

# The Tech. Spec.



*The Annual Newsletter of the Wildland Fire Management Research  
Development and Application Program (WFMRD&A)*

## 2021, An Epic Year of Wildfire Support and Application Development

And with the blink of an eye another year has slipped by, but not without a busy year of wildfire activity and excitement within the Wildland Fire Management RD&A. In a year that brought the largest single wildfire in history (Dixie Fire), the staff of the RD&A was right in the thick of it. When the fire bell rang, the staff provided fire behavior analysis, decision support for IMT's and line officers as well as coordination for several remote and onsite regional and national level decision support organizations. It was a year with shortages across the board, not enough LTAN's, FBAN's, or SOPL's to go around, analysts supporting multiple fires at once and only for as many days as absolutely necessary. As wildfires roared across the west and COVID persisted in limiting in-person collaboration, the WFMRD&A staff continued to do their best in developing the Next Generation of WFDSS and adding functionality to the Interagency Fuel Treatment Decision Support System (IFTDSS).

In a year of juggling priorities, The WFMRD&A staff also said goodbye to three long-term employees while some new faces joined the crew.

Without a doubt 2021 will be a year to remember!



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"Off the Clock" – Mark Hale, Volunteer Fireman

*"Remember when we thought a big wildfire was 100,000 acres?! I guess those days are long gone"*



Tim Sexton

## The Program Managers Corner

As you read through the newsletter you will see that most of our staff have been occupied with application development and maintenance and direct support to wildfire and prescribed fire decision makers in the field.

We are continuing to manage “Classic” WFDSS while we development the Next Generation WFDSS. We are very excited about the NextGen WFDSS features that will be much more user friendly, incorporate new analytics, facilitate Agency Administrator/IMT collaboration, and expedite strategic operational planning map development.

The Interagency Fuel Treatment Decision Support System (IFTDSS) is maturing into an application that can provide risk quantification tools to field units and should enhance their abilities to identify the right location, right treatment intensity and right timing for treatments that will contribute to the Ten-Year Strategy for reducing wildfire risk (Confronting the Wildfire Crisis).

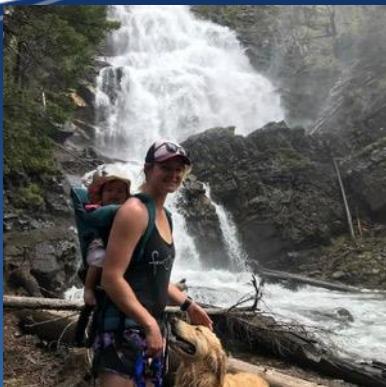


Good Luck to Mitch, Diane and Andrew!



*Original WFMRD&A staff members Mitch Burgard and Diane Rau both retired during the summer of 2021. We wish them the best as they venture off to have some well-deserved fun in the sun! Andrew Bailey took a new position with the Office of Wildland Fire! We look forward to continued collaboration with Andrew in his new role. Congratulations to you all!*

## Heidi Leritz Joins the Team



Heidi Leritz joined the WFMRD&A staff in the spring of 2021 and fills the critical role of Administrative Support. Heidi was born and raised in Montana and grew up in central Montana where she started working for the Forest Service. Heidi was a wildland firefighter through college where she graduated with a Bachelor's degree in Business Administration. She continued to fight fire after graduating for a total of 13 years on Engines, Hotshots and Helicopters and eventually accepted a permanent position. In 2017 Heidi and her husband started a family and she decided to transition out of the field, as her husband is also a primary fire fighter. *“I still have a strong interest in the fire community and hope to continue to be involved as much as*

*family and work allow. I am currently a Lead for the Rocky Mountain Research Station and Region 1 Critical Incident Stress Management (CISM) Teams, a Comprehensive Wellbeing and Resilience Champion, an R1 Safety and Wellness Team Member, a Wilderness First Responder, a “This is Who We Are” instructor, a Bystander Intervention Training instructor, and a licensed sUAS Pilot.”* Heidi's hobbies include anything outdoors, primarily running, hiking and rafting, spending time with family, and producing art.



## The Program Managers Corner

*continued from page 1*

Another application that most users will not see is the Fire Modeling Services Framework (FMSF). This application provides a software architecture that will house fire behavior models, spatial information (fuels, ownerships, etc.), weather streams and other information used by WFDSS, IFTDSS, and other applications. By housing the models and information in FMSF the other applications can be streamlined, less complicated and less prone to crashes. In addition, it will be much easier for the researchers who developed the models to make adjustments and improvements in one location rather than in each application that uses the model. The FMSF will also enable us to add new tools for use by multiple applications much more efficiently.

We are evaluating alternatives that would reduce staff time needed to manage the applications part of our program of work. We believe that selecting a more efficient alternative will enable us to increase our tech transfer efforts. The tech transfer workload has increased substantially due to turnover in decision-makers as well as a substantial increase in new analytics and processes (Risk Management Assistance) that have become available. We are eager to contribute to assisting the field in understanding and effective use of these new tools and processes.

Please reach out to me if you have any questions on the content of this newsletter or suggestions on how we can improve our service to the field.

Timothy.sexton@usda.gov



### Welcome Jim Riddering

Jim Riddering joined the WFMRD&A in June 2021. He comes to us from the Fire Modeling Institute at the Missoula Fire Sciences Lab. Before that, Jim worked as a Program Manager and Adjunct Research Professor in the College of Forestry and Conservation at the University of Montana. His experience with geospatial technologies and fire behavior modeling is being used to assist in the development of the NexGen WFDSS application. Jim is stationed in Missoula, MT where he enjoys skiing, rafting, motorcycling, photography, and most any outdoor activity in his free time.

**March 31<sup>st</sup>, 2022**  
**1100-1230 Mountain**

**SAVE THE DATE**

**Agency Administrator  
Refresher and Hot Topics  
for Wildland Fire**

**Register Today**

Registration link: <https://attendee.sciwebinar.com/register/4744615195890159677>

**The attendee e-mail list  
will document  
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**SAVE THE DATE!**  
You must register to attend.  
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contain a link to join the  
webinar. This will be  
recorded for future  
reference.



