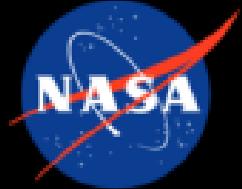


# Communicating Actionable Earth Science

at the Earth Information Center

Alex Gurvich, Ph.D.  
NASA Scientific Visualization Studio  
Outlier, June 12, 2024



NASA has partnered with seven other Federal agencies  
to bring actionable data to the via the Earth Information Center

## Earth Information Center



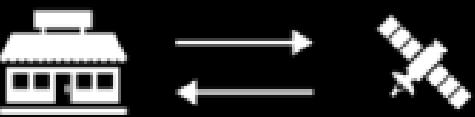
FEMA



**USAID**  
FROM THE AMERICAN PEOPLE



# The EIC at NASA HQ has four components



Immersive  
Projection  
Room



Data-driven  
LED chandelier



Interactive  
Drafting  
Table  
Kiosks



The Hyperwall

"Earth Mission Control"



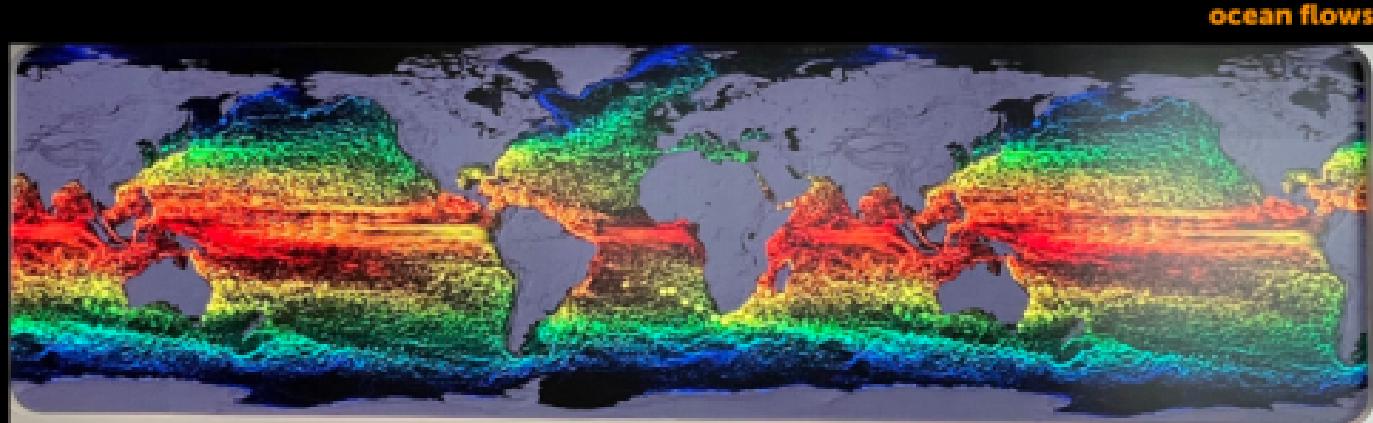


**Beauty Pieces**

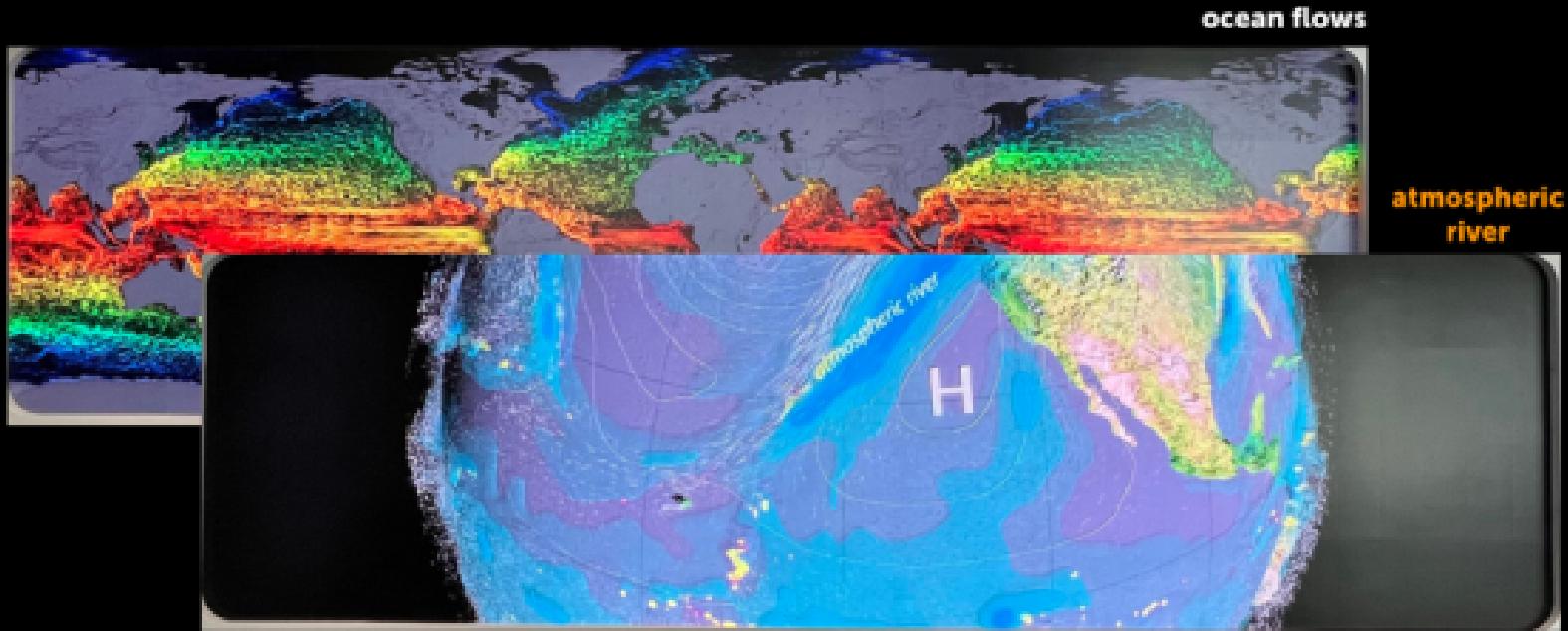
**Narrated Stories**

**Dashboards**

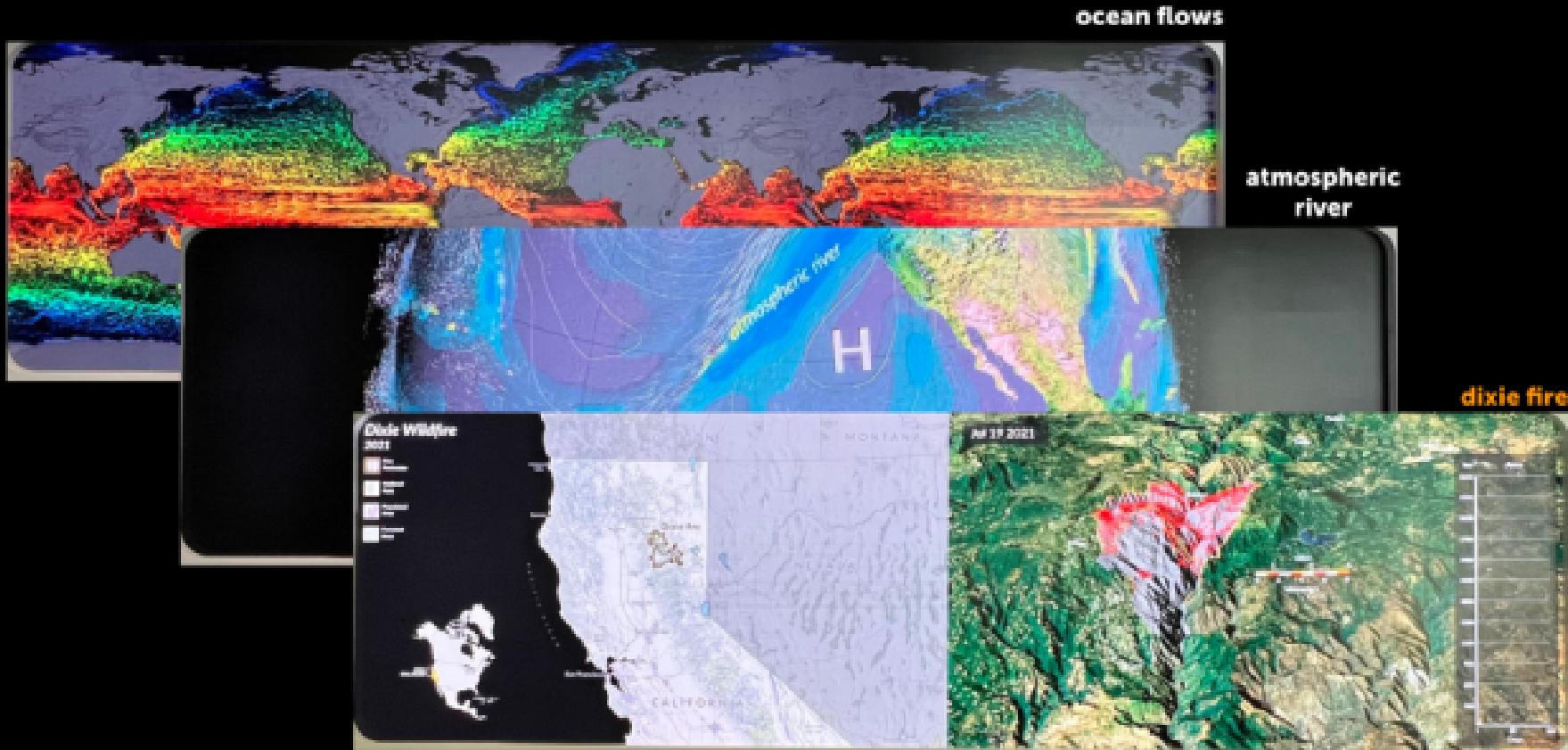
Hyperwall content is split into **three groups**:  
**beauty pieces**, narrated stories, and dashboards



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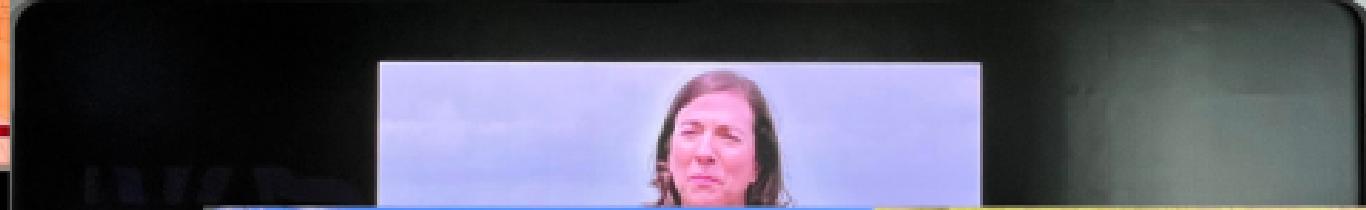
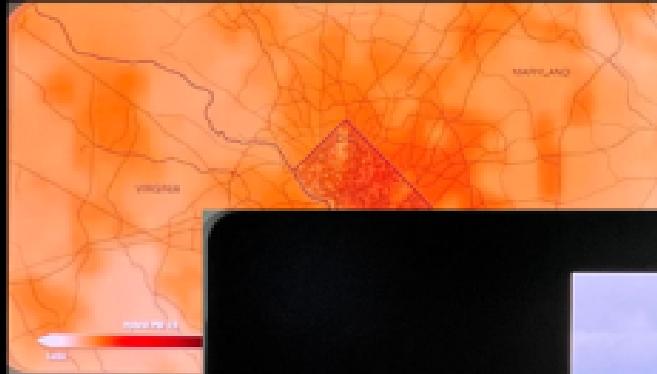


Hyperwall content is split into **three groups**:  
beauty pieces, narrated stories, and dashboards



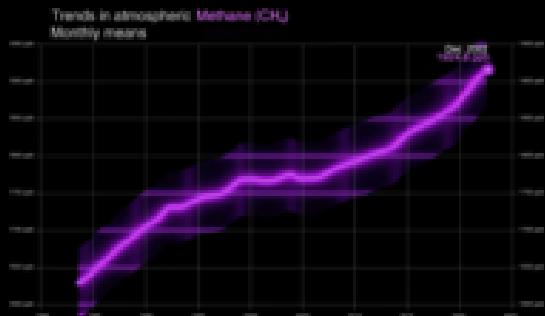
Recently, we left the impact of Hurricane Dorian as it passed through Puerto Rico, and today I'm here to answer your questions about the damage.

