



A NATIONAL PARTNERSHIP-BASED SUMMER LEARNING  
INITIATIVE TO ENGAGE UNDERREPRESENTED STUDENTS  
WITH SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

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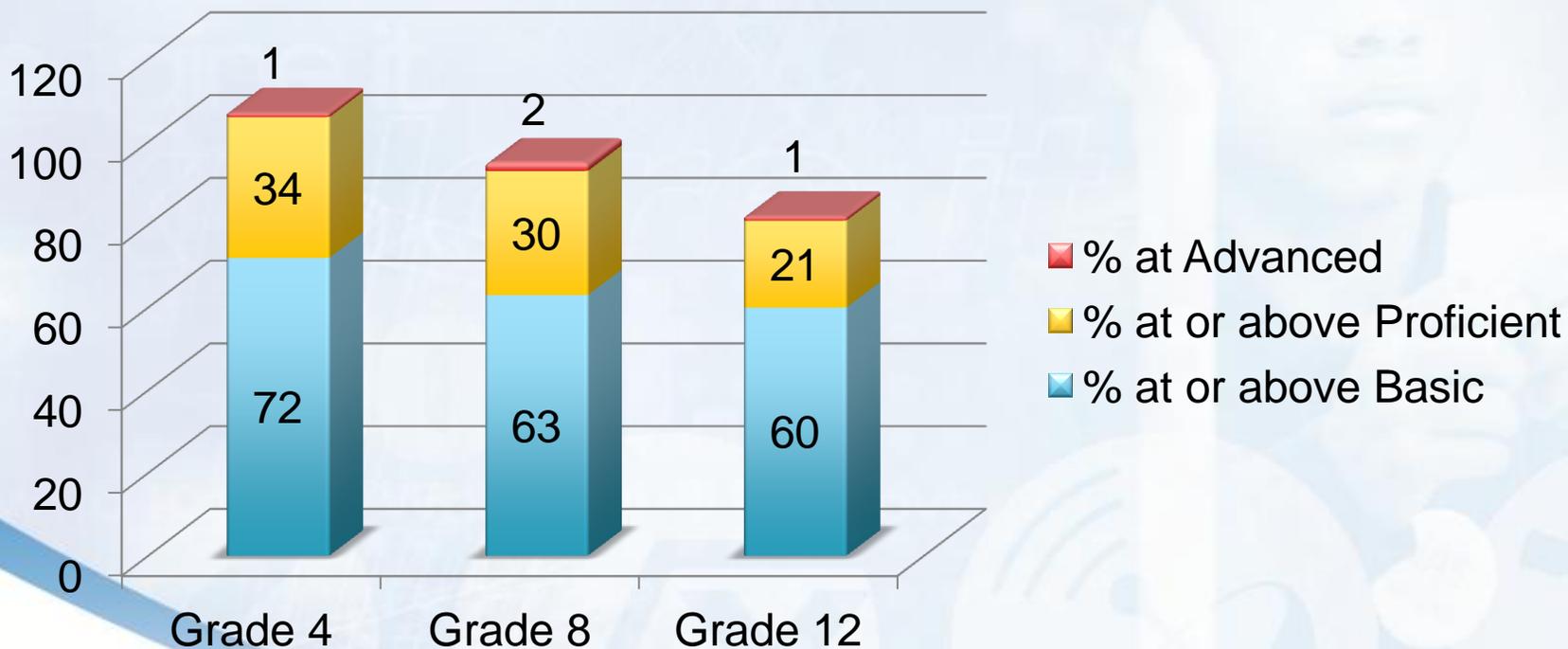
Imagine it.  
**Explore it.**  
**Do it.**

Who Knows What You'll Discover?



# Education Landscape

Achievement-level results in NAEP science at grades 4, 8, and 12: 2009



**...a National Imperative**



# Educate to Innovate

National Campaign launched by President Obama



- Increase STEM literacy
- Move American students to the top
- Expand opportunities for underrepresented groups, including women and girls

## NASA's Response

- Summer of Innovation Pilot Project
- Middle School Students
- Underrepresented, Underserved, Underperforming
- Multi-week STEM experiences

