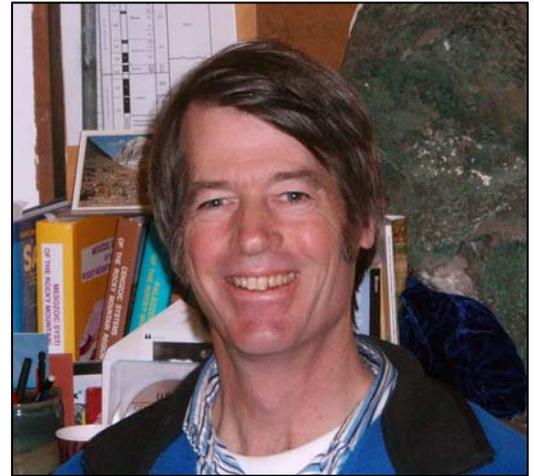


## Tale of Two Basins: the Tertiary Evolution of the Wind River and Denver Basins “The Past is Your Future”

**Robert G. Reynolds, Denver Museum of Nature & Science**

The Eocene synorogenic strata in the Wind River and Denver basins are considered from the perspective of late Laramide landscapes, climates, and ecosystems. The rock record is discontinuous; interpretations are based on paleontology, chronostratigraphy, isotope stratigraphy, and lithostratigraphy. Stratigraphic records are controlled by the interplay between sediment supply and accommodation. Paleontologic records are controlled by taphonomic processes that permit preservation of fossil remains.



Following the dramatic warming pulse that marks the end of the Paleocene and the beginning of the Eocene at 55.5 MY, our region enjoyed a period of remarkable warmth and biological productivity that culminated about 51 MY in the quaintly named “Early Eocene Climactic Optimum”. This was a time of wonderful biodiversity. Lush landscapes with abundant shrubbery saw the expansion of our ancestral lines. The record in the Wind River Basin speaks to this. New climate conditions of the Eocene saw dramatic changes in sediment supply to selected basins, the D2 sequence in the Denver Basin speaks to this.

As we hurtle towards a similar state of high temperatures, we can glean insight from the rock record to help us anticipate the landscapes and life-forms that may become evident. The record suggests that life will flourish in the warming times ahead. It also suggests our grandchildren may see profound changes in hydrologic regimes and sediment dispersal patterns.

### Speaker Biography:

Bob is a Research Associate at the Denver Museum of Nature & Science. His dissertation research focused on sedimentary rocks that accumulated at the foot of the Himalayas. This experience led him to study comparable rocks in the Denver Basin that record the uplift of the Front Range and contain precious groundwater. Bob has worked on the Rift Valley in East Africa and on the eastern plains of the Andes. Bob has taught at Peshawar University in Pakistan, at Dartmouth College, and at the Colorado School of Mines where he is currently an adjunct faculty member in the geophysics department. His recent lectures focus on the impact of climate change on Colorado’s ecology and water resources of the Colorado River system.

Back to the [RMS-SEPM Luncheon Page](#)

Back to the [RMS-SEPM Luncheon Abstract Archive](#)

