



## Overview of Federal Wildfire Remote Sensing Support 2018

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GWIS & GOFC Fire IT Meeting October 2018

## Fire Season to Date\*

- Currently Planning Level 5
- Total Fires: 48,946 (10 yr avg: 51,909)
- Acres Burned: 7.74 million acres
  - 10 year avg: 5.9 million acres
- National Fire Activity
  - Initial Attack Activity: Light (52 fires)
  - New large incidents: 2
  - Large fires contained: 0
  - Uncontained large fires: 19
    - Uncontained large fires include only fires being managed under a full suppression strategy.
  - NIMOs committed: 1
  - Type 1 IMTs committed: 4
  - Type 2 IMTs committed: 6

\* As of September 28<sup>th</sup> 2018

Google "Daily Situation Report"



### Fire Season to Date\*

#### **National Planning Level 3**



#### GEOGRAPHIC AREA PREPAREDNESS LEVELS

Alaska	1	Eastern	1
Great Basin	3	N. California	3
N. Rockies	1	Northwest	2
Rocky Mtn	2	Southern	2
S. California	2	Southwest	1



#### The Five Preparedness Levels

Each Preparedness Level has specific management directions. As the Preparedness Levels rise, more federal and state employees become available for fire mobilization if needed.

- PL 1 Minimal large fire activity nationally. Most Geographic Areas have low to moderate fire danger. There is little or no commitment of national resources.
- PL 2 Several Geographic Areas experiencing high to extreme fire danger. Wildland fire activity is increasing and large fires are occurring in one or more Geographic Areas. Minimal mobilization of resources from other Geographic Areas is occurring. The potential exists for mobilizing additional resources from other Geographic Areas.
- PL 3 Two or more Geographic Areas are experiencing wildland or prescribed fire activities requiring a major commitment of national resources. Additional resources are being ordered and mobilized through the <u>National Interagency Coordination Center</u> (<u>NICC</u>). Incident Management Teams are committed in two or more areas, or 275 crews are committed nationally.
- PL 4 Two or more Geographic Areas are experiencing incidents requiring Type 1 Teams. Competition exists for resources between Geographic Areas. When 425 crews or five Type 1 Teams are committed nationally.
- PL 5 Several Geographic Areas are experiencing major incidents which have the potential to exhaust all agency fire resources. When 550 crews are committed nationally.



## Fire Mapping- 2018 Summary

We have completed 1,133 overhead missions so far this season.

- King Air (149Z) 516 missions
- Citation (144Z) 455 missions
- Firehawk (AC3) 162 missions

Firehawk/AC3 accounts for 14% of this total.

As of August 31, 2018



## **Current Mapping Capabilities - NIROPS**

#### **NIROPS Fire Mapping**

- 2 Forest Service aircraft
- 3 Phoenix Imaging Systems
  - 2 bands (3-5µm, 8-12µm)
  - 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\*
- Overhead support ordered by the incident
- Both aircraft use the Aircell telecommunications system to downlink acquired imagery to an FTP site









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#### **Current Capabilities – National Systems**

- Firehawk Fire Mapping Capability (Aircraft 3)
  - The Firehawk capability provides large scale fire detection/mapping support to incident command operations. The Firehawk product is designed to have the same "look and feel" as products from NIROPS.

#### Hawkeye Fire Detection and Reporting System

- The Hawkeye Fire Detection and Reporting System uses airborne and space borne remote sensing assets to rapidly detect and report new fire starts within the continental United States.
- Detected fire starts are relayed to the Ignition Point Database (IgPoint) operated and managed by the Forest Service.



## Fire Mapping- 2018 Additional AC3 Statistics

Overall support: 93 days/nights (!)

Monthly breakdown:

- April 5
- May 12
- June 18
- July 30
- August 28

All GACCs except Eastern have had AC3 support.

AC support was almost entirely Type 1 or 2 fires.

Bottom Line: Without AC3, those Type 1 and Type 2 fires (162) would not have received overhead support. The value of National System support to wildland fire cannot be overstated.

# GTAC

#### Aircraft 3 – Manpower Issues

- All 2018 AC3 work has been done by two primary analysts (Earl Wilson and Joe McQuade), with Elise Bowne helping out the last few weeks.
- In 2017, we had 16 analysts supporting the program.
- We desperately need existing/new cleared support from the civil community to provide the needed manpower to support the program during the fire season.
- There is an ongoing effort to locate already cleared people that have ready access to appropriate facilities across the country.
  - It is quicker to train cleared people than get trained people through the clearance process.
  - Currently, a new clearance takes 18 to 24 months



# Hawkeye Fire Detection & Reporting 2018 to date

HawkEye anomalies for FY2018 for all U.S. and Canada

Hawkeye Anomaly Detection Stats – FY2018			
Quarter	Anomalies		
FY2018Q1	26,491		
FY2018Q2	33,309		
FY2018Q3	22,573		
FY2018Q4 (thru Aug 28)	20,466		
Total Anomalies	102,839		



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### Hawkeye Anomalies 2018 – Central US



#### Hawkeye Anomalies 2018 – Northern Latitudes



#### Remote Sensing Working Groups

- Tactical Fire Remote Sensing Advisory Committee (TFRSAC) The TFRSAC is co-hosted by NASA and the Forest Service and is a broad collaborative forum for advancing and enabling the development and delivery of remote sensing platforms, sensors and decision support tools to the wildland fire community.
  Focus: largely unclassified.
  - The TFRSAC meets biannually and includes representatives from federal and state agencies, academic institutions, international partners, and the vendor community.
- Thermal Working Group (TWG) has authority and responsibilities as a standing sub-working group under the Overhead Persistent Infrared (OPIR) Working Group (OWG) and Civil Applications Committee (CAC). The TWG is the coordinating body for advancing and enabling the development and delivery of data, information or products derived from classified thermal remote sensing platforms to civil users. Focus: largely classified.
  - The Thermal Working Group meets frequently, often in concert with the TFRSAC meetings.



#### **Remote Sensing Working Groups**



## Takeaways

- The value of National System support to wildland fire cannot be overstated.
- We desperately need existing/new cleared support from the civil community to provide the needed manpower to support the program during the fire season.
- We are actively working to find new cleared civil personnel to support exploitation.
- We are actively working to develop enhanced capabilities that build on Hawkeye.



#### **Comments / Questions?**

#### **Upcoming Meetings:**

October 23 - NIROPS Closeout & Thermal Working Group October 24 - Tactical Fire Remote Sensing Adv. Comm.



