A composite image featuring an astronaut in a blue space suit in the foreground, with the Earth's horizon and a Mars rover in the background. The astronaut's helmet is visible, reflecting the scene. The NASA logo is on the suit. The background shows a reddish-orange planet with a rover on its surface.

# OE Proposed Follow-up to Observations from the NASA Advisory Council Task Force on STEM Education

March, 2016

Beverly Girtten

#JOURNEYTOMARS

# Task Force on STEM Education Observations



## Revisions to the NASA Education Implementation Plan (NEIP)

### Observation:

- The NEIP should be revised so that it:
  - Explains the unique role that NASA plays in the Federal STEM education efforts, and identifies how NASA education activities and investments work with other entities (including State Education Administrations and Local Education Administrations) to improve Science, Technology, Engineering and Mathematics (STEM) education.
  - Explicitly states the STEM education goals and outcomes that NASA intends to achieve, the specific contributions of each Mission Directorate, Office and Center to the Agency's education goals, and the metrics NASA will use to measure performance.
  - Details how each Mission Directorate, Office and Center will contribute to these goals and how they are accountable for contributing to the Agency goals. Budgets and key grant competitions should be highlighted.
  - Is clear to key audiences (including students, parents, teachers, K-12 administrators, university faculty, and scientists) what NASA is doing (and not doing) to help their efforts.
- Create an additional streamlined Agency document that communicates the top-level goals and specific assets that NASA will make available to key audiences.
- Clearly articulate the difference in goals between education and outreach.

# Task Force on STEM Education Observations



Strengthen the structure of NASA's education efforts and its ability to execute and communicate on them.

## Observation:

- In order to ensure that NASA STEM education work has support across the engineering scientific, and education communities, NASA should explore ways to further leverage external advisors in both formal and informal roles to ensure that both the strategic guidance and content expertise is available to accomplish the ambitions NASA aspires to.
- NASA should revisit the organizational structure and governance to clarify the decision-making processes about STEM education:
  - Mission Directorates and Centers should invest and make transparent their contributions to NASA's education efforts.
  - To ensure Agency coordination, the Associate Administrator for Education should have explicit authority and accountability for ensuring mission directorate and Center involvement and participation in the overall Education Strategy.
  - Budget and spending decisions should be coordinated across all funding sources to achieve the overall NASA Education goals.
- The NASA Education website should be updated to allow participants simple unified access to information from all Mission Directorates, Centers and Offices.

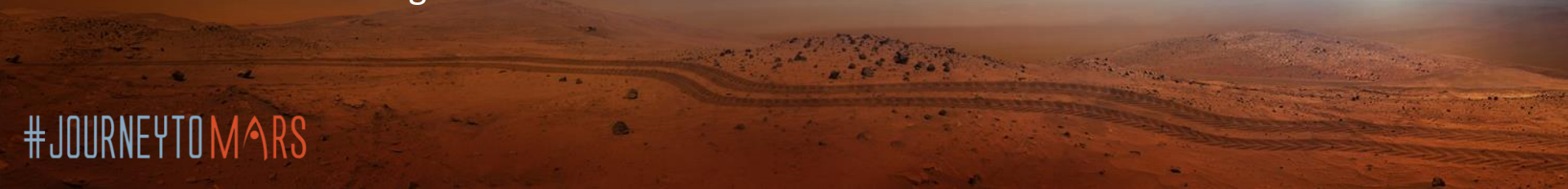
# Task Force on STEM Education Observations



Competitive allocation of funds to elicit projects that meet the objectives of the NASA Education Implementation Plan (NEIP).

## Observation:

- The budget for NASA's education efforts should be commensurate with achievement of the goals articulated in the NEIP.
- All solicitations released by NASA for STEM education activities (Mission Directorates, Centers, Offices) should have explicit ties to the NEIP, and include questions about how responders will address the stated goals. It is ok that NASA doesn't invest in all levels of the education system. With the limited funding that NASA has, solicitations should be targeted to make the most impact on specific sectors (depth vs. breadth) of the education community.
- NASA should actively cultivate the network of earth and space science educators and researchers, and connect those individuals to the broader STEM education community, learning scientists, and school and district administrators.
- NASA should continue to expand the publication of abstracts from funded projects and the evaluation data gathered.



# OE Follow-up to Task Force Observations



## 1. Revisions to the NASA Education Implementation Plan (NEIP)

- The NEIP should be revised so that it:
  - > explain unique role NASA plays and identifies how activities & investments work
  - > explicitly states goals and outcomes; contributions of MD, Office and Centers
  - > details how MDs, Office and Centers are accountable to Agency goals
  - > clear to key audiences (including students, parents, teachers, K-12 administrators, university faculty, and scientists) what NASA is doing to help their efforts

### **REVISION JULY 2016 – will make some suggested changes then**

Some clarifications on unique role and how activities and investments and some contributions are made can be included. Some contributions and accountability will be addressed by BSA and updated in next update. Key audience is internal workforce, so can not expand this document to address all these others listed.

- Create additional streamlined Agency document that communicates the top-level goals and specific assets that NASA will make available to key audiences.

### **Plan to update website and this would be part of that update (target 6 month)**

- Clearly articulate the difference in goals between education and outreach.

**NASA Partnership Guide (Sept), ECC & CCC, and will update 2 months after BSA**

# OE Follow-up to Task Force Observations



2. Strengthen the structure of NASA's education efforts and its ability to execute and communicate on them.

- Ensure support across communities and leverage external advisors
- Revisit organizational structure and governance to clarify decision-making processes
- Website should be updated to allow participants simple unified access to information

**MUCH WILL BE ADDRESSED BY BSA AND TIMELINE WILL MOST LIKELY BE PROVIDED:  
Support, org structure and governance will likely be addressed by BSA**

**ITEMS OE CAN WORK ON IN MEANTIME INCLUDE:**

- Leveraging external advisors – response to OMB about Task Force & advocating
- Improving website – stand up an education subgroup to address

# OE Follow-up to Task Force Observations



3. Competitive allocation of funds to elicit projects that meet the objectives of the NASA Education Implementation Plan (NEIP).

- Budget commensurate with achievement of goals in NEIP
- All NASA Education solicitations should have explicit ties to NEIP
- Actively cultivate the network of earth and space science educators and researchers
- Expand publication of abstracts from funded projects and evaluation data gathered

## **SEAP SUBGROUP ADDRESSING SOME CONCERNS, BSA WILL ADDRESS OTHERS:**

**Subgroup is addressing some of the solicitation concerns and will provide input to BSA  
BSA will likely be looking at budget and use of evaluation data gathered**

## **ITEMS OE CAN WORK ON IN THE MEANTIME INCLUDE:**

**Examination of cultivating networks of educators and researchers in earth & space science  
Methods of expansion of approaches to publish more abstracts (such as SEAP)**