Chief Scientist's Update

to the NOAA Science Advisory Board

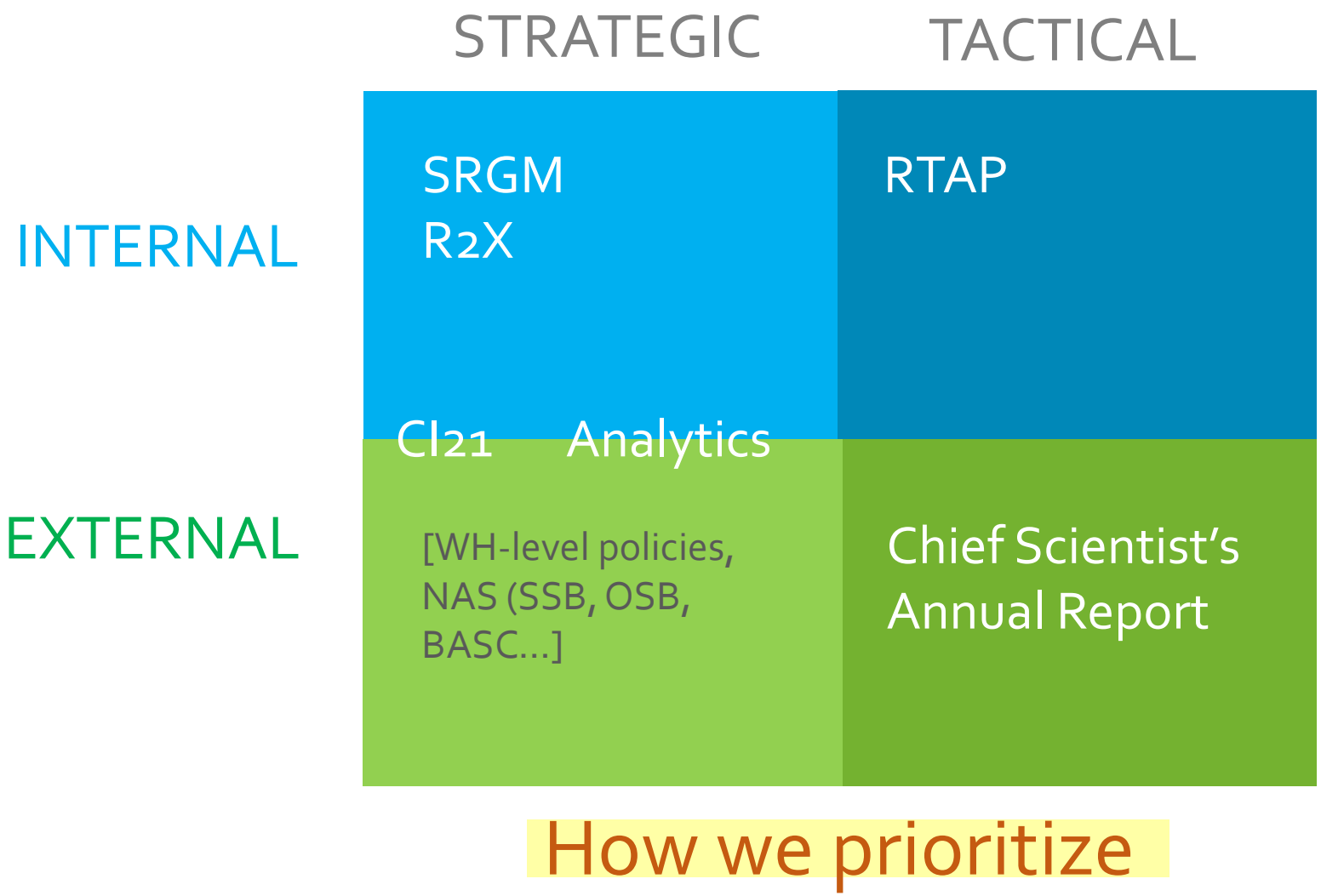
August 2, 2015

Rick Spinrad, Ph.D., CMarSci

NOAA Chief Scientist

National Oceanic and Atmospheric Administration

Today's Update



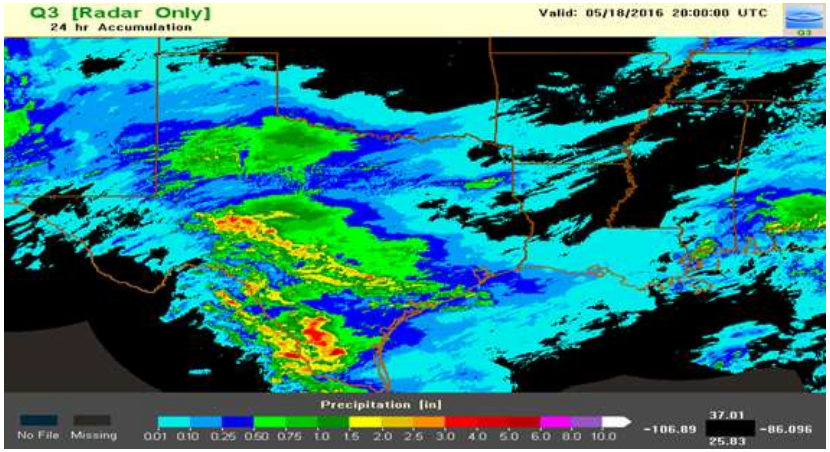
How we prioritize

Strategic Research Guidance Memorandum 2016

Priority	New emphases
Integrated Earth system processes & predictions	Ecosystem-based fisheries management under unified modeling
Observing system optimization	Innovative enhanced sensing and sampling (compressive sensing; acoustics) Assess performance of new data sources
Decision science, risk assessment & risk communication	Better use new relationships with other agencies investing in social, behavioral and economic sciences research
Data science	Extracting meaningful info from heterogeneous data sources Exascale computing
Integrated water prediction	Water quality
Arctic	Sea ice models & predictions Water level monitoring Key Arctic species

