05-29

Thursday, May 29, 2025 9:02 AM

Morning debrief:

Figures:

- What makes a good figure:
  - Appropriate font size, color.
  - Diverging colormap.
    - Use when middle zero, ends positive/negative.
  - Legend.
  - Labels.
  - Map:
    - Scalebar.
    - Any place you talk about.
  - Annotations.
    - Highlight interpretation.
  - Captions.
    - Everything you need to understand the figure without reading anything else.
  - Title
    - Title adds orientation if you have a large block of text.
    - Title could also be redundant and takes space.
    - Alternatively, title is just bolding the beginning of the captions.
- Type of presentation influences figures.
  - How large?
  - Annotations are preferred for paper, presentations should avoid annotations to ensure the audience is listening to the speaker.

Comments from our debrief:

- Be ready for questions like:
  - What's the difference between brute stack and first velocities.
    - Be very aware of the corrects/steps in processing that have been applied.
- Inconsistent elevations have a significant impact on why adding additional lines may make the feature look unusual.
  - Callum speaks on how different forms of gathering elevations contributes ~10m of difference.

Calendar:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
05-25 **X**	**05-26** **X**	**05-27** **11AM - Meet w/ Samara** **X**	**05-28** **11AM - Meet w/ Jim to learn SeiSpace (Julia & Renee)** **11AM - Meet w/ Samara to learn Petrel (Peyton & Kadidia)**	**05-29** **Produce better images for interpretation. (Better horizon pics).** **Velocity models.**	**05-30** **Harass Samara for seismic interpretation.**	**05-31** **Write abstract.**

			Export images from SeiSpace to Petrel for interpretation. **X**			
06-01 **Abstract**	**06-02**	**06-03**	**06-04** **Presentation**	**06-05** **Ext. Abstract**	**06-07**	**06-08**

Peyton's Tutorial into Petrel:

Mount permian network

This PC, map new network.

Drive: P:

Folder: \\permian.mines.edu\rcp

Click Finish

Enter Network credentials

Username: rcpdom\fischer

Password: 2025FC#fisc

Username: RCPDOM\somar2

Password: mpRCP$2025

Find projects

In the permian folder/network:

Go into FC2025_reflectionseismic

Here, we find the petrel project. Do not open the saved project while someone else is there, else it overwrites.

Opening project

In Petrel, open project.

- Right click on survey. Go to settings. In info, click 3 dots on file name to set it to
- Into rcp, FC2025_reflection seismic, 4_images, choose desired line.
- Click apply, OK.
- Should see check mark next to line and line in workspace.

Access data from SeiSpace

In permian network:

Go to seisdata, jberglind_FC25

Here we are able to access data that Julia's uploading via SeiSpace.

When importing, ensure the formatting Samara set transfers by highlighting the CR name. (ex. 2024-CR-24).

Clicking the blue arrow in the top left inputs the line into the blank field.

Remove stretch

Z scale in the top hot-bar.

Trace seismic horizon

Open new window (Interpretation window).

"It's all about the display" says Samara.

Seismic interpretation x2.
Third tool is auto-tracking, will only allow you to select portions with the same amplitude.
First tool is manual interpretation, click along pattern. Double click to finish the line.
This will appear as seismic horizon x. Continue adding traces to link multiple seismic lines.

Make dipping slab.

Seismic Interpretation
Make Surface
Input data as seismic horizon. Clicking the blue arrow will bring in the highlighted feature.
Select automatic.
Click apply and OK.

Roadblocks:

- Cannot get the velocity from seiSpace because it's an unfamiliar version of Linux.
    - Material type is out of reach :,(

Wrap-up:

- Undefined goals. We are seeing a dipping layer but no faults. This weakens any argument we had to link the subsurface structure to water transport.
    - Learned from Paul our seismic images are unmigrated. We need migration to see the fault as a truncation of the reflector.
- Julia applied several filters to CR45 and CR43 to stacks.
    - Made a velocity model in Bob's SeiSpace.
- Peyton made more detailed seismic horizons to make a more accurate surface for the dipping slab.
- Postponed day to write abstract.

Further:

- Sent an email to Samara to hopefully meet with her tomorrow to help our seismic interpretation.
- Sent an email to Dr. Bob and Paul to help with justifying how a dipping slab can relate to movement of water to hot springs.
    - Renee really wants to link the subsurface structure to water.