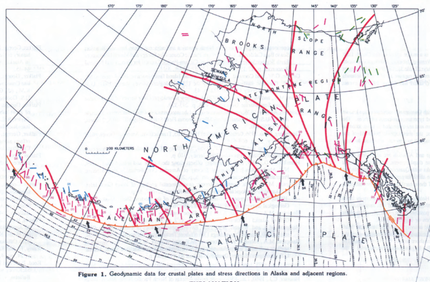


Figure 1. Geodynamic data for crustal plates and stress directions in Alaska and adjacent regions.

EXPLANATION

Plate displacement rate—Direction and amount of movement in mm/yr of Pacific plate relative to North America (DeMets and others, 1990)

Magnetic anomaly—Sea-floor magnetic lineations (Drummond, 1984). Number indicates approximate age in Ma for those lineations that can be tied to the geomagnetic polarity time scale

Stress direction indicator—Bar indicates direction of the maximum horizontal component of stress. Number in parentheses indicates that direction shown is an average for more than one data set

Active fault slip vector—Modified from Nakamura and others (1980)

Selected earthquake focal mechanism—Selected mechanisms from Adams (1985) and Zoback and others (1991)

Volcanic vent and fissure alignment—After Nakamura and others (1980)

Selected well bore deformation or breakout—Canada data from Gough and others (1983) and Bell and others (1986); Gulf of Alaska data from Hottman and others (1979)

Inferred regional maximum horizontal stress trajectory—Modified from Nakamura and others (1980) and Plafker and Jacob (1985)

Plate boundary fault—Arrows indicate relative horizontal movement; sawteeth on upper plate of thrust

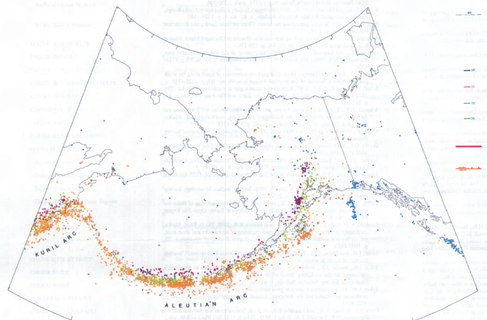
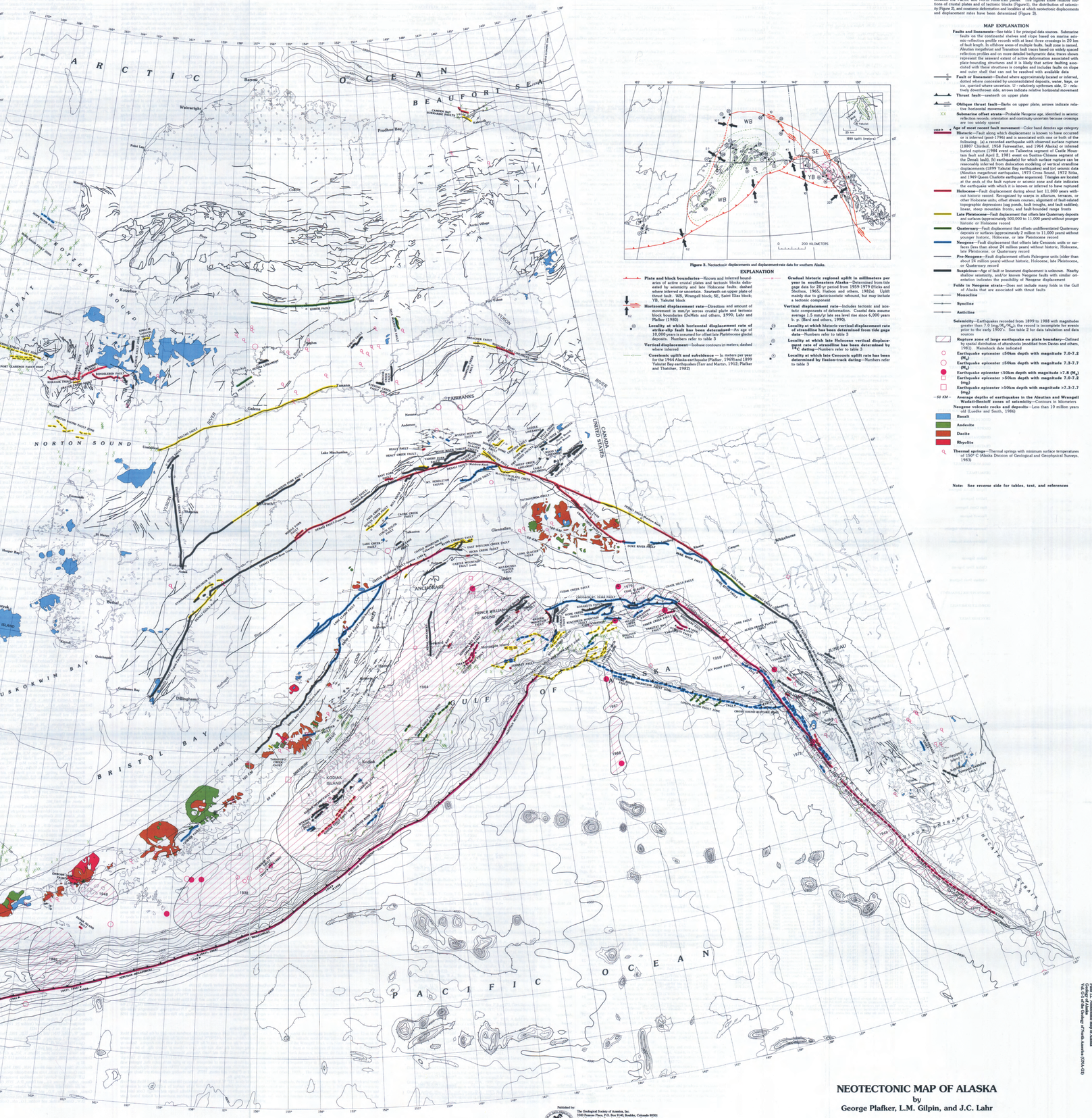


