Removing barriers to access for field-based educational experiences

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Motivation

• Increasing diversity in STEM fields critical given shifting demographics in the U.S.

• Nearly 20% of U.S. population has disability (U.S. Bureau of Census).

• 0.2% of Geoscience undergraduates report disability (American Geological Institute).
Barriers

• Available data suggest that students with disabilities often perceive limited opportunities for advancing in Geoscience careers due to a traditional emphasis on fieldwork (Locke, 2005).

• Unfortunate given that laboratory and computer-based modeling and hypothesis testing using remote sensing data, do not require direct exposure to the field.
Planetary scientists don’t do field camp on other terrestrial planets
UNAVCO to the rescue!
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Equity among students

- Socio-cultural and personal benefits of fieldwork.
- Sense of belonging to the community of Geoscience professionals.

Geophysical instruments (right) and inspiring cultural and geologic history are ubiquitous in northern and central Italy.
Solutions

• Accessible field experiences (Cooke et al., 2006)
• Virtual field trips (Atchison and Feig, 2011)
Opportunities

- National Parks and Monuments
Considerations

- Physical access (including camp sites, bathrooms, paved trails, and access to equipment, transport)
- Curricular access (assistive technologies, interpreters, guide dogs, etc).
UNIVERSITY OBLIGATION

Access to ALL Programs, Services and Activities

– Non-discrimination on the Basis of Disability
– Availability of Reasonable Accommodations
• Disabled students must
  – Be able to acquire same information,
  – Engage in the same interactions,
  – Enjoy the same services as non-disabled
  with
  – Substantially equivalent ease of use

• Accommodations only if
  – Equally effective
  – Equally integrated
Things to consider:

1. Will all students be able to participate equally in all components of the field course?

2. Which activities are essential to the desired learning outcomes? Are there alternatives?

3. Consult your Campus DRC
   - Consultation
   - Training
   - Resources
Accessibility Sources

• Web Accessibility in Mind (WebAIM): http://webaim.org/
• Accessible Video: http://webaim.org/techniques/captions/
• PDF Accessibility: http://webaim.org/techniques/acrobat/
• PowerPoint Accessibility: http://webaim.org/techniques/powerpoint/
• Assistive Technologies at The University of Arizona: http://drc.arizona.edu/students/at-websites