

Curriculum Vitae 4/24/2017

Name Parker MacCready
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Education

1982 B.A. (Architecture) Yale University
1986 M.S. (Engineering Science) California Institute of Technology
Advisor: Dr. T. Y.-T. Wu
1991 Ph.D. (Physical Oceanography) University of Washington
Thesis: Frictional Slowing of Rotating, Stratified Flow along a Sloping Boundary
Advisor: Dr. Peter B. Rhines

Employment

2009- Professor, University of Washington
2013-2014 Visiting Researcher, Microsoft Research (4 months)
2001-2009 Associate Professor, University of Washington
1994-2001 Research Assistant Professor, University of Washington
1993-1994 Research Scientist, University of Washington
1991-1993 Postdoctoral Fellow, University of Miami
1987-1991 Research and Teaching Assistant, University of Washington
1986-1987 Research Assistant, California Institute of Technology
1977-1985 Aeronautical Engineering Technician, AeroVironment Inc.

Honors and Awards

2006 COFS Distinguished Graduate Teaching Award
2005 Donald R. Pritchard Award for the outstanding Physical Oceanography paper published in the journal *Estuaries* during the last 2 years
2005 H. Burr Steinbach Visiting Scholar for Physical Oceanography, WHOI
1997-2002 Office of Naval Research/University of Washington Scholar of Oceanography Award (with Mike Gregg, SECNAV/CNO Chair of Oceanography)
1991-1993 Rosenstiel Post-Doctoral Fellowship, University of Miami
1989 Outstanding Student Paper Award, American Geophysical Union, Ocean Sciences

University Service

School of Oceanography

2014-16 Chair, PO Faculty Search Committee (2 separate searches)
2012- Member Big Data Committee
2010- Member, Barnes Replacement Committee, and Science Oversight Committee
2014-
2006-2010 Faculty Council (at-large member, chair of Expertise Subcommittee)
2004-2005 Member, Strategic Planning Committee
2003 Member, Open House Committee
2002 Organized Oceanography Seminar Series on Coastal and Estuarine Studies
1996-1999 Member, Academic Affairs Committee
1995-1996 Member, Faculty Council

University

2016 Chair, Program on the Environment Director Search Committee
2013-2014 Member, SAFS Program Review Committee
2012 Member, SAFS Director Search Committee
2011 Member, Program on the Environment Director Search Committee
2008-2009 Member, College of the Environment Vision & Governance Committee
2004-2010 Member, Program on the Environment Governing Board/Executive Steering Committee/Advisory Board (Chair 2004-2005, 2005-2006, Executive Committee member 2008-2010)
2000 Speaker, Honor Student Invitational (UW Admissions Office)

Professional Offices, Awards, Service

National Committees and Related Activities

2014- Member, Technical Working Group for NOAA West Coast Ocean Forecast System (WCOFS)
2012-13 Member, Conference Committee, and session organizer for Gordon Conference on Coastal Ocean Circulation, June 2013
2011 Panelist, NSF Arctic Program
2009 Panelist, NSF Ocean Sciences, Physical Oceanography
2006-2007 Member, Organizing Committee for a workshop (11/2006 La Jolla) on "Climate Impacts on the California Current Ecosystems"
2006-2008 PECS 2006 (Physics of Estuaries and Coastal Seas) Conference Co-organizer with David Jay.
2004-2005 Member, Conference Committee for Gordon Conference on Coastal Ocean Circulation, June 2005
2004 CoOP Benthic Exchange Workshop - Organizing Committee member
2003-2008 CoOP (Coastal Ocean Processes) Scientific Steering Committee member
1998 Panelist, NSF Ocean Sciences, Physical Oceanography

1997 Speaker and participant, NSF APROPOS Workshop (Advances and Primary Research Opportunities in Physical Oceanography Studies)

Washington State

2015-2012- Member, Salish Sea Marine Survival Project Technical Team
2012- Member, PSEMP Modeling Workgroup
2008-2012 Member, Project Advisory Committee and Model Technical Advisory Group, Puget Sound DO Modeling Project, WA Ecology.
2004 Scientific advisory group member, Puget Sound Center for Urban Bay Research, Tacoma WA.
2003 Scientific Review Panel for a marine sewage outfall near Seattle (King County DNR, WA Ecology).
1997 Invited Panelist, Scientific Review for LOTT (Lacey Olympia Tumwater Thurston) Budd Inlet Sewage study, Washington State Dept. of Ecology
1995-1998 Washington State Dept. of Ecology (reviewing annual data reports)

Professional society

2016 Co-convener of session as Salish Sea Ecosystem Conference
2006- Member PECS Steering Committee
2015 Convener of a session at the Coastal Dynamics Gordon Conference
2012 Co-convener two sessions at Ocean Sciences (Feb)
2008 Co-convener, Fall AGU Special Session, " Tidal Processes in Coastal and Estuarine Waters " (Ming Li, convener).
2008 Co-convener, Ocean Sciences Meeting Special Session, "Dynamics of Estuarine Circulation and River Plumes: from Process Studies to Predictive Models" (Ming Li, convener).
2007 Member, Pritchard Award Selection Committee for Estuarine Research Federation
2006 Co-organizer (David Jay lead) PECS Conference, Astoria, OR
2005 Co-convener, Estuarine Research Federation 2005 Meeting Special Session, "Estuarine - coastal ocean exchange of water, energy, and waterborne materials: innovative methods, and /or high resolution observations or modeling" (Chunyan Li, convener, Bob Chant, co-convener).
2004 Convener, AGU Fall Meeting Special Session, "Interdisciplinary River Plume Studies," (Bob Chant, co-convener).
2003 Convener, Estuarine Research Federation 2003 Meeting Special Session, "Estuarine Turbulence" (Rocky Geyer and Stephen Monismith, co-conveners)
2002-2003 Program Committee Member for Estuarine Research Federation 2003 Meeting
2000 Convener, AGU Fall Meeting Special Session: "Estuarine Circulation, Mixing, and Modeling" (Rocky Geyer, co-convener)
2000 Convener, AGU Ocean Sciences Special Session: "Flow over Rough Topography" (Kurt Polzin, co-Convener)

Editorial & Reviewer Services

- 2012- Editorial Board Member, *Encyclopedia of Puget Sound*
2011-2013 Editor, *Journal of Physical Oceanography*
2003-2010 Associate Editor, *Journal of Physical Oceanography*
2006-2008 Lead Guest Editor for special volume of *Continental Shelf Research* from PECS 2006 (Physics of Estuaries and Coastal Seas) conference.
Reviewer for marine-related divisions of NSF, NOAA, EPA, CALFED, California Sea Grant, and CFCSA (Canadian), among others.
Reviewer for numerous journals, including: *Continental Shelf Research, Deep-Sea Research, Eos, Estuaries, Journal of Fluid Mechanics, Journal of Geophysical Research, Journal of Marine Research, Journal of Physical Oceanography, Limnology and Oceanography, AGU Coastal and Estuarine Studies Series, Antarctic Journal, and ASCE Journal of Waterway, Port, Coastal and Ocean Engineering, Nature Geosciences*