Figure 2. Seismicity of Alaska and adjacent regions from January 1, 1975 to April 30, 1992, showing earthquakes having associated body-wave magnitude of 4.5 or greater (data furnished by Susan Ginter, National Earthquake Information Center, June, 1992).

EXPLANATION

Depth of focus

- 0-25 kilometers
- 26-50 kilometers
- 51-100 kilometers
- 101-200 kilometers
- ≥201 kilometers (Kuril arc only)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BERING STRAIT
U.S.S.R.
UNITED STATES
CANADA
NORTON SOUND
BERING SEA
KUSKOKWIM BAY
BRISTOL BAY
GULF OF ALASKA
PACIFIC OCEAN
ALEUTIAN ISLANDS
KODIAK ISLAND
ANCHORAGE
FAIRBANKS
KOTZEBUE SOUND
KOBUK FAULT
KOYUKUK BASIN
YUKON
KUSKOKWIM
PRUDHOE BAY
BARROW
WAINWRIGHT
POINT LAY
WISEMAN
CHANDALAR SHELF
CAMDEN BAY-HUMMOCK FAULTS
KAVIK
GALBRAITH LAKE
TOOLIK LAKE
IMNAVAIT CREEK
ATIGUN GORGE
SAGAVANIRKTOK
ITKILLIK
ITKILLIK RIVER FAULT
KAKTOVIK
BARTER ISLAND
NUNIVAK ISLAND
ST. MATTHEW ISLAND
ST. PAUL ISLAND
PRIBILOF ISLANDS
ST. GEORGE ISLAND
UNALASKA
UNIMAK ISLAND
SHUMAGIN ISLANDS
KENAI
KENAI MOUNTAINS
PRINCE WILLIAM SOUND
COPPER RIVER
VALDEZ
GLENNALLEN
DELTA
TANANA
TANANA RIVER
TANANA-KOYUKUK BASIN
YUKON-TANANA UPLAND
YUKON-TANANA TERRANE
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