**Wildland Fire Management RD&A**

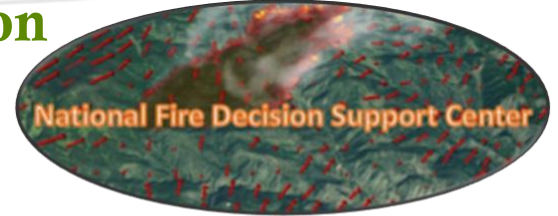
Questions? Contact the National Fire Decision Support Center at  
(208)387-5253 or Rick Mowery at [rick.mowery@usda.gov](mailto:rick.mowery@usda.gov)

## 2021 National and Regional Decision Support: A Year of Firsts!

In July of 2021, the Northern Rockies Geographic Area (NRGA) saw a tremendous burst of fire activity going to planning level 5 in early July simultaneously with an uptick of fire activity in the Pacific Northwest and Northern California. This was the earliest that the Northern Rockies had ever declared Planning Level (PL) 5. On July 14<sup>th</sup> Mark Hale, WFMRD&A Deputy Program Manager, travelled to Missoula to help establish a Decision Support Center (DSC) to provide wildfire analysis and general decision support in conjunction with USFS Region 1 staff. Nationally, shortages were already occurring in key IMT positions including Long-term Analysts (LTAN), Fire Behavior Analysts (FBAN) and Strategic Operational (SOPL).

The NRGAs DSC began assigning analysts to support incidents in the Northern Rockies. By utilizing both virtual and onsite analysts, the DSC was able to support many more requests than it would have been able had it only utilized the traditional onsite analyst. Onsite analysts travelled to multiple incidents and worked with local units to relay information to virtual analysts, who provided products allowing for greater incident support across the board.

During late July with resource demands and position shortages increasing, concerns arose



Integrating  
science, technology  
and fire management.

**Wildland Fire Management RD&A**

*The WFMRD&A helps to establish a Decision Support network to support fires nationally in 2021*

from other geographic areas that competition between the Northern Rockies DSC and other Geographic Areas (GAs) could result in priority incidents not receiving analyst support. The WFMRD&A worked with the GA representatives and the National Multi-Agency Coordination Group (NMAC), and on July 21<sup>st</sup> an NMAC memo establishing a “National Decision Support Center” was released. The National DSC, lead by Tim Sexton, worked with the GA representatives to identify available analytical resources and priority needs on nightly calls. Nightly analyst calls were also established to coordinate analysis requests and balance workloads. Both onsite and virtual analyst were utilized to support fire behavior needs including FBAN support for Incident Management Teams (*Qualified FBANs were in such short supply that this work had to be conducted remotely in many instances*). Although not ideal, qualified FBANs that were unable to travel due to fire activity at home were able to work remotely, supporting both their home unit and other national incidents. Mark Hale and Allan Hepworth, (*USFS Region 8, Regional Fire Planner*), alternating assignments, lead the Northern Rockies DSC from July 14<sup>th</sup> until September 3<sup>rd</sup>. The National Decision Support Organization remained in play from July 21<sup>st</sup> until September 14<sup>th</sup>. In addition, the National DSC worked with the Northern California Coordination Group to establishing a DSC lead and coordinated with



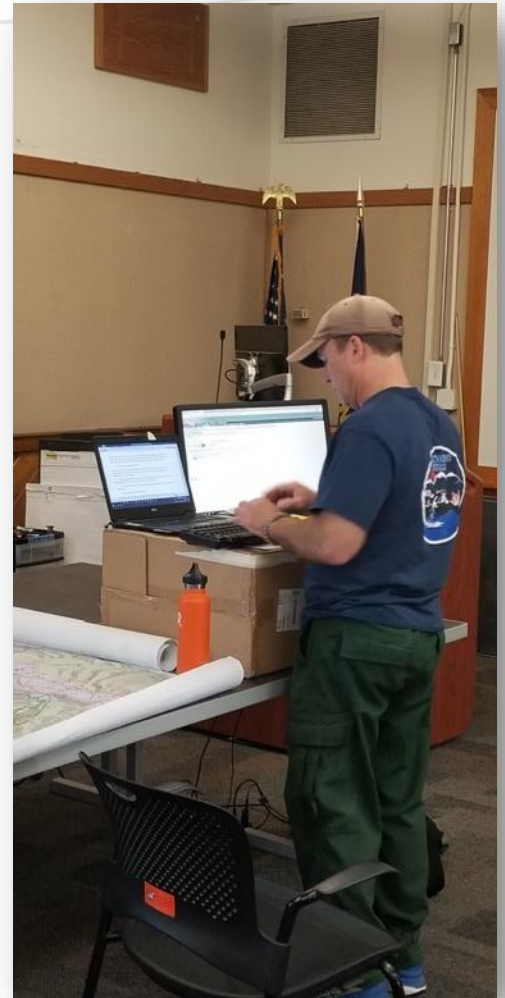
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Allan Hepworth in the Northern Rockies to provide analyst support for wildfires in both the Northern and Southern California Geographic Areas.

Both the NRGAs and National DSCs were very successful in meeting the needs of the field. These two DSCs supported numerous requests including;

- LTAN support for 139 incidents with 2,599 fire behavior analysis runs, analysis for Risk Management Assistance (RMA) products, Long Term Strategic plans, Long Term Assessments (LTA) for the Pacific Northwest and Northern Rockies Geographic Areas as well as LTAs for complexes and incidents across the west.
- SOPLs supported 30 incidents with WFDSS decision support, incident timelines, MAP booklets or Decision Synopsis, Strategic Plan Support (Dixie and Caldor fires) including presentations virtually and in person, and AGOL story maps
- FBANs supported 4 incidents with virtual support for IAP components and daily briefings
- Technical Specialists (THSPs) provided support for documentation including TEAMS support and facilitating meetings.
- Decision Support Centers supported by the WFM RDA collectively provided analytical support for 7 geographic areas including, Northern Rockies, Eastern Area, Pacific Northwest, Northern California, Southern California, Rocky Mountain and Great Basin.