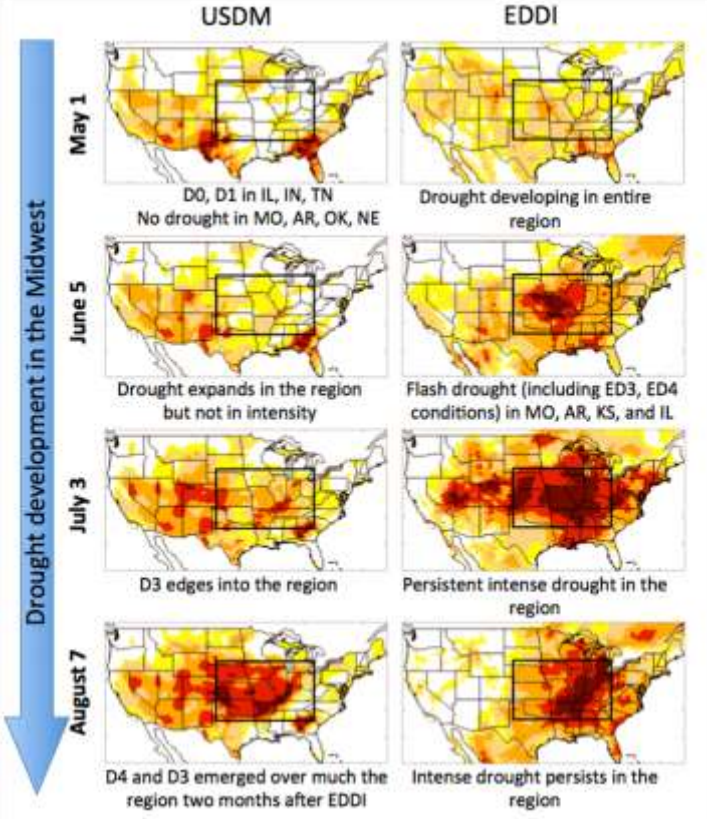
Research Transition Acceleration Program (RTAP)

Joint Technology Transfer Initiative (JTTI)-funded through RTAP selection process



Upgrades and Improvements to MRMS

Start date: June 1, 2016
One year of funding



Evaporative Demand Drought Index (EDDI)

Institutionalization of SRGM & R2X

FY17 budget formulation

- Integrated water prediction
- Observing system optimization (aircraft-based; ASOS & NEXRAD)
- Arctic Observing Network (AON)
- RTAP

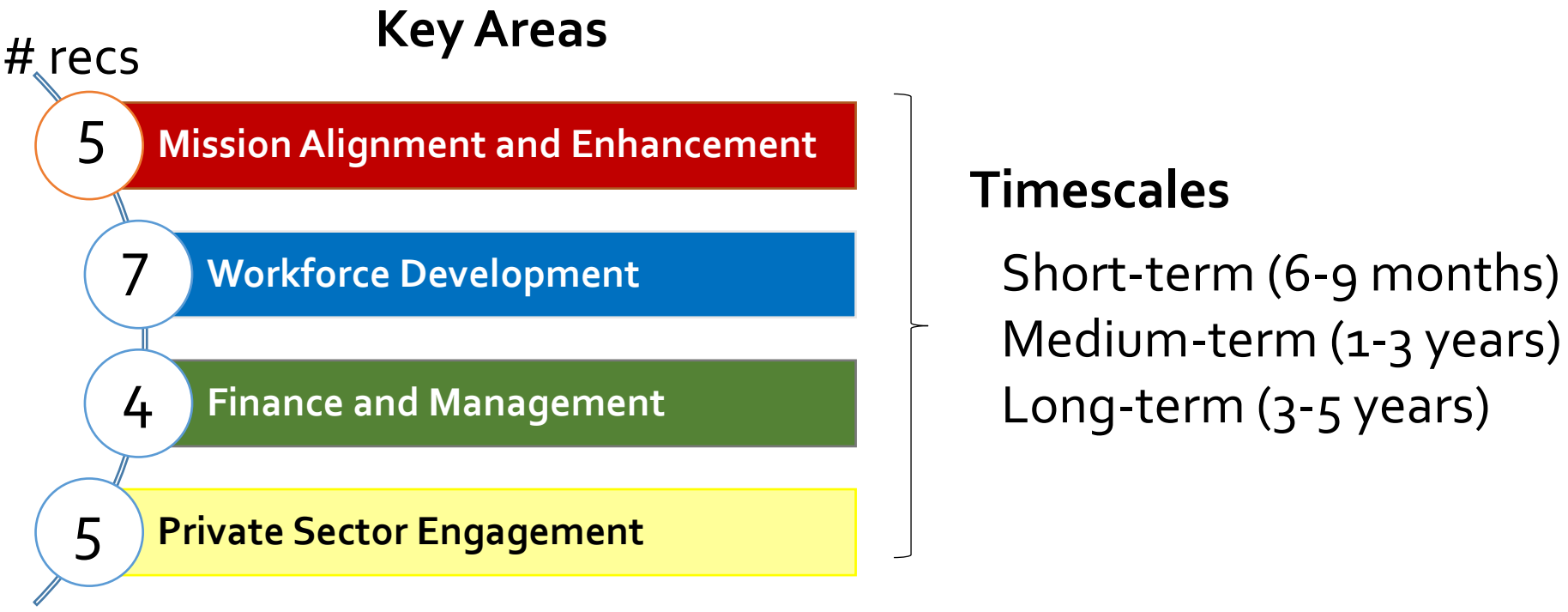
Practices

- FY17 SBIR call for subtopics
- Unified Modeling Working Group
- NOSC Emerging Technologies Workshop

CI21 Recommendations

Vision for Cooperative Institutes in the 21st Century

The new "CI21" model seeks to reinforce the role of NOAA's CIs as authoritative brokers of information and knowledge, and to advance the connectivity of NOAA science to critical intellectual resources. This model is intended to help ensure the CIs are efficiently and effectively run while focusing on:



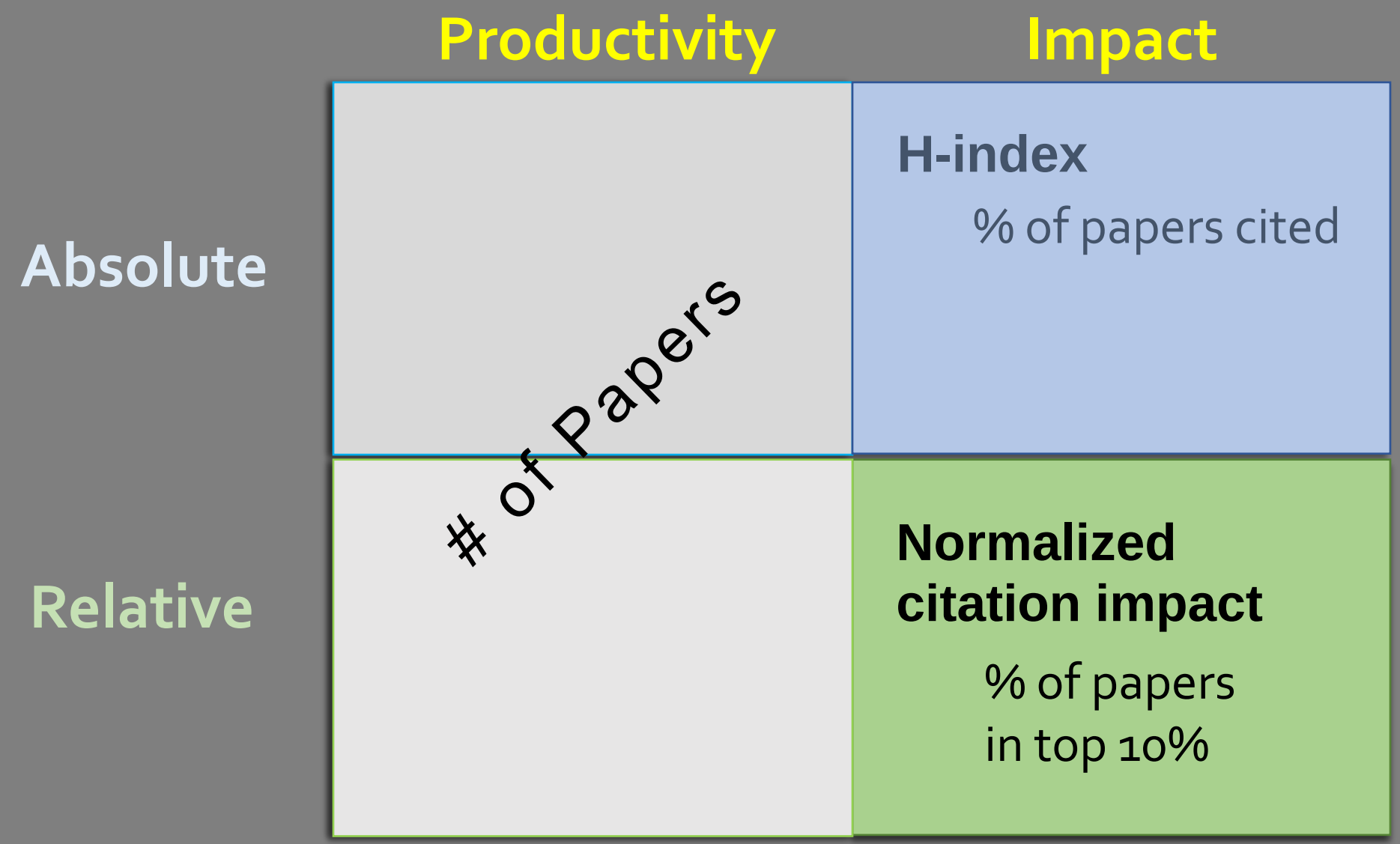
CI21 Outcomes

- Clarity of expectations for NOAA & CIs
- Validation of cost benefit
- Definition of future opportunities
- Workforce optimization

Analytics - Bibliometrics

- First-time ever for NOAA
- Most rigorous productivity & impact analytics for NOAA R&D
- Strongest areas aligned with mission
- At leading edge across federal agency science

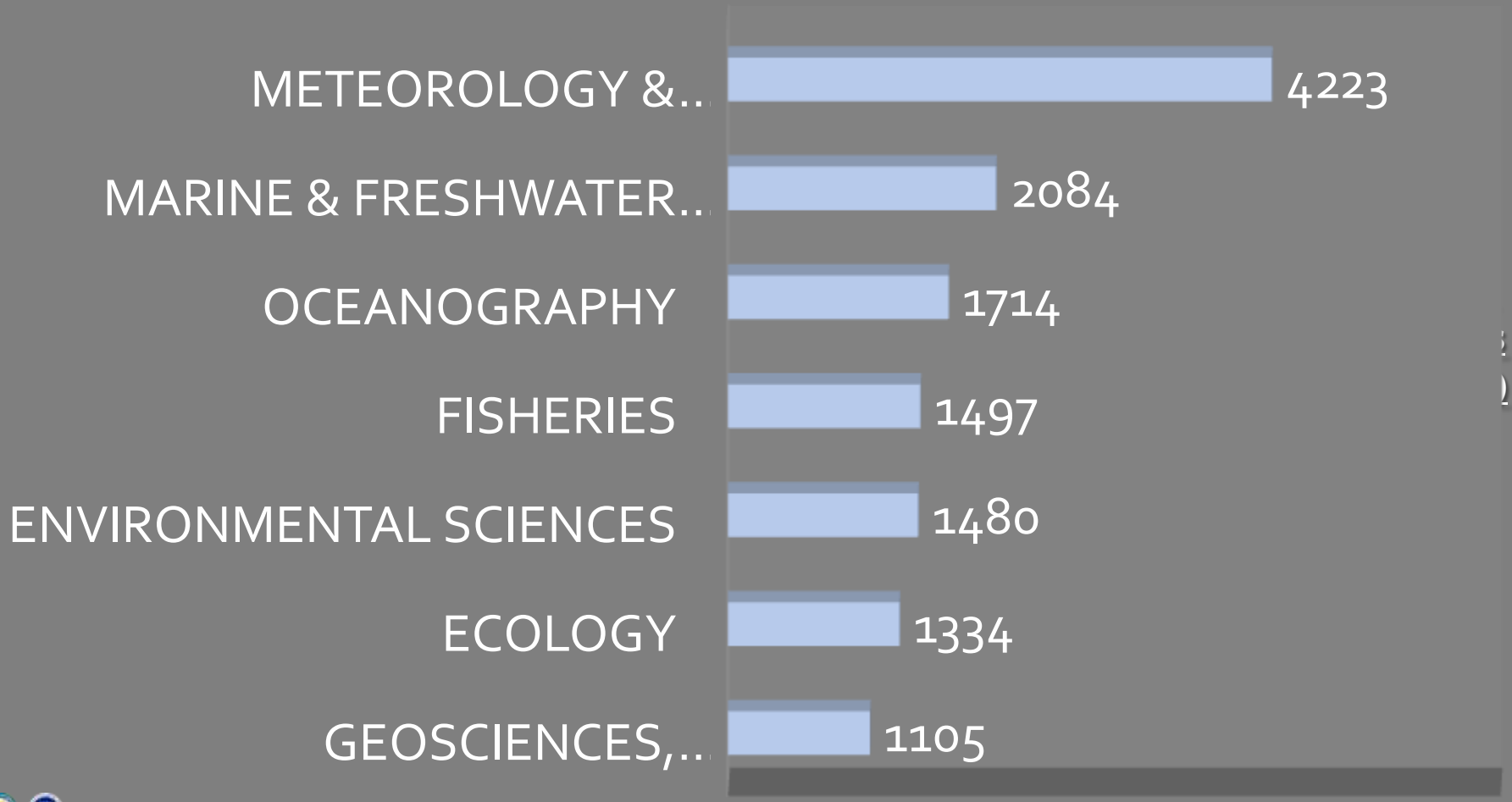
Analytics - Bibliometrics



Analytics - Bibliometrics

What Fields of Research is NOAA *INFLUENCING*?

