

Ocean wave modelling of south-east Australia

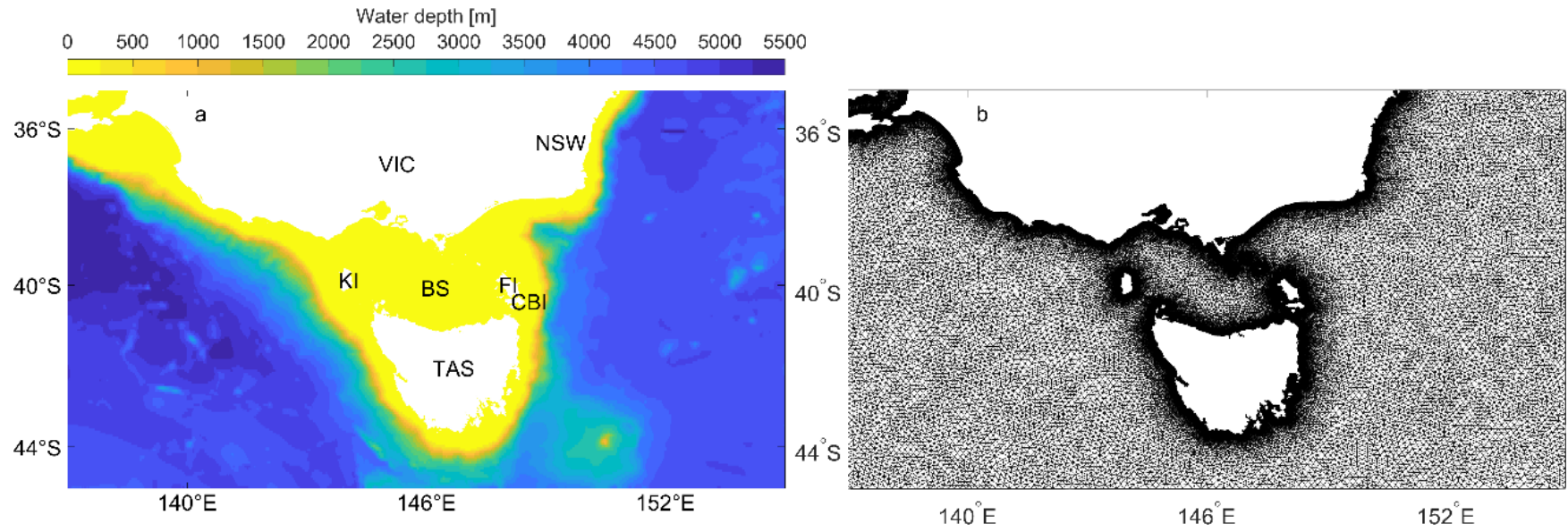


Figure 1. (a) Model domain and (b) unstructured grid (Liu et al., 2022a; Liu et al., 2023a).

Table 1. Information on the three model simulations. RWCM=regional wave climate model, GCM=Global climate model.

Model	Time slice	Wind forcing	Open boundary condition
Hindcast wave model (Liu et al., 2022a; Liu et al., 2023a)	1981-2020*	0.25°, 1 hour, ERA5 (Hersbach et al., 2020)	0.25°, 1 hour, global wave hindcast model (Liu et al., 2021)
ACCESS-CM2 RWCM (Liu et al., 2022b)	Historical: 1985-2014 SSP1-2.6: 2071-2100 SSP5-8.5: 2071-2100	1.875°lon × 1.25°lat , 3 hours, ACCESS-CM2 GCM (Meucci et al., 2023)	Interpolated at 0.5°regular grid, 3 hours, ACCESS-CM2 GCM (Meucci et al., 2023)
EC-Earth3 RWCM (Liu et al., 2023b)	Historical: 1985-2014 SSP1-2.6: 2071-2100 SSP5-8.5: 2071-2100	~80 km (512×256), 3 hours, EC-Earth3 GCM (Meucci et al., 2023)	Interpolated at 0.5°regular grid, 3 hours, EC-Earth3 GCM (Meucci et al., 2023)

* The wave hindcast model was extended recently to cover the period 1981-2022.

