



Continental shelf and slope gas venting off Cascadia

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Along the Cascadia Margin in the Northeast Pacific, off the coasts of British Columbia, Washington and Oregon, hundreds natural gas vent locations have been mapped using sonar data from ships, autonomous underwater and also remotely operated vehicles, as well as camera and seafloor sonar data. We have combined observed vent locations from published literature as well as analyzed original data from research cruises and fishing sonar from various archives, including those of Natural Resources Canada, the Monterey Bay Aquarium Research Institute, Ocean Networks Canada, the National Ocean and Atmospheric Administration, and the Schmidt Ocean Institute. In total, over 950 individual vents are now mapped. By far the highest accumulation of gas vent locations appear both shallow (<250 m) and concentrated towards the mouth of the Juan de Fuca Strait, however these observations are naturally biased toward the distribution of the observation footprints. Normalized observations confirm the shallow (<500 m) high concentrations of gas vents but also establish some deeper sections of focused venting activity. We will speculate about the reasons behind the distribution, focus on specific examples, extrapolate for rough margin flux rate ranges and comment on short-comings and future directions for margin-wide gas vent studies.