# William John Merrell, Jr.

Professor, Department of Marine Sciences Texas A&M University at Galveston

## **PROFESSIONAL INTERESTS:**

Ocean and coastal policy
The Earth as an integrated system
Mesoscale and large-scale circulation patterns and property distributions in the ocean

# **ACADEMIC ATTAINMENT:**

B.S. Physics and Mathematics majors

Sam Houston State College Huntsville, Texas 1965

M.A. Physics major; Mathematics minor

Sam Houston State College Huntsville, Texas 1967

Ph.D. Oceanography major

Texas A&M University College Station, Texas 1971

## **PROFESSIONAL EXPERIENCE:**

Director, Center for Texas Beaches and Shores Texas A&M University at Galveston, 2006 - 2009

Interim CEO

Texas A&M University at Galveston 2010 - 2011

George P. Mitchell Professor

Texas A&M University at Galveston, 2002 - present

President

The H. John Heinz III Center for Science, Economics and the Environment, 1995 - 2002

Vice Chancellor for Strategic Programs

The Texas A&M University System, 1993-1995

# Vice President for Research Policy Texas A&M University, 1992-1993

### President

Texas Institute of Oceanography, 1989-1991

### President

Texas A&M University at Galveston, 1987-1992

## Coordinator of Marine Programs

The Texas A&M University System, 1987-1992

### **Assistant Director**

National Science Foundation, 1985-1987

### Professor

Departments of Oceanography Texas A&M University, 1985-2002

#### Director

Division of Atmospheric and Marine Sciences College of Geosciences Texas A&M University, 1985

# Principal Investigator

Ocean Drilling Program
Texas A&M University, 1983-1985

### Associate Dean

College of Geosciences Texas A&M University, 1983-1984

#### Director

Earth Resources Institute Texas A&M University, 1983-1984

### **Associate Professor**

Department of Oceanography Texas A&M University, 1981-1985

## Deputy Department Head

Department of Oceanography Texas A&M University, 1981-1983

## Program Manager

Gulf of Mexico Topographic Features Synthesis, 1981-1983

### Oceanographer and Manager

Climate and Coastal Zone Branch Science Applications, Inc., 1979-1980

### Associate Director

Earth Resources Institute Texas A&M University, 1978-1979

#### Assistant to the Dean

College of Geosciences Texas A&M University, 1978-1979

## Deputy Sea Grant Director

Texas A&M University, 1977-1978

# Lecturer and Deputy Department Head

Department of Oceanography Texas A&M University, 1977-1979

#### **Executive Officer**

Office of the International Decade of Ocean Exploration National Science Foundation, 1974-1977

#### Research Associate

Department of Oceanography Texas A&M University, 1973-1974

## Research Program Management System Officer

Office of the International Decade of Ocean Exploration National Science Foundation, 1972-1973

### Research Associate

Department of Oceanography Texas A&M University, 1969-1972

## **PROFESSIONAL RECOGNITION:**

National Hurricane Conference Outstanding Achievement Award – Mitigation 2017

Bay Area Houston Economic Development Quasar Award 2015

Galveston Chamber of Commerce Unsung Hero Award 2013

Who's Who (Various)

Rear Admiral (Retired)

United State Maritime Service

Distinguished Achievement Award - 1990 Geosciences and Earth Resources Council

Distinguished Alumni Award - 1988 Sam Houston State University

Distinguished Service Award - 1987 National Science Foundation

Distinguished Member Award - 1987, Sigma Xi Texas A&M University

Distinguished Service Award - 1984
National Science Foundation
Team Award for Ocean Drilling Program

