NOAA Office of Education

Semi-Annual Project Progress Report from CIMSS

I. <u>OVERVIEW</u>

- a. Award Number: NA10SEC0080015
- b. Award Title: Interpretation of Real-Time Weather and Climate Data for Spherical Displays
- c. Funded Organization: <u>Cooperative Institute for Meteorological Satellite Studies (CIMSS)</u>, <u>SSEC, University of Wisconsin-Madison</u>
 - Congressional District: <u>Wisconsin's 2nd District</u>
- d. PI: <u>Steve Ackerman</u>
 Phone: <u>(608) 263-3647</u>
 Email: <u>steve.ackerman@ssec.wisc.edu</u>
- e. Project Website: http://sphere.ssec.wisc.edu/
- f. Collaborating Institutions/Organizations: <u>Cooperative Institute for Climate and Satellites (CICS), ESSIC, University of Maryland</u> <u>NOAA Environmental Visualization Laboratory (EVL)</u> <u>I.M. Systems Group (IMSG), and the Maryland Science Center</u>
- g. Award Period:From <u>1 November 2010</u>To <u>31 October 2015</u>h. Period Covered by this Report:From 1 November 2012To 31 March 2013

II. PROGRESS

a. Narrative description of activities undertaken and accomplishments achieved during the period.

Patrick Rowley (CIMSS), Argyro Kavvada and Stephanie Schollaert Uz (CICS-MD), and Dan Pisut (NOAA EVL) attended the 2012 Science On a Sphere Collaborative Network Meeting at the Aquarium of the Pacific in Long Beach, CA. Stephanie presented in the Plenary Panel #1 on Evaluation along with our evaluator from PPDR. Patrick and Stephanie presented in Plenary Panel #3 on Real-time Data. Additionally Patrick hosted two How-to sessions on EarthNow, raising awareness of its features, giving examples of how to implement EarthNow (http://sphere.ssec.wisc.edu/) into presentations, and seeking feedback from SOS facilitators. Argie Kavaada, EarthNow intern, also shared her experience of working with docents at the Maryland Science Center. Common themes from the Network Meeting were a lack of awareness of EarthNow and institutions that would like to implement EarthNow into their programs, but are either understaffed or not sure how to do so, that some one-on-one guidance or training would be beneficial. The introduction of audio narrations for EarthNow visualizations was well-received as it expands its capability to include auto-run, non-docent presentations.

The project and website were featured at poster sessions at **AGU** (American Geophysical Union) in December, 2012 and during a talk and SOS demonstration at **AMS** (American Meteorological Society) in January, 2013.

Patrick and Stephanie continued weekly teleconference calls, discussing EarthNow topics, including future topics and which past topics were of particular interest to museums, and also discussing feedback from Stephanie's work at the Maryland Science Center. A full-team conference call took place on 12/17/12. Along with discussing how best to move forward with the next phase of evaluation, the team discussed lessons learned at the SOS Collaborative Network Meeting.

The EarthNow website continues to attract visitors from all over the world. According to Google Analytics, between 1 November 2012 and 31 March 2013, the site attracted **nearly 3,000 unique visitors**, nearly 2,000 in the United States. **The number of unique visitors to the site in March 2013 jumped by over 135%, compared to March, 2012**. Aside from the regular monthly climate digest, popular topics during this reporting period were 2012 Atlantic Tropical Activity, Arctic Amplification (shown at AMS), and Effects of El Niño and La Niña on Phytoplankton and Fisheries.

During the Science on a Sphere Regional Workshop hosted by the Maryland Science Center (MSC) March 17-19, 2013, Stephanie demonstrated EarthNow as a resource for adding near real-time weather and climate stories to live and auto-run SOS shows. She distributed a new Q&A facilitation tool that she developed for two recent EarthNow science feature stories (Arctic Amplification, El Nino's effect upon fish). Feedback from MSC over the past few months, plus feedback received from workshop attendees is being used to guide the development of this facilitation tool. Almost a third (approx. 10 of 30) of the regional workshop attendees had never heard of EarthNow (new users and evaluators). Discussions after the presentation indicated

several are using the EarthNow website and intend to use EarthNow on their SOS, but there has been some confusion about how to add the datasets into the SOS playlists.

b. Briefly describe any new partnerships that have been formed as part of, or as a result of, your project during the past six months. Please list each new partner by name. (You may add additional rows to the table as needed.)

Note: you do not need to list partners that were included in your original project narrative or listed in previous progress reports

Name of New Partner	Role of New Partner in Project		

C.

Indicate specific outputs produced during the period covered by this progress report (see definition of outputs below). Record your outputs in the table provided, selecting from the output type categories listed below the table. You may add additional rows to the table as needed. An example has been provided for you.