Invited Talks

- 2017 Presentation for: NOAA Ecoforecasting Meeting
2017 Public talk for the Bainbridge Island Oatmeal Club, Winslow
2016 Presentation for Olympic Coast National Marine Sanctuary Advisory Council
2016 Public talk at UW Olympic Natural Resources Center, Forks, WA
2016 Public talk for Climate Science on Tap series, Peddler Brewing Co., Seattle, WA
2016 Public talk at Ada's Technical Books, Seattle, WA
2016 Talk for a middle school math class, Olympia
2016 Talk at Salish Sea Ecosystem Conference, Vancouver BC
2016 Sound Waters Talk, Whidbey Island, WA
2015 Salish Sea Marine Survival Workshop Talk, Vancouver, BC
2015 UW Water Seminar
2015 Marine Resources Advisory Council Talk, Pt. Townsend, WA
2015 Warnemunde Turbulence Days Talk, Germany
2015 Science Café, Tacoma, WA
2015 Washington Ocean Acidification Center Symposium, UW
2015 Gordon Research Seminar, Keynote Talk
2015 Advancing Tools for Modeling, Forecasting and Managing for *Vibrio* spp. in Washington State, workshop presentation (April)
2015 The Evergreen State College, PLATO Seminar on Ocean Modeling
2015 School of Oceanography Seminar, Career Overview
2014 Puget Sound Tides and Eddies, Pt. Townsend Marine Center
2014 Microsoft Faculty Summit, Redmond, WA, "Ocean Modeling: *Using the Cloud to Connect Science & the Public*"

- 2013 Meeting of WA Marine Resource Councils, Montesano, to discuss results of DNR Marine Spatial Planning (Mar): "Using Computer Models to Simulate the Circulation & Ecosystem of Pacific Northwest Coastal Ocean"
- 2013 Virginia Institute of Marine Science: 2 talks (Mar) "Modeling Biogeochemistry and Harmful Algal Blooms on the Pacific Northwest Coast" & "Direct Measurement of the Bottom Pressure Field Creating Form Drag on a Headland"
- 2013 Workshop on Cyber Infrastructure for the Physical Sciences - Earth, Ocean, Sky and Space, Hawaii (Feb) "Ocean Modeling: How can new computational tools *transform* our science and how we communicate it?"
- 2012 Salish Sea Marine Survival of Salmon and Steelhead, Bellingham (Nov) "Historical trends of Puget Sound near-surface stratification, from CTD casts at 4 locations"
- 2012 NCAR Climate & Global Dynamics Seminar, Boulder, CO (Oct) "An overview of the physics of estuarine circulation, with biogeochemical implications"
- 2012 UW Water Symposium (Apr) "Physical, biological, and geochemical impacts of riverine systems in marine and estuarine environments"
- 2012 Chesapeake Bay & Puget Sound Health Workshops: Integrating Climate and Environmental Information with Disease Surveillance to Address Pathogens and Algal Toxins of Concern to Public Health (Seattle, Mar)
- 2011 GRC Coastal Ocean Modeling (Jun) "Modeling the estuarine exchange flow of the Salish Sea ...and other estuaries"
- 2011 UC Berkeley Environmental Engineering Seminar: "Physical Causes and Environmental Consequences of the Estuarine Circulation of Puget Sound" (Apr)
- 2011 CHOICE High School, Shelton, WA (Jan)
- 2010 & '11 South Sound Estuary Association: guest lecturer for Estuary Education Workshop (4-6 grade teachers) LOTT, Olympia (Aug)
- 2010 Ocean Sciences "Fundamental Scales of Estuary-Coast Exchange" (Feb)
- 2010 Rutgers University "Fundamentals of Estuarine Circulation" (Feb)
- 2009 GRC Coastal Ocean Circulation "Form Drag Mechanisms in Tidal Flow"
- 2008 Garrett Symposium "Apparent Form Drag in Tidal Flow Past a Headland"
- 2007 Estuarine Research Federation "Estuarine Adjustment"
- 2007 Building Bioregional Literacy Conference, Pacific Lutheran University, WA (lecture on teaching regional environmental science for non-scientists)
- 2007 University of Victoria "Energetics of Coastal and Estuarine Upwelling"
- 2007 EGU Conference, Vienna, "Energetics of Coastal and Estuarine Upwelling"
- 2007 Stanford "Energetics of Coastal and Estuarine Upwelling"
- 2006 Nisqually National Wildlife Refuge, "River of life: Why the brown Columbia makes the Pacific green"
- 2006 Oregon State University, "Energy considerations in a river plume"
- 2006 Ocean Sciences Meeting, "Form Drag on Coastal Flows"
- 2005 WHOI Steinbach lectures, [1] Form Drag, [2] River Plumes, [3] Estuaries
- 2004 Highline Community College, "Three Tree Point"
- 2003 Texas A&M University, School of Oceanography Departmental Seminar

- 2003 EGS-AGU Joint Meeting, Nice, France, "Observations & Modeling of Form Drag on Rough Coastal Topography"
- 2002 Bergen University, Norway, [1] "Boundary Effects on Ocean Circulation," and [2] "Flow over rough coastal topography"
- 2002 Ocean Sciences AGU Meeting, "Estuarine Adjustment and Sensitivity"
- 2000 EPOC Meeting, "Stratified Flow Along a Rough Slope: Separation Drag and Wave Drag"
- 1999 JGOFS Data Workshop #2, "A Diagnostic Budget of Heat and Nitrate in the Southern Ocean Mixed Layer: The Canonical View from Climatologies"
- 1998 Puget Sound Research '98 Conference, "Numerical Circulation Modeling as a Tool for Harmful Algae Bloom Research and Prediction"
- 1997 NSF APROPOS Conference, "In Shallow Water: Basic vs. Applied Science," a 'respondant' talk for Coastal session
- 1996 University of Chicago, "Meridional Circulation across the ACC"
- 1992 Florida State University, "Flow into the Deep Caribbean"

Professional society membership

American Geophysical Union
 American Meteorological Society
 Estuarine Research Federation
 Pacific Estuarine Research Society

Field Work

- 1992 RV Columbus Iselin, Caribbean Sea
- 1996- Strait of Juan de Fuca, Willapa Bay, Puget Sound
- 2001-2002 Three 10-day cruises in Puget Sound (NSF)
- 2003, 6, 9, 12 FHL Summer School, experiments around Puget Sound
- 2006 RV Wecoma, WA & OR Shelf
- 2009-2010 Three Tree Point (NSF PPOD)
- 2013 RV TG Thompson, WA Shelf

Instructional Activities

Courses Taught

Undergraduate:

Course #	Title [credits] (co-Instructor)	Date	Enroll.	Rating/Adj.
OCN 320	Coastal Oceanography [5] (Ogston)	2017 (W)	34	4.1/4.2
OCN 320	Coastal Oceanography [5] (Ogston)	2016 (Sp)	35	4.6/4.4
HA&S 220	Dead Zones around America [5]	2005 (F)	23	4.2

HA&S 220	Sci. & Politics of Sewage in PS [5]	2002 (F)	19	4.6
HA&S 222	Sewage, Science, and Society [5]	2001 (Sp)	18	4.9
GenSt 197h	Tides, Twisters and Gyres [2] (Rhines)	1998 (W)	14	3.9

Graduate:

Course #	Title [credits] (co-Instructor)	Date	Enroll.	Rating/Adj.
OCN 507/480	Puget Sound Oceanography [3] Keister	2015 (W)	22	4.5/4.6
BIOL 533A	Estuarine & Coastal Fluid Dyn. [9] (Geyer)	2012 (Su)	15	4.9
OCN 512/ATM S 509	Geophysical Fluid Dynamics I [4]	2012 (W)	13	4.1
OCN 506/497	Puget Sound Oceanography [3] Keister	2011 (W)	9+5UG	4.1
OCN 511/AMATH-ATM S 505	Intro. to Fluid Dyn. [4]	2009 (F)	28	4.3
OCN 590A	Estuarine & Coastal Fluid Dyn. [9] (Geyer)	2009 (Su)	13	4.9
OCN 506/497	Puget Sound Oceanography [3] Keister	2009 (W)	12+4UG	4.1
OCN 511/AMATH-ATM S 505	Intro. to Fluid Dyn. [4]	2007 (F)	29	3.7
OCN 589	Coastal & Estuarine Fluid Dyn. [9] Geyer	2006 (Su)	13	(NR)
OCN 512/ATM S 509	Geophysical Fluid Dynamics I [4]	2006 (W)	17	4.7
OCN 539	Bio-Physical Interactions [1] (Grünbaum)	2004 (W)	9	3.9
OCN 578	Estuarine & Coastal Fluid Dyn. [9] (Geyer)	2003 (Su)	12	(NR)
OCN 501	Estuarine Circ. & Mixing [3] (Gregg)	1999 (W)	7	4.23
OCN 501	Estuarine Circ. & Mixing [3] (Gregg)	1996 (F)	4	4.2
OCN 569	Dynamics of Estuaries [3] (Gregg)	1995 (F)	5	4.1
OCN 548	Dynamics of Estuaries [3] (Gregg)	1994 (F)	7	3.85

Undergraduate Research Advising

Bradley Bartos – Model-Observation Comparisons 2016-
 Amber Giaccone – Time series analysis 2016
 Campbell Glass - Analysis of Upwelling Indices 6/2013-2015
 Ross DiJulio - Tsunami Debris Modeling 2012-2013
 Cameron Sparr - Salish Sea Modeling, Spring 2010- (Mary Gates Fellowship 2011)
 Rachel Faye Lipsy - Chesapeake Bay Interpretive Buoy System, F2009-W2010
 Chelsea Funis - PoE Capstone 2009

Graduate Students Advised

Member, Committees for (in option) *current*

Elizabeth Brasseale	MS	2014-2016	
<u>Jake Steinberg</u>	<u>MS</u>	<u>2013-</u>	
Shuang Zhang	PhD	2012-2014	reading committee
Hayley Dosser	PhD	2010-2015	
Thomas Connolly	PhD	2007-2012	reading committee
Amy MacFadyen	PhD	2005-2008	reading committee
Jonathan Kellogg		2004-2007	
Eleanor Williams Frajka		2002-2007	

Amanda Babson	PhD	1999-2006	reading committee
Andrew Chiodi	MS	1998-2003	
Neil Banas	PhD	1998-2005	reading committee
Alana Althaus	MS	1998	
Sean Schenk	MS	1997-1999	
Leif Thomas	PhD	1997-2003	reading committee
Jonathan Lilly	MS	1996-1997	
Sim Larkin	PhD	1996-2000	reading committee
Liz Elliott		1996-1997	
Steve Goodson	MS	1996-1997	
Gabe Vecchi	MS	1996-1997	
Jen MacKinnon	PhD	1996-2002	
Xuemei Zhang		1995-1997	
Jody Klymak	PhD	1995-2001	reading committee
Fritz Stahr	PhD	1994-1998	reading committee

Member, Committees for (out of option or School)

<u>Katie Beaumont (MG&G)</u>		<u>2016-</u>	
<u>Isaiah Bolden (ChemOcn)</u>		<u>2016-</u>	
<u>Robin Banner (MG&G)</u>		<u>2015-</u>	
Anthony Poggioli (CEE)	PhD	2015	
Qiang Sun (U. Conn.)		2014-2015	
<u>Christine Stawitz (QERM) GSR</u>		<u>2014-</u>	
<u>Maggie McKeon (CEE)</u>		<u>2011-</u>	
<u>Emily Eidam (MG&G)</u>		<u>2012-</u>	
Zheng Liu (Atm Sci) GSR		2012	
Maria Aristizabal (Rutgers)	PhD	2011-2013	
Chris Jones (AMath) GSR	PhD	2011-2013	
Liz Tobin (BioO)	PhD	2010-2014	
Yeping Yuan (CEE)	PhD	2010-2012	
Eva Dusek (SAFS) GSR	PhD	2008-2012	
Joshua Jacobs (AMath) GSR		2008-2102	
Jihwan Kim (AMath) GSR	PhD	2008-2014	
Carey McGilliard (SAFS) GSR	PhD	2008-2012	
Kristen Lee (MG&G)	PhD	2007-2013	
Fred Goetz (SAFS) GSR	PhD	2006-2016	
Nate Hyde (OHSU, Oregon)	MS	2006-2007	reading committee
Kathryn Shamberger (Chem O)		2006-2011	
Mary Hunsicker (SAFS)	PhD	2005-2009	
Eli Gurarie (QERM) GSR	PhD	2005-2008	
D. Preston Martin (MG&G)		2005	
Bob Hawley (ESS) GSR		2004	
Tansy Clay (BioO)	PhD	2003-2008	
Nathalie Hamel (SAFS) GSR		2003-2009	