Table 2. Hourly model output.

Symbol	Wave parameter	Unit	Note	Hindcast wave model	ACCESS-CM2 RWCM	EC-Earth3 RWCM
cge	wave energy flux	kW/m		https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrffy11sqqzw5lwk5yd28le1e226kb523kvq4cxrv6eyd3yfeskoba9zxxb1adkoo8qwn9ow367vms7tcl1dvydaceis8oc842k3hvf18a62gi88p4pknqcjaovi57sbgicd8wlikgfar95nwu6iob18psjem4i0m	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcxqq76v15kvwwsfj2iqkvimijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypdejngi4ncwdfkptzx4cwen3c1finptyidogxqgrdzwv6a1zy5m89z6h9plzllbwmqykbn2pjo8dguzn7pdm2lgs2crk5v0213yrl3dmmitqrh37uk2d75mvzsg8u296mkcmn5hdj	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrffy11sqqzw5lwk5yd28le1e22g0pynykwnu1q730w0g2dikbksnwwmfe894byki811r4eaju48x2h6m72nb1qexh8o5fe0jvs0b5ggygtul2b9rk87lssg1h2acrhhheqj1f6s24c6nl6haq96ngcipmw6o3ys15
dir	mean wave direction	°	nautical	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcxqq76v15kvwwsfj2iqkvimijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvyr84g49yi4xdgtzqkh5cfj16kjr5fzic74iz15k3ed3m4uuyit0wley4rtowopwjcf2w63hw184bntu89sk8ghwh8fvey43z226kbc5vvzteip6re79qmtrx623j5wht8nrgyfx2	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrffy11sqqzw5lwk5yd28le1e22yxkwcqkj157tey3x7k51hs5hug87zyw046a5rhig9g35sxfb549l03r2id05v4o11ba2z4d8lgkd91bayck7vte38m9nw3alq2qrd4g0pwjavxcodgrq2wgrty4jzkdkg70z8q	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrffy11sqqzw5lwk5yd28le1e226kbby2zp9legp1rot97yvfjhmeo9kvb39k0d00g80d0j2ks4afar72pd7bwj3vyymuoned7qrf410o7pzgua8qfk5arkna774n1ih4txe3st7rghx3endepml2wemfy3h0pf8dv
dp	peak wave direction	°	nautical	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=ek1w9h3mei4kh3l3batswy3pgmdgnhaquqb5nicvz3fbsiaaoiambwnpgp6rleouq98511olql2crf67jb6ru57ml0d30af2uakeas59ykynarxsork619stxku0zyjh2gkjua890ud96e7wbx59f6px5e46ted1406	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcxqq76v15kvwwsfj2iqkvimijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvynjglxpb9ao3d7y6o2e60286l8d4iq8pfjtsa42z1znpeey98v9z04yy1iyl6clzldiqb3hpta	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrffy11sqqzw5lwk5yd28le1e22g61g5osr67gevfddtkqa3unx713r5l2wvhsyo7oqh1notp029yj8q7u1u2f6p7x54alqchzp

