NWS Summer Partners Meeting

Observations
August 1, 2017

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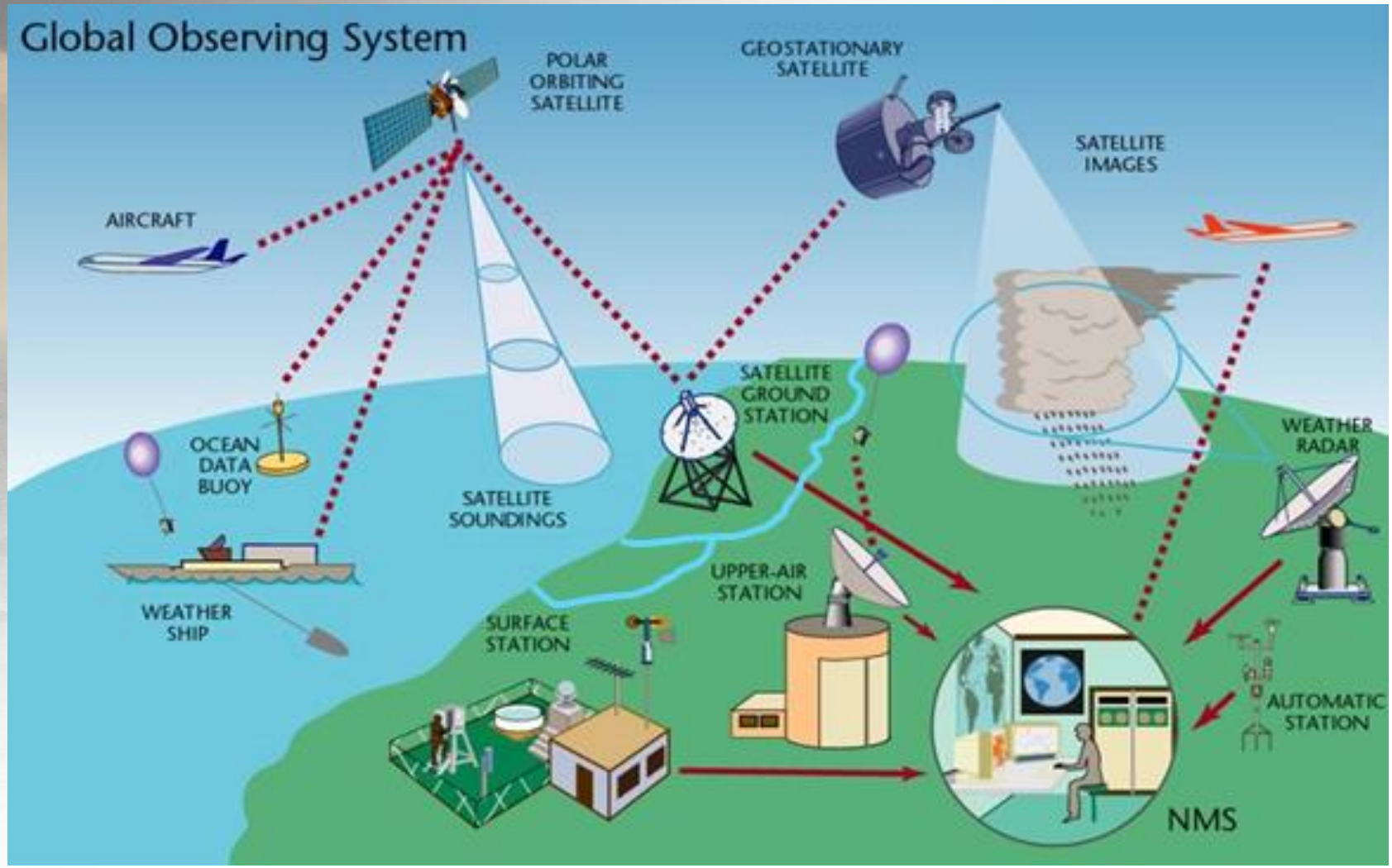
Agenda

- Observations Overview
- Investing in Observational Infrastructure
  - –Satellites
  - –Radar
  - –Surface
  - –Upper Air
- Leveraging Smart Data Buys
- Observing Portfolio Management
  - –Guiding Principals
  - –Emerging Technologies
  - –Coordination / Collaboration
- Discussion

