



# 2021 NIROPS National Summary

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NIROPS Closeout

## 2021 – Another Long Season

- 6.8 million acres burned, 4% acres in AK
- 94% of the ten-year US average (2011-2020)
- 103% of the ten-year CONUS average
- PL4 on 6/22, PL5 7/15 to 9/19, PL4 thru 9/27
  - Most days ever at PL4/5
- First mission – April 26<sup>th</sup> in AZ
- Last (?) mission – Oct 30<sup>th</sup> in CA

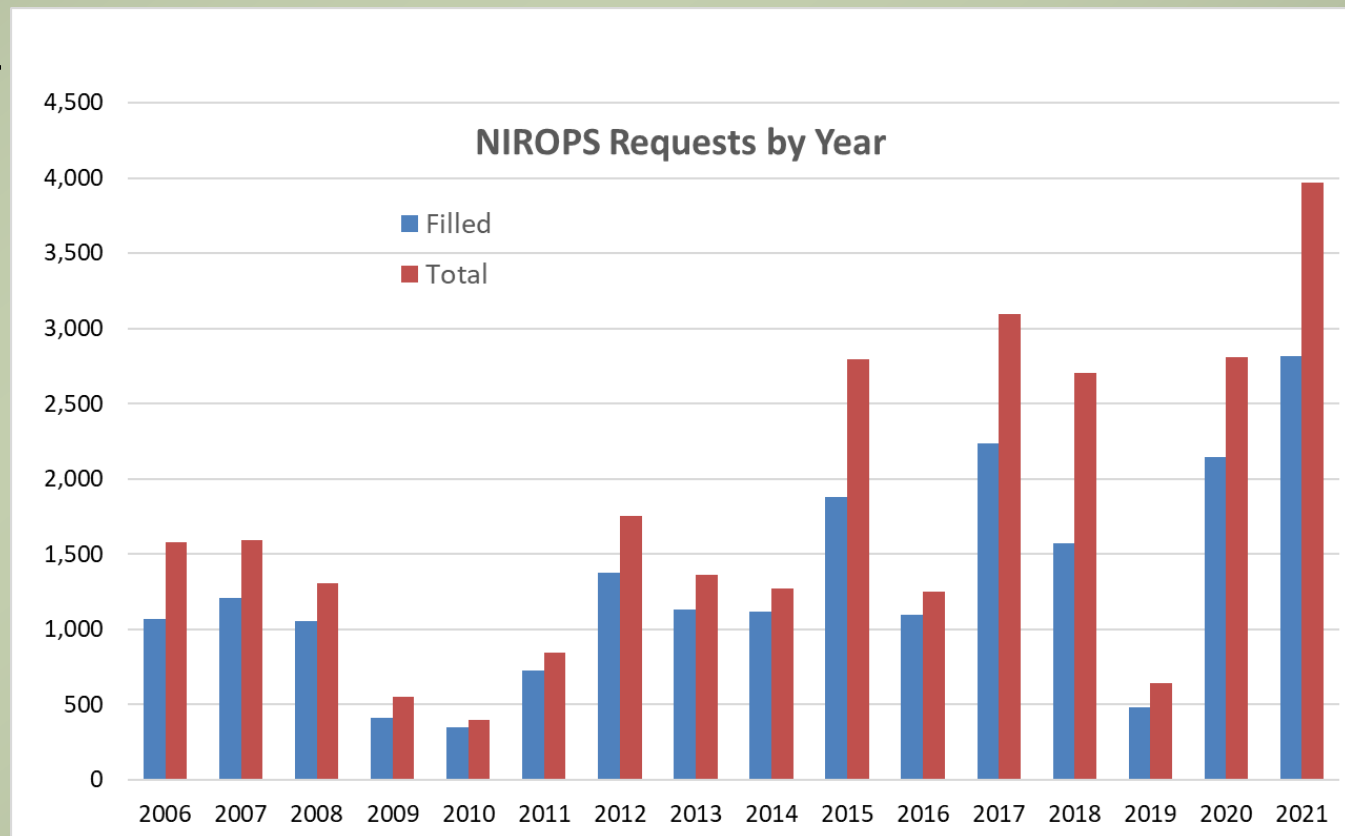
Acres from IMSR 12/3/21

\*PL = Preparedness Level (1 thru 5)

