Table S6. Compilation of uplift or incision rates from Cascadia coastal deformation studies.

Source	**Location**	**Latitude**	**Longitude**	**Deformation type**	**How deformation determined**	**Max long-term uplift or incision (mm/yr)**	**Holocene or geodetic uplift (mm/yr)**
Kelsey, 1990; Muhs et al., 1990,1992; Kelsey et al., 1994	Cape Blanco, OR	42.84220000	-124.54838000	uplift along fold axis	marine terraces	0.5-1.4	6.0-10.0
McInelly and Kelsey, 1990; Muhs et al., 1990, 1992; Kelsey et al., 1994	Cape Arago, OR	43.30847000	-124.39416000	uplift and folding	marine terraces	0.5-0.8	n/a
Kelsey and Bockheim, 1994	Harbor Bench, OR	42.04285000	-124.25645000	uplift	marine terraces	0.05-0.2	n/a
Kelsey and Bockheim, 1994; Kelsey et al., 1994	Cape Ferrelo, OR	42.10351000	-124.35116000	uplift	marine terraces	0.7-0.9	n/a

Table S6. Compilation of u

Source	**Surface expression of crustal fault**	**Evidence of folding**	**Notes**	**Sea level used (m relative to modern)**	**MIS**
Kelsey, 1990; Muhs et al., 1990,1992; Kelsey et al., 1994	Y	Y	Uplift along E-W trending anticlinal axis, uplift req. due to reoccupation of terraces, Holocene rate based on storm berm. Fold possibly onshore extension of mapped offshore fold belt. Used two sea-level models for uplift; New Guinea model from Chappel and Shackleton, 1986 and C-J model from Machida, 1975 and Muhs et al., 1988. Imroves on ages from previous studies of same terraces, such as West and McCrumb, 1988.	80k:-19±5 and -5±2; 105k:-9±3 and -2; 125k:+6	5a, 5c, 5e; probable 7; highest terrace possibly early Pleistocene based on fossils, soil development, dissection.
McInelly and Kelsey, 1990; Muhs et al., 1990, 1992; Kelsey et al., 1994	Y	Y	Holocene deformation identified by folding and faulting of lowest terrace with drowned Sitka spruce age control; other terraces warped in broad, N-S trending fold; Used two sea-level models for uplift; New Guinea model from Chappel and Shackleton, 1986 and C-J model from Machida, 1975 and Muhs et al., 1988. Also considered tilt and strain rates, not reported in this table.	80k:-19±5 and -5±2; 105k:-9±3 and -2; 125k:+6; 200k: +2	5a,5c,5e; probable 7; highest terrace age not discussed
Kelsey and Bockheim, 1994	Y	N	Soil chronosequence to match terraces in the region, then correlated to terraces near Capes Blanco, Arago for ages. Used Muhs et al 1992 CA sea level model. Location of terraces indicate Whaleshead fault zone active in Quaternary with vertical uplift rate of about 0.5 m/ky, and sinistral slip since 200ka of about 2.5 m/ky.	80k: -5±2; 105k: -2	5e
Kelsey and Bockheim, 1994; Kelsey et al., 1994	Y	N	Soil chronosequence to match terraces in the region, then correlated to terraces near Capes Blanco, Arago for ages. Used Muhs et al 1992 CA sea level model. Location of terraces indicate Whaleshead fault zone active in Quaternary with vertical uplift rate of about 0.5 m/ky, and sinistral slip since 200ka of about 2.5 m/ky.	80k: -5±2; 105k: -3	5a, 5c, 5e, 7; three additional terraces older than 7.

Source	**Location**	**Latitude**	**Longitude**	**Deformation type**	**How deformation determined**	**Max long-term uplift or incision (mm/yr)**	**Holocene or geodetic uplift (mm/yr)**
Kelsey et al., 1996; Ticknor, 1993	north of Cape Foulweather, OR	44.77712600	-124.07340200	uplift	marine terraces	0.07-0.27	n/a
	Yaquina Head, OR	44.67727500	-124.07863400	uplift	marine terraces	0.48-0.82	N/a
	Yachats, OR	44.31617700	-124.10749600	uplift	marine terraces	0-0.35	n/a
Personius, 1995	Henderer Rd, Umpqua River	43 38.39	-12336.30000000	incision	stream terraces	0.3 ± 0.2	n/a
	Crestview, Umpqua River	43.68333300	-124.09683300	incision	stream terraces	<0.4±0.3	n/a
	Bear Creek, Smith River	43.80233300	-123.80733300	incision	stream terraces	<0.3±0.3	n/a
	Hudson Slough, Smith River	43.75966700	-123.50666700	incision	stream terraces	<0.2±0.2	n/a
	Sweet Creek, Siuslaw River	43.94083300	-123.89783300	incision	stream terraces	<0.1±0.2	n/a
	Drift Creek Meadows	44.51100000	-123.83316700	incision	stream terraces	0.1±0.3	n/a
	Camp Twelve, Siletz River	44.71483300	-123.93200000	incision	stream terraces	<1.3±0.3	n/a
	Lower Gorge, Siletz River	44.78616700	-123.79583300	incision	stream terraces	0.7±0.2	n/a

