In 2001 the FDSN archive received more than one terabyte of data from FDSN sources as both GEOFON and GEOSCOPE sent significant amounts of previously non-archived data.

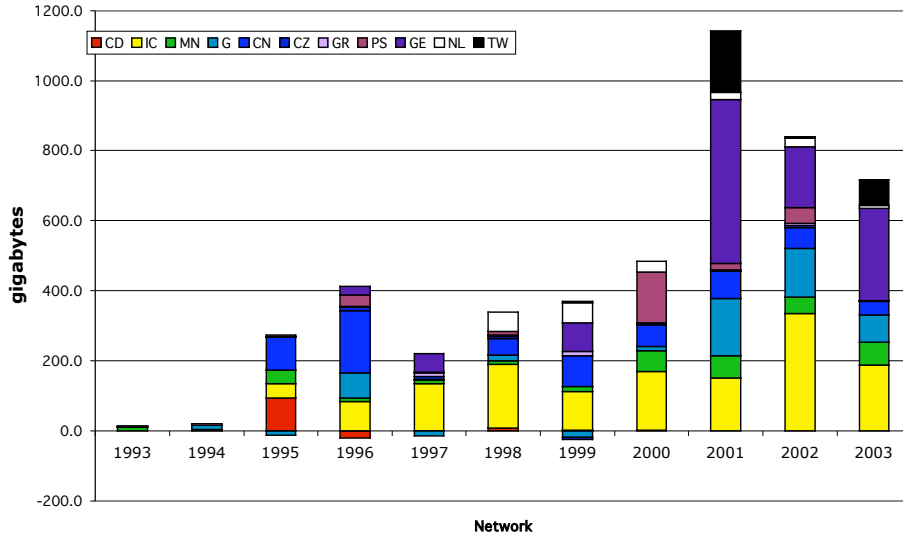


Figure 3. Annual Amount of data archived at the FDSN Archive. Values are through June 2003.

### Shipments from the FDSN Archive

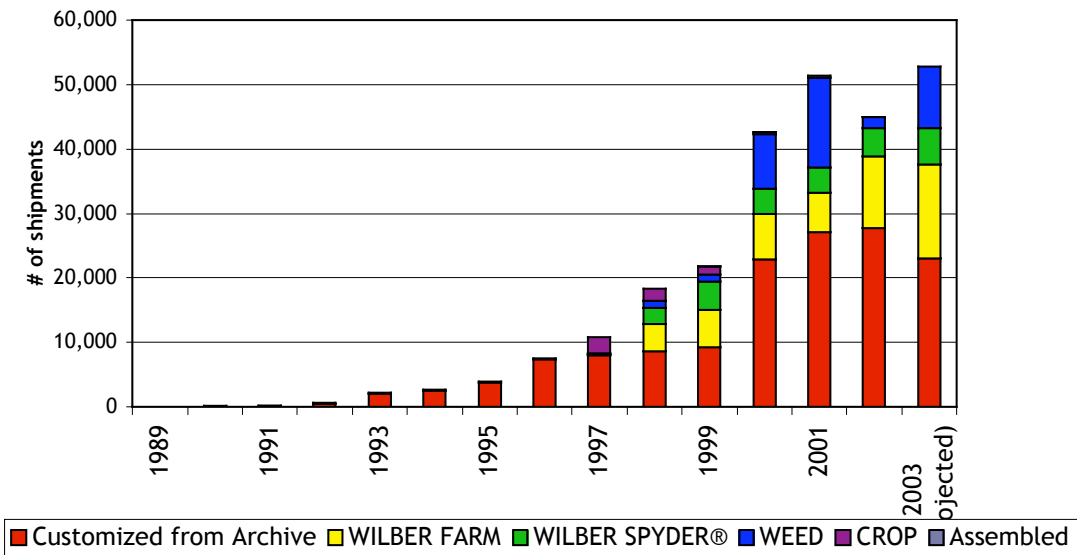


Figure 4. Shipments made by year. These results are for conventional (non-real time) request methods such as BREQFAST, NetDC, etc. from the archive as well as data shipped from the on-line WILBER system.

We are presently projecting that more shipments will be shipped from the IRIS DMC this year compared to any previous year. The majority of the customized requests are made by BREQFAST requests. The above figure does not show data shipments made through real time systems such as LISS, DHI, autoDRM, etc. We estimate that we will ship more than one terabyte of seismic waveform data this year through real time mechanisms.