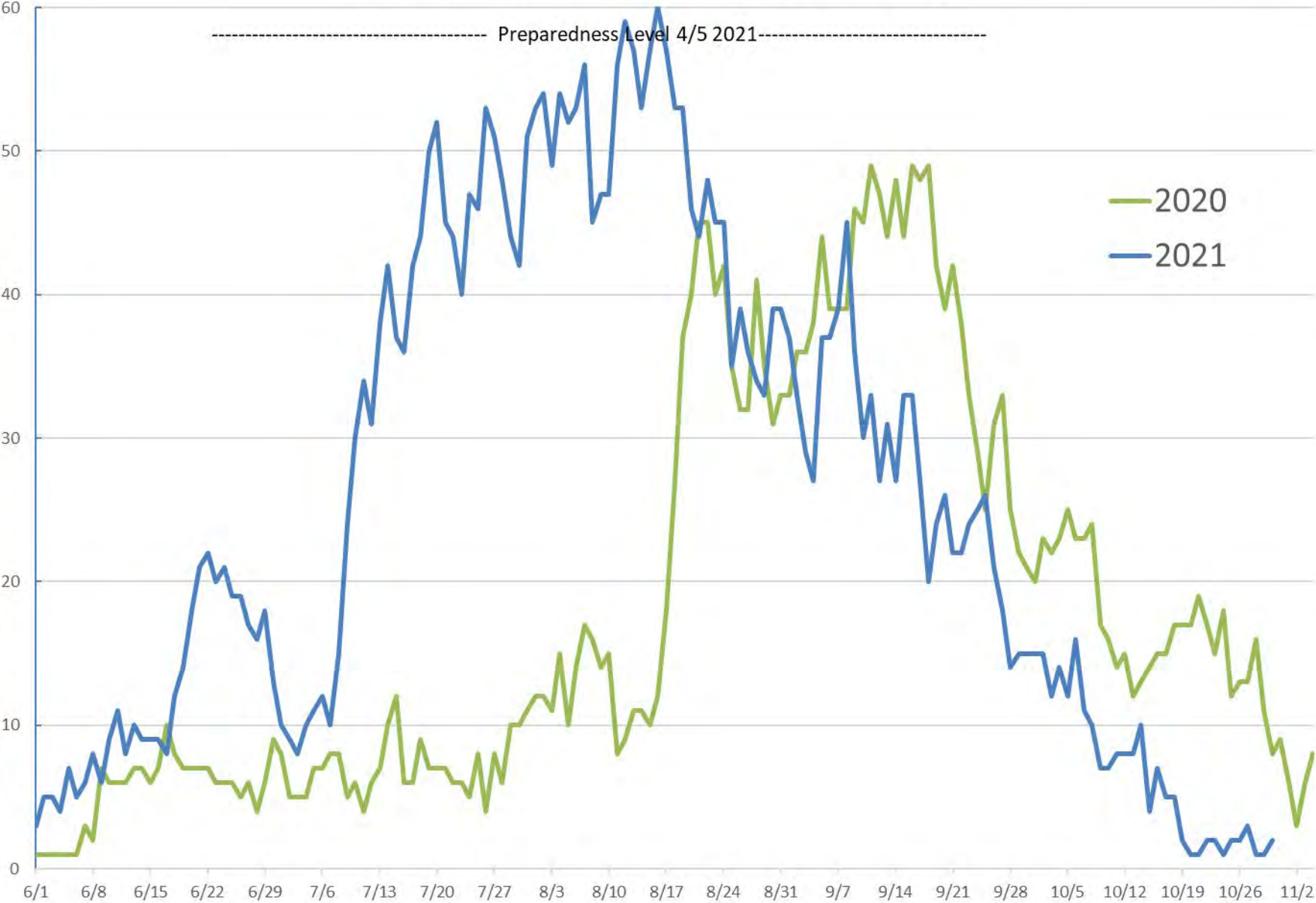


## 2021 NIROPS Requests

- 3,967 total requests with 2,814 filled
- 10 yr avg (2011-2020) 1,851 requests and 1,375 filled
- 5 yr avg (2016-2020) 2,099 requests and 1,506 filled
- 29% UTF rate,  
16% non-Wx UTF
- Aircraft 3 filled  
1% of missions



