Testimony before the Committee on Transportation and Infrastructure, U.S. House of Representatives

RE: Restoring Jobs, Coastal Viability, and Economic Resilience in the Gulf of Mexico: H.R. 3096, the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economics of the Gulf Coast States Act of 2011.

Robert H. Weisberg
Distinguished University Professor
Professor of Physical Oceanography
College of Marine Science
University of South Florida
St. Petersburg, FL 33701

December 7, 2011
(submitted December 5, 2011)

Honorable Representatives on the Committee on Transportation and Infrastructure, U.S. House of Representatives; participants, staff, and associates, it is my privilege to be here with you today to address the matter of establishing what damages occurred in the Gulf of Mexico coastal states as a result of the Deepwater Horizon oil spill for which compensation required under Section 1012 of the Oil Pollution Act of 1990 is not being received, and to comment on this as regards H.R. 3096, the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economics of the Gulf Coast States Act of 2011.

While there is no doubt that the Deepwater Horizon oil spill was and continues to be very costly for the Gulf of Mexico coastal states, I must concur with the recent draft interim report by the National Research Council: "Approaches for Ecosystems Services Valuation for the Gulf of Mexico After the Deepwater Horizon Oil Spill" that the full impacts of the spill are unknown, expected to be considerable and will be expressed over years to decades. I must also question whether the provisions of H.R. 3096, as written, will facilitate, along the lines of an Ecosystems Services (defined as the benefits that people receive from ecosystems) approach advanced in the NRC interim report, arriving at a definitive answer on damages. Whereas I appreciate the intent of H.R. 3096, I find certain shortcomings that require discussion. I will attempt to explain these and offer suggestions for improvements on this topic, which is of great importance for the Gulf states and for the nation.

I found H.R. 3096 to be very precise with its definitions pertaining to administrative matters, but less precise with its definitions pertaining to matters of ecology, or more generally with matters pertaining to the workings of the ocean as a complex, multifaceted system. Definitions of geography, using maps and physical features, are simpler than definitions of natural processes that occur within a geographical setting. For instance, fisheries do not organize as simply as the Magnuson Stevens Act

"regional councils" are organized, nor by the boundaries of state and federal waters. More specifically, the Caribbean, Gulf of Mexico and the Southeastern United States are not separate large marine ecosystems because they are connected by the Loop Current, Florida Current, and Gulf Stream. Similarly, while three (or nine) mile limits may denote state waters as being separate from federal waters denoted by the offshore extent of the EEZ, fish spend portions of their life histories in both of these regions. Moreover, many commercial and recreational species also utilize the estuaries. Ecology is therefore all about connectivity, connectivity in space, time and across trophic levels.

Discussions of ecology (and therefore an ecosystems services evaluation of damages as recommended within the NRC draft interim report) must therefore begin with the ocean circulation, which unites nutrients with light, facilitating plant growth similar to how homeowners care for their lawns. Without the ocean circulation there would be drastically reduced primary and higher trophic level productivity. From these concepts it follows that the Gulf of Mexico is a very complex, multifaceted system that must be studied as a system if we are to better understand how it works, assess damages to it and facilitate improved environmental stewardship going forward. An automobile provides a useful analogy. With mechanical, electrical, and fuel systems, an automobile cannot be fixed if one does not know how its pieces work both individually and together as a system. H.R. 3096, albeit motivated by environmental assessment of damages and environmental stewardship, falls short of facilitating the defensible science necessary to establish how the Gulf of Mexico ocean system works and hence for achieving its goals.

An important theme repeated throughout H.R. 3096 references "projects and programs that would restore and protect natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands and economy of the Gulf Coast." Toward such end, a plan is to be developed, which includes and incorporates the findings and information prepared by the President's Gulf Coast Restoration Task Force (preliminary report dated October 5, 2011). The Task Force Report itself lists four goals:

1. Restore and Conserve Habitat,
2. Restore Water Quality,
3. Replenish and Protect Living and Marine Resources, and
4. Enhance Community Resilience,

and major actions for achieving these goals are itemized. However, these actions are almost entirely directed toward regions peripheral to the Gulf of Mexico (river inflows, wetlands, marshes, beaches), versus the Gulf of Mexico itself. As such, they will not (in my opinion) lead to the desired results. For instance, the water quality at a particular beach oftentimes has nothing to do with what happened locally in the immediate vicinity of the beach. Instead, the water quality may be due to the transport of materials from the coastal ocean at points quite distant from the beach. Red tide along the west Florida shoreline offers a case in point; so does the movement of Gag Grouper larvae from adult spawning regions along the shelf break to the sea-grass beds either near-shore or within the estuaries. The reality is that few coastal ocean processes are local; most entail remote connections. If these connections are not understood, and thereby made predictable, then

the Task Force Report goals cannot be met. Even the order of oil deposition on the northern Gulf beaches followed certain rules of connectivity. Simply stated (and paraphrasing the Taylor-Proudman theorem), water originating over deep water isobaths (and the oil carried by it) tends to stay in deep water, and conversely for shallow water isobaths. It is for this reason that the Mississippi River Delta was the first landed area to be oiled (it extends out closest to deep water isobaths). It then took some 1.5 months for beaches in the vicinity of Pensacola Florida to be oiled next (Pensacola is located at the head of DeSoto Canyon where deep water isobaths again come close to the coast. With oil in shallow water off the coast of the Florida Panhandle, the beaches both to the east (to around Panama City Florida) and west (to Alabama and Mississippi) of Pensacola then received oil. There was a predictable progression based on the physics of the ocean circulation. But these concepts are neither included in the Task Force Report, nor in H.R. 3096, whose actions are to be guided the Task Force Report. Whereas a "robust scientific foundation" is referenced, the basis for such foundation is missing throughout most of the Task Force Report. An exception is toward the end under "Research Programs," where it is stated that: "It is essential that monitoring, modeling, and research development activities are integrated from the initial stages of restoration and protection planning in order to support adaptive management decision-making." While I agree (and may have influenced the inclusion of such language in that report), I cannot derive much confidence that this will occur in view of the short shrift given elsewhere to the study of the Gulf of Mexico as a complex, multifaceted system.

The shortcomings discussed above are reflected to some degree in the National Research Council draft interim report previously cited. The NRC report states, for instance, "A mechanistic understanding of and model for the complex linkages and interdependencies of the ecosystem being studied would be of immense value in analyzing ecosystems services." Achieving this is neither simple, nor inexpensive nor short term. It requires a sustained, multidisciplinary approach to describing and understanding the workings of the Gulf of Mexico as a complex, multifaceted system. This will require a coordinated ocean observing and modeling program, a rationale for which now follows.

The coastal ocean is literally where society meets the sea. It is a complex, interconnected system, the workings of which must be understood if we are to predict the consequences of human actions and distinguish these from natural occurrences. Such understanding comes through adequate observations and hypothesis testing via science-based models; in other words, the application of the scientific method. Priority must therefore be given to implementing a coordinated, multidisciplinary program of coastal ocean observing and modeling, including the interactions that occur between the coastal ocean and the deep ocean and between the coastal ocean and the estuaries. That was the essence of my testimony before the U.S. House of Representatives Committee on Natural Resources, Subcommittee on Insular Affairs, the Oceans and Wildlife on 6/15/10 (at the height of the Deepwater Horizon oil spill), and it remains valid today. This is the pathway toward becoming better coastal ocean environmental stewards, and only in this manner will we be better prepared to deal with the ocean environmental consequences of future, unintended accidents such as the Deepwater Horizon oil spill.

In view of the above context, how should we be advancing our knowledge of the Gulf of Mexico? Two phrases taken from the present administration's approach to ocean sciences provide guidance. These are: Ecologically-Based-Management and Marine-Spatial-Planning. To accomplish these we must first ask what is meant by marine ecology and marine spatial planning? The key word in answer to this question is connectivity, connectivity across space and time and connectivity across trophic levels. In other words, we must understand how the ocean system works if we are to manage it, plan for its utilization, and predict consequences of human actions.

The ocean circulation is the fundamental determinant of connectivity. The circulation unites nutrients with light, fueling primary productivity and thence all higher level trophic interactions. The circulation also determines Earth's climate. Owing to these connections there is no aspect of Florida's economy that goes untouched by the ocean, and similar can be said to varying degrees for the other Gulf States.

The Gulf of Mexico consists of three interconnected regimes: 1) the deep-ocean, seaward from the shelf break (beyond which water depth plummets to the abyss), 2) the coastal ocean, which is the continental shelf region between the shelf break and the shoreline, and 3) the estuaries, where the rivers transition to the sea. The workings of the coastal ocean depend on the connections between these three regimes.

The deep Gulf of Mexico is governed by the Loop Current-Florida Current-Gulf Stream system, which connects the Caribbean, the Gulf of Mexico, and the Southeast United States. The coastal ocean is governed by local wind, heat and fresh water forcing and subtle deep-ocean and estuary interactions. The estuaries are governed by density differences between the river and ocean waters, with tides being important in how these waters mix. Thus, with different sub-system workings, we are challenged to understand and predict the workings of the overall Gulf of Mexico system. Nevertheless, the problem is tractable if approached in a systems-wide, scientifically defensible manner.

Where do we start? Whereas there are many societal relevant reasons for understanding the overall workings of the Gulf of Mexico, fisheries provide a rallying point because fisheries must integrate all of the sciences. Thus if we can understand fisheries well enough to engage in ecologically-based-management of fisheries resources (we presently do not) then we can also make application to harmful algal blooms, safe and efficient navigation, search and rescue, hurricanes, climate, and the tracking of hazardous spills such as occurred during the Deepwater Horizon event. In other words, to do fisheries right we must do all else right. Only then will we be in a position to engage in scientifically defensible marine-spatial-planning. All is predicated on understanding how the ocean system works and the connections thereof.

The problem is big, but there are guiding principles. First, we must combine extensive observations with science-based models. There can never be enough observations, and this requires models for integration; but, models, without observations, are nearly useless. The two must go hand in hand. Second, no single sensor (for

measuring state variables like temperature, salinity, velocity, nutrients, light, plankton, fish, bottom types and habitats, or other state properties) or sensor delivery systems (moorings, profilers, gliders, ships, side scan sonars, satellites, etc.) are adequate. A judicious mixture of these is needed, plus new technologies. Third, and similarly, no single model is adequate. In analogy to hurricane landfall prediction, we require an ensemble of models for ocean-atmosphere interactions, circulation, and the complex biological interactions that, together with the circulation, comprise ecology. There is much to do, and this requires many partners, each with individual expertise and brought together in a truly multidisciplinary, multi-institutional manner.

The starting point is with existing observing and modeling resources, which must be sustained and built upon. Numerical weather forecasting provides an example of how such approach can succeed. When first initiated in the 1950's, the results were terrible. But as observations were steadily added and sustained, model workings were better understood, and, as computational power increased, our ability to predict weather steadily improved to the point where most television viewers now eagerly await the evening report. The same can be applied to the development of ocean observing, modeling, and prediction systems for the Gulf of Mexico.

The time to do it is now, and the proceeds from compensation for the Deepwater Horizon oil spill required under Section 1012 of the Oil Pollution Act of 1990 provide the vehicle. Expertise for the required research and development is within the purview of the academic community and the private sector in support of the operational expertise of the state and federal agencies. The Gulf states, the nation and the associated industries and agencies all stand to benefit from empowering those who actually pioneered such studies and demonstrated performance through rigorous peer reviewed publications. This provides a starting point to be systematically added to in a capacity building endeavor. In other words, we need to sustain what is scientifically defensible and systematically add to these (observing, modeling and management) resources in a scientifically defensible manner.

All of the above can be accomplished (if scientific defensibility is mandated) within the framework of the Integrated Ocean Observing System (IOOS), which is broken into Regional Associations (RA), each with Regional Coastal Ocean Observing Systems (RCOOS). For the Gulf of Mexico there are two such RAs: SECOORA and GCOOS, with SECOORA extending from the westernmost portion of Florida to Cape Hatteras (i.e., it includes the entire State of Florida) and with GCOOS including the entire Gulf of Mexico. While these two entities cooperate, SECOORA is predicated on the fact that the Loop Current - Florida Current - Gulf Stream System provides the connectivity between the Caribbean, the Gulf of Mexico, and the Southeastern U.S. It is for this reason that the development of the RCOOS for the west coast of Florida is largely within the purview of SECOORA.

Given the economic, strategic, and societal value of the Gulf of Mexico, and the fact that much of the societal risk owing to commercial offshore activities (e.g., Deepwater Horizon oil spill) and tropical storms (e.g. Hurricane Katrina), funding for the

existing Gulf of Mexico through either SECOORA or GCOOS is disproportionately small and grossly inadequate. For instance, the 2010 annual budgets for different combined coastal regions within IOOS (see: http://www.ioos.gov/partners/regional.html) are:

- West Coast, $10.1million
- Atlantic Coast, $6.0 million
- Great Lakes, $3.7 million
- Gulf Coast, $1.4 million

Why the Gulf Coast, the coastal state region of the nation with the greatest present risk and where increased oil and gas exploration will focus in the future, has the fewest resources is questionable; but, regardless of previous actions, the need for remedy seems obvious.

