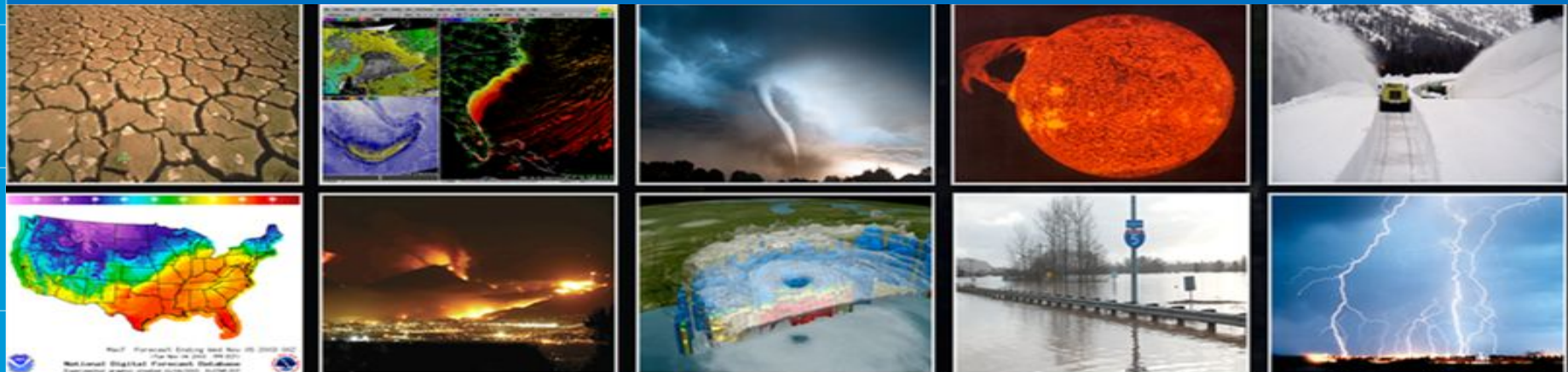
Building a Weather-Ready Nation

NOAA
National
Weather
Service

Dr. Louis W. Uccellini, NWS Director

NWS Partners' Meeting

Washington D. C. - March 26, 2019



Outline

- **WMO**
- **Vision for the NWS**
- **Budget**
- **General Update**
  - Impact of the shutdown
- **Q&A**

WMO

WMO

Louis W. Uccellini, Ph.D., has declared his candidacy for President of the World Meteorological Organization, or WMO.

Dr. Uccellini is the NOAA Assistant Administrator for Weather Services and Director of the National Weather Service, and is the U.S. Permanent Representative to the WMO. His decision to seek the Presidency of the WMO is a reflection on both his high standing in the international weather, water and climate enterprise, as well as the importance of U.S. policy and actions in these areas on the world's communities.

> *"I am running for President of the WMO because I believe the course we set for the WMO now will determine our relevance for decades to come. I strongly believe the challenges and opportunities we face are global and must be dealt with in a spirit of partnership, a spirit that was an essential component that built the global observing and forecast systems the WMO works to sustain today, a spirit I believe can successfully carry us into the future."*
>
> -- Dr. Louis W. Uccellini

Goal

As WMO President, Dr. Uccellini's goal will be to further build a global system that effectively responds to the needs of WMO Members by taking taking advantage of:

- Advances in understanding of stakeholder needs
- Advances in science and technology
- Evolution and growth in the broader weather enterprise