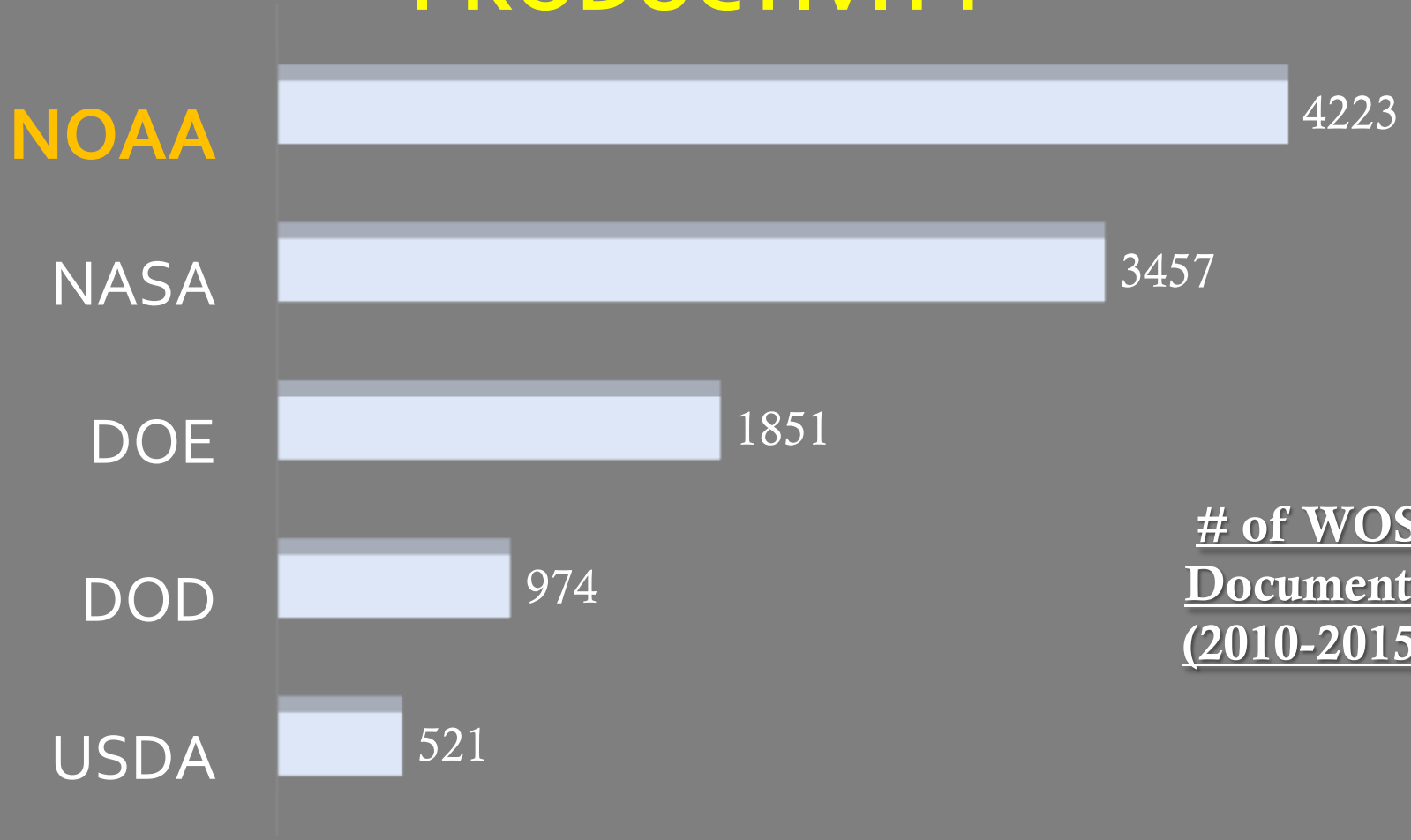
7 'Core' Research Areas



Analytics - Bibliometrics

Meteorology and Atmospheric Sciences

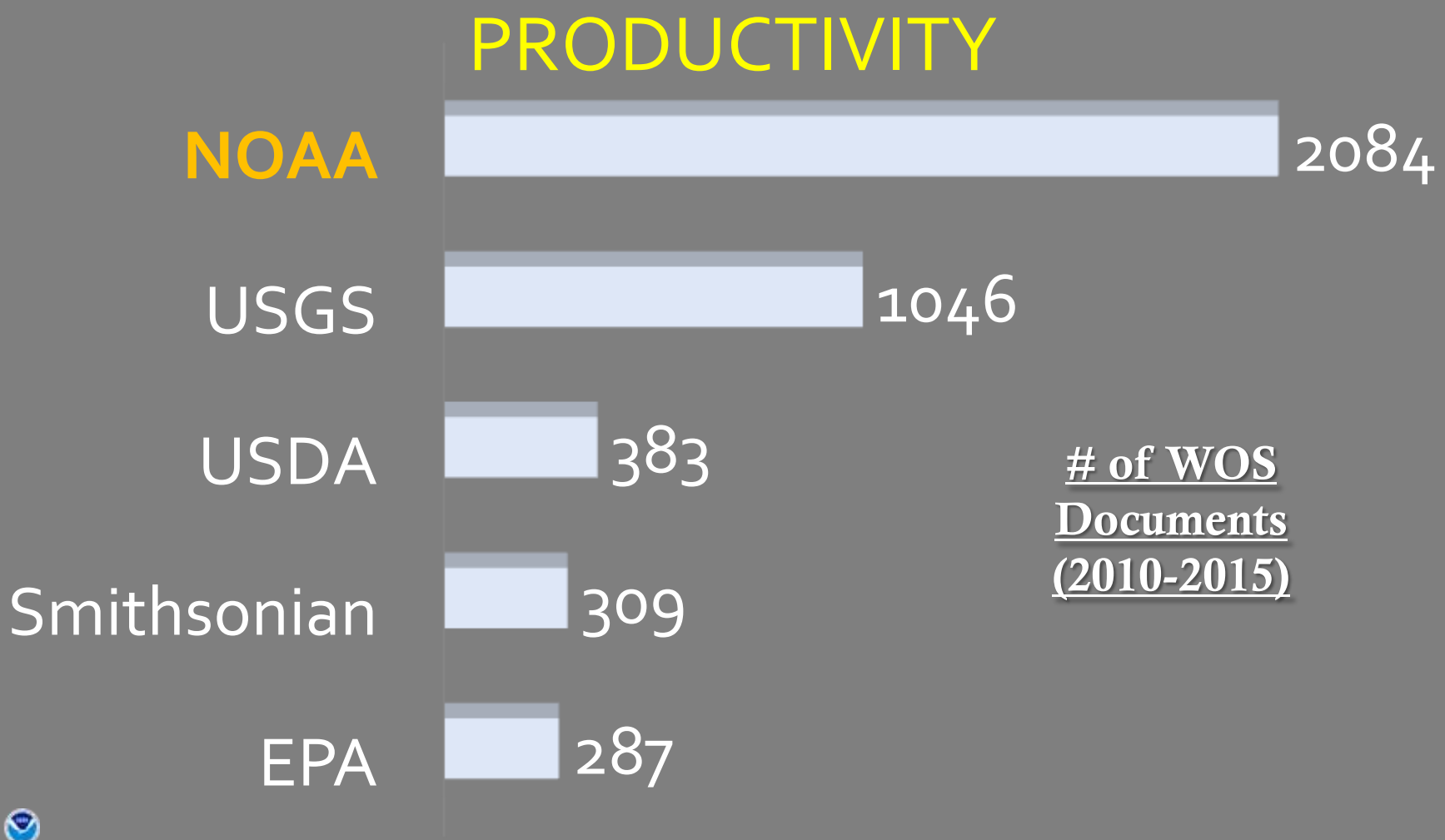
PRODUCTIVITY



# of WOS Documents (2010-2015)

Analytics - Bibliometrics

Marine and Freshwater Biology

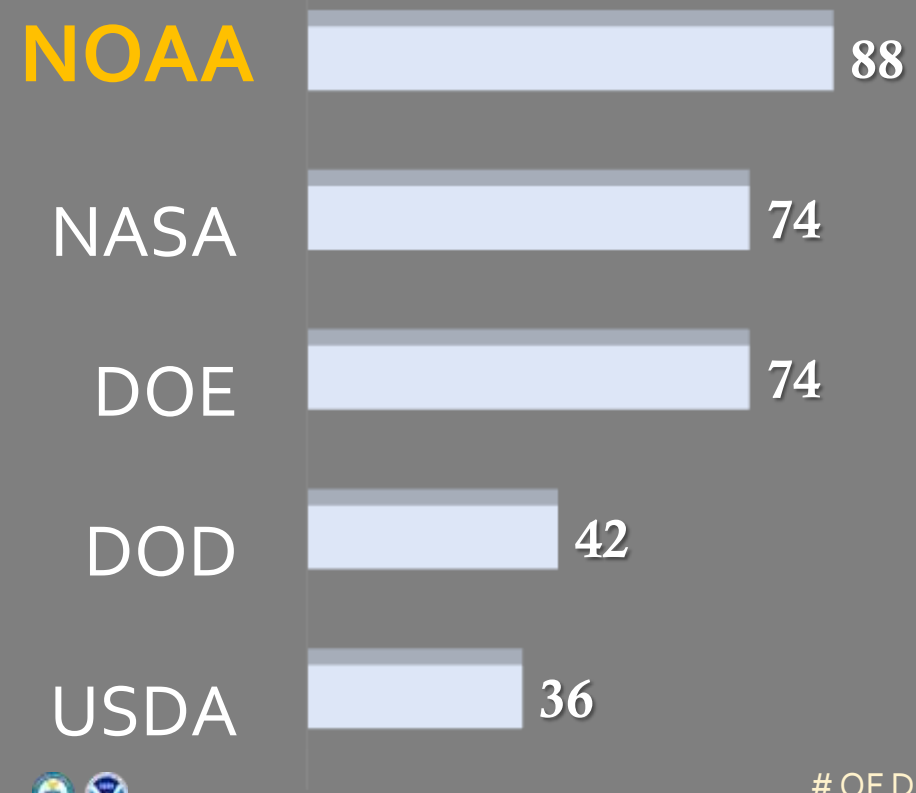


Analytics - Bibliometrics

Meteorology and Atmospheric Sciences (2010-2015)

