NWCG Fire Reporting Subcommittee
Wednesday, January 19, 2022
Meeting Notes

Teams meeting (~1 hour; 1300-1400)

- Meeting was recorded
- See FRSC Teams page to watch the recording*
  * *Maybe…. Teams is still showing the status as "Recording has stopped. Saving recording…" even tho the meeting ended 45 minutes ago!*

Attendance:

- FRSC Chair Craig Thompson was unable to attend, so Steve Larrabee facilitated the meeting
- Attending (12): Laura Barrett (USFS/NIFC), BJ Glesener (NASF/MN DNR), Emmy Harbo (OWF/DMC/Contractor), Laura Harger (BOR), Andy Kirsch (NPS/NIFC), Steve Larrabee (BIA/NIFC), Susan McClendon (NPS/RD&A), Julie Osterkamp (BLM/NIFC), Karen Short (USFS/Research), Casey Teske (FWS/NIFC), Cameron Tongier (FWS/NIFC), Richard Wilson (BLM/Field)

List of topics provided by Craig before the meeting (items in italics were NOT discussed in this meeting):

1. *Begin to examine and explore the capabilities of EDG for applying fire reporting into its data governance model (Emmy presentation).*
2. *Holding breakout sessions on Merge/Complex Fire Terminology for the purpose of clarifying the terms as they apply to particular wildfire classification parameters. Will submit suggested verbiage through NWCG channels for official definition recognition and adoption.*
3. Ongoing effort to create a User Guide/Metadata on authoritative fire reporting systems and databases. Will be a high-level user directory of authoritative historical wildfire recordation systems for individuals with a casual knowledge of wildfire data sets.
4. *Subcommittee will examine responses from dispatch community's review of FRSC Event Kind/Category* submission paper for inserting into NWCG definitions.
5. Continue being engaged with USGS's Combined Wildland Fire perimeters effort.
6. *Examine and revisit the processes and methodologies of how wildfire point data is/will be entered into InFORM.*

SDL's meeting notes (items in italics and footnotes warrant extra scrutiny to ensure they're correct – let me know if they need updating!):

- **Historical fire perimeter and point geospatial layers:** Regarding item #1 above, Emmy said that the topic identified by Craig wasn't what she had intended to present. Instead, she wanted to give us a re-brief on some information that had previously been presented to the NWCG Geospatial Subcommittee.
  - There's a Data Management Plan for historical wildfire points and perimeters, and it designates the responsible groups and authoritative sources, which will reduce/eliminate redundant work.
  - For the short term, Susan McClendon will update the wildfire perimeter layer she has been curating over the last few years to include the 2021 fires. This last update of Susan's layer will be ready in March.
  - Phase 1 of the Data Management Plan will focus on historic wildfire perimeters. *I presume the historical fire perimeter layer maintained by Wildland Fire Interagency Geospatial Services (WFIGS) Group[1] in the Open Data products is identified as the authoritative source; however, my notes don't specifically say that.*

[1] The WFIGS oversees the geospatial fire perimeter and point products in NIFC Open Data, which is hosted under ArcGIS Online's (AGOL) NIFC Organization.

- Phase 2 will focus on historical wildfire points. InFORM[2] will be the source for the fire (point) locations. *Again, I presume that the historical fire point layer maintained in Open Data will be the authoritative geospatial layer; however, I didn't document that explicitly in my notes.*
- Phase 3 of the plan will address historical perimeters that are not explicitly tied to a fuller fire occurrence record because they have no associated IRWIN GUID. To the extent possible, these orphan perimeters will be married-up with their corresponding Fire Occurrence Data Record (FODR) in the InFORMv2 dataset[3]. Moving forward, the FODR IDs will become the unique identifier used to link features in the geospatial historical fire occurrence products with their related records in external datasets.
    - Susan: May require some deconfliction, as there are some IRWIN IDs that are associated with multiple historical perimeters.
    - Laura: Some perimeters also legitimately arise from multiple fire points, such as when fires merge, resulting in a single final fire perimeter.
    - SDL: Maybe it's finally time to change the fire occurrence record architecture, to cleanly separate information about ignitions from final fire outcomes. Every ignition should be documented (points, with some information about the ignition event and site) and every final fire outcome should be documented (final fire report stuff and final perimeter for larger fires). Final fire outcomes would always be associated with an ignition, but – in the case of merged fires – could be associated with multiple ignitions (ditto if final fire outcomes are reported for Complexes).
- There's no firm timeline yet for this data management plan. It will be discussed in more detail at the Data Management Committee's upcoming Data Summit[4].
- Emmy shared a document via email to SDL & Craig – it depicts the currently planned schema for historic points and perimeters (see Fire History Schema.pdf).

- **USGS Combined Wildfire Perimeters:** Susan provided an update…
    - For this effort, USGS is now using the WFIGS fire perimeters for its data source. WFIGS is acknowledged as a Tier 1 data source *(← I don't know what that means tho).*
    - USGS has identified some problems in the data and asked Susan to fix those problems in the source data.
    - Originally, the USGS product was populated using fire perimeter layers that were available via GeoMAC[5].
    - Other than the burned area delineations identified in the Monitoring Trends in Burned Severity (MTBS) product, this USGS Combined Wildfire Perimeters is not currently relying on any other burned area detection technology or data sources.
        - For this product, the interest is not limited to just wildfire perimeters – burned areas from prescribed or ag burning could also be included *(← this seems contrary to the name of the product/topic here, so maybe I misunderstood)*. So, they may expand to include satellite-detected burn areas as another data source.
        - Karen: Suggest looking at data that's being compiled by EPA *(presumably to quantify smoke and emissions impacts)*, using various sources/processes to identify otherwise unreported burning that occurs on private lands, ag burns, prescribed burns, etc. She's looking at that EPA dataset and may include those sources in her document (see below) that lists various fire occurrence data sources.

- **Fire Occurrence Data Reference Guide:** Karen provided an update on the document she's assembling that identifies the many different sources of fire occurrence data records and geospatial features/layers.

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[2] SDL bonus info (not shared in the meeting but pertinent to this topic): In preparation for its version 2 rollout (late winter/early spring 2022), InFORM is compiling an interagency fire report dataset based on records from Karen Short's Fire Occurrence Database (FOD v5, which has 1992-2018), augmented by agency legacy fire reporting data (e.g. WFMI, FireStat, FMIS, various State datasets), and contemporary fires reported in InFORM itself (started in 2020). For the 2019 "gap" between the FOD and InFORM, the agency legacy fire reports will presumably be the sole source, but the InFORM group intends to discuss that (plus a general overview of InFORM v2 and this new historical dataset) with FRSC.

[3] In InFORMv2, every record will be assigned a Fire Occurrence Data Record (FODR) ID, a GUID that will be a unique record identifier, similar to the IRWIN ID concept. Any single wildfire occurrence represented in InFORMv2 may have multiple FODR "root" records that pertain to data sourced from IRWIN or agency legacy fire report datasets. Linking historical fire perimeters to their IRWIN ID (when provided) or with their InFORM FODR ID (Phase 3 of the Data Management Plan that Emmy described) will allow consumers of the geospatial historical fire layers to acquire additional information about those fires (i.e. point users to the full suite of operational fire data reported via IRWIN and/or historical and contemporary final fire report data available via InFORM).

[4] The DMC's Data Summit is scheduled for the week of April 11.

[5] The USGS Geospatial Multi-Agency Coordination (GeoMAC) application. which began in 2000 and was decommissioned on May 1, 2020, formerly compiled feature layers of wildfire perimeters submitted by Incident Management Teams via FTP and wildfire point locations submitted via ICS209 (and retrieved from IRWIN). The equivalents of these GeoMAC spatial data layers are now available in the WFIGS products via NIFC Open Data.

- Karen got a tutorial in using the Enterprise Data Governance (EDG)[6] tools to catalog data/sources and show their relationships to others.
- In addition to our familiar/traditional datasets and layers (e.g. legacy fire reports, IRWIN, InFORM NIFC Org), there are other good data sources that should be catalogued in this reference guide – including the USGS and EPA data noted above.
- Have the document outline drafted (2 pages). Andrew Bailey and Casey Teske are helping her.
- Initial publication will be presented as a follow-up to a paper[7] Karen had published in 2015 to the International Journal of Wildland Fire.
- The first document will be a summary that identifies and (briefly) describes various data sources, wildfire data governance, evolution of data exchange/standards (including fire causes), fire perimeter layers, satellite-based detections (ignitions & burned areas vs documentary records), prescribed fire records, etc. It will highlight potential differences by comparing (estimated) summary stats from some of the key data sources.
- After that initial academic paper is published, Karen intends to produce a follow-up document that can serve as a more comprehensive guide to the data sources. That expanded document will probably become the User Guide/Metadata that was has been referenced in this and prior FRSC meetings.
    - SDL: That will become an important reference, so we should consider issuing it as an NWCG publication (under DMC?).
- Karen shared a document via email to the FRSC group – it's an overview of the EPA National Emissions Inventory process, which ingests a wide range of fire activity data. (see Fire_Workgroup_LandMgrs_NEI_Discussion.v1.pdf). She added this note: "I'm trying to get a copy of the actual area burned estimates from slide 17 for comparison with other sources for the paper on improved literacy of wildland fire activity data for the US."

- **NASA's Wildfire Stakeholder Engagement Workshop:** Casey mentioned this upcoming workshop, which is scheduled for Feb 3-4. Click here for more info and to get registered.

End of document

[6] The DMC and Interagency Wildland Fire Data Management Program (i.e. Roshelle Pederson's staff, plus Emmy and other programs/contractors, including the WildfireResponse group under Skip Edel that serves as the Administrator for AGOL NIFC Org) are using EDG to document the NWCG data standards and glossary terms, data exchange elements, authoritative data sources and systems of record, and other elements comprising our constellations of interagency applications, overlapping business lines, etc.

[7] Probably this paper from 2015: Sources and implications of bias and uncertainty in a century of US wildfire activity data.