



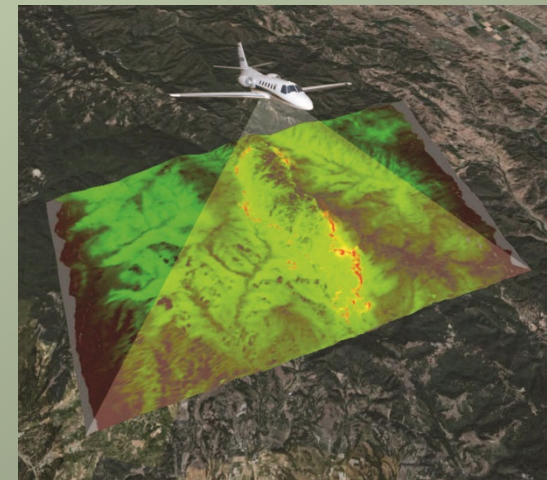
National Infrared Operations Update

TFRSAC Fall 2016

Tom Mellin,
National Infrared Program Manager

NIROPS Platforms & Systems

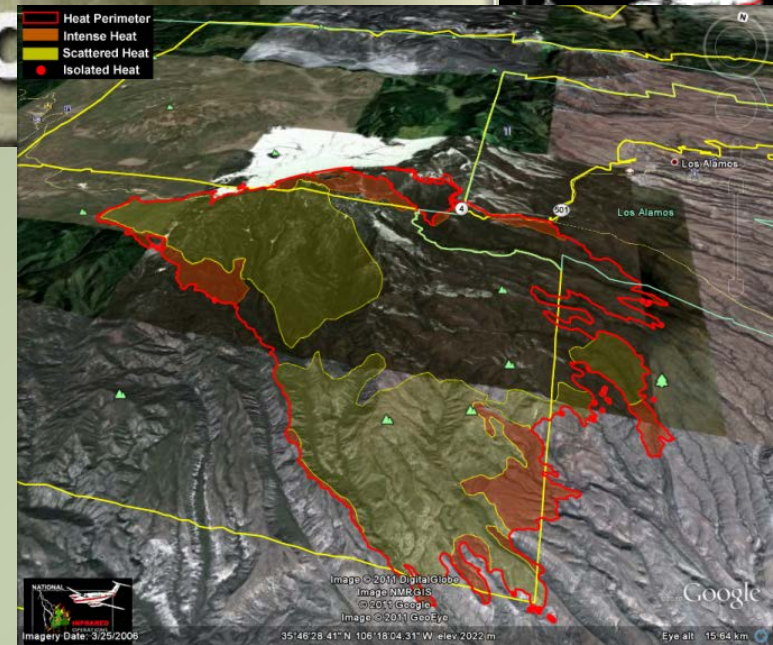
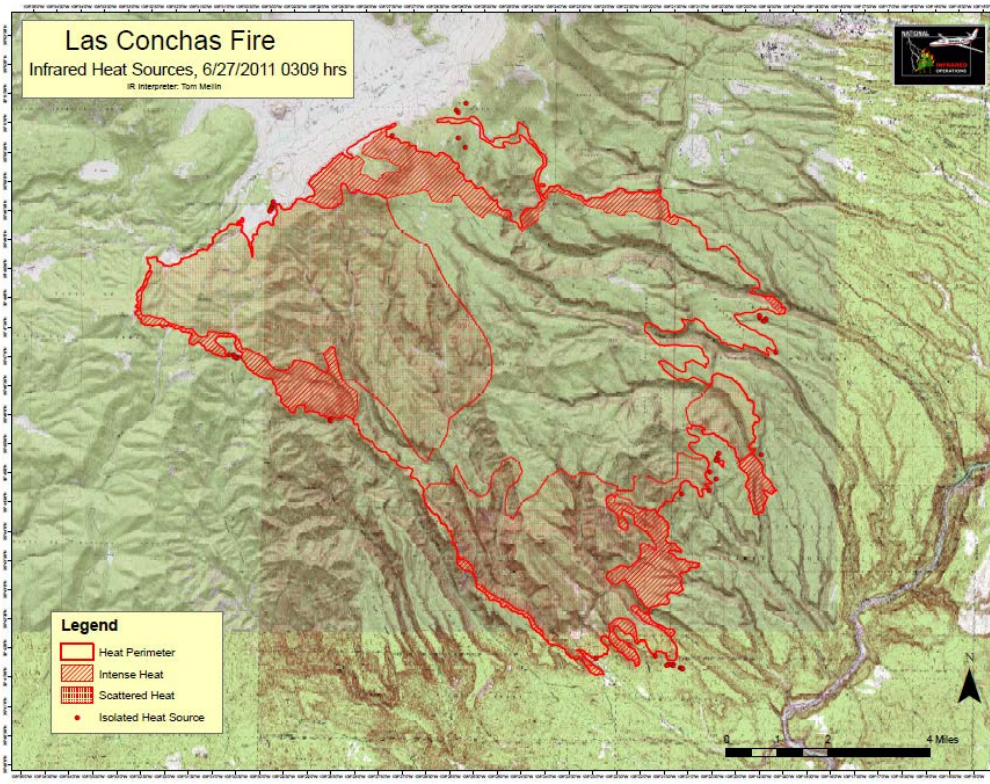
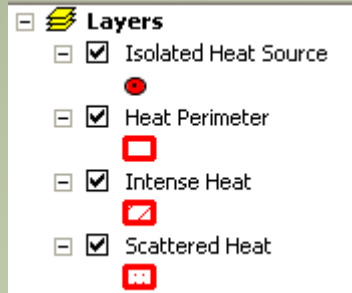
- 2 FS aircraft
- 3 Phoenix Imaging Systems
 - 2 thermal bands (3-5 μ m, 8-12 μ m)
 - 120° field of view
 - 6 mile swath at 10,000 ft AGL
 - Ortho-imagery delivered via Aircell
 - Can image 300,000 acres per hour
- Supplemental support via Aircraft 3
- Service ordered by the incident