A total of 82 personnel rotated through the DSCs including 30 individuals completing two or more assignments. Of those personnel 26 were onsite, 50 were virtual fulltime and 6 were virtual part-time. Twenty-Five trainee analysts worked with the three DSCs, with 8 completing task books for certification.



**Login to your NIFC  
AGOL account to  
check out the  
Innovative  
Decision Support  
Effort put forth in  
2021**

<https://nfdsc-gacc-long-term-strategic-planning-template-nifc.hub.arcgis.com/>





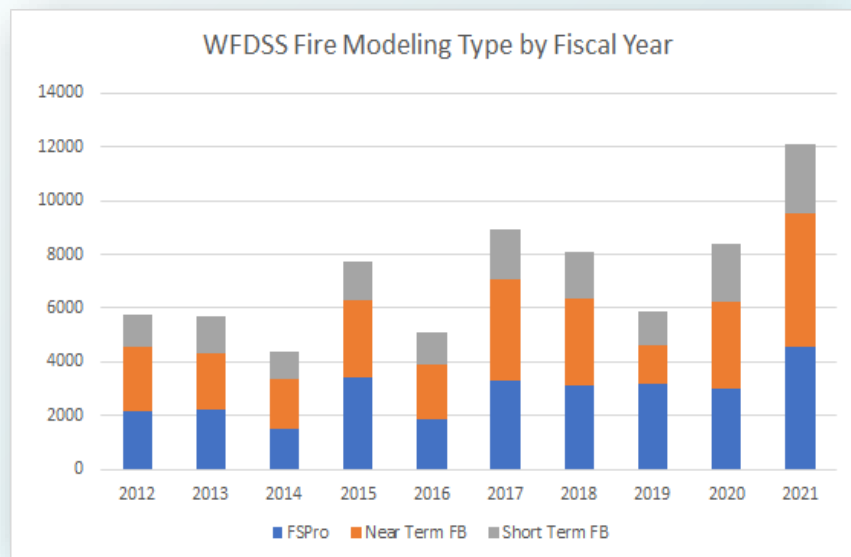
## Wildland Fire Decision Support System

2021 brought another busy fire season which means many units were utilizing WFDSS for decision making on wildland fire incidents. WFDSS brings together multiple pieces critical to fire management: Land and Resource Management Plan direction, fire modeling and analytics, and situational real time assessments/information. Agency Administrators use WFDSS to produce a decision utilizing the information/data/inputs from all these pieces.

The demand for fire modeling tools reached an all-time high in 2021. These models provide the underpinning of many products and resources used by fire managers and analysts in addition to the WFDSS Decision. Long term planning efforts and multiple Risk Management Assessment (RMA) products (Fire Comparison Spreadsheet and Exceedance Probability Curve), which are used by regional and national coordination centers for prioritization, rely on these models.

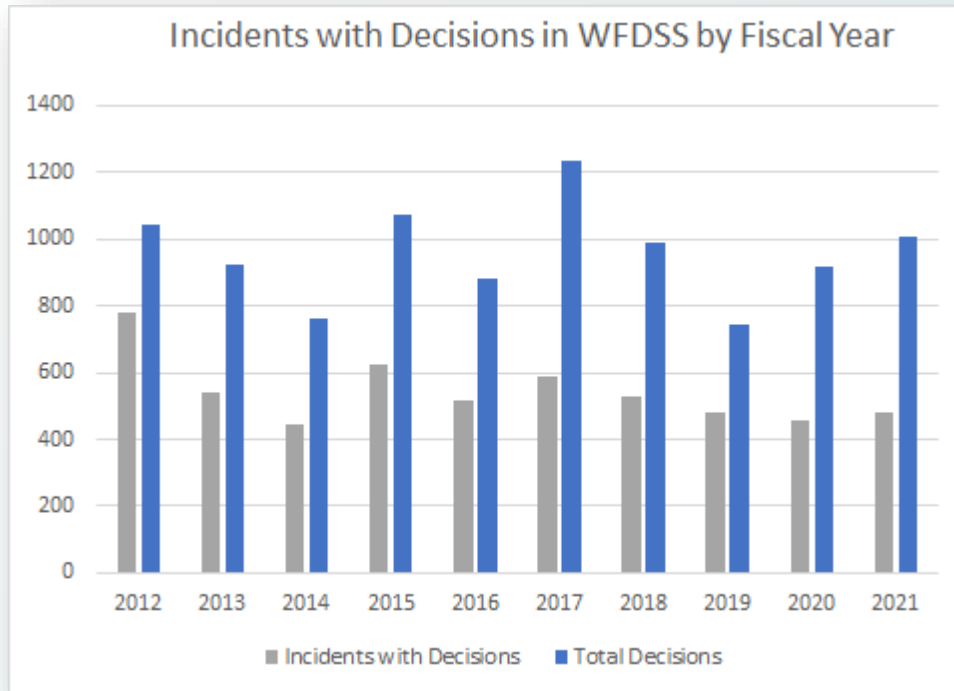
*In 2021 FSPro was used over 4,500 times, Near Term Fire Behavior almost 5,000 times, and Short Term over 2,500 times;*

*This is 1.5 times the 10-year average for all three models.*



The increase in modeling demand in 2021 is unparalleled even more when looking at the number of incidents in WFDSS that required decisions. 2021 yielded less than the average number of incidents publishing decisions, with 481 incidents with decisions for a total of 1,008 decisions. So, while the total number of incidents with decisions was below average the utilization of the models on these incidents was well above.