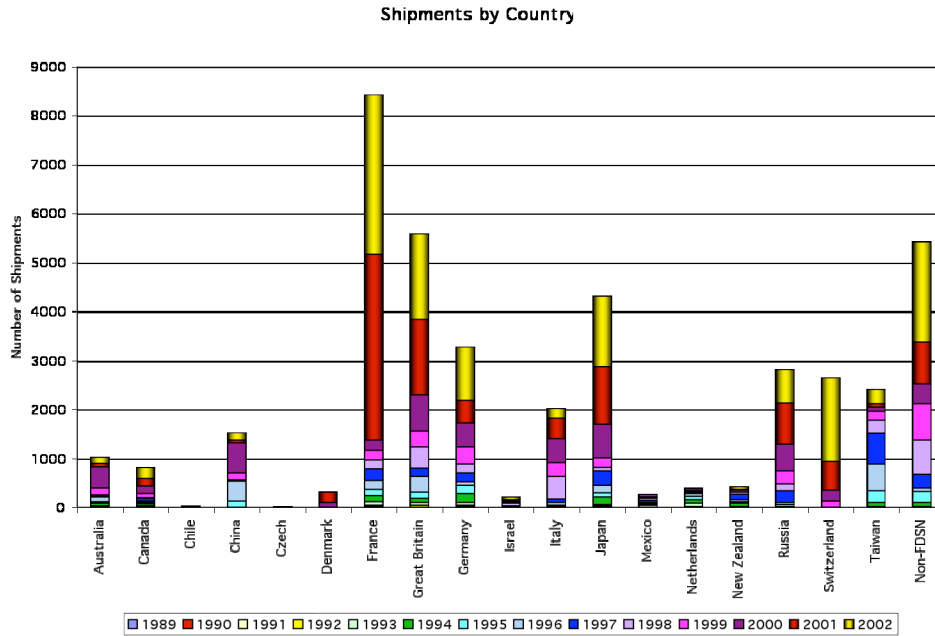


Figure 5. Shipments of data to FDSN member countries. This figure shows the number of data requests that were serviced by the FDSN Archive at the IRIS DMC where shipments went to FDSN members. The above figure does not show shipments made to the United States.

The figure shows that researchers from France, followed by Great Britain, Japan, Germany, Russia and Switzerland are the most frequent users of the FDSN archive next to researchers from the United States. As the following graph shows, growth in the number of non-US researchers using the IRIS DMC continues to grow at a modest rate. Last year the IRIS DMC serviced more than 13,000 customized shipments. The most significant growth came from researchers in France, Great Britain, and Switzerland.

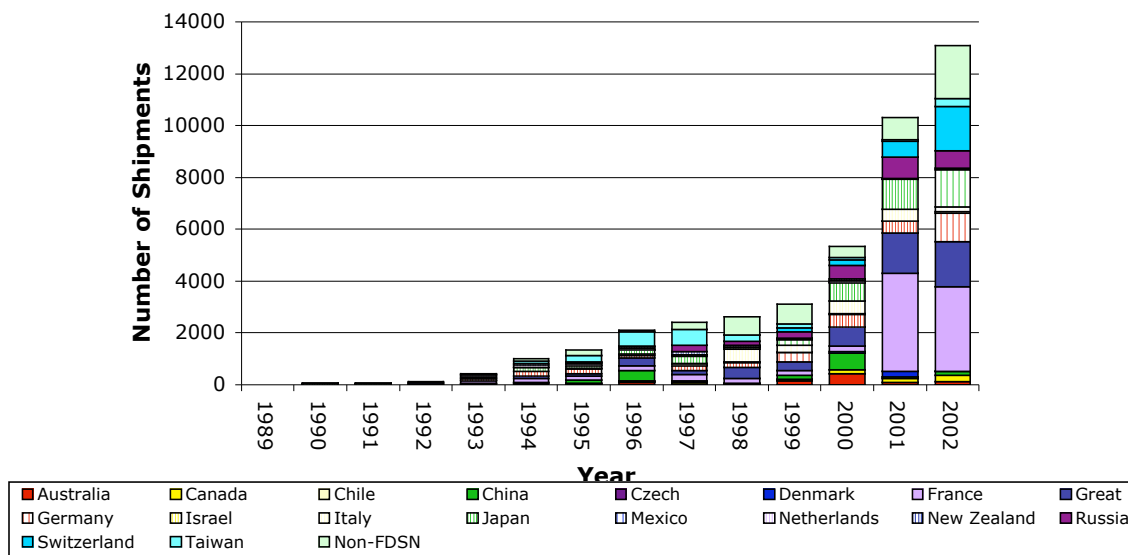


Figure 6. Shipments made by the FDSN Archive to non-US researchers. A total of more than 13,000 requests were serviced in 2002 from non-US researchers.