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Bathymetry of Valdez Glacier Lake

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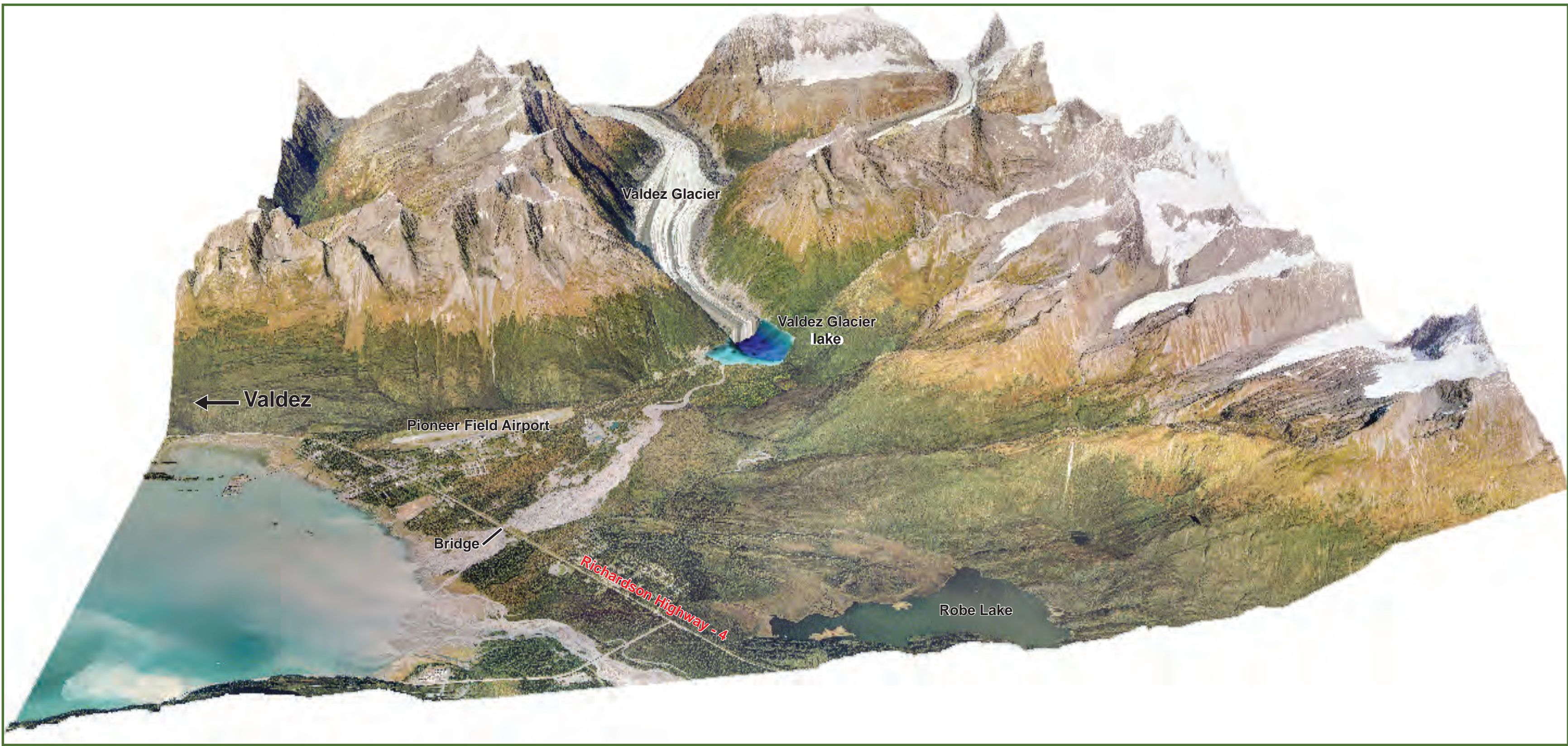
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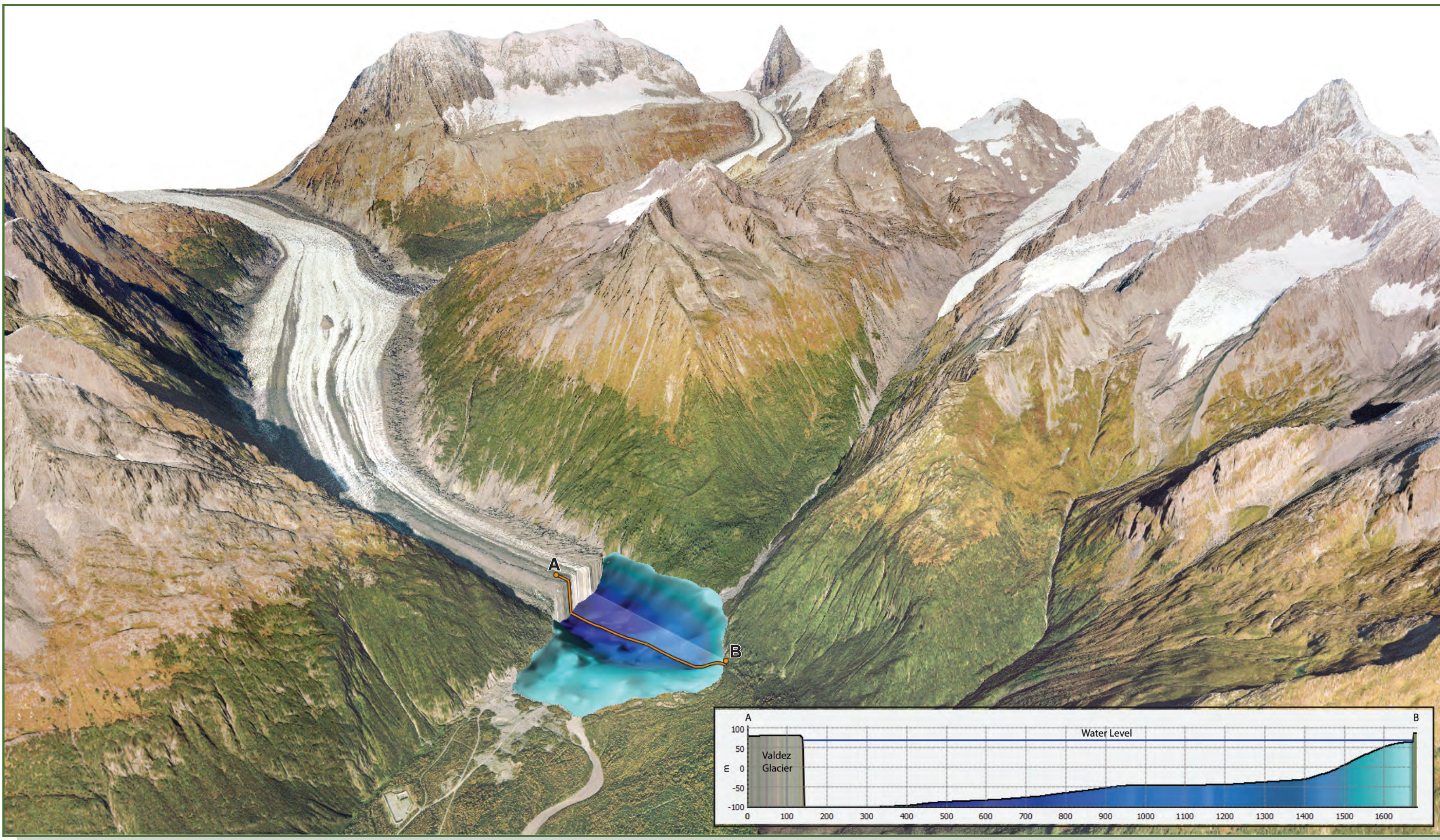
The Valdez Glacier is a 33 km-long (20 mi) valley glacier located in the Chugach Mountains of south-central Alaska. The glacier occupies a deeply-incised U-shaped valley and terminates into Valdez Glacier lake, a proglacial lake located about 10 km (6 mi) east of the town of Valdez. Valdez Glacier lake is the dynamic, natural reservoir from which Valdez Glacier Stream originates, and plays an important role in modulating the discharge of water into Valdez Glacier Stream.



