

Association of Climate Change Officers
Defense, National Security, and Climate Change Workshop

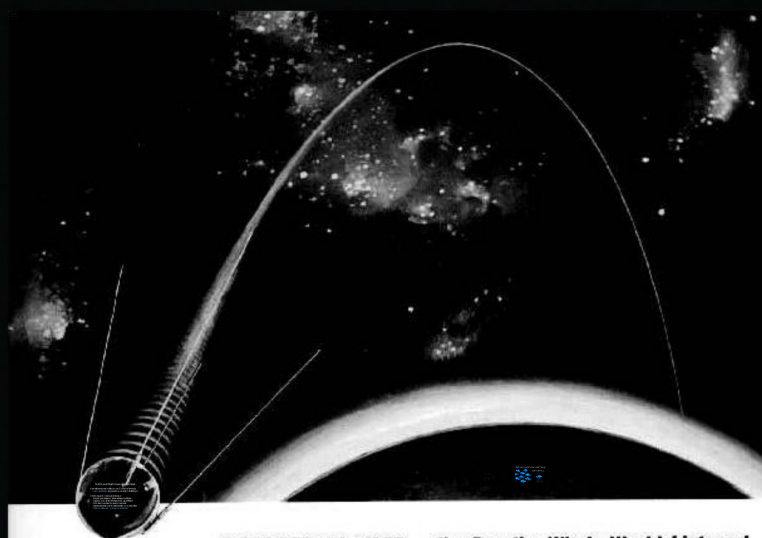


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Why have NASA at a defense/security workshop?



NASA and DoD share a great deal...

Our infrastructure reflects our Cold War heritage

- encroachment, degradation, security challenges

A risky match v. intended mission

- largely specialized, often unique facilities
- repurposed, often mismatched capabilities
- 82% due/overdue for major renewal
- unsustainable (environmentally, economically)
- 68% by value sit < 5 m above sea level

PREZI

Still, we swim our own way sometimes...



NASA pursues a very different mission...

- almost all our work is R&D
- even our "operations" are "research ops"
- our budget is far more discretionary
- our investments pay off multi-generationally

...and our facilities reflect these differences

- fewer installations on less land (18 square miles)
- smaller asset value (\$12 billion)
- mission reflex more on specialized facilities
- we've never disposed of a major installation

PREZI



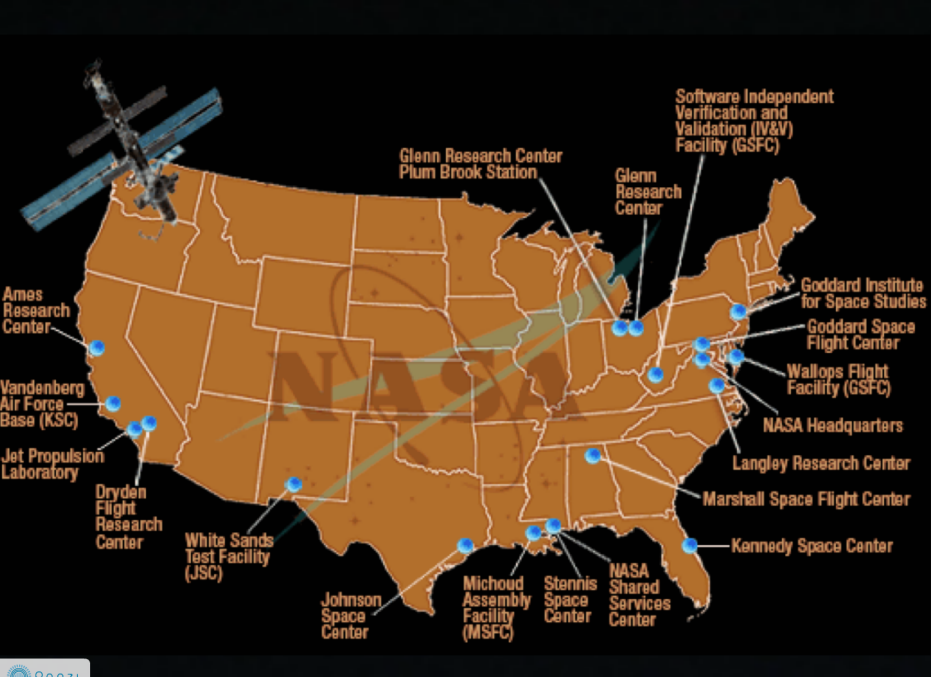
NASA pursues a very different mission...

