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NWCG Geospatial Data Layer Standard
Metadata Definition and Data Layer Specifications

Aviation Obstruction Point

Layer Name:	Aviation Obstruction Point
Layer Abbreviation:	AviationObstruction_Pt
Layer Description:	This layer captures physical features that may present a hazard to pilots during aviation operations. Generally speaking these are permanent features.
Status:	Approved
Source Record:	N/A
System of Record:	Local Databases. Digital Aeronautical Flight Information Files (DAFIF), Digital Vertical Obstruction File (DVOF), Federal Aviation Administration (FAA) Data when combined with local data.
Data Stewardship Group:	Geospatial Subcommittee
Data Steward:	Andrew Bailey, NWCG GSC
Additional Text:	NWCG - Aviation Hazards Obstacle GIS Data Layer Standard.doc, Discussion Paper - Aviation Hazards GIS Data Layers.doc, Wildland Fire Aviation Hazards Data Model.pdf, GLOSSARY Aviation Activity and Obstacle Information.doc

Background:	The Aviation Obstruction data standard is part of a series of feature classes that may be used for storing information in support of safe fire-related aviation operations.
Abstract:	Local aviation obstruction data that adheres with this standard may be combined with national datasets (DAFIF, DVOF) to inform aviation operations and create flight hazard maps used for briefing visiting aircrews, pilots, incident management teams, and flight planning for projects and fires. The dataset is not intended for navigational use. The pilot should always obtain an FAA briefing and conduct operations with a "see and avoid" attitude.

Purpose:	The purpose of this data layer standard is for the exchange and transfer of local aviation obstruction data. Obstructions (point, line, and polygon): These layers capture physical obstructions that may present a risk to pilots during aviation operations. The distinction between activities and obstructions is that activities have a dynamic characteristic as the hazard may be temporal or seasonal.
Data Model:	Aviation Obstructions are depicted as points, lines or polygon feature classes. This standard is for a point feature class (or shapefile). A geodatabase containing all aviation hazard feature classes (activities and obstructions) is recommended.
Other Notes:	The layer specific attributes and (domain) values were developed through a review of DAFIF, DVOF, and FAA standards and existing datasets to determine the types of features that would be stored in this feature class. Domains from those standards were revised and grouped to simplify this dataset.
Related Layers:	The Aviation Activity Point, Activity Polygon, Obstruction Point, Obstruction Line, and Obstruction Polygon Feature Classes are all related and could be part of a Aviation Hazard Feature Dataset or Geodatabase.
Horizontal and/or Vertical Position Accuracy:	Standards for horizontal and vertical accuracies are detailed in Geospatial Positioning Accuracy Standards; Part 3: National Standard for Spatial Data Accuracy (NSSDA), http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part3/chapter3. NSSDA does not define threshold accuracy values. Agencies are encouraged to establish thresholds for their product specifications and applications and for contracting purposes. Ultimately, users identify acceptable accuracies for their applications. Data and map producers must determine what accuracy exists or is achievable for their data and report it (document) according to NSSDA.
Horizontal and/or Vertical Spatial Reference Information:	Data layer projection parameters should be documented in a .prj file (shapefile format) or in a geodatabase projection definition. Or, specify the projection parameters via an EPSG code (example EPSG code 4326 = WGS84), http://www.epsg-registry.org . Projection parameters file should include applicable attributes as specified in the FGDC Standards Reference Model, 4.1.2.1.23.

Questions or comments can be emailed to:
BLM_FA_NWCG_DATA@blm.gov

Information on the process of requesting a new Data Standard or a change to an existing Data Standard can be located at:

http://www.nwcg.gov/?q=data-standards

Information about the Data Standards & Terminology Subcommittee (DSTS) can be found at:
http://www.nwcg.gov/?q=committees/data-standards-and-terminology-subcommittee

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NWCG Geospatial Data Layer Standard Attributes

