NETWORK REPORT

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Summary of GSN Activities 2005

The IRIS Global Seismographic Network has 138 stations following the installation of the newest IRIS GSN affiliate station on Macquarie Island with the equipment provided by IRIS and the installation completed by the Australians. The GSN is comprised of 77 IRIS/USGS, 39 IRIS/IDA, and 12 IRIS/University Network stations, plus 10 GSN Affiliate stations and arrays. In addition to seismometers, microbarographs are installed at 40 sites, and GPS instrumentation is co-located at 17 sites (8 with meteorological packages). Internet or VSAT satellite connectivity has been established to 89% of the GSN; 7% of the sites have dial-up communications links, and 4% have no communication link and depend solely upon mailing physical media to a data collection center. Six new telemetry links have been implemented since January: DAV Philippines, SFJD Greenland, MSEY Seychelles, KAPI Indonesia, ASCN Ascension Island, KEV Finland, and FUNA Tuvalu, following 11 links in 2004. In addition, the communications link at CMLA Azores has been upgraded to a more robust digital circuit. CTBTO VSATs are now extensively being used for GSN telemetry. MSEY uses a GSN VSAT in conjunction with the CTBTO provided telemetry. IRIS and Honeywell/USGS contracts with CTBTO to connect GSN sites to the International Monitoring System are proceeding smoothly. A new contract has been signed between IRIS and CTBTO to upgrade six IRIS/IDA stations with CTBTO telemetry at KAPI Indonesia (recently completed), AAK Kyrgyzstan, MSVF Fiji, NNA Peru, PALK Sri Lanka, and MBAR Uganda. These sites will be upgraded in the next 12 months. GSN currently contributes 23 stations to IMS. The Advanced

National Seismic System Backbone Network continues to be enhanced through USArray funding as part of the EarthScope facility and through the efforts of the USGS.

New GSN Station during the last year

The newest GSN station is MCQ Macquarie Island. GSN and Geoscience Australia have jointly upgraded the seismic station on Macquarie Island.

Network & Station Operators

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

Installations

The map shows the current GSN station (red stars), planned sites (red-white stars) for completion in the coming years, and the affiliate arrays (orange stars). FDSN Backbone Network stations are also shown (purple). Many GSN stations are cooperative with other networks, indicated by the symbol on the 'shoulder' of the star. Network operators are continuing to make progress toward the completion of seven more GSN stations: USGS pursuing TARA and KANT, Republic of Kiribati, KBL Afghanistan, BAJA Mexico, and MACI Canary Islands; and IDA working on ABPO, Madagascar and a station in the United Arab Emirates.

Telecommunications

The current status of GSN telemetry is shown in two maps. We are moving toward full real-time telemetry at most sites, but still have some dial-up stations. New GSN telemetry links this year are highlighted in the first map. The GSN uses a wide variety of telemetry systems coordinated with many organizations and hosts, illustrated in the second GSN telemetry map. Cooperation with the Comprehensive Nuclear Test Ban Treaty Organization in sharing their Global Communication Infrastructure system is an important component of telemetry.

