

Please complete this  
quick feedback request:  
<https://goo.gl/nYEMTR>

# ESS in NGSS: The work of a diverse community toward full implementation

Aida Awad, Maine East High School, Park Ridge IL, NAGT Past President

Susan Sullivan, CIRES, U. of CO Boulder, NAGT Past President

Ed Robeck, AGI, Director, Center for Geoscience & Society

overview:

Please complete this  
quick feedback request:  
<https://goo.gl/nYEMTR>

- collective impact thinking supports moving forward
- expanding the network
  - what we learned at the Summit
- establishing a working group
  - who, why, what is the charge, initial focus?
- upcoming talks, workshops & Town Halls

thinking about expanding the network & collective impact:

## The Five Conditions of Collective Impact

### Common Agenda

All participants have a **shared vision for change** including a common understanding of the problem and a joint approach to solving it through agreed upon actions.

### Shared Measurement

**Collecting data and measuring results consistently** across all participants ensures efforts remain aligned and participants hold each other accountable.

### Mutually Reinforcing Activities

Participant activities must be **differentiated while still being coordinated** through a mutually reinforcing plan of action.

### Continuous Communication

**Consistent and open communication** is needed across the many players to build trust, assure mutual objectives, and appreciate common motivation.

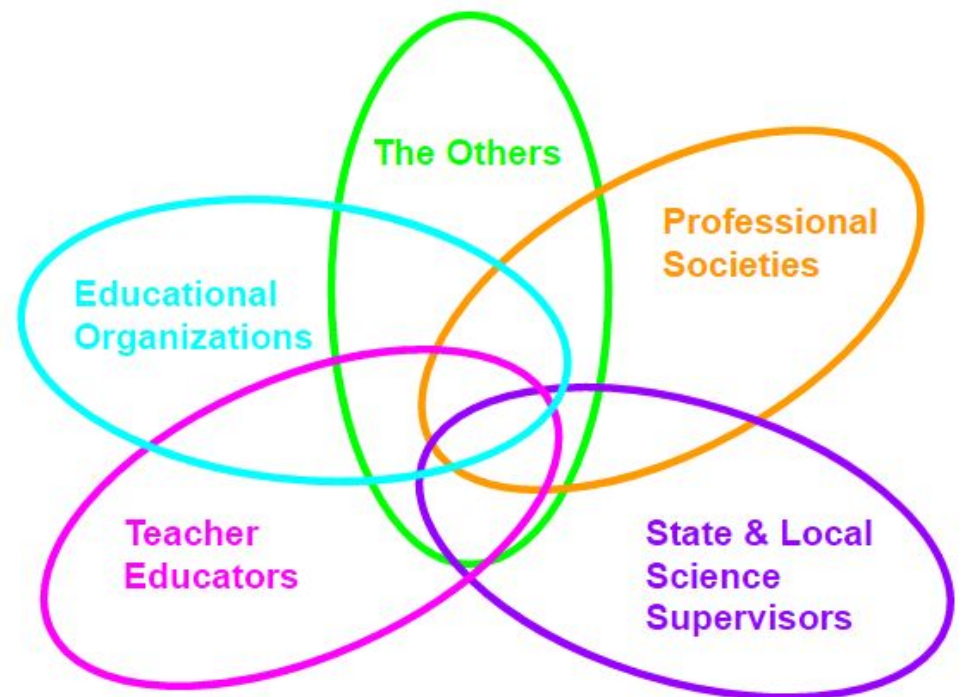
### Backbone Support

Creating and managing collective impact requires a dedicated staff and a specific set of skills to **serve as the backbone for the entire initiative and coordinate participating organizations and agencies.**

# expanding the network:

What we learned about the network at the Summit on the Implementation of NGSS at the State Level:

- stakeholder groupings
- where do you fit on the diagram?
- do you identify with multiple categories?



# pre-post assessment of network connections:

- “I know how I can collaborate with this person on NGSS implementation”
- participants with less than 9 connections at the onset tripled their connections

number of pre & post surveys completed	43
pre survey data	range from 1-38, average 15
post survey data	range from 8-48, average 29



## Summit Network Assessment

One of the goals of the “Implementing the Next Generation Science Standards Summit” is to consider the connections between stakeholders and stakeholder groups involved in the geoscience education community and working on NGSS implementation. This brief survey asks you to identify Summit attendees based on your response to the statement, “I know how I can collaborate with this person on NGSS implementation.”

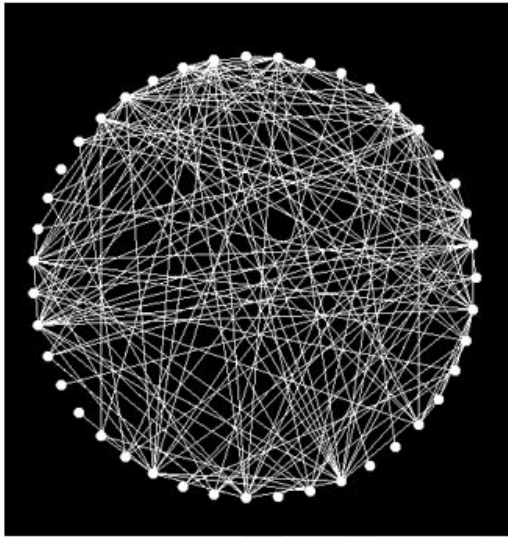
Summit attendees will be asked to submit their responses to this survey on the first day of the summit. A second assessment will be completed at the end of the summit. We appreciate your thoughtful responses!