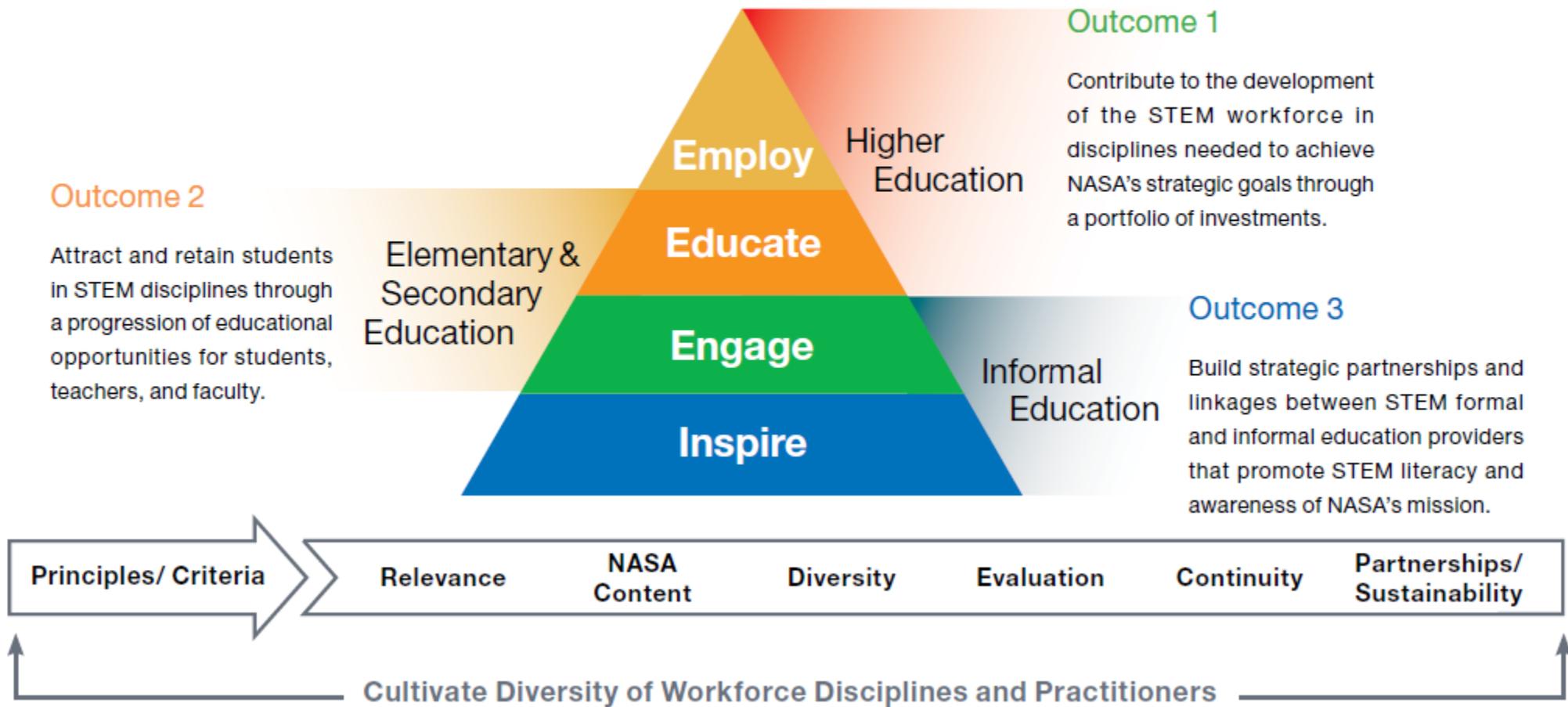




# “As Only NASA Can”

## NASA Education Strategic Framework