Two other specific funding deficiencies of H.R. 3096 warrant mention. Whereas I readily recognize the need for funds utilization other than scientific research and development (the 35% and 60% distributions described in the bill), I am concerned about the level of funding identified with Gulf of Mexico research and development, in essence my preceding written testimony. Funding for this is specified at 5% of the Gulf Coast Restoration Trust Fund, and this is to be split equally between the "Program" and the "Fisheries and Ecosystems Endowment."

The Program, entitled: the "Gulf Coast Ecosystems Restoration Science, Observation, Monitoring and Technology Program will have five Centers of Excellence, one in each of the Gulf coast states, and it will award competitive grants to be administrated by NOAA. The Centers of Excellence will have foci within at least one of the following five areas:

- Coastal and deltaic sustainability
- Coastal fisheries and wildlife ecosystem research and monitoring
- Offshore energy development
- Sustainable and resilient growth, economic and commercial development in the Gulf of Mexico
- Comprehensive observation, monitoring and mapping of the Gulf of Mexico

Of these five areas, the only one that partially gets to the heart of my testimony (the need for a comprehensive multifaceted systems-wide approach to how the Gulf of Mexico works) is the last one. With funds so diluted [0.8 x 0.05 x 0.5 x 0.2 = 0.004], even if the penalty monies amounted to 20B there would only be some 16M per state, and with only a small percentage to be used each year to ensure funds in perpetuity (for instance, using a 0.05 expenditure rate per year) this would result in 0.8M to be spent by each state. In the event that only 2B is available then the amount per year for each state would be some 80K, hardly enough to do much of any comprehensive observation, monitoring and mapping of the Gulf of Mexico (plus the necessary modeling that must be coordinated with the observations to fully employ the scientific method). My point is that a higher

percentage of the penalty monies must be apportioned toward understanding how the Gulf of Mexico works so that we can better assess long term damages, become better environmental stewards and be better prepared for any future unintended events. Moreover, the emphasis for the Centers of Excellence must be placed where it belongs (a comprehensive, multidisciplinary, systems-wide approach to the workings of the Gulf of Mexico), not diluted by ancillary verbiage.

The Fisheries and Ecosystem Endowment, in my opinion, is equally troublesome. Throughout my testimony I emphasized the need to understand how the Gulf of Mexico works. I even used fisheries as an example: if we can understand and predict the fish, we must be able to understand and predict many other aspects of the Gulf of Mexico. But we cannot understand the fish by merely studying the fish. We must instead study the fish in the context of the more complex system in which they make their living. The problem is one of state variable estimation with the fish being but one of the state variables (velocity, sea level, temperature, salinity, nutrients, phytoplankton, zooplankton, fish, etc.), and with the fish depending on all of these.

As a remedy to the concerns provided above, I am suggesting two modifications. The first is to substantially increase the percentage of penalty money to be provided for long term research and development specifically targeted at developing a comprehensive, multifaceted program of research and development for the Gulf of Mexico as a system. Such program would include scientifically defensible, coordinated observing and modeling elements, beginning with the ocean circulation and hence the connections that exist between the deep Gulf of Mexico and the continental shelf and between the continental shelf and the estuaries, and continuing with all of the trophic level interactions that comprise the ecosystem, or ecosystems. The second is to remove preconceptions and preconditions on how these monies are to be spent, other than mandating that they be used in a scientifically defensible manner to be developed by a science steering committee selected from amongst the academic community, with input from the agencies. Business as usual will not be helpful. It will be possible to generate plans within 180 days as asked for in H.R. 3096, but these plans must be generated with inputs from by those who are familiar with the science and who have demonstrated commitment (by their own actions), productivity (by publications in refereed professional journals) and understanding (through their contributions to how the Gulf of Mexico and its sub-regimes work). To do this there can be no disqualification of those serving on a science steering committee from engaging in the science being proposed. Perceived conflict of interest should not preclude getting the right people to engage.

My intention is not to be critical of the task forces charged, the agencies engaged or the drafters of a bill having laudable intent. Becoming better versed in the workings of our complex natural environment will not only make us better stewards of the environment, but will also help to facilitate the competing utilizations of environmental resources in ways that will best serve the Gulf coast states and the nation.

I thank you for your invitation to speak and for you attention.

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
Truth in Testimony Disclosure

Pursuant to clause 2(g)(5) of House Rule XI, in the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include: (1) a curriculum vitae; and (2) a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by an entity represented by the witness. Such statements, with appropriate redaction to protect the privacy of the witness, shall be made publicly available in electronic form not later than one day after the witness appears.

(1) Name: Robert H. Weisberg

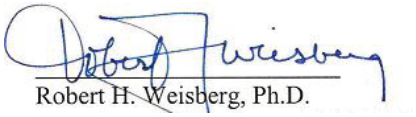
(2) Other than yourself, name of entity you are representing:

(3) Are you testifying on behalf of an entity other than a Government (federal, state, local) entity?

YES	**If yes, please provide the information requested below and attach your curriculum vitae.**
NO	**X**

(4) Please list the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by you or by the entity you are representing:

See attached vitae



Robert H. Weisberg, Ph.D.

_____ __12/2/11___

Signature Date

VITAE

NAME: Robert H. Weisberg

DATE OF BIRTH: May 20, 1947

PRESENT POSITION: Distinguished University Professor
College of Marine Science
University of South Florida

EDUCATION:

Cornell University: B.S. (Material Science & Engineering) 1969
University of Rhode Island: M.S. (Physical Oceanography) 1972
University of Rhode Island: Ph.D. (Physical Oceanography) 1975

PROFESSIONAL EXPERIENCE:

08/88-05/07	Professor, College of Marine Science, USF
12/86-08/88	Associate Professor, Department of Marine Science, USF
08/84-08/85	Associate Professor, Department of Marine Science, USF
12/86-05/90	Adjunct Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh NC
08/81-12/86	Associate Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
08/76-08/81	Assistant Professor, Department of Marine Science and Engineering, North Carolina State University, Raleigh, NC
11/76-08/82	Adjunct Professor, Graduate School of Oceanography, University of Rhode Island, Kingston, RI
05/74-08/76	Research Associate, Graduate School of Oceanography, University of Rhode Island, Kingston, RI
09/69-05/74	Research Assistant, Graduate School of Oceanography, University of Rhode Island, Kingston, RI
06/71-08/71	Instructor, St. Georges School, Newport, RI
08/69-08/77	U.S. Army Reserve, rank O3

HONORS:

Fellow, SURA
Phi Kappa Phi Honor Society and USF Chapter Scholar of the Year, 2011

NOPP Excellence in Partnering Award, 2008
Distinguished University Professor, 2007
President's award for excellence, USF, 2003
Professorial Excellence Award, USF, 1998
American Geophysical Union Editor's citation for excellence in refereeing for Geophysical Research Letters, 1995
Sigma Xi

PROFESSIONAL AFFILATIONS:

Oceanography Society
American Geophysical Union
American Meteorological Society

TEACHING:

Introductory Physical Oceanography
Gravity Waves
Long Waves
Analysis of Oceanographic Time Series
Ocean Circulation Dynamics I & II
Readings in Ocean Circulation
Equatorial Dynamics
Readings in Descriptive Physical Oceanography
Seminar
Environmental Fluid Mechanics
Readings in Climate Modeling
Ocean Mixed Layer
Lectures in Introduction to Oceanography

GRADUATE STUDENT COMMITTEE CHAIRMANSHIPS:

R. Chao	M.S.	05/80	NCSU
M. Purba	M.S.	05/82	NCSU
C.K. Wu	M.S.	05/82	NCSU
A. Horigan	Ph.D.	05/82	URI (Co-Chairman)
T.Y. Tang	Ph.D.	05/84	NCSU
C.K. Wu	Ph.D.	05/85	NCSU
T.J. Weingartner	Ph.D.	05/90	NCSU
Zhen Li	M.S.	12/93	USF
M.R. Zhang	M.S.	08/94	USF
C. Wang	Ph.D.	08/95	USF
L. Qiao	Ph.D.	05/96	USF
Zhenjiang Li	Ph.D.	05/98	USF
B. Black	M.S.	08/98	USF

E. Siegel	M.S.	5/99	USF
R. He	Ph.D.	5/02	USF
R. Helber	Ph.D.	5/03	USF
J. Virmani	Ph.D.	5/05	USF
Y. Liu	Ph.D.	5/06	USF

Summary: PhDs awarded, 11 total, 7 at USF
M.S.s awarded, 7 total, 4 at USF

OTHER CURRENT GRADUATE STUDENT COMMITTEES:

I presently supervise 2 graduate students and I serve on the committees of 4 other graduate students.

OTHER PERSONNEL SUPERVISION:

I presently supervise 2 post-doctoral associates and 7 professional research staff (3 with PhD).

EDITOR:

Editor, Journal of Geophysical Research – Oceans, 2006-2010.
International Advisory Board, Terrestrial, Atmosphere & Ocean Sciences, Chinese Geoscience Union, Taipei, Taiwan, 1998-2007.
Guest editor, Geophysical Research Letters, special issue, SEQUAL/FOCAL: First Year Results on the Circulation in the Equatorial Atlantic, 11 August 1984.

REFEREE:

National Science Foundation
NOAA-Sea Grant
NOAA-ERL
NOAA-OGP

Journal of Physical Oceanography
Geophysical Research Letters
Journal of Marine Research
Deep-Sea Research
Science
Nature
Journal of Geophysical Research
Oceanologia Acta
Progress in Oceanography
Journal of Climate
Marine Technology Society
EOS
Dynamics of the Atmosphere and Ocean
Hudson River Foundation
WHOI Sea Grant
Georgia Sea Grant
NOPP

CONSULTING:

EG&G Environmental Consultants, 1975-1976
Harbridge House, 1976-1977
Earth Resources & Technology, 1977
Jaycor, 1978-1980
Science Applications Inc., 1982
Research Triangle Institute, 1984
Florida Dept. of Environmental Regulation, 1985-1989
Town of Redington Beach (pro bono), 1988
Shore Acres Citizens (pro bono), 1989
Northwest Florida Water Management District, 1991-1994
State Attorney, 1991, 1994, 1997
Consultant to US Army Corps of Engineers, 1992-1993, 1995-1996
Consultant to King Engineering, 1992
Environmental Permitting Inc., 1994
St. Petersburg Police Dept., 1994
Coastal Planning and Engineering, 1996
Ocean Farming, 1998
City of Gulfport, FL., 2000
Ft. DeSoto Boat Storage, 2000
NOVA Southeastern Univ., 1998-2004
CORE/JOI/SURA, 2006
Research Planning Inc., 2006-2007
Manatee Co. Emergency Management, 2007
LIST Group/WoodsConsulting, 2008
Williams Pipeline, 2010

Expert Witness Testimony/Investigations, 1990-present

CIVIC SERVICE:

Youth Soccer Coach, Capital Area Soccer League, Raleigh, NC., 1982-1983.
Assistant Youth Soccer Coach, Southside Soccer League, St. Petersburg, FL. 1987.
Board of Trustees, Congregation B'nai Israel, St. Petersburg, FL., 1988-1996
3rd Vice Pres., Congregation B'nai Israel, St. Petersburg, FL., 1989-1990
2nd Vice Pres., Congregation B'nai Israel, St. Petersburg, FL., 1991
1st Vice Pres., Congregation B'nai Israel, St. Petersburg, FL., 1992-1993
President, Congregation B'nai Israel, St. Petersburg, FL., 1994-1996
Exec. Comm., Congregation B'nai Israel (as immediate past president), 1996-1999
Televised interview, WUSF Science Adventures series, 11/97 and 3/98.
Televised interview, Ch. 8 with Bob Hite, on El Nino 11/97; on WFS 2/02.
National Public Radio interview on El Nino with B. O'Brien, 3/98.
Televised interview on storm surge, Ch. 8, 2/98 and 8/00.
Newspaper article on storm surge (St. Pete. Times, J. Klinkenberg), 7/98.
Newspaper article on oil spills (Ft. Myers. News, K. Lawlor), 11/01.
Televised interview on coastal upwelling, Ch. 9 with Berardelli, 8/98.
Lectures on El Nino at St. Petersburg High School, 11/95, 11/97, 11/98.
Lectures on oceanography at John Hopkins Middle School, 11/00, 11/01, 11/02, 11/03, 11/04.
Public availability on the internet of real time monitored and delayed mode data and a model circulation nowcast/forecast for the west Florida continental shelf via http://COMPS.marine.usf.edu and http://ocgweb.marine.usf.edu.
Public availability on the internet of a power point hurricane storm surge simulation at http://ocgweb.marine.usf.edu.
Hurricane storm surge briefing at the NWS, Ruskin FL, 6/00
Hurricane storm surge briefing at the USGS, St. Petersburg FL, 9/02
Hurricane storm surge briefing at FEMA mtg, Redington Be. FL, 9/02
Hurricane storm surge briefing at Pinellas Co, Clearwater FL, 10/03
Numerous media hurricane storm surge interviews, summer/fall 2004
Numerous Tsunami media interviews, winter 2004
Numerous media (TV and print) hurricane storm surge interviews, summer/fall 2005
Numerous media (TV and print) hurricane storm surge interviews, summer/fall 2006
Invited keynote speaker, Town hall meeting of Congressman J. Davis, Tampa FL, 4/3/06
Letters to Senators, Congressmen, and Governor regarding oil drilling, spring 2006.
Invited panelist at showing of "An Inconvenient Truth," Tampa FL, spring 2006.
Keynote speaker, WFAMS Annual Banquet (Worst case hurricane for TB), 6/06
Keynote speaker, Manatee Co. Hurricane Awareness Meeting 6/07
Numerous media (TV, print, radio) hurricane storm surge interviews, 2007
Pro-bono consultant, Pinellas Co. property appraiser's office hurricane storm surge, 2007
Numerous media (TV, print, radio) hurricane storm surge/coastal ocean interviews, 2008
Meeting with Congresswoman K. Castor regarding oil drilling, fall 2008.
Keynote speaker, SPB Hurricane Awareness Meeting, 6/09

Numerous media (TV, print, radio) hurricane storm surge/coastal ocean interviews, 2009
Board of Trustees, Menorah Manor Foundation, elderly care through nursing home and assisted living. 2003-2010
Board of Trustees, Menorah Manor, elderly care through nursing home and assisted living. 2010-present
Florida Bar, Pinellas County Grievance Committee, 2010-present.
Testimony before House Committee on Natural Resources, Subcommittee on Insular Affairs, the Oceans and Wildlife, 6/15/10
Countless TV, radio, and print interviews on Deepwater Horizon oil spill, 2010.
Numerous invited public presentations on Deepwater Horizon oil spill, 2010.
Oil spill tracking forecasts used by NOAA Hazmat in their daily briefings, 2010.
Numerous oil spill briefings to area Representatives (Young, Castor, Bilirakis) and Senator Nelson, 2010.