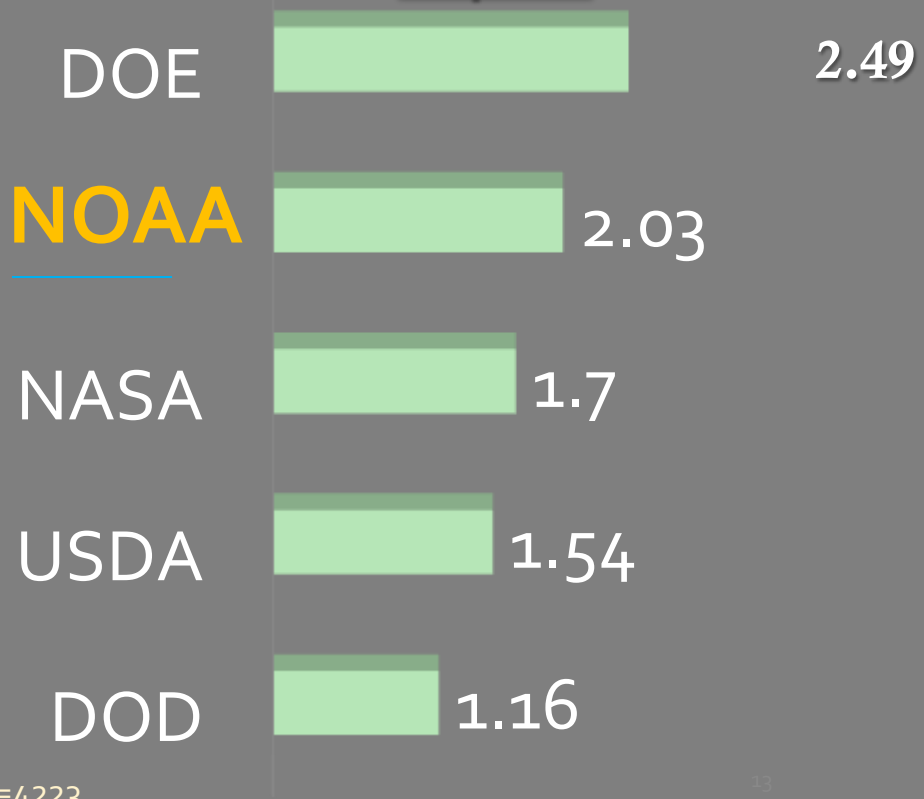
ABSOLUTE IMPACT

H-Index



RELATIVE IMPACT

Category Normalized Citation Impact



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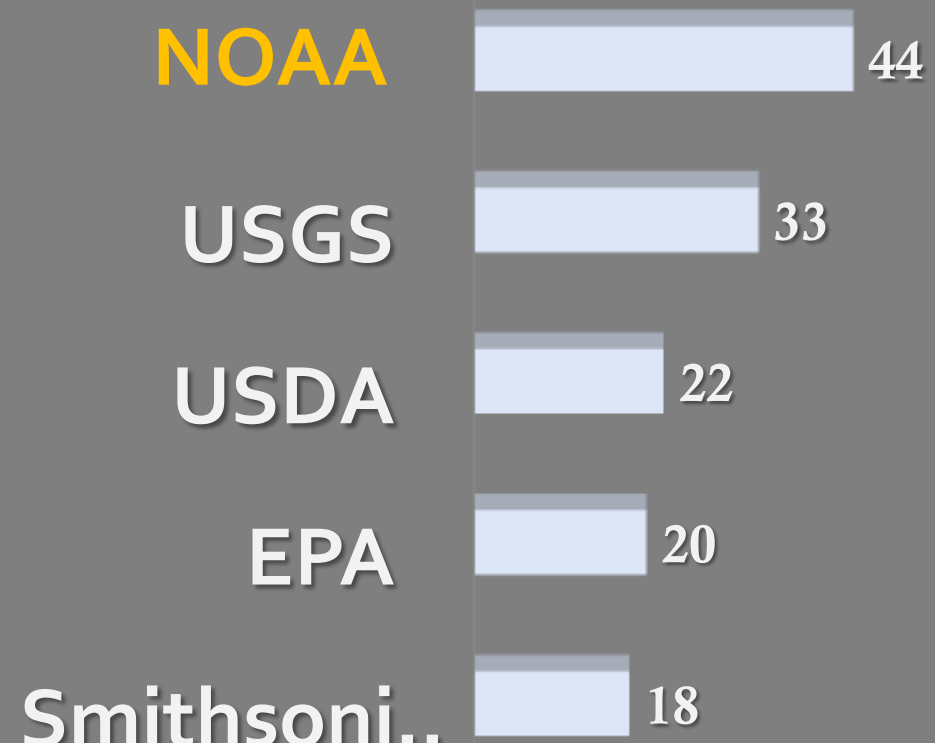
Analytics - Bibliometrics

Marine and Freshwater Biology (2010-2015)

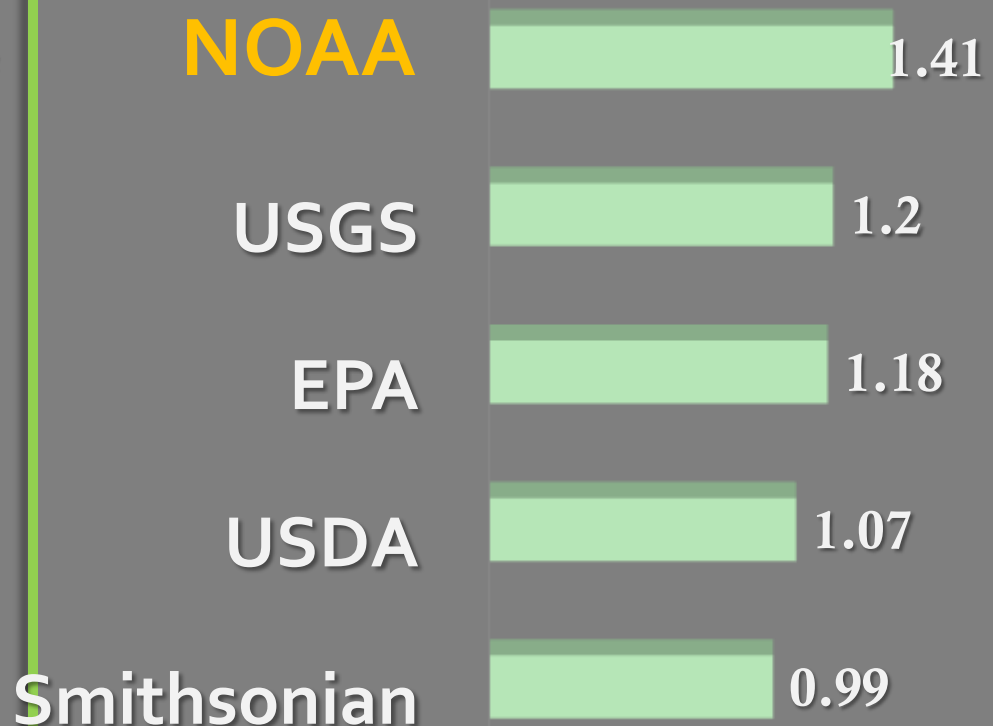
ABSOLUTE IMPACT

H-Index



RELATIVE IMPACT

Category Normalized Citation Impact



OF DOCS =2084

Analytics - Bibliometrics

Metric / Fields	# of documents	% of documents cited	H-Index	CNCI	% docs in top 10%
Oceanography	**1 (1,714)**	**2 (83%) (USGS)**	**1 (46)**	**2 (1.7) (DOE)**	**2 (21%) (DOE)**
Fisheries	**1 (1,497)**	4 (74%) (USGS)	**1 (33)**	**1 (1.44)**	**1 (16%)**
Environmental Sciences	5 (1,480) (DOE)	**1 (84%)**	5 (53) (DOE)	1 (1.81)	**2 (24%) (DOE)**
Ecology	4 (1,334) (USDA)	**2 (85%) (Smiths.)**	5 (50) (USDA)	3 (1.47) (Smiths.)	**2 (20%) (Smiths.)**
Geosciences (multidisciplinary)	4 (1,105) (USGS)	**1 (85%)**	**2 (57) (NASA)**	**1 (2.22)**	1 (26%)

Chief Scientist's Annual Report (CSAR)

Purpose

- Corporate-level overview of NOAA's R&D, including clear expression of agency **research portfolio logic model**
- Highlights **progress** towards meeting agency priorities in R&D, scientific integrity, and workforce development
- "Trophy" cases
  - New key innovative R&D
  - R2X achievements
  - Publications
  - Awards
  - Analytics
- Outward-facing