- almost all our work is R&D
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- our budget is far more discretionary
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...and our facilities reflect these differences

- fewer installations on less land (318 square miles)
- smaller asset value (\$32 billion)
- mission relies more on specialized facilities
- we've never disposed of a major installation

Prezi



Map of NASA facilities across the United States:

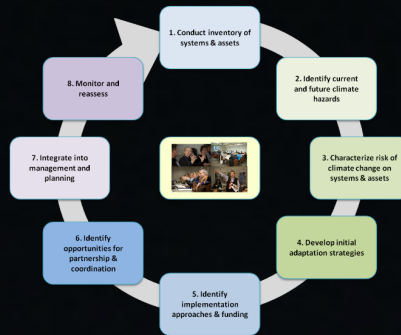
- Ames Research Center
- Vandenberg Air Force Base (KSC)
- Jet Propulsion Laboratory
- Dryden Flight Research Center
- White Sands Test Facility (JSC)
- Johnson Space Center
- Michoud Assembly Facility (MSFC)
- Stennis Space Center
- NASA Shared Services Center
- Kennedy Space Center
- Marshall Space Flight Center
- Langley Research Center
- NASA Headquarters
- Wallops Flight Facility (GSFC)
- Goddard Space Flight Center
- Goddard Institute for Space Studies
- Software Independent Verification and Validation (IV&V) Facility (GSFC)
- Glenn Research Center
- Glenn Research Center Plum Brook Station

Prezi

What to do about it?

Risk management 101:

- recognize the risks
- set policy globally; plan to adapt locally; integrate universally
- chose a workshop process to exchange and engage...



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Products

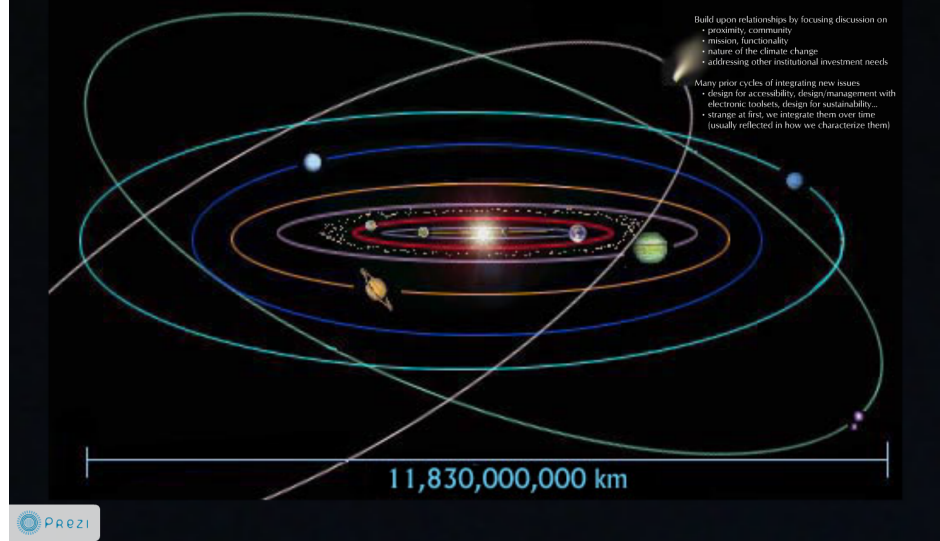


The true end product:
adaptive installations in
resilient communities

Until then:
interim products that
advance those ends...



We'll get there by recognizing and modeling prior successes



Build upon relationships by focusing discussion on

- proximity, community
- mission, functionality
- nature of the climate change
- addressing other institutional investment needs

Many prior cycles of integrating new issues

- design for accessibility, design/management with electronic toolsets, design for sustainability...
- strange at first, we integrate them over time (usually reflected in how we characterize them)

Principles

What to do about it?

- Mitigation: reduce greenhouse gas emissions
- Adaptation: prepare for the impacts of climate change
- Resilience: build the ability to recover from or adjust to adverse conditions
- Risk management: understand and manage the risks from climate change

Products

Discussion?

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