

The Geological Model
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The title of the keynote address is The Geological Model and this is the unifying central theme of the paper.

I consider that the topic is currently a major gap in the Engineering geology profession both within industry and in the educational institutions. This is in large part because it is an empirical science. This is what I will examine, bringing together my experience within the mining and consulting industries.

The Geological Model is sub-theme 3.5 under Advances in Engineering Geology. However it is my contention that all of the other sub-themes under Theme 3 are essentially contributors to the model. The aim of the paper is also to illustrate with case studies drawn from across the broad spectrum of civil engineering and mining, how each sub-theme contributes to the building and validation of the model. The paper will also focus on the benefits of old and new technologies and where the future lies.

The outline of the main topic or chapter headings is:

1. The role of the Geological Model.
2. The geological Model, from theory to practice:
 - a) Aims and objectives;
 - b) The process, how to build and present the model;
 - c) What the model should and shouldn't include;
 - d) Model lessons and
 - e) Model crimes.
3. Lessons from the Yallourn Inquiry.
4. The Thredbo Landslide model.
5. The geological model and mine slope design.
6. The role of the geological model and geotechnical computer models.
7. The role of drilling and logging in the process, the Northside Storage Tunnels.
8. New developments in model building.
9. Summary and conclusions.