Texas Academy of Sciences

Oceanography Society

Alpha Chi

Sigma Pi Sigma

Phi Kappa Phi

Sigma Xi

Executive Leadership and Management Program - Federal Executive Institute

University Fellow - 1970, Texas A&M University

NDEA Fellow - 1967 to 1969, Texas A&M University

Graduate Fellow - 1965 to 1967, Sam Houston State College

Physics Award - 1964, Most outstanding undergraduate student in physics

## **PROFESSIONAL ACTIVITIES:**

Member, Community Recovery Committee, City of Galveston, 2009

Member, The Mayor's Committee on the East End Lagoon Preservation Project, City of

Galveston, 2008 to present

Member, Natural Resources Subcommittee, City of Galveston, 2008

Member, Coastal Hazards Subcommittee, City of Galveston, 2008

Chair, Sustainability Subcommittee, City of Galveston, 2008

Member, Advisory Council, Trust for Public Land, 2007

Member, Comprehensive Plan Review Committee, City of Galveston, 2006

Member, Hurricane Recovery Task Force, City of Galveston, 2006 to present

Member, NCAR Advisory Committee, 2005

Advisory Director, Frost Bank, 2005 to present

Chair, Board of Directors, The Institute for Oceans and Coasts, 2005

Member, BP Bay Crossing LNG Community Advisory Panel, 2005

Member, Advisory Committee, Frank Evans Mediation Center, South Texas School of Law, 2005 to present

Co-Chairman, Fish Performance Measures Workshop, NOAA Fisheries, 2002

Chairman, Workshop on Individual Fishing Quotas, NOAA Fisheries, 2002

Chairman, Summer Flounder Workshop, NOAA Fisheries, 2001

Member, Advisory Council for the National Center for Atmospheric Research, 2001present

Member, Subcommittee on Global Change Research Programs, Biological and Environmental Research Advisory Committee, U.S. Department of Energy, 2001present

Member, Executive Campaign Cabinet
Earth Systems Science Research Center
University of California, Irvine, 2000-present

Member, U. S. President's Panel on The Ocean Exploration U.S. Department of Commerce, 2000

Panel Chair, Governance

Oceans for the New Millennium: Developing and Implementing Ocean Policy

American Geophysical Union and the American Association for the Advancement of Science, Washington, DC, July 18, 2000

Member, Board of Directors

Houston Advance Research Center, 1999-2015

Member, Task Group on Assessment of NASA Plans for Post-20002 Earth Observing Missions Space Studies Board, National Academies of Science, 1997-1999

Member, Meeting of Eminent Persons on the Geosciences and the United Nations System, December, 1996

Member, Global Commons Advisory Committee Houston Advanced Research Center, 1995-present

Member, Scientific Programs Evaluation Committee University Corporation for Atmospheric Research, 1995-2000

Member, Board on Sustainable Development National Research Council, 1995-present

Member, Committee on Global Change National Research Council, 1995-1997

Member, Historic Preservation Board City of Galveston, 1995-present

Chair, Ocean Studies Board National Research Council, 1994-1997

Member, Advisory Committee for Geosciences National Science Foundation, 1994-1995

Member, Scientific Committee Outer Continental Shelf Advisory Board Department of Interior, 1993-1999

Member, Advisory Committee for Research Programs
Texas Higher Education Coordinating Board, 1993-1999

Member, Board of Advisors Galveston Historical Foundation, 1992-1994

Member, Fisheries Committee National Research Committee, 1992-1994 Chair, Committee on International Space Programs National Research Council, 1992-1994

Member, Ocean Studies Board National Research Council, 1991-present

Member, Board of Directors United States National Bank, 1991-present

Member, Earth Observation System Review Panel Committee on Global Change National Research Council, 1990

Member, Advisory Board A.A. White Dispute Resolution Institute, 1990-1995

Member, Committee for U.S. Global Change Program Committee on Global Change National Research Council, 1990

Member, Committee on Human Exploration of Space National Research Council, 1990-1997

Chairman, Marine Division
National Association of State Universities and Land Grant Colleges, 1989-1991

