SMB (Sverdrup-Munk-Bretschneider) Wave Prediction Model

This table presents significant wave height (Hs), significant wave period (Ts), and minimum storm duration for various combinations of wind speed, fetch, and water depth, calculated using the SMB model.

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
10.0	5	1000	0.43	2.39	0.82
10.0	5	50	0.43	2.37	0.82
10.0	5	25	0.43	2.35	0.82
10.0	5	10	0.42	2.30	0.82
10.0	5	5	0.41	2.24	0.82
10.0	10	1000	0.61	2.97	1.39
10.0	10	50	0.61	2.93	1.39
10.0	10	25	0.61	2.90	1.39
10.0	10	10	0.59	2.81	1.39
10.0	10	5	0.54	2.70	1.39
10.0	15	1000	0.75	3.36	1.89
10.0	15	50	0.74	3.31	1.89
10.0	15	25	0.74	3.26	1.89
10.0	15	10	0.70	3.13	1.89
10.0	15	5	0.63	2.98	1.89
10.0	20	1000	0.86	3.66	2.36
10.0	20	50	0.85	3.60	2.36
10.0	20	25	0.84	3.53	2.36
10.0	20	10	0.79	3.37	2.36

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
10.0	20	5	0.69	3.18	2.36
10.0	25	1000	0.96	3.91	2.80
10.0	25	50	0.95	3.83	2.80
10.0	25	25	0.93	3.75	2.80
10.0	25	10	0.87	3.56	2.80
10.0	25	5	0.74	3.33	2.80
10.0	30	1000	1.04	4.12	3.22
10.0	30	50	1.04	4.03	3.22
10.0	30	25	1.02	3.93	3.22
10.0	30	10	0.93	3.71	3.22
10.0	30	5	0.77	3.45	3.22
10.0	35	1000	1.12	4.31	3.63
10.0	35	50	1.11	4.20	3.63
10.0	35	25	1.09	4.09	3.63
10.0	35	10	0.98	3.85	3.63
10.0	35	5	0.80	3.55	3.63
10.0	40	1000	1.20	4.47	4.03
10.0	40	50	1.19	4.35	4.03
10.0	40	25	1.15	4.23	4.03
10.0	40	10	1.03	3.96	4.03
10.0	40	5	0.83	3.64	4.03
10.0	45	1000	1.27	4.62	4.41
10.0	45	50	1.25	4.49	4.41

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
10.0	45	25	1.22	4.36	4.41
10.0	45	10	1.07	4.06	4.41
10.0	45	5	0.84	3.71	4.41
10.0	50	1000	1.33	4.75	4.79
10.0	50	50	1.31	4.61	4.79
10.0	50	25	1.27	4.47	4.79
10.0	50	10	1.11	4.15	4.79
10.0	50	5	0.86	3.78	4.79
15.0	5	1000	0.72	2.85	0.63
15.0	5	50	0.71	2.82	0.63
15.0	5	25	0.71	2.79	0.63
15.0	5	10	0.69	2.73	0.63
15.0	5	5	0.65	2.65	0.63
15.0	10	1000	1.01	3.56	1.07
15.0	10	50	1.00	3.50	1.07
15.0	10	25	0.99	3.45	1.07
15.0	10	10	0.94	3.34	1.07
15.0	10	5	0.84	3.19	1.07
15.0	15	1000	1.24	4.05	1.45
15.0	15	50	1.23	3.97	1.45
15.0	15	25	1.20	3.89	1.45
15.0	15	10	1.11	3.73	1.45
15.0	15	5	0.95	3.52	1.45

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
15.0	20	1000	1.43	4.44	1.81
15.0	20	50	1.41	4.33	1.81
15.0	20	25	1.38	4.23	1.81
15.0	20	10	1.25	4.02	1.81
15.0	20	5	1.02	3.76	1.81
15.0	25	1000	1.59	4.76	2.15
15.0	25	50	1.57	4.62	2.15
15.0	25	25	1.52	4.50	2.15
15.0	25	10	1.35	4.25	2.15
15.0	25	5	1.08	3.94	2.15
15.0	30	1000	1.74	5.04	2.47
15.0	30	50	1.71	4.87	2.47
15.0	30	25	1.65	4.73	2.47
15.0	30	10	1.44	4.43	2.47
15.0	30	5	1.11	4.09	2.47
15.0	35	1000	1.88	5.28	2.78
15.0	35	50	1.84	5.09	2.78
15.0	35	25	1.77	4.93	2.78
15.0	35	10	1.51	4.59	2.78
15.0	35	5	1.14	4.21	2.78
15.0	40	1000	2.01	5.50	3.08
15.0	40	50	1.96	5.28	3.08
15.0	40	25	1.87	5.11	3.08

