

# UNMANNED AERIAL SYSTEM (UAS) ON WILDLAND FIRE

ENHANCED EARTH OBSERVATIONS = NEW SCIENCE = MORE INFORMED  
DECISIONS

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# OVERVIEW

## Fire Fighters Toolbox

### TYPES OF UAS

### SAFETY

## USE OF UAS FOR WILDLAND FIRE

- LOW RISK OPERATIONS
- HIGH RISK OPERATIONS

## FAA RULES AND REGULATIONS

## MOVING FORWARD



# FIRE FIGHTERS TOOLBOX

WHAT IS IN YOUR  
TRUCK?





# VTOL Platform (Vertical Take-off / Landing)

- Quick Assembly
- Persistent stare capability
- Four, Six, and Eight stabilizing propellers
- Flight time for 16-22 mins
- Multiple sensor options



[HTTP://WWW.YOUTUBE.COM/WATCH?V=VZX01HC1R7G](http://www.youtube.com/watch?v=VZX01HC1R7G)





# Fixed Wing Platform

- Little to No Assembly
- Quick Deploy after pre-flight review
- Withstand higher sustained winds
- Longer Flight Time (1 hour +)
- Multiple sensor options



..\\NC FOREST SERVICE\\RX SWIR SAMPLE.WMV



# SAFETY

## WERE AND WHEN TO FLY!



**USDA**  
United States Department of Agriculture

## IF YOU FLY, WE CAN'T

**DRONES NEAR WILDFIRES ARE NOT SAFE**

- FLYING DRONES OR UAS (UNMANNED AIRCRAFT SYSTEMS) WITHIN OR NEAR WILDFIRES WITHOUT PERMISSION COULD CAUSE INJURY OR DEATH TO FIREFIGHTERS AND HAMPER THEIR ABILITY TO PROTECT LIVES, PROPERTY, AND NATURAL CULTURAL RESOURCES
- FIRE MANAGERS MAY SUSPEND AERIAL FIREFIGHTING UNTIL UNAUTHORIZED UAS LEAVE THE AREA, ALLOWING WILDFIRE TO GROW LARGER.
- CONTACT YOUR NEAREST LAND MANAGEMENT AGENCY OFFICE TO LEARN MORE ABOUT UAS AND PUBLIC LANDS

**U.S. Forest Service**



# LOW RISK OPS

- FIRE RESEARCH
  - FIRE WEATHER MONITORING
  - RADIOSONDE INSTRUMENTS
  - PRE, ACTIVE, & POST BURN
- MONITORING AND OBSERVATION ON  
RX FIRES

# HIGH RISK OPS

- FIRST RESPONSE TO WILDLAND FIRES (EARLY DETECTION AND MONITORING)
- RISK MITIGATION TO STRUCTURES AND RESOURCES (RESIDENCE, BUSINESS and HIGHWAYS DOWN WIND)
- CONTINUING SITE MONITORING AND MAPPING



# FAA REGULATIONS & RULES

- FAA MODERNIZATION AND REFORM ACT OF 2012
  - CIVIL (PUBLIC AGENCIES) UAS IN NAS
- CERTIFICATE OF AUTHORIZATION (COA)
- COMMERCIAL UAS USE – EXEMPTION 333 PETITION THE FAA
- VOLUNTEERS



# MOVING FORWARD

THE WAY FORWARD... COLLABORATION IS  
THE KEY

- GREEN SWAMP TEST SITE / UAS WORKING GROUP
- IMPROVE AWARENESS OF POTENTIAL APPLICATIONS
- POOL ASSETS AND LEVERAGE RESOURCES

[WWW.CONSERVATIONDRONE.ORG](http://WWW.CONSERVATIONDRONE.ORG)

[WWW.DIYDRONE.COM](http://WWW.DIYDRONE.COM)

[WWW.SUAS.COM](http://WWW.SUAS.COM)

[WWW.UASVISION.COM](http://WWW.UASVISION.COM)

ASSOCIATION FOR UNMANNED VEHICLE SYSTEMS  
INTERNATIONAL (AUVSI)



# CONCLUSION

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## QUESTION?