UNIVERSITY SERVICE:

Duke/UNC Oceanographic Consortium ship scheduling Committee 1982-1983, Chairman, 1983.
UNC Representative to UNOLS: 1981-1984.
University Computer Committee for Teaching and Research, 1987.
University Research Council, 1987-1990.
Faculty Advisory Committee for Research and Technology, 1989-1991.
Graduate Research Professor Review Committee, 1990.
University Task Force on Future Academic Frontiers, 1990, 1991.
CAS Strategic Planning Committee.
SACS committee on academic computing, 1993-1994.
Ocean Engineering Institute Steering Committee, 1993-1994.
Chairman, Dept. Faculty Recruiting Committee, 1989-1990.
Chairman, Dept. Computing Committee, 1986-1989.
Chairman, Department Budget Committee, 1991-1993.
Plus additional Dept. committee memberships not listed.
Senior thesis advisor to Ms. E. Lipp, New College, S93
Undergraduate student summer intern host for 2 New College juniors, 1990.
Undergraduate student summer intern host for 1 Eckerd College junior, 1995.
Undergraduate summer intern host, 1996.
Director, USF Global Change Research Center (through 7/02)
CAS Faculty Development Committee, 2000
CAS 2010 Committee, 1999-2000
CMS transition committee 2000
CMS Dean's Advisory Committee 2000-2002
USF representative on the SFOMC Board of Directors
Faculty mentor for G. Mitchum (T/P awarded 7/02), P. Howd, and M. Howell
Co-author (with J.J. Walsh and P.R. Betzer) of QUEST FL., a joint institute for the Quantitative Ecology of the west Florida shelf.

USF DUP Discipline committee, 2002 and 2003
USF Representative to the SURA Coastal Ocean Committee, 2003-present
Co-author (with J.J. Walsh) of COAR, a Center for Ocean Applied Research.
Eminent Scholar Lecture Series committee and host, 2003-present
Chairman, CMS ad-hoc committee on additional compensation, 2003-present.
Faculty Senate 2005-2008
USF committee on committees 2005-2008
Ad-hoc committee on Dean search – drafted points of reference with A. Hine, spring-summer, 2006
USF Budget Advisory Task Force, summer/fall 2007
President's CMS Liaison Committee, Chairman, 2007
Ad-hoc committee for World Class Scholar recruitment, 2007
CMS tenure and promotion, admissions/awards committees, 2007
Seminar speaker host, 2007
USF Budget Working Group, 2008-2009
USF High Performance computer Comm., 2008-present
USF FESC, 2009-present.
USF Research Advisory Board, 2009-present

OTHER PROFESSIONAL SERVICE:

Visiting Scientist Host, C. Colin, visiting scientist from ORSTOM, Paris: 1/85-5/86.
NSF Review panel member, 1980, 1989, 1993.
NOAA review panel member, 1990.
U.S. WOCE Moored Measurement Implementation Panel, 1988, 1989.
U.S. WOCE Process Studies Implementation Panel, 1988-1990.
Session convener at the Fall 1994 Annual Meeting of the American Geophysical Union.
Chairman, Science Advisory Committee, Tropical Ocean-Global Atmosphere (TOGA), Tropical Atmosphere Ocean (TAO) array, NOAA/PMEL, Dr. S. Hayes, Director, 1991.
Technical Working Group, Apalachicola Bay, FL., NWFWMD, 1990-1995.
USACOE, Biological review advisory panel on New York Bight, 1992-1993 and New York Harbor, 1994-1996.
Science advisor to National Taiwan University Coastal Oceanography Program 1991-Present.
Member, TOGA-TAO array implementation panel,1992-1995.
Panel member, UNOLS intermediate vessel mid-life refit committee, 1992-1993.
Tampa Bay National Estuary Program, Technical Advisory Committee, 1991-1992.
Member, NOAA-OGP PACS Implementation panel 1996-1998.
Member, NOAA-OGP, NAME, SSG 2000
SURA SCOOP Leadership Group 2001-2003
SE-COOS science steering committee 2001-present
Organizing committee, IASI-IOCARIBE-RODAE workshop, Barbados W.I., 2002
OCEAN.US Coastal Ocean Observing System summit resolution signatory, April, 2003
Invited Juror, PhD defense for A. Barth, University of Liege, Liege, Belgium, 10/11/04.

Invited Juror, PhD defense for A. Alvera, University of Liege, Liege, Belgium, 10/13/04.
Chairman, SEACOOS Observational Working Group, 2002-2008.
Member, SEACOOS Modeling Working Group, 2002-2008.
Executive Committee member, SEACOOS, 2002-2008.
AMS, STACS Coastal Environments Committee, 2002-2010.
NOAA-Science Advisory Board, NCEP Ocean Modeling Review Comm., 2003-present.
Session Convener for the AGU 2007 joint assembly in Acapulco, MX.
FL COOS Caucus member and contributor
SURA SCOOP Leadership Group 2007-2010
National Academies, National Research Council Committee on New Orleans Regional Hurricane Protection Projects, January 2006-2010.
Team Leader, NRL (Stennis, MS) Battlespace Environments site review, 2009
SURA Fellow, 2011

LETTERS OF REFERENCE:

Promotion/tenure considerations
Government appointments
Assisted with a nomination citation for the 1988 AGU Ocean Science Award.
Assisted with USF DUP nominations.
Graduate Student applications

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Horigan, A.M. and R.H. Weisberg (1981). A systematic search for trapped equatorial waves in the GATE velocity data, *Jour. Phys. Oceanogr.* 11, 497-509.

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Karger, K.A. Steidinger, C.A. Heil, C.R. Tomas, J.S. Prospero, T.N. Lee, G.J. Kirkpatrick, T.E. Witledge, D.A. Stockwell, T.A. Villareal, A.E. Jochens, and P.S. Bontempi (2007). Red tides in the Gulf of Mexico: Where, when, and why? *J. Geophys. Res.*, 111, C11003, doi:10.1029/2004JC002813.

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Colby-Sawyer College, New London, NH.

130. Barth, A., A. Alvera-Azcárate, and R.H. Weisberg. Ensemble-based simulation of HF-radar currents in a West Florida shelf ROMS model nested in HYCOM., Gordon Research Conference on Coastal Ocean Modeling 17 - 22 June 2007, Colby-Sawyer College, New London, NH.

131. Zheng, L. and R.H. Weisberg. A Storm Surge Simulation for an Ivan-like Hurricane Making Landfall within the Tampa Bay Region., Gordon Research Conference on Coastal Ocean Modeling 17 - 22 June 2007, Colby-Sawyer College, New London, NH.

132. Zheng, L. and R.H. Weisberg. A baroclinic circulation simulation for the shallow, Florida Rookery Bay estuary. Estuarine Research Federation Meeting, Newport R.I., November 2007.

133. Barth, A., A. Alvera-Azcárate, L. Zheng, and R. H. Weisberg (2008), A Nested Model of the West Florida Shelf: Assimilation of High-Frequency Radar Currents and study of Loop Current generated flow, in Geophys. Res. Abs., vol. 10, 4th EGU General Assembly.

134. Barth, A., A. Alvera-Azcárate, and R. H. Weisberg (2008), Assimilation of High-Frequency Radar Currents in a Nested Model of the West Florida Shelf, in Eos Trans. AGU, vol. 88, Fall Meeting Supplement, Abstract OS52A-02.

135. Weisberg, R.H. (2008), Comparisons between 2-D and 3-D simulations of Hurricane storm surge based on an Ivan-like storm for Tampa Bay, Coastal Summit Conference, St. Pete Beach, FL

136. Zheng, L.Y. and R.H. Weisberg. Rookery Bay and Naples Bay estuarine circulation simulations: applications to tides and fresh water regulations. Presented on 11/19/08, Coastal Cities Summit, St. Pete Beach, Florida.

137. Weisberg, R.H. (2008), Lessons learned from a coordinated observing and modeling program on the West Florida Shelf, 2008 Fall Annual Meeting of the American Geophysical Union, San Fransisco, CA, invited presentation.

138. Liu, Y., C.R. Merz, and R.H. Weisberg (2008), HF-radar performance on a low energy enviroment as found using CODAR SeaSonde on the West Florida Shelf., 2008 Fall Annual Meeting of the American Geophysical Union, San Fransisco, CA.

139. Zheng, L.Y. and R.H. Weisberg. The application of FVCOM to estimate the flushing time for Snug Harbor project in Tampa Bay, Florida. Presented on 6/12/08 at

Third Institute of Oceanography, State Oceanic Administration, Xiamen, Fujian, China.

140. Zheng, L.Y. and R.H. Weisberg. Rookery Bay and Naples Bay estuarine hydrodynamic circulation simulations: applications to tides and fresh water inflow regulation. Presented on 6/16/08 at International Symposium on Jiulong river watershed and Xiamen Bay ecological system management, Third Institute of Oceanography, State Oceanic Administration, Xiamen, Fujian, China.

141. Zheng, L.Y., R.H. Wiesberg, A. Barth, and A. Alvera (2008), Circulation influences on west Florida shelf red-tide events: Finite volume model applications to shelf-estuary interactions, Poster on 3/3/08 at 2008 Ocean Science Meeting, Orlando, FL.

142. Weisberg, R.H., L. Zheng and Y. Huang, Storm surge of Ivan-like Hurricane making landfall near Tampa Bay. Presented at the TAMPA BASIS 5 mtg, St. Petersburg, FL., 10/20/09.

143. Weisberg, R.H. and L. Zheng, Tampa Bay circulation driven by rivers, tides and winds, and its connection with the Gulf of Mexico: How the bay flushes. Presented at the TAMPA BASIS 5 mtg, St. Petersburg, FL., 10/20/09.

144. Liu, Y., R.H. Weisberg, and D.A. Mayer: Climatology of West Florida Shelf Circulation Observed with long-Term Moorings. The 15th Ocean Sciences Meeting, Portland, Oregon, February 22-26, 2010.

145. Liu, Y., R.H. Weisberg, L. Zheng, and C. Hu: Tracking Gulf of Mexico Oil Spill with Numerical Models and Satellite Imagery. Southeast Coastal Ocean Observing Regional Association (SECOORA) 2010 Annual Board & Member Meeting, Savanna, Georgia, USA, April 12-13, 2010 *(Invited Keynote Talk).*

146. Liu, Y., and R.H. Weisberg: Lessons learned from an integrated coastal ocean observing system on the West Florida Shelf. 38th COSPAR Scientific Assembly, Bremen, Germany, July 18-25, 2010 (*Invited*).

147. Weisberg, R.H., Y. Liu, L. Zheng, and C. Hu: The Oil Trajectory: How it behaved in the Gulf of Mexico and why, and where might residual oil be heading? CSDMS Meeting, San Antonio, Texas, USA, October 14-17, 2010 *(Invited Keynote Talk).*

148. Liu, Y., R.H. Weisberg, C. Hu, and L. Zheng: Trajectory Forecasts Based on Numerical Ocean Circulation Models and Satellite Observations: A Rapid Response to Deepwater Horizon Oil Spill, AGU Fall Meeting, San Francisco, California, USA, December 13-17, 2010.

149. Weisberg, R.H., Y. Liu, L. Zheng, C. Hu, and C. Lembke: Rapid Response to Deepwater Horizon Oil Spill from University of South Florida: Numerical Models, Remote Sensing, and In-situ Observations, AGU Fall Meeting, San Francisco, California, USA, December 13-17, 2010 *(Invited).*

PRESENTATION AT WORKSHOP/SEMINARS:

Scholarly Presentations and Workshops in addition to society meetings with published abstracts.

1. March 23-30, 1974, Leningrad, USSR: GARP Atlantic Tropical Experiment (GATE) - Oceanographic Subprogram planning workshop. Invited.

2. August 13-25, 1975, Geneva, Switzerland: GATE Oceanography Symposium. Invited.

3. December 16, 1975, Woods Hole, MA: Invited seminar at the Woods Hole Oceanographic Institute.

4. May 19-22, 1976, Georgetown, SC: Transport Processes in Estuarine Environments, Belle W, Baruch Institute for Marine Biology and Coastal Research Symposium sponsored by ONR.

