



Google Ocean

Digital Marine Community

The Challenge/Opportunity

Our oceans are in crisis. The extent of the challenge requiring our attention is spelled out in two publications, the *Defying Ocean's End* conference report presided over by Dr. Sylvia Earle, and the *Pew Oceans Commission 2003* report. They present in vivid detail the current state of our marine environments and the consequences that could occur unless we shift our cultural thinking about the waters of our planet. They also speak of the apparent disconnection taking place between our expressed support for marine safeguards and the damaging results of our consumptive behavior. Finally, they call for new marine communication strategies that reach out to the large, unconverted portion of the global population who are unconvinced about the grave condition of our seas.

Google Ocean is an online, digital marine community designed to appeal to a mainstream audience. In one centralized web location, *Google Ocean* offers relevant marine news, information and discoveries through *Google Earth's* interactive mapping interface. More than just data presented on a globe, *Google Ocean*, with the support of its marine content partners, will connect the dots on the interactive map so they provide a rich context for the global discussions currently taking place about what is happening in our oceans.

Summary - Google Ocean Content

At launch, *Google Ocean* will offer the public a window into the many exciting activities of Dr. Sylvia Earle's *Deep Search* mission, and then expand over time to include other major stakeholders in ocean conservation, science and exploration. Content will include historical, scientific, conservation and exploration points of interest as well as ocean condition webcams, real time reports from "live" underwater missions, and undersea bathymetric data where it is available. *Google Ocean* will also encourage strong community participation from school kids all over the world as they exchange information, observations and stories about what is happening in their local ocean environments through the *Distance Learning Network* and *iEARN*, the International Education and Resource Network.

The editorial team for the launch of *Google Ocean* is chaired by Dr. Earle. Her professional achievements in marine science and exploration read like a *greatest hits* of ocean activities since the 1960's. From her early beginnings as a marine biologist on Florida's Gulf Coast, a sampling of the projects and missions she has been engaged with includes:

- The ground-breaking International Indian Ocean Expeditions in 1964
- The Man-in-Sea project in the Bahamas in 1968.
- The Tektite Underwater Habitat – Team Leader – Female Aquanauts 1970
- SCORE Project – NOAA, Johnson-Sea-Links Submersible 1975
- Hawaii Humpback Whale Project – National Geographic Magazine 1977-78

- First Solo Ocean Floor Walk/1250 feet – Maui Channel – 1979
- Deep Ocean Technology Submersible Missions – 1980-1986
- Valdez – Prince Edward Sound Oil Spill Recovery Mission – 1989
- Gulf War Oil Spill Recovery Mission – Chief Scientist NOAA – 1991
- National Marine Sanctuaries Program - 1992-1994
- Deep Ocean Exploration and Research Submersibles 1993 – Present
- Sustainable Seas Mission – National Geographic NOAA – 1998-2000
- Deep Search Mission – 2004 - Present
- Google Ocean - 2006

Dr. Earle's current affiliations that form the core network of contributing organizations to *Google Ocean* include: *Woods Hole Institute, NASA, NOAA, Smithsonian Institute, Conservation International, National Geographic Society, Texas A&M-Harte Research Institute, Duke University, Census of Marine Life, Mote Marine Lab, US Navy, Ocean Conservancy, Ocean Futures, National Marine Sanctuary Foundation, Natural Resources Defense Council, and the World Wildlife Fund U.S.*

The development of *Google Ocean's* launch content will be directed by DOER Global Communications project leaders, Liz Taylor, David Riordan and Ken Melville. Liz Taylor is the President of DOER and has participated in more than 50 scientific and educational ocean exploration projects. David Riordan and Ken Melville have over 35 years of experience as television and music producers, interactive game designers, production executives at Time Warner Interactive, Disney Interactive, Sony Interactive Studios and Philips POV Media and managing editors of web communities.

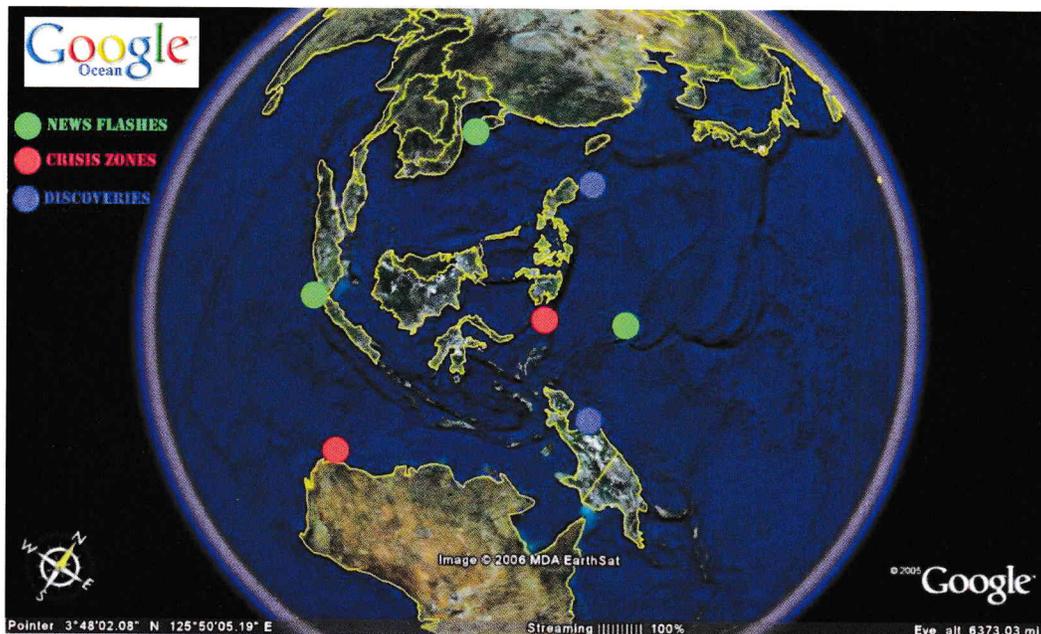
The DOER *Google Ocean* editorial team, in partnership with *Google Earth* technology experts, will prepare the content that will be offered at the launch of the *Google Ocean* interactive map. These efforts will include managing Dr. Earle's network of science, conservation, and exploration experts to create *Google Ocean* points of interest (POI's) and networking with key marine stakeholders to solicit their participation in the *Google Ocean's* ongoing development.

Activating geo-location tags on the *Google Ocean* map will launch attractive pop-up summaries of the selected POI and link to the contributing organization's website for in-depth information.

Google Ocean content will be designed in scaleable modules released over a reasonable time line of 2-3 years. *Google Ocean's* free service may eventually evolve into the core offering for a Digital Marine Communications Campaign that would generate revenue from download fees, advertising supported activities, film and DVD rental receipts, and marine product sales. Revenue generated by this marine communications campaign will be designated to support the operational costs of *Google Ocean* and fund a variety of marine conservation activities.

Google Ocean Map Content

Web visitors will encounter *Google Ocean* through the *Google Earth* web map utility and links to the *Google Ocean* map from participating marine organizations.



Google Ocean is a seamless extension of the current *Google Earth* model. Visitors can scroll to any zip code location on the planet and zoom into these locations for more detail. *Google Ocean*'s layered/filtered geo-location tags denote some marine-related activity, info, or other interest point. They will initially include marine news flashes...



...highlight crisis zones...



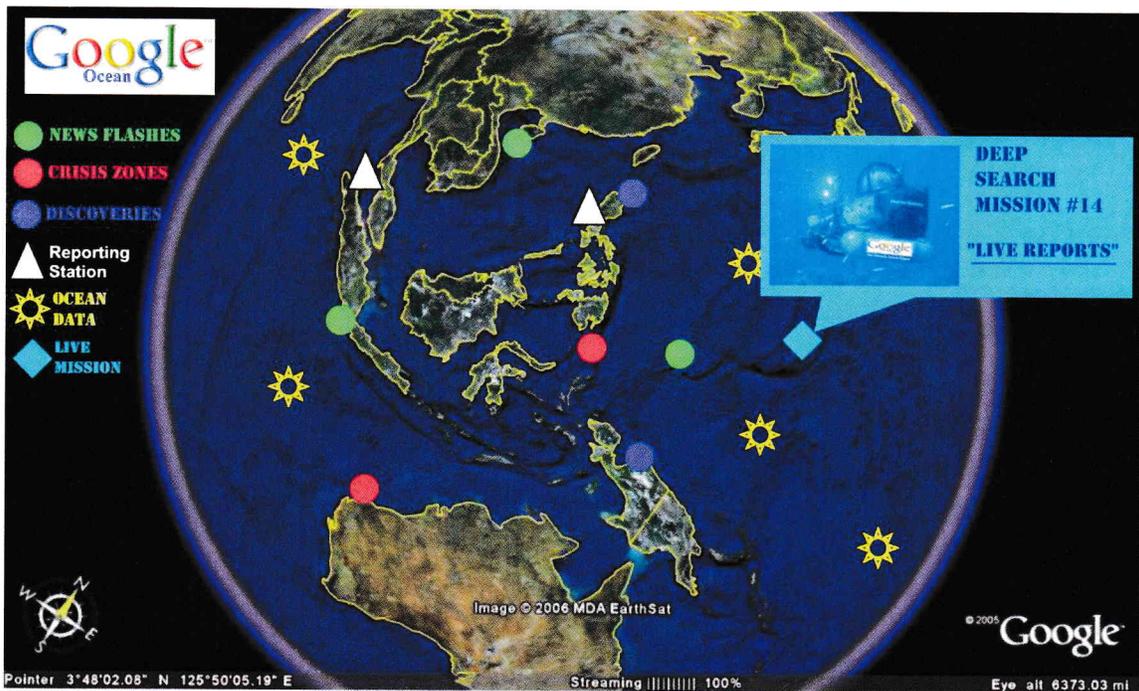
...and offer educational programs.



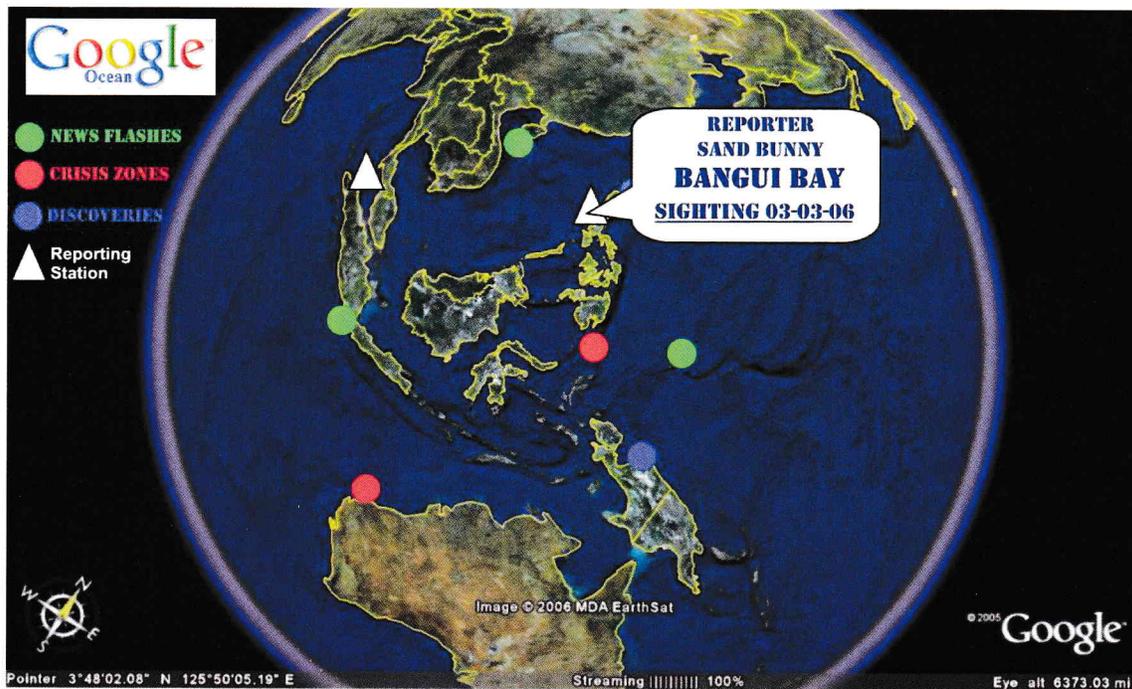
Google Ocean will also include data features like ocean buoys offering real-time ocean condition information, bathymetric imaging of areas such as the Monterey Bay Submarine Canyon or the Marinas Trench, and tracking of weather events like hurricanes with real-time displays of wind speed, barometric pressure and predicted path...



...and links to real-time reports from “live” underwater missions...



Google Ocean's community will also be offered the opportunity to contribute a story, idea or opinion about anything they encounter in Google Ocean content or report on ocean conditions in their areas. The best stories or responses will be rewarded with prizes like collectors decals, hats and license plate holders and given special notice within the Google Ocean member community.



DEEP SEARCH MISSION – Dr. Sylvia Earle/DOER Team



In 2003, the *Defying Ocean's End* conference issued their report recommending new types of marine communication campaigns be developed that would reach the unconverted in the mainstream populace, particularly those under forty years of age. In response to this call, Dr. Earle assembled a team of entertainment, science and technology experts to begin crafting new types of marine messaging about the growing crisis in our oceans. This team included key members of the DOER exploration group plus entertainment producers David Riordan and Ken Melville, cinematic director

Richard Taylor, science experts Dr. Richard Mogford and Dr. Linda Glover, Internet technology specialist Cory Lund, documentary film director John Chester and video game company executives Deb Tillet and Doug Watley.

During 2005 the *Deep Search* mission began to take shape. Drawing on the stories in Dr. Earle's 1995 seminal work *Sea Change – A Message of the Oceans*, the team embraced her dream of building a new kind of deep submersible capable of providing “full access” to the deepest areas of the ocean. The ultimate dive mission, a return to the bottom of the Marianas Trench on the 50th anniversary of the last visit by humans in 1960, was put on the planning board.

To fund this mission, a dramatic film, a documentary television series, a graphic novel franchise, and videogame properties were developed for production and distribution. However, the campaign lacked the all-important connecting piece that invited the general public to visit the oceans in a way they had never done before. In 2006 it became clear to the *DOER - Deep Search* team that the missing piece was *Google Ocean*.

Building on the *Google Earth* technology, *Google Ocean* was envisioned as *the* web location where relevant information and news about our marine environments could be accessed in one place. The *DOER – Deep Search* team considered the interactive globe a perfect tool for providing access to ocean activities while maintaining the context of the fragile Earth as a holistic entity.

To launch *Google Ocean*, the *DOER* editorial team will initially create geo-location tags representing the key history, science and exploration milestones of the last hundred years as chronicled in Dr. Earle's book, *Sea Change*. The *Deep Search* POI's on the *Google Ocean* map will link to in-depth information on the *Deep Search* web portal, *Deep Gate.com*. In a parallel effort, the editorial team will also reach out to Dr. Earle's extensive network of marine organizations to facilitate the creation of POI's that include real-time data buoys, bathymetric data, and real-time and cached-image underwater webcams.

Finally, as *Deep Search* underwater missions are undertaken during the next three years leading up to the Marianas Trench 50th Anniversary mission, the editorial team will create live reports from mission locations and engage a worldwide audience of school children exchanging project results and personal stories about the oceans via the *Distance Learning Network*, an international satellite real-time video classroom experience which links classrooms across the seas and iEARN, the International Education and Resource Network.

Deep Search Mission – The New Book - *Water Planet – The Next Ten Years*

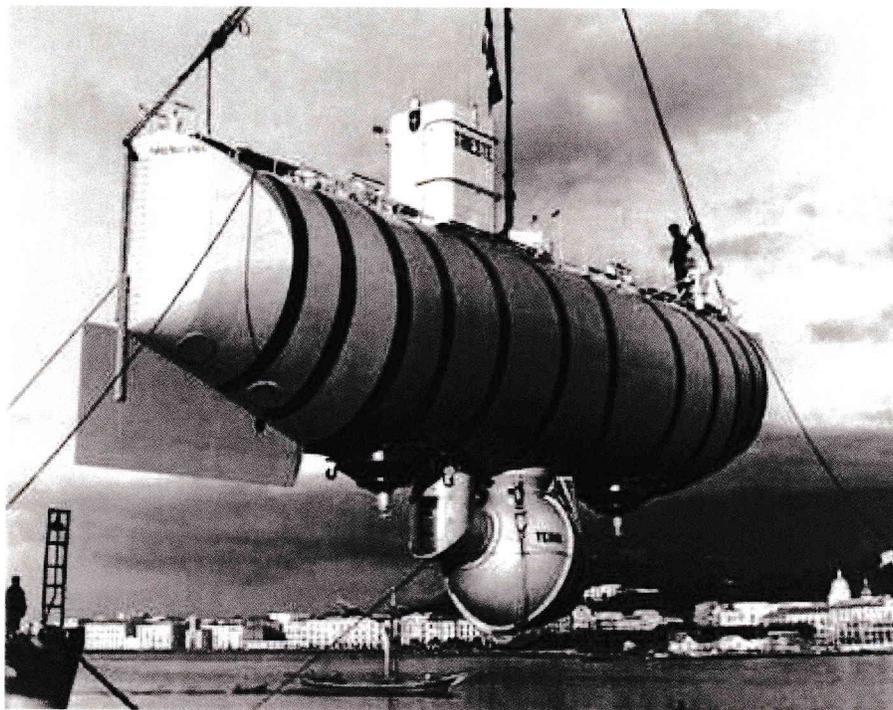
The editorial team will plot the new information presented in Dr. Sylvia Earle's long awaited follow up to her 1995 book, *Sea Change* on to the *Google Ocean* map. In her new book, Dr. Earle chronicles what has happened in marine environments in the ten

years since the publication of *Sea Change*: the challenges, the successes, and the new discoveries.

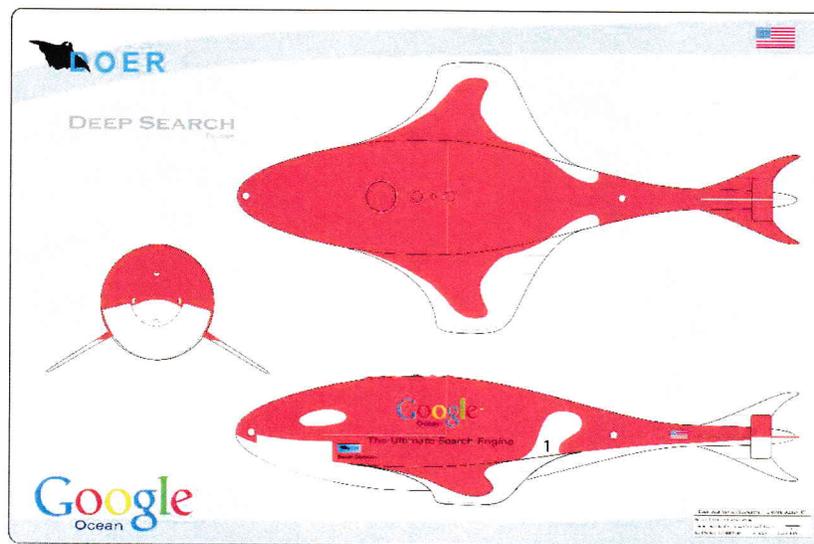
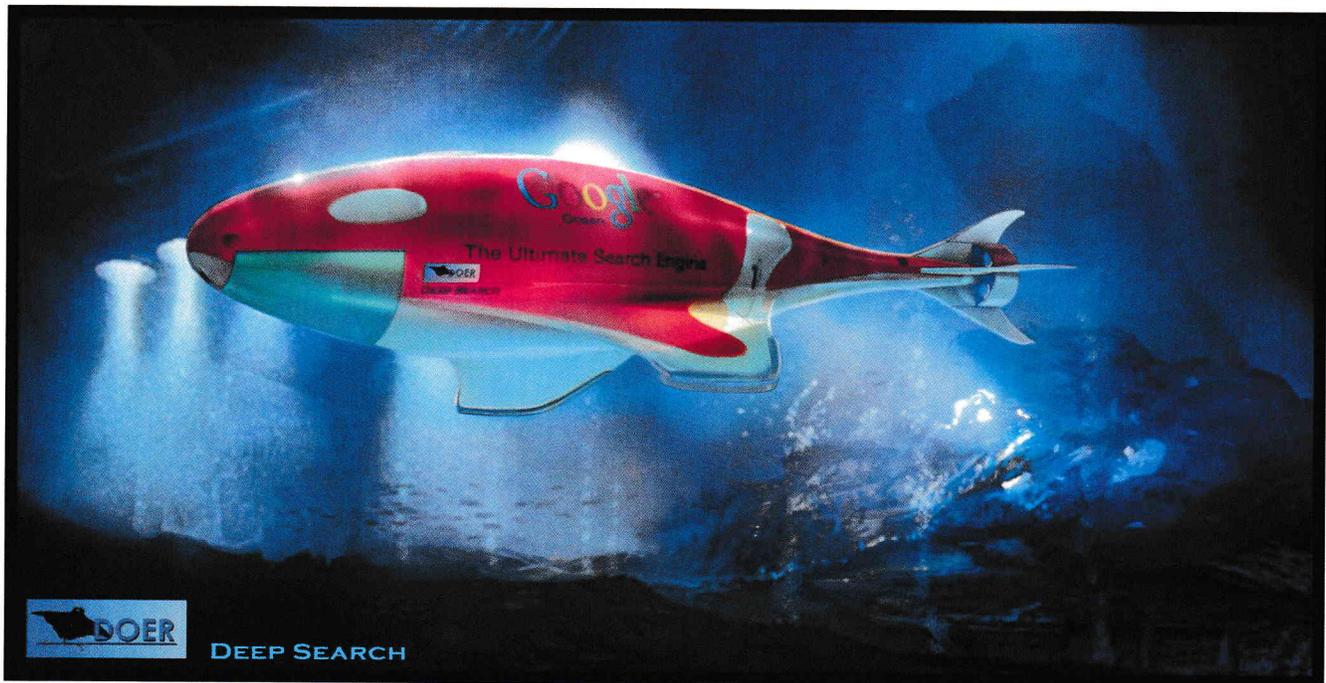
Dr. Earle then turns her attention to the *Deep Search* mission and what we must do in the next ten years to ensure the health of the world's oceans to support the survival of the six billion + humans currently inhabiting the planet. *"The decisions we make in this next decade about our marine environments, whatever they are, will affect generations of humans for many years to come."* Dr. Sylvia Earle

Deep Search Mission – The Documentary Television Series

January 23, 2010 marks the 50th anniversary of the last human mission undertaken to the deepest part of the known ocean, The *Challenger Deep* of the Marianas Trench. On that day in 1960 the U.S. Navy Bathyscaphe Trieste reached the bottom at 35,813 ft (10,916 m) with Navy Lt. Don Walsh and Jacques Piccard on board. No human being has been back since. Their dive changed the way we thought about life at the bottom of the ocean, but left so much unexplored.



In celebration of the 50th anniversary of this historic accomplishment, Dr. Sylvia Earle's privately-held company *Deep Ocean Exploration and Research (DOER)* is planning a return mission to the Challenger Deep with Dr. Earle at the controls of new type of deep-diving submersible called *Deep Search*.



The three-part documentary television series will chronicle the monumental preparations for this mission at *DOER*, the testing of the *Deep Search* submersibles and the actual mission to the bottom of the Marianas Trench.

Dr. Earle says of the *Deep Search* mission...

"The fact remains that below the depth of 150 feet, little of the ocean has been seen, let alone explored. In 1960, two brave men spent half an hour at the great depths of the Challenger Deep, 35,800 feet down. What they witnessed began to change the way we thought about marine life in our oceans. We must go back and complete our education.

With the Deep Search submersibles we intend to open up oceanic exploration again for anyone who wants to add to our knowledge of the deep seas.”

Deep Search—Return to the Bottom of the Sea will air on cable television, rent as a DVD and be made available as a download at iTunes and other iVideo programming services. The *making of* information will be available at the appropriate *Google Ocean* map locations.

Google Ocean Editorial Team Bios

SYLVIA ALICE EARLE

Oceanographer, Marine Botanist, Ecologist
Explorer, Author, Lecturer, Scientific Consultant

Founder, Chairman
Deep Ocean Exploration and Research, Inc.
12812 Skyline Blvd. Oakland, California 94619
Telephone: 510-530-9388 Fax: 510-530-3660

Explorer in Residence
National Geographic Society
1145 17th St. N.W.
Washington, D.C. 20036
Telephone: 202-862-8678

Executive Director for Global Marine Conservation
Conservation International
1919 "M" St. N.W.
Washington, D. C. 20036
Telephone: 202-912-1000

Program Coordinator
Harte Research Institute
Texas A & M
6300 Ocean Drive
Corpus Christi, Texas 78412
Telephone: 361-825-2552

EDUCATION

A.A, 1953 St. Petersburg Jr. College, St. Petersburg, Florida.
B.S., 1955 Florida State University, Tallahassee, Florida
M.A, 1956 Duke University, Durham, North Carolina
PhD, 1966 Duke University, Durham, North Carolina
Additional graduate studies: University of Virginia, Summer, 1955
University of Florida, 1959 - 60; 1964-65

Honorary Degrees:

Doctor of Humane Letters, 1990 Monterey Inst. for International Studies
Doctor of Science, 1991, Ball State University
Doctor of Science, 1992, Washington College
Doctor of Science, 1993, Duke University
Doctor of Science, 1994, University of Connecticut
Doctor of Science, 1994, Ripon College
Doctor of Law, 1996, University of Rhode Island
Doctor of Science, 1996, Plymouth State College
Doctor of Science, 1997, Simmons College
Doctor of Science, 1998, Florida International University
Doctor of Science, 1998, St. Norberts College
Doctor of Science, 1999, Massachusetts Maritime Academy
Doctor of Law, 2004, San Diego University

CURRENT PROFESSIONAL POSITIONS

1992 - present Founder, Chairman, Deep Ocean Exploration and Research; DOER
Marine Operations

- 1998 – present Explorer in Residence, National Geographic Society
Director, NGS-NOAA-Goldman Foundation Sustainable Seas
Expeditions (SSE)
- 2000 - present Program Director and Chairman of the Advisory Board, Harte Research
Institute for the Gulf of Mexico, Texas A & M University, Corpus
Christi, Texas
- 2001 - present Executive Director for Global Marine Conservation, Conservation
International
- 1998 - present Director, Kerr-McGee Corporation

CURRENT NON-PROFIT BOARDS, COMMISSIONS, APPOINTMENTS

- 2003 - present Board Member Aspen Institute
- 2002 - present Board Member Emeritus, Conservation International
- 2002 - present Trustee, Mote Marine Laboratory
- 2002 - present Trustee, New College Foundation
- 2002 - present Board Member, Ocean Conservancy
- 2001 - present Board Member, Psychological Society of America
- 1997 - present Board Member, The Conservation Fund
- 2000 - present National Park Service Advisory Board and Chair, Scientific Committee
- 2000 - present Board Member, the National Marine Sanctuary Foundation
- 2000 - present Board Member, Ocean Futures
- 2001 - present Trustee, The Island School
- 2001 - present Board Member, Student Conservation Association
- 1996 - present Board Member (Honorary), National Marine Educators Association
- 1995 - present Jury Member, World Environment Center
- 1995 - present Trustee, Woods Hole Oceanographic Institution
- 1995 - present Board Member, Natural Resources Defense Council
- 1993 - present Advisor, Whale Conservation Institute
- 1993 - present Corporation member, Sea Education Association
- 1993 - present Advisory Board, Duke University Marine Laboratory
- 1992 - present Marine Programs Advisory Council, University of Rhode Island
- 1990 - present Trustee (Honorary), New England Aquarium
- 1982 - present Council Member, World Wildlife Fund U. S.
- 1981 - present Trustee, Charles A. Lindbergh Fund; President, 1990 - 1995

Liz Taylor

President

Taylor was involved with DOER from its inception and became President and CEO in 1994. In addition to general administration, she handles new business development, customer relations, Ocean Concierge Services, and oversees special projects involving exploration and marine education. She was selected as a representative for a US Department of Interior trade mission to Guam, Saipan and the Marianas Islands. From 1993 to 1995 she served as President of the Perry Foundation's Caribbean Marine Research Center.

Previously, she held an executive position with a leading ROV manufacturing firm for more than eight years. There, she was assigned as customer liaison for complex and one off builds including those for the Egyptian, Brazilian, Swedish, & Singapore Navies, DR1002 manned submersibles, and Mantero ROV. Many of Taylor's former clients followed her to DOER, and today rely upon DOER to provide support, COTS/MOTS upgrades and integration services, extending and enhancing performance of these older systems.

She has participated in more than 50 scientific and educational ocean exploration projects including work with the California Academy of Sciences, National Geographic Society, Ocean Conservancy, BBC, Discovery Channel and The Explorers Club. She is a member of the Marine Technology Society, The Association of Diving Contractors and The Explorers Club. Taylor is a graduate of the University of California, Berkeley, with a B.A. and has authored a number of technical and natural history articles.

David Riordan

Director – Global Communications

As the VP of Production at Time Warner Interactive and Senior Creative Director at Disney Interactive and Philips POV Media, David created more than thirty interactive entertainment experiences for the Internet, CD-ROM games and Interactive Television. He has won numerous awards from major interactive societies including seven Interactive Academy Awards.

He also has extensive expertise in developing Internet web portals and communities like www.oneworldjourneys.com and www.emergingworlds.com. Most recently, he was the consulting producer and web director for *Random 1*, a documentary television series on A&E. www.random1.com.

A sampling of other clients includes; Scripps Networks, Universal-Vivendi-SierraHome, Mass Media, Lynch Entertainment, Triadigm Technology, and Plyent Mobile Network. David's work also includes designing effective communication strategies for marine and land-based conservation organizations.

Ken Melville

Executive Producer – Global Communications

Ken has developed, designed, written, produced and directed successful and innovative products for LucasArts, Sony Interactive Studios, Electronic Arts, Maxis, Sega, Hasbro Inc, JoWood Productions, Digital Pictures, Cinemaware, and Cavedog Entertainment. He also developed and was the managing editor of the *Spirit 7* web portal for last year's groundbreaking *Spirit – the Seventh Fire* concert tour, and maintains and contributes to a variety of blogs and online forums.

Specializing in cutting-edge creative special ops, Ken also has a film scoring background, 3 Emmys, and created *Indie Film Composers/www.indifilm.com*, a global post-production studio for the independent film community.

Richard Taylor

Cinematic Director/Visual Designer

Richard Taylor holds an extensive background in live action direction, production design, special effects, and computer generated images for theatrical films, television commercials and computer games. He's won numerous CLIO, HUGO, MOBIUS and Best Director awards.

Richard is currently Cinematic Director at Electronic Arts/Los Angeles. He has directed the cinematics and promotional trailers for *Lord of the Rings Battle for Middle Earth* and *Sims 2*, among many others. Richard has also worked as Cinematics Director for *Indie Studios*, a division of Microsoft Gaming Studios.

Richard was with Robert Abel and Associates, the pioneer TV commercial graphics/special effects studio, where he served six years as art director/director, and supervised the building of the models, including the *Enterprise*, for *Star Trek the Motion Picture*.

Richard became the creative director at Information International Inc. *III* was one of the first companies to produce computer-generated images for film and television. While at *III* Richard designed and directed the special effects for *Looker*, a Michael Crichton feature and became the co-effects director of the innovative special effects and computer-generated images for Walt Disney's *Tron*, the film that introduced America to the world of computer simulation.

Ian Griffith

VP Operations

As an underwater technologist, Mr. Griffith has extensive experience with a wide variety of systems including submersibles, atmospheric diving systems, remotely operated vehicles (ROVs), custom vehicle platforms, sensor integration, and commercial diving. Mr. Griffith has extensive experience with ancillary equipment integrations, digital and fiber optic interfaces along with practical operational concerns including launch and recovery.

One area of special expertise is infrastructure, especially deep and long tunnel inspection. In the early 1990's Mr. Griffith's designs were key factors in the development of "Mantero", an ROV which set several tunnel penetration records. Since joining DOER in 1996, he has developed a number of fiber optic inspections systems for manned tunnel inspections ranging from 3000 to 22,000 linear feet. He holds a patent on the highly advanced "Morpheus" tunnel inspection system. Much of Mr. Griffith's engineering strength results from years of field experience including on site system modification,

integration, and special project development including dive supervision and support. He has led numerous challenging jobs to success.

Tony Lawson

Engineering Director

Mr. Lawson joined DOER in 2003 as the Engineering Director. He is responsible for mechanical designs, FEA, material selection and fabrication management. Prior to joining DOER, Mr. Lawson worked as the senior design engineer for a leading special effects firm. Projects included numerous "Animatronic" devices designed to imitate natural movements of swordfish, sharks, snakes and Orcas. During that same time, he consulted for Ideo Product Design as a Senior Design Engineer. From 1993 to 1996, he worked as a senior mechanical engineer for a leading remotely operated vehicle manufacturer and was responsible for a wide range of projects including manned submersibles, nuclear inspection systems & submersible rescue systems in addition to design and integration of ancillary devices. He holds a B.S. in Engineering from UC Santa Barbara with additional course work in Mechanical Design, Ocean Structures and Marine Vessels. Mr. Lawson's engineering strengths are complimented by his practical knowledge of commercial diving, machine shop fabrication, welding, composite materials, and heavy equipment.

Linda Glover

Technical Science Advisor

Ms. Glover serves as a technical science advisor to DOER. She has 38 years of experience working with the Federal Government for the Navy, NOAA, and National Reconnaissance Office. Her background and research experience as a marine geologist and chemist along with her applied Navy research experience with acoustics, surveillance, and search/salvage have made her a valued advisor to DOER over the years.