

Colorado School of Mines

Initiative in Rocky Mountain Basin Modeling

A multidisciplinary study of Rocky Mountain basins, integrating:

- Structural models (forward models, palinspasic restorations)
- Thermal models
- Hydrocarbon maturation and generation models
- Stratigraphic models
- Sandstone reservoir-quality models
- Fluid-flow models
- Petrophysical models



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Why model?

- Rigorously reconstruct past geological processes, geometries and rock properties.
- Conduct geological experiments (for example, test sensitivity of hydrocarbon generation to heat flow or thermal conductivity).
- More rigorous geological predictions in parts of basin where data are sparse.
- Identify critical problems in conceptual models for testing with other data.



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Innovative teaching:

- Students will collaborate in studying a single basin.
- Students will share a common office space and a common data set.
- Students will write a joint paper as part of their thesis.
- Faculty will be drawn principally from CSM, but may collaborate with faculty from other Colorado institutions.



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Long-term goals:

- To investigate every major basin in the Rocky Mountains - probably starting with the Piceance Basin.
- New teams of students will start every two years on a new basin. If sufficient funding and staffing exist, it may be possible to have two teams working concurrently on two basins.

