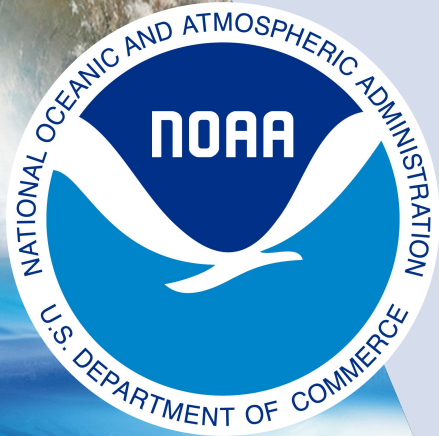




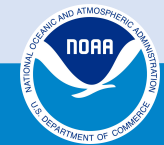
National Oceanic and Atmospheric Administration Update



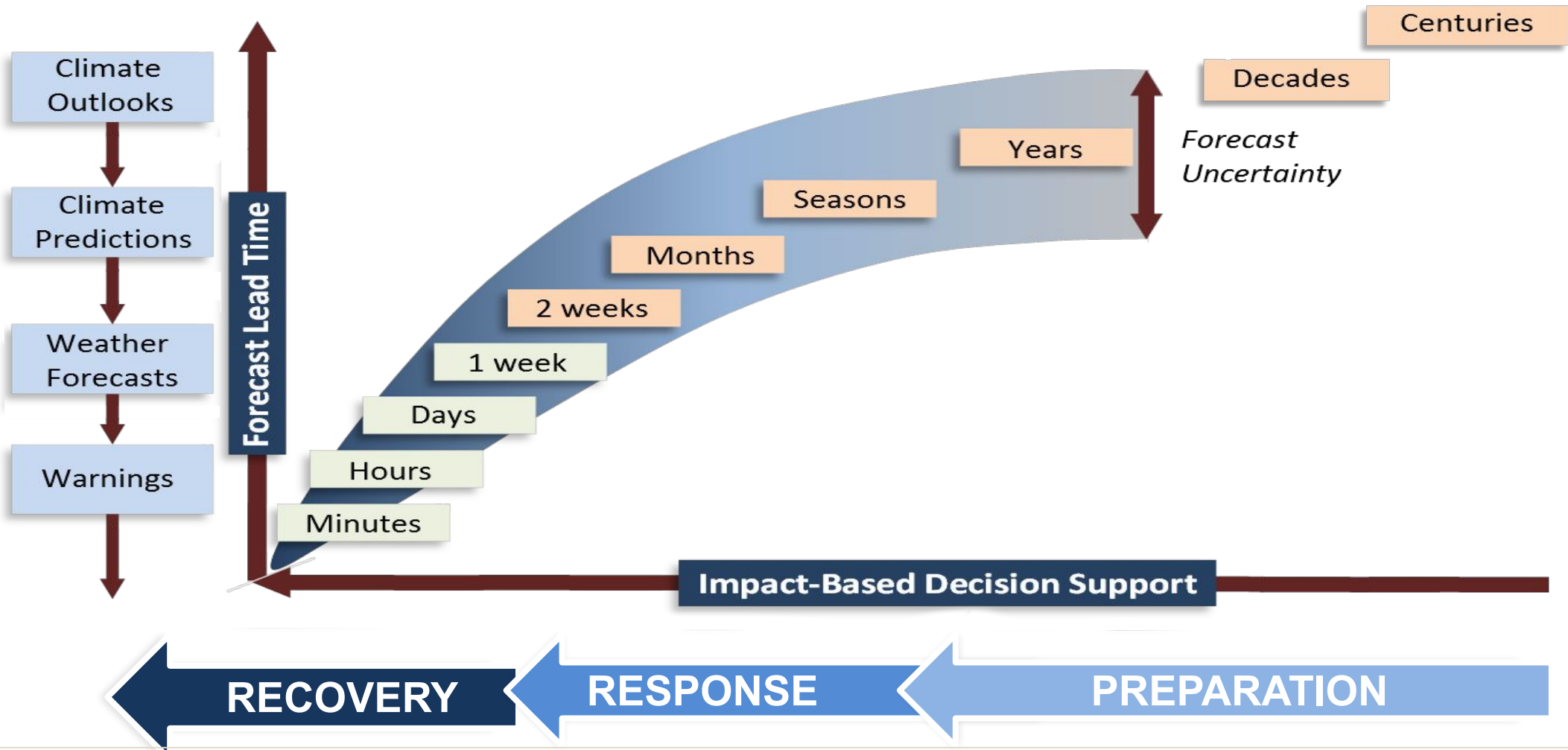
**National Oceanic and
Atmospheric Administration**

March 28, 2023

Dr. Michael Morgan
NOAA Assistant Secretary for Environmental
Observation and Prediction



Seamless Weather to Climate Prediction



Requires a collaborative forecast process and consistent messaging across timescales for decision support services