NATIONAL INFRARED

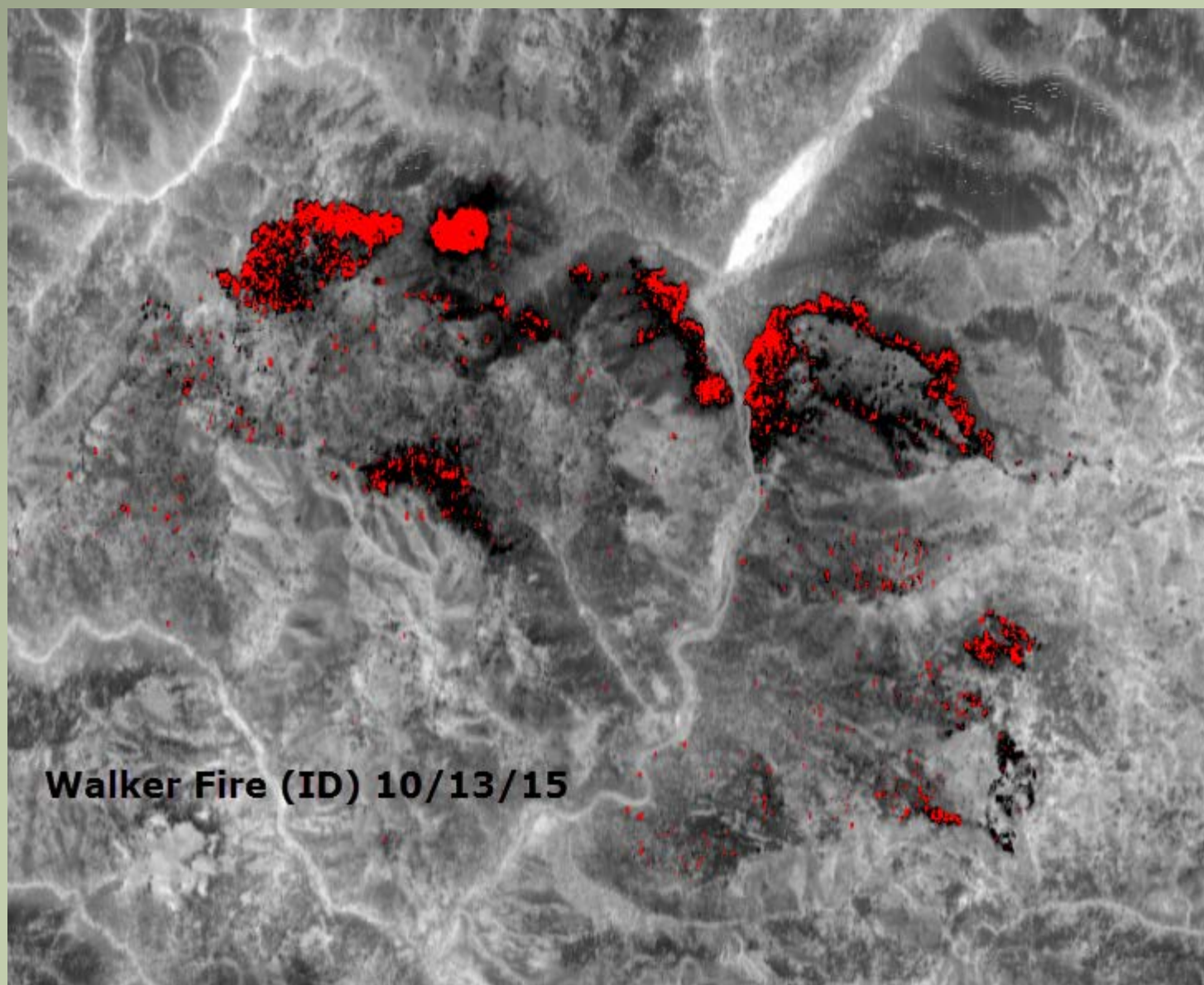
Products Delivered to Incident daily

Shapefiles, map, kmz, log



INFRARED INTERPRETER'S DAILY LOG			
Incident Name: Las Conchas	IR Interpreter(s): Tom Mellin	Local Dispatch Phone: 505-438-5600	Interpreted Size: 43,623 acres
Flight Time: 0309	Flight Date: 06/27/2011	Interpreter(s) location: R3 RO	Growth last period: n/a
	Interpreter(s) Phone: 505-301-8167	Regional Coordinator: Tom Mellin	National Coordinator: Tom Mellin
		Regional Coordinator Phone: 505-301-8167	National Coordinator Phone: 505-301-8167
Ordered By: Reinartz IMT	Order Number: 1492	Aircraft/Scanner System: 1492	Pilots/Techs: Johnson/Berain
IRIN Comments on imagery: 6 runs, only 5 that covered fire, all different directions, crew did great job to cover all the fire, orthorectification good, lots of sensor saturation and hot gases		Weather at time of flight: clear	Flight Objective: provide first perimeter for fire
Date and Time Imagery Received by Interpreter: 06/27/2011 0400		Type of media for final product: shapefiles, kmz, pdf map	
Date and Time Imagery Delivered to Incident: 06/27/2011 0600		Electronic file sent to: http://ftp.nifc.gov/incident_Specific_Data/SOUTHWEST/2011_Incidents/Las_Conchas/IR/20110627/	
Comments/notes on tonight's mission and this interpretation: This was the first look at the fire with no other initial perimeter to go on. Rough perimeter posted at 0500, then rest of shapefiles plus new perimeter posted later. On NE edge intense heat is 0.3 miles from Water Canyon and Ponderosa Campground. Area of Intense heat in Frijoles Canyon just south of Burnt Mesa. On SE edge of fire Intense heat in Capulin Canyon, Intense heat has reached San Miguel ruins, Sanchez Canyon, Eagle Canyon, and Cochiti Canyon, and up on to Horn Mesa. On SW edge, intense heat is almost to Woodard Ridge. West edge of fire is 0.3 miles from Los Griegos and 0.7 miles from Cerro Pelado Lookout. On Northern edge, heat has crossed North of Route 4 just East of Las Conchas Campground but still south of East Fork of the Jemez. Mostly the heat is south of Route 4. Isolated heat sources north of burnout are suspect and should be checked.			