5. November 10-14, 1976, Stony Brook, NY: Estuarine Transport Processes, Marine Sciences Research Center, State University of New York. Invited.

6. February 18 - March 11, 1977, Miami, FL: GATE Oceanographic Workshop. Invited.

7. January, 1978, Fort Lauderdale, FL: INDEX Workshop.

8. April 2-6, 1979, Boulder, CO: Physics of the Equatorial Oceans Workshop.

9. April 28-30, 1980, Tallahassee, FL: Equatorial Theoretical Panel Meeting.

10. April 27-30, 1981, Venice, Italy: SCOR Working Group 47 Meeting.

11. October 28-30, 1981, Palisades, NY: Equatorial Theoretical Panel Meeting.

12. November 3-4, 1983, AOML, Miami, FL: ENSO Data Display Workshop.

13. September 4, 1984, Princeton, NJ: Invited seminar at GFDL, Princeton Univ.

14. October 25, 1984, Tallahassee, FL: Invited seminar at Florida State University.

15. November 15, 1984, Queens, NY: Convened an Ad Hoc Meeting for the planning of a U.S. TOGA Atlantic Program. Report submitted to NSF.

16. January 23-24, 1985, Princeton, NJ: SEQUAL Experiment Principal Investigators Meeting at GFDL, Princeton University for drafting a cover document to accompany data analysis proposals to NSF.

17. February 27, 1985, St. Petersburg, FL: Invited seminar at St. Petersburg Junior College.

18. June 19-21, 1985, New York, NY: U.S./French SEQUAL/FOCAL Program Workshop at Columbia University, Three talks presented.

19. July 29-30, 1985, Palisades, NY: SEQUAL Experiment Principal Investigators Meeting at LDGO, Columbia University.

20. September 6-15, 1985, Rio de Janeiro, Brazil: Invitee to the 4th session of the CCCO Tropical Atlantic Climate Studies Panel and Workshop. I organized the U.S. invitee participation (10 participants) by authoring a letter proposal to the U.S. TOGA Project Office/NOAA/NSF for travel support. A paper was presented and a contribution was made to the workshop report.

21. October 14, 1985, Miami, FL: Invitee to the Indo/U.S. Bilateral Program Meeting on the Arabian Sea cooling at RSMAS, University of Miami., Dr. T. Y. Tang attended and presented a paper.

22. October 16-18, 1985, Boulder, CO: Invitee to NOAA Equatorial Circulation Workshop held at NCAR. A presentation and a written contribution were given.

23. November 5, 1985, Beaufort, NC: Duke/UNC Oceanographic Consortium Workshop. Three talks were given along with my associate and student T.Y. Tang and T.J. Weingartner.

24. December 10, 1985, Tallahassee, FL: FDER workshop on the Apalachicola Bay. Invited.

25. December 15-18, 1985, Seattle, WA: Invited seminar at JISAO, University of Washington and NOAA/PMEL. (a position was subsequently offered).

26. May 28, 1986, Atlanta, GA: COE/FDER Meeting on the Apalachicola Bay. Invited.

27. August 11-15, 1986, Honolulu, HI: Invitee to the U.S. TOGA Workshop on the Dynamics of the Equatorial Oceans held at the University of Hawaii. A review article entitled "Observations pertinent to instability waves in the equatorial

oceans" was given and subsequently published.

28. October 29-30, 1986, Woods Hole, MA: North Brazil Current Experiment (NOBREX) initial organizational meeting at Woods Hole Oceanographic Institution, paper presented.

29. January 20, 1987, Washington, DC: NOBREX briefing delivered to the Oceanography Section, National Science Foundation.

30. February 19, 1987, New York, NY: NOBREX Principal Investigator Meeting at Columbia University.

31. March 26, 1987, Miami, FL: Invited seminar at RSMAS, University of Miami.

32. June 15-19, 1987, Paris, France: U.S./French SEQUAL/FOCAL Program Workshop, three papers presented.

33. June 23-23, 1987, Paris, France: Invitee to the 5th session of the CCCO Tropical Atlantic Climate Studies Panel. Presentation given and contribution made to the workshop report.

34. August 3-5, 1987, Durham, NH: Invitee to the U.S./Brazil Physical Oceanography Workshop held at the University of New Hampshire. A presentation was given.

35. September 21-23, 1987, Honolulu, HI: Invitee to an NSF sponsored World Ocean Circulation Experiment (WOCE) Workshop on the Tropical Oceans.

36. October 6-8, 1987, Seattle, WA: Invitee to NSF sponsored WOCE Workshop on on direct velocity measurements.

37. December 1987, Washington, DC: NOBREX P.I. meeting at NSF.

38. January 5, 1988, Tallahassee, FL: Meeting with FDER and COE on Apalachicola Bay. Invited.

39. April 14, 1988, Princeton, NJ: Invited seminar at GFDL, Princeton University.

40. April 27-29, 1988, Miami, FL: WOCE Core 3 workshop invitee and speaker.

41. September 27-29, 1988, Dallas, TX: WOCE Moored Measurements Implementation Panel Meeting. Invited.

42. October 19-20, 1988, Miami, FL: Invited seminar at NOAA AOML.

43. October 21, 1988, Boston, MA: WOCE Process Studies Implementation Panel

Meeting. I presented a straw position for a Tropical Atlantic Program. Invited.

44. November 16, 1988, Miami FL: NOAA STACS Program Workshop attendee.

45. January 24-25, 1989, Washington, DC: NSF review panel member

46. February 7-9, 1989, Miami, FL: Invited participant at NOAA-EPOCS mid-term review.

47. March 8-10, 1989, Honolulu, HI: Invited participant and speaker at U.S. TOGA Program (NOAA) mid-term review, abstract to appear.

48. March 22, 1989: Invited seminar on Ocean Circulation at New College.

49. November 6, 1989, Palisades, NY: Invited seminar at Lamont-Doherty Geological Observatory of Columbia University.

50. January 10-11,1990, Miami, FL: Invited presentation and workshop participant at NOAA/AMOL (Tropical Atlantic Climate Studies Meeting).

51. January 17-19, 1990, Miami, FL: Invited presentation and workshop participant at NOAA/AOML (Equatorial Pacific Ocean Climate Studies Meeting).

52. February 20, 1990, Raleigh, NC: Presided over the Ph.D. thesis defense of Thomas Weingartner as major professor and thesis committee chairman at NCSU.

53. February 25-28, 1990, Honolulu, HI: Invited presentation and workshop participant at University of Hawaii, NAS TOGA Panal Ad Hoc Committee on the tropical Pacific Monitoring Array.

54. March 17-25, 1990, Taipei, Taiwan, ROC: Invited visiting scientist, National Taiwan University. Three lectures given plus a presentation at the National Research Council.

55. March 28, 1990, Tallahassee, FL: NWFWMD advisory panel meeting.

56. June 18-20, 1990, Washington, D.C.: NOAA review panel member.

57. July 15-20, 1990, Honolulu, HI: International TOGA Science Conference, presentation given with published abstract.

58. October 1-5, 1990, Fortaleza, Brazil: Invitee and presentor at a Workshop on the Relationship of the Atlantic Ocean to Regional and Global Climate Variations - U.S. Brazil Science and Technology Initiative.

59. January 22-24, 1991, Miami, FL: Invited Participant. NOAA-EPOCS Annual Review

60. February 13, 1991, M. S. Department Seminar on Tampa Bay Circulation

61. April 8-9, 1991, Panelist, Northwest Florida Water Management District, Technical Working Group on Apalachicola Bay. Apalachicola, FL.

62. April 23, 1991, LDGO, Columbia University, Palisades, NY., proposal development.

63. June 20-21, 1991, Tallahassee, FL.: Invited speaker at NWFWMD workshop on Apalachicola Bay.

64. October 8, 1991, New York, NY., Invited workshop participant on USACOE, New York district workshop on New York Bight.

65. March 4, 1992, (Tampa, FL.) and March 24, 1992 (Clearwater, FL.). Invited speaker, USF/CAS "Lunch with a genius" program, Oceanographic processes associated with the El Nino-Southern Oscillation (ENSO) phenomenon.

66. March 11-13, 1992 WES, Vicksburg, MS., Invited Panelist, USACOE.

67. March 30 - April 1, 1992, Honolulu, HI., Invited participant and speaker, NSF Tropical Instability Wave Experiment (TIWE) workshop

68. May 4-8, 1992, Co-Convener and speaker, TOGA Program Conference in Taipei, Taiwan, ROC.

69. July 14-16, 1992, Stonybrook, NY., Invited Panelist, USACOE.

70. September 22, 1992, Oceanographic Center, NOVA University, Dania, FL., Committee member, Ph.D. Thesis Defense, Z. Yu.

71. November 9-11, 1992, Honolulu, HI., Invited implementation panel member, TOGA TAO array workshop.

72. December 2, 1992, St. Petersburg, FL., Invited seminar speaker at Eckerd College.

73. December 9-10, 1992, St. Petersburg, FL., Invited Panelist, USACOE.

74. January 22, 1993, Mote Marine Lab, Sarasota, FL., Attendee, EPA Gulf of Mexico Program Meeting.

75. January 27-29, 1993, Miami, FL., Invited participant, NOAA EPOCS Annual Review.

76. March 1-3, 1993, Honolulu, HI., Invited participant and presenter, National Academy of Sciences sponsored Global Ocean Atmosphere Land System Workshop.

77. March 30-31, 1993, Stennis Space Center, MI., Invited Florida Delegation Leader to Southeast Space Grant Consortium Meeting.

78. May 11, 1993, AMOL/RSMAS, Miami, FL., Invited seminar speaker.

79. June 29-30, 1993, Havana, FL., Invited participant, NWFWMD Technical Working Group Meeting.

80. July 8, 1993, Ithaca, NY., Invited speaker at Cornell University.

81. July 14-16, 1993, Seattle WA., Invited speaker, JGOFS Workshop.

82. July 19-20, 1993, Woods Hole MA., Invited Panelist, USACOE.

83. July 26-28, 1993, Washington, D.C., Invited NSF Panelist.

84. September 3, 1993, St. Petersburg, FL: Seminar presented at the Marine Science Department - USF.

85. November 18-19, 1993, Havana, FL., Invited participant, NWFWMD Technical Working Group Meeting.

86. January 11-14, 1994, Miami, FL., Invited participant at NOAA/EPOCS Meeting.

87. April 5-7, 1994, Tallahassee, FL., MMS workshop on northwest Florida shelf.

88. April 21-22, 1994, Miami, FL., Invited speaker at Florida Coastal Science Symposium, RSMAS.

89. May 11-13, 1994, Princeton, NJ., Invited speaker at WOCE (NSF)/ACCP (NOAA) workshop on Atlantic Climate Variability.

90. July 19-22, 1994, Honolulu, HI., Invited speaker at The Oceanography Society Meeting.

91. August 22-25, 1994, Seattle, WA., Invited speaker at NOAA-OGP PACS Workshop.

92. September 23, 1994, Stony Brook, NY, Invited panelist, USACOE.

93. October 25-26, 1994, Project leader (non-participant), R/V SUNCOASTER, West Florida Shelf Deployment.

94. November 14, 1994, Havana, FL., Invited participant, NWFWMD Technical Working Group Meeting.

95. December 5-9, 1994, San Francisco, CA., Session Convener/Chair, Fall Annual Meeting of the American Geophysical Union.

96. January 30, 1995, Tallahassee, FL., Evolution of the three-dimensional circulation about the equator in the central equatorial Pacific. Seminar presented at the Florida State University.

97. February 8-10, 1995, Miami, FL., Invited participant, PACS implementation panel workshop.

98. April 2-7, 1995, Melbourne, Australia, TOGA 95 Conference.

99. April 24, 1995, St. Petersburg, FL., USGS WFS workshop, participant and presenter of 4 talks on in-situ measurements, satellite remote sensing and numerical modeling of the west Florida continental shelf circulation.

100. May 8-10, 1995, Baltimore, MD., Invited participant COE HBRAG.

101. May 23-24, 1995, Boulder, CO., Invited participant, PACS implementation panel workshop.

102. July 20-21, 1995, Seattle, WA., Invited participant, PACS implementation panel workshop.

103. August 14-15, 1995, Tuckerton, NJ., Invited participant COE HBRAG.

104. October 13, 1995, Miami, FL., Invited seminar at AOML/RSMAS on "Slow interannual variability in the equatorial west-central pacific in relation to ENSO."

105. October 14, 1995, St. Petersburg, FL., Lectures at SPHS, IB Program.

106. December 7-8, 1995, Stony Brook, NY., Invited participant COE HBRAG.

107. April 10, 1996, Vero Beach, FL., Invited seminar Harbor Branch Oceanographic Institute on "in-situ measurements and modeling of West Florida continental shelf circulation."

108. June 7, 1996, St. Petersburg, FL., USGS WFS workshop, participant and presenter of 4 talks on in-situ measurements, satellite remote sensing and numerical modeling of the west Florida continental shelf circulation.

