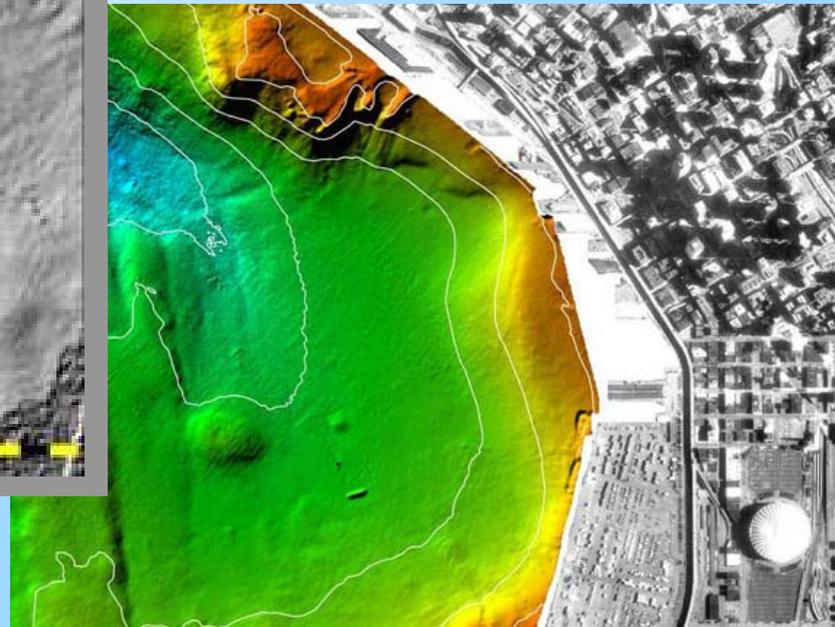
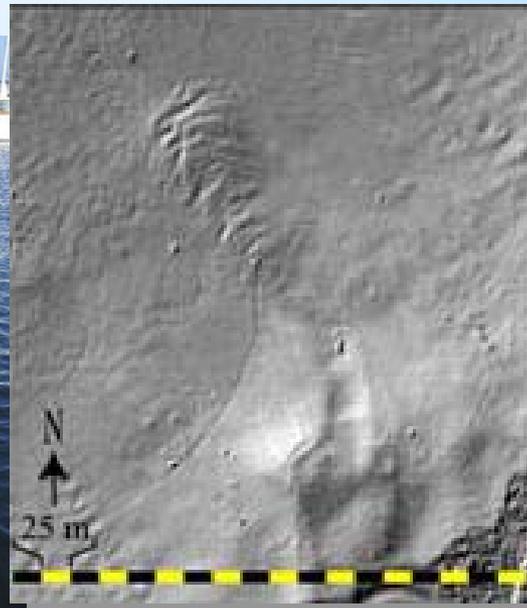
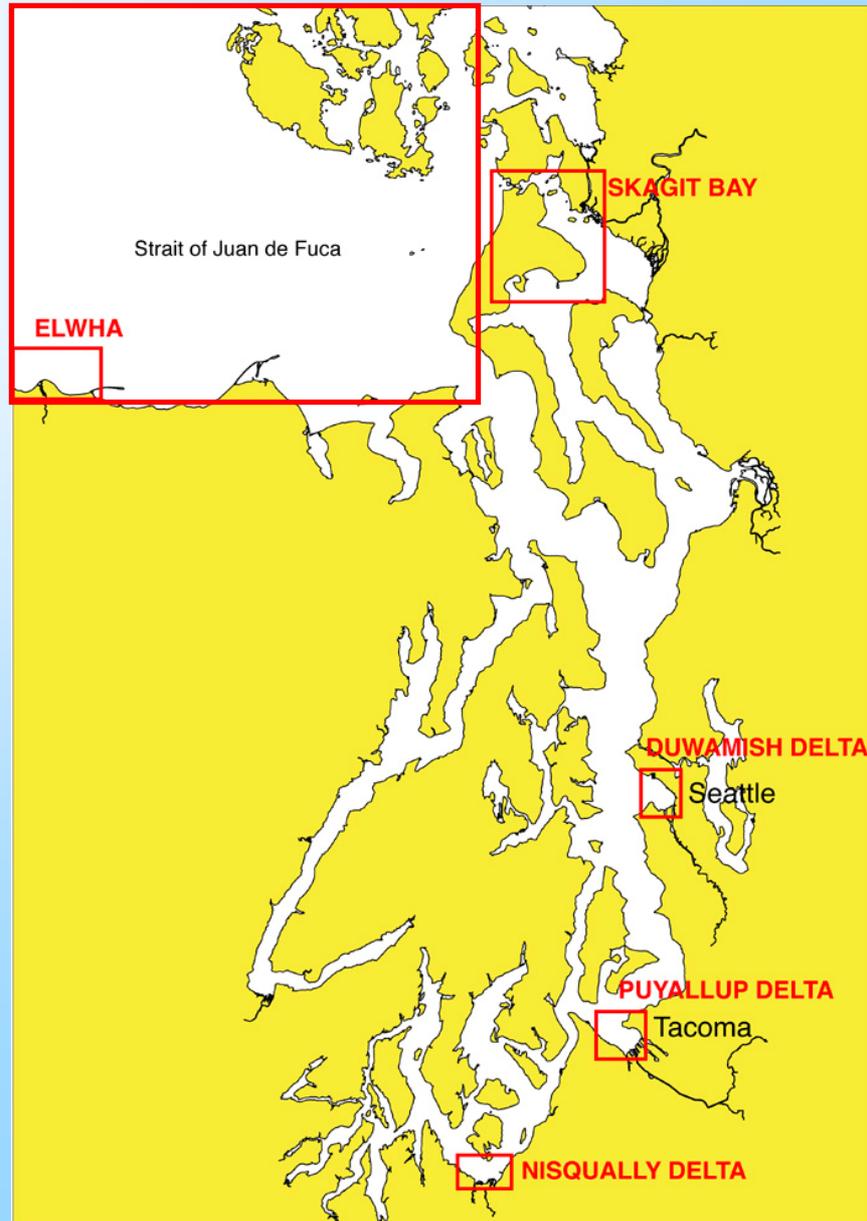


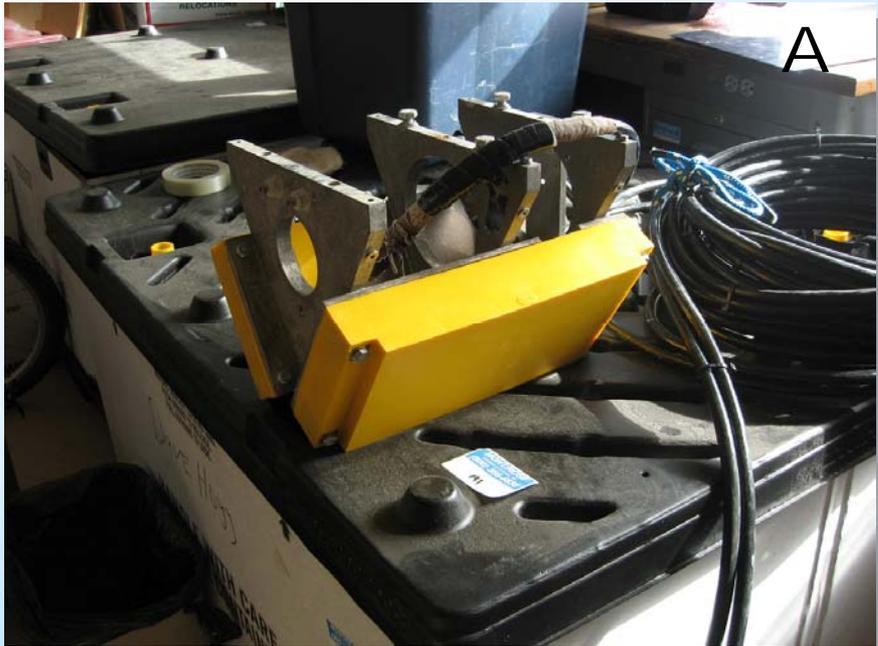
U.S. Geological Survey Cooperative Mapping Projects within Puget Sound, WA