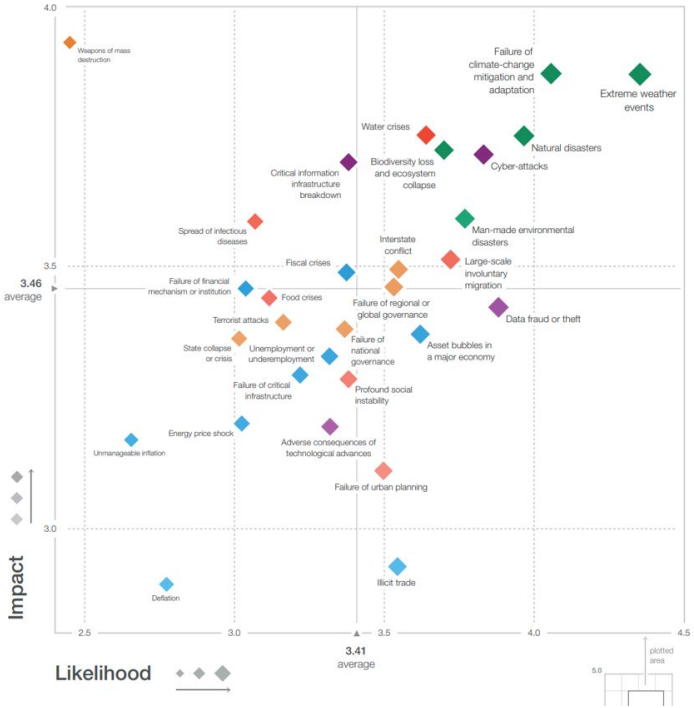
WORLD METEOROLOGICAL ORGANIZATION

Weather · Climate · Water

Opportunities and Challenges for the WMO

- WMO must be responsive to Members needs, especially as it relates to connecting improved observations, forecasts and warnings to key decisions related to saving lives and mitigating property loss.
- WMO is restructuring its organization and streamlining its governance to become:
  - More responsive
  - More agile
  - More efficient
  - More collaborative!

Global Risks Landscape 2019



World Economic Forum Davos

WMO: Strategy and Goal

- **Key Focus Areas:**
  - Climate-Weather-Water linkage and “Seamless” prediction capabilities are driving new commision structure
    - Commission for Observation, Infrastructure and Information Systems
    - Commission for Weather, Climate, Water and Related Environmental Services and Applications
  - Advance science and technology for global applications and services
  - Create a more streamlined and cost-effective governance structure
  - Embrace the entire weather-water-climate enterprise across the value chain.

WMO: Weather-Ready Nations

- designed to facilitate impact-based forecasting and warning services to improve the synergy between stakeholders and citizens during a weather-related crisis
- bridging the gaps for effective early warning system
- current projects in:

El Salvador	Croatia
Costa Rica	South Africa
Guatemala	Indonesia
Barbados	Sri Lanka
Colombia	

Vision for the NWS

Vision for the NWS

A Weather-Ready Nation where society is prepared for and responds to weather and water events; where communities are "Ready, Responsive and Resilient"

- **Goals**
  - Goal 1: Reduce the impacts of weather, water and climate events by transforming the way people receive, understand, and act on information.
  - Goal 2: Harness cutting-edge science, technology, and engineering to provide the best observations, forecasts and warnings.
  - Goal 3: Evolve the NWS to excel in the face of change through investment in our people, partnerships, and organizational performance.

Vision for the NWS

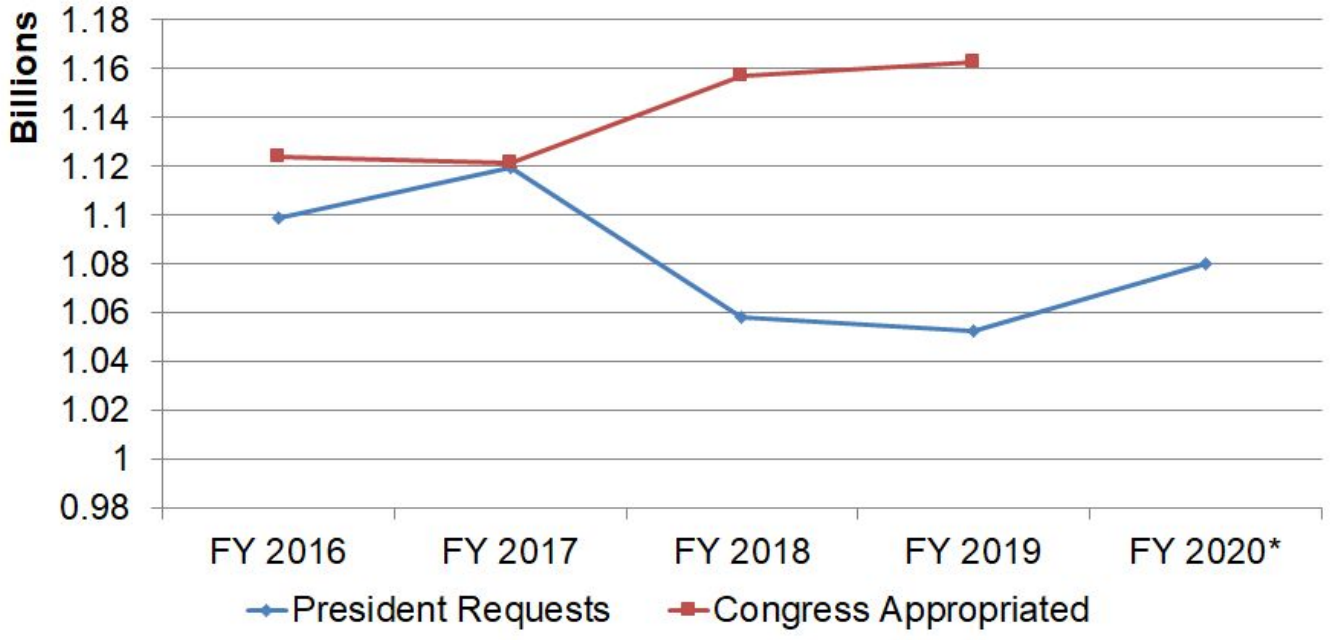
A Weather-Ready Nation where society is prepared for and responds to weather and water events; where communities are "Ready, Responsive and Resilient"

- **Core Principles**
  - **Our people drive our success;** we are dedicated to our science-based service to the Nation.
  - **We provide the best forecasts possible,** connecting them to decisions that reduce impacts.
  - **We cannot do it alone;** teamwork and partnerships are essential for success.
  - **We strive for excellence,** continuously improving our science and engineering for mission performance.

Overall Budget

Overall Budget

Comparison of Requested and Enacted Amounts



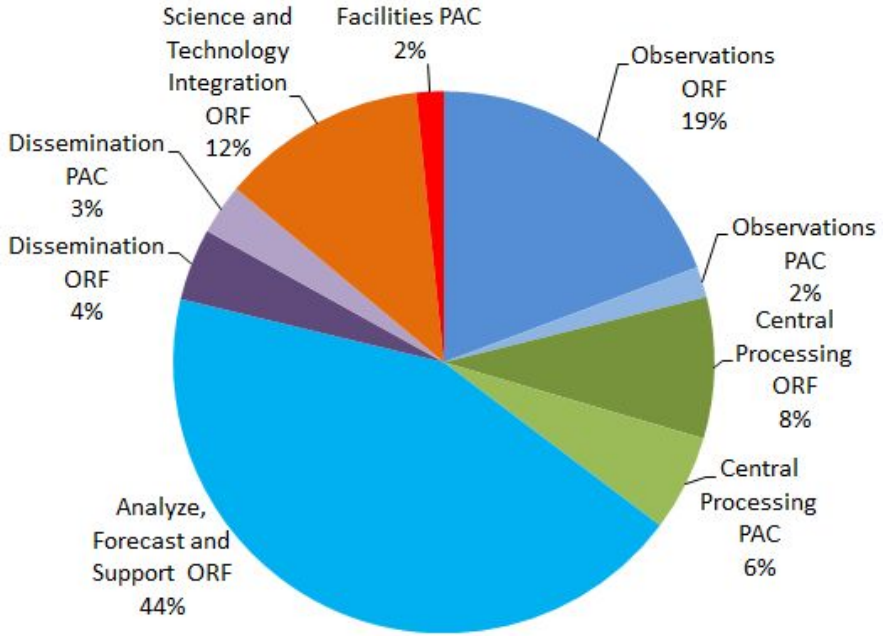
* - Note 2020 Pres. Bud .includes adjustments to base and some restoration of funds

Overall Budget

FY19 Omnibus Budget

Portfolio	Funds ($K)	Position Estimate*
Observations ORF	$224,363	780
Observations PAC	$21,129	-
Central Processing ORF	$97,890	227
Central Processing PAC	$66,761	24
Analyze, Forecast and Support ORF	$505,438	3,048
Dissemination ORF	$50,028	88
Dissemination PAC	$35,000	-
Science and Technology Integration ORF	$143,000	456
Facilities PAC	$19,000	-
TOTAL	$1,162,609	4,623

*NWS Staffing Planrevised



Observations

- RFMP: Complete installations of auto-launchers at least 2 sites in Alaska
- NEXRAD SLEP-Perform pedestal refurbishment; 20 pedestals modified
- Award contract for ASOS Hardware (ACU/DCP) production as part of SLEP
- Achieve NWS systems readiness for GOES-17

Science & Tech Integration

- Operational implementation of the first Next Generation Global Prediction System (FV3GFS v1.0)
- Develop and test a week 3-4 Temp./Precip. Prediction tool based on stratospheric predictors
- Implement National Water Model v2.0

Facilities

- Initiate the relocation of WFO Slidell, LA
- Complete baseline Facility Condition Assessments Phase 3 (20 sites)
- Award lease for WFO Burlington, VT

FY 2019

WRN

Central Processing

- Begin deployment of the Hazard Services Hydrologic capability in the AWIPS baseline
- Release solicitation for Weather and Climate Operational Supercomputing System

WRN Ambassador Initiative

8900+ Ambassadors

Dissemination

- Maintain NWR services at 96% availability
- Complete transition of Emergency Managers Weather Information Network (EMWIN) to IDP
- Geostationary weather satellite antenna system – GOES -17

Analyze, Forecast, Support

- Implement GS 5-12 career progression
- Report documenting results of Focus Groups geared towards generating a single alternative prototype to WWA
- Increase training in IDSS/Deployment-Ready
- 75 New StormReady Communities recognized, development of a metric for measuring renewals
- Two TsunamiReady Tier II communities in highly vulnerable coastal areas recognized

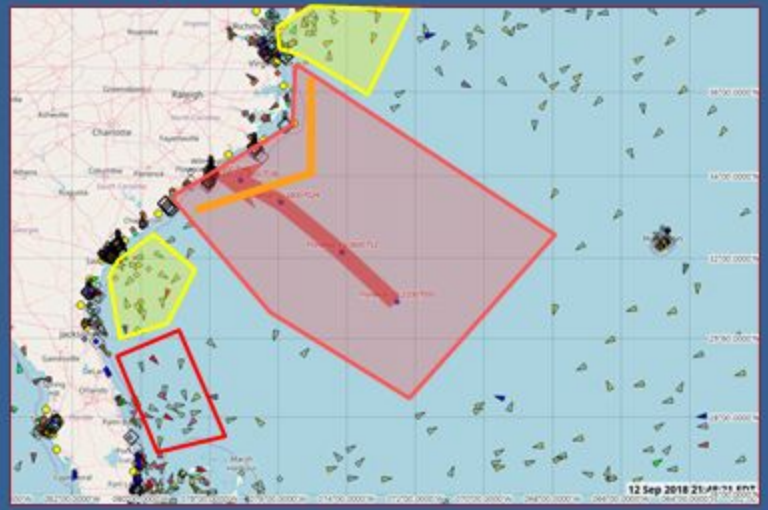
General Update

General Update

- **IDSS Continues Very Strong**
  - Federal, state, local and tribal nation level
    - Performance during hurricane season, wildfires, recent tornadoes, and floods shows IDSS continues to advance
- **Weather Act Reauthorized in 2019**
- **FV3**
- **NESDIS/GOES-17 is declared operational**
- **FV3/GFS Assessment still ongoing:**
  - **Assessment of Cold-bias**
  - **Implementation next step: decide on “un-pause” of 30 day test**

Hurricane Florence – Extreme Weather Avoidance

0145 UTC - 13 Sep 2018



- Avoidance
  - ~300 nm of coastal waters void of shipping
  - Area ~ 165,000 nm² ships heeding warnings
- Vessels anchored or underway at very slow speed
- Sortied ships (USN) off central FL coast
- 2100 NHC 09/12 Advisory

Ocean Prediction Center

Taylorville Tornado

Date :	December 1, 2018
Strength:	EF-3
Track Width:	1/2 mile
Tornado Track Length:	12.7 miles
Warning lead time:	41 minutes
Injuries	26
Fatalities:	0

