

Wildfire Matters Review Committee

An Update From the Colorado Division of Fire Prevention and Control

July 29, 2021



Agenda

- Background and History
- Stakeholder Driven Updates
- Colorado's New Approach to Fire
- DFPC Fire Response Resources
- What's New in 2021

2016 Junkins Fire



Background and History

How Wildfire Works In Colorado

Fire Protection District

Initial Attack
Exceeds Capabilities
Requests County Assistance

County Sheriff

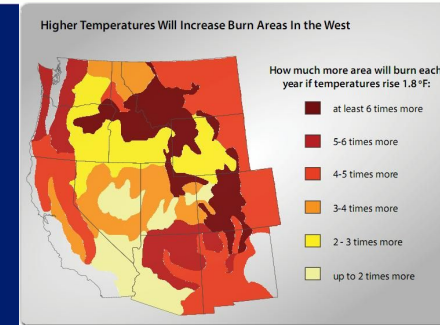
Required to Take Fire if
Local Capability
Exceeded
Exceeds County
Capabilities
Requests State Assistance

State Responsibility

Performs Analysis to
Determine if Eligible
If Eligible, State Assumes
Cost with Ongoing
Involvement from Local
and County Partners
State pays with EFF,
Resource Mob, or
Executive Order (DEF)

The Increasing Fire Problem

- Core Wildfire Seasons are 78 Days Longer
- Projected Acres Burned by 2050:
 - Double Nationwide to 20 million Acres/Year
 - Up to a Fivefold Increase in CO Acres Burned
- Increased Population and WUI Growth:
 - 3 Million More People in Colorado by 2050
 - Increased Values at Risk
 - Increase Potential for Fire Ignition



History of State Responsibility Fires

Years	# of State Responsibility Fires
1967 to 1969	0
1970 to 1979	1
1980 to 1989	8
1990 to 1999	15
2000 to 2009	65
2010 to 2019	74
2020 to 2021	18
Total	181



2010 4 Mile Canyon



2018 Lake Christine



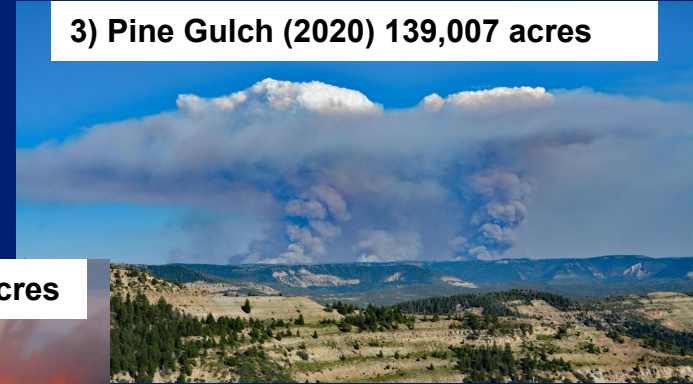
2016 Beaver Creek

Colorado's Largest Wildfires

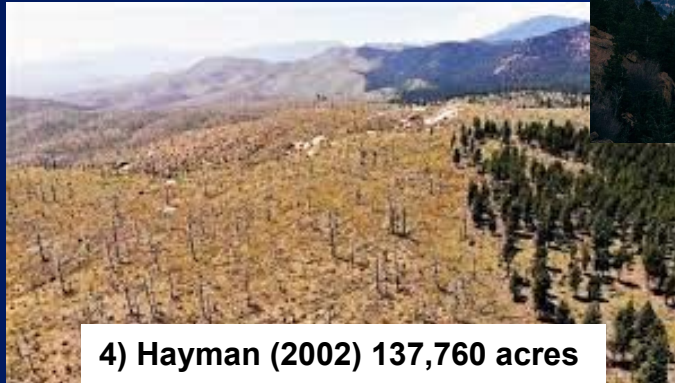
2) East Troublesome (2020) 193,812 acres



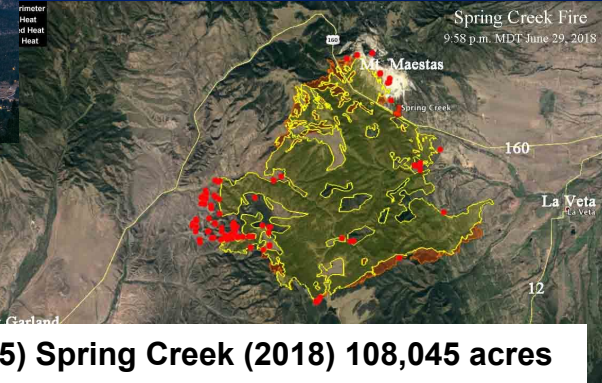
3) Pine Gulch (2020) 139,007 acres



1) Cameron Peak (2020) 208,913 acres



4) Hayman (2002) 137,760 acres



5) Spring Creek (2018) 108,045 acres

Historic Wildfire Management Model

- Wildfires only burn in the mountains between Memorial Day and Labor Day
- Wildland firefighting is a great summer job while you're in college
- Wait until the fire is over the hill, and then the State will bring the checkbook



2012 Waldo Canyon Fire

Stakeholder-Driven Updates to Traditional Approach

Strategic Plan for Supporting Local Fire Agencies

- Developed in Winter 2017 and 2018 after Rigorous Stakeholder Engagement
- Formalized and Documented an Intentional Long-Term Strategy Reflecting Stakeholder Needs for Support from DFPC
- Challenges Identified: Traditional Staffing Models, Lack of Regional Coordination, Resource Availability, Increasing Wildland Fire Risk in Colorado
- Solutions: Effective Dispatching and Mutual Aid, Additional Ground Resources and Fire Management Staff, Increased Aviation Resource Availability

