NOAA Science On a Sphere®
Users Collaborative Network
Workshop

Program & Abstracts

November 6-8, 2012

Aquarium of the Pacific

Long Beach, CA

science & storytelling

SOS® Users Collaborative Network Workshop

NOAA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

U.S. DEPARTMENT OF COMMERCE

AQUARIUM OF THE PACIFIC®

A non-profit institution

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NOAA SOS® Users Collaborative Network Workshop 2012 November 6-8, Long Beach, CA Agenda at a Glance		
Day 1 — November 6, 2012		
Start Time	**Location**	**Session**
8:15 AM	Aquarium Great Hall	*Registration, Networking & Breakfast*
9:00 AM	Ocean Theater	Plenary Welcome & Introductions
10:45 AM		*Break*
11:00 AM	Ocean Theater	Keynote Speaker: Tom Bowman
11:30 AM	Ocean Theater	Plenary Panel #1: Evaluation
12:30 PM	Harbor Terrace	*Lunch*
	Tidal Zone	*Lunch meeting for "new" SOS Institutions*
1:30 PM	Ocean Theater	Keynote Speaker: Lisa Cron
2:00 PM		Concurrent Session 1
(2:00- 2:45)	Ocean Science Center	1A: SOS Technical Team (*session repeated on Day 2*)
(2:00- 5:00)	Watershed	1B: How-to: Content Creation
(2:00 - 3:30)	Tidal Zone	1C: How-to: Become A Subject Matter Expert (*repeated on Day 2*)
2:45 PM	Harbor Terrace and Watershed	*Break*
(3:00 - 4:15)	Ocean Science Center	1D: SOS Content Showcase
(3:30 - 5:00)	Splash Zone	1E: How-to: Customizing SOS Presentations (*repeated on Day 2*)
4:15 PM		Concurrent Session 2
	Ocean Science Center	2A: AOP SOS Showcase (*repeated on Day 3*)
	Information Desk	2B: Behind-the-Scenes Tour of AOP (*repeated on Day 3*)
5:15 PM		Sessions Conclusion - Break Until Reception
6:20 PM		Reception Registration
6:30 PM		Reception at AOP
7:30 AM	Ocean Theater	A Conversation with filmmaker Jerry Zucker and Jerry Schubel
9:30 PM		Reception Conclusion

Science On a Sphere Users Collaborative Network Workshop 2012 Day One: November 6

Time	Great Hall	Ocean Theater	Ocean Science Center (SOS®)	Splash Zone	Tidal Zone	Watershed	Harbor Terrace
8:15 AM	Registration, Networking & Breakfast						
8:30 AM							
8:45 AM							
9:00 AM		Plenary Welcome & Introductions					
9:15 AM							
9:30 AM							
9:45 AM							
10:00 AM							
10:15 AM							
10:30 AM							
10:45 AM							**BREAK**
11:00 AM		Plenary Keynote: Tom Bowman					
11:15 AM							
11:30 AM		Plenary Panel #1: Evaluation					
11:45 AM							
12:00 PM							
12:15 PM							
12:30 PM					**LUNCH (new SOS institutions)**		**LUNCH**
12:45 PM							
1:00 PM							
1:15 PM							
1:30 PM		Plenary Keynote: Lisa Cron					
1:45 PM							
2:00 PM			1A: SOS Technical Team Software Demo		1C: How-to: Become A Subject Matter Expert	1B: How-to: Content Creation for SOS	
2:15 PM							
2:30 PM							
2:45 PM							**BREAK**
3:00 PM			1D: SOS Content Showcase				
3:15 PM							
3:30 PM				1E: How-to: Customizing SOS Presentations			
3:45 PM							
4:00 PM							
4:15 PM			2A: AOP Content Showcase				
4:30 PM							
4:45 PM							
5:00 PM							
5:15 PM			Impromptu SOS Demos				
5:30 PM							
6:20 PM	**Evening Reception Check In OPENS**						
6:30 PM	**Evening Reception Begins**						
7:30 PM	Ocean Theater: A Conversation with filmmaker Jerry Zucker and Jerry Schubel						
9:30 PM	**Evening Reception Concludes**						

NOAA SOS ® Users Collaborative Network
Workshop 2012
November 6-8, Long Beach, CA
Agenda at a Glance

Day 2 — November 7, 2012

Start Time	Location	Session
8:30 AM	Aquarium Great Hall	*Networking & Breakfast*
9:00 AM	Ocean Theater	Plenary: Agenda Overview
9:10 AM	Ocean Theater	Keynote Speaker: Dan Goods
9:45 AM	Ocean Theater	Plenary Panel #2: Formal Education
10:30 AM		*Break*
10:45 AM		Concurrent Session 3
(10:45 - 11:30)	Ocean Science Center	3A: SOS Technical Team (*repeated from Day 1*)
(10:45 - 12:15)	Tidal Zone	3B: How-to: Become A Subject Matter Expert (*repeated from Day 1*)
(10:45 - 11:30)	Watershed	3C: Small Group Discussion on Professional Learning
(11:30 - 12:15)	Ocean Science Center	3D: SOS Content Showcase
(11:30 - 12:00)	Splash Zone	3E: How-to: Building Your Own Equipment
12:15 PM	Harbor Terrace	*Lunch*
1:00 PM		Concurrent Session 4
(1:00 - 3:00)	Ocean Science Center	4A: SOS Docent Showcase
(1:00 - 2:30)	Splash Zone	4B: How-to: Customizing SOS Presentations (*repeated from Day 1*)
(1:00 - 3:00)	Tidal Zone	4C: How-to: Digital Interface Design Analysis
3:00 PM		*Break*
3:15 PM	Ocean Theater	Keynote Speaker: James Fawcett
3:45 PM	AOP Fountain	Meet for Harbor Cruise
4:00 PM	Dock #2	Harbor Cruise Departs
5:15 PM	Aquarium Front Plaza	Return to Aquarium & Adjourn

Science On a Sphere Users Collaborative Network Workshop 2012 Day Two: November 7

Time	Great Hall	Ocean Theater	Ocean Science Center (SOS®)	Splash Zone	Tidal Zone	Watershed	Harbor Terrace
8:30 AM	Networking & Breakfast						
8:45 AM							
9:00 AM		Plenary: Agenda Overview					
9:10 AM		Plenary Keynote: Dan Goods (9:10 - 9:45)					
9:15 AM							
9:30 AM							
9:45 AM		Plenary Panel #2: Formal Education					
10:00 AM							
10:15 AM							
10:30 AM							**BREAK**
10:45 AM			3A: SOS Technical Team Software Demo (repeated from Day 1)		3B: How-to: Become a Subject Matter Expert (repeated from Day 1)	3C: Small Group Discussion: Professional Learning	
11:00 AM							
11:15 AM							
11:30 AM			3D: SOS Content Showcase	3E: How-to: Building Your Own Equipment			
11:45 AM							
12:00 PM							
12:15 PM							**LUNCH**
12:30 PM							
12:45 PM							
1:00 PM			4A: SOS Docent Showcase	4B: How-to: Customizing SOS Presentations (repeated from Day 1)	4C: How-to: Digital Interface Design Analysis		
1:15 PM							
1:30 PM							
1:45 PM							
2:00 PM							
2:15 PM							
2:30 PM							
2:45 PM							
3:00 PM							**BREAK**
3:15 PM		Plenary Keynote: Jim Fawcett					
3:30 PM							

