Lab 2

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Processing flow

We will take the near trace gather through a processing flow

- Reading the data,geometry (QC?), sorting
- Amplitude gain (use AGC with appropriate window)

Lab 1

- MUTING DIRECT ARRIVALS
- Statics
- Deconvolution

Processing flow

- In order to maintain clarity, you could adopt a naming convention. For example:
    - Reading the data, geometry, sorting — ntgather.su
    - Amplitude gain — agc_ntgather.su
    - Statics — stat_agc_ntgather.su*

Muting the data

To mute the data, we can select a particular shot and pick up the traveltimes of direct arrivals.

Since shot and receiver elevations are uniform, direct arrivals should appear at the same time for all data for near trace gathers

$ suwind < seismic.su key=ep min=101 max=101 | sugain agc=1 | suxwigb key=offset &

what will be window for agc here????

Can you identify the direct arrivals, refractions and head waves?

Muting the data

$ sumute

Use the cursor to pick mute values. Place the cursor over the figure and press “s” key to observe the value on the terminal

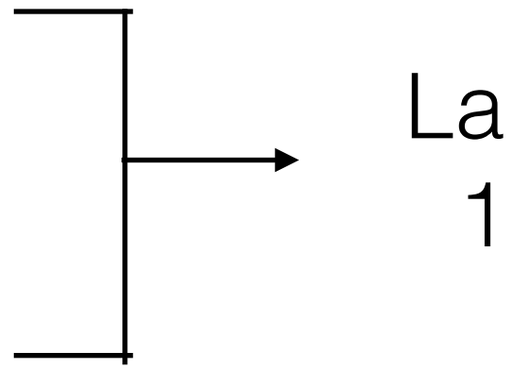
$ sumute < seismic.su tmute=t1,t2,... xmute=x1,x2,... key=offset > mute_seismic.su

(hint: page 155 of John’s notes)

Processing flow

We will take the near trace gather through a processing flow

- Reading the data,geometry (QC?), sorting
- Amplitude gain (use AGC with appropriate window)
- MUTING DIRECT ARRIVALS
    - After Muting direct arrivals, generate the near trace gather and apply agc to it, if agc has not been applied before.
    - CAUTION! Don’t apply steps like agc more than once to the data, you will end up boosting noise.



Statics

Next, we will apply statics correction

- Source and receiver depths of viking graben data are different. How do we know?

- $ sukeyword selev

  There are keywords corresponding to source and receiver elevations, depth of water (not needed for statics) etc

- Can you draw a diagram indicating statics corrections to be applied?

- How can I know the water velocity?

Help feature in SU

- I need a program to do NMO correction. I can use the following command to see possible programs that do NMO

  $ suname nmo

- Create a suite of constant velocity gathers *around* water velocity ~1500 m/s

Statics

- $ suname static *(lists all the SU programs relating to static correction)*

Which of the programs should we use?

Statics

- $ sustatic
- Choosing parameters for sustatic program.. *(look at the statics ppt)*
- Perform static correction on the entire data or on the near trace gather

Statics

- Are you satisfied with the computed statics?

- Alternate strategy to do statics correction: using suchw