Colorado Fire Commission

- Intent: Establish Group of Stakeholders to Provide Ongoing Feedback and Recommendations to Address Colorado's Fire Problems
- Not a Duplication of Existing Groups Working on Forest Health and Watershed Issues
- Ensure the Right Stakeholders are Active Participants Seeking Consensus Prior to Making Recommendations for Policy Change
- Members from Diverse Geographic Areas and Backgrounds
- Established by Senate Bill 19-040

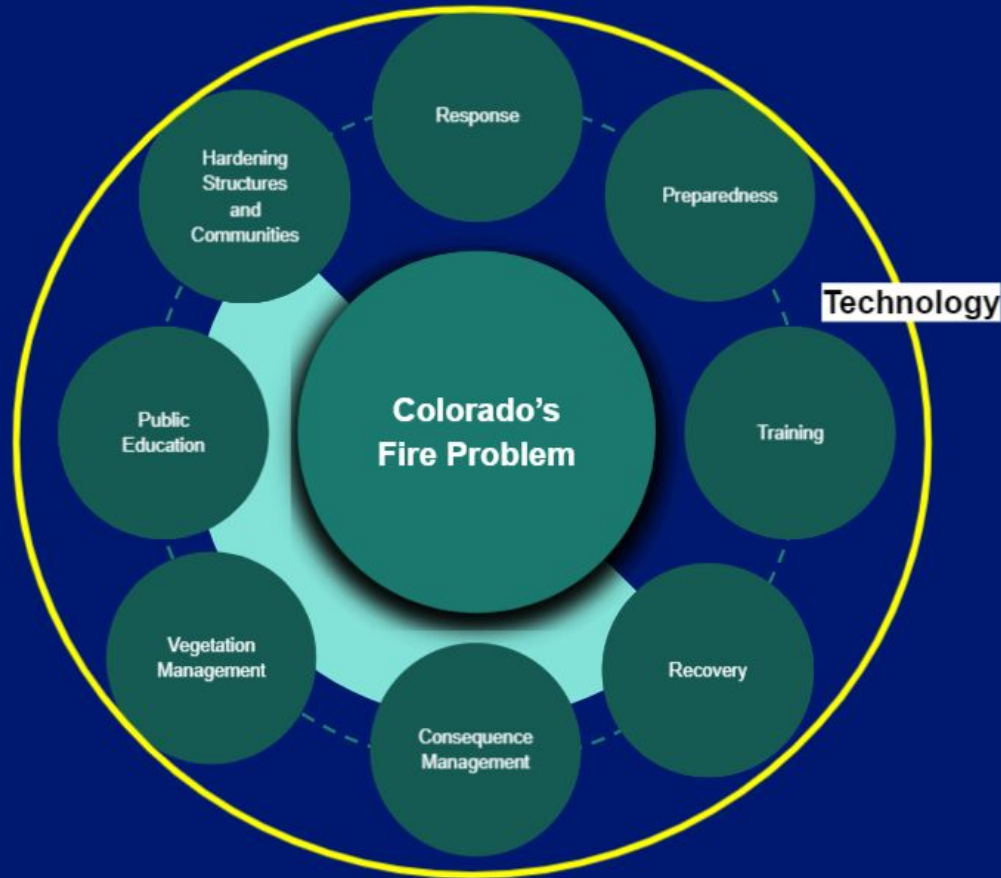
Colorado Fire Commission

- Mission Statement: Enhance public safety in Colorado through an integrated statewide process focused on the fire service's capacity to conduct fire management and use, preparedness, prevention, and response activities to safeguard lives, property, and natural resources, and increase the resiliency of local and regional communities.
- 24 voting members; 7 ex-officio (non-voting) members, with ability to appoint additional stakeholders or subject matter experts



New Approach To Colorado's Fire Problem

A New Approach to CO's Fire Problem



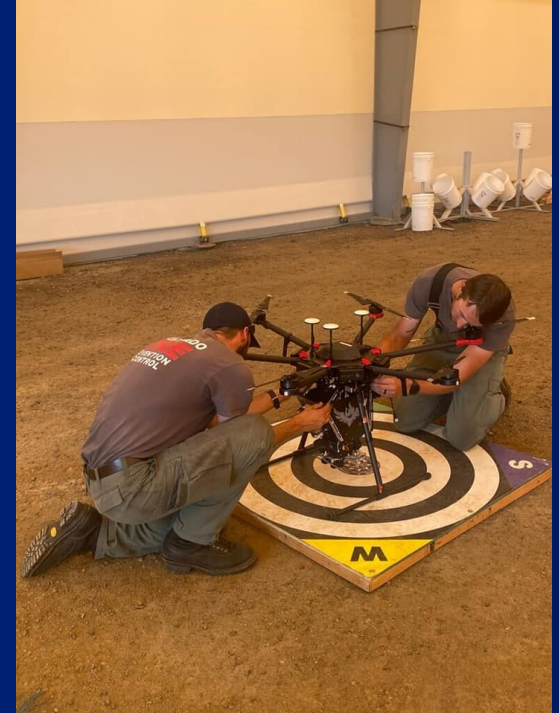
DFPC Sections Supporting Wildland Fire



Training



Prevention and Damage Assessment



Technology Research and Integration

Suppression and Mitigation

Is suppression “or” mitigation the answer to the wildfire problem?