Peter Dartnell, Guy Cochrane, and Eric Grossman
U.S. Geological Survey

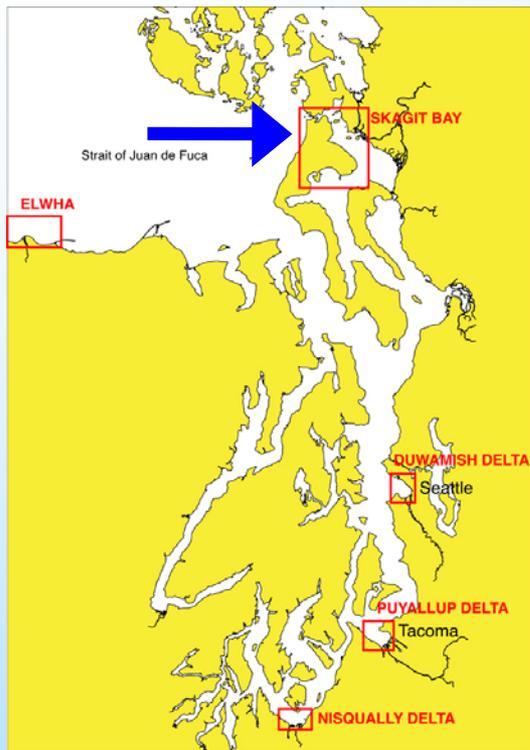




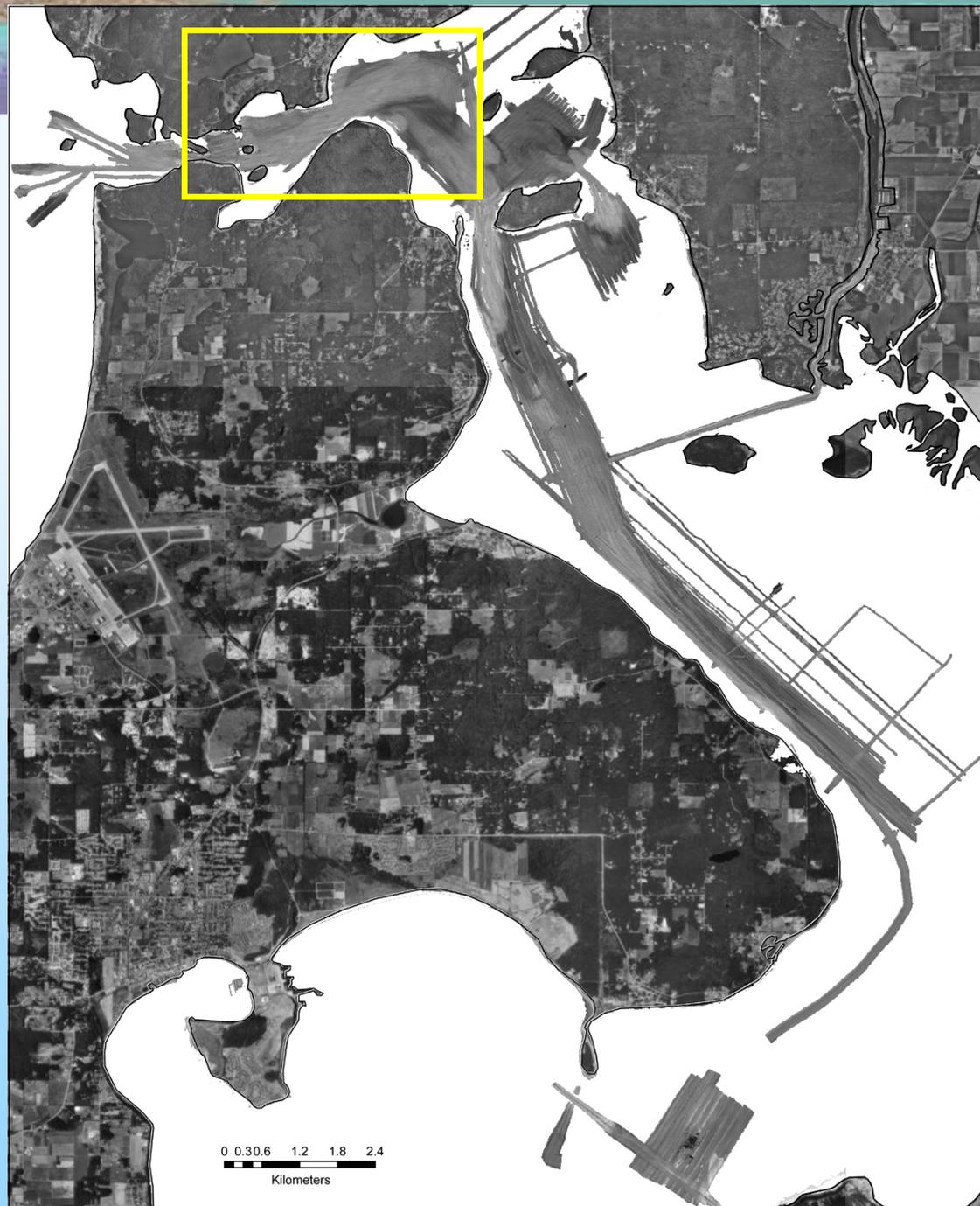
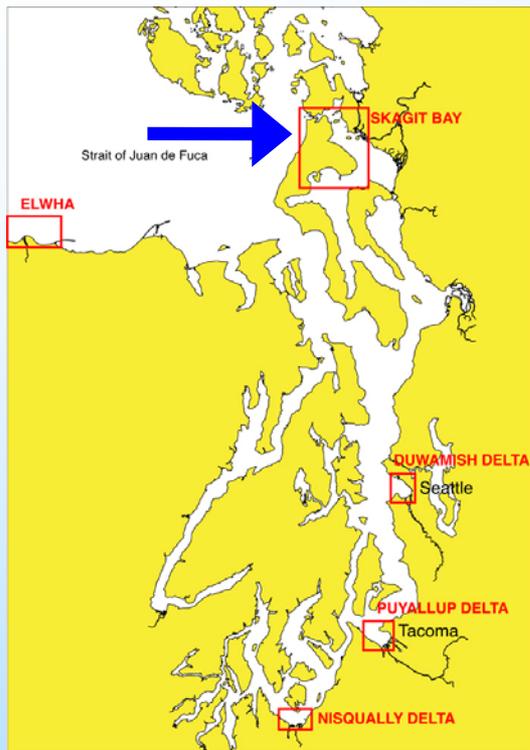
Locations of recent cooperative mapping projects within greater Puget Sound, WA



