

The Role of Geoscience in the Development of Offshore Wind

Geoscience Overview by Deanne Hargrave

Questions that we will discuss...

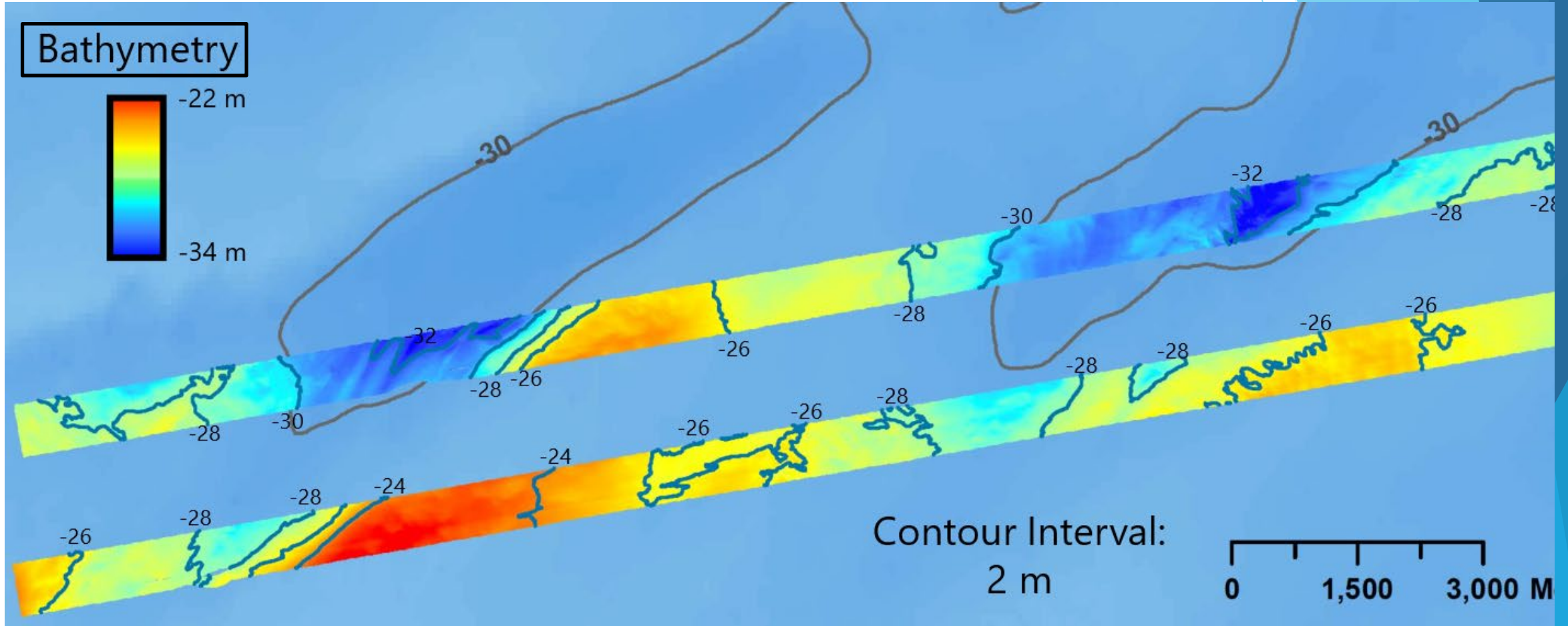
- ▶ What are the tools used to conduct these surveys?
- ▶ What kind of data are created?
- ▶ What is the purpose of conducting these surveys?
- ▶ When in the development process do these surveys occur?
- ▶ When does data collection from these surveys affect the project?
- ▶ Will data collected from these surveys be made publicly available? If so, when?

What are the tools used to conduct these surveys?

