

In order for the Bureau of Ocean Energy Management to meet its mission of managing development of the Nation's offshore resources in an environmentally and economically responsible way, the agency must have accurate, up-to-date mapping and assessment tools and methods. The Boundary Delineation System (BDS), used and maintained by the Geospatial Services Division (GSD), is a set of tools to do just that.

What is the Boundary Delineation System?

The Boundary Delineation System (BDS) is a collection of procedures, data, and GIS software used exclusively by the Geospatial Services Division (GSD) staff to do the following:

- perform complex mathematical offshore boundary computations;
- generate diagrams to depict OCS block information, the Submerged Lands Act boundary, and the Limit of "8(g) Zone" boundary, which
- calculate the corresponding area measurements within those boundaries.

These tasks are accomplished by using commercially available off-the-shelf Geographic Information System (GIS) software detailed procedures executed by experienced staff. The rules that define the workflows and computations to create the data are based on international laws of the sea, Federal regulations, and legal precedence, as well as cadastral survey and geodetic standards, to properly and accurately subdivide the ocean space.

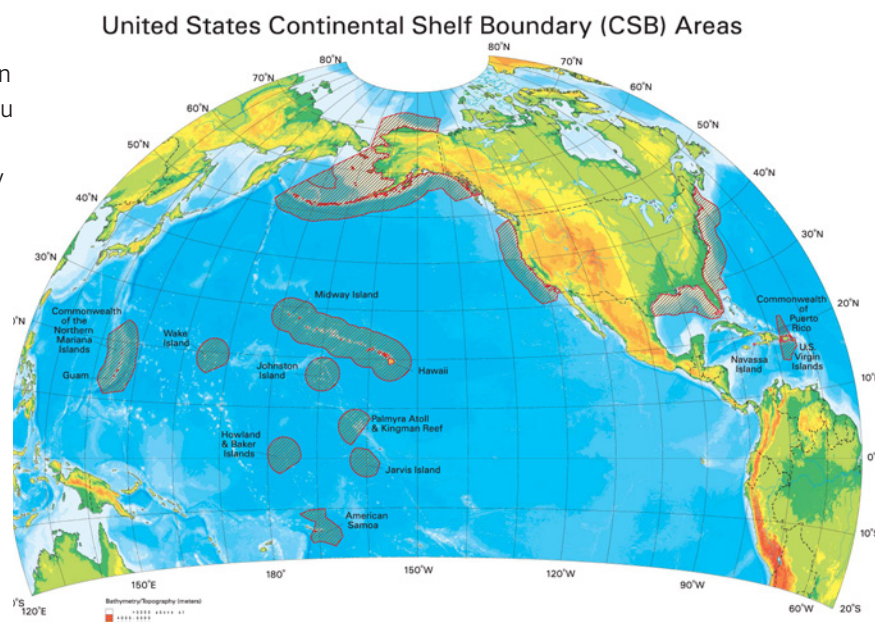
Who benefits from BDS?

Every action at BOEM that can be shown on a map depends on a robust BDS working behind the scenes. Likewise, the Bureau of Safety and Environmental Enforcement (BSEE), the Office of Natural Resources Revenue (ONRR) and the public also rely on and benefit from the standards and automated capability of the BDS. Additionally, the BDS supports the Departmental goal of accountability and accurate reporting required for Outer Continental Shelf (OCS) energy and mineral development.

Using the BDS, the GSD calculates and prepares:

- OCS Leasing Maps (LMs),
- Official Protraction Diagrams (OPDs),
- Supplemental Official Block Diagrams (SOBDs),
- the Submerged Lands Act (SLA) boundary, and
- the Limit of the "8(g) Zone" boundary.

In addition, the BDS is used to depict other offshore boundaries displayed on BOEM mapping products, including administrative planning areas, state offshore lateral boundaries, and U.S. maritime boundaries and existing treaty agreements.



Using BDS, BOEM maintains the Offshore Marine Cadastre, a grid system that subdivides the OCS submerged lands into identifiable units (referred to as protraction, blocks, and aliquots) that define leasing and permitting areas. This cadastre ultimately provides a foundation-level mapping infrastructure for all BOEM, BSEE, and ONRR enterprise systems. The Offshore Marine Cadastre enables BOEM to define, describe, analyze, and account for every acre/hectare of Federal offshore submerged lands for OCS leasing activities. The description of individual blocks, boundaries, and areas on BOEM's official documents constitute legal descriptions of real property that ensures full payment of revenues owed for developing the Nation's energy and natural resources.

How is BDS used?

Once tasked with a boundary mapping project, BDS staff collaborate with all interested offices (e.g., State seeking a Supreme Court decree, BOEM's Office of Strategic Resources regarding lease sale implementation and NOAA regarding changes to a shoreline) with common interests for mapping a particular OCS area. BOEM staff will perform an assessment of all GIS project criteria.

What about TIMS?

GSD staff members keep the Technical Information Management System (TIMS) updated as they produce new data sets and create and refine maps. Although BOEM continues to maintain the TIMS Block and Boundary (B&B) database to support legacy software, it no longer uses TIMS programs to create new data or update existing data, but instead uses the BDS. In addition, the BDS also supports a database that contains updated Offshore Marine Cadastre data, which staff transfers into the TIMS B&B database.

What are the advantages of BDS?

By using commercially available ArcGIS software and tool scripts, staff can efficiently and accurately perform distance and area computations, delineate new boundaries, and revise existing boundaries. The BDS can also create data in the Southern Hemisphere and west of the International Date Line. Furthermore, the BDS allows for the generation of all BOEM offshore cadastral maps to maintain and manage OCS Lease Sale planning, scheduling, and production requirements.

Because the software is commercially available and configurable tool scripts, when vendors upgrade the GIS software, BOEM does not have to re-program custom software to match the update. This flexibility allows BOEM to advance in step with the technology upgrades.

With BDS, GSD staff can:

- efficiently and accurately perform distance and area computations, delineate new boundaries, and revise existing boundaries through the use of commercially available ArcGIS software and tool scripts;
- create data in the Southern Hemisphere and west of the International Date Line, and
- generate all BOEM offshore cadastral maps to maintain and manage OCS Lease Sale planning, scheduling, and production requirements.

In addition, because the software is commercially available, when vendors upgrade the GIS software, BOEM does not have to re-program custom software to match the update. This flexibility allows BOEM to advance in step with the technology upgrades.

For more information about BDS, please see the following fact sheets:

- <https://www.boem.gov/Official-Mapping-Products>
- <https://www.boem.gov/Projected-Boundaries>
- <https://www.boem.gov/Other-Boundaries>



For More Information:

<https://www.boem.gov>

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