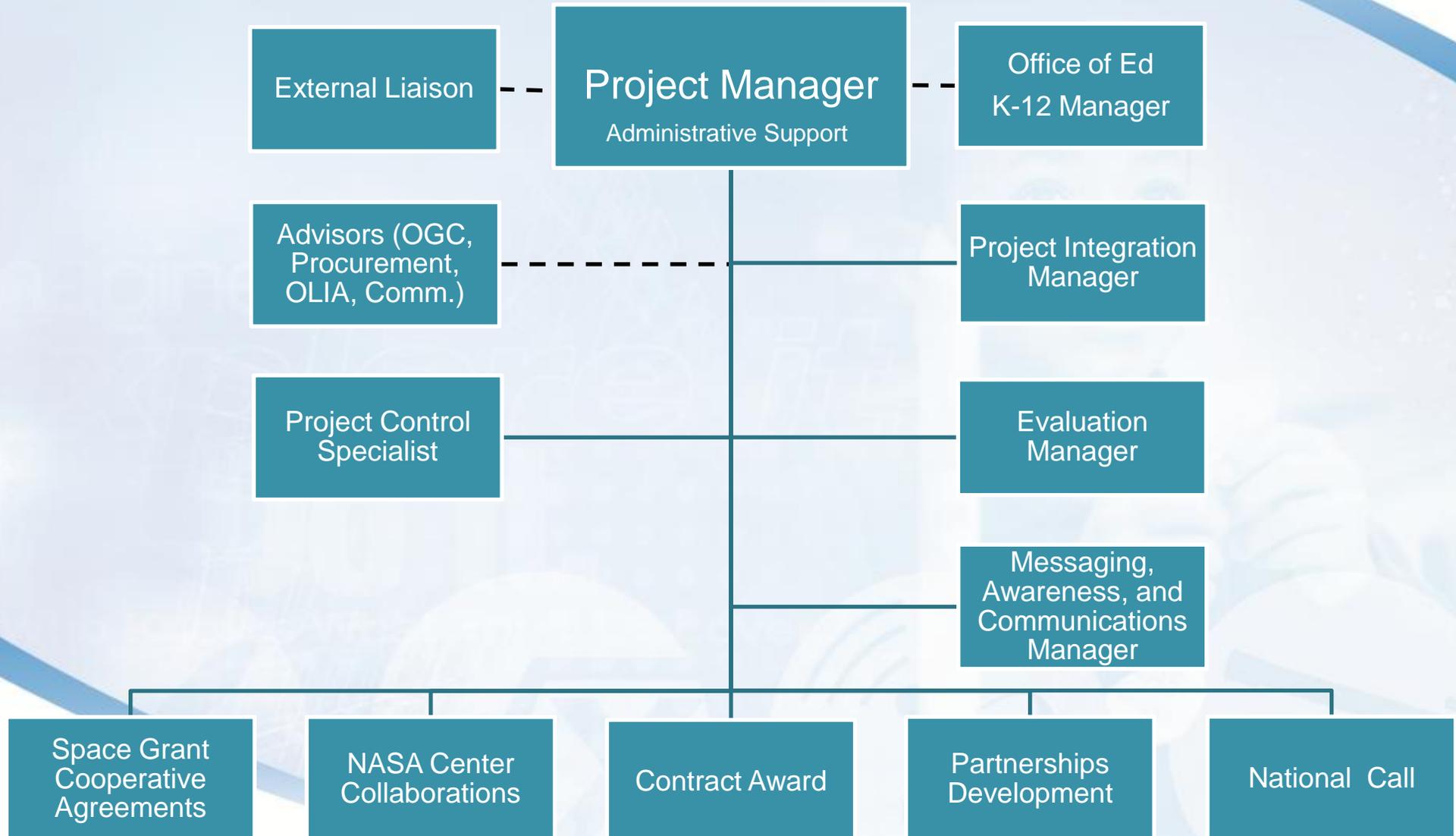
A Clearly Defined and Coordinated Portfolio Approach