- National Cohesive Wildland Fire Management Strategy:
 - Resilient Landscapes
 - Fire Adapted Communities
 - Safe and Effective Wildfire Response

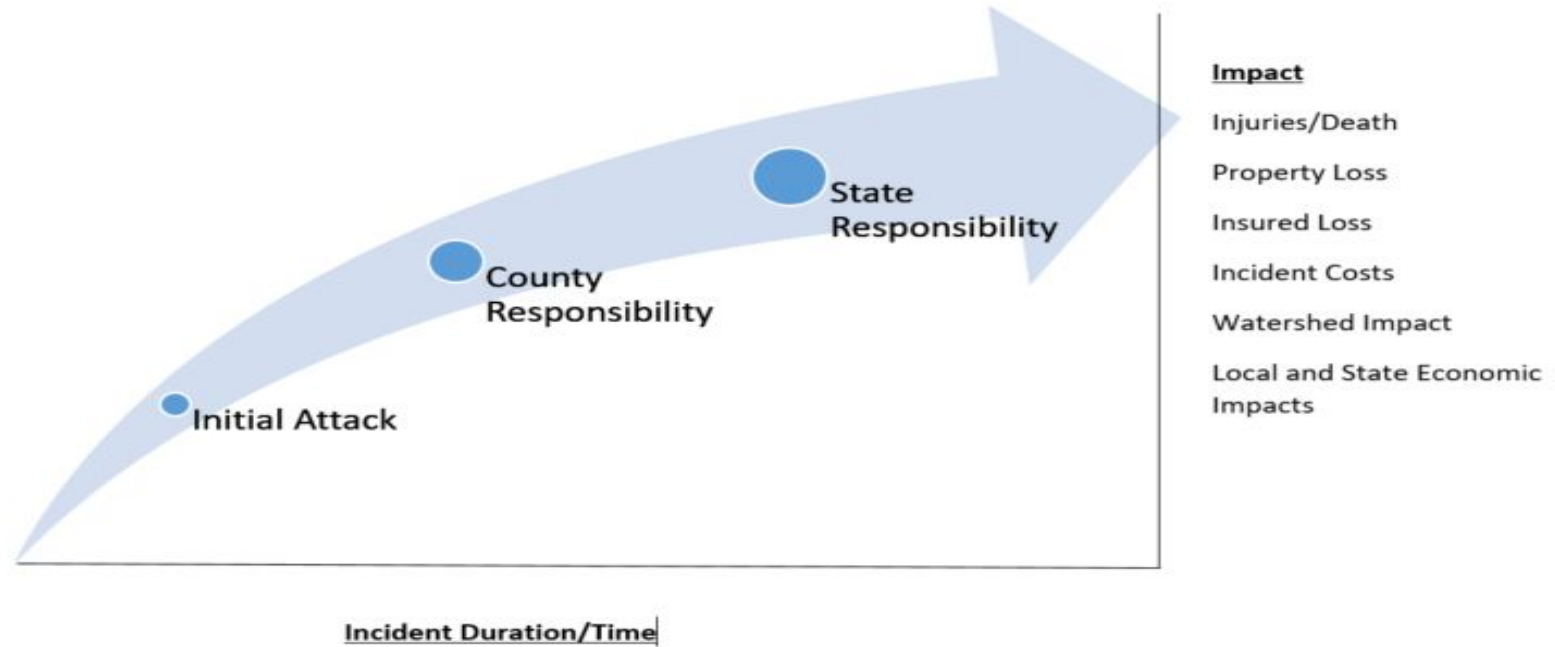


Suppression and Mitigation

- **Defensible Space:** an area between a house and an oncoming wildfire where the vegetation has been managed to reduce the wildfire threat and allow firefighters to safely and effectively defend the house.
- **Fuel Break:** a strip of land or block of vegetation that has been altered to slow or control a fire.
- 2018 Buffalo Mountain Fire
 - Example of an “AND” approach



Duration vs. Impact



Impacts and the Total Cost of Fire

- Suppression Costs
- Insured Losses
- Secondary Losses
 - Flooding and Rehabilitation
 - Water Quality
 - Grazing
 - Recreation and Tourism
 - Loss of Property Taxes



March 2017 Logan Fire



Early Detection and Fire Intelligence

Why Early Detection?

- Detect new fires and provide information to jurisdictional agencies:
 - Support informed decision making
 - Take early, appropriate action
 - Increased probability of success for suppression
 - Reduce duration, size, cost, and impacts where fire is not wanted

