MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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Latest version is here: https://github.com/aekiss/namelist-check

Tables auto-generated by nmltab (https://github.com/aekiss/nmltab). Missing variables are shown as blank. Variables are weblinks to source code searches. Greyed variables are ignored (greying only works in groups with use_this_module shown, so typically doesn't work for tables of differences).

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1 MOM namelist 'input.nml'

TODO: set ncar_boundary_scaling_read = .true. after first run at high resolution

- 1deg_jra55v13_ryf9091_spinup_A-input.nml is Andy's 1deg namelist from 2017-11-06: /g/data3/hh5/tmp/cosima/access-om2/1deg_jra55v13_ryf9091_spinup_A/output039/ocean/input.nml
- GFDL_ESM2M_input-cut.nml is GFDL_ESM2M_input.nml from Steve's email 2017-10-18 with irrelevant atmos/ESM namelist groups cut out.
- MOM_SIS_TOPAZ_input.nml is from MOM_SIS_TOPAZ/INPUT/ in /g/data/ua8/mom/test_data/MOM_SIS_TOPAZ.input.tar.gz, dated 2009-12-16 10:44
- fabio_momsis1_input.nml is from Fabio's email 2017-09-20, derived from Paul's 1/4 degree (I think)
- paul_momsis025_input.nml is from Paul's email 2017-09-20
- fanghua_momsis01v5KDS75_WOA13_input.nml is /g/data3/hh5/tmp/cosima/mom01v5/KDS75_WOA13/output000/input.nml
- russ-accessom-mom4p1-input.nml is an old MOM4p1 ACCESS-OM input from years ago (Russ' email 2017-10-17)
- hogg_accessom2_1deg_jra55_ryf_input.nml is /short/v45/amh157/access-om2/control/1deg_jra55_ryf/ocean/input.nml
- kiss_accessom2_025deg_jra55_ryf_input.m.nml is /short/v45/aek156/access-om2/control/025deg_jra55_ryf/ocean/input.nml
- hogg_accessom2_01deg_jra55_ryf_input.nml is /short/v45/amh157/access-om2/control/01deg_jra55_ryf/ocean/input.nml
- kiss_accessom2_025deg_jra55_ryf_logfile.000000.out is the MOM output file /short/v45/aek156/access-om2/control/025deg_jra55_ryf/archive/output144/ocean/logfile.000000.out, modified by deleting lines not starting with whitespace (regex replace ^[^\s]+.*\$ with nothing), replacing salt_flxmh_flux with salt_flx mh_flux, removing ascii gremlins from end of FIELDS_IN and FIELDS_OUT lines, and deleting the copy of input.nml from the start (to work around bug in nmltab.py). So this shows the values specified in input.nml, plus default values for those not specified in input.nml. However there are some namelist groups it doesn't include, e.g. generic_tracer, monin_obukhov_nml, ocean_albedo_nml, ocean_bihcst_friction_nml, ocean_nphysics_util_nml, ocean_nphysicsa_nml, ocean_nphysicsa_nml, ocean_nphysicsb_nml, ocean_shortwave_csiro_nml, ocean_xlandinsert_nml, ocean_xlandmix_nml, xgrid_nml [and ocean_vert_kpp_nml, was replaced by ocean_vert_kpp_mom4p1_nml in MOM5, and bg_diff_lat_dependence_nml, ocean_polar_filter and ocean_vert_kpp_iow which are not in the MOM5 code at all]; there may be more.

Other useful info:

• Griffies et al. (2015) p973

1.1 All variables in GFDL & ACCESS configs (differences highlighted)

| Group | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|---------------------------------------|---|--|---|--|---|---|---|---|--|
| &auscom_ice_nml | aice_cutoff | | | 0.15 | 0.15 | 0.15 | file.000000.o t 0.15 | 0.15 | 0.15 | 0.15 |
| Cudscom_rec_rime | chk_fields_period | | | 0.13 | 0.13 | 0.13 | 1 | 0.13 | 0.13 | 0.13 |
| chk | _fields_start_time | | | | | | 0 | | | |
| | chk_i2o_fields | | | False | False | False | False | False | False | False |
| | chk_o2i_fields do_ice_once | | | False False | False False | False False | False False | False False | False False | False False |
| | dt_cpl | | | 3600 | 3600 | 3600 | 1800 | 1800 | 150 | 600 |
| | fixmeltt | | | False | False | False | False | False | False | False |
| | frazil_factor | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | iceform_adj_salt icemlt_factor | | | False 1.0 | False 1.0 | False 1.0 | False 1.0 | False 1.0 | False 1.0 | False 1.0 |
| | ige | | | 1.0 | 1.0 | 1.0 | 345 | 1.0 | 1.0 | 1.0 |
| | igs | | | | | | 328 | | | |
| | ire1 | | | | | | 324 | | | |
| | ire2 | | | | | | 331 | | | |
| | irs1 | | | | | | 314 | | | |
| | irs2 jge | | | | | | 325 198 | | | |
| | jgs | | | | | | 189 | | | |
| | jre1 | | | | | | 196 | | | |
| | jre2 | | | | | | 180 | | | |
| | jrs1 | | | | | | 169 | | | |
| | jrs2 kmxice | | | 5 | 5 | 5 | 169 | 5 | 5 | 5 |
| | ksmax | | |) | 3 |) | 5 5 |) | 3 |) |
| | limit_srfstress | | | | | | False | | | |
| | mstress | | | | | | 2.0 | | | |
| | pop_icediag | | | True | True | True | True | True | True | True |
| re | dsea_gulfbay_sfix | | | | True | True | False | | | |
| | sfix_hours sign_stflx | | | 1.0 | 1.0 | 1.0 | 12 1.0 | 1.0 | 1.0 | 1.0 |
| | tlthk0 | | | 1.0 | 1.0 | 1.0 | 10.0 | 1.0 | 1.0 | 1.0 |
| | tmelt | | | -0.216 | -0.216 | -0.216 | -0.216 | -0.216 | -0.216 | -0.216 |
| | use_ioaice | | | True | True | True | True | True | True | True |
| &bg_diff_lat_depende bg_diff_eq | | | | 1×10^{-6} | 1×10^{-6} | | | | | |
| 0 | lat_low_bgdiff | 0 | | 20.0 | 20.0 | | | | | |
| &coupler_nml | atmos_npes atmos_nthreads | 0 4 | 0 | | | | | | | |
| | calendar | 'NOLEAP' | 'NOLEAP' | | | | | | | |
| | check_stocks | 0 | 0 | | | | | | | |
| | concurrent | True | False | | | | | | | |
| | current_date | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | | | | | | | |
| | days do_atmos | 0 True | 2 False | | | | | | | |
| | do_flux | True | raisc | | | | | | | |
| | do_ice | True | True | | | | | | | |
| | do_land | True | False | | | | | | | |
| | do_ocean | True | True | | | | | | | |
| | dt_atmos dt_cpld | 1800 7200 | 7200 7200 | | | | | | | |
| | months | 12 | 0 | | | | | | | |
| | ocean_npes | 96 | 0 | | | | | | | |
| | use_lag_fluxes | True | True | | | | | | | |
| &data_override_nml debug_data_override | | | | | | | False | | | |
| 9 diag integral and | grid_center_bug | 7a! | 7al; | | | | False | | | |
| &diag_integral_nml | file_name | 'diag integral.out' | 'diag integral.out' | | | | | | | |
| | output_interval | 1.0 | 1.0 | | | | | | | |
| | time_units | 'days' | 'days' | | | | | | | |
| &diag_manager_nml append_pelist_name | | | | | | | False | | | |
| | conserve_water | | | | | | True | | | |
| | ug_diag_manager | | | | | True | True | True | | True |
| | do_diag_field_log sue_oor_warnings | Falce | False | False | False | True | False True | True | False | True |
| IS | max_axes | False 200 | 100 | raise | raise | nue | 60 | iiue | 300 | iiue |
| ma | ax_field_attributes | 200 | 100 | | | | 2 | | 300 | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---------------------------------------|--|---|--|---|--|---|---|---|---|--|
| | max_file_attributes | | | | | | 2 | | | |
| | max_files | 50 | 400 | | | | 31 | | 1000 | |
| | max_input_fields max_num_axis_sets | 800 200 | 699 100 | | | | 300 25 | | 700 40 | |
| | max_out_per_in_field | 200 | 100 | | | | 150 | | 40 | |
| | max_output_fields | 1300 | 699 | | | | 300 | | 700 | |
| mix_sna | apshot_average_fields | False | False | | | | False | | | |
| | oor_warnings_fatal | | | | | | False True | | | |
| regi | prepend_date on_out_use_alt_value | | | | | | True | | | |
| , eg. | use_cmor | | | | | | False | | | |
| | write_bytes_in_file | | | | | | False | | | |
| &flux_exchange_n | | False | False | | | | | | | |
| d | divert_stocks_report o_area_weighted_flux | True False | True False | | | | | | | |
| u | nblocks | 4 | raise | | | | | | | |
| &fms_io_nml | checksum_required | | | | | | True | | False | |
| | debug_mask_list | | | | | | False | | | |
| | dr_set_size | | 'cinala' | 'einala' | 'cinala' | 'cinala' | 10 | ?mla!? | 2mm.da2 | 'ma14.2' |
| | fileset_write fms_netcdf_override | | 'single' | 'single' | 'single' | 'single' | 'single' True | 'multi' | 'multi' | 'multi' |
| | fms_netcdf_restart | | | | | | True | | | |
| | format | | | | | | 'netcdf' | | | |
| | iospec_ieee32 | | | | | | '-N', 'ieee_32' | | | |
| | max_files_r | 300 | 200 | | | | 40 | | 700 | |
| | max_files_w print_chksum | 300 | 200 | | | | 40 False | | 700 | |
| | read_all_pe | | | | | | True | | | |
| | read_data_bug | | | | | | False | | | |
| show_open_r | namelist_file_warning | | | | | | False | | | |
| | threading_read | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' |
| | threading_write time_stamp_restart | | 'single' | 'single' | 'single' | 'single' | 'single' True | 'multi' | 'multi' | 'multi' |
| &fms_nml | clock_flags | | | | | | 'NONE' | | | |
| G | clock_grain domains_stack_size | 'COMPONENT' 5000000 | 'LOOP' 8000000 | 'L00P' | 'LOOP' | 'COMPONENT' 115200 | 'LOOP' | 'COMPONENT' 115200 | 'LOOP' 115200 | 'COMPONENT' 115200 |
| | iospec_ieee32 | 300000 | 0000000 | | | 113200 | '-N', 'ieee_32' | 113200 | 113200 | 113200 |
| | print_memory_usage | | | | | | False | | False | |
| | read_all_pe | | _ | | | | True | | | |
| | stack_size warning_level | 0 | 0 | | | | 0 'warning' | | | |
| &generic_tracer_ni | | False | False | | | | 'warning' | | False | |
| &generic_tracer_m | do_generic_topaz | True | True | | | | | | False | |
| | do_generic_tracer | True | True | | | | | | False | |
| &get_cal_time_nm allow_calendar_co | | | | | | | True | | | |
| &horiz_interp_nml | | | | | | | False | | | |
| &ice_albedo_nml | t_range | 10.0 | 10.0 | | | | | | | |
| &ice_model_nml | add_diurnal_sw alb_ice | False 0.65 | True 0.615 | | | | | | | |
| | alb_sno | 0.85 | 0.825 | | | | | | | |
| | channel_viscosity | 500 000.0 | 025 | | | | | | | |
| | cm2_bugs | False | False | | | | | | | |
| | do_icebergs | True | False | | | | | | | |
| | h_lo_lim heat_rough_ice | 1×10^{-10} | 1×10^{-10} 0.0005 | | | | | | | |
| | ice_bulk_salin | 0.005 | 0.0005 | | | | | | | |
| | io_layout | 1, 2 | | | | | | | | |
| | layout | 15, 2 | | | | | | | | |
| | nsteps_adv | 1 | 1 | | | | | | | |
| | nsteps_dyn num_part | 72 6 | 108 6 | | | | | | | |
| | spec_ice | False | False | | | | | | | |
| | t_range_melt | 1.0 | 10.0 | | | | | | | |
| | wd_turn | 0.0 | 0.0 | | | | | | | |
| &icebergs_nml bergy_bit_erosion_ | fraction | | 0.0 | | | | | | | |
| - | debug | | False | | | | | | | |
| ma | ke_calving_reproduce | True | - | | | | | | | |
| | parallel_reprod really_debug | | True False | | | | | | | |
| | sicn_shift | | 0.1 | | | | | | | |
| | Jidii_Jiiilt | | 0.1 | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg - jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---------------------------------------|--------------------------------------|---|--|---|---|---|---|---|---|--|
| | speed_limit | 0.5 | | | | | 1110.000000.01 | | | |
| | .average_weight | False | 0 | | | | | | | |
| | traj_sample_hrs perator_splitting | 0 | 0 True | | | | | | | |
| | use_roundoff_fix | True | iiuc | | | | | | | |
| | verbose | True | False | | | | | | | |
| &mom_oasis3_interface | verbose_hrs _nml fields_in | 120 | 2400 | ' A ' | ' A' | 'u_flux', | 2. A2 | ' | 'u_flux', | 'u_flux', |
| Willow 2021 | LIMIC HEUSEM | | | 'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', | 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', |
| | | | | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', '* fl' | 'q_flux', | 'q_flux', | 'q_flux', |
| | | | | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', |
| | | | | 'runof', 'p', | 'runof', 'p', | 'runof', 'p', | 'runof', 'p', | 'runof', 'p', | 'runof', 'p', | 'runof', 'p', |
| | | | | 'aice', | 'aice', | 'aice', | 'aice', | 'aice', | 'aice', | 'aice', |
| | | | | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' |
| | fields_out | | | 't_surf', | 't_surf', | 't_surf', | 't_surf', | 't_surf', | 't_surf', | 't_surf', |
| | | | | 's_surf', | 's_surf', | 's_surf', | 's_surf', | 's_surf', | 's_surf', | 's_surf', |
| | | | | 'u_surf', | 'u_surf', | 'u_surf', | 'u_surf', | 'u_surf', | 'u_surf', | 'u_surf', |
| | | | | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', |
| | | | | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', |
| | | | | 'frazil' | 'frazil' | 'frazil' | 'frazil' | 'frazil' | 'frazil' | 'frazil' |
| | num_fields_in | | | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| send afte | num_fields_out er_ocean_update | | | 7 True | 7 True | 7 True | 7 True | 7 True | 7 True | 7 True |
| | e_ocean_update | | | False | False | False | False | False | False | False |
| &monin_obukhov_nml | neutral | | True | | | True | | True | True | True |
| | rich_crit | 10.0 | | | | | | | | |
| | stable_option zeta_trans | 2 0.5 | | | | | | | | |
| &mpp_io_nml | deflate_level | 0.5 | | | | 5 | -1 | 5 | 5 | 5 |
| | field_on_root_pe | | | | | | True | | | |
| he | eader_buffer_val io_clocks_on | | | | | | 16384 False | | | |
| | shuffle | | | | | 1 | 0 | 1 | 1 | 1 |
| &ocean_adv_vel_diag_n | ml diag_step | 1200 | 12 | 120 | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| | large_cfl_value | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | max_cfl_value verbose_cfl | 100.0 False | 100.0 False | 100.0 False | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True |
| &ocean_advection_veloc | city_nml ocity | Tube | ruse | ruse | iiuc | inde | False | nuc | nuc | iruc |
| | oug_this_module oflow_nboundary | | | | | | False False | | | |
| | vection_velocity | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.2 | 0.5 |
| | ection_transport | | | | -1- | | False | | | |
| | vection_velocity | | | | | | False | | | |
| &ocean_albedo_nml ocean_albedo_option | | 5 | 2 | | | 2 | | 2 | 2 | 2 |
| &ocean_barotropic_nml | alphat | | | | | | 0.948 | | | |
| · | barotropic_halo | | | | 10 | 10 | 10 | 10 | 10 | 10 |
| | tropic_leap_frog | | False | False | | | | | | |
| | tropic_pred_corr time_stepping_a | True | True | True | True | True | True | True | True | True |
| barotropic_t | time_stepping_b | False | | | False | False | False | False | False | False |
| barotropic_time_ste | | | True | True | | | | | | |
| barotropic_time_ste | epping_mom4p1 oug_this_module | False | False False | False False | False | False | False | False | False | False |
| deb | diag_step | 1200 | 12 | 120 | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| do_bit | wise_exact_sum | True | | | | | False | | | |
| | eta_max eta_offset | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 1×10^{-12} | 8.0 | 8.0 | 8.0 |
| Trac. | _crit_cell_height geoid_forcing | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 False | 0.2 | 0.2 | 0.2 |
| | ideal_initial_eta | | | | | | False | | | |
| | l_eta_amplitude | | | | | | 5.0 | | | |
| | itial_eta_xwidth | | | | | | 100 000.0 | | | |
| ideal_in | itial_eta_ywidth | | | | | | 100 000.0 | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|-----------------------------|---|--|---|--|---|---|---|---|--|
| initsum_with_b | | | | | | | False | | | |
| initsum_with_b | pbot_offset | | | | | | True 1×10^{-12} | | | |
| pred_ | corr_gamma | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| smooth_anompb_bt | | | | | | | False | | | |
| smooth_anompb_ | | | | | | | False | | | |
| <mark>smooth_eta_diag</mark> smooth_eta_dia | | True | True | True | True | True | False True | True | True | True |
| smooth_eta_t | | True | True | True | False | False | False | False | False | False |
| smooth_eta_t_bt | | | | | . 4.50 | | False | · disc | , alse | 1 4130 |
| smooth_eta_t_ | | | | | | | False | | | |
