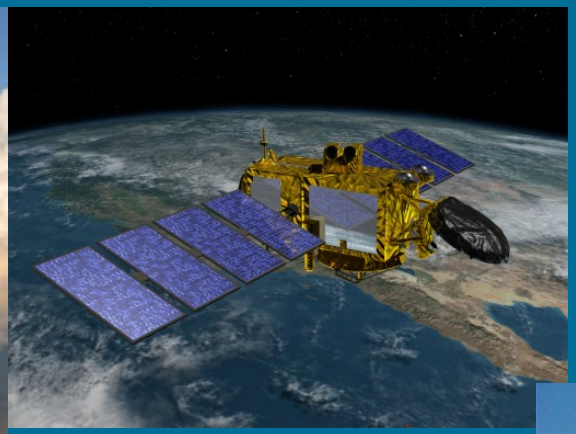
The Value of Information:

Data from Satellites, Aircraft, and Marine Vessels

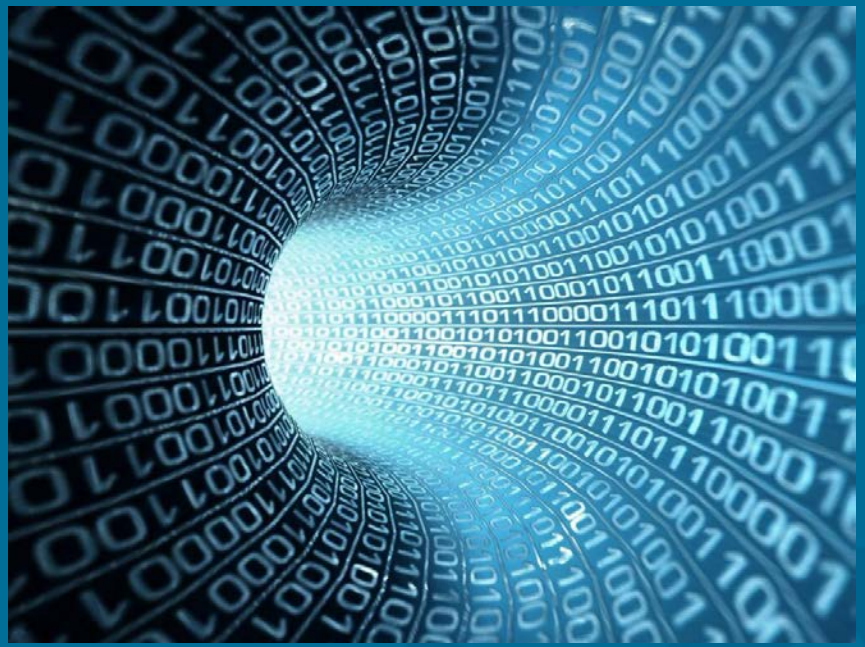


Jeffery E. Adkins
IM Systems Group
NOAA Program Planning and Integration

jeffery.adkins@noaa.gov

Overview:
The Value of Information

- What It Isn't
- What It Is
- How to Measure It
- Takeaways



The Value of Information: What It Isn't

"One Percent"

The Value of Information: What It Is

"The economic value of new data and information is effectively zero until the information is used productively in an application that actually brings economic benefit to an end user."

-- Williamson, Ray A., Henry R. Hertzfeld, and Joseph Cordes. "The socio-economic value of improved weather and climate information." Space Policy Institute, The George Washington University (2002).

The Value of Information: What It Is

Translation: The Value of Information is zero until somebody does something with it.

Q:What's the Value of the Closing Price for Apple Stock?

A: It depends.

- *tomorrow's closing price or yesterday's?*
- *do you have any money to invest?*
- *is the price going to change a lot?*

General Principles

What affects the value of information?