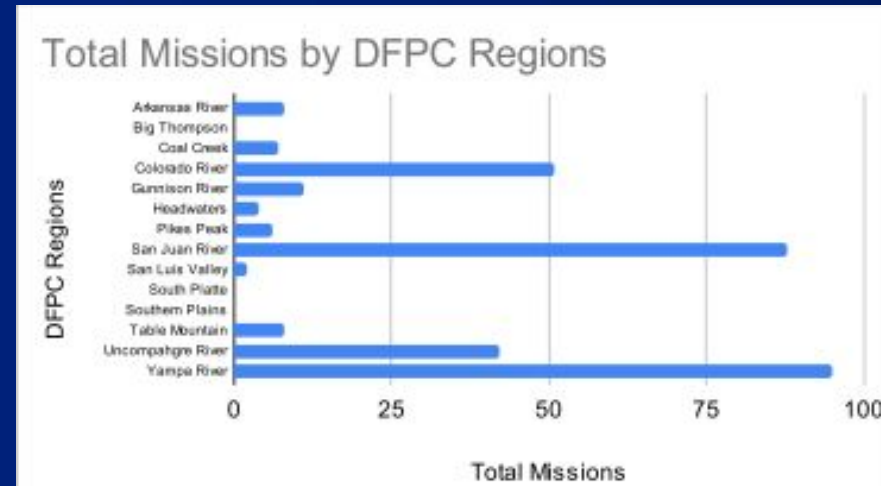
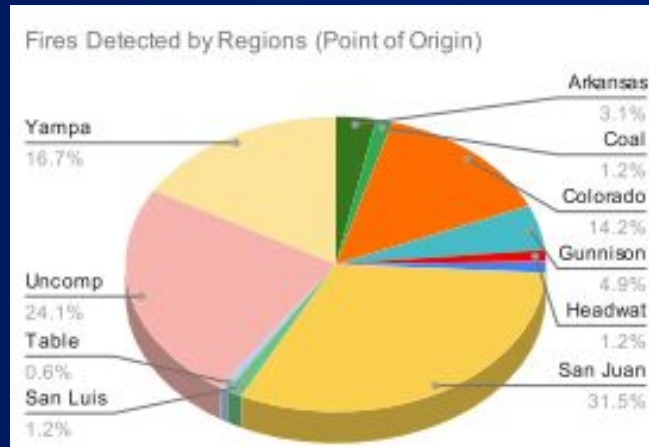
Multi-Mission Aircraft

- Two State-owned Pilatus PC-12 Aircraft with Sensors
- Provides Fire Detection and Incident Support (Mapping, Intelligence, Overwatch)
- Most Effective Existing Tool for Finding Small, Smoldering Fires and Providing Rapid, Accurate Intelligence
- Provides Detailed, Real-Time Tactical Information and Decision Support to Fire Managers



MMA History

MMA	2015	2016	2017	2018	2019	2020	2021*	TOTAL
Flight Hours	585	745	1,024	1,126	757	1,353	365*	5,955
# of New Fires Detected	39	43	99	77	62	98	117*	535



*Note: 2021 numbers are through 7/27/2021



Colorado DFPC Multi-Mission Aircraft Dashboard & Statistics - 2021



Year to Date As of: 7-28-2021 9:53

Fires Detected
Last 7 Days

47

as of
07/27/2021

Unique Fires Mapped
Last 7 Days

64

as of
07/27/2021

Unique Acres Mapped
Last 7 Days

1,465

as of
07/27/2021

Mission Flight Hrs
Last 7 Days

49

as of
07/27/2021

Month To Date

79

as of
07/27/2021

Month To Date

110

as of
07/27/2021

Month To Date

8,103

as of
07/27/2021

Month To Date

149

as of
07/27/2021

Year to Date

117

as of
07/27/2021

Year to Date

165

as of
07/27/2021

Year to Date

41,557

as of
07/27/2021

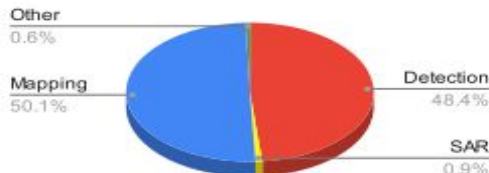
Year to Date

365

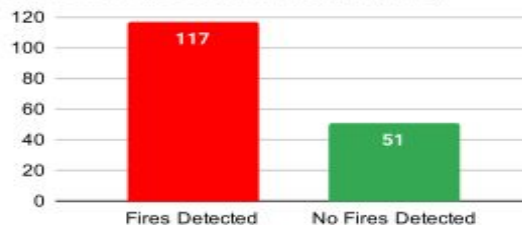
as of
07/27/2021

Most Fires Detected in a Single Day: 15 on 7/26/2021

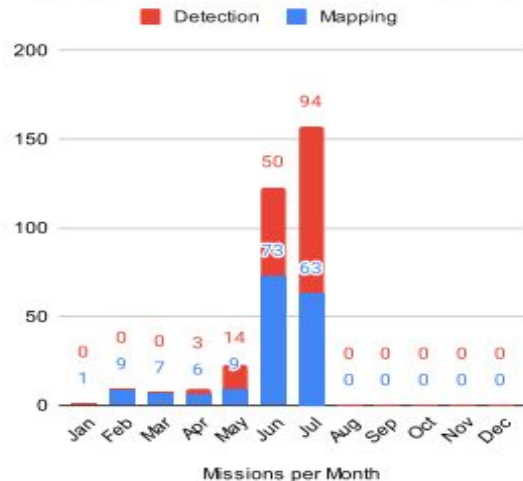
Number of Missions by Type (YTD)



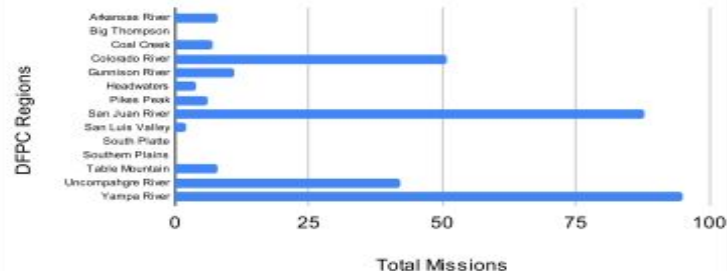
Number of Fire Detection Missions (YTD)



