How does geology impact biogeochemical processes?

Whendee Silver
Steven Hall
Wendy Yang
Tana Wood
Eoin Brody

University of California, Berkeley
Lawrence Berkeley National Lab
Ecosystem Ecology and Biogeochemistry

• Most of our experience is with surface processes ($\leq 1$ m).

• We are particularly interested in the drivers of greenhouse gas production and consumption, nitrogen cycling, and ecosystem phosphorus dynamics.

• We are also very interested in redox sensitive biogeochemistry.
Key Questions for CZO

1. What are the drivers and biogeochemical consequences of redox cycling in soil

2. What controls changes in biogeochemical processes with depth in a tropical forest?

(are greenhouse gas emissions dependent upon the depth profile, and if so, how?)
What is the temporal variability of soil $O_2$ and how is it related to precipitation?

a) Bisley

b) Cloud Forest
Greenhouse gas concentrations vary predictably over space and time.
And we can model it.....