

Annual Thaw Slump Expansion on E. Fork Chandalar River, Alaska, 2008-2017



Aerial photo of affected area taken May 16, 2017. The silt on the left of the image appears to have come from the eroded area to the right, building up the eastern bank of the river.



Aerial photo from the same date. Rivulets appear to be forming gullies and accelerating the erosion.

The time series was created by manually digitizing from Esri basemap imagery, shortwave infrared 2, shortwave infrared 1, and red bands for Landsat 5, 7, and 8 imagery ("7-6-4" band combination for Landsat 8, "7-5-3" band combination for Landsat 5 and 7), and the panchromatic band of Landsat 8 (band 8).

The eroded area appears to be growing steadily, mostly to the east, with apparent limitation on growth to the north and south.

Basemap imagery date June 16, 2014

Sources:

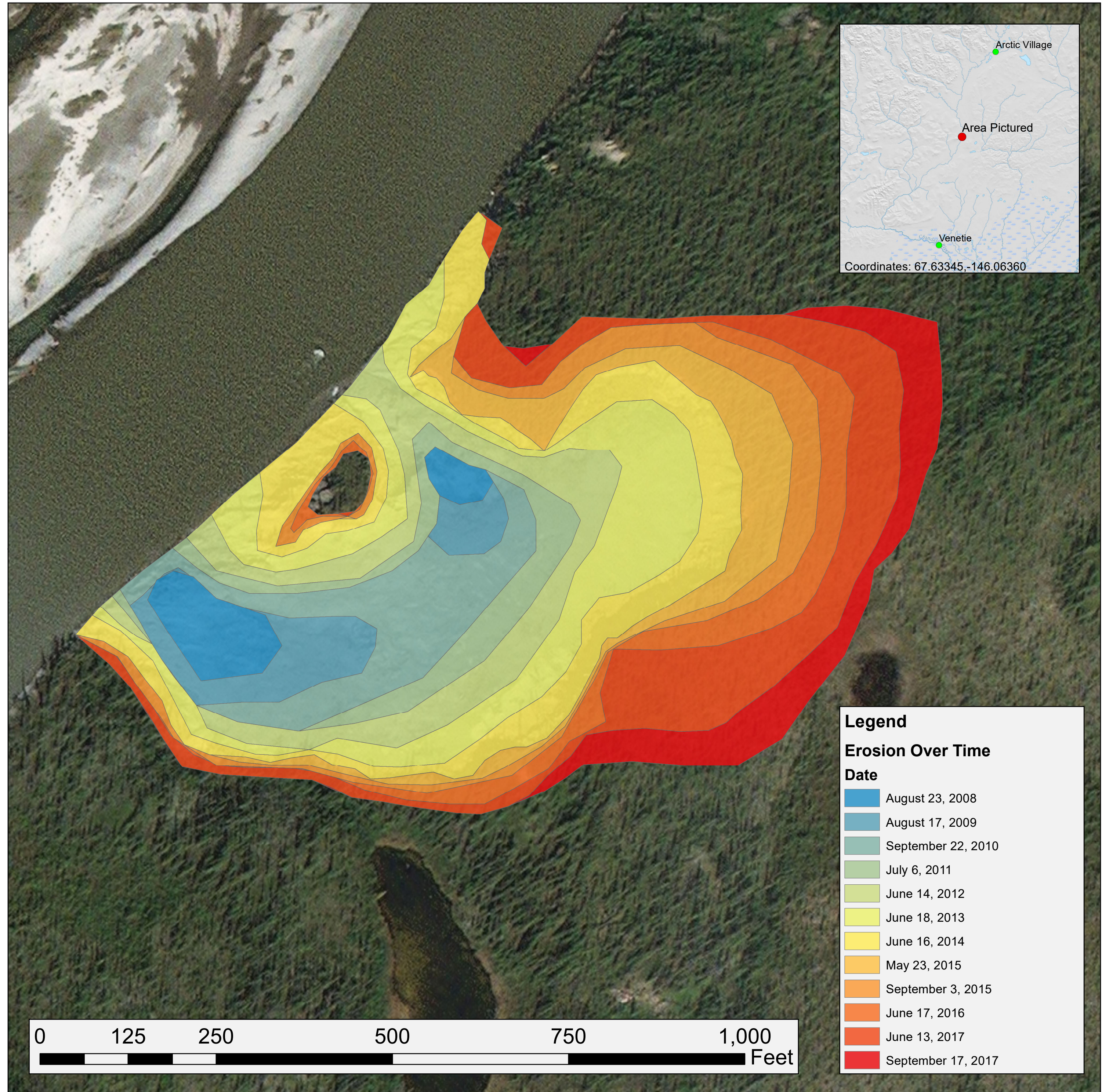
Landsat 5: August 23, 2008, August 17, 2009, July 6, 2011.

Landsat 7: September 22, 2010, June 14, 2012

Landsat 8: June 18, 2013, May 23, 2015, September 3, 2015, June 17, 2016, June 13, 2017, September 17, 2017.

ArcMap Imagery Basemap: June 16, 2014.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
 USGS The National Map (Inset): National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



Legend

Erosion Over Time

Date

- August 23, 2008
- August 17, 2009
- September 22, 2010
- July 6, 2011
- June 14, 2012
- June 18, 2013
- June 16, 2014
- May 23, 2015
- September 3, 2015
- June 17, 2016
- June 13, 2017
- September 17, 2017

