

The Slope Undercurrent Study October 1977–October 1978

The Slope Undercurrent Study was a Collaborative project between the University of Washington and Oregon State University sponsored by the National Science Foundation under awards OCE 77-08791 to the UW and OCE 77-07932 to OSU. The data provided below was collected under the direction of Dr. Barbara Hickey, PI, at the University of Washington.

As part of this project the University of Washington maintained 2 current meter moorings, Ocelot (OC) and Elephant (EL), from Oct. 1977 through Oct. 1978 across the continental slope at 45-20° N off Cascade Head on the Oregon Coast.

All current meters were Aanderaa instruments. Speed and direction were measured, then resolved into u and v components. Some meters had temperature sensors. Data was sampled in 20 minute intervals, edited for spurious values then filtered with a half power point of about 2.5 hours and interpolated to even hours to produce the hourly data available below. In several cases the speed sensor failed for short periods. These were filled by bridging the gap using spectral characteristics before and after the gap. For longer time periods the speed, u and v series were zero filled. Occasionally the entire speed series was not good. In those cases only the direction is included.

Abbreviations and units are:

Depth, m, meters,

Speed, spd, cm/sec,

Direction, D, degrees, true north,

u component (eastward), u, v component (northward), v, cm/sec, true North,

Temperature, T, °C,

Pressure, P, decibars,

Date and time is listed as GDATE to indicate time in GMT, format mm/dd/yy hh:mm. All times used are GMT.

Data files consist of ASCII tab delimited files, one per meter. Headers indicate the mooring, the deployment, variable, and depth rounded to the nearest meter. For example OC4u88 indicates the data is from the OC mooring, fourth deployment, u component at 88m, EL2T93 indicates the data is from the second EL mooring, temperature data at 93m. The last column, JJ, is zero filled to indicate last data column for that meter.

Mooring: Ocelot I

Position: 45°20.0'N, 124°45.7'W

Bottom depth: 600m

Deployed: 1622 Oct. 7, 1977 by R/V Cayuse

Recovered: 2120 Dec. 8, 1977 by R/V Cayuse

Actual Depth	Variables	Comments
41	D,T	Speeds no good. Direction only.
141	u,v,T	
243	u,v,T	u, v set to zero 0300 Dec. 1, 1977 to end.

Mooring: Ocelot II Position: 45°20.0'N, 124°47.0'W
 Bottom depth: 600m
 Deployed: 1807 Jan. 12, 1978 by R/V Thompson
 Recovered: 0015 May 7, 1978 by R/V Cayuse

Actual Depth	Variables	Comments
50	u,v,T	Gap in data 0000 Feb. 19 to 0100 March 12, 1978, all variables zero filled.
90	D,T	Speed sensor failed. No u,v. Direction and Temperature only.
150	u,v,T	No speed data last ~10 days; u,v, zero filled beginning 0600 April 26, 1978 to end.
250	u,v,T	
375	u,v,T	Speed series problematic. Many 0 speeds; u,v zero filled when bad speeds detected.
500	u,v,T	

Mooring: Ocelot III Position: 45°19.8'N, 124°47.4'W
 Bottom depth: 607m
 Deployed: 1319 May 7, 1978 by R/V Cayuse
 Recovered: 2307 Aug. 11, 1978 by R/V T. G. Thompson

Actual Depth	Variables	Comments
58	u,v,T	Speed set to 15cm/sec (an average) 2322 June 25 through 0507 June 26 before further processing.
98	u,v,T	
158	u,v,T	Small speed gaps bridged May 16,26,31 and June 8,9; complete failure after 1600, June 26; u,v set to zero for the remainder of the record.
258	u,v,T	Small gap in speed 25 May, bridged. Also, u, v set to zero 0000 July 28 to 1000 Aug. 05.
383	u,v,T	

Mooring: Ocelot IV Position: 45°20.0'N, 124°47.5'W
 Bottom depth: 650m
 Deployed: 0110 Aug. 29, 1978 by R/V Cayuse
 Recovered: 1804 Oct. 29, 1978 by R/V T.G. Thompson

Actual Depth	Variables	Comments
88	u,v,T	
128	u,v,T	
188	u,v,T	Data doesn't begin until 2300 Sept. 5, 1978.
288	u,v,T	
413	u,v,T	

538	u,v,T
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Mooring: Elephant I Position: 45°20.0'N, 124°08.3'W
 Bottom depth: 110m
 Deployed: 2240 Oct. 6, 1977 by R/V Cayuse
 Recovered: 2130 Jan. 12, 1978 by R/V T.G. Thompson

Actual Depth	Variables	Comments
23	u,v,T	
49	u,v,T	
89	u,v,T	

Mooring: Elephant II Position: 45°20.0'N, 124°09.8'W
 Bottom depth: 110m
 Deployed: 1639 Jan. 14, 1978 by R/V T.G. Thompson
 Recovered: Morning of March 2, 1978 by fisherman

Actual Depth	Variables	Comments
93	u,v,T	

Mooring: Elephant III Position: 45°19.6'N, 124°08.4'W
 Bottom depth: 110m
 Deployed: 2226 March 30, 1978 by R/V Cayuse
 Recovered: 2050 Aug. 12, 1978 by R/V T.G. Thompson

Actual Depth	Variables	Comments
52	u,v,T	
92	Spd,T	T did not record until 0200 May 6, 1978. The compass malfunctioned. Speed only.

Mooring: Elephant IV Position: 45°20.1'N, 124°08.8'W
 Bottom depth: 110m
 Deployed: 2213 Aug. 12, 1978 by R/V Wecoma
 Recovered: 2332 Oct. 29, 1978 by R/V T.G. Thompson

Actual Depth	Variables	Comments
92	u,v,T	2 small gaps in speed Sept. 19,24; bridged.

Last updated Sept. 17, 2013.