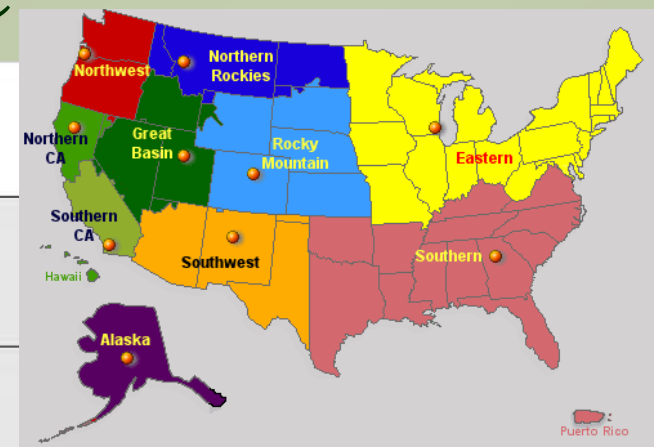
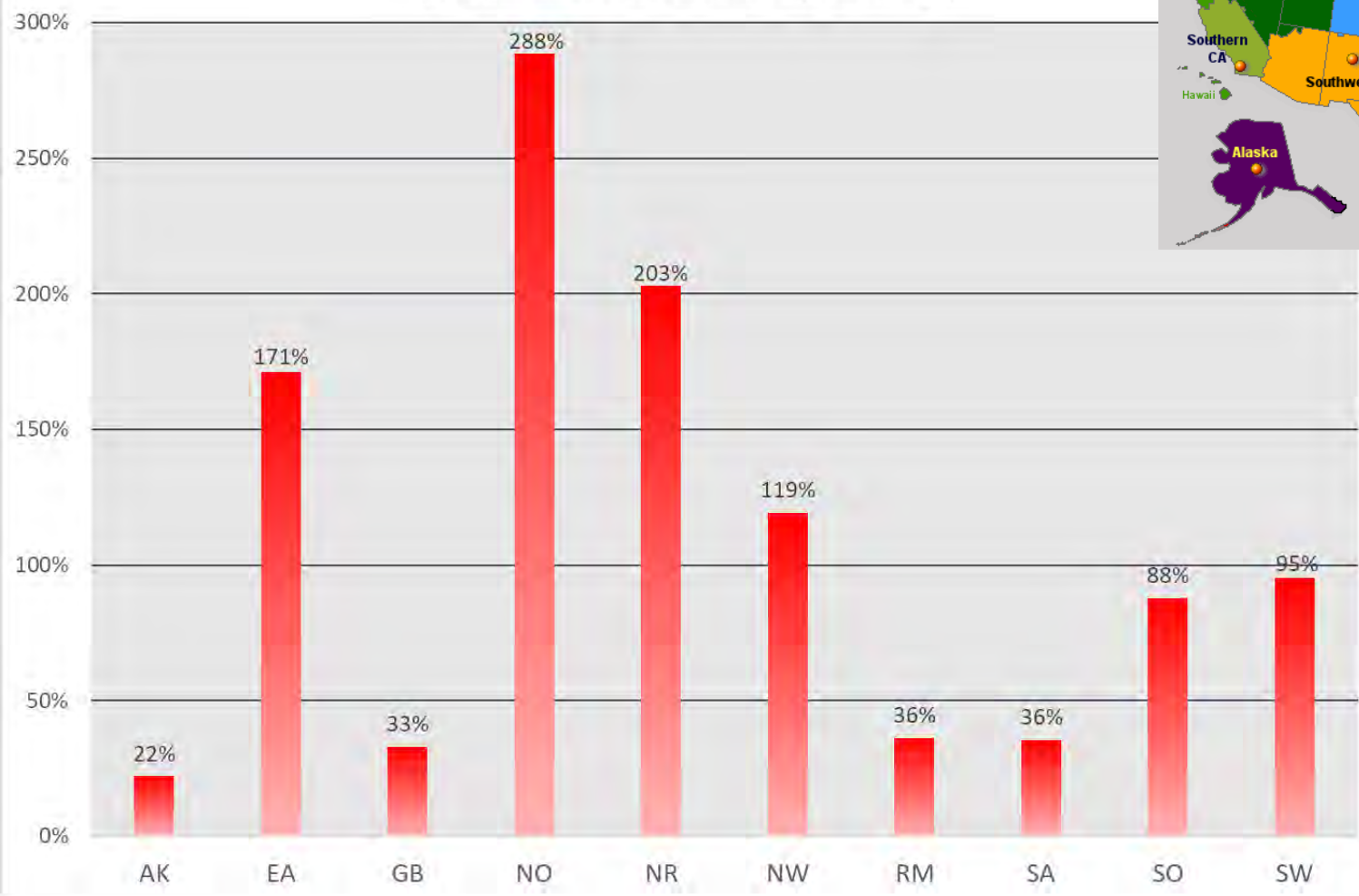
# NIROPS requests by date (2020 and 2021)





