

# Charles Seaton

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## EXPERIENCE

OHSU, Portland — *Research Associate (2001-2020)*

### **SELECTED MAJOR PROJECTS**

#### **Tsunami modeling for Cannon Beach (2004-2008):**

Developed combined topography and bathymetry for Cannon Beach, working from diverse external sources, including tracing down and correcting documentation errors in external sources, in support of ELCIRC tsunami modeling.

#### **Columbia River Treaty (2013-2014):**

Conducted SELFE simulations, analysis and visualization of retrospective modeling of effects of channel deepening, which confirmed lack of habitat effects, allowing end of monitoring effort.

#### **FEMA storm surge modeling (2018-2020)**

Calibrated, validated and visualized SCHISM simulations in support of a FEMA storm surge flooding analysis for Clatsop County, Oregon.

#### **STC-CMOP cyber-infrastructure coordinator (2011-2017)**

Coordinated end-to-end data management system development for multi-institutional NSF science and technology center for numerical models and observation data.

#### **NANOOS data management and communication (2010-2020)**

Collaborated in multi-institutional regional association's standardization and unification of diverse observation and modeling data sets.

Columbia River Inter-Tribal Fish Commission, Portland — *Senior Oceanographer (2020-)*

### **SELECTED MAJOR PROJECTS**

#### **Coastal Margin Observation and Prediction program coordinator**

Managed the transition of the Columbia River estuary SATURN observatory and modeling program from OHSU to CRITFC

#### **Pacific model enhancement project principal investigator**

Developed new tidal model of the North Pacific Ocean in collaboration with NOAA/NOS/COS/Coastal Survey Development Lab

Trained CRITFC staff in numerical model grid generation and run management

## EDUCATION

Oregon Graduate Institute, Beaverton, OR — *M.S. Env. Science and Engineering*  
Sep 1999 - Dec 2000

University of Massachusetts-Amherst — *B.S. Botany*  
Sep 1991 - May 1995

## **PUBLICATIONS**

### **Journal articles:**

- Herfort L, Seaton C, Wilkin M, Roman B, Preston CM, Marin R, Seitz K, Smith MW, Haynes V, Scholin CA, et al. 2016. Use of continuous, real-time observations and model simulations to achieve autonomous, adaptive sampling of microbial processes with a robotic sampler. *Limnol Oceanogr Methods*. 14(1):50–67. doi:10.1002/lom3.10069.
- Baptista AM, Seaton C, Wilkin MP, Riseman SF, Needoba JA, Maier D, Turner PJ, Kärnä T, Lopez JE, Herfort L, et al. 2015. Infrastructure for collaborative science and societal applications in the Columbia River estuary. *Front Earth Sci*. 9(4):659–682. doi:10.1007/s11707-015-0540-5.
- Maier D, Megler VM, Baptista AM, Jaramillo A, Seaton C, Turner PJ. 2012. Navigating oceans of data. *Lect Notes Comput Sci (including Subser Lect Notes Artif Intell Lect Notes Bioinformatics)*. 7338 LNCS:1–19. doi:10.1007/978-3-642-31235-9\_1.
- Roegner GC, Seaton C, Baptista AM. 2011. Climatic and Tidal Forcing of Hydrography and Chlorophyll Concentrations in the Columbia River Estuary. *Estuaries and Coasts*. 34(2):281–296. doi:10.1007/s12237-010-9340-z.
- Frolov S, Baptista AM, Zhang Y, Seaton C. 2009. Estimation of ecologically significant circulation features of the Columbia River estuary and plume using a reduced-dimension Kalman filter. *Cont Shelf Res*. 29(2):456–466. doi:10.1016/j.csr.2008.11.004.
- Chawla A, Jay DA, Baptista AM, Wilkin M, Seaton C. 2008. Seasonal variability and estuary- shelf interactions in circulation dynamics of a river-dominated estuary. *Estuaries and Coasts*. 31(2):269–288. doi:10.1007/s12237-007-9022-7.
- Baptista AM, Zhang Y, Chawla A, Zulauf M, Seaton C, Myers III EP, Kindle J, Wilkin M, Burla M, Turner PJ. 2005. A cross-scale model for 3D baroclinic circulation in estuary-plume-shelf systems: II. Application to the Columbia River. *Cont Shelf Res*. 25(7-8 SPEC. ISS.):935–972. doi:10.1016/j.csr.2004.12.003.

### **Presentations and conference posters:**

- Risien CM, Newton JA, Tanner T, Kosro PM, Mayorga E, Wold R, Allan JC, Seaton C. 2019. The NANOOS visualization system (NVS): A decade of development and progress addressing stakeholder needs. In: *OCEANS 2019 MTS/IEEE Seattle, OCEANS 2019*.
- Seaton C, Turner P, Baptista AM. 2019. Updates from a humbling benchmark: Modeling highly stratified regimes in the Columbia River estuary. *SCHISM Summit*. April 16, 2019. Sacramento, CA
- Seaton C, Wilkin M, Baptista AM. 2018. Implementation of a Standardized Real-time Data Quality Assurance System for the Columbia River Estuary. *Ocean Sciences Meeting*. February 13, 2018. Portland, OR
- Seaton C, Turner P, Jesus G, Fortunato A, Oliveira A, Baptista AM. 2015. Operational estuarine modeling: lessons learned from selected US and Portuguese estuaries (poster). *CERF 2015*. November 11, 2015. Portland, OR