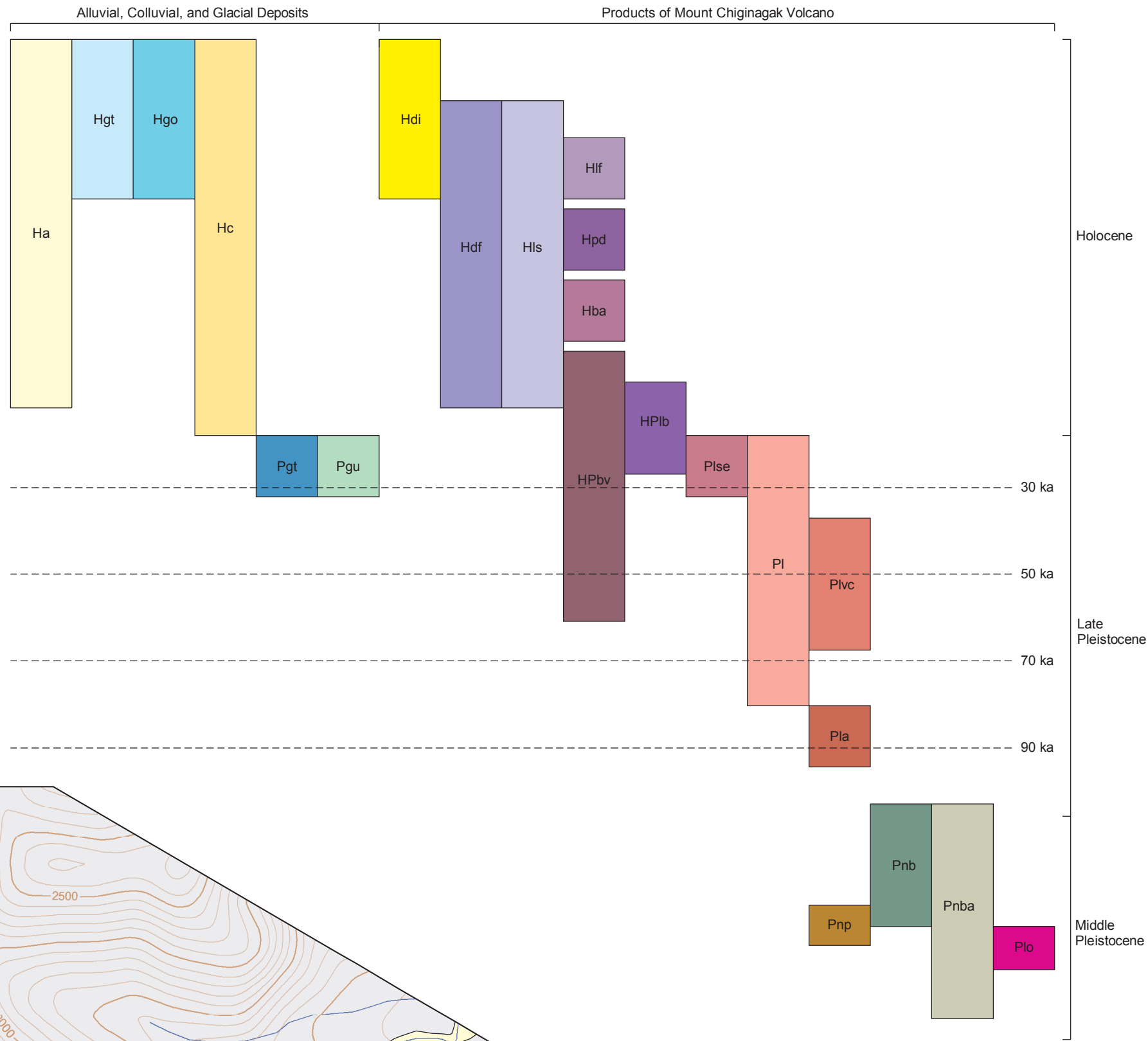




SYMBOLS AND FEATURES

- Thermal spring—Tail points downhill.
- Vent
- Dated Sample
- Field Station
- Fumarole field
- Contact—Identity and existence certain, location accurate
- Contact—Identity and existence certain, location approximate
- Contact—Identity and existence certain, location inferred
- Contact—Identity and existence certain, location concealed
- Gradational contact—Identity and existence certain, location accurate
- Rim of volcanic crater
- Contact separating individual lava flows within same map unit—Identity and existence certain, location accurate
- Contact separating individual lava flows within same map unit—Identity and existence certain, location inferred
- Crest line of lateral levee on lava flow
- Flow lobe of lava-flow front—Identity and existence certain, location accurate. Hachures on side of overlying younger flow
- Ice-contact lava-flow margin—Identity and existence certain, location accurate. Rectangles on side of overlying younger flow

