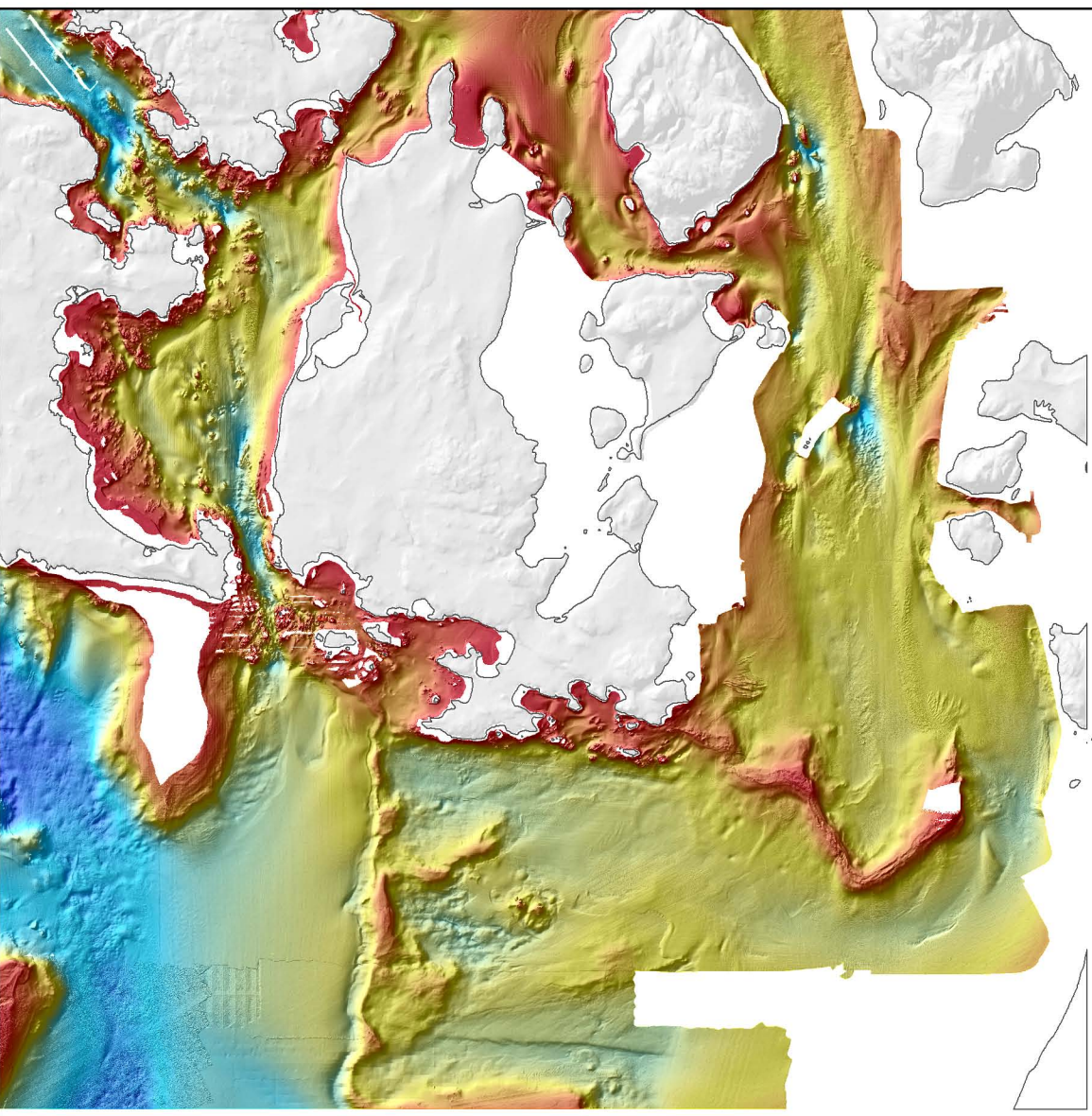


**DESCRIPTIVE NOTES**

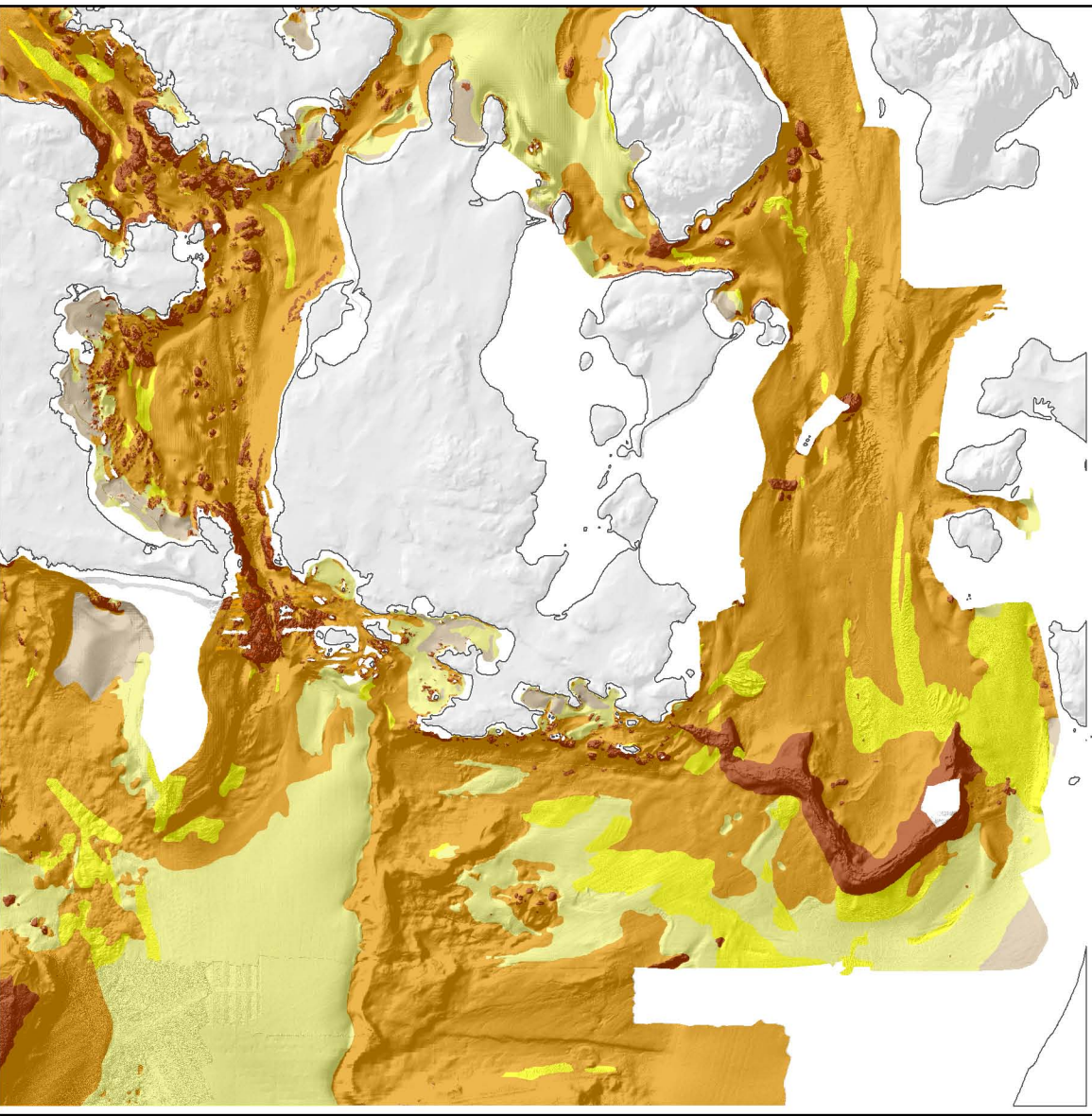
Backscatter intensity is a measure of sound that is scattered back toward the transmitter by acoustic reflection and scattering, both at the sediment-water interface and within the sediment (volume scattering). Many factors influence the intensity value, among them are: the angle of incidence of the beam, the volume scattered, the seabed slope and the surficial sediment type and roughness. With these factors in mind, backscatter strength datasets are used to determine relative sediment differences within one or many datasets and aid the interpretation of the benthic habitat types. To assure the best interpretation, backscatter images are used in conjunction with other multibeam echosounder bathymetry derivative datasets, such as seafloor shaded relief, slope analysis and bathymetric contours. The multibeam echosounder bathymetry and backscatter raster datasets, as well as the benthic habitat layer were processed using ESR™ ArcGIS tools.

The Transboundary region covered by this map series has been divided into four quadrants and this sheet (Sheet 4 of 4; Lopez Island area) covers the area around the larger islands of Shaw, Lopez, Blakely, and Decatur, as well as the smaller islands of the area. Backscatter intensities vary from high (darker areas in mosaic) representing hard rocks and coarse-grain sediment (pebbles, cobbles, boulders) to low intensity representing fine-grain sediment (sand and mud). Bedrock is comprised predominantly of metamorphic or volcanic bedrock or basement, while medium to low intensities represent dynamic bedforms and other sediment deposits in San Juan and Upright channels and Rosario Strait where strong currents sweep the bedrock clean and produce sediment waves and dune fields.