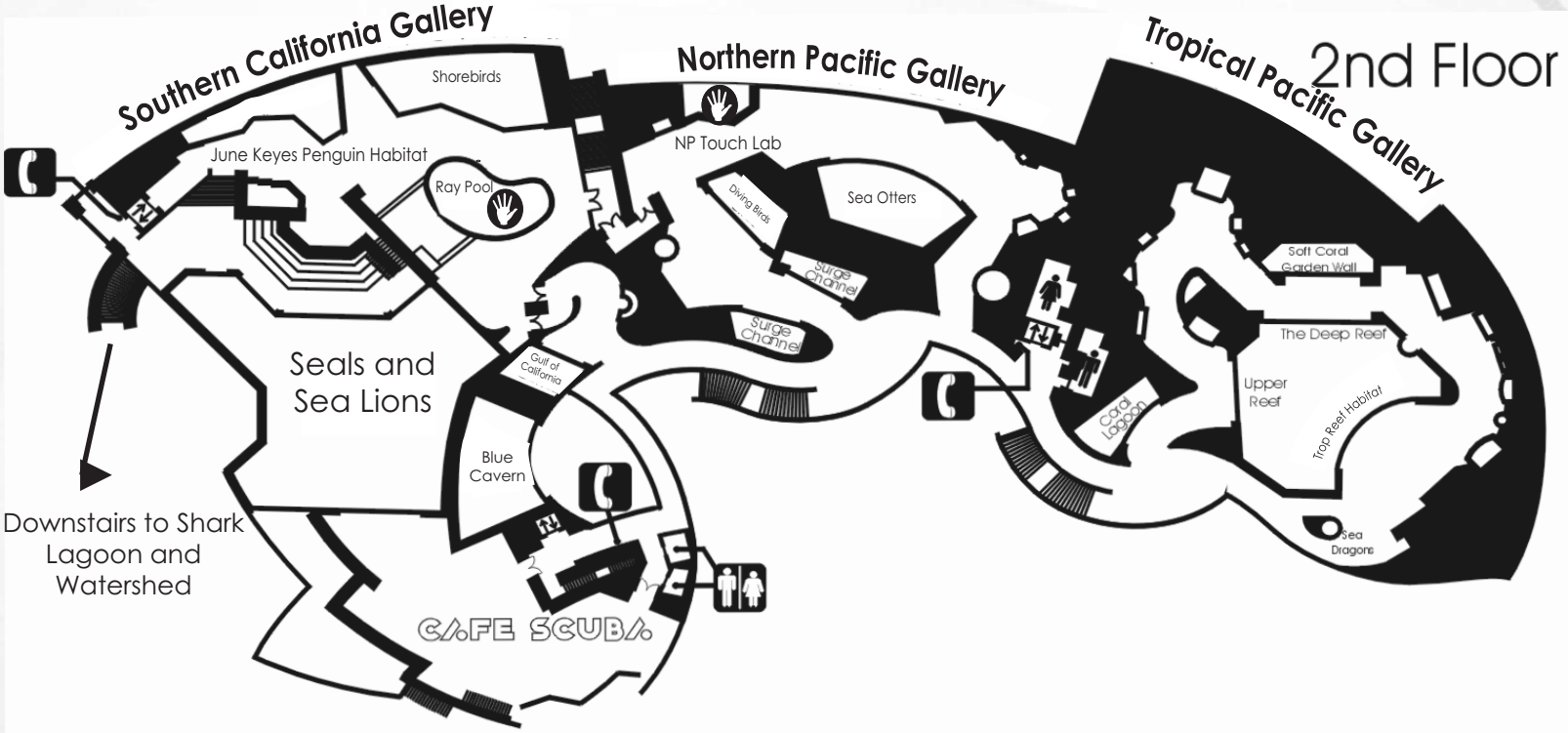
NOAA SOS Users Collaborative Network
Workshop 2012
November 6-8, Long Beach, CA
Agenda at a Glance

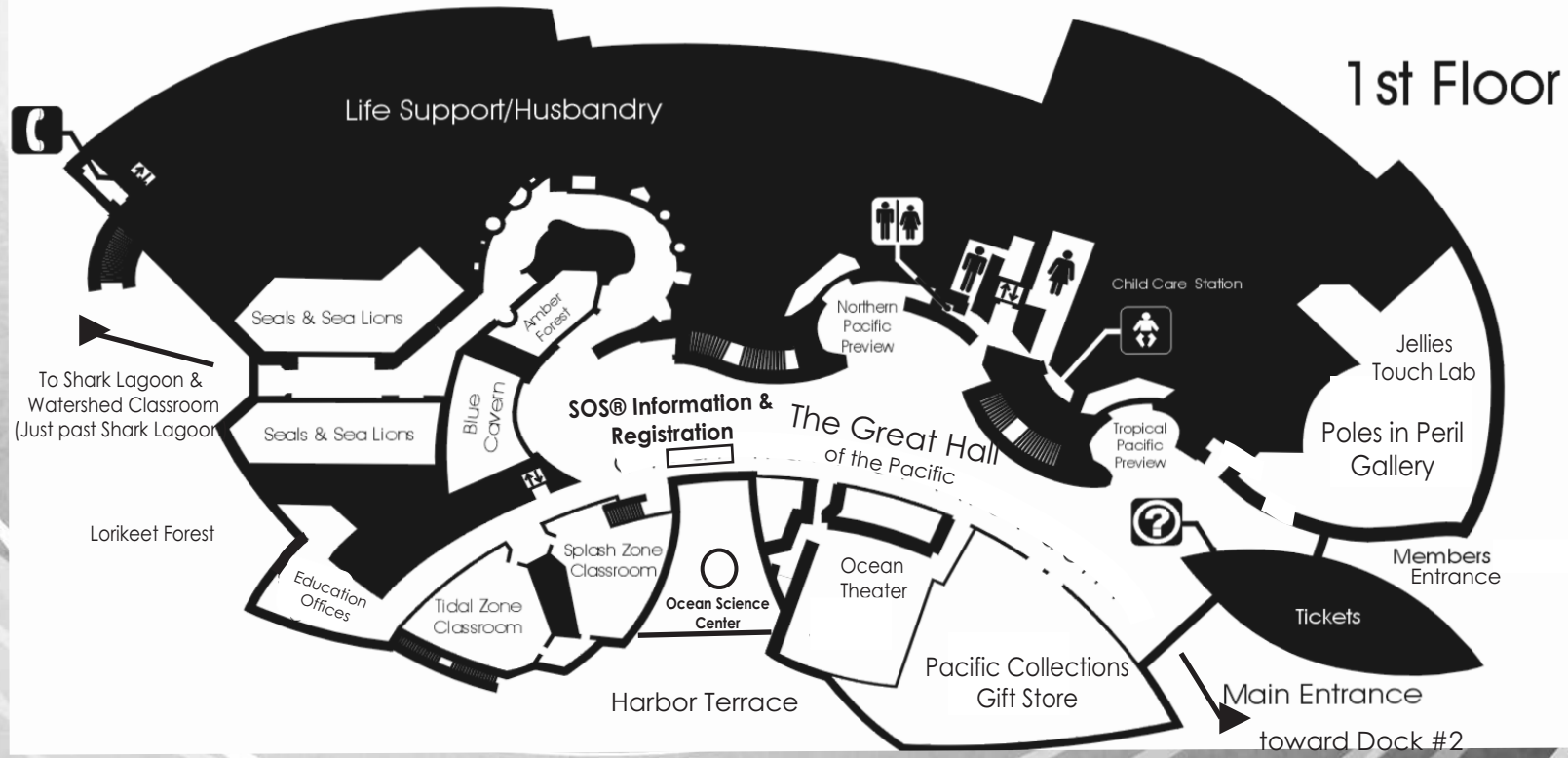
Day 3 — November 8, 2012

Start Time	Location	Session
8:30 AM	Aquarium Great Hall	*Networking & Breakfast*
9:00 AM	Ocean Theater	Plenary : Agenda Overview
9:15 AM	Ocean Theater	Plenary Panel #3: Real-time Data
10:15 AM		Concurrent Session 5
(10:15 - 11:15)	Ocean Science Center	5A: AOP SOS Showcase (*repeated from Day 1*)
(10:15 - 11:15)	Information Desk	5B:Behind-the-Scenes Tour of AOP (*repeated from Day 1*)
(10:15 - 11:00)	Tidal Zone	5C: How-to: SOS as an Interactive Object Theater
11:15 AM		*Break*
11:30 AM		Concurrent Session 6
	Splash Zone	6A: How-to: Practical Techniques for SOS Productions
	Tidal Zone	6B: Small Group Discussion on Evaluation & Research
	Watershed	6C: Small Group Discussion on Stewardship
12:30 PM	Harbor Terrace	*Lunch*
1:30 PM		Concurrent Session 7
	Ocean Science Center	7A: SOS Content Showcase
	Watershed	7B: Small Group Discussion on Future content for the Network
	Splash Zone and Tidal Zone	Open time & space for collaboration
3:00 PM	Harbor Terrace	*Break*
3:15 PM	Ocean Science Center	Plenary: Closing Remarks
3:45 PM		Workshop Conclusion