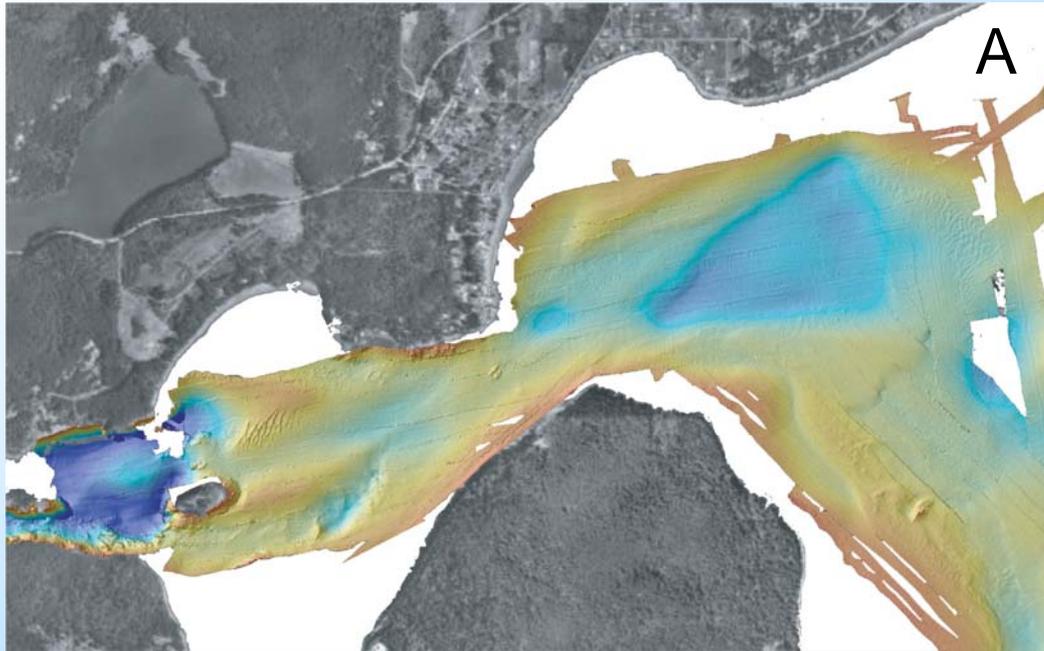
Close-up view of the Submetrix 235 kHz sonar head (A) and installed on a retractable pole aboard the Channel Islands National Marine Sanctuary's research vessel *Shearwater* (B)



Shaded relief bathymetry generated from bathymetric side scan data in Skagit Bay and Deception Pass. Depths range from 0 - 115 m. (Eric Grossman, USGS).



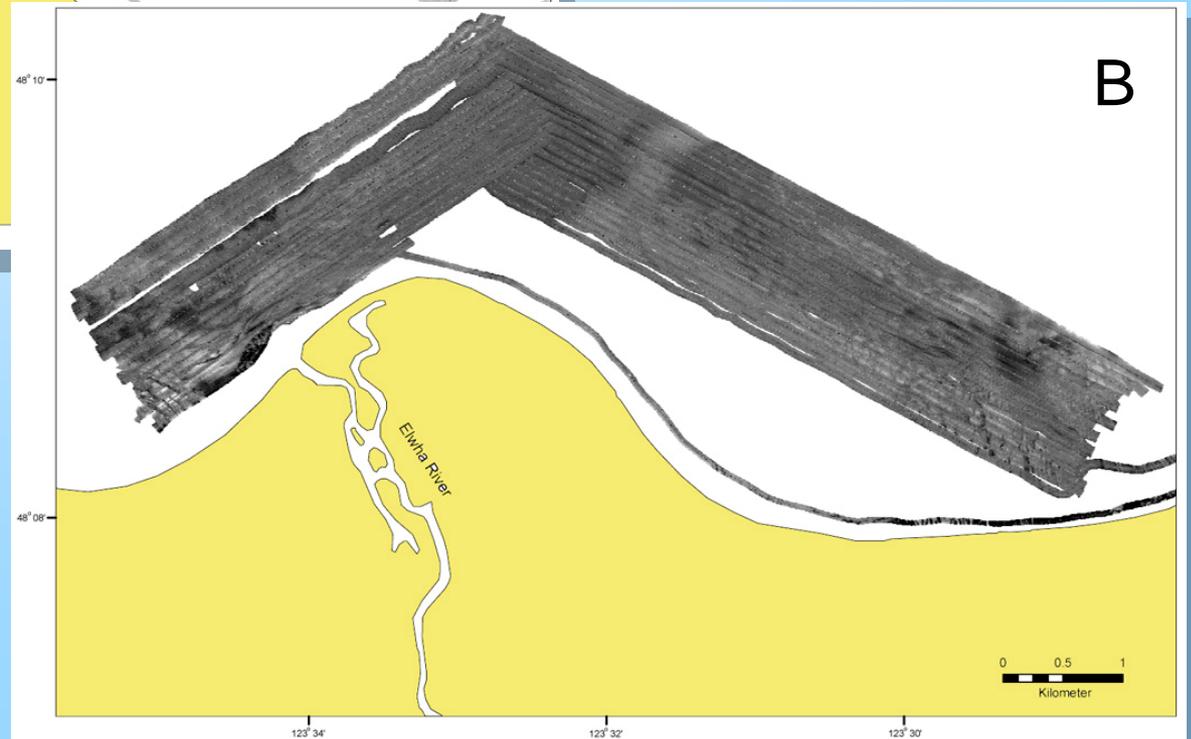
Acoustic backscatter generated from bathymetric side scan data in Skagit Bay and Deception Pass (Eric Grossman, USGS).

