Using Multibeam Bathymetry to Investigate Marine Geology and Potential Marine Reserves in the San Juan Islands, Washington, USA

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Some of the authors of this publication are also working on these related projects:

Hosgri Fault Intersections View project

Hayward Fault View project
Using Multibeam Bathymetry to Investigate Marine Geology and Potential Marine Reserves in the San Juan Islands, Washington, USA

The U-shaped channel illustrated to the left is characteristic of northern San Juan Channel. It represents the classical morphology of a channel where the channel narrows and the morphology changes abruptly. This represents the classical morphology of a channel where the channel narrows and the morphology changes abruptly.

In an attempt to further understand the stress regime of the imaged bedrock, a stress regime of the imaged bedrock, a series of stress analyses were performed. As seen in the larger figure on the far left, site-specific NE-SW lineations have also been mapped.

Sun-shaded images produced from the processed multikHz data were used to reveal high resolution seafloor images, mainly associated with recent glacial sediments. A majority of the high-resolution lineations are associated with local glacial deposits. As with as with an approximately 10 degrees of depth, these lineations are created by intense wave action from the Columbia River, further suggesting that the lineations are associated with local stress regimes. Sun-shaded images produced from the processed multikHz data were used to reveal high resolution seafloor images, mainly associated with recent glacial sediments. A majority of the high-resolution lineations are associated with local glacial deposits. As with as with an approximately 10 degrees of depth, these lineations are created by intense wave action from the Columbia River, further suggesting that the lineations are associated with local stress regimes.

The San Juan Islands are located just west of mainland Washington and just east of southern coastal British Columbia. The marine reserves among the islands are home to unique marine communities. Unfortunately, many of these species’ populations are declining. In particular, a number of bottomfish species, including rockfish (Sebastes) have been listed since the 1980’s.

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Sun-shaded images produced from the processed multikHz data were used to reveal high resolution seafloor images, mainly associated with recent glacial sediments. A majority of the high-resolution lineations are associated with local glacial deposits. As with as with an approximately 10 degrees of depth, these lineations are created by intense wave action from the Columbia River, further suggesting that the lineations are associated with local stress regimes. Sun-shaded images produced from the processed multikHz data were used to reveal high resolution seafloor images, mainly associated with recent glacial sediments. A majority of the high-resolution lineations are associated with local glacial deposits. As with as with an approximately 10 degrees of depth, these lineations are created by intense wave action from the Columbia River, further suggesting that the lineations are associated with local stress regimes.

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