

# Becca Beutel

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University of British Columbia  
Department of Earth, Ocean and Atmospheric Sciences (EOAS)  
2020 Main Mall, #3023  
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**Research interests** Coastal oceanography, biogeochemical-physical interactions, climate forecasting

**Education**

<b>University of British Columbia (UBC)</b>	Vancouver, BC
PhD in Physical Oceanography	2023-present
Advisor: Dr. Susan Allen.	

<b>University of British Columbia (UBC)</b>	Vancouver, BC
MSc in Physical Oceanography	2020-2023
Advisor: Dr. Susan Allen.	
Thesis: <i>Pacific sources of biologically significant constituents in the Salish Sea using Lagrangian particle tracking</i>	

<b>University of Guelph</b>	Guelph, ON
BASc with Distinction in Environmental Engineering	2015-2020

## Graduate coursework

Advanced Geophysical Fluid Dynamics; Dynamic Oceanography; Methods in Oceanography, Data Analysis in Atmospheric, Earth and Ocean Sciences; Waves, Currents, and Ocean Mixing; Estuary Hydraulics; Numerical Weather Prediction; PRODIGY interdisciplinary training program for Atmosphere and Earth Scientists

**Awards and scholarships**

NSERC Canadian Graduate Scholarship - Doctoral Program (\$35,000 per year)	2023
UBC Four Year Doctoral Fellowship (\$18,200 per year)	2022
R. Grant Ingram Memorial Scholarship in Oceanography (\$6,150)	2022
NSERC Alexander Graham Bell CGS M, Masters Program (\$17,500)	2021
WEAO and WEF Student Design Competition (\$5,000)	2020
Ontario/Baden-Württemberg Research Scholarship (\$3,500)	2019
NSERC Undergraduate Student Research Awards Program (\$4,500)	2017

## Publications

### Journal Articles

**Beutel, B;** Allen, S.E. (submitted). Seasonal and interannual Salish Sea inflow origins using Lagrangian tracking. *Journal of Geophysical Research: Oceans*.

McBean, E; Farrow, C; Preston, T; Yang, A.L; Cheng, H.Y; Wu, Y.C; Liu, Z; Dai, Z.N; Fu, H.Y; Beauchamp, J; **Beutel, R**; Huang, G.H. (2019). Investigation of Maintenance Impacts on Flow Rates in Ceramic Disc Water Filters. *Journal of Environmental Informatics Letters*. 1(2)

### Conference Talks

**Becca Beutel**, Susan Allen. *Interannual and seasonal water mass analysis in the Salish Sea*. CMOS Congress 2023. St. John's, NL. Oral Presentation. May 2023

**Becca Beutel**, Susan Allen. *Interannual and seasonal water mass analysis in the Salish Sea*. EGU 2023. Online. Oral Presentation. Apr 2023

**Becca Beutel**, Susan Allen. *Lagrangian analysis of seasonal and interannual trends in estuarine flow composition and path within Juan de Fuca Strait*. CMOS-CGU-ESC Joint Congress. Virtual. Oral presentation. Jun 2022

**Becca Beutel**, Susan Allen. *Lagrangian analysis of seasonal and interannual trends in estuarine flow composition and path between Juan de Fuca Strait and the Strait of Georgia and Puget Sound*. Salish Sea Ecosystem Conference. Virtual. Poster presentation. Apr 2022

**Becca Beutel**, Susan Allen. *Pacific Sources of Biologically Significant Constituents in the Salish Sea Using Lagrangian Particle Tracking*. Graduate Student Climate Conference. Virtual. Poster presentation. Oct 2021

### Research experience

#### **Mesoscale Ocean and Atmospheric Sciences**

Mentor: Dr. Susan Allen (UBC, Oceanography) 2020-present  
Quantify the annual variability in sources and resultant biogeochemical composition of water entering the Salish Sea through the Juan De Fuca using Lagrangian simulations.

#### **Past Ocean Dynamics**

Mentor: Dr. Jörg Lippold (University of Heidelberg, Geoscience) 2019  
Examined deep ocean sediment cores using x-ray diffraction in an attempt to explain the interesting proxy signals of a past climate event (Heinrich Stadial 2) by determining the sediment source.

#### **Water Supply Security**

Mentor: Dr. Ed McBean (University of Guelph, Engineering) 2017-2019  
Conducted membrane filtration analyses on low-tech water filters for application in rural communities.

#### **G360 Groundwater Institute**

Mentor: Dr. Jana Levison (University of Guelph, Engineering) 2017  
Assessed variations in water composition throughout a climate-vulnerable watershed in order to determine the locations of groundwater-surface water interaction

Additional Field Experience	Huinay Scientific Field Station coastal field school	Jan 2023
	Float deployment and recovery with UBC and the Canadian Coast Guard	Jul 2022
	UBC biological, chemical, and physical oceanography field school	Feb 2021
	Coastal wetland habitat assessment with the Canadian Wildlife Service	Sep-Dec 2021
Teaching experience	<b>University of British Columbia</b>	
	TA, EOSC 471: Waves, Currents, and Mixing in the Ocean	Sep-Dec 2023
	Climate module developer, EOSC 442: Climate measurement and analysis	Jan-Dec 2022
	TA, EOSC 474: Marine Pollution	Sep-Dec 2022
	TA, ENVR 400: Research Project in Environmental Science	Sep 2020-Apr 2022
	<b>Science World Canada</b>	
	Guest teacher, Future Science Leaders: physical oceanography	Jul 2023-Nov 2023
Skills	<b>Programming</b>	
	Proficient in: Python, MATLAB. Familiar with: C++, R.	
	<b>Languages</b>	
	English (native), French (advanced)	
Outreach	Pacific Museum of Earth's "On Earth" podcast - episode 48	Apr 2022
	Beaumont Studios' "Rhythm Analysis" podcast - episode 3	Mar 2022
Service	Science World - Community Scientist	Mar 2022-present
	EOAS Climate Emergency Committee - team-member	Sep 2021-present
	Physical Oceanography Seminar - coordinator and host	May 2021-Jun 2022