

# Curriculum Vitae 5/15/2024

**Name** Parker MacCready  
**Address** Univ. of Washington, Box 355351, Seattle, WA 98185-5351, USA  
**Phone** (206) 685-9588  
**Email** pmacc@uw.edu  
**URL** faculty.washington.edu/pmacc/

## 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

2022- Research Professor, University of Washington  
2009-2022 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

2022 Named Leo Maddox Endowed Professor of Oceanography, UW  
2021 Elected Fellow of the American Geophysical Union  
2017 David Chapman Lecture, WHOI  
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**

2019-2021 Member, Faculty Council  
2014-2016 Chair, PO Faculty Search Committee (2 separate searches)  
2012-2016 Member Big Data Committee  
2010-2016 Member, Barnes Replacement Committee, and Science Oversight Committee  
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**

4/2023-26 Member: NOAA OCNMS Advisory Committee  
4/2022 NOAA OA-HAB Proposal Review Panel Member  
2022- NOAA IOOS Cloud Steering Committee, Member  
2018- Member, NANOOS Governing Council Board  
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  
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
- 1997 Speaker and participant, NSF APROPOS Workshop (Advances and Primary Research Opportunities in Physical Oceanography Studies)
- Various years Panelist for National Science Foundation proposal review

### **Washington State**

- 2/2023- Member: Science Advisory Committee (SAC) for the Willapa-Grays Harbor Estuary Collaborative (WGHEC) 2/2023-
- 2020-2022 Member, Puget Sound Partnership Environmental Metrics Technical Advisory Committee
- 2015-2020 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 at 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

- 2023 Puget Sound Marine Water Work Group
- 2023 Presentation for Panel at NANOOS Meeting
- 2023 Public talk for Pacific County Science Conference
- 2023 UCLA AOS Seminar
- 2022 Ocean Sciences Meeting
- 2021 UBC PO Seminar
- 2020 U. of Rhode Island Seminar
- 2020 NOAA CMMB Seminar
- 2020 NOAA Olympic Coast National Marine Sanctuary Advisory Council
- 2020 Washington OA Center video for AGU
- 2019 Public Talk “News and Brews,” Olympia, WA
- 2019 Plenary Talk at Long Island Sound Research Conf., Long Island, NY
- 2019 Seminar at Univ. of Connecticut
- 2019 Public Talk at Shellfish Growers Conference, Hood Canal, WA

2019 Public Talk at Sound Waters Conference, Whidbey Island, WA  
 2018 Seminar at Inst. of Ocean Sci., Sydney, BC  
 2018 Mooers Symposium on Prediction, Mt. Hood, OR  
 2018 WA Ecology Nutrient Reduction Forum, Tacoma, WA  
 2018 NSF Coastal Modeling Workshop, Raleigh, NC  
 2017 David Chapman Lecture, WHOI  
 2017 Pacific Coast Shellfish Growers Association Mtg., Mt. Hood  
 2017 Oregon State University  
 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 Warnemünde 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, 19 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)	2018 (W)	43	3.4/3.7
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.
CEWA 599E	Estuarine Hydrodynamics [4] Horner-Devine	2023 (W)	6	
OCN 506A	Effective Computing	2020 (Sp)	22	4.4/4.3
OCN 590A	Estuarine & Coastal Fluid Dyn. [9] (Geyer)	2019 (Su)	15	5.0/4.7
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

Marissa Leatherman – lead and copper effluent modeling 2020  
 Bridget Ovall - Model-Observation Comparisons 2018-2019  
 Bradley Bartos – Model-Observation Comparisons 2016-2017  
 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*

Hillary Scannell	PhD	2019-2020	reading Committee
Elizabeth Brasseale	MS	2014-2016	
Jake Steinberg	PhD	2013-2020	reading committee
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>Amy Wyeth (Bio Ocn)</u>		<u>2022-</u>	
<u>Ben Roberts (CEE)</u>		<u>2022-</u>	
Sam Kastner (CEE) GSR		2019-2020	
Ken Hughes (U. Victoria, BC) PhD		2018	reading committee
Lindsay Alma (SAFS) GSR PhD		2019-2022	
Erik Fredrickson (MG&G) PhD		2017-2023	reading committee
Hannah Glover (MG&G) PhD		2017-2022	
Rose Wade (MG&G) PhD		2019-2024	reading committee
<u>Evan Lahr (MG&amp;G)</u>	<u>MS</u>	<u>2020-</u>	
<u>Haila Schultz (BioOcn)</u>		<u>2020-</u>	
Margaret Siple (SAFS) GSR PhD		2017	
Katie Beaumont (MG&G)		2016-2017	
Isaiah Bolden (ChemOcn) PhD		2016-2020	
Robin McLachlan (MG&G) PhD		2015-2020	
Anthony Poggioli (CEE) PhD		2015	
Qiang Sun (U. Conn.)		2014-2015	
Christine Stawitz (QERM) GSR		2014-2018	
Maggie McKeon (CEE)		2011-2016	
Emily Eidam (MG&G)		2012-2016	
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

<u>Erin Broatch</u>	<u>MS</u>	<u>2018- (NSF)</u>	
<u>Aurora Leeson</u>		<u>2022- (King County Wastewater)</u>	
		<u>(CEE, co-advised with Alex Horner-Devine)</u>	
<u>Dakota Mascarenas</u>		<u>2022- (King County Wastewater)</u>	
		<u>(CEE, co-advised with Alex Horner-Devine)</u>	

### Chair, Committees for Graduate Students Advised in Past

Elizabeth Brasseale	MS, PhD	2016-2020	
Hally Stone (w/Neil Banas)	MS, PhD	2014-2020	
Jamie Shutta	MS	2010-2012	
Sally Warner	MS, PhD	2005-2012	
Ryan McCabe	MS, PhD	2000-2007 (w/ Barb Hickey for PhD)	
Wayne Martin	MS, PhD	1999-2008	
Tiangang Yu		1998-99	
Julian Douglass		1996-97	
Dawn Ring		1996	

### Postdoctoral Associates Advised

<u>Kate Hewett</u>	<u>2022-</u>	
<u>Jilian Xiong</u>	<u>2022-</u>	
Linghan Li	2016-2017	
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

NSERC (Canada) Blue Carbon as a Canadian Climate Change Solution: Modelling the Mitigation Potential of Kelp Under Future Climate Change Scenarios, 1/1/2022-12/31/2023, \$920k (1 mo.), (PI: Baum, Singh)

King County Wastewater: Puget Sound Nutrients Research Fellowship, 4/1/2022-9/30/2025, \$384,595 [need to check final dates and amount], (0 mo.), (PI: Horner-Devine, Brett UW CEE)

ONR MURI: MMARINeDNA: Marine Mammal Remote detection” via INnovative environmental DNA sampling, 5/01/2022-4/30/2025, \$6,121,308 (2 mo.), (PI: Ryan Kelly UW)

ONR: Subsurface acoustic ducts due to salinity gradients in coastal oceans: Oceanographic component of a joint acoustics experiment on the Washington shelf, 4/15/2021-4/14/2024, \$2,858,617, (5 mo.), (PI: Harcourt APL)

Fisheries & Oceans Canada (DFO): Blue Carbon as a Canadian Climate Change Solution: Modelling the Mitigation Potential of Kelp Under Future Climate Change Scenarios, 1/1/2022-12/31/2023, \$13,136 (1 mo.), (PI: Hansi Singh UVic)

“LiveOcean Model Enhancement and Transition to Operations” (MacCready lead PI) NOAA COMT (Coastal Ocean Modeling Testbed), 9/1/2021-8/31/2024, \$899,407 (6 mo.)

“Beyond Salt: Effects of estuarine circulation and mixing timescales on biogeochemistry” (MacCready PI) NSF, 1/1/2022-12/31/2024 , \$685,684 (9 mo.)

NOAA-IOOS: NANOOS HAB Supplement, 6/1/2020-5/31/2021, \$51,849 (2 mo.) (same again in 2021-2022)

NOAA-IOOS: Cloud Sandbox, 6/1/2019-5/31/2022, \$20,000 (0 mo.)

Modeling Support, \$40k/year, from NOAA through NANOOS-IOOS. 6/1/2015-5/31/2021. (same again in 2021-2022)

“Ocean Acidification Forecast Model”, (MacCready PI, CoPI McCabe), \$150,000, WA State through the Washington Ocean Acidification Center, 7/1/2019-6/30/2021. (2 mo.) (same again in 2021-2022)

“Advancing the West Coast Ocean Forecasting System through Assessment, Model Development, and Ecological Products” (Chris Edwards, UCSC, PI) NOAA, MacCready portion \$135,000, 9/1/2018-7/31/2021 (2.5 mo.)

“Collaborative Research: Using Salinity Variance to Link Estuarine Mixing and Exchange Flow,” (Geyer WHOI, MacCready) NSF, \$468,978 (PM portion), 9/15/2017-8/31/2020 (6 mo.)

“High-Resolution Modeling of Hood Canal,” ONR, \$76,948, 12/15/2017-11/30/2019.

“Larval transport modeling evidence of European Green Crab source populations,” WA Sea Grant/WDFW, 3 mo. of RA support for Elizabeth Brasseale, Winter Term 2018.

“Ocean Acidification Forecast Model”, (MacCready PI, CoPIs McCabe & Siedlecki, JISAO), \$150,000, WA State through the Washington Ocean Acidification Center, 7/1/2017-6/30/2019. (2 mo.).

“MERHAB: An early warning system for *Pseudo-nitzschia* HABs on Pacific Northwest outer-coast beaches” (Neil Banas, U Strathclyde, PI) NOAA, MacCready portion \$340,661, 7/1/2016-6/30/2021, (8 mo.), plus supplement for years 4 and 5: \$62,000.

“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.).

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 CO<sub>2</sub> 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 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., & Geyer, W. R. (2024). Estuarine Exchange Flow in the Salish Sea. *Journal of Geophysical Research: Oceans*, 129(1). doi:10.1029/2023jc020369
- Xiong, J., & MacCready, P. (2024). Intercomparisons of Tracker v1.1 and four other ocean particle-tracking software packages in the Regional Ocean Modeling System. *Geoscientific Model Development*, 17(8), 3341-3356. doi:10.5194/gmd-17-3341-2024
- Broatch, E. M., & MacCready, P. (2022). Mixing in a Salinity Variance Budget of the Salish Sea is Controlled by River Flow. *Journal of Physical Oceanography*, 52(10), 2305-2323. doi:10.1175/jpo-d-21-0227.1
- Lemagie, E. P., Giddings, S. N., MacCready, P., Seaton, C., & Wu, X. (2022). Measuring Estuarine Total Exchange Flow From Discrete Observations. *Journal of Geophysical Research: Oceans*, 127(10). doi:10.1029/2022jc018960
- Morzaria-Luna, H., Kaplan, I. C., Harvey, C. J., Girardin, R., Fulton, E. A., MacCready, P., Chasco, B., Horne, P., & Schmidt, M. (2022). *Design and Parameterization of a Spatially Explicit Atlantis Ecosystem Model for Puget Sound*. (NMFS-NWFSC-177).
- Stone, H. B., Banas, N. S., MacCready, P., Trainer, V. L., Ayres, D. L., & Hunter, M. V. (2022). Assessing a model of Pacific Northwest harmful algal bloom transport as a decision-support tool. *Harmful Algae*, 119. doi:10.1016/j.hal.2022.102334
- Sunday, J. M., Howard, E., Siedlecki, S., Pilcher, D. J., Deutsch, C., MacCready, P., Newton, J., & Klinger, T. (2022). Biological sensitivities to high-resolution climate change projections in the California current marine ecosystem. *Glob Chang Biol*, 28(19), 5726-5740. doi:10.1111/gcb.16317
- Andrews, K., Bartos, B., Harvey, C. J., Tonnes, D., Bhuthimethee, M., & MacCready, P. (2021). Testing the potential for larval dispersal to explain connectivity and population structure of threatened rockfish species in Puget Sound. *Marine Ecology Progress Series*, 677, 95-113. doi:10.3354/meps13858
- Brasseale, E., & MacCready, P. (2021). The shelf sources of estuarine inflow. *Journal of Physical Oceanography*. doi:10.1175/jpo-d-20-0080.1
- MacCready, P., McCabe, R. M., Siedlecki, S. A., Lorenz, M., Giddings, S. N., Bos, J., Albertson, S., Banas, N. S., & Garnier, S. (2021). Estuarine Circulation, Mixing, and Residence Times in the Salish Sea. *Journal of Geophysical Research: Oceans*, 126(2). doi:10.1029/2020jc016738
- Newton, J., MacCready, P., Siedlecki, S., Manalang, D., Mickett, J., Alin, S., Schumacker, E., Hagen, J., Moore, S., Sutton, A., & Carini, R. (2021). Multi-Stressor Observations and Modeling to Build Understanding of and Resilience to the Coastal Impacts of Climate Change. *Oceanography*, 86-87. doi:10.5670/oceanog.2021.supplement.02-31
- Siedlecki, S. A., Pilcher, D., Howard, E. M., Deutsch, C., MacCready, P., Norton, E. L., Frenzel, H., Newton, J., Feely, R. A., Alin, S. R., & Klinger, T. (2021). Coastal processes modify projections of some climate-driven stressors in the California Current System. *Biogeosciences*, 18(9), 2871-2890. doi:10.5194/bg-18-2871-2021