NOAA FY22-26 **STRATEGIC GOALS**

01

**BUILD A CLIMATE
READY NATION**

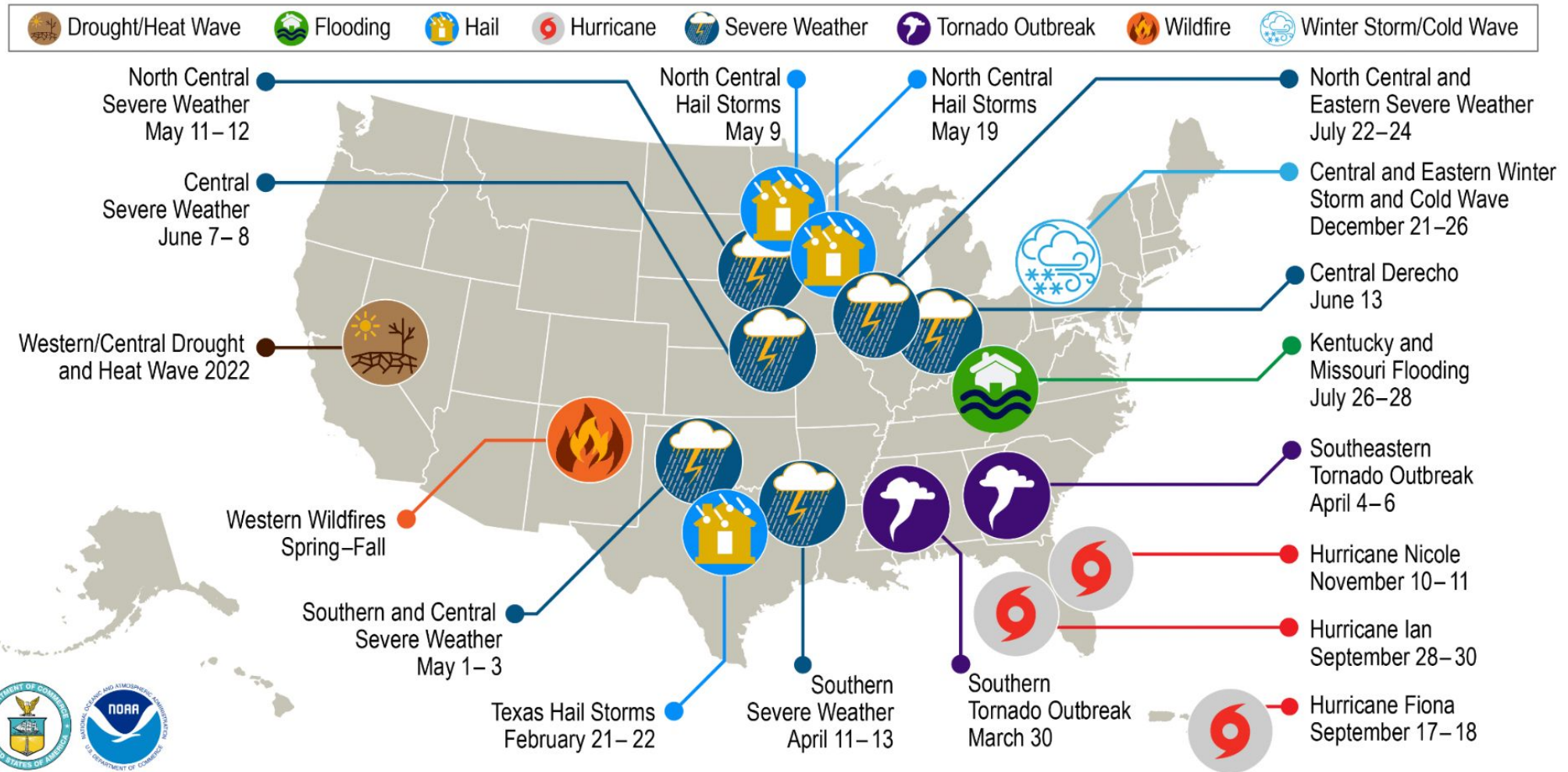
02

**MAKE EQUITY CENTRAL
TO NOAA'S MISSION**

03

**ACCELERATE GROWTH IN
AN INFORMATION-BASED
BLUE ECONOMY**

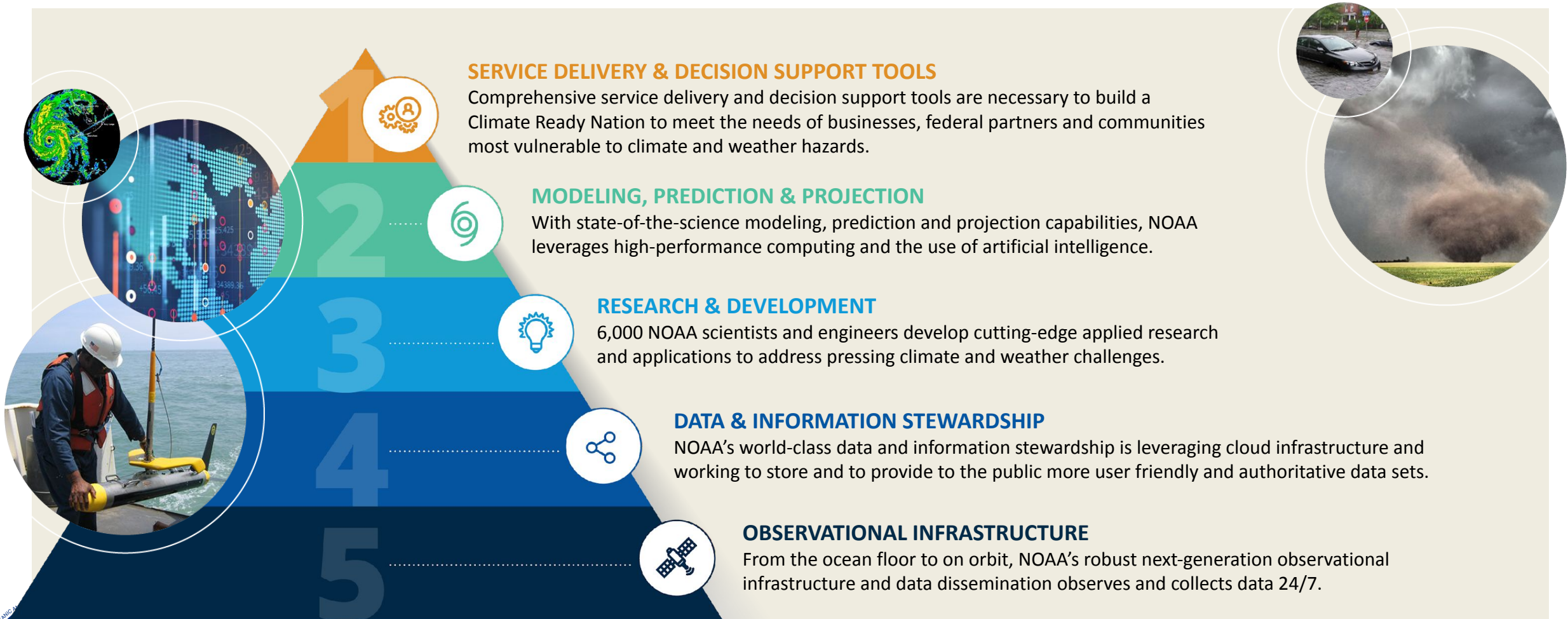
U.S. 2022 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 18 separate billion-dollar weather and climate disasters that impacted the United States in 2022.

CLIMATE VALUE CHAIN: *Building a Framework for a Climate Ready Nation*

NOAA's climate value chain illustrates the five key activities necessary to successfully deliver critical services to the agency's customers and partners



Information for the Nation



Climate-induced weather events **disproportionately** affect those with the least access to financial resources, historically underserved communities, and those with health vulnerabilities.