Chief Scientist's Annual Report

1. Introduction
2. R&D themes
3. Bibliometrics
4. Workforce & Reviews

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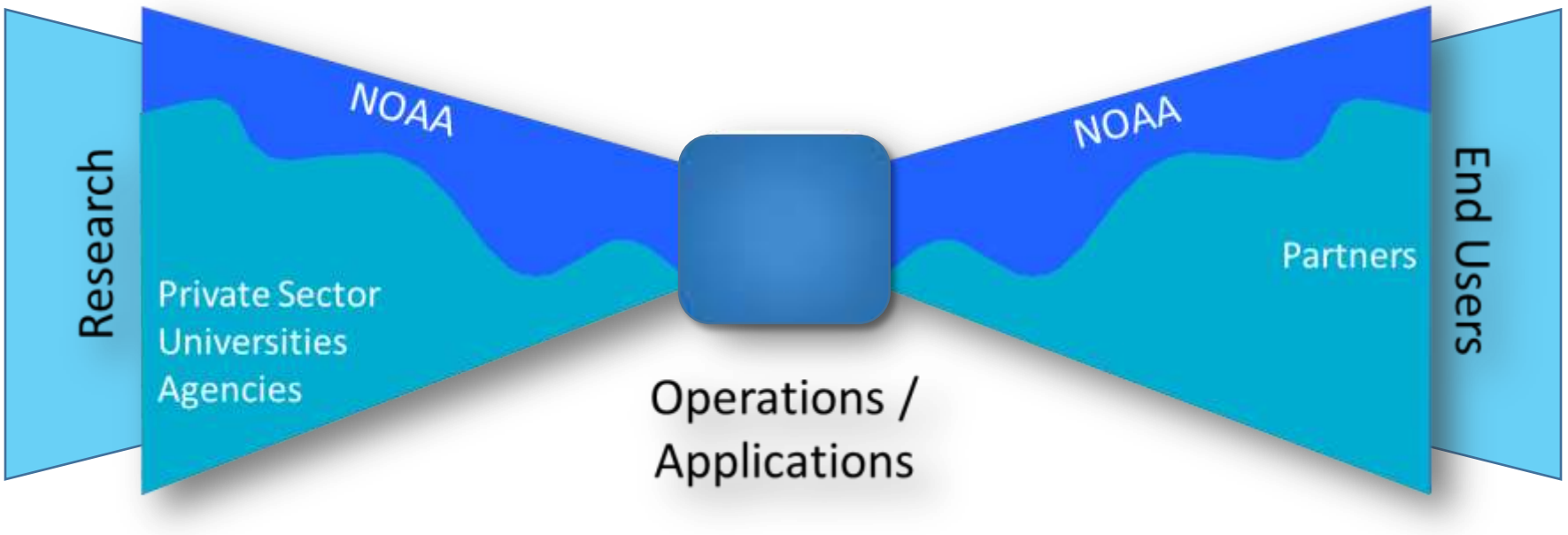
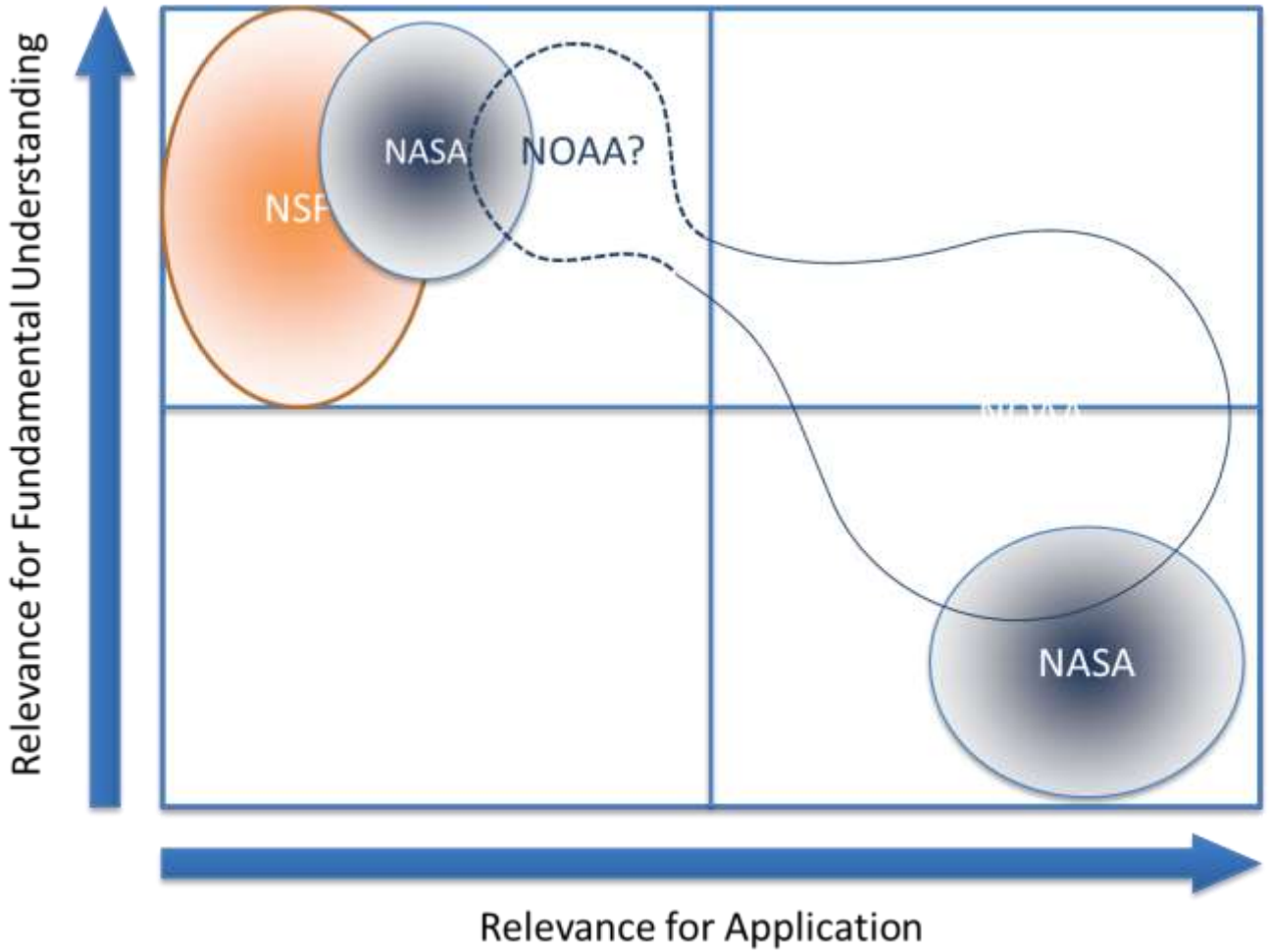
- Portfolio logic
- R&D themes
- Organization
- Workforce & Reviews

