The FAA and your Drone program!
UAS Groups

- Micro UAS – under .55 lbs
- sUAS - .55 to 55 lbs
- Over 55 lbs requires aircraft certification
Pilot/Operator Classifications

• Hobbyist – Uses guidance from AC 91.57A, no certificate required!
Pilot/Operator Classifications

• Commercial Operator – requires testing to receive Part 107 Remote Pilot-in-Command Certificate
Pilot/Operator Classifications

• Public Aircraft Operator – Government agency (any level)
  Requires Certificate of Authorization
How can public agencies fly legally?

- Blanket COA
  - Pilots
- Jurisdictional COA
  - Pilots
- Part 107 Pilots
Certificate of Authorization (Public Safety)

- Granted only to government agencies
- Allows for self certification of aircraft and pilots
- Outlines limitations on operations
- Includes reporting requirements
- Requires agency to verify aircraft airworthiness
- Requires registration of aircraft
- Valid for 24 months, simple renewal process
- Can be amended
Blanket COA

- Operations limited from surface to 400 above ground
- Operations only permitted within Class G airspace
- Day and night operations permitted
- Valid anywhere in Class G airspace
- Takes 2-6 weeks for approval
Jurisdictional COA

- Operations can be approved above 400 feet above ground
- Operations can be approved in any controlled airspace
- Day and night operations permitted
- Can make safety case for otherwise restricted operations
- Takes 60-90 days for approval
- Once approved, allows for broadest operating parameters of any certification level
Part 107

- Operations limited from surface to 400 above ground
- Day time operations only
- Operations in Class G airspace only
- Must pass 60 question FAA test at testing facility
- Allows for waivers for night, controlled airspace, and other limited operations
- Waivers can take up to 60 days
- Pilot elects to operate under Part 107
Visual Observer

- Use of a Visual Observer (VO) is required under public safety Certificate of Authorization
- Use of a Visual Observer is voluntary under FAA Part 107
- It is the responsibility of the Pilot in Command (PIC) to ensure the VO is appropriately qualified for the mission
# Weather Hazards for UAVs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Results</th>
<th>Risk to UAVs</th>
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</thead>
<tbody>
<tr>
<td>Heat</td>
<td>Less Lift</td>
<td>Motors work harder, battery life shortened</td>
</tr>
<tr>
<td>Rain</td>
<td>Liquid Water in Atmosphere</td>
<td>Unsafe to operate electronics</td>
</tr>
<tr>
<td>Lightning</td>
<td>Electricity in Atmosphere</td>
<td>Unsafe to operate electronics</td>
</tr>
<tr>
<td>Cold</td>
<td>More Lift</td>
<td>Battery too cold to operate</td>
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<tr>
<td>Fog/Mist/Smoke</td>
<td>Poor Visibility</td>
<td>May not be VFR, unable to keep UAV in sight</td>
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<tr>
<td>Wind</td>
<td>Windy</td>
<td>Wind may be too high for UAV to remain stable</td>
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Airspace Classification

Class A
18,000' MSL

Class B
14,500' MSL
Nontowered airport with instrument approach

Class C
1,200' AGL
700' AGL

Class D
Nontowered airport with no instrument approach

Class E
1,200' AGL
700' AGL

Airspace
Some of Newport Utilities missions for the drone.
Halls Top fire
Primary Sub heat signatures
Questions ???