



# NOAA Columbia River Currents Survey - Update

---

January 11, 2022



# Columbia River Current Survey

---

- **Purpose:** Update the NOAA Tidal Current Tables
  - <https://tidesandcurrents.noaa.gov/noaacurrents/>
- **Station Locations:** 27 stations from Astoria to Portland
- **Timing Update:** Was to have taken place in 2020
  - Delayed because of COVID-19
  - Rescheduled for 2022 - 2023



# Station Map



# Schedule

---

- **2022:** 16 stations deployed from river miles 5 to 70
  - **March 7 - 19**
  - **May 2 - 12**
  - **July 11 - 18**
  - **September 6 - 19**
- **Over winter:** 3 stations continuous measurements
  - **Astoria, Cathlamet, Longview**
- **2023:** Remaining 11 stations deployed
  - **2 Trips, TBD**



# NOAA Current Sensors

---

- **ADCPs (Acoustic Doppler Current Profilers) measure currents**
  - 1 sample every 6 minutes
  - Each sample is a profile - up to 150 meters
- **Orientation: ADCPs can be mounted in 3 ways**
  - Vertical (depth) profile from surface down or from bottom up
  - Horizontal cross section
- **Data Collection:**
  - All systems are self contained and store data internally
  - 2 Stations also transmit diagnostic information via GOES

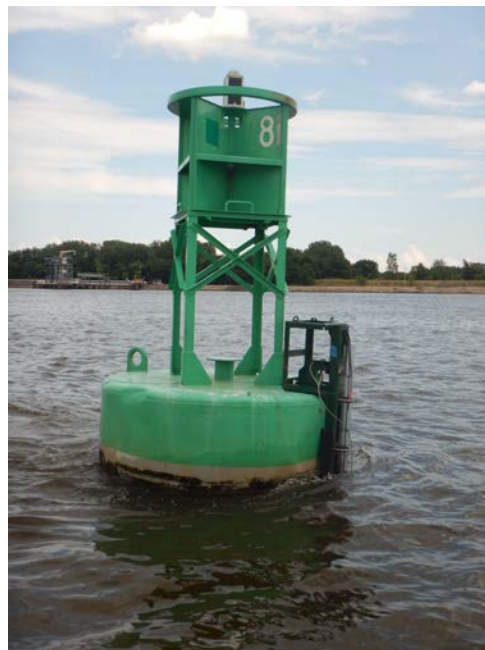


# Example Sensors

---



**NOAA Buoys (4 stations)**



**ADCP on USCG ATONs (8 stations)**



# Example Sensors continued

---



**Close ups of ADCPs mounted on USCG ATONs**

# Example Sensors continued

---



**Horizontal mount ADCP - “Sidelooker” (13 stations)**

# Example Sensors continued

---



**Additional Sidelooker set-up examples**



**Bottom mount (2 stations)**

# Horizontal Mount Locations

---



**Astoria**



**Cathlamet**

# Horizontal Mount Locations

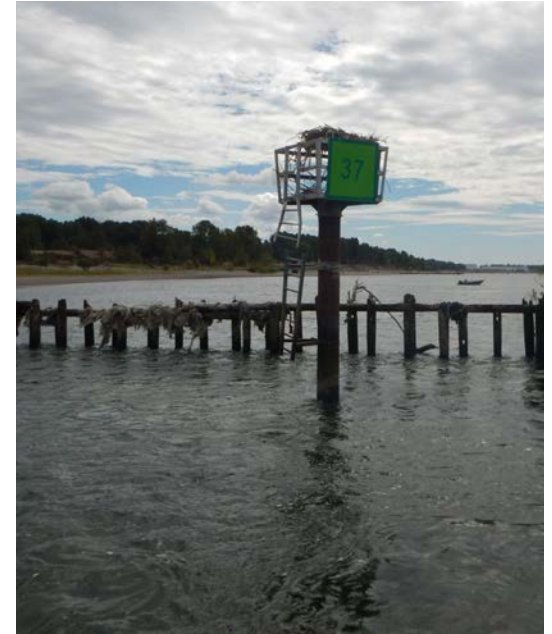
---



**Huntington Island Light**



**Westport Dike Light**



**Cottonwood Island**



# Questions?

---

## Contact information:

**Project Lead:** *Lorraine Heilman*  
[lorraine.heilman@noaa.gov](mailto:lorraine.heilman@noaa.gov)

**Field Lead:** *Drew Maczko*  
[drew.maczko@noaa.gov](mailto:drew.maczko@noaa.gov)