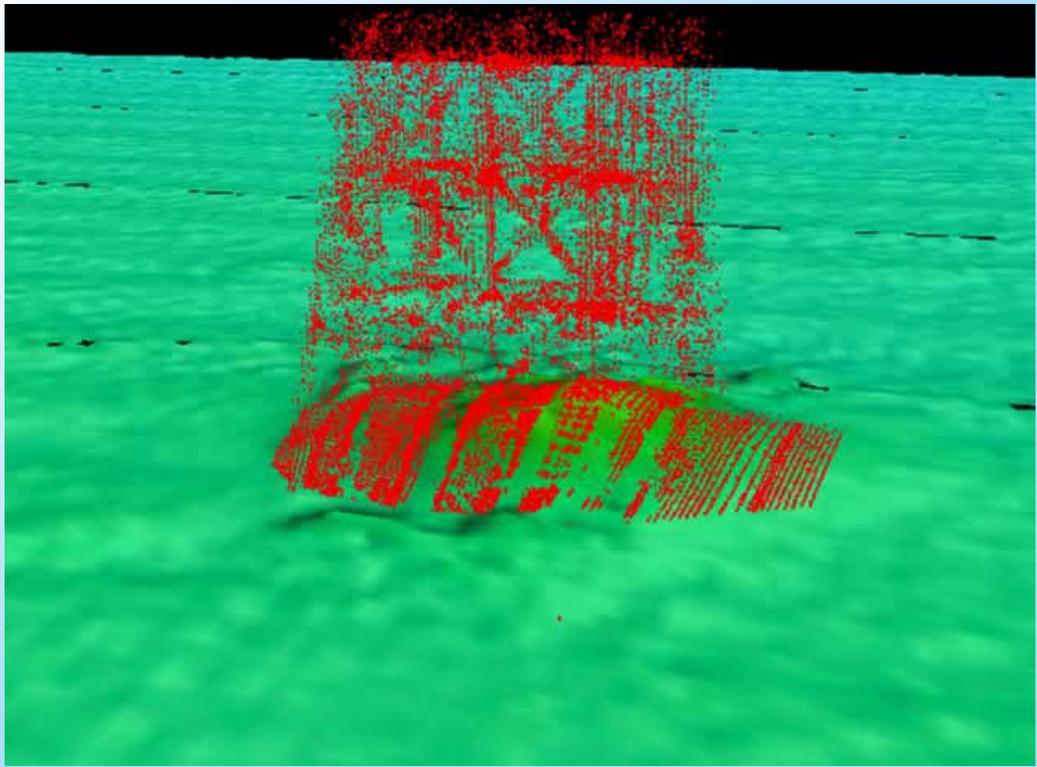


Close-up views of shaded relief bathymetry (A) and acoustic backscatter (B) generated from bathymetric side scan data in Skagit Bay and Deception Pass (Eric Grossman, USGS).



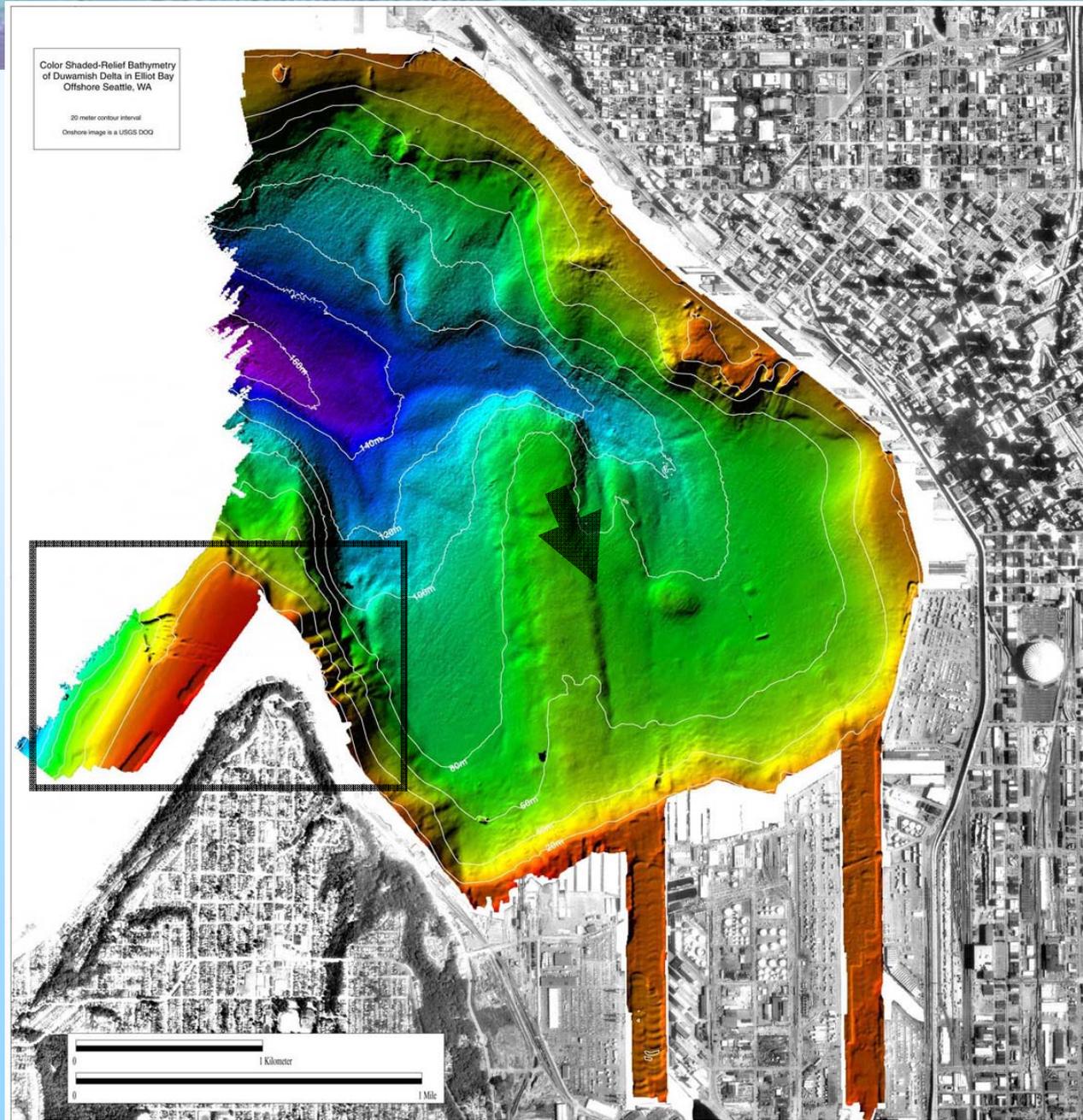
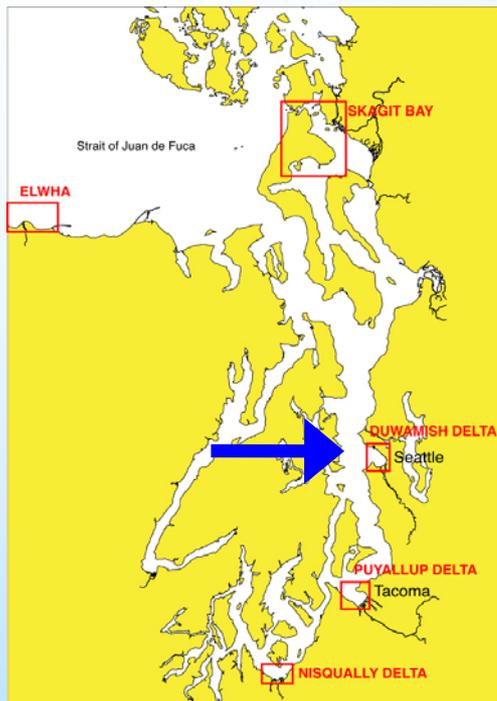
Shaded relief bathymetry (A) and acoustic backscatter (B) generated from bathymetric side scan data offshore the Elwha River. Depths range from 1 - 28 m.