Susanne Menden-Deuer (BioO) PhD 2003-2004
 Beth Mullenbach (MG&G) PhD 2000-2002
 Cynthia Cudaback (Geophys.) PhD 1998
 Micaela Schnitzler (BioO) MS 1998
 Carol Lee (BioO) PhD 1998
 Jim Barnard (Mech. Eng.) PhD 1995-2000 reading committee

Chair, Committee for

Elizabeth Brasseale 2016-

Hally Stone 2014- MS

(Co-advisor with Banas starting 4/2015)

Chair, Committees for Graduate Students Advised in Past

Jamie Shutta MS 2010-2012 (NSF)
 Sally Warner MS, PhD 2005-2012 (NSF, ARCS)
 Ryan McCabe MS, PhD 2000-2007 (NSF, co-advised with Barb Hickey for PhD)
 Wayne Martin MS, PhD 1999-2008 (ONR & self supported)
 Tiangang Yu 1998-99
 Julian Douglass 1996-97
 Dawn Ring 1996

Postdoctoral Associates Advised Currently or in the past

Linghan Li 2016-

Sarah Giddings 2011-2012 (now faculty at UCSD)
 Dave Sutherland 2009-2010 (now faculty at Univ. of Oregon)
 Yonggang Liu 2006-2008 (now at Univ. S. Florida)
 Neil Banas 2005-2008 (now faculty at U. of Strathclyde, UK)
 Kate Edwards 2000-2002
 Geno Pawlak 1998-2000 (now faculty at UCSD)

Funded Research

“Physics Linking Shelf Circulation to Estuarine Inflow” NSF, \$577,956, 9/16/2016-9/15/2019 (9 mo.)

“Evaluating Local Impacts of Ocean Acidification on the U.S. West Coast” (Newton, Klinger, Siedlecki, MacCready, Deutsch) Wendy Schmidt foundation, \$150,000, 09/01/2016-08/31/2018 (2 mo.)

“Larval Rockfish Dispersal Modeling” NOAA-NMFS, \$30,000, 10/1/2016-9/30/2017 (0.5 mo.)

“Integration of US West Coast Operational Coastal and Ocean Models” (Alex Kurapov, OSU, PI) NOAA, total \$111,785, 9/1/2015-8/31/2018 (MacCready 2 mo.)

“Collaborative Research: Constraints on Interseismic Deformation Offshore Oregon from Calibrated Continuous Pressure Records” (William Wilcock UW PI), NSF, \$229,863, 3/1/2016-2/28/2018 (MacCready 2 mo.)

“Ocean Acidification Forecast Model”, (MacCready PI, CoPIs McCabe & Siedlecki, JISAO), \$150,000, from WA State through the Washington Ocean Acidification Center, 9/1/2015-6/30/2017. (MacCready 1 mo.).

“Linking Puget Sound primary production to stratification and atmospheric drivers” (MacCready PI, with Banas), \$62,516, from, Salish Sea Marine Survival Project. 2/1/2015-12/31/2017. (MacCready 2 mo.)

“Proposal for the Development of an Ocean Acidification Forecast Model” (Banas and Siedlecki, JISAO, CoPIs), \$308,749, from WA State through the Washington Ocean Acidification Center, 9/1/2013-6/30/2017. (MacCready 1 mo.).

Modeling Support, \$40k per year, from NOAA through NANOOS-IOOS. 6/1/2011-5/31/2017. (Darr 1-2 mo. per year).

Marine Spatial Planning, \$17k, from WA DNR. 11/1/2012-6/30/2013. (MacCready 1 month).

“Collaborative Project: Improving the Representation of Coastal and Estuarine Processes in Earth System Models” (Frank Bryan NCAR PI, with Mike Whitney at UConn) DOE, total \$354,322, 9/15/2011-9/14/2015. (MacCready 3 mo. + 1 postdoc).

“Transport and Fate of Nutrient and Pathogen Loadings into Nearshore Puget Sound: Consequences for Shellfish Growing Areas (Mary Ruckleshaus NOAA PI, with Banas, MacCready, others) EPA, UW subcontract is \$201,962, 9/1/2010-8/31/2012 (0.5 mo. for PM).

“PNWTOX: The Columbia River plume and the HABs in the Pacific Northwest: bioreactor, barrier, or conduit?” (B. Hickey, PI) NOAA award, NA09NOS4780180, my portion is \$365,722, 9/1/2009-8/31/2014 (6 mo.).

“Energetics of Estuarine & Coastal Flow,” NSF, \$463,635, 6/1/2009-5/31/2012 (7 mo.).

“Puget Sound Modeling” UW-PRISM, \$212,193, 6/1/2008-5/31/2010, (6 mo.)

“Collaborative Research: Direct estimation of topographic form drag from seafloor pressure measurement,” (Jim Moum, OSU, PI) NSF, my portion is \$332,637, 6/1/2008-5/31/2013 (5 mo.).

“Remote Sensing and Modeling of Coherent Structures in River and Estuarine Flows,” (Andy Jessup, APL, PI), ONR, my portion is \$76,818, 5/1/2005-4/30/2010, (5 mo.). (ended 6/2/2008 – used only 2 months)

“Collaborative Research: Coastal Form Drag and Eddies,” with Geno Pawlak (UH), NSF, my portion is \$396,084, 9/16/2004-9/15/2009, (13 mo.).

“A Pilot Coastal Observatory for the Estuaries and Shores of Oregon and Washington,” NOAA, \$131,998, 7/1/2004-2/28/2006, (6 mo.), Antonio Baptista (OHSU) PI.

"A Practical Educational Experience in Estuarine and Coastal Fluid Dynamics," (for FHL Summer School) NSF, \$19,791, 5/2003-2004. Funds for this class were also provided by the School of Oceanography, WHOI, and ONR.

"Collaborative Research: Productivity, Biogeochemical Transformations and Cross-Margin Transport in an Eastern Boundary Buoyant Plume Region" NSF CoOP program, my portion is \$1,074,823, ~6/2003-2009, (18 mo.), Hickey PI.

"Development of a Prototype Robotic Drifter Boat," UW Royalty Research Fund, \$27,264, 3/16/2002-3/14/2003, (0.25 mo.).

"Estuarine Adjustment and Sensitivity," NSF, \$256,513, 1/16/2002-2/28/2008, (15 mo.).

"Observations of Tidal Headland Eddies in Deep Water," with Geno Pawlak (UH), NSF, \$310,000, 3/1/01-2/29/04, (8 mo.).

"Ocean-Estuarine Coupling and Material Processing by Oysters", with David Armstrong and Curtis Roegner (UW Fisheries), Barbara Hickey (UW Oceanography), PM, Jennifer Ruesink (UW Zoology), Brett Dumbauld (WA DFW), and Jan Newton (WA DOE), Washington State Sea Grant, \$478,702, 1/1/01-12/31/03, (2.5 mo.).

"Natural variability of the physical environment and its effect on the marine ecosystem of Willapa Bay", with Barbara Hickey PI (UW Oceanography) and David Armstrong (UW Fisheries), Washington State Sea Grant, \$175,000, 6/1/99-11/30/00, (0.75 mo.).