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

ALLUVIAL, COLLUVIAL, AND GLACIAL DEPOSITS

Surficial deposits of non-volcanic origin are differentiated on the basis of origin and age. The entire Chiginagak region was covered by an extensive mountain ice sheet during the last glacial maximum about 20 ka (Manley and Kaufman, 2002). Glaciers extended 40 to 60 km northwest of Chiginagak, close to the present shoreline of Bristol Bay, and roughly 150 km to the southeast onto the emergent Pacific continental shelf. Diverse glacial sediments including till, outwash, and glaciolacustrine sediments were deposited over broad areas. As glaciers waned, stream and slope processes reworked glacial deposits and underlying bedrock into colluvial and alluvial deposits. As they do today, glaciers probably remained on the upper slopes of the volcano, advancing and retreating as climate fluctuated. Fresh, steep-sided moraines extending as far as 1 km beyond snouts of present glaciers mark the maximum advance of the Neoglacial period of the past few centuries.

- g GLACIERS AND PERENNIAL SNOW FIELDS
- dco DEBRIS-COVERED GLACIER
- Ha ALLUVIUM OF ACTIVE CHANNELS AND FLOODPLAINS (Holocene)
- Hgt GLACIAL TILL OF LATE NEOGLACIAL AGE (late Holocene)
- Hgo GLACIAL OUTWASH OF LATE NEOGLACIAL AGE (late Holocene)
- Hc COLLUVIUM AND ALLUVIUM (Holocene and latest Pleistocene)
- Pgt GLACIAL TILL (late Pleistocene)
- Pgu GLACIAL DEPOSITS, UNDIFFERENTIATED (late Pleistocene)

