

Seismic Attributes: So Many Tools, So Little Time

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Recent technological advances in pre- and post-migration seismic data extractions now provide a substantial list of techniques that can be routinely utilized to better visualize subtle stratigraphic signatures. These fundamental geophysical tools not only help to reduce drilling risk, but they provide the means to find previously overlooked prospects and productive fairways. As with any technological advances, seismic attributes present new hurdles to overcome. In addition to standard seismic pitfalls, time & budget constraints also can pose problems. Data mining for potential stratigraphic reservoirs is very time consuming, but if performed properly, it can lead to numerous new project pathways for economic success.

In order to be able to take full advantage of the latest imaging technologies, the scope of the project should be carefully considered so that the entire column of stratigraphic reservoir potential can ultimately be mapped. Even before a new 3D survey reaches the interpreter's desk, one should have a firm geological picture of which depositional system tracts are going to be mapped, and what the potential reservoir geometries could be. Seismic attributes, both on horizons and thin stratigraphic volumes, should be carefully scrutinized for not only the best ties to wells, but also to make geologic sense with respect to local and regional deposition, as well as structural fabric. These are the keys to finding not simply an isolated prospect, but in identifying new productive trends and fairways which will lead to greater economic success.