

SOIL CLASSIFICATION

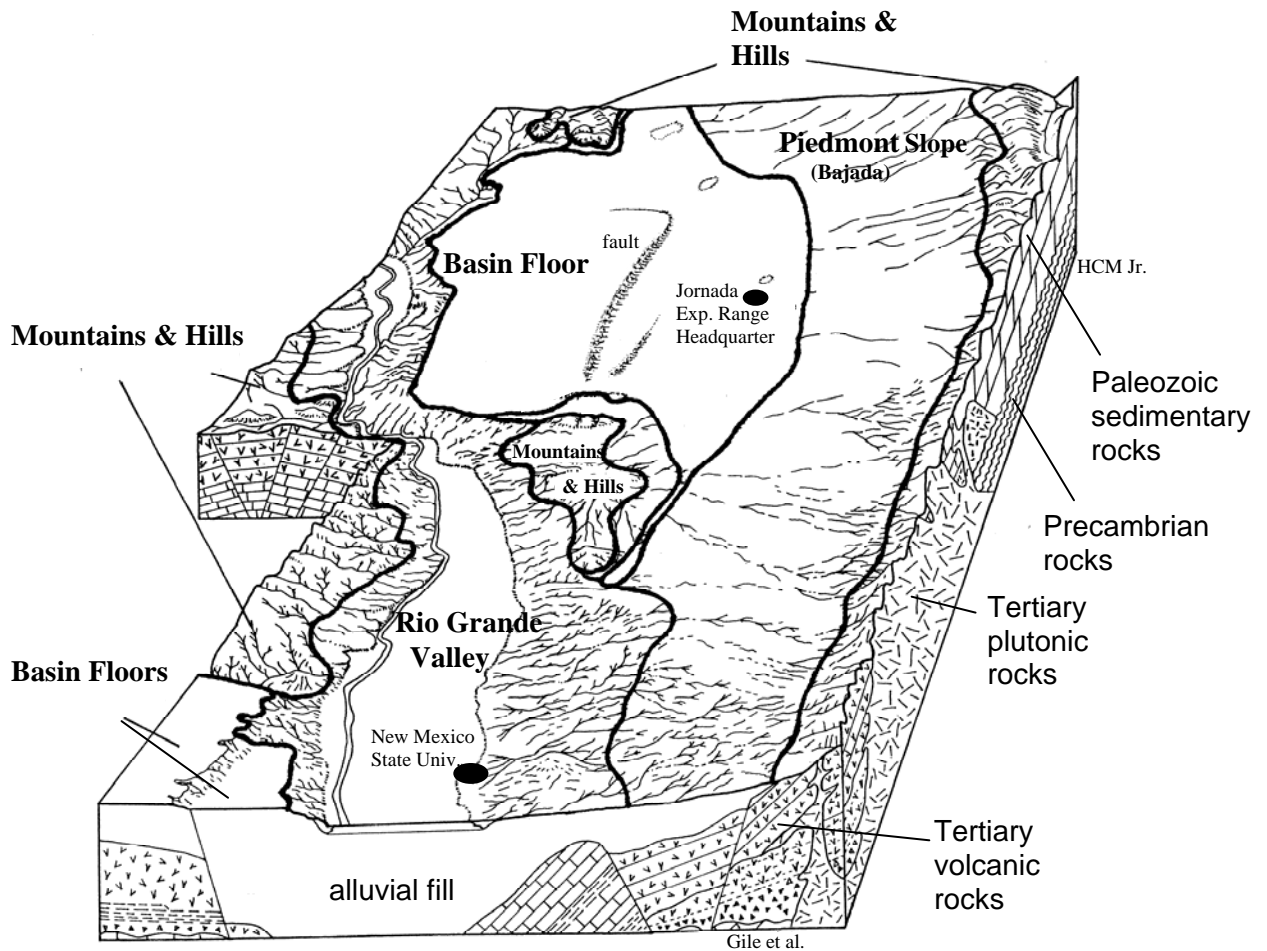
SOIL/GEOG 472

Fall 2009

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The purpose of this course is to teach you (1) how to describe and classify soils and (2) to understand soil-geomorphic relationships. We will use the morphology terms developed by the US National Cooperative Soil Survey and classify soils using the Soil Taxonomy system. The textbook is "The Keys to Soil Taxonomy, 10th ed" available at (<http://soils.usda.gov>), (<http://bookstore.gpo.gov>), Pocahontas Press (1-800-446-0467), or NMSU bookstore.



The course requires weekly field trips to describe soils and landscapes and to illustrate concepts covered in class.

Grading will be based on percentage of 1000 points as follows where:

- 100-90% = A (90-91 = A-, ≥98% = A+)
- 89-80% = B (same procedure as above)
- 79-70% = C (same procedure as above)
- 69-60% = D (same procedure as above)
- ≤59% = F

	<u>Points</u>
Lab Exercise 1: <i>Parent material identification</i>	10
Lab Exercise 2: <i>Profile field descriptions</i>	50
Exam 1 (Sept 29)	185
Lab Exercise 3: <i>The Web Soil Survey</i>	20
Lab Exercise 4: <i>Landforms</i>	100
Exam 2 (Oct 29)	200
Lab Exercise 5: <i>Keying out soils</i>	50
Lab Exercise 6: <i>Map of soils of the world</i>	10
Lab Exercise 7: <i>Soil mapping project</i>	175
Exam 3 (Dec 8 @ 1:00)	200

Topics to be Covered

Part I

- Soil Forming Processes (Pedogenesis)
- Soil Forming Factors
- Landforms
- Soil Profiles
- Soil Color and Texture
- Structure and Consistence
- Evidence of Clay Movement
- Soil Micromorphology
- Master Horizons
- Subordinate Distinctions
- (Exam 1, Sept. 29)**

Part II

- Discontinuities and the Prime
- Carbonate Stages and the K horizon
- Definition of Soil
- History of Soil Classification
- Epipedons
- Subsurface Diagnostic Horizons
- Soil Temperature and Moisture Regimes
- Soil Family Particle Size Classes
- (Exam 2, Oct. 29)**

Part III

- Other Diagnostic Features
- Greek and Latin Root Words
- Key to the Soil Orders
- Soil Orders and Suborders
- Applications of Soil Taxonomy
- (Exam 3, Dec 8 @ 1:00)**

Field Equipment

- water and hat
- spade or large knife
- measuring tape