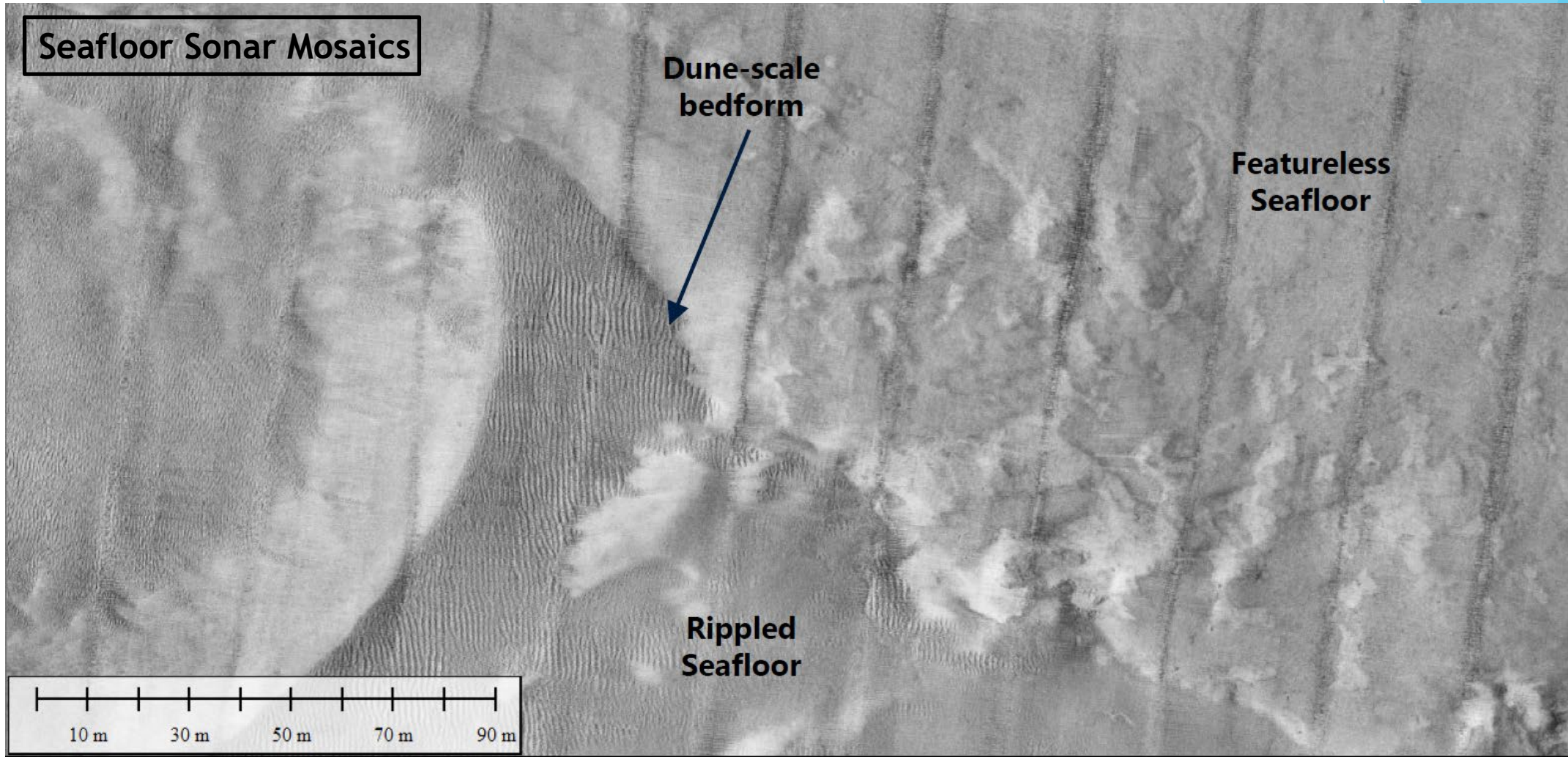
- ▶ Purpose-built geophysical survey and geotechnical drilling vessels
 - ▶ Capable of self-sufficient, 24-hour operations for 3-4 weeks at a time
 - ▶ Hosts 20-30 technical personnel, including up to 6 Protected Species Observers
 - ▶ Kitted with a suite of geophysical or geotechnical equipment that is suited for high-resolution mapping of the seafloor and shallow subsurface soil
- ▶ Dedicated project teams that plan, operate, analyze and deliver complex data sets
 - ▶ Geologists, Geotechnical Engineers, Geophysicists, Seismic Processors, Equipment Technicians, Protected Species Observers, Archaeologists
 - ▶ Project Managers, Operations, Logistics, QA/QC



