

USGS Menlo Park Seismic Data Library

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Abstract

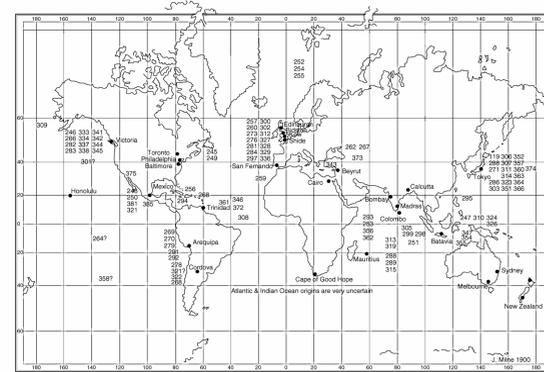
Modern digital seismograms from stations with adequate global coverage are available only since 1990. For prior earthquakes we must use the WWSSN and other historical analog seismograms. The seismograms of pre-1990 earthquakes from the world's subduction zones are especially important to researchers seeking to understand where future tsunamigenic earthquakes might occur and how big they might be.

Background

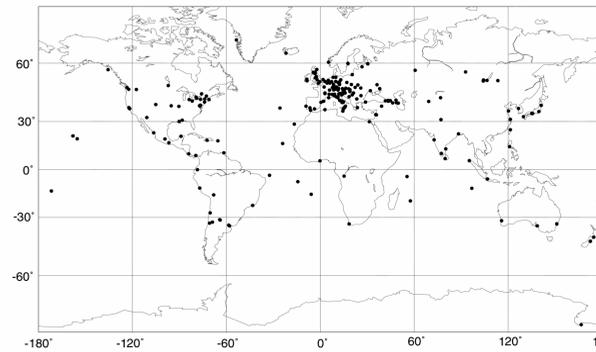
The USGS Seismic Data Library was first established as a "project" in the early 1970s when the Earthquake Mechanism Laboratory of NOAA in San Francisco merged with the USGS National Center for Earthquake Research in Menlo Park. With Willie Lee as its project chief starting in 1976 the library grew to include one of the world's largest archives of seismograms, seismic station bulletins, and related materials from around the world.

Unfortunately, following a reorganization of USGS, this Data Library was abandoned around 1996. The collection of WWSSN seismograms (about 5 million 70mm film chips) was sent to the USGS Albuquerque Seismological Lab (ASL) and seismograms from the California Seismic Network (Calnet) were moved to USGS storage. In the end, some of the seismic station bulletins (mostly pre-1940) were saved by Lee in his garage and the rest of the holding - including large quantities of magnetic tapes, punch cards, and most of the seismic station bulletins - was simply discarded.

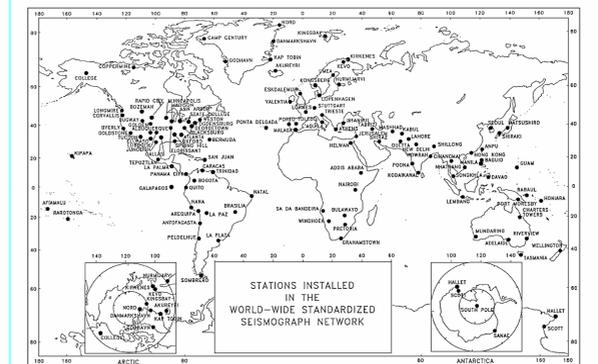
Now, more than a decade later, the USGS Seismic Data Library is being re-established in Menlo Park in order to support the research being conducted by the USGS Tsunami Source Working Group.



The First Global Seismic Network by John Milne in 1899. [Stations shown in Black dots; Numbers refer to earthquakes listed in Milne's catalogue and show approximate locations.]



A Map Showing Seismographic Stations with Seismic Bulletin Materials before 1921 (from Schweitzer and Lee 2003)



Stations Installed in the World-Wide Standardized Seismograph Network (WWSSN) in the 1960s.

Geophysikalisches Institut-Göttingen.

1877/78 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 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