NWCG Geospatial Data Layer Standard

Data Layer Standard Name	Wildland Fire Locations (point)
Status (DSTS Use Only)	Approved
Next Anticipated Review	
Review Expiration	
Approved	9/9/2014

Name & Description

Geospatial Data Layer Name	Wildland Fire Locations (point)
Abbreviation	WildlandFireLoc
Description	Wildland Fire Location Points represent the final spatial locations of the fire occurrences. Fire occurrences represent the ignition points (preferred), the polygon centroids, or more generalized locations (least desirable) when the ignition points are not known or not available.
Version	1

Contact Information

Data Standard Stewardship Group	NWCG Geospatial Subcommittee
Data Standard Steward (POC)	Skip Edel, National Park Service, skip_edel@nps.gov

General Information

Source Standard	Draft Point of Origin Geodatabase model, http://gis.nwcg.gov/gdbStandard.htm
System of Record	DOI - WFMI, USFS - FACTS, USFWS - FMIS, NPS - Fire Geodatabase, others
Additional Text	Much of the work done on this standard occurred in 2010 and 2011. The draft data standards defined at that time, the feedback generated by that draft, and the changes implemented based on that feedback will serve as the basis for this standard.
	Change Management Process Change proposals for this standard should be submitted to the NWCG Data Standards and Terminology Subcommittee Chair, http://www.nwcg.gov/branches/et/itc/subcommittees/subcommittees.htm
Discussion Papers Text	A discussion paper was developed to provide background related to the Fire History and Point of Origin data standards. Both standards are documented in a single discussion paper to clearly illustrate the relationship between the features and their application in capturing historical fire events for fire reporting purposes.
Discussion Papers File	1. Discussion Paper - Point of Origin & Fire History GIS Data Layers.pdf 2. Point of Origin & Fire History Data Model.pdf 3. NWCG - Point of Origin GIS Data Layer Standard - Draft.doc 4. NWCG_WildlandFireDataModel_PointOfOrigin_FireHistory_9July2010.zip. Files are located here: http://gis.nwcg.gov/gdbStandard.htm

Geospatial Data

Background	Fire occurrence information is a key measure of the workload of the interagency wildland fire program. The Wildland Fire Location point is the spatial representation of that information. A common standard for critical elements is required for interoperability of systems.

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Abstract	A single wildland fire event is represented by one wildland fire location (occurrence) feature, representing the best known information about the fire origin. Additionally, there may be zero to many related fire history features, which define the mapped wildland fire perimeter(s).
Purpose	To create a set of minimum attributes for data exchange of wildland fire locations and fire occurrence information between interagency systems and by including related features, to best model fire 'on the ground'.
Data Model	The Wildland Fire Locations feature class represents the best known information about the fire origin. Data are stored in a geodatabase feature class. Related feature classes (Wildland Fire Perimeters) are part of the overall geodatabase data model and will be addressed in separate standard documentation.
Other Notes	All attribute field names conform to existing NWCG or IRWIN data standards where possible. To avoid redundancy, the NWCG geospatial data layer standard core attributes NWCGUnitID, NFIRSUnitID and GeometryID are NOT included in implementation of this standard. The attributes POOResponsibleUnit and FireOccurID provide that information.
Related Layers	The Wildland Fire Perimeters (polygon) geospatial data layer standard is related to this standard via a relationship class in the 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.