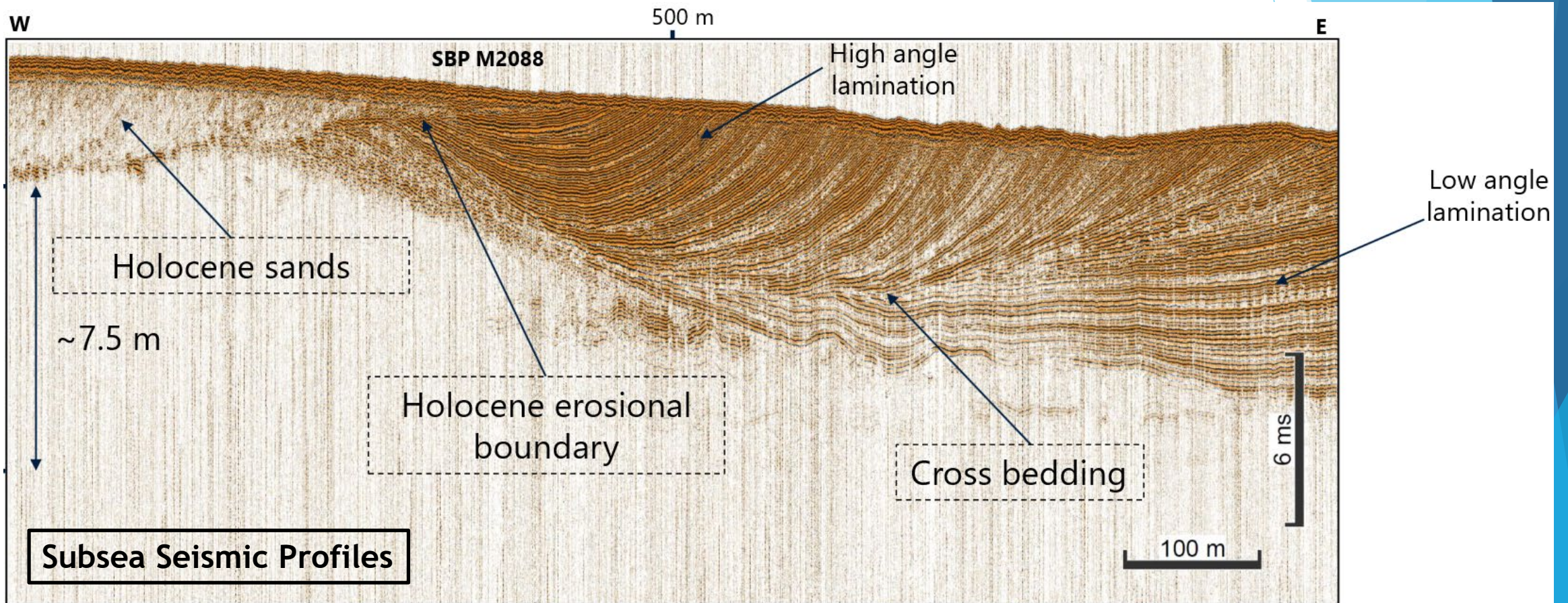
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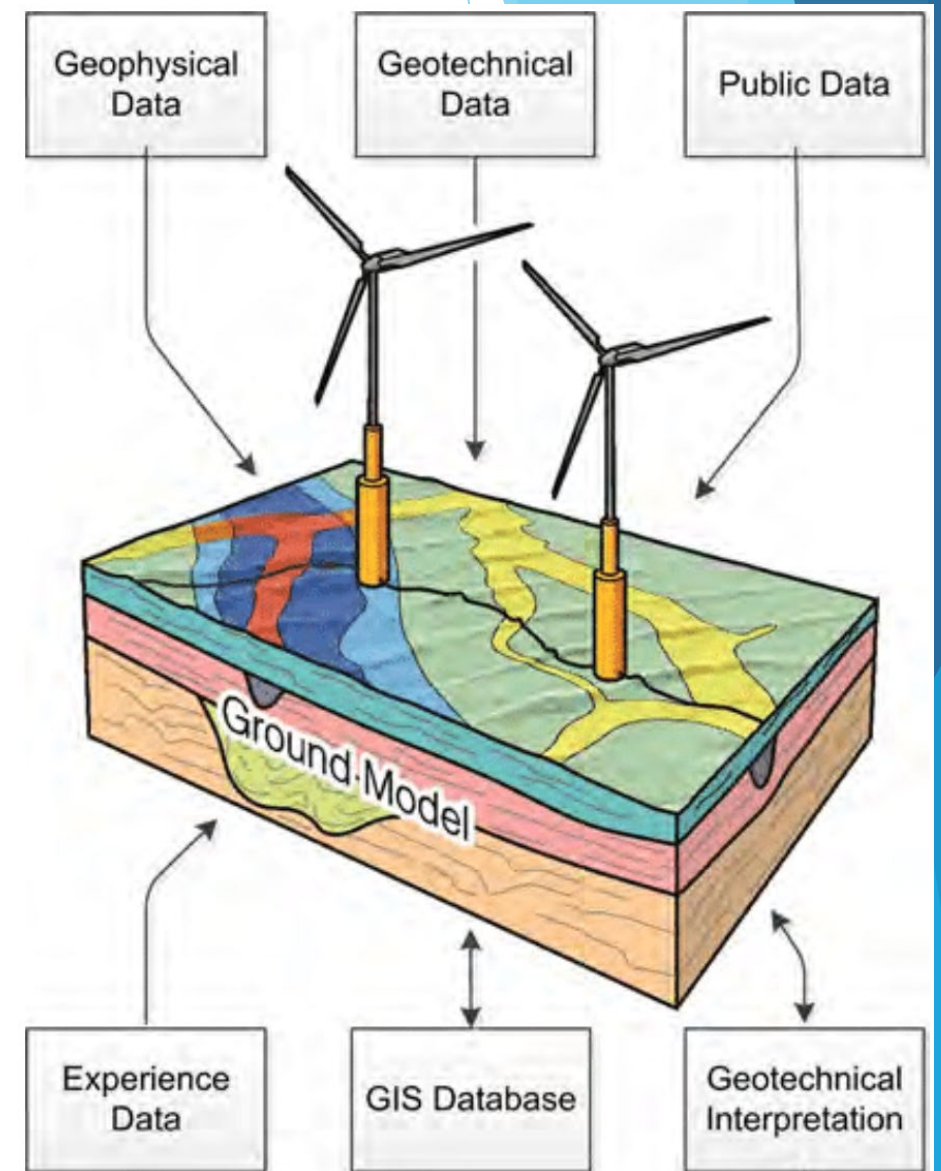


