

Colorado Plateau: Landscapes, Geology, and Beauty

Professor **George Davis** and **Peter Kresan**

WEDNESDAYS 1:00 p.m. to 4:00 p.m. February 10, 17, 24, March 2, 9, 2016

Dorothy Rubel Room, Poetry Center

This course largely repeats the seminar given in 2014.

There is no text required for this course. Various books and links will be highlighted during the seminar sessions.

There will be time for questions and discussion during intermission and after the seminar.

February 10, 2016

The Colorado Plateau presents a unique geography and landscape within the western North America, and is marked by indescribable beauty and sense of scale.

Intermission: Maps, diagrams, and cross sections on display will begin to give us a 3D sense of the geology and landscapes of the Colorado Plateau.

The great geological value of the layered landscape of the Colorado Plateau lies in accessing the chapter-by-chapter geological history. The Grand Canyon offers a special example of the ancient history. The story told by the layers in the Grand Canyon will allow us to time travel through the very early history of Arizona.

Suggested reference: Trail of Time @

http://tot.unm.edu/images/ToTWGalt5_12-5-07.pdf

February 17, 2016

The properties and contents of the rock formations of the Colorado Plateau reveal a story of how the surface environments of this region changed time and time again, and in dramatic ways.

Intermission: Fossils and rock specimens that illustrate special textural patterns within the rock formations are the objects used in decoding past environments of the earth's surface. Specimens will be on display for your inspection and questions.

When past environments are mapped and viewed regionally, we begin to appreciate the larger sweep of change, and can no longer think of any landscape or seascape as static.

Suggested reference: Dr. Ron Bakley reconstructions of global paleogeography
Colorado Plateau Paleogeography

<http://cpgeosystems.com/index.html>

North America Paleogeography

<https://www2.nau.edu/rcb7/nam.html>

Continued

February 24, 2016

The Mesozoic and early Cenozoic rock layers are an especially interesting chapter of change in decoding ancient environments, including a vast sand desert followed by a continental river system draining west off the Appalachian Mountains.

Intermission: We will enjoy examining a rich variety of rocks and fossils, including dinosaurs and early mammals, drawn from the Mesozoic and early Cenozoic formations.

The nature of geological change in Mesozoic and early Cenozoic time was shaped by tectonics and mountain building. It is insightful to reconstruct the ancient plate tectonic movements to show 'cause and effect'.

Suggested reference: Dr. Ron Bakley reconstructions of global paleogeography

Colorado Plateau Paleogeography

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North America Paleogeography

<https://www2.nau.edu/rcb7/nam.html>

March 2, 2016

There has been more than a century of debate regarding how the Colorado Plateau was 'raised', at what rate, and at what time(s). We will explore this debate about how and when the Colorado Plateau actually became the physiographic province that we know today.

Intermission: The maps and reports of some of the 19th and early 20th century geologists take us as time-travelers into the debates.

Regional rivers and drainage systems were aware of the 'raising of the Colorado Plateau', and we see this in the profound down-cutting of canyons, including slot canyons. A raging debate revolves around the history of the Colorado River itself, and when, exactly, the Grand Canyon was cut.

Additional reading will be highlighted during the seminar.

March 9, 2016

Some of our favorite National Parks, Monuments and geologic wonders on the Colorado Plateau will be highlighted to complete our sweeping tour.

Intermission: Books, maps, and specimens will be on display for your inspection.

Suggested reference:

Geology of National Parks 6th ed. by Ann G. Harris, et. al., Kendall/Hunt.

Geology of Utah's Parks & Monuments, 3rd ed., by Douglas A. Sprinkel, et.al.,

Utah Geological Association and Bryce Canyon Natural History Association,

Publication #28.