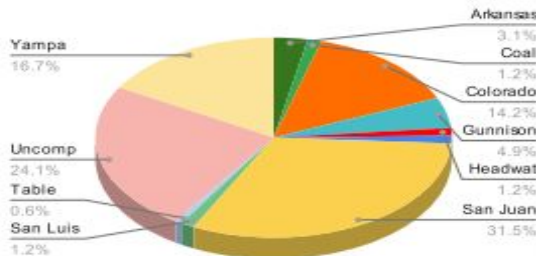
Mapping & Detection Missions Per Month (YTD)



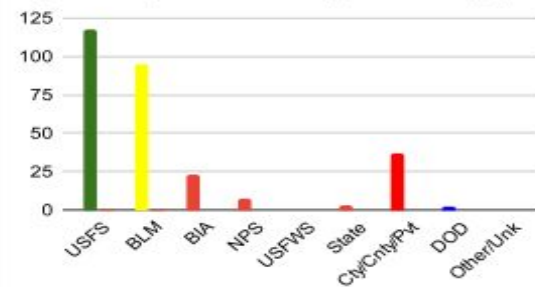
Total Missions by DFPC Regions



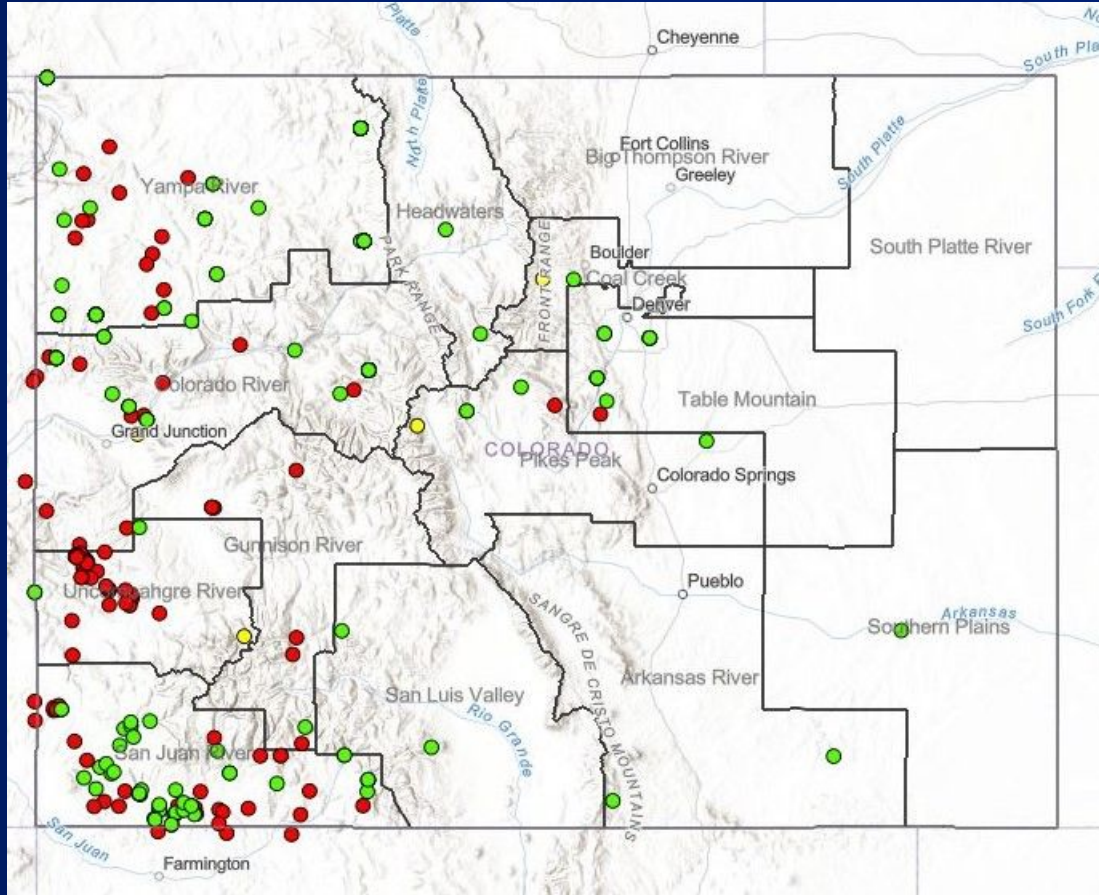
Fires Detected by Regions (Point of Origin)



Flight Time by Land Ownership (Point of Origin)



2021 Multi-Mission Aircraft Missions



Search and Rescue



Fire Mapping



New Fire Detection



DFPC Fire Management Region



Multi-Mission Aircraft Detection



[Link to Video](#)

FireGuard Program

- Original Pilot in CA in 2019, Second Pilot in CO in 2020 in Partnership with the National Guard
- Expanded to National Program in 2021:
 - Goal: Improve Wildfire Detection and Monitoring across the Country
 - 2 Centers (CA and CO) servicing all 50 states
 - 40 National Guard Analysts on Orders
 - 4 Civilian Fire Staff (includes 1 DFPC Employee)

