

Projected wave climate of Bass Strait and south-east Australia by the end of the twenty-first century

Jin Liu, Alberto Meucci and Ian R. Young*

Department of Infrastructure Engineering, University of
Melbourne, Melbourne, Victoria, Australia.

*Correspondence: ian.young@unimelb.edu.au;

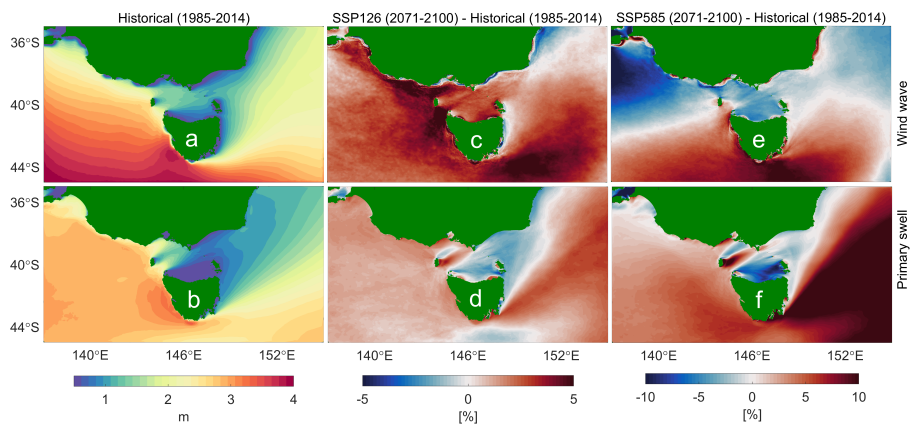


Fig.S1 Mean values of partitioned wind wave and partitioned primary swell over the historical period 1985-2014 (a, b) and projected changes (future - historical, normalized by a and b, respectively) by the end of the twenty-first century 2071-2100 for (c, d) SSP126 and (e, f) SSP585

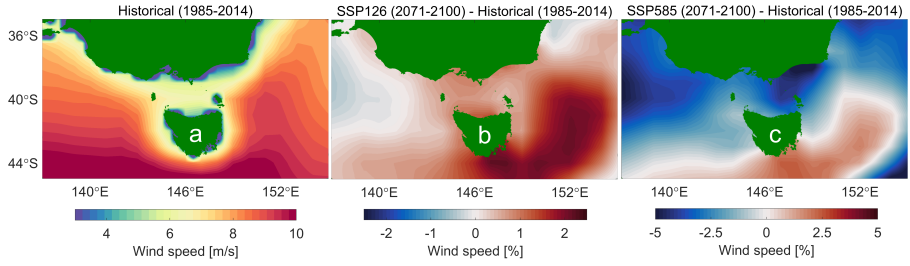


Fig.S2 Mean values of wind speed over the historical period 1985-2014 (a) and projected changes (future - historical, normalized by a) by the end of the twenty-first century 2071-2100 for (b) SSP126 and (c) SSP585