Hyperwall content is split into **three groups**:  
beauty pieces, narrated stories, and dashboards



Hyperwall content is split into **three groups**:  
beauty pieces, narrated stories, and **dashboards**

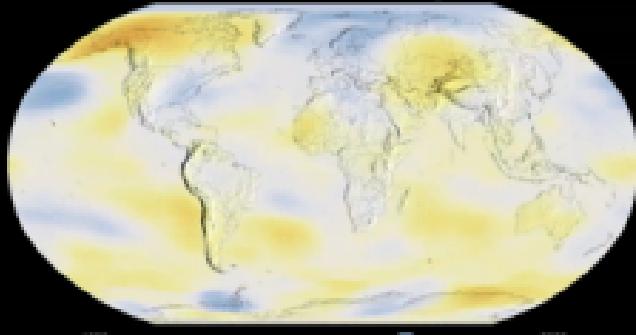
### animated charts/graphs



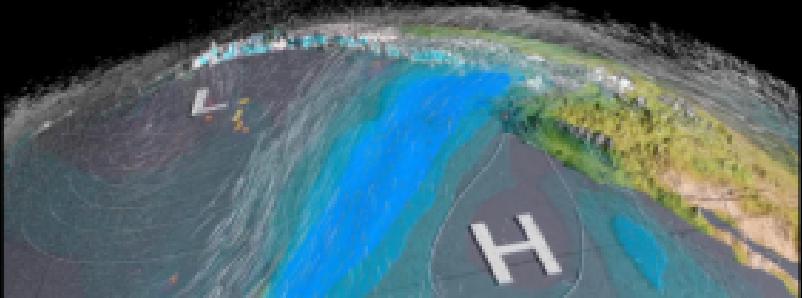
### big statistics

Global Temperature	Sea Level	Minimum Extent of Arctic Sea Ice
↑ 1.4°C since pre-industrial	↑ 4" since January 1990	↓ 12.2% per decade since 1979
Carbon Dioxide	Methane	Ice Sheets
↑ 427 current parts per million	↑ 1932 current parts per billion	↓ 408 billion metric tons per year

### animated maps



### 3D models



# Dashboard content is categorized thematically

 **WEDNESDAY** 

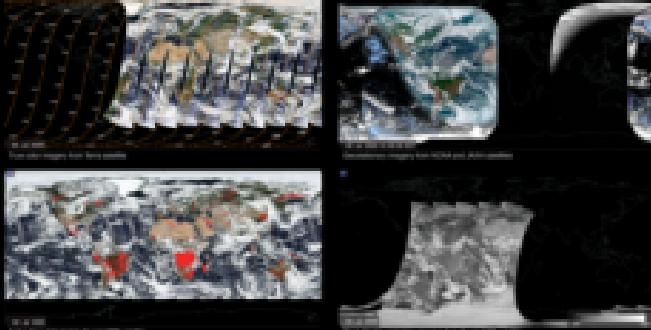
 **Earth Now**

Federal satellites provide data on Earth's land, ecosystems, water, air temperature, and climate – and have done so for more than 60 years. Earth information from space supports decision makers, partners, and people in developing the tools they need to mitigate, adapt, and respond to our changing planet.

**Earth Observing Fleet**



**Current Satellite Observations**



Cloud cover from Terra MODIS  
Cloud cover from Terra ASTER  
Cloud cover from Terra MODIS  
Cloud cover from Terra MODIS  
Cloud cover from Terra ASTER

**Image of the Day**



**On This Day in 2020: Hurricane Delta**  
Hurricane Delta has been the latest in a string of powerful storms to hit the eastern United States this year.

**Vital Signs**

Global	Sea Level	Extreme Area of Dryness
+1.1°C	+4"	-12.8%
Carbon Dioxide	Ice Sheets	Ocean Warming
+421	+1824	+345

**NRT, broad**

Dashboard content is categorized thematically

**WEDNESDAY**  
October 4, 2006 10:22 AM

**Earth Now**

**Global Temperatures are Rising**

**Image of the Day**  
Arctic sea ice is shrinking

**NRT, broad**

**Earth Observing F**

**WEDNESDAY**  
October 4, 2006 10:22 AM

**Climate Vital Signs**

**Greenhouse Gas Levels are Increasing**

**Image of the Day**  
Arctic sea ice is shrinking

**Daily, narrow**

# Dashboard content is categorized thematically

WEDNESDAY  
October 4, 2006 10:29 AM

## Earth Now

Mobile satellites provide data on Earth's land, ecosystems, water, air temperature, and climate, and have done so for more than 60 years. Earth information from space supports decision makers, partners, and people in developing the tools they need to mitigate, adapt, and respond to our changing planet.

