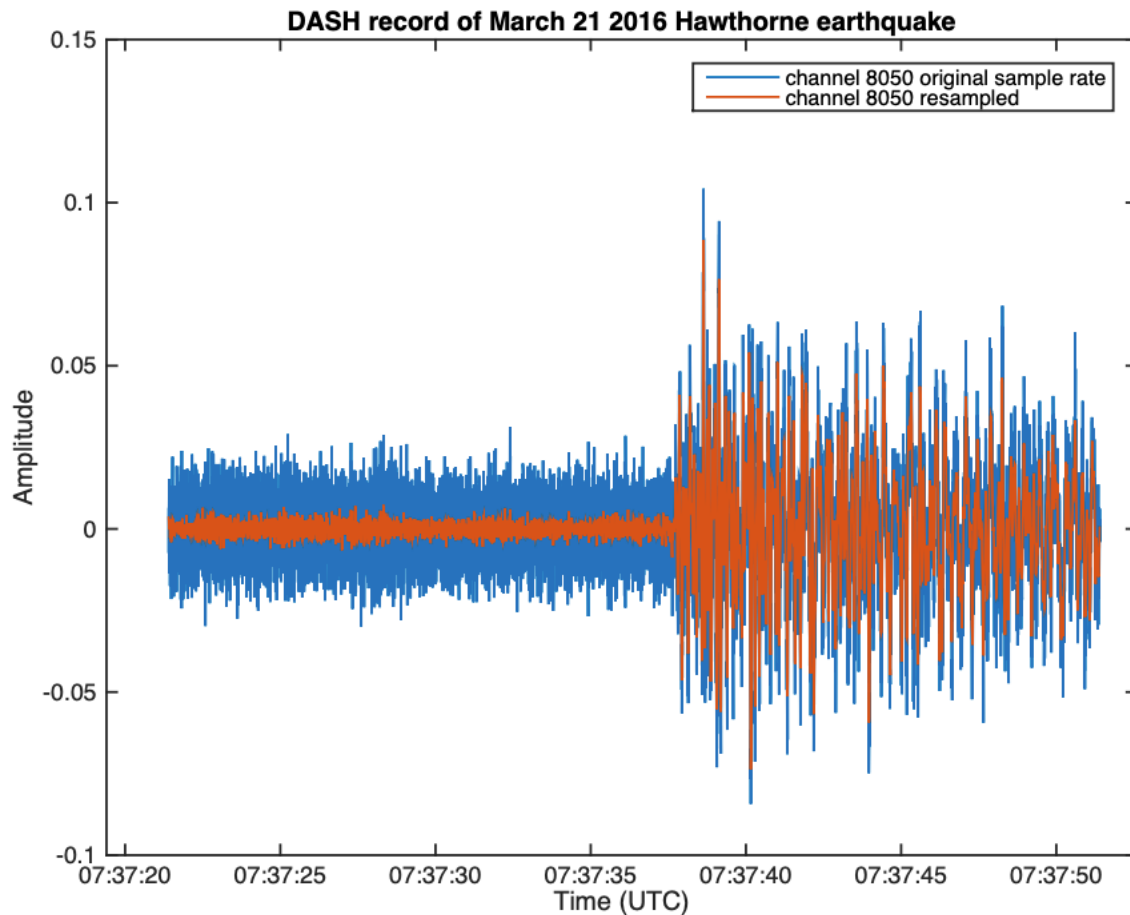


README for DASH data

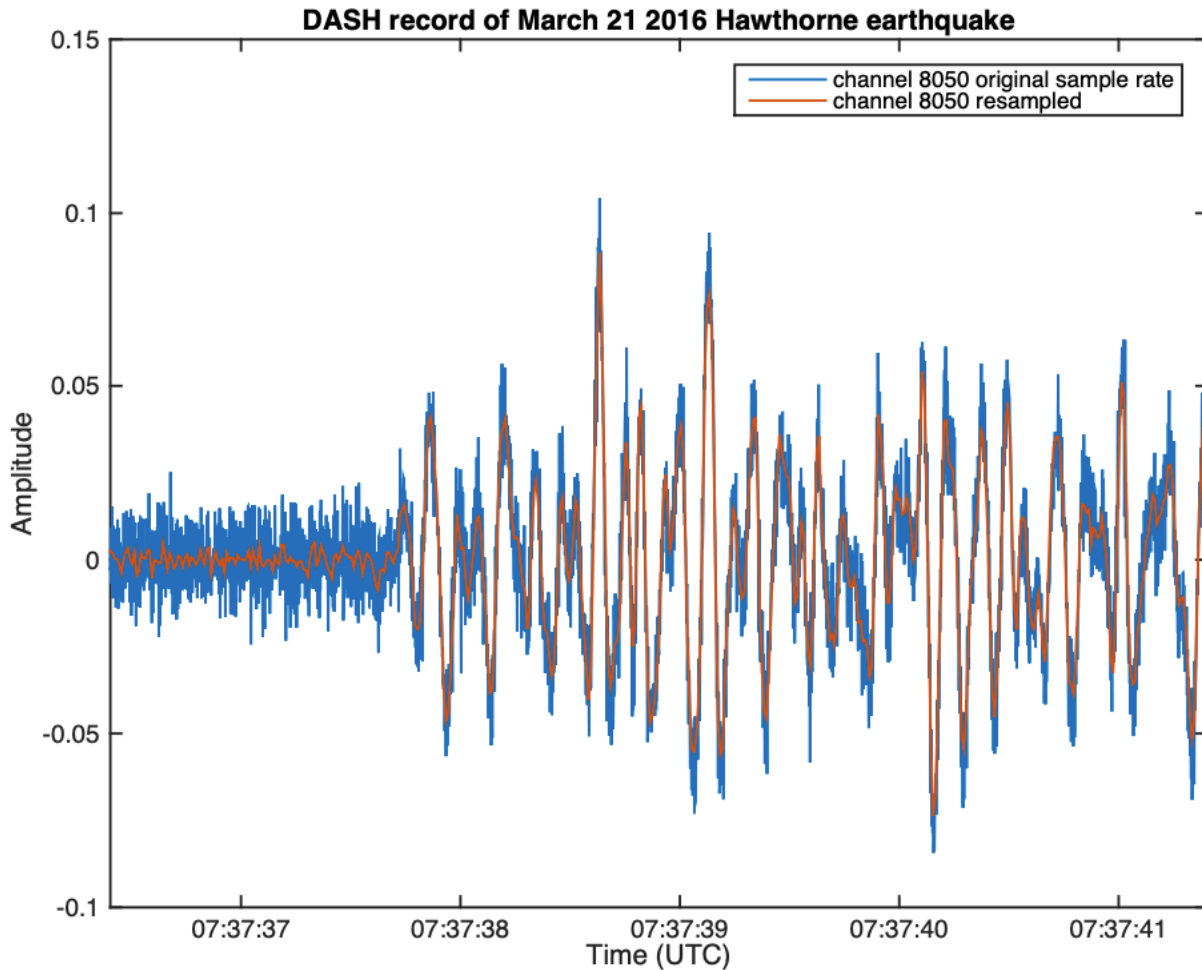
Description

These files are Matlab files with data for the surface DAS (DASH) array deployed at the PoroTomo natural laboratory in March 2016. Each file contains 30 seconds worth of data for 8721 channels. These files have been resampled in time from the original data and have a sample rate of 100 samples/second.

The following plots show how the waveforms of the data with the original sampling rate compare to the resampled data. The resampled data in the plots comes from file PoroTomo_iDAS16043_160321073721.decimated.mat and shows the onset of body wave arrivals for a regional earthquake that originated in Hawthorne, NV on March 21, 2016. Channel 8050 was chosen based on its location in the array.



This plot shows the entire 30-second duration of the files. The blue waveform corresponds to the original sample rate and the orange waveform to the resampled data.



This plot is a 5 second window of the data from the previous plot and confirms that the signal waveforms still align post-resampling.

File organization structure

The data is organized into directories based on the date it was collected. Directory names are four digit numbers that represent the month and day of collection. Ex: March 20th data is in 0320/

File naming scheme

Files are named based on the start time of the data.

- Each file starts with 'PoroTomo_iDAS16043_', which is the name of the project and the type of data collected.
