

GIS/SURVEY/PHOTOGRAMMETRY SUBCOMMITTEE
Subcommittee meeting, 12/5/01

DRAFT – GENERALIZED DEFINITION

Definition of Photogrammetry

Photogrammetry is defined by the American Society of Photogrammetry and Remote Sensing as the art, science, and technology of obtaining reliable information about physical objects and the environment through the processes of recording, measuring, and interpreting photographic images and patterns of electromagnetic radiant energy and other phenomena.

As it pertains to surveying, mapping and GIS, photogrammetry can be divided into two distinct categories: 1) metric photogrammetry and 2) interpretative photogrammetry. Metric photogrammetry consists of making precise measurements from photos or other remotely sensed data to determine the relative locations of visible features and points on the earth to within a specific accuracy standard, relative to established known ground control points. Interpretative photogrammetry deals principally in identifying features and conditions on the surface of the earth by using systematic and careful analysis to judge their significance.

Typical applications as pertains to GIS, surveying and mapping

Photogrammetric methods are commonly used in conjunction with precisely calibrated aerial mapping cameras, other air-borne sensors, satellite borne sensors and specialized mapping and processing equipment to produce mapping products such as Digital Elevation Model data, vector feature mapping, topographic mapping and ortho rectified imagery. Applications for which photogrammetric data is commonly used include preliminary engineering design, natural resources evaluations, general planning, GIS base mapping layers, determination of earthworks / stockpile volumes and engineering design.

For most applications, photogrammetric mapping products are prepared to meet a specific accuracy standard relative to established ground control. For mapping which is required to meet specific map accuracy standards for engineering or base mapping purposes, current practice dictates that a licensed surveyor be responsible for establishing the required ground control points and for establishing the points to be used for the GPS base station data required for air-borne GPS applications. For natural resources or planning applications where spatial accuracy is not as critical and specific map accuracy standards are not required, control may be from existing mapping or other sources.