- *Can it be used to discover a better outcome?*
- *Do users have the ability to act on the information?*
- *Is the better outcome a lot better or just a little better?*

The Value of Information: How to Measure It

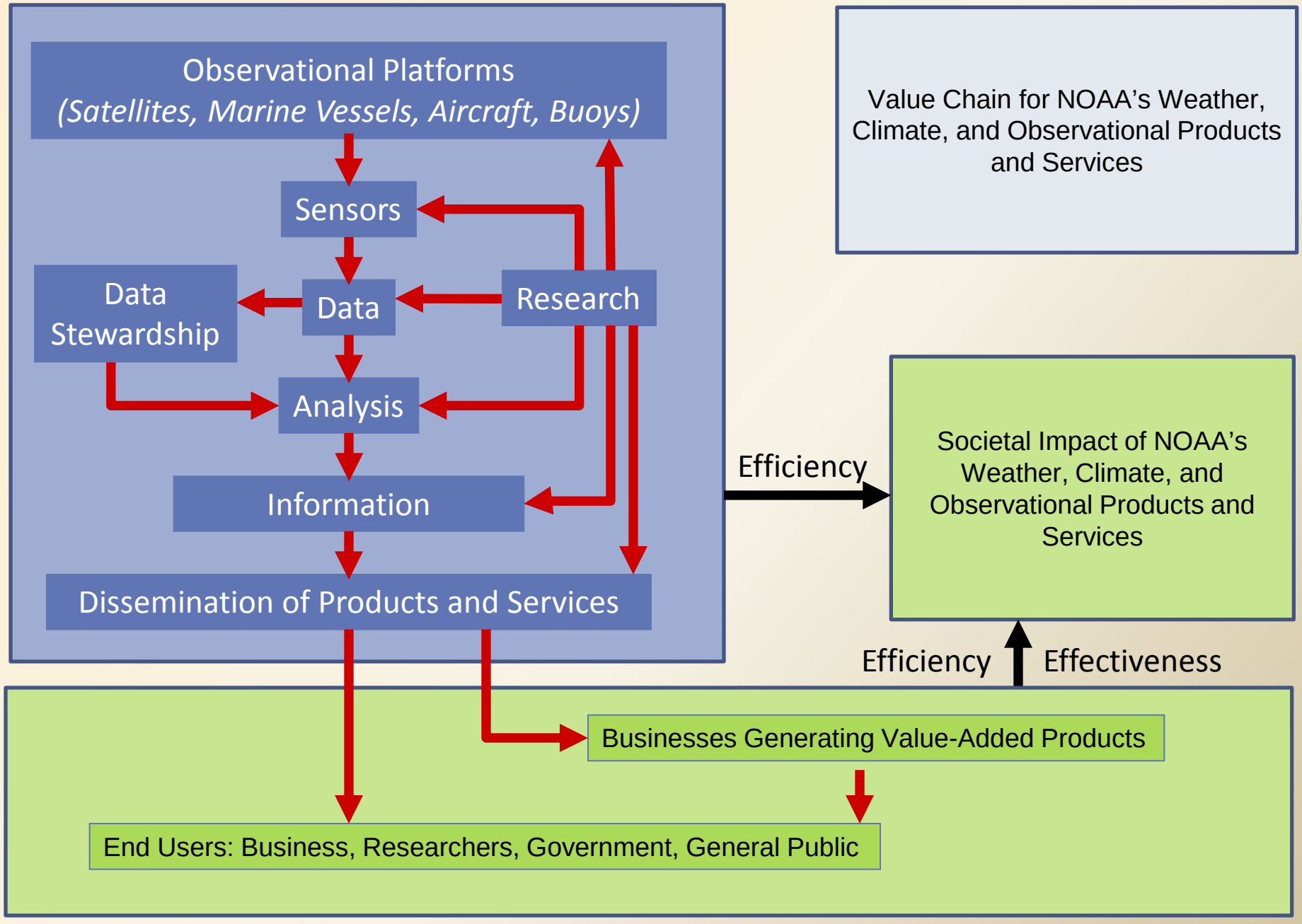
Start with the value story:

- What is the final product?
- Who is using it?
- How are they using it?
- What's getting better?