Science On a Sphere Users Collaborative Network Workshop 2012 Day Three: November 8

Time	Great Hall	Ocean Theater	Ocean Science Center (SOS®)	Splash Zone	Tidal Zone	Watershed	Harbor Terrace
8:30 AM	Networking & Breakfast						
8:45 AM							
9:00 AM		Plenary: Agenda Overview					
9:15 AM		Plenary Panel #3: Real-time Data					
9:30 AM							
9:45 AM							
10:00 AM							
10:15 AM			5A: AOP SOS Showcase		5C: How-to: SOS as an Interactive Object Theater		
10:30 AM							
10:45 AM							
11:00 AM							
11:15 AM							**BREAK**
11:30 AM				6A: How-to: Practical Techniques for SOS Productions	6B: Small Group Discussion: Evaluation & Research	6C: Small Group Discussion: Stewardship	
11:45 AM							
12:00 PM							
12:15 PM							
12:30 PM							**LUNCH**
12:45 PM							
1:00 PM							
1:15 PM							
1:30 PM			7A: SOS Content Showcase	Available meeting space to discuss collaboration	Available meeting space to discuss collaboration	7B: Small Group Discussion: Future content for the Network	
1:45 PM							
2:00 PM							
2:15 PM							
2:30 PM							
2:45 PM							
3:00 PM							**BREAK**
3:15 PM		Plenary: Closing Remarks					
3:30 PM							
3:45 PM							


2nd Floor
Southern California Gallery
Northern Pacific Gallery
Tropical Pacific Gallery
Shorebirds
June Keyes Penguin Habitat
Ray Pool
NP Touch Lab
Diving Birds
Sea Otters
Surge Channel
Surge Channel
Soft Coral Garden Wall
The Deep Reef
Upper Reef
Trop Reef Habitat
Coral Lagoon
Seals and Sea Lions
Gulf of California
Blue Cavern
Sea Dragons
Downstairs to Shark Lagoon and Watershed
CAFE SCUBA


1st Floor
Life Support/Husbandry
Seals & Sea Lions
Amber Forest
Northern Pacific Preview
Child Care Station
Jellies Touch Lab
To Shark Lagoon & Watershed Classroom (Just past Shark Lagoon)
Seals & Sea Lions
Blue Cavern
SOS® Information & Registration
The Great Hall of the Pacific
Tropical Pacific Preview
Poles in Peril Gallery
Lorikeet Forest
Splash Zone Classroom
Ocean Theater
Members Entrance
Education Offices
Tidal Zone Classroom
Ocean Science Center
Tickets
Pacific Collections Gift Store
Harbor Terrace
Main Entrance toward Dock #2

NOAA SOS® Users Collaborative Network Workshop 2012
Day 1 Agenda | Tuesday, November 6

8:15 AM ***Breakfast, Networking and Registration*** **|** Great Hall
Food and registration at the Aquarium

9:00 AM ***Plenary Welcome and Introductions*** **|** Ocean Theater
Carrie McDougall - Senior Program Manager, NOAA Office of Education
Jerry Schubel - President and CEO, Aquarium of the Pacific
Louisa Koch - Director, NOAA Education
Maria Murray - Informal Science Education Program Coordinator, NOAA Office of Education
John McLaughlin - Education Program Manager, NOAA Office of Education
Bill Bendel - Chief: Technology Outreach Branch, NOAA SOS Team
Mike Biere - SOS Project Technical Lead, NOAA SOS Team

This session will set the stage for the next three days. It will include welcoming remarks, a review of the goals and agenda for the workshop, and an overview of the new SOS® software. We will also present an overview of the SOS® Users Collaborative Network as it stands today.

10:45 AM **Break & Networking | Harbor Terrace**
Refreshments provided

11:00 AM ***Keynote Presentation*** **|**Ocean Theater
David Bader, Director of Education, Aquarium of the Pacific
Welcome and Introduction.
Tom Bowman - Exhibit designer and President, Bowman Global Change

11:30 AM ***Panel Discussion #1: Evaluation*** **|**Ocean Theater
Panelists will discuss findings from recent and foundational program evaluations that relate to spherical display systems, digital interfaces, and real-time data. From docent interaction to live SOS® shows, evaluation is showing that it is an important tool for developing the most effective SOS® and other data-driven exhibits.

12:30 PM ***Lunch & Networking*** **|**Harbor Terrace
Lunch will be served outside.

12:30 PM **Lunch meeting for "new" SOS Institutions |**Tidal Zone
Attendees from new network institutions are encouraged to grab lunch and attend this panel discussion and an open Q & A with experienced network members. Each panelist will provide 3 tips for institutions that are just starting out with their sphere or preparing to install a sphere. Panelists include:

Eddie Goldstein, Denver Museum of Science
Stephanie Long, Science Museum of Minnesota
John McLaughlin, NOAA Office of Education
Rob Morris, Clark Planetarium
Patrick Rowley, CIMSS/SSEC, University of Wisconsin, Madison
Beth Russell, NOAA SOS® Team

2:00 PM ***Concurrent Sessions 1***

1A: ***Update from the SOS® Development Team***
2:00 – 2:45 PM **|**Ocean Science Center (repeated on Day 2)

NOAA Earth Systems Research Lab (ESRL) SOS Team: Michael Biere, Shilpi Gupta, Jon Loptien, Hilary Peddicord, Kevin Maris, Beth Russell, and Jebb Stewart

1B: "How to": ***Building a SOS® Production from Start to Finish***
2:00 – 5:00 PM **|**Watershed
Dan Pisut - NOAA Visualization Lab

1C: "How to": ***Become a Subject Matter Expert in as Little as 20 Minutes! (Earth Now)***
2:00 – 3:30 PM **|**Tidal Zone *(repeated on Day 2)*
Patrick Rowley- CIMSS/SSEC, University of Wisconsin – Madison
Argie Kavvada - CICS/ESSIC, University of Maryland – College Park

2:45 PM **Break & Networking |**Harbor Terrace and Watershed
Refreshments will be served.

Concurrent Sessions 1 Continued

1D: ***SOS® Content Showcase 1***
3:00 – 4:15 PM **|**Ocean Science Center
Math on a Sphere: Visitor-created designs for the SOS
Sherry Hsi- Lawrence Hall of Science; Mike Eisenberg- University of Colorado

Adapting an object theater into an SOS® film
John Gordon- Science Museum of Minnesota

2 Billion More Coming to Dinner
Bryan Kennedy- Science Museum of Minnesota, John Gordon-Science Museum of Minnesota

Geologic evolution of the Korean peninsula
Jeong Gu Lee, Gwacheon National Science Museum

1E: ***Customizing SOS® Presentations***
3:30 – 5:00 PM **|**Splash Zone *(repeated on Day 2)*
Beth Russell- NOAA ESRL
Patrick Rowley- CIMSS/SSEC, UW-Madison

4:15 PM **Concurrent Sessions 2**

2A: ***AOP SOS® Showcase***
4:14-5:15 PM **|**Ocean Science Center *(Repeated on Day 3)*
Aquarium of the Pacific Staff

2B: ***Behind-the-Scenes Tour of AOP***
4:15- 5:15 PM **|**Starts at the AOP Information Desk (*Repeated on Day 3)*

5:15 PM **Break until reception**
Impromptu SOS® Demos |Ocean Science Center

Attendees who would like to briefly share content and view others' work on the Sphere are welcome to attend this informal gathering. Bring a dataset you would like to show or take a peek at what others are working on.

6:20 PM **Reception Registration**

6:30 PM **Opening Night Reception at AOP**
See page 16 more in-depth information about programming.

NOAA SOS® Users Collaborative Network Workshop 2012
Day 2 Agenda | Wednesday, November 7

8:30 AM **Breakfast and Networking |**Harbor Terrace
Breakfast will be served outside.

9:00 AM **Plenary: Agenda Overview |**Ocean Theater
John McLaughlin- Education Program Manager, NOAA Office of Education
Update from China: *Juan Zhang, China Weather, Huafeng Group*
Since first cooperating with the SOS team four years ago, how is SOS in China doing? What about the trend for future years? In this presentation we hope to share the development of SOS in China for these years and the questions we have asked network members all over the world.

9:10 AM **Keynote Presentation |**Ocean Theater
Dan Goods - Visual Strategist, NASA Jet Propulsion Laboratory

9:45 AM **Panel Discussion#2*: Formal Education* |**Ocean Theater
This panel will explore how formal education – not only in science but all subject areas – can benefit from interactions with the Sphere. Students and teachers can develop creative, critical thinking skills by exploring connections made through Sphere content.

10:30 AM **Break & Networking | Harbor Terrace**
Refreshments provided

10:45 AM **Concurrent Sessions 3**

3A: ***Update from the SOS Development Team*** **|**Ocean Science Center
10:45 – 11:30 *(Repeated from Day 1)*
NOAA Earth System Research Lab (ESRL) SOS Team: Michael Biere, Shilpi Gupta, Jon Loptien, Hilary Peddicord, Kevin Maris, Beth Russell, and Jebb Stewart

3B: "How to": ***Become a Subject Matter Expert in as Little as 20 Minutes!*** **(Earth Now) |**Tidal Zone
10:45 AM – 12:15 PM *(repeated from Day 1)*
Patrick Rowley - CIMSS/SSEC, University of Wisconsin – Madison
Argie Kavvada - CICS/ESSIC, University of Maryland – College Park

3C: ***Small Group Discussion: SOS® Professional Learning: Preparation and Practice*** **|**Tidal Zone & Watershed
10:45 – 11:30 AM
Emily Yam & David Bader - Aquarium of the Pacific

NOAA SOS® Users Collaborative Network Workshop 2012
Day 2 Agenda| Wednesday, November 7

Concurrent Sessions 3 (Continued)

3D: *SOS® Content Showcase* |Ocean Science Center
11:30 – 12:15 AM
Custom SOS content from Alaska State Museum
Sara Lee Chubb- Alaska State Museum

Real-time Earth observations
Bill Mitchell- The Lawrence Hall of Science

3E: "How-to": *Saving Money by Building Your Own Equipment* |Splash Zone
11:30 – 12:00 AM
Rob Morris - Clark Planetarium

12:15 PM **Lunch & Networking** |Harbor Terrace
Lunch will be served outside.

1:00 PM **Concurrent Sessions 4**

4A: *SOS® Docent Showcase* |Ocean Science Center
1:00 – 3:00 PM
Planet Earth Decision Theatre
Stephanie Long & James Rodriguez- Science Museum of Minnesota

TSUNAMIS! NOAA Tsunami Awareness Project
Hadley Andersen- Bishop Museum

Standards-based, interdisciplinary storytelling for the formal educator
Britta Culbertson- NOAA Einstein Fellow

Best practices for conversation based facilitation
Brett Nicholas and Heather Barnes- Museum of Science and Industry, Chicago

SOS as a facilitation medium
Eddie Goldstein- Denver Museum of Nature and Science

Globe-trotting the seasons
Hilary Peddicord- NOAA

NOAA SOS® Users Collaborative Network Workshop 2012

Day 2 Agenda| Wednesday, November 7

1:00 PM **Concurrent Sessions 4 (Continued)**

4B: "How-to": *Customizing SOS® Presentations* | Splash Zone
1:00 – 2:30 PM (*repeated from Day 1)*
Beth Russell - NOAA SOS® Team
Patrick Rowley - CIMSS/SSEC, UW-Madison

4C: "How-to": *Evaluating Digital Interactives in Context* | Tidal Zone
1:00 – 3:00 PM
Cia Romano, Interface Guru

3:00 PM **Break & Networking |** Harbor Terrace
Refreshments provided

3:15 PM **Keynote Presentation |** Ocean Theater
James Fawcett - Director, Marine Science and Policy Outreach, USC Sea Grant

3:45 PM **Meet for Harbor Cruise |** AOP Fountain
See page 18 for more in-depth information about programming.

4:00 PM **Harbor Cruise Departs |** Dock #2

5:15 PM **Return to Aquarium & Adjourn |** Aquarium Front Plaza

NOAA SOS® Users Collaborative Network Workshop 2012
Day 3 Agenda | Thursday, November 8

8:30 AM **Networking & Breakfast |** Harbor Terrace
Breakfast will be served outside.

9:00 AM **Plenary: Agenda Overview |** Ocean Theater
Maria Murray, NOAA Office of Education
Update from Mexico: *Carlos Díaz Leal & Pablo Alfaro, Climate Institute*
The Climate Institute Mexico & Latin America has developed the *Sir Crispin Tickell Global Climate Education & Observation Network*, with a Climate Observatory (at 15,000 ft) linked to a growing network of outreach centers. Climate and Earth Science Theaters or "Casa de la Tierra" in main cities (now 13), are custom designed buildings that showcase SOS technology and interactive kiosks to report Greenhouse Gas concentration and global climate awareness to students, government officials, general public and the media.

9:15 AM **Panel: *Real-time Data and Interpretation* |** Ocean Theater
The URI Inner Space Center-Integrating and interpreting real-time content from ships of exploration
Dwight Coleman & Gail Scowcroft- University of Rhode Island Graduate School of Oceanography

Incorporating interactive capability of NEO on SOS
Maurice Henderson- NASA Goddard Space Flight Center

Wired Pier: Integrating real-time data with visualizations
Mary Miller- Exploratorium

Implementing EarthNow: Real-time data interpretation with audio narration
Patrick Rowley- CIMSS/SSEC, UW-Madison & Stephanie Schollaert Uz, ESSIC, UMD College Park

10:15 AM **Concurrent Sessions 5**

5A: *AOP SOS® Showcase* | Ocean Science Center
10:15 – 11:15 AM *(Repeated from Day 1*)

5B: Behind-the-Scenes Tour of AOP | Start at Information Desk
10:15 – 11:15 AM *(Repeated from Day 1)*

5C: "How-to": *Show Control and the Sphere: Embedding the SOS® in an Interactive Object Theater* | Tidal Zone
10:15 – 11:00 AM
Bryan Kennedy- Science Museum of Minnesota

11:15 AM **Break & Networking |** Harbor Terrace
Refreshments provided.

11:30 AM **Concurrent Sessions 6**

6A: "How to": *Stories, Not Atoms: Practical Techniques for SOS Productions*
11:30 AM- 12:30 PM **|**Splash Zone
Michael Starobin- NASA Goddard Space Flight Center

6B: *Small Group Discussion: Research & Evaluation on the Sphere*
11:30 AM- 12:30 PM **|**Tidal Zone
Carrie McDougall - NOAA Office of Education

6C: *Small Group Discussion*: *Stewardship and Conservation Messages*
11:30 AM- 12:30 PM **|**Watershed
Ron Kagan- Detroit Zoological Society

12:30 PM **Lunch & Networking |** Harbor Terrace
Food provided

1:30 PM **Concurrent Sessions 7**

7A: SOS Content Showcase
1:30 – 3:00 PM **|**Ocean Science Center
The Canyon World
AJ Lapre, Grand Canyon National Park

Climate Change
David Olli, Science Museum of Virginia

NASA Earth Science Stories - the Energy Cycle
Maurice Henderson- ADNET/NASA GSFC & Ginger Butcher- Sigma Space/NASA GSFC

See the Seas
Eddie Goldstein- Denver Museum of Nature and Science

NOAA SOS® Users Collaborative Network Workshop 2012
Day 3 Agenda | Thursday, November 8

1:30 PM **Concurrent Session 7 (Continued)**

7B*: Small Group Discussion: A small group discussion on auto-run narrated films. What works, and what doesn't.*
1:30 – 3:00 **|** Watershed
Bryan Kennedy, Science Museum of Minnesota

7C: *Open Time & Space for Collaboration* 1:30 – 3:00 **|** Splash Zone & Tidal Zone

3:00 PM **Break & Networking |** Harbor Terrace
Refreshments provided

3:15 PM **Plenary: Closing Remarks |** Ocean Theater

3:45 PM **Workshop Concludes**

Workshop Extras

Behind the Scenes Tours

Tuesday November 6th 4:15 PM
Thursday November 8th 10:15 AM

Maximum number of participants: 48 (Groups of 12 for 4 tour guides.)
The tour lasts about 50 minutes. Closed toe shoes are recommended.
Behind the Scenes tours provide a sneak peak into the daily operations of the Aquarium of the Pacific. Guests will enter the 'wet side' of the aquarium, an area not normally open to the public. Tours meet at the sign close to the Main Information Desk at the Aquarium's entrance.