FireGuard Program

- Utilizes Capabilities from Multiple Data Sets
- Provides Early Clarity and another Reliable Layer to Fire Manager Tool Kits for Incident Awareness and Assessment (IAA)
- Fills Existing Capability Gaps with Near Persistent Fire Detection and Monitoring (e.g. When Aircraft can't Fly)
- Coordinates with Other Intelligence Tools
- Provides 24/7, Statewide Coverage with Updates every 15 minutes

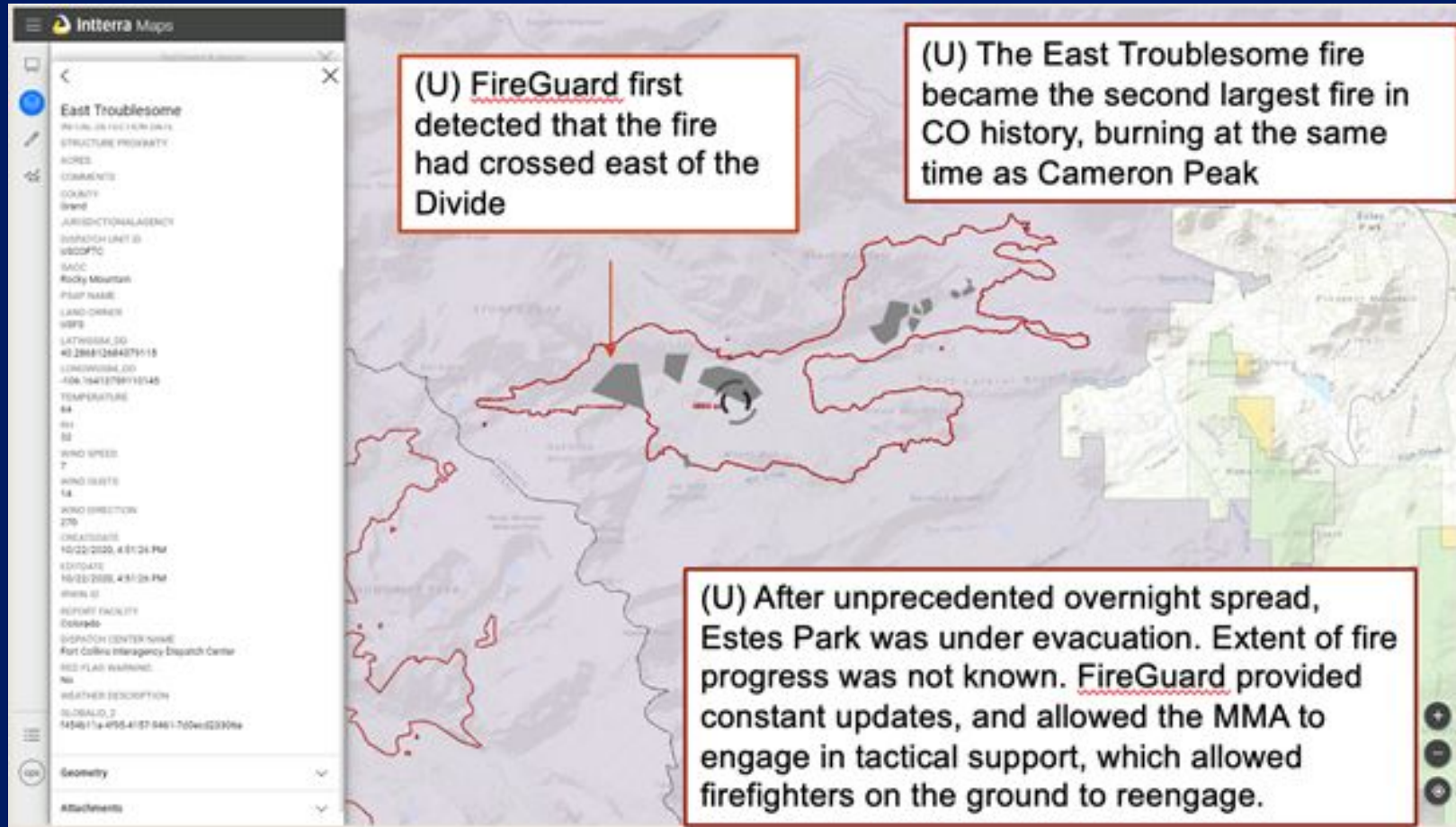
FireGuard Statistics

- 2020 CO program (May through Dec)
 - 338 fires detected or monitored
 - 1,779 fire updates provided
- 2021 CO program (May 7 through July 22)
 - 30 fires detected or monitored
 - 303 fire updates provided
 - 243 fires and 3,551 updates for all areas serviced by the CO Center

FireGuard 2021



FireGuard on East Troublesome Fire



Cameras

- Partnership with Local Agencies, Industry, and USFS
- Evaluating Hardware and Software Options
- Determining Most Appropriate Locations (Preliminary Sites in Garfield and Larimer Counties)
- Ensuring Interoperability with Current Systems



Camera and Cellular Data Link in Operation at Red Feather Lakes

Early Detection and Fire Intelligence

- Providing Fire Managers with Multiple Tools to Support Early Detection and Provide Intelligence on Wildland Fires
- Future Research Areas
 - Evaluating Technology Improvements for Existing Tools
 - Unmanned Aircraft Systems



State Involvement on Fires

State Assistance Fires

Available for Fire Departments and Counties, with Emphasis on
Rapid Initial Attack Actions

- Aviation Funding
- 20 Person Handcrew
- DFPC Engines, Modules, and Overhead
- DFPC Technical Assistance
- Allows Local Agencies to Return to Day-to-Day Response Needs

