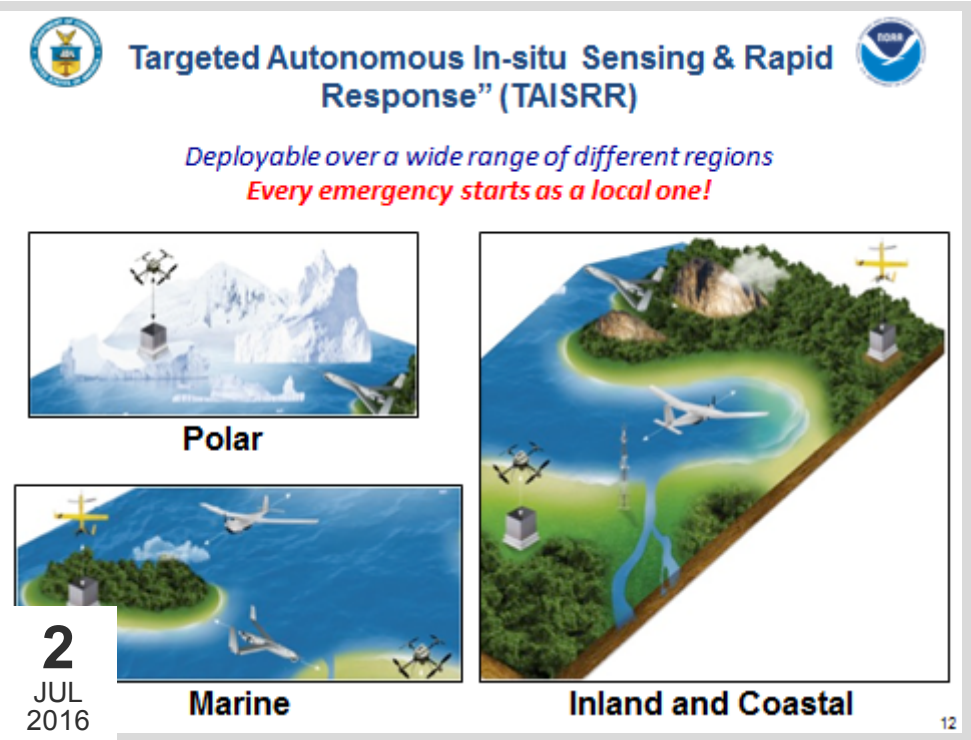

2 JUL 2016

NOAA UAS Program Briefs at the American Institute of Aeronautics and Astronautics (AIAA) 2016 Convention

NOAA Atmospheric, Marine and Polar Monitoring Using UASs (including Rapid Response)

The NOAA UAS Program presented at the 2016 AIAA Symposium which brought together stakeholders from academia, government, and industry to identify research challenges that will lead to operational opportunities for the Unmanned Aerial Systems (UAS) community at the Washington DC Hilton on June 16th. With international aeronautical leaders present, the brief examined how UAS are catalysts for autonomy, robotics, and machine intelligence, and how they have the potential to change the nature of civil and military aviation. NOAA is finding that unmanned systems have the potential to efficiently, effectively, economically, and safely bridge critical observation requirements in an environmentally friendly manner.

As the United States' Atmospheric, Marine and Polar areas of interest expand and include hard-to-reach regions of the Earth optimizing unmanned capabilities will be needed to advance the United States' science, technology and security efforts. Through increased multi-mission and multi-agency operations using improved inter-operable and autonomous unmanned systems, the research and operations communities will better collect environmental intelligence and better protect our Country against hazardous weather, environmental, marine and polar hazards. This presentation examined NOAA's Atmospheric, Marine and Polar Monitoring UAS strategies which included developing a coordinated effort to maximize the efficiency and capabilities of unmanned systems across the federal government and research partners. Numerous intra- and inter-agency operational demonstrations and assessments have been made to verify and validated these strategies. The highlights included real-time data distribution and data management, and the introduction of the Targeted Autonomous Insitu Sensing and Rapid Response (TAISRR) with UAS concept of operations.

TAISRR is the concept for a network of small capable of obtaining frequent, high-resolution measurements of the atmospheric boundary layer (ABL) while providing the framework to satisfy a multitude of other observational and disaster rapid response needs. This state-of-the-art observational system capitalizes on the strengths of several emerging and rapidly developing UAS capabilities. From a meteorological standpoint, TAISRR is capable of providing routine, high-resolution in-situ measurements of pressure, temperature, humidity, wind speed, and wind direction across a given

region with a reliability comparable to the existing Automated Surface Observing System (ASOS) network. The Rapid Response component TAISRR has already been demonstrated national in several natural disaster emergencies. The importance of pre-planning, coordination, communication, demonstrations, socializing, training and best practices shared with local emergency response organizations and UAS operators was highlighted.

Is this is an issue of potential concern?	
This item has high visibility	
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