Observations Portfolio

Responsible for the collection of space, atmosphere, water, and climate observational data owned or leveraged by the NWS



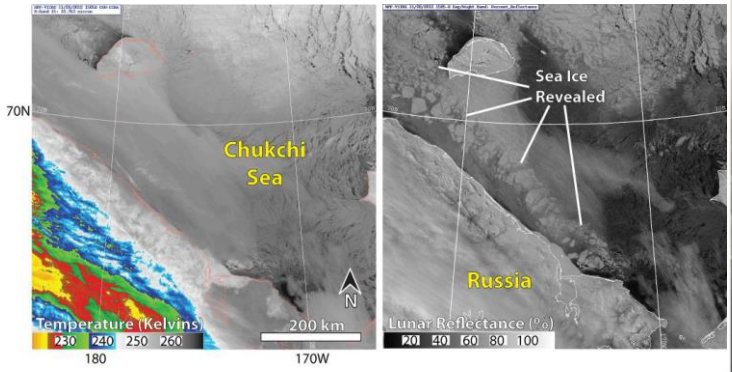
Investing in Observation Infrastructure - Satellites

GOES-16

- On-orbit testing
- Slated to become GOES-East in November

JPSS-1

- ATMS and CrIS radiances in models
- Day-Night Band applications --->



GOES-S

- Revolutionary capability for Western U.S. and Pacific

COSMIC-2A

- 1800 soundings a day in the tropics is eagerly anticipated

GOES-R Series Imagery

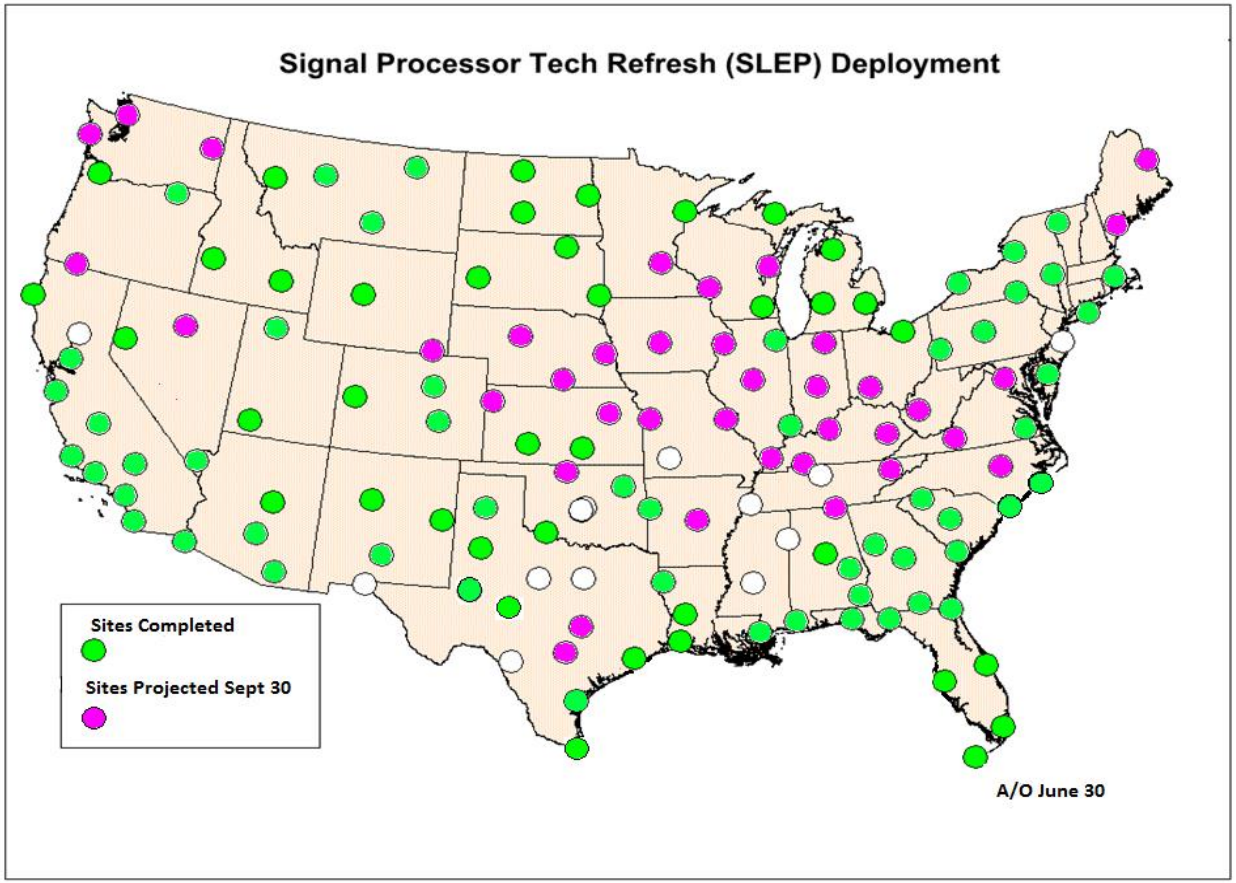
Courtesy of Dan Lindsey, NESDIS/RAMMB

Dr. Uccellini Testimonial

"GOES 16 is allowing us to routinely visualize the wonders of the mesoscale structure and evolution within the various circulation regimes for the first time. Will likely revolutionize our basic understanding of mesoscale circulation systems, especially as the theoretical members start sinking their teeth into what we are seeing. And to think we have been amazed … yet we are still in the engineering checkout phase."