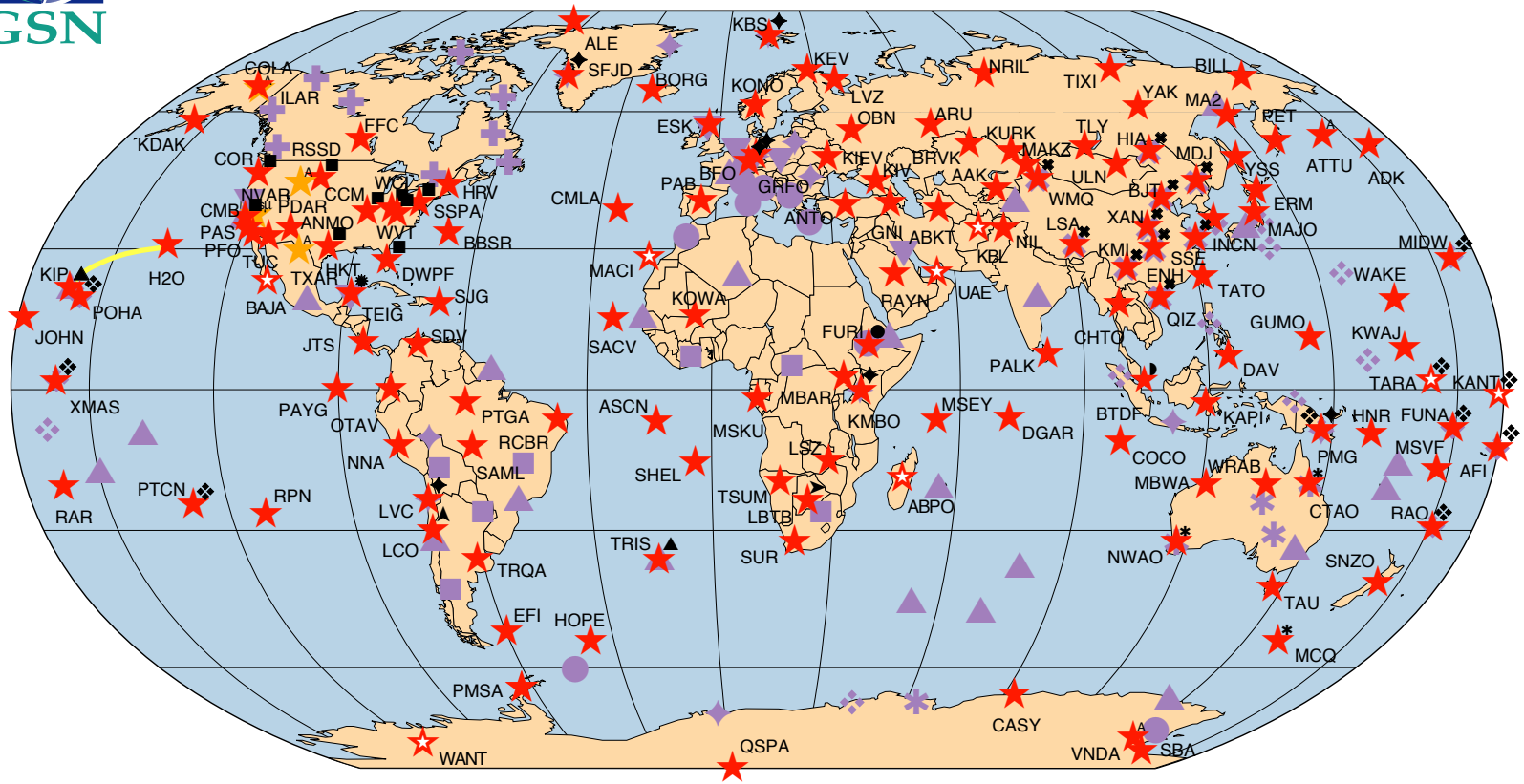
USArray Component of the Advanced National Seismic Network Backbone

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 USArray imaging component of the EarthScope Facility, and are a component of the USGS Advanced National Seismic Network being installed by the USGS Albuquerque Seismological Laboratory. The map shows the ANSS Backbone, highlighting the USArray component and GSN stations..