Geospatial Data Layer Standard Attributes & Attribute Definitions

Standard Name*	Alternate Name	Required?	Data Type	Size/ Width	Description	Values	Related NWCG Standard
MapMethod	Map_Method MapMeth DataSource	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; Other	
DateCurrent	DateCrnt EditDate RevDate	Yes	Date		The last edit, update, of this GIS record. Example: mm/dd/yyyy		Date
Comments	Notes GIS_Note	No, but recommended	String	255	Additional information describing the feature.	Free text	
FireOccurID	IRWINID PtOriginLnk	Yes	String	50	Globally Unique Identifier (GUID) assigned to the spatial record. Primary key for linking geospatial objects with other database systems. **Required for every feature**. (IRWIN, http://www.doi.gov/pmb/owf/irwin.cfm required as IRWINID) Note: This field replaces GeometryID, a required core attribute in all other NWCG Geospatial Data Layer Standards.	Globally Unique Identifier (GUID)**	
UniqueFireIdentifier	IncidentID UniqFireID	Yes	String	22	Unique fire identifier is the Year-Unit Identifier-Local Incident Identifier (yyyy-SSXXX-xxxxxx). SS = State Code or International Code, XXX or XXXX = A code assigned to an organizational unit, xxxxx = Alphanumeric with hyphens or periods. The unit identifier portion corresponds to the POINT OF ORIGIN RESPONSIBLE AGENCY UNIT IDENTIFIER (POOResonsibleUnit) from the responsible unit's corresponding fire report. Example: 2013-CORMP-000001		Unique Fire Identifier
FireYear	Fire_Year CalYear	Yes	Integer	4	Calendar year in which the fire started. Example: 2013		
POOOwnerUnit	UnitIDOwner	Yes	String	6	NWCG Unit Identifier of landowner agency at the point of origin of a fire. (NFIRS ID should be used only when no NWCG Unit Identifier exists). Example: CORMP		Unit Identifier
POOLandOwnerCategory	OwnerAgency LandOwnerCat	Yes	String	7	Agency or entity having the land management responsibility at the point of origin.	BIA; BLM; BOR; DOD; DOE; NPS; USFS; USFWS; Foreign; Tribal; City; County; State; Private	Point of Origin Land Owner Category
IncidentName	FireName	Yes	String	50	The name assigned to an incident; assigned by responsible land management unit. (IRWIN required http://www.doi.gov/pmb/owf/irwin.cfm) Officially recorded name.		Incident Name
PointType	Point_Type	Yes	String	50	Description of the type of point.	Ignition; Center; General; Unknown	

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Standard Name*	Alternate Name	Required?	Data Type	Size/ Width	Description	Values	Related NWCG Standard
POOResponsibleUnit	UnitIDProtect	Yes	String	6	NWCG Unit Identifier (Code used in interagency wildland fire to uniquely identify a particular organizational unit (office **administratively responsible** for either managing incidents/projects, providing resources, or providing logistical services) within the government or a non-government organization recognized by NWCG as a wildland fire cooperator) of agency with primary fire protection responsibility at the point of origin of a fire. National Fire Incident Reporting System (NFIRS) ID (ID which uniquely identies a non-federal organizational unit) should be used only when no NWCG Unit Identifier exists. Example: CORMP Note: This field replaces NWCGUnitID, a required core attribute in all other NWCG Geospatial Data Layer Standards.		Point of Origin Responsible Unit; Unit Identifier
LocalIncidentIdentifier	FireNum SOFireNum	Yes	String	10	Local incident identifier (dispatch number). A number or code that uniquely identifies an incident for a particular local fire management organization within a particular calendar year. Field is string to allow for leading zeros when the local incident identifier is less than 6 characters. (IRWIN required). Example: 123456.		Local Incident Identifier
SourceAgency	DataAgency	Yes	String	7	Land management agency with responsibility for creating and administering the data.	BIA; BLM; BOR; DOD; DOE; NPS; USFS; USFWS; Foreign; Tribal; City; County; State; Private	Land Owner Category
FireCause	Cause StatCause	Yes	String	15	Broad classification of the reason the fire occurred identified as human, natural or undetermined. (IRWIN Required attribute http://www.doi.gov/pmb/owf/irwin.cfm)	Natural; Human; Undertermined; False Alarm	Fire Cause Kind (Assigned)
IncidentTypeCategory	EventType EventCat	Yes	String	2	Incident Type Category is a sub-group of the Incident Type Kind "Fire" that describes the types of incident or planned event to which the interagency wildland fire community responded to. DF (Debris/Product Fire), FA (False Alarm, NO (Natural Out), RX (Prescribed Fire), VF (Vehicle Fire), WF (Wildfire), WU (Wildland Fire Use) (WU for legacy data only). (IRWIN Required attribute http://www.doi.gov/pmb/owf/irwin.cfm)	DF; FA; RX; NO; VF; WF; WU	Event Category (plus additional codes)
FireDiscoveryDateTime	DiscoveryDate	Yes	Date		The date the fire was confirmed to exist or was reported as discovered (IRWIN required). Time zone should be documented in metadata. Example: YYYYMMDDhhmmss.ss		Fire Discovery Date & Time