109. July 9, 1996, St. Petersburg, FL., Taped interview for WUSF Science Adventures series.

110. July 22, 1996, St. Petersburg, FL., Invited seminar at FMRI on "West Florida continental shelf circulation."

111. August 8, 1996, Miami, FL., Invited seminar at AOML/RSMAS on "A new mechanism for ENSO."

112. August 27-29, 1996, France, Invited presenter and contributor at PIRATA workshop at centre ORSTOM.

113. September 11, 1996, St. Petersburg, FL., DMS seminar in the El Nino-Southern Oscillation.

114. September 18, 1996, Seattle, WA., Presentation on upper ocean variability in the western equatorial Pacific during a principal investigators meeting for TOGA/ COARE.

115. October 5, 1996, St. Petersburg, FL., Appeared in a WUSF Science Adventures television presentation.

116. October 25, 1996, Tallahassee, FL., Two seminars presented at the Department of Oceanography, FSU.

117. November 6-7, 1996, St. Petersburg, FL., Invited participant, FMRI redtide workshop.

118. November 18-20, 1996, Miami, FL., Invited panelist, NOAA/COP Technical Advisory Panel Meeting and Workshop.

119. December 5-6, 1996, Vicksburg, MS., Invited panelist, COE near field modeling.

120. January 6-7, 1997, Tallahassee, FL., Three presentation at MMS quality review board meeting on west Florida continental shelf modeling.

121. May 1-2, 1997, St. Petersburg, FL., USGS West Florida Coastal Workshop, four oral presentations and two posters.

122. May 7-8, 1997, Steinhatchee, FL., Florida Bend Coastal Research Workshop, Participant and speaker: Some observational and modeling perspectives on the circulation of the Florida Big Bend.

123. August 7, 1997, Fairbanks, AK. On the role the western Pacific in the El Nino-Southern Oscillation. Seminar presented at University of Alaska, Fairbanks, AK.

124. August 8, 1997, Fairbanks, AK. Observations and modeling studies of the West Florida continental shelf circulation. Seminar presented at University of Alaska, Fairbanks, AK.

125. August 29, 1997, St. Petersburg, FL., Storm-induced sea level variations on the West Florida Shelf. Tutorial presented for the National Weather Service and Florida emergency planners.

126. October 16-27, 1997, Shanghai, Qingdao, and Beijing China. 14 lectures presented at 6 institutions on topics concerning the El Nino-Southern Oscillation, the Equatorial Undercurrent in the central pacific, and the West Florida continental shelf circulation.

127. January 12-14, 1998, Tallahassee, FL., Three presentations at MMS Quality Review Board Meeting on the West Florida continental shelf modeling project.

128. February 5, 1998, St. Petersburg, FL., Physical factors affecting West Florida sea level and circulation. Presentation at the National Conference on Beach Preservation Technology.

129. February 7-8, 1998, San Diego, CA. Meso-scale features of the continental shelf circulation. Presentation at the ONR HYCODE workshop.

130. February 26-27, 1998, Miami FL. Poster presentation (R. Weisberg, C. Wang, J. Virmani, and D. Mayer) at the NOAA/AOML silver anniversary.

131. April 14, 1998, St. Petersburg, FL. Guest lecture on Tropical Instability Waves.

132. May 16, 1998, St. Petersburg, FL. Public lecture on El Nino, FDEP Marine Marine Quest.

133. June 18, 1998, St. Petersburg, FL El Nino-Southern Oscillation, seminar (C. Wang and R.H. Weisberg) at the USGS Center for Coastal Geology.

134. July 7-14, 1998, Boulder, CO. Large scale variability during COARE. Paper with published abstract at the NSF-sponsored COARE98 conference by R.H. Weisberg et al.

135. July 7-14, 1998, Boulder, CO. Western pacific interannual variability associated with ENSO. Paper with published abstract at the NSF-sponsored COARE98 conference by C. Wang et al.

136. July 7-14, 1998, Boulder, CO. Upwelling in the western Pacific warm pool. Paper with published abstract at the NSF-sponsored COARE98 conference by R. Helber et al.

137. July 7-14, 1998, Boulder, CO. Wave kinematics in the western Pacific warm pool. Poster with published abstract at the NSF-sponsored COARE98 conference by R. Helber et al.

138. July 7-14, 1998, Boulder CO. Energy balances in the upper western equatorial Pacific ocean during a westerly wind burst. Paper with published abstract at

NSF-SPONSORED COARE98 conference by H. Wiejesekera et al.

139. July 7-14, 1998, Boulder, CO. Observations of low lattitude near inertial internal gravity waves forced by westerly wind bursts. Paper with published abstract at the NSF-sponsored COARE98 conference by C. Eriksen et al.

140. July 14-16, 1998, San Diego, CA. Observations and models of the West Florida Shelf circulation, workshop report presented by H. Yang et al.

141. August 27-28, 1998, St. Petersburg, FL. ECOHAB P.I. meeting presenter.

142. October 6-8, 1998, Tuscon, AZ. PACS/EPIC P.I. meeting. (Presentation by J. Virmani).

143 October 21, 1998, Tampa FL. Invited presentation to the USF Leadership Council on WFS research.

144. October 26-29, 1998, Miami FL. Annual NOAA Climate Analysis Workshop, 2 presentations given (with C. Wang).

145. November 24, 1998, Dania FL. ONR site visit participant. Presentation with M. Luther.

146. November 30, 1998, St. Petersburg, FL. ONR (HyCODE) site visit. Presentation on WFS research.

147. January 12-13, 1999, St. Pete Beach, FL. Three presentations at MMS Quality Review Board meeting on the West Florida continental shelf modeling project.

148. January 18-21, 1999, Baltimore MD. Physical Oceanography studies on the west Florida continental shelf. Presentation at the ONR HyCODE P.I. meeting.

149. February 24-26, 1999, Dania Beach, FL. Physical Oceanography studies on the west Florida continental shelf. Presentation at an NSF sponsored SFOMC workshop.

150. April 28, 1999, St. Petersburg FL. Presentation at an ECOHAB P.I. meeting.

151. May 4-7/99, Miami, FL. Working Group Leader, NOAA Tropical Atlantic Observing system Workshop

152. May 25, 1999, Dania Beach, FL. SFOMC Board of Directors meeting.

153. June 20-25 1999, New London, New Hampshire, Invited presenter, Gordon Res. Conference on Coastal Ocean Modeling.

154. July 12, 1999, Cambridge MD, PhD defense for Ms. Z. Li

155. August 13,1999, St. Petersburg, FL. ECOHAB P.I. meeting presenter.

156. August 27, 1999, St. Petersburg, FL. DMS seminar: Inner shelf circulation studies on Florida's west coast.

157. September 8, 1999, St. Petersburg, FL. Invited presenter at NWS meeting on coastal ocean monitoring

158. October 19-21, 1999. Mobile AL. Workshop attendee and presenter at the MMS workshop on the Northeast Gulf of Mexico.

159. November 16,1999. Tampa FL. Invited lecturer on El Nino, Geography Dept.

160. November 18, 1999. St. Petersburg, FL. Invited presenter at the FMRI bait fish conference.

161. November 29-December 1, 1999. New Brunswick, NJ. Invited participant and speaker at the ONR HyCODE workshop.

162. December 2, 1999. New Orleans, LA. Invited speaker at the MMS annual Information Transfer Meeting.

163. February 17, 2000. St. Petersburg, FL. HyCODE/FSLE meeting presentor.

164. May 8, 2000. Miami, FL. Invited seminar, NOAA/AOML. West Florida shelf response to local wind forcing: April 1998.

165. September 5, 2000. Ruskin FL. Hurricane storm surge presentation at the NWS.

166. September 13, 2000. St. Petersburg, FL. HyCODE/FSLE meeting presentor.

167. September 22, 2000. Narragansett R.I. Invited seminar at URI for the J.A. Knauss 75th birthday symposium. An observers view of the equatorial current system.

168. October 17, 2000. St. Petersburg, FL. Participation (poster) at Project Access meeting

169. October 27, 2000. Palisades N.Y. Participant and speaker at NAME conference held at the LDEO, Columbia Univ. IRI.

170. November15, 2000. St. Petersburg, FL. Taught classes at John Hopkins Middle School.

171. November 27, 2000. Gulf Breeze, FL. Invited participant at the EPA/NOAA HABSOS meeting.

172. December 5, 2000. Woods Hole MA. Invited speaker at the HAB symposium.

173. January 8-11, 2001 St. Pete Beach FL. presentation at ONR HyCODE P.I. meeting

174. March 15-16, 2001 Miami, FL. Invited presentation at RSMAS/AOML.

175. March 28-30, 2001 Dania, FL Invited participant, CECOOS workshop.

176. May 21-24, 2001 Washington D.C. WCRP/SCOR Workshop, presentation by J. Virmani.

177. July, 2001 Miami, FL, RSMAS, SE-COOS meeting, presentation by R. He.

178. July 7-8, 2001 Corpus Christi TX., Invited presentation at TAMU-CC.

179. August 9-10, 2001 St. Petersburg, FL., Invited presentation at SURA SCOOP mtg.

180. August 24, 2001 St. Petersburg FL., presentation at ECOHAB P.I. meeting.

181. November 1-2, 2001 Newport News, VA., Invited presentation at SURA-SCOOP mtg.

182. November 14, 2001 St. Petersburg FL., Great American teach-in (J. Hopkins middle school).

183. November 15, 2001 St. Petersburg FL., Seminar at USGS.

184. November 26, 2001 Sarasota, FL. Seminar at MOTE Marine Lab.

185. January 6-9, 2002 Santa Barbara, CA., HyCODE P.I. mtg., presentation on WFS.

186. January 17, 2002 St. Petersburg, FL. ECOHAB P.I. mtg. presentation on WFS.

187. February 14, 2002 St. Petersburg, FL. SWFWMD mtg. presentation on WFS and the Charlotte Harbor estuary.

188. February 21, 2002 Dania, FL. Presentation to the Ocean Commission on coastal ocean monitoring.

189. February 28, 2002 Atlanta, GA. SEA-COOS P.I. mtg.

190. April 2-3, 2002 Panama City, FL. ONR P.I. mtg., presentation on BSOP project.

191. April 29-30, 2002 Nashville, TN., SURA mtg., 2 presentations to SURA coastal committee

192. May 3, 2002 St. Petersburg, FL. presentation to NOAA visitors.

193. May 29, 2002 St. Petersburg, FL. presentation at ECOHAB P.I. meeting

194. August 5, 2002 Dartmouth, MA. Seminar at SMAST, UMass, Dartmouth

195. September 18, 2002 St. Petersburg, FL. Presentation at USGS Tampa Bay modeling meeting.

196. September 30-October 2, 2002 Chapel Hill N.C., 3 presentations at SEA-COOS P.I. meeting.

197. October 9, 2002 Sarasota FL, invited talk at Mote Marine Lab on Charlotte Harbor estuary

198. October 11, 2002 Stony Brook, N.Y., invited seminar at Mar. Sci. Res. Cen., SUNY, Stony Brook.

199. November 6-9, 2002 Barbados W.I., invited talk at IASI-IOCARIBE-RODAE workshop.

200. November 20, 2002 St. Petersburg, FL., oceanography talks at J. Hopkins Middle School.

201. January 16-17, 2003 Miami, FL, presentation at HYCODE P.I. mtg.

202. March 14, 2003 Atlanta GA., SEA-COOS P.I. mtg.

203. March 31, 2003 Washington D.C., OCEAN.US summit participant.

204. April 10, 2003 St. Petersburg, FL. guest lecture on estuarine circulation.

205. May 27-29, 2003 Jacksonville, FL. SEA-COOS P.I. mtg.

206. 6/22-6/27/03 New London, NH, Gordon Res. Confr. on Coastal Ocean Modeling, 4 posters presented.

207. 8/19-8/21/03 Washington D.C., HYCOM mtg., presentation on WFS modeling.

208. 10/1/03, Chapel Hill NC, SEACOOS EXCOMM meeting.

209. 10/7/03, Sarasota FL, invited talk at Mote Marine Lab on Charlotte Harbor estuary

210 10/23-10/24/03, Stennis Space Center, MS, invited seminar at USM.

211. 10/31/03, Clearwater FL, Hurricane storm surge presentation to Pinellas Co.

212. 11/3-11/5/03, Savannah GA, SEACOOS workshop, 2 presentations and moderator.

213. 11/11-11/13/03, Washington D.C., NCEP ocean model review comm.

214. 11/14/03, Chapel Hill, NC, SEACOOS EXCOMM mtg.

215. 11/19/03, St. Petersburg FL, Great American Teach-in at J. Hopkins Middle School.

216. 1/19/04, Atlanta GA., SEACOOS EXCOMM mtg.

217. 1/20/04, Ruskin, FL, poster presentation at USGS Tampa Bay conference.

218. 3/8-10/04, St. Petersburg, FL, presentation at MTS Buoy wrkshp: A Coastal Ocean Observing System for the WFS - COMPS/SEACOOS.

219. 3/10/04, Wash. DC, SEACOOS House/Senate briefings.

220. 3/11/04, Chapel Hill, NC, SEACOOS BoD mtg.

221. 3/15-16/04, St. Petersburg, FL, ACT radar mtg.

222. 4/12-15/04, St. Petersburg, FL, EPA-GCOOS HAB mtg.

223. 5/10-12/04, St Petersburg, FL, presentation at ONR site visit.

224. 5/13/04, Ft. Myers, FL, presentation on the CH estuary at SFWMD mtg. at ECC.

225. 5/16-19/04, Miami. FL, SEACOOS sp wrkshp, 3 oral presentations and 4 posters.

