PARAMETERS THAT MUST BE MEASURED

Grain shearing model (and also Biot model)
-porisity (as a function of depth)
-density
-grain size (as a function of depth)
--> both can be measured by the core logger and/or directly on the sample
--> must be done just after opening the sample

Bill Siegmann's model. Same as above and:
-pH for the pure mud cores
-constituent components

-also shape/composition/volume of the grains

-visual description of each grain size class

-platelet properties, cation exchange capacity (can this be done? see with geochemist?)

-SEM (Scanning Electron Micrograph)

-gaz/bubbles will be difficult

-organic fraction

-shear strength of the material

NECESSARY FOR EVERY CORES : **grain size, density, porisity**, permeability (last one is difficult)
-water content and calcium carbonate content will be done routinely (maybe not for all cores thought)
-additional measurements are important as well

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ANALYSIS STRATEGY

How many cores? At least 20 cores with 4 different types
-pure mud
-(nearly) pure sand
-slow mud/sand transition
-rapid mud/sand transition

Analysis strategy will depend on the results of the first cores (is there variability?)

Need to quantify uncertainty/variability of the geological measurements. How does that impact the geoacoustic model?
-we can use the variability as a proxy for the uncertainty

-we can run the same sample more than once
-there may be systematic errors. Can we do something about it? The geologist will transmit as much information as they can.

Depth sampling will depends on depth variability.

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CHOOSING CORES

3 tracks : main acoustic track, secondary acoustic track, SAMS track
-at least 4 cores on each track
-make sure to process several pure mude cores in the center to assess variability
-some extra cores elsewhere for variability

need to be adjusted depending on the acoustic experiment

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TIME SCALE

What is needed when?