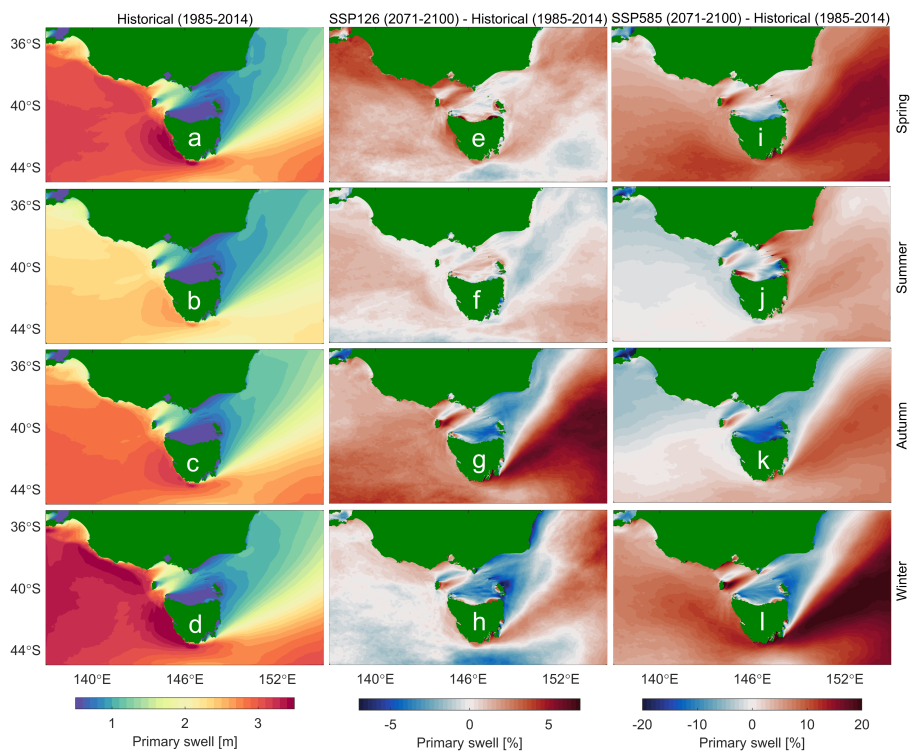


Fig.S3 Seasonality of partitioned primary swell over the historical period 1985-2014 (a-d) and projected changes (future - historical, normalized by a-d, respectively) by the end of the twenty-first century 2071-2100 for (e-h) SSP126 and (i-l) SSP585

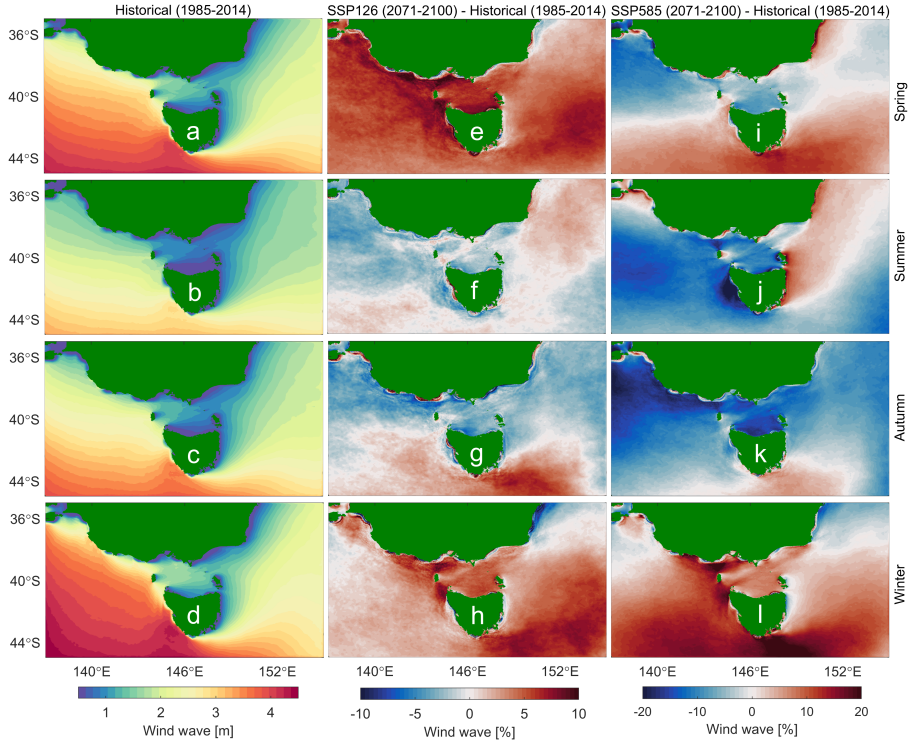


Fig.S4 Seasonality of partitioned wind waves over the historical period 1985-2014 (a-d) and projected changes (future - historical, normalized by a-d, respectively) by the end of the twenty-first century 2071-2100 for (e-h) SSP126 and (i-l) SSP585

