Great Australian Bight Project

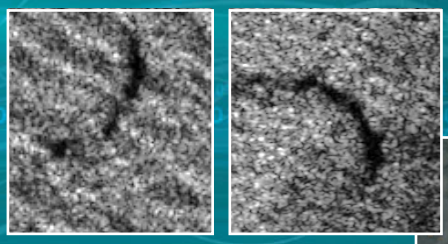
Ceduna Sub-Basin

Satellite Seep Data

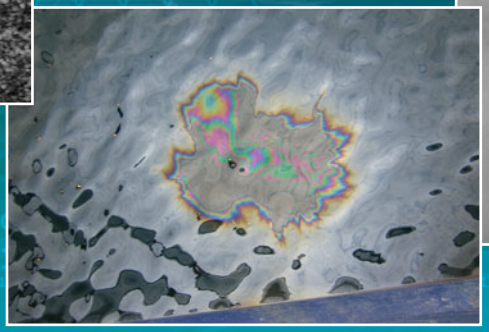
Provided by Fugro NPA

Offshore, seeping oil and gas can be detected due to the fact that oil is normally transported from the sea-bed vent to the surface as oil-coated gas bubbles. The gas bubble bursts and the oil remains on the surface as a thin film. These can often be viewed as iridescent shapes, known as 'oil pancakes'. As seepage continues over time, these combine to form larger slicks that are detectable from aircraft and space.

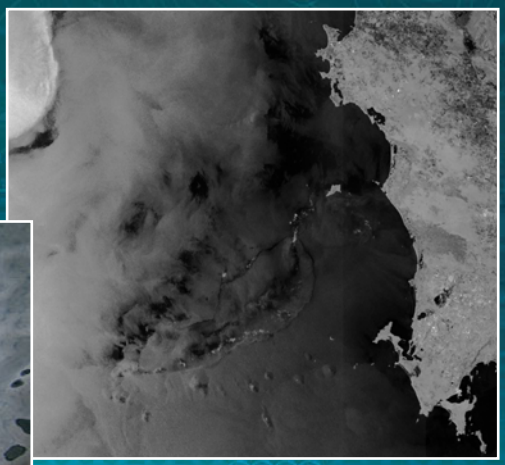
Satellite radar or SAR (Synthetic Aperture Radar) can now offer an effective technique for reducing source risk in high cost offshore exploration environments such as frontier basins. This is due to their ability to image surface oil seeps remotely with wide swath coverage and at low cost.



Example possible seepage slicks in the Great Australian Bight



Surfacing seep known as an 'oil pancake'



Example satellite radar (SAR) image of the Great Australian Bight

The value of accurate seep locations on the ocean surface can be significantly increased when correlated with other data. Generally, this is done with gravity but the link to seismic data is the most revealing. It is likely that genuine seepage-slicks will coincide with direct hydrocarbon indicators on the seismic record such as phase reversals, flat spots, amplitude anomalies and gas blanking.

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