National Aeronautics and Space Administration

Data Access and Storage of Earth Science Data in the Cloud

Experiments in Collaboration

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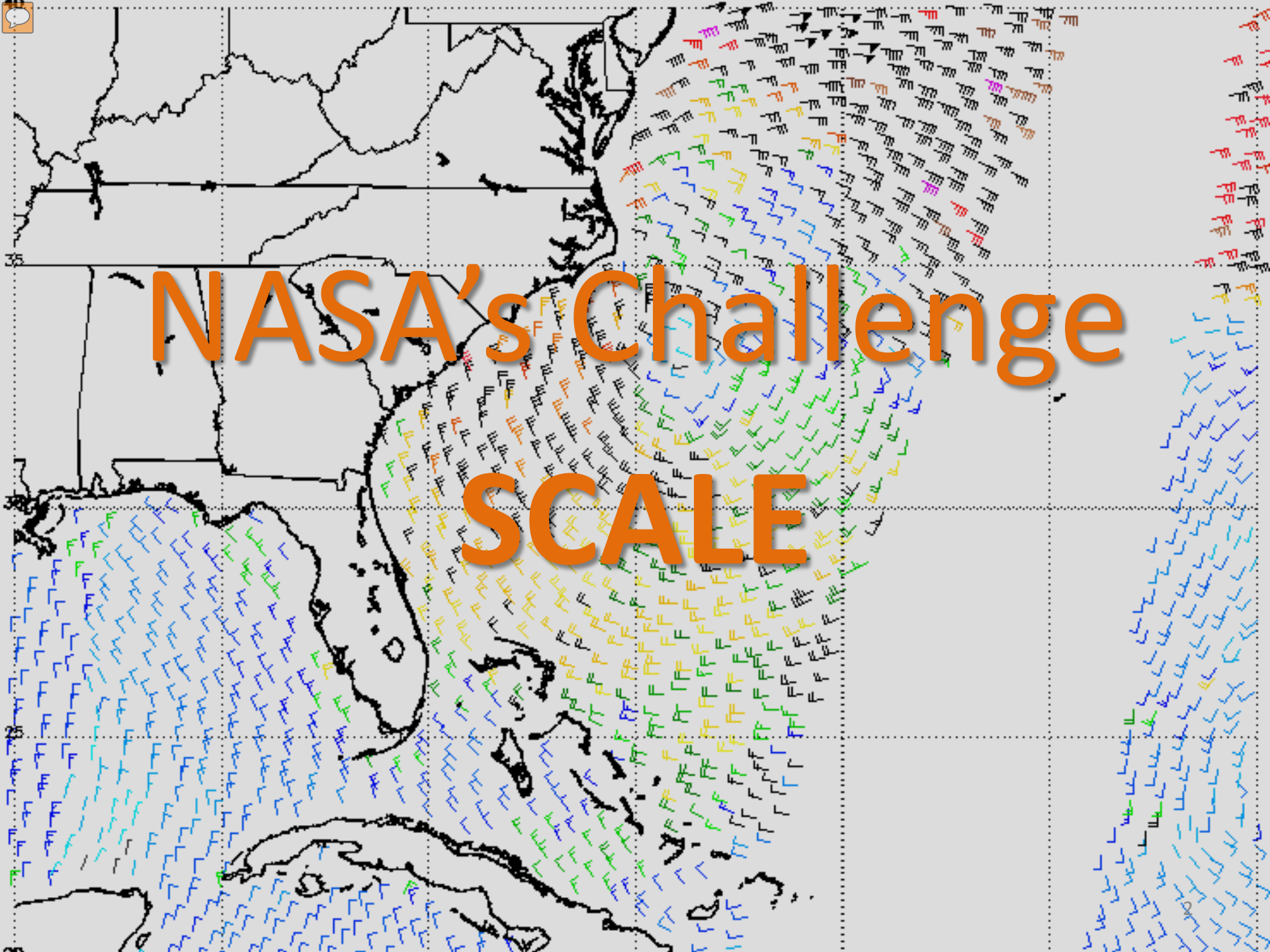
NASA Goddard Space Flight Center

