

Diploma Thesis
International Forum for the Struve Geodetic Arc
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Summary

One main task of the Diploma Thesis was to create a platform for the project.

The webpage can be found here:

<http://struvearc.wikidot.com>

The Struve Geodetic Arc is a triangulation chain stretching over 2820km from Hammerfest (Norway) to Staro-Nekrassowka (Ukraine). It was measured during the years 1816-1855 by the surveyors Friedrich Georg William Struve and Carl F. de Tenner. Today the arc leads through ten countries, namely Norway, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Belarus, Ukraine and Moldova.

In the years before the satellite era, the measurement of a meridian arc was the most accurate method to determine the parameters of the Earth's figure. By measuring the length of 1° on the surface at different latitudes, the difference shows if the Earth is elongated or flattened at the poles.

Despite its length, the measurement is highly precise for its time which is mainly due to the cooperation between scientists, monarchs and instrument makers for a scientific cause. It allowed important developments in the history of astronomy, geodesy and mapping.

Many of the triangulation stations are still in use within the national survey network. To advance the preservation of the remaining points, a committee was founded which consists of delegates from the participating countries. Every country was then requested to start investigations to find as many of the original measurement marks as possible. Monuments were raised to flag the locations of the points and souvenirs created to arouse the public interest for the project. In the year 2005, the Struve Geodetic Arc was included on the UNESCO World Heritage List. Spread over the ten countries, 34 points were added on the list

which makes it the first inscription being submitted by ten state parties together and having a technological-scientific value.

Moldova is the only country with only one point on the list, because the governmental budget for surveying research is low and the national agency is still engaged with the basic survey of the country. A journey to Moldova gave an insight into the investigation process and one recently found station could successfully be visited.

The cognitions of the stay in Moldova indicated the importance of an international platform. A forum could enhance the knowledge-exchange between the countries, arouse public interest and help less developed countries to benefit of the cooperation. For this purpose, a webpage has been developed, based on the Wiki-principle. The delegates of the participating countries can log into the page to edit, delete and upload information about their research for the Struve Arc points. During the year 2008, the contents of <http://struvearc.wikidot.com> should grow successively up to the meeting of the delegates in August 2008 in Jacobstadt (Latvia), where the full administrative rights of the webpage will be handed over to the project management.