*Continued from page 6*



The initial components of WFDSS were launched in 2006/2007 and the system at large was formally adopted by the 5 federal land management agencies in 2010. So how does the RDA keep the application running smooth after all these years?

First, we have a great team of contractors who understand the importance of the application and the need for it to be functional 24/7. Second, each agency and GA has one or more super users, called WFDSS Geographic Area Editors (GAEs). These GAEs often coordinate and communicate pre-season trainings and support the field all fire season answering questions and providing guidance as it relates to the application and their agency and area. Third, the RDA provides On-Call support to the field 7 days a week, answering questions from modeling to decisions and troubleshooting as needed. And fourth we can't forget to mention the Interagency Incident Applications (IIA) Helpdesk; they provide password/account support and more 24/7 to WFDSS users (1,752 IIA tickets in 2021 relating to WFDSS).

All the while the WFDSS Business Team works with the Development team, supported by the FAM IM Project Manager to address required maintenance and to fix and address bugs and other issues, for example; ensuring WFDSS stays current with the latest version of IRWIN, loading the latest versions of LANDFIRE data, refreshing data layers, etc. Release Notes that document changes/fixes and the Data Refresh schedule are always available from the WFDSS Homepage

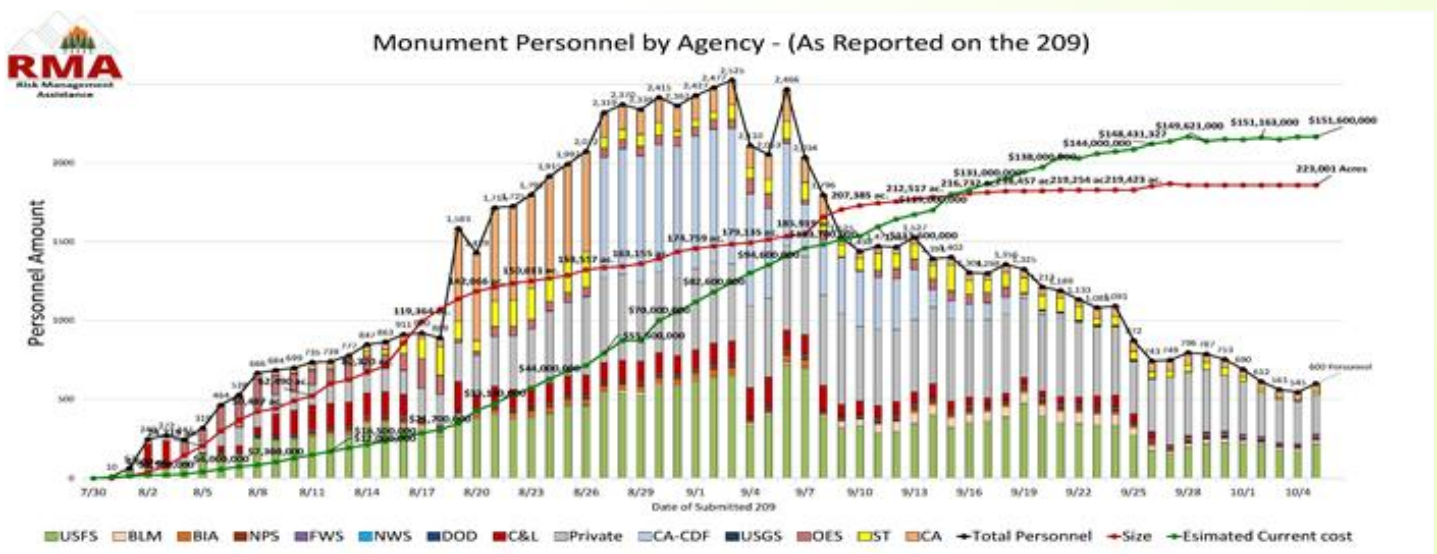
[https://wfdss.usgs.gov/wfdss/WFDSS\\_Home.shtml](https://wfdss.usgs.gov/wfdss/WFDSS_Home.shtml)



# So Where Did that Incident Timeline Come From??

WFDSS hosts the FSPro and Near Term models that are utilized heavily by the Risk Management Assessment (RMA) effort. Near Term model outputs provide the foundational data for the Fire Comparison Spreadsheet and the FSPro model is used along with Quantitative Wildfire Risk Assessments (QWRA) to create Exceedance Probability Curves. Both of these RMA products are used by regional and national coordination centers for fire prioritization.

Originally developed by WFMRD&A Staff, generalized Incident Timelines have become automated within the RMA Dashboard. These automated Incident Timelines are available for general use. In 2021 there were occasional RMA requests for more detailed Timeline graphs for select incidents, which was accomplished by WFM RDA staff. The Incident Timelines are quite valuable as they illustrate and summarize the progression of a fire over time. They can provide fire size, percent containment, resources assigned, cost, structures impacted, timing of Decision publishing, 209 strategy, organizational and relative risk assessment.



*Incident Timeline for the Monument Fire 2021 (Shasta-Trinity National Forest, Northern California) showing number of personnel by agency, acres and cost over time.*

A key input is the number and type of resources assigned. This is especially useful when IMT's are planning for the scaling of the incident over time. The timelines also provide a useful retrospective tool for incident summaries and fire reviews.

If you are interested in a timeline like the one above for your fire you can find them through the Risk Management Assessment Dashboard: [Risk Management Assessment Dashboard \(arcgis.com\)](https://arcgis.com)

Or Contact the WFMRD&A Analysis and Decision Support Number on the WFDSS home page and we can give you a hand.