| smooth_eta | | False | False | False | True | True | True | True | True | True |
| smooth_pbot_t smooth_pbot_t_biharn | | True | True | True | False | False | False False | False | False | False |
| smooth_pbot | , | False | False | False | True | True | True | True | True | True |
| tid | al_forcing_8 | | | | | | False | | | |
| | orcing_ideal | | | | | | False | | | |
| | _forcing_m2 runcate_eta | False | False | False | False | False | False False | False | False | False |
| | udrho_bih | rdise | rdise | raise | raise | rdise | False | rdlSt | raise | rdise |
| udrho_bih | _vel_micom | | | | | | 0.01 | | | |
| | drho_bt_bih | | | | | | False | | | |
| u | drho_bt_lap | | | | | | False | | | |
| udrho lan | udrho_lap _vel_micom | | | | | | False 0.05 | | | |
| use_legacy_baro | | | | | False | False | False | False | False | False |
| | _micom_bih | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | m_bih_diag | | | | | | 0.1 | | | |
| | _micom_lap | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| | om_lap_diag verbose_init | 1.0 | 1.0 | 0.2 | 0.2 | 0.2 | 0.2 True | 0.2 | 0.5 | 0.2 |
| | se_truncate | True | True | True | True | True | True | True | True | True |
| wri | te_a_restart | | | | | | True | | | |
| zero | _coriolis_bt | | | | | | False | | | |
| | zero_eta_ic zero_eta_t | | | | | | False False | | | |
| zero_e | ta_tendency | | | | | | False | | | |
| 201020 | zero_eta_u | | | | | | False | | | |
| | _forcing_bt | | | | | | False | | | |
| zero_nonlinea | | F-1 | F-I | F-I | | F-I | False | F-1 | F-I | Falsa |
| · · · · · · · · · · · · · · · · · · · | ro_tendency omf_implicit | False | False | False | | False True | False True | False True | False True | False True |
| Quedit_Duc_iiiit | bmf_max | | | | | iiuc | 1.0 | nue | iiue | iiuc |
| | cdbot | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| cd | bot_gamma | | | | | | 40.0 | | | |
| | cdbot_hh cdbot_hi | | | | | 0.007 | 1100.0 0.007 | 0.007 | 0.007 | 0.007 |
| cdhot | law_of_wall | | | False | False | 0.007 | False | 0.007 | 0.007 | 0.007 |
| | cdbot_lo | | | . 4.50 | . 4.50 | | 0.001 | | | |
| cdbot_rough | ness_length | | | | | False | False | False | False | False |
| cdbot_roug | nness_uamp cdbot_uu | | | | | True | True | True | True | True |
| | cdbot_wave | | | | | | 1.0 False | | | |
| | geothermal | | | | | | 0.001 | | | |
| debug_: | :his_module | | | | | | False | | | |
| law_of_wall_ro | | | | | | 2.25 | 0.01 | | 0.0= | |
| use_geother | uresidual | 0.05 True | 0.05 True | False | False | 0.05 False | 0.05 False | 0.05 False | 0.05 False | 0.05 False |
| | uvmag_max | iiuc | iluc | ו מנטכ | ו מנטכ | ו מנטכ | 10.0 | ו מנטכ | ו מנטכ | ו מנטכ |
| &ocean_bbc_ofam_nml read | | | | False | False | | False | | | |
| | idual2_max | | | 1.0 | 1.0 | , | 0.05 | | | |
| &ocean_bih_friction_nml b | ıh_friction | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' |
| | his_module | | | | | | False | | | |
| &ocean_bih_tracer_nml | te_a_restart abih | | | | | | True 0.0 | | | |
| | rz_s_diffuse | | | | | | True | | | |
| ho | rz_z_diffuse | | | | | | False | | | |
| | ısivity_mask | | | | | | False | | _ | |
| tracer | mix_micom :his_module | False | False | False | False | False | True False | False | True False | False |
| LICO S | | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ot | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|-----------------------------------|---|--|---|--|---|---|---|---|--|
| &ocean_bihcst_friction_n | ml | False | False | False | False | False | | False | False | False |
| &ocean_bihgen_friction_r bottom_5point | nml | True | True | True | True | True | False | False | False | False |
| debu | ig_this_module | | | | | | False | | | |
| | eq_lat_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | l_micom_aniso | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 |
| · · · · · · · · · · · · · · · · · · · | .vel_micom_iso quatorial_zonal | False | False | False | False | False | False | False | False | False |
| | orial_zonal_lat | | . 4.50 | | | | 0.0 | . 4.50 | . 4.50 | |
| | k_smag_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | k_smag_iso | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| | undary_scaling | True | True | True | True | True | True | True | True | True |
| | ry_scaling_read | 2 | 2 | 2 | 2 | False | True | False | True | False |
| | _rescale_power ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} |
| | ncar_vconst_5 | 2 × 10 | 2 × 10 | 2 × 10 | 5 | 2 × 10 | 5 | 5 | 5 | 2 × 10 |
| | neptune | | | | | | False | , | , | |
| neptu | une_depth_min | | | | | | 100.0 | | | |
| nept | une_length_eq | | | | | | 4200.0 | | | |
| | ne_length_pole | | | | | | 17 000.0 | | | |
| | eptune_scaling | | | | | | 1.0 | | | |
| | eptune_smooth e_smooth_num | | | | | | True 1 | | | |
| | _aiso_bih_back | | | | | | False | | | |
| | q_friction_max | | | | | | 1.0 | | | |
| | friction_scaling | | | | | | 1.0 | | | |
| side_drag_frictio | | | | | | | 10.0 | | | |
| | e_drag_friction | _ | | _ | _ | _ | False | _ | _ | |
| | se_this_module | True 0.0 | True 0.0 | True 0.0 | True 0.0 | True | True | True | True 0.0 | True |
| | l_micom_aniso micom_bottom | 0.01 | 0.0 | 0.01 | 0.01 | 0.0 0.01 | 0.0 0.0 | 0.0 0.0 | 0.0 | 0.0 0.0 |
| | vel_micom_iso | 0.01 | 0.01 | 0.01 | 0.04 | 0.01 | 0.0 | 0.0 | 0.0 | 0.0 |
| | visc_crit_scale | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 1.0 | 1.0 | 1.0 |
| | diverge_scaling | | | | | | 0.0 | | | |
| &ocean_blob_nml bitwise | | | | | | | False | | | |
| | ob_small_mass | | | | | | 1000.0 | | | |
| | ig_this_module vise_exact_sum | | | | | | False False | | | |
| | prop_thickness | | | | | | 0.7 | | | |
| mux_ | really_debug | | | | | | False | | | |
| &ocean_convect_nml | | | | False | False | | True | | True | |
| convect_full_scalar | | | | | | | | | | |
| conv | rect_full_vector | | | True | True | | False | | False | |
| | convect_ncon | | | | | | False | | | |
| IIS | ncon se_this_module | False | False | False | False | False | 7 False | False | False | False |
| &ocean_coriolis_nml | acor | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | ıg_this_module | | | | | | False | | | |
| | se_this_module | True | True | True | True | True | True | True | True | True |
| | pha_linear_eos | | | | | | 0.255 | | | |
| | eta_linear_eos | | | | | | 0.0 | | | |
| | q_smooth_vert ig_this_module | | | | | | True False | | | |
| | y_equal_potrho | | | | | | False | | | |
| | vise_exact_sum | | | | | | False | | | |
| drho | dz_diag_stable | | | | | | True | | | |
| | eos_linear | False | | | False | False | False | False | False | False |
| | eos_preteos10 | True | | | True | True | True | True | True | True |
| | eos_teos10 epsln_drhodz | | | | | | False $1 	imes 10^{-10}$ | | | |
| encl | ln_drhodz_diaq | | | | | | 1×10^{-10} 1×10^{-10} | | | |
| | otrho_compute | | | | | | False | | | |
| | _lrpotrho_max | | | | | | 10.0 | | | |
| | o_lrpotrho_min | | | | | | 1.0 | | | |
| | layer_nk | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| magali | linear_eos | | False | False | | | Ealaa | | | |
| | domain_restart density_omega | | | | | | False False | | | |
| | density_onlega density_potrho | | | | | | True | | | |
| | neutralrho_max | 1030.0 | 1030.0 | 1030.0 | 1030.0 | 1030.0 | 1038.0 | 1030.0 | 1038.0 | 1030.0 |
| r | neutralrho_min | 1020.0 | 1020.0 | 1020.0 | 1020.0 | 1020.0 | 1028.0 | 1020.0 | 1028.0 | 1020.0 |
| | | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|-----------------------------------|---|--|---|--|---|---|---|---|--|
| nı | ım_121_passes | | | | | | 1 | | | |
| | p_test potrho_max | 1038.0 | 1038.0 | 1038.0 | 1038.0 | 1038.0 | 1000.0 1038.0 | 1038.0 | 1038.0 | 1038.0 |
| | potrho_min | 1038.0 | 1038.0 | 1038.0 | 1038.0 | 1038.0 | 1028.0 | 1038.0 | 1028.0 | 1038.0 |
| | potrho_press | | | | | | 2000.0 | | | |
| | press_standard | | | | | | 0.0 | | | |
| | rho0_density s_test | | | | | | False 20.0 | | | |
| | smax_diaq | | | | | | -1.0 | | | |
| | min_in_column | | | | | | False | | | |
| smooth_strat | ification_factor | | | | | | False | | | |
| | sn_test t_test | | | | | | 35.0 20.0 | | | |
| | teos10_eos | | | False | | | 20.0 | | | |
| | theta_max | | | | | | 30.0 | | | |
| | theta_min | | | | | | -2.0 | | | |
| undate dia | tn_test gnostic_factors | | | | | | 20.0 False | | | |
| | write_a_restart | | | | | | True | | | |
| &ocean_domains_nml | halo | | | | | | 1 | | | |
| | max_tracers | | | 20 | 10 | 5 | 5 | 5 | 5 | 5 |
| | x_cyclic_offset | | | | | | 0 | | | |
| 0 1:0 | y_cyclic_offset | | | | | | 0 | | | |
| | output_interval se_this_module | False | False | | | | False | | | |
| &ocean_form_drag_nml | | Talse | Talse | | | | 600.0 | | | |
| Goccan I control of the control of t | cprime_aiki | | | 0.6 | 0.6 | | 0.3 | | | |
| | g_this_module | | | | | | False | | | |
| form_drag_aiki_ | | | | | | | 3 | | | |
| | i_bottom_layer iiki_gradh_max | | | | | | False 0.05 | | | |
| | i_gradh_power | | | | | | 1.0 | | | |
| | ki_scale_by_gm | | | | | | False | | | |
| form_drag_aiki_ | | | | | | | False | | | |
| | _gbatch_alpha | | | | | | 300 000 000.0 False | | | |
| | patch_alpha_f2 patch_f2overn2 | | | | | | False | | | |
| form_draq_qba | | | | | | | False | | | |
| | tch_f2overno2 | | | | | | False | | | |
| | rag_gbatch_no | | | | | | 0.005 | | | |
| form_drag_gbat | atch_surf_layer | | | | | | False False | | | |
| | urf_blayer_min | | | | | | 3 | | | |
| | n_squared_min | | | | | | 1×10^{-10} | | | |
| | ım_121_passes | | | | | | 1 | | | |
| | form_drag_aiki | | | | | | False | | | |
| | m_drag_gbatch se_this_module | False | False | False | False | False | False False | False | False | False |
| | orm_drag_max | rauc | raisc | Talsc | rabc | Talsc | 1.0 | raisc | raisc | raise |
| | verbose_init | | | | | | True | | | |
| | orm_drag_max | | | | | | 1.0 | | | |
| &ocean_frazil_nml air_s | | False | False | | | False | True False | False | False | False |
| uebu | g_this_module frazil_factor | raise | raise | | | raise | 1.0 | raise | raise | raist |
| frazil_0 | only_in_surface | True | True | False | | False | False | False | False | False |
| | temp_accurate | | False | True | | | | | | |
| | emp_preteos10 | _ | _ | | _ | True | True | True | True | True |
| | g_temp_simple g_temp_teos10 | True | True | False | True | False | False False | False | False | False |
| | se_this_module | True | True | True | True | True | True | True | True | True |
| &ocean_grids_nml debu | | True | True | True | True | False | False | False | False | False |
| do_bitv | ise_exact_sum | True | | | | | False | | | |
| rea | id_rho0_profile | False | False | False | False | | False | | | |
| | verbose_init write_grid | | | | | | True False | | | |
| &ocean_increment_eta_n | | | | 0 | 0 | | 1 | | | |
| days_to_increment | - | | | V | | | _ | | | |
| frac | tion_increment | | | 1.0 | 1.0 | | 1.0 | | | |
| | s_to_increment | | F . | 3600 | 1800 | F 1 | 0 | F . | | |
| 110 | e_this_module | False | False | False | False | False | False | False | False | False |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.or | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|--|---|--|---|--|---|---|---|---|--|
| | raction_increment secs_to_increment | | | 1.0 3600 | 1.0 1800 | | 1.0 | | | |
| | use_this_module | False | False | False | False | False | False | False | False | False |
| &ocean_increment_ve | locity_nml | | | 0 | 0 | | 1 | | | |
| days_to_increment | | | | 4.0 | 4.0 | | 4.0 | | | |
| | raction_increment secs_to_increment | | | 1.0 3600 | 1.0 1800 | | 1.0 | | | |
| 1 | use_this_module | False | False | False | False | False | False | False | False | False |
| &ocean_lap_friction_n | | Tube | Tutse | raise | ruse | Tuisc | False | Tuisc | ruise | raisc |
| debug_this_module | | | | | | | | | | |
| la | p_friction_scheme | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' |
| 0 | write_a_restart | | | | | | True | | | |
| &ocean_lap_tracer_nn | nl alap horz_s_diffuse | | | | | | 0.0 True | | | |
| | horz_z_diffuse | | | | | | False | | | |
| rea | d_diffusivity_mask | | | | | | False | | | |
| | tracer_mix_micom | | | | | | False | | | |
| | use_this_module | False | False | False | False | False | False | False | False | False |
| | vel_micom | | | | | | 0.0 | | | |
| | verbose_init | | | | | | True | | | |
| &ocean_lapcst_friction | n_nml | False | False | False | False | False | | False | False | False |
| <pre>use_this_module &ocean_lapgen_frictio async_domain_update</pre> | n_nml | | | | | | False | | | |
| usync_domain_update | blocksize | | | | | | 10 | | | |
| | bottom_5point | True | True | True | True | True | False | | | |
| | debug_ncar_a | | | | | | False | | | |
| | debug_ncar_b | | | | | | False | | | |
| | ebug_this_module | | | | | | False | | | |
| | divergence_damp | | | | | | False | | | |
| divergence. | _damp_vel_micom | | | | | | 0.0 | | | |
| 90 | eq_lat_micom_vel_micom_aniso | | | | | | 0.0 | | | |
| | eq_vel_micom_iso | | | | | | 0.0 | | | |
| | uatorial_no_smag | | | | | | False | | | |
| _ | equatorial_zonal | | | | | | False | | | |
| eq | uatorial_zonal_lat | | | | | | 0.0 | | | |
| | k_smag_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 2.0 | |
| | k_smag_iso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | | 2.0 | |
| | sotropic_at_depth opic_at_depth_visc | | | | | | False 10 000.0 | | | |
| | ar_isotropic_depth | | | | | | 4000.0 | | | |
| | tropic_off_equator | | | | | | False | | | |
| | ar_only_equatorial | | | True | True | | False | | | |
| | neptune | | | | | | False | | | |
| | eptune_depth_min | | | | | | 100.0 | | | |
| | eptune_length_eq | | | | | | 1200.0 | | | |
| nep | neptune_smooth | | | | | | 3000.0 True | | | |
| nent | neptune_smooth une_smooth_num | | | | | | True | | | |
| | restrict_polar_visc | True | True | True | True | True | False | | | |
| | rict_polar_visc_lat | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | | | |
| restric | t_polar_visc_ratio | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | | | |
| | $drag_friction_max$ | | | | | | 1.0 | | | |
| | ig_friction_scaling | | | | | | 1.0 | | | |
| | ction_uvmag_max | | | | | | 10.0 | | | |
| use_ | side_drag_friction use_this_module | True | True | True | True | True | False False | False | False | False |
| | vconst_1 | nue | iiue | 8 000 000.0 | 8 000 000.0 | iiue | 10 000 000.0 | rdlSE | rdise | rdise |
| | vconst_2 | | | 0.0 | 0.0 | | 0.0 | | | |
| | vconst_3 | | | 0.8 | 0.8 | | 0.16 | | | |
| | vconst_4 | | | 5×10^{-9} | 5×10^{-9} | | 2×10^{-8} | | | |
| | vconst_5 | | | 3 | 3 | | 3 | | | |
| | vconst_6 | | | 300 000 000.0 | 300 000 000.0 | | 10 000 000.0 | | | |
| | vconst_7 | | | 100.0 | 100.0 | | 100.0 | | | |
| | vconst_8 vel_micom_aniso | | | | | | 45.0 0.0 | | | |
| | vel_micom_iso | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | | | |
| visc | _vel_scale_length | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 150 000.0 | | | |
| 7130 | viscosity_ncar | False | False | False | True | False | False | | | |
| | scosity_ncar_2000 | | | False | False | | True | | | |
| vi | scosity_ncar_2007 | | | True | True | | False | | | |
| | | | | | | | | | | |