226. 5/21-24/04, Margarita Venezuela, presentation at CARIACO PI mtg.

227. 5/26/04, Venice, FL, presentation to Coast Guard aux.

228. 6/7/04, St. Petersburg, FL, presentation to Pinellas Co. teachers.

229. 6/14-16/04, New Bedford, MA, presentation at FVCOM wrkshp at UMASSD.

230. 7/10/04, St. Petersburg, FL, guest sermon at Congr. B'nai Israel.

231. 8/4/04, Atlanta, GA, SEACOOS PI mtg.

232. 8/16-17/04, Atlanta, GA, SEACOOS EXCOMM mtg.

233. 8/18/04, Miami, FL, seminar at AOML (by R. Helber).

234. 8/24/04, St. Petersburg, FL, presentation to MOSI exhibitors.

235. 8/26/04, St. Petersburg, FL, seminar on hurricane storm surge.

236. 9/27/04, St. Petersburg, FL, guest lecture in Intro P.O. course.

237. 9/29/04, Atlanta GA, SEACOOS MWG mtg.

238. 10/5/04, Sarasota, FL, H. Charley simulation at MML (by L. Zheng).

239. 10/11/04, Liege, BE., juror, PhD defense for A. Barth.

240. 10/13/04, Liege, BE., juror, PhD defense for A. Alvera-Azcarate.

241. 10/27/04, Miami, FL, presentation at HYCOM meeting.

242. 11/10&11/04, Charleston, SC, presentation at SEACOOS fall workshop.

243. 11/16&17/04, Charleston SC, participation at NOAA COTS workshop.

244. 12/20/04, Naples, FL, SFWMD presentation of estuary/shelf interaction (by L.Zheng).

245. 1/17-19/05, St. Petersburg, FL, SEACOOS External Review, OWG summary presentation as chairman.

246. 2/11/05, Washington DC, SEACOOS presentation to legislative aides.

247. 2/16/05, Office, – teleconference re: NOPP panel.

248. 3/2-3/05, Miami, FL, SEACOOS BoD mtg., OWG Chair presentation.

249. 3/11-13/05, Steinhatchee, FL, CMS faculty retreat.

250. 3/?/05, San Diego, CA, "Wireless Waves" presented by R. Cole at RD-Instruments, ADCPs in Action.

251. 4/5/05, Ruskin, FL, Hurricane Charley simulation seminar at local AMS mtg.

252. 4/9/05, St. Petersburg, FL, Public lecture on Hurricane Charley simulation at the

FWRI Ocean Day.

253. 4/11/05, St. Petersburg, FL, presentation to COE scientists on WFS.

254. 4/28/05, St. Petersburg, FL, presentation on WFS/GOM currents at the SPYC.

255. 6/2/05, St. Petersburg, FL, seminar on Tampa Bay circulation.

256. 6/3/05, St. Petersburg, FL, seminar on hurricane storm surge.

257. 6/7/05, Orlando, FL, presentation to FL COOS Caucus.

258. 6/16/05, Naples, FL, Rookery Bay discussions/Tampa Bay presentation.

259. July/August, St. Petersburg, FL, several TV interviews on hurricane storm surge.

260. 7/25-28/05, Jacksonville, FL, 4 presentations at SEACOOS/SECOORA workshop.

261. 8/23, St. Petersburg, FL, participant GofM Alliance mtg.

262. 10/14, St. Petersburg, FL, presentation at FWRI meeting.

263. 10/17-20, Norfolk VA, ERF Conference participant on several town hall meetings.

264. 11/2-4, Houston TX, GCOOS Industry workshop.

265. 11/8, Washington DC, SURA Coastal Ocean Committee.

266. 11/15-18, Columbia SC, SEACOOS fall workshop.

267. 12/2, St. Petersburg, FL, Patel Center meeting.

268. 1/5, St. Petersburg, FL, FWRI meeting.

269. 1/17-19, New Orleans, NAS-NRC Committee on NO RHPP

270. 2/14-16, Jacksonville, FL, NOAA coastal inundation workshop.

271. 2/20-24, Honolulu HI, several P.I. meetings at AGU/ASLO OS

272. 3/7, St. Petersburg, FL, MERHAB P.I. meeting.

273. 3/19-21, New Orleans, NAS-NRC Committee on NO HPS

274. 3/23, Naples, FL, Rookery Bay model presentation at RBNERR (L. Zheng).

276. 4/3, Tampa, invited speaker by Congr. Davis, Town Hall mtg.

277. 4/3, Sarasota, FL, FL COOS Caucus mtg

278. 4/5, St. Petersburg, FL, invited speaker TBNEP, Tampa Bay circulation.

279. 4/27, St. Petersburg, FL, invited speaker SPYC.

280. 5/8-9, Washington DC, invited participant CORE/JOI/SURA.

281. 5/9, Tampa, FL, invited speaker, Hurricane storm surge potential at Tampa Bay Insurance management chapter mtg. (L. Zheng)

282. 5/17, Tampa, FL, Storm surge presentation at RIMS (by L.Zheng).

283. 5/15-17, New Orleans, NAS-NRC Committee on NO RHPP

284. 5/?, Margarita Is., Venezuela, CARICO progress report (by R. Cole).

285. 6/6, Tampa, FL, Invited speaker, local AMS Chapter annual banquet.

286. 6/16, Tampa, FL, Invited public forum panelist at "An inconvenient truth."

287. 6/?, New Bedford, MA, Applications of FVCOM to the west Florida continental shelf and its estuaries, 2nd FVCOM workshop at UMass-Dartmouth (L. Zheng)

288. 7/11, Woods Hole, MA., Invited seminar at WHOI

289. 7/12, Woods Hole, MA., Invited seminar at WHOI

290. 7/17, Sarasota, FL., Invited lecture at NOAA/Mote/FWRI red tide workshop, plus two posters presented.

291. 7/27-28, New Orleans, LA., NRC Comm. on N.O. Hurricane Protection System.

292. 9/11-14, Jacksonville, FL, SEACOOS/SECOORA workshops.

293. 9/25, Clearwater, FL., PC Property Appraiser's Office, hurricane storm surge

294. 10/28, St Petersburg, FL., TB Estuary Academy (presented by L. Zheng).

295. 11/?, St. Johns River Water Management District, estuary modeling (L.Zheng).

296. 12/29/06, Xiamen China, Hurricane storm surge simulation for Tampa Bay, Third

Institute of Oceanography, SOA (L. Zheng).

297. 1/22-23/07, Washington, DC, NRC Comm. on N.O. Hurricane Protection System.

298. 2/6, Gainesville, FL, FLCOOS mtg. participant

299. 2/28, Herndon, VA, MMS mtg., participant

300. 4/23-26, Stennis MS, NOPP GODAE mtg., 2 presentations

301. 4/27, St Petersburg, FL, Tampa Bay workshop co-convener

302. 5/7, Clearwater, FL, property appraiser mtg. re: storm surge presentation

303. 6/1, Bradenton, FL, Manatee Co. hurricane conference keynote speaker

304. 6/17-21, Gordon Research Conference, Colby College, New Hampshire, 3 posters

305. 6/26-28, New Orleans, LA, MMS GOM workshop, exec comm./session leader

306. 7/8-11, Chapel Hill NC, SEACOOS EXCOM mtg.

307. 7/12, St. Petersburg, FL, TPRPC hurricane storm surge presentation.

308. 8/28, Washington, DC, SURA Coastal Committee

309. 10/9, New Orleans, LA, NRC Comm. on N. O. Hurricane Protection System.

310. 10/22-24, St. Pete Beach, FL, SEACOOS/SECOORA workshops.

311. 10/31, Naples, FL., Rookery Bay presentation to SFWMD

312. 11/15, Tampa, FL., SWFWMD presentation on TB modeling

313. 12/3-4/07, New Orleans, LA, NRC Comm. on N.O. Hurricane Protection System.

314. 1/23/08, Sarasota, FL. Invited presentation at "Islands in the Stream" Conference.

315. 1/28, Gainesville, FL., presenter at Hurricane Storm surge inundation P.I. meeting.

316. 4/10, Raleigh NC, Invited seminar at NCSU

317. 4/30, Tampa, FL., Invited DUP lecture.

318. 6/5, Washington, DC, Award recipient, NOPP Excellence in Partnering.

319. 6/23-24, Gainesville, FL., Invited presentation at P.I. workshop on storm surge

320. 7/22-24, Arlington VA., Invited talk at MAST mtg.

321. 9/3-5, Washington D.C., NRC/NAE meeting on NOHPS

322. 10/31/08, Stonybrook N.Y., Invited seminar at SUNY, Stonybrook

323. 1/20/09, Tampa, FL. Coastal Ocean Circulation Modeling with Applications to Red tide and Storm Surge, USF Symposium on High Performance Computing.

324. 2/11, St. Pete Be., FL. Presentation of USF-NOAA-FEMA storm surge workshop.

325. 5/13, Jacksonville, FL. Presentations at the SECOORA spring mtg.

326. 5/21, Norfolk VA. Why red tide was mild on the WFS in 2008. NOAA ECOHAB mtg. (presented by Y. Liu).

327. 5/29, St. Petersburg, FL. Presentation to FWC fisheries workshop on COMPS observations/models

328. 6/16, St. Pete Be., FL. Keynote address at SPB Hurricane awareness workshop.

329. 7/13, Stennis, MS. Team leader for NRL, Battlespace Environments site review.

330. 8/17, Raleigh NC. WFS mean circulation observed by long-term moorings. MABPOM-SECOM conference (presented by Y. Liu)

331. 9/10, St. Petersburg, FL. Eastern Gulf of Mexico circulation. Invited presentation Agency on Bay Management oil drilling public symposium.

332. 9/18, Fascati, Italy. Validation of X-TRACK coastal altimetry on the West Florida Shelf by LY. Liu, R.H. Weisberg, S. Vignudelli, L. Roblou. Presentation at "The 3rd Coastal Altimetry Workshop," Frascati, Italy (presented by S. Vignudelli).

333. 9/14, Raleigh, NC. SECOORA Board mtg.

334. 10/5, St. Petersburg, FL. Presentation to Century Committee, RE: oil drilling.

335. 10/15, St. Petersburg, FL. Presentation to CARA-GCOOS ecological modeling workshop.

336. 10/12, St. Petersburg, FL. Presentation to TBRPC, RE: oil drilling.

337. 10/20, Tampa, FL. USF Unstoppable Campaign (six different topical PPTs

provided for display).

338. 12/2, St. Petersburg, FL. Presentation to USACE, RE: Tampa Bay.

339. 1/20/10, Tampa, FL. Coastal Ocean Circulation Modeling with Applications to Red tide and Storm Surge, USF Symposium on High Performance Computing.

340. 1/25&6, Baltimore, MD. Invited presentation at interagency Water Quality Workshop

341. 2/4, St. Petersburg, FL. Invited presentation, FDEP Estuarine Nutrient criteria workshop

342. 2/11, Tampa, FL. Invited panelist for USF School of Sustainability event.

343. 5/7, St. Petersburg, FL. Invited briefing of Sen. Nelson on oil spill.

344. 5/12,13, Savanna GA. Liu, Y., R.H. Weisberg, L. Zheng, and C. Hu. Tracking Gulf of Mexico Oil Spill with Numerical Models and Satellite Imagery. Southeast Coastal Ocean Observing Regional Association (SECOORA) 2010 Annual Board & Membership Meeting.

345. 5/20, St. Petersburg, FL. Zheng, L, Y. Liu and R.H. Weisberg. WFS circulation relative to the red-tide bloom evolution for 2001. ECOHAB PI meeting.

346. 5/26, Washington, DC. Invited (by Chancellor Brogan) briefing of the Florida delegation on the oil spill.

347. 5/26, St. Petersburg, FL. Zheng, LY. and R.H. Weisberg. Invited presentation. What may have happened here had Hurricane Ivan visited us instead of Pensacola? Presented at Greater Tampa Bay ACP meeting. (presented by Zheng)

348. 5/27, Tallahassee, FL. Fourth Annual SouthEast Coastal Oceanography and Meteorology (SECOM) Conference. Presentation on wave modeling by Y. Huang.

349. 6/2, Shanghai, China. Zheng, LY. and R.H. Weisberg. Tampa Bay circulation driven by rivers, tides and winds, and its connection with the Gulf of Mexico: How the bay flushes? Invited presention at East China Normal University.

350. 6/7, Xiamen, China. Zheng, LY. and R.H. Weisberg. Automated Deepwater Horizon oil spill trajectory prediction. Invited presentation, Third Institute of Oceanography, State Oceanic Administration, Xiamen, China.

351. 6/9, Plant City, FL. Liu, Y., R.H. Weisberg, Lianyuan Zheng, and Chuanmin Hu:

Gulf Oil Spill Ramifications, *Contact Breakfast* hosted by the Greater Plant City Chamber of Commerce and sponsored by Tampa Electric, (*invited speaker*).

352. 6/11, St. Petersburg, FL. Invited briefing of Sen. Nelson on oil spill.

353. 6/15, Washington, DC. Testify before House Committee on Natural Resources, Subcommittee on Insular Affairs the Oceans and Wildlife; followed by a briefing of the Florida delegation invited by Congresswoman Castor.

354. 6/17, St. Petersburg, FL. Invited briefing of City Council on oil spill.