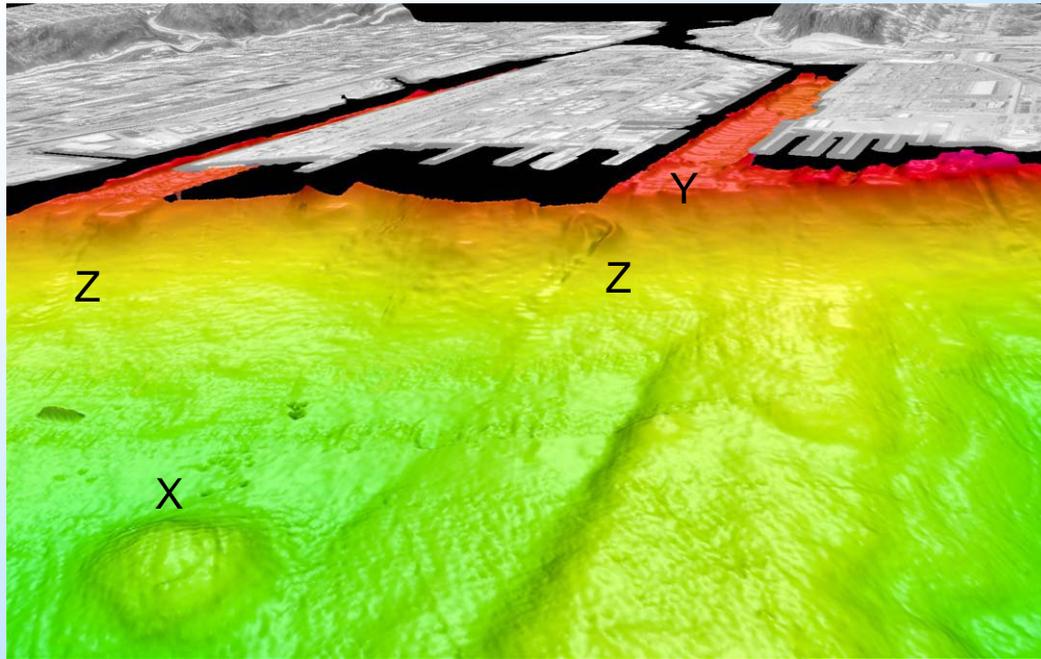




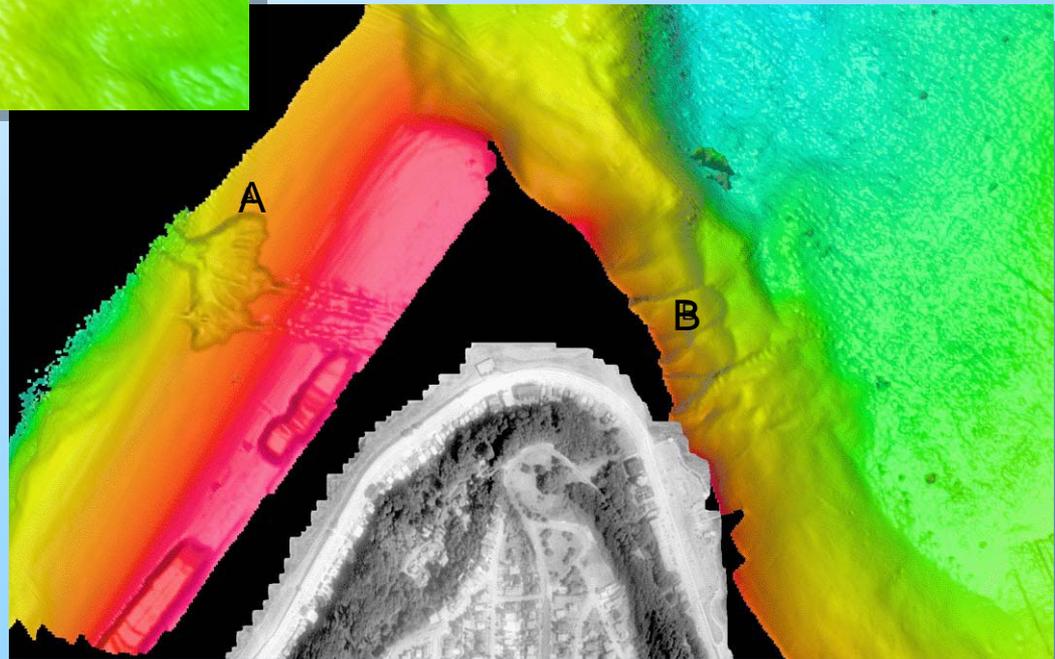
NOAA ship *Rainier* including two of its launches. Photo courtesy of NOAA (<http://www.moc.noaa.gov/ra/general/photos.htm>).



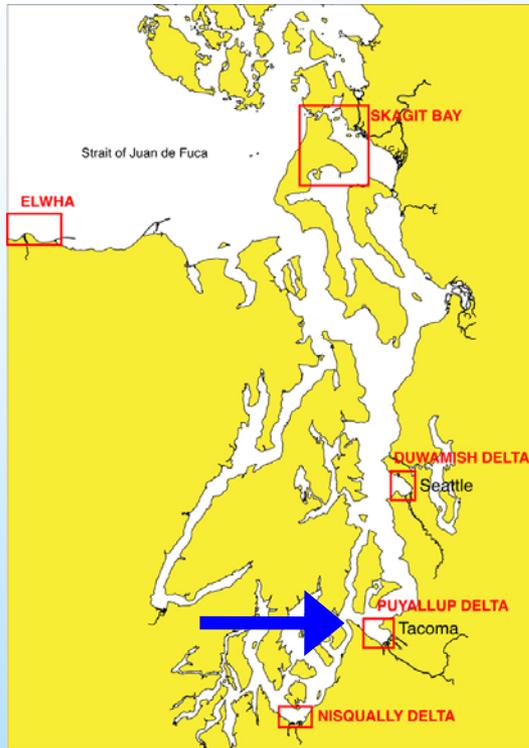
2001 USGS / NOAA multibeam survey of the Duwamish Delta in Elliot Bay, WA. Depths range from -1.7 m (reds) to -180 m (purple). The spatial resolution of the data is 4-m. Arrow and box show the locations of close-up views in the next slide.



