



GLOBE Student Research Symposia: How-To Guide

Timeline, to-do lists, and suggestions for hosting a GLOBE Student Research Symposium



This guide was made possible by National Science Foundation Grant no. 1546713

Table of Contents

Introduction	3
What is the GLOBE Student Research Symposia?	3
How do the SRS differ from science fairs?	3
SRS Goals and Objectives	3
Throughout the Year	5
Teacher Support	5
Six Months Before the Event	5
Location and Dates	5
Getting partners involved	6
SAMPLE EMAIL TO SEND OUT TO GLOBE PARTNERS	6
Two Months Before the Event	7
Agenda	7
Organize meals, ground transportation	8
Recruit Guests and Reviewers	8
SAMPLE EMAIL TO SEND OUT TO GLOBE TEACHERS	9
One Month Before the Event	10
Media Toolkit	10
One Week before the Event	11
Venue setup / organization	11
At the Event	11
Reviewer orientation	11
Awards	12
Code of Conduct	12
Peer-review	12
Student Evaluation	12
Event PR	12
Event Follow-up	13
Local Press for Student Teams	13
Teachers upload student projects to GLOBE website	13
Appendix	14
Logistics / Reminder Email Template	14
Code of Conduct	14
Media Toolkit	16
Certificates	16
Rubrics	16

Introduction

What are the GLOBE Student Research Symposia?

The GLOBE U.S. Regional Student Research Symposia (SRS) are events where students in grades 5-12 share the results from research investigations which include data collected using GLOBE protocols and the GLOBE database. GLOBE SRS will bring students together to build community by connecting them with other aspiring scientists and GLOBE Alumni in STEM fields, and further developing their identities as scientists. At the symposia, students will have the opportunity to share research, sharpen science communication skills, and gain confidence in how science is conducted, thus contributing to a generation of scientifically-literate citizens. The project also supports classroom teachers with professional development and resources, promotes GLOBE as a model for teaching science practices and provides a framework for teacher-to-teacher and teacher-to-GLOBE Partnership consultation and mentorship. The primary audience includes teachers who are developing science research skills in their students and bringing a team of students to participate in the SRS for the first time. Fostering community connections and collaboration between participants is a key component to the GLOBE SRS success.

More information can be found on the GLOBE SRS website:

<https://www.globe.gov/web/united-states-of-america/home/student-research-symposia>

How do the SRS differ from science fairs?

GLOBE SRS are modeled on professional science conferences, with all intention of encouraging these students to pursue a STEM career and, eventually, participate in a professional STEM conference as a STEM professional. Projects are reviewed both by student peers and scientists. The emphasis of the event is not “winning”, but collaboration and communication of scientific research.

SRS Goals and Objectives

1. Hold an event where students present their research to scientists, become inspired to pursue a career in STEM, and engage in the peer review process.

- a. Create an environment where collaborative relationships are encouraged and can develop between teachers, students, scientists and Partners.
 - b. Provide opportunities for underserved and underrepresented students to visit NASA Centers and other scientific venues to meet scientists and ask career-related questions.
2. Encourage teachers to incorporate more student research investigations into their classrooms using GLOBE and increase student confidence in science content, practice, and self-efficacy in both.
 - a. Increase teacher and student confidence in using science practices, conducting Earth science and STEM research investigations with GLOBE protocols, and engage in the peer review process through mentoring and community building with experienced GLOBE teachers and Partners.
 - b. Build a community of practice of SRS teachers through regular communication and support.

Throughout the Year

TO-DO LIST: Throughout the Year

- Recruit teachers and Partners to attend/support the SRS
- Highlight SRS webinars, blogs, emails, etc. for teachers and Partners in your region.

Teacher Support

Teacher support takes the form of blog posts, webinars, emails, and a Teacher Hotline. These are accessible through the [SRS webpage](#). Teachers must be recruited to write blogs, facilitate student videos, and participate in the Hotline. All of this support should be promoted as a resource within your teacher and Partner networks.

