

United States Perspective on the Challenges, Good Practices and Lessons Learned from the Implementation of Climate Change Education at the National Level

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Overview

- Introduce an audience-focused approach to climate change education, training and outreach
- Discuss the importance United States places on climate change education, training, public awareness, public participation, public access to information and international cooperation
- United States approach to Article 6 is not top down, rather is community based through partnerships between science and educational organizations
- The United States has made significant progress on Article 6 of the Convention as reported in CAR5 and the CAR6 (January 2014)
- The United States is taking advantage of numerous key opportunities to address Article 6 of the Convention

Introduce an Audience-Focused Approach to education, training and outreach

Education, Training and Outreach Approach to Engage Society

1. Audience (the who)

Audience selection guides all subsequent decisions about education and or engagement strategy. Be specific! There is no “general public” in terms of target audience. It is essential to characterize audience, info-seeking behaviors, & capacities for understanding.

2. Objective (the why)

What is your purpose in educating or communicating with an audience? Can be to ...

- **Inform** — Raise awareness, increase interest, change attitude (Passive consumer)
- **Interact** — Dialogue, interact to further raise awareness, increase interest & change attitude (Active consumer, Dialog, Two-way interaction)
- **Educate** — Instruction, guided inquiry (Student, Teacher, Lesson developers, visitors)
- **Engage** — Participation, R&D, Decision support (Collaborate, Partner, Capacity Building)

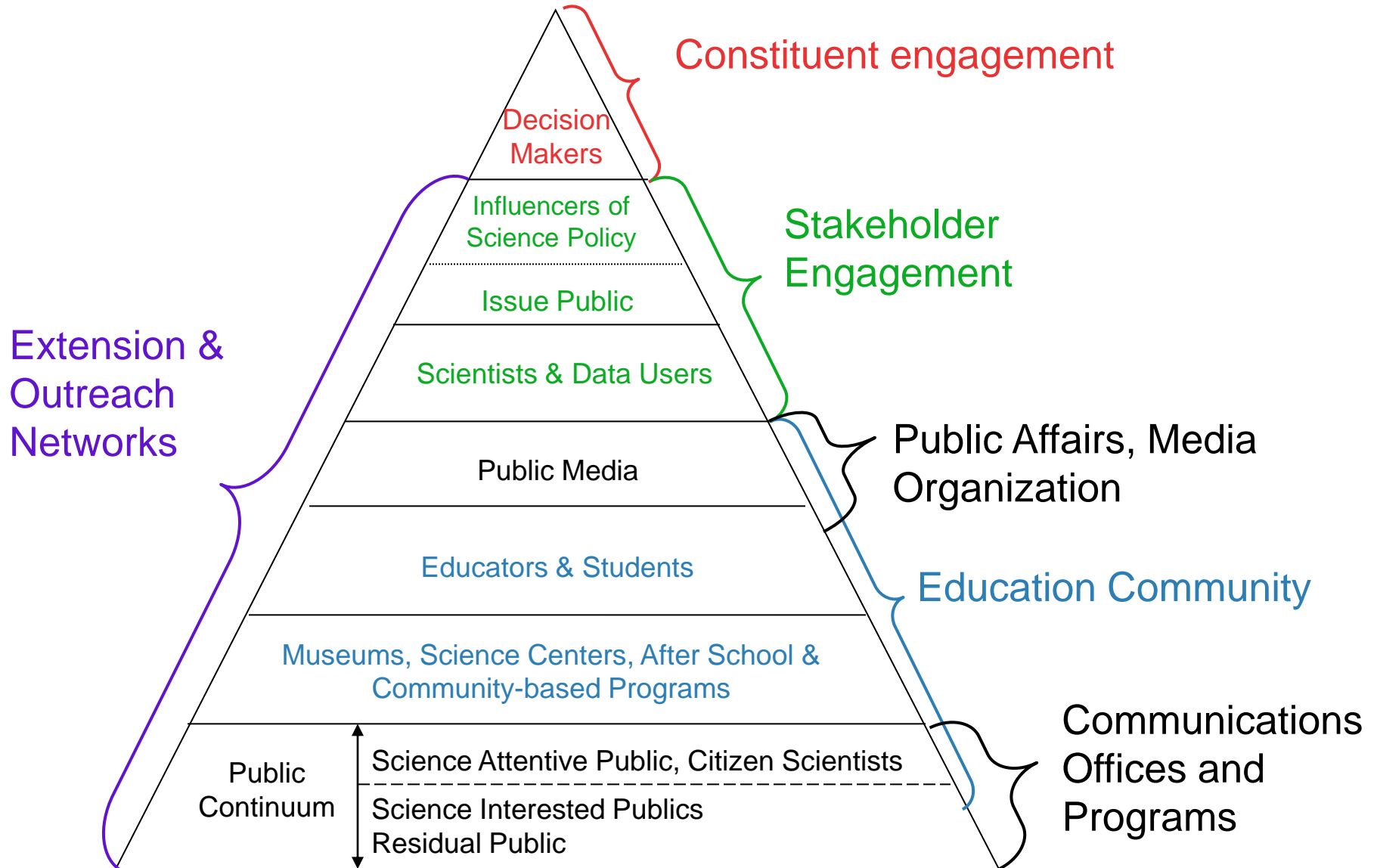
3. Message (the what)

What impression or information do we want to communicate? Messages can be crafted to “position” & “brand” the effort. Messages can be written to inform &/or educate about the state of the science; about new science results; about new data products & services; about societal implications and interests, etc.

4. Process & medium (the how)

Successful, effective message delivery hinges on its compatibility with audience’s needs for it, their capacity to understand it & where/how they typically seek such information. Selecting the best media & establishing feedback loops are critical.

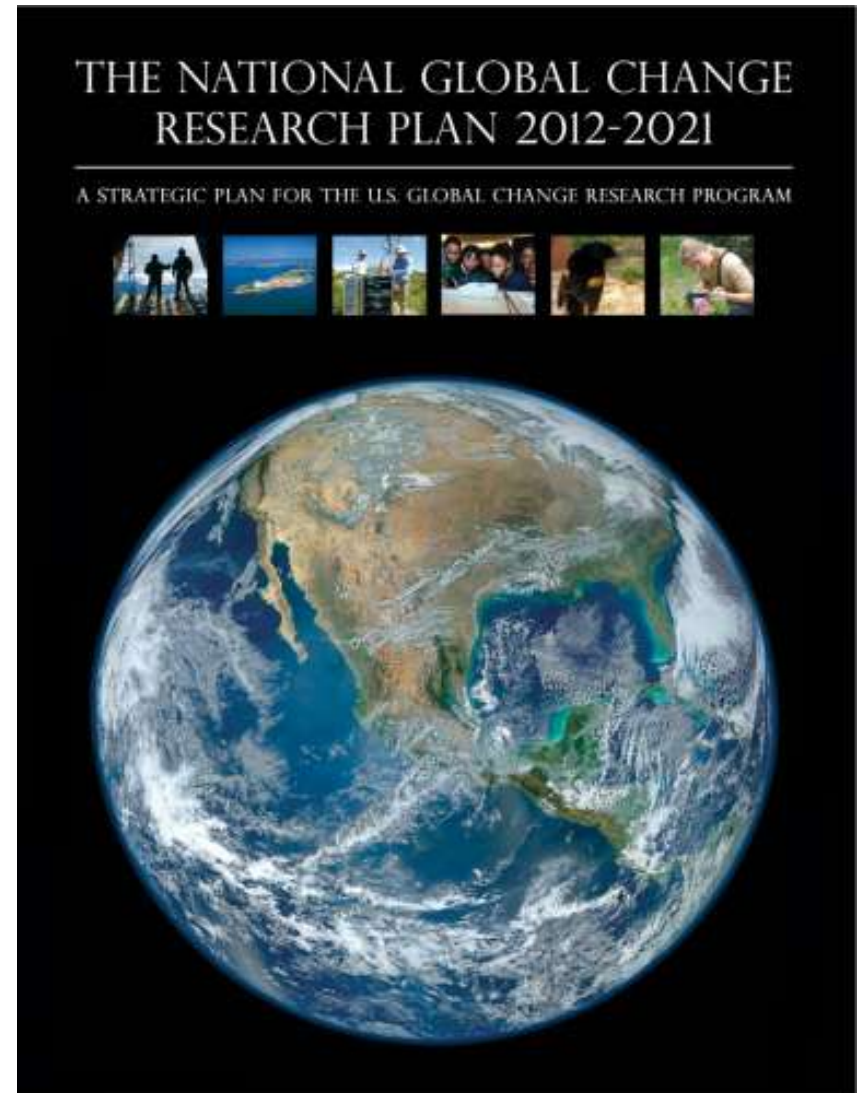
Strategic Approach: Audience (the who)



National Global Change Research Plan 2012-2021: A Strategic Plan for the U. S. Global Change Research Program

The 2012-2021 Strategic Plan recognizes that effective response to global change requires a strong scientific foundation and is built around four strategic goals: *Advance Science, Inform Decisions, Conduct Sustained Assessments, and **Communicate and Educate***.

- **Communicate and Educate** (*Make Our Science Accessible*) Advance communications and education to broaden public understanding of global change and develop the scientific workforce of the future.



<http://www.globalchange.gov/about/strategic-planning>

Community Based Partnerships Between Science and Educational Organization

- **Networks of Networks:** Many networks coordinate informal groups of scientists, educators, communicators, policy makers, community leaders, students, and citizens engaged in fostering Climate Literacy in the US and abroad.
- These groups provide forums for organizations, federal agencies, and individuals to collaborate
- Members share ideas, coordinate efforts, promote policy reform, develop learning resources, support integration of climate literacy into formal and informal education venues
- Initiatives of CLEAN Network and AGU feature accurate scientific information, engaging learning experiences, and multiple pathways to reach broad and diverse audiences, in both formal and informal venues



United States
Global Change
Research Program



George Mason University
Center for Climate Change Communication



The United States is taking advantage of numerous key opportunities to address Article 6 of the Convention



Extremes

Next Generation
Science Standards

Social Media

National
Climate
Assessment

Web

Stakeholder
Engagement

Social and
Educational
Research



CAR6 Update: Audience Focused Approach: Climate Portal Serving Strategic Audiences

- Policy / Decision Makers,
- Science-interested Public,
- Educators and
- Data Users

The screenshot displays the Climate.gov website interface. At the top, the logo reads "Climate.gov" with the tagline "science & information for a climate-smart nation". Navigation tabs include "News & Features", "Maps & Data", "Teaching Climate", and "Supporting Decisions".

The "Featured on Climate.gov" section highlights a resource titled "Tuvalu - Islands on the frontline of climate change". It includes a photograph of a person on a tropical island and a text box explaining the impact of sea level rise on Tuvalu, an island nation in the South Pacific. A "view resource" link is provided.

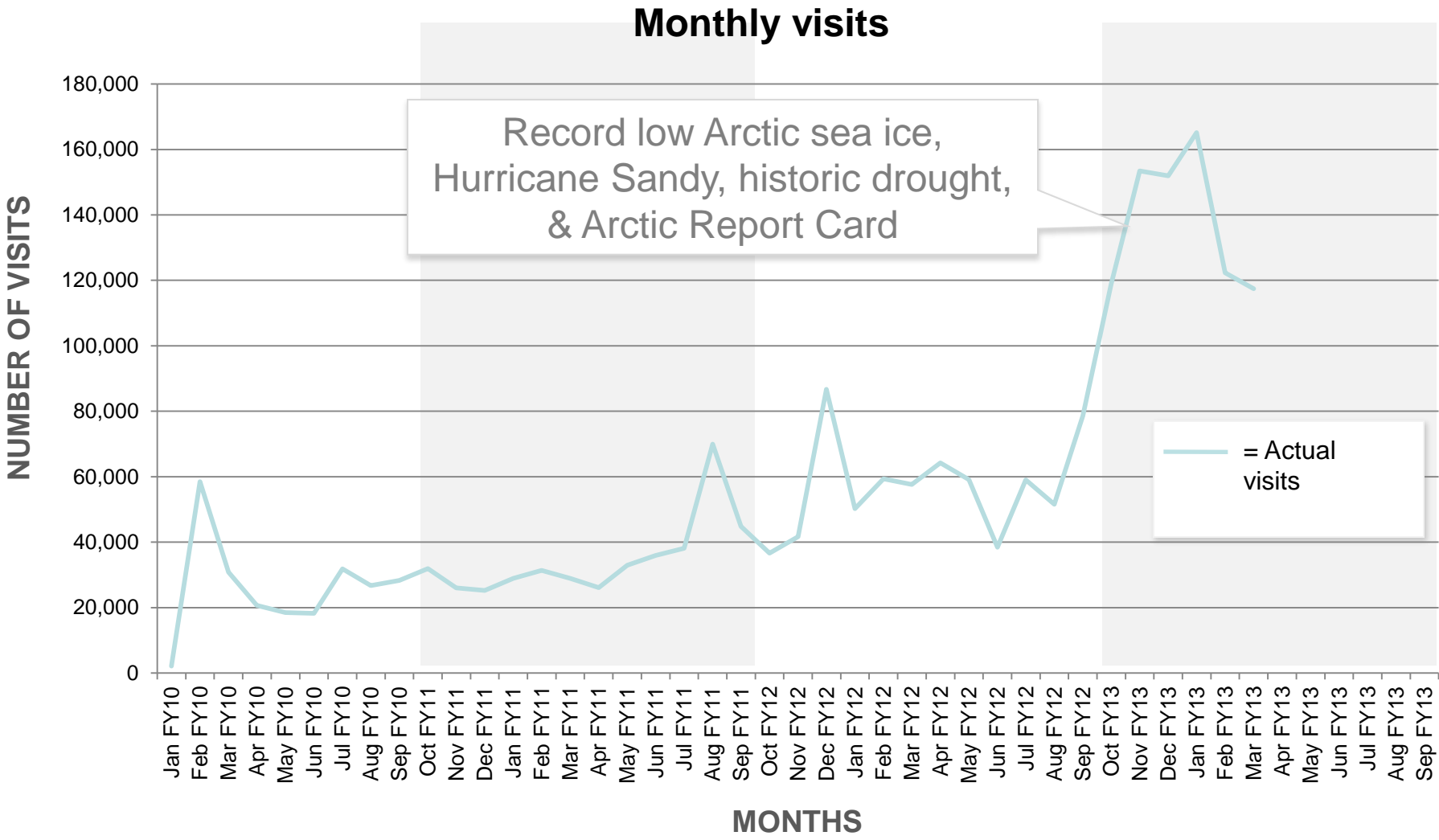
The "Recent Topics" section features three items: "Climate Conditions April 2013 Rain & Snow" (May 24, 2013), "Global Sea Level Rise Scenario for the United States National Climate Assessment" (December 6, 2012), and "Tropical Cyclone Tracks" (May 26, 2013).

The "Global Climate Dashboard" is a prominent feature with three main panels:

- Global Average Temperature (°C):** A line graph showing a steady upward trend from approximately 14.5°C in 1950 to 15.5°C in 2010. Text: "The temperature near Earth's surface is rising: the rate since each year's average temperature compared to the 20th century average."
- Carbon Dioxide (ppm):** A line graph showing a steady increase from about 315 ppm in 1958 to 390 ppm in 2010. Text: "The amount of carbon dioxide in the atmosphere has risen by 25% since 1958, and by about 40% since the Industrial Revolution."
- Spring Snow Cover (million km²):** A bar chart showing a general downward trend in snow cover over time. Text: "Snow is melting earlier: each bar shows spring snow cover in the Northern Hemisphere compared to the long-term average."

At the bottom, there are expandable sections for "Temperature", "Carbon Dioxide", and "Snow", each with sub-topics like "Sea Level", "Arctic Sea Ice", "Glaciers", "Ocean Heat", and "Heat-Trapping Gases".

Climate.gov growth in visits show relevance



CAR6 Update: Supporting Universities and Colleges



The fight against global warming will shape the 21st century.

The American College & University Presidents' Climate Commitment (ACUPCC)

Climate Leadership in Higher Education

CAR6 Update of a Key International Program: GLOBE Program's Student Climate Research Campaign



English
Log Out



GLOBE Poland Begins Three Year Climate Research Focus

2012 marks the 15th anniversary of GLOBE in Poland as well as the beginning of their intensive climate research campaign that inspires three years of intensive research in GLOBE schools throughout Poland. GLOBE schools in Poland have documented over 800,000 measurements in the GLOBE database. Over the next three

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Welcome to GLOBE

The Global Learning and Observation to Benefit the Environment (GLOBE) program is a worldwide hands-on, primary and secondary school-based science and education program.

[Learn More about GLOBE](#) ▶



GLOBE Community



Schools:
26,456

Teachers:
16,899

Total Measurements:

Enter Data



Collaboration Groups

Recent Postings In:
[Community Feedback Forum](#)

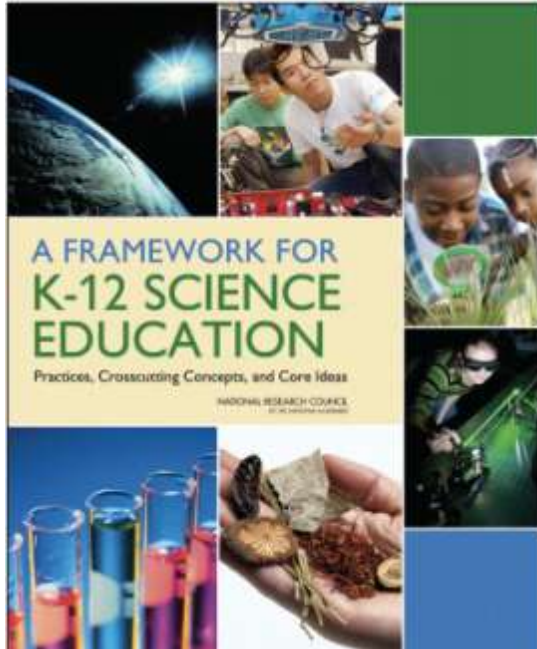
Is there any examples of good practise -
schools and teacher's profiles



SCIENTISTS'
Blog

The Connection of
Science and
Stewardship Part I:
Motivation and ini >>>

CAR6 Update: Improve Science Education Standards related to Climate for K-12



Core and Component Ideas related to Climate

Ecosystems: Interactions, Energy, and Dynamics

Ecosystems Dynamics, Functioning, and Resilience

Earth's Systems

The Roles of Water in Earth's Surface Processes
Weather and Climate

Earth and Human Activity

Natural Hazards

Human Impacts on Earth Systems

Global Climate Change

Engineering Design

Developing Possible Solutions

Optimizing the Design Solution

Links Among Engineering, Technology, Science, and Society

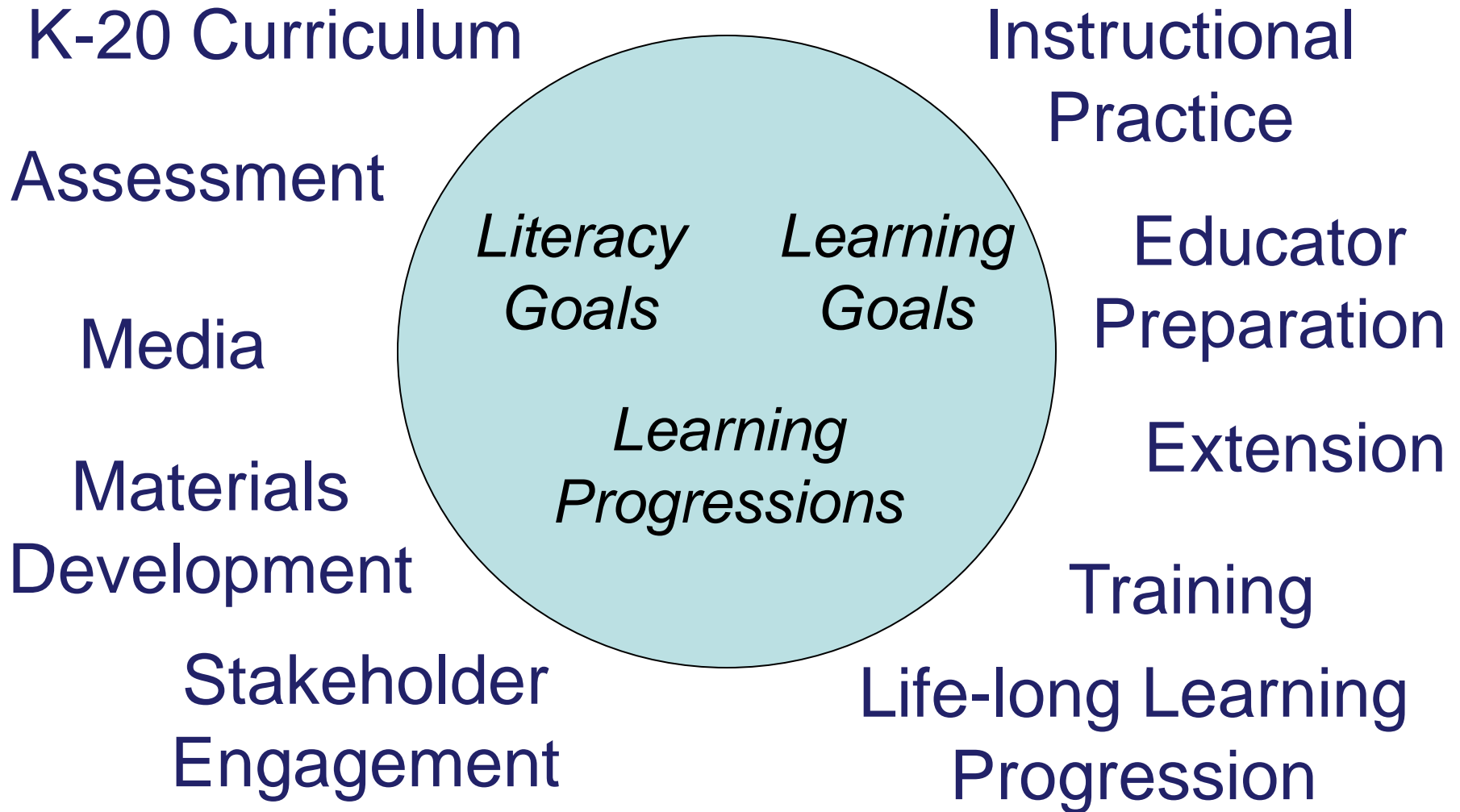
Influence of Engineering, Technology and Science on Society and the Natural World

Conclusion

- Audience-focused approach to climate change education, training, public awareness, public participation, public access to information and international cooperation
- Discussion could focus on the community based and partnerships between science and educational organization
- Explore the progress on Article 6 of the Convention as reported in CAR5 and the CAR6 (January 2014)
- Learn how other countries are using key opportunities to address Article 6 of the Convention

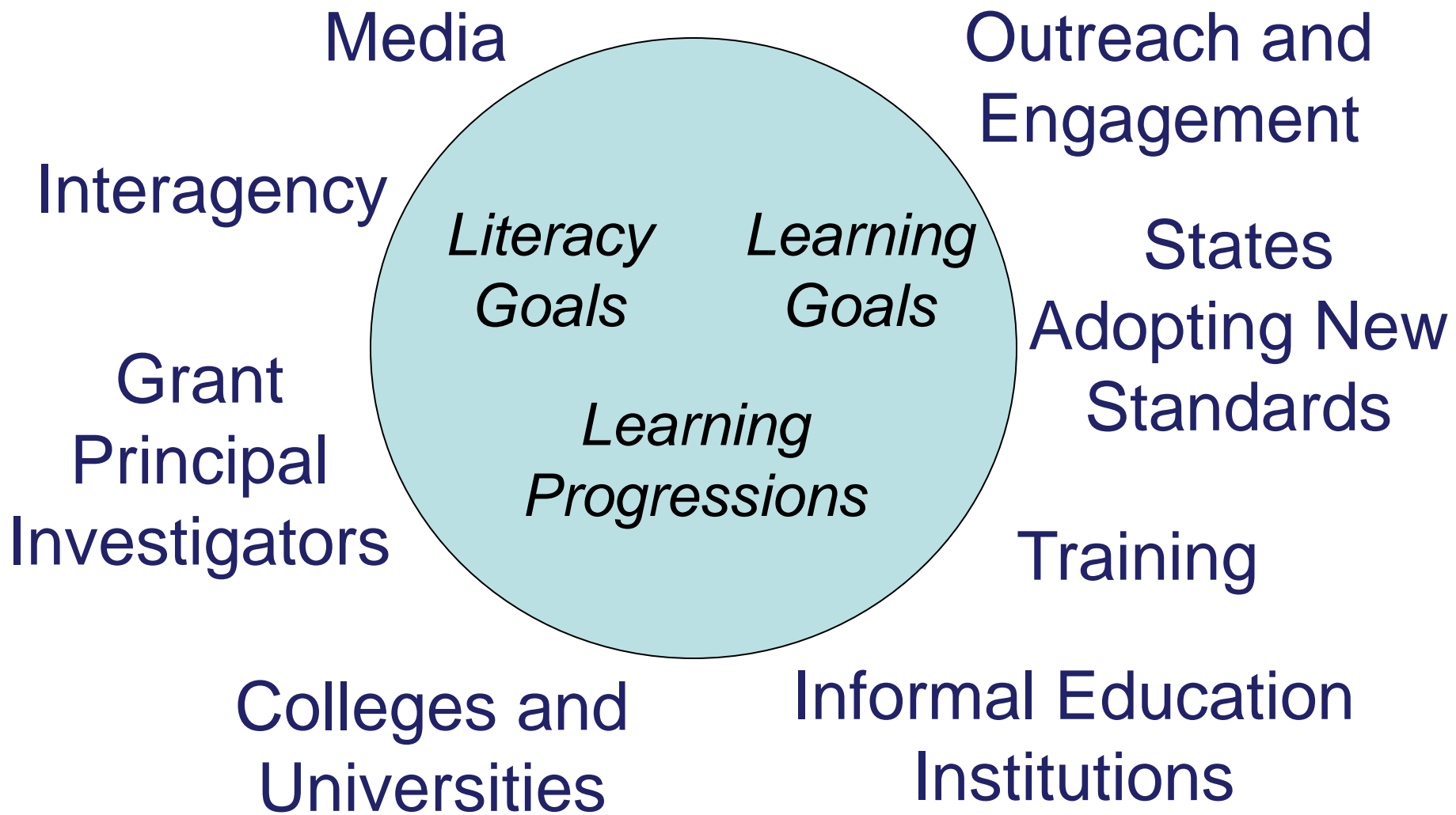
Supporting Slides

Supporting the Development of Climate Literacy



A CLIMATE-ORIENTED APPROACH FOR LEARNERS OF ALL AGES

Coordinating the Increase of Climate Literacy: An Integrated Model



Climate Change Education, Training and Outreach Challenges (Research Based)



First, research over the past 15 years has demonstrated that the underlying science of **climate change is inherently difficult for most learners to comprehend** and for educators or schools to competently teach.

Furthermore, **the connection between science and society that is implied in climate change education aimed at changing people's behavior makes the task of teaching and learning more difficult still.**

Second, achieving the broad range of goals of climate change education (training and outreach) **requires a cross-disciplinary approach**, blending education with the learning, social, behavioral, and economic sciences as well as earth systems science.

Third, the myriad of federal agencies, nongovernmental organizations, and businesses invested in climate change education may duplicate efforts and waste limited resources without **a forum for coordination, cooperation, and alignment of overall education strategies.**

Fourth, like evolution, climate change has become a highly politicized topic in the policy arena and in education, and **people's willingness to be educated or to learn depends on their attitude toward the issue itself.**

CAR6 Update: Supporting Universities and Colleges



Testimonials

“More than ever, universities must take leadership roles to address the grand challenges of the twenty-first century, and climate change is paramount among these.”



Michael M. Crow
President, Arizona State University
ACUPCC Leadership Circle Member

Number of Signatories to Date »

0 6 7 4

Submitted GHG Inventories »

1 5 2 9

Submitted Climate Action Plans »

0 4 5 1