| Viscosity, scale by, rossby True True True True True False Viscosity, scale by, rossby power 4.0 4.0 4.0 4.0 4.0 4.0 2.0 4.0 2.0 4.0 4.0 2.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 4.0 2.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4 | jra55_ryf input.nml | 01deg jra55_ryf/ ocean/ input.nml |
|--|------------------------|--|
| &ocean_mixdownslope.nml debug this module False False False False False False mixdownslope.mask gfdl True True False False False Palse mixdownslope.mask gfdl True True False False False False mixdownslope.mask gfdl True True False False False False mixdownslope.mask gfdl True True False False False False mixdownslope.weight_far True False | | |
| True | False | |
| mixdownslope_mask_affdt True False False False False False mixdownslope_mask 4 4 4 4 4 1 mixdownslope_width read_mixdownslope_width True True False False mixdownslope_width True | rutsc | |
| mixdownslope mask_ofdl True True False False False False mixdownslope_weight_far 4 4 4 4 4 1 mixdownslope_weight_far 1 1 1 1 read_mixdownslope_width True True False False False mixdownslope_width True True True True True False False use_this_module True True True True True False Fa | | |
| mixdownslope_npts 4 | | |
| Mixdownslope_width Fead_mixdownslope_mask | | |
| read_mixdownslope_mask use this_module True | | |
| use_this_moduleTrue | | |
| Barotropic_split 80 80 80 80 80 80 80 8 | False | False |
| False | 1 | 1 |
| debug dt_oceanFalse 7200False 7200False 7200False 3600False 3600False 3600False 3600False 3600False 3600False 3600False 3600False | 80 | 80 True |
| Description | False | False |
| False | 150 | 150 |
| 1,4 1,2 1,4 | | |
| layout 12,8 6,4 12,10 16,15 16,15 48,40 48,40 mask table reinitialize thickness surface_height_split 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 10, 15 | 10, 15 |
| reinitialize_thickness surface_height_split 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 80,75 | 80,75 |
| surface_height_split 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | |
| time_tendency 'twolevel' 'twoleve | 1 | 1 |
| use_blobs use_velocity_override vertical_coordinate 'zstar' 'z | 'twolevel' | 1 'twolevel' |
| vertical_coordinate 'zstar' ' | tiloteret | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| &ocean_momentum_source_nml False debug_this_module False rayleigh_damp_exp_from_bottom False False rayleigh_damp_exp_scale 100.0 rayleigh_damp_exp_time 864 000.0 use_rayleigh_damp_table True True True True True True | | |
| debug_this_module rayleigh_damp_exp_from_bottom False False False rayleigh_damp_exp_scale 100.0 rayleigh_damp_exp_time 864 000.0 use_rayleigh_damp_table True True True True True True True True True | 'zstar' | 'zstar' |
| rayleigh_damp_exp_from_bottom False False rayleigh_damp_exp_scale 100.0 rayleigh_damp_exp_time 864 000.0 use_rayleigh_damp_table True True True True | | |
| rayleigh_damp_exp_time 864 000.0 use_rayleigh_damp_table True True True True True True | False | False |
| use_rayleigh_damp_table True True True True True True | | |
| | True | True |
| <mark>use_this_module</mark> False False True True True True True True | True | True |
| verbose_init True | | |
| &ocean_nphysics_new_nml False drhodz_smooth_horz | | |
| drhodz_smooth_vert False | | |
| smax 0.01 | | |
| use_this_module False | | |
| vel_micom_smooth 0.2 &ocean_nphysics_nml debug_this False False False False False False | False | False |
| module | 1 0130 | 1 0130 |
| use_nphysicsa False False False False False False | False | False |
| use_nphysicsb False True False False False False False False | False | False |
| <pre>use_nphysicsc True False True True False False use_this_module True True True True False False</pre> | False False | False False |
| write_a_restart True | 1 4150 | · utsc |
| &ocean_nphysics_util_new_nml 1 | | |
| num_121_passes &ocean_nphysics_util_nml agm 800.0 800.0 600.0 600.0 600.0 100.0 | 100.0 | 100.0 |
| agm_closure True True True True True True True T | True | True |
| <mark>agm_closure_baroclinic</mark> True True True True True True True | True | True |
| agm_closure_buoy_freq | 0.004 | 0.004 |
| <pre>agm_closure_eady_ave_mixed True True True True agm_closure_eady_cap True True True True True</pre> | | |
| agm_closure_eady_smooth_horz True True True True True True | | |
| agm_closure_eady_smooth_vert True True True True True | | |
| agm_closure_eden_gamma 0.0 0.0 0.0 0.0 agm_closure_eden_greatbatch False False False | | |
| agm_closure_grid_scaling True True True True True | | |
| agm_closure_length 50 000.0 50 000.0 50 000.0 50 000.0 50 000.0 50 000.0 | 50 000.0 | 50 000.0 |
| agm_closure_length_bczone False False False False False False False False False | False | False |
| agm_closure_length_fixed False False False False agm_closure_length_rossby False False False False | False False | False False |
| agm_closure_lower_depth 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 | 2000.0 | 2000.0 |
| agm_closure_max 800.0 800.0 600.0 600.0 600.0 600.0 | 600.0 | 600.0 |
| agm_closure_min 100.0 100.0 50.0 50.0 50.0 100.0 agm_closure_scaling 0.07 0.07 0.07 0.07 0.07 0.07 | 100.0 0.07 | 100.0 0.07 |
| agm_closure_upper_depth 100.0 100.0 100.0 100.0 100.0 100.0 100.0 | 100.0 | 100.0 |
| agm_damping_time 45.0 45.0 45.0 45.0 45.0 | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|-------------------------------------|---|--|---|--|---|--|---|---|--|
| agn | n_smooth_space | False | False | False | False | False | | | | |
| ag | m_smooth_time | False | False | False | False | False | | | | |
| | aredi | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | | 600.0 | 600.0 | 600.0 |
| | redi_equal_agm | False | False | False | False | False | | False | False | False |
| | drhodz_mom4p1 dz_smooth_horz | True False | True False | True False | True False | True False | | False False | False False | False False |
| | dz_smooth_vert | False | False | False | False | False | | False | False | False |
| nphysi | cs_util_zero_init | True | True | True | True | True | | | | |
| ros | ssby_radius_max | 100 000.0 | 100 000.0 | 100 000.0 | 100 000.0 | 100 000.0 | | 100 000.0 | 100 000.0 | 100 000.0 |
| ro | ssby_radius_min | 15 000.0 | 15 000.0 | 15 000.0 | 15 000.0 | 15 000.0 | | 15 000.0 | 15 000.0 | 15 000.0 |
| | smax | 0.005 | 0.005 | | | | | | 0.002 | |
| ter | swidth acer_mix_micom | 0.002 False | 0.002 False | False | False | False | | False | 0.002 False | False |
| uc | vel_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| &ocean_nphysicsa_nml | recomeon | False | False | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| debug_this_module | | | | | | | | | | |
| neutral_ | linear_gm_taper | True | True | | | | | | | |
| | ral_physics_limit | True | True | | | | | | | |
| | _physics_simple | False | False | | | | | | | |
| | utral_sine_taper nask_neutral_on | True True | True True | | | | | | | |
| | use_this_module | False | False | False | False | False | | False | False | False |
| &ocean_nphysicsb_nml debug_this_module | ise_tills_illoudte | False | False | i disc | 1 disc | i alse | | i alse | 1 alse | i disc |
| | nblayer_smooth | True | True | | | | | | | |
| neutr | ral_physics_limit | True | True | | | | | | | |
| | _turb_thick_min | 50.0 | 50.0 | | | | | | | |
| | urb_thick_min_k | 5 | 5 | | | | | | | |
| | use_this_module | False | True | False | False | False | | False | False | False |
| &ocean_nphysicsc_nml bv_freq_smooth_vert | bvp_bc_mode | True 2 | | True 2 | True 2 | True 2 | | | | |
| | bvp_min_speed | 0.1 | | 0.1 | 0.1 | 0.1 | | | | |
| | bvp_speed | 0.0 | | 0.0 | 0.0 | 0.0 | | | | |
| deb | ug_this_module | False | | False | False | False | | | | |
| | do_gm_skewsion | True | | True | True | True | | | | |
| do_n | neutral_diffusion | True | | True | True | True | | | | |
| | epsln_bv_freq | 1×10^{-12} | | 1×10^{-12} | 1×10^{-12} | 1×10^{-12} | | | | |
| _ | sion_bvproblem skewsion_modes | True False | | True False | True False | True False | | | | |
| | tral_eddy_depth | True | | True | True | True | | | | |
| | ral_physics_limit | True | | True | True | True | | | | |
| | mber_bc_modes | 2 | | 2 | 2 | 2 | | | | |
| | regularize_psi | False | | False | False | False | | | | |
| | smax_psi | 0.01 | | 0.01 | 0.01 | 0.01 | | | | |
| • | smooth_psi nask_neutral_on | True | | True | True | True | | | | |
| | turb_blayer_min | True 50.0 | | True 50.0 | True 50.0 | True 50.0 | | | | |
| | use_this_module | True | False | True | True | True | | False | False | False |
| &ocean_obc_nml | ctrop_inc | | | | | | 0.0, 0.0, 0.0, | | | |
| | ctrop_max | | | | | | 0.0 1.5, 1.5, 1.5, | | | |
| | ctrop_min | | | | | | 1.5 0.1, 0.1, 0.1, 0.1 | | | |
| | ctrop_smooth | | | | | | 0.7, 0.7, 0.7, 0.7 | | | |
| | direction | | | | | | None | | | |
| | enh_fac_d | | | | | | 1.0, 1.0, 1.0, | | | |
| | enh_fac_v enh_pnts | | | | | | 0.9, 0.9, 0.9, 0.9 1, 1, 1, 1 | | | |
| | fieldname_eta | | | | | | 'eta_t', 'none', 'none', 'none' | | | |
| | fieldname_ud | | | | | | 'ud', 'none', 'none', 'none' | | | |
| | filename_eta | | | | | | 'obc_eta t.nc', 'none', 'none', 'none' | | | |
| | filename_tracer | | | | | | 'INPUT' | | | |
| | | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------|------------|---|--|---|--|---|---|---|---|--|
| fil | ename_ud | | | | | | 'obc_ud.nc', 'none', 'none', 'none' | | | |
| | ie | | | | | | -999, -999, -999, -999 | | | |
| | iere | | | | | | -999, -999, -999, -999 | | | |
| | iers | | | | | | -999, -999, -999, -999 | | | |
| | is | | | | | | -999, -999, -999, -999 | | | |
| | itre | | | | | | -999, -999, -999, -999 | | | |
| | itrs | | | | | | -999, -999, -999, -999 | | | |
| | je | | | | | | -999, -999, -999, -999 | | | |
| | jere | | | | | | -999, -999, -999, -999 | | | |
| | jers | | | | | | -999, -999, -999, -999 | | | |
| | js | | | | | | -999, -999, -999, -999 | | | |
| | jtre | | | | | | -999, -999, -999, -999 | | | |
| | jtrs | | | | | | -999, -999, -999, -999 | | | |
| | name | | | | | | 'test_obc', 'none', 'none', | | | |
| | nobc | | | | | | 'none' | | | |
| obc_adjust_ | | | | | | | False, False, False, False | | | |
| | der_convu | | | | | | False, False, False, False | | | |
| obc_conside | er_sources | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, False, False, | | | |
| | | | | | | | False, False, | | | |
| | | | | | | | False, False, False, False | | | |
| obc_enhance | _diff_back | | | | | | 'NONE', | | | |
| | | | | | | | 'NONE', 'NONE', 'NONE' | | | |
| obc_enhance | _visc_back | | | | | | 'NONE', 'NONE', | | | |
| | | | | | | | 'NONE', 'NONE' | | | |
| | obc_eta | | | | | | 'NOTHIN', 'NOTHIN', | | | |
| | | | | | | | 'NOTHIN', 'NOTHIN' | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oı | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------|------------------|---|--|---|--|---|---|---|---|--|
| | obc_flow_relax | | | | | | 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | | | |
| | obc_mix | | | | | | 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', | | | |
| | obc_nor | | | | | | 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' | | | |
| | obc_relax_tracer | | | | | | False, False, False, False, | | | |
| | obc_tan | | | | | | 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file 000000 ou | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------|-----------------|---|--|---|--|---|--|---|---|--|
| | obc.tra | | | | | | file.00000.ot 'NOGRAD', | | | |
| obc <u>.t</u> i | obc_ud | | | | | | False, False, False, False, | | | |
| | | | | | | | 'NOGRAD', 'NOGRAD', 'NOGRAD' | | | |
| O | bc_vert_advel_t | | | | | | False, False, False, False | | | |
| ot | oc_vert_advel_u | | | | | | False, False, False, False | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss.acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---------------------------------------|--|---|--|---|--|---|--|---|---|--|
| | rel_clin_pnts | | | | | | 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | | | |
| | rel_coef_eta_in | | | | | | 0.0, 0.0, 0.0, 0.0 | | | |
| | rel_coef_eta_out | | | | | | 0.0, 0.0, 0.0, | | | |
| | rel_coef_tracer_in | | | | | | 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, | | | |
| | el_coef_tracer_out | | | | | | 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, | | | |
| &ocean_operators_nn | rel_eta_pnts | True | | | | False | 1, 1, 1, 1 False | False | False | False |
| use_legacy_div_ud | | | | | | | | | | |
| &ocean_overexchanger this_module | e_nml debug | False | False | False | False | False | False | False | False | False |
| overex | bitwise_exact_sum ch_check_extrema xch_min_thickness | False | False | False | False | | False False 4.0 | | | |
| | overexch_npts overexch_stability | 4 | 4 | 4 | 4 | 4 | 4 0.25 | 4 | 4 | 4 |
| | erexch_weight_far | False | False | False | False | False | False | False | False | False |
| | overexch_width | | | | | | 0.7777 | | | |
| | overflow_delta overflow_mu | | | | | | 0.3333 0.0001 | | | |
| | overflow_umax | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| &ocean_overflow_nm | use_this_module | False | False | False | False | False | False | False | False | False |
| debug_this_module | | False | False | False | False | | False | | False | |
| ao_ | bitwise_exact_sum no_return_flow | | | | | | False False | | | |
| | overflow_delta | | | | | | 0.3333 | | | |
| | overflow_mu | | | | | | 0.0001 | | | |
| | overflow_umax transport_units | | | | | | 0.01 'Sv' | | | |
| | use_this_module | False | False | False | False | False | False | False | False | False |
| &ocean_overflow_ofp debug_this_module | | | | | | | | | False | |
| do ent | diag_step rainment_para_ofp | | | | | | | | 5760 False | |
| do_cnt | do_mass_ofp | | | | | | | | True | |
| | frac_exchange_src | | | | | | | | 1.0 | |
| | max_vol_trans_ofp | | | | | | | | 10 000 000.0 | |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o1 | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|---|--|---|--|---|---|---|---|---|
| use_this_module | | | | | False | | False | False | False |
| &ocean_parameters_nml | | | | | | 4218.0 | | | |
| cp_liquid_runoff | | | | | | | | | |
| cp_ocean | | | | | | 3992.103 223 | | | |
| cp_solid_runoff | | | | | | 2106.0 | | | |
| grav | | | | | | 9.8 7.2921 × | | | |
| omega_earth | | | | | | 10^{-5} | | | |
| rho0 | | | | | | 1035.0 | | | |
| tfreeze | | | | | | 273.15 | | | |
| &ocean_polar_filter_nml | False | False | False | False | False | | False | False | False |
| use_this_module | | | | | | | | | |
| &ocean_pressure_nml | | | | | | False | | | |
| debug_this_module zero_correction_term_grad | | | | | | False | | | |
| zero_diagonal_press_grad | | | | | | False | | | |
| zero_eta_over_h_zstar_pressure | | | | | | False | | | |
| zero_pressure_force | | | | | False | False | False | False | False |
| &ocean_rivermix_nml | 40.0 | 40.0 | | | | 0.0 | | | |
| calving_insertion_thickness | | | | | | | | | |
| debug_all_in_top_cell | | | | | | False | _ | | |
| debug_this_module | False | False | False | False | False | False | False | False | False |
| debug_this_module_heat discharge_combine_runoff_calve | False | True | | | | False True | | | |
| do_bitwise_exact_sum | True | iiue | | | | False | | | |
| river_diffuse_salt | False | False | False | False | True | False | True | True | True |
| river_diffuse_temp | False | False | False | False | True | False | True | True | True |
| river_diffusion_thickness | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| river_diffusivity | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| river_insertion_thickness | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| runoff_insertion_thickness use_this_module | 40.0 True | 40.0 True | True | True | True | 0.0 True | True | True | True |
| &ocean_riverspread_nml | iiue | iiue | ilue | iiue | ilue | False | iiue | False | irue |
| debug_this_module | | | | | | rutsc | | ruisc | |
| riverspread_diffusion | | | | | | False | | | |
| riverspread_diffusion_passes | | | | | | 0 | | | |
| use_this_module | False | False | True | True | False | False | False | True | False |
| vel_micom_smooth | 'haliaara' | 'haliaava' | | | 'haliaara' | 0.2 | 'haliaaus' | 'haliaass' | 'haliaara' |
| &ocean_rough_nml rough_scheme &ocean_sbc_nml avg_sfc_temp_salt_eta | 'beljaars' True | 'beljaars' True | True | True | 'beljaars' True | True | 'beljaars' True | 'beljaars' True | 'beljaars' True |
| avg_sfc_velocity | True | True | True | True | True | True | True | True | True |
| calvingspread | False | False | iiuc | iide | False | False | False | False | False |
| constant_hlf | | | | | | True | | | |
| constant_hlv | | | | | | True | | | |
| constant_sss_for_restore | | | | | | 35.0 | | | |
| constant_sst_for_restore | | | | | | 12.0 | | | |
| convert_river_to_pme debug_water_fluxes | | | | | | False False | | | |
| do_bitwise_exact_sum | | | | | False | False | False | False | False |
| do_flux_correction | True | | | | False | False | False | False | False |
| do_langmuir | | | | | | False | | | |
| eta_restore_tscale | -10.0 | | | | | -30.0 | | | |
| ice_salt_concentration | | | 0.005 | | | 0.005 | | | |
| land_model_heat_fluxes | True | False | 0.5 | 0.5 | False | False | False | False | False |
| max_delta_salinity_restore max_ice_thickness | 8.0 | 8.0 | 0.5 8.0 | 0.5 8.0 | 0.5 0.0 | 0.5 0.0 | 0.5 0.0 | 0.5 0.0 | 0.5 0.0 |
| read_restore_mask | 0.0 | 0.0 | False | False | False | False | False | False | False |
| read_stokes_drift | | | Talsc | Tabe | Talsc | False | raisc | raisc | i disc |
| restore_mask_gfdl | | | False | False | False | False | False | False | False |
| rotate_winds | | | | | | False | | | |
| runoff_salinity | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| runoff_temp_min | F. 1 | F. 1 | | | | 0.0 False | | | |
| runoffspread salinity_ref | False | False | | | | False 35.0 | | | |
| salt_correction_scale | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| salt_restore_as_salt_flux | 0.0 | | True | True | True | True | True | True | True |
| salt_restore_tscale | -10.0 | -10.0 | 15.0 | 15.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| salt_restore_under_ice | | | True | True | True | True | True | True | True |
| sbc_heat_fluxes_const | | | | | | False | | | |
| sbc_heat_fluxes_const_seasonal | | | | | | False | | | |
| sbc_heat_fluxes_const_value tau_x_correction_scale | 0.0 | | | | | 0.0 0.0 | | | |
| Lau_x_correction_scale | 0.0 | | | | | 0.0 | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|--------------------------------------|---|--|---|--|---|---|---|---|--|
| tau_y_c | correction_scale | 0.0 | | | | | 0.0 | | | |
| | taux_sinx | | | | | | False | | | |
| | tauy_siny | 4.0 | | | | | False | | | |
| | correction_scale o_restore_tscale | 1.0 —10.0 | -10.0 | -1.0 | -1.0 | -10.0 | 0.0 —10.0 | -10.0 | -10.0 | -10.0 |
| | _sss_for_restore | -10.0 | -10.0 | -1.0 | -1.0 | -10.0 | — 10.0 False | -10.0 | -10.0 | -10.0 |
| | _sst_for_restore | | | | | | False | | | |
| use_full_patr | m_for_sea_level | True | True | | | False | False | False | False | False |
| | e_ideal_calving | | | | | | False | | | |
| U | ise_ideal_runoff | Tour | T | Т | T | Т | False | Т | T | Т |
| use_waterflux_o | use_waterflux | True False | True | True | True | True | True False | True | True | True |
| | <pre>catving </pre> | False | | | | | False | | | |
| | c_override_fprec | False | | | | | False | | | |
| | waterflux_tavg | False | False | False | False | | False | | | |
| | _calving_fluxes | | | | | | False | | | |
| | ero_heat_fluxes | False | | False | False | False | False | False | False | False |
| | me_eta_restore _salt_correction | False | | | | False | False False | Ealco | Ealco | False |
| | net_salt_restore | | | True | True | True | True | False True | False True | True |
| | vater_correction | | | Huc | nuc | False | False | False | False | False |
| zero_net_water | | | | True | True | True | True | True | True | True |
| | t_water_coupler | | | True | True | True | True | True | True | True |
| zero_ne | t_water_restore | | | True | True | True | True | True | True | True |
| | ero_pme_fluxes | | | | | | False | | | |
| | ero_river_fluxes | | | | | | False | | | |
| | ro_runoff_fluxes | | | Falsa | False | False | False | F-1 | Falsa | Falsa |
| | o_surface_stress ro_water_fluxes | | | False False | False | False | False False | False False | False False | False False |
| &ocean_sbc_ofam_nml | IO_Water_Ituxes | | | False | False | 1 alse | False | 1 0130 | 1 atse | 1 alse |
| restore_mask_ofam | | | | ruisc | ruse | | ruisc | | | |
| ri | ver_temp_ofam | | | False | False | | False | | | |
| &ocean_shortwave_csiro | _nml | | | True | True | | | | | |
| read_depth | | | | | | | | | | |
| u | se_this_module | False | False | True | True | False | | False | False | False |
| &ocean_shortwave_gfdl. | zmax_pen | | | 7000 | 7000 | | 0.08 | | | |
| chl_default | Jiiiit. | | | | | | 0.00 | | | |
| | ug_this_module | False | False | False | False | False | False | False | False | False |
| | enforce_sw_frac | True | True | True | True | True | True | True | True | True |
| | for_uniform_chl | | | | | | False | | | |
| | optics_manizza | True | True | True | True | True | True | True | True | True |
| optics optics optics | _morel_antoine | False | False | | | False | False | False | False | False |
| | override_f_vis read_chl | False False | False False | False | False | True | True True | True | True | True |
| | sw_frac_top | raise | raise | rdist | rdise | iiue | 0.0 | iiue | iiue | iiue |
| sw mor | el_fixed_depths | | | | | | False | | | |
| | en_fixed_depths | | | False | False | | . 4.50 | | | |
| u | se_this_module | True | True | False | False | True | True | True | True | True |
| | zmax_pen | 200.0 | 200.0 | 200.0 | 200.0 | 300.0 | 300.0 | 300.0 | 300.0 | 300.0 |
| &ocean_shortwave_jerlo | v_nml | False | False | False | False | False | | False | False | False |
| wse_this_module &ocean_shortwave_nml | | False | False | True | True | False | False | False | False | False |
| use_shortwave_csiro | | i alse | Talse | iiue | iiue | raise | i atse | 1 0130 | i atse | 1 0130 |
| | _shortwave_ext | | | | | | False | | | |
| | .shortwave_gfdl | True | True | False | False | True | True | True | True | True |
| use_sh | nortwave_jerlov | False | False | False | False | False | False | False | False | False |
| | se_this_module | True | True | True | True | True | True | True | True | True |
| &ocean_sigma_transport | t_nml | | | | | | 0.3333 | | | |
| campingoose_delta | ampingooso mu | | | | | | 0.0001 | | | |
| | mpingoose_mu ug_this_module | | | | | | False | | | |
| | dvection_check | | | | | | True | | | |
| | a_advection_on | False | False | False | False | | False | | False | |
| | ection_sgs_only | False | False | False | False | | False | | False | |
| | na_diffusion_on | True | True | True | True | | True | | True | |
| | igma_diffusivity | | | | | | 1000.0 | | | |
| | diffusivity_ratio | 1×10^{-6} | 1×10^{-6} | 1×10^{-6} | 1×10^{-6} | | 1×10^{-6} | | 1×10^{-6} | |
| sigma_just. | _in_bottom_cell | True | True | True | True | | True | | True | |
| cmoath | sigma_umax sigma_thickness | 0.01 True | 0.01 True | 0.01 True | 0.01 True | | 0.01 True | | 0.01 True | |
| | _sigma_velocity | True | True | True | True | | True | | True | |
| SITIUUUII | _Jigma_velocity | iiue | nue | iiue | iiue | | ilue | | ilue | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oı | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------|--------------------|---|--|---|--|---|---|---|---|--|
| | smooth_velmicom | 0.2 | 0.2 | 0.2 | 0.2 | | 0.2 | | 0.2 | _ |
| thi | ckness_sigma_layer | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | |
| th | ickness_sigma_max | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | |
| th | ickness_sigma_min | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | |
| | tmask_sigma_on | False | False | False | False | | False | | False | |
| | tracer_mix_micom | True | True | True | True | | True | | True | |
| | use_this_module | True | True | True | True | False | False | False | False | False |
| | vel_micom | 0.05 | 0.05 | 0.05 | 0.05 | | 0.05 | | 0.05 | |
| | verbose_init | | | | | | True | | | |
| | write_a_restart | | | | | | True | | | |
| &ocean_solo_nml | calendar | | | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' |
| | date_init | | | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 |
| | days | | | 0 | 1460 | 0 | 0 | 31 | 30 | 30 |
| | debug_this_module | | | | False | | False | | | |
| | dt_cpld | | | 3600 | 3600 | 3600 | 1800 | 1200 | 150 | 600 |
