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1. Setup
- state the problem. draw a picture.

Interpreting lateral changes and conductivity contrasts in complex environments. How much can we rely on from 1Δ methods. When do we need to jump to 3Δ and [redacted] how do we approch the 3Δ problem with sparse data?

2. Properties
- what are the diagnostic physical property contrasts?

Variable, but often 1-3 orders of magnitude in resistivity between altered and unaltered volcanics or between volcanic and sedimentary rocks, or between fresh and saline waters

3. Survey
- where are the sources? receivers? time domain? frequency domain? grounded? inductive?

typically AEM systems, whether time or frequency domain. Ground surveys rarely have the spatial coverage to address these problems in 3Δ.

7. Synthesis
- how do we combine our interpretation with other knowledge about the problem and make a decision?

Incorporation of independent data (e.g. magnetic field data, borehole data, mapped fault locations) as a priori constraints (soft or hard) into the inversions.

6. Interpretation
- what do the results tell us in terms of the geological or geotechnical objectives?

Dependent upon the system, but may be location and dip of faults, configuration of hydrothermal fluids, geometry of brine plumes, or geometry of permafrost

5. Processing
- what steps should be taken prior to obtaining an interpretable image?

3Δ modeling to examine the influence of 3Δ structure on 1Δ modeling, examining the effects of regularization, data errors, and starting models

4. Data
- what are the data? what do you expect to see?

Ideally a resistivity model that we can interpret with confidence. An ability to know which parts of our models are certain and which are plagued by 3Δ effects and demand more rigorous treatment.