- Stone, H. B., Banas, N. S., MacCready, P., Kudela, R. M., & O'vall, B. (2020). Linking Chlorophyll Concentration and Wind Patterns Using Satellite Data in the Central and Northern California Current System. *Frontiers in Marine Science*, 7. doi:10.3389/fmars.2020.551562
- Barth, J. A., Allen, S. E., Dever, E. P., Dewey, R. K., Evans, W., Feely, R. A., Fisher, J. L., Fram, J. P., Hales, B., Ianson, D., Jackson, J., Juniper, K., Kawka, O., Kelley, D., Klymak, J. M., Konovsky, J., Kosro, P. M., Kurapov, A., Mayorga, E., MacCready, P., Newton, J., Perry, R. I., Risien, C. M., Robert, M., Ross, T., Shearman, R. K., Schumacker, J., Siedlecki, S., Trainer, V. L., Waterman, S., & Wingard, C. E. (2019). Better Regional Ocean Observing Through Cross-National Cooperation: A Case Study From the Northeast Pacific. *Frontiers in Marine Science*, 6, 93. doi:10.3389/fmars.2019.00093
- Brasseale, E., Grason, E. W., McDonald, P. S., Adams, J., & MacCready, P. (2019). Larval Transport Modeling Support for Identifying Population Sources of European Green Crab in the Salish Sea. *Estuaries and Coasts*. doi:10.1007/s12237-019-00586-2
- Burchard, H., Lange, X., Klingbeil, K., & MacCready, P. (2019). Mixing Estimates for Estuaries. *Journal of Physical Oceanography*, 49, 631-648. doi:10.1175/JPO-D-18-0147.1
- Fredrickson, E. K., Wilcock, W. S. D., Schmidt, D. A., MacCready, P., Roland, E., Kurapov, A. L., Zumberge, M. A., & Sasagawa, G. S. (2019). Optimizing Sensor Configurations for the Detection of Slow-Slip Earthquakes in Seafloor Pressure Records, Using the Cascadia Subduction Zone as a Case Study. *Journal of Geophysical Research: Solid Earth*, 124, 13504-13531. doi:10.1029/2019JB018053
- Lorenz, M., Klingbeil, K., MacCready, P., & Burchard, H. (2019). Numerical issues of the Total Exchange Flow (TEF) analysis framework for quantifying estuarine circulation. *Ocean Science Discussions*, 15, 601-614. doi:10.5194/os-2018-147
- Burchard, H., Bolding, K., Feistel, R., Gräwe, U., Klingbeil, K., MacCready, P., Mohrholz, V., Umlauf, L., & van der Lee, E. M. (2018). The Knudsen theorem and the Total Exchange Flow analysis framework applied to the Baltic Sea. *Progress in Oceanography*, 165, 268-286. doi:10.1016/j.pocean.2018.04.004
- MacCready, P., Geyer, W. R., & Burchard, H. (2018). Estuarine Exchange Flow Is Related to Mixing through the Salinity Variance Budget. *Journal of Physical Oceanography*, 48, 1375-1384. doi:10.1175/JPO-D-17-0266.1
- Stone, H. B., Banas, N. S., & MacCready, P. (2018). The Effect of Alongcoast Advection on Pacific Northwest Shelf and Slope Water Properties in Relation to Upwelling Variability. *Journal of Geophysical Research: Oceans*, 123, 265-286. doi:10.1002/2017JC013174
- Giddings, S. N., & MacCready, P. (2017). Reverse Estuarine Circulation Due to Local and Remote Wind Forcing, Enhanced by the Presence of Along-Coast Estuaries. *Journal of Geophysical Research: Oceans*, 122, 10184-10205. doi:10.1002/2016JC012479
- Wang, T., Geyer, W. R., & MacCready, P. (2017). Total Exchange Flow, Entrainment, and Diffusive Salt Flux in Estuaries. *Journal of Physical Oceanography*, 47, 1205-1220. doi:10.1175/JPO-D-16-0258.1



- Fatland, R., MacCready, P., & Oscar, N. (2016). LiveOcean. *Cloud Computing in Ocean and Atmospheric Sciences*, 277-296. doi:10.1016/B978-0-12-803192-6.00014-1
- MacCready, P., & Giddings, S. N. (2016). The Mechanical Energy Budget of a Regional Ocean Model. *Journal of Physical Oceanography*, 46, 2719-2733. doi:10.1175/JPO-D-16-0086.1
- Conway-Cranos, L., Kiffney, P., Banas, N. S., Plummer, M., Naman, S., MacCready, P., Bucci, J., & Ruckelshaus, M. (2015). Stable isotopes and oceanographic modeling reveal spatial and trophic connectivity among terrestrial, estuarine, and marine environments. *Marine Ecology Progress Series*, 533, 15-28. doi:10.3354/meps11318
- McCabe, R. M., Hickey, B. M., Dever, E. P., & MacCready, P. (2015). Seasonal Cross-Shelf Flow Structure, Upwelling Relaxation, and the Alongshelf Pressure Gradient in the Northern California Current System. *Journal of Physical Oceanography*, 45, 209-227. doi:10.1175/JPO-D-14-0025.1
- Siedlecki, S. A., Banas, N. S., Davis, K. A., Giddings, S. N., Hickey, B. M., MacCready, P., Connolly, T. P., & Geier, S. (2015). Seasonal and interannual oxygen variability on the Washington and Oregon continental shelves. *Journal of Geophysical Research: Oceans*, 120(2), 608-633. doi:10.1002/2014jc010254
- Alford, M. H., & MacCready, P. (2014). Flow and mixing in Juan de Fuca Canyon, Washington. *Geophysical Research Letters*, 41(5), 1608-1615. doi:10.1002/2013gl058967
- Banas, N. S., Conway-Cranos, L., Sutherland, D. A., MacCready, P., Kiffney, P., & Plummer, M. (2014). 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
- Davis, K. A., Banas, N. S., Giddings, S. N., Siedlecki, S. A., MacCready, P., Lessard, E. J., Kudela, R. M., & Hickey, B. M. (2014). Estuary-enhanced upwelling of marine nutrients fuels coastal productivity in the U.S. Pacific Northwest. *Journal of Geophysical Research: Oceans*, 119(12), 8778-8799. doi:10.1002/2014jc010248
- Geyer, W. R., & MacCready, P. (2014). The Estuarine Circulation. *Annual Review of Fluid Mechanics*, 46, 175-197. doi:10.1146/annurev-fluid-010313-141302
- Giddings, S. N., MacCready, P., Hickey, B. M., Banas, N. S., Davis, K. A., Siedlecki, S. A., Trainer, V. L., Kudela, R. M., Pelland, N. A., & Connolly, T. P. (2014). Hindcasts of potential harmful algal bloom transport pathways on the Pacific Northwest coast. *Journal of Geophysical Research: Oceans*, 119, 2439-2461. doi:10.1002/2013JC009622
- Warner, S. J., & MacCready, P. (2014). The dynamics of pressure and form drag on a sloping headland: Internal waves versus eddies. *Journal of Geophysical Research: Oceans*, 119, 1554-1571. doi:10.1002/2013JC009757
- Warner, S. J., MacCready, P., Moum, J. N., & Nash, J. D. (2013). Measurement of Tidal Form Drag Using Seafloor Pressure Sensors. *Journal of Physical Oceanography*, 43, 1150-1172. doi:10.1175/JPO-D-12-0163.1
- Alford, M., Mickett, J., Zhang, S., MacCready, P., Zhao, Z., & Newton, J. (2012). Internal Waves on the Washington Continental Shelf. *Oceanography*, 25(2), 66-79. doi:10.5670/oceanog.2012.43

- MacCready, P. (2011). Calculating Estuarine Exchange Flow Using Isohaline Coordinates. *Journal of Physical Oceanography*, *41*, 1116-1124. doi:10.1175/2011JPO4517.1
- MacCready, P., & Banas, N. S. (2011). Residual Circulation, Mixing, and Dispersion. In *Treatise on Estuarine and Coastal Science* (Vol. 2, pp. 75-89): Elsevier.
- Martin, W. D., & MacCready, P. (2011). Influence of large-scale tidal asymmetry on subtidal dynamics in the western Strait of Juan de Fuca. *Journal of Geophysical Research: Oceans*, *116*, 1-20. doi:10.1029/2010JC006363
- Sutherland, D. A., MacCready, P., Banas, N. S., & Smedstad, L. F. (2011). A Model Study of the Salish Sea Estuarine Circulation. *Journal of Physical Oceanography*, *41*(6), 1125-1143. doi:10.1175/2011jpo4540.1
- Hickey, B. M., Kudela, R. M., Nash, J. D., Bruland, K. W., Peterson, W. T., MacCready, P., Lessard, E. J., Jay, D. A., Banas, N. S., Baptista, A. M., Dever, E. P., Kosro, P. M., Kilcher, L. K., Horner-Devine, A. R., Zaron, E. D., McCabe, R. M., Peterson, J. O., Orton, P. M., Pan, J., & Lohan, M. C. (2010). River Influences on Shelf Ecosystems: Introduction and synthesis. *Journal of Geophysical Research*, *115*, C00B17. doi:10.1029/2009jc005452
- MacCready, P., & Geyer, W. R. (2010). Advances in Estuarine Physics. *Annual Review of Marine Science*, *2*, 35-58. doi:10.1146/annurev-marine-120308-081015
- Banas, N. S., Lessard, E. J., Kudela, R. M., MacCready, P., Peterson, T. D., Hickey, B. M., & Frame, E. (2009). Planktonic growth and grazing in the Columbia River plume region: A biophysical model study. *Journal of Geophysical Research*, *114*, C00B06. doi:10.1029/2008JC004993
- Banas, N. S., MacCready, P., & Hickey, B. M. (2009). The Columbia River plume as cross-shelf exporter and along-coast barrier. *Continental Shelf Research*, *29*(1), 292-301. doi:10.1016/j.csr.2008.03.011
- Canals, M., Pawlak, G., & MacCready, P. (2009). Tilted Baroclinic Tidal Vortices. *Journal of Physical Oceanography*, *39*, 333-350. doi:10.1175/2008JPO3954.1
- Liu, Y., MacCready, P., & Hickey, B. M. (2009). Columbia River plume patterns in summer 2004 as revealed by a hindcast coastal ocean circulation model. *Geophysical Research Letters*, *36*, 1-6. doi:10.1029/2008GL036447
- Liu, Y., MacCready, P., Hickey, B. M., Dever, E. P., Kosro, P. M., & Banas, N. S. (2009). Evaluation of a coastal ocean circulation model for the Columbia River plume in summer 2004. *Journal of Geophysical Research*, *114*. doi:10.1029/2008jc004929
- MacCready, P., Banas, N. S., Hickey, B. M., Dever, E. P., & Liu, Y. (2009). A model study of tide- and wind-induced mixing in the Columbia River Estuary and plume. *Continental Shelf Research*, *29*, 278-291. doi:10.1016/j.csr.2008.03.015
- McCabe, R. M., MacCready, P., & Hickey, B. M. (2009). Ebb-tide dynamics and spreading of a large river plume. *Journal of Physical Oceanography*, *39*, 2839-2856. doi:10.1175/2009JPO4061.1
- Warner, S. J., & MacCready, P. (2009). Dissecting the Pressure Field in Tidal Flow past a Headland: When Is Form Drag "Real"? *Journal of Physical Oceanography*, *39*, 2971-2984. doi:10.1175/2009JPO4173.1

- McCabe, R. M., Hickey, B. M., & MacCready, P. (2008). Observational estimates of entrainment and vertical salt flux in the interior of a spreading river plume. *Journal of Geophysical Research*, *113*, C08027. doi:10.1029/2007JC004361
- Samelson, R. M., Allen, J. S., & MacCready, P. (2008). Progress in Coastal Ocean Modeling During CoOP. *Oceanography*, *21*, 136-147. doi:10.5670/oceanog.2008.10
- MacCready, P. (2007). Estuarine Adjustment. *Journal of Physical Oceanography*, *37*, 2133-2145. doi:10.1175/JPO3082.1
- Babson, A. L., Kawase, M., & MacCready, P. (2006). Seasonal and Interannual Variability in the Circulation of Puget Sound, Washington: A Box Model Study. *Atmosphere-Ocean*, *44*, 29-45. doi:10.3137/ao.440103
- McCabe, R. M., MacCready, P., & Pawlak, G. (2006). Form Drag due to Flow Separation at a Headland. *Journal of Physical Oceanography*, *36*, 2136-2152. doi:10.1175/JPO2966.1
- Martin, W. D., MacCready, P., & Dewey, R. (2005). Boundary Layer Forcing of a Semidiurnal, Cross-Channel Seiche. *Journal of Physical Oceanography*, *35*, 1518-1537. doi:10.1175/JPO2778.1
- Banas, N. S., Hickey, B. M., MacCready, P., & Newton, J. A. (2004). Dynamics of Willapa Bay, Washington: A Highly Unsteady, Partially Mixed Estuary. *Journal of Physical Oceanography*, *34*(11), 2413-2427. doi:10.1175/jpo2637.1
- Edwards, K. A., MacCready, P., Moum, J. N., Pawlak, G., Klymak, J. M., & Perlin, A. (2004). Form Drag and Mixing Due to Tidal Flow past a Sharp Point. *Journal of Physical Oceanography*, *34*, 1297-1312. doi:10.1175/1520-0485(2004)034<1297:FDAMDT>2.0.CO;2
- MacCready, P. (2004). Toward a unified theory of tidally-averaged estuarine salinity structure. *Estuaries*, *27*, 561-570. doi:10.1007/BF02907644
- Pawlak, G., MacCready, P., Edwards, K. A., & McCabe, R. M. (2003). Observations on the evolution of tidal vorticity at a stratified deep water headland. *Geophysical Research Letters*, *30*, 1-5. doi:10.1029/2003GL018092
- MacCready, P., Hetland, R. D., & Geyer, W. R. (2002). Long-term isohaline salt balance in an estuary. *Continental Shelf Research*, *22*, 1591-1601. doi:10.1016/S0278-4343(02)00023-7
- Pawlak, G., & MacCready, P. (2002). Oscillatory flow across an irregular boundary. *Journal of Geophysical Research*, *107*, 3036. doi:10.1029/2000JC000596
- MacCready, P., & Geyer, W. R. (2001). Estuarine salt flux through an isohaline surface. *Journal of Geophysical Research: Oceans*, *106*, 11629-11637. doi:10.1029/2001JC900006
- MacCready, P., & Pawlak, G. (2001). Stratified Flow along a Corrugated Slope: Separation Drag and Wave Drag. *Journal of Physical Oceanography*, *31*, 2824-2839. doi:10.1175/1520-0485(2001)031<2824:SFAACS>2.0.CO;2
- MacCready, P., & Quay, P. (2001). Biological export flux in the Southern Ocean estimated from a climatological nitrate budget. *Deep Sea Research Part II: Topical Studies in Oceanography*, *48*, 4299-4322. doi:10.1016/S0967-0645(01)00090-X

- MacCready, P., & Rhines, P. B. (2001). Meridional Transport across a Zonal Channel: Topographic Localization. *Journal of Physical Oceanography*, 31, 1427-1439. doi:10.1175/1520-0485(2001)031<1427:MTAAZC>2.0.CO;2
- Hickey, B. M., MacCready, P., Elliott, E., & Kachel, N. B. (2000). Dense saline plumes in Exuma Sound, Bahamas. *Journal of Geophysical Research: Oceans*, 105(C5), 11471-11488. doi:10.1029/2000jc900004
- MacCready, P. (1999). Estuarine adjustment to changes in river flow and tidal mixing. *Journal of Physical Oceanography*, 29, 708-726. doi:10.1175/1520-0485(1999)029<0708:EATCIR>2.0.CO;2
- MacCready, P., Johns, W. E., Rooth, C. G., Fratantoni, D. M., & Watlington, R. A. (1999). Overflow into the deep Caribbean: Effects of plume variability. *Journal of Geophysical Research: Oceans*, 104, 25913-25935. doi:10.1029/1999JC900206
- MacCready, P. (1994). Frictional decay of abyssal boundary currents. *J. Mar. Res.*, 52, 197-217. doi:10.1357/0022240943077073
- Garrett, C., MacCready, P., & Rhines, P. (1993). Boundary Mixing and Arrested Ekman Layers: Rotating Stratified Flow Near a Sloping Boundary. *Annual Review of Fluid Mechanics*, 25, 291-321. doi:10.1146/annurev.fl.25.010193.001451
- MacCready, P., & Rhines, P. B. (1993). Slippery Bottom Boundary Layers on a Slope. *Journal of Physical Oceanography*, 23, 5-22. doi:10.1175/1520-0485(1993)023<0005:SBBLOA>2.0.CO;2
- MacCready, P., & Rhines, P. B. (1991). Buoyant inhibition of Ekman transport on a slope and its effect on stratified spin-up. *Journal of Fluid Mechanics*, 223, 631-661. doi:10.1017/S0022112091001581
- 
- 

## Conference Proceedings

- Reimers, C., C. Friedrichs, B. Bebout, P. Howd, M. Huettel, R. Jahnke, P. MacCready, K. Ruttenberg, L. Sanford, and J. Trowbridge (2004) Coastal Benthic Exchange Dynamics. *CoOP Report No. 10. Skidaway Institute of Oceanography Technical Report TR-04-01*, 92 pp.
- G. Pawlak, P. MacCready and R. McCabe (2003) Evolution of Vortical Flow Structure in an Ocean Boundary Process. (12 pp.). *Proceeding of the 13th 'Aha Huliko'a Hawaiian Winter Workshop on "Near Boundary Processes and their Parameterization,"* P. Muller and D. Henderson, Eds., SOEST Special Publication, Univ. of Hawaii, 131-142.
- MacCready, P., G. Pawlak, K. A. Edwards, R. McCabe (2003) Form Drag on Ocean Flows. *Proceeding of the 13th 'Aha Huliko'a Hawaiian Winter Workshop on "Near Boundary Processes and their Parameterization,"* P. Muller and D. Henderson, Eds., SOEST Special Publication, Univ. of Hawaii, 119-130.