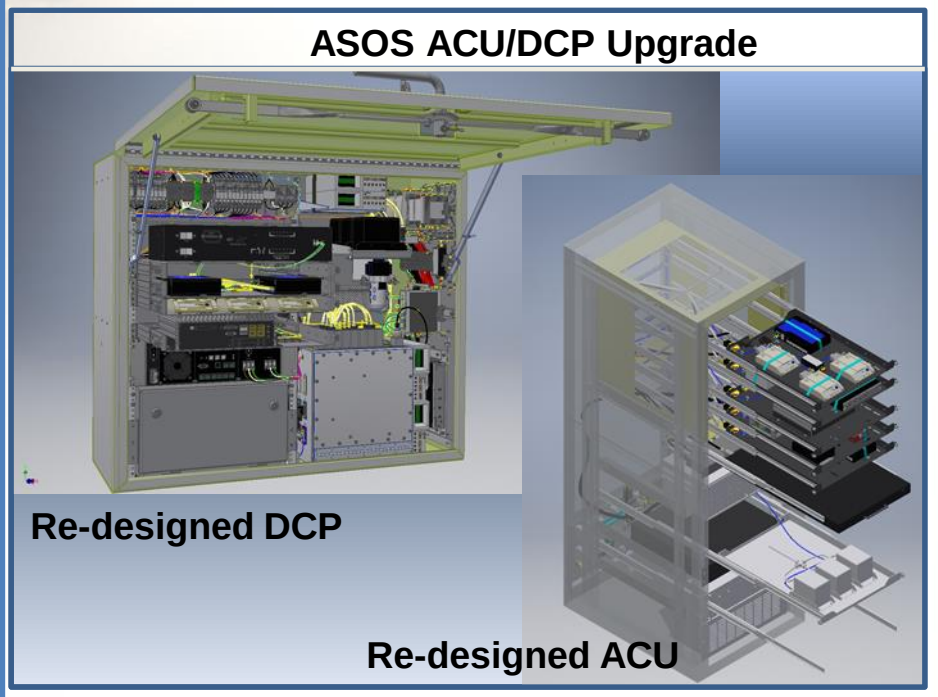
June 20, 2017 Note to SUNY-Albany MAP listserv on Slide 9 Imagery Loop

Investing in Observation Infrastructure – NEXRAD SLEP



- **NEXRAD Service Life Extension Program (SLEP)** ensures viability thru at least 2030
- Signal Processor Suite Technology Refresh scheduled to be complete in 2017
- Transmitter Refurbishment (second of 4 projects), first site completed all phases of refurbishment
- Pedestal Refurbishment Request for Proposals issued
- Overall, the project is ahead of schedule and within budget

Investing in Observation Infrastructure – ASOS SLEP



- **Automated Surface Observing System (ASOS) SLEP** aims to extend system viability thru 2040
- Most critical components:
  - Acquisition Control Unit / Data Collection Platform (ACU/DCP) replacement
  - Telecommunications upgrade
- Will facilitate cost-effective Commercial-off-the-Shelf meteorological sensor solutions, increased data flow, improved system security posture, and remote maintenance capabilities
- Funded in the FY 2017 Omnibus Appropriation

