CRN alluvial sampling for quartz (10Be/14C)

Sample

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Catchment observations

- Do you see any evidence for large landslides?
  - What's the degree of mass wasting in the area?
  - What's the approximate landsliding depth? shallow vs deep
- What's the lithologic distribution in the catchment?
  - Do you see evidence for uneven quartz distribution? (e.g., quartz only present in one of many lithologies?)
  - How variable is lithology in the catchment?
- Is there evidence for storage in the catchment?
  - If you see major storage in form of terraces or large alluvial plains, consider moving upstream.
  - Is the stream incising into bedrock or alluvial fill? How thick is the alluvium?
- For ^{14}C:
  - Average soil thickness in the landscape?
  - Any recent excavations, e.g. gravel pits upstream, large road construction, any sort of sediment liberation by recent human activity?

Sampling site:

- Are there hydro power plants upstream? (If yes, consider moving upstream)
- Does the river bed look natural? (If not, consider moving upstream)
- Does the river incise into bedrock or alluvium?
  - If alluvium present, how thick is the alluvium that the river incises?
- What's the approximate lithologic composition of the river bedload?
- What's percentage of quartz? (Adjust your sample size accordingly)?
- What's the approximate grain size distribution in the river bed? (Boulders, gravel, sand, silt, clay; this is important to assess how representative your sample of the erosion processes will be)

Sampling:

- Amalgamate sample by sampling from several nearby sites
  - Sampling from both river banks is important if there is a large upstream confluence
- Optional, pre-sieve in the field to < 1 mm for weight reduction
- Vary sample volume by quartz content, production rate, and expected erosion rate

Other comments: