

DEFINITION OF GEODESY

A literal meaning of GEODESY is "dividing the earth."

Geodesy includes both science and art:

- Science of geodesy is devoted to:
 1. Determining size and shape of the earth.
 2. Defining and quantifying gravity field of earth.
 3. Defining reference frames and coordinate systems.
- Art of geodesy utilizes scientific data to:
 1. Obtain latitude/longitude/height of points.
 2. Compute trajectories of satellites, missiles etc.

The goal here is not to categorize any given activity exclusively, but to recognize a difference in emphasis which may exist in any geodetic endeavor.

FIELDS OF GEODESY

Barriers between various fields are largely artificial and should not restrict ones attention or focus but, historically, geodesy has been categorized as:

GEOMETRICAL: Geometrical geodesy is concerned with the three dimensional geometrical elements of the mathematical model of the earth.

PHYSICAL: Physical geodesy relates the geophysical internal constitution of the earth to the corresponding gravity field and its observable effects.

SATELLITE: Satellite geodesy deals with satellite orbits, tracks existing satellites, and predicts the trajectory of a given missile, satellite, or spacecraft.

GEODETIC ASTRONOMY: Geodetic astronomy chronicles the changing position of stars and other celestial objects. Although listed separately, it overlaps other areas of geodesy and will not be pursued separately here.