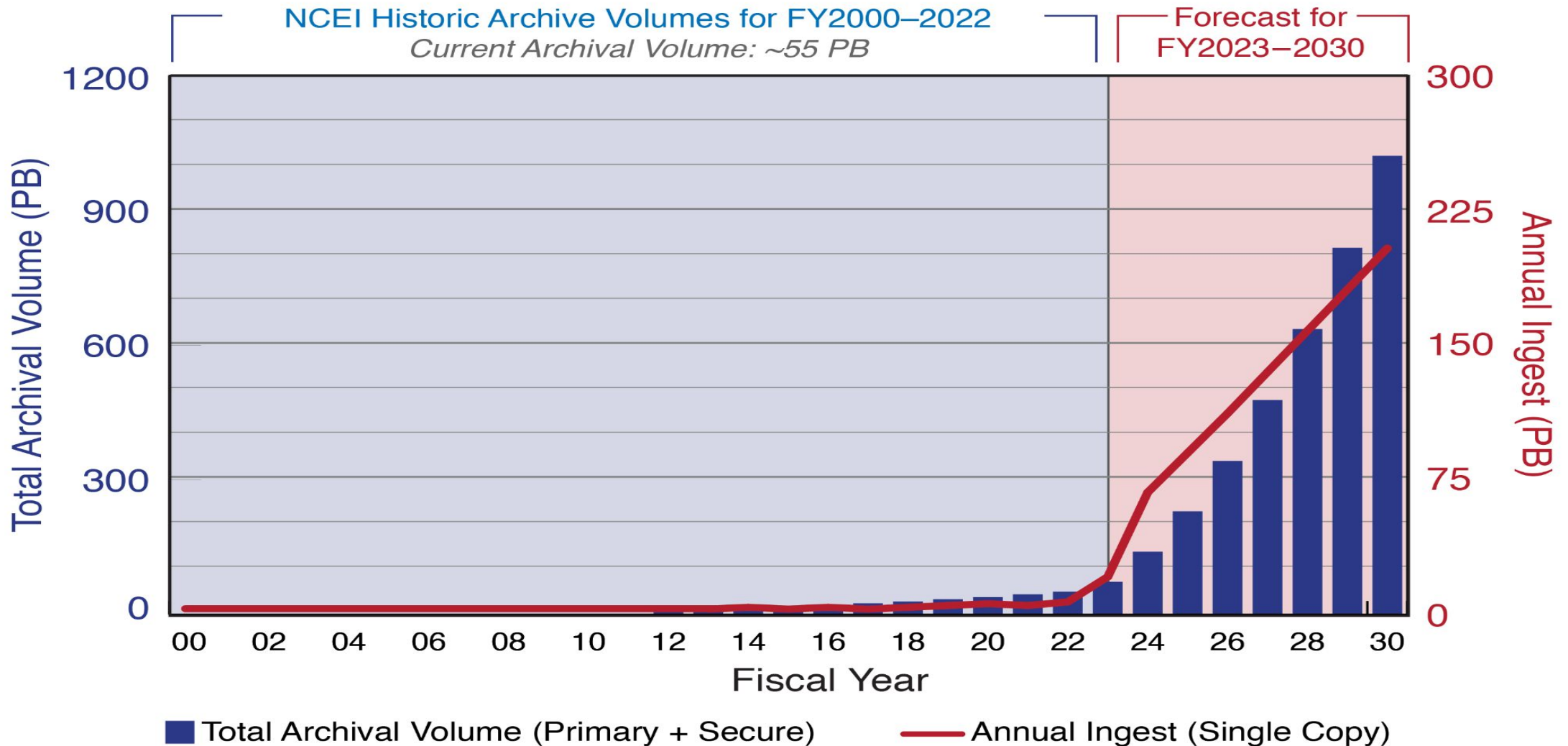
NESDIS helps leaders and communities **better understand** global and local trends to plan for a **more equitable, resilient, and sustainable future**.

NOAA's Observing Systems Portfolio

Observing Systems	Space		Land		Air		Marine		Total	
	NOAA	Other	NOAA	Other	NOAA	Other	NOAA	Other	NOAA	Other
# in Operations	8	34	40	19	16	3	26	1	90	57
# in Development	3	15	1	0	2	0	1	0	7	15
# in Research	0	0	4	0	2	0	4	0	10	0
Total	11	49	45	19	20	3	31	1	107	72
Other Owners	Industry, International, Other US Govt Agencies		Academia, Commercial, International, Other US Govt Agencies, States		Commercial, International, Other US Govt Agencies		International			
Measurement Domain										
Platforms Include (but not limited to)										
	Polar Satellites Geo Satellites Alt Satellites		Radars Towers Surface Systems		Aircraft Balloons UAVs		Ships Buoys Other Vessels			

NCEI Archival Volume History and Forecast

Increasing Data Volumes from Station, Model, Radar, UxS, Acoustics, 'Omics, and Satellite Sources