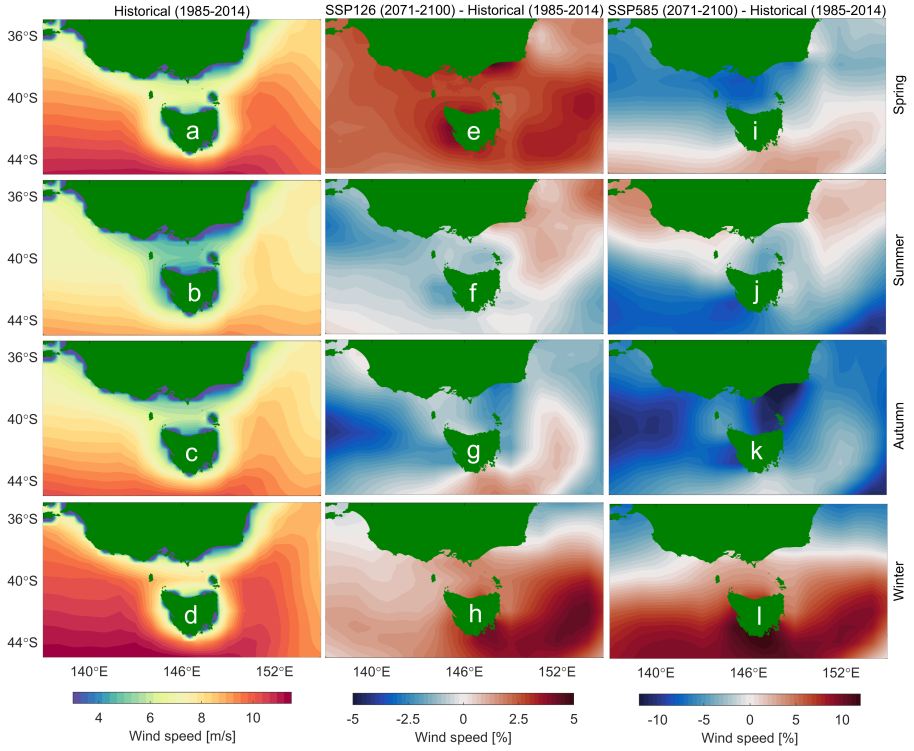


Fig.S5 Seasonality of wind speed over the historical period 1985-2014 (a-d) and projected changes (future - historical, normalized by a-d, respectively) by the end of the twenty-first century 2071-2100 for (e-h) SSP126 and (i-l) SSP585

Table S1 Historical wave climate and projected future changes derived from ACCESS-CM2 at buoy locations. BB=Batemans Bay, ED=Eden, LE=Lakes Entrance, PPH=Port Phillip Heads, CS=Cape Sorell. Units of historical values and projected future changes are shown in the first column. Projected future changes in H_s and T_p are normalized by their historical values. D_p convention is “coming from” and measured clockwise from north. Projected positive D_p changes correspond to clockwise rotation

