

Struve Geodetic Arc

Triangulation point on Oravivuori, Korpilahti

Original name: Puolakka

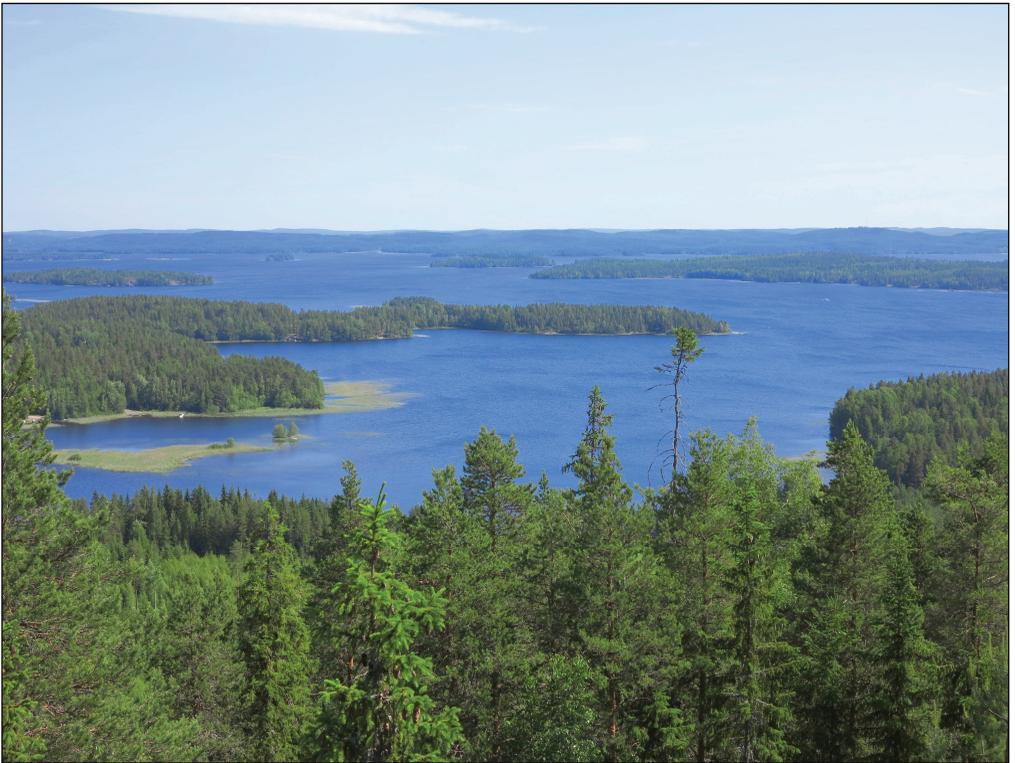
Location: 61° 55' 36" north, 25° 32' 01" east

Height above sea level: 193 meters

Established and measured: 1834

First class triangulation point measured: 1930

Joined ETRS89 coordinating system: 1996



Northeastward view from triangulation tower over Lake Päijänne and Mustanselka.

One of the six elements of Finland's UNESCO World Heritage Site, the Struve Geodetic Arc, is located at the top of Oravivuori, at Korpilahti near Jyväskylä. The Struve Geodetic Arc is a chain of triangulation points extending from the Arctic Ocean to the Black Sea, which was used to measure the exact size and shape of the earth.

The chain was founded by, and is named after the German astronomer, Friedrich Georg Wilhelm von Struve, the then Director of the Tartu Observatory in Estonia, in 1855. The arc was measured using 265 points from its northernmost near

Hammerfest in Norway to its southernmost near the Black Sea in Ukraine between 1816 and 1855. During this time, 83 points were measured in Finland including those in Province 13, today's Keski-Suomi. The chain stretches through ten countries and comprises 34 protected measurement points, of which four are in Norway, four in Sweden, six in Finland, two in Russia, three in Estonia, two in Latvia, three in Lithuania, five in Belarus, one in Moldova, and four in Ukraine. These countries have been cooperating to restore the measurement points since 1993. The whole chain was granted World Heritage Site status in 2005.



Puolakka, located at the top of Oravivuori, was measured in 1834 and is marked in the rock with a drill hole. Ever since, Oravivuori has been one of Finland's main geodetic datum points. Measurements taken in 1930 by the Finnish Geodetic Institute places the Oravivuori first class triangulation point at only 34 cm from Struven's initial placement.

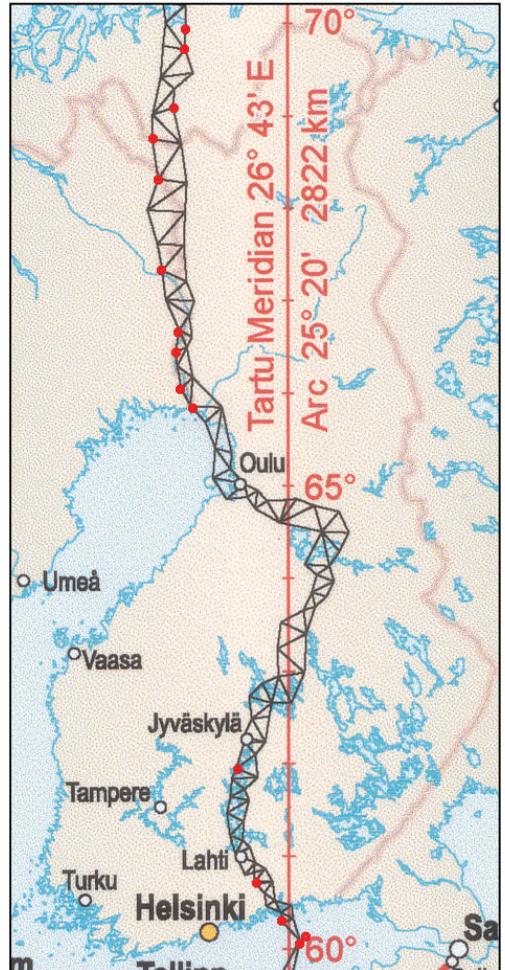


Struve's original measurement point.

It remained the National Land Survey of Finland's triangulation tower up to the mid-1980s when GPS satellite measurements superseded triangulation. Additionally, between 1969 and 1987 Oravivuori was the Finnish Geodetic Institute's astrological measuring station.

The triangulation tower at Oravivuori was rebuilt in 1997 by the National Land Survey of Finland and the Finnish Geodetic Institute to commemorate the significance of the area in the mapping of Finland. The original tower ladder was replaced in the summer of 2011 with safer stairs and the planks at the top of the tower were renovated in the summer of 2012.

The journey from Korpilahti harbour to Oravivuori using the road is 14 kilometres to the foot of the hill. The path to the top is a further 1 kilometre.



Struve Geodetic Arc in Finland. Source: National Land Survey of Finland

Struve's triangulation point on Oravivuori



maaseuturahasto

LEADER

JyväRiihi

LEADER

Vesuri-ryhmä



HUMANISTINEN
AMMATTIKORKEAKOULU

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