

OCEAN IN THE NEWS KIOSK

Summary Report on Phase I of Visitor Testing

Office of Policy and Analysis
Smithsonian Institution
June 2007

FORMATIVE STUDIES

Background studies – what visitors think

Concept testing – what might work or not work

Prototype studies – testing near-final versions

The Office of Policy and Analysis provides these services to exhibition teams to help them in their decision-making process.

This Kiosk study started as concept testing, but also came to include background.

Goals for Kiosk Visitor Testing

To maximize visitor interest in the kiosk
To help make the kiosk easy to use

Methods:

Phase 1 (the subject of this report)

- a. Discussions of paper-prototype screens
- b. Topic sorts and image sorts

Paper Test 1

Discussions with visitors of pages (developed by the Kiosk team) showing top and second level screens

Goal

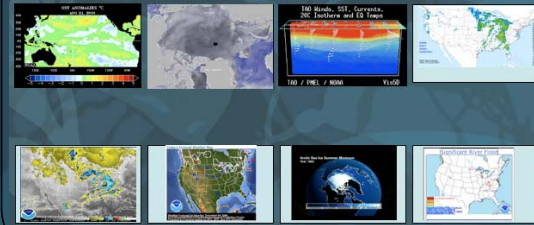
Evaluate navigation through the screens

THE OCEAN-IN-THE-NEWS

NEWSROOM



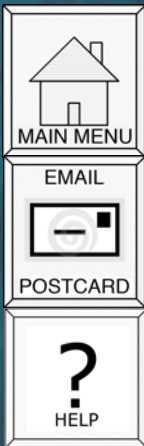
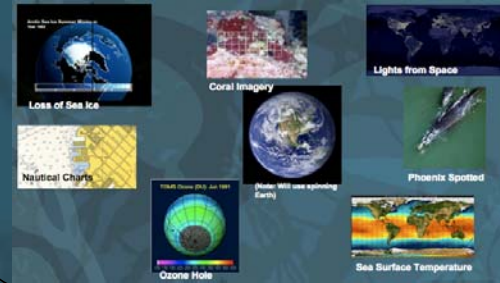
PULSE OF THE OCEAN



VIDEO LIBRARY



DIVE DEEPER



TOUCH SCREEN TO BEGIN

Wavebreaking News

Vol. 177, No. 48 | Newsroom Publishing Co. 2025 | 48 Days

Headline

Headline text block on the left side of the first newsroom page.



Photo: (c) Associated Press. Photo: (c) Associated Press.

Wavebreaking News

Vol. 177, No. 48 | Newsroom Publishing Co. 2025 | 48 Days

Headline

Headline text block on the left side of the second newsroom page.



Photo: (c) Associated Press. Photo: (c) Associated Press.

Wavebreaking News

Vol. 177, No. 48 | Newsroom Publishing Co. 2025 | 48 Days

Headline

Headline text block on the left side of the third newsroom page.

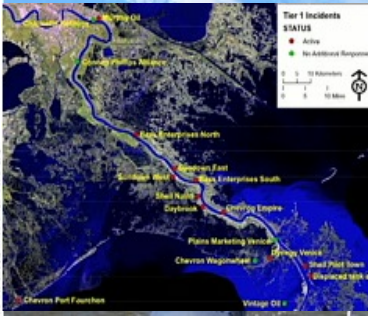


Photo: (c) Associated Press. Photo: (c) Associated Press.



Text block on the right side of the first newsroom page.



Text block on the right side of the second newsroom page.



Text block on the right side of the third newsroom page.

BIGGER

SMALLER



BACK



MAIN MENU

DIVE DEEPER

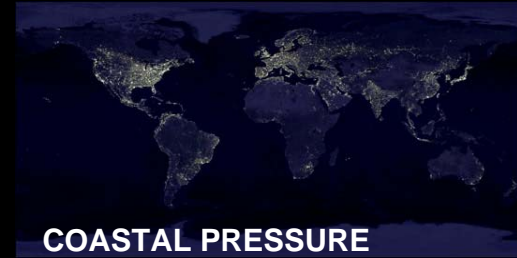
Arctic Sea Ice Summer Minimum
Year 1993



LOSS OF SEA ICE



CORAL IMAGERY



COASTAL PRESSURE



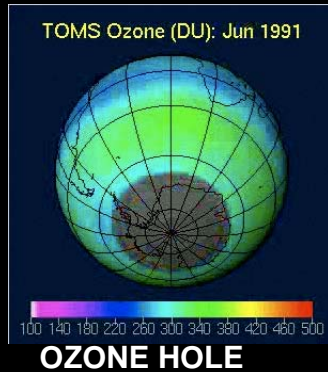
NAUTICAL CHARTS



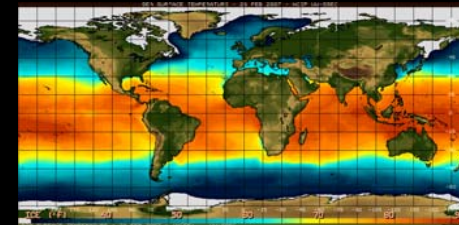
(Note: spinning Earth)



PHOENIX SPOTTED



OZONE HOLE



SEA SURFACE TEMPERATURE

BIGGER

SMALLER

BACK

MAIN MENU

Paper Test 1 Results

10 groups of visitors in National Museum of Natural History
(23 individuals -- 11 adults, 12 kids)

Content and Organization

Words not visible – visitors choose images

“Dive Deeper” images chosen most often, but meaning unclear

“Newsroom” chosen least often; associated with newspapers

“Library” is “boring” for some kids

“Pulse of the Ocean” meaning not clear

Navigation

Email postcard overlooked; problems with use

Help often thought to refer to language options or audio guide

Bigger/Smaller unclear – Refer to text? Image? Zoom?

No real need to tell users to touch the screen

Findings

Three main types of people:

- Animal people

- Science people

- Neither animal nor science people

At this point, seeing that navigation could not be separated from content, the team reconvened and prepared new screens featuring different topics, different formats, and different navigation buttons

Paper Test 2

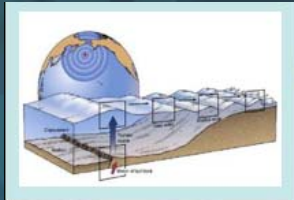
Discussions with visitors of new pages (prepared by the team in response to the results of Paper Test 1) showing various alternative screens

Goal

Which topics and formats might be best

OCEAN IN THE NEWS

OCEAN SCIENCE AND TECHNOLOGY



TSUNAMIS
Watch how one moves across the ocean

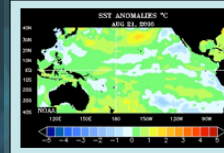


HYDROLOGIC CYCLE
Report on new findings released

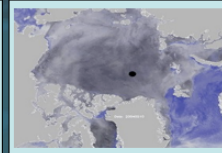


RIP CURRENT AWARENESS
Learn how to escape!

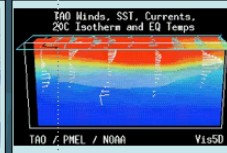
OUR OCEAN PLANET



SEA SURFACE TEMPERATURE



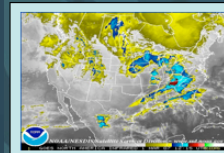
CORAL BLEACHING ALERTS



EL NIÑO ALERT



24 HOUR RADAR LOOP



24 WATER VAPOR LOOP



24 WEATHER FORECAST



SEA ICE ANIMATION



HAZARD

NEW DISCOVERIES



Seining for Fingerlings
(1 Minute)



Coastal Stewardship
(1 Minute)



Coral Reef Surgery
(1 Minute)



What is GPS?
(1 Minute)



Cleaning After a Spill
(1 Minute)



Sliding Under a Bridge
(45 Seconds)



Diving Under the Ice
(1 Minute)



YIKES! Escape Rip Currents
(1 Minute)



A Field of Dreams
(1 Minute)



Determining Marsh Recovery
(45 Seconds)



To be or Not to be a Tubeworm
(1 Minute)



Deploying Tsunami Buoys
(1 Minute)

OCEAN LIFE



LOSS OF SEA ICE



BEAUTIFUL CORAL IMAGERY



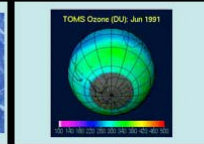
MONK SEAL SPOTTED MORE THAN 1,700 FEET BELOW THE SURFACE



PHOENIX SPOTTED



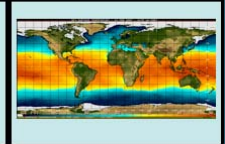
GIANT SQUID CAPTURED



OZONE HOLE



UNDERSTANDING EL NIÑO



SEA SURFACE TEMPERATURE

Touch Screen To Begin



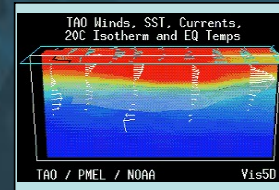
OCEAN IN THE NEWS



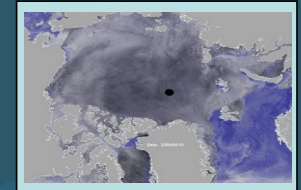
**RIP CURRENT
AWARENESS**
Learn how to escape!



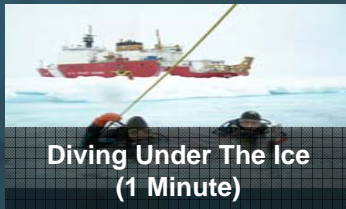
**Coral Reef Surgery
(1 Minute)**



EL NINO ALERT



**CORAL
BLEACHING
ALERTS**



**Diving Under The Ice
(1 Minute)**



PHOENIX SPOTTED



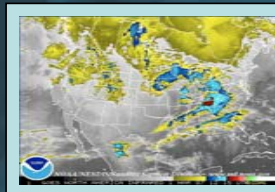
LOSS OF SEA ICE



**24 WEATHER
FORECAST**



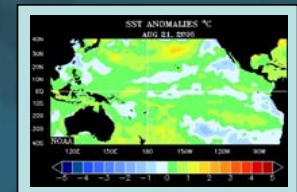
HAZARD



**24 WATER VAPOR
LOOP**



COASTAL PRESSURE



**SEA SURFACE
TEMPERATURE**



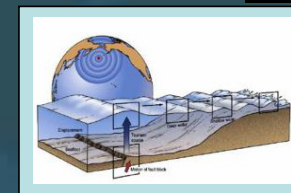
**24 HOUR RADAR
LOOP**



**Seining for Fingerlings
(1 Minute)**



CORAL IMAGERY

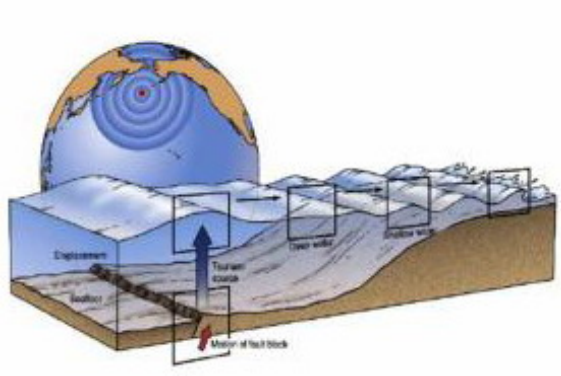


TSUNAMIS
Watch one move
across the ocean

Touch Screen To Begin

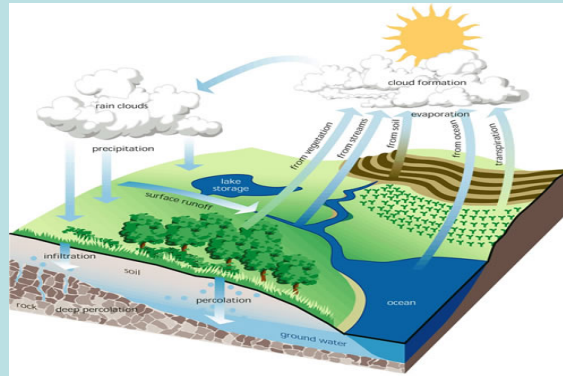


OCEAN IN THE NEWS



TSUNAMIS

Watch how one moves across the ocean



HYDROLOGIC CYCLE

Report on new findings released



RIP CURRENT AWARENESS

Learn how to escape!

OCEAN LIFE

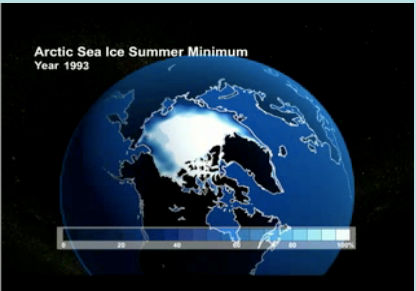
OCEAN BEAUTY

OCEAN SCIENCE
TODAY

PEOPLE AND
THE OCEAN

Touch Screen To Begin

LIFE IN THE OCEAN



LOSS OF SEA ICE



BEAUTIFUL CORAL IMAGERY



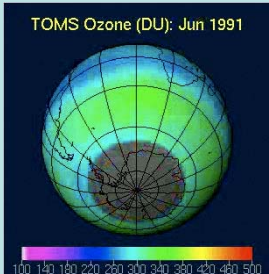
MONK SEAL SPOTTED MORE THAN 1,700 FEET BELOW THE SURFACE



PHOENIX SPOTTED



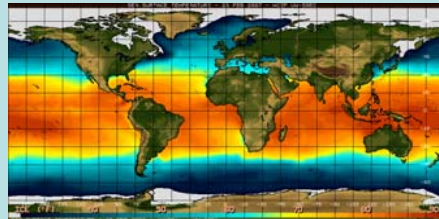
GIANT SQUID CAPTURED



OZONE HOLE



UNDERSTANDING EL NIÑO



SEA SURFACE TEMPERATURE

Touch to Learn More

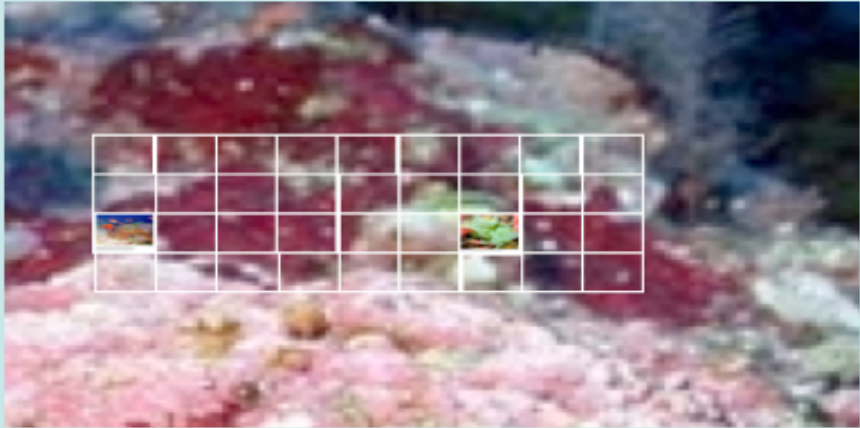


BACK



HOME

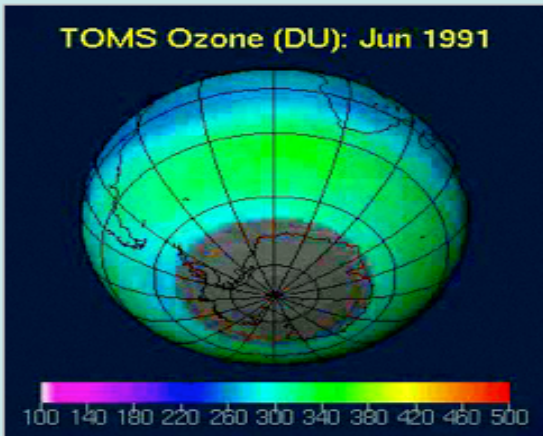
LIFE IN THE OCEAN



BEAUTIFUL CORAL IMAGERY



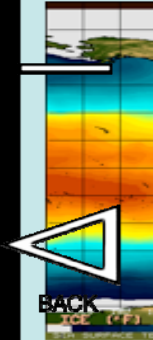
MONK SEAL SPOTTED MORE THAN 1,700 FEET BELOW THE SURFACE



OZONE HOLE



UNDERSTANDING EL NIÑO



Paper Test 2

Results

8 visitor groups in National Museum of Natural History
(14 adults, 3 children)

Content and Organization

Too many different options to determine visitor preferences

Navigation

“Help” button clear but would only be used if something didn’t work as expected

“Back” button clearly understood

“+” button usually understood to mean “the next selection”

“-” button usually understood to mean “the last selection,” i.e. equivalent to “Back”

Only one person knew what “site index” means

Findings

A different testing method is required for topics and formats

Paper Test 3

Image sort: Sorting 26 image cards taken by the researchers from images on the Paper Test 2 screen versions

Topic sort: Sorting 14 topic cards taken by the researchers from the topics on the Paper Test 2 screen versions

Goals

Images – Which ones are most interesting?

Topics – Which ones are best?

Method

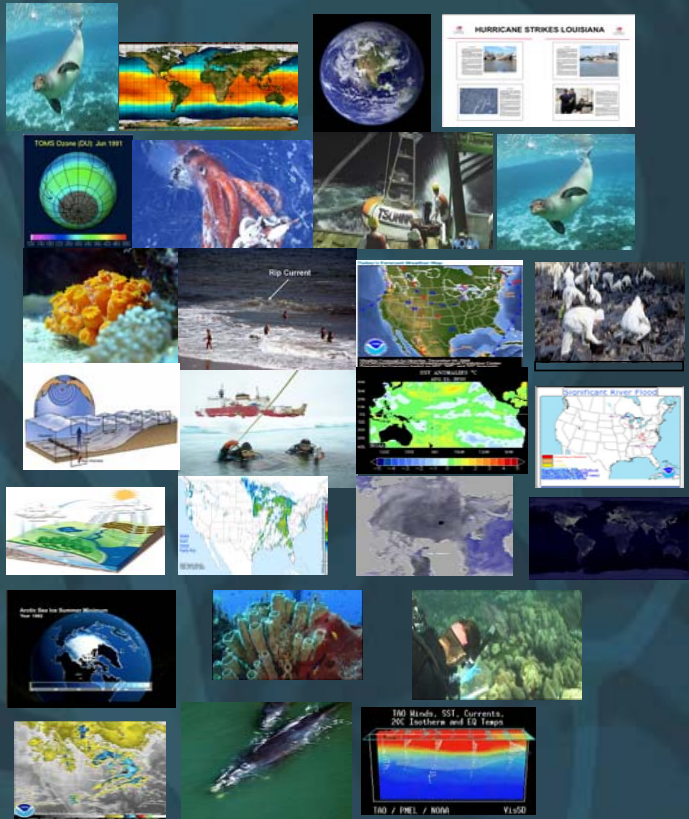
Which of these interest you the most?

Would you group any of them together? A group of one is o.k.

What would you call each of your groups?

Image sort

26 images from the test pages



Topic sort

14 terms suggested in test pages

- Beneath the Surface
- Life in the Ocean
- Ocean Animals
- Ocean Beauty
- Ocean Events
- Ocean Headlines
- Ocean Life
- Ocean News
- Ocean Places
- Our Ocean Planet
- Ocean Science and Technology
- People and the Ocean
- Pulse of the Ocean
- Recent Discoveries

Sorting Test Results

71 visitors in National Museum of Natural History
(51 adults, 20 children)
33 image sorts 38 topic sorts

Sorts

98 image groups (average 3.0 groups per sort)

125 topic groups (average 3.3 groups per sort)

Concept mapping of image and topic groupings:

sea life, discoveries, science, news

Most popular images: sea life, planet-wide views, science, people

Most popular topics: animals, discoveries, people

Most common grouping category:

sea life (24% of all groupings)

Groupings

Multi-dimensional scaling (MDS) of sorts to show relationships among images and topics that are grouped together

MDS

A statistical method that produces a graphic representation of the likelihood that sorted items were selected into the same groups

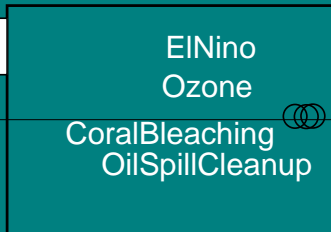
Items that are plotted close to one another were more likely to be chosen together in the same group

CONCEPT MAP OF IMAGES

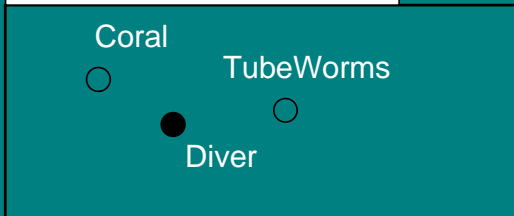
OCEAN ANIMALS



NEWS/PEOPLE



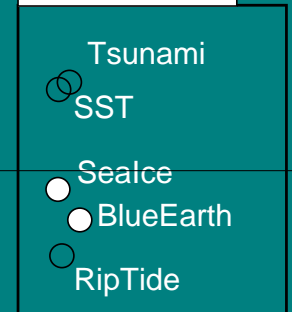
OCEAN BOTTOM



SCIENCE



PLANET?



IceDivers

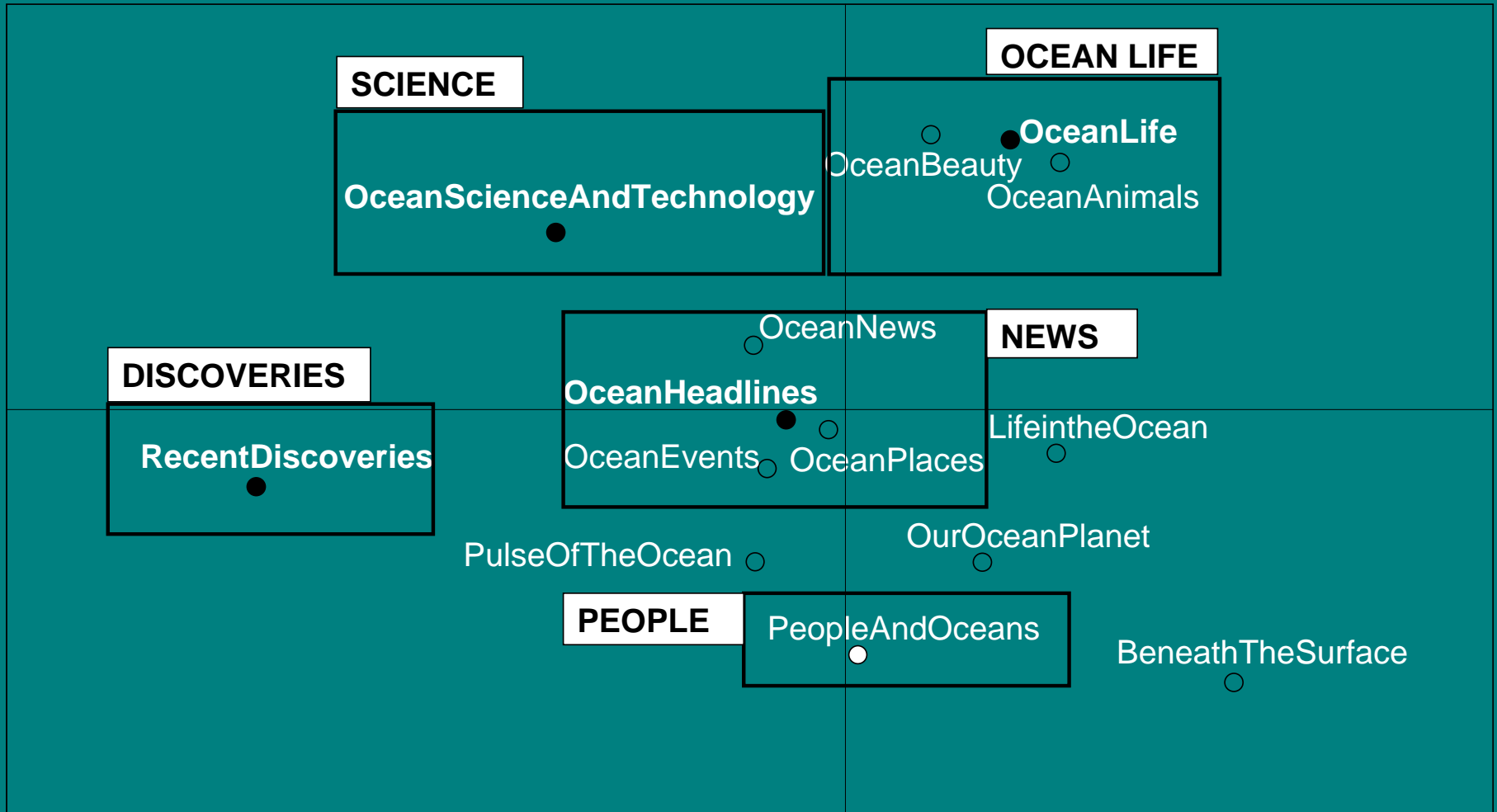
EarthAtNight

WaterCycle

InfraredUS

TsunamiBuoy

CONCEPT MAP OF TOPICS



Groupings

(across all respondents)

Image groupings

Ocean animals
Ocean bottom

Science
Planet?

News/People

Topic groupings

Ocean life

Science
Discoveries

News
People

Leading Images

sea life



(71%)



(63%)



(58%)



(56%)

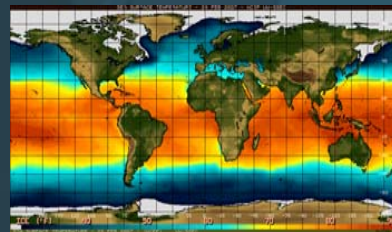
planet-wide views



(61%)



(61%)



(58%)

science



(53%)

people



(50%)



(53%)

Leading Topics

Ocean life

Beneath the Surface (73%)

Ocean Animals (61%)

Life in the Ocean (52%)

Ocean Life (52%)

Science

Recent Discoveries (76%)

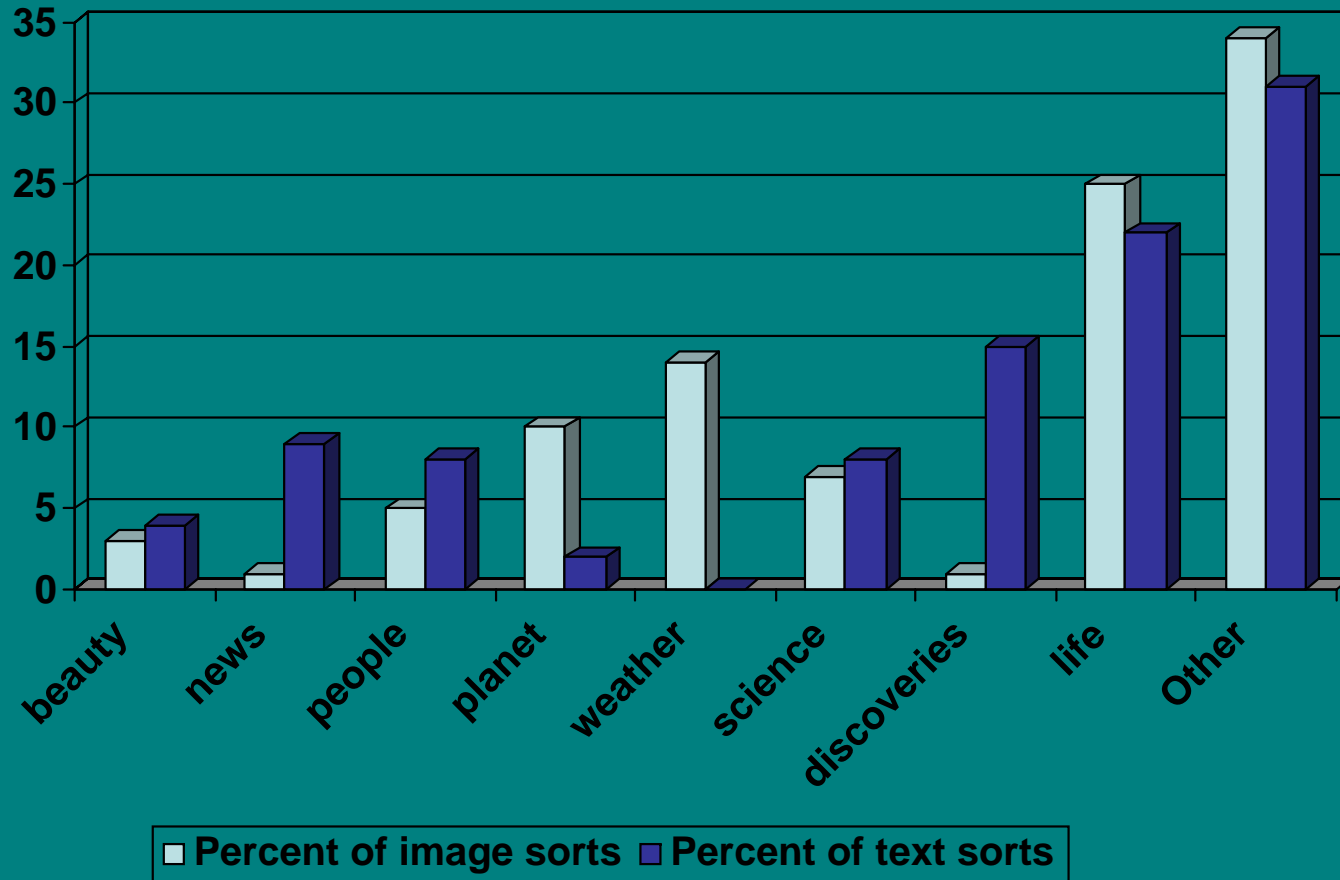
Ocean Science and Technology (52%)

People

People and the Ocean (55%)

Popularity of Groupings

(in analysis categories)



Names visitors invented

all about the ocean
animals of the sea
beauty beneath the sea
blue planet
climactic conditions of the earth
current state of things
disasters
earth and what happens
effects of the ocean
environment
experiments
global perspective
global warming
how we use the ocean
human activities
interaction of oceans and life on land

life of the ocean
life through the ocean lens
man's utilization of the sea
more discoveries about the ocean
mysterious living things
natural ways of the ocean
new ways to think of life in the ocean
ocean plants
ocean report
ocean weather
ocean's creations
preservation
sea life
underwater
water life
waters of the world
weather and effects on environment
what's happening in the oceans

Paper Test 4

Choosing a preference from one of three pairs of opening screens

Goals

Number of Image Choices – How many work best?

Format – Should choices be ordered or not ordered?

Method

Shown one entry screen

Asked which image they would select

Shown a second entry screen along with first screen

Asked which version they prefer

Paper Test 4

Choosing a preference from one of three pairs of opening screens

A. Four topics, one image per topic

vs.

B. Four topics, three images per topic

B. Four topics, three images per topic

vs.

C. No topics, otherwise same as B

C. No topics, otherwise same as B

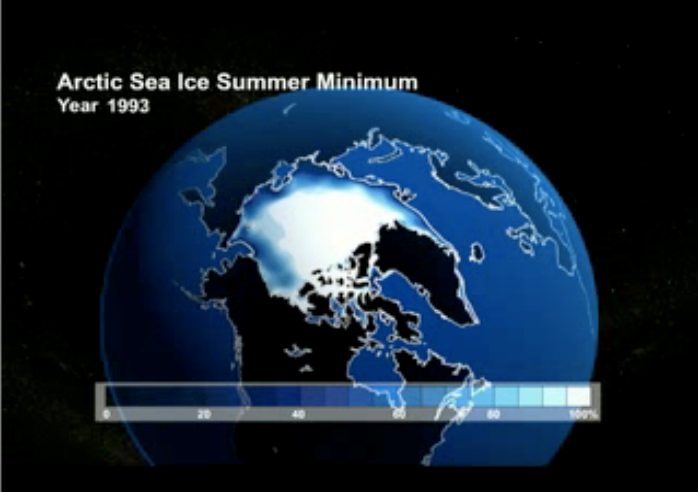
vs.

D. No topics, but images arranged in lines

A.

THE OCEANS TODAY

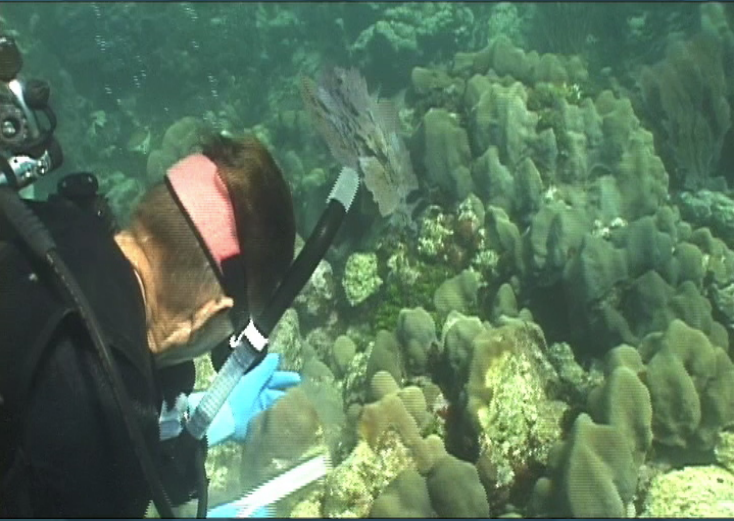
OCEAN SCIENCE AND TECHNOLOGY



OCEAN NEWS



RECENT DISCOVERIES



OCEAN LIFE

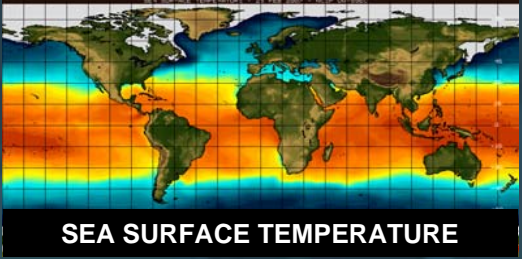


Touch Image To Begin

B.

THE OCEANS TODAY

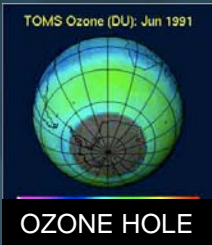
OCEAN SCIENCE AND TECHNOLOGY



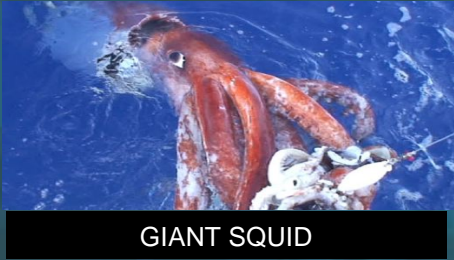
OCEAN NEWS



RECENT DISCOVERIES



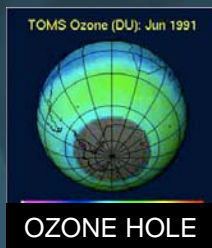
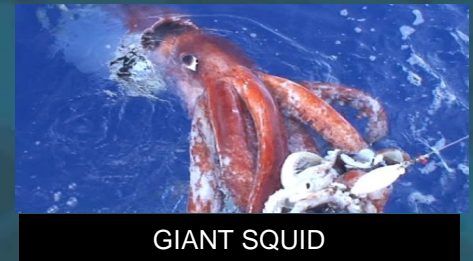
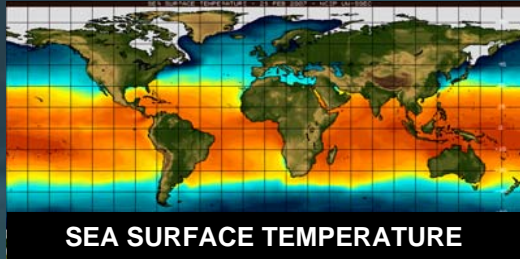
OCEAN LIFE



Touch Image To Begin

C.

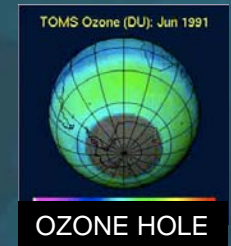
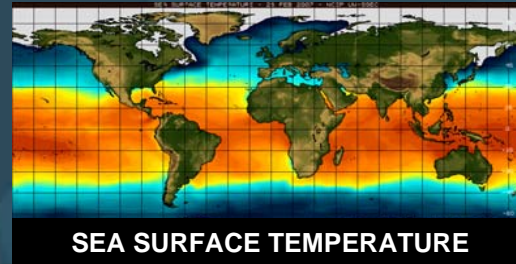
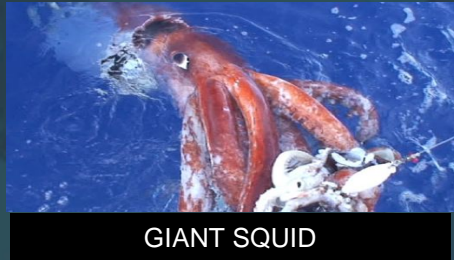
THE OCEANS TODAY



Touch Image To Begin

D.

THE OCEANS TODAY



Touch Image To Begin

A

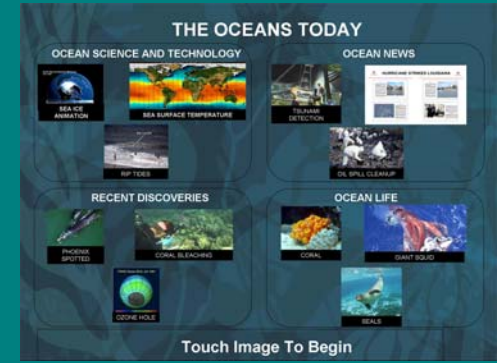


10

vs.

14

B



B



16

vs.

8

C



C



5

vs.

19

D



Screen test

60 visitors asked to compare 3 pairs of entry screen versions

Results

(29 male, 31 female; 20 kids, 40 adults)

Findings

Topic groupings preferred

Ordered preferred over unordered

(Three images per topic preferred)

Other points

Sea animal images most popular

Effect of images and topics on choices:

Sea Surface Temperatures image helps Science topic to be chosen

Identifying the diver photo as “coral bleaching” decreases its popularity

Among the 48 who chose from all 12 images

12 chose Squid

10 chose Seal

9 chose Sea Surface Temperature

8 chose Coral

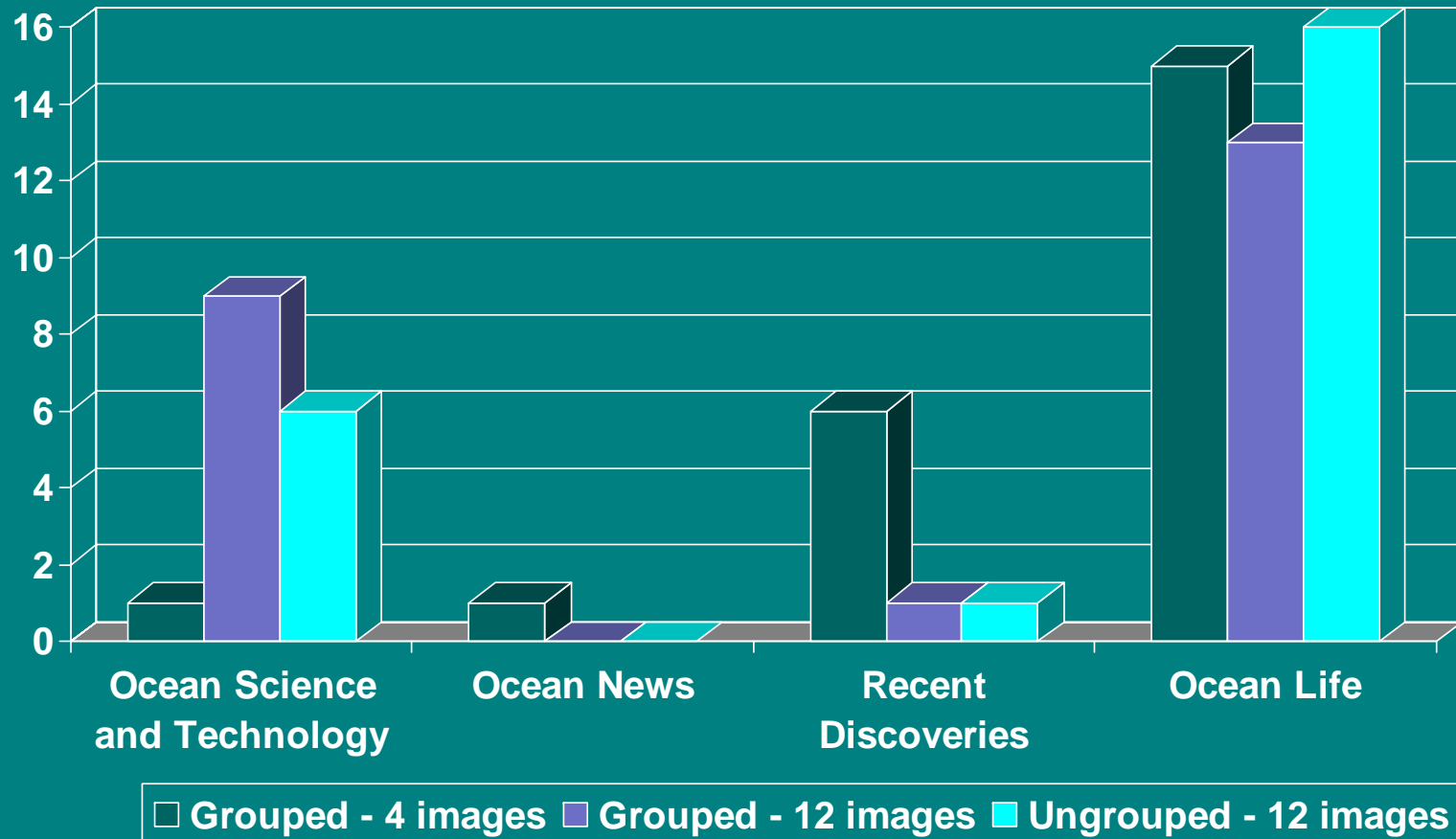
3 chose Sea Ice

3 chose Rip Tide

1 each chose Phoenix, Ozone, Diver

0 chose Tsunami Buoy, Hurricane, Oil Spill Cleanup

Impact of images and topics on choices



In conclusion...



THANK YOU!

Study design and analysis: Andrew Pekarik

Data Collection: Andrew Pekarik, Christine Sansone, Bianca Yip

pekarika@si.edu

**To see other studies from the Office of Policy and Analysis, visit:
www.si.edu/opanda**