Member, Space Studies Board National Research Council, 1989-1994

Member, Board of Directors
Galveston Chamber of Commerce, 1989-1994

Chairman, Advisory Committee on Oceanography NASA Headquarters, 1989

Member, Board of Directors
Galveston Economic Development Corporation, 1989-1997

Member, Program Committee
Chapman Conference on the Physics of the Gulf of Mexico, 1989

Member, Board of Counselors St. Mary's Hospital, 1989-1994

Member, Scientific Advisory Committee Galveston Bay National Estuary Program, 1989

# Member, Presidential Search Committee Prairie View A&M University, 1989

Vice Chairman, Committee on Science and Technology
American Association of State Colleges and Universities, 1988-1989

Member, Board of Directors
Offshore Energy Museum, 1988-1994

**Advisory Trustee** 

Galveston Bay Foundation, 1988-present

Member, Board of Directors

The William Temple Foundation, 1988-1991

Member, Board of Directors

Galveston Historical Foundation, 1988-1992, 1994-present

Member, Presidential Search Committee Texas A&M University, 1988

Member, Board of Councilors,

Texas A&M Research Foundation, 1988-1995

Member, Committee of Advisors

28th International Geological Congress, 1986-1995

Member, Antarctic Policy Committee, 1985-1987

Member, Federal Relations Committee

National Association of State Universities and Land Grant Colleges, 1985

Member, Ocean Sciences Advisory Committee

Sub-Committee on National and Regional Facilities

National Science Foundation, 1985

Member, Marine Research Coordination Committee

Texas A&M University System, 1984

Member, International Marine Sciences Committee

National Association of State Universities and Land Grant Colleges, 1984-1985

University Delegate, Marine Division

National Association of State Universities and Land Grant Colleges, 1983-1985, 1987-1989

Member, Executive Committee

### JOIDES 1983-1985, 1987-present

Member, Board of Governors, Joint Oceanographic Institutions, Inc., 1983-1985, 1987-1992

Treasurer, Joint Oceanographic Institutions, 1982-1983

Coordinator, Workshop on the Circulation of the Gulf of Mexico Mexico City, Mexico, October 1982

Member, Executive Committee Ocean Sciences Advisory Committee National Science Foundation, 1981-1983

Member, Graduate Faculty
Texas A&M University, 1981-present

Member, U.S.-Mexico Workshop Group in the Ocean Sciences, 1978-1981

Member, Research Council Texas A&M University, 1978-1979, 1983-1984

Member, Oceanographic Facilities Review Panel National Science Foundation, 1978-1980

Consultant, Foreign Governments
Industry and Admiralty Law Firms, 1977-present

Chairman, Technological Advances Associated with the International Decade of Ocean Exploration, Marine Technological Society Meeting, Los Angeles, California, 1977

Head, United States Delegation

Fifth Regional Meeting on Training, Education and Mutual Assistance (TEMA), Montevideo, Uruguay, 1976

Member, United States Delegation

Intergovernmental Oceanographic Commission's Symposium on the "El Nino," Guayaquil, Ecuador, 1974

## **REPORTS AND PUBLICATIONS**

1967 Merrell, W. J., Jr. Effects of an electric field on the thermoluminescent glow curve on lithium fluoride. Master's Thesis, Sam Houston State College, Huntsville, Texas 35 pp.