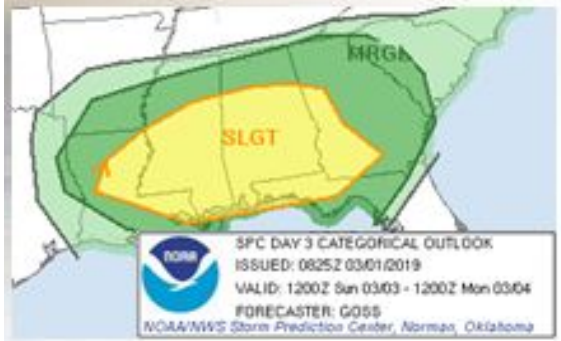
- Based on numerous IDSS contacts with WFO ILX, the Christian County EM canceled a parade well in advance of an EF-3 tornado impacting the city of Taylorville, IL. The decision saved lives.
- The event was well anticipated days in advance by SPC and the Illinois WFOs.
- The First Tornado Warning for Taylorville was issued by WFO ILX at 4:39 pm. A Severe Weather Statement issued at 4:54 pm stated that the storm would be near Taylorville at 5:20 pm and "...considerable damage is expected to homes, businesses, and vehicles. Mobile homes will be destroyed."
- At 5:15 pm, WFO ILX upgraded the Tornado Warning to a "Tornado Emergency for Taylorville". This is only the second time that WFO ILX has ever used "Tornado Emergency Wording."

Taylorville Tornado

After the event, Mike Crews (Christian County Emergency Manager and Taylorville Fire Chief) stated, “To be clear, my decisions were heavily based on the conversations I had with the NWS Central Illinois office leading up to the storm impact. Having the NWS staff readily available to discuss the likely impact and timeline was crucial. This was especially important as hundreds of parade participants were in place one block away from what ended up being the tornado path. In my view, the entire decision support program you have long promoted, worked flawlessly. It’s clear from all the positive feedback we have received since the December 1st tornado event, that other emergency managers, elected officials, media and the community at large share that belief.”

Lee County Alabama Tornado

Date :	March 3, 2019
Strength:	EF-4
Track Width:	1/4 mile
Tornado Track Length:	23 miles
Warning lead time:	Average: 18.5 minutes
Injuries	
Fatalities:	



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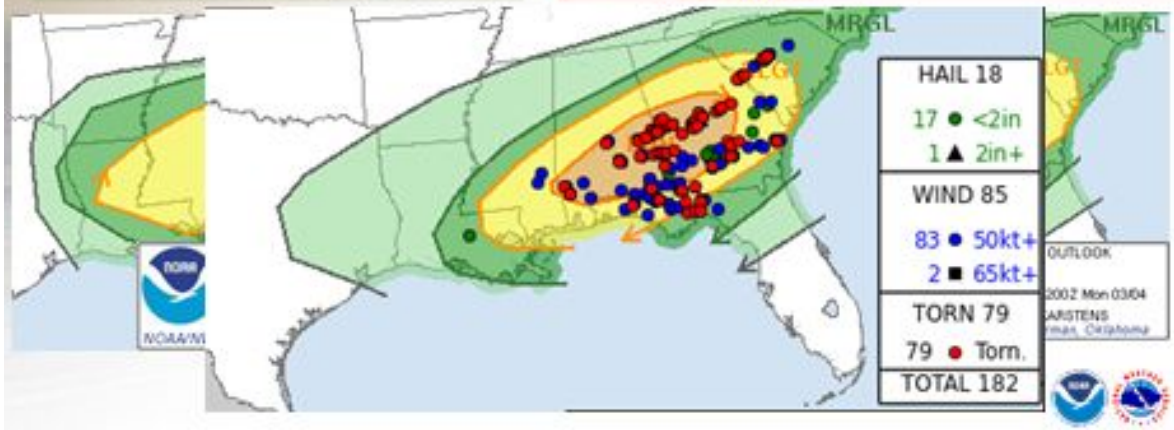
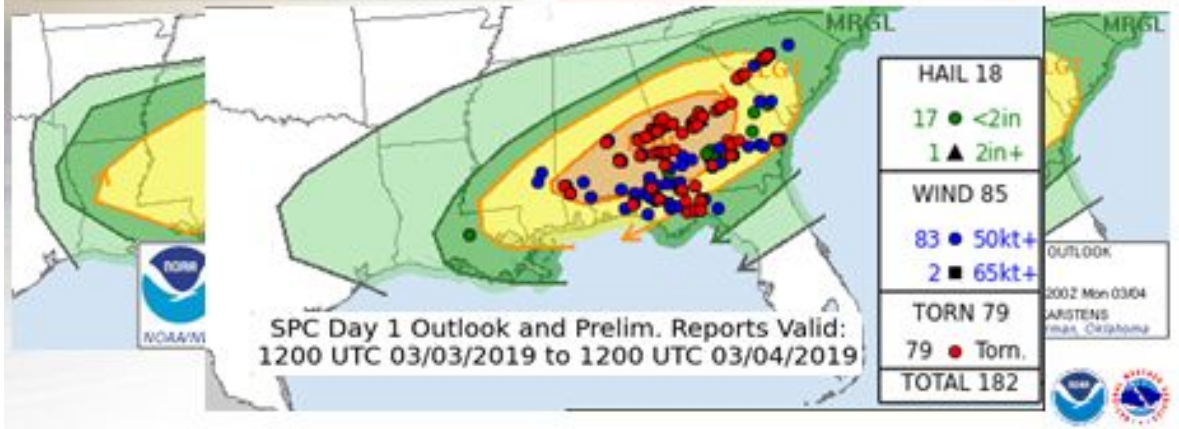