	Annual mean												Spring				Summer				Autumn				Winter																																																		
	Historical		SSP126	SSP585	Historical	SSP126	SSP585	Historical	SSP126	SSP585	Historical	SSP126	SSP585	Historical	SSP126	SSP585	Historical	SSP126	SSP585	Historical	SSP126	SSP585																																																					
	BB	ED	LE	PPB	CS	BB	ED	LE	PPB	CS	BB	ED	LE	PPB	CS	BB	ED	LE	PPB	CS	BB	ED																																																					
H_s [m, %, %]	1.17	-1.76	-0.95	1.08	1.22	6.61	-0.07	0.09	5.81	1.27	-2.13	-5.80	1.11	-4.83	-9.89	1.28	-1.07	-0.30	1.22	1.30	5.50	0.58	0.44	5.97	1.34	-1.88	-5.30	1.25	-3.22	-6.86	0.65	-1.75	-2.53	0.63	0.73	-0.76	0.61	-0.40	5.65	0.66	-3.68	-6.03	0.70	-3.38	-7.72	1.60	2.24	5.48	1.69	3.60	6.57	1.38	0.16	0.63	1.60	2.58	0.78	1.71	2.25	12.60	3.28	1.73	2.57	3.52	3.47	4.50	-2.63	-0.10	-4.60	3.18	1.30	-2.17	3.80	1.69	9.56
	9.35	-0.42	-1.58	9.02	8.81	-0.29	-0.28	-1.14	-1.36	9.73	-0.62	-3.00	9.84	0.31	-1.54	9.35	9.32	-0.59	-1.16	9.00	8.83	-0.02	-0.47	-1.95	-0.08	-1.03	9.69	-0.08	-1.34	10.67	-0.49	-1.34	13.84	0.34	-0.79	13.96	0.14	-4.28	9.76	0.16	-3.24	10.67	-0.49	-1.34	13.89	0.56	0.28	14.53	0.17	0.81																									
	13.44	0.42	1.43	13.58	12.77	2.61	0.44	-0.09	0.27	13.54	0.95	1.02	13.87	0.34	1.71	13.44	13.44	0.42	1.43	13.58	12.77	2.61	0.44	-0.09	0.27	13.54	0.95	1.02	13.87	0.34	1.71	13.44	13.44	0.42	1.43	13.58	12.77	2.61	0.44	-0.09	0.27	13.54	0.95	1.02	13.87	0.34	1.71																												
	115.60	-1.98	-4.36	119.07	-3.39	-8.06	-0.06	106.98	-2.68	-6.74	112.65	-1.06	0.77	124.29	-0.83	-2.83	115.60	115.60	-1.98	-4.36	119.07	-3.39	-8.06	-0.06	106.98	-2.68	-6.74	112.65	-1.06	0.77	124.29	-0.83	-2.83	115.60	115.60	-1.98	-4.36	119.07	-3.39	-8.06	-0.06	106.98	-2.68	-6.74	112.65	-1.06	0.77	124.29	-0.83	-2.83																									
	117.05	-2.04	-3.26	119.48	-2.87	-6.23	-0.06	105.86	-4.54	-7.86	116.73	-0.85	2.07	126.99	0.23	0.32	117.05	117.05	-2.04	-3.26	119.48	-2.87	-6.23	-0.06	105.86	-4.54	-7.86	116.73	-0.85	2.07	126.99	0.23	0.32	117.05	117.05	-2.04	-3.26	119.48	-2.87	-6.23	-0.06	105.86	-4.54	-7.86	116.73	-0.85	2.07	126.99	0.23	0.32																									
D_p [°, °]	159.67	0.85	-1.59	167.98	1.30	-2.00	151.95	-0.45	-8.98	154.48	0.35	-2.09	164.12	2.04	6.67	159.67	159.67	0.85	-1.59	167.98	1.30	-2.00	151.95	-0.45	-8.98	154.48	0.35	-2.09	164.12	2.04	6.67	159.67	159.67	0.85	-1.59	167.98	1.30	-2.00	151.95	-0.45	-8.98	154.48	0.35	-2.09	164.12	2.04	6.67																												
	214.74	-0.31	-1.33	215.24	-0.19	-1.14	214.58	-0.15	-1.31	213.39	-0.52	-1.30	215.73	-0.38	-1.55	214.74	214.74	-0.31	-1.33	215.24	-0.19	-1.14	214.58	-0.15	-1.31	213.39	-0.52	-1.30	215.73	-0.38	-1.55	214.74	214.74	-0.31	-1.33	215.24	-0.19	-1.14	214.58	-0.15	-1.31	213.39	-0.52	-1.30	215.73	-0.38	-1.55																												
	238.81	-0.70	-3.93	238.81	0.04	-3.05	235.41	-0.19	-3.85	234.98	-1.64	-4.26	244.66	-1.03	-4.56	238.81	238.81	-0.70	-3.93	238.81	0.04	-3.05	235.41	-0.19	-3.85	234.98	-1.64	-4.26	244.66	-1.03	-4.56	238.81	238.81	-0.70	-3.93	238.81	0.04	-3.05	235.41	-0.19	-3.85	234.98	-1.64	-4.26	244.66	-1.03	-4.56																												