Six Months Before the Event

TO-DO LIST: 6 Months Prior

- Choose location
- Choose dates
- Begin securing lodging
- Send email to Partners to help recruit teachers
(*see sample email*)

Location and Dates

DATES: Choose dates between March and June, if possible working around state testing dates and the end of school year. Ideally, dates should be coordinated with other regions so as not to have multiple Symposia on the same weekend. Lodging budget can be based on local per [diem rates](#), with some regions spending much less (if students stay on a university campus, etc.).

LOCATION: Choose a location that can accommodate *30 to 150 people*, and has space for *10-40 posters*. Keep in mind potential accessibility needs. If location is a government site (e.g., NASA), participant names may need to be submitted well in advance for background checks.

Money Saving Tips

- Staying in dormitories on a university campus is cheaper than using a hotel
- If using hotels, look for ones that offer free breakfast

Getting Partners involved

GLOBE Partners should begin recruiting teachers and student teams to attend the SRS event. They will act as a mentor to their team throughout the entire research and presentation process. The most successful regions have used a team approach, encourage Partners in your region (and/or personnel at your organization) to be involved in planning and carrying out the event.

SAMPLE EMAIL TO SEND OUT TO GLOBE PARTNERS

GLOBE Partners!

The fourth annual [REGION] Student Research Symposium (SRS) will take place at [LOCATION] on [DATE]

Please visit this [LINK](#) at the GLOBE website (*link to your region's event page*) for details, including an agenda.

WE NEED STUDENT PROJECTS!

There is funding available for your partnership to bring students and teachers to the SRS. Follow this direct [LINK](#) for teachers to apply for funding. The deadline for the funding application in **FEBRUARY 1st**.

The SRS is open to any 5th - 12th grade GLOBE students engaging in GLOBE protocols/data collection. We have a *huge space* to host our student project posters and we need you to notify/support your schools in coming to this unique event. Besides the [REGION] SRS, students and teachers will be treated to great food and [ACTIVITIES]. Teachers will receive PD on the new GLOBE Carbon Protocol. Funding includes transportation and lodging.

PLEASE SPREAD THE WORD AND HAVE YOUR TEACHERS **APPLY FOR FUNDING TODAY.**

A flyer is attached that you can send to your schools. (*attach [Why Participate Flyer](#)*)

Two Months Before the Event

TO-DO LIST: 2 Months Prior

Registration opens

- Plan tentative agenda
- Organize ground transportation
- Plan meals/catering
- Recruit Reviewers
- Invite VIPs and speakers
- Reach out to potential sponsors
- Send out Registration Link to Teachers and Partners (*see sample email*)

Agenda

Below is an SRS agenda template. For an example, see the [Northeast/Mid-Atlantic 2019 agenda](#).

Day 1	
1:00 pm – 5:00 pm	Arrival, Registration, Lodging Check in, Poster Set-Up
5:00 pm – 6:00 pm	Welcome, Group Dinner, Keynote Speaker
6:00 pm – 9:00 pm	Ice Breaker, Group Activity (poster set-up for late-arriving students)

Day 2	
8:00 am – 9:00 am	Breakfast (at hotel or provided at the meeting)
9:00 am - 9:30 am	Final Poster Setup and Practice
9:30 am – 12:00 pm	<ul style="list-style-type: none"> • Poster Rotation and Project Review by Scientists and Peers • Professional Development for Teachers & GLOBE Partners
12:00 pm – 1:00 pm	Group Lunch
1:00 pm – 3:00 pm	Breakout Groups
	<ul style="list-style-type: none"> • Hands-on Science Activities for Teachers and Students

	<ul style="list-style-type: none"> • Reviewer Deliberations
3:00pm – 4:00 PM	Awards, Evaluation and Closing

Some agenda ideas:

- Start the SRS with an activity that gets students interacting with each other, especially across schools. Team building activities work well for this. **See the appendix for activities that have been successful at past SRS.**
- Hold the peer review session first, so students can practice before talking to scientist reviewers.
- Make sure there is enough for students and teachers to do in case activities, like the reviewer deliberation, run over.
- Remember that students get bored and fidgety during speakers. Keep them short and/or split them up with something active. One option- have the keynote speaker during dinner to give students something to do while listening. Attempt to recruit speakers that students can relate to (i.e. look like them, are students or young GLOBE Alumni, etc.)
- Plan a field trip to a local attraction.

