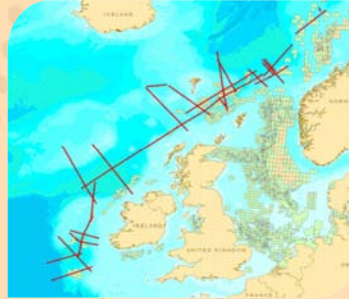


# Northeast AtlanticSPAN

## PROGRAM OVERVIEW

ION's Northeast AtlanticSPAN™ is a large regional 2D seismic survey extending from the Porcupine Basin in South West Ireland through the Rockall Basin, the Faroes and Shetland Islands and into the Norway Sector. The Northeast AtlanticSPAN program has been specifically designed to image the less explored areas within the region that are recognized to have hydrocarbon potential below thick basalts.

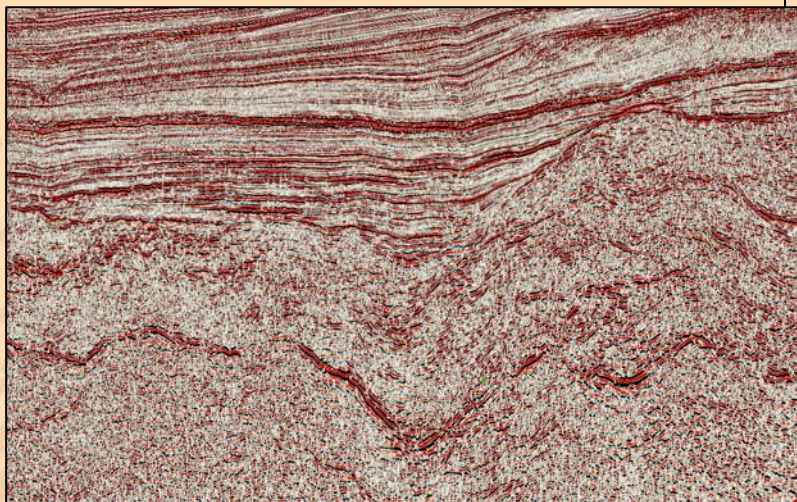


This survey is expected to provide new insights into the architecture of the Atlantic Margin by increasing the effectiveness of the existing data sets with improved event identification and cross-survey correlation, thus delivering improved, cost-effective interpretation, mitigating geological exploration risk and increasing the venture's probability of success.

The mid-Eocene Caledonia Fan Play has been the only proven play in the vicinity of the study area with structures and sandstone north of 62N yet to be validated. In the absence of recent 3D seismic data or a dense grid of 2D data, it had not been possible to identify and map stratigraphic traps within the area with any degree of certainty or confidence.

## PROGRAM OBJECTIVES

- To provide regional ties across existing seismic surveys and deep exploration wells
- To provide improved imaging of deep structures including: base basalt, intra-basalt reflectors, sub-basalt structures and deep crustal structure including the Moho, across the margin



Example of PSTM dataset from Northeast AtlanticSPAN—Phase 1

## About BasinSPANS™

ION's BasinSPANS (SPANS) are geologically inspired, basin-scale seismic data programs acquired and depth-imaged by ION's unmatched GX Technology experts using the most advanced geological and geophysical processing tools available. They provide upstream companies with the ability to evaluate the geologic evolution, deep basin architecture and depositional and structural histories of entire petroleum systems in a region.

Unlike conventional multi-client seismic surveys, BasinSPANS are custom designed in collaboration with ION's GeoVentures group, regional experts and the O&G companies. Once the program objectives are agreed upon, ION serves as project manager and applies the best survey design, acquisition and processing technologies with a proprietary mindset that adds value and achieves exceptional results. Such in-depth data and the associated interpretation tools greatly assists asset managers with portfolio management and provides significant risk mitigation as they develop exploration and appraisal programs with greater confidence.

ION owns one of the most up-to-date seismic data libraries in the industry, consisting of 2D, 3D and full-wave (multicomponent) data from around the world.

## PROGRAM OBJECTIVES (Continued)

- To provide improved regional velocity control throughout the margin
- To define ocean-continent transition zone
- To define sediment input points in deep-water Norway
- To complement existing shallow data

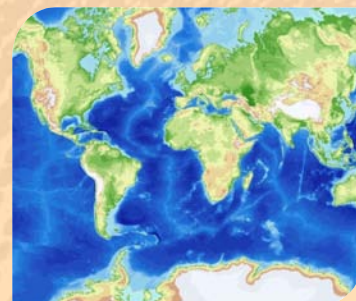
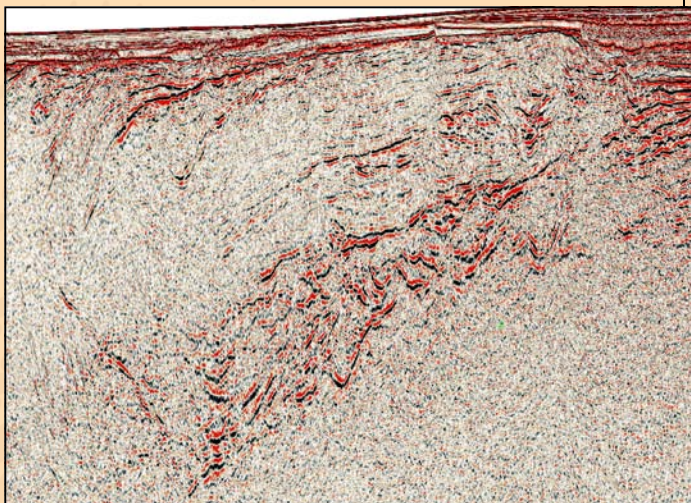
## KEY COMPONENTS

- The only contiguous survey of the Northeast Atlantic margin from Ireland through the Faroes, the Shetland Islands and the Norway sector
- Program design and physical survey layout of over 19,000 km were driven by known regional geology with acquisition specifically targeted for sub-basalt extrusion and sill imaging in Rockall, Faroes, Shetland and S. Norway
- Unprecedented deep focus: 18 sec records, 9,000 m cables and a specially designed, large volume source with deep tow configuration
- Integrated geologic and geophysical interpretation providing a consistent regional framework for tying in existing seismic lines with key geologic features, in a basin-wide context
- Improved understanding of depositional fairways and facilitates basin-wide stratigraphic correlation

## DELIVERABLES, WITH FULL PARTICIPATION, INCLUDE

- Final Kirchhoff PSDM and PSTM stacks (SEG Y)
- Final depth interval velocity model (SEG Y)
- Final PSTM velocity model (SEG Y)
- Raw navigation merged shot gathers (SEG Y)
- Final PSTM gathers (SEG Y)
- Source/receiver and final navigation (UKOOA)
- Gravity and magnetics data
- Structural and stratigraphic interpretation (faults and horizons)
- Acquisition, processing & interpretation reports

PSDM line section across northern basalt province showing interval of potential sedimentary rocks below basalt



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