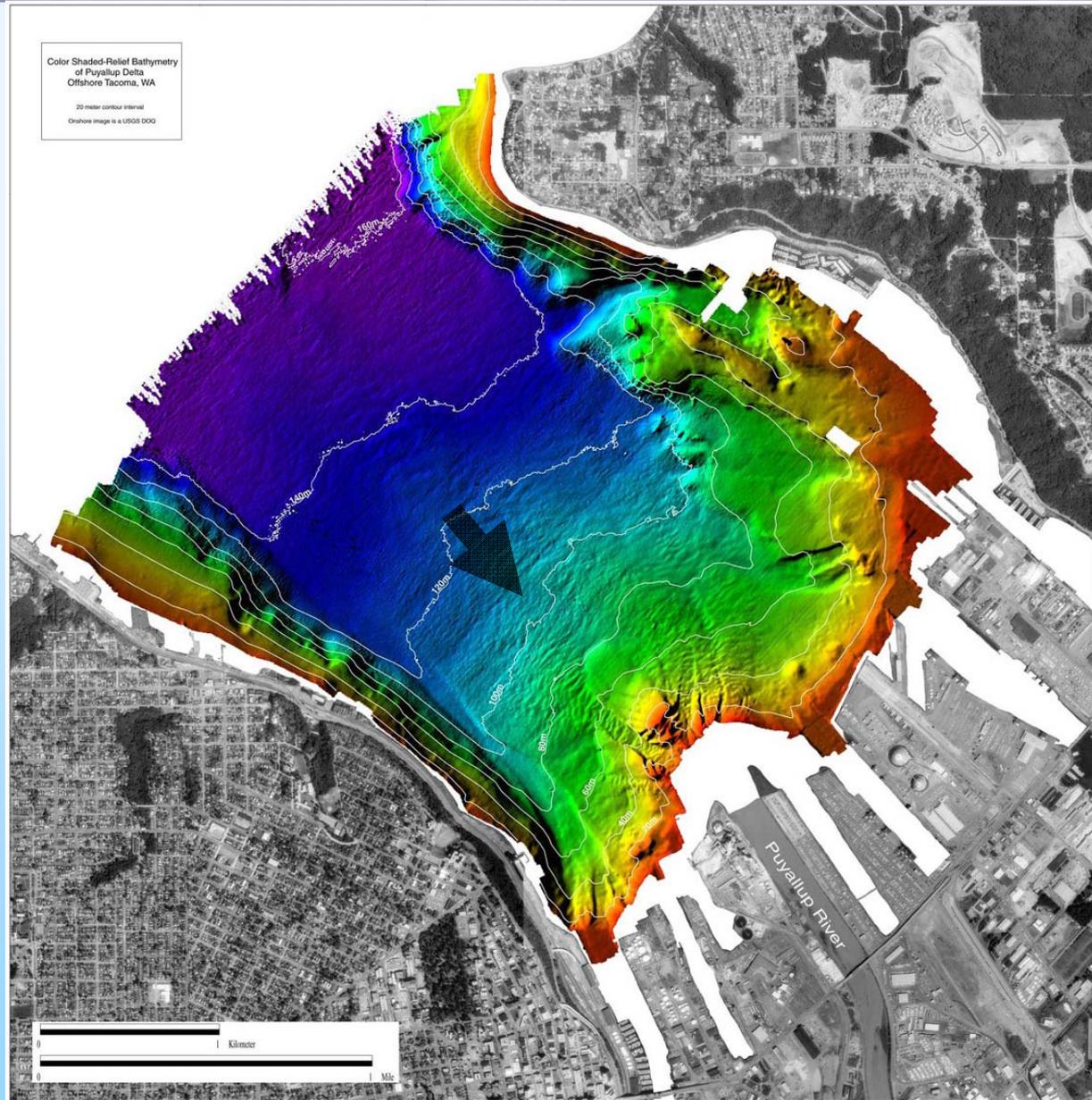
Perspective view looking south over the Duwamish Delta. The distance across the bottom of the images is 1.3km. Notice the disposal site in the left foreground (X) and dredge scours in the shipping channels (Y) as well as landslides along the delta front (Z).

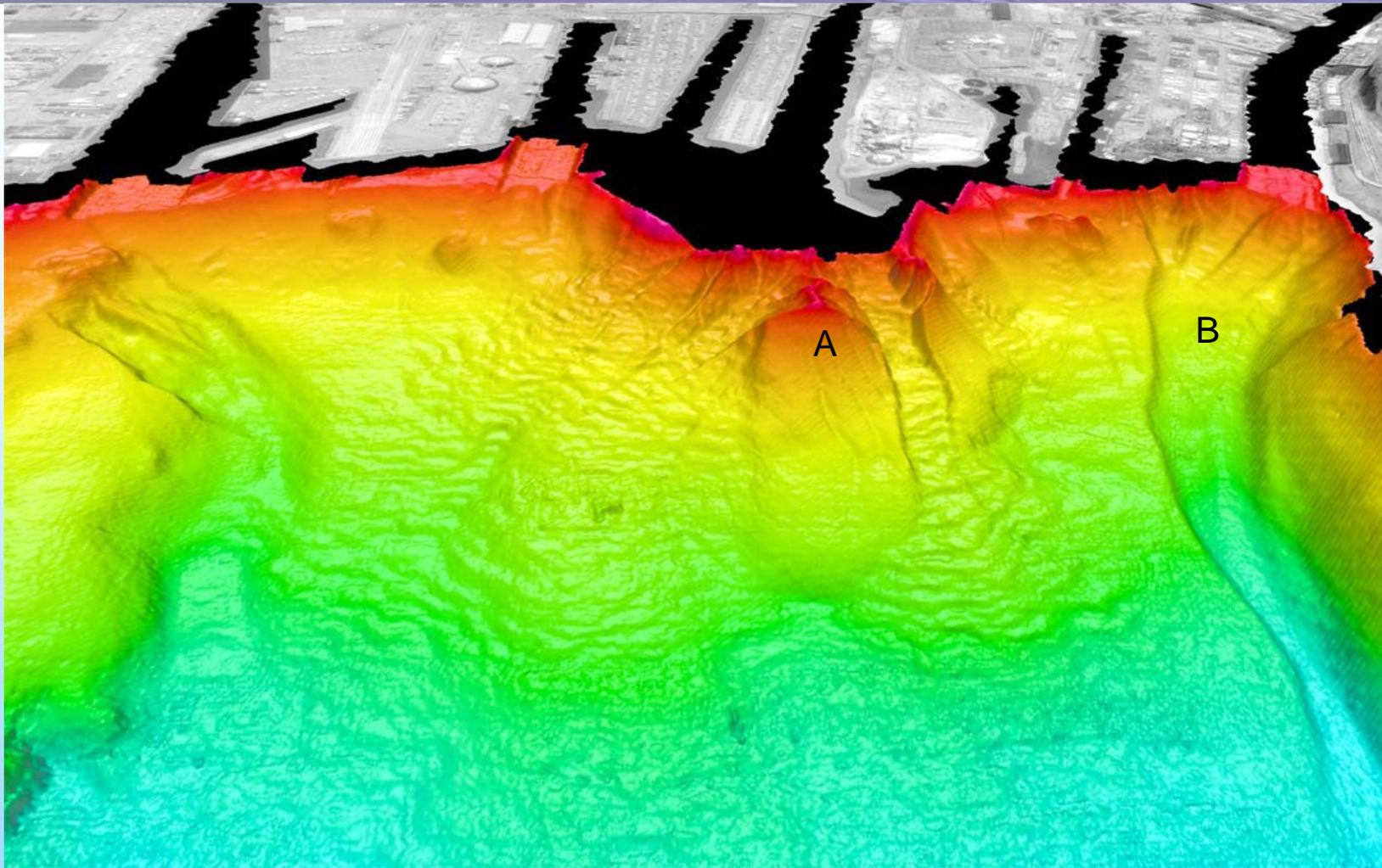


Map view of shaded relief bathymetry near Duwamish Head. The large failure to the west of Duwamish Head (A) occurred in 1986. The series of landslides to the east of Duwamish Head (B) are undated but appear young