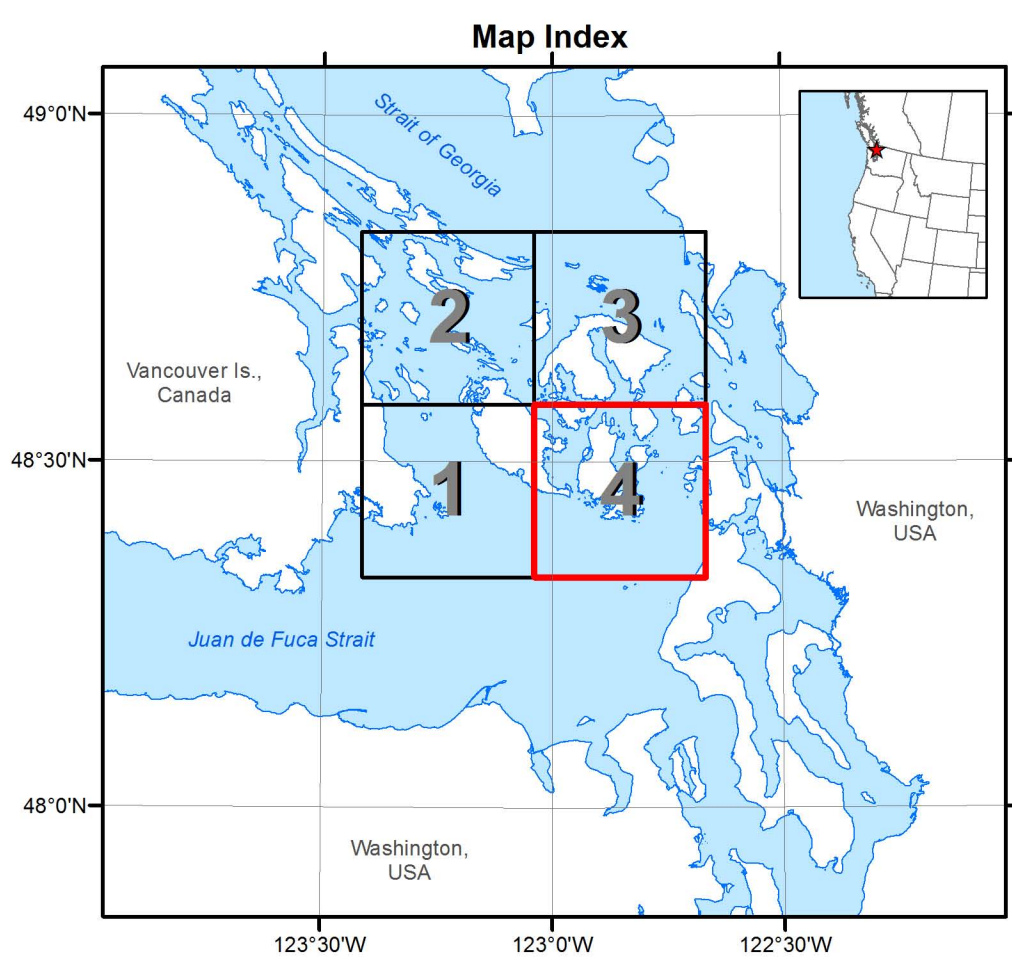
**Sun-Illuminated Bathymetry**



**Sediment Type**

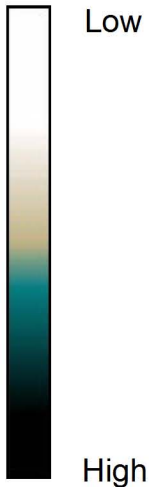


- Rocks, pinnacles, or boulders
- Sand/Gravel
- Sand
- Sand/Mud
- Mud



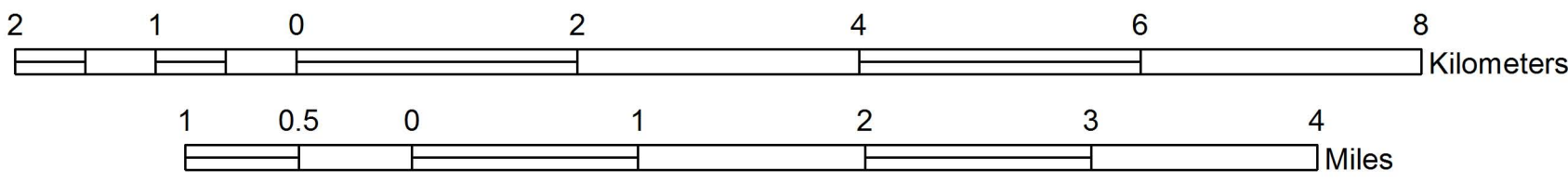
SEAFLOOR CHARACTERISTICS and SUN-ILLUMINATED BATHYMETRY of the  
**Southern Gulf Islands and San Juan Archipelago,**  
**Canada and USA**

Backscatter Intensity



Map Sheet 4 of 4

Scale 1:50,000



Universal Transverse Mercator Projection, Zone 10 North  
North American Datum 1983

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