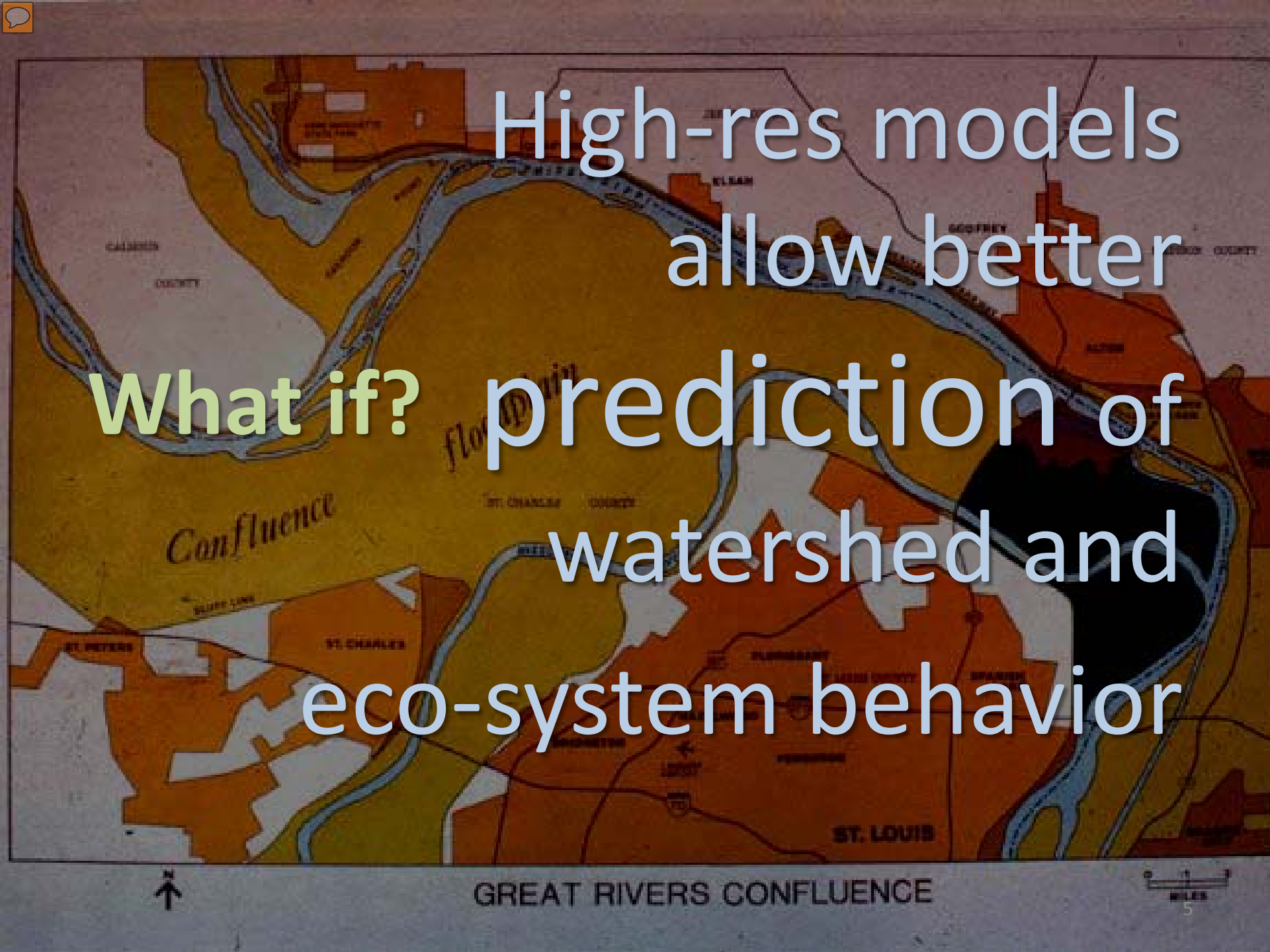
Federation of Earth Science Information Partners, Winter Meeting