Geospatial Data Layer Standard Attributes & Attribute Definitions

Standard Name*	Alternate Name	Required?	Data Type	Size/ Width	Description	Values	Related NWCG Standard
FireOutDateTime	OutDate	Yes	Date		The date when all observable combustion has ceased or there is no risk of the fire again becoming active and requiring additional control or management actions. All management activities directly relating to suppression (including mop-up), monitoring, or burning efforts have concluded; however, there may be secondary management efforts, such as burned area rehabilitation or hazard mitigation, still in process. In this implementation, the fire out date may also capture the date on which the fire was enveloped in the scenario where multiple fires have merged together. Time zone should be documented in metadata. Example: YYYYMMDDhhmmss.ss		Fire Out Date & Time
SizeClass	SizeClassCode	Yes	String	1	A code identifying the fire size based on number of acres within the final fire perimeter. The value entered should reflect the final fire acre quantity. A (> 0 but <= 0.25 Acres), B (0.26-9.9 Acres), C (10.0-99.9 Acres), D (100-299 Acres), E (300-999 Acres), F (1000-4999 Acres), G (5000-9999 Acres), H (10000-49999 Acres), I (50000-99999 Acres), J (100000-499999 Acres), K (500000-999999 Acres), L (1000000+ Acres)	A-L	Fire Size Class
PerimExtant	PerimExist PerimPoly	Yes	String	1	Identifies if a related wildland fire perimeter polygon exists for the wildland fire location point feature.	Y; N	
FinalAcres	ReportedAcres	Yes	Double		Number of acres within the final fire perimeter polygon of a specific, individual incident, including unburned and unburnable islands. For fires that have a fire perimeter mapped in GIS, the final fire size reported should equal the fire size calculated from the GIS perimeter (wildland fire perimeter polygon). Total should include 1 decimal place. (ArcGIS: Precision=10; Scale=1). Example: 14.1		Final Fire Acre Quantity
POOLatitude	LatDD83	Yes	Double		The latitude location of the wildland fire location point specified in decimal degrees. Target level of precision is 5 decimal places. Format: DD.DDDDD (ArcGIS: Precision=11; Scale=5). Example: 44.44444		Latitude
POOLongitude	LongDD83	Yes	Double		The longitude location of the wildland fire location point specified in decimal degrees. Target level of precision is 5 decimal places. Format: _ DDD.DDDDD (ArcGIS: Precision=12; Scale=5). Example: -144.44444		Longitude

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Standard Name*	Alternate Name	Required?	Data Type	Size/ Width	Description	Values	Related NWCG Standard
MergeID	Merge_ID	Yes, if applicable	String	50	For the scenario where multiple fires have burned together, this attrribute identifies that a merge occurred and is the merged fire's FireOccurID. Example: Fire A (with unique FireID) and Fire B (with unique FireID) become Fire C (with unique FireID). The MergeID field is required for Fire A and Fire B and is populated with Fire C's FireID.	Globally Unique Identifier (GUID)**	
ComplexID	ComplexIRWINParentID	Yes, if applicable	String	50	For the scenario where multiple fires are managed as a complex, identifies the complex by capturing a complex ID.	Globally Unique Identifier (GUID)** or other unique ID	
ComplexName		Yes, if applicable.	String	50	For the scenario where multiple fires are managed as a complex, identifies the complex name which this fire perimeter was part of. Officially recorded name.		Incident Name

*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/