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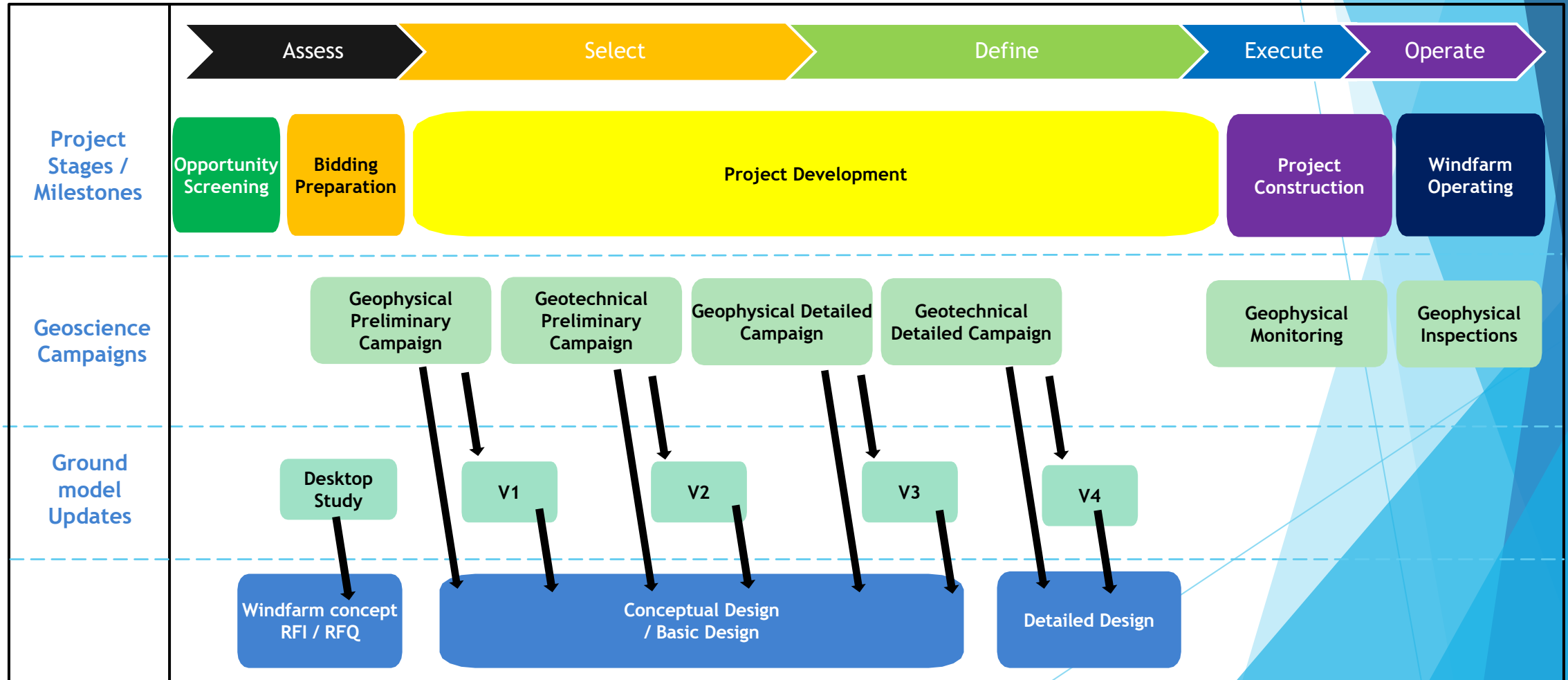


What is the purpose of conducting these surveys?