Organize meals, ground transportation

GROUND TRANSPORTATION

Ground transportation should be provided between lodging and the venue, as well as for field trips, etc. unless facilities are within walking distance (please keep in mind different abilities when determining what “walking distance” means).

Money Saving Tips

- The cheapest option is often public transport
- If not on public transport, using hotel transportation is often less expensive than a private company.

MEALS

Meals and snacks are provided during the event for all attendees. If you decide to hold a dinner at the end of the event for teams staying an extra night, have it at the hotel/place of lodging, so students can relax and decompress before/during dinner. Meal budget can be based on local per [diem rates](#). Registration lists will indicate dietary needs.

Money Saving Tips

- Buffets for dinner provide variety and ease, and are also cheaper.

Recruit Guests and Reviewers

GUESTS:

Invite VIPs (Congressional representatives, local politicians, business leaders, etc.) to the Symposium. See the *Toolkit for Media and Congress* for template invitations. If you are inviting a speaker, look for dynamic presenters that can speak about their experience in science and their path to becoming a scientist (for a great guide for speakers, share this: http://www.scigirlsconnect.org/wp-content/uploads/2016/05/SciGirls_RoleModel.pdf). **For the sustainability of these Symposia, connect with sponsors!** Reach out to businesses and organizations with an interest in STEM workforce development about sponsoring a portion of the event.

REVIEWERS:

Recruit reviewers ahead of time that represent diverse areas of science. An ideal number of reviewers can be found using this equation:

$$\text{Number of reviewers needed} = (\text{number of projects} * 2) / 6$$

This equation is based on a 2-hour review session with 20 minutes per project (120 min/20 min = 6), and two reviewers visiting each project. Increase the number of reviewers if you would like more time at each project, or more reviews of each project. SRS Reviewers have stated that a 20 minute review time is ideal in order to spend 15 minutes in conversation with the student and 5 minutes for writing notes. Many reviewers request time after the review session to revisit the posters without students present before deliberations.

Ideas for places to reach out to for reviewers: Local universities (professors and graduate students), local science centers, NASA, NOAA, Forest Service, Nature Conservancy, etc.

SAMPLE EMAIL TO SEND OUT TO GLOBE TEACHERS

JANUARY/FEBRUARY:

Hello GLOBE {YOUR PARTNERSHIP} Teachers!

I met many of you at the 2018 GLOBE Student Research Symposium (SRS) and {WHERE DID YOU MEET THEM?} workshop, plus other opportunities in between, and I wanted to reach out to you about the [GLOBE Student Research Symposium](https://www.globe.gov/web/united-states-of-america/home/student-research-symposia) (<https://www.globe.gov/web/united-states-of-america/home/student-research-symposia>), specifically our regional {SRS NAME in LOCATION on DATE (hyperlink)}.

Grant funding is available to attend ([Insert link to Funding Application](#)) the SRS, which is a fantastic opportunity for you and your students to share!

Plus, if your students are in need of science fair ideas, using GLOBE protocols or existing GLOBE data is a great way for them to have a real-world research experience with the bonus of being eligible to participate in the SRS, and share their work with students from around the region.

Read the latest US GLOBE regional newsletter ([Insert link to latest SRS email](#)) for details and tips about the SRS, and more.

Feel free to contact me if you would like to or plan on attending the SRS, as I am happy to help you out or point you in the right direction to get the answers you need.

