

The Science Booster Club Project: Building Grassroots Support for Science Education

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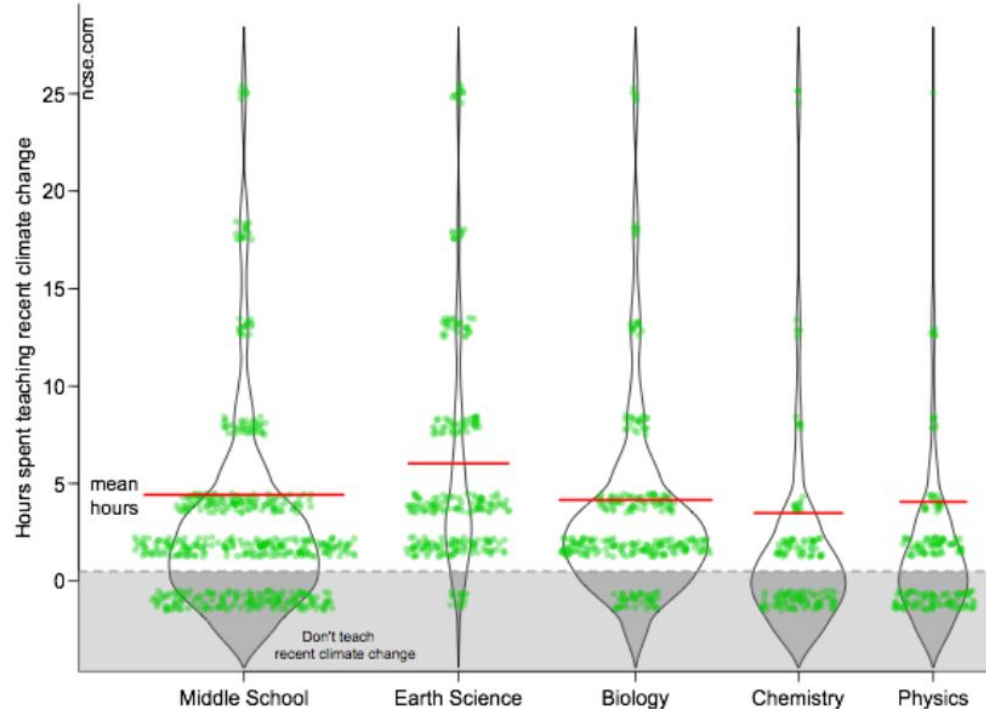
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Climate Change Education in America

Education is a critical part of our response to climate change

What is the current state of climate change education?

NCSE's Survey Highlights



Survey Highlights Continued

"When I do teach about climate change, I emphasize ..."

... the scientific consensus that recent global warming is primarily being caused by human release of greenhouse gases from fossil fuels.

... that many scientists believe that recent increases in temperature are likely due to natural causes.

Agree or strongly agree

Agree or strongly agree

Mixed messages
31%

Disagree or strongly disagree

Scientific consensus
54%

Disagree or strongly disagree



**Denial
10%**



**Avoidance
5%**

Factors that Contribute to Inadequate Teaching

A lack of community support

- Survey work shows that teachers feel supported by

- peers

- their students

- Less so: by parents

- Least so: by community members

Building Community Support: The SBC Project

Unmet need:

- no national or regional organization currently exists to organize communities around the cause of science education

Lack of awareness:

- of budget cuts to science education
- of the degree of unmet needs in science classrooms

Lack of access to science in public venues:

- Science only comes up in context of conflict
- Few participatory science events

The Vision

- Normalize science – frequent, positive science events make science accessible and “real”
- Provide a means for local science teachers to be heard
- Empower teachers with evident, local support for science
Give teachers a place where it is “safe to ask”
- Community-appropriate funding models to meet local teacher needs

Current Progress

- 4 clubs started**
- 546 members**
- about 3 public events/month**
- hundreds of volunteer hours**



- 5,300 event participants**
- 7 teacher grants distributed**
- Impact: 1400 students/year**