Aviation Obstruction Point

Geospatial Data Layer Standard Attributes & Attribute Definitions							
Standard Name*	**Alternate Name**	**Required?**	**Data Type**	**Size/ Width**	**Description**	**Values**	**Related NWCG Standard**
Jurisdictional Unit Identifier	UnitID NWCG_UID NFIRSUntID	Yes	String	10	Code used in interagency wildland fire to uniquely identify the governmental entity having overall land and resource management responsibility for a specific geographical area as provided by law. NWCG Unit Identifier should be used. In cases where NWCG Unit Identifier is not available, a National Fire Incident Reporting System (NFIRS) ID may be used instead.	NWCG (PMS 931: Unit Identifiers) Example: CORMP NFIRS ID (FDID, State, Station) Example: 07434VA001	Unit Identifier
MapMethod	Map_Method MapMeth	Yes	String	25	Controlled vocabulary to define how the geospatial feature was derived. Map method may help define data quality.	GPS-Driven; GPS-Flight; GPS-Walked; GPS-Walked/ Driven; GPS-Unknown Travel Method; Hand Sketch; Digitized-Image; Digitized-Topo; Digitized-Other; Image Interpretation; Infrared Image; Modeled; Mixed Methods; Remote Sensing Derived; Survey/GCDB/Cadastral; Vector; Phone/Tablet; Other	
DateCurrent	DateCrnt EditDate	Yes	Date		The last edit, update, of this GIS record. Date should follow the assigned NWCG Date Time data standard, using 24 hour clock, YYYY-MM-DDhh.mm.ssZ, ISO8601 Standard.	Example: 2014-06-23-15.30Z	Date Time (Assigned)
Comments	Notes GIS_Note	No, but recommended	String	255	Additional information describing the feature.	Free text	
GeometryID	Geometry_ID GIS_ID Spa_ID	Yes	String	50	Primary key for linking geospatial objects with other database systems. **Required for every feature.** This field may be renamed for each standard to fit the feature.	Globally Unique Identifier (GUID). **	
ObstructionName	ObName	Yes	String	50	Common Name of feature. "Unknown" is a valid attribute.		
ObstructionType	ObType	Yes	String	50	Type of obstruction. (Domain values were developed through a review of DAFIF, DVOF, and FAA data sets) If "Other" is selected please include additional information in Comments field.	Aerial Cable; Amus Park Str *(Amusement Park Structure)* ; Antenna; Arch; Bridge; Building; Cell Tower; Crane; Dam; Elevation Point; Elevator; Indus Structure *(Industrial)* ; Lighthouse; Lightship; Lookout; MET *(Meteorological Evaluation Tower)* ; Microwave Tower; Mining Structure; Monument; Navaid; Offshore Structure; Open Storage; Platform; Pole; Power Plant; Radio or TV Tower; Recreational Str *(Structure)* ; Rig; Ship Storage; Sign; Slag Pile; Spire (steeple); Stack; Storage Structure; Tank ; Tethered Balloon; Tower; Transformer or Substation; Transmission Line Tower; Tree; Waste Pile; Water Tower; Weather Station; Wind Testing; Windmill; Other	
SourceAgency	DataAgency	Yes	String	7	Land management agency with responsibility for creating and administering the data.	BIA; BLM; BOR; DOD; DOE; FAA; NGA; NPS; USFS; USFWS; Foreign; Tribal; City; County; State; Private	
HeightAboveGroundLevel	HtAGL	Yes	Double	8	Height above ground level in feet. Scale of 1 decimal place. Feature height should always be calculated to measure the tallest part of the features. For example, the height of a windmill feature will be the height of the blade as opposed to the height of the tower. Null value is acceptable.		
HeightAboveSeaLevel	HtAMSL	Yes	Double	8	Height above mean sea level in feet. Scale of 1 decimal place. Feature height should always be calculated to measure the tallest part of the features. For example, the height of a windmill feature will be the height of the blade as opposed to the height of the tower. Null value is acceptable.		

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Lighting	Light	Yes	String	7	Identifies if the obstruction is lighted.	Yes; No; Unknown	
LongitudeDDM	LongDM	No	String	20	Longitude in degrees, decimal minutes WGS84 for labeling purposes. Include correct symbols. Example, -112˚ 2.688'W. Value should be calculated in ArcGIS.		
LatitudeDDM	LatDDM	No	String	20	Latitude in degrees, decimal minutes WGS84 for labeling purposes. Include correct symbols. Example, 36˚ 12.818'N. Value should be calculated in ArcGIS.		

*Standard field names should be used for the core attributes when possible. Alternate field name suggestions are given to accommodate database conflicts and legacy datasets. Alternate name use should be documented in the Other Notes section above.

** GUIDs are unique specially formatted numeric strings generated by a “GUID generation tool.” GUIDs can be generated at http://www.guidgenerator.com/. The purpose of the GeometryID is to ensure that every unique object has a unique ID. This is important in an enterprise implementation where data is coming from many sources to determine if an object is unique or if it has been duplicated. Between the GlobalID and the FireOccurID (IRWINID) the unique geometry may be determined.

Users should generate a GeometryID for each unique record they create (spatial or non-spatial) for NWCG datasets. It is the data creators responsibility to create and maintain this ID for the life of that particular record. It is the responsibility of the person doing the data aggregation at a regional or national level to maintain this GUID as well. A GUID can be created in multiple ways - on a cell by cell basis using a website or script to generate a unique GUID, on a group of records using a script, or it can be automatically generated by the users GIS software or tools.