## Fire Activity by GACC

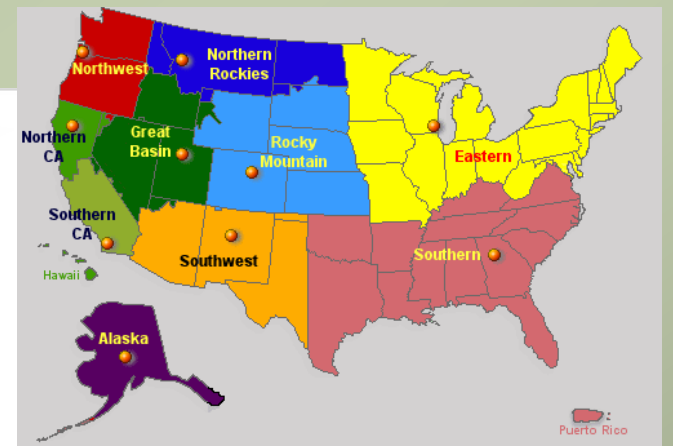
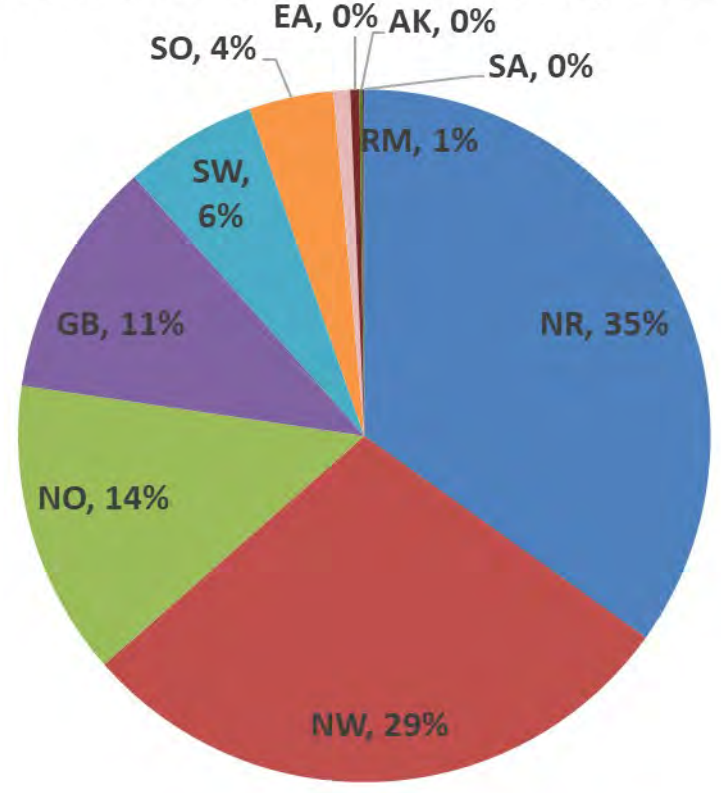
Acres Burned by GACC - 2021  
(as a percent of each GACC's 10-year average)





## 2021 – Orders by GACC

Percent of NIROPS orders by GACC



## “Busiest” Night – 8/15, 48 Fires

### ● FS 149Z (11 fires)

- Parleys Canyon (UT)
- Dixie, Mud Lick (ID)
- Dry Cabin, Divide Cx, American Fork, Woods Creek, Trail Creek, Alder Creek, Richard Spring, Harris Mountain (MT)

### ● Tenax 350SM (11 fires)

- Bedrock (ID)
- Lick Creek, Green Ridge, Black Butte, Bull Cx, Middle Fork Cx, Devil’s Knob Cx, Skyline Ridge Cx, Rough Patch Cx, Jack, Knoll (OR)

### ● Kolob 57RS & 90AT (14 fires)

- Fox Cx (OR)
- McCash, Monument, McFarland, Antelope, River Cx, Caldor (CA)
- Schneider Springs, Cedar Creek, Chickadee Creek, Cub Creek 2, Walker Creek, Muckamuck, Whitmore (WA)

### ● Owyhee 170WL & 17ZX (12 fires)

- Trestle Creek Cx, Lynx, Vinegar, Scarface, Rush Creek, French, Boundary (ID)
- South Yaak, Hay Creek, Granite Pass Cx, West Lolo Cx, Burnt Peak (MT)