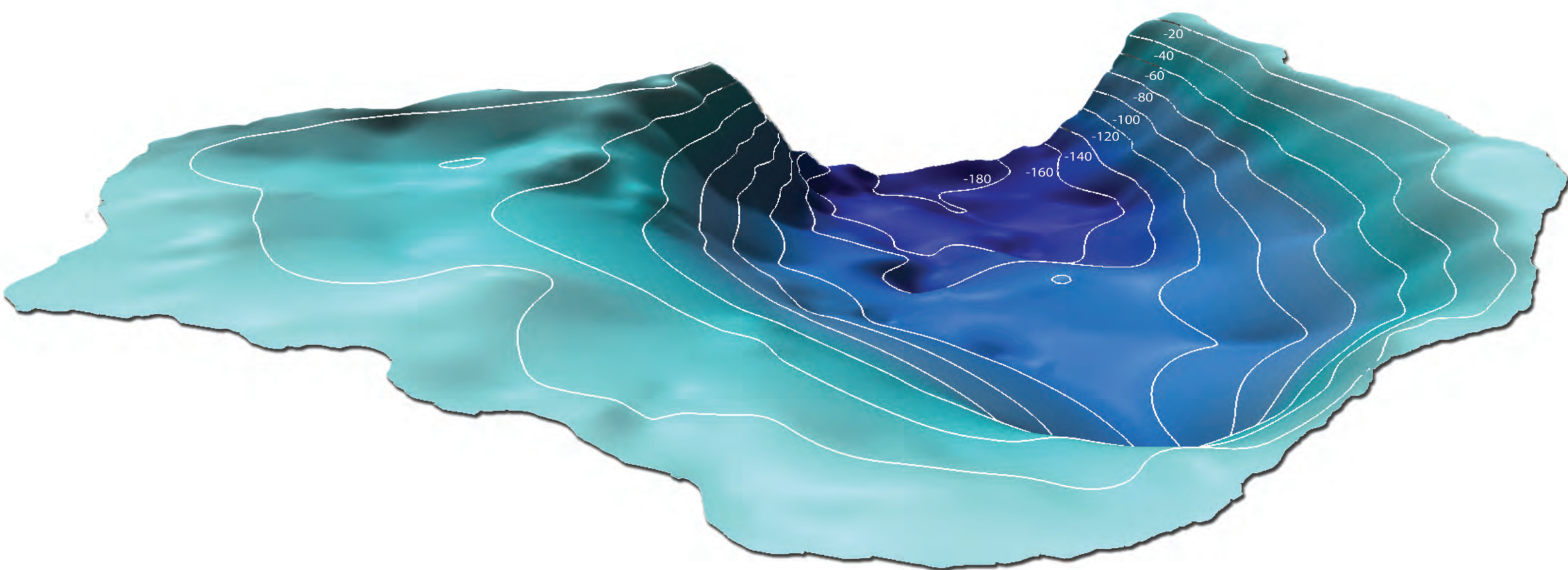
Looking north toward the terminus of Valdez Glacier from Valdez Glacier lake during a bathymetric survey in July 2012. Low clouds obscure the peaks that tower above the glacier and proglacial lake that occupy the valley bottom. The turbid water of Valdez Glacier lake typically hosts large icebergs that calve from the glacier terminus; however, at the time of this photo, all icebergs were repositioned to the southwest side of the lake, transported days before by strong density-driven katabatic winds from the northeast.