- ▶ Geohazard and Archaeological clearance for permitting and safety of construction and installation
 - ▶ Lease Area
 - ▶ Export Cable Routes
- ▶ Geotechnical soil properties for detailed engineering and design of
 - ▶ Wind Turbine Generators
 - ▶ Offshore Sub-Stations
 - ▶ Inter-Array Cables
 - ▶ Export Cables
- ▶ Development of Ground Model



When in the development process do these surveys occur?



When does data collection from these surveys affect the project?

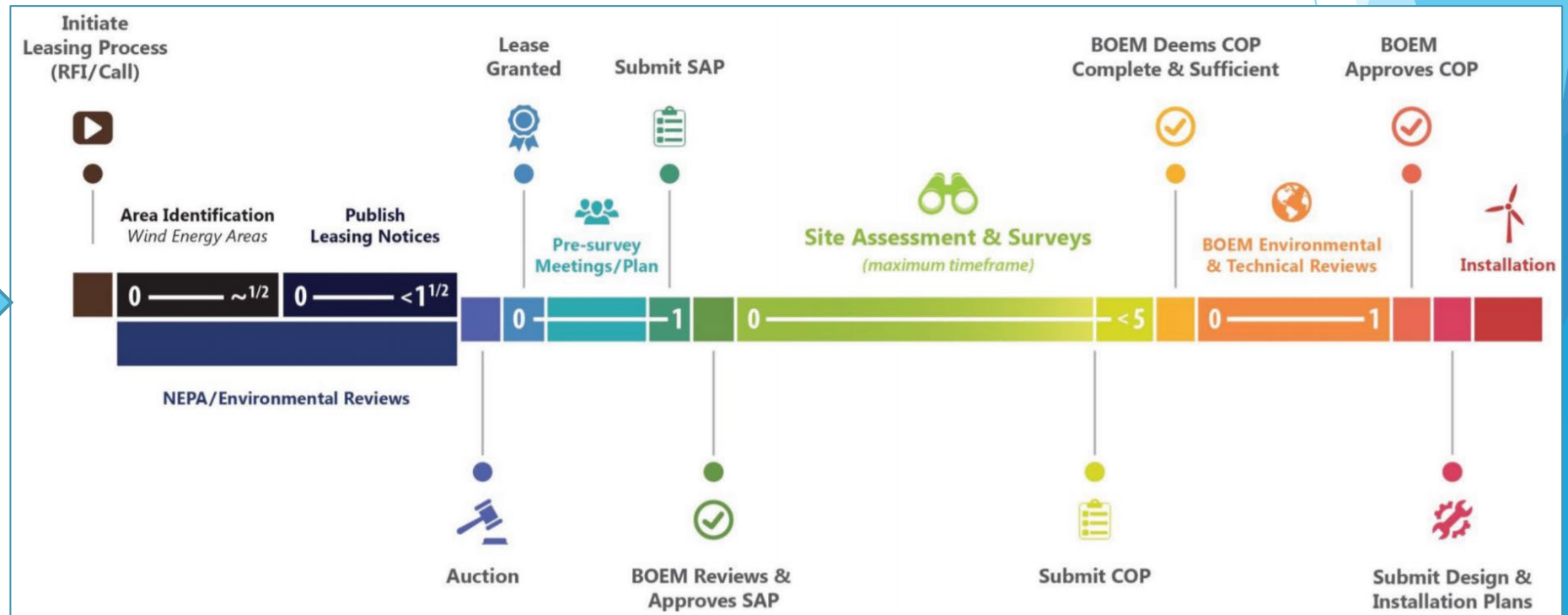


- Baseline Characterization
- Detailed Design

- As-builts

- Depth of Burial
- Scour

- Baseline Confirmation



Will data collected from these surveys be made publicly available? If so, when?

- ▶ Data collected is used to create maps, charts, statistics, models that are all included in Construction Operations Plans (COP) and submitted to the Bureau of Ocean Energy Management (BOEM)
 - ▶ Data formats are specific for geophysical interpretation software
 - ▶ Large volumes of data are generated
 - ▶ Interpretation completed on the data turn the information into useful products
 - ▶ Reports that summarize and present the data are included in COP submittals
- ▶ BOEM reviews the reports and makes them available to the public



The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light sky blue to deep navy blue. These shapes are primarily located on the left and right sides of the frame, creating a modern, layered effect. The central area is a clean, white space where the text is placed.

Thank You!