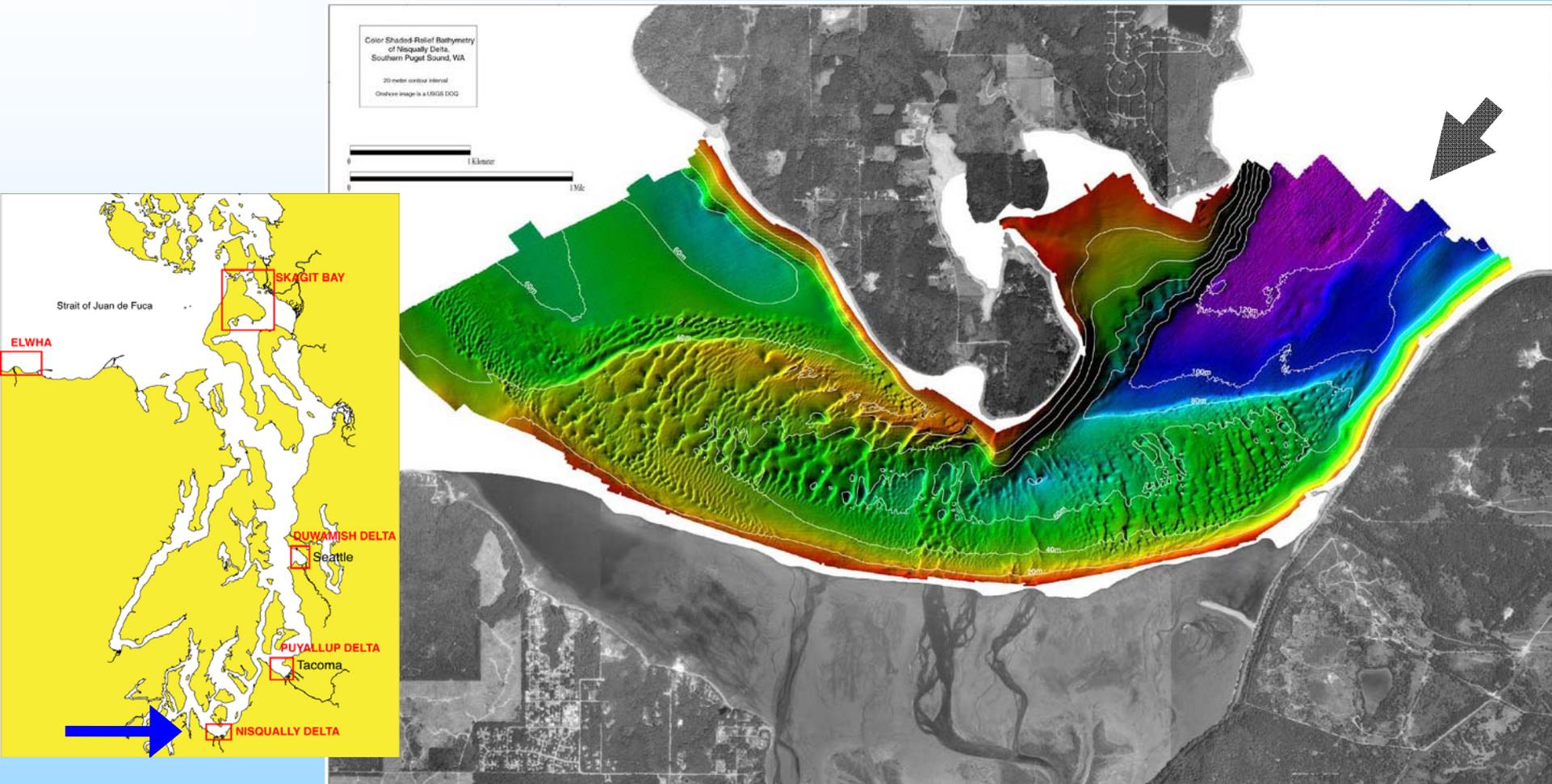


2001 USGS / NOAA multibeam survey of the Puyallup Delta near Tacoma, WA. Depths range from -1.2 m (reds) to -170 m (purple). The spatial resolution of the data is 3-m. The arrow shows the location of the perspective view in the next slide.