Program Highlights



Unexpected Findings

- Community response to climate change education varies by topic
 - Sea level rise
 - Species extinction
 - Ocean acidification
- The LESS informed about a topic, the LESS pushback occurs

Sea Level Rise

- Population size: ~1,200
- Hands on activity & video
- Reaction Breakdown:
 - less than 20% had heard of phenomenon
 - 70% positive response
 - 3 complaints
 - 15% of participants, active denial behaviors

Species Extinction

- Population size: ~800
- Hands on activity and poster display
- Reaction breakdown
 - More than 60% had heard of phenomenon
 - 50% positive response
 - 30%, disengagement
 - 20%, active denial behaviors

Ocean Acidification

- Population size: ~1000
- Hands on activity and poster display
- Reaction breakdown
 - less than 5% had heard of phenomenon
 - 90+% positive response
 - skeptics engaged with display
 - no complaints

Preliminary Conclusions for Education:

- Focus on areas that have not been addressed by denialist outlets
- Focus on topics that allow for hands-on data collection
- Positivity is not as important as novelty
- Ocean acidification unexpectedly rich topic
 - Easy to bring in animals
 - Easy to show that CO₂ lowers pH

A Note About Teacher Grants

- Teacher funding requests are unbelievably basic

 - Goggles

 - Tables

 - Wood

- Teachers are unable to get these basic, inexpensive needs met by administration

- Microgrant funding opportunities: an important source of information

Next Steps: Spring and Summer

- Very large events
 - 4-5k at county fairs
 - 10-15k at state fairs



- allow access to unusually diverse audiences
 - a chance to collect data on rare populations



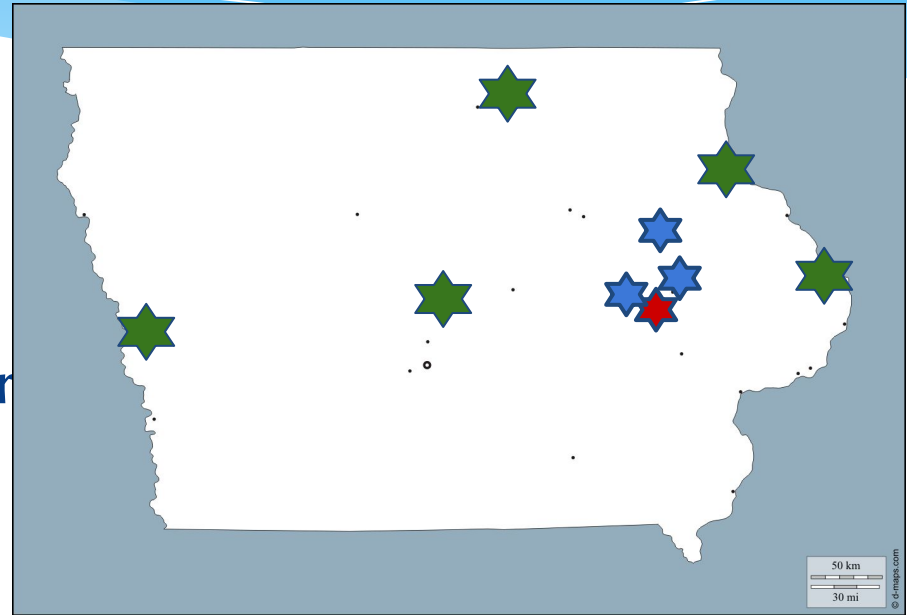
Next Steps: Fall and Winter

Statewide expansion:

- Fall 2016

- Wide range of pop size

- Politically & socially diverse



National Expansion

- Iowa field testing is a good model for national expansion
 - political and social diversity, economic diversity
 - not in fact entirely composed of white people
- National rollout will require
 - fully tested, standardized field manual
 - online and financial infrastructure
 - ideally, additional funding

Questions?

- Can you help me develop funding models?
- Can you think of other climate change angles that are rarely discussed by denialist outlets?