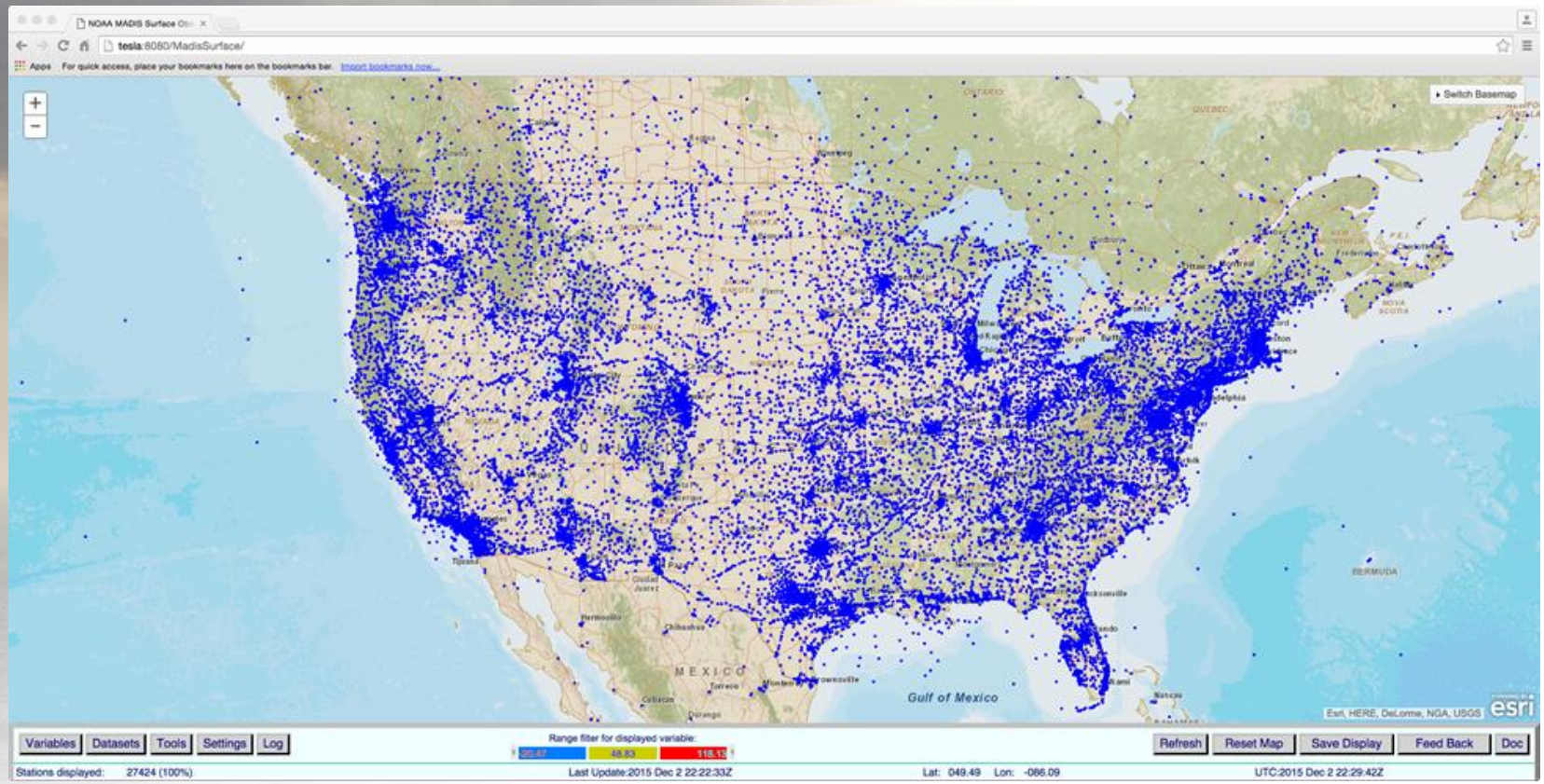
Investing in Observation Infrastructure – Radiosonde Network

Radiosonde Autolauncher in Kodiak, AK

- Due to sale of “spectrum”,the **Radiosonde Frequency Migration Project** will move radiosondes from the 1680 MHz band to the 403 MHz band. Funding from the spectrum sale is supporting this infrastructure investment.
- While putting together the larger network acquisition, pursuing Demonstration Project in Alaska Region to install Autosondes at all AK Upper Air sites