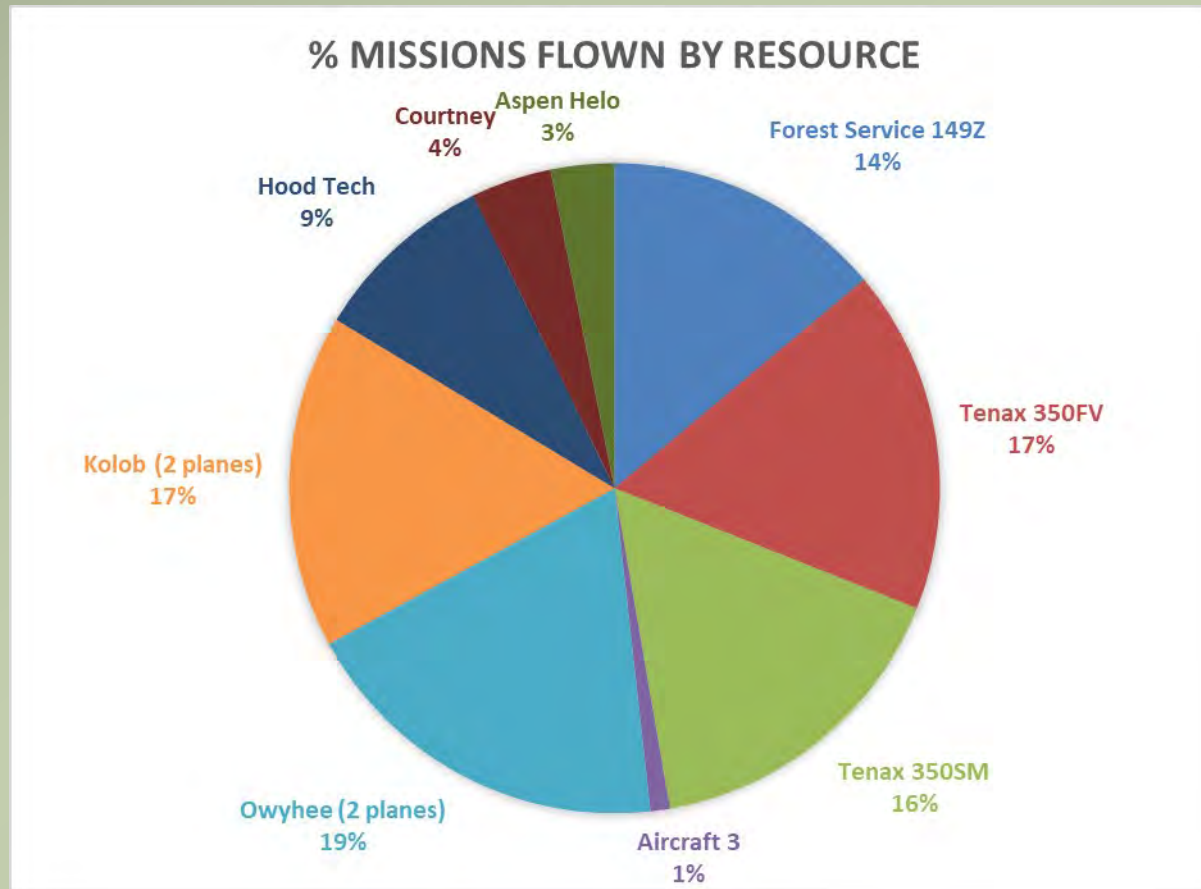
## IR Mapping Contracts

- Exclusive Use – Tenax (Boise, ID)
- End Product
  - Courtney Aviation (Columbia, CA)
  - Kolob Canyon (St. George, UT)
  - Hood Tech (Hood River, OR)
  - Owyhee Air (Nampa, ID)
  - Aspen Helicopters (Oxnard, CA)





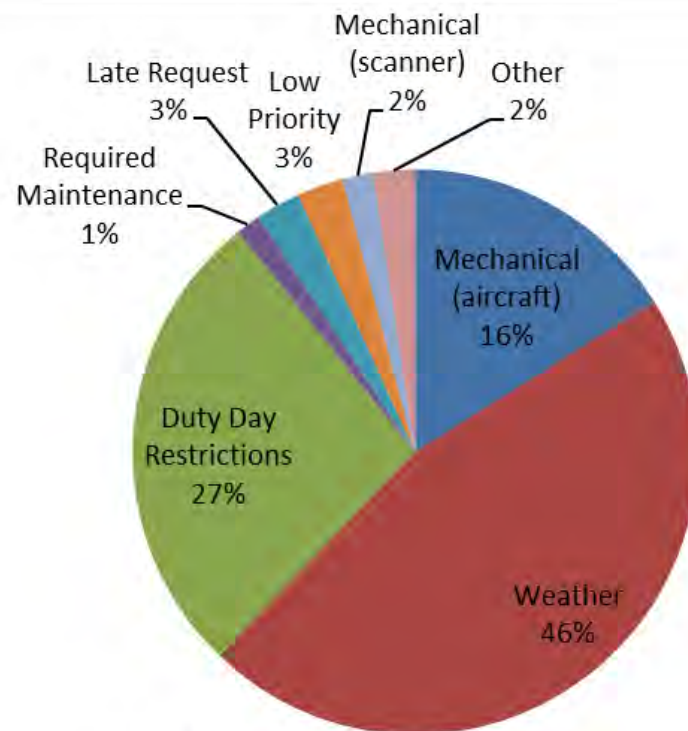
## All Hands On Deck





## UTFs (Unable to Fill)

- 1,132 total UTFs (NIROPS only)
- UTF rate drops from 29% to 16% when weather UTFs are not counted
- Duty Day restrictions and Mechanical (aircraft) are somewhat interchangeable