| | hours | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | layout_mask | | | | | | 0,0 | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------|-----------|---|--|---|--|---|---|---|---|--|
| | mask_list | | | | | | file.000000.o ı | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
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| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | 19 | | 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| | | | | | | | 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|-------------------------|---|--|---|--|---|---|---|---|--|
| | minutes | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | months | | | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| | n_mask | | | | | | 0 | | | |
| restari | t_interval | | | | | | 0, 0, 0, 0, 0, 0 | | | |
| | seconds | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | years | | | | 0 | 2 | 1 | 0 | 0 | 0 |
| &ocean_sponges_eta_nml umodule | use_this | False | False | False | False | False | False | False | False | False |
| &ocean_sponges_eta_ofam_nm | al athroch | | | | | | 0.5 | | | |
| | o_restore | | | | | | 1 | | | |
| | lambda | | | | | | 0.0083 | | | |
| | npower | | | | | | 1.0 | | | |
| secs_t | o_restore | | | | | | 0 | | | |
| | taumin | | | | | | 720.0 | | | |
| use_adaptiv | | | | | | | False | | | |
| | rd_thump | | | | | | False | | | |
| use_no _use_sponge_ | rmalising after init | | | | | | False False | | | |
| &ocean_sponges_tracer_nml | arter_IIIIt | False | False | False | False | | False | | False | |
| damp_coeff_3d | | 1 0125 | 1 dise | I dist | i dise | | i dise | | i dise | |
| | s_module | False | False | False | False | False | False | False | False | False |
| &ocean_sponges_tracer_ofam_ | | | | | | | 0.5 | | | |
| athresh | | | | | | | | | | |
| days_t | o_restore | | | | | | 1 | | | |
| | deflate | | | | | | False | | | |
| deflate | -fraction | | | | | | 0.6 | | | |
| | lambda | | | | | | 0.0083 | | | |
| | limit_salt _salt_min | | | | | | False 0.01 | | | |
| | t_restore | | | | | | 3600.0 | | | |
| | mit_temp | | | | | | False | | | |
| | emp_min | | | | | | -1.8 | | | |
| limit_tem | p_restore | | | | | | 10 800.0 | | | |
| | npower | | | | | | 1.0 | | | |
| secs_t | o_restore | | | | | | 0 | | | |
| | taumin | | | | | | 720.0 | | | |
| use_adaptiv | | | | | | | False | | | |
| | rd_thump | | | | | | False False | | | |
| use_sponge_ | rmalising after init | | | | | | False | | | |
| &ocean_sponges_velocity_nml damp_coeff_3d | | | | | | | False | | | |
| | s_module | False | False | False | False | False | False | False | False | False |
| &ocean_sponges_velocity_ofan | n_nml | | | | | | 0.5 | | | |
| athresh | | | | | | | | | | |
| days_t | o_restore | | | | | | 0.0083 | | | |
| | lambda | | | | | | 1.0 | | | |
| sers to | npower o_restore | | | | | | 0 | | | |
| 3003_0 | taumin | | | | | | 720.0 | | | |
| use_adaptiv | | | | | | | False | | | |
| | d_thump | | | | | | False | | | |
| use_no | rmalising | | | | | | False | | | |
| use_sponge_ | after_init | | | | | | False | | | |
| &ocean_submesoscale_nml coefficient_ce | | | | | | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| | tant_hblt | Ealaa | Ealas | Ealas | Ealaa | Ealas | 100.0 False | Ealaa | Ealaa | False |
| debug_this | diag_step | False | False | False | False | False | 1200 | False | False | False |
| front_leng | | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 |
| front_length_defor | | True | True | True | True | True | True | True | True | True |
| | limit_psi | True | True | True | True | True | True | True | True | True |
| limit_psi_velo | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | min_kblt | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | num_hblt | | | | | _ | 0.0 | - | _ | _ |
| smooth_advect_transf | | | | | | True | True | True | True | True |
| smooth_advect_transp | oort_num ooth_hblt | False | False | False | False | 4 False | 4 False | 4 Falso | 4 Falso | 4 Falso |
| smooth_ | | raise | ralse | raise | raise | raise | False 2 | False | False | False |
| | nooth_psi | | | | | True | True | True | True | True |
| | _psi_num | | | | | 3 | 3 | 3 | 3 | 3 |
| submeso_ad | | | | | | False | False | False | False | False |
| | | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|------------------------|--------------------------------------|---|--|---|--|---|---|---|---|--|
| suhme | eso_advect_limit | | | | | True | file.00000.ou | True | True | True |
| | o_advect_sweby | | | | | iiuc | False | iiuc | nuc | iiuc |
| | _advect_upwind | | | | | True | True | True | True | True |
| | advect_zero_bdy | | | | | True | True | True | True | True |
| | omeso_diffusion | | | | | False | False | False | False | False |
| | sion_biharmonic _diffusion_scale | | | | | True | True | True | True | True |
| | meso limit flux | True | True | True | True | 10.0 | 10.0 True | 10.0 | 10.0 | 10.0 |
| | meso_skew_flux | ilue | iiuc | iiue | iiue | True | True | True | True | True |
| | time_constant | | | | | | 86 400.0 | | | |
| us | e_hblt_constant | | | | | | False | | | |
| use. | _hblt_equal_mld | True | True | True | True | True | True | True | True | True |
| | use_psi_legacy | True | True | Truce | Tuus | False | False | False | False | False |
| &ocean_tempsalt_nml | ise_this_module | True False | True False | True | True False | True False | True False | True False | True True | True False |
| debug_this_module | | raise | False | | raise | raise | raise | False | irue | False |
| | p_2nd_iteration | True | True | True | True | True | True | True | True | True |
| | _equal_contemp | | | | | True | True | True | True | True |
| | it_ts_with_ideal | | | | | | False | | | |
| | with_ideal_efold | | | | | | 1000.0 | | | |
| | ith_ideal_svalue | | | | | | 30.0 | | | |
| reinit_ts_w | ith_ideal_tvalue s_max | 55.0 | 55.0 | 55.0 | 55.0 | 70.0 | 10.0 70.0 | 70.0 | 70.0 | 70.0 |
| | s_max_limit | 42.0 | 42.0 | 42.0 | 42.0 | 70.0 42.0 | 42.0 | 42.0 | 42.0 | 42.0 |
| | s_min | -1.0 | -1.0 | -1.0 | -1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | s_min_limit | 5.0 | 5.0 | 0.0 | 0.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| | t_max | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 |
| | t_max_limit | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 |
| | t_min | -5.0 | -5.0 | -5.0 | -5.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| tomp | t_min_limit | —1.9 'potential | -1.9 'potential | - 2.0 conservative | -2.0 | -5.0 | — 5.0 'potential | -5.0 | — 5.0 'potential | -5.0 potential |
| цетр | erature_variable | temp' | temp' | temp' | 'conservative temp' | 'potential temp' | temp' | 'potential temp' | temp' | temp' |
| | teos10 | temp | temp | False | temp | temp | False | temp | temp | temp |
| &ocean_thickness_nml | debug_this | False | False | False | False | False | False | False | False | False |
| module | - | | | | | | | | | |
| • | s_module_detail | False | False | False | False | False | False | False | False | False |
| | ı_min_for_sigma | | | | | | 0.01 | | | |
| | rce_positive_dzt n_init_thickness | | | | | | False $1 	imes 10^{-5}$ | | | |
| | step_topography | | | | | | False | | | |
| | itialize_zero_eta | False | False | False | False | | False | | | |
| line | ear_free_surface | | | | | | False | | | |
| max | _num_bad_print | | | | | | 25 | | | |
| | pbot0_simple | | _ | | | | False | | | |
| | cale_rho0_mask | True | True | False | False | | False | | | |
| | ead_rhoO_profile _to_get_ht_mod | | | | | False | False False | False | False | False |
| | hoO_basin_label | 7.0 | 7.0 | 7.0 | 7.0 | Talsc | -1.0 | raisc | raisc | 1 disc |
| | rho0_mask_qfdl | True | True | False | False | | False | | | |
| resi | cale_rho0_value | 0.75 | 0.75 | 0.75 | 0.75 | | 1.0 | | | |
| | ickness_dzt_min | 2.0 | 2.0 | 1.0 | 1.0 | | 2.0 | | 2.0 | |
| | ess_dzt_min_init | 2.0 | 2.0 | 2.0 | 2.0 | , , , | 10.0 | , , , , | 10.0 | , , , |
| | ickness_method ipdate_dzwu_k0 | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' True | 'energetic' | 'energetic' | 'energetic' |
| L. | write_a_restart | | | | | | True | | | |
| &ocean_time_filter_nml | | False | False | | | | | | | |
| use_this_module | | | | | | | | | | |
| &ocean_topog_nml deb | ug_this_module | | | | | | True | | | |
| | flat_bottom | | | | | | False | | | |
| 2 | flat_bottom_ht | | | | | | 5500.0 50 | | | |
| | lat_bottom_kmt kmt_recompute | | | | | | False | | | |
| | ecompute_offset | | | | | | 0 | | | |
| | min_thickness | 5.0 | 5.0 | 25.0 | 25.0 | | 1.0 | | | |
| | write_topog | | | | | | False | | | |
| &ocean_tracer_advect_n | ıml | False | False | True | True | | False | | | |
| advect_sweby_all | | | | | _ | | | | | |
| | _domain_update | | | - | True | | False | | | |
| compute_gyre_ove | erturn_diagnose ug_this_module | False | False | True False | False | False | False | False | False | False |
| | lo_fast_compute | rdise | raise | True | raise | FdlSE | rdise | Lqr2G | Lqt2G | FdlSE |
| | nit_with_upwind | False | False | iiuc | | | False | | | |
| | | | | | | | | | | |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|---|--|---|--|---|---|---|---|--|
| ncom limit prother | | | | | | file.000000.oı False | | | |
| psom_limit_prather read_basin_mask | | | True | | False | False | False | False | False |
| write_a_restart | | | | | . 4.50 | True | . 4.50 | | . 4.50 |
| zero_tracer_advect_horz | | | | | | False | | | |
| zero_tracer_advect_vert | | | | | | False | | | |
| &ocean_tracer_diag_nml buoyancy_crit | | | | | | 0.0003 | | | |
| debug_diagnose_mixinga debug_diagnose_mixingb | | | | | | False False | | | |
| debug_diagnose_mixingc | | | | | | False | | | |
| debug_diagnose_mixingd | | | | | | False | | | |
| diag_step | 1200 | 12 | 120 | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| do_bitwise_exact_sum | False | False | False | False | False | False | False | False | False |
| dtheta_crit frazil_factor | | | | | | 2.0 1.0 | | | |
| psu2ppt | | | | | | 1.004 867 | | | |
| rho_grad_max | | | | | | $1 \times 10^{+28}$ | | | |
| rho_grad_min | | | | | | 1×10^{-5} | | | |
| smooth_kappa_sort | | | | | | 0 | | | |
| smooth_mld | True | True | | | | False | | | |
| smooth_mld_for_subduction | 1000 | 4000 | 4.0 | 4.0 | 700 | True | 700 | 700 | |
| tracer_conserve_days | $\frac{100.0}{1 \times 10^{+40}}$ | 100.0 | 1.0 | 1.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| &ocean_tracer_nml age_tracer_max_init compute_tmask_limit_on | $1 \times 10^{+40}$ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 True | 0.0 | 0.0 | 0.0 |
| debug_this_module | False | False | False | False | False | False | False | False | False |
| frazil_heating_after_vphysics | True | True | True | True | True | True | True | True | True |
| frazil_heating_before_vphysics | False | False | False | False | False | False | False | False | False |
| inflow_nboundary | | | | | | False | | | |
| interpolate_tdiag_to_pbott | False | | | | | False | | | |
| interpolate_tprog_to_pbott | False | _ | _ | _ | _ | True | _ | _ | _ |
| limit_age_tracer | True | True | True | True | True | True | True | True | True |
| ocean_tpm_debug remap_depth_to_s_init | False | False | False | False | False | False False | False | False | False |
| tmask_limit_ts_same | True | True | raisc | Tabe | raisc | True | i disc | raisc | raisc |
| use_tempsalt_check_range | | | | True | True | True | True | True | True |
| write_a_restart | | | | | | True | | | |
| zero_tendency | False | False | False | False | False | False | False | False | False |
| zero_tracer_source | False | False | False | False | False | False | False | False | False |
| &ocean_tracer_util_nml debug_diagnose_mass_of_layer | | | | | | False | | | |
| epsln_diagnose_mass_of_layer | | | | | | 1×10^{-5} | | | |
| rebin_onto_rho_all_values | | | | | | True | | | |
| &ocean_velocity_advect_nml | | | | | | False | | | |
| debug_this_module | | | | | | | | | |
| velocity_advect_centered | | | | | | True | | | |
| velocity_advect_upwind | | | | | | False | | | |
| zero_velocity_advect_horz zero_velocity_advect_vert | | | | | | False False | | | |
| &ocean_velocity_diag_nml debug_this | False | False | False | False | False | False | False | False | False |
| module | · ucc | iauc | i disc | , alsc | iuoc | , alsc | iauc | , uisc | i uisc |
| diag_step | 1200 | 12 | 120 | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| do_bitwise_exact_sum | | | | | | False | | | |
| energy_diag_step | 1200 | 12 | 120 | 4320 | 4320 | 4320 | 4320 | 5760 | 5760 |
| land_cell_num_max | 10.0 | 100 | 10.0 | 10.0 | 100 | 100 | 100 | 10.0 | 100 |
| large_cfl_value max_cfl_value | 10.0 | 10.0 100.0 | 10.0 | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 | 10.0 | 10.0 100.0 |
| verbose_cfl | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | False | 100.0 | 100.0 | 100.0 |
| &ocean_velocity_nml | | | | | | 0.6 | | | |
| adams_bashforth_epsilon | | | | | | | | | |
| adams_bashforth_third | True | True | True | True | True | True | True | True | True |
| constant_u | | | | | | 0.0 | | | |
| constant_v debug_this_module | | | | | | 0.0 False | | | |
| max_cgint | | | 1.0 | 1.0 | 1.0 | 1.5 | 1.0 | 1.0 | 1.0 |
| truncate_velocity | False | False | False | True | False | False | False | False | False |
| truncate_velocity_lat | . 4.50 | . 4150 | . 4150 | nuc | . utoc | 0.0 | . 4150 | . u.sc | . 4130 |
| truncate_velocity_value | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| truncate_verbose | True | True | True | True | True | True | True | True | True |
| update_velocity_via_uprime | | | | | | True | | | |
| use_constant_velocity | | | | | | False | | | |
| write_a_restart zero_tendency | False | False | False | False | False | True False | False | False | False |
| zero_tendency_explicit_a | raise | raise | Lql26 | raise | False | False | False False | False | False |
| zero_tendency_expticit_a | | | | | ו מנטכ | 1 4126 | ו מנטב | ו מנאכ | ו מנאכ |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ot | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|---|--|---|--|---|---|---|---|--|
| zero_tendency_explicit_b | | | | | False | False | False | False | False |
| zero_tendency_implicit | | | | | False | False | False | False | False |
| &ocean_vert_kpp_iow_nml use_this_module | False | False | | False | False | | False | False | False |
| &ocean_vert_kpp_mom4p0_nml use_this_module | False | False | | False | | | | | |
| &ocean_vert_kpp_mom4p1_nml bvf_from_below | | | | | | False | | | |
| calc_visc_on_cgrid | | | | | | False | | | |
| concv | | | | | | 1.8 | | | |
| cw_0 | | | | | | 0.15 | | | |
| debug_this_module diff_cbt_iw | 0.0 | | | 0.0 | 0.0 | False 0.0 | 0.0 | 0.0 | 0.0 |
| diff_cbt_limit | 0.0 | | | 0.0 | 0.0 | 0.005 | 0.0 | 0.0 | 0.0 |
| diff_con_limit | | | | 0.1 | | 0.1 | | | |
| do_langmuir | | | | | | False | | | |
| double_diffusion hbl_with_rit | True | | | True | True | True | True | True | True |
| kbl standard method | | | | False | False | False False | False | False | False |
| kot_standard_metriod kl_min | | | | raisc | raisc | 2 | raisc | raisc | raisc |
| l_smyth | | | | | | 2.0 | | | |
| lgam | | | | | | 1.04 | | | |
| limit_ghats | | | | | | False True | | | |
| limit_with_hekman linear_hbl | | | | | | True | | | |
| ltmax | | | | | | 5.0 | | | |
| non_local_kpp | | | | | | True | | | |
| radiation_iow | | | | | | False | | | |
| radiation_large | | | | | | False | | | |
| radiation_zero ricr | 0.3 | | | 0.3 | 0.3 | False 0.3 | 0.3 | 0.3 | 0.3 |
| shear_instability | 0.5 | | | 0.5 | 0.5 | True | 0.5 | 0.5 | 0.5 |
| smooth_blmc | True | | | False | False | False | False | False | False |
| smooth_ri_kmax_eq_kmu | | | | True | True | True | True | True | True |
| use_max_shear | | | | | | False | | | |
| use_sbl_bottom_flux use_this_module | True | | | True | True | False True | True | True | True |
| variable_vtc | nuc | | | nuc | iiuc | False | iiuc | iiuc | iiuc |
| visc_cbu_iw | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| visc_cbu_limit | | | | | | 0.005 | | | |
| visc_con_limit wsfc_combine_runoff_calve | False | | | 0.1 | | 0.1 | | | |
| wsic_combine_runon_caive wstfac | raise | | | | | True 0.6 | | | |
| &ocean_vert_kpp_nml diff_cbt_iw | | 0.0 | 0.0 | | | 0.0 | | | |
| diff_con_limit | | | 0.1 | | | | | | |
| double_diffusion | | True | True | | | | | | |
| kbl_standard_method | | 0.7 | True | | | | | | |
| ricr smooth_blmc | | 0.3 True | 0.3 True | | | | | | |
| use_this_module | | True | True | | | | | | |
| visc_cbu_iw | | 0.0 | 0.0 | | | | | | |
| visc_con_limit | 0.475 | 2.77 | 0.1 | 0.45 | | | | | |
| &ocean_vert_mix_nml afkph_00 | 0.675 | 0.675 | 0.65 | 0.65 | | 0.55 | | | |
| <mark>afkph_90</mark> aidif | 0.725 1.0 | 0.725 1.0 | 0.75 1.0 | 0.75 1.0 | 1.0 | 0.55 1.0 | 1.0 | 1.0 | 1.0 |
| bryan_lewis_diffusivity | True | True | False | False | False | False | False | False | False |
| bryan_lewis_lat_depend | True | True | True | True | False | False | False | False | False |
| bryan_lewis_lat_transition | 35.0 | 35.0 | 35.0 | 35.0 | | 35.0 | | | |
| debug_this_module dfkph_00 | 1.15 | 1.15 | 1.15 | 1.15 | | False 1.05 | | | |
| dfkph_90 | 1.15 | 1.15 | 0.95 | 0.95 | | 1.05 | | | |
| diff_cbt_tanh | 1.1.7 | 1,1,7 | 0.73 | 0.73 | | False | | | |
| diff_cbt_tanh_max | | | | | | 0.001 | | | |
| diff_cbt_tanh_min | | | | | | 2×10^{-5} | | | |
| diff_cbt_tanh_zmid | | | | | | 150.0 | | | |
| diff_cbt_tanh_zwid hwf_30_diffusivity | | | | | | 30.0 2×10^{-5} | | | |
| hwf_depth_transition | | | | | | 25 000 000.0 | | | |
| hwf_diffusivity | | | | | False | False | False | False | False |
| hwf_diffusivity_3d | | | | | | False | | | |
| hwf_min_diffusivity | | | | | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} |
| hwf_n0_2omega | | | | | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|------------------------|---|--|---|--|---|--|---|---|--|
| linear_taper_diff_ | _cbt_table | False | False | False | False | | False | | | |
| | 21_passes | | | | | | 1 | | | |
| quebec_200 | | False | 4.5×10^{-5} | 4.5×10^{-5} | 4.5×10^{-5} | | False $4.5 	imes 10^{-5}$ | | | |
| | sfkph_00 sfkph_90 | 4.5×10^{-5} 4.5×10^{-5} | 4.5×10^{-5} 4.5×10^{-5} | 4.5×10^{-5} 4.5×10^{-5} | 4.5×10^{-5} 4.5×10^{-5} | | 4.5×10^{-5} 4.5×10^{-5} | | | |
| smoot | th_rho_n2 | 4.5 ∧ 10 | 4.J × 10 | T.J × 10 | 4.5 ∧ 10 | | True | | | |
| use_diff_ | _cbt_table | False | False | False | False | False | False | False | False | False |
| use_explicit_ve | | | | | | | True | | | |
| vert_diff_back | rbose_init | True | True | True | True | True | True True | True | True | True |
| | x_scheme | 'kpp | 'kpp' | 'kpp' | 'kpp | 'kpp | 'kpp | 'kpp | 'kpp | 'kpp |
| | | mom4p1' | | | mom4p1' | mom4p1' | mom4p1' | mom4p1' | mom4p1' | mom4p1' |
| | _visc_back | | | | | | False 0.01 | | | |
| visc_cbu_ visc_chu | back_min | | | | | | 0.01 | | | |
| visc_cbu_t | | | | | | | 50.0 | | | |
| visc_cbu_b | | | | | | | 30.0 | | | |
| vmix_min_diss_bvf | | | | | | | 0.0006 | | | |
| vmix_min_c vmix_min_diss_flu | | | | | | | 1×10^{-7} 0.2 | | | |
| vmix_rescale_ | | | | | | | False | | | |
| vmix_set_min_d | | | | | | | False | | | |
| | zfkph_00 | 250 000 000.0 | 250 000 000.0 | 250 000.0 | 250 000.0 | | 250 000.0 | | | |
| | zfkph_90 | 250 000 000.0 | 250 000 000.0 | $\frac{250000.0}{5\times10^{-6}}$ | $\frac{250000.0}{5\times10^{-6}}$ | 0.0 | 250 000.0 | 0.0 | 0.0 | 0.0 |
| &ocean_vert_tidal_nml background_diffusivity | | 0.0 | 0.0 | 2 × 10 ° | 5 × 10 ° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| background | _viscosity | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| | n_drag_cd | | | | | | 0.0024 | | | |
| debug_thi | | 7000 | 700.0 | 7000 | 7000 | 5000 | False | F00.0 | 500.0 | F00.0 |
| default_roughne | ecay_scale | 300.0 | 300.0 | 300.0 | 300.0 | 500.0 | 500.0 25.0 | 500.0 | 500.0 | 500.0 |
| default_ti | | | | | | | 0.01 | | | |
| drag_dissipat | tion_efold | | | | | | True | | | |
| drag_dissipation_ti | | | | | | - | 43 200.0 | _ | - | _ |
| drag_dissipation_u | use_cabot nask_deep | | | | | True | True True | True | True | True |
| drag_mask_d | | | | | | | 0.1 | | | |
| dr | hodz_min | $1 	imes 10^{-12}$ | $1 	imes 10^{-12}$ | $1 	imes 10^{-12}$ | $1 	imes 10^{-12}$ | $1 	imes 10^{-10}$ | $1 	imes 10^{-10}$ | $1 	imes 10^{-10}$ | $1 	imes 10^{-10}$ | 1×10^{-10} |
| fixed_wave_d | | False | False | False | False | False | False | False | False | False |
| <mark>max_drag_</mark> max_wave_ | | 0.01 | 0.01 | 0.01 0.01 | 0.01 0.01 | 0.01 | 0.005 0.01 | 0.01 | 0.01 | 0.01 |
| | efficiency | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.2 | 0.01 | 0.01 | 0.01 |
| mixing_efficiency_i | | True | True | True | True | True | True | True | True | True |
| | nderson_p | | | | | | 0.25 | | | |
| munk_anders | 21_passes | | | | | | 3.0 1 | | | |
| read_leewave_d | | | | | | | False | | | |
| read_r | oughness | True | True | True | True | True | True | True | True | True |
| | ide_speed | True | True | True | True | True | True | True | True | True |
| read_wave_d reading_rough | | False True | False True | False True | False True | False True | False True | False True | False True | False True |
| reading_roughne | | False | False | False | False | False | False | False | False | False |
| roughr | ness_scale | 30 000.0 | 30 000.0 | 20 000.0 | 20 000.0 | 12 000.0 | 12 000.0 | 12 000.0 | 12 000.0 | 12 000.0 |
| shelf_dep smooth_bvfre | oth_cutoff | 160.0 | 160.0 | 160.0 | 160.0 | -1000.0 | -1000.0 | -1000.0 | -1000.0 | -1000.0 |
| | th_rho_n2 | | | | | | True True | | | |
| S | peed_min | | | | | | 0.005 | | | |
| tidal_diss_ | | | _ | _ | | | 0.333 33 | _ | _ | _ |
| tide_speed_data_ use_drag_d | | True True | True True | True True | True True | True True | True True | True True | True True | True True |
| use_arag_a use_leewave_d | | irue | irue | irue | ilue | irue | False | irue | ITue | irue |
| use_legacy | | True | | | | False | False | False | False | False |
| | s_module | True | True | True | True | True | True | True | True | True |
| use_wave_d <mark>vel_micor</mark> | | True | True | True | True | True | True 0.2 | True | True | True |
| wave_diffusivity_n | | | | | | | True | | | |
| wave_energy. | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| &ocean_vert_util_nml | | | | | | | False | | | |
| debug_this_module | 2_smooth | | | | | | 1 | | | |
| | ri_smooth | | | | | | 1 | | | |
| | mooth_n2 | | | | | | True | | | |
| | | | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ russ- accessom- mom4p1- input.nml | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|----------------------|---|--|---|--|---|---|---|---|--|
| | smooth_ri_number | | | | | | True | | | |
| &ocean_wave_nml | damp_where_ice | | | | | | True | | | |
| | debug_this_module | | | | | | False | | | |
| | filter_wave_mom | | | | | | True | | | |
| | use_this_module | | | | | | False | | | |
| | use_tma | | | | | | True | | | |
| | wavedamp | | | | | | -10.0 | | | |
| &ocean_xlandinser | write_a_restart | True | True | False | False | False | True | False | False | False |
| use_this_module | | | | | | raise | | raise | raise | raise |
| | verbose_init | True | True | True | True | | | | | |
| &ocean_xlandmix_r | nml use_this_module | True | True | False | False | False | | False | False | False |
| | verbose_init | True | True | True | True | | | | | |
| 0 sat | xlandmix_kmt | True True | True True | True | True | | | | | |
| &sat_vapor_pres_nr construct_table_wrt | :_liq | | | | | | | | | |
| | able_wrt_liq_and_ice | True | True | | | | | | | |
| | show_all_bad_values | | | | | | | | True | |
| &surface_flux_nml | ncar_ocean_flux | | | | | | | | True | |
| | old_dtaudv | False | | | | | | | - | |
| 0.1 | raoult_sat_vap | | | | | | | | True | |
| &time_interp_exter debug_this_module | | | | | | | False | | | |
| | max_fields | | | | | | 100 | | | |
| | max_files | | | | | | 40 | | | |
| 0 | num_io_buffers | | | | | | 2 | | | |
| &time_interp_nml | perthlike_behavior | WIDLIT (| WIDIT / | | | | False | | | |
| &topography_nml | topog_file | 'INPUT/ | 'INPUT/ | | | | | | | |
| | | navy_topog- | navy_topog- | | | | | | | |
| | | ra- phy.data.nc' | ra- phy.data.nc' | | | | | | | |
| &xgrid_nml | do_alltoall | priy.uata.ric | priy.uata.iiC | | | | | | True | True |
| angriu_riiit | do_alltoally | | | | | | | | True | True |
| | interp_method | 'second | 'second | | 'second | 'second | | 'second | 'second | 'second |
| | incorp_incorou | order' | order' | | order' | order' | | order' | order' | order' |
| make_ | exchange_reproduce | True | True | | False | False | | False | False | False |
| | nsubset | | | | | 16 | | 16 | 16 | 16 |
| | xgrid_log | | | | | | | | False | |