Leveraging Smart Data Buys

- **National Mesonet Program**



- **Aircraft Based Observations (MDCRS, WVSS)**
- **Lightning Data**
- **GPS-Met**
- **Commercial Weather Data Pilot** – evaluating Radio Occultation data from commercial satellite providers

Observing Portfolio Management – Guiding Principles

- **Vision**: NOAA's vision is to achieve and sustain an observing system portfolio that is ***mission-effective, integrated, adaptable,*** and ***affordable***.
- Superior Service and Reputation
- Adaptability
- Cost-Effectiveness, Affordability & Sustainability
- Integration
- Global Context and Commitments *(Data Sharing)*
- In-House Expertise
- *Well-governed, Understood & Trusted*

- Ref. NOAA Administrative Order 212-6, Effective 11/1/2016

NOAA's Emerging Technologies for Observations Workshop 2017

Theme: ***"Technology toward a mission-effective, integrated, adaptable and affordable observation portfolio"***

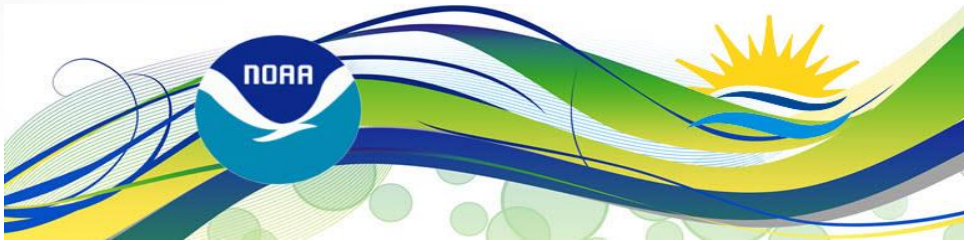
When: August 22-23, 2017

Where: NOAA Center for Weather and Climate Prediction (NCWCP), College Park, MD

Why: The NOAA Observing Systems Council is seeking to identify emerging technologies for Earth and space observation, and develop recommendations to help NOAA infuse new technology into the observing systems portfolio.

How: 5 Internal Sessions – Space, Atmosphere, Terrestrial, Oceans, and Data Management/Analytics
2 External Requests for Information that was open to all
Inter-governmental / Partner Panel as the last session

Info: https://nosc.noaa.gov/emerging-tech-workshop.php



Observations Coordination & Collaboration

Agency

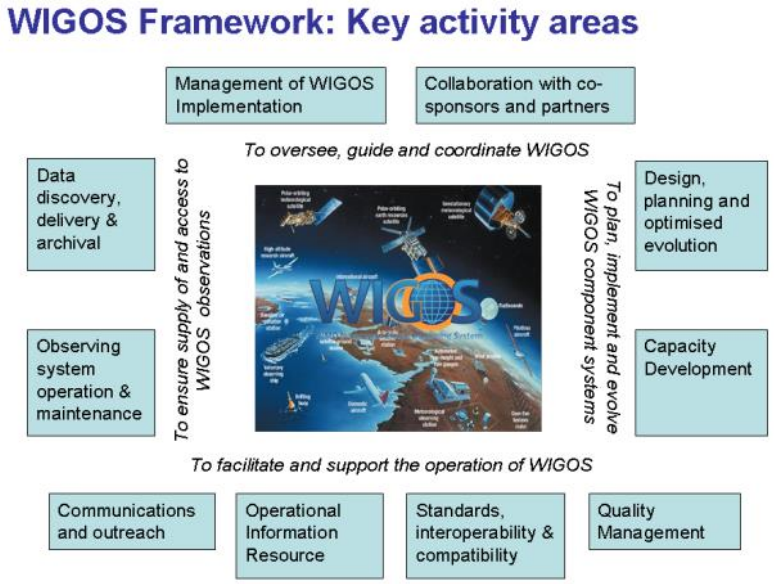
- NOAA Observing Systems Council
- Priority to Invest in Observational Infrastructure

Interagency

- Federal Committee for Meteorological Services and Supporting Research
- Strategic Plan for Federal Weather Enterprise Coordination in development