1968 Paris, J. F., J. Arnold, F. Chmelik and W. J. Merrell, Jr. Scientific value

- (of Apollo 502 photography) for oceanography and marine meteorology. Chapter 9, NASA Report on the Scientific Value of Apollo 502 Photography for Earth Sciences.
- 1969 Merrell, W. J., Jr., J. G. Paris and R. E. Whitaker. Scientific value (of Apollo 9 Photography) for oceanography. Chapter 9, NASA report on the Scientific Value of Apollo 9 Photography for Earth Sciences.
- 1969 Merrell, W. J., Jr. Apollo photography and multisensor aircraft data. Published in *Proceedings of the Color of the Ocean Conference*, Woods Hole, Massachusetts, August 5-6, 1969.
- 1969 Merrell, W. J., Jr. And R. E. Whitaker. An oceanography analysis of data recorded on ships and aircraft, NASA, Aircraft Mission 91, Site 705, Veracruz, Mexico. Technical Report, 13 pp.
- 1969 Merrell, W. J., Jr., and J. F. Paris. Scientific value (of Apollo 7 photography) for oceanography. Chapter 9, NASA Report on the Scientific Value of Apollo 7 Photography for Earth Sciences.
- 1970 Merrell, W. J., Jr. and G. L. Huebner. The use of aerial photography in offshore operations. *Offshore Magazine*, March 1970.
- 1970 Merrell, W. J., Jr. and R. E. Whitaker. A "Quick-look" analysis of aircraft data NASA Aircraft Mission 96, Site 805; Cabo Frio, Brazil. Texas A&M University Technical Report, 9 pp.
- 1971 Merrell, W. J., Jr. Wind-induced inertial oscillations in a linearly stratified sea. Ph.D. Dissertation, Texas A&M University, College Station, Texas 97 pp.
- 1973 Collings, C. A., J. Carlmark, W. S. Wilson, W. J. Merrell, Jr. and T. S. Barnett. The North Pacific Experiment Probes Weather Phenomenon, Marine Technology Society Journal, Jan.-Feb. 1973.
- 1973 Morrison, J. M., W. J. Merrell, Jr. and W. D. Nowlin, Jr. The Waters of the Eastern Gulf of Mexico as observed during May 1972. Reference 73-10-T, Texas A&M University, May, 1973.
- 1975 Murphy, D. L., D. F. Paskausky, W. D. Nowlin, Jr. and W. J. Merrell, Jr. Movement of surface drifters in the American Mediterranean, *J. Phys. Oceanogr.*, 5:549-551.
- 1976 Morrison, J. M., W. D. Nowlin, Jr. and W. J. Merrell, Jr. A Fall portraiture of the Eastem Caribbean, *Proceedings CICAR Symposium II*, Caracas, Venezuela, July, 1976, Abstract.
- 1978 McNally, G., A. D. Kirwan and W. J. Merrell, Jr. Technical evaluation of ADS II drifter performance. Technical Report, Texas A&M University, 182 pp.

- 1978 Kirwan, A. D., G. McNally, E. Reyna and W. J. Merrell, Jr. The near surface circulation of the eastern North Pacific. *J Phys. Oceanogr.*, 8:937-945.
- 1979 Merrell, W. J., Jr., J. M. Morrison, R. L. Molinari, W. D. Nowlin, Jr., I. H. Brooks and R. Yager. A description of the circulation observed in the eastem Gulf of Mexico during CICAR Survey. *Proceedings of the CICAR Symposium II*, Month 11, May 1982
- 1980 Kirwan, A. D. and W. J. Merrell, Jr. Comments on "Review of relative diffusion analysis and results." *J Phys. Oceanogr.*, 10:994-995.
- 1981 Merrell, W. J., Jr. and J. M. Morrison. On the circulation of the western Gulf of Mexico with observations from April, 1978. *J. Geophys. Res.*, 86:4181-4185.
- Merrell, W. J., Jr. and J. M. Morrison. Circulation patterns and water mass characteristics of the Gulf of Mexico. Presented at the AGU/ASLO Ocean Sciences Meeting, Feb. 16-19, 1982. Abstract in EOS, Jan. 19, 1982.
- 1982 Lewis, J. K., R. E. Whitaker and W. J. Merrell, Jr. The effects of a stretched-grid coordinate system on long-wave dispersion and energy characteristics. *J. Geophys. Res.* 87:4265-4266. AGU.
- 1982 Morrison, J. M. and W. J. Merrell. Property Distributions Within the Western Gulf of Mexico. Presented at the Spring AGU. Abstract in EOS, May 4, 1982.
- 1983 Sahl, L. E., W. J. Merrell, Jr. and D. W. McGrail. Currents and property distributions on the Texas shelf and slope in March 1981 and 1982. Presented at the Fall AGU. Abstract in EOS, November 9, 1982.
- Morrison, John M., W. J. Merrell, Jr., R. M. Key and T. C. Key. Property distributions and deep chemical measurements within the Western Gulf of Mexico. *J. Geophys. Res.*, 88:2601-2608.
- Merrell, William J. and Alberto M. Vasquez. Observations of changing mesoscale circulation patterns in the Western Gulf of Mexico. *J. Geophys. Res.*, 88:7721-7723.
- 1983 Kirwan, A. D., W. J. Merrell, Jr., J. K. Lewis, R. E. Whitaker and R. Legeckis. Extraction of current shear from satellite-tracked drifters. Presented at the IAPSO Symposium at the General Assembly of the IUGG in Hamburg, FRG.
- 1984 Kirwan, A. D., W. J. Merrell, Jr., J. K. Lewis, R. E. Whitaker and R. Legeckis. A model for the analysis of drifter data with an application to a warm core ring in the Gulf of Mexico. *J. Geophys. Res.*, 89:3425-3438.
- Rabinowitz, P. D., L. E. Garrison and W. J. Merrell. The new ocean drilling program. Presented at the Spring AGU. Abstract in EOS, April 17, 1984.