1.2 All variables in new configs (differences highlighted)

| Baisscom_ice_nml | 0.15 Palse P |
|---|--|
| Chillip Chil | False |
| Chk.o21.fields | False False 600 600 E False 1.0 1.0 E False 1.0 5 True 1.0 1.0 True 1.0 Tru |
| Maintain | E False 0 600 E False 0 1.0 E False 0 1.0 E False 0 1.0 E False 1 1.0 E True 1 1.0 E True 2 True |
| | 600 600 False 1.0 1.0 5 5 True 1.0 1.0 5 5 True 1.0 True 1.0 True 1.0 True 1.0 True 1.0 True 1.0 True |
| Final Factor Fa | False 1.0 False 1.0 False 1.0 False 1.0 False 1.0 False True 1.0 False False True True True True |
| | Palse False 1.0 1.0 5 5 True 1.0 1.0 1.0 True True True True True True True |
| Seminanger | 1.0 5 5 True 1.0 1.0 6 —0.216 5 True 2 True |
| Marie Mari | 5 5 True 1.0 1.0 5 —0.216 True 2 True |
| Page 1 Page 2 Page 3 P | 1.0 1.0 5 —0.216 True True True |
| Personance Per | 1.0 5 —0.216 e True |
| Sign.stffx 10 10 10 10 10 10 10 1 | -0.216 True True |
| diag-manager.nml tmet use.ioaice use. | -0.216 True True |
| &diag.manager.mil debug.diag.manager True TT &fins.jo.nml filisset.write single m &fims.jo.nml filisest.write single m &fms.nml clock.grain COMPONENT | e True E True |
| &diag_manager_nml debug_diag_manager True T &fms_io.nml fileset_write Single muti' | e True |
| &fms.io.nml fisest.wite Single True True< | |
| Kims.io.nml fileset write threading read threading read threading read threading read threading write single | Triio |
| kfms.nml threading.read treatments. stack.size 'muti' 'COMPONENT' 'Unit | |
| &fms.nml clock.grain of clock.grain of components compone | |
| &fms.nml clock.grain COMPONENT 155 List V. Full | |
| &mom_oasis3_interface_nml domains_stack_size 115200 11520 &mom_oasis3_interface_nml fields_in 'u_flux', 'v_flux', 'v_fl 'v_flux', 'v_fl 'v_flux', 'v_fl 'v_flux', 's_alt_flx', 's_alt_flx', 's_ml_ux', 's_ml_ux', 's_ml_ux', 's_ml_ux', 's_ml_ux', 's_ml_ux', 's_ml_ux', 's_ml_ux', 'l_ml_ux', 'l | |
| &mom_oasis3_interface_nml fields_in 'u_flux, 'v_fl 'u_flux, 'v_fl 'v_flux, 'v_fl 'v_flux, 'v_fl 'v_flux, 'v_fl 'salt_flx, 'salt_flx, 'salt_flx, 'salt_flx, 'su_fl 'mh_flux, 'mh_flux, 'mh_flux, 'mh_flux, 'r_flux, 't_flux, ' | |
| V.flux, 'v.fl 'iprec', 'fprec', 'fp | |
| | |
| Salt_flx, Salt_mh_flux, mh_flux, mh_ | |
| mh_flux, mh_flux, mh_flux, sw.flux, | |
| Sw.flux, 'sw.flux, 'q.flux, 'q.flux, 't.flux, | |
| 'q_flux', 'q_fl 't_flux', 't_fl 'lw_flux', 'lw_fl 'runof,'p', 'runof,'p', 'r | |
| 't_flux', 't_f | |
| 'lw_flux', 'lw_fl' 'runof,'p', 'runof,'p | |
| 'runof, 'p', 'runof, 'p', 'aicc', 'aicc', 'aicc', 'aicc', 'aicc', 'wfimelt', 'wfiform' 'wfifor | |
| 'aicc', 'aicc', 'wfimelt', 'wfimelt', 'wfiform' 'wfifo | |
| kmmonin_obukhov_nmt 'wfimelt', 'wfimelt', 'wfiform' 'wfimelt', 'wfiform' 'wfimelt', 'wfiform' 'wfimelt', 'wfiform' 'wfiform' 'wfiform' 't.suf', 't.s 't.suf', 'v.s 't.suf', 'v.s 'v.suf', 'v.s', 'v.s 'v.suf', 'v.s', 'v.s 'v.suf', 'v.s', 'v. | |
| kmonin_obukhov_nml 'wfiform' 'wfiform' 'wfiform' 'wfiform' 'wfiform' 'wfiform' 'k_surf, 't_s 1 csurf, 'u_surf, 'u_surf, 'v_surf, | |
| fields_out | |
| S_surf, S_su | |
| \tag{\tag{\tag{\tag{\tag{\tag{\tag{ | |
| \begin{align*} \begin | |
| 'dssldx, 'd | |
| 'dssldy, 'frazil' 'dssldy, 'frazil' 'dssldy, 'frazil' 'dssldy, 'frazil' 'dssldy, 'frazil' | |
| frazil' 'frazil' | • |
| num_fields_in 15 num_fields_out 7 send_after_ocean_update True T send_before_ocean_update False Fa &monin_obukhov_nml neutral True T | |
| num_fields_out 7 send_after_ocean_update True T send_before_ocean_update False Fa &monin_obukhov_nml neutral True T | |
| send_after_ocean_updateTrueTsend_before_ocean_updateFalseFa&monin_obukhov_nmlneutralTrueT | 5 15 7 7 |
| send_before_ocean_updateFalseFa&monin_obukhov_nmlneutralTrueT | |
| &monin_obukhov_nml rrue T | |
| | |
| &mpp_io_nml deflate_level 5 | 5 5 |
| shuffle 1 | 1 |
| &ocean_adv_vel_diag_nml diag_step 4320 43 | |
| large_cfl_value 10.0 1 | |
| max_cfl_value 1000 10 | |
| verbose_cfl True T | |
| | 5 0.5 |
| &ocean_albedo_nml ocean_albedo_option 2 | 2 2 |
| |) 10 |
| barotropic_time_stepping_a True T | |
| barotropic_time_stepping_b False Fa | |
| debug_this_module False Fa | |
| diag_step 4320 43 | |
| | 8.0 |
| | 2 0.2 |
| | |
| smooth_eta_diag_laplacian True T | 0.2 |
| smooth_eta_t_biharmonic False Fa | 2 0.2 True |
| smooth_eta_t_laplacian True T | e True |
| smooth_pbot_t_biharmonic False Fa | True False |
| smooth_pbot_t_laplacian True T | e True E False E True |
| truncate_eta False Fa | e True False True False |
| use_legacy_barotropic_halos False Fa | e True False True False True |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ocean/ | new/ control/ 025deg jra55_ryf/ ocean/ | new/ control/ 01deg jra55_ryf/ ocean/ |
|--|--|--|--|---|
| | | input.nml | input.nml | input.nml |
| | vel_micom_bih | 0.01 | 0.01 | 0.01 |
| | vel_micom_lap vel_micom_lap_diag | 0.05 0.2 | 0.05 0.2 | 0.05 0.2 |
| | verbose_truncate | True | True | True |
| | zero_tendency | False | False | False |
| &ocean_bbc_nml | bmf_implicit | True | True | True |
| | cdbot cdbot_hi | 0.001 0.007 | 0.001 0.007 | 0.001 0.007 |
| | cdbot_ni cdbot_roughness_length | 0.007 False | 0.007 False | 0.007 False |
| | cdbot_roughness_uamp | True | True | True |
| | uresidual | 0.05 | 0.05 | 0.05 |
| | use_geothermal_heating | False | False | False |
| &ocean_bih_friction_nml | bih_friction_scheme | 'general' | 'general' | 'general' |
| &ocean_bih_tracer_nml &ocean_bihcst_friction_nml | use_this_module use_this_module | False | False False | False False |
| &ocean_bihgen_friction_nml | bottom_5point | False True | False | False |
| &occan_bingen_metion_nine | eq_lat_micom | 0.0 | 0.0 | 0.0 |
| | eq_vel_micom_aniso | 0.0 | 0.0 | 0.0 |
| | eq_vel_micom_iso | 0.0 | 0.0 | 0.0 |
| | equatorial_zonal | False | False | False |
| | k_smag_aniso k_smag_iso | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 |
| | ncar_boundary_scaling | True | True | True |
| | ncar_boundary_scaling_read | False | False | False |
| | ncar_rescale_power | 2 | 2 | 2 |
| | ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} |
| | ncar_vconst_5 | 5 | 5 T:: | 5 |
| | use_this_module vel_micom_aniso | True 0.0 | True 0.0 | True 0.0 |
| | vel_micom_bottom | 0.01 | 0.0 | 0.0 |
| | vel_micom_iso | 0.04 | 0.0 | 0.0 |
| | visc_crit_scale | 0.25 | 1.0 | 1.0 |
| &ocean_convect_nml | use_this_module | False | False | False |
| &ocean_coriolis_nml | acor use_this_module | 0.5 True | 0.5 True | 0.5 True |
| &ocean_density_nml | eos_Linear | False | False | False |
| a contraction of the contraction | eos_preteos10 | True | True | True |
| | layer_nk | 80 | 80 | 80 |
| | neutralrho_max | 1030.0 | 1030.0 | 1030.0 |
| | neutralrho_min potrho_max | 1020.0 1038.0 | 1020.0 1038.0 | 1020.0 1038.0 |
| | potrho_min | 1028.0 | 1038.0 | 1038.0 |
| &ocean_domains_nml | max_tracers | 5 | 5 | 5 |
| &ocean_form_drag_nml | use_this_module | False | False | False |
| &ocean_frazil_nml | debug_this_module | False | False | False |
| | frazil_only_in_surface | False | False | False |
| | freezing_temp_preteos10 freezing_temp_simple | True False | True False | True False |
| | use_this_module | True | True | True |
| &ocean_grids_nml | debug_this_module | False | False | False |
| &ocean_increment_eta_nml | use_this_module | False | False | False |
| &ocean_increment_tracer_nml | use_this_module | False | False | False |
| &ocean_increment_velocity_nml | use_this_module | False | False | False |
| &ocean_lap_friction_nml &ocean_lap_tracer_nml | lap_friction_scheme use_this_module | 'general' False | 'general' False | 'general' False |
| &ocean_lapcst_friction_nml | use_this_module | False | False | False |
| &ocean_lapgen_friction_nml | bottom_5point | True | ratsc | ruisc |
| | k_smag_aniso | 0.0 | | |
| | k_smag_iso | 0.0 | | |
| | restrict_polar_visc | True | | |
| | restrict_polar_visc_lat restrict_polar_visc_ratio | 60.0 0.35 | | |
| | use_this_module | True | False | False |
| | vel_micom_iso | 0.1 | . 3100 | . 4.50 |
| | viscosity_ncar | False | | |
| | viscosity_scale_by_rossby | True | | |
| Pagan mindanmalana mal | viscosity_scale_by_rossby_power | 4.0 | | |
| &ocean_mixdownslope_nml | debug_this_module | False | | |
| | mixdownslope_mask_gfdl mixdownslope_npts | False 4 | | |
| | read_mixdownslope_nask | False | | |
| | use_this_module | True | False | False |
| &ocean_model_nml | baroclinic_split | 1 | 1 | 1 |
| | | | | |

