

Quaternary Fault and Fold Map and Database for Alaska

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The Alaska Division of Geological & Geophysical Surveys (DGGS) is compiling and synthesizing published data related to Quaternary faults and folds in Alaska as part of a cooperative project with the U.S. Geological Survey (USGS). The synthesis will be available in two forms: (1) a publication that will include a map of faults, text describing fault attributes, and a CD-ROM of 1:250,000-scale quadrangle fault maps, and (2) a digital contribution to the USGS, Web-based, Quaternary fault and fold database for the United States (<http://geohazards.cr.usgs.gov/flts/start.html>).

We have developed a statewide fault and fold database using Microsoft Access. The Alaska Quaternary fault and fold database will be used to generate the report and is currently functional for satisfying informal requests for information. Database fields include structure name, structure number (structure number serves as an index to faults on the map), and fault attributes ranging from timing of most recent paleoevent to geomorphic expression. We are also in the process of creating a geospatial (GIS) database that will store fault location data digitized from 1:250,000-scale maps. Some fault attributes stored in the Access database will be linked to the fault location data stored in the GIS database.

In addition to information compiled for the final report, the Alaska Quaternary fault and fold database contains links to digital photos, manuscripts, geologic maps, and communications from geologists regarding specific structures.

There are currently more than 200 faults documented and over 700 references linked to the database. One hundred seventy-three structures show evidence of displacement during Quaternary time (the past 1.6 million years). Fifty-eight of the structures show evidence of displacement during late Quaternary time (the past 15,000 years) and 66 are suspected to be Quaternary age. These numbers are preliminary and subject to change as we further review the literature.

Once completed, the Quaternary fault and fold map and database for Alaska will be a useful reference for geoscientists, engineers, emergency managers, government and industry planners, researchers, and educators. The poster presents the project status and displays data presently available to the public on an informal basis.