- 1984 Rabinowitz, P. D., L. Garrison, S. Gartner, S. Herrig, J. Mazzulo, W. J. Merrell and R. Carlson. The advanced ocean drilling program: the next phase in scientific ocean drilling. Proceedings of the Offshore Technology Conference. May 7-9, 1984.
- Rabinowitz, Philip D., Louis E. Garrison and William J. Merrell. The new ocean drilling program at Texas A&M University. *Proceedings of Oceans 1984*. pp. 896-901.
- 1985 Rabinowitz, P. D., L. Garrison, S. Herrig, R. B. Kidd, A. R. McLerran, W. J. Merrell, R. Merrill, A. W. Meyer, and R. Olivas. Scientific ocean drilling: an overview of the ocean drilling program. Proceedings of the 17th Annual OTC. May 6-9, 1985.
- 1987 Merrell, W. J. Studying global changes: an opportunity whose time has come (Editorial). *Env. Toxicology and Chemistry 6*.
- 1987 Merrell, William J. Global programs study: Earth as a system, *Geotimes*, 32 (2).
- 1987 Shal, Lauren E., William J. Merrell, David W. McGrail and John A. Webb. Transport of mud on continental shelves: evidence from the Texas shelf. *Mar. Geol.* 76:33-43.
- 1987 Schroeder, William W., Scott P. Dinnel, William J. Wiseman, Jr. and William J. Merrell, Jr. Circulation patterns inferred from the movement of detached buoys in the eastern Gulf of Mexico. *Cont. Shelf Res.* 7 (8), 1987.
- 1987 Sahl, J. and W. J. Merrell. Salinity, temperature and mixing on the Texas continental shelf. *Contributions in Marine Science*, 30:1-16
- Halper, Fern B., David W. McGrail and William J. Merrell, Jr. Seasonal Variability in the Currents on the Outer Texas-Louisiana Shelf. *Estuarine Coastal and Shelf Sci.*, 26:33-50.
- 1989 Gardner, Mary and Bill Merrell. *The Twenty-Fifth Voyage of the TEXAS CLIPPER*.
- 1990 Sahl, L. E., W. J. Merrell, Jr. and W. D. Gardner. Suspended Sediment on the Texas-Louisiana Continental Shelf and Slope, March 1989. Winter meeting of the American Geophysical Union.
- 1991 Merrell, William J. Marine Education A Present and Future Challenge. MTS-91 New Orleans, LA. October 11, 1991.
- 1993 Sahl, Lauren E., William J. Merrell and Douglas C. Biggs. The influence of advection on the spatial variability of nutrient concentrations on the Texas-Louisiana continental shelf. *Cont. Shelf Res.*, 13:233-251.
- 1994 Sahl, L. E., W. J. Merrell and D. Weisenburg. The impact of an offshore squirt on particle and nutrient distributions in the Gulf of Mexico. *Trans. Am. Geophys. Un.*, 75 (44); 339.

