



NETWORK REPORT

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Summary of GSN Activities 2002-2003

The IRIS Global Seismographic Network has 128 stations following the completion of SAML Samuel Dam in western Brazil (May 2003), QSPA Quiet-sector South Pole, Antarctica (January 2003), and BBSR Bermuda Biological Station for Research in St. George's, Bermuda (July 2003). QSPA is the quietest site in the GSN between 1.3 and 10 Hz where it beats the USGS Low-Noise Model by 10 dB. The GSN is comprised of 75 IRIS/USGS, 38 IRIS/IDA, and 12 IRIS/University Network stations, plus three stations as GSN Affiliates. In addition to seismometers, microbarographs are installed at 23 sites, and GPS instrumentation is co-located at 17 sites (8 with meteorological packages). Internet or VSAT satellite connectivity has been established to 76% of the GSN; 16% of the sites have dial-up communications links, and 8% have no communication link and depend solely upon mailing physical media to a DCC. Twenty-two new telemetry links were implemented in the prior year. New VSAT links has been installed at RPN Easter Island and WAKE Wake Island, in cooperation with the US National Weather Service Tsunami Warning Program. Four sites now use the GSN earth station hub installed at the Pacific Tsunami Warning Center on Oahu. CTBTO has formally approved the concept of sharing its Global Communications Infrastructure with IRIS. CTBTO VSATs are currently being used for GSN telemetry at SJG Puerto Rico, LSZ Zambia, KMBO Kenya, and JTS Costa Rica. IRIS and Honeywell/USGS have established contracts with CTBTO to connect GSN sites to the International Monitoring System. Seismic station coverage in the United States will be enhanced with new USArray funding as part of the EarthScope facility.

New GSN Stations during the past year

<i>Station</i>	<i>Site</i>	<i>Location</i>	<i>Operator</i>	<i>Type</i>
SAML	Samuel Dam	Brazil	ASL	Borehole
QSPA	Quiet-sector South Pole	Antarctica	ASL	Borehole + Vault
BBSR	Bermuda Biological Station for Research	St. George's Bermuda	ASL	Borehole

Network & Station Operators

ASL	USGS Albuquerque Seismological Laboratory
IDA	University of California, San Diego SIO/IGPP IDA Project

Installations

The map shows the new and current GSN station (green and red stars, respectively), and planned sites (red-white stars) for completion in the coming years. FDSN Network stations are also shown (purple). Many GSN stations are cooperative with other networks, indicated by the symbol on the 'shoulder' of the star.