## FUELS TREATMENT EFFECTIVENESS MONITORING

The Interagency Fuel Treatment Decision Support System (IFTDSS) houses the Fuels Treatment Effectiveness Monitoring (FTEM) program which was launched in 2018. Before the 2018 release in IFTDSS, the USFS and the five DOI Bureaus were tracking and characterizing the interactions between wildfires and treatments in a tabular database. The current version of FTEM, modernized the approach to include a geospatial component with links to systems of record for both wildfires and fuels treatments. As of today, there are over 1000 active users in the system and Agency reporting has increased dramatically with the new system. The system accommodates updates to previous year entries as data are corrected or updated and allows summaries by agency, region, and state. Enhancements are currently underway to facilitate uploading interaction data as field units deal with fires of increasing size and numbers of treatment interactions. For example, the Dixie Fire in California includes upwards of 1900 interactions, while the Bootleg fire in Oregon includes 755 interactions... This new uploading process will simplify entering data into the system.

### Welcome to FTEM

Fuels Treatment Effectiveness Monitoring



## Forest Service CHIEF'S AWARDS

Uniquely made at the Forest Products Laboratory

*Staff Members Mark Hale and Heide Leritz recognized for participation in USFS work environment improvements!*

*Way to Go!*

In 2021 the WFMRD&A staff continued to participate with work environment improvement including mentoring and coaching employees at various levels.

Mark Hale continues to be an Ambassador and Co-Point of Contact for WOFAM with Drag Sharp helping to set up and facilitate "This is Who We Are" TIWWA sessions, develop Ambassadors and attend monthly POC and Ambassador calls. Over the last year Mark assisted with over a dozen TIWWA sessions as a breakout lead for various regions and staff areas, including five for WOFAM employees. He also assisted with a New Ambassador training session, as well as a New Employee Orientation session in November. In December Mark was recognized for his efforts with TIWWA getting a Chiefs award as a team member, in the award category, "Excel As A High Performing Agency." In July of 2021, Mark participated as a Panel member for the Inclusivity Series event, Building Effective Allyship Skills, and in December was a member of a panel reviewing the USFS Senior Leader Pilot Learning to Learn Course and USFS Senior Leader Program Pilot -Creating a Culture of Inclusion Course.

Heidi Leritz has been involved in both Bystander Intervention, assisting with 10 sessions over the last year, and as an Ambassador for This Is Who We Are. Heidi also assisted with three sessions as a breakout lead.

The staff continues to support efforts to improve work environment as time allows and has made future commitments to ongoing efforts with WEPO this spring.

# WFDSS NextGen:

## Building a Services Foundation for the Future

The development of WFDSS NextGen began in earnest in 2019 to replace the aging current WFDSS application. Some of the key goals of WFDSS NextGen are to:

- Reduce the Operations and Maintenance (O&M) of the system
- Improve the user experience by being: Scalable, Map Focused, and Intuitive
- Provide the users with authoritative and as near real time information as possible

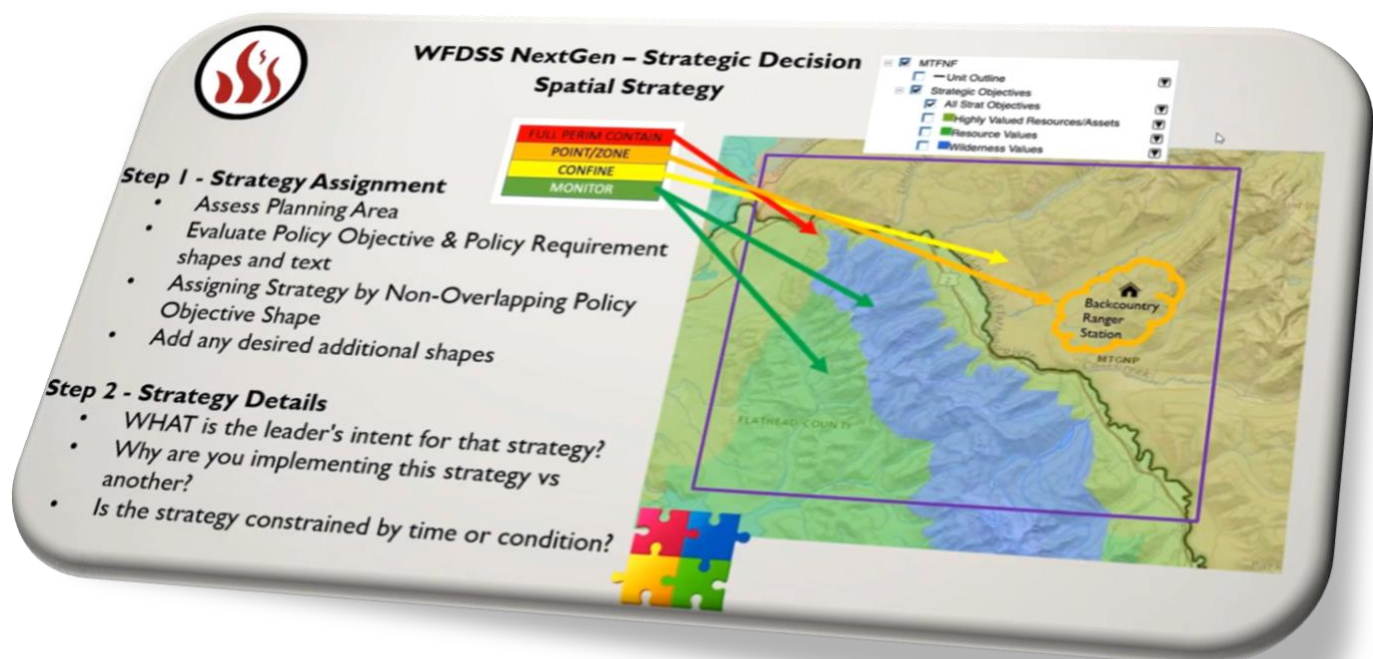
To accomplish these goals the WFDSS NextGen project is focusing on several key architectural IT components, namely services and a map centered user interface.