355. 6/18, St. Petersburg, FL. Liu, Y., R.H. Weisberg, Chuanmin Hu, and Lianyuan Zheng. Tracking/predicting the oil spill trajectory in the Gulf of Mexico using numerical models and satellite imagery. USF/CMS Postdoctoral Fellow and Research Staff Summer Colloquium.

356. 6/23&4Washington, DC. Invited presenter at SURA model test-bed workshop.

357. 7/14, Seminole, FL. Invited speaker, St. Petersburg College Inst. For Public Policy. Impact of the oil crisis in the Gulf on Tampa Bay

358. 8/2, Tampa, FL. Invited briefing of Sen. Nelson on oil spill.

359. 8/16, St. Petersburg, FL. Invited briefing of Florida Century Committee on oil spill.

360. 8/19, Homosassa Springs, FL. Invited presentation on Deepwater Horizon oil spill given to Withlacoochee Area Residents, Inc.

361. 8/26, Tampa, FL. Invited presentation on Deepwater Horizon oil spill given to Florida Bar Association.

362. 9/16, Orlando, FL. A coordinated modeling approach in support of oil spill tracking. Weisberg, R.H., L.Y. Zheng, V.H. Kourafalou, E.P. Chassignet. Presented by L.Y. Zheng at FIO PI Coordination Workshop.

363. 10/5, St. Pete Be, FL. Invited participant, JSOST oil spill workshop.

364. 10/6, Tampa, FL. Where did the oil go and why? Invited presentation (by USACE-Jacksonville Office) at the Western Dredging Assoc. Mtg.

365. 10/11, Tampa, FL. Modeling the location of the Gulf oil spill. USF Research I invited presentation.

366. 10/16, San Antonio, TX. The Gulf Oil spill. Weisberg, R.H., Y. Liu, L.Y. Zheng and C. Hu. Keynote address at CSDMS meeting. Presented by Y. Liu.

367. 11/3, Palm Be. Gardens, FL. Invited presentation, FAU Conference on: Sustainable Ocean Energy and the Marine Environment.

368. 11/16, St. Petersburg, FL. Invited presentation at Sierra Club et al. sponsored public forum on the Gulf of Mexco oil spill.

369. 11/19, Tampa, FL. Invited seminar on renewable energy for Florida, USF Geography Dept.

370. 11/22, Tampa, FL. Invited presentation at Congresswoman Castor press conference.

ACTIVE GRANTS:

1) State of Florida: A real-time oceanographic data system for Florida, P.R. Betzer, A.C. Hine, M. Luther and R.H. Weisberg, P.I.'s, initial award=300,000, continuing support for 5 positions beginning 7/1/97.

2) State of Florida: I-4 Corridor funding for the Coastal Ocean Modeling and Prediction System (COMPS), P.R. Betzer, M.E. Luther, and R.H. Weisberg, Co-P.I.s, initial award=69,276.00 for an engineer position and 78,520.50 for expenses beginning 7/1/98. Continuing support for the engineer position.

3) ONR Grant # N00014-10-1-0785, Observations and modeling of the West Florida continental shelf circulation, R.H. Weisberg, P.I., $279,000 for the period 4/1/10-4/30/11 (NCE for FY12).

4) SC SEAGRANT, federal pass through from NOAA, NA07NOS4730409, Maintaining high-frequency radars for SECOORA, R.H. Weisberg, P.I., 95,000 for the period 8/1/10-7/31/11 (NCE for FY12).

5) SC SEAGRANT, federal pass through from NOAA, NA07NOS4730409, Maintaining moored observations for SECOORA, R.H. Weisberg, P.I., 165,000 for the period 8/1/10-7/31/11 (NCE for FY12).

6) NSF OCE-0741705, The influence of oceanographic and biological processes on the distribution of cetaceans on the West Florida Shelf: a synoptic study based on underwater and space-based remote sensing, D.A. Mann, F. Muller-Karger, and R.H. Weisberg, P.I.s, 1,663,761 for the three year period 8/15/07-7/31/11; Weisberg portion = $301,297 (NCE for FY12).

7) ONR N000014-10-1-0573, Bottom stationed ocean profiler design improvements, C. Lembke, J. Patten, R. Russell, R. Byrne and R.H. Weisberg, P.I.s, 366,757 for the period 5/1/10-4/30/11 (NCE for FY12).

8) UNC-CH, subcontract on SURA Super-regional Testbed, Inundation Component, UNC-CH 5-43705, R.H. Weisberg, P.I., $72,500 for the period 6/1/10-5/31/11 (NCE for FY12).

9) ONR N000014-10-1-0794, Plankton Optical Tracers of Coastal Circulation Models, J.J Walsh and R. H Weisberg co-P.I.s, 299,555 for the period 4/1/10-4/30/11, Weisberg portion = $95,999, (NCE for FY12)

10) FSU, subcontract on Florida Legislature FS1004-647, Catastrophic storm risk management, R.H. Weisberg, P.I., $153,062 for the period 12/1/9-12/31/11 (NCE for FY12)

11) BP 4710-1101-05, A coordinated modeling approach to oil spill tracking, R.H. Weisberg, V. Kourafoulu (RSMAS), and E. Chassignet (FSU), co-P.I.s, $660,000 for the period 8/13/10-8/12/12, Weisberg portion = 220,000.

12) USF, FESC, 7921-1000-27, Alternative energy potential for Florida by mechanical and solar means, R.H. Weisberg, P.I., $39,363 for the period 2/16/10-6/31/11 (NCE for FY12).

PREVIOUS GRANTS:

NSF Grant #OCE74-01739 "Equatorial Currents and hydrographic observations during the GARP Atlantic Tropical Experiment (GATE)." Total Award = $300,300 for the period 1/1/74 -11/30/76. Principal Investigators: J.A. Knauss, L. Miller, and R.H. Weisberg.

NSF Grant #OCE76-09786 "GATE Oceanographic Program Equatorial Current & Hydrographic Observations." Total Award + $282,000 for the period 04/01/76 - 03/31/79. Principal Investigator: R.H. Weisberg.

NSF Grant #ATM77-11297, GATE Oceanographic Program Equatorial Current Analyses." Total Award = $25,851 for the period 06/15/77 - 11/30/78. Principal Investigator: R.H. Weisberg (URI subcontract).

UNC Marine Sciences Council - "Time Dependent Hydrography of the Cape Fear River Estuary." Total Award = $4,000 for the period 07/01/77 - 06/30/78. Principal Investigators: R.H. Weisberg & L.J. Pietrafesa.

NOAA Sea Grant, "Physical Studies of Pamlico Sound N.C." Total Award = $166,433

for the period 01/01/78 - 12/31/80. Principal Investigators: R.H. Weisberg, G.S. Janowitz and L.J. Pietrafesa.

NSF Grant #OCE-7820396, "Time Dependent Motions in the Equatorial Atlantic. Total Award = $129, 639 for the period 11/15/78 - 08/31/81. Principal Investigator: R.H. Weisberg.

NOAA Sea Grant, "Analysis and Prediction of Ocean Surface Gravity Waves on the N.C. Coast." Total Award = $82, 162 for the period 01/01/79 - 12/31/81. Principal Investigators: C.E. Knowles and R.H. Weisberg.

NOAA-ERL Contract #NA80RAC00026, "Deep Ocean Variability During EPOCS. Total Award = $270,756 for the period 10/79 - 09/30/82. Principal Investigator: R.H. Weisberg.

NSF Grant #OCE-7923335, "Seasonal Variability in the Equatorial Atlantic." Total Award = $587,826 for the period 05/15/80 - 01/31/83. Principal Investigator: R.H. Weisberg.

NOAA-ERL Contract #NA83RAC00021, "EPOCS Deep Ocean Variability Analysis." Total Award = $45,000 for the period 10/01/82 - 09/30/83. Principal Investigator: R.H. Weisberg.

WHOI Grant #P016878, Subcontract for SEQUAL Mooring Purchases." Total Award = $60,035 for the period 01/01/83 - 04/30/83. Principal Investigator: R.H. Weisberg.

NOAA-ERL Contract #NA84RAC00021, "EPOCS Deep Ocean Variability Analysis." Total Award = $25,000 for the period 04/01/84 - 09/30/84. Principal Investigator: R.H. Weisberg.

NSF Grant #OCE-8211848, "The Seasonal Equatorial Atlantic Experiment (SEQUAL): Response of the upper ocean circulation to the annual wind cycle." Total Award = $1,169,463 for the period 04/01/82 - 03/21/86. Principal Investigator: R.H. Weisberg

NSF Grant #OCE-8515869, " The Seasonal Response of the Equatorial Atlantic Experiment (SEQUAL): Upper ocean current and temperature analysis from moored current meter." Total award = $209,739 for the period 01/01/86 – 6/30/87. Principal Investigators: R.H. Weisberg and T.Y. Tang.

NSF Grant #OCE-8740380, "The Seasonal Response of the Equatorial Atlantic Experiment (SEQUAL): Upper ocean current temperature analysis from moored current meters." Total award = $171,445 for the period 01/01/87 - 12/31/97. Principal Investigators: T.Y. Tang and R.H. Weisberg.

NSF Grant #OCE-8813378, Equatorial Pacific Ocean Current instabilities, R.H. Weisberg, Principal Investigator, $438,703 for the period 3/15/89 - 11/30/89, Total award for the 4-year continuing period 3/15/89 - 11/30/92 = $914,746.

NSF Grant #OCE-8841927, The SEQUAL Experiment: Upper Ocean current and temperature analyses, R.H. Weisberg, Principal Investigator, $115,000 for the period 02/01/89 - 01/31/90, Total cumulative award for the 2-year period 02/01/88 - 01/31/90 = $240,000.

NOAA Grant #NA87AA-D-AC120, Upper ocean current and temperature monitoring at the equator, 170^0W. R.H. Weisberg, Principal Investigator, $231,428 for the period 02/01/90 - 01/31/91, Total cumulative award for the 4-year period 09/01/87 - 01/31/90 = $697, 772.

USGS Grant #14008-0001-A0577, Physical factors affecting salinity intrusion in wetlands, Principal Investigators: R.H. Weisberg and A.C. Hine. Total award = $81,430 for the period 09/22/90 - 09/30/91.

NATIONAL TAIWAN UNIVERSITY, Preparation of a turnkey acoustic Doppler current profiling mooring. R H Weisberg, Principal Investigator. Total award = $119,304 for the period 12/01/90 - 07/31/91.

NOAA Sea Grant R/NOS-1, Physical factors affecting the circulation of Tampa Bay. $24,171 for the period 05/01/91 - 03/31/92. R. H. Weisberg, Principal Investigator.

USGS Contract #1408-0001-A0577. West Florida Shelf Initiative, R.H. Weisberg, A.C. Hine and P.R. Betzer, Principal Investigators, award for FY93 = $18,376 (plus a university equipment match of $112,000). Note that the above P.I.'s agreed to a budget reduction on this contract to allow new P.I. 's to join the west Florida shelf initiative with new projects.

FDNR Contract #C-7957. Acquisition of oceanographic data, R. H. Weisberg, Principal Investigator, Total award = $60,000 for the period 11/16/92 - 11/15/93.

USGS Contract #1408-0001-A0577. Wetlands Project - Physical factors affecting salinity intrusion, R.H. Weisberg and A. C. Hine, Principal Investigators, award for FY93 = $64,279.

NATIONAL TAIWAN UNIVERSITY. Turnkey acoustic doppler current profiler mooring II, R.H. Weisberg, Principal Investigator, Total award = $107,046 for the period 10/05/91 - 04/30/92.

NATIONAL TAIWAN UNIVERSITY. Monitoring of upper ocean currents and

temperature at 0, 170^{0}W in collaboration with the National Taiwan University, FY93, R.H. Weisberg, Principal Investigator, Total award = $28,566 for the period for the period 09/01/92 - 08/31/93.

NSF Grant #OCE-8813378. Equatorial Pacific Ocean current instabilities, R.H. Weisberg, Principal Investigator, Total award for the 3.5 - year continuing period 03/15/89 - 11/30/92 = $985,605.

NSF Grant #OCE-9202737. Dynamics and energetics of the upper equatorial Pacific, Co-PI with E. Johnson, total award = $23,500 for the period 12/92 - 9/23. This was Johnson's grant. I was on it for administrative purposes.

USGS Contract #1408-0001-A0577. West Florida Shelf Initiative, R.H. Weisberg , A.C. Hine and P.R. Betzer, Principal Investigators, award for FY92 = $62,747 (plus a university equipment match of $370,000).

USGS Contract #1408-0001-A0577. Wetlands Project - Physical factors affecting salinity intrusion, R. H. Weisberg and A.C. Hine, Principal Investigators, award for FY92 = $73,287.

USGS Contract #1434-94-A-1185. West Florida Shelf Hydrography and Circulation, R.H. Weisberg, A.C. Hine and P. R. Betzer, Principal Investigators award for FY94 = $85,000.

USGS Contract #1408-0001-A0577. Wetlands Project - Physical factors affecting salinity intrusion, R.H. Weisberg and A.C. Hine, Principal Investigators, award for FY94 = $64, 279.

NOAA Grant #NA36GP0143-01. Monitoring of upper ocean currents and temperature at 0^0, 170^{0}W with support of TOGA, R.H. Weisberg, Principal Investigator. Total award for the two-year period 05/1/93 - 04/30/95 = $125,038.