- 1994 Merrell, William J. The New American Scholar. Today: Texas A&M University at Galveston, Fall, 1994.
- 1997 Sahl, Lauren E., Denis A. Wiesenburg and William J. Merrell. Interactions of Mesoscale Features with Texas Shelf and Slope Waters. *Cont. Shelf Res.*, 17 (2):1771-136.
- 2000 Merrell, William J. and G. Boledovich. Oceanography: The Making of a Science. The H. John Heinz III Center for Science, Economics and the Environment, Washington, DC, pp. 44.
- 2000 Merrell, William J., Mary Hope Katsouros, and G. Boledovich. Evolving Institutional Arrangements for U.S. Ocean Sciences. In: 50 Years of Ocean Discovery, National Science Foundation 1950-2000. National Research Council, edt. National Academy Press, Washington, DC, 201-206.
- 2001 Leatherman, Stephen, William J. Merrell, and Robert M. Friedman. Coastal Erosion and Its Impact on the National Flood Insurance Program: The "Heinz Center Report". *Shore & Beach*, 69:1:23-27.
- 2001 Merrell, William J. Mary Hope Katsouros, and Jacqueline Bienski. The Stratton Commission: The Model for Sea Change in National Marine Policy. *Oceanography* 14:2:10-16 (2001)
- 2001 Robert Friedman and William J. Merrell, Jr.. Coastal Erosion and the National Flood Insurance Program, pp. 6–21. In *Proceedings: 14th Annual National Conference on Beach Preservation Technology* (compiled by L. Tait). Tallahassee, FL: Florida Shore & Beach Preservation Association.

#### 2005

Harriss and Merrell - The Laboratory for Lifelong Learning and Community Sustainability Merrell and Harriss – Galveston Futures: creating a More Livable, Resilient, and Sustainable Community

Merrell – The Vietnam Memorial on a Snowy Morning – in Sea Spray

### 2006

Harriss and Merrell - The Laboratory for Lifelong Learning and Community Sustainability Merrell and Harriss – Galveston Futures: creating a More Livable, Resilient, and Sustainable Community

### 2007

Ko, Merrell, Hastings, Ekstrom, and Shelton, "Defining Ecosystem Services of Galveston Bay and Corresponding Appropriate Valuation Methods" Proceedings of the 8th State of the Bay Conference

Islam and Merrell "Galveston Futures" Presented at the American Beach and Shore Preservation Conference

Islam, Merrell, Seitz, and Harriss. "Origin, Distribution and Timing of Texas Hurricanes: 1851-2006. Submitted to Natural Hazards Review

2008

Ko, Merrell, Hastings, Ekstrom, and Shelton, "Defining Ecosystem Services of Galveston Bay and Corresponding Appropriate Valuation Methods" Proceedings of the 8th State of the Bay Conference

Islam and Merrell "Galveston Futures" Presented at the American Beach and Shore Preservation Conference

Islam, Merrell, Seitz, and Harriss. "Origin, Distribution and Timing of Texas Hurricanes: 1851-2006. Submitted to Natural Hazards Review

2009

Islam and Merrell "Galveston Futures" Presented at the American Beach and Shore Preservation Conference. Galveston, Texas

Islam and Merrell Texas Hurricanes NOAA Hurricane Conference. Washington, DC

Origin, Distribution, and Timing of Texas hurricanes: 1851-2006, with Tanveerful Islam, William Seitz and Robert Harriss, Natural Hazards Review, November 2009