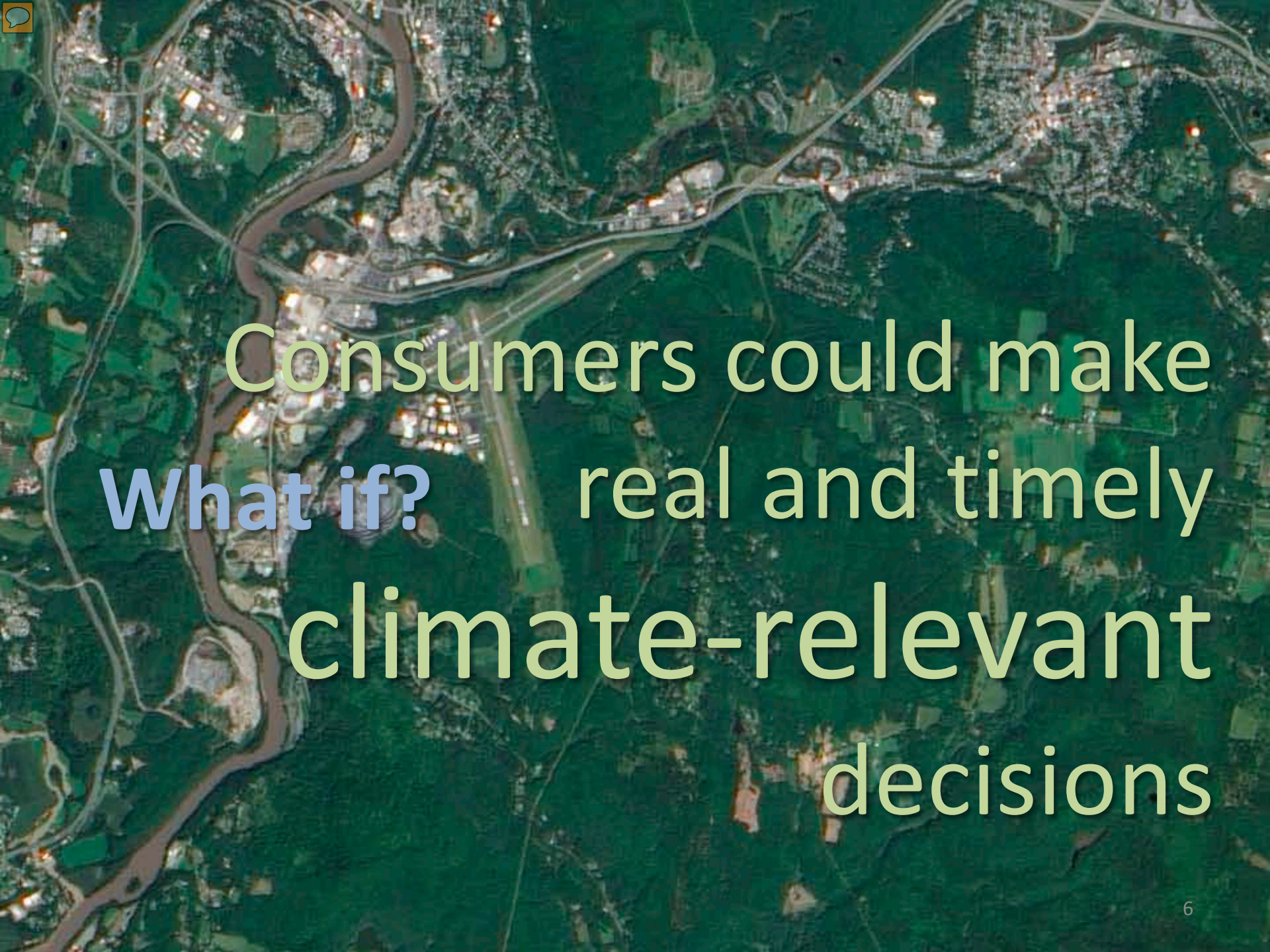
January 5, 2012

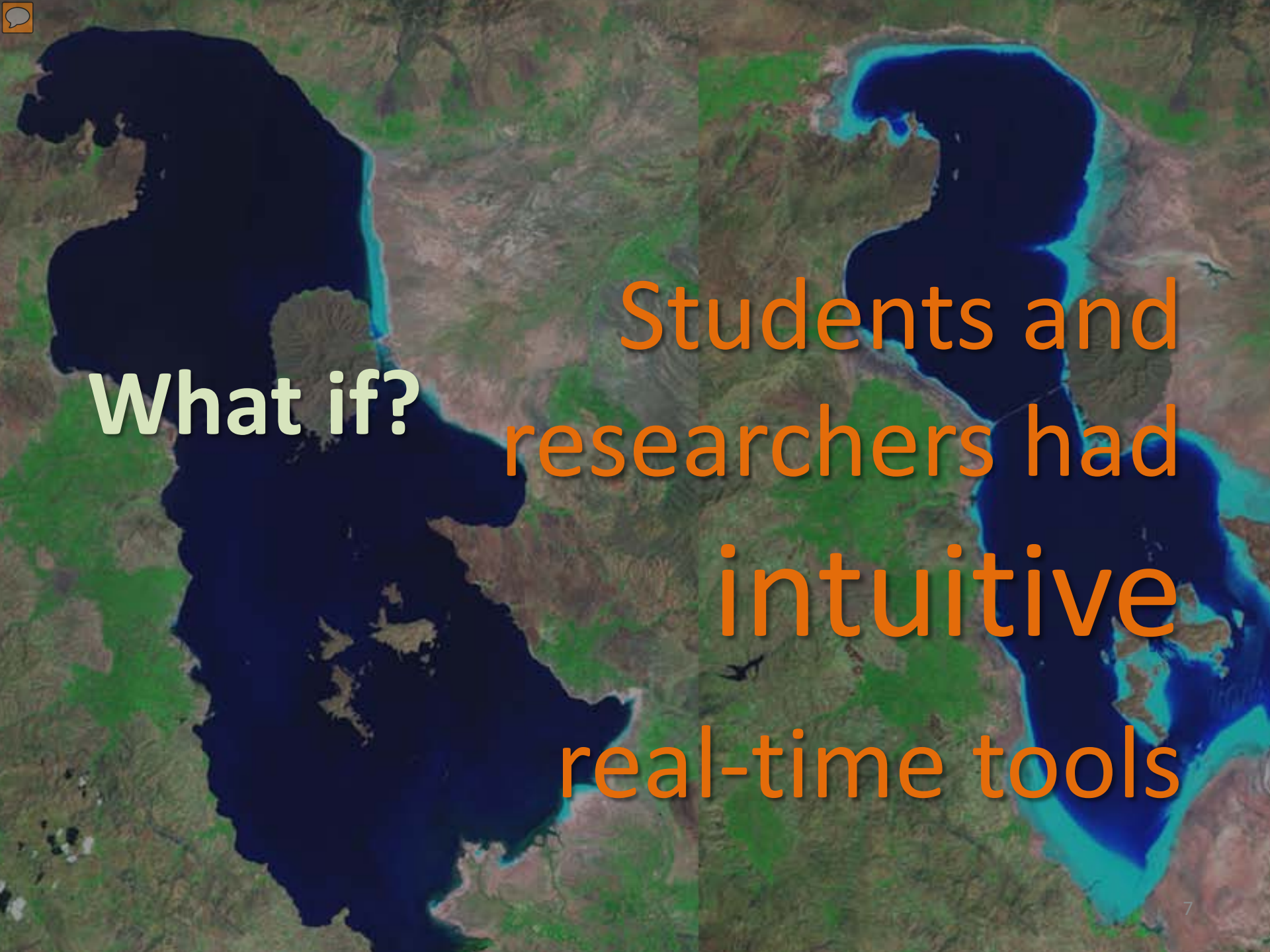

NASA's Challenge
SCALE


What if?
The right data could be accessed
quickly and easily
for decision support


What if?
Real-time disaster
data integration
empowering
rescue and recovery
workers


High-res models allow better
What if?
prediction of watershed and eco-system behavior
Confluence
ST. LOUIS
GREAT RIVERS CONFLUENCE


Consumers could make
What if?
real and timely
climate-relevant
decisions


What if?
Students and researchers had intuitive real-time tools


Cloud services can help.