NATIONAL **INFRARED** OPERATIONS



Walker Fire (ID) 10/13/15

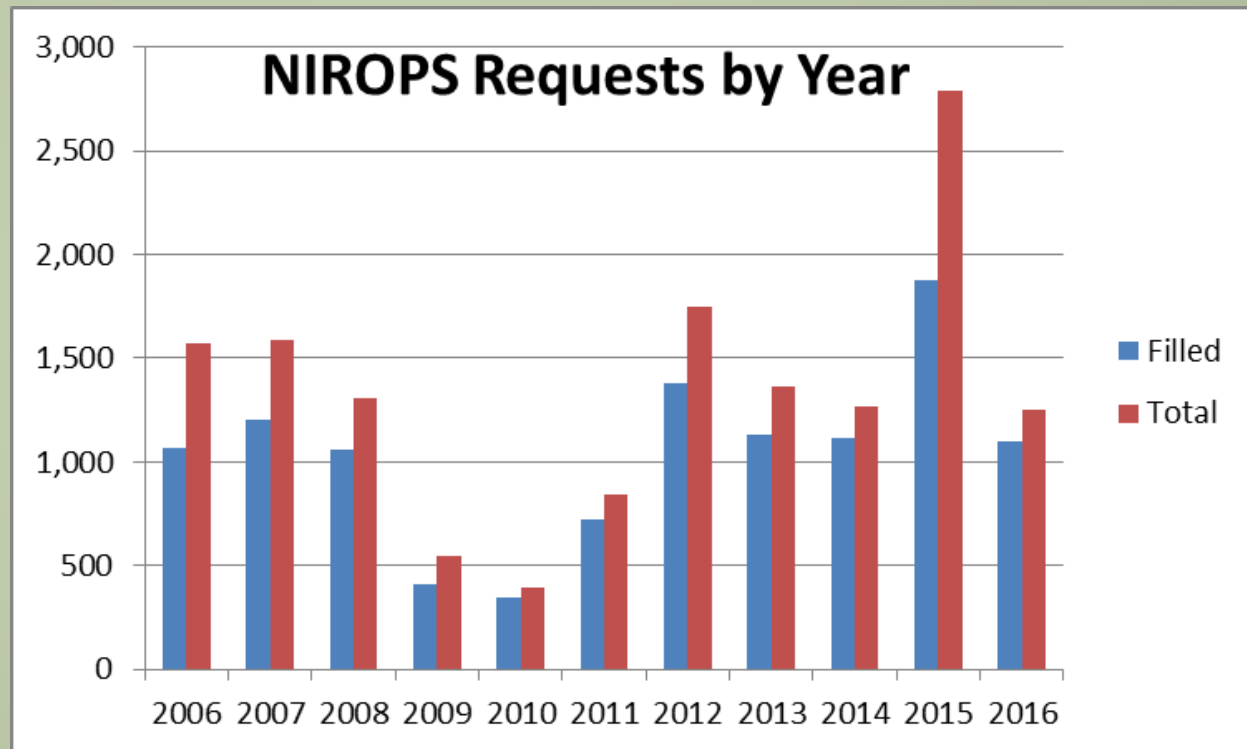


2016 –

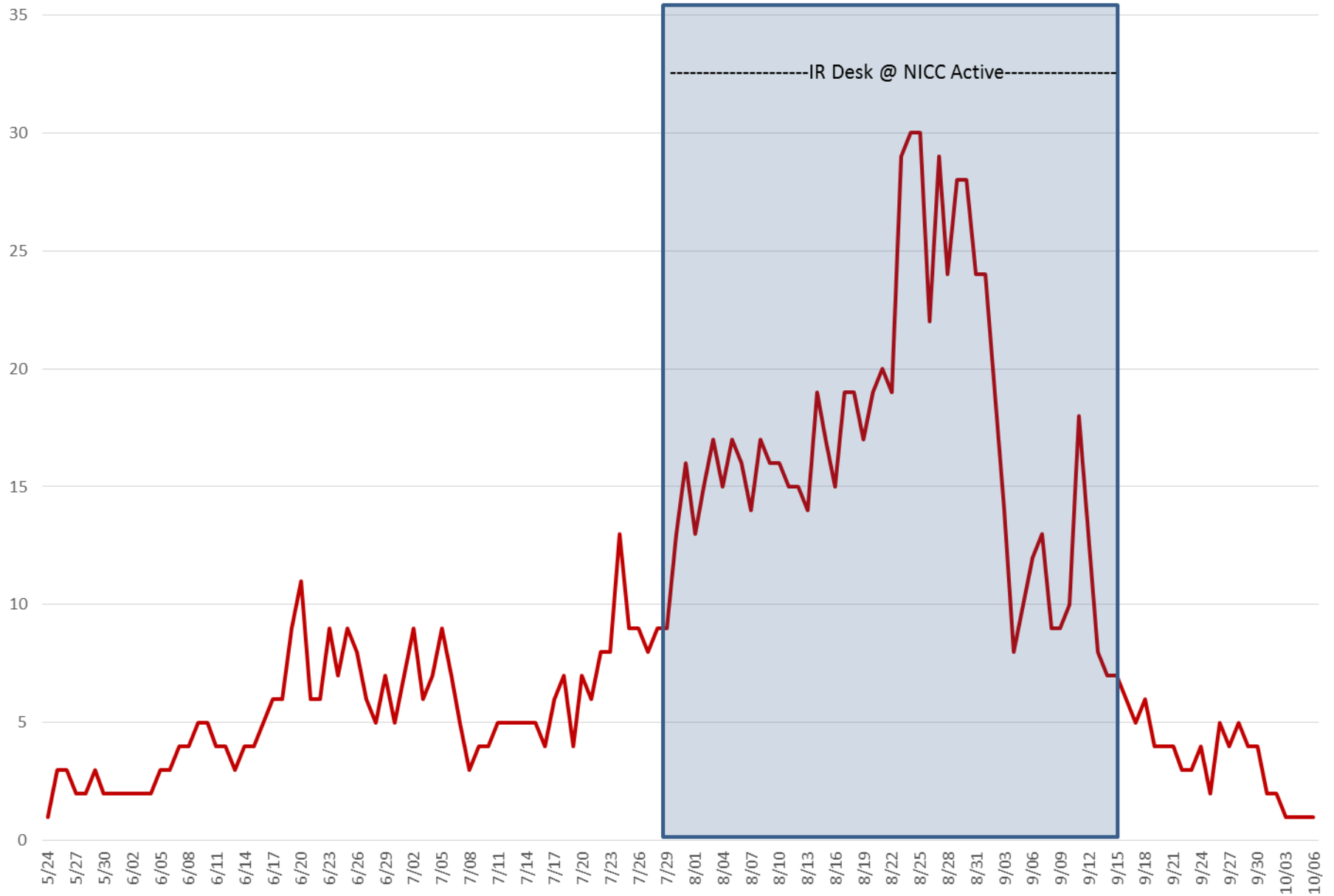
- 4.9 million acres burned as of Oct 14th, 75% of the ten year average (2006-2015)
- Slow start to the season
- More IR requests in CO, NM, AZ and WY than previous few years