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
15.0	40	10	1.57	4.73	3.08
15.0	40	5	1.16	4.31	3.08
15.0	45	1000	2.12	5.70	3.37
15.0	45	50	2.07	5.46	3.37
15.0	45	25	1.97	5.27	3.37
15.0	45	10	1.62	4.86	3.37
15.0	45	5	1.18	4.40	3.37
15.0	50	1000	2.24	5.88	3.65
15.0	50	50	2.17	5.62	3.65
15.0	50	25	2.06	5.41	3.65
15.0	50	10	1.66	4.96	3.65
15.0	50	5	1.19	4.48	3.65
20.0	5	1000	1.02	3.22	0.52
20.0	5	50	1.02	3.18	0.52
20.0	5	25	1.01	3.15	0.52
20.0	5	10	0.97	3.07	0.52
20.0	5	5	0.89	2.98	0.52
20.0	10	1000	1.44	4.04	0.89
20.0	10	50	1.43	3.96	0.89
20.0	10	25	1.40	3.90	0.89
20.0	10	10	1.30	3.76	0.89
20.0	10	5	1.12	3.58	0.89
20.0	15	1000	1.76	4.60	1.21

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
20.0	15	50	1.74	4.49	1.21
20.0	15	25	1.70	4.40	1.21
20.0	15	10	1.53	4.19	1.21
20.0	15	5	1.24	3.95	1.21
20.0	20	1000	2.04	5.05	1.50
20.0	20	50	2.00	4.90	1.50
20.0	20	25	1.93	4.78	1.50
20.0	20	10	1.69	4.52	1.50
20.0	20	5	1.32	4.22	1.50
20.0	25	1000	2.28	5.42	1.78
20.0	25	50	2.22	5.23	1.78
20.0	25	25	2.13	5.09	1.78
20.0	25	10	1.81	4.78	1.78
20.0	25	5	1.37	4.42	1.78
20.0	30	1000	2.49	5.74	2.05
20.0	30	50	2.42	5.52	2.05
20.0	30	25	2.31	5.35	2.05
20.0	30	10	1.91	4.99	2.05
20.0	30	5	1.40	4.58	2.05
20.0	35	1000	2.69	6.03	2.30
20.0	35	50	2.61	5.77	2.30
20.0	35	25	2.46	5.58	2.30
20.0	35	10	1.99	5.17	2.30

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
20.0	35	5	1.42	4.72	2.30
20.0	40	1000	2.87	6.29	2.55
20.0	40	50	2.77	6.00	2.55
20.0	40	25	2.60	5.78	2.55
20.0	40	10	2.06	5.33	2.55
20.0	40	5	1.44	4.83	2.55
20.0	45	1000	3.04	6.52	2.79
20.0	45	50	2.93	6.20	2.79
20.0	45	25	2.73	5.96	2.79
20.0	45	10	2.11	5.47	2.79
20.0	45	5	1.45	4.93	2.79
20.0	50	1000	3.21	6.74	3.02
20.0	50	50	3.07	6.39	3.02
20.0	50	25	2.84	6.13	3.02
20.0	50	10	2.16	5.59	3.02
20.0	50	5	1.46	5.01	3.02
25.0	5	1000	1.34	3.54	0.45
25.0	5	50	1.33	3.49	0.45
25.0	5	25	1.32	3.45	0.45
25.0	5	10	1.26	3.36	0.45
25.0	5	5	1.13	3.25	0.45
25.0	10	1000	1.90	4.44	0.77
25.0	10	50	1.88	4.34	0.77