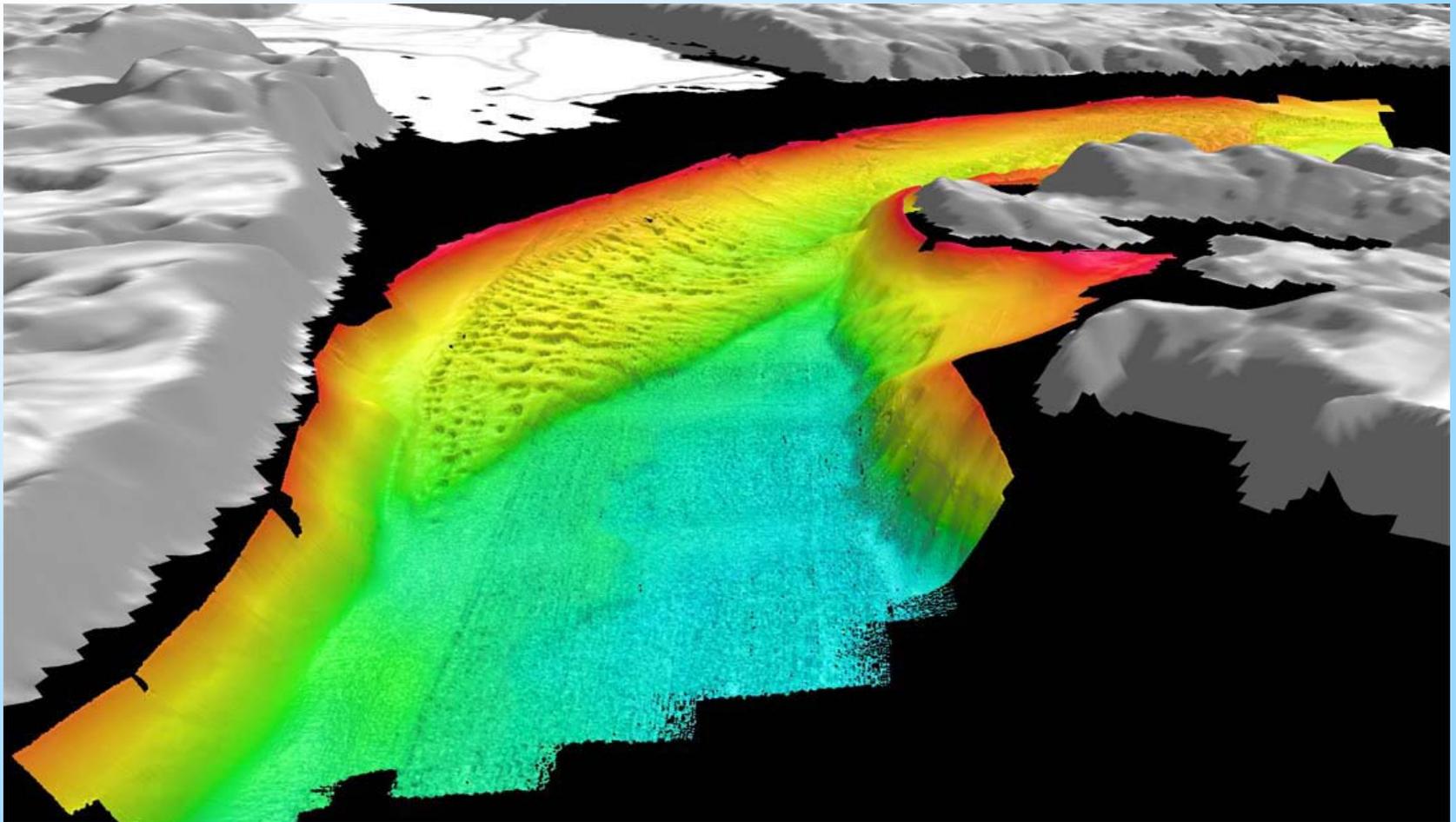




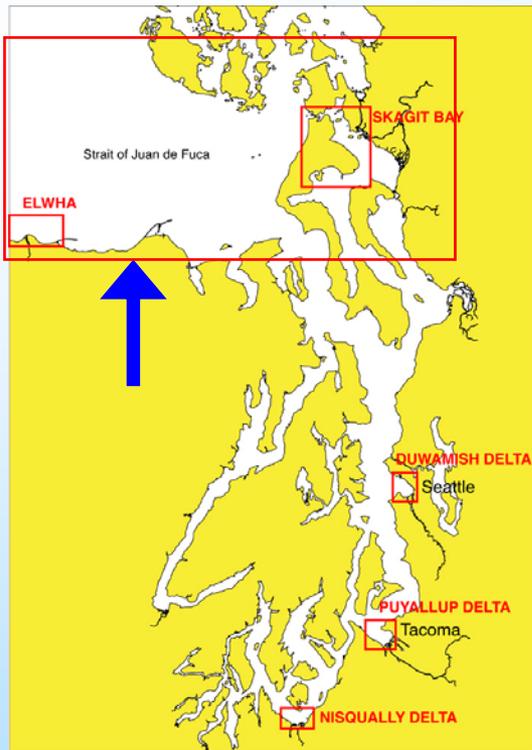
Perspective view looking southeast over Puyallup Delta near Tacoma WA. Depths in this image ranging from 1m to about 130m. The distance across the bottom of the image is about 2.5km and the vertical exaggeration is 10x. The large deposit in the middle of the view (A) is a disposal site abandoned in the mid 1980's and has since been split by a slump. The large landslide scar on the right side of image (B) was caused by an 1894 landslide.



2001 USGS / NOAA multibeam survey of the Nisqually Delta in southern Puget Sound, WA. Depths range from about 0 m (reds) to -130 m (purple). The spatial resolution of the data is 3-m. The arrow shows the location of the perspective view in the next slide.



Perspective view looking southwest over the Nisqually Delta. The distance across the bottom of the image is about 5km and the vertical exaggeration is 10 x.



Natural Resources Canada
Ressources naturelles Canada



U.S. Dept. of the Interior

Neotectonics of the eastern Juan de Fuca Strait; a digital geological and geophysical atlas.
Geological Survey of Canada Open File Report 3931

David C. Mosher and Samuel Y. Johnson - Editors
Glenda J. Rathwell, Robert B. Kung, and Susan B. Rhea - Compilers

Introduction

Base Map

Relief Map

Regional
Geology

Seismicity

Magnetic Data

Gravity Data

Tomography

Tracklines

Surficial
Geology

Quaternary
Maps

Neotectonics



Geological
Survey of
Canada



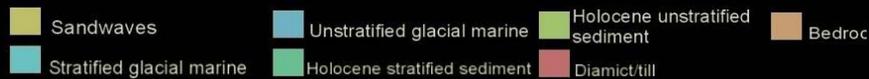
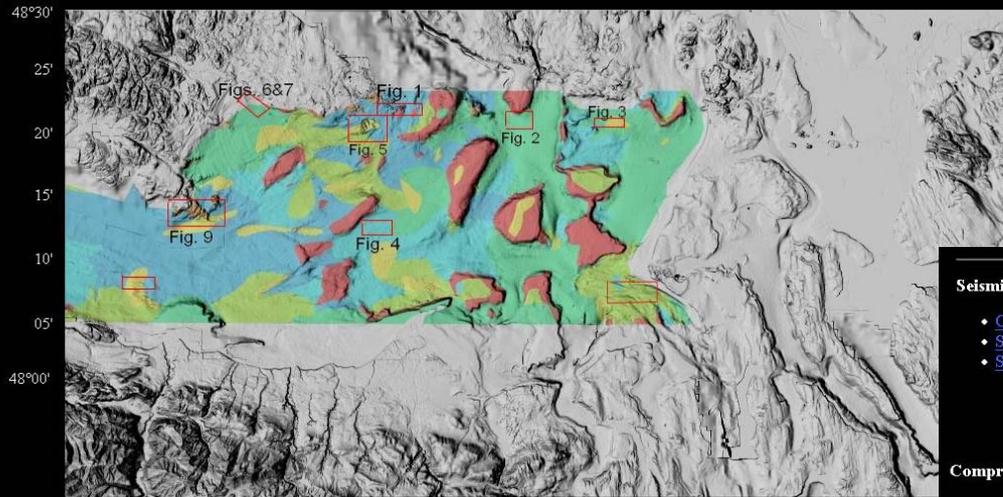
United
States
Geological
Survey



Neotectonics of the eastern
Juan de Fuca Strait - Geological
Survey of Canada Open File
Report, CD-ROM

Surficial Geology [Next Map >](#)

123°45' 40' 35' 30' 25' 20' 15' 10' 05' 123°00' 55' 50' 45' 40' 35' 30' 25' 20' 15' 122°10'



A

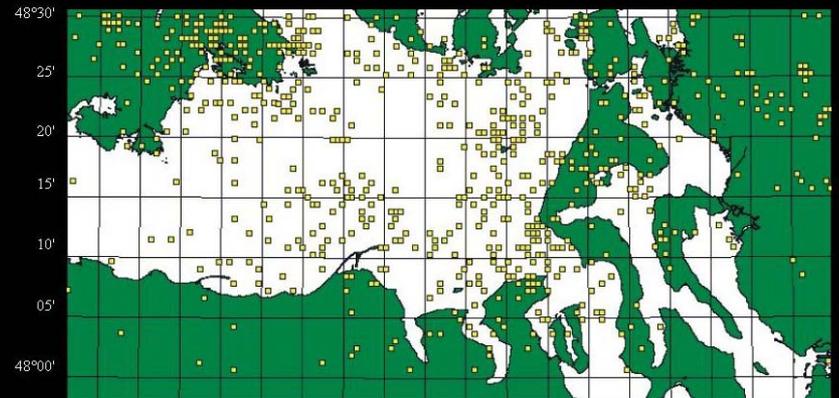
Seismicity - Taimi Mulder and Garry Rogers

- [Comprehensive Crustal Seismicity Map](#)
- [Seismicity Map: 5 to 0 kilometres](#)
- [Seismicity Map: 10 to 5 kilometres](#)

B

Comprehensive Crustal Seismicity Map [Next Map >](#)

123°45' 40' 35' 30' 25' 20' 15' 10' 05' 123°00' 55' 50' 45' 40' 35' 30' 25' 20' 15' 122°10'



Arc Explorer

Themes visible in the above map: SEISMICITY, ALL, LATITUDE/LONGITUDE, COASTLINE and LAND. Several fields of data are available for this earthquake suite. [Click here](#) for the list of data fields available for query.

Example data layers in Open File Report including surficial geology (A) and seismicity (B).