Discovery CHANNEL

DISCOVERY CHANNEL, BBC, PROSIEBEN AND DARLOW SMITHSON PRODUCTIONS JOIN FORCES FOR AN UNPRECEDENTED INVESTIGATION OF THE SEABED IN THE INDIAN OCEAN TO HELP PREDICT FUTURE TSUNAMIS

—The Investigation's First Dive, Slated for Wednesday, May 11, Starts Production of JOURNEY TO THE HEART OF THE TSUNAMI To Be Telecast Later This Year —

Discovery Channel and the BBC announced today they are joining as broadcast partners with an expedition of top scientists to explore the seabed site of the Asian Tsunami. Working with BAFTA award-winning independent television production company, Darlow Smithson Productions, scientists will begin diving three miles to the sea floor off the Indonesian coast.

For the first time ever, and in an attempt to understand what really caused the devastating 2004 Tsunami, the crew will send cameras deep into the abyss to witness first-hand the collision between the earth's crustal plates and provide scientific research with the aim to provide accurate warnings of when and where the next tsunami may hit.

Julian Ware, Head of Special Projects, Darlow Smithson Productions says "*Journey to the Heart of the Tsunami* will be a genuine scientific enquiry of significant interest to geologists, physicists and seismologists, and indeed, to many branches of science in general. We have planned the expedition meticulously with the aid of the world's leading experts, and we expect to return with data that will be hugely beneficial to our understanding of such phenomenon – while at the same time providing dramatic TV footage of the epicenter that triggered the Tsunami."

Phil Fairclough, Acting GM & SVP of Production for Discovery Channel US, stated, "This ambitious exploration three miles below the Indian Ocean will provide hard scientific findings that will help scientists predict future tsunamis and therefore minimize the devastation and loss of life that resulted from the 2004 tsunami. It is our hope that Discovery Channel's participation in these types of significant scientific endeavors helps to push science further into the future. Partners like Darlow Smithson and the BBC enable Discovery to go places that no other cable network has been able to go."

The team is comprised of the world's foremost scientific authorities, including seismologists, geophysicists, biologists, seabed visualization experts and tsunami modelers, who will spend 17 days aboard the *MV Performer*, a purpose built deep-water research ship in the Indian Ocean.

The expedition will be documented in a global two-hour special, **Journey to the Heart of the Tsunami**, produced by award winning company Darlow Smithson, broadcast on Discovery Channel in the US, on BBC One in the UK and ProSieben in Germany in the autumn of 2005. The special will air on Discovery Channel in Europe, Asia, India and Latin America in the winter.

Darlow Smithson Productions (DSP) is one of the most prestigious and celebrated independent production companies in the UK. With an unsurpassed reputation for producing high quality factual programmes for both UK and international broadcasters, DSP has achieved worldwide industry recognition for its groundbreaking docu-drama, series and documentaries.

Discovery Channel is the United States' largest cable television network, serving 89.9 million households across the nation with the finest in informative entertainment. Discovery Networks, U.S., a unit of Discovery Communications, Inc., operates and manages Discovery Channel, TLC, Animal Planet, Travel Channel, Discovery Health Channel, Discovery HD Theater, Discovery Kids Channel, Discovery Times Channel, The Science Channel, Discovery Home Channel, Military Channel, Discovery en Español and FitTV. The unit also distributes BBC AMERICA.

For more information, please log onto discovery.com.

SCIENTIFIC GOALS

This is a truly international project involving the world's foremost scientific authorities, including seismologists, geophysicists, biologists, sea bed visualisation experts and tsunami modelers. They will spend 17 days aboard the *MV Performer*, a purpose built deep-water research ship in the Indian Ocean.

Using state of the art camera equipment and powerful HMI lighting, the team will use a unique remotely operated submersible to descend nearly 3 miles below sea level to the deformed face of the subduction zone itself, as they attempt to discover truths currently unknown to science. Their investigations will enable DSP to unfold a second by second account of the disaster, from the first subterranean tremors, to the moment of impact on shore which will be recreated using photo-real CGI. (Computer Generated Images)

Subduction zones are the areas of the earth where one crustal plate is being forced beneath its neighbour and deep into the fiery heart of the planet. It happens at the speed that fingernails grow,

it never stops, and the effects are truly devastating – resulting in earthquakes, volcanoes and tsunamis. Unlike anything ever seen before, The Programme will take viewers as close as man will ever come to a true journey into the underworld.

Co-chief Scientist Prof. Kate Moran, Geotechnical Engineer, Department of Ocean Engineering and Graduate School of Oceanography, University of Rhode Island, ""We want to explore and reconstruct the geological forces that caused the Indonesian tsunami, and we're going to do so by bringing together groups of scientists and modelers in a way that's never been done before at sea. We hope to learn exactly how the tsunami waves were generated so we can be better prepared for future tsunamis."

Marine Coordinator, David L. Mearns, Director of Blue Water Recoveries Ltd. says, "This expedition is an extraordinarily rare opportunity to discover and investigate the seabed deformations caused by one of the greatest recorded earthquakes in history - just 4 months after the disaster occurred. We have brought together 21 scientists from 11 institutions and representing 6 nationalities that cover every significant specialist field to achieve the fullest understanding possible about the earthquake, how it deformed the seabed and created such a devastating deadly tsunami. They are only a handful of ships in the world today with sonar and submersible technology that can reach 6,000 metres depth so we are very fortunate that *The Performer* was in the right place at the right time for this expedition."

A number of international government agencies, private foundations, corporations, and academic institutions have provided financial and in-kind support of the science party. They include Geological Survey of Canada, Alfred P. Sloan Foundation, University of Rhode Island, University of New Hampshire, University of Delaware, British Geological Survey, University of Texas, Oceaneering, National Science Foundation, Penn State University, the National Science Foundation's ARMADA Project (http://www.armadaproject.org/), the Alfred P. Sloan Foundation's Census of Marine Life Program (http://www.coml.org/), BP Marine Limited and Science Application International Corporation (SAIC). Oceaneering Inc the company providing the vessel, *The Performer*, to the expedition has agreed to forego the bulk of their standard mobilization costs.

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Scientific Team

Dave Tappin (Co-Head)	British Geological Survey	British
Kate Moran (Co-Head)	University of Rhode Island	American/Canadian

BIOLOGY

3. Paul Tyler (Head)	Census of Marine Life National Oceanography Centre, Southampton	British
4. Joelle Galeron	IFREMER	French
5. Baban Ingole	National Institute of Oceanography, India	Indian
6. Jon Copley	National Oceanography Centre, Southampton	British
7. Cindy Van Dover	Census of Marine Life College of William and Mary	American

GEOPHYSICS

8. David Mosher (Head)	Geological Survey of Canada	Canadian
9. Borden Chapman	Geological Survey of Canada	Canadian
10. James Austin	University of Texas	American
11. Steffen Saustrup	University of Texas	American
12. Tim Henstock	National Oceanography Centre, Southampton	British
13. Lisa McNeill	National Oceanography Centre, Southampton	British

TECTONICS & SEISMOLOGY

14. Yang Shen	University of Rhode Island	American
15. Don Fisher (Head)	Penn State University	American
16. Tim Masterlark	Science Applications International	American

TSUNAMI MODELLING

17. Stefan Grilli (Head)	University of Rhode Island	Belgian/American

18. Fred Dias	Ecole Normale Sperieure	French
19. Monsour Ioualanem	University of Nice	French
20. Aaron Bradshaw	University of Rhode Island	American

SEABED VISUALIZATION

21. Larry Mayer (Head)	University of New Hampshire	American
22. Roland Arsenault	University of New Hampshire	American

23. Colin Ware	University of New Hampshire	American
24.Kate Collins	Universoty of Britsih Columbia	Canada

25. Susan Holt	ARMADA Teacher, Arizona	American
26. David Mearns	Bluewater Recoveries	British
27. Jim Mercer	Bluewater Recoveries	British

Note to Editors:

Background on Scientific Mission
Scientists will focus their investigation on the southern part of the earthquake rupture zone that caused the tsunami. The seafloor will be imaged with high-resolution seismic reflection techniques to identify, evaluate and interpret the size and character of the seafloor displacements that occurred during the 9.3M earthquake. Seafloor displacement features will be "ground-truthed" to confirm that they occurred on December 26th by studying their morphology and structure as well as any associated seafloor megafauna using ROV imagery and sampling. For example, co-seismic displacements will have disrupted the pre-earthquake seafloor ecology. In the case of landslides, the slide scar areas will have exposed a biologically barren seafloor.

Co-chief Scientists Dr. Kate Moran (Department of Ocean Engineering and Graduate School of Oceanography, University of Rhode Island) and Dr. David Tappin (British Geological Survey) will lead the expedition. Dr Moran is a geotechnical engineer with extensive experience in assessment of seafloor stability. Last summer, she led the IODP Arctic drilling expedition (ACEX; www.rcom-bremen.de/English/IODP.html) as Co-chief scientist. Dr. Tappin is an expert in the study of geological processes inducing tsunamis. He has previously led major research cruises to study landslide generated tsunami events and recently returned from the HMS Scott expedition. The science party is comprised of four major teams: biology, geophysics, modeling, and visualization.

Targeted seafloor features such as landslides and fractures will be surveyed using the seismic equipment and a ROV and to investigate whether these events are recent. The biology team led by Dr. Paul Tyler (National Oceanography Centre Southampton and deep-sea expert with the Census of Marine Life) together with Dr. Baban Ingoli (National Oceanographic Institute of India), Dr. Joelle Galeron, (IFREMER), and Dr Jon Copley (National Oceanography Centre Southhampton). Dr. Cindy

Lee VanDover (William and Mary College and Census of Marine Life ROV and submersibles expert) will provide support for the expedition from aboard RV Melville in the Lau Basin.

The geophysics team, led by Dr. David Mosher (Geological Survey of Canada, GSC), will conduct seismic reflection surveys that, in association with the Scott bathymetry, will be used to construct a 3D image of seafloor and interpret its characteristics, e.g. multiple landslides, level of complexity of seafloor disturbances, types of deformation, etc. These data will be collected by running a closely spaced survey grid over specific sites within the earthquake rupture zone. The scientific team includes Dr. Borden Chapman of GSC, Dr. Steffen Saustrup and Dr. James A. Austin, Jr. from the University of Texas at Austin, and, Dr. Tim Henstock and Lisa McNeill from the National Oceanography Centre, Southampton, UK. The GSC is providing the seismic equipment at no cost to the expedition.

Dr. Don Fisher, a Pennsylvania State University geologist who specializes in the tectonics of subduction zones, will lead the Tectonics and Seismology Team, whose mission is to interpret the seafloor displacements as input to an earthquake model that will provide better hindcasting of the overall seafloor displacements. His team includes Dr.Yang Shen from the University of Rhode Island, Tim Masterlark from Science Applications International Corporation, SAIC.

The interpretation and modeling efforts will be interactive and require constant interaction between the geophysics and the modeling teams. Prof. Stephan Grilli, a University of Rhode Island expert in wave and tsunami modeling and experiments, will lead the modeling team that includes Prof. Frédéric Dias (Ecole Normale Supérieure, Cachan, Paris, France), a wave modeling expert, Dr. Mansour Ioualanem (GéoScience Azur, Nice, France), a wave and tsunami modeling expert, Prof. James Kirby (Center for Applied Coastal Research, University of Delaware), a wave and tsunami modeling expert, and Kate Collins, a graduate student form the University of British Columbia. Mr. Aaron Bradshaw, an engineering graduate student from the University of Rhode Island, will work on slope stability. Prof. Chris Baxter (URI), a marine geo-mechanics and slope stability expert, will provide shore-based support.

Interaction among the teams is critical and relies on their ability to visualize the multi-beam, high-resolution seismic reflection data, and model results in a 3D visualization system. The visualization team led by Prof. Larry Mayer (Director, Center for Coastal and Ocean Mapping (CCOM, University of New Hampshire, UNH) includes Roland Arsenault and Dr. Colin Ware. Prof. Mayer is a pioneer in seafloor imaging and visualization techniques CCOM is providing the visualization equipment at no cost.

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