APFO General Definitions

Absolute Control

With absolute accuracy, an image is not compared to another image, rather it is compared to where the data on the image really exists on the earth's surface (to ground), usually based on a network of control points.

Acquisition Period

The calendar period in which the project item area imagery is required to acquired.

Aerial Triangulation

An attempt to identify the exact x, y, z, location of an aircraft antenna during exposure.

Attribute

An attribute is descriptive data residing in a field within a table as part of a vector dataset.

Attribute Table

An attribute table is a database, or other tabular file, containing rows and columns. It is used to store non-geospatial data in precise fields which allow the system to quickly find, retrieve, and query the data when prompted by the user.

Camera System

The combination of lens, cone, magazine(s), and camera filter(s) which have been calibrated as an integral unit.

Contact Print

Contact prints are 10x10" prints of aerial photographs with a 60 percent endlap north to south and a 30 percent sidelap east to west.

Contract Award Item

A separately awarded contract that may contain one or more project item areas awarded to a single contractor. Contract award items are indicated by the numeric solicitation number followed by sequential award item number.

Coordinate System

A reference system used to measure horizontal and vertical distances on a planimetric map. A coordinate system is usually defined by a map projection. There are two types of coordinate systems: geographic and projected. Geographic coordinate systems use latitude and longitude coordinates on a spherical model of the earth's surface. Projected coordinate systems use a mathematical conversion (projections) to transform latitude and longitude coordinates that fall on the earth's three-dimensional surface to a two-dimensional surface.

Database

A database is a logical collection of interrelated information, managed and stored as a unit. A GIS database includes data about the spatial location and shape of geographic features recorded as points, lines, areas, pixels, grid cells, or tins as well as their attributes.

Datum

A datum defines the position of the spheroid relative to the center of the earth. A datum provides a frame of reference for measuring locations on the surface of the earth. It defines the origin and orientation of latitude and longitude lines.

Digital Elevation Model (DEM)

Digital files consisting of optimal arrays of point elevations, sampled equally spaced intervals. DEMs are used to simulate elevations when creating digital orthorectified photo products, or for numerous other purposes when analysis of elevation is important. The accuracy of DEM data depends on the source and resolution of the data samples. DEM accuracy is derived by comparing interpolated elevation in the DEM with map location elevations.

Digitizing

Digitizing is creating map features, such as points, lines and polygons, as coordinates in a digital form, that is, using the computer to draw lines and points on a digital map.

Dodging

Dodging is the manipulation of the intensity of part of a photograph by selectively Shading or masking.

Exposure Stations

An exposure stations are pre-determined locations where photo centers of individual are to be exposed.

Field

A field is a part of a farm that is separated from the balance of the farm by permanent boundaries, such as: fences, permanent waterways, woodlands, crop lines and other similar features where produce is cultivated.

Focal Length

The focal length is the distance between the camera lens and the film.

Geographic Positioning System (GPS)

GPS is a positioning system using satellites that continuously transmit coded information. The information transmitted from the satellite is interpreted by GPS receivers to precisely identify locations on Earth by measuring distance from the satellite.

Georeference

To georeference is to establish the relationship between coordinates on a paper map (2-dimensional) and known real world coordinates.

GPS Units

A GPS unit is a device that uses satellite positioning to determine points on the earth.

Metadata

Metadata is the description of the contents, quality, condition and other characteristics of data.

Orthorectification

Orthorectification is the term for the process of removing sources of distortion from an image and correcting aerial photography to the point where measurements of a feature on the photograph approximates ground measurement of the same feature.

Parallax

Parallax is a distortion caused by an aerial image being shot from not exactly above a particular point on the ground (an angle). More simply, parallax is the apparent shift of an object against a background due to a change in the observer's position; the apparent motion of an object against distant background because of perspective shift.

Polygon

A polygon is a figure having multiple line segments connected to form a closed shape with a surface area.

Project Item Area

An area or areas described in the schedule for which an award would be made.

Projection

Whether you assume the earth is a sphere or a spheroid, you need to transform its three-dimensional surface to create a two-dimensional map. This transformation is called a projection. A projection is a mathematical attempt to place what is seen on a flat computer screen at the coordinates/location of where it really exist in the three-dimensional world. Projections can be optimized to preserve shape (conformal), area (equal area), distance (equidistance), directional (true direction), or a combination of the above.

Quarter Quadrangle

A full quadrangle is defined as a 7 ½ by 7 ½ minute area as established for the USGS mapping series. A quarter quadrangle is one-fourth the size is 3 minutes 45 seconds by 3 minutes 45 seconds.

Reflight Photography

Photography reflown to replace original photography rejected by USDA.

Relational Database Management System

A relational database management system has the ability to access data organized in tabular files that may be related together by a common fields (item). It has the capability to recombine the data items from different files, thus providing a powerful tool for locating, updating, and querying information stored in the computer.

Remake Materials

Any contract materials, other than original aerial film, ordered remade by USDA.

Relative Control

Horizontal and vertical accuracy of an image when compared to another image is considered to be relatively accurate. The two images could be a hundred miles from where they actually reside on the earth's surface and still be accurate relative to each other.

Resample

Resample is the interpolation of pixel values based upon neighboring pixel values.

Spatial Data

Spatial data is information about the location, shape, and relationships of map features, such as roads, fences, barns, feed lots, and other details contained on maps. Spatial data stores the geographic location of real world features, usually with associated attribute data.

Stereomodel

A stereomodel is the area covered by the conjugate images of three successive overlapping exposures.

Sun Angle

The angle of the sun is a direct result of latitude, time of day and year. The sun allows shadows to be cast from things at a higher elevation onto things at a lower elevation.