

56.4: Vincenty's Formulæ- Introduction

Vincenty's formulæ were developed by the Polish American geodesist Thaddeus Vincenty in the mid-1970s. Like the cosine and haversine formulæ, they are used to calculate the distance between two points on the Earth's surface. Unlike those formulæ, though, Vincenty's formulæ model the Earth's surface as an ellipsoid, and they also provide the direction between the two points.

There are two sets of Vincenty's formulæ:

- One set solves the direct problem: given one point on the Earth's surface (latitude and longitude), a direction, and a distance, these equations find the latitude and longitude of the ending point.
- The other set solves the inverse problem: given two points on the Earth's surface (latitudes and longitudes), these equations find the distance between the two points, as well as the direction from one point the other.

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