

Group Development of Research Questions Geology 140 (make list bullets etc for Powerpoint).

1. Step One: Why are we doing this study?
Argue why understanding flowpaths help society
Why is your study important scientifically (not for your education)?
2. Step Two: Based on what you read and what we have talked about, what methods or questions seem to interest your group the most? Why?
3. Step Three: Indicate some potential research questions (3-5). At this point, do not worry about constraints that you may have on time, money, or expertise. I will put constraints on them later. Rank them according to your groups interests. For each generate a **hypothesis** for how you think the system will behave.

Consider the following science issues:

- a. Our discussion
- b. Data that we have collected that you can use for this study:
 - i. Discharge in Glacier, Wind and Gribble Gap Creek
 - ii. Soil moisture records
 - iii. Rainfall records
 - iv. Weather data
- c. Equipment that we have:
 - i. Infiltration measurement devices
 - ii. Temperature sensors
 - iii. Rain gages
 - iv. Soil moisture sensors

Consider the following technical issues about the form of the question:

- a. Stated clearly
- b. Is it descriptive, comparative or relative or something else?
- c. Avoids value-laden terms (e.g., "good," "bad")
- d. Solution to the question contributes to the literature
- e. Leads to new questions
- f. Researchable (can be investigated through data collection and analysis)
- g. Ethical (will not cause harm to subjects)