Best wishes for {YEAR}, and I hope to see you at the GLOBE {REGION} SRS in {MONTH}!

MARCH or later:

Hello GLOBE Teachers and Facilitators!

We are ready to hear from you about who is coming to the [YOUR REGION] SRS and their projects! The LINK to follow for registration is HERE (ADD LINK). As you may remember, the [REGION] SRS is [DATE]. Registration closes [DATE].

We are asking participants to be at [LOCATION], by [START TIME] on [DATE]. We will [FIRST ACTIVITY].

Please register ASAP. We have a HUGE crowd who have requested funding, and we want to make sure you are all registered.

Adults have to register themselves. Parents have to register their students because there is a media release form that has to be agreed to for each student and adult attending the SRS.

If you have any questions, please don't hesitate to contact me. If you are unsure about your funding, please email me. You should have all heard from GLOBE by now.

This year will be an exciting year for GLOBE research projects as we continue the wonderful tradition and example set by students in the past years.

We are currently recruiting for reviewers for [X number] projects. If you know of anyone who may like to participate in the review process, please let me know. Reviewers will participate in Saturday's activities, and lunch will be provided. Reviewers MUST register through the link provided above.

Thanks to all of you and we'll see you in [MONTH].

One Month Before the Event

TO-DO LIST: 1 Month Prior

Registration closes
Hotel rooming lists due

- Reach out to local media using the Media Toolkit
- Finalize agenda
- Finalize meal counts with caterer
- Send *Reviewer Flyer* to review team
- Finalize plans with scientists leading tours, activities or speaking

Media Toolkit

Use the GLOBE Media Toolkit (see Appendix) to contact local businesses politicians, congressional representatives, and the media. Example schedule, ideas, and templates all available in the Appendix.

Reviewers

Reviewers should watch the [What is a Research Symposium?](#) video and read the [Review Flyer](#) prior to the Symposium.

One Week before the Event

TO-DO LIST: 1 Week Prior

- Print Certificates
- Print Name Tags (use different color if participant disagreed with media release)
- Send Logistics/Reminder Email (see Appendix)
- Print extra copies of media release
- Print peer review rubrics - 1 copy per student
- Print reviewer rubrics - 1 set for each reviewer
- Label reviewer rubrics with student name labels
- Put together registration bags for students (pen, snacks, promotional items, etc.)

Venue setup / organization

Students will bring posters up to 36" x 48" (3 x 4 ft). Provide poster easels or tri-fold boards and pins or wall space and appropriate anchoring supplies. To aid in organization and the review process, number the posters and split the room into high school vs middle school projects.

At the Event

Reviewer orientation

Much of this information is available in the [GLOBE SRS Reviewer Flyer](#). Give reviewers a brief overview of the [reviewer feedback form](#), their job as an SRS reviewer, and the recognition system.

The SRS feedback form is designed to be merit-based and open-ended. It has two goals: first, to help reviewers identify student projects that were exemplary in some aspect of the scientific process, and two, to elicit useful feedback from the scientist reviewers. During the review, reviewers should focus on student research and their overall impressions of the project. Don't get bogged down in the details (there is only ~20 minutes to review each project)! **Projects MUST have used GLOBE data to receive recognition.** Reviewers should use the merit categories to highlight where each winning team excelled. The [Review Summary Sheet](#) can be used to summarize reviewer comments for the recognition ceremony. If reviewers can stay until the end of the event, have them describe the merits of the projects being recognized.

It is best for reviewers to split into two teams if possible- one team for middle school-level projects and one for high school, as projects will be compared for recognition within these groups.