*THE INSIDE SCOOP.....*

*THE ORIGINAL WFDSS  
(CIR.2009) IS KNOWN WITHIN  
THE WFMRD&A AS  
**WFDSS CLASSIC***

*THE WFDSS THAT IS UNDER  
DEVELOPMENT IS KNOWN  
AS....*

**WFDSS NEXTGEN**



For More Information Visit:

<https://famit.nwcg.gov/applications/wfdss>

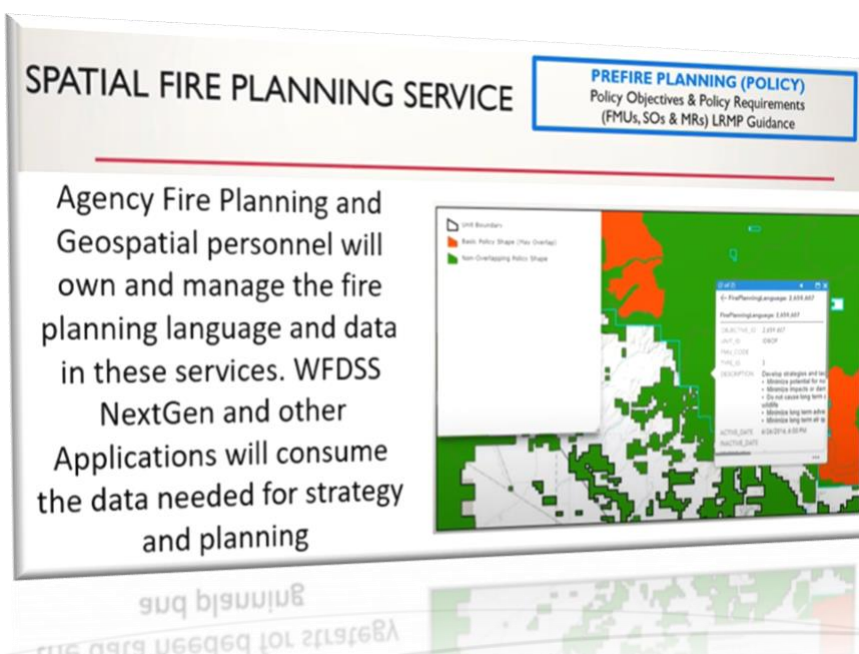
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Services are resources made available over the internet and are not a new concept. WFDSS Classic utilizes services to ingest fire data via the Integrated Reporting of Wildland-Fire Information (IRWIN).; However, WFDSS NextGen is going a step further. WFDSS NextGen will be utilizing services as the primary method for displaying spatial data, populating weather data, running the fire behavior analyses and displaying Spatial Fire Planning data. Utilizing services gives WFDSS NextGen much more flexibility on the data it provides to the end user while ensuring that data is the most up to date and accurate information available.

A service centered application also meets the goal of lessening the burden of Operations and Maintenance (O&M) by reducing the workload on the WFMRD&A. The reduced long-term workload associated with data services vs locally hosted data has allowed NextGen to already incorporate RMA (Risk Management Assistance) dashboard layers such as the Snag Hazard and Suppression Difficulty Index (SDI), as well as National Incident Feature Service (NIFS) layers like drop points, branch/division breaks, NIROPS, and perimeters to help give decision makers more incident context.

Utilizing data services will help separate system components that have proved very difficult to support and maintain. Spatial Fire Planning (SFP), Fire Behavior Analysis, and Content Management are all examples of system components that WFDSS Next Gen will become modularized.

The WFMRD&A in cooperation with the IFPC (Interagency Fire Planning Committee) are working to build a SFP service that will use Arc GIS Online (AGOL) as the platform to serve both the text and spatial data to WFDSS NextGen and other applications. See the Spatial Fire Planning Story Map to explore more: <https://storymaps.arcgis.com/stories/dbb790995f9e4d9aa5fad40997cf7236>. In the past, managers had to manually deliver SFP spatial data and associated text to the WFDSS Team for updates.



Once this service is built the data will be sent to other applications allowing all systems that need the information to have the most up to date version as it becomes available. This centralization of SFP data across systems, gains efficiency across fire management. This data is vital to incident response in WFDSS, fuels planning in IFTDSS, post-fire recovery and back to pre-fire planning to complete the cycle of Wildland Fire Management.



# IFTDSS: Interagency Fuel Treatment Decision Support System Mainstream in the Making

IFTDSS is well on its way to becoming the go-to tool for fuels planning and analysis. 2021 brought the Compare Weather functionality which allows users to enter various weather inputs and compare the model outputs side-by-side. Users are finding this functionality extremely helpful for Prescribed Burn Plan

preparation as well as illustrating various alternatives for NEPA analysis.

The Quantitative Wildfire Risk Assessment is getting plenty of use across agencies. The IFTDSS team held a multi-part seminar series for several National Parks in the Intermountain area to introduce them to the process in IFTDSS. Greg Bartin, FMO from Zion National Park felt that learning the process and integrating with other resources specialists across the park really brought the wildfire risk picture to life with the IFTDSS outputs making a big difference in illustrating what the potential impacts from wildfire could be. The maps and data really drive home the need for well placed fuels treatments