| Variable | new/ control/ 1deg jra55_ryf/ | new/ control/ 025deg jra55_ryf/ | new/ control/ 01deg jra55_ryf/ |
|----------------------------|--|--|---|
| | | • | ocean/ input.nml |
| barotropic_split | 80 | 80 | 80 |
| cmip_units | True | True | True |
| | | | False 150 |
| | | | 10, 15 |
| layout | 16, 15 | 48, 40 | 80,75 |
| | 1 | | 1 |
| • | | | 'twolevel' 'zstar' |
| | | | False |
| use_rayleigh_damp_table | True | True | True |
| use_this_module | True | True | True |
| | | | False |
| | | | False False |
| use_nphysicsc | True | False | False |
| use_this_module | True | False | False |
| agm | 600.0 | 100.0 | 100.0 |
| agm_closure | | | True |
| | | | True 0.004 |
| agm_closure_eady_ave_mixed | True | 0.00 | 0.007 |
| agm_closure_eady_cap | True | | |
| - | True | | |
| | | | |
| | | | |
| | True | | |
| agm_closure_length | 50 000.0 | 50 000.0 | 50 000.0 |
| | False | False | False |
| | | | False |
| | | | False 2000.0 |
| agm_closure_max | 600.0 | 600.0 | 600.0 |
| agm_closure_min | 50.0 | 100.0 | 100.0 |
| agm_closure_scaling | | | 0.07 |
| | | 100.0 | 100.0 |
| | | | |
| agm_smooth_time | False | | |
| aredi | 600.0 | 600.0 | 600.0 |
| | | | False |
| | | | False False |
| drhodz_smooth_vert | False | False | False |
| nphysics_util_zero_init | True | | |
| | | | 100 000.0 |
| | | | 15 000.0 False |
| | | | 0.0 |
| use_this_module | False | False | False |
| use_this_module | False | False | False |
| | | | |
| | | | |
| | | | |
| | False | | |
| do_gm_skewsion | True | | |
| | | | |
| | | | |
| | | | |
| neutral_eddy_depth | True | | |
| neutral_physics_limit | True | | |
| number_bc_modes | 2 | | |
| | | | |
| | | | |
| tmask_neutral_on | True | | |
| turb_blayer_min | 50.0 | | |
| use_this_module | True | False | False |
| | False | False | False |
| debug_this_module | False | False | False |
| | barotropic.split cmip.units debug dt.ocean jo.layout layout surface.height.split time.tendency vertical.coordinate rayleigh.damp.exp.from.bottom use.rayleigh.damp.table use.nphysicsa use.nphysicsa use.nphysicsa use.physicsa use.physicsa use.physicsa use.physicsa use.physicsa use.physicsa use.physicsa use.physicsa use.this.module agm.closure.baroclinic agm.closure.baroclinic agm.closure.baroclinic agm.closure.baroclinic agm.closure.eady.ave agm.closure.eady.ave agm.closure.eady.ave agm.closure.eady.ave agm.closure.eady.smooth.vort agm.closure.eady.smooth.vort agm.closure.eden.gamma agm.closure.eden.gamma agm.closure.length.fixed agm.closure.length.fixed agm.closure.length.fixed agm.closure.length.fixed agm.closure.length.fixed agm.closure.length.fixed agm.closure.lower.depth agm.closure.epth agm.closure.min agm.closure.scaling agm.closure.min agm.closure.min agm.closure.min agm.closure.min agm.smooth.space agm.smooth.brac drhodz.smooth.horz drhodz.smooth.horz drhodz.smooth.horz drhodz.smooth.horz drhodz.smooth.horz drhodz.smooth.horz drhodz.smooth.vert byp.sc.util.zero.init rossby.radius.min tracer.mix.micom vel.micom use.this.module | barotropic.split 80 camp_mints True debug False debug Git ocean 3600 io.ajaout 4,3 layout 16,15 Surface_height.split 1 time_tendency vertical_coordinate 2star rayleigh.damp_exp_from_bottom use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table use_rayleigh.damp_table rure debug_this_module use_physicss False use_nphysics False use_nphysics False use_nphysics True agm_closure_brootlinic True agm_closure_brootlinic True agm_closure_brootlinic True agm_closure_eady_scap True agm_closure_eady_bcap True agm_smooth_broot agm_closure_eady_bcap True agm_smo | 10 10 10 10 10 10 10 |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|---|---|---|--|
| | overexch_npts | 4 | 4 | 4 |
| | overexch_weight_far | False | False | False |
| | overflow_umax use_this_module | 5.0 False | 5.0 False | 5.0 False |
| &ocean_overflow_nml | use_this_module | False | False | False |
| &ocean_overflow_ofp_nml | use_this_module | False | False | False |
| &ocean_polar_filter_nml | use_this_module | False | False | False |
| &ocean_pressure_nml | zero_pressure_force | False | False | False |
| &ocean_rivermix_nml | debug_this_module river_diffuse_salt | False True | False True | False True |
| | river_diffuse_temp | True | True | True |
| | river_diffusion_thickness | 0.0 | 0.0 | 0.0 |
| | river_diffusivity | 0.0 | 0.0 | 0.0 |
| | river_insertion_thickness use_this_module | 40.0 True | 40.0 True | 40.0 True |
| &ocean_riverspread_nml | use_this_module | False | False | False |
| &ocean_rough_nml | rough_scheme | 'beljaars' | 'beljaars' | 'beljaars' |
| &ocean_sbc_nml | avg_sfc_temp_salt_eta | True | True | True |
| | avg_sfc_velocity | True | True | True |
| | calvingspread do_bitwise_exact_sum | False False | False False | False False |
| | do_bltwise_exact_sum do_flux_correction | False | False | False |
| | land_model_heat_fluxes | False | False | False |
| | max_delta_salinity_restore | 0.5 | 0.5 | 0.5 |
| | max_ice_thickness | 0.0 | 0.0 | 0.0 |
| | read_restore_mask | False False | False False | False False |
| | restore_mask_gfdl runoff_salinity | 0.0 | 0.0 | 0.0 |
| | salt_correction_scale | 0.0 | 0.0 | 0.0 |
| | salt_restore_as_salt_flux | True | True | True |
| | salt_restore_tscale | 60.0 | 60.0 | 60.0 |
| | salt_restore_under_ice | True —10.0 | True —10.0 | True —10.0 |
| | temp_restore_tscale use_full_patm_for_sea_level | — 10.0 False | — 10.0 False | - 10.0 False |
| | use_waterflux | True | True | True |
| | zero_heat_fluxes | False | False | False |
| | zero_net_salt_correction | False | False | False |
| | zero_net_salt_restore zero_net_water_correction | True False | True False | True False |
| | zero_net_water_couple_restore | True | True | True |
| | zero_net_water_coupler | True | True | True |
| | zero_net_water_restore | True | True | True |
| | zero_surface_stress | False | False | False |
| &ocean_shortwave_csiro_nml | zero_water_fluxes use_this_module | False False | False False | False False |
| &ocean_shortwave_csiro_nint &ocean_shortwave_qfdl_nml | debug_this_module | False | False | False |
| Woccum_Shortwave_grate_mint | enforce_sw_frac | True | True | True |
| | optics_manizza | True | True | True |
| | optics_morel_antoine | False | False | False |
| | read_chl use_this_module | True True | True True | True True |
| | use_tnis_module zmax_pen | 300.0 | 300.0 | 300.0 |
| &ocean_shortwave_jerlov_nml | use_this_module | False | False | False |
| &ocean_shortwave_nml | use_shortwave_csiro | False | False | False |
| | use_shortwave_gfdl | True | True | True |
| | use_shortwave_jerlov | False | False | False |
| &ocean_sigma_transport_nml | use_this_module use_this_module | True False | True False | True False |
| &ocean_solo_nml | calendar | 'NOLEAP' | 'NOLEAP' | 'NOLEAP' |
| | date_init | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 |
| | days | 7.000 | 31 | 30 |
| | dt_cpld hours | 3600 0 | 1200 0 | 600 |
| | minutes | 0 | 0 | 0 |
| | months | 0 | 0 | 0 |
| | seconds | 0 | 0 | 0 |
| | | 2 | 0 | 0 |
| | years | | | |
| &ocean_sponges_eta_nml | use_this_module | False | False | False |
| &ocean_sponges_tracer_nml | use_this_module use_this_module | False False | False False | False |
| &ocean_sponges_tracer_nml &ocean_sponges_velocity_nml | use_this_module use_this_module use_this_module | False False False | False False False | False False |
| &ocean_sponges_tracer_nml | use_this_module use_this_module | False False | False False | False |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|--|---|---|--|
| | front_length_deform_radius | True | True | True |
| | limit_psi limit_psi_velocity_scale | True 0.5 | True 0.5 | True 0.5 |
| | min_kblt | 4 | 4 | 4 |
| | smooth_advect_transport | True | True | True |
| | smooth_advect_transport_num | 4 | 4 | 4 |
| | smooth_hblt | False | False | False |
| | smooth_psi | True 3 | True | True |
| | smooth_psi_num submeso_advect_flux | False | 3 False | 3 False |
| | submeso_advect_limit | True | True | True |
| | submeso_advect_upwind | True | True | True |
| | submeso_advect_zero_bdy | True | True | True |
| | submeso_diffusion | False | False | False |
| | submeso_diffusion_biharmonic | True | True | True |
| | submeso_diffusion_scale | 10.0 | 10.0 | 10.0 |
| | submeso_skew_flux | True | True | True |
| | use_hblt_equal_mld use_psi_legacy | True False | True False | True False |
| | use_this_module | True | True | True |
| &ocean_tempsalt_nml | debug_this_module | False | False | False |
| | pottemp_2nd_iteration | True | True | True |
| | pottemp_equal_contemp | True | True | True |
| | s_max | 70.0 | 70.0 | 70.0 |
| | s_max_limit | 42.0 | 42.0 | 42.0 |
| | s_min | 0.0 | 0.0 | 0.0 |
| | s_min_limit | 2.0 | 2.0 | 2.0 |
| | t_max | 55.0 | 55.0 32.0 | 55.0 32.0 |
| | t_max_limit t_min | 32.0 — 20.0 | -20.0 | - 20.0 |
| | t_min_limit | -20.0 -5.0 | -20.0 -5.0 | -20.0 -5.0 |
| | temperature_variable | 'potential | 'potential | 'potential |
| | temperature=randote | temp' | temp' | temp' |
| &ocean_thickness_nml | debug_this_module | False | False | False |
| | debug_this_module_detail | False | False | False |
| | rescale_mass_to_get_ht_mod | False | False | False |
| | thickness_method | 'energetic' | 'energetic' | 'energetic' |
| &ocean_tracer_advect_nml | debug_this_module | False | False | False |
| Second tracer dies and | read_basin_mask | False 4320 | False 4320 | False 576 |
| &ocean_tracer_diag_nml | <mark>diag_step</mark> do_bitwise_exact_sum | False | False | False |
| | tracer_conserve_days | 30.0 | 30.0 | 30.0 |
| &ocean_tracer_nml | age_tracer_max_init | 0.0 | 0.0 | 0.0 |
| West and the second sec | debug_this_module | False | False | False |
| | frazil_heating_after_vphysics | True | True | True |
| | frazil_heating_before_vphysics | False | False | False |
| | limit_age_tracer | True | True | True |
| | remap_depth_to_s_init | False | False | False |
| | use_tempsalt_check_range | True | True | True |
| | zero_tendency zero_tracer_source | False False | False False | False False |
| &ocean_velocity_diag_nml | debug_this_module | False | False | False |
| account retoury and gamme | debug_triis_inodute diag_step | 4320 | 4320 | 576 |
| | energy_diag_step | 4320 | 4320 | 5760 |
| | large_cfl_value | 10.0 | 10.0 | 10.0 |
| | max_cfl_value | 100.0 | 100.0 | 100.0 |
| &ocean_velocity_nml | adams_bashforth_third | True | True | True |
| | max_cgint | 1.0 | 1.0 | 1.0 |
| | truncate_velocity | False | False | False |
| | truncate_velocity_value | 2.0 True | 2.0 | 2.0 Truo |
| | truncate_verbose | True | True False | True |
| | zero_tendency zero_tendency_explicit_a | False False | False | False False |
| | zero_tendency_explicit_b | False | False | False |
| | zero_tendency_implicit | False | False | False |
| &ocean_vert_kpp_iow_nml | use_this_module | False | False | False |
| &ocean_vert_kpp_mom4p1_nml | diff_cbt_iw | 0.0 | 0.0 | 0.0 |
| | double_diffusion | True | True | True |
| | kbl_standard_method | False | False | False |
| | ricr | 0.3 | 0.3 | 0.3 |
| | smooth_blmc | False | False | False |
| | smooth_ri_kmax_eq_kmu | True | True | True |
| | use_this_module | True | True | True |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ocean/ input.nml | new/ control/ 025deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------------|---|---|---|--|
| | visc_cbu_iw | 0.0 | 0.0 | 0.0 |
| &ocean_vert_mix_nml | aidif | 1.0 | 1.0 | 1.0 |
| COCCUI_TCTC_IIIIX_IIIIC | bryan_lewis_diffusivity | False | False | False |
| | bryan_lewis_lat_depend | False | False | False |
| | hwf_diffusivity | False | False | False |
| | hwf_min_diffusivity | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} |
| | hwf_n0_2omega | 20.0 | 20.0 | 20.0 |
| | use_diff_cbt_table | False | False | False |
| | vert_diff_back_via_max | True | True | True |
| | vert_mix_scheme | 'kpp mom4p1' | 'kpp mom4p1' | 'kpp mom4p1' |
| &ocean_vert_tidal_nml | background_diffusivity | 0.0 | 0.0 | 0.0 |
| | background_viscosity | 0.0001 | 0.0001 | 0.0001 |
| | decay_scale | 500.0 | 500.0 | 500.0 |
| | drag_dissipation_use_cdbot | True | True | True |
| | drhodz_min | $1 	imes 10^{-10}$ | $1 	imes 10^{-10}$ | $1 	imes 10^{-10}$ |
| | fixed_wave_dissipation | False | False | False |
| | max_wave_diffusivity | 0.01 | 0.01 | 0.01 |
| | mixing_efficiency_n2depend | True | True | True |
| | read_roughness | True | True | True |
| | read_tide_speed | True | True | True |
| | read_wave_dissipation | False | False | False |
| | reading_roughness_amp | True | True | True |
| | reading_roughness_length | False | False | False |
| | roughness_scale | 12 000.0 | 12 000.0 | 12 000.0 |
| | shelf_depth_cutoff | -1000.0 | -1000.0 | -1000.0 |
| | tide_speed_data_on_t_grid | True | True | True |
| | use_drag_dissipation | True | True | True |
| | use_legacy_methods | False | False | False |
| | use_this_module use_wave_dissipation | True True | True True | True True |
| | wave_energy_flux_max | 0.1 | 0.1 | 0.1 |
| &ocean_xlandinsert_nml | use_this_module | False | False | False |
| &ocean_xlandmix_nml | use_this_module | False | False | False |
| &xgrid_nml | do_alltoall | 1 0136 | 1 0136 | True |
| unginu_iiiit | do_attoatt do_atltoatly | | | True |
| | interp_method | 'second | 'second | 'second |
| | interp_metriou | order' | order' | order' |
| | make_exchange_reproduce | False | False | False |
| | nsubset | 16 | 16 | 16 |

1.3 All variables in new 1/10 deg config (differences highlighted)

Originals are from a fresh git clone, 2017-11-18.

| Group | Variable | original/ control/ 01deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|-------------------------------|--|--|--|
| &auscom_ice_nml | aice_cutoff | 0.15 | 0.15 |
| | chk_i2o_fields | False | False |
| | chk_o2i_fields | False | False |
| | do_ice_once | False | False |
| | dt_cpl | 150 Falso | 600 Falso |
| | fixmeltt frazil_factor | False 1.0 | False 1.0 |
| | iceform_adj_salt | False | False |
| | icemlt_factor | 1.0 | 1.0 |
| | kmxice | 5 | 5 |
| | pop_icediag | True | True |
| | sign_stflx | 1.0 | 1.0 |
| | tmelt | -0.216 | -0.216 |
| | use_ioaice | True | True |
| &diag_manager_nml | debug_diag_manager | | True |
| | issue_oor_warnings | False | True |
| | max_axes | 300 | |
| | max_files | 1000 | |
| | max_input_fields | 700 | |
| | max_num_axis_sets | 40 | |
| | max_output_fields | 700 | |
| &fms_io_nml | checksum_required | False | |
| | fileset_write | 'multi' | 'multi' |
| | max_files_r | 700 | |
| | max_files_w | 700 | 'multi' |
| | threading_read | 'multi' | 'multi' |
| &fms_nml | threading_write | 'multi' 'LOOP' | 'multi' 'COMPONENT' |
| &IIIIS_IIIII | <mark>clock_grain</mark> domains_stack_size | 115200 | 115200 |
| | print_memory_usage | False | 113200 |
| &generic_tracer_nml | do_generic_cfc | False | |
| Wychene Ludder Limit | do_generic_topaz | False | |
| | do_generic_tracer | False | |
| &mom_oasis3_interface_nml | fields_in | 'u_flux', | 'u_flux', |
| | | 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', | 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', |
| | | 'aice', 'wfimelt', 'wfiform' | 'aice', 'wfimelt', 'wfiform' |
| | fields_out | 't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' | 't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' |
| | num_fields_in | 15 | 15 |
| | num_fields_out | 7 | 7 |
| | send_after_ocean_update | True | True |
| | send_before_ocean_update | False | False |
| &monin_obukhov_nml | neutral | True | True |
| &mpp_io_nml | deflate_level | 5 | 5 |
| &ocean_adv_vel_diag_nml | shuffle | 4320 | 1 576 |
| QUEEdit_auv_vet_ulay_fillit | d <mark>iag_step</mark> large_cfl_value | | |
| | targe_ctt_value max_cfl_value | 10.0 100.0 | 10.0 100.0 |
| | verbose_cfl | True | True |
| &ocean_advection_velocity_nml | max_advection_velocity | 0.2 | 0.5 |
| &ocean_albedo_nml | ocean_albedo_option | 2 | 2 |
| &ocean_barotropic_nml | barotropic_halo | 10 | 10 |
| woccun_burotropic_nint | barotropic_time_stepping_a | True | True |
| | barotropic_time_stepping_b | False | False |

| ol/ control/ g 01deg yf/ jra55_ryf/ an/ ocean/ | original/ control/ 01deg jra55_ryf/ ocean/ | Variable | Group (continued) |
|---|--|---|--|
| | input.nml False | debug_this_module | |
| | 4320 | diag_step | |
| | 8.0 | eta_max | |
| | 0.2 | frac_crit_cell_height | |
| | 0.2 True | pred_corr_gamma smooth_eta_diag_laplacian | |
| | False | smooth_eta_t_biharmonic | |
| | True | smooth_eta_t_laplacian | |
| | False | smooth_pbot_t_biharmonic | |
| | True | smooth_pbot_t_laplacian | |
| | False False | truncate_eta use_legacy_barotropic_halos | |
| | 0.01 | use_tegacy_balotropic_riatos vel_micom_bih | |
| | 0.05 | vel_micom_lap | |
| | 0.5 | vel_micom_lap_diag | |
| | True | verbose_truncate | |
| | False | zero_tendency | |
| | True 0.001 | bmf_implicit cdbot | &ocean_bbc_nml |
| | 0.001 | cdbot_hi | |
| | False | cdbot_roughness_length | |
| | True | cdbot_roughness_uamp | |
| | 0.05 | uresidual | |
| | False | use_geothermal_heating bih_friction_scheme | &ocean_bih_friction_nml |
| | 'general' True | tracer_mix_micom | &ocean_bih_tracer_nml |
| | False | use_this_module | doccur_on_cracer_min |
| | 0.001 | vel_micom | |
| | False | use_this_module | &ocean_bihcst_friction_nml |
| | False | bottom_5point | &ocean_bihgen_friction_nml |
| 0.0 | 0.0 0.0 | eq_lat_micom | |
| | 0.0 | eq_vel_micom_aniso eq_vel_micom_iso | |
| | False | equatorial_zonal | |
| | 0.0 | k_smag_aniso | |
| | _2.0 | k_smag_iso | |
| | True | ncar_boundary_scaling | |
| rue False 2 | True 2 | <mark>ncar_boundary_scaling_read</mark> ncar_rescale_power | |
| | 2×10^{-8} | ncar_vconst_4 | |
| 5 5 | | ncar_vconst_5 | |
| | True | use_this_module | |
| | 0.0 | vel_micom_aniso | |
| | 0.0 0.0 | vel_micom_bottom vel_micom_iso | |
| | 1.0 | visc_crit_scale | |
| | True | convect_full_scalar | &ocean_convect_nml |
| | False | convect_full_vector | |
| | False | use_this_module | |
| | 0.5 True | acor use_this_module | &ocean_coriolis_nml |
| | True False | use_tnis_module eos_linear | &ocean_density_nml |
| | True | eos_preteos10 | accommodification and a second accommodification accommodification and a second accommodification accommodification and a second accommodification accommodificatio |
| 80 80 | 80 | layer_nk | |
| | 1038.0 | neutralrho_max | |
| | 1028.0 | neutralrho_min | |
| | 1038.0 1028.0 | potrho_max potrho_min | |
| 5 5 | | max_tracers | &ocean_domains_nml |
| | False | use_this_module | &ocean_form_drag_nml |
| lse False | False | debug_this_module | &ocean_frazil_nml |
| | False | frazil_only_in_surface | |
| | True False | freezing_temp_preteos10 | |
| | True | freezing_temp_simple use_this_module | |
| | False | debug_this_module | &ocean_grids_nml |
| | False | use_this_module | &ocean_increment_eta_nml |
| I | False | use_this_module | &ocean_increment_tracer_nml |
| | | | |
| lse False | False | use_this_module | &ocean_increment_velocity_nml |
| lse False ral' 'general' | False 'general' | lap_friction_scheme | &ocean_increment_velocity_nml &ocean_lap_friction_nml |
| lse False ral' 'general' lse False | False | | &ocean_increment_velocity_nml |