The City of Galveston Community Recovery Committee: a Case Study of Citizen Involvement in Post Disaster Recovery Planning, with Jae-Young Ko, Poster at Estuaries and Coasts in a Changing World, Portland, Oregon

2010

Galveston Futures: Developing a Disaster Resilient Community, with Tanveerful Islam and William Seitz, to appear in Journal of Geography and Regional Planning in Jan 2010

The Ike Dike: A Coastal Barrier Protecting the Houston/Galveston Region from Storm Surge, to appear in Macro-engineering Seawater in/and Unique Environments. Arid Lowlands and Water Bodies Rehabilitation, Editors: Viorel Badescu and Richard B Cathcart, Publishing House: Springer-Verlag 2010

2011

Merrell, W.J., Graham-Reynolds, L., Cardenas, A, Gunn, J.A., Hufton, A.J., The Ike Dike: A Coastal Barrier Protecting the Houston/Galveston Region from Hurricane Storm Surge, p. 691-716 in Macro-engineering Seawater in Unique Environments, Environmental Science and Engineering, DOI: 10-1007/978-3-642-14779-1\_31 © Springer-Verlag Berlin Heidelbert 2011

2012

The Ike Dike: A Coastal Barrier Protecting the Houston/Galveston Region from Storm Surge, in Macro-engineering Seawater in/and Unique Environments. Arid Lowlands and Water Bodies Rehabilitation, Editors: Viorel Badescu and Richard B

Cathcart, Publishing House: Springer-Verlag 2010.

The Ike Dike, in Proceedings of CJGMAT-2012~ Editors C. Vipulanandan and Shiva Sunder, August 5, 2012.

Protecting the Urbanized Areas of the Texas Coast from Hurricane Storm Surge: The Ike Dike Example, Proceedings of the SPEED Center Conference, Rice University.

#### 2014

Brody, S. D., Highfield, W. E., Merrell. W. J., Lee, Y. (Forthcoming). Recovery versus Protection-Based Approaches to Flood Risk Reduction: Working towards a framework for more effective mitigation in the United States. In Shannon Van Zandt and Walter Peacock (Eds). Handbook of Planning for Disaster Resilience. New York: Routledge Press.

Merrell, W. J. The Ike Dike, in Proceedings of CIGMAT-2012, Editors C. Vipulanandan and Shiva Sunder, August 1, 2013.

Merrell, W. J. Protecting the Urbanized Areas of the Upper Texas Coast from Hurricane Storm Surge: The Ike Dike, Proceedings of the SPEED Center Conference, Rice University.

Leonard Waterworth and William Merrell The Surge Suppression Imperative: Amassing the Substantial Risks to the Galveston Bay Region, in Proceedings of CIGMAT-2013, Editors C. Vipulanandan and Shiva Sunder, August 1, 2014.

William Merrell, Leonard Waterworth and Robert Whalin The Coastal Barrier System: Providing Comprehensive Protection from Surge, in Proceedings of CIGMAT-2013, Editors C. Vipulanandan and Shiva Sunder, August 1, 2014.

Robert Whalin, Thomas Richardson and William Merrell Protecting from Surge Probabilities not Possibilities: Using Statistically Significant Hurricane Characteristics to Model Surge Probabilities, in Proceedings of CIGMAT-2013, Editors C. Vipulanandan and Shiva Sunder, August 1, 2014.