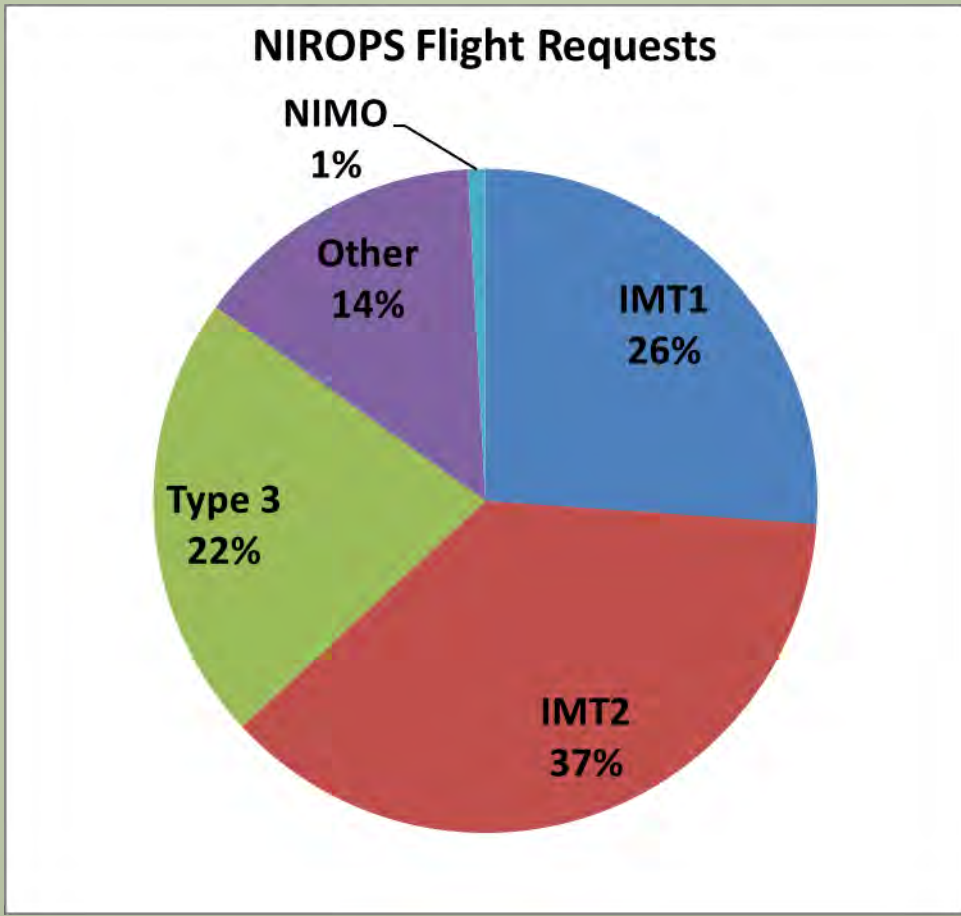
**2021 NIROPS UTF Reasons**



## Who is Requesting?

- Prioritization is key

Team Type	non-weather UTF rate
Other	27%
Type 3	21%
Type 2	12%
Type 1	10%



## Prioritization of Fires for IR

- Type of team assigned – Type 1, 2, 3, etc.
- Values at risk, WUI, evacuations
- Priority listings in National IMSR
- GACC priority listings
- ★ Geographic location and grouping of fires ★
- Activity during the day
  - Satellite fire detections – MODIS, VIIRS
  - Plume activity – visible satellite
- Consultation with NICC
- Heat detected from previous NIROPS flights
- Expected weather over incident
- Feedback from IRINs

## Extended Support to Incidents

- River Cx (CA) – 73 flights
- Monument (CA) – 72 flights
- Jack (OR) – 67 flights
- McCash (CA) – 64 flights
- Green Ridge (WA) – 63 flights
- Trail Creek (MT) – 60 flights
- Alder Creek – 60 flights
- Dixie (CA) – 56 flights
- Dixie (ID) – 52 flights
- Rough Patch Cx (OR) – 50 flights

