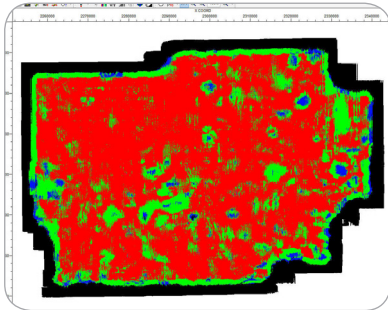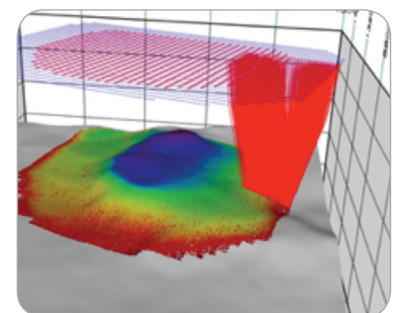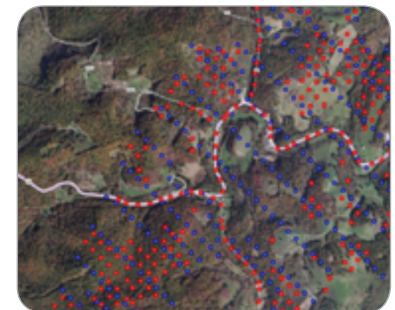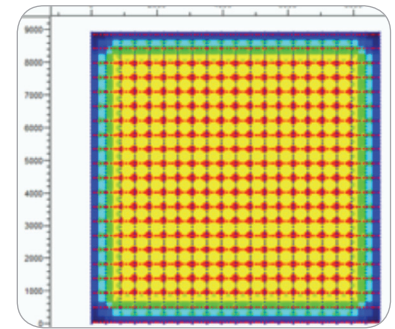# MESA® | Seismic Survey Design Software

ACQUISITION SURVEY DESIGN AND 3D MODELING SOFTWARE

ION's MESA software provides a flexible and robust toolkit to help optimize survey design and planning of land, OBS and marine projects.

Since MESA was introduced in 1993, the ION team has worked in collaboration with its worldwide client base of E&P companies and contractors to add functionality, improve performance, and enhance the user's workflow.

MESA'S comprehensive suite of products:

→ **MESA Field:** Provides the tools necessary to build, manipulate and analyze survey designs. The focus is on the implementation of designs including addressing daily operational requirements. MESA Field is ideal for users who need hands-on 3D acquisition planning capabilities in a streamlined package.

→ **MESA Professional:** MESA Professional includes all of the functionality of MESA Field with expanded tools for analyzing, costing, and tracking seismic projects. Advanced geophysical attribute analysis, management of multiple projects, map projection transformation, import/export of GIS information, and streaming WMS imagery are only a few of the many essential design tools. Also included is a Gator® interface for importing and efficiently analyzing OBS acquisition attributes.

→ **MESA Expert:** The definitive 3D survey design package, incorporates all the features of MESA Professional with the tools to create subsurface illumination attributes through flexible and straightforward geologic model building and ray tracing. 3D visualization assists in spatial interpretation of attribute diagnostics. VSP and cross-borehole surveys can be analyzed. MESA Expert also contains a two-way interface to NORSAR-3D®.

Key benefits:

→ Provides advanced survey design and subsurface coverage analysis for land, OBS, and marine projects including multi-component and downhole geometries

→ Optimizes project planning through the analysis of a wide variety of geophysical attributes

→ Offers fast and straightforward geologic modeling, raytracing and target illumination analysis

	MESA Field	MESA Professional	MESA Expert
Design layout			
Land and OBS layouts, SPS/SEGP import, unit template	√	√	√
Multi-import of survey files	√	√	√
Marine survey design, P1/90 import		√	√
Downhole geometries, 2D crooked line		√	√
Editing tools			
Source/receiver editing, editing undo/redo, spreadsheets	√	√	√
Template editing	√	√	√
Project notes with attachments, annotations		√	√
Bin analysis			
Bin grid definition and statistics	√	√	√
CMP bin attribute displays of fold, offset, azimuth	√	√	√
Offset vector tiles, cross spreads		√	√
Bin attribute cross plots, rose diagrams		√	√
Trace migration aperture and Fresnel Zone modeling		√	√
Exclusion zones			
Exclusion zone definition and export	√	√	√
Exclusion zone import from Shapefile and vector formats		√	√
Exclusion zone statistics and analysis tools		√	√
Attribute displays			
Source/receiver attribute definition and display	√	√	√
Project tracking tools	√	√	√
Attribute-based filtering	√	√	√
Histograms, cross plotting, pie charts		√	√
Gator® attribute import and analysis		√	√
GIS features			
Map projection definition and translation (Blue Marble™)		√	√
Web mapping service (WMS)		√	√
KMZ import/export for use in Google Earth™		√	√
Utility functions			
Translation and rotation of survey coordinates	√	√	√
Land survey statistics, spreadsheet export	√	√	√
Cost analysis	√	√	√
Export of industry standard data formats	√	√	√
Multiple project analysis and merging		√	√
Pre-plot vs post-plot coordinate comparison		√	√
Synthetic trace generation		√	√
3D viewing window		√	√
Model building and raytracing			
Geologic model building and model-based attribute display			√
Raytracing (offset, image, normal, PS converted wave)			√
Synthetic VSP generation			√
CMP v. CRP fold comparison			√
Well log import, curve display, cross plotting, AVO analysis			√
Model-based synthetic gathers			√
NORSAR-3D® Interface			√

ION has been delivering innovative solutions to the energy industry for over 50 years, and is the leading provider of real-time, multi-vessel positioning and control systems.For further information contact MESAsupport@iongeo.com