"CISNet In Situ and Remote Monitoring of Productivity and Nutrient Cycles in Puget Sound", with Al Devol, Steve Emerson, and Mary Jane Perry (UW) and Jan Newton (WA Ecology), NASA & EPA/NOAA, \$581,876, 10/1/98-9/30/01 (0 mo.).

"Boundary Stress Over Extreme Topography", Mike Gregg PI, SECNAV/CNO Chair and ONR Scholar Program, \$1,800,000, 6/1/97-3/14/02 (27 mo).

"Boundary Stress Over Rough Topography", ONR, \$95,000, 10/1/97-9/30/99 (10 mo).

"Physical and Biological Controls of CO₂ Levels in the Southern Ocean: A Multi Tracer Approach", Paul Quay PI, NSF-JGOFS, \$200,000, 8/1/96-7/31/98 (4 mo).

"Meridional Transport Across the Antarctic Circumpolar Current", NSF, \$213,500, 7/1/96-6/30/99 (12 mo).

"Meridional Circulation in the Deep Caribbean Driven by an Overflow Plume", with Peter Rhines 0% PI, NSF, \$106,000, 6/1/94-11/30/96 (12 mo).

"Oceanic General Circulation: Combined Forcing by Stress and Buoyancy", with Peter Rhines PI, NSF, \$793,406, 6/15/93-6/14/96 (21 mo).

Bibliography

Refereed

MacCready, P., and S. N. Giddings (2016) The Mechanical Energy Budget of a Regional Ocean Model. *J. Phys. Oceanogr.*, 46, 2719–2733, doi:10.1175/JPO-D-16-0086.1.

Conway-Cranos L., P. Kiffney, N. Banas, M. Plummer, S. Naman, P. MacCready, J. Bucci, and M. Ruckelshaus (2015) Stable isotopes and oceanographic modeling reveal spatial and trophic connectivity among terrestrial, estuarine, and marine environments. *Mar. Ecol. Prog. Ser.*, 533, 15-28.

Siedlecki, S. A., N. S. Banas, K. A. Davis, S. Giddings, B. M. Hickey, P. MacCready, T. Connolly, and S. Geier (2015), Seasonal and interannual oxygen variability on the Washington and Oregon continental shelves, *J. Geophys. Res. Oceans*, 120, doi:10.1002/2014JC010254.

Banas, N. S., L. Conway-Cranos, D. A. Sutherland, P. MacCready, P. Kiffney, and M. Plummer (2015) Patterns of River Influence and Connectivity Among Subbasins of Puget Sound, with Application to Bacterial and Nutrient Loading. *Estuaries and Coasts*, 38(3), 735-753, DOI 10.1007/s12237-014-9853-y.

McCabe, R. M., B. M. Hickey, E. P. Dever, and P. MacCready (2015) Seasonal Cross-Shelf Flow Structure, Upwelling Relaxation, and the Alongshelf Pressure Gradient in the Northern California Current System. *J. Phys. Oceanogr.*, 45, 209-227, DOI: 10.1175/JPO-D-14-0025.1.

Davis, K. A., N. S. Banas, S. N. Giddings, S. A. Siedlecki, P. MacCready, E. J. Lessard, R. M. Kudela, and B. M. Hickey (2014), Estuary-enhanced upwelling of marine nutrients fuels coastal productivity in the U.S. Pacific Northwest. *J. Geophys. Res. Oceans*, 119, 8778–8799, doi:10.1002/2014JC010248.

Giddings, S. N., P. MacCready, B. M. Hickey, N. S. Banas, K. A. Davis, S. A. Siedlecki, V. L. Trainer, R. M. Kudela, N. A. Pelland, and T. P. Connolly (2014), Hindcasts of potential harmful

algal bloom transport pathways on the Pacific Northwest coast. *J. Geophys. Res. Oceans*, 119, doi:10.1002/2013JC009622.

Warner, S. J., and P. MacCready (2014), The dynamics of pressure and form drag on a sloping headland: Internal waves versus eddies, *J. Geophys. Res. Oceans*, 119, doi:10.1002/2013JC009757.

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