# Increasing Undergraduate Exposure to Novel Soil Types through a "Virtual" Regional Soil Judging Contest

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## What is soil judging?

- Competitive soil morphology and classification
- Hands-on learning opportunity in pedology and soil classification
- Regional and national contests for undergraduates





#### Motivation to host a "Virtual" Regional Contest

- Exposure to diverse soils & parent materials is critical for students' understanding of pedology
- Participating in soil judging & attending regional and national contests increases student exposure to novel soil types
- Funding constrains universities' ability to attend regional and/or national contests
- $\mathscr{E}$  Virtual regional is one approach to exposing students to new soils without funding travel



## **Colorado State University**

**Team members**: Josh Padilla, Melissa Miller, Billy Kinn, Jake Makens **Regional Soil Profile**: Environmental Learning Center Stream Cut MAT = 50°F MAP = 16 inches









## "Virtual" Regional Approach

- Each team created a set of soil judging materials including:
  - Soil samples by horizon from a local profile
  - Modified official series description with pertinent information removed
  - Photos of soil profile and local landscape
  - Representative official soil series descriptions from the region



Samples used in the virtual contest from Colorado State (left), Oregon State (center), and University of Wyoming (right).

- Materials were shipped to other teams in the region
- Students completed a soil profile description sheet from each of the competitors local areas



## **Oregon State University**

**Team members**: Amanda Pennino, Zoe Ash-Kropf, Josh Greenwald, & Jasmine Brooks

Regional Soil Profile: McDonald-Dunn Research Forest

 $MAT = 53^{\circ}F$  MAP = 45 inches







## Learning Outcomes & Applications

- Hands-on active learning of pedological concepts from regions outside their immediate locale
- Broadened perspective of diversity and variability of soils
  - Collaboration between pedology professors could allow for virtual regional approach to be used in pedology courses
  - The western region will host another "virtual" regional contest this year, 2016, between Colorado State University, Oregon State University, University of Wyoming, Montana State University, and Utah State University

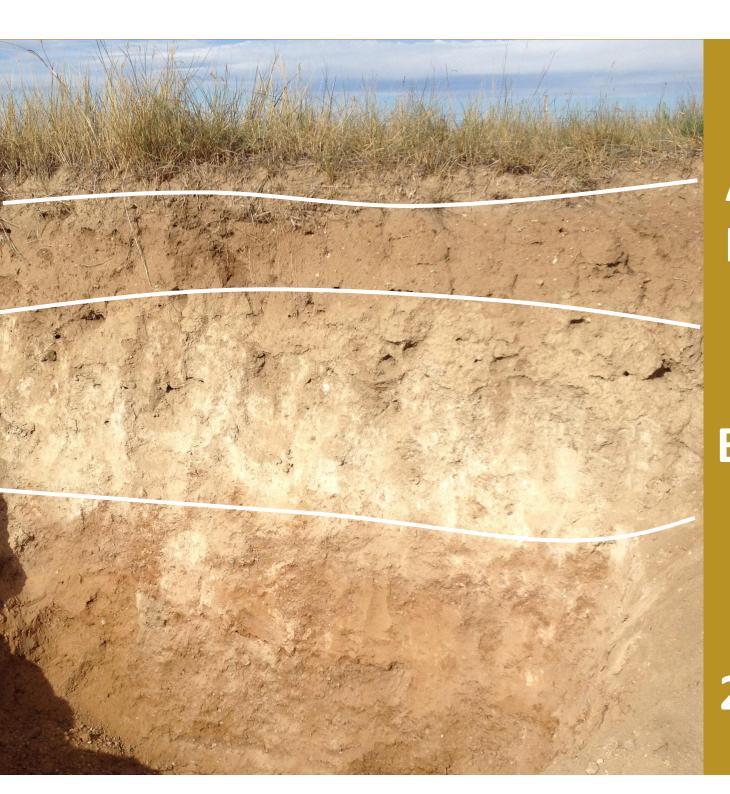


**Team members**: Sam Singleton, Casey Boyer, Stephen Schierman, & Alex Foulk

**Regional Soil Profile**: UWYO Paradise Farm Rangeland MAT = 41°F MAP = 12 inches

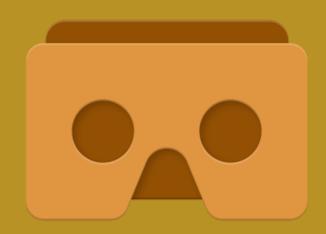






## Get to Know our Soils through Virtual Reality

- Each team captured images of their regional soil profile using the Google Cardboard App
- New virtual reality technology allows students to explore soil profiles without visiting them directly
- This is an innovative way to increase student exposure to novel soil types that can be applied in pedology courses



JOIN US WEDNESDAY NOV. 9<sup>th</sup> 2:30-4:30PM TO "VISIT" OUR SOILS!

#### Acknowledgements

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