- G. Pawlak, P. MacCready, K. Edwards, R. McCabe (2002) Evolution of Tidal Vorticity in Stratified Coastal Flow. *Proceedings of OMAE'02*, Oslo, Norway, 8 pp.
- MacCready, P., and G. Pawlak (2001) Tidal Eddy Generation at Three Tree Point: Theory and Numerical Modeling. *Proceedings of the Puget Sound Research Conference 2001*, 6 pp.
- MacCready, P., and P. B. Rhines (1993) Ocean Circulation: Overturning Modes Driven by Stress and Buoyancy. *Ninth Conference on Atmospheric and Oceanic Waves and Stability, preprints*, 53-55.
- Rhines, P. B., and P. MacCready (1989) Boundary Control over the Large-Scale Circulation. *Proceedings of the Fifth 'Aha Huliko'a Hawaiian Winter Workshop on Parameterization of Small-Scale Processes*, Hawaii Institute of Geophysics, Honolulu, 75-97.

### Technical Reports

- Sidebar for Ocean Observatories Initiative (OOI) Science Plan: Exciting Opportunities Using OOI Data (Siedlecki, Newton) 1/2021
- MacCready, P. And N. S. Banas (2016) Linking Puget Sound primary production to stratification and atmospheric drivers on seasonal to inter-decadal scales. SSMSP Technical Report. <http://marinesurvivalproject.com/wp-content/uploads/MacCready-Banas-2016-Tech-Rept.pdf>
- MacCready, P., and R. A. Watlington (1993) Hydrographic Data from R. V. *Columbus Iselin* Cruises 9101 & 9203. *RSMAS Technical Report No. 93-003*, University of Miami, 191 pages.

### Meeting presentations, popular articles, book reviews

- MacCready, P. (2015) Physical Environment, a chapter in the *Puget Sound Fact Book*, Version 3.0, First printing, Published October 2, 2015, Puget Sound Institute, University of Washington Tacoma, Tacoma, Washington, USA, 16-20 of 124 pp. (<https://www.eopugetsound.org/articles/2015-puget-sound-fact-book>)
- MacCready, P. (2014) Ocean science: Links between surface and abyss. *Nature Geoscience* **7**, 554–555 (2014) doi:10.1038/ngeo2210 (a “News & Views” review of another paper)
- MacCready, P. and D. A. Jay (2009) PECS-2006. *Continental Shelf Res.*, doi:10.1016/j.csr.2008.06.010
- MacCready, P. and R. Kudela (2007) Update: River Influences on Shelf Ecosystems – RISE. *Newsletter of Coastal Ocean Processes*, **22**, 3-4.
- MacCready, P. (2004) River Influences on Shelf Ecosystems: RISE News. *Newsletter of Coastal Ocean Processes*, **18**, 3-.
- MacCready, P. (1998) Book Review: Estuaries: a Physical Introduction, by K. R. Dyer. *Continental Shelf Res.*, **18**, 1667-1668.
- MacCready, P. (1998) Numerical Circulation Modeling as a Tool for Harmful Algae Bloom Research and Prediction, Puget Sound Research '98 Conference, Seattle.

- MacCready, P. (1997) In Shallow Water: Basic vs. Applied Science, NSF-sponsored Advances and Primary Research Opportunities in Physical Oceanography Studies (APROPOS) Workshop, Monterey, CA. See:  
[www.joss.ucar.edu/joss\\_psg/project/oce\\_workshop/apropos/presentations/maccready.htm](http://www.joss.ucar.edu/joss_psg/project/oce_workshop/apropos/presentations/maccready.htm)
- MacCready, P. (1990) Hydrofoil Boats with Flapping-Wing Propulsion. *Human Power*, **8**, no. 1, 9-16.
- MacCready, P. (1986) Features of Flapping-Wing Propulsion. *Third International Human Powered Vehicle Scientific Symposium, Proceedings*, A. Abbott, ed., IHPVA, Seal Beach, CA, USA, 45-52.