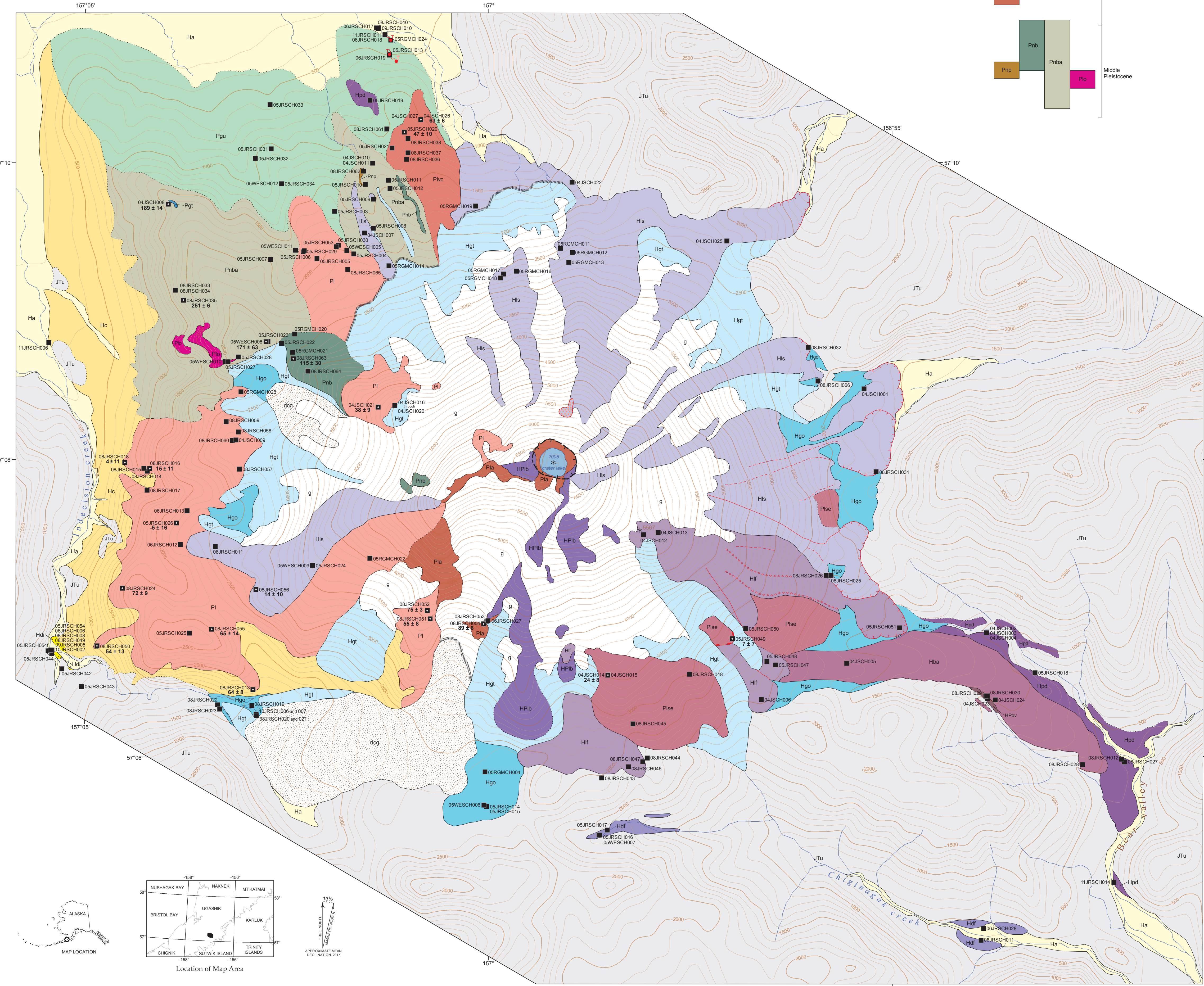
PRODUCTS OF MOUNT CHIGINAGAK VOLCANO

Eruptive products of Chiginagak volcano are subdivided into cone-forming andesitic and minor dacitic lava flows and associated breccias, deposits of block-and-ash pyroclastic flows derived from collapse of active lava domes or lava flows, and locally exposed pumiceous pyroclastic fall and flow deposits that may record the most explosive eruption in the volcano's history. The lava flows are divided further on the basis of age, geochemical differences, and source vent. Because the area was covered by extensive glaciers during the last major glaciation, we distinguish units that (1) predate or are synchronous with the last glaciation (that is, of Pleistocene age) and (2) those that postdate the recession of last-ice-age glaciers. Although not dated locally, regional studies show that the last glaciation peaked about 20 ka; glaciers had receded greatly by about 10 to 15 ka. The age boundary between the Pleistocene and Holocene Epochs is 11.7 ka (Cohen and others, 2013), so without local age control it is not possible to determine whether postglacial deposits are of latest Pleistocene or Holocene age. For simplicity we refer to postglacial units as Holocene, realizing that some may be slightly older. Holocene lava-flow units include small areas of overlying till and outwash of late Neoglacial age too small to show at map scale.

- Hdb DEBRIS-FLOW DEPOSITS OF UPPER INDECISION CREEK (Holocene)
- Hdf PYROCLASTIC-FLOW AND LAHAR DEPOSITS ALONG CHIGINAGAK CREEK (Holocene)
- Hls LAVA FLOWS FROM SUMMIT VENT (Holocene)
- Hlf LAVA FLOWS FROM VENT 5567 ON SOUTHEAST FLANK (Holocene)
- Hpd DEPOSITS OF PYROCLASTIC FLOWS AND LAHARS (Holocene)
- Hba DEPOSITS OF BLOCK-AND-ASH FLOWS AND LAHARS OF BEAR VALLEY (Holocene)
- HPbv ANDESITE LAVA FLOW OF BEAR VALLEY (late Pleistocene or Holocene)
- HPbv HYDROTHERMALLY ALTERED LAVA FLOWS AND BRECCIAs (late Pleistocene to Holocene)
- Pise ANDESITE LAVA FLOWS OF SOUTHEAST FLANK (late Pleistocene)
- Pl ANDESITE LAVA FLOWS OF SOUTH, WEST, AND NORTHWEST FLANKS (late Pleistocene)
- Pvc ANDESITE LAVA FLOWS OF UPPER VOLCANO CREEK (late Pleistocene)
- Pla HYDROTHERMALLY ALTERED LAVA FLOWS (late Pleistocene)
- Pnb BANDED LAVAS OF NORTHWEST FLANK (middle to late Pleistocene)
- Pnba BLOCK-AND-ASH-FLOW AND LAHAR DEPOSITS OF NORTH FLANK (middle to late Pleistocene)
- Pnp PUMICE-RICH FALL AND FLOW DEPOSITS OF NORTH FLANK (middle Pleistocene)
- Pco BASALTIC ANDESITE LAVA FLOWS OF NORTH FLANK (middle Pleistocene)

PRE-QUATERNARY BEDROCK

- JTu BEDROCK, UNDIFFERENTIATED

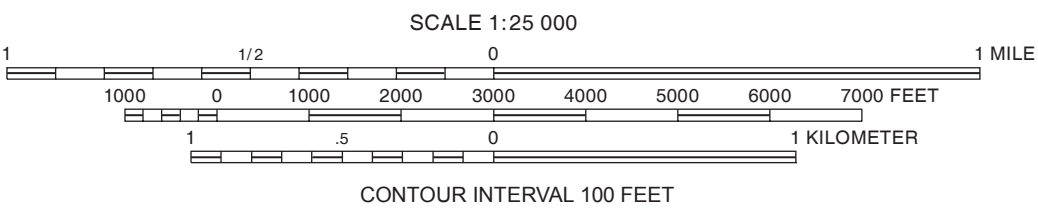


View to the east of Mount Chiginagak volcano from the shore of Mother Goose Lake. Photo by J. Schaefer, August 20, 2004.

GEOLOGIC MAP OF MOUNT CHIGINAGAK VOLCANO, ALASKA

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2017



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