- This is followed by a twelve-digit number that represents the start time of the file using the format YYMMDDHHmmSS where:
 - YY is the last two digits of the year
 - MM is the two-digit month
 - DD is the two-digit day
 - HH is the two-digit hour
 - mm is the two-digit minute
 - SS is the two-digit second

- All data was collected in March of 2016 so the first four digits will always be the same ('1603').
- Each file ends with '.decimated.mat' to distinguish it from the data with the original sampling rate
 - Files for March 23-26 end with '.sgy.decimated.mat' instead
 - Ex: PoroTomo_iDAS16043_160321073721.decimated.mat

File content

Each matlab file contains five variables: data, dt, nch, npts, and t0.

data – a 3000x8721 numerical matrix that contains the data points for each channel with the column number corresponding to the channel number

dt – the sampling rate

nch – the number of channels

npts – the number of data points per channel

t0 – a 1x1 datetime matrix with the time of the first data point

Missing files

There are six files that were unintentionally not included in the decimation process. The undecimated files should be used instead. The corresponding undecimated files are:

- PoroTomo_iDAS16043_160316031019.sgy
- PoroTomo_iDAS16043_160316031049.sgy
- PoroTomo_iDAS16043_160316031219.sgy
- PoroTomo_iDAS16043_160316031249.sgy
- PoroTomo_iDAS16043_160316031319.sgy
- PoroTomo_iDAS16043_160316031349.sgy

These files can be downloaded from

<https://gdr.openei.org/submissions/980>