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phs1	partitioned primary swell	m	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypdefp55o3i1589g42aicy5liqqmyqh2ptsfo48jtt00gp5fb1wgas42f6gay1ta0gumu4mba7hpq3gli20o08m2lslmlo0ym4u9k2glh7g2a9id262wr1jcf0jvbw6h6cf1g5czmv	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=2vilhfdlrb4whllhzkczxmaid273qez0eyj3c76jndkczuq17ya3iso6uuy8488gqiplvrfyyl1sqqzw5lwk5yd28le1e22g0r99ogeryvn0eycqu2b4n38i1npz41qfct6fo8sp68lw2nec9pzqcvdfe83wcuwpagcyuxqgqmsaqzen91vxom2nexiq3i0o7k7qkaku148c44nq98jtd5xmxwrf129l0pqwl4	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=ek1w9h3mei4kh3l3batswy3pgmdgnhaquqb5nicvz3fbsiaaoiambwnpgpq6rleouq98511olql2crf67jb6ru57ml0d30aeyv8ccu2hg6j7o2wccqam6nlrmtn74sifv09xkyfzqywfkxk1q8r8eo4ymhaj2m0vhnb5n5bifkc05a7z0mjs8eytoid3uk2vynpt850zcm8dw9cenghhrp102okdw9d8sx7ju
phs2	partitioned secondary swell	m	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvynkrlxqu4qca4zcuevr7fka16jxpzksf7akxuso26waz9djtaa04dtam1xifxcej5ry13nx4gt6axq5694dh15q01njh279f3zbqgs0s85bg7bq20ashr2sg5k6ukurx8mhrf7889	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypdebpc8o0u2ywc4zu07pmcjkjgx4c0mn65e7ejqzpl1m0y1soqthkbwo2h5zj1fwl4h2e7ln7r5aouiuzvjg09q30q6uw4pnbm6rwffev9iig0eo9cmwco3psali8wwbgki4csxj	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypfhgnvi0nvlhgnxszaa8gxp1vjmr7roso1fok02hazdtq6y394ed0hda7gaezhmgvg rq21g0bu787ux057rqtq7rh69veodiej6kxc66ikixom0ei4emnlvdsin5xurm8pyn
t02	mean wave period t02	s	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypdntg7oh3nmrvwqg61w5yuomr2f48ufucwub2g7ifvhqfo1164clma6aita4tfimr8roqrmbr4z7yf30ym6lxdx33zeld3ujb7e	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvyra7qd03wfr9jo2x0tn8ob2hvhfgsbanwgx3v4bkseakpr78l53vv5o4o4nfn1n4qf1kui9koiijmf5akebe5e75s8q7x0y9z6kapllj	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48rcqq76v15kvwwsfj2iqkvmijugyydjrqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvynki5306sbcji zcs0g8did3ir6pbwm5yuunuafigjz20vziayznlj2ft7mqmttppqrm3mbxv8ci syrno8hred0j9e4bjhqjsfn1y10vkeq

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wnd	wind speed	m/s	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvyr95wn4v2vfyhma6sz00lgp3s4hsl3vbpfg1ip9ee9hlmhmq5gzkiywaioy5avm49inrb2p1vv8zn5x47mko5ot39tack3dzu8lvmoln2nsz3teqiv3ptlguociekahlickt5u98vo	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvynki6ebfi4fjoj m48q0i76wt4iblh05krvlsog4nxy7qg5xs6cck6qaon1a8usngf98bsrcr1ru1rr4ev0shatclupmvypevgod4t5fgvp5ixowa3gahmbtjs5q0twj500zhvly0o	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvynjzc5n6h07bbp4v14u73lniw533chpdyjor8z4l1rwpxp vuk4eilee2j415pk70zmf dy4ce7tkrsjpoy3zoimzze0lcj77xbjmh0d5956fv3lprkwxpmxfxn6t8qj8lnglo3j4oj
spec	wave spectra	36 coastal sites	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypdx f72z51d6i0vbypfejosg6ovexq8n4cdzolx6cm94ouzpokyq3ne3klgi7m5y7wmsw5lxc06zu1vwsnziwkvrup97r3l5to brbq43ql ds76sk4xxy58lfcuiciyuu988qjt8x9r	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvyr9y5y0flrf3wvjk81bpq9ertfvigjx7yptuvienzuat dz8fwsr6ij0999nfih822l6zpmppfnv5qn4h4uu8ipimru94njcpopantgxt76sxjgdf3wx7qb3fj7akfh1g3hjlwo4kw	https://mediaflux.researchsoftware.unimelb.edu.au/mflux/data/mover/index.html?token=kg48xcqq76v15kvwwsfj2iqkv mijugyydjqr2jq8gseyh4ojrt1nw0rg3dq2k70l23lv5klxose7z8nrm7eccvx47plvypeyt1lg8c9lyz4v3gsexqbc9xg7y0agf8s3slnitcchf60u2x8vu7ig22z6zscbm9c1d8z16yrig98p3oumnchcknqvfwfb12ken89nqlxaq0ytjqm5pmcqcty0v9idpbs1eu55k6i

Table 3. Contact and cooperation.

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