## It Takes a Team!

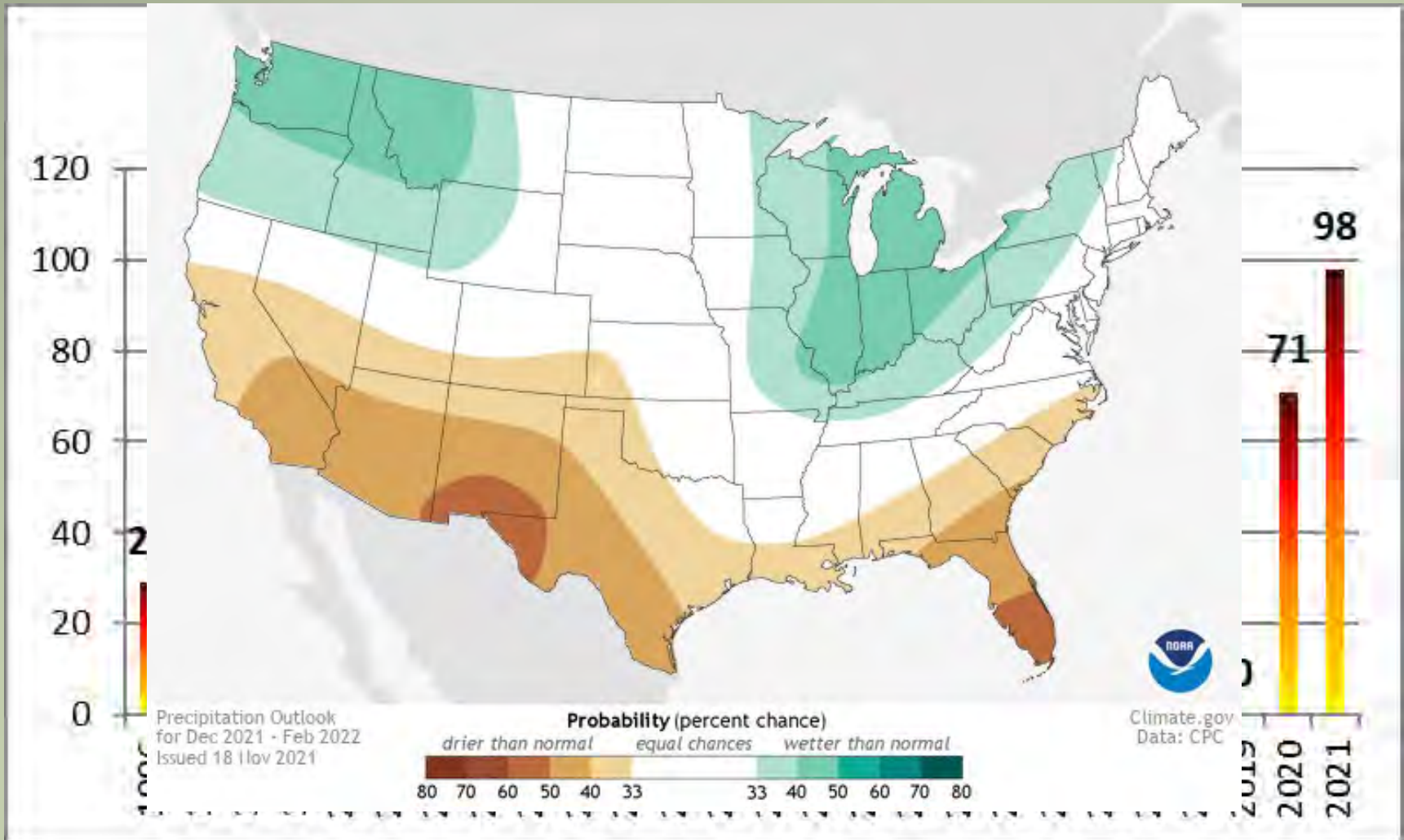
- IR Techs - 5 person FS, 7 Tenax, multiple end product
- Pilots – 3 FS fulltime, 7 Tenax, multiple end product
- 30 different IRINs, 3 trainees got assignments
- Vendors
  - Exclusive Use – Tenax
  - End Product – Courtney, Kolob, Hood Tech, Owyhee, Aspen Helo
- Virtual National IR desk activated ABQ and SLC
- Aircraft 3 (Firehawk) - AC3 liaison at GTAC and NGA analysts
- R4 Aviation maintenance crew
- Fire Imaging Program Manager key for interacting with vendors and briefing GACCs and IMTs on IR options

## Takeaways from 2021

- Vendor support essential esp. with only one FS plane
- Plane is getting older every year!
  - 149Z – 37 years old (1985)
  - Two new planes on the way
- Coordination with other IR resources is key
  - DRTI, MMA, AA51, FS Cobras, New fire imaging contract
  - Can sometimes reduce NIROPS requests
- Still a need for shapefiles as input to WFDSS, FLAMEMAP