International

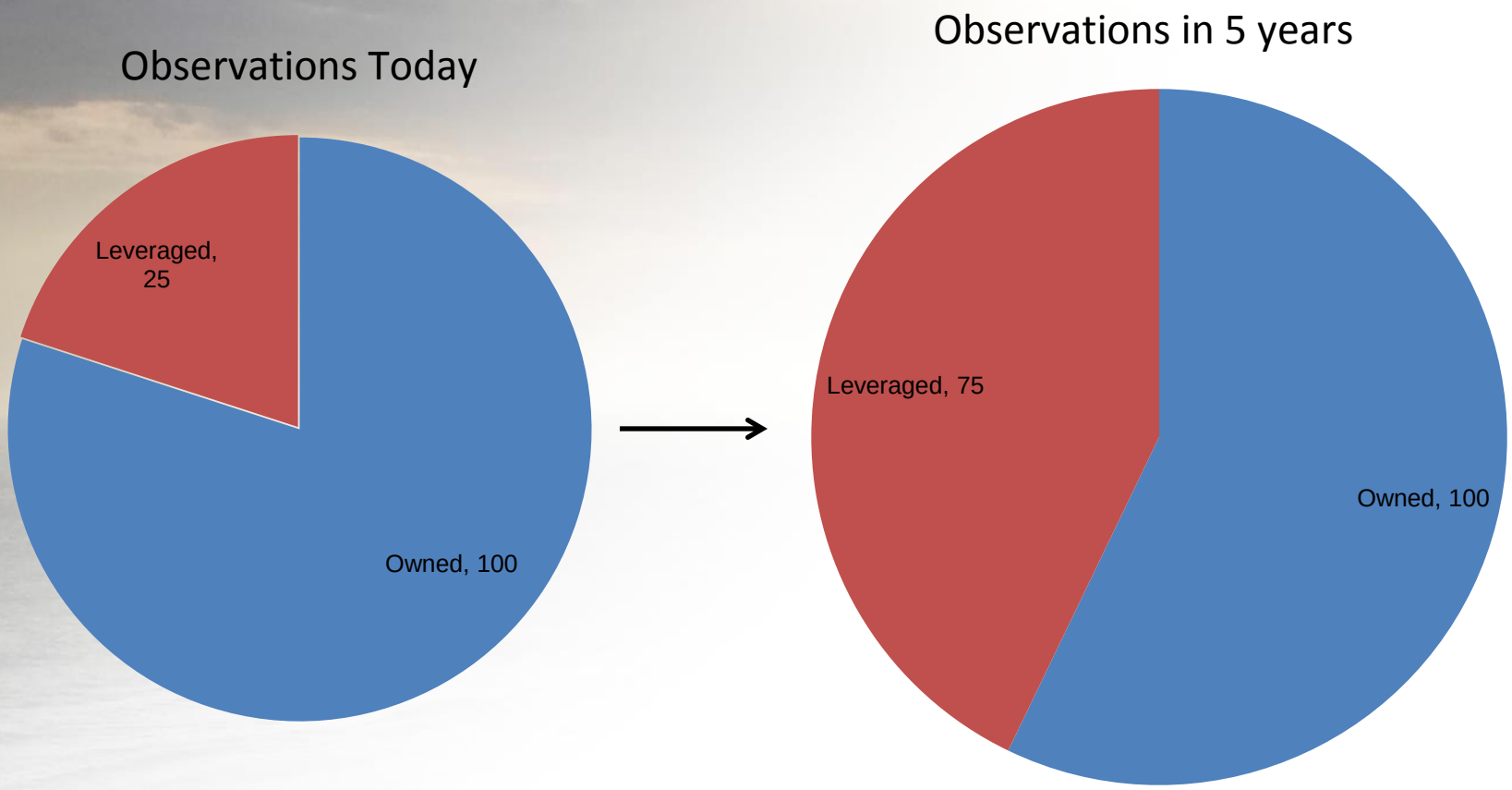
- World Meteorological Organization (WMO)
- WMO Integrated Global Observing System (WIGOS) Vision 2040 in development
- Coordination Group for Meteorological Satellites (CGMS)



Partner Discussion

- Where is it vital for the NWS and NOAA to focus with regards to observations?
  - Continue to Invest in Observational Infrastructure
  - Continue to pursue Smart Data Buys
- In what areas would you recommend NWS and NOAA shift its focus with regard to observations?
- How can NOAA collaborate more effectively with Partners (research community, private industry, international, etc.) to optimize the observing portfolio of the future?

Future Scenario: Holding Base Observations Steady While Increasing Leveraged Data



Conceptual representation only, not based on actual numbers.

Thank You!

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