Recognition

All students, teachers, partners, and VIPs will receive participation or appreciation certificates (See Appendix for template). Recognition is given through a merit-based system with no ranking or overall winner. Teams that particularly excel in an aspect of the scientific process can receive recognition. Up to seven projects can receive recognition from the reviewers and one for peer-choice. This recognition will be divided between middle and high school. Projects receiving recognition will receive a crystal for the school and each team member will receive a medal. Not every team should be recognized in this way, the ‘everyone wins’ model diminishes the value of the recognition. Only projects that highlight GLOBE data AND are outstanding in at least one or more aspects of the science practices should be recognized in this way.

Code of Conduct

The Code of Conduct (for full CoC, see the Appendix) will be presented verbally (with a slideshow) at the beginning of the Symposium.

The GLOBE U.S. Student Research Symposium includes people from many different backgrounds. GLOBE is committed to providing a friendly, safe and welcoming environment for all, regardless of age, disability, gender, nationality, race, religion, sexuality, or identity. **The main tenets of the Code of Conduct are: be friendly and welcoming, be patient, be thoughtful, be respectful.**

Peer-review

The peer-review process at the SRS should be emphasized- it encourages the communication and collaboration of a professional scientific conference. Let students and teachers know that we will compile their feedback and share it with each school.

Students need guidance on how to participate in the peer review process and student-to-student interaction. Before the review session, use the [Peer Review Slideshow](#) to orient students to the [peer-review feedback form](#), provide some do’s and don’ts, give examples of high-quality feedback, and explain the selection a project for peer-review recognition.

Student Evaluation

- Do all evaluation surveys together. Go through the main points of the consent form all together.
- Put the registration number on the nametag- this is the identifier for evaluation.

Event PR

Refer to the *GLOBE Media Toolkit* for day-of PR ideas. Encourage participants to tweet and share the SRS with #GLOBE_SRS. For the GLOBE team, make sure there is a picture taken of

each team with their poster AND a picture of the poster on its own. The U.S. GLOBE office also needs a list of each project name, with the associated student names and project number. If possible, find a local photographer or videographer to attend the event.

Event Follow-up

Consolidate Reviewer and Peer Feedback

Summarize or scan reviewer and peer feedback forms to send out to teachers that attended. See example from the Northwest Region [here](#) - Feedback was organized into google folders by school, and a link to the folder was sent out separately to each teacher.

Local Press for Student Teams

Reach out to local press/media for coverage on student teams - these articles will be linked to the main SRS webpage.

Teachers upload student projects to GLOBE website

After the event, we encourage teachers and students to upload a picture of their research poster to the GLOBE website with the 'SRS' tag. We will link to their projects from the SRS webpage, which will be very useful to future SRS participants when applying for jobs, college, etc. They can upload their project here:

<https://www.globe.gov/do-globe/for-students/student-research-reports>.

Appendix

Logistics / Reminder Email Template

This email should be sent the week before the event. Fill in the highlighted sections and adjust if needed. Attach final agenda, venue map, etc.

Good afternoon,

We are so pleased that you are participating in the GLOBE Student Research Symposium (SRS) on [DATE] at [PLACE]. Below is information we hope you will find helpful. An agenda is attached.

Please send a reminder to parents to return the opt-out form before you leave for the SRS if they choose to do so. If any parents do return it, please bring it with you.

What to wear: [DAY] - regular school clothing, [DAY] at the Symposium - business casual.

Travel and Hotel:

- We are staying at the [HOTEL, ADDRESS, PHONE]
- Hotel room costs are covered for sponsored teams for the duration of the SRS. Someone from the group will need to provide a credit card for incidentals.
- Flights or charter buses have been paid for directly.
- [GROUND TRANSPORTATION INFO TWO AND FROM AIRPORT]
- Funded teachers will be sent a reimbursement form **after the SRS** to fill out to claim mileage or van rental reimbursement, if necessary.

If you are not traveling far/and or staying at the Hotel

[WHERE SHOULD THEY MEET YOU?]

Meals covered during the SRS: [WHICH MEALS ARE COVERED FOR ALL PARTICIPANTS?].

