**SOS Education Meeting Notes – 9/18/13**

**4th Quarterly SOS Education Forum**

The theme for this meeting is how to bring regionally specific (or highly desired) content to your programming by creating partnerships and utilizing academic and scientific resources. Datasets come from everywhere. Many come from NOAA and NASA but many others come from our network. In order to make a dataset not only do you have to find mined and groomed, solid and interesting scientific data, but also find an appropriate method for visualizing it. Often we find the gap between the data and SOS is the skills for making imagery. Today, we’re going to listen to some people who bridged the gap to make content.

**Panelists:** Laura Rico-Beck and April Chancellor of MSI Chicago, Patrick Hamilton (Science Museum of Minnesota), Stace Beaulieu of Woods Hole Oceangraphic Institution with Annette Brickley and Meredith Emery of the Ocean Explorium and NOAA Boulder’s graduate student intern Eryka Thorley.

**Attendees**: Sarah Waters (Thunder Bay), Sara Lee Chubb (Alaska State Museum), Robert Morris (Clark Planetarium), Jami Sunkel (Space Foundation), Brenna Holzhauer (Leopold Nature Center), Zeta Strickland (PSC), Sharon Lamkin (Science Central), Carolyn Rose (Bay Center), Sue Wu (OMSI), Shilpi Gupta (NOAA), Beth Russell (NOAA), Scott Betournay (St. Paul’s School), Patrick Rowley (EarthNow), Katie Stofer, Robin Ramsey (Boonshoft Museum of Discovery).

**A few updates from NOAA Boulder:**

1. Did you know that you no longer have to go to your SOS computer to make a playlist? We now have a shopping cart feature on our website. You can read about the datasets, add them to your shopping cart, then download a text file which you can email to yourself or take on a thumb drive to your SOS computer and plop it into the SOSRC file. Update your library and presto!
2. Interactive Sphere website dataset viewer. We have a new way to preview the datasets on the website, which is also great to pass on to teachers for use in the classroom. It’s called the Interactive Sphere. On the upper right side of the webpage descriptions of the datasets, you’ll find the interactive sphere. I think you’ll like it so give it a try!
3. Also, I completed an SOS centered secondary teacher workshop here in Boulder this summer. I would be happy to share the agenda and experience with anyone who is looking to do this for teachers and talk it over with you. Perhaps we’ll expand on this during one of the next meetings. However, I did want to share one of the programs that I developed for 6-10th grade students and teachers. It’s now posted on our website under Education scripts and playlists. http://sos.noaa.gov/Education/wind\_water.html
4. New software upgrade will be coming in October. If you’ve called or emailed for support you might have gathered that we have been understaffed but recently hired two new people. In the software release watch for spherecasting and kml/wms file capability.
5. We’ll be hosting a webinar in October about the script and new datasets made by Eryka Thorley entitled Human Health and Climate Change. In this webinar we will have an expert voice from UCAR talking with us about changing the face of climate change education using human health effects.
6. Finally, tomorrow Beth Russell is making a how-to PowerPoint recorded 30 min training webinar on Content Creation. So if you or your staff need a refresher on Content Creation (I’m sure everyone could use one) we’ll be posting that next week. Watch for it.

***Featured Presentations***

**April Chancellor & Laura Rico-Beck from MSI Chicago talking about an MSI and Thunder Bay Collaboration – Great Lakes Rocks: Visualizing Climate Change**

Institute for quality science teaching and learning teacher PD at MSI– hosted and developed by April and Laura. These are year-long PD for high needs teachers (new to teaching, new to science teaching and underserved schools). Great Lakes Rocks course is an Earth System Science course centered on connectedness for climate change education. Framed using the Great Lakes region in order to make it more applicable for the teachers and students served.

Started using SOS as a tool for delivering content focusing on time, space and scale to get teachers familiar and comfortable with scientific data. Project was Grant funded nationally which helped to make partnerships like Great Lakes Environmental Research Lab and Thunder Bay National Marine Sanctuary. Highlights of partnerships: Interactive video conferencing between teachers and scientists using SOS datasets. This worked for a few years.

The new focus is to go further with climate change regionally with a PD program called Visualizing Climate Change. Teacher leaders from the past years will mentor during the 3/year in-depth content PD building on what they already know. End goal is to create Project-Based Learning activity by pairing up with one other teacher and using 1-3 SOS datasets. They will bring their students and deliver these lessons to their students using SOS. Are also hoping to take their teachers on a field trip to Thunder Bay National Marine Sanctuary.

Teachers use Google Earth platform for viewing datasets in the classroom as well as the interactive sphere and Global Science Investigator – Datasets available in kml format are found here: <http://sos.noaa.gov/kml/index.html>

If you would like to **learn more** about this program or partnership contact:

Laura-Rico Beck: [Laura.Rico-Beck@msichicago.org](mailto:Laura.Rico-Beck@msichicago.org)

April Chancellor: [April.Chancellor@msichicago.org](mailto:April.Chancellor@msichicago.org)

“**Partnering to create an SOS dataset for deep-sea vents: a collaboration between the Woods Hole Oceanographic Institution and New Bedford Ocean Explorium” hearing from Stace Beaulieu, Annette Brickley and Meredith Emery.**

**Stace - the scientist** saw the sphere as tool to be able to share deep-sea vent imagery but also a method for teaching about earth system connections - deep-sea thermal vents and ocean ecosystems. Team includes scientists and educators from WHOI, educators from OE and a independent evaluator. 2- yearlong program communication includes meeting in person every 6 mo., monthly telecons and constant email exchanges and file sharing. Content is tested at Ocean Explorium. Debut coming this fall. Package will include: datasets, site specific videos, educational script & autorun movie– Life Without Sunlight (primary productivity) & Smoke and Fire Underwater (earth science literacy).

Intend to conduct 2 professional development workshops for teachers. Planning to share the datasets and packages with the network in summer of 2014. Interested in also sharing the experience of making datasets and program package with other scientists, as there is so much out there to share. Plans on including sphere content in future proposals. Look for sharing with network next summer.

**Annette – the educator** saw how the topic of hydrothermal vents could be added to two educational program themes available at the museum. 1 – Smoke & Fire Underwater - Adding components including submersible video and evidence of deep-sea ecosystem biology to Dynamic Earth – plate movement & geologic time program. 2 – Life Without Sunlight – Adding visuals and materials for chemosynthesis processes to primary productivity theme, helping students understand how energy can come from somewhere other than the sun.

**Meredith – the evaluator** wants to evaluate the program based on awareness, knowledge and understanding, increased interest in Hydrothermal vents and underwater volcanoes. Will be using post-program short electronic survey available to visitors directly following presentation – will include 3 demographic questions for context. Final question will address their excitement in order to gage their engagement & interest in the topic.

Contact info: Stace Beaulieu: [sbeaulieu@whoi.edu](mailto:sbeaulieu@whoi.edu)

Annette Brickley: [abrickley@oceanexplorium.org](mailto:abrickley@oceanexplorium.org)

Meredith Emery: [meredith.emery@verizon.net](mailto:meredith.emery@verizon.net)

**“Welcome to the Anthropocene,” Pat Hamilton of Science Museum of Minnesota**

Project funded by NOAA ELG & University of Minnesota grant. Project is an 8 minute film that contains several films that can stand on their own. The SOS Collaborative Users Group workshop last fall informed many of the decisions made including making multiple smaller content films (2-3 min).

1st film – Introduction to the Anthropocene – Introducing the concept that humans are now the dominant force of change. Recruited a professor from UM for narration.

2nd film – Global Oceans – Recruited Oceanography professor from St. Thomas to talk about human domination of oceans including oil & gas, shipping, fishing, ocean acidification.

3rd film –Land Use – Recruited a post-doc at Institute on the Environment at UM and works global agricultural issues. Emphasize the agricultural visualizations made by SMM/UM for 2 billion more coming to dinner, including pastureland, rangeland and cropland.

4th film – Atmosphere – Recruited climatologist from UM talking about human caused changes in atmospheric processes.

5th film – Human domination of planet summary – Planet is also now home to the healthiest, most educated, creative, active populous ever – highlighting human assets.

Final product – will be a blend of 5 films in one longer film.

Contact info: [hamilton@smm.org](mailto:hamilton@smm.org)

**Boulder team’s summer graduate student intern: Eryka Thorley about some new additions to the SOS data catalog on human health.**

Eryka is a Medical anthropology graduate student whose focus is on climate change and health. Noticed an interest in adding health related datasets on SOS.

Currently there is only one health-related dataset - H1N1 scenario. Looked into the catalog for datasets that can tell the story of health and found many can be transferred to the conversation including black carbon aerosols, sea level rise, crop yields, etc. Then went looking to find new topics related to climate change and health.

Went searching for good data that is already formatted for maps and quickly established vector-bourne diseases as a focus including Dengue Fever and Malaria, which are changing rapidly. Started shooting off emails to specialists in these fields to find out who was interested in sharing their data with SOS. Found IDAMS (<http://www.idams.eu/>)of Oxford.

Challenges to creating datasets – 1 - transferring data can be difficult. Solution: Identified an open source software called Q-GIS (<http://www.qgis.org/en/site/>)

as a method for manipulating the data and converting it to an SOS compatible format. 2 - Time consuming especially with communication with the scientists.

Watch for the new datasets for Plasmodium Vivax Malaria dataset (coming soon) as well as the Dengue Fever - <http://sos.noaa.gov/Datasets/dataset.php?id=422>

Contact info: [eryka.thorley@noaa.gov](mailto:eryka.thorley@noaa.gov)

**Question to the Group: What is the best way for teachers to visualize the datasets in the classroom?**

Answer: Google Earth (<http://sos.noaa.gov/kml/index.html> ), Global Science Investigator (<http://csc.noaa.gov/psc/dataviewer/> ), Interactive Sphere & media videos (In the upper right corner of the dataset catalog descriptions).

***Network Updates***

**Toshi Komatsu of Lawrence Hall of Science update regarding new 6 Exoplanet datasets – SOS’s first artist representation astronomical datasets.**

NASA Kepler Mission is looking for habitable planets like Earth. No more data being collected but plenty of data yet to be analyzed.

NASA Ames and Lawrence Hall of Science are creating educational resources to go with the datasets.

Earth-like one is the “holy grail” of what Kepler was looking for but the actual planets that were found include: 10-b a rocky & molten, near-orbit planet (<http://sos.noaa.gov/Datasets/dataset.php?id=409> ), and the first planet to be found in the habitable zone Kepler 22-b (<http://sos.noaa.gov/Datasets/dataset.php?id=410> ) but likely too big to have life.

Contact info: [tkomatsu@berkeley.edu](mailto:tkomatsu@berkeley.edu)

***Answers to the registration question:***

What would you like to see discussed in the next Education Forum meeting?

* SOS and climate change education
* ideas for using SOS with school groups
* Spherecasts maybe? I'd like to get the pulse of the group on what they think about Spherecasts.
* using SOS to discuss nature/ecosystem/plants/animals/migrations/life cycle/food chains
* School group program advice and best practices
* Information on how to create presentations that are more audience interactive
* Non-traditional/innovative sos presentation styles that help to engage audiences more.
* intro to custom SOS programming
* Educator Training
* review of math lesson on the sphere showcased at the last Network Meeting at Aquarium of the Pacific
* Desired new features
* hydrothermal vents
* Creative ways to bring the datasets to a younger audience
* Zoom features on the sphere

**Next meeting slated for December! See you then.**