GLOBAL SEISMOGRAPHIC NETWORK

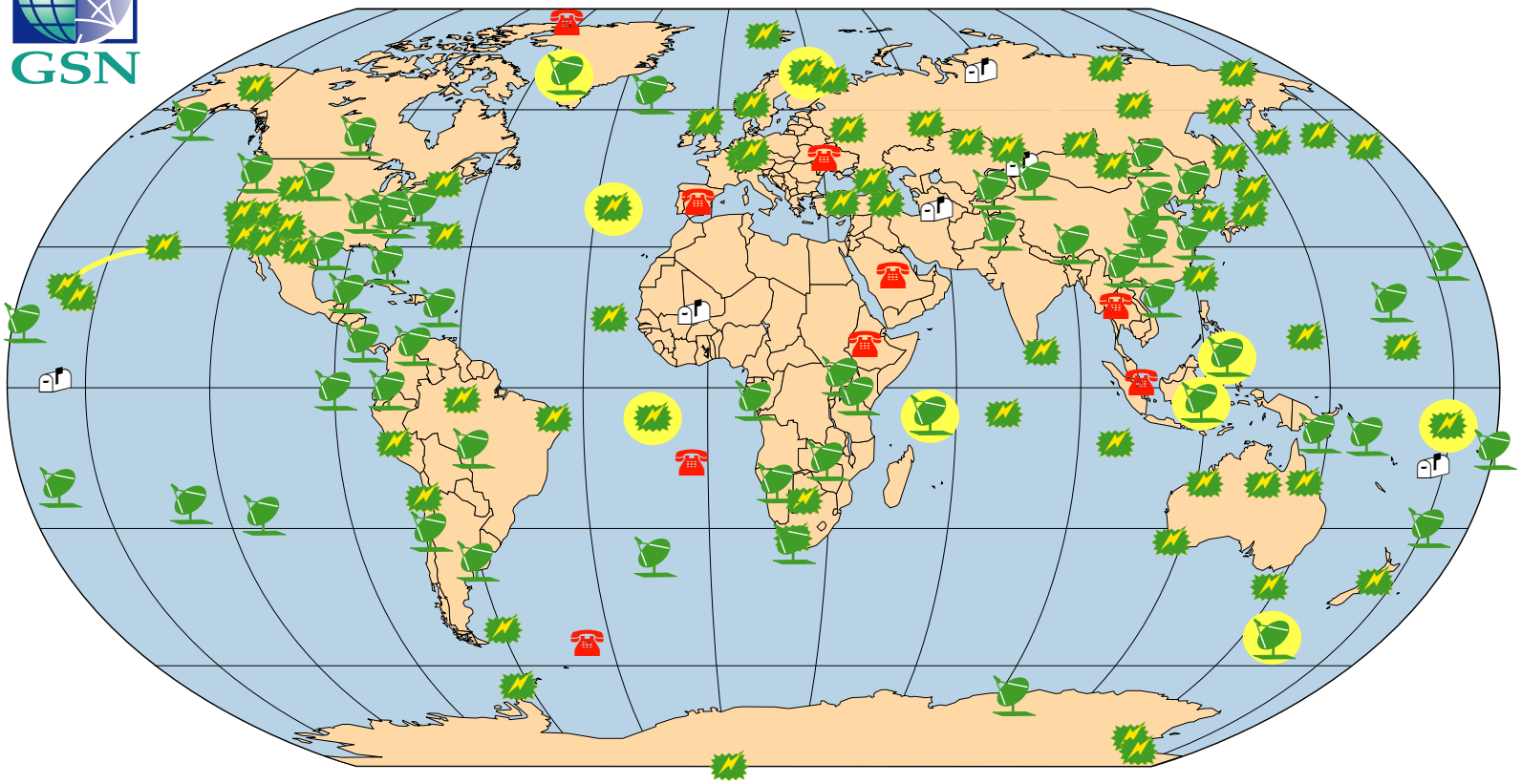
& FEDERATION OF BROADBAND DIGITAL SEISMIC NETWORKS

GSN



IRIS Current	Affiliate Array	IRIS International & National Cooperative Sites: Geoscope	Japan	Mednet	Geofon/AWI/BGR/BFO	China/USGS	Mexico	Singapore	Botswana	Andes	Australia	ANSS	AFTAC	SMU
★	★	★	★	★	★	★	★	★	★	★	★	★	★	★