2016 NIROPS Requests

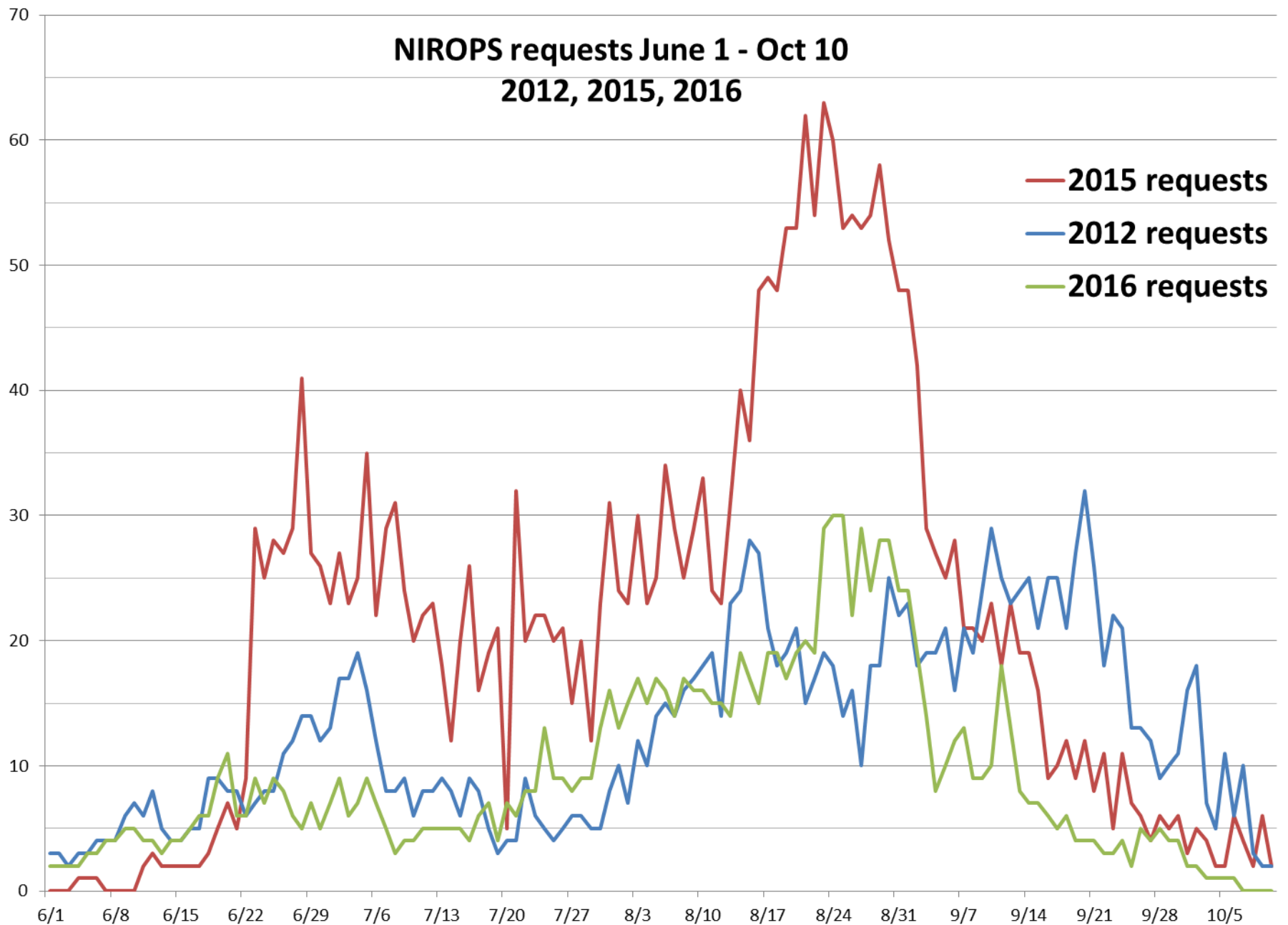
- 1,248 total requests with 1,096 filled
- 10 yr avg (2006-2015) 1,343 requests and 1,030 filled
- 12% UTF rate
- Aircraft 3 filled
5% of missions
(28% in 2015)



NIROPS requests, May 24 - October 6, 2016



NIROPS requests June 1 - Oct 10 2012, 2015, 2016



Busiest Night 2016 – August 30, 26 Fires

● N149Z (15 fires)