Note: if you feel that one or more outputs from your project do not fit any of the suggested categories, please contact the NOAA Office of Education at <u>oed.grants@noaa.gov</u> or 202-482-0793

Outputs¹: the immediate results of an action (e.g., services, events, and products) that document the extent of implementation of a particular activity. They are typically expressed numerically - e.g., the number of persons who visit a museum exhibit or listen to a radio program or the number who attend a series of professional development workshops, etc.

Output description	Output type (see list)	Number of outputs	Target Audience/ Participants	Number of users/ participants (total)	Average contact hours per participant (if applicable)
Maryland Science Center	Educational	6	Museum docents	10	1
<i>Mid-Atlantic Regional SOS Meeting</i>	Meeting	1	Museum docents, evaluators	30	1
EarthNow Visualization on SOS at AMS	Meeting	1	Scientists	Unknown	<i>N/A</i>
AMS Talk	Meeting	1	Scientists	30	.5
<i>Original EarthNow SOS Visualizations</i>	Visualization	17	Museum docents and public	Unknown	N/A

EarthNow Blog Posts	Web/Multimedia	12	Museum docents and public	2,800+	N/A
AGU Poster	Meeting	1	Scientists	5	.25

Notes/Comments:

Output types:

- Experiential activity (activities, trips, programs, etc.)
- Exhibit installation (spheres, domes, panels, kiosks, stations, etc.)
- Professional development (sessions, workshops, courses, programs, etc.)
- Conference/Meeting
- Curriculum/a (lesson plans, units, modules, frameworks, standards, toolkits, etc.)
- Web/Multimedia (websites, web 2.0 features, videos, broadcasts, podcasts, games, webcasts/webinars)
- Educational/Opinion Research (reports, surveys, etc.)
- Exhibit/Education Space Upgrade (equipment upgrades, structural upgrades, layout upgrades)
- Visualization (data visualizations, spherical display modules, etc.)
- Data access tool development (hardware packages, software packages, etc.)
- Network development (networks, network members)

¹Adapted from the *Framework for Evaluating Impacts of Informal Science Education Projects Report from a National Science Foundation Workshop (p.35, http://insci.org/resources/Eval_Framework.pdf)*

a. Indicate specific outcomes achieved during the period covered by this progress report (see definition below¹). Record your outcomes in the table provided, selecting from the outcome type categories listed below the table. You may add additional rows to the table as needed. An example has been provided for you. Note that outcomes are often determined through independent evaluation, and projects may not yet have outcomes to report. Note: if you feel that one or more outcomes from your project do not fit any of the suggested categories, please contact the NOAA Office of Education at oed.grants@noaa.gov or 202-482-0793

Outcomes²: the changes that show movement toward achieving ultimate goals and objectives - e.g., the number of persons who, as a result of their participation in a project, demonstrate changes in: awareness and knowledge of specific concepts and/or issues; interest in and/or attitudes toward certain issues, careers, or courses of action; and behavior or skills.

Outcome description	Outcome type (see list)	Activity/ Activities leading to the outcome	Target Audience/ Participants	How outcome was measured
Meeting attendees expressed interest in implementing EarthNow resources.	Awareness, attitude, engagement, capacity	SOS Collaborative Network Meeting	SOS facilitators/ content creators	Feedback during workshops; followup contacts
Meeting attendees expressed much interest in the addition of EarthNow visualization audio	Awareness, attitude, engagement, capacity	SOS Collaborative Network Meeting	SOS facilitators/ content creators	Feedback during workshops; followup contacts

narrations		

Notes/Comments:

Outcome types:

- Awareness, knowledge, understanding
- Skills
- Engagement or interest
- Attitude
- Aspirations/Intention to act
- Behavior
- Societal or Environmental
- Capacity

²Adapted from the *Framework for Evaluating Impacts of Informal Science Education Projects Report from a National Science Foundation Workshop (p.35, http://insci.org/resources/Eval_Framework.pdf)*

For this reporting period, provide a comparison of actual accomplishments and/or activities with those listed in the milestone chart from the approved project narrative in your application. (Please add additional rows to the milestone chart as needed)

Milestone Chart					
Task/Activity	Expected completion date from approved project narrative timeline in your application	Expected completion date listed in previous progress report (if different from the date listed in your application)	Actual or current expected completion date	Explanation of any discrepancy	
Distribution of Real-time data stories	Ongoing		Ongoing		
Data identification and processing	Ongoing		Ongoing		

- b. Describe reasons why established objectives were not met, if applicable.
- c. We encourage you to submit a highlight from the work your project has accomplished over the past six months. Highlights help the Office of Education to publicly acknowledge and share the extraordinary work being done by our grantees. See the Highlights template that accompanies this document for further instructions.

Progress Report Prepared By: <u>Patrick Rowley & Stephanie Schollaert Uz</u> Date: <u>April 30, 2013</u>