| Group (continued) | Variable | original/ control/ 01deg jra55_ryf/ ocean/ | new/ control/ 01deg jra55_ryf/ ocean/ |
|--|--|--|---|
| | use_this_module | input.nml False | input.nml False |
| &ocean_mixdownslope_nml | debug_this_module | False | |
| &ocean_model_nml | use_this_module baroclinic_split | False 1 | False 1 |
| xocean_modet_mint | barotropic_split | 80 | 80 |
| | cmip_units | | True |
| | debug | False | False |
| | dt_ocean io_layout | 150 10, 15 | 150 10, 15 |
| | layout | 80,75 | 80, 75 |
| | surface_height_split | 1 | 1 |
| | time_tendency vertical_coordinate | 'twolevel' 'zstar' | 'twolevel' 'zstar' |
| &ocean_momentum_source_nml | rayleigh_damp_exp_from_bottom | False | False |
| | use_rayleigh_damp_table | True | True |
| | use_this_module | True | True |
| &ocean_nphysics_nml | debug_this_module | False | False |
| | use_nphysicsa use_nphysicsb | False False | False False |
| | use_nphysicsc use_nphysicsc | False | False |
| | use_this_module | False | False |
| &ocean_nphysics_util_nml | agm | 100.0 | 100.0 |
| | agm_closure agm_closure_baroclinic | True | True True |
| | agm_closure_baroclinic agm_closure_buoy_freq | True 0.004 | 0.004 |
| | agm_closure_length | 50 000.0 | 50 000.0 |
| | agm_closure_length_bczone | False | False |
| | agm_closure_length_fixed | False | False |
| | agm_closure_length_rossby agm_closure_lower_depth | False 2000.0 | False 2000.0 |
| | agm_closure_max | 600.0 | 600.0 |
| | agm_closure_min | 100.0 | 100.0 |
| | agm_closure_scaling | 0.07 | 0.07 |
| | agm_closure_upper_depth aredi | 100.0 600.0 | 100.0 600.0 |
| | aredi_equal_agm | False | False |
| | drhodz_mom4p1 | False | False |
| | drhodz_smooth_horz | False | False |
| | drhodz_smooth_vert | False 100 000.0 | False 100 000.0 |
| | rossby_radius_max rossby_radius_min | 15 000.0 | 15 000.0 |
| | smax | 0.002 | |
| | swidth | 0.002 | |
| | tracer_mix_micom | False | False |
| &ocean_nphysicsa_nml | vel_micom use_this_module | 0.0 False | 0.0 False |
| &ocean_nphysicsb_nml | use_this_module | False | False |
| &ocean_nphysicsc_nml | use_this_module | False | False |
| &ocean_operators_nml | use_legacy_div_ud | False | False |
| &ocean_overexchange_nml | debug_this_module overexch_npts | False 4 | False 4 |
| | overexch_npts overexch_weight_far | False | False |
| | overflow_umax | 5.0 | 5.0 |
| | use_this_module | False | False |
| &ocean_overflow_nml | debug_this_module | False | Fals- |
| &ocean_overflow_ofp_nml | use_this_module debug_this_module | False False | False |
| account of the first of the fir | diag_step | 5760 | |
| | do_entrainment_para_ofp | False | |
| | do_mass_ofp | True | |
| | frac_exchange_src max_vol_trans_ofp | 1.0 10 000 000.0 | |
| | use_this_module | False | False |
| &ocean_polar_filter_nml | use_this_module | False | False |
| &ocean_pressure_nml | zero_pressure_force | False | False |
| v | debug_this_module river_diffuse_salt | False True | False True |
| &ocean_rivermix_nml | | True | True |
| xocean_rivermix_nmt | river diffuse temp | | |
| xocean_rivermix_nml | river_diffuse_temp river_diffusion_thickness | 0.0 | |
| xocean_rivermix_nmi | river_diffusion_thickness river_diffusivity | 0.0 0.0 | 0.0 0.0 |
| xocean_rivermix_nmi | river_diffusion_thickness | 0.0 | 0.0 0.0 40.0 True |

| Group (continued) | Variable | original/ control/ 01deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|---|---|--|
| | use_this_module | True | False |
| &ocean_rough_nml | rough_scheme | 'beljaars' | 'beljaars' |
| &ocean_sbc_nml | avg_sfc_temp_salt_eta avg_sfc_velocity | True True | True True |
| | calvingspread | False | False |
| | do_bitwise_exact_sum | False | False |
| | do_flux_correction | False | False |
| | land_model_heat_fluxes | False | False |
| | max_delta_salinity_restore | 0.5 | 0.5 |
| | max_ice_thickness | 8.0 | 0.0 |
| | read_restore_mask restore_mask_gfdl | False False | False False |
| | runoff_salinity | 0.0 | 0.0 |
| | salt_correction_scale | 0.0 | 0.0 |
| | salt_restore_as_salt_flux | True | True |
| | salt_restore_tscale | 60.0 | 60.0 |
| | salt_restore_under_ice | True | True |
| | temp_restore_tscale | -10.0 Falsa | -10.0 |
| | use_full_patm_for_sea_level | False True | False |
| | use_waterflux zero_heat_fluxes | True False | True False |
| | zero_net_salt_correction | False | False |
| | zero_net_salt_restore | True | True |
| | zero_net_water_correction | False | False |
| | zero_net_water_couple_restore | True | True |
| | zero_net_water_coupler | True | True |
| | zero_net_water_restore | True | True |
| | zero_surface_stress | False | False |
| Paccan charturate scire and | zero_water_fluxes | False | False |
| &ocean_shortwave_csiro_nml &ocean_shortwave_gfdl_nml | use_this_module debug_this_module | False False | False False |
| &ocean_snortwave_grut_nint | enforce_sw_frac | True | True |
| | optics_manizza | True | True |
| | optics_morel_antoine | False | False |
| | read_chl | True | True |
| | use_this_module | True | True |
| | zmax_pen | 300.0 | 300.0 |
| &ocean_shortwave_jerlov_nml | use_this_module | False | False |
| &ocean_shortwave_nml | use_shortwave_csiro | False | False |
| | use_shortwave_igrlov | True False | True False |
| | use_snortwave_jeriov use_this_module | True | True |
| &ocean_sigma_transport_nml | sigma_advection_on | False | |
| | sigma_advection_sgs_only | False | |
| | sigma_diffusion_on | True | |
| | sigma_diffusivity_ratio | 1×10^{-6} | |
| | sigma_just_in_bottom_cell | True | |
| | sigma_umax | 0.01 | |
| | smooth_sigma_thickness smooth_sigma_velocity | True True | |
| | smooth_velmicom | 0.2 | |
| | thickness_sigma_layer | 100.0 | |
| | thickness_sigma_max | 100.0 | |
| | thickness_sigma_min | 100.0 | |
| | tmask_sigma_on | False | |
| | tracer_mix_micom | True | . |
| | use_this_module | False | False |
| &ocean_solo_nml | vel_micom calendar | 0.05 'NOLEAP' | 'NOLEAP' |
| COCCUIT_SOLU_IIIIL | cateridal date_init | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 |
| | days | 30 | 30 |
| | dt_cpld | 150 | 600 |
| | hours | 0 | 0 |
| | minutes | 0 | 0 |
| | months | 0 | 0 |
| | seconds | 0 | 0 |
| &ocean sponges eta pml | years use this module | O Ealso | 0 False |
| &ocean_sponges_eta_nml &ocean_sponges_tracer_nml | use_this_module damp_coeff_3d | False False | False |
| woccun_ppungco_tracer_nint | use_this_module | False | False |
| | | iuisc | iuisc |
| &ocean_sponges_velocity_nml | | False | False |
| &ocean_sponges_velocity_nml &ocean_submesoscale_nml | use_this_module coefficient_ce | False 0.05 | False 0.05 |

| | Group (continued) | Variable | original/ control/ 01deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|---|--------------------------|----------------------------|---|--|
| Prof. Prof | | front_length_const | | |
| | | front_length_deform_radius | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Same same same same same same same same s | | | | |
| | | | False | False |
| Submess anders zero bird False F | | | True | True |
| Pate | | | | |
| Submess different bill brain state True Submess different bill brain state True True Submess different bill brain True | | • | | |
| | | | | |
| Submers skew flux Tue Tiue Ti | | | | |
| No. 1991 Part Par | | | | |
| Page | | | | |
| Secon_tempsalt_mmil Secon_tempsalt_mmil False False Secon_tempsalt_mmil Secon_tempsalt_mmil True False Secon_tempsalt_mmil Secon_tempsalt_mmil True | | | | |
| Pottern, pequal, robinering, counts of the pottern, equal, | | use_this_module | True | |
| | &ocean_tempsalt_nml | | | |
| S.max.lmit S.m | | | True | True |
| S. max Limit 47,0 47,0 57,0 | | | | |
| Samini, limit | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Between thickness.ml temperature variable to the time of t | | | | |
| & ocean.thickness.nml debug.this.module. detail. debug.this.module. detail. rescale.mass.to.get.ht.mod rescale.mass.to.get.ht.get.get.get.get.get.get.get.get.get.ge | | | | |
| Socean.thickness.nml debug.this.module_detail debug.this.module_detail rescale_mass.to_get.ht.mod thickness.det.min_init 20 False False False False Engretic energetic en | | temperature_variable | 'potential | 'potential |
| | | | | |
| Page | &ocean_thickness_nml | | | |
| Accean.tracer.advect.mml thistoness.drt min. Init. 10.0 thistoness.drt min. Init. 10.0 thistoness.method energetic' energetic' energetic' & ocean.tracer.advect.mml debug.this.module read basin.mask False False False read basin.mask False False False (ab. phis.module false tracer.conserve.days) 575 576 | | | | |
| | | | | i alse |
| &ccean_tracer_advect_nml thickness_method energetic' energetic' &ccean_tracer_advect_nml debug_this_module read_basin_mask False False False False False False False Go. bit bits sexact sum False False Go. bit bits sexact sum False False Tacer_conserve_days \$756 \$756 \$756 \$756 \$756 \$756 \$756 \$756 \$756 \$756 \$756 \$750 | | | | |
| & ocean_tracer_diag.nml feat_basin_mask diag.step 4520 bits False do | | thickness_method | | 'energetic' |
| &ocean_tracer_diag_nml diag_step do_bitwise_exact_sum 4320 False False 576 False &ocean_tracer_nms tracer_conserve_days 300 300 &ocean_tracer_nmxl 0 00 00 debug_this_module frazil_heating_after_vphysics False F | &ocean_tracer_advect_nml | | | |
| | | | | |
| &ocean_tracer_nml tracer_conserve_days 30.0 30.0 &ocean_tracer_nml age_tracer_max_init 0.0 0.0 debug_this_module False False False False False False True < | &ocean_tracer_diag_nml | | | |
| &ocean_tracer_nml age_tracer_max_init debugthis_module false false false fasice fazice. In the properties of the properties facility and the properties facility and the properties false false fazice. It imit_age_tracer for the properties false false limit_age_tracer for the properties false fa | | | | |
| Rebug.this.module False False False Fazit.heating.after.vphysics True True Fazit.heating.after.vphysics False False Fazit.heating.before.vphysics False False False Limit.age_tracer True | 9 | | | |
| frazil.heating_after_vphysics True True frazil.heating_before_vphysics False Fals | &ocean_tracer_nml | | | |
| False Imit.age.tracer True Tr | | | | |
| | | | | |
| Palse Pals | | | | |
| Use_tempsalt_check_range True True 2ero_tendency False False 2ero_tendency False False 2ero_tendency False False 3ero_tendency Seplicit_a Sepli | | | | |
| &ccean_velocity_diag_nml zero_tracer_source False False &ccean_velocity_diag_nml debug_this_module False False diag_step 4320 576 energy_diag_step 5760 5760 b large_cfl_value 100 100 max_cfl_value 1000 1000 &ccean_velocity_nml adams_bashforth_third True True max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_velocity_value 2.0 2.0 truncate_verbose True True zero_tendency_explicit_a False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False &ccean_vert_kpp_iow_nml use_this_module False False &ccean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method | | use_tempsalt_check_range | True | True |
| & ocean_velocity_diag_nmldebug_this_module diag_step energy_diag_step large_cfl_valueFalse 4320 576& cean_velocity_nmllarge_cfl_value max_cfl_value max_cgint truncate_velocity_nml100 10 | | zero_tendency | | |
| diag_step 4320 576 energy_diag_step 5760 5760 large_cfl_value 100 100 max_cfl_value 1000 1000 max_cfl_value 1000 1000 max_cfl_value 1000 1000 max_cgint 1.0 1.0 max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_verbose True True truncate_verbose True True zero_tendency_explicit_a False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False diff_cbt_iw 600 000 double_diffusion True True truncate_vert_kpp_mom4p1_nml 6 double_diffusion True True truncate_vert_kpl_sion True Truncate_vert_kpl_sion True Truncate_vert_kpl_sion True Truncate_vert_kpl_sion True Truncate_vert_kpl_sion Truncate_ | | | | |
| energy_diag_step 5760 5760 100 1 | &ocean_velocity_diag_nml | | | |
| darge_cfl_value 100 100 & ocean_velocity_nml adams_bashforth_third True True max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_verbose True True zero_tendency_explicit_a False False zero_tendency_explicit_b False False zero_tendency_implicit False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | | | |
| &ocean_velocity_nml max_cfl_value 100.0 100.0 &ocean_velocity_nml adams_bashforth_third True True max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_verbose True True zero_tendency_explicit_a False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False zero_tendency_implicit False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | | | |
| &ocean_velocity_nml adams_bashforth_third max_cgint True True max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_verbose True True zero_tendency False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False zero_tendency_implicit False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | | | |
| max_cgint 1.0 1.0 truncate_velocity False False truncate_velocity_value 2.0 2.0 truncate_verbose True True zero_tendency False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | &ocean_velocity_nml | | | |
| truncate_velocity False False truncate_velocity_value 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 | , | | | |
| truncate_verbose True True zero_tendency False False zero_tendency_explicit_a False False zero_tendency_explicit_b False False zero_tendency_explicit_b False False zero_tendency_implicit False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | truncate_velocity | False | False |
| zero_tendencyFalseFalsezero_tendency_explicit_aFalseFalsezero_tendency_explicit_bFalseFalsezero_tendency_explicit_bFalseFalsezero_tendency_implicitFalseFalse&ocean_vert_kpp_iow_nmluse_this_moduleFalseFalse&ocean_vert_kpp_mom4p1_nmldiff_cbt_iw0.00.0double_diffusionTrueTruekbl_standard_methodFalseFalse | | | | |
| zero_tendency_explicit_a False False zero_tendency_explicit_b False False zero_tendency_explicit_b False False zero_tendency_implicit False False &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | | | |
| zero_tendency_explicit_bFalseFalsezero_tendency_implicitFalseFalse&ocean_vert_kpp_iow_nmluse_this_moduleFalseFalse&ocean_vert_kpp_mom4p1_nmldiff_cbt_iw0.00.0double_diffusionTrueTruekbl_standard_methodFalseFalse | | • | | |
| & ccean_vert_kpp_iow_nmlzero_tendency_implicitFalseFalse& ocean_vert_kpp_mom4p1_nmluse_this_moduleFalseFalse& ocean_vert_kpp_mom4p1_nmldiff_cbt_iw0.00.0double_diffusionTrueTruekbl_standard_methodFalseFalse | | | | |
| &ocean_vert_kpp_iow_nml use_this_module False False &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | | | | |
| &ocean_vert_kpp_mom4p1_nml diff_cbt_iw 0.0 0.0 double_diffusion True True kbl_standard_method False False | &ocean vert knn jow nml | | | |
| double_diffusion True True kbl_standard_method False False | | | | |
| kbl_standard_method False False | | | | |
| ricr 0.3 0.3 | | | False | |
| | | ricr | 0.3 | 0.3 |

| Sample S | Group (continued) | Variable | original/ control/ 01deg jra55_ryf/ ocean/ input.nml | new/ control/ 01deg jra55_ryf/ ocean/ input.nml |
|--|--|---------------------------|---|--|
| | | smooth_blmc | False | False |
| & cocan.vert.mix.mml visc.du.jiw 0.0 0.0 & cocan.vert.mix.mml distiff 10 10 byan.lewis.diffusivity False False <td></td> <td></td> <td></td> <td></td> | | | | |
| &ocean.vert.mix.mml boyan.lewis.idifusivity bryan.lewis.idifusivity bryan.lewis.idifus | | use_this_module | | |
| byan.lewis.diffusivity False Fal | | visc_cbu_iw | | |
| | &ocean_vert_mix_nml | | | |
| Part Part Part Part Part Part | | | | |
| Monte Mont | | bryan_lewis_lat_depend | False | False |
| New Joint New | | • | | |
| Pate | | | $2 	imes 10^{-6}$ | $2 	imes 10^{-6}$ |
| Kocean.vert.tidal.nml Vert.mik s.cheme vert.mik s.c | | hwf_n0_2omega | 20.0 | 20.0 |
| kocean.vert.tidal.nml kopp montpolit ktopp montpolit & cocan.vert.tidal.nml background.diffusivity 00 00 & cocan.vert.tidal.nml background.viscosity 0000 0 | | | | |
| δοcean_vert_tidal_nml background_diffusivity background_viscosity 0.0001 0.000 | | | | |
| Background.viscosity 0,0001 0,000 | | | mom4p1' | mom4p1' |
| decay.scale 5000 5000 drag.dissipation.use.cubbet Titue Table False | &ocean_vert_tidal_nml | | | |
| | | | | |
| | | | | |
| False | | | | |
| max.wave.diffusivity 0.01 0.01 mixing.efficiency_n2depend True True <td></td> <td></td> <td>$1 	imes 10^{-10}$</td> <td></td> | | | $1 	imes 10^{-10}$ | |
| mixing_efficiency_n2depend True True <th< td=""><td></td><td></td><td></td><td></td></th<> | | | | |
| True | | | | |
| True | | | | |
| Palse Pals | | | | |
| Page | | | | |
| Palse | | | | |
| Toughness scale 12 00000 12 0000 12 00 | | | | |
| Shelf_depth_cutoff -1000.0 -1000.0 | | | | |
| tide_speed_data_on_t_grid True True use_drag_dissipation True True use_legacy_methods False False use_this_module True True wave_energy_flux_max 0.1 0.1 &ccean_xlandnisert_mnl use_this_module False False &ccean_xlandmix_nml use_this_module False False &sat_vapor_pres_nml show_all_bad_values True &surface_flux_mml ncar_ocean_flux True &surface_flux_mml do_alltoalt True &surface_flux_mnl false True &surface_flux_mml false True &surface_flux_mnl false True &surface_flux_mnl false True &surface_flux_mnl false True &surface_flux_mnl false false &surface_flux_mnl false false &surface_flux_mnl false false &surface_flux_mnl false false &surface_flux_mnl | | | | |
| kocean xlandmix.rml make_exchange_reproduce True | | | | |
| Second | | tide_speed_data_on_t_grid | | |
| kocean_xlandinsert_nml use_this_module use_wave_dissipation use_this_module use_this_module ralse True True True True True True True True True D.1 Accean_xlandinsert_nml use_this_module ralse False False< | | | | |
| kocean_xlandinsert_nml use_wave_dissipation wave_energy_flux_max True True & ocean_xlandinisert_nml use_this_module False False & ocean_xlandmix_nml use_this_module False False & sat_vapor_pres_nml show_all_bad_values True & surface_flux_nml ncar_ocean_flux True & xgrid_nml do_alltoall True True & do_alltoall True True interp_method 'second' 'second' order' order' order' order' order' order' make_exchange_reproduce False False nsubset 16 16 | | | | |
| kocean_xlandinsert_nml wave_energy_flux_max 0.1 0.1 &ocean_xlandinisert_nml use_this_module False False &cocean_xlandmix_nml use_this_module False False &sat_vapor_pres_nml show_all_bad_values True &surface_flux_nml ncar_ocean_flux True &xgrid_nml do_alltoall True True &xgrid_nml do_alltoall True True and the properties of the pro | | | | |
| & ocean_xlandinsert_nml use_this_module False False & ocean_xlandmix_nml use_this_module False False & sat_vapor_pres_nml show_all_bad_values True & surface_flux_nml ncar_ocean_flux True & xgrid_nml do_alltoall True True & do_alltoall True True interp_method 'second 'second order order order make_exchange_reproduce False False nsubset 16 16 | | | | |
| & ocean_xlandmix_nml use_this_module False False & sat_vapor_pres_nml show_all_bad_values True & surface_flux_nml ncar_ocean_flux True & xgrid_nml do_alltoall True True & do_alltoall True True interp_method 'second' 'second' order false False False nsubset 16 16 | Roccom vlandingert nml | • | | |
| &sat_vapor_pres_nml show_all_bad_values True &surface_flux_nml ncar_ocean_flux True &xgrid_nml do_alltoall True True &xgrid_nml do_alltoallv True True interp_method 'second 'second order order order make_exchange_reproduce False False nsubset 16 16 | | | | |
| &surface_flux_nml ncar_ocean_flux frue True &xgrid_nml do_alltoall frue True do_alltoall frue True True interp_method 'second order' 'second order' order order' order' make_exchange_reproduce False False nsubset 16 16 | | | | ralse |
| kxgrid_nml faoult_sat_vap True do_alltoall True True do_alltoallv True True interp_method 'second 'second order' order' order' make_exchange_reproduce False False nsubset 16 16 | | | | |
| &xgrid_nml do_alltoall do_alltoall do_alltoally True True< | \(\text{SUITIBLE}_I\)\(\text{UX_IIIII}\) | | | |
| do_alltoallv True True interp_method 'second 'second 'second 'order' order' order' make_exchange_reproduce False False nsubset 16 16 | &varid nml | • | | True |
| interp_method 'second 'second order' order' make_exchange_reproduce False False nsubset 16 16 | www.min. | | | |
| order order order make_exchange_reproduce False False nsubset 16 16 | | | | |
| make_exchange_reproduce False False rsubset 16 16 | | interp_method | | |
| nsubset 16 16 | | make evehance considure | | |
| | | | | |
| | | xqrid_loq | False | 10 |