GSN COMMUNICATIONS



VSAT

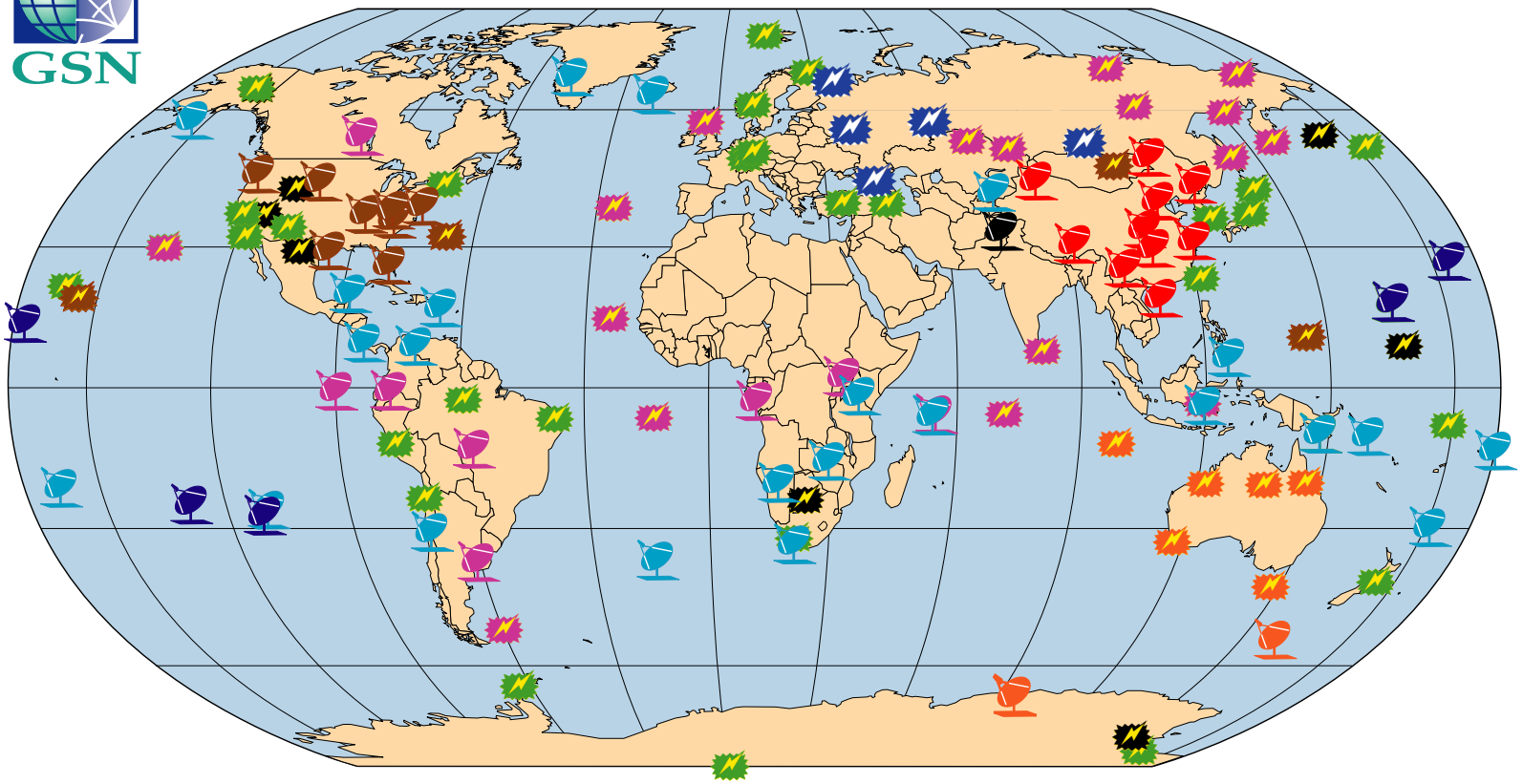
Internet

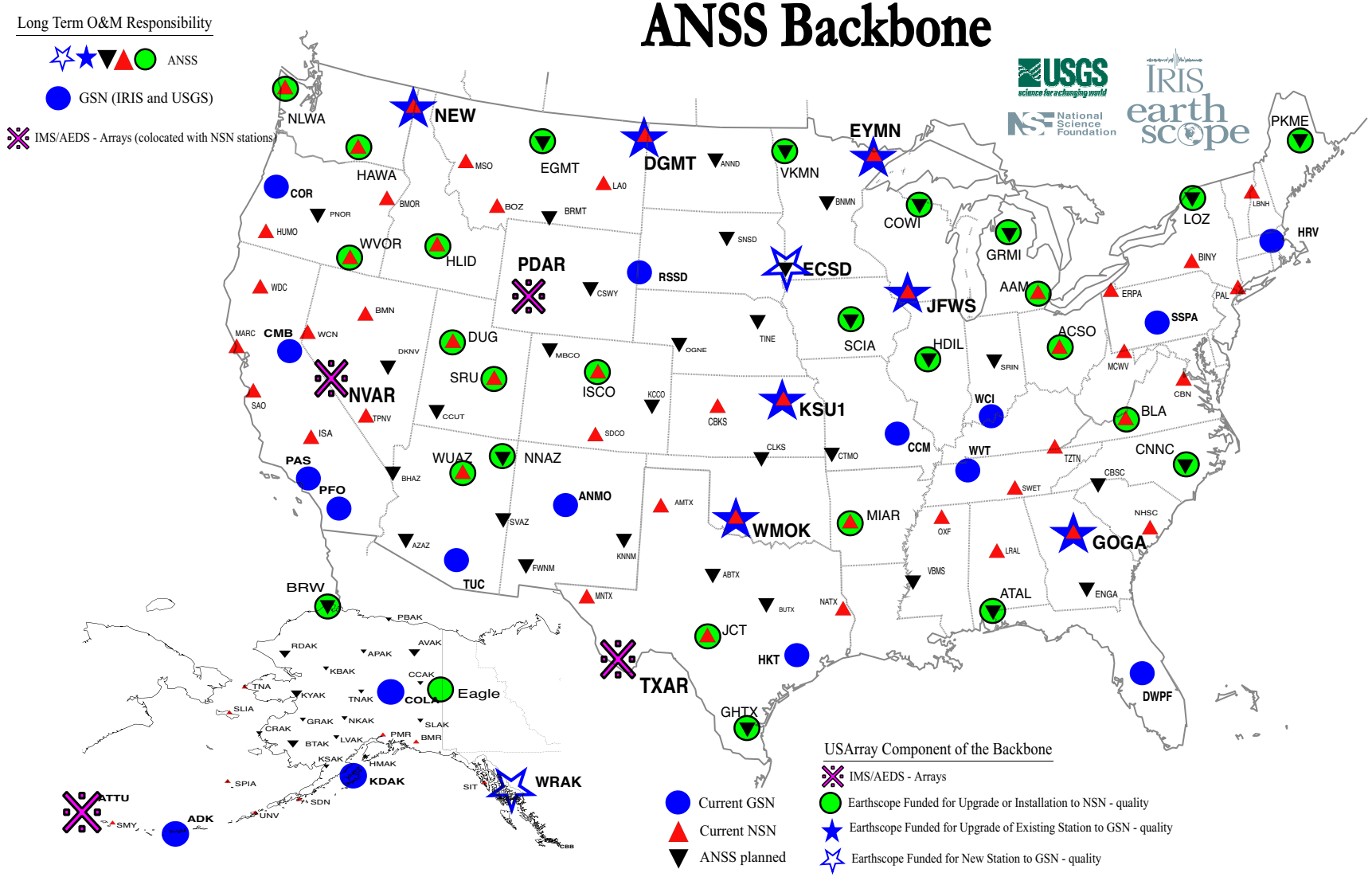
Dial-up data

Data shipped via mail

NEW OR UPGRADED TELEMETRY 2005

GSN TELEMETRY



	IRIS/NSF	NWS	USGS	China	Australia	Russia	AFTAC/DoD	CTBTO	GSN Host
VSAT	✓	✓	✓	✓	✓		✓	✓	
Internet	✓		✓		✓	✓	✓		✓

ANSS Backbone