The dialogue must begin and end with Data Sensitivity

Up-front investment may be significant

Prototypes flesh out what will and won't work

New Skill sets required

Reward

Elasticity

On-Demand Computing

Pay-as-you-go

Resource pooling

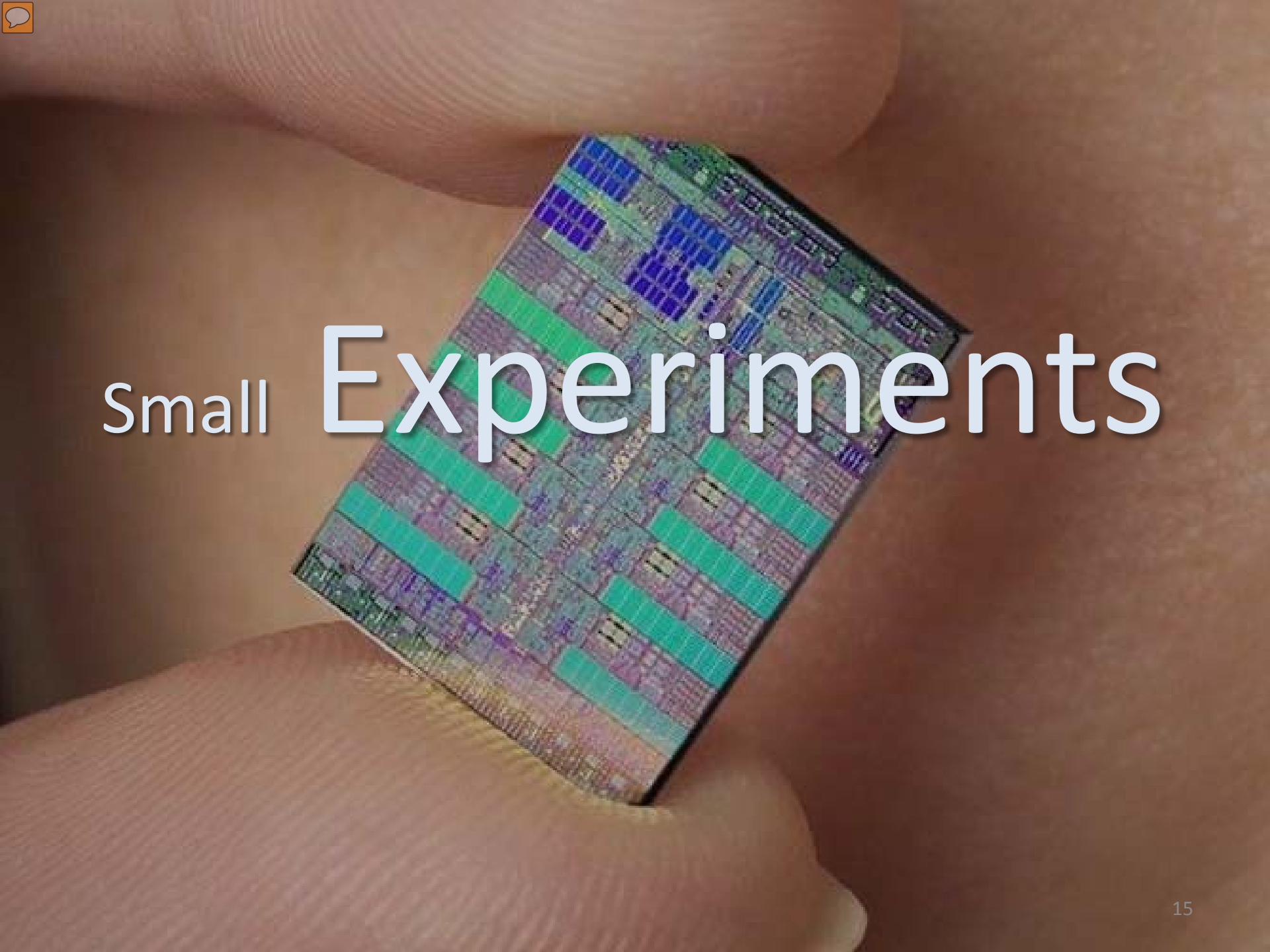
Facilitating collaboration

Collaboration enables the answers to complexity.

More Options


Reach Out


Sustainable Infrastructures
and Architectures

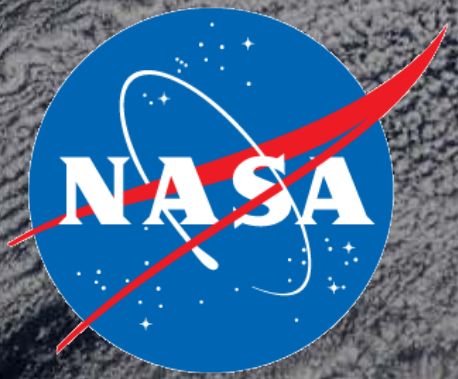

Small Experiments


Pilot with partners
Data Storage Cloud
DaaS
Virtual Desktop

Ongoing Prototype

Goddard Data Storage Cloud Pilot Project

Think:
Data as a Service




Goddard Persistent
Virtual Desktop

Collaboration Efforts


Continuing to lay the
groundwork
for collaboration

ESIP Community Challenges

Effective utilization and optimization of computing storage and communications resources

Fault tolerant systems that continuously aggregate and process data while ensuring integrity

Tracking how, when, and where data are created and modified (Provenance)

Machine to Machine computing (remove human factor)

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Questions?

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