Telecommunications

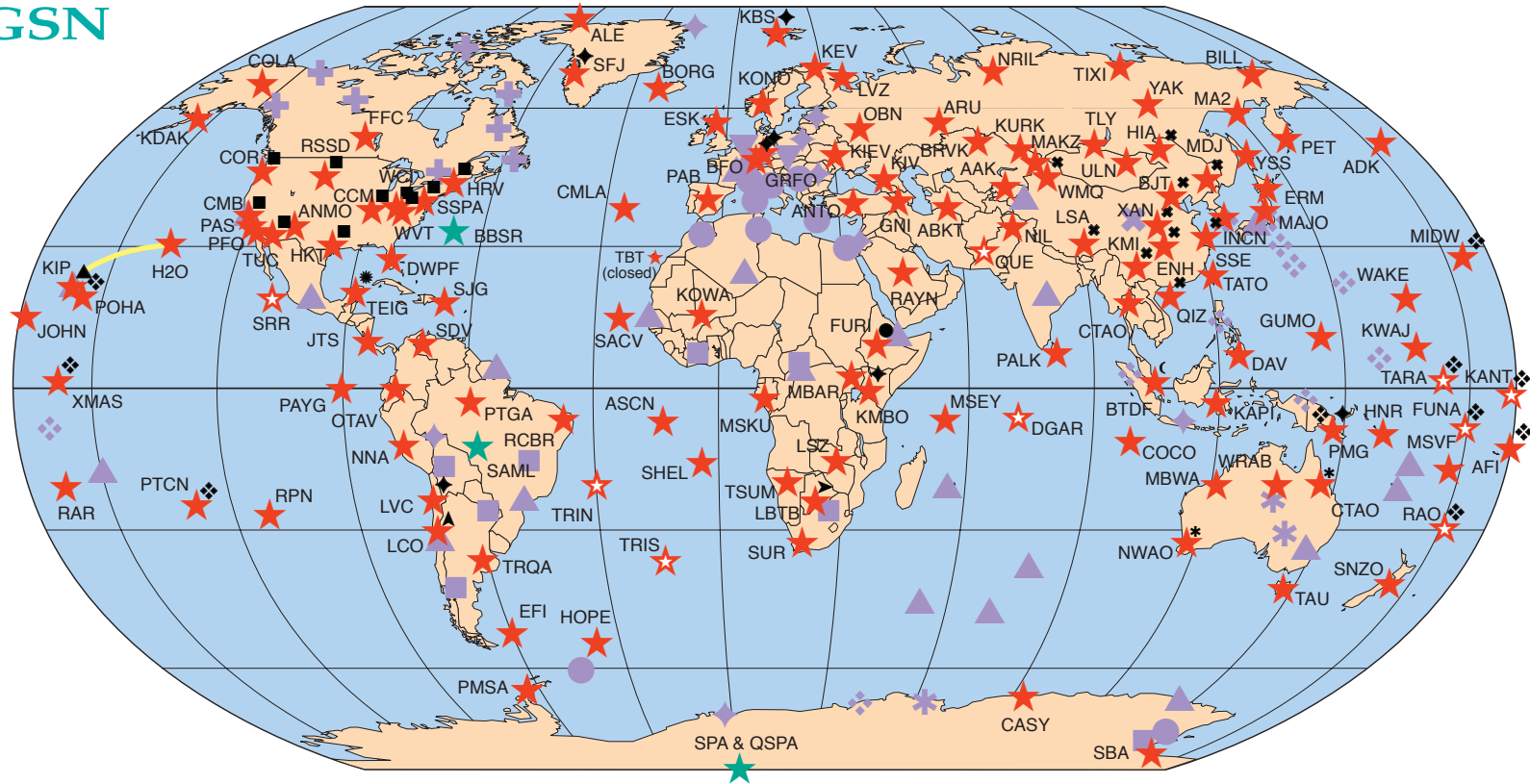
The current status of GSN telemetry is shown in the map. We are moving toward full real-time telemetry at most sites, but still have many dial-up stations. New and upgraded GSN telemetry links since the June 2002 FDSN meeting are highlighted. In November the States Parties of the Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty Organization formally approved sharing the Global Communication Infrastructure system with Network operators such as the Global Seismographic Network. The GSN is now actively pursuing VSAT connections at GSN stations co-located with IMS facilities. Other FDSN networks may wish to consider the use of GCI shared links as a telemetry option for some of their stations.

USArray Backbone

IRIS has received funding from the US National Science Foundation to expand the coverage of seismic stations in the United States. These new stations form a permanent, backbone network for the planned USArray imaging component of the EarthScope Facility. These stations are coordinated with the USGS Advanced National Seismic Network, and will be installed by the USGS Albuquerque Seismological Laboratory. The USArray Backbone plan calls for 4 new GSN-type stations, 4 new GSN Affiliate stations, 5 GSN upgrades of existing NSN stations, and 26 enhanced NSN-type stations. The map shows the planned USArray Backbone coverage in coordination with ANSS siting.