2 CICE namelists 'cice_in.nml', 'input_ice.nml', 'input_ice_gfdl.nml', 'input_ice_monin.nml'

Originals are from a fresh git clone, 2017-11-18. CICE documentation is here: http://oceans11.lanl.gov/trac/CICE/attachment/wiki/WikiStart/cicedoc.pdf?format=raw (HunkeLipscombTurnerJefferyElliott2015a-CICE5p1.pdf). Section 4.5.1 explains the meaning of '1', 'h', 'd', 'm', 'y', 'x' and their dependence on histfreq and histfreq_n. Mushy formulation (ktherm=2) was recommended by Hallberg to solve MOM problems with sea ice potentially being saltier than ocean when it has a fixed bulk salinity: https://github.com/OceansAus/access-om2/issues/56

See AK email to Petra 2017-11-15 and highlights in HunkeLipscombTurnerJefferyElliott2015a-CICE5p1.pdf TODO: check whether all ice nmls are relevant

2.1 cice_in.nml

2.1.1 All variables in new configs (differences highlighted)

| | Variable | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 025deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 01deg jra55_ryf/ ice/ cice_in.nml |
|---|-------------------|---|---|--|
| | distribution_type | 'cartesian' | 'cartesian' | 'cartesian' |
| | distribution_wght | 'latitude' | 'latitude' | 'latitude' |
| | w_boundary_type | 'cyclic' | 'cyclic' | 'cyclic' |
| | maskhalo_bound | True | True | True |
| | maskhalo_dyn | True | True | True |
| | maskhalo_remap | True | True | True |
| | nprocs | 24 | 480 | 1200 |
| r | ns_boundary_type | 'tripole' | 'tripole' | 'tripole' |
| | processor_shape | 'slenderX1' | 'square-ice' | 'square-ice' |
| | advection | 'remap' | 'remap' | 'remap' |
| | cosw | 0.96 | 0.96 | 0.96 |
| | dragio | 0.005 36 | 0.005 36 | 0.005 36 |
| | iceruf | 0.0005 | 0.0005 | 0.0005 |
| | kdyn | 1 | 1 | 1 |
| | $krdg_partic$ | 1 | 1 | 1 |
| | $krdg_redist$ | 1 | 1 | 1 |
| | kstrength | 1 | 1 | 1 |
| | mu_rdg | 3 | 3 | 3 |
| | ndte | 120 | 120 | 120 |
| | revised_evp | False | False | False |
| | sinw | 0.28 | 0.28 | 0.28 |
| | atm_data_dir | 'unknown atm_data dir' | 'unknown atm_data dir' | 'unknown atm_data dir' |
| | atm_data_format | 'nc' | 'nc' | 'nc' |
| | atm_data_type | 'default' | 'default' | 'default' |
| | atmbndy | 'default' | 'default' | 'default' |
| | calc_strair | True | True | True |
| | calc_tsfc | True | True | True |
| | formdrag | False | False | False |
| | fyear_init | 1 | 1 | 1 |
| | oceanmixed_file | 'unknown ocean- mixed_file' | 'unknown ocean- mixed_file' | 'unknown ocean- mixed_file' |
| | oceanmixed_ice | False | False | False |
| | ocn_data_dir | 'unknown | 'unknown | 'unknown |
| | ocn_data_dii | ocn_data dir' | ocn_data dir' | ocn_data dir' |
| | ocn_data_format | 'nc' | 'nc' | 'nc' |
| | precip_units | 'mks' | 'mks' | 'mks' |
| | restore_ice | False | False | False |
| | restore_sst | False | False | False |
| | sss_data_type | 'default' | 'default' | 'default' |
| | sst_data_type | 'default' | 'default' | 'default' |
| | trestore | 0 | 0 | 0 |
| | update_ocn_f | True | True | True |
| | ustar_min | 0.0005 | 0.0005 | 0.0005 |
| | ycycle | 1 | 1 | 1 |
| | grid_file | 'RESTART/ | 'RESTART/ | 'RESTART/ |
| | 3 | grid.nc' | grid.nc' | grid.nc' |
| | grid_format | 'nc' | 'nc' | 'nc' |
| | grid_type | 'tripole' | 'tripole' | 'tripole' |
| | kcatbound | . 0 | . 0 | . 0 |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 025deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 01deg jra55_ryf/ ice/ cice_in.nml |
|------------------------|-------------------------------------|---|---|--|
| | kmt_file | 'RESTART/ kmt.nc' | 'RESTART/ kmt.nc' | 'RESTART/ kmt.nc' |
| &icefields_bgc_nml | f_aero | 'X' | 'X' | 'X' |
| • | f_bgc_am_ml | 'x' | 'x' | 'x' |
| | f_bgc_am_sk | 'x' | 'x' | 'x' |
| | f_bgc_c_sk | 'X' | 'X' | 'x' 'x' |
| | f_bgc_chl_sk f_bgc_dms_sk | 'x' 'x' | 'x' 'x' | , X , X, |
| | f_bgc_dmsp_ml | , 'X' | , 'X' | , 'X' |
| | f_bgc_dmspd_sk | 'x' | 'x' | 'x' |
| | f_bgc_dmspp_sk | 'x' | 'x' | 'x' |
| | f_bgc_n_sk | 'X' | 'X' | 'X' |
| | f_bgc_nit_ml f_bgc_nit_sk | 'x' 'x' | 'x' 'x' | 'x' 'x' |
| | f_bgc_sil_ml | , X, | , 'X' | , X, |
| | f_bgc_sil_sk | 'x' | 'x' | 'x' |
| | f_bphi | 'x' | 'x' | 'x' |
| | f_btin | , X, | 'x' | 'X' |
| | f_faero_atm f_faero_ocn | 'x' 'x' | 'x' 'x' | 'x' 'x' |
| | r_raero_ocri <mark>f_fbri</mark> | x 'm' | x 'm' | , x 'x' |
| | f_fn | 'x' | 'x' | 'x' |
| | f_fn_ai | 'x' | 'x' | 'x' |
| | f_fnh | 'X' | 'x' | 'x' |
| | f_fnh_ai f_fno | 'x' 'x' | 'X' 'v' | 'x' 'x' |
| | f_fno_ai | , x 'x' | 'x' 'x' | , X 'X' |
| | f_fsil | 'X' | 'x' | 'x' |
| | f_fsil_ai | 'x' | 'x' | 'x' |
| | f_grownet | 'X' | 'X' | 'x' |
| | f_hbri | 'm' | 'm' '~' | ,χ, |
| &icefields_drag_nml | f_ppnet f_cdn_atm | 'x' 'x' | 'x' 'x' | 'X' 'X' |
| Citchetas_dray_min | f_cdn_ocn | , 'X' | 'x' | , X |
| | f_drag | 'x' | 'x' | 'x' |
| &icefields_mechred_nml | f_alvl | 'm' | 'm' | 'x' |
| | f_aparticn | 'X' | 'X' | 'X' |
| | f_araftn <mark>f_ardg</mark> | 'x' 'm' | 'x' 'm' | 'x' 'x' |
| | f_ardgn | 'x' | 'x' | , 'X' |
| | f_aredistn | 'x' | 'x' | 'x' |
| | f_dardg1dt | 'x' | 'x' | 'x' |
| | f_dardg1ndt f_dardg2dt | 'X' | 'X' | 'X' |
| | f_dardg2ndt f_dardg2ndt | 'x' 'x' | 'x' 'x' | 'x' 'x' |
| | f_dvirdgdt | ,x, | 'x' | 'x' |
| | f_dvirdgndt | 'x' | 'x' | 'x' |
| | f_krdgn | 'x' | 'x' | 'x' |
| | f_opening | 'X' | 'X' | 'X' |
| | f_vlvl f_vraftn | 'm' 'x' | 'm' 'x' | 'x' 'x' |
| | f_vrdg | 'm' | 'm' | 'x' |
| | f_vrdgn | 'x' | 'x' | 'x' |
| 0. 6.11 | f_vredistn | 'x' | 'x' | 'X' |
| &icefields_nml | f_aice f_aicen | 'm' 'm' | 'm' 'm' | 'm' 'x' |
| | f_aisnap | m 'x' | 'm' 'x' | x 'x' |
| | f_albice | 'm' | 'm' | 'x' |
| | f_albpnd | 'x' | 'x' | 'x' 'x' |
| | f_albsni | 'm' | 'm' | 'x' |
| | <mark>f_albsno</mark> f_alidr | 'm' 'x' | 'm' 'x' | 'x' 'x' |
| | f_alvdr | 'X' | , x 'x' | , x 'x' |
| | f_angle | True | True | True |
| | f_anglet | True | True | True |
| | f_bounds | False | False | False |
| | <mark>f_congel</mark> f_coszen | 'm' 'x' | 'm' 'x' | 'x' 'x' |
| | f_daidtd | x 'm' | x 'm' | , x 'x' |
| | f_daidtt | 'm' | 'm' | 'x' |
| | f_divu | 'm' | 'm' | 'x' |
| | f_dsnow | 'x' | 'X' | 'x' |
| | f_dvidtd | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| | f_dvidtt | 'm' | 'm' | X |

| Group (continued) Variable | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 025deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 01deg jra55_ryf/ ice/ cice_in.nml |
|----------------------------|---|---|---|
| f_dxt | True | True | True |
| f_dxu f_dyt | True True | True True | True True |
| f_dyu | True | True | True |
| f_evap | 'x' | 'x' | 'x' |
| f_evap_ai f_fcondtop_ai | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_fcondtopn_ai | 'm' | 'm' | 'x' |
| f_fhocn | 'X' | 'X' | 'x' |
| f_fhocn_ai f_flat | 'm' 'x' | 'm' 'x' | 'x' 'x' |
| f flat al | 'm' | 'm' | 'x' |
| f_flatn_ai f_flwdn | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_flwup | 'x' | 'x' | , x , X, |
| f_flwup_ai | 'm' | 'm' | 'x' |
| f_fmeltt_ai | 'x' 'm' | 'x' 'm' | 'x' 'x' |
| f_frazil | 'm' | 'm' | 'x' |
| f_fresh | 'X' 'm' | 'X' | 'x' |
| f_fresh_ai f_frz_onset | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_frzmlt | 'm' | 'm' | 'x' |
| f_fsalt f_fsalt_ai | 'x' 'm' | 'x' 'm' | 'x' 'x' |
| f_fsens | 'x' | 'x' | 'x' |
| f_fsens_ai | 'm' | 'm' | 'x' |
| f_fsurf_ai f_fsurfn_ai | 'x' 'm' | 'x' 'm' | 'x' 'x' |
| f_fswabs | 'x' | 'x' | 'x' |
| f_fswabs_ai | 'm' | 'm' | 'x' |
| f_fswdn f_fswfac | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_fswthru | 'x' | 'x' | 'x' |
| f_fswthru_ai | 'm' | 'm' | 'x' |
| f_fy f_hi | 'x' 'm' | 'x' 'm' | 'x' 'm' |
| f_hisnap | 'x' | 'x' | 'x' |
| f_hs f_hte | 'm' True | 'm' True | 'm' True |
| f_htn | True | True | True |
| f_iage | 'm' | 'm' | 'x' |
| f_icepresent f_meltb | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_meltl | 'm' | 'm' | 'x' |
| f <u>.melts</u> f_meltt | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_mlt_onset | 'm' | 'm' | , X , X, |
| f_ncat | True | True | True |
| f_qref | 'x' 'x' | 'x' 'x' | 'x' 'x' |
| f_rain_al | 'm' | 'm' | 'x' |
| f_shear | 'm' | 'm' | 'x' |
| f_sice f_sig1 | 'm' 'x' | 'm' 'x' | 'x' 'x' |
| f_sig2 | 'x' | 'x' | 'x' |
| f_sinz f_snoice | 'x' 'm' | 'x' 'm' | 'x' 'x' |
| f_snow | 'x' | 'x' | 'x' |
| f_snow_ai | 'm' | 'm' | 'x' |
| f_sss f_sst | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_strainx | 'm' | 'm' | 'x' |
| f_strainy f_strainy | 'm' 'm' | 'm' | 'x' |
| f_strcorx f_strcory | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_strength | 'm' | 'm' | 'x' |
| f_strintx | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_strinty f_strocnx | m 'm' | m 'm' | 'x' |
| f_strocny | 'm' | 'm' | 'x' |
| f_strtltx f_strtlty | 'm' 'm' | 'm' 'm' | 'x' 'x' |
| f_tair | 'm' | 'm' | 'x' |

| control/ 1deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 025deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 01deg jra55_ryf/ ice/ cice_in.nml |
|---|--|--|
| f_tarea True f_tinz 'x' | True 'x' | True 'x' |
| f_tmask True | True | True |
| f_tref 'X' | 'X' | 'X' |
| f_trsig 'm' f_tsfc 'm' | 'm' 'm' | 'x' 'm' |
| f_tsnz 'x' | 'X' | 'X' |
| f_uarea True | True | True |
| f_uocn 'm' f_uvel 'm' | 'm' 'm' | 'x' 'x' |
| f_vgrdb False | False | False |
| f_vgrdi False | False | False |
| f_vgrds False f_vicen 'm' | False 'm' | False 'x' |
| f_vocn 'm' | 'm' | 'x' |
| f_wel 'm' | 'm' | 'x' 'x' |
| &icefields_pond_nml f_apeff 'm' f_apeff_ai 'm' | 'm' 'm' | 'X' 'X' |
| f_apeffn 'X' | 'x' | 'x' |
| f_apond 'm' | 'm' | 'x' |
| f_apond_ai 'm' f_apondn 'x' | 'm' 'x' | 'x' 'x' |
| T_apondr X f_hpond 'm' | x 'm' | , x 'x' |
| f_hpond_ai 'm' | 'm' | 'x' |
| f_hpondn 'X' | 'X' 'm' | 'X' |
| f_ipond 'm' f_ipond_ai 'm' | 'm' 'm' | 'x' 'x' |
| &ponds_nml dpscale 0.001 | 0.001 | 0.001 |
| frzpnd 'hlid' | 'hlid' | 'hlid' |
| hp1 0.01 | 0.01 | 0.01 |
| hs0 0.0 hs1 0.03 | 0.0 0.03 | 0.0 0.03 |
| pndaspect 0.8 | 0.8 | 0.8 |
| rfracmax 1.0 | 1.0 | 1.0 |
| & setup_nmlfracmin0.15& setup_nmldays_per_year365 | 0.15 365 | 0.15 365 |
| &setup_nml days_per_year 365 dbug False | False | False |
| diag_file 'ice_diag.d' | 'ice_diag.d' | 'ice_diag.d' |
| diag_type 'file' | 'file' | 'file' |
| diagfreq 24 dt 3600 | 960 1200 | 960 400 |
| dump_last True | True | True |
| dumpfreq 'y' | 'y' | 'm' |
| <mark>dumpfreq_n</mark> 1 hist_avg True | 1 True | 3 True |
| histfreq 'd', 'm', 'x', 'x', 'x' | 'd', 'm', 'x', 'x', 'x' | 'd', 'm', 'x', 'x', 'x' |
| histfreq_n 1,1,1,1,1 | 1, 1, 1, 1, 1 | 1, 1, 1, 1, 1 |
| history_dir ','OUTPUT/' history_file 'iceh' | './OUTPUT/' 'iceh' | './OUTPUT/' 'iceh' |
| ice_ic 'default' | 'default' | 'default' |
| incond_dir './OUTPUT/' | './OUTPUT/' | './OUTPUT/' |
| incond_file 'iceh_ic' istep0 0 | 'iceh_ic' 0 | 'iceh_ic' 0 |
| latpnt 90.0, —65.0 | 90.0, -65.0 | 90.0, -65.0 |
| lcdf64 True | True | True |
| lonpnt 0.0, -45.0 | 0.0, -45.0 | 0.0, -45.0 |
| ndtd 1 npt 35040 | 1 2232 | 1 6480 |
| pointer_file './RESTART/ ice.restart | './RESTART/ ice.restart | './RESTART/ ice.restart |
| file' print_global False | file' False | file' False |
| print_global False print_points True | True | True |
| restart False | False | False |
| restart_dir '/RESTART/ | './RESTART/' | './RESTART/' |
| restart_ext False restart_file 'iced' | False 'iced' | False 'iced' |
| restart_format 'nc' | 'nc' | 'nc' |
| runtype 'initial' | 'initial' | 'initial' |
| use_leap_years False use_restart_time True | False True | False True |
| use_restart_time True write_ic False | False | False |

| Group (continued) | Variable | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 025deg jra55_ryf/ ice/ cice_in.nml | new/ control/ 01deg jra55_ryf/ ice/ cice_in.nml |
|-------------------|-----------------------------------|---|---|--|
| | year_init | 1 | 1 | 1 |
| &shortwave_nml | ahmax | 0.1 | 0.1 | 0.1 |
| | albedo_type | 'default' | 'default' | 'default' |
| | albicei | 0.44 | 0.44 | 0.44 |
| | albicev | 0.86 | 0.86 | 0.86 |
| | albsnowi albsnowv | 0.7 0.98 | 0.7 0.98 | 0.7 0.98 |
| | dalb_mlt | -0.02 | -0.02 | -0.02 |
| | dt_mlt | 1.0 | 1.0 | 1.0 |
| | r_ice | 0.0 | 0.0 | 0.0 |
| | r_pnd | 0.0 | 0.0 | 0.0 |
| | r_snw | 0.0 | 0.0 | 0.0 |
| | rsnw_mlt | 1500.0 | 1500.0 | 1500.0 |
| | shortwave tocnfrz | 'default' — 1.8 | 'default' —1.8 | 'default' —1.8 |
| &thermo_nml | | 0.0005 | 0.0005 | 0.0005 |
| &thefino_limt | a_rapid_mode aspect_rapid_mode | 1.0 | 1.0 | 1.0 |
| | chio | 0.004 | 0.004 | 0.004 |
| | conduct | 'bubbly' | 'bubbly' | 'bubbly' |
| | dsdt_slow_mode | $-5 \times$ | $-5 \times$ | $-5 \times$ |
| | | 10^{-8} | 10^{-8} | 10^{-8} |
| | kitd | 1 | 1 | 1 |
| | ktherm | 1 | 1 | 1 |
| | phi_c_slow_mode | 0.05 | 0.05 | 0.05 |
| | phi_i_mushy | 0.85 10.0 | 0.85 10.0 | 0.85 |
| &tracer_nml | rac_rapid_mode restart_aero | False | False | 10.0 False |
| CLICAL TIME | restart_age | False | False | False |
| