



# Marcia Kemper McNutt

GRFP Recipient: 1973

*Undergraduate Institution:*  
B.S. 1973, Colorado College

*Graduate Institution:*  
Ph.D. 1978, Scripps Institute of  
Oceanography

*Graduate Field of Study:*  
Earth Sciences, Geophysics

//

*Current Position:*  
Director, U.S. Geological Survey

## RESEARCH INTERESTS //

Marcia Kemper McNutt's research foci include studies of ocean island volcanism in French Polynesia, continental break-up in the Western United States, and uplift of the Tibet plateau. McNutt participated in 15 major oceanographic expeditions and served as chief scientist on more than half of them. She has published 90 peer-reviewed scientific articles.

## BROADER IMPACTS OF MY WORK ON SOCIETY //

As for broader impacts, probably the most important work I have done recently was on the Deepwater Horizon oil spill. During the summer of 2010 I spent 4 months in Houston at BP headquarters as part of a government team helping to contain the oil and cap the well. I also led the Flow Rate Technical Group convened by Admiral Thad Allen to estimate the flow rate of the Macondo well. I organized a special issue of the Proceedings of the National Academy of Sciences along with NOAA Administrator Jane Lubchenco that pulls together the science that was undertaken in the course of the oil spill. That special issue is in the final stages of being completed. I am first author on two manuscripts and co-author on two others.

## A PERSONAL BENEFIT OF THE GRF PROGRAM //

As for how I personally benefited from my GRF, during my time in graduate school I had more freedom to explore a wider range of courses and research topics than my fellow graduate students who were supported on TAs or RAs

(teaching and research assistantships). I developed a basic understanding of the concepts (and vocabulary) for marine geology, marine chemistry, and physical oceanography that allowed me to appreciate seminars given outside my fields of marine geology and geophysics. The fact that I now work across many different fields of environmental sciences started from the appreciation I developed for interdisciplinary work during my NSF fellowship years.

#### A FOND MEMORY OF MY EXPERIENCE OF MY NSF GRADUATE FELLOW //

As for a fond memory, my graduate advisor sent me my first summer out to Coronado and San Clemente Islands to train with the Navy Seal teams in underwater demolition. This training would be useful for marine seismic refraction work. I would not have had the chance to train with the Seals if I had had to spend the summer “earning my keep” as an RA. One important side effect of my summer with the Seal Teams is after I returned to graduate school, having graduated at the top of my class in explosives training, I had new-found respect from my all-male colleagues. As one of the few women in graduate school at the time, it helped to have an opportunity like that to show that I was as tough as any of my classmates. No one messed with me.

#### AWARDS/ HONORS //

- Fellow, American Geophysical Union, Geological Society of America, American Association for the Advancement of Science and International Association of Geodesy
- Member, National Academy of Sciences Macelwane Medal for research accomplishments by a young scientist, American Geophysical Union (1988)
- President, American Geophysical Union (2000-2002) Maurice Ewing Medal for significant contributions to deep-sea exploration (2007)

#### POSITION PROFILE//

- 1978 Visiting assistant professor, University of Minnesota
- 1979 Geophysicist, U.S. Geological Survey
- 1982 Griswold Professor of Geophysics, Massachusetts Institute of Technology
- 1997 President and CEO, Monterey Bay Aquarium Research Institute
- 2009 Named by President Barak Obama as the director, U.S. Geological Survey, and science advisor to the secretary of the interior