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
25.0	10	25	1.83	4.27	0.77
25.0	10	10	1.67	4.11	0.77
25.0	10	5	1.38	3.91	0.77
25.0	15	1000	2.32	5.07	1.05
25.0	15	50	2.28	4.93	1.05
25.0	15	25	2.21	4.82	1.05
25.0	15	10	1.93	4.59	1.05
25.0	15	5	1.51	4.31	1.05
25.0	20	1000	2.68	5.56	1.30
25.0	20	50	2.62	5.38	1.30
25.0	20	25	2.51	5.24	1.30
25.0	20	10	2.11	4.95	1.30
25.0	20	5	1.58	4.60	1.30
25.0	25	1000	3.00	5.98	1.54
25.0	25	50	2.91	5.75	1.54
25.0	25	25	2.76	5.59	1.54
25.0	25	10	2.25	5.23	1.54
25.0	25	5	1.62	4.82	1.54
25.0	30	1000	3.28	6.34	1.77
25.0	30	50	3.17	6.07	1.77
25.0	30	25	2.97	5.87	1.77
25.0	30	10	2.36	5.46	1.77
25.0	30	5	1.65	4.99	1.77

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
25.0	35	1000	3.54	6.66	1.99
25.0	35	50	3.40	6.35	1.99
25.0	35	25	3.16	6.13	1.99
25.0	35	10	2.44	5.66	1.99
25.0	35	5	1.67	5.14	1.99
25.0	40	1000	3.79	6.95	2.21
25.0	40	50	3.61	6.60	2.21
25.0	40	25	3.33	6.35	2.21
25.0	40	10	2.51	5.83	2.21
25.0	40	5	1.69	5.26	2.21
25.0	45	1000	4.02	7.21	2.42
25.0	45	50	3.81	6.82	2.42
25.0	45	25	3.48	6.55	2.42
25.0	45	10	2.56	5.97	2.42
25.0	45	5	1.70	5.36	2.42
25.0	50	1000	4.23	7.45	2.62
25.0	50	50	3.99	7.02	2.62
25.0	50	25	3.61	6.72	2.62
25.0	50	10	2.61	6.11	2.62
25.0	50	5	1.70	5.45	2.62
30.0	5	1000	1.68	3.81	0.41
30.0	5	50	1.67	3.76	0.41
30.0	5	25	1.64	3.72	0.41

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
30.0	5	10	1.55	3.62	0.41
30.0	5	5	1.36	3.50	0.41
30.0	10	1000	2.38	4.79	0.69
30.0	10	50	2.34	4.68	0.69
30.0	10	25	2.28	4.60	0.69
30.0	10	10	2.03	4.42	0.69
30.0	10	5	1.63	4.20	0.69
30.0	15	1000	2.91	5.47	0.93
30.0	15	50	2.84	5.31	0.93
30.0	15	25	2.73	5.20	0.93
30.0	15	10	2.32	4.94	0.93
30.0	15	5	1.75	4.63	0.93
30.0	20	1000	3.36	6.01	1.16
30.0	20	50	3.26	5.80	1.16
30.0	20	25	3.09	5.65	1.16
30.0	20	10	2.52	5.32	1.16
30.0	20	5	1.82	4.93	1.16
30.0	25	1000	3.75	6.46	1.37
30.0	25	50	3.61	6.20	1.37
30.0	25	25	3.38	6.02	1.37
30.0	25	10	2.66	5.62	1.37
30.0	25	5	1.86	5.16	1.37
30.0	30	1000	4.11	6.85	1.58

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
30.0	30	50	3.93	6.55	1.58
30.0	30	25	3.64	6.33	1.58
30.0	30	10	2.77	5.87	1.58
30.0	30	5	1.88	5.35	1.58
30.0	35	1000	4.44	7.20	1.77
30.0	35	50	4.21	6.85	1.77
30.0	35	25	3.85	6.60	1.77
30.0	35	10	2.85	6.08	1.77
30.0	35	5	1.89	5.50	1.77
30.0	40	1000	4.74	7.52	1.96
30.0	40	50	4.47	7.12	1.96
30.0	40	25	4.05	6.84	1.96
30.0	40	10	2.92	6.26	1.96
30.0	40	5	1.91	5.63	1.96
30.0	45	1000	5.03	7.81	2.15
30.0	45	50	4.70	7.36	2.15
30.0	45	25	4.22	7.05	2.15
30.0	45	10	2.97	6.42	2.15
30.0	45	5	1.91	5.74	2.15
30.0	50	1000	5.30	8.07	2.33
30.0	50	50	4.92	7.58	2.33
30.0	50	25	4.37	7.24	2.33
30.0	50	10	3.01	6.56	2.33

U10 (m/s)	Fetch (km)	Depth (m)	Hs (m)	Ts (s)	Dur (h)
30.0	50	5	1.92	5.84	2.33