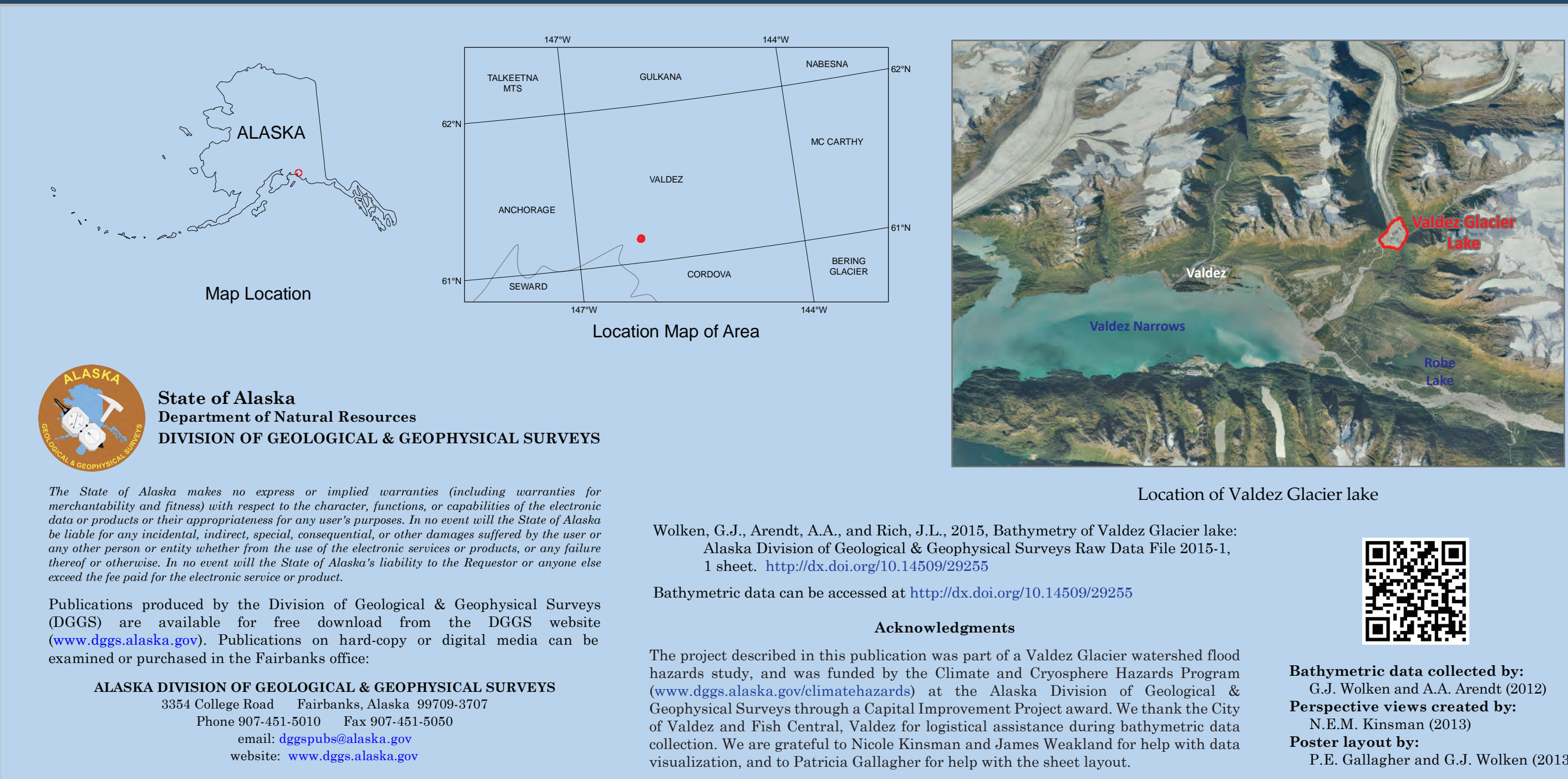
Aerial photography mosaic (2007) draped over a terrain model shows the lower Valdez Glacier watershed and inset gridded bathymetric data from a 2012 survey (discussed below).



Oblique view of lower Valdez Glacier, Valdez Glacier lake bathymetry, and the glacier foreland. The Valdez Glacier lake bathymetry clearly illustrates the characteristic U-shape of the sublacustrine valley. Bathymetric data from the July 2012 survey indicate a maximum water depth of 180 m (591 ft) at time of survey. The profile A to B (orange line and inset chart) illustrates the topographic profile referenced to the North American Vertical Datum of 1988 (NAVD88). The deepest area of the lake, located near the terminus of Valdez Glacier, is about 110 m below sea level.



Oblique view of the 2012 Valdez Glacier lake bathymetry. Bathymetric data are displayed as depths below the lake surface (69 m relative to NAVD88) with an isobath interval of 20 m.



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Bathymetric data can be accessed at <http://dx.doi.org/10.14509/29255>

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