



## G+VSS GLOBE Virtual Student Symposium Held

April 30 - May 1, 2021

05/07/2021

The GLOBE+ Virtual Student Symposium (G+VSS) was held April 30 - May 1, 2021 to support teachers and students with (distance) project-based learning. The WestEd/UC Berkeley GLOBE Partnership of the GLOBE Mission Earth team hosted the G+VSS where more than 75 students attended and 25 STEM projects were presented to 26 STEM professional reviewers. WestEd/UC Berkeley was joined by their Earth System Science CA Strong Collaborators: NASA JPL, Solar Ambassadors at NASA JPL, **LAUSD Office of Outdoor Environmental Education** and the Elkhorn Slough and San Francisco Bay National Estuarine Research Reserves as well as the GLOBE Partnership at Purdue University. This was a true team effort to provide students with the opportunity to showcase their STEM research. Projects ranged from coding and engineering to GLOBE data collection and analysis. The event's focus was on data literacy and recognition awards in the areas of data source, data use, data visualization and data analysis/interpretation were given thanks to the support from Youth Learning as Citizen Environmental Scientists.

The event kicked on Friday afternoon with a keynote speaker from NASA JPL, Dr. Mike Wood. Dr. Wood spoke to students and teachers about his research on glacial ice melt in Greenland. Dr. Wood's use of satellite and observation photos and data visualizations provided a unique insight into his research and how warmer deep water in the oceans contribute to glacial melt. Students responded to Dr. Wood's by asking a number of questions which rounded out the time together.

Saturday's day-long event started with students participating in a peer-to-peer review process while the STEM professional reviewers received an orientation on the feedback process. Once the jitters were shaken off, the students were ready for the STEM professionals. Two rounds were organized for presentations, each round a student project team presented to two STEM professionals followed by questions and discussion. Each student team presented to a total of 4 STEM professional reviewers in two rounds throughout the morning.

A second keynote speaker engaged students and teachers while the reviewers discussed the recognition awards. Dr. Amanda Kahn from the Moss Landing Marine Laboratory presented her research on sponges. Dr. Kahn is only one of 300 specialists world-wide in the study of deep and shallow water sponges. After a long day of project presentations, students were eager to jump on board to expanding their knowledge of sponges beyond something used for dishes and the cartoon character SpongeBob. Students posted a number of questions to Dr. Kahn that capped off the hour-long afternoon presentation.

Recognition awards followed Dr. Kahn's presentation. **Natural Disaster Relief The NDR** by Tanav Chungal from Venado Middle School was presented with Honorable Mention. **Imperiled Pollinators A Presentation on Bees** by Makayla Connelly at Skyline High School was recognized for Data Source. **The Impact of City Sounds on Urban Farms** by Sena Alenzi from Dearborn Center for Math, Science, and Technology was recognized for Data Use. The Data Visualization recognition award was presented to Brayden Baker, Cody Bickley, Sarah Cooper, and Jack O'Connor from Garrett High School for their **Comparison of Surface Temperature and Dissolved Oxygen when Cross-Referenced with Water Depth**. Finally, the Data Analysis/Interpretation recognition award was given to **Dilution of Nitrates Due to the Confluence of Two Riverine Environments in the St. Joe River Watershed** by Creigh Dirksen from Garrett High School. All projects are recognized for their efforts and presentations and are hosted on the **GLOBE Mission Earth webpage** of the GLOBE website.

At the end of the day, a short survey was provided to both students and teachers/reviewers to complete. One hundred percent of students were either satisfied (20%) or very satisfied (80%) about their learning of science content and scientific practices while working on their research project. In terms of the actual G+VSS event, more than 90% of students were either satisfied or very satisfied with the keynote speakers on both Friday and Saturday with an overwhelming percent of students reporting they were very satisfied. Finally, more than 90% of students reported that they were either satisfied (24%) or very satisfied (72%) with their presentations to the STEM professional reviewers. Notable student comments such as: *"I enjoyed the entire experience, especially hearing other project[s] and also the key note speakers."* and *"This was an awesome event and I recommend people to participate in this. Thank you for giving me the opportunity to present my project to you guys. This was an amazing and spectacular event. Thank you for everything."* shows the value of the event experience for participating youth.

Feedback from the teachers and reviewers aligned with the student experiences. More than 80% reported they were either satisfied or very satisfied with the G+VSS in terms of communications, logistics, and support. More telling were their comments about their event:

*"Students are seeing how behaviors and situations in one aspect of the Earth typically doesn't show up in their area, but somewhere else in the Earth system. Having the opportunity to see each other's projects is also empowering them to continue to make a difference in environmental matters."*

*“Great impact! Even virtual they can experience giving real presentations to scientists. They were very well spoken!”*

*“The Keynote Speaker on Friday and Dr. Kahn today were excellent additions to the event! It was great to see how engaged students were in their research and had the opportunity to ask plenty of questions. Interacting with NASA scientists and other science professionals was a great experience for students and it was heartwarming to see how kind and positive all of their feedback was for student projects. The most important thing we can provide for our students is positive encouragement so they can continue in STEM.”*

*“My student was blown away by meeting the scientists and hearing the amazing guest speakers. She had lots of questions for the scientist reviewers. I feel that speaking with the scientists was just as impactful as completing her project!”*

*“This was a great way to allow students to share their research and interests even during the pandemic.”*

The G+VSS was a far-reaching event with student projects submitted from California, Indiana, Michigan, Louisiana, New Mexico and Puerto Rico. The G+VSS was a true testament to the importance of team collaboration in planning and implementation. And without the platform of the GLOBE program to support student research, even during a pandemic, these students may have never thought themselves capable of completing and discussing their research project. More than 90% of those surveyed responded favorably to participating in another student symposium.

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