GLOBE DATA from the website is essential to a good project review! Please make sure the GLOBE data you used in the projects are entered into the GLOBE website. Contact your cooperating partner if you are having trouble or have any questions. In order to receive recognition, the data used in the project **MUST** be entered into the GLOBE website.

Spending money: [ARE THERE GIFT SHOPS, ETC. WHERE STUDENTS MIGHT LIKE SPENDING MONEY?]

Other: [OTHER LOGISTICS- HOTEL POOL, GROUND TRANSPORTATION TO AND FROM HOTEL, ETC.]

Code of Conduct

Please read the Code of Conduct (CoC). When you register for the **GLOBE U.S. Student Research Symposium**, you also confirm that you agree to the Code of Conduct. Any violation will result in the leadership team asking you to immediately stop the behavior that violates the CoC. If the behavior continues, you will be asked to leave the Symposium at your own expense. Parents/guardians will be notified.

GLOBE U.S. Student Research Symposia Code of Conduct

The GLOBE U.S. Student Research Symposium includes people from many different backgrounds. GLOBE is committed to providing a friendly, safe and welcoming environment for all, regardless of age, disability, gender, nationality, race, religion, sexuality, or identity.

- Be friendly and welcoming.
- Be patient.
 - Remember that people have different communication styles, and that not everyone may be using their first language.
- Be thoughtful.
 - Communication requires effort. Think about how your words will be interpreted by others..
- Be respectful.
 - Not all of us will agree all the time, but we expect respectful behavior at all times.
 - It's important to remember that a community where people feel comfortable and safe is a productive one.
- People are complicated. If misunderstandings happen, remember that we're different. Not understanding why someone holds a viewpoint doesn't mean that they're wrong.
- Harassment and other exclusionary behavior are not acceptable. This includes, but is not limited to:
 - Insulting, demeaning, hateful, or threatening remarks.
 - Discrimination based on age, disability, gender, nationality, race, religion, sexuality, or similar personal characteristic.
 - Bullying or harassment.
 - Unwelcome sexual advances.
- You are expected to attend all scheduled activities. Please be prompt and show respect to those speaking and participating.

- If you are determined to be responsible for stealing, vandalism, or fighting you and/or your parents will be expected to pay any and all damages.
- You are expected to observe the designated curfew.
- Report any accident, injury or illnesses to an adult.
- You may not be in possession of or use:
 - Tobacco and vapor products (including smokeless)
 - Alcoholic beverages
 - Illegal/illicit drugs
 - Weapons, including firearms and knives.
- Your conduct is the responsibility of yourself and your advisor/chaperone.

Successful Team Building and Science Activities

[Kite Flying Activity and Instructions](#)- Led by Boston University at the 2019 Northeast/Mid-Atlantic SRS. This is a great hands-on science activity. Encourage students to work with students from other schools.

[GLOBECaching](#) - Led by Boston University at the 2019 Northeast/Mid-Atlantic SRS. Science challenge activity where students perform GLOBE protocols.

Rubrics

Reviewer Rubric:

https://www.globe.gov/documents/20016639/51966230/SRS2019_ReviewerFeedbackForm.pdf/9781b0bb-8607-4cdc-b01f-e1cd5b124b78

Peer Review Rubric:

https://www.globe.gov/documents/20016639/51966230/SRS2019_PeerReviewFeedbackForm_Updated.pdf/e79d4163-aaf1-4fbe-b8ab-9da539b6c68d

Peer Review Slideshow:

<https://www.globe.gov/documents/14718/45085412/SRS+Peer+Review+Slideshow/d3b9e897-a036-4cfe-afe4-d823fa216a63>

Media Toolkit

Tipsheet, Congressional Letter, News Advisory, and News Release all available here:

https://www.globe.gov/web/united-states-of-america/home/resources/documents/-/document_library_display/KAo8Haz6E7QI/view/22577449

Certificates

<https://www.globe.gov/support/faqs/globe-website-tutorials/certificates>