### Current Satellite Observations



Global Temperatures are Rising

### Image of the Day



NRT, broad

Earth Observing Platform WEDNESDAY  
October 4, 2006 10:29 AM

## Climate Vital Signs

NASA monitors the health of our planet to benefit humans and our mission track key climate indicators and we share these with the world.

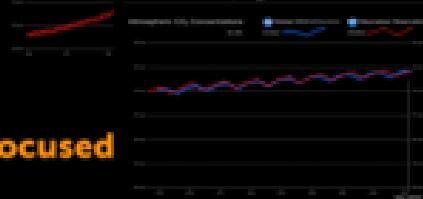


Greenhouse Gas I WEDNESDAY  
October 4, 2006 10:29 AM

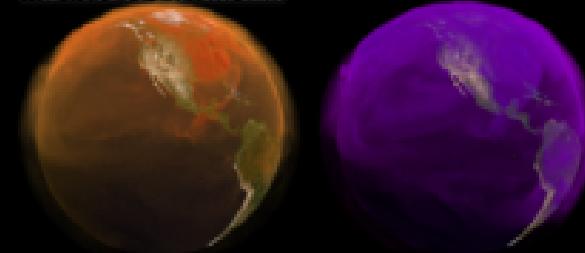
## Greenhouse Gases

NASA and its partners track greenhouse gases from space, air, and ground. Our scientists model the flow of these gases across our planet.

### Carbon Dioxide (CO<sub>2</sub>)



### A Year in the Life of Greenhouse Gases



### Carbon Dioxide (CO<sub>2</sub>)

3D CO<sub>2</sub> concentrations produced by merging CO<sub>2</sub> observations with NASA's GISS model to provide a best estimate of the processes controlling climate change.



03 Jul 2005



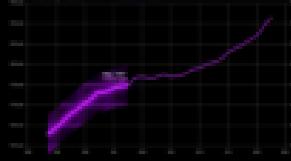
### Greenhouse Gas Warming Contributions

With Arctic sea ice shrinking, the warming effect of greenhouse gases is increasing.



### Methane (CH<sub>4</sub>)

Trends in atmospheric methane (purple) following models.



Annual, focused

# Dashboard content is categorized thematically

WEDNESDAY  
October 4, 2006 10:29 AM

## Earth Now

Today's satellites provide data on Earth's land, ecosystems, water, air temperature, and climate, and have done so for more than 50 years. Earth information from space supports decision makers, partners, and people in developing the tools they need to mitigate, adapt, and respond to our changing planet.

### Current Satellite Observations



Global Temperatures are Rising

### Image of the Day



NRT, broad

Earth Observing F WEDNESDAY  
October 4, 2006 10:29 AM

## Climate Vital Signs

NASA monitors the health of our planet to benefit humans and our mission track key climate indicators and we share these with the world.



Greenhouse Gas I

WEDNESDAY  
October 4, 2006 10:29 AM

## Greenhouse Gases

NASA and its partners monitor greenhouse gases from space, air, and ground. Our models model the flow of these gases across our planet.

Carbon Dioxide (CO<sub>2</sub>)

WEDNESDAY  
October 4, 2006 10:29 AM

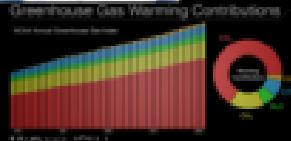
## Carbon Dioxide

### Sources & Sinks

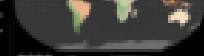
Today's models track the flow of carbon dioxide, its emission and transport around the globe, and its absorption by the ocean and biosphere.



Annual, focused



Daily, narrow



One time, very focused

The EIC is the culmination of an amazing team's effort



NASA's Scientific Visualization Studio (PC: Wade Sisler)

The EIC is the culmination of an amazing team's effort



NASA's Scientific Visualization Studio (PC: Wade Sisler)

# Learn more and plan your visit at Earth.gov!

The Hyperwall - Earth Information Center

https://earth.gov/stories/hyperwall

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EARTH NOW CLIMATE VITAL SIGNS Open in a new browser tab

MONDAY April 20, 2020

Earth Now

NASA satellites provide data on Earth's land, ecosystems, water, air, temperatures, and climate—and have done so for more than 50 years. Earth information from space supports decision makers, partners, and people in developing the tools they need to mitigate, adapt, and respond to our changing planet.

Earth Observing Fleet

Current Satellite Observations

Image of the Day

Vital Signs

Global	Sea Level	Green Land
+1.4°C	+4"	+12.2%
Ocean Health	Ice Sheets	Ocean Warming
+425	+1932	+360