# Organization

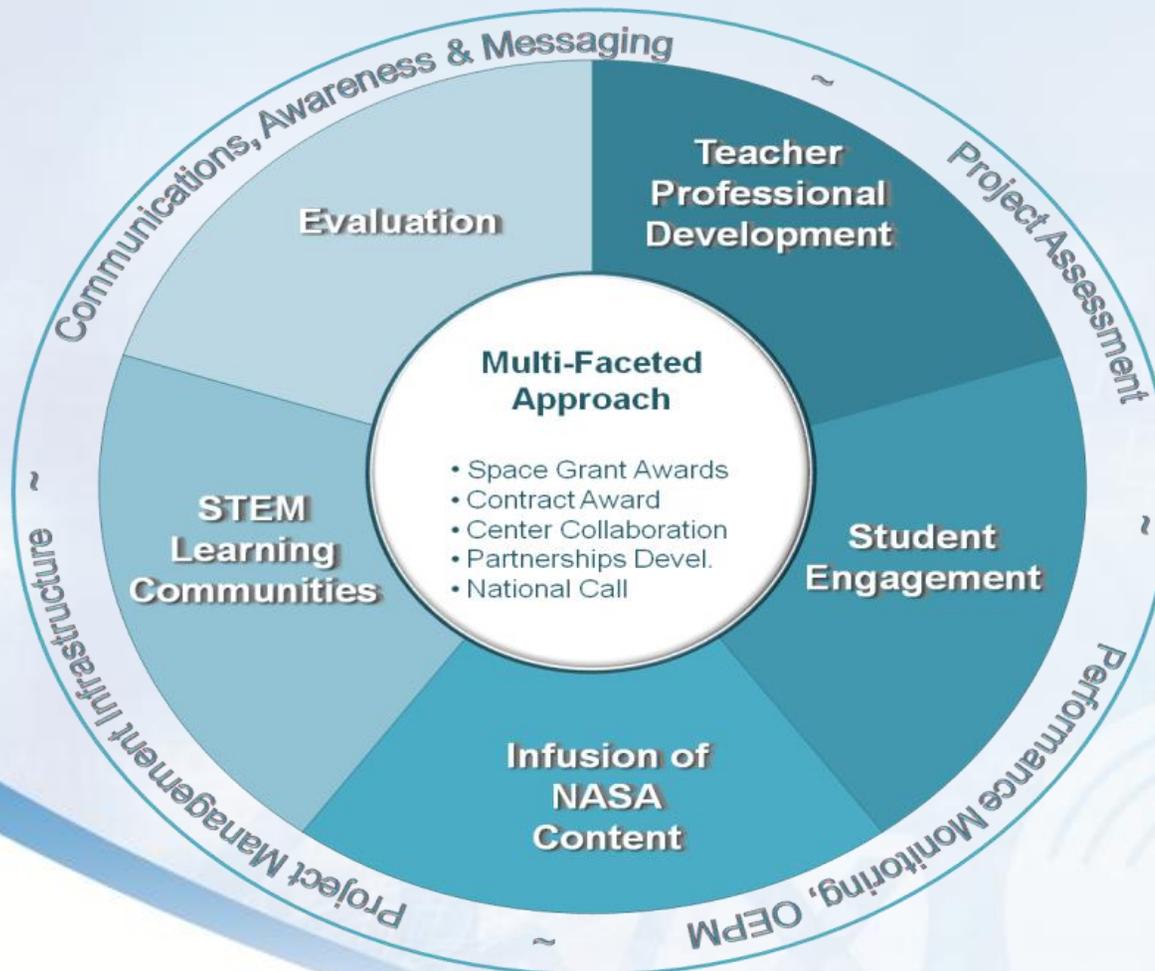
## Notional Management Structure





# Organization

## Notional Management Structure



**Project Objectives**

- ▶ Student Engagement
- ▶ Infusion of NASA Content
- ▶ Teacher Professional Development
- ▶ STEM Learning Communities
- ▶ Evaluation

**Project Support Elements**

- ▶ Communication, Awareness and Messaging
- ▶ Project Assessment
- ▶ Performance Monitoring, OEPM
- ▶ Project Management Infrastructure

**Project Components**

- ▶ Space Grant Awards
- ▶ Contract Award
- ▶ Center Collaborations
- ▶ Partnership Development
- ▶ National Call



# Project Objectives

1. Professional development and training opportunities for teachers who will lead students through the *Summer of Innovation* summer learning program.
2. An intensive and interactive middle school education experience that accelerates student learning and improves student STEM skills and knowledge.
3. Strategic infusion of NASA content and educational resource materials.
4. A community of STEM education stakeholders that is able to sustain student interest and achievement.
5. Assessments of effectiveness of *Summer of Innovation* interventions and the effectiveness of the STEM learning communities developed through this pilot.



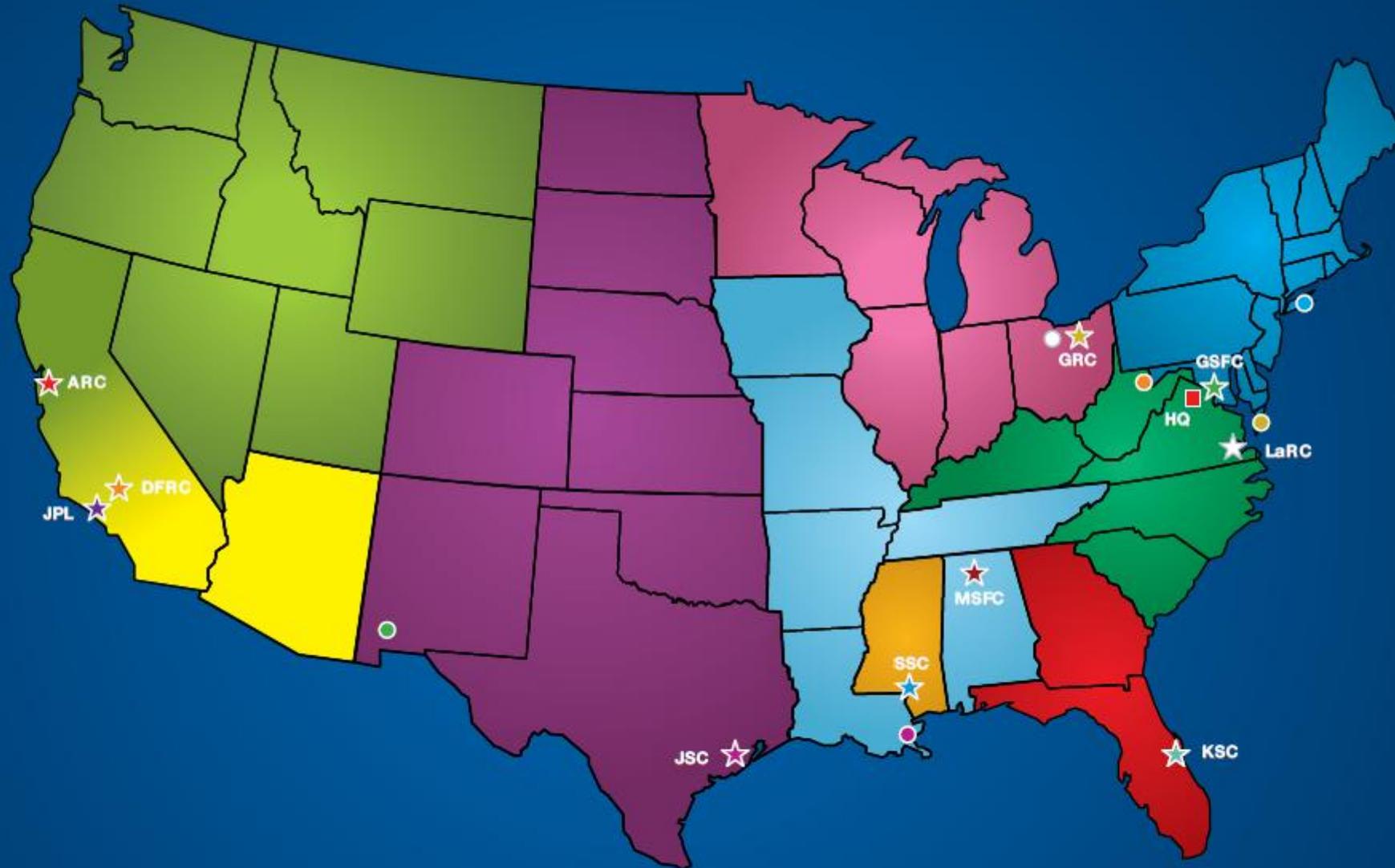
# Project Components: Space Grant

- Wyoming Space Grant -- "Powering STEM Education in Wyoming with Wind Energy"
- New Mexico Space Grant -- "Launch and Learn"
- Idaho Space Grant -- "NASA Education and STEM Program for Underrepresented Populations"
- Massachusetts Space Grant -- NASA robotic, Earth and space science, astrophysics and engineering missions.





# Project Components: Centers



10 Centers Funded for Targeted Areas in their Regions



# Project Components: Sub-Award

Sol task to existing NASA STEM education contract

## Sub-Award Sol Sites

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>○ Chicago, Illinois</li><li>○ Cleveland, Ohio</li><li>○ Columbus, Ohio</li><li>○ Dayton, Ohio</li><li>○ Detroit, Michigan</li></ul> | <ul style="list-style-type: none"><li>○ Los Angeles, California</li><li>○ Orlando, Florida</li><li>○ Sharon, Pennsylvania</li><li>○ Toledo, Ohio</li><li>○ Youngstown, Ohio</li></ul> |
|---|---|