Evening Reception

Tuesday November 6th 6:30 – 9:30 PM

Business casual attire. Closed toe shoes are recommended.
Join us for an evening of networking and storytelling and opportunities to meet some of the Aquarium's animals!

Schedule of Events:

6:30 – 7:30 North Pacific Gallery: Networking Hour.
Cash bar and heavy hors d'oeuvres served.
7:30 – 8:15 Ocean Theater: A conversation between filmmaker Jerry Zucker and Aquarium President Jerry Schubel.
8:15 – 8:45 Round One | Animal Encounters (see below for more details)
8:45 – 9:30 Round Two | Animal Encounters (see below for more details)

- Guests not on Animal Encounters are welcome to explore the entire Aquarium, including Shark Lagoon. The Lorikeet Forest will be closed.

Animal Encounters

Closed toe shoes are recommended.
Please sign up for a special Animal Encounter during the Networking Hour (6:30 – 7:30).
Animal Encounters will depart from the Great Hall, just outside the Ocean Theater doors.
Animal Encounters will be 30 minutes long; each group will range from 15-30 people. The following opportunities are available:

- *Top of Tropical Gallery*- Visit our 350,000 gallon Tropical tank and see our shark egg collection.
- *Penguins*- Peek behind the scenes at our newest exhibit, home to 13 Magellanic penguins.
- *Molina Animal Care Center*- Get an insider's view of our state-of-the-art animal hospital.
- *Otters*- Meet a mammalogist and see our playful otters in action.
- *Program Animals*- Our terrestrial animal ambassadors will be on to greet attendees.

Workshop Extras

Harbor Tour
Wednesday November 7th

Please dress warmly (bring a jacket). Cash Bar and concessions are available on board the boat.
Tour the Long Beach/Los Angeles Harbors with Kera Mathes, Boat Programs Coordinator, for a 45-minute narrated cruise around one of the most active ports in the world. See the downtown shoreline, ocean vistas, ships from around the world, and even sea lions. The boat departs at 4:00 from Dock #2, next to the Aquarium, and will return to dock by 5:00.

KEYNOTE SPEAKERS

Day 1- November 6th

11:00 AM Ocean Theater- **Tom Bowman**

Tom Bowman is an exhibit designer and president of Bowman Global Change in Signal Hill, California. Bowman's team created the Marian Koshland Science Museum of the National Academy of Sciences and other award-winning exhibitions on global warming, health, and ocean science that set new standards for engaging the public with authentic, unbiased information. Tom has written about climate change and communication priorities in the academic and popular press; contributed to NOAA's *Essential Principals of Climate Literacy* and NOAA/CORE *Public Ocean Literacy* publications; and hosted meetings of experts in climate science, social science, economics, ethics, and communication with the support of NOAA and the CDC. Bowman holds a Master of Arts degree in social ethics and is a member of the American Association for the Advancement of Science, American Geophysical Union, American Public Health Association, and Society of Environmental Graphic Designers.

1:30 PM Ocean Theater- **Lisa Cron**

In *Wired for Story*, author **Lisa Cron** reveals the cognitive secrets and neuroscience behind what the brain craves from storytelling. She argues that telling engaging stories must ignite the brain's hardwired desire to learn what happens next. Therefore, when communicators tap into the evolutionary purpose of story and electrify our curiosity, it triggers a dopamine rush that tells us to pay attention. Cron is currently an instructor with the University of California, Los Angeles Extension Writers' Program.

7:30 PM Evening Reception Ocean Theater**- Jerry Zucker**

Jerry Zucker began his career when he formed the ZAZ production company with his brother David Zucker and Jim Abrahams. The team wrote and directed the comedy classics *Airplane!* and *Top Secret*. They also directed the comedy *Ruthless People* starring Bette Midler and Danny De Vito and wrote and produced the cult favorite *Kentucky Fried Movie*. They created the popular feature *The Naked Gun* starring Leslie Nielsen, based off their acclaimed television series *Police Squad!*

Jerry also directed the box-office hit *Ghost*, starring Demi Moore, Whoopi Goldberg, and Patrick Swayze; *First Knight* starring Sean Connery, Richard Gere, and Julia Ormond; and the comedy *Rat Race* with Rowan Atkinson, John Cleese, Whoopi Goldberg, Cuba Gooding Jr. and Jon Lovitz.

KEYNOTE SPEAKERS
Day 1- November 6th

Jerry Zucker (Continued)

Also a producer, Zucker's body of work includes *A Walk InThe Clouds*, starring Keanu Reeves; *My Life* starring Michael Keaton and Nicole Kidman; the romantic comedy *My Best Friend's Wedding*, starring Julia Roberts; *Fair Game* starring Sean Penn and Naomi Watts; and *Friends With Benefits* starring Justin Timberlake and Mila Kunis.

KEYNOTE SPEAKERS
Day 2- November 7th

9:10 AM Ocean Theater**- Dan Goods**

As the Visual Strategist for NASA's Jet Propulsion Laboratory, **Dan Goods** works to develop creative ways of communicating complex concepts into meaningful stories that can be universally understood. Goods, a graduate of the Art Center College of Design, also works on independent private and public commissions all over the world. Goods lives in Pasadena, CA, with his wife and three children. This year he was named one of LA Weekly's "Most Interesting People in Los Angeles." Goods' work can be seen in public spaces, art museums, and even outer space.

3:15 PM Ocean Theater**- Dr. James Fawcett**

Dr. James Fawcett directs the marine science and policy outreach component of the USC Sea Grant Program as well as serving as the marine transportation/seaport specialist. In both roles he serves as a link between campus researchers, the marine transportation industry, government and the public on seaport operations and management, movement of marine freight and the environmental impact of this industry on southern California and the nation.
Dr. Fawcett's interest in marine affairs grew out of three years of experience at sea in the late 60's and early 70's as an officer in the U.S. Navy where he was both a ship driver and communications officer. He holds an undergraduate degree in political science from California State University, Northridge and master's and Ph.D. degrees in urban and regional planning from the University of Southern California.

PANEL DISCUSSIONS

Day 1- November 6th

11:30- 12:30 PM Ocean Theater

Evaluation

Panelists will discuss findings from recent and foundational program evaluations that relate to spherical display systems, digital interfaces, and real-time data. From docent interaction to live SOS shows, evaluation is showing that it is an important tool for developing the most effective SOS and other data-driven exhibits. Panelists will discuss the following

Implementing EarthNow: Formal and informal evaluation activities

Jeff Hayward and Jolene K. Hart, People, Places & Design Research and Stephanie Schollaert Uz, CICS-MD/ESSIC, University of Maryland

The EarthNow project provides biweekly annotated Earth science data for Science-on-a-Sphere ® (SOS®) displays as well as a blog-style website with additional background information. Scientists at the Cooperative Institute for Climate and Satellites - Maryland (CICS-MD) and the Cooperative Institute for Meteorological Satellite Studies in Wisconsin (CIMSS) provide expertise on various weather and climate topics in the news (e.g. this summer's drought). A full-time research associate at CIMSS, a former SOS® museum docent, develops content for the EarthNow spherical display data feed and maintains the blog. The target audience for these tools is museum docents who interact with the general public. Although EarthNow debuted last October and could greatly assist museums' goal of keep their displays current and relevant, a March, 2012 survey of SOS® museums found that few were using it regularly if at all. In May, 2012, we developed working relationships with two local SOS® museums in order to assist them with implementing EarthNow: the Maryland Science Center in Baltimore and the National Zoo in Washington, DC. In addition to hiring a summer intern to demonstrate how to incorporate the EarthNow tool into live SOS® shows, we have been exploring other ways to make EarthNow as relevant and easy to use as possible. We have concluded that focusing primarily on live docent shows limits impact. Many SOS® museums do not have live docent shows and those that do usually have a fixed show and are reluctant to change frequently. Narrated EarthNow segments are now being developed and tested at museums. Museum feedback has been very favorable on this new capability, which enables museums to incorporate EarthNow updates in auto-run mode. Working closely with museums and observing how they apply weather and climate resources has been key to improving the EarthNow resource. We will explain the evolution of our project and how it has impacted the visitor experience at the case study museums.

NOAA SOS® Users Collaborative Network Workshop 2012

PANEL DISCUSSIONS

Day 1- November 6th (continued)

Evaluation (Continued)

Reflecting on Evaluation
Stephanie Long- Science Museum of Minnesota

In this presentation we will examine the evaluation results of Planet Earth Decision Theatre, a docent led performance that utilizes i>Clickers. We will compare and contrast the strengths and challenges of a sphere show compared to other museum programs.

Docent Impact on Visitor Interest
Bill Mitchell - Lawrence Hall of Science

Qualitative observations of visitor interactions with SOS® suggest that visitors spend more time in the exhibit when a docent is present. We have developed an easy method to quantify, albeit roughly, the typical time visitors spend in the exhibit with and without a docent present. The results show that docents make a significant difference in visitor time spent at the SOS® exhibit. Participants can to use this research, and the evaluation method, to guide programming at their own site.

What your Interactive Meant to Say Was…
Cia Romano - Interface Guru

Interactives are now common in public spaces such as science centers, yet users often experience only a fraction of what the designers intended. How can we ensure that crucial best practices are followed as digital interactives are planned, budgeted, managed, and evaluated? Well-designed digital interactives require a foundation in ergonomics and usability. A strategic approach that accounts for all the content types users will experience, as well as surrounding exhibits. Examples of digital interactive implementations will be provided to illustrate key points

NOAA SOS® Users Collaborative Network Workshop 2012

PANEL DISCUSSIONS

Day 2- November 7th

9:45- 10:30 AM Ocean Theater

Formal Education

This panel will explore how formal education – not only in science but all subject areas – can benefit from interactions with the Sphere. Students and teachers can develop creative, critical thinking skills by exploring connections made through Sphere content.

An integrated approach addressing social justice, human response, the arts, and current events
Britta Culbertson- NOAA Office of Education

High school science educator and current NOAA Einstein Fellow Britta Culbertson will present a humanistic approach to Sphere productions that will cross disciplines, link to the common core standards, and address multiple topics such as the arts, social justice, and current events with the support of NOAA data.

Math on a Sphere: First Year Evaluation
Sherry Hsi - UC Berkeley Lawrence Hall of Science

Math on a Sphere is an environment that allows users to draw and create designs on the SOS using a Web logo-like scripting language. With the potential for Math on a Sphere as a storytelling vehicle, this presentation will share examples of what students created, sharing the results of a museum-based workshop and a middle school classroom evaluation. Preliminary results from a fieldwide front-end evaluation survey will also be shared.

High school program - Frozen
Alie LeBeau - Aquarium of the Pacific

Using pieces of the NASA created *Frozen*, the Aquarium of the Pacific developed a high school program aimed at highlighting the role the Arctic and Antarctic play in controlling earth's climate. The program hopes to start conversations, encourage data literacy, and connect students to information, technology, and the planet. But is it successful? How do we know?

NOAA SOS® Users Collaborative Network Workshop 2012

PANEL DISCUSSIONS

Day 3- November 8th

9:45- 10:30 AM Ocean Theater

Real-time Data and Interpretation

Panelists will discuss how relationships have been formed with scientists and scientific organizations to access and ensure accurate interpretations of real-time data, and how these real-time interpreted feeds can be used on spheres.

The URI Inner Space Center - Integrating and interpreting real-time content from ships of exploration

Dwight Coleman & Gail Scowcroft
University of Rhode Island Graduate School of Oceanography, Inner Space Center

Incorporation of real time video and other ship/ROV data into SOS® presentations can present incredible opportunities for audience engagement, but can also present challenges. Live video and data only streams when the ships are actually working, which are only about 4-8 months per year. Also, even when they are live, sometimes the timing of the ROV dives and other shipboard activities are not ideally suited for engaging interactivity. The Inner Space Center hub can overcome these challenges by creating content and video highlights for "near real time" data that will guarantee to be engaging. Then challenges become how to satisfy the schedules of multiple sites through coordination of the live interactivity. There are many different ways to do this to make the content the best it can be.

Incorporating interactive capability of NEO on SOS®

Maurice Henderson - NASA Goddard Space Flight Center

NASA has consistently promoted access to a wide range of mission data, often with near real-time access. NEO across the PC and SOS® offers this access on a common platform. We will look at one approach for incorporating the interactive capability of NEO into a docent led presentation, and to support school group focused visits.

NOAA SOS® Users Collaborative Network Workshop 2012

PANEL DISCUSSIONS

Day 3- November 8th

Real-time Data and Interpretation (Continued)

Wired Pier: Integrating real-time data with visualizations
Mary Miller - Exploratorium

The Exploratorium will be deploying sensors and instruments at it's new location along the San Francisco waterfront early next year in a projected call "Wired Pier." Displaying real-time weather, climate and ocean data in conjunction with high-resolution visualizations on a video wall will integrate local data with regional and global data sets. A network of local and national scientists involved in ocean and atmospheric observatories will provide expertise in interpreting data and providing larger datasets and visualizations for Wired Pier.

Implementing EarthNow: Real-time data interpretation with audio narration
Patrick Rowley - CIMSS/SSEC, UW-Madison
Stephanie Schollaert Uz - ESSIC, University of Maryland, College Park

This panel discussion will present methods that the EarthNow team at CIMSS and CICS-MD is using to allow enhanced SOS® Auto Run presentations. Traditionally, real-time or near real-time datasets are used in docent-led presentations or in auto run presentations with either no narration or a generic narration. Through EarthNow's resources, museums will be able to include near real-time or timely datasets with narrations specific to the current time period.

NOAA SOS® Users Collaborative Network Workshop 2012

TECHNICAL TEAM UPDATES

Day 1- November 7th

2:00 – 3:00 PM- Ocean Theater (Concurrent Session 1A)

Science On a Sphere Network Updates
Mike Biere, Shilpi Gupta, Kevin Maris, Jebb Stewart, Beth Russell, Hilary Peddicord, & John Loptien.

Join the SOS Development Team from Boulder to learn about all the recent upgrades and the future direction of Science On a Sphere developments. We will be starting with a demonstration of the new interactive features recently released in SOS version 4.0.5. We will then provide an overview of the improved sos.noaa.gov and introduce our new educational activities in Boulder. The session will wrap up with a discussion of new features being developed for the next software release.

Day 2- November 8th

10:30 – 11:30 AM- Ocean Theater (Concurrent Session 3A)

Science On a Sphere Network Updates
Mike Biere, Shilpi Gupta, Kevin Maris, Jebb Stewart, Beth Russell, Hilary Peddicord, & John Loptien.

Join the SOS Development Team from Boulder to learn about all the recent upgrades and the future direction of Science On a Sphere developments. We will be starting with a demonstration of the new interactive features recently released in SOS version 4.0.5. We will then provide an overview of the improved sos.noaa.gov and introduce our new educational activities in Boulder. The session will wrap up with a discussion of new features being developed for the next software release.

HOW-TO WORKSHOPS

Day 1- November 6th

2:00-5:00 PM- Watershed (Concurrent Session 1B)

Art and Science of Content Creation for SOS®
Dan Pisut - NOAA Environmental Visualization Lab

Interested in developing your own SOS® content? We'll walk through the basics from A to Z in this three-hour hands-on course. Topics include finding usable data and imagery; data visualization for non-programmers; modifying and customizing pre-existing SOS resources in Photoshop and After Effects; tips and tricks for developing productions; incorporating audio. Class is limited to the first 30 registered participants meeting the requirements below.
Requirements:
Laptop loaded with Adobe CS4 or higher (Mac or PC) including Photoshop and After Effects; Premiere Pro or Final Cut are optional

- At least 1 year experience with the CS software
- Highly recommended to take the free training at http://www.videocopilot.net/basic/

2:00-3:30 PM- Tidal Zone (Concurrent Session 1C)

EarthNow: Become a Subject Matter Expert in as Little as 20 Minutes!
Patrick Rowley - CIMSS/SSEC, UW-Madison
Argie Kavvada - CICS/ESSIC, UMD-College Park

The EarthNow project allows SOS® institutions to go beyond the scientific facts to create meaningful visitor experiences about weather and climate connections. The EarthNow staff updates a blog website, providing a central location for SOS® facilitators to find timely weather and climate stories, with relevant SOS® visualizations, to speak about how current events affect and are affected by global change. This session will provide presenters with the best ways to incorporate EarthNow resources.
EarthNow website: www.sphere.ssec.wisc.edu

3:30-5:00 PM- Splash Zone (Concurrent Session 1E)

Customizing SOS® Presentations
Beth Russell- NOAA ESRL
Patrick Rowley- CIMSS/SSEC, UW-Madison

3:30-5:00 PM- Splash Zone (Concurrent Session 1E, Continued)

Customizing your own SOS show can be somewhat daunting, especially with all of the datasets and real-time data available through the SOS. This session will provide the necessary training to efficiently create your own playlists, use downloaded playlists, and incorporate parts of playlists (like with EarthNow) into your SOS presentations. This session accompanies session 1C and 3B, and describes how to best incorporate EarthNow topics into your show.

HOW-TO WORKSHOPS

Day 2- November 7th

11:00 AM-12:30 PM- Tidal Zone (Concurrent Session 3B)

EarthNow: Become a Subject Matter Expert in as Little as 20 Minutes!
Patrick Rowley - CIMSS/SSEC, UW-Madison
Argie Kavvada - CICS/ESSIC, UMD-College Park

The EarthNow project allows SOS institutions to go beyond the scientific facts to create meaningful visitor experiences about weather and climate connections. The EarthNow staff updates a blog website, providing a central location for SOS facilitators to find timely weather and climate stories, with relevant SOS visualizations, to speak about how current events affect and are affected by global change. This session will provide presenters with the best ways to incorporate EarthNow resources.
Complements session 1E & 4B

11:45 AM-12:15 PM- Tidal Zone (Concurrent Session 3E)

Saving Money by Building Your Own Equipment
Rob Morris - Clark Planetarium

We have specialized in both maintaining and repairing our own equipment (computers, projectors, etc.), but also in building our own mounts for projectors and auxiliary display screens. These can be done for much cheaper than buying a commercial product, and often serve our needs far better than anything from a store. I would like to discuss the things that Clark Planetarium has created, and allow other groups to share their stories and ideas.

1:00 -2:30 PM- Splash Zone (Concurrent Session 4B)

Customizing SOS Presentations
Beth Russell- NOAA ESRL
Patrick Rowley- CIMSS/SSEC, UW-Madison

Customizing your own SOS® show can be somewhat daunting, especially with all of the datasets and real-time data available through the SOS®. This session will provide the necessary training to efficiently create your own playlists, use downloaded playlists, and incorporate parts of playlists (like with EarthNow) into your SOS® presentations. This session will then be followed by a session on how to best incorporate EarthNow topics into your show. Complements session 1C & 3B

1:00 -3:00 PM- Tidal Zone (Concurrent Session 4C)

Evaluating Digital Interactives in Context
Cia Romano - Interface Guru

Learn how to conduct a baseline usability analysis of digital interactives - using the Aquarium of the Pacific as a learning lab - and become an informed consumer of digital media services. Contextual evaluation of digital interactives embeds usability analysis of digital media within traditional visitor studies. Attendees will be introduced to the Usable Times 5 methodology, define usability research goals, and conduct an evaluation exercise. This workshop is based on evaluations conducted by Romano in public spaces since 2006.

HOW-TO WORKSHOPS

Day 3- November 8th

10:15 -11:00 AM- Tidal Zone (Concurrent Session 5C)

Show Control and the Sphere: Embedding the SOS® in an Interactive Object Theater
Bryan Kennedy – Science Museum of Minnesota

At the Science Museum of Minnesota we've rebuilt our SOS® theater into a dynamic object theater show featuring lighting, sound effects, distinct media elements on separate screens a flat projection surfaces. In this presentation I will outline the content and technical challenges in this unique SOS® installation. Participants will learn new techniques for interfacing with the sphere. We will also explore new ways to use the sphere as an exhibit element within larger experiences.

11:30 AM -12:30 AM- Splash Zone (Concurrent Session 6A)

Stories, Not Atoms: Practical Techniques for SOS® Productions
Michael Starobin - NASA Goddard Space Flight Center

Certain guidelines apply for developing a successful movie no matter what the format. In this presentation, we'll look at some fundamental components that go into effective video presentations, but with an eye on specifically making media for spheres. Topics will include script development, storyboarding, production pipelining, and a segment on designing effective live-action shots for spherical surfaces, with notes on technique as well as aesthetics.

SOS® CONTENT SHOWCASE

Day 1- November 6th 3:00 - 4:15 PM Ocean Science Center (Concurrent Session 1D)

This session will allow participants to see some of the latest content created for spherical display systems. The content pieces shown will include:

Math on a Sphere: Visitor-created designs for the SOS (25 min.)
Sherry Hsi - Lawrence Hall of Science
Mike Eisenberg - University of Colorado

Math on a Sphere (MoS) is a newly developed web-based environment that enables visitors to imagine, draw, and share creative designs on the SOS®. The MoS software, similar in spirit to the Logo language, was installed at the Lawrence Hall of Science at U.C. Berkeley and at the Fiske Planetarium at University of Colorado, Boulder. Our aim in developing MoS was to explore the viability of "giving public displays to the public" to learn concepts in 3D geometry and computational thinking. We invite input from other SOS® public programs and developers as we generate the next iteration of the system.

Adapting an object theater into an SOS film (15 min.)
John Gordon - The Science Museum of Minnesota

In this showcase, you'll see a very rough cut of an SOS® film the museum is currently developing on the proposed geological epoch, the "Anthropocene." It's an adaptation of a multimedia object theater installation at the museum, and while the data and message are the same, the visuals and storytelling style will be new, and feedback would be very useful at this point.

NOAA SOS® Users Collaborative Network Workshop 2012

SOS® CONTENT SHOWCASE

Day 1- November 6th

3:00 - 4:15 PM Ocean Science Center (Concurrent Session 1D)

2 Billion More Coming to Dinner
Bryan Kennedy- Science Museum of Minnesota
John Gordon-Science Museum of Minnesota

At the ASTC mini-Science On a Sphere® conference, we showed a nearly finished version of our newest SOS® film, 2 Billion More Coming to Dinner. We'd like to show the completed version of the film, and then spend ten or so minutes talking about our initial evaluation of the film, and getting any feedback SOS® network members might have regarding the reception of the film, and why they have or haven't chosen to run it at their institutions.

Geologic evolution of the Korean peninsula
Jeong Gu Lee - Gwacheon National Science Museum

This animation was created to deliver knowledge on the geologic history of the Korean Peninsula to visitors, in which many of visitors have been showing interest from the existing Paleogeography Dataset, by modification of the later with compilation of recent tectonic, sedimentologic, and paleontologic research on the Korean Peninsula. We'd like to discuss (1) the suitability and limitations of visualizing geologically themed content unfamiliar to public; (2) suggestions for further improvement of this animation.

NOAA SOS® Users Collaborative Network Workshop 2012

SOS® CONTENT SHOWCASE

Day 2- November 7th

11:30 -12:15 PM Ocean Science Center (Concurrent Session 3D)

Custom SOS® content from Alaska State Museum **(20 min.)**
Sara Lee Chubb- Alaska State Museum

Alaska State Museum is primarily a cultural museum and as such, we often use SOS® to explore the linkages between natural and human history. New custom datasets touch upon historical topics such as archaeology, voyages of European exploration, shipwrecks, World War II, as well as social issues such as recent armed conflicts, homelessness, trash gyres, tsunami debris, and potential effects of climate change. A few natural history datasets may also be shared.

Real-time Earth Observations
Bill Mitchell- Lawrence Hall of Science

This session will showcase a new facilitated mini-program on Earth observations which highlights a new real-time dataset of true-color images of Earth. The program covers satellite orbits, touches on spectroscopy and instrumentation, exhibits polar night, and gives examples of modern research using these images. Discussion could include further examples of use in research, programs which could use the new dataset, and guides for facilitators working with these data. Feedback is welcome, too.

Day 3- November 8h

1:30 -3:00 PM Ocean Science Center (Concurrent Session 7a)

The Canyon World **(20 min.)**
AJ Lapre - Grand Canyon National Park

We have created a presentation to show in our facility that runs all day and shows every 15 minutes. The presentation explains the geologic formation of the Grand Canyon and the brief human history of the Grand Canyon area up to the inception of the Grand Canyon National Park and eventual designation as a World Heritage Site. The story is interpretive and educational and has been well received by the public since we have begun showing it in early 2012. I have not seen any other products of this nature and it appears to be a departure from what the SOS database has in its library. I'd like to discuss the importance of alternate forms of use of the SOS and what others have done in this area.

SOS® CONTENT SHOWCASE

Day 3- November 7^{8h}

1:30 -3:00 PM Ocean Science Center (Concurrent Session 7a)

Climate Change

David Olli, Science Museum of Virginia

Using SOS and iClickers questions a brief presentation providing evidence of climate change - specifically increase in global temperature over time, what are and the origin of heat trapping gasses, and what can we do as individuals to reduce the amount of heat trapping gasses we add to the atmosphere.

Virtual exploration of deep-sea hydrothermal vents: New content in development for spherical display systems (15 min.)

Stace Beaulieu - Woods Hole Oceanographic Institution

Annette Brickley & Abbey Spargo - Ocean Explorium at New Bedford Seaport

We are creating new content for virtual exploration of deep-sea hydrothermal vents. The new dataset includes locations of all known deep-sea vents, an underlay of modern plate boundaries, and videos for selected vents. We are developing two story lines based in Earth Science and Ocean Literacy Principles, highlighting submarine volcanic eruptions and life in extreme environments, and also technologies used to obtain the videos. We would like to discuss how you envision incorporating this new content into your SOS programs.

NASA Earth Science Stories - the Energy Cycle **(15 min.)**

Maurice Henderson - ADNET/NASA GSFC

Ginger Butcher - Sigma Space/NASA GSFC

We will present a new NASA Earth Science story about Life and the Energy Cycle entitled "Habitable Zones" which includes multiple datasets from NASA. Includes a demonstration of NEO - NASA Earth Observations.

See the Seas **(25 min.)**

Eddie Goldstein - Denver Museum of Nature and Science

The *See the Seas* program is about the formation of the seas and the impact on our planet. We plan to distribute the script, background information, and data sets for this program to the SOS® network.

NOAA SOS® Users Collaborative Network Workshop 2012

SOS® DOCENT SHOWCASE

Day 2- November 7th
1:00 -3:00 PM Ocean Science Center (Concurrent Session 4A)

Planet Earth Decision Theatre
Stephanie Long & James Rodriguez - Science Museum of Minnesota
Join us for a performance of PLANET EARTH DECISION THEATRE from the Science Museum of Minnesota. Explore how humans are now the dominant force of change on the planet and cast your vote about the future health of our planet in this interactive presentation. After the show discuss the creation, implementation and visitor reaction

TSUNAMIS! NOAA Tsunami Awareness Project
Hadley Andersen- Bishop Museum Honolulu, Hawaii
In 2011, Bishop Museum received funding from NOAA to create Tsunami Awareness Programming for 2012. This grant enabled the development of a public SOS® tsunami awareness show which debuted on April 1, 2012 for Tsunami Awareness Day. Other education products developed included a table top demonstration for our Family Science Night Outreach, two interactive kiosks for our Planetarium Lobby, and a fourth grade standards- aligned SOS® school program with related pre and post visit curriculum.

Standards-based, Interdisciplinary Storytelling for the Formal Educator
Britta Culbertson- NOAA Office of Education
Watch a mock-up of how to address multiple learning standards across disciplines through the lens of climate change impacts on the island of Tuvalu. Discussions to follow on how to create, refine, and incorporate more shows like this for K-12 educators.

Best Practices for Conversation Based Facilitation
Brett Nicholas & Heather Barnes- Museum of Science and Industry, Chicago
This session will focus on best practices for conversation-based facilitation of Science on a Sphere. This approach allows tailoring each presentation to meet the needs of different audiences. Characteristics of a high quality, conversation based presentation include; use of inquiry methods and question based facilitation, use of positive reinforcement, high level of enthusiasm and incorporation of current science news.

SOS® as a Facilitation Medium
Eddie Goldstein- Denver Museum of Nature & Science
We have been extremely successful at the Denver Museum of Nature and Science in using our staff and volunteers to facilitate the SOS®. Instead of doing shows, they have conversations with our visitors. I will be talking about how this all works.

NOAA SOS® Users Collaborative Network Workshop 2012

SOS® DOCENT SHOWCASE

Day 2- November 7th

1:00 – 3:00 PM Ocean Science Center (Concurrent Session 4A)

Globe-trotting the Seasons
Hilary Peddicord - NOAA
Using a transparent blow-up globe and a sun dataset we explore with the audience and 4 volunteers why the Earth has seasons, including the size and distance from the sphere the Earth would have to be in the solar system, using solstice and equinox vocabulary as well as explicitly addressing misconceptions. Discussion could be regarding ways to make it applicable to different age groups and ways of improving the exercise.

SMALL GROUP DISCUSSIONS

Day 2- November 7th

10:00 – 11:30 AM- Watershed

SOS® Professional Learning: Preparation and Practice
David Bader- Aquarium of the Pacific
Emily Yam- Aquarium of the pacific
The Aquarium of the Pacific is starting a professional development program for informal educators who lead programs on the Science On a Sphere®. Through our program, two cohorts of education staff will participate in a multi-year professional development opportunity to increase their core science knowledge and level of comfort using SOS®, as well as learn to communicate more effectively to public and school audiences.

SOS® Professional Learning: Preparation and Practice (continued)

These skills and knowledge will then be scaled and transferred to part-time staff to increase the number of opportunities visitors have to experience data interpretation in the gallery. As a part of our ongoing learning and program development, we're interested in discussing how others across the network have prepared their staff to interpret data comfortably, manage the space, and promote inquiry.

SMALL GROUP DISCUSSIONS

Day 3- November 8th

11:30 AM- 12:30 PM – Tidal Zone (Concurrent Session 6B)

Research & Evaluation on the Sphere

Carrie McDougall - NOAA Office of Education

This discussion will include a review of what other evaluations of SOS have found and what types of studies would be most useful in the future. Come share with us what you are planning to evaluate or what you think should be evaluated or researched.

11:30 AM- 12:30 PM – Watershed (Concurrent Session 6C)

Stewardship & Conservation Messages

Ron Kagan- Detroit Zoological Society

This discussion will focus on how to integrate conservation and stewardship into SOS programming. Conversation will focus around impacts climate change is having on populations of animals around the world and how incorporating SOS into stories of individual species is best accomplished. Research on the impacts of climate change is happening at a fast rate and the SOS Collaborative Network is in a position to be innovative in creating stories that reach our audiences in unique ways. This discussion will facilitate the next step and direction the network can take with new program content and a focus on both conservation and environmental stewardship.

SMALL GROUP DISCUSSIONS

Day 3- November 8th

11:30 AM- 12:30 PM – Watershed (Concurrent Session 7B)

A small group discussion on auto-run narrated films. What works? What doesn't?

Bryan Kennedy, Science Museum of Minnesota

SMM has funding and will continue to work with research partners to gain funding for producing new SOS network resources. The majority of the resources that we've produced and plan on producing are 6-10 minute auto-run films. However, we're unsure of how these films are being used in the network and whether they best meet the needs of the network members. This discussion will focus on these films and their usefulness for SOS

11:30 AM- 12:30 PM – Splash Zone a &Tidal Zone (Concurrent Session 7C)

Open Time & Space for Collaboration (Zone)

Ideas posted to the Message Board throughout the week come to life here. Proposed collaborations will convene according to interest and participation level.

ACKNOWLEDGEMENTS

Workshop Planning Committee

The Workshop Planning Committee consisted of the following individuals from the Aquarium of the Pacific: Jerry Schubel, Dave Bader, Emily Yam, Alicia Archer, Erica Noriega, and Derek Balsillie; and from NOAA: Beth Russell, Bill Bendel, Erin Sams, John McLaughlin, Britta Culbertson, Maria Murray, and Carrie McDougall.

Workshop Sponsors

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