Lee County Alabama Tornado

Date :	March 3, 2019
Strength:	EF-4
Track Width:	1/4 mile
Tornado Track Length:	23 miles
Warning lead time:	Average: 18.5 minutes
Injuries	93
Fatalities:	23



Impact of the Shutdown

Impact of the Shutdown

- **Not Day-for-Day**
  - Some items are taking awhile to recover from
  - Some systems had first extended shutdown period

- **No impact on SLEP**

- **Different Aspects of the Impact**
  - WCOSS- Hardware
  - Small Contracts

Thank You

General Update: Previous Meeting

- **Objective 1.4:** Leverage Enterprise capabilities through a collaborative approach that minimizes impacts and maximizes public safety and economic resilience.
  - Partners asked about metrics and for a clearer definition of collaboration.
  - Partners also suggested that the NWS focus on a few service areas for focused improvement and requested that the NWS showcase the value of weather industry IDSS.

- **Objective 1.13:** Leverage Enterprise capabilities to extend the reach and amplify NWS forecasts, warnings, and hazards to improve individualized decision-making.
  - Partners confirmed that this objective is the only way to be successful and recommended that the NWS involve the enterprise from the beginning for consistent messaging.
  - Partners also suggested that the NWS think beyond the weather industry and also balance high tech versus not high tech solutions.

General Update: Previous Meeting

- **Objective 2.5:** Utilize the broad observational capabilities of the Enterprise to establish the best possible analysis of the atmosphere, land surface, oceans, and cryosphere to ensure situational awareness, enable enhanced data assimilation, and meet growing user demands.
    - Partners are very supportive of this objective but noted some concerns around national and cyber security and data policy and quality issues.

- **Objective 2.8:** Leverage Enterprise expertise to advance analytics, visualization, collaboration, information technology, and social science.
    - Partners provided feedback suggesting that more testbeds and “sandboxes” of various sizes would be helpful.
    - Partners also noted concerns regarding the lagging speed for procurement and innovation within the federal government and intellectual property considerations

General Update: Previous Meeting

- **Objective 3.8:** Clarify and leverage the unique roles and capabilities of Enterprise partners to respond to the increasing demand for actionable weather, water, and climate information.
    - Partners validated this objective as important and suggested that the NWS continue to engage with industry and academia to better understand their capabilities and contributions.
    - Partners suggested continued work is needed on what is inherently governmental and noted the need to reach vulnerable populations.

- **Objective 3.9:** Expand public-private partnerships that fast-track private Enterprise innovations, strengthen relationships, eliminate barriers, and share best practices to focus continuous improvements.
    - Partners questioned who could convene such partnerships and also suggested using smaller “sandboxes”.
    - Some Partners also proposed ideas recommending NOAA consider looking at the CENSUS Innovation lab, SBIR or CRADA opportunities and suggested that industry and government might consider a personnel exchange for learning and understanding.