### I know how I can collaborate with this person on NGSS implementation.

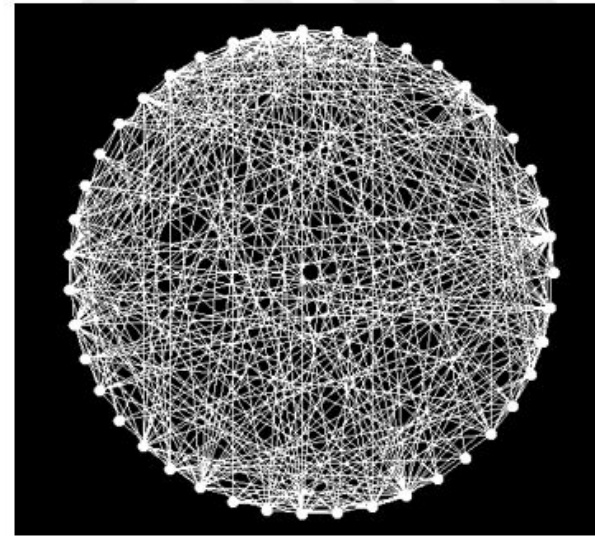
	YES	NO		YES	NO
Juan-Carlos Aguilar	<input type="checkbox"/>	<input type="checkbox"/>	Gary Lewis	<input type="checkbox"/>	<input type="checkbox"/>
Pranoti M. Asher	<input type="checkbox"/>	<input type="checkbox"/>	Ian MacGregor	<input type="checkbox"/>	<input type="checkbox"/>
Christopher Atchison	<input type="checkbox"/>	<input type="checkbox"/>	Cathy Manouca	<input type="checkbox"/>	<input type="checkbox"/>
Aida Awad	<input type="checkbox"/>	<input type="checkbox"/>	Stephen R. Mattox	<input type="checkbox"/>	<input type="checkbox"/>
Aneesh Badrinarayan	<input type="checkbox"/>	<input type="checkbox"/>	Carla McAuliffe	<input type="checkbox"/>	<input type="checkbox"/>
Adam Blankenbickler	<input type="checkbox"/>	<input type="checkbox"/>	John McDeris	<input type="checkbox"/>	<input type="checkbox"/>
Jennifer Bourgeault	<input type="checkbox"/>	<input type="checkbox"/>	Rae McEntyre	<input type="checkbox"/>	<input type="checkbox"/>
David Buehler	<input type="checkbox"/>	<input type="checkbox"/>	Susan McWilliams	<input type="checkbox"/>	<input type="checkbox"/>
Geoff Campbell	<input type="checkbox"/>	<input type="checkbox"/>	Jeffrey Miller	<input type="checkbox"/>	<input type="checkbox"/>
Sharon Densler	<input type="checkbox"/>	<input type="checkbox"/>	Frank Niepold	<input type="checkbox"/>	<input type="checkbox"/>
Barbara Dubielek-Wood	<input type="checkbox"/>	<input type="checkbox"/>	Michael J. Passow	<input type="checkbox"/>	<input type="checkbox"/>
Don Duggan-Hess	<input type="checkbox"/>	<input type="checkbox"/>	John Popp	<input type="checkbox"/>	<input type="checkbox"/>
Daniel Edson	<input type="checkbox"/>	<input type="checkbox"/>	Stephen Pruitt	<input type="checkbox"/>	<input type="checkbox"/>
Shauna Edson	<input type="checkbox"/>	<input type="checkbox"/>	Eric J. Pyle	<input type="checkbox"/>	<input type="checkbox"/>
Teresa Eliopoulos	<input type="checkbox"/>	<input type="checkbox"/>	Robert W. Ridky	<input type="checkbox"/>	<input type="checkbox"/>
Anne Egger	<input type="checkbox"/>	<input type="checkbox"/>	Ed Roedel	<input type="checkbox"/>	<input type="checkbox"/>
David Evans	<input type="checkbox"/>	<input type="checkbox"/>	Steven Semken	<input type="checkbox"/>	<input type="checkbox"/>
Michael Feder	<input type="checkbox"/>	<input type="checkbox"/>	Tamara Shapiro Ledley	<input type="checkbox"/>	<input type="checkbox"/>
Jean Flanagan	<input type="checkbox"/>	<input type="checkbox"/>	Jim Short	<input type="checkbox"/>	<input type="checkbox"/>
Maya Garcia	<input type="checkbox"/>	<input type="checkbox"/>	Robin Sizemore	<input type="checkbox"/>	<input type="checkbox"/>
Gary Hedger	<input type="checkbox"/>	<input type="checkbox"/>	Hayley Joyell Smith	<input type="checkbox"/>	<input type="checkbox"/>
Jacqueline Huinton	<input type="checkbox"/>	<input type="checkbox"/>	Joshua Snelbom	<input type="checkbox"/>	<input type="checkbox"/>
Dorlan Jannay	<input type="checkbox"/>	<input type="checkbox"/>	Beverly Stambaugh	<input type="checkbox"/>	<input type="checkbox"/>
Kim Kastens	<input type="checkbox"/>	<input type="checkbox"/>	Susan Sullivan	<input type="checkbox"/>	<input type="checkbox"/>
Nancy Kellog	<input type="checkbox"/>	<input type="checkbox"/>	John Taber	<input type="checkbox"/>	<input type="checkbox"/>
Louise Koch	<input type="checkbox"/>	<input type="checkbox"/>	David Therenga	<input type="checkbox"/>	<input type="checkbox"/>
Ruth Krumhansl	<input type="checkbox"/>	<input type="checkbox"/>	Elizabeth VanderPutten	<input type="checkbox"/>	<input type="checkbox"/>
Phil Lafontaine	<input type="checkbox"/>	<input type="checkbox"/>	Jill Werheim	<input type="checkbox"/>	<input type="checkbox"/>
Chris Lazzaro	<input type="checkbox"/>	<input type="checkbox"/>	Ted Willard	<input type="checkbox"/>	<input type="checkbox"/>
Pet Leahy	<input type="checkbox"/>	<input type="checkbox"/>			

# pre-post assessment of network connections:

- “I know how I can collaborate with this person on NGSS implementation”
- mutual connections
  - pre-Summit: 162 instances
  - post-Summit: 324 instances



Pre-Network Assessment Ball.  
Image created by Wayne Ryan



Post-Network Assessment Ball.  
Image created by Wayne Ryan

# expanding the network:

## thinking more about network connections:

- what does your NGSS connected network look like?
- where are the logical “next connections?”
- who will you bring into the network?
- where are the gaps?
- how do we move forward?