USGS Contract #1434-94-A-1185. West Florida Shelf Hydrography and Circulation. R.H. Weisberg, A.C. Hine and P.R. Betzer, Principal Investigators. (Award for FY95 = $85,000, lmm).

USGS Contract #1434-94-A-1185. Wetlands Project - Physical factors affecting salinity intrusion, R.H. Weisberg and A.C. Hine, Principal Investigators. Award for FY95 = $40,981.

NWFWMD Effects of Sikes Cut on Apalachicola Bay Salinity. R.H. Weisberg, P.I., Total Award = $34,440 for the period 06/01/93 - 09/30/95.

ONR Sub-Account #1245-191-L3. Omnibus grant for ocean technology center. R.H. Weisberg, Principal Investigator, ($277,645).

MMS Contract #14-34-0001-30767. Northeastern Gulf of Mexico Satellite Oceanography Study Principal Investigators, Kendall Carder, Frank Muller-Karger, and R.H. Weisberg, Total Award = $134,548 for 18 month period starting October 1, 1994.

NSF Grant #OCE-9302811. The Tropical Instability Wave Experiment (TIWE) equatorial array: Analysis and dissemination of results, R.H. Weisberg, Principal Investigator, Total award = $185,000 for the two-year period 05/01/93 - 04/30/95.

NSF Grant #OCE-9100024. TOGA-COARE enhanced monitoring: meridional array for currents along 156E, R.H. Weisberg, Principal Investigator, Total request for the 5-year continuing period 05/15/91 - 04/30/96 = $819,000.

USGS Contract # 1434-94-A-1185. West Florida Shelf Hydrography and Circulation, R.H. Weisberg, A.C. Hine and P.R. Betzer, Principal Investigators, $100,000 for FY96.

NOAA Grant #NA56GP0241. Empirical and monitoring studies on air-sea interactions and SST evolution over the PACS program region. R.H. Weisberg, Principal Investigator, $281,784 for 24 month period beginning 04/01/95.

USGS Contract #1434-94-A-1185. West Florida Shelf Hydrography and Circulation, R.H. Weisberg, A.C. Hine and P.R. Betzer, Principal Investigators. $86,000 for the 1 year period beginning 10/1/97.

FDEP Contract #LE189, A real time oceanographic data system for Florida, Co-P.I. with M. Luther, RH. Weisberg portion =$299,000 for the period 10/29/97 - 9/30/98.

NOAA Contract # NA66GP0119, Diagnostic studies of equatorial central Pacific ocean velocity variations in relation to the TOGA TAO array and ENSO, 301,243 for the 36 mo. period beginning 2/1/96. (grant ended 3/31/99).

NSF Grant # OCE-9525912, TOGA-COARE enhanced monitoring array analysis, R.H. Weisberg, P. I. 345,000 for the three year period beginning 12/12/95 (no-cost-extention for FY00).

MMS (subcontract from FSU) Northeastern Gulf of Mexico circulation study, R.H. Weisberg, P. I. $140,225 for the 3 year period beginning 10/1/95 (no-cost-extention for FY00).

NOAA Contract # NA86GP0030, Empirical and monitoring studies on air-sea interactions and SST evolution over the PACS Program region, $290,253 for the period 10/1/97-12/31/99. (90,459 for FY99, no-cost extension for FY00).

MMS (subcontract from FSU) Northeastern Gulf of Mexico circulation modeling study, R. H. Weisberg, P. I. $753,156 for the four year period beginning 10/1/95 (201,555 for FY99, no cost extension for FY00).

NOAA Grant # NA96GP0462, Interhemisphere and intergyre exchange processes in the upper limb of the meridional overturning circulation, co-P.I. with G. Halliwell, RSMAS, 52,845 for the two year period beginning 10/1/99.

FDCA Grant # 02CP-10-13-00-05-127, West Florida Coastal Monitoring System, C. Merz, R.H. Weisberg, and M. Luther, co-P.I.s, 166,539 for the period 6/19/01-6/30/02.

NOAA Grant # NA76RG0463, ECOHAB: Florida, J. Walsh, G. Vargo, and R. Weisberg, co-P.I.s (USF); K. Steidinger et al., co-P.I.s (FDEP and Mote Marine Lab). The portion under the supervision of R.H. Weisberg is 715,000 for the four year continuing period beginning 3/1/98. (155,000 for FY01; NCE for FY02).

FDEP-FIO PO#S 3700 760668, Piney Point waste water disposal monitoring, R.H. Weisberg, PI, 29,488 for the period 7/1/03-6/30/04.

ONR Grant # N0014-98-1-0158, Observations and modeling of the West Florida continental shelf circulation, R.H. Weisberg and M. Luther, P.I.s, 3,469,965 for the period 11/1/97-2/28/05.

NSF Grant # OCE-0118566, Collaborative research: Particulate organic carbon fluxes and sediment accumulation in the Cariaco Basin, co-investigator with F. Muller-Karger, R.H. Weisberg portion = 232,816 for the period 10/1/01-9/30/03.

FFWCC/FMRI Grant # S 7701 622006, Refinement of an electronic logbook to support fishing operations by spatially predicting shrimp abundance in relation to environmental conditions off the west coast of Florida, R.H. Weisberg, P.I., 22,500 for the period 3/3/04-6/30/05.

NOAA Grant # NA16GP1571: Diagnostic studies of the equatorial Atlantic cold tongue, R.H. Weisberg, G. Mitchum, and G. Lagerloef (ERS) co-P.I.s, 358,300 for the 3 year period beginning 9/1/01 (NCE for FY05-06).

FFWCC/FMRI Grant #DO138085, Observing and modeling near shore circulation on the inner portion of the WFS in support of red tide studies in relation to Calosahatchee River flow, R.H. Weisberg, P.I., 79,918 for the period 7/20/05-9/8/05.

FFWCC/FMRI Grant #, Hindcasting the West Florida Shelf circulation during the 2005 red-tide, R.H. Weisberg, P.I., 26,250 for the period 2/27/06-6/30/06.

ONR Grant # N0014-00-1-0253, Bottom stationed ocean profiler, R.H. Weisberg, R.H. Byrne, and C. Lembke co-P.I.s, 1,725,478 for the period 12/1/99-7/31/05.

FFWCC/FMRI Grant # S 7701 620071, NOAA/MERHAB Eastern GOMx Sentinal Program, J.J. Walsh, R.H. Weisberg, C. Lembke, and D. Fries, co-P.I.s, 1,150,000 for 5 years. R.H. Weisberg portion is 623,171.

ONR Task Order #:3-12110-10 (administered by Univ. of North Carolina), Southeast Atlantic Coastal Ocean Observing System (SEACOOS), R. H. Weisberg and M. Luther, co-P.I.s, 3,228,578 for the period 9/1/02-8/31/07.

NSF Grant # OCE-0326268, Collaborative research: The Cariaco Basin Oceanographic Time Series Program, co-investigator with F. Muller-Karger, Five year continuing award, R.H. Weisberg portion = 660,092 for the period 10/1/03-9/30/08.

NOAA/COTS Grant # , Enhancements to the Coastal Ocean Monitoring and Prediction System for west Florida, M.E. Luther and R.H. Weisberg, co-P.I.s, 1,938,943 for the period 8/1/04-7/31/06, R.H. Weisberg portion = 1,428,966.

FL-DEP Contract # RM050, Hydrodynamic model of Rookery By and Henderson Creek, R.H. Weisberg and L. Zheng, P.I.s, 70,000 for 8/10/2006-8/9/2007.

FL-DEP Contract # DO329620, Assessing red-tide bloom movement using surface Drifters, R.H. Weisberg, P.I., 18,000 for 8/28/06-5/30/07.

FL-DOH Contract # , Assessing the effects of currents on coastal beaches, R.H. Weisberg, P.I., 39,310 for 11/24/06-7/31/07.

ONR (NOPP) Grant # N00014-04-1-0676, administered through RSMAS, Univ. of Miami, U.S. GODAE: Global ocean prediction with the Hybrid Coordinate Ocean Model (HYCOM), R.H. Weisberg, P.I. (at USF), five year continuing award, 297,203 for the period 6/3/04-9/30/09.

NOPP Grant # N00014-05-1-0892, HYCOM coastal ocean hindcasts and predictions: impact in nesting HYCOM GODAE assimilative hindcasts, G. Halliwell, RSMAS, lead P.I., R.H. Weisberg USF co-P.I., 3-year continuing award 294,545 for the period 8/26/05-7/30/09.

SC SEAGRANT, federal pass through from NOAA, NA07NOS4730219-5032, Maintaining high-frequency radars for SECOORA, R.H. Weisberg, P.I., 75,000 for the period 11/15/07-9/30/08.

SC SEAGRANT, federal pass through from NOAA, NA07NOS4730409, Maintaining high-frequency radars for SECOORA, R.H. Weisberg, P.I., 50,000 for the period 8/1/08-7/31/09.

USF/FWRI Cooperative red tide research program, FWC Contract # 07113, J.J. Walsh and R.H. Weisberg co-P.I.s, five year continuing award in the amount of 1.25M, terminated for lack of funds after 2 years, RHW portion, 250,000 for 7/1/07-12/31/09.

ONR N000014-04-1-0573, Bottom stationed ocean profiler design improvements, C. Lembke, J. Patten, R. Russell, R. Byrne and R.H. Weisberg, P.I.s, 450,000 for the period 5/1/09-4/30/10, RHW portion = 0 (not counted in summaries below).

Summary: Previous cumulative funding as P.I., 25,392,034.
Previous cumulative funding as P.I. while at USF, 22,273,569.

RESEARCH CRUISES:

January 1970, Member of scientific party aboard R/V TRIDENT, North Atlantic Currents Study.

Fall 1970 and Fall 1972, Several estuarine research excursions for Ph.D. and M.S. Dissertation Projects.

April 1972, Member of scientific party aboard R/V TRIDENT, Atlantic Equatorial Undercurrent Study.

July 1974, Chief Scientist, R/V TRIDENT, Cruise 155, Equatorial Currents and Hydrographic Measurements during the GARP Atlantic Tropical Experiment (GATE).

August 1974, Co-Investigator, R/V TRIDENT, Cruise 156, Equatorial Currents and Hydrographic Measurements during the GARP Atlantic Tropical Experiment (GATE).

June 1976, Co-chief Scientist, N/O CAPRICORNE, Observations of Equatorial Trapped Waves in the Gulf of Guinea.

July 1977, Co-chief Scientist, N/O CAPRICORNE, Observations of Equatorial Trapped Waves in the Gulf of Guinea.

January 1978, Co-chief Scientist, N/O NIZERY Observations of Equatorial Trapped Waves in the Gulf of Guinea.

February 1981, Chief Scientist, R/V ENDEAVOR, Seasonal Variability in the Equatorial Atlantic.

November 1981, Chief Scientist, R/V GYRE, Seasonal Variability in the Equatorial Atlantic.

February 1983, Co-Investigator, R/V CONRAD, Seasonal Response of the Equatorial Atlantic (SEQUAL).

March 1984, Chief Scientist, R/V KNORR, Seasonal Response of the Equatorial Atlantic (SEQUAL).

June 1989, Principal Investigator, N/S BALDRIGE, TOGA Monitoring array.

May 1990, Chief Scientist, R/V WECOMA, Tropical Instability Wave Experiment (TIWE).

January 1992, Chief Scientist, R/V MOANA WAVE, equatorial Pacific NSF/NOAA TOGA-COARE Program.

October 1993, Chief Scientist, R/V SUNCOASTER, west Florida shelf.

November, 1993, Chief Scientist, R/V SUNCOASTER, west Florida shelf.

November/December 1997, Co-Investigator, R/V THOMPSON, equatorial Pacific (NOAA PACS Program).

March 1998, Chief Scientist, R/V SUNCOASTER, West Florida Shelf.

September 1998, Chief Scientist, R/V SUNCOASTER, West Florida Shelf.

September 2003, Chief Scientist, R/V SUNCOASTER, West Florida Shelf.

September 2004, Chief Scientist, R/V SUNCOASTER, West Florida Shelf.

March 2009, Chief Scientist, R/V Weatherbird II, West Florida Shelf

OTHER CRUISE RESPONSIBILITIES:

Four cruises in the equatorial Pacific during the NOAA-EPOCS experiment from 03/80 - 04/82.

Five additional SEQUAL cruises, in the equatorial Atlantic.

Several Pamlico Sound excursions 1978-1979.

NOAA TOGA Program cruises in the equatorial Pacific 05/88, 04/90,

02/91, 01/92, 03/93, 03/94, 03/95.

NSF TIWE Project 06/91.

NSF/NOAA TOGA-COARE Program 03/93.

West Florida shelf deployment, Project Leader (non-participant), R/V GILBERT, 03/09/94.

NSF and NOAA cruise to equatorial Pacific, Project Leader (non-participant), R/V MOANA WAVE, 03/15 - 04/05/94.

West Florida shelf deployment, Project Leader (non-participant), Charter boat 07/16/94, R/V SUNCOASTER 01/95, R/V BELLOWS 07/95.

The COMPS/ECOHAB/ONR Projects have had cruises on a monthly basis since July 1998.

I continue to have responsibility for all cruises on the West Florida Shelf associated with the Coastal Ocean Monitoring and Prediction System (COMPS) Program, the Southeast Atlantic Coastal Ocean Observing System (SEACOOS) Program, and the eastern Gulf of Mexico MERHAB Program and for the for which I have primary operations responsibility for at-sea observations and models.