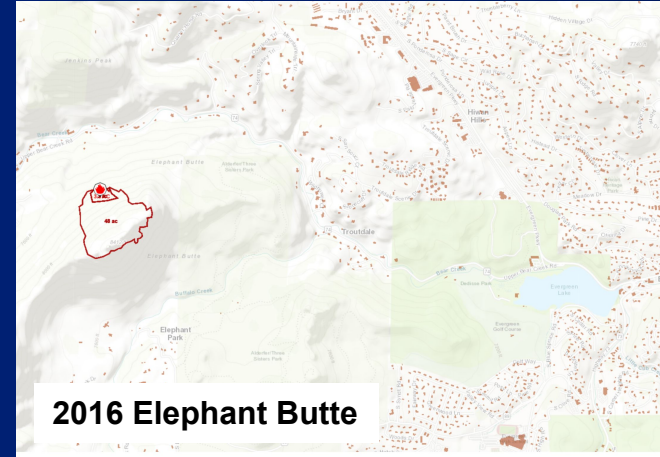
State Assistance Funding - 2018 to 2020

Year	# of Requests	# Agencies Requesting	Handcrew Expenses	Aviation Expenses	Total Expenses
2018	75	36	\$ 396,000	\$ 2,182,000	\$ 2,578,000
2019	32	25	\$ 165,000	\$ 927,000	\$ 1,092,000
2020	52	33	\$ 262,000	\$ 2,005,000	\$ 2,267,000
TOTAL	176	106	\$ 922,000	\$ 5,468,700	\$ 6,390,700

* Note - does not include assistance provided to local agencies by DFPC MMA, Engines, Modules, and Overhead resources for wildfires or all-hazard incidents

Examples of Success in 2020

- Chatridge 2 Fire - Douglas County (2 day event, 450 acres burned)
- Elephant Butte Fire - Jefferson County (SRF for 3 days, 52 acres)
- 84 Fire - La Plata County (2 day event, 23 acres burned)
- Lewstone Fire - Larimer County (SRF for 3 days, 165 acres)
- Las Animas County Fires - (5 separate fires at once, 314 total acres)



Examples of Success in 2021

DFPC Assistance to Local Agencies:

- 107 Technical Assists (Battalion and District Chiefs)
- 701 Responses (Engines, Modules, and Overhead) to support local agencies with wildfires, EMS, Floods, Haz-Mat, SAR, Structure Fires, etc.
- 16 Pre-position Assignments and extended staffing
 - Based on CO Preparedness Levels (PL's)

State Responsibility Fires

- Must be a County Responsibility Fire
- Analysis conducted with DFPC Staff and Sheriff
- Currently Funded by Emergency Fire Fund (County Contributions) or Executive Order/Disaster Emergency Fund
- DFPC Assumes Management and Financial Authority

Previous 10 Years of State Responsibility Fires

Year	Annual County Assessments	# of SRF Fires	Suppression Costs to EFF	Suppression Costs to EO	Total State Suppression Costs
2011	\$ 1,000,000	11	\$ 1,000,000	\$ 10,300,000	\$ 11,300,000
2012	\$ 1,000,000	16	\$ 1,000,000	\$ 46,600,000	\$ 47,600,000
2013	\$ 1,000,000	9	\$ 1,000,000	\$ 35,900,000	\$ 36,900,000
2014	\$ 1,000,000	1	\$ 240,000	\$ 0	\$ 240,000
2015	\$ 1,000,000	0	\$ 0	\$ 0	\$ 0
2016	\$ 1,000,000	6	\$ 2,760,000	\$ 12,240,000	\$ 15,000,000
2017	\$ 1,000,000	10	\$ 1,000,000	\$ 5,400,000	\$ 6,400,000
2018	\$ 1,000,000	18	\$ 1,000,000	\$ 39,100,000	\$ 40,100,000
2019	\$ 1,000,000	0	\$ 0	\$ 0	\$ 0
2020	\$ 1,000,000	16	\$ 2,000,000	\$ 36,200,000	\$ 38,200,000
Total	\$ 10,000,000	87	\$ 10,000,000	\$ 185,740,000	\$ 195,740,000

DFPC Response Resources

DFPC Aviation Fleet

- Under Operational Control of the State
- Mix of types of aircraft with specific missions strengths
- Factors include: speed, range, capacity, vegetation type, terrain challenges, operating altitude, and mission suitability
- Able to Preposition Based on Fire Danger

Single Engine Air Tankers (SEAT)

- Exclusive Use (EU) Contract for 2 SEATs
 - Previous 150 day contract periods
 - New 240 day contract periods
- Delivers ~ 800 gallons of retardant, enhancer, or water



Single Engine Air Tankers

- Advantages:
 - Mobility and maneuverability
 - High accuracy
 - Best suited for lighter fuels
 - Reduced infrastructure needs

Large Air Tanker

- Exclusive Use (EU) contract for 1 LAT
 - 110 day contract period
- Delivers +/- 3,000 gallons of retardant, enhancers, or water



Large Air Tanker

- Advantages:
 - Speed and Capacity (+/- 3,000 gallons)
 - Range and Long Distance Reponse
 - More effective in heavier fuels
 - Cost effective per gallon delivered

Other Aviation Resources

Scooper Aircraft:

- Soliciting for Call-When-Needed (CWN) Contracts
- Another Tool in the Toolbox



Aerial Agricultural Applicators:

- Trial Program in 2021
- Eastern Plains only



Medium Type 2 Helicopters

- Exclusive Use (EU) Contract for 2 Type 2 Helicopters:
 - Previous 120 day contract periods
 - New 230 day contract periods in 2021
- Delivers ~ 324 gallons



Type 1 Helicopter

- Exclusive Use (EU) Contract for 1 Type 1 Helicopter
 - 120 day contract period for 2021
- Restricted category - no Helitack crew
- Delivers ~ 950 gallons



Helicopter Uses

- Advantages:
 - High, sustained capacity on incidents
 - Versatility for multiple missions
 - Includes all-hazard and project work
 - Product delivery is highly accurate
 - Reduced helibase and infrastructure needs

Coming Soon: State-Owned Firehawk Helicopter

- Increased Wildfire Capacity
 - Capability, Versatility, Flight Environment
- Current Non-Fire Missions
- Potential Future Non-Fire Missions
 - A Public Safety Investment
 - Other State of CO Depts
- Costs - Short and Long Term



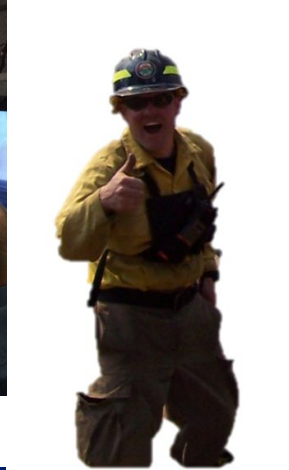
DFPC Ground Based Resources



Engines



Overhead



CDOT Heavy Equipment Partnership



Modules



What's New in 2021

Enhanced State Assistance

- Colorado Fire Commission Recommendation from 2020 Report
- \$1.8 million to Wildfire Emergency Response Fund (WERF)
- Expanded use of WERF for severity prepositioning, and provided a sustainable funding source
- Emergency Fire Fund Committee has voted to transition EFF from a large fire funding mechanism to State Assistance funding, and to try to incentivize more counties to join.



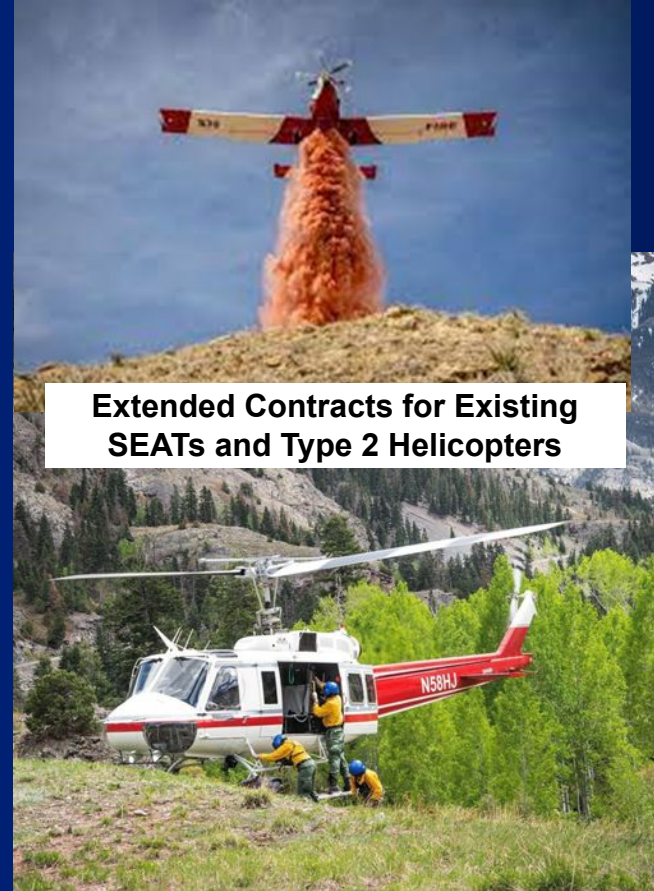
New Aviation Resources



LAT on Contract June 23rd



Type 1 Helo on Contract June 14th



**Extended Contracts for Existing
SEATs and Type 2 Helicopters**

Regional and Statewide Mutual Aid

- SB21-166 implemented Fire Commission Recommendations 20-01 and 20-02
- Directs DFPC to implement the Colorado Coordinated Statewide Mutual Aid System (CCRMAS) developed by the Colorado State Fire Chiefs
- Coordinators work to develop and implement regional mutual aid agreements and processes
- Updates mutual aid statutes



Other Funding and Programs

- Mitigation / Grant Dollars
- DFPC now inspects behavioral health facilities (HB19-1237)
- Accelerant Detection K-9 (Jojo), joined Dawn Tollis (DFPC's Lead Fire Investigator)



Other Related Changes

- **24 Hour Wildfire Mutual Aid:**
 - Authorized in Master Agreement and State Operating Plan between DFPC and our Federal Partners
 - All Tools in the Toolbox
 - Impacts to DFPC (+/-)

What's Next

- DFPC Strategic Planning
- 2021 Fire Commision Annual Report (August 30th)
- Firehawk Delivery (2022)
- Dispatch Studies and Work Groups
 - Year round aviation resources
 - Effective, efficient fire resource mobilization

Questions?

Wildfire in Colorado has grown beyond a natural resource problem and has become a public safety problem impacting lives, homes, watersheds, tourism, economy, and quality of life.