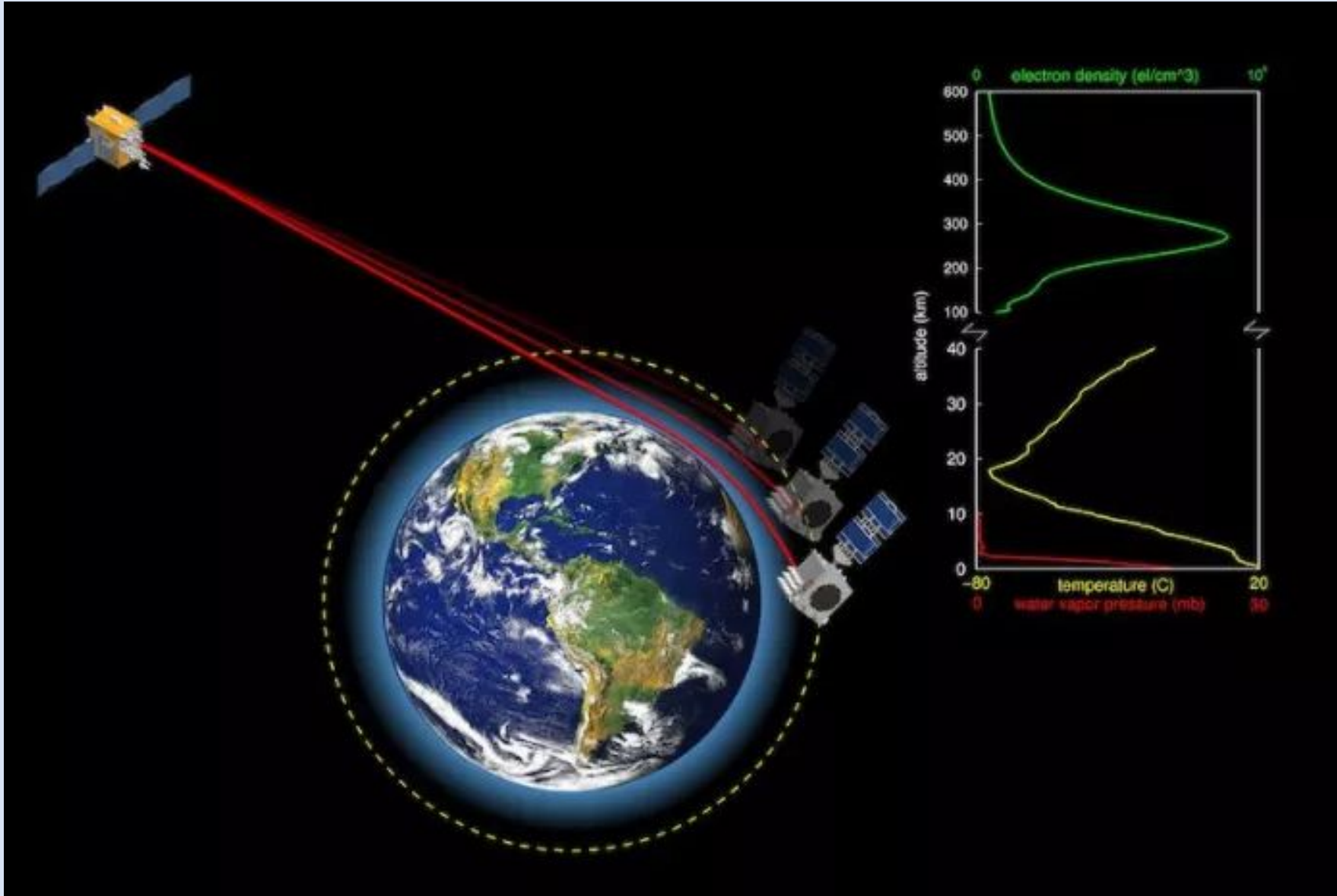
NOAA Strategic GOAL 1.5:

Enhance comprehensive observations and monitoring systems.

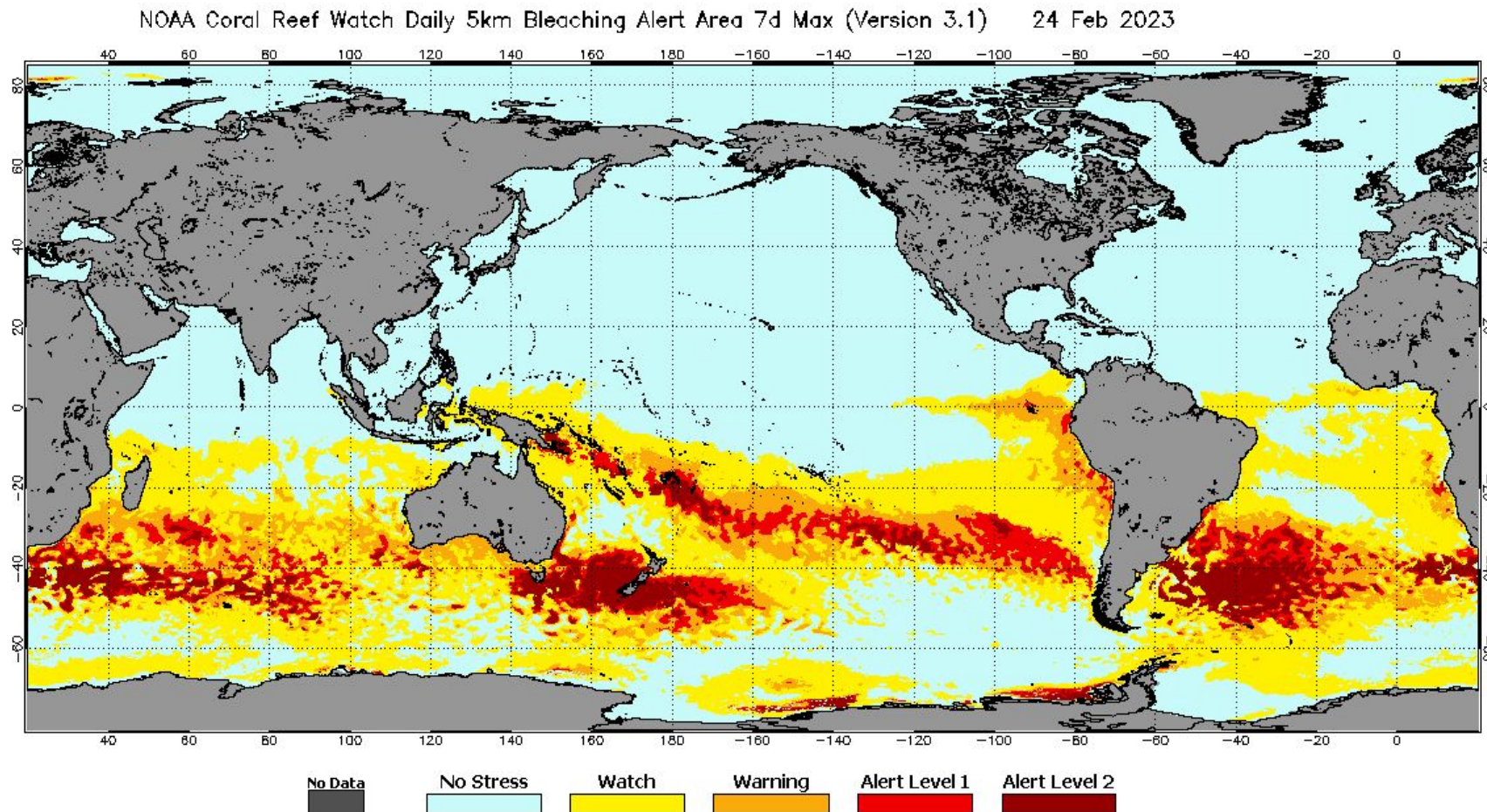
- *NOAA will sustain and improve its observing and data dissemination capabilities by incorporating new technologies in its flight and ground infrastructures*
- *NOAA will leverage more observations data sources through public and private partnerships and from other foreign sources*
- *NOAA will develop a comprehensive observation portfolio and deploy next-generation satellite programs and data processing and distribution systems*

