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Exploration In The Mediterranean, With Focus On Petroleum Potential In Libya

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Summary

Exploration in the Mediterranean Sea is currently experiencing renewed interest, with exciting, play-opening discoveries in Israel, Egypt and Libya. ION has taken an innovative approach in order to rapidly and cost-effectively develop an integrated dataset to aid understanding of the whole Mediterranean, which can be used as the framework for future exploration programmes and to challenge existing basin models. The dataset consists of modern BasinSPAN data and reprocessed data from both industry and academic sources (figure 1). These surveys have been processed concurrently to provide a consistent velocity model across the Mediterranean and generate a fully integrated geological and geophysical interpretation using seismic, well, gravity and magnetic data.

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Offshore Libya has attracted exploration interest for some time. ION's dataset across Libya comprises over 45,000 km of recently acquired and depth processed deep regional seismic data and newly reimaged legacy 2D seismic data, which has now been fully interpreted. The prolific petroleum systems of Libya have generated proven oil discoveries of about 130 Bbo, the majority of this onshore. The offshore extensions of these petroleum systems are largely unexplored. Recent wells have proven both equivalent and new petroleum systems in the offshore, but the extent and full potential of these systems is currently poorly understood. Placing the offshore Sirt Basin and Cyrenaica Margin into a regional context and understanding the relationship with the onshore basins will be key to future exploration of this potentially huge yet underexplored province.

Here the regional interpretation is described in the context of assessing the petroleum system of this complex region. Enhanced understanding of the regional context of proven and speculative plays is presented, extending the petroleum potential of the offshore along the Cyrenaica Margin and into the deeper water. The extension of known source rocks and identified reservoir zones are combined to highlight plays and prospects.

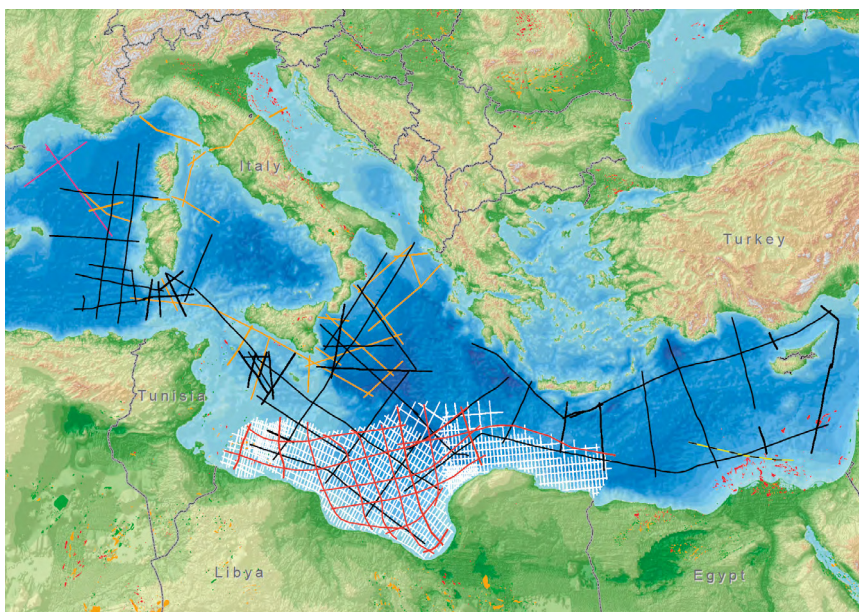


Figure 1 Map showing ION's dataset across the Mediterranean.