# charge of the NGSS-ESS Working Group:

The Earth and Space Science portion of the *Next Generation Science Standards* (NGSS-ESS) provide an exciting opportunity to enhance the status and practice of geoscience education across the United States. To facilitate that a meeting was convened jointly by the American Geosciences Institute (AGI) and the National Association of Geoscience Teachers (NAGT) in the spring of 2015 entitled “Summit on the Implementation of the NGSS at the State Level” (NGSS-ESS Summit). That meeting initiated and encouraged a great deal of networking and activity in support of NGSS-ESS implementation.

To continue those important activities, it will be worthwhile to convene an NGSS-ESS Working Group. The Working Group will engage in a range of activities to provide contact, coordination, and support for NGSS-ESS implementation nationally. Specifically, the Working Group will:

- Encourage and keep track of the community discourse around NGSS-ESS
- Monitoring of areas of need and opportunities that relate to support of the NGSS-ESS community
- Work with a broad range of organizations that support schools and teachers, to facilitate organizations working directly with formal and informal educators
- Coordinate the flow of information so as to encourage action around emerging and time-sensitive issues
- Consider actions that are appropriate responses to opportunities such as disseminating resources, accessing funding, and maintaining ongoing and coordinated effort and communication

The working group will form by mutual consensus, with initial leadership provided by the conveners of the NGSS-ESS Summit meeting.





# NGSS-ESS Working Group initial focus areas:

- developing a slate of webinars topics & webinar presenters/facilitators
- identifying funding opportunities for efforts around NGSS-ESS implementation
- broadening the opportunities for community engagement
- developing & broadening access to resources lists
- as with the network ... we hope to expand to include others as the community's activities become more well defined



# establishing an NGSS-ESS Working Group:

- Summit conveners:
  - Susan Sullivan, CIRES, NAGT Past President
  - Ed Robeck, AGI, Director, Center for Geoscience & Society
  - Aida Awad, Maine East High School, NAGT Past President
- Eric Pyle, James Madison University
- Anne Egger, Central Washington Univ.
- Frank Niepold, NOAA
- Louisa Koch, NOAA
- Cheryl Manning, NESTA President
- Michael Wyssession, Washington University, NGSS Writing Team
- Juan-Carlos Aguilar, Council of State Science Supervisors



# 5 conditions for collective impact & the NGSS-ESS Working Group:

- how do our current NGSS-ESS efforts align to the 5 conditions of collective impact?
  - while we are not there yet ... we are ...
  - moving forward
  - positives ... working group ... events receive strong community support ...
  - shift from informal discourse to a bit more formal
- still working toward ... paradigm shift in a complex system
- leverage collective impact framework thinking moving forward
- new ways to work together on this “wicked” problem

# GSA upcoming talks, workshops, Town Halls:

- Town Hall meeting: “Next Steps for the NGSS in ESS”
  - join a community discussion of what has happened in NGSS ESS implementation
  - help to shape a slate of activities going forward
  - explore new ways to work together
  - November 4th from 12:15-1:15p.m. Room 321, Baltimore Convention Center

# AGU upcoming talks, workshops, Town Halls:

- Town Hall meeting: “Next Steps for the Next Generation Science Standards in Earth and Space Science”
  - December 14, 12:30-1:30p.m. Moscone West 2007
- GIFT workshop: “Teaching Mineral Resources with an Emphasis on NGSS Practices & Crosscutting Concepts”
  - December 15, 10-11:30 a.m. Marriott Marquis Golden Gate A
- talks: Implementing K-12 Geoscience with the Next-Generation Science Standards II
  - December 16, 4:00-6:00p,m, Moscone South 104

# thank you for joining the discussion today!

let's keep the conversation moving forward:

- reach out and engage another stakeholder
- join us at the Town Hall meeting on Wednesday
- suggest a webinar topic - better yet ... offer to organize a webinar
- run an implementation or transition workshop

Aida Awad: [aawad@maine207.org](mailto:aawad@maine207.org)

Susan Sullivan: [susan.sullivan@colorado.edu](mailto:susan.sullivan@colorado.edu)

Ed Robeck: [ecrobeck@agiweb.org](mailto:ecrobeck@agiweb.org)

