

**Practical Applications of a Participatory Science Project Evaluation Tool:
Perspectives from Across Earth and Space Science**

Supplemental File 4: NESEC Products Inventories

Table 1: NESEC Scientific Products condensed example 2019-2020.

Scientific Products	2019	2020
Data requests	18,750 downloads of GLOBE data	27,515 downloads of GLOBE data
Presentations at Scientific Conferences and Meetings	38 formal presentations at science or technical conferences	20 formal presentations. Many others were scheduled but canceled due to COVID
Forecasting	1, GLOBE CLOUDS used by the NASA Global Modeling and Assimilation Office to model cloud fraction	1, using GLOBE Mosquito data for mosquito-transmitted disease modeling

Note: The final NESEC SPI is constructed to be updated on an annual basis, then submitted with the project annual report and shared with the entire team.

Table 2: NESEC/GLOBE Education Research Product Inventory. API: application programming interface.

Category	Science Product	GLOBE
Written	Dissertations, theses (#)	Number of theses & dissertations using data from or reporting on the project
Written	Scholarly publications (#)	Number of published peer-reviewed science papers that report on the project or apply its data
Written	Reports (#)	Number of formal reports reporting results, such as white papers, technical and other reports
Written	Grants awarded (#/\$)	Existence (or total monetary value) of competitive funding awards from private or public funders
Data	APIs (Y/N)	Existence of technologies for automated data exchange between computers
Data	Data packages (#)	Number of curated exports of data and related documentation, usually as a downloadable zip file
Data	Metadata (Y/N)	Existence of documentation describing data structure, formats, and contents
Data	Visualizations (Y/N)	Existence of visual representations of data, such as graphs, maps, and animations

Management & Policy	Regulatory action (Y/N)	Existence of legal rulings or regulation enforcement based on project data and findings
Management & Policy	Decision support (Y/N)	Existence of decisions based on project data and findings, e.g., for policy or management
Communication	Newsletters/ blogs/website	Existence of structured publications for project stakeholders, produced in hard copy or digitally
Communication	Presentations (Y/N)	Existence (or number) of oral presentations at conferences
Data Collection Tools	Assessments	Existence of learning assessments for educational research
Data Collection Tools	Other data collection instruments	Existence of surveys or other data collection instruments

Table 3: NESEC/GLOBE Engagement Product Inventory.

Category	Science Product	GLOBE
Communication	Social Media and Blogs (Y/N)	Existence of online informal written communications about project processes and findings
Communication	Newsletters	Existence of structured publications or mechanisms to

	(Y/N)	engage project stakeholders, produced in hard copy or digitally
Communication	Videos (Y/N)	Existence of publicly available digital videos on project content, activities, and findings
Communication	Presentations (Y/N)	Existence (or number) of oral presentations at conferences or public events
Communication	Website (Y/N)	Existence of a website with information for volunteers and educators
Communication	Webinars	Existence and number of online video conferences with volunteers or educators
Communication	Workshops and other formal participatory activities	Existence and number of workshops for educators and volunteers
Communication	Booth or Table at an event	Existence and number of informational booth at events for hands on activities and volunteer recruitment
Communication	Interactive Activity	Existence and number of interactive activity for volunteer training or recruitment
Educational/ Training Materials	Printed materials	Existence of any printed materials for volunteer recruitment

Educational/ Training Materials	Educational Materials	Other materials for volunteer and educator training
Educational/ Training Materials	Instruction Manuals	instructional manuals for volunteer training
Student/Public Research	Opportunities and Events	Number of events or opportunities during which students or volunteers share their research
Student/Public Research	Student/Volunt eer Research Projects	Number of projects students or volunteers are conducting or participating in
Student/Public Research	Student/Volunt eer Presentations	Number of research projects conducted by citizen scientists: formal education (K-12 and Undergraduate), informal education (e.g., Girl Scouts), or citizen science.

Note: The NESEC evaluation team used the Science Products Inventory as a model to create Tables 2 and 3 as additional inventories that capture other aspects of the program.