UAV/UAS Status in ASRC

• Since the retreat, both MARG and DelMARVA have continued to make progress in trying out different aspects of using the UAV/UAS technology with a focus on:
  – Use as a Search Sensor
  – Use as a Mapping Sensor

• MARG has 2-4 people that will be taking the Remote pilot exam in September.

• The regulatory environment continues to be very dynamic.
Our Efforts in 2016 and Beyond

• Concept of Operations (CONOP) for ASRC Use of UAV/UAS Capabilities
• Experimentation
• Field Exercises
• ASRC UAS Response Team
• We have identified 4 primary use cases for UAV or UAS (Unmanned Aerial Systems)

• We are focusing our efforts on getting more experience flying to better understand how we can use this technology before we flesh out further our processes and use cases.

• Concept of Operations (CONOP) for ASRC Use of UAV/UAS Capabilities
  – 1.0 Introduction
  – 2.0 UAS Use Cases
    – For each use case discuss the process(s) used to execute the use case
      • 2.1 Flying UAS Sensors to Search an Area - discuss both real-time and post-flight exploitation operations
      • 2.2 Flying UAS Sensors to Map an Area – discuss how we use airborne sensors to provide up to date mapping for a search mission.
      • 2.3 Flying UAS Packages for Communications Relay or Assist (Lower Priority) – discuss how we fly COMMS relays/repeaters and communicate directly with subjects or searchers in the field.
      • 2.4 Flying UAS for Payload Delivery (Lower Priority) – discuss how we deliver payloads to subjects or searchers in the field or from the field back to base.
    – 3.0 General Overview for Operating a UAS Safely – discuss common operating processes for multiple use cases and resources required to operate; discuss safety considerations and how we address them across the range of use cases
Experimentation

• AMDR/AMDH Experiments
  – Supports Sweep Width Experiment Design
  – Developed “Pilot” version of an AMDR/AMDH experiment

• Sweep Width Experiments
  – Planning for UAV/UAS Sweep Width Experiments once we get sufficient data from the AMDR/AMDH experiments
Field Exercises

• Plan to “fly” in future ASRC Field SAREXs

• Execute test runs of both Mapping and Searching Use Cases to gather lessons learned and establish/refine mission processes
ASRC UAS Response Team

• Is there an interest in establishing an ASRC UAS Response Capability?
  – Team would leverage the combined set of UAV operators across the ASRC to provide a capability
  – This team would set it’s own safety and operating guidelines based on the latest FAA regulations and other legal constraints
  – Proposed use of Remote Support model of a “reach back” capability within the ASRC to augment a search effort with something that may not be organic to the Group responding on-scene
Feedback

• We need to accelerate our learning/research efforts
  – That said, we need to identify a UAV Operator or enthusiast to help lead the community

• Of the efforts described, what does the conference want the community to focus on?
  – CONOP Development?
  – Experimentation?
  – Field Exercises?
  – UAS Response Team?