# Rapid Basin Evaluation Across Large Regions as a Basis for Play Analysis

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Play analysis requires a consistent geological interpretation process within and between basins. But large areas of the world are largely unexplored because of poor spatial distribution and quality of traditional exploration data. Even in mature exploration areas the geological framework may be poorly understood particularly in the older and deeper parts of a basin.

The OZ SEEBASE™ project was designed to provide the first consistent structural model for the evolution of Australia's Phanerozoic sedimentary basins in a single GIS project. The model provides a time-space framework for the evaluation of the petroleum potential of Australia's basins. It was based on the systematic integration, calibration and interpretation of non-seismic and seismic/well data using a range of new techniques that rely primarily on non-seismic data to improve spatial control and provide geological information in areas not covered by seismic and wells. Product layers include depth to basement images, basement-involved faults, basement geology, tectonic events and responses, sediment thickness and crustal thickness that can be used to provide insights into key play elements or risks such as trap size, distribution, type and timing, crustal heat flow, reservoir and seal quality, volcanics, salt and basin phase morphology.

The OZ SEEBASE™ project has generated a number of new play-based exploration strategies. It has provided the basis for planning new cost-effective data acquisition strategies to systematically reduce exploration risk within families of basins that have been formed by similar geodynamic processes. The CRAP™ (Confidence, Reliability, Accuracy and Precision) layer is key to assigning risk to each play and play element.