Why NOAA does research



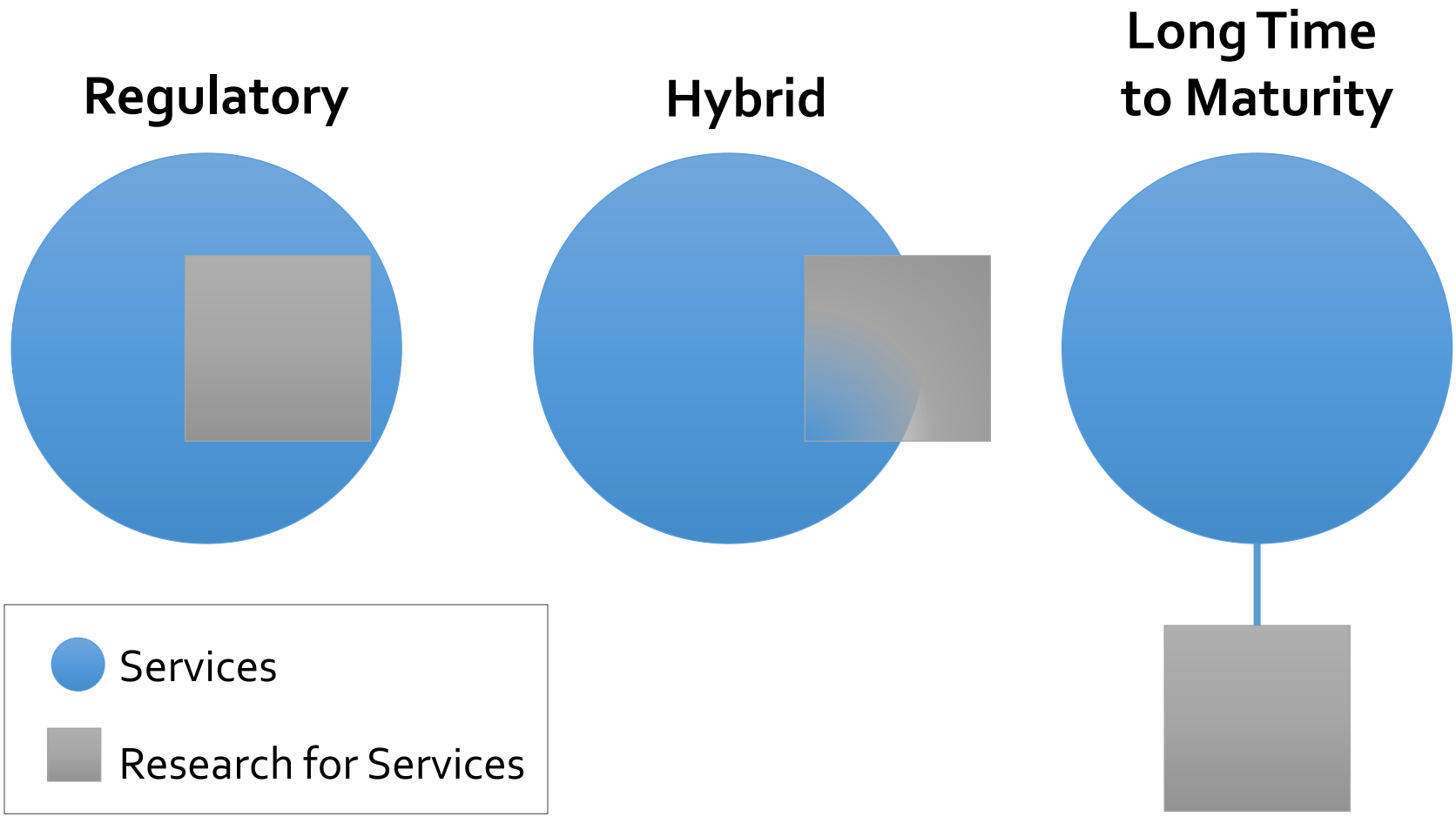
Chief Scientist's Annual Report

What research we do



Chief Scientist's Annual Report

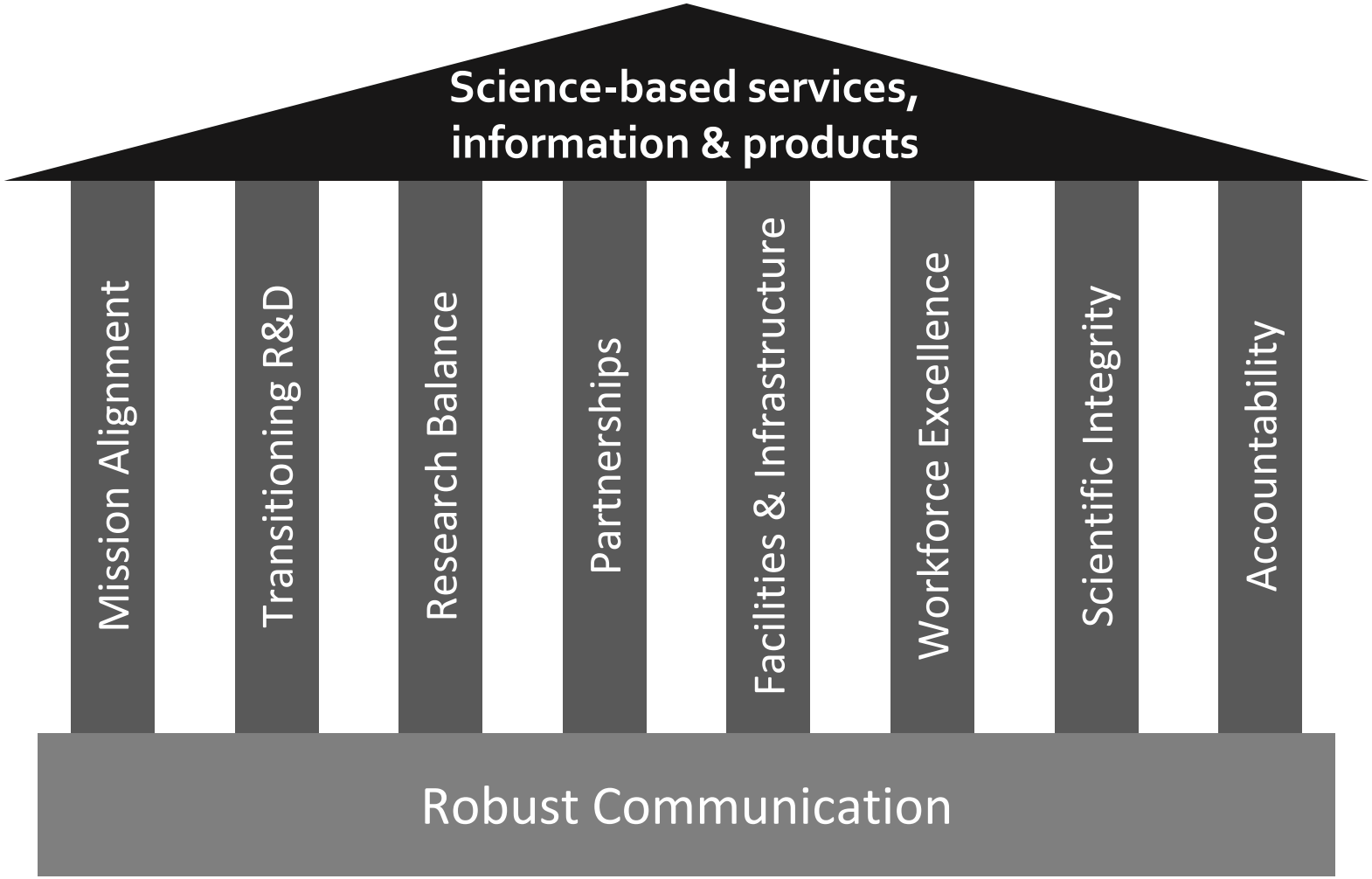
Where we do research



2004 SAB, MacDonald et al. report, Murawski et al. report

Chief Scientist's Annual Report

How we do research



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- Integrated Earth system processes and predictions
- Observing system optimization
- Decision science, risk assessment & risk communication
- Data science
- Water prediction
- Arctic

SRGM priorities

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- Productivity
- Absolute impact
- Relative impact

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- Scientific integrity
- Accomplishments
- Awards
- Publications
- Reviews

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Final report

October 2016

Thank you

www.noaa.gov