

## JQZ Hawaii IRIS Data Submission Description

These data were recorded during R/V Thomas G. Thompson cruise TN272 in the western Pacific ocean, Nov. 5, 2011 – Dec. 17, 2011. The Chief Scientist was Masako Tominaga. The goals of the cruise were, broadly, to record and understand the magnetic anomalies of this Jurassic-age lithosphere. Seismic data were acquired to help estimate the influence of Cretaceous magmatic emplacement on the magnetic anomalies. Two types of seismic data were acquired: multi-channel seismic data recorded on a 600-m-long streamer using a 2-GI-gun source along an 800-km-long primary transect consisting of 9 individual, overlapping segments; and wide-angle recordings of airgun shots along that primary transect as transmitted by 50 sonobuoys, most of which received and transmitted airgun arrivals to offsets of 15 km.

This data submission consists of the sonobuoy data acquired on TN272 and appropriate metadata. These data are being archived at the IRIS DMC because an RT-130 was requested to serve as a secondary data-logging device for the sonobuoy dataset. The primary data-logging device was the multichannel recording system, where sonobuoy data were recorded as an AUX channel. The primary recording device worked perfectly, and so we are archiving data recorded by that system and not data recorded redundantly by the RT-130. The reason for this is mainly related to shot timing. Shot times were not logged independently by any system to better than 100 ms accuracy. However, the multichannel system was triggered by the same signal that triggered the airguns, with the relative latencies being well known. Thus, the traces recorded for the sonobuoy data by the multichannel system have accurate (better than 1 ms) timing relative to shot initiation. The RT-130 have accurate absolute timing and record both the sonobuoy data stream and the shot-trigger pulse, but considerable effort would be required to extract absolute shot times from match-filtered trigger pulses and then “cut” the data channel to form a dataset that would be essentially identical to the dataset recorded by the multi-channel system. We haven’t done that exercise and do not intend to.

This submission consists of:

- 1) This description,
- 2) The sonobuoy operations portion of the cruise report,
- 3) A brief description of how source/receiver offsets were determined,
- 4) An SEG-Y format file (JQZ\_commonSB\_shoffcorr.segy) containing common-receiver (i.e. common-sonobuoy) gathers for all sonobuoy records, and
- 5) A folder containing navigation information for each shot as a text file and line-segment information as an Excel xlsx file.

Other information about the cruise and additional data from the cruise can be found at the sites below.

Rolling Deck to Repository Site:

- <http://www.rvdata.us/catalog/TN272>

Marine Geoscience Data System, Academic Seismic Portal (ASP) at UTIG:

- <http://www.ig.utexas.edu/sdc/cruise.php?cruiseIn=tn272>