Source	Surface expression of crustal fault	Evidence of folding	Notes	Sea level used (m relative to modern)	MIS
Kelsey et al., 1996; Ticknor, 1993	Y	N	North of the Cape Foulweather fault. Soil chronosequence to match terraces with ages correlated from Kennedy, 1978 and Kennedy et al., 1982.	80k:-3, -7; 125k:6	5a, 5e
	Y	N	between Cape Foulweather fault and Yaquina Bay fault. Soil chronosequence to match terraces with ages correlated from Kennedy, 1978 and Kennedy et al., 1982.	80k: -3, -7; 105k:-2; 125k: 6	5a, 5c, 5e
	Y	N	South of Yaquina Bay fault. Soil chronosequence to match terraces with ages correlated from Kennedy, 1978 and Kennedy et al., 1982.	105k: -2; 125k: 6	5c, 5e
Personius, 1995	N	N	bedrock sandstone and siltsone with rock strength rating of 66; TL age 125,000 ±20,000	n/a	5e possibly
	N	N	bedrock sandstone with rock strength rating of 77; TL age of greater than 200,000 ±50,000	n/a	could be 5e or 6
	N	N	bedrock sandstone and siltstone with rock strength rating of 68; radiocarbon age of >43,600 ±5,000 B.P	n/a	MIS 3
	N	N	bedrock sandstone and siltstone with rock strength rating of 68; radiocarbon age of >39,600 ±5,000 B.P	n/a	MIS 3
	N	N	bedrock sandstone with rock strength rating of 72; radiocarbon age of >42,000 ±5,000 B.P.	n/a	MIS 3
	N	N	bedrock sandstone with rock strength rating of 65; calibrated radiocarbon age 12,010 ±1500	n/a	MIS1
	N	N	bedrock sandstone and shale with rock strength rating of 58; noted that prob min age and max incision rate; calibrated radiocarbon age of 14,300 ±1,000	n/a	MIS 1
	N	N	bedrock basalt with rock strength rating 77; radiocarbon age of 41,600 ±5,000 B.P.; noted additiona age of >36,000 B.P. may indicate max incision rate	n/a	MIS3

Source	**Location**	**Latitude**	**Longitude**	**Deformation type**	**How deformation determined**	**Max long-term uplift or incision (mm/yr)**	**Holocene or geodetic uplift (mm/yr)**
	Tony Creek, Nestucca River	45.27850000	-123.77883300	incision	stream terraces	0.5±0.1	n/a
	Cougar Creek, NF Nehalem River	45.80466700	-123.81483300	incision	stream terraces	0.9±0.1	n/a
Thackray, 1996, 1998	Kalaloch	47.60837200	-124.37574000	uplift, folding	wave-cut surface and outwash sediments	0.1-0.5 if 5c; -0.03-0.35 if 5e	0.08-3.2
Pazzaglia and Brandon, 2001; Pazzaglia et al., 2003	Clearwater	47.54258800	-124.34971600	incision	incision of streams	<0.1-0.9	n/a
Delano et al 2017	Wynoochee	46.98736000	-123.65042300	incision	incision of streams	0.4±0.3-1.8±0.3	n/a
Padget et al 2019	Trinidad, CA	41.00510900	-124.15114600	uplift	marine terraces	0.61-1.05	n/a
Polenz and Kelsey, 1999	Crescent City, CA	41.76176900	-124.22433900	uplift and folding	marine terraces	0-0.3	n/a

Source	Surface expression of crustal fault	Evidence of folding	Notes	Sea level used (m relative to modern)	MIS
	N	N	bedrock slate and shale with rock strength rating of 60; calibrated radiocarbon age 15,400 ±1,000	n/a	MIS 1
	N	N	bedrock slate and shale with rock strength rating of 60; calibrated radiocarbon age 12,030 ±1,000	n/a	MIS 1
Thackray, 1996, 1998	N	Y	uplift rates based on best estimate for age of platform (MIS5e or 5c), if older (MIS7), could represent up to 0.7 mm/yr uplift; refers to these as geologic uplift rate as different from geodetic; notes interseismic strain rate less here than on OR coast, and less on Olympic coast than inland	5a: -5; 5c: -2; 5e: +6; 7:-7	5c or 5e; possibly 5a or 7 but unlikely
Pazzaglia and Brandon, 2001; Pazzaglia et al., 2003	N	N	incision on Clearwater River with increased incision toward head; suggest uplift due to frontal accretion based on hortizontal movement of a sea-cliff . Oldest terraces ~140k	n/a	MIS7 oldest
Delano et al 2017	Y	N	Since ~14k, also influenced by Canyon River fault	n/a	MIS 1
Padget et al 2019	Y	Y	accomodated by Trinidad fault and anticline so an acutal mechanism for uplift instead of accumulated uplift by unknown processes as in most cases	5a:-8 to -14; 5c:-2 to -7;(Creveling et al 2017); 5e: 10.91 to 13.01 (Creveling et al 2015)	5a, 5c, 5e, 7
Polenz and Kelsey, 1999	N	Y	accomodated by folding on Lake Earl syncline and St. George fault.	5a: -4; 5c: -1; 5e: +6	5a, 5c, 5e