Example: *Data Collected by NOAA Satellites, Marine Research Vessels and Aircraft*

Start with the value story:

- What is the final product? ***[weather, navigation, time]***
- Who is using it? ***[agriculture, energy, shippers, markets]***
- How are they using it? ***[lots of different ways]***
- What's getting better? ***[lower costs, higher productivity]***

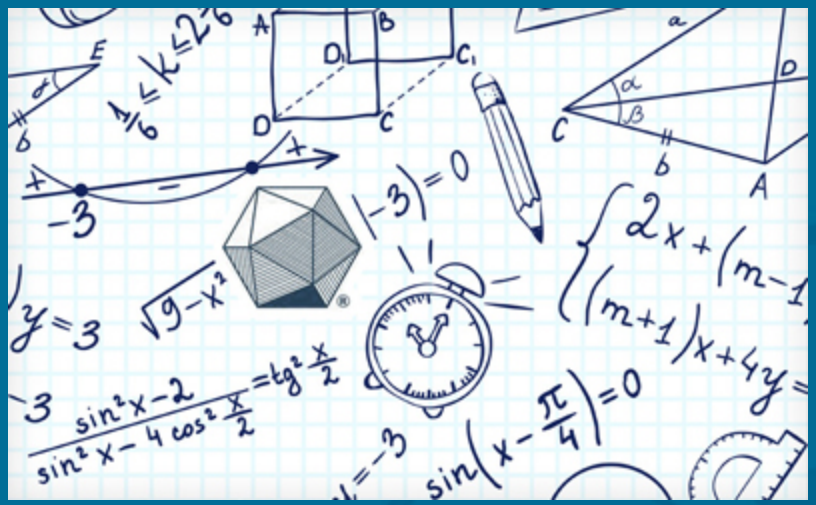

Observational Platforms
(Satellites, Marine Vessels, Aircraft, Buoys)
Sensors
Data Stewardship
Data
Research
Analysis
Information
Dissemination of Products and Services
Value Chain for NOAA's Weather, Climate, and Observational Products and Services
Efficiency
Societal Impact of NOAA's Weather, Climate, and Observational Products and Services
Efficiency
Effectiveness
Businesses Generating Value-Added Products
End Users: Business, Researchers, Government, General Public

The Value of Information: How to Measure It

Start with the value story

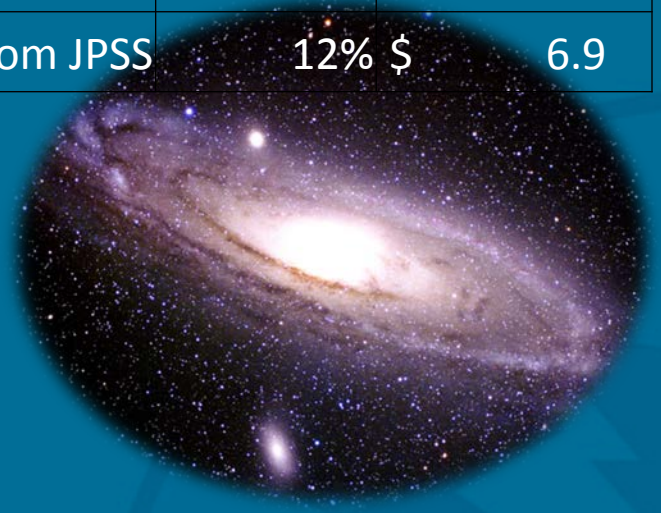
Do the Math

- Collect data
- Conduct analysis
  - Top-down
  - Bottom-up



Example: *Top-Down Estimate of the Value of Data from Polar Satellites*

	Factor	Value
GDP		$ 15,761.0
Percent of GDP Affected by Weather	35.0%	$ 5,516.4
Percent of Weather-Related Variability That Is Preventable	1%	$ 55.2
Percent of Necessary Information Derived from JPSS	12%	$ 6.9



Example: *Bottom-Up Estimates, Multiple Studies Needed*

Agriculture: Reduced crop loss
Agriculture: Reduced irrigation costs
Agriculture: Fewer False-Positive Freeze Forecasts
Electric energy: Lower production costs
Natural gas Lower transmission costs
Aviation: Time savings
Aviation: Reduced losses from volcanic ash
Fish catch: Fewer safe-margin fisheries closures

The Value of Information: How to Measure It

Start with the value story

Do the Math

Tell the value story (use numbers)

The Value of Information: Takeaways

Watch our for things we “know” that just ain’t so.

Answer the question that is being asked.

Not every question has an economic answer.

Link values to the value story.

Thank you!

Jeffery Adkins
jeffery.adkins@noaa.gov