## Next Year?.....

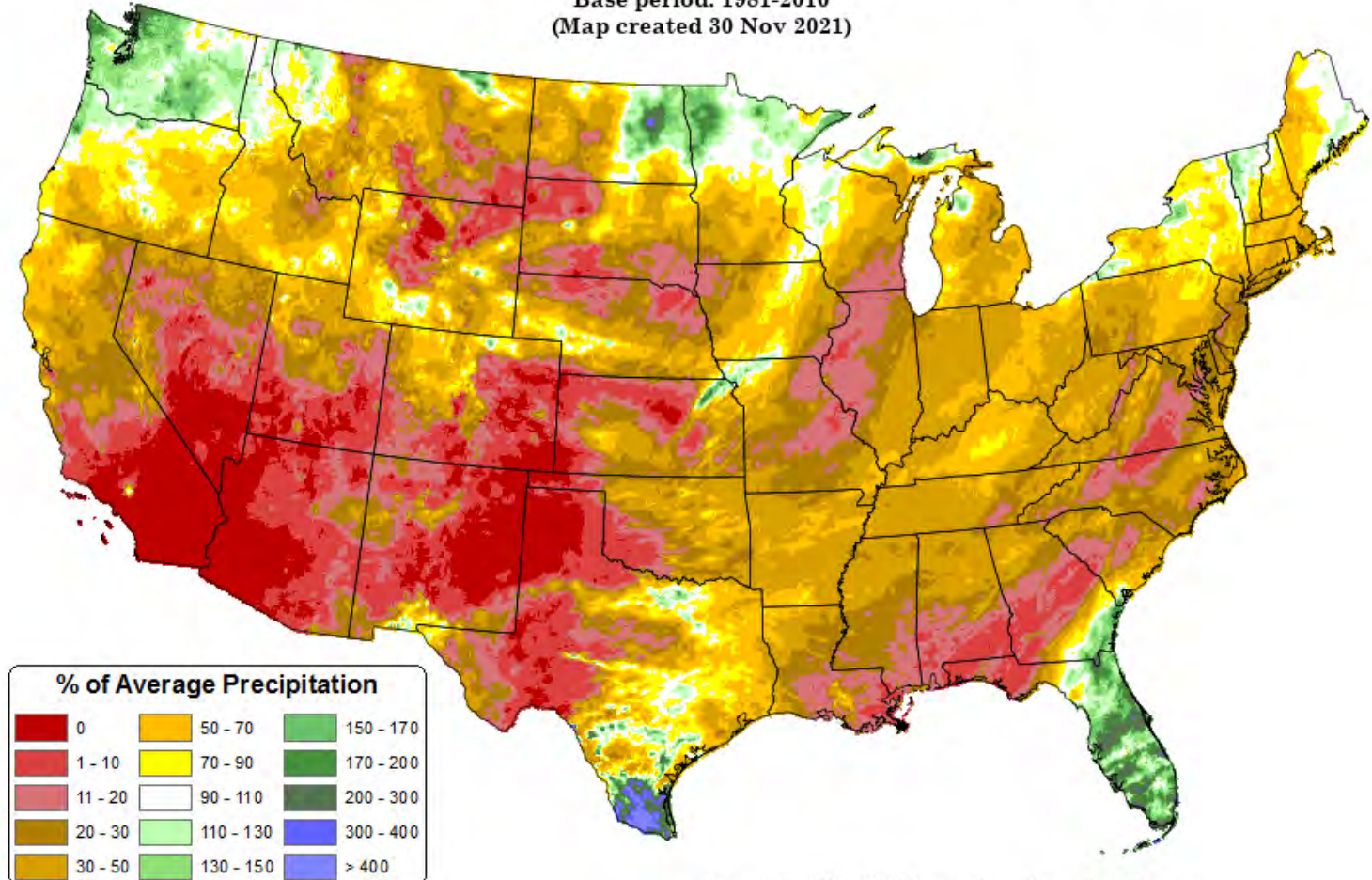






## Slow Start to Winter

**Total Precipitation Anomaly: 01 Nov 2021 - 29 Nov 2021**  
Period ending 7 AM EST 29 Nov 2021  
Base period: 1981-2010  
(Map created 30 Nov 2021)



## Looking ahead to 2022

- Two new FS King Air 250 planes
- Upgrades to Phoenix system
  - Reduced footprint, improved processing
  - Cryocoolers, no more liquid N!
- FS purchased TK-9 Overwatch sensor
- Inmarsat quad channel datalink