Source: NOAA FY 2022–2026 Strategic Plan, Executive Summary, Page 5: Building a Climate Ready Nation



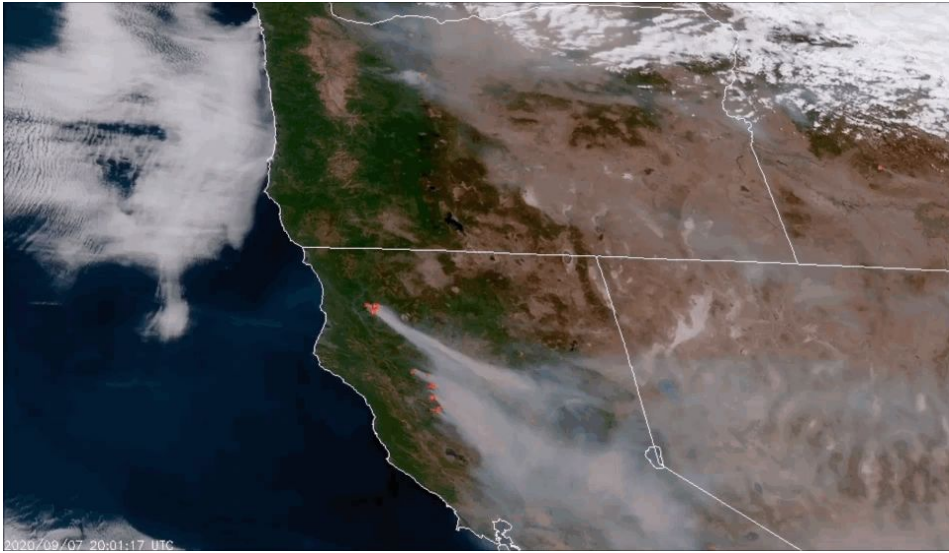


Satellite Coral Bleaching Heat Stress Monitoring

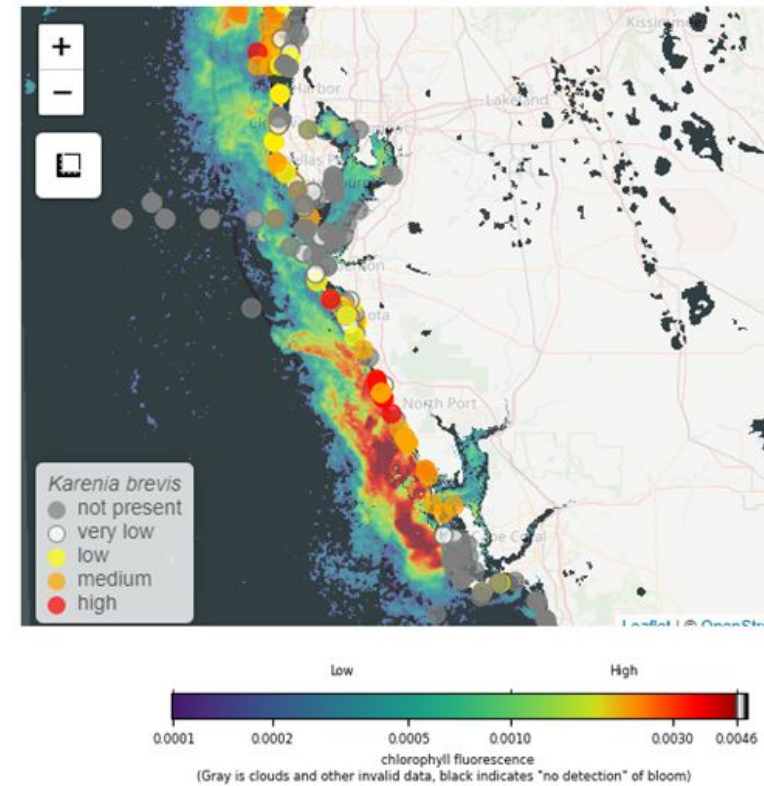


NESDIS/STAR: “Using innovative science and applications to transform satellite observations of the Earth into meaningful information essential to society’s evolving environmental, security, and economic decision-making”

Example of Applications



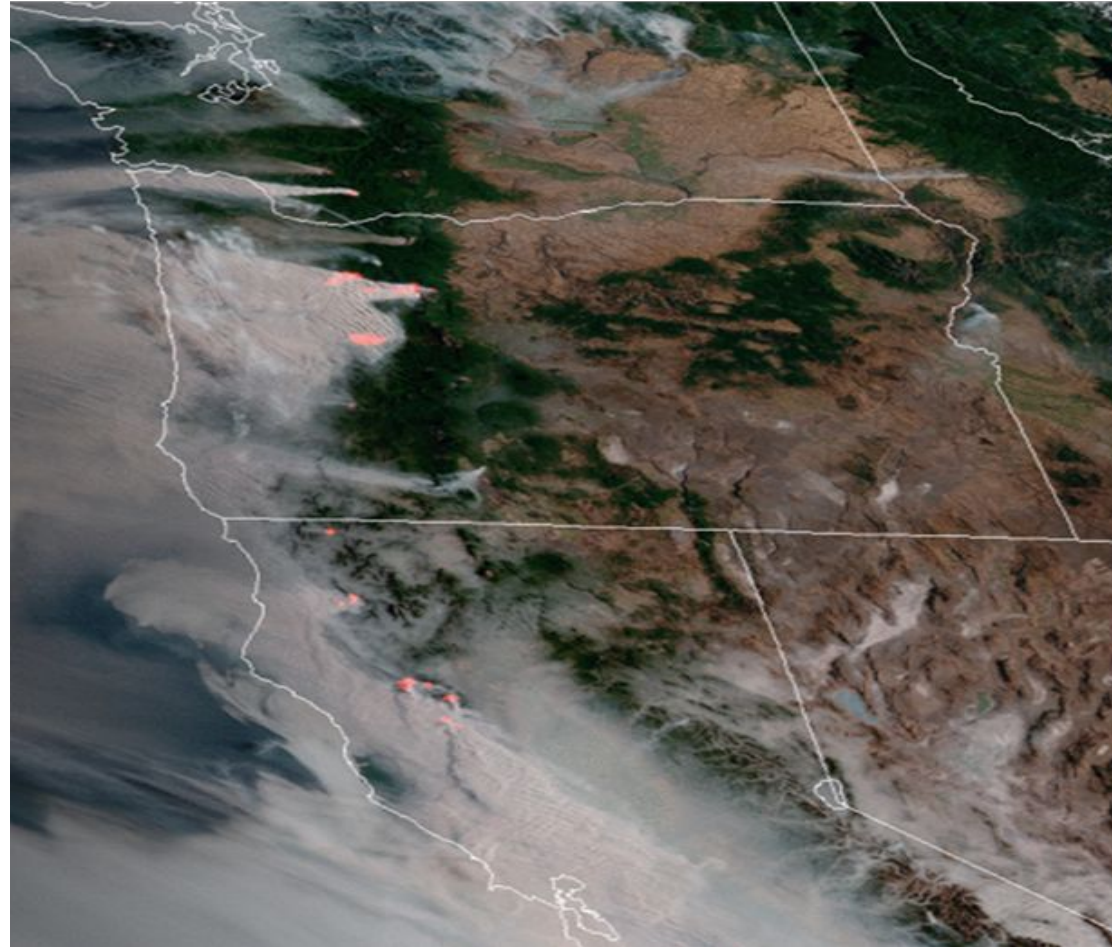
Oregon and California Fires, Sept. 7-9, 2020



Harmful Algal Bloom products, Aug 18, 2021

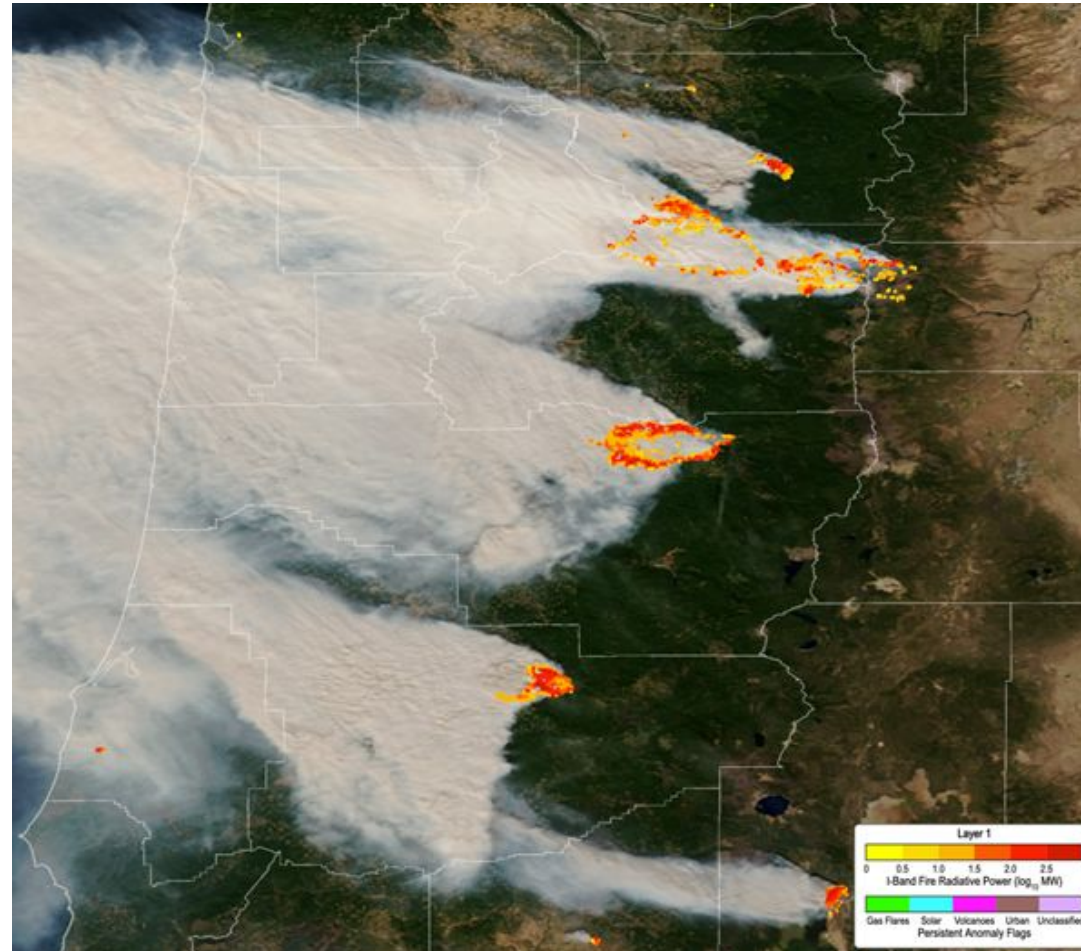
Application: Integrated observations to improve modeling