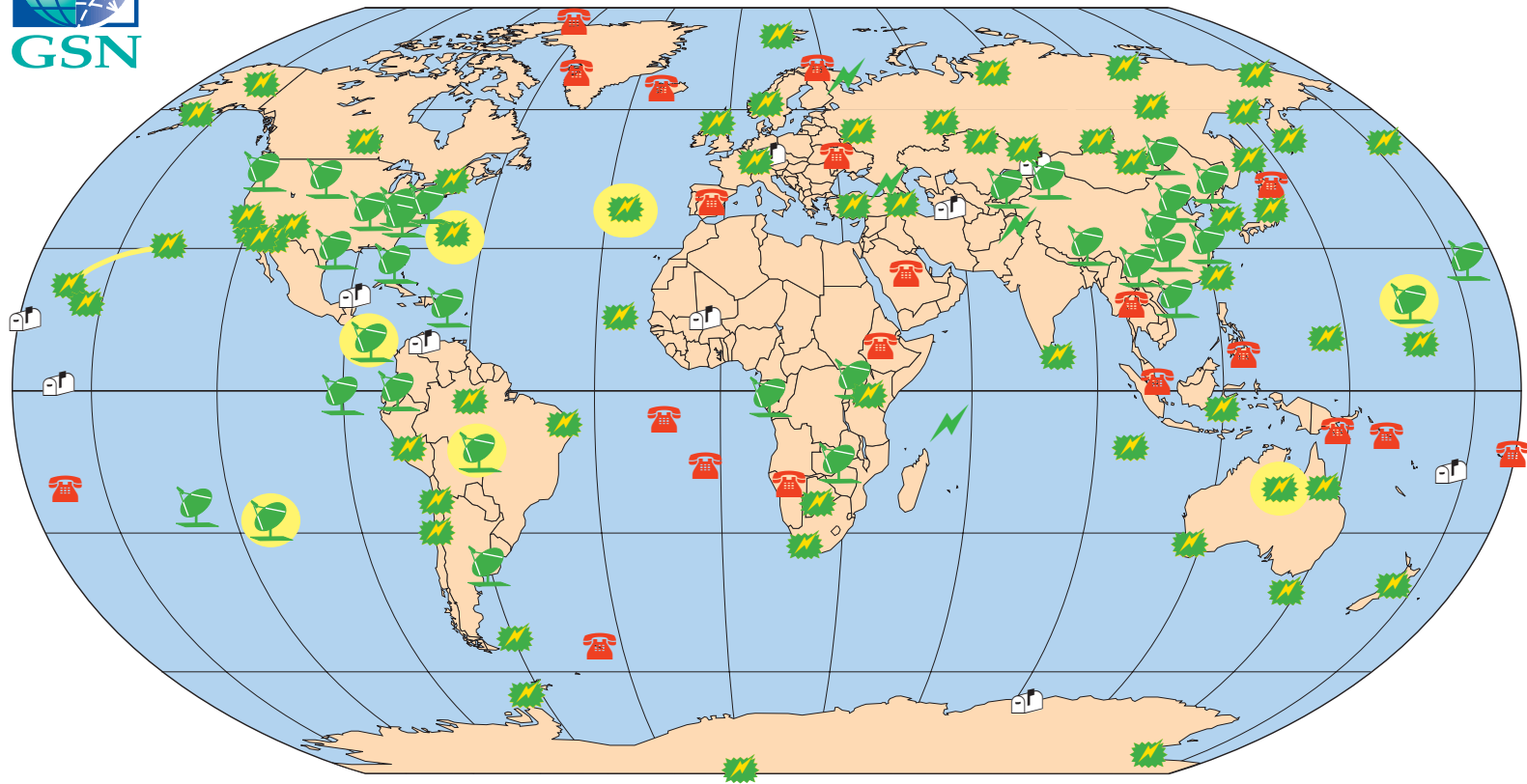
GLOBAL SEISMOGRAPHIC NETWORK & FEDERATION OF DIGITAL BROADBAND SEISMIC NETWORKS







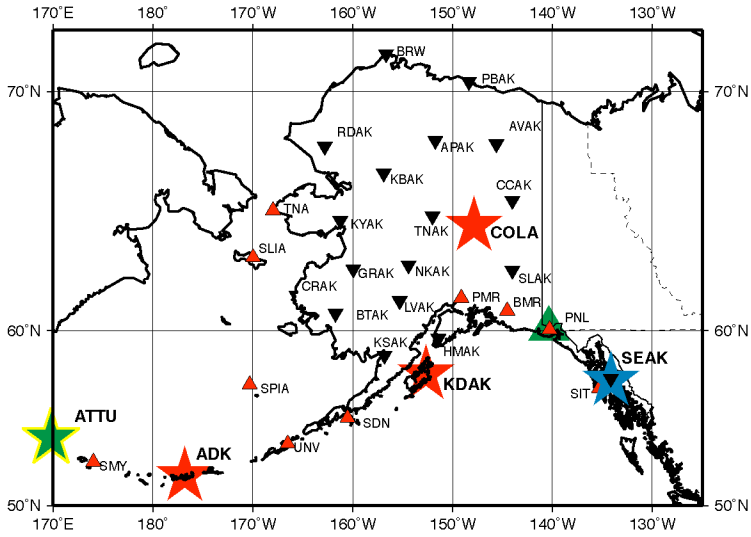
IRIS		IRIS International & National Cooperative Sites									
Current	Geoscope	Japan	Mednet	Geofon/AWI/BGR/BFO	China/USGS	Mexico	Singapore	Botswana	Andes	Australia	USNSN



NEW TELEMETRY SINCE JULY 2002
GSN COMMUNICATIONS



- | | |
|---|---|
|  VSAT link |  Dial-up data access |
|  Internet link |  Data shipped via mail |
|  Internet link with limited data | |



- ★ Current GSN
- ▲ Current NSN
- ▼ ANSS planned

USArray Backbone Array Plan

- ★ New GSN (IMS/AEDS-Affiliates)
- ★ New GSN (NSN - Upgrade)
- ★ New GSN
- ▲ NSN Upgrade
- ▲ New NSN