IFTDSS Compare Weather Output

<https://iftdss.firenet.gov>



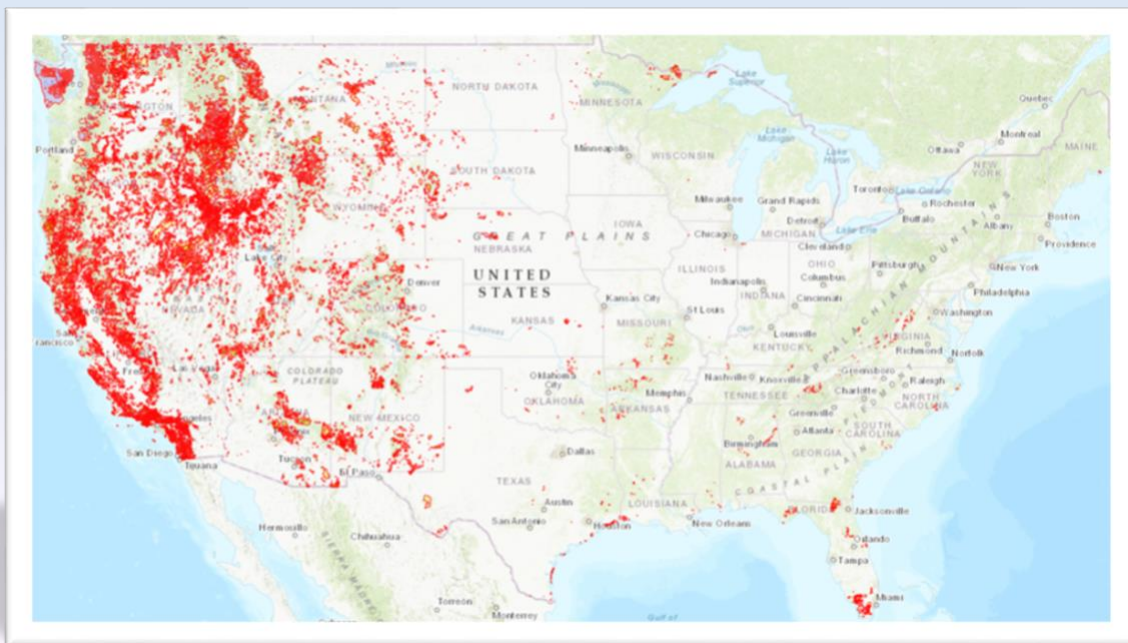
On the technology transfer front, the IFTDSS team is excited to announce two new online course offerings in the NWCG Wildland Fire Learning Portal: An Introduction to IFTDSS (“IFTDSS Overview 2022”) for new users and “How to Use IFTDSS for RX Burn Plans”. Each of these IFTDSS courses are now incorporated into the RX341/340 classes offered in 2021 and 2022. This effort brings to the forefront the use of spatial fire behavior modeling for prescribed fire planning. These online courses also got a test run with the students participating in the US Forest Service Fuels Academy ([Home | USFS Fuels Academy \(frames.gov\)](https://www.frames.gov)). Feedback from the different groups has been excellent and we are finding that getting this technology into the hands of fire managers early in their careers helps build expertise and know how as fuel treatment planning and implementation ramps up in the coming years. You can find the self-study courses on the home page at: <https://wildlandfirelearningportal.net>



## WFMRD&A Data Team Tech Transfer – Fire Point & Perimeter History

The WFMRD&A data team has worked closely with NWCG stakeholders to lead coordinated GIS data development and integration efforts utilizing the latest technology. In 2007-2009, when the [WFDSS](#) application launched, fire perimeter data was collected at the local level and fire management agencies had differing guidelines and standards for data collection. Working with [the NWCG Data Management Committee](#), the WFMRD&A Data team spearheaded development of a [spatial data layer standard](#) to consolidate agency perimeters. Historic sources for a consolidated perimeter data set drew from USFS Regions, GeoMac (DOI), MTBS (Monitoring Trends in Burn Severity), and perimeters entered in the WFDSS system during active incidents. The wildland fire perimeter standard provided uniform field definitions and geospatial data requirements for perimeters displayed in the WFDSS application.

In the last decade, with the advent of [ESRI ArcGIS On-line](#) (AGOL) web based geo-data services, access to wildland fire point and perimeter data improved at a national level. Wildland fire point of origin data from the [Integrated Reporting of Wildland Fire Information](#) (IRWIN) data exchange system became accessible as a web-based services (via [EGP](#) and [GeoPlatform](#) AGOL Orgs), and perimeter history data curated by WFMRD&A going back to the 1800's was published as a service via the [National Interagency Fire Center](#) (NIFC) AGOL Org. This comprehensive [Interagency Fire Perimeter History – All Years](#) service is now available on the NIFC Open data site. Sources for the perimeters changed over time to include the Alaska Interagency Coordination Center, USDA FS Regional Fire History Data, BLM Fire Planning and Fuels, National Park Service Fire and Aviation Management, Fish & Wildlife Service, Bureau of Indian Affairs and CalFire FRAS.



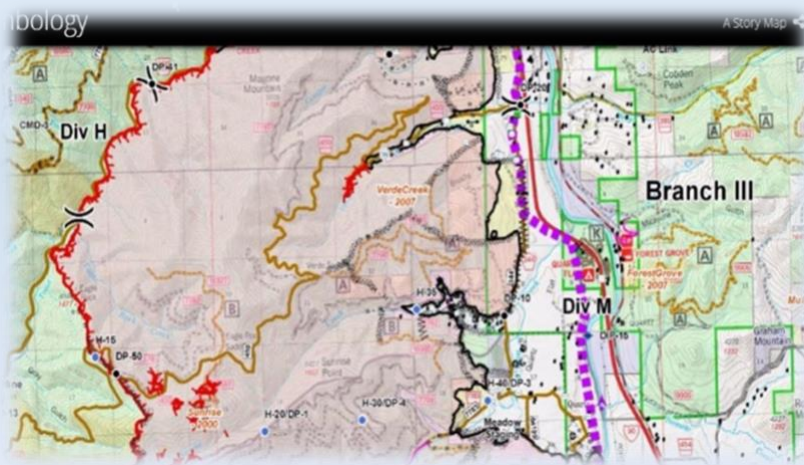
*CONUS Interagency Fire Perimeter History - All Years*



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As IrWIN and NIFS data came on-line, the WFMRD&A data team, as part of their overall mission to develop national data integration processes, utilized [FME Software](#) (Feature Manipulation Engine) technology, to develop data exchange models to pull and push the point and perimeter data into standardized AGOL services based on requirements of national level applications like [IFTDSS](#), and make the data available for other analysis and decision support tools developed nationally. These models updated these datasets in near real-time via FME Server and included services for current year and year-to-date points and perimeters, and FME software also facilitated yearly updates to archive and history perimeter services.