Jonkman S.N., Mooyaart L, van Ledden M, Stoeten K, de Vries P. Lendering K.T., van der Toorn A., Willems A., Merrell W.J. (2014) Reconnaissance level studies on a storm surge barrier for flood risk reduction in the Houston – Galveston Bay. In: Lynett P. (ed.) Proceedings of the 34th Int. Conference on Coastal Engineering (ICCE)

### Publications Under Direction as President of The H. John Heinz III Center:

Evaluation of Erosion Hazards (April 2000)

Evaluation of Erosion Hazards. Summary (April 2000)

Evaluation of Erosion Hazards. Report Brief (April 2000)

Coastal Erosion: Evaluating the Risk, Stephen Dunn, Robert Friedman and Sarah Baish, Environment 42:7:36-45, 2000

Forging a New Tool for Ecosystem Reporting, Robin O'Malley and Kate Wing, Environment 42:3:20-31, 2000

Designing a Report on the State of the Nation's Ecosystems. Selected Measurements for Croplands, Forests, and Coasts & Oceans (November 1999)

The Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation, Island Press, Washington, DC, 67pp. (1999)

*Uncovering the Hidden Costs of Coastal Hazards*, Sheila D. David, Sarah Baish and Betty Hearn Marrow, *Environment* 41:8:11-19 (1999)

Reauthorizing the Magnuson-Stevens Fishery Conservation and Management Act: A Handbook and Discussion Guide for Regional Fishery Management Councils, The H. John Heinz III Center for Science, Economics and the Environment, Washington, DC, 44pp (1999)

Annotated Bibliography of Selected Literature on U.S. Fishery Management The H. John Heinz III Center for Science, Economics and the Environment, Washington, DC, 44pp (May 1999, updated on an ongoing basis

Rutherford H. Platt, *Did Public Regulations Matter? Rebuilding the North Carolina Coast after Hurricane Fran*, A Discussion Paper, The H. John Heinz III Center for Science, Economics and the Environment, Washington, DC. (1999)

Our Ocean Future: Themes and Issues Concerning the Nation's Stake in the Ocean, The H. John Heinz III Center for Science, Economics and the Environment, Washington, DC, 57pp. (1998)

Interim Design (July 1998)

#### Publications Under Direction as Chair of Ocean Studies Board:

*Improving Interactions Between Coastal Science and Policy. Proceedings of The Gulf of Mexico Symposium.* National Academy Press, Washington, DC, 1996, 346 pp.

Expanding the Uses of Naval Ocean Science and Technology. National Academy Press, Washington, DC, 1996, 69 pp.

Arctic Ocean Research and Supporting Facilities, National Needs and Goals. National Academy Press, Washington, DC, 1995, 83 pp.

Improving Interactions Between Coastal Science and Policy. Proceedings of The Gulf of Maine Symposium. National Academy Press, Washington, DC, 1995, 259 pp.

Science, Policy and the Coast: Improving Decisionmaking. National Academy Press, Washington, DC, 1995, 85 pp.

Understanding Marine Biodiversity. National Academy Press, Washington, DC, 1995, 114 pp.

A Review of the Accomplishments and Plans of the NOAA Coastal Ocean Program. National Academy Press, Washington, DC, 1994, 115 pp.

A Review of NOAA National Sea Grant College Program. National Academy Press, Washington, DC, 1994, 62 pp.

An Assessment of Atlantic Bluefin Tuna. National Academy Press, Washington, DC, 1994, 148 pp.

Improving the U.S. Marine Fisheries. National Academy Press, Washington, DC, 1994, 62 pp.

Low-Frequency Sound and Marine Mammals, Current Knowledge and Research Needs. National Academy Press, Washington, DC, 1994, 75 pp.

Molecular Biology in Marine Science: Scientific Questions, Technological Approaches, and Practical Implications. National Academy Press, Washington, DC, 1994, 76 pp.

Priorities for Coastal Ecosystem Science. National Academy Press, Washington, DC, 1994.

Proceedings of a Workshop on Biological Diversity in Marine Systems. National Academy Press, Washington, DC, 1994.

Review of U.S. Planning for the Global Ocean Observing System. National Academy Press, Washington, DC, 1994, 25 pp.

The Ocean's Role in Global Change. National Academy Press, Washington, DC, 1994, 85 pp.