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The Importance of Communicating Uncertainty to the 3D Geological Framework Model of Alberta

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The Alberta Geological Survey (AGS) has been tasked with developing a 3-dimensional (3D) geological framework for Alberta (660,000 km2). Our goal is to develop 'The Framework' as a sophisticated platform, capable of integrating a variety of data types from multiple sources enabling the development of multi-scale, interdisciplinary models with built-in feedback mechanisms, allowing the individual components of the model to adapt and evolve over time as our knowledge and understanding of the subsurface increases. The geoscience information within these models is often taken at face value and assumed that the attribute accuracy is equivalent to the digital accuracy recorded by the computer, which can lead to overconfidence in the model results. We need to make sure that decision makers understand that models are simply versions of reality and all contain a certain amount of error and uncertainty. More importantly, it is necessary to convey that error and uncertainty are not bad, and should be quantified and understood rather than ignored. This presentation will focus on how the AGS is quantifying and communicating uncertainty within the Geologic Framework to decision makers and the general public, as well as utilizing uncertainty results to strategically prioritize future work.