# Project Components: Partnerships

## **STATUS**

- Federal Agencies Partnership in Initial Development Stage
  - FAA, ED ,NSF
- Non-profit Partnerships in Initial Development Stage
  - Conrad Foundation
  - NFL Players Association
  - Great Minds in STEM
  - Foundation for the Advancement of Women Now (FFAWN - Mary J. Blige)
  - Mathematics Engineering and Science Achievement (MESA)
  - Micro Enterprise Charter Academy (MECA)
  - One Hand to Another (Pharrell Williams)
- Industry in Initial Development Stage
  - Mad Science
  - Bionic Yarn



## **PLANNED ACTIVITIES**

- Partnership Summit
- OGC discussion on levels of engagement (SAA, MOU, collaborator, etc.)
- Announcement of Opportunity, OGC Approval June 15, will be posted on Sol Web site and FedBizOps



# National Call

## ***DESCRIPTION***

The National Call is an entry point for STEM Stakeholders to participate in the NASA Sol and become STEM Collaborators.

- Facilitates incorporation of NASA content into summer learning activities nationwide.
- Families, educators & organizations register online
- Submit Events/Activities to Calendar and Map
- Receive NASA Sol Certificate of Participation
- Share a photo and Summer of Innovation story.

## ***STATUS/SUMMARY OF ACTIVITIES***

- Launched Sol Website June 8
- Paper Work Reduction Act (PRA) Determination discussion continues
- National Kickoff broadcast via NASA TV

## ***PLANNED ACTIVITIES***

- Meeting with OMB/OSTP website on registration and evaluation
- Work with OMB examiner to obtain Emergency Clearance to collect Web registration data
- Website (Phase 2) Additional Functionality
- Review – assessment, lessons learned

## ***2010 MILESTONES***

- Concept Development – April/May
- Define Website requirements – May/June
- NASA IT, Privacy Act, Paper Work Reduction Act Compliance activities May/June
- Website Phase 1 Launch – June 8
- Website Phase 2 Release – July 8 (tentative)
- Monitoring of Web Usage/Data (weekly)
- National Call Review – October/November.



# Approach

Approaches	Vehicle	Provider	Duration	Direct	Indirect*	Teachers	Outreach	
<b>Space Grant Awardees</b>	Cooperative Agreement	4 Space Grant Awardees ID, MA, NM WY	1–5 weeks	6,095	65,000	673		
<b>Contract Award</b>	Contract	Paragon TEC	2-4 weeks	5,000	TBD	250	TBD	
<b>NASA Center Collaborations</b>	Varies	Summer Learning Providers	> 40 contact hours	9,495	6,135	330	35,505	
<b>Partnerships Development</b>	SAA/MOU	Federal Agencies, Corporations, Associations, Non-Profits, etc.	Varies	TBD	TBD	TBD	TBD	
<b>National Call to join Summer of Innovation</b>	Sol Web site	Varies – Families, Academic Organizations, Federal Agencies, Industry, Non-profit	Varies			TBD	TBD	
<b>NASA STEM Celebrations</b>	Similar to Ctr. Open House events	Throughout summer	Typically 1 day				Incl. in NASA Center totals	
* Indirect includes students taught by Sol trained teachers and non-tracked participants					20,590	71,135	1253	35,505
**May be trackable							<b>Total</b>	128,483

*Prior to April 14, only the Space Grant component existed*



# Sol Activities

## Structural Elements of Sites' Implementations (Abt Associates, 2010)

Site Name	# Student Activities	# Educator Activities	Site Locations	Student Activity Duration (days)	Educator Activity Duration (days)
Idaho SG	2	2	12	3-5	2-5
Massachusetts SG	7	4	33	3-25	1-15
New Mexico SG	1	1	136	17.5	4
Wyoming SG	1	1	11	20	4.5
Paragon (Chicago)	Unclear	Unclear	31	4-20	0.4-1.5
<b>Center Partnership Sites</b>					
Camp KSC <sup>a</sup>	1	0	3	5	N/A
GEAR UP Expl. I	1	0	1	5	N/A
Miami-Dade	1	1	4	5	3
Galena Park	1	1	2	5	2
Chicago Parks <sup>b</sup>	3	0	3	17.5-20	N/A
Cincinnati GEAR	1	1	3	10	5

N/A: Site did not implement Educator Activities

<sup>a</sup>Camp KSC offered 8 one-week sessions; three were included in the national evaluation

<sup>b</sup>Chicago Parks implemented many activities; three were included in the evaluation due to time constraints