GOES provides real-time data, but lacks resolution



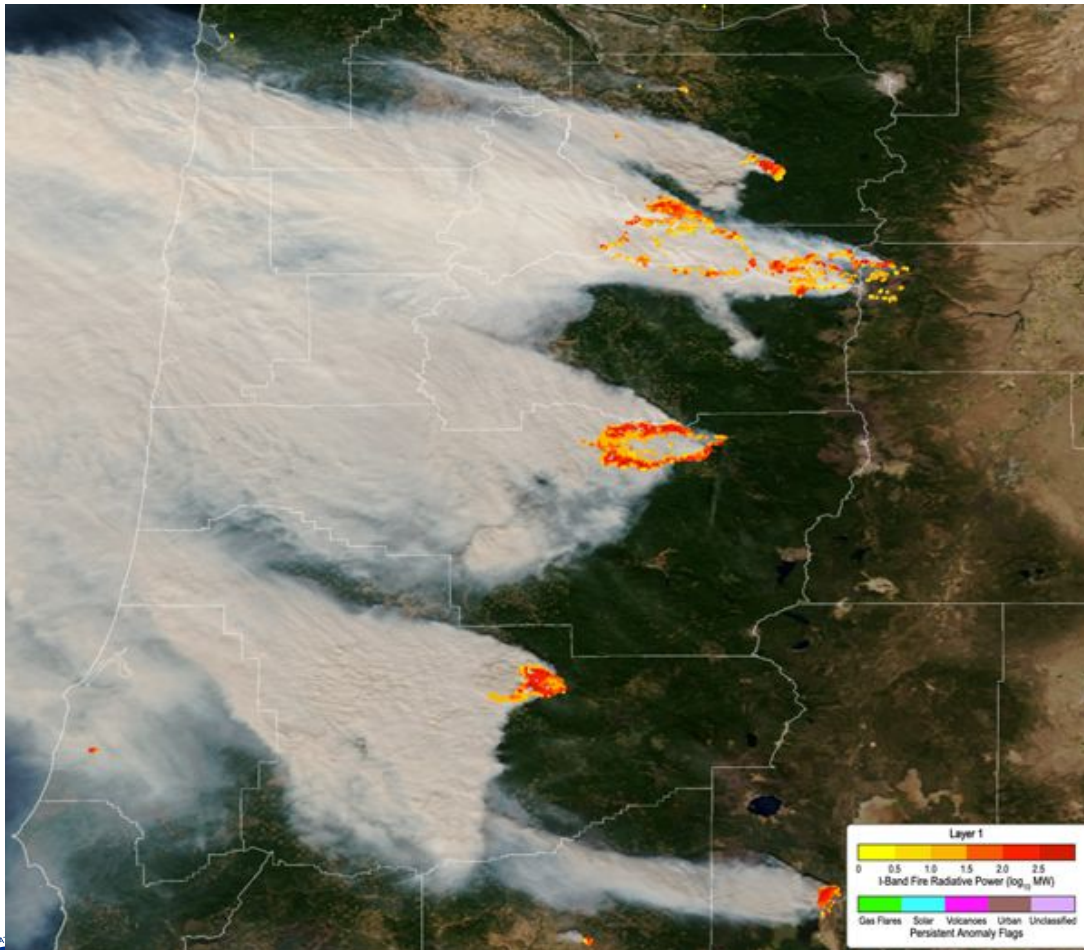
Application: Integrated observations to improve modeling

JPSS provides higher spatial resolution

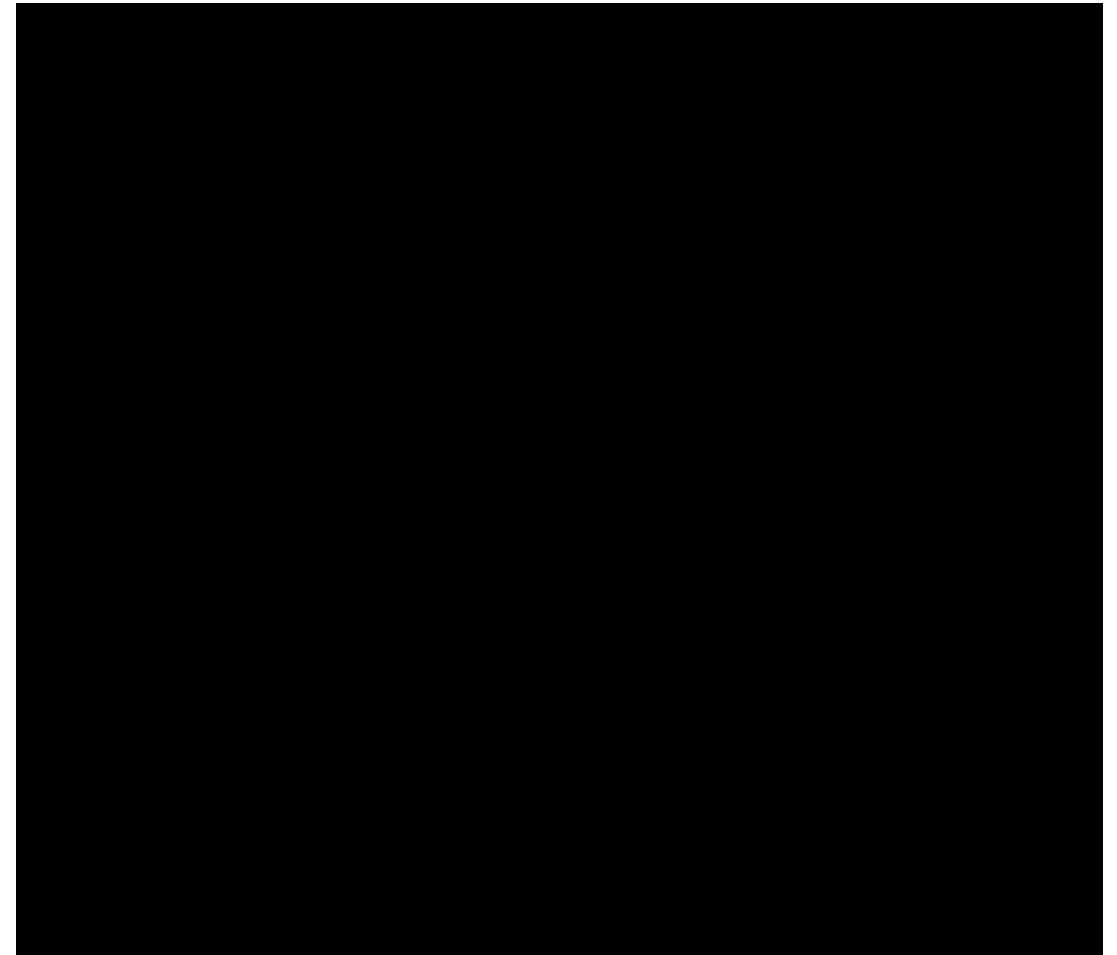


Application: Integrated observations to improve modeling

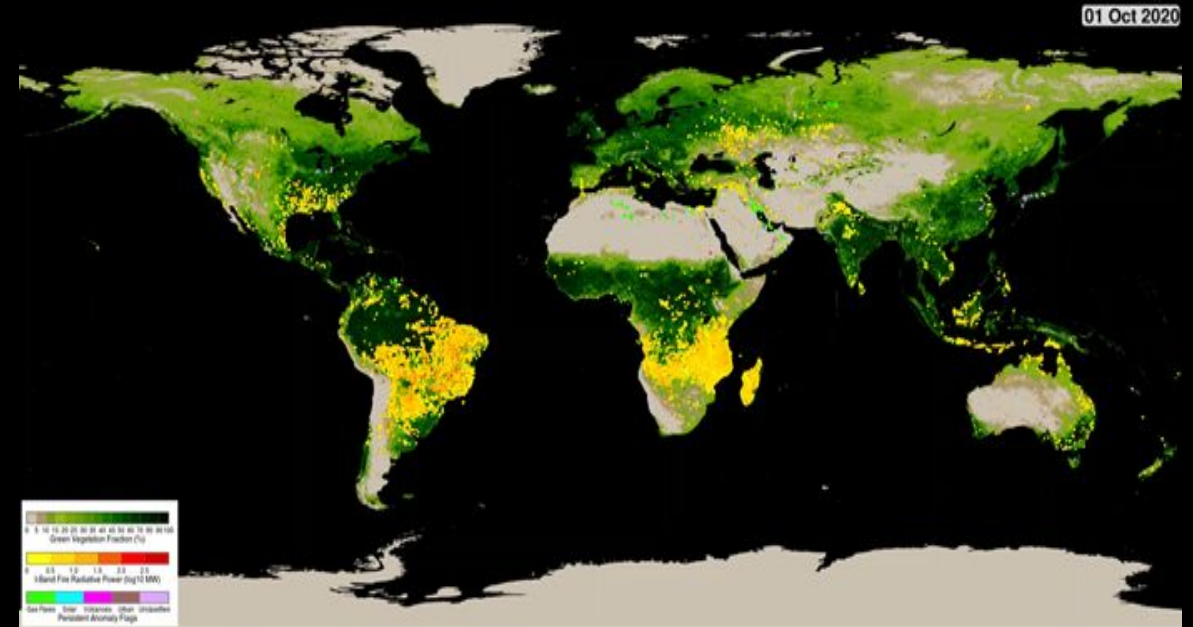
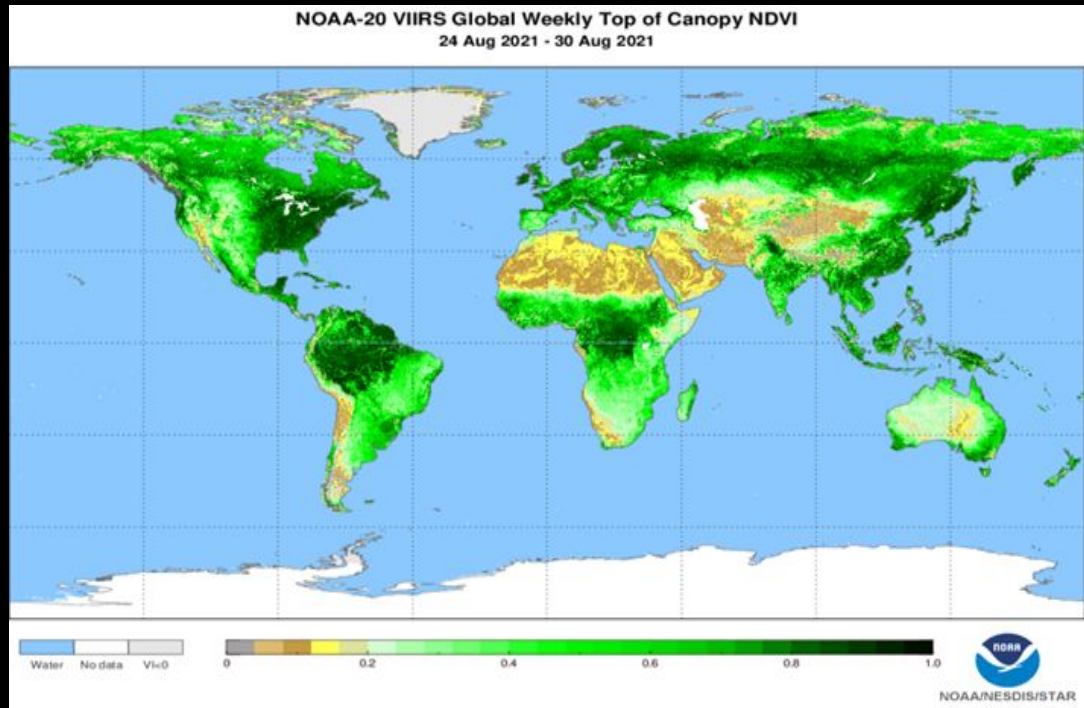
JPSS provides higher spatial resolution



JPSS (VIIRS) Fire Radiative Power used in the
HRRR Smoke Model



NOAA's Long-term Satellite Records Support GHG Inventories



- **JPSS Visible Infrared Imaging Radiometer Suite (VIIRS; 2012- to ~2040)** and **Cross-track Infrared Sounder (CrIS)** provide state-of-the-art operational land, trace gas and fire emissions products (CO₂, CO, SO₂, OC, BC, PM_{2.5}, CH₄*, TPM*, VOC*)
- VIIRS currently overlaps Advanced Very High Resolution Radiometer (AVHRR; 1978- to present)
- NOAA Climate Data Records provide consistent merged products from 1978- to ~2040



NOAA Strategic GOAL 1.7:

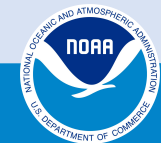
Advance U.S. leadership in the global commercial space industry

- *Coordinate regulatory functions across domestic and international stakeholders to promote competitiveness, and increase legal certainty for U.S. commercial space businesses;*
- *Grow the customer base for U.S. commercial space goods and services;*
- *Improve space safety and sustainability;*
- *Promote commercial space innovation;*
- *Advance development, use, and application of space-based Earth observation capabilities to empower better decision-making by the public and private sector.*

Office of Space Commerce (OSC)



- *OSC's mission is to foster the conditions for the economic growth and technological advancement of the U.S. Commercial Space Industry.*
- *Recently moved from within NESDIS to an office in the NOAA Under Secretary's Office.*
- *OSC's roles include:*
 - *Advocacy*
 - *Regulatory (CSRA)*
 - *Operational (SSA)*





THANK YOU