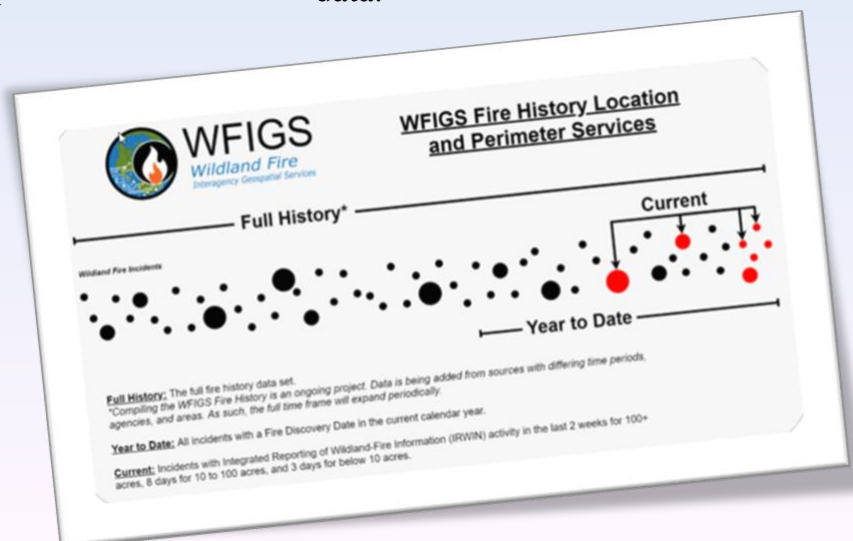
In 2018, the NIFC AGOL Org vastly improved the collection and management of fire perimeters with the development of the [National Incident Feature Services](#) (NIFS), fully adopted by the GISS community as part of standard operation procedures for incident management. In addition, [the InFORM Wildland Fire Reporting System](#) for Wildland fire data reporting (mobile and desktop) also came on-line in this timeframe. These applications, which all utilize organizational AGOL services for data exchange, allow wildland fire personnel to share near-real time data for active incidents and the full range of Wildland Fire reporting requirements.



*Fire Perimeter from National Incident Feature Service*

The wildland fire perimeter and point public services developed by WFMRD&A were extremely popular on the NIFC Org site and were utilized by media sources, public information maps, and other applications. They were so popular in fact that in 2020 a new effort was started to manage Wildland Fire History Location and Perimeter Services, or WFIGS. The NIFC Org now maintains the WFIGS internal and public facing data services for wildland fire history point locations and perimeter data.

The WFMRD&A Data team is actively working in conjunction with the NWCG Geo-spatial sub-committee to begin the process of moving the Interagency Fire Perimeter History service data over to the WFIGS Full History service. This effort will consist of working closely with WFIGS and the newly formed Wildland Fire Data Management program to further refine and QA/QC data and create a comprehensive dataset of wildland fire perimeters and point locations.





# 2021 Detailers Assist in Filling the Gap!

## Francesca Chavez

Francesca worked for the WFMRD&A in a 120-day detail beginning in mid-June. She primarily supported the current WFDSS project which included the following efforts: Validating contractor work of WFDSS bugs, assisting in organization of release planning efforts, and supporting WFDSS On-Call by responding to users' questions and issues. Francesca also spent significant time supporting the Northern Rockies and National Fire Decision Support Center efforts during fire season including decisions support at a geographic scale and communication and coordination between geographic areas. Her efforts were greatly appreciated by the entire RDA staff and specifically the WFDSS Business Team. She did an excellent job and was great to work with. Thank you for your time with the RDA.



## Jennifer Jenkins

With the departure of Andrew Bailey to the Office of Wildland Fire, the WFMRD&A welcomes Jennifer Jenkins in a detail to support the Data Team! Jennifer is a GIS Specialist with the BLM Alaska State Office and Alaska Fire Service. Jenn has both a Bachelor and Master's Degree in Biology and a Master's Degree in Natural Resource Management. Jenn spent a decade working for the U.S. Fish and Wildlife Service before moving to the BLM in late 2014. At the BLM, she has focused on using remote sensing data and online/mobile resources to meet the diverse information and mapping needs of the Alaska Wildland Fire community. In her downtime

she enjoys riding her fat tire bike and exploring the White Mountains National Recreation Area near Fairbanks. We are excited to have Jennifer on board to support the multitude of ongoing GIS and Data Management efforts.

## Dan Mindar Does It Again!

Once again, the WFMRD&A thanks Dan Mindar for joining us during an extremely busy fire season. Since retirement, Dan has rejoined the staff each summer to provide expertise in user support for WFDSS and general decision support coordination. We always love hearing when Dan is coming back to help out. Thanks Dan!



# WFMRD&A “OFF THE CLOCK”

WFMRD&A Deputy Program Manager Mark Hale has been a First Responder since 1986 when he got his first Red Card to fight Wildland fires. Over his 30 + year career with the Forest Service living in 6 different states, he has also worked on Volunteer Fire Departments including being a Lieutenant on the Chadron Volunteer Fire Department in Chadron, Nebraska in 2000.



In 2020 Mark moved back to Greybull, Wyoming and was asked to join the Greybull, Volunteer Fire Department. Mark has been on a number of calls since joining the department including structure fires, barn fires and vehicle accidents, as well as representing the department for special events and parades. Helping protect the community and those you live and work with has always been rewarding to Mark. It has always been important for him to try and give back when you can, and this was an opportunity to give back to community.



## *Editor's Note:*

*The Tech. Spec. is published a couple time a year as time permits. Staff contribute stories based on current events and projects. As readers, if you have questions, thoughts or comments related to any of the content or are curious and would like to know more about the things the WFMRD&A is working on please contact: Program Manager Tim Sexton or Deputy Program Manager Mark Hale*

*Timothy.sexton@usda.gov or Mark.hale@usda.gov*

