Types of Surveying

Plane and geodetic surveying

Based on the considerations and true shape of the earth, surveying is broadly classified into two types.

Plane surveying assumes the earth is flat. Curvature and spheroidal shape of the earth is neglected. In this type of surveying all triangles formed by joining survey lines are considered as plane triangles. It is employed for small survey works where errors due to the earth's shape are too small to matter. In *geodetic surveying* the curvature of the earth is taken into account while calculating reduced levels, angles, bearings and distances. This type of surveying is usually employed for large survey works. Survey works up to 100 square miles (260 square kilometers) are treated as plane and beyond that are treated as geodetic. In geodetic surveying necessary corrections are applied to reduced levels, bearings and other observations.

Cadastral Surveys (Boundary survey)

Cadastral Surveys are those classes of land surveys which are executed for the purpose of systematically recording land rights (Ownership), producing registers of land holdings, or an inventory of land areas, land use and classifications, or of determining tax assessments from the land.

They are also made facilitate the transfer of land property from one owner to another and to fix the boundaries of municipalities and of State.

Engineering surveying

Engineering surveyors are engaged in the construction industry and ensure construction works are built in the correct location and as per their design. They are generally found on construction sites setting out various types of works such as buildings, roads, bridges, tunnels and various other forms of infrastructure.

Mining surveying

Mining surveyors are involved in the development and construction of mining operations and can generally be found above and underground taking measurements to determine volumes and setting out new excavations and tunnelling.

Hydrographic surveying

Hydrographic surveying involves locating and measuring points under the sea and on the shore. There measurements are used to design infrastructure such as docks and jetties as well as ensuring ships have enough clearance from the sea bed to safely travel around the world. Using sonar scanners they are able to provide a picture of the sea bed without needing to get their feet wet and enabling the discovery of ship wrecks and other objects lost at sea.

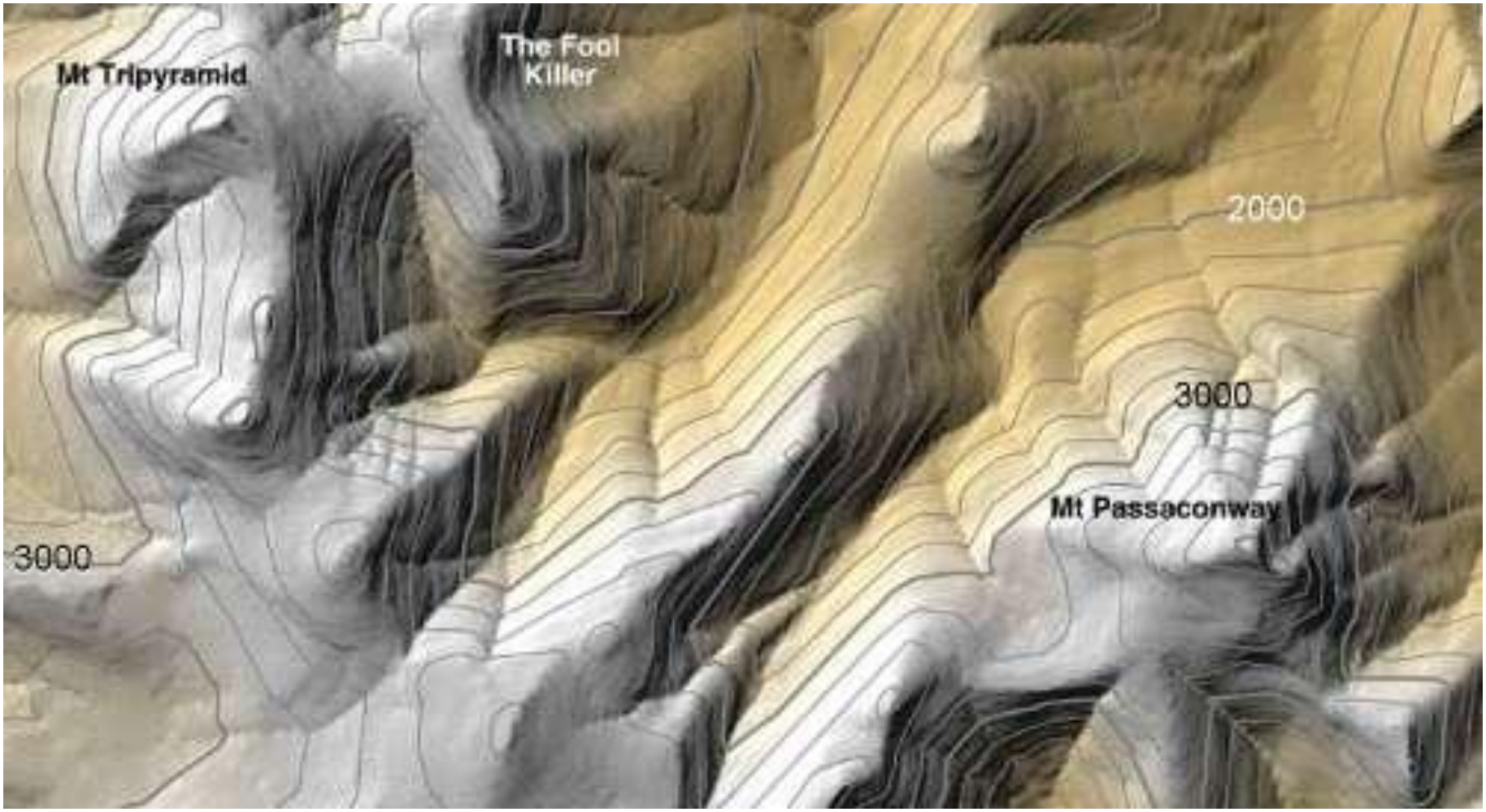
Photogrammetry and remote sensing

Photogrammetry and remote sensing involves taking measurements of the world via photography or other wavelength bands such as infra-red or ultra-violet. Measurements may be sources from aerial photography or satellite imagery. Photogrammetry and remote sensing is used to map large areas and determine changes in the world over time.

Topographic Survey

A Topographic Survey is a type of survey which depicts the configuration (relief) of the earth's surface (ground) and the location of natural and artificial objects thereon. The relief of the eart’s surface is depicted by the contour lines drawn on the maps.

Co-ntour li-nes or **Contours** are the greatest distinguishing feature of a topographic map. **Contour lines** are lines drawn on a map connecting points of equal elevation, meaning if you physically followed a contour line, elevation would remain constant. Contour lines show elevation and the shape of the terrain. They're useful because they illustrate the shape of the land surface -- its topography-- on the map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