National Aeronautics and
Space Administration

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

NASA Advisory Council STEM Engagement Committee

OSTEM Business Service Assessment, MAP & Strategy

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Dec. 4, 2018

OUR STEM ENGAGEMENT ROADMAP

Establish an Agency STEM Engagement Strategy and Operational Model

- Agency vision, mission and strategy to frame and align the agency's STEM engagement portfolio will:
  - Focus on students as beneficiaries and structured model
  - Mission-driven architecture for scope and approach
  - Focus on evidence-based NASA-unique learning experiences enabling student contributions to NASA's work in action
- Effective, integrated governance via STEM Engagement Council
- Re-invigorated agency function and HQ functional office
- Rigorous planning process
- Integrated operational model and agency STEM Engagement portfolio
- Effective program and fiscal management
- Capabilities driven approach for agency roles and responsibilities
- New approach and tools for performance measurement and assessment
- Scalability and magnified impact through strategic partnerships

STEM Engagement Transformation: Snapshot of Changes in FY2018

Systemic	Programmatic & Operational
✓ Chartered and established STEM Engagement Council. (03/30/18) Convened inaugural session of the Council. (04/12/18) ✓ Established new Office of STEM Engagement. (effective 08/29/18) ✓ Developed NASA Strategy for STEM Engagement. (Council approval 08/22/18) ✓ Completed development of new STEM Engagement NASA Policy Directive. (02/21/18) ✓ Completed definition of new performance measurement and assessment approach. (07/15/18)	✓ Put in place integrated program management approach for EPSCoR, MUREP and Space Grant, with corresponding staff changes. ✓ Overhauled SEAP, incorporating significant changes to approach for awards to informal education institutions (TEAM II) and innovative new mission-driven pilot initiatives. ✓ Achieved improvements in interfaces and relationships with Space Grant Consortia and their key stakeholders. ✓ Streamlined MUREP with more focused, strategic award initiatives reducing from 14 elements to 7. ✓ Incorporated more rigorous, systematic program and fiscal management practices. ✓ Streamlined and improved agency websites, platforms and social media tools. ✓ Developed and deployed a new NASA Internships and Fellowships student portal.

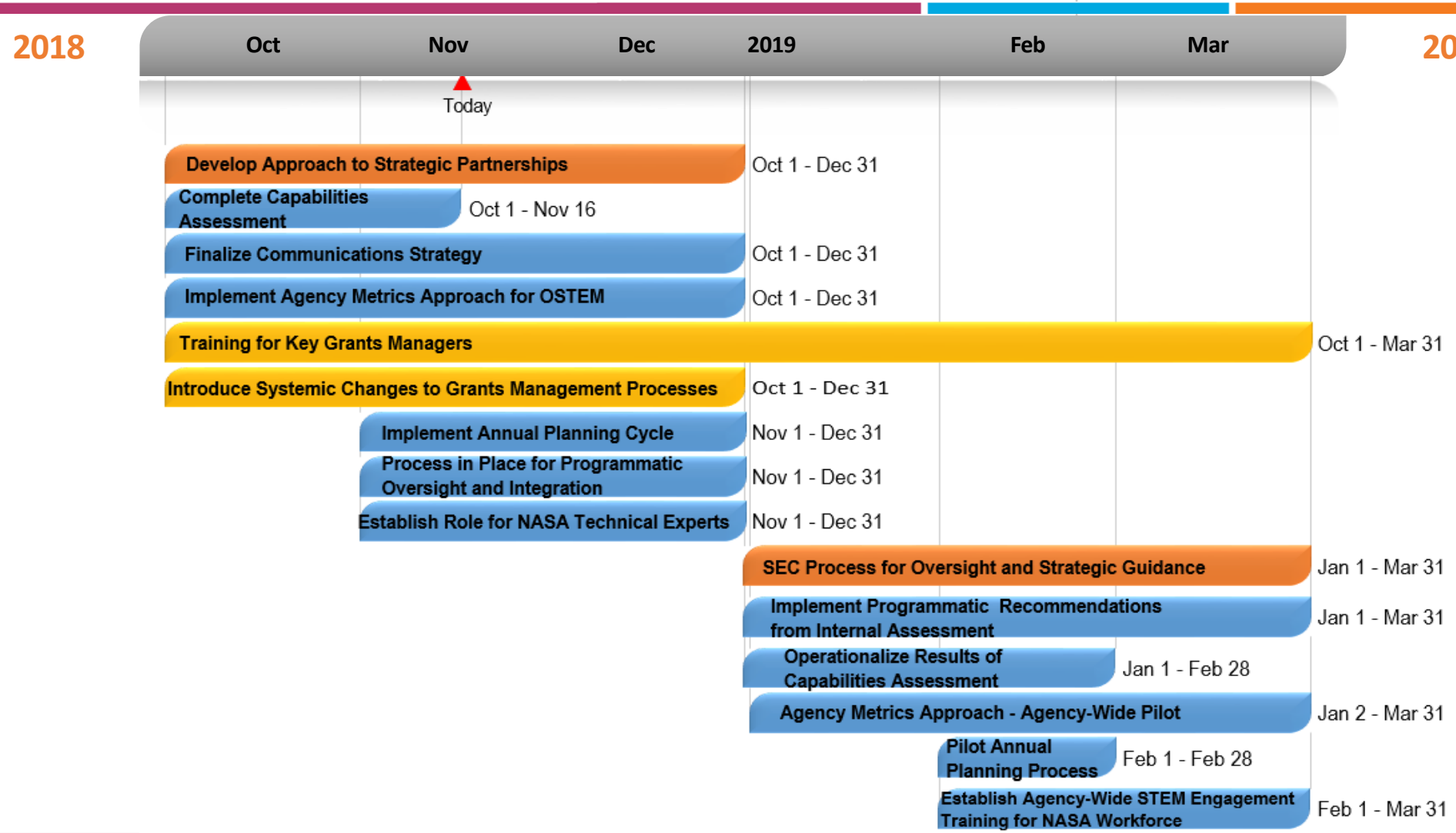
STEM Engagement Transformation: Continuing to Drive Change in FY2019

Systemic	Programmatic & Operational
• Implement annual planning cycle. • Define agency STEM engagement portfolio. • Put processes in place for SEC oversight and integration. • Implement new performance measurement, assessment and evaluation approach. • Design/develop new system and platform to support agency performance measurement, assessment and evaluation. • Develop approach to strategic partnerships. • Build an effective STEM engagement community of practice across the agency. • Finalize communications strategy and begin implementation of new communications plan.	• Continue changes and enhancements to project and fiscal management practices. • Develop and release Space Grant multi-year solicitation, with strategic changes to ensure mission-driven contributions. • Drive further changes to EPSCoR and MUREP, moving toward new mission-driven model and architecture. • Validate Next Gen STEM pilots and execute competitive awards to informal institutions. • Stand up new inventory and search engine on www.nasa.gov for students and educators.

BSA Implementation Phased FY2019 Milestones

	90 Days October – December 2018	180 Days January – March 2019	270 Days April – June 2019
Governance, Roles and Responsibilities	▪ Develop an approach to strategic partnerships. ▪ Roles and Responsibilities– Establish role for technical experts in STEM Engagement. ▪ Continue to build effective public and STEM engagement communities of practice across the Agency. Monitor progress. ▪ Continue operations of SEC working groups and evolve as needed.	▪ Implement processes for council oversight and strategic guidance of programs and activities.	
Program Management	▪ Finalize communications strategy. ▪ Implement annual planning cycle. ▪ Put processes in place for oversight and integration. ▪ Implement agency metrics approach for OSTEM. ▪ Complete capabilities assessment. Evaluate and develop operational changes as needed.	▪ Pilot Annual Planning Process. ▪ Implement recommendations and outcomes from the internal assessment and planning process to capitalize on appropriated programs (e.g., Space Grant, MUREP, EPSCoR). ▪ Execute operations at Centers based upon capability review.	▪ Implement metrics program agency-wide. ▪ Execute established structure and processes for strategic implementation and annual portfolio planning. ▪ Establish agency-wide public and STEM engagement training for NASA workforce.
Grants Management	▪ Introduce systemic changes to grants management processes as identified through analyses conducted in FY18. ▪ Training for key grants managers. ▪ Continue to operationalize key changes made during FY18 to ensure accountability.		

STEM Engagement BSA Implementation
FY2019 Master Schedule - Detailed



NASA Strategy for STEM Engagement

The *NASA Strategy for Science, Technology, Engineering and Math (STEM) Engagement* serves as a roadmap to frame and guide the agency's work in STEM engagement over the next 3 years.

Beneficiaries of NASA's STEM Engagement Portfolio


Elementary


Middle School


High School


Undergraduate


Graduate

STEM engagement is comprised of a broad and diverse set of programs, projects, activities and products developed and implemented by HQ functional Offices, Mission Directorates and Centers.

STEM & Public Engagement

Focus Areas

Objectives

Approach

Enabling contributions to NASA's work

- Students contribute to NASA's endeavors in exploration and discovery.
- Research and development capacity of educational institutions is enhanced, enabling broad and diverse contributions that directly address NASA priorities.

Building a diverse, skilled, future workforce

- Broad and diverse set of students are attracted to STEM through NASA opportunities.
- Students, including underrepresented and underserved communities, explore and pursue STEM pathways through authentic learning experiences and research opportunities with NASA's people and work.
- The portfolio of NASA STEM engagement opportunities meets agency workforce requirements and serves the nation's aerospace and relevant STEM needs.
- Strategic partnerships with industry, academia, non-profit organizations and educational institutions enhance and extend the impact of NASA's efforts in STEM engagement.

Strengthening STEM through connections to NASA

- Youth are introduced to STEM concepts and content through readily available NASA STEM engagement resources and content.
- Students gain exposure to STEM careers through direct and virtual experiences with NASA's people and work.

Objectives and strategies guide NASA's future efforts, are in direct alignment with NASA's vision, mission and focus areas for public and STEM engagement as defined in *A New Direction for NASA's Work in Public and STEM Engagement*.

MAP Overview

WHAT IS MAP?

- Mission Support Future Architect Program (MAP), an agency effort to transform certain functions from their current state to an enterprise operating model while maintaining mission focus, improving efficiency, ensuring local authority and valuing the workforce.

MAP IS NOT:

- MAP is not synonymous with reduction of force, reduced staff, or consolidation into HQ.
- There is no cookie cutter approach to MAP. Each organization's process and outcomes will differ from others.

OFFICES/FUNCTIONS PARTICIPATING IN MAP

- Phase 1: CFO, HR, and Legislative Affairs
- Phase 2: Procurement/Small Business, Protective Services, and EEO/Diversity Office
- Nov 1, 2018: OSTEM and OCOMM accelerated to Phase 2; originally slated for Phase 3

MAP & STEM Engagement – What We Know

What We Know:

1. OSTEM's MAP process will be inclusive and **aligned with existing BSA transformation efforts.**

2. MAP will be a **collaborative effort**, requiring the collective experience and contributions from HQ and all Centers.

3. Several unknowns, including how MAP affects daily roles and responsibilities.

Projected Timeline:

October 2019

- Operational alignment. The Agency's STEM engagement efforts are operationally aligned to function as single enterprise rather than individual entities.

October 2020

- Full Operating Capacity. The Agency's STEM engagement workforce, processes, and technology will be operating within and supporting the new structure.