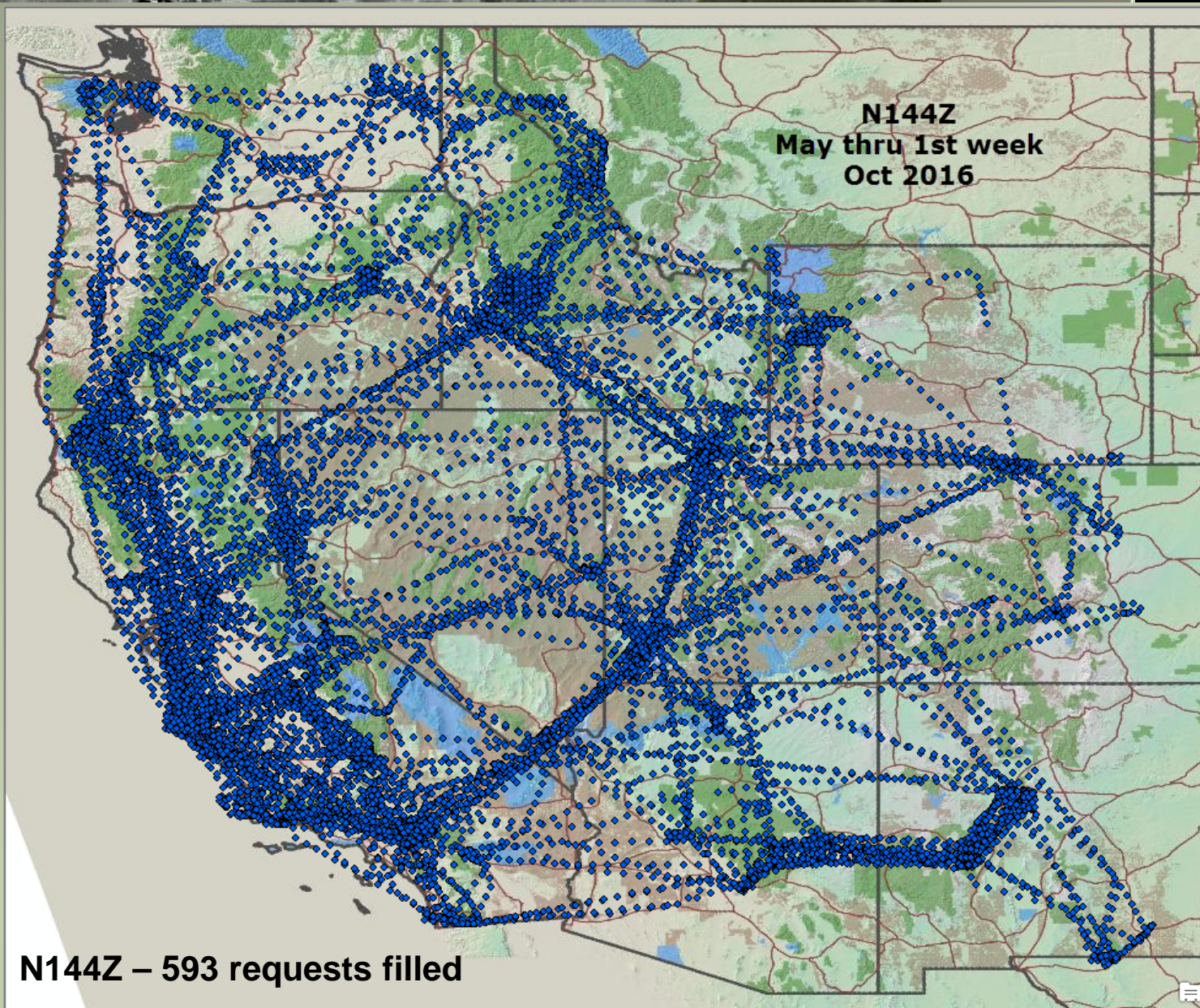
- Porcupine (UT)
- Box Canyon (UT)
- Peterson Hollow (UT)
- Willow Creek (UT)
- Berry (WY)
- Tatanka Complex (WY)
- Maple (WY)
- Pioneer (ID)
- Tie (ID)
- Elk Ridge (ID)
- Cedar (ID)
- Sixtytwo (ID)
- Moose (ID)
- Freeman (ID)
- Roaring (ID)

● N144Z (11 fires)

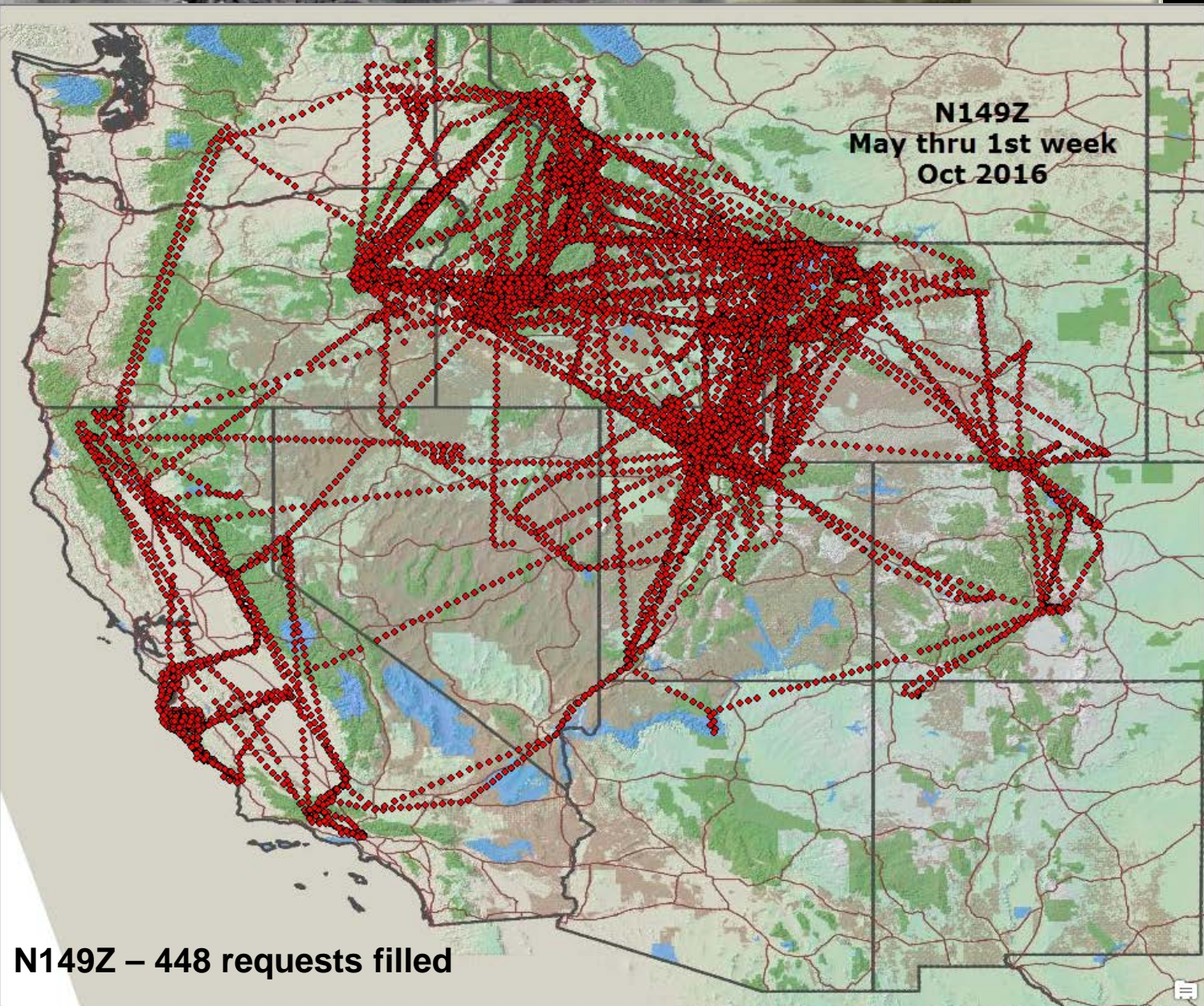
- Pony (CA)
- Tully (CA)
- Chimney (CA)
- Rey (CA)
- Cedar (CA)
- Gap (CA)
- Soberanes (CA)
- Bogart (CA)
- Rail (OR)
- John Doe (ID)
- Copper King (MT)

2015 Busiest night was 8/19 with 47 fires flown,
26 by 144Z, 16 by 149Z, 5 by AC3

NATIONAL INFRARED OPERATIONS

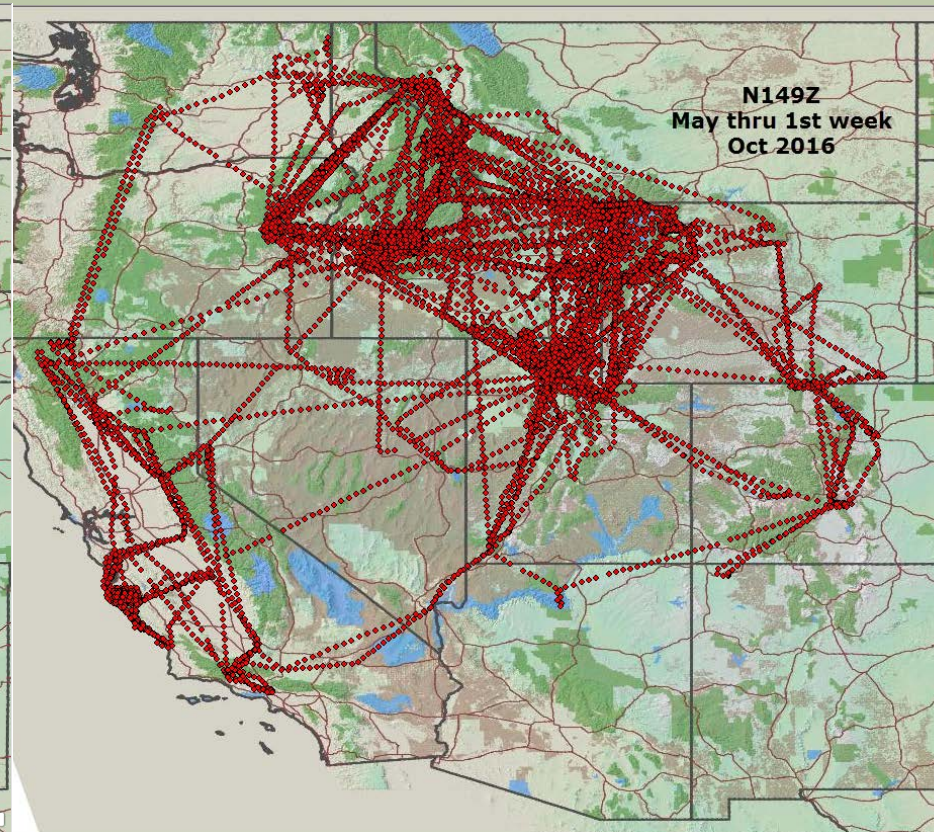


NATIONAL INFRARED OPERATIONS



N149Z – 448 requests filled

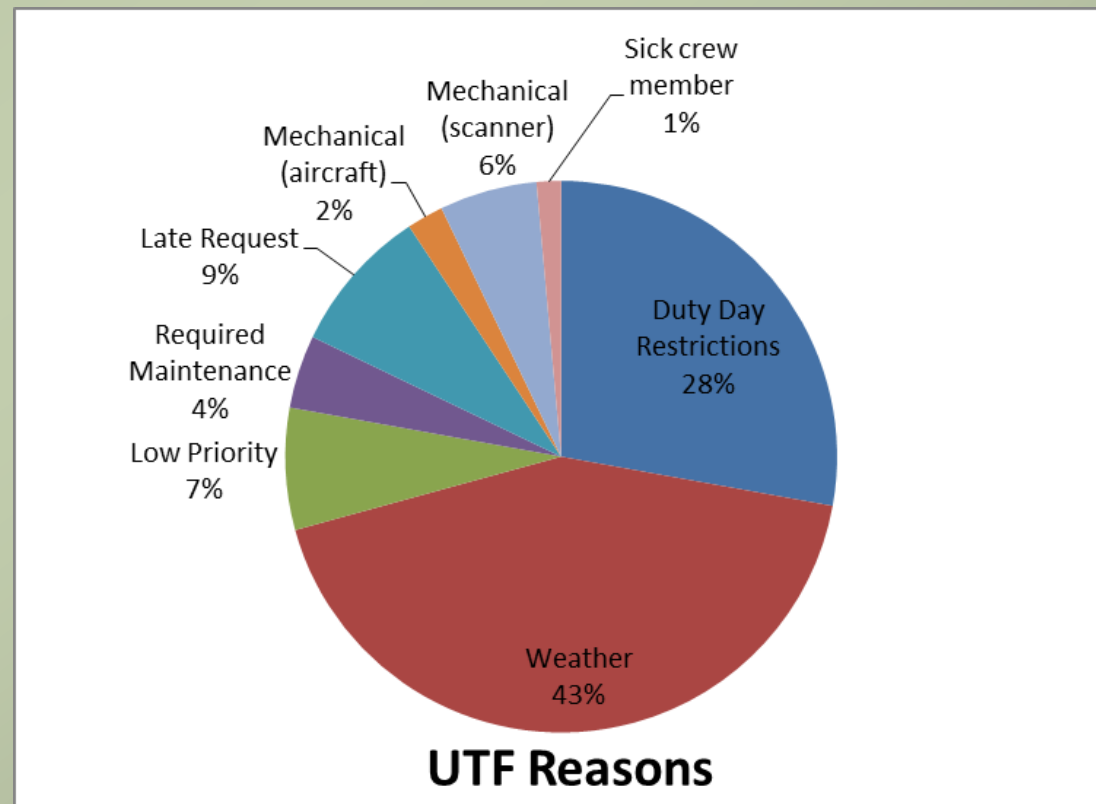
Aircraft Comparison



- N144Z (Citation Jet) is faster (370 kts vs 240 kts) and covers the west coast and farther flung fires
- N149Z has greater endurance (4 hrs vs 3 hrs)

UTFs (Unable to Fill)

- 140 total UTFs (NIROPS only)
- UTF rate drops from 12% to 6% when weather UTFs are not counted
- UTF for Aircraft 3 - 17% (10% non-weather)

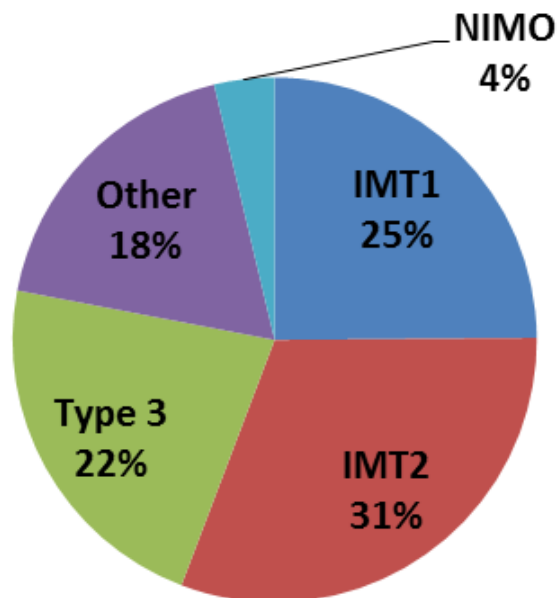


Who is Requesting?

- 50 orders did not fill out

Team Type	non-weather UTF rate
Other	14%
Type 3	7%
Type 2	5%
Type 1	4%
NIMO	29%

NIROPS Flight Requests



All NIMO orders were for Beaver Creek (CO)

Extended Support to numerous incidents

- Soberanes (CA) – 75 flights
- Pioneer (ID) – 61 flights
- Beaver Creek (CO) – 50 flights*
- Cedar (CA) – 35 flights
- North (NM) – 32 flights
- Saddle (CA) – 31 flights
- Rail (OR) – 31 flights
- Copper King (MT) – 27 flights
- Lava Mountain (WY) – 23 flights
- Cliff Creek (WY) – 22 flights

*39 flights by Aircraft 3



It Takes a Team!

- IR Techs - 5 person rotation
- Pilots – 6 FS fulltime
- 35 different IRINs, 2 trainees got assignments and got signed off
- National IR desk staffed from 7/29 to 9/15 by 3 different IRCNs
- Aircraft 3 (Firehawk) coverage key during maintenance on NIROPS aircraft- AC3 liaison at RSAC and NGA analysts
- R4 Aviation maintenance crew

Takeaways from 2016

- Useful to have desk active at PL 3 (“strong 3”) depending on IR demands
- Full pilot staffing is great!
- When best to utilize other IR resources
 - Small fires, initial attack, early stages
 - Fire cooling down, mostly hot spot detection
- Other IR resources are complementary to NIROPS

Questions?



Photo: Initial Attack Fire Media