PUBLIC WILDFIRE GIS RESOURCES

1. ARIZONA DEPARTMENT OF FORESTRY AND FIRE MANAGEMENT

- https://dffm.az.gov/arizona-state-forestry-releases-new-mobile-application
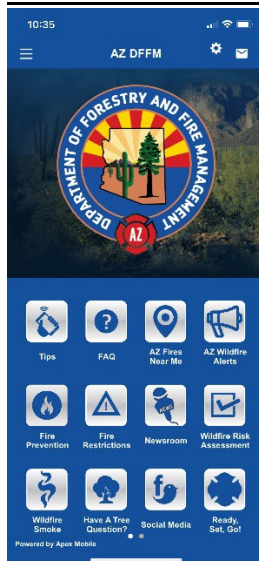 - **And, this Application is available on Apple App Store and Google Play store**

From the Arizona Department of Forestry and Fire Management;
"Phoenix, AZ (3/4/19) - The Arizona Department of Forestry and Fire Management announces the release of a new mobile phone application that provides local fire and forestry information to the user.   The application offers wildland fire information, fire restriction notifications and details, fire prevention tips, Office of the State Fire Marshal's plans and payment portal, and forest health-related information.   It also allows users to sign up for push alerts that will send notifications of any critical information, such as fires near their area, fire restrictions, and even forest health concerns.

Users can also connect to the agency's social media pages, get questions answered, and submit anonymous tips, photos, and other information.

"The Department of Forestry and Fire Management is excited to be able to use this technology to better serve our residents. The mobile application offers another outlet for pertinent, often times, urgent information and connects users to real-time information at their fingertips," said Public Affairs Officer Tiffany Davila."
Screenshot of Mobile App;

Features:
- The "AZ Fires Near Me" link – brings up a InciWeb map of the United States, with data collaborated between Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, and NPS

- **You can view and set Wildfire Alerts based on different categories**, including;
  - AZ Wildfires
  - Closures
  - Evacuations
  - Fire Restrictions
  - Prescribed burns
- **There are educational links as well, about;**
  - Fire Prevention
  - Wildfire Smoke
  - Tree information
- **"Newsroom" link** – get recent and archived fire-related news headlines
- **Also contains a link for The Arizona Wildfire Risk Assessment Portal (AZ WRAP).**
  - This is "the primary mechanism for the Arizona Department of Forestry and Fire Management to deploy wildfire risk information and create awareness about wildfire issues across the state.
    - Contains several applications "tailored to support specific workflow and information requirements for the public, local community groups, private landowners, government officials, hazard mitigation planners, and wildland fire managers. Collectively these applications will provide the baseline information needed to support mitigation and prevention efforts across the state."
    - There is a "Public Viewer" and a "Pro Viewer"
      - Public Viewer
        - Assess a specified location
        - Search by address
        - Different selectable data layers on the map
        - Change base map
        - Change transparency
        - Measure distances
        - Print from this map
      - Pro Viewer
        - Requires a free AZGEO account and prior approval from AZDFFM. (Did not sign up for or request this account access)
    - **All of these data layers and educational resources are valuable to the public and to decision-makers.**
    - **Negative:** These seem like really valuable tools. However, I attempted the Public Viewer via mobile, and it does not work well. The data is not formatted properly for mobile applications. Via a desktop view, however, these would seem to work really well.

2. NEVADA WILDFIRE DASHBOARD

- **https://nvfireintel-nifc.hub.arcgis.com/apps/nevada-wildfire-info-dashboard-desktop/explore**
- **Created using ArcGIS Online. Data were obtained and contributed by several organizations. Published on June 20, 2019, and updated frequently.**

Summary about Dashboard:

"Dynamic dashboard with charts, statistics, and pop-ups showing current wildland fire incidents in Nevada in near real-time. **This dashboard is best viewed using a desktop or laptop computer. For an enhanced viewing experience on mobile devices please visit the** NV Wildfire Info mobile version **dashboard**

All data displayed on this map is near real-time. There are two ways in which this happens: Web service-based data and a mobile mapping application called Field Maps. Web services are updated regularly ranging from every minute to once a month. All web services in this map are refreshed automatically to ensure the latest data being provided is displayed. Data collected through the use of Field Maps are done so by firefighters on the ground. The Field Maps application is consuming, creating, and editing data that are stored in ArcGIS Online."
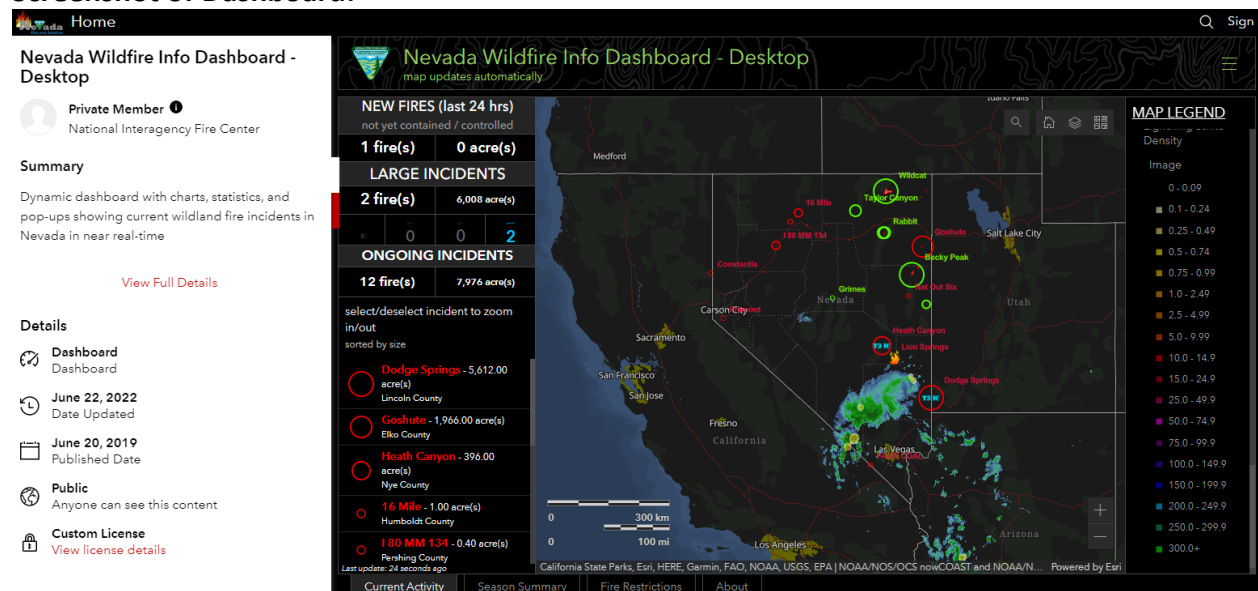
Web Services Used in this Dashboard Map:

- **IRWIN** - A central hub that orchestrates data between various fire reporting applications. When a new incident is created and/or updated by a dispatch center or other fire reporting system, it is then displayed on the map using the Integrated Reporting of Wildland-Fire Information (IRWIN) service. All layers below are derived from the same IRWIN service and automatically refresh every five minutes:
  - **New Starts (last 24 hrs.) –** any incident that has occurred within the last rolling 24-hour time period
  - **Current Large Incidents –** Incidents that have created an ICS 209 document at the type 3 Incident Commander (IC) level and above are less than 100% contained. More information about Incident Command System from the National Park Service, is below;
    - https://www.nps.gov/articles/wildland-fire-incident-command-system.htm
  - **Ongoing** – Incidents that do not have a containment, control, or out date.
  - **Contained** – Incidents with a containment date but no control or out date.
  - **Controlled/Out (last 24 hrs.)** – Incidents with a containment, control, and/or out date within the last rolling 24-hour time period.
  - **Controlled/Out** – Incidents with a containment, control, and/or out date. Layer turned off by default.
  - **Season Summary** – All incidents year to date. Layer turned off by default.
- **NOAA nowCOAST** - Provides web services of near real-time observations, analyses, tide predictions, model guidance, watches/warnings, and forecasts for the coastal United

States by integrating data and information across NOAA, other federal agencies and regional ocean and weather observing systems. All layers below automatically refresh every five minutes.

- o **Tornado Warning** – National Weather Service warning for short duration hazard.
- o **Severe Thunderstorm Warning** – National Weather Service warning for short duration hazard.
- o **Flash Flood Warning** – National Weather Service warning for short duration hazard.
- o **Red Flag Warning** – National Weather Service warning for long-duration hazard.
- o **nowCOAST Lightning Strike Density** – 15-minute Satellite Emulated Lightning Strike Density imagery for the last several hours.
- o **nowCOAST Radar** – Weather Radar (NEXRAD) Reflectivity Mosaics from NOAA MRMS for Alaska, CONUS, Puerto Rico, Guam, and Hawaii for the last several hours.

- ❖ **Very Informative and easy to follow Dashboard. Really like the integration of live (or nearly live) weather information and alerts. And this real-time data would be very valuable information for administrators and decision-makers.**
- ❖ **Negative: Do not see anywhere to download data or print reports from this dashboard. But, the sources of the data are clearly represented and can be located outside the dashboard.**

Screenshot of Dashboard:

3. Oregon Wildfire Risk Explorer

https://tools.oregonexplorer.info/oe_htmlviewer/index.html?viewer=wildfire

Sources for this Wildfire Risk mapping application, are listed as;

- **ODOT – Oregon Department of Transportation**
- **Earthstar Geographics – satellite imagery**
- **OpenStreetMap – a free and editable geographic database of the world**
- **CartoDB (or Carto) – is a Software as a Service (SaaS) cloud computing platform that provides GIS, web mapping, and spatial data science tools.**

Summary

- "The Oregon Wildfire Risk Explorer is designed to identify the wildland-urban interface and wildfire risk at the property ownership level. It shows a comprehensive view of wildfire risk within the State of Oregon, indicates local fire history, and offers additional resources. This site provides information regarding support for homeowners, communities, and professionals to identify and prioritize local wildfire prevention, and mitigation efforts, and implement defensible space standards where applicable.

- The Oregon Wildfire Risk Explorer is a partnership with the Oregon Department of Forestry, Oregon State University Institute for Natural Resources, OSU Libraries, Press, the US Forest Service, and a wide variety of stakeholders throughout Oregon."

Features

- **Many informative data layers;**
  - **Wildfire Risk Classification**; an automatically generated layer, that is a calculation of 3 components – Burn Probability, Fire Intensity, and Susceptibility
  - **Wildland Urban Interface**
  - **Social Vulnerability**
  - **Burn Probability (These 4 data items are great tools for decision-makers as well as for the public)**
  - Flame Length
  - Fire History and Active Fires
  - Administrative Boundaries
  - Planning and Cadastral
  - Land cover
  - Water
  - Transportation
  - Base maps

- **Have the ability to upload your own data.** Supported formats include .csv, .xlsx, .kml, .shp, or .zip containing a FileGDB or Shapefiles.
- **And, you are able to print, export, and/or share your map**
- **Analysis capabilities include; distance measurement and edits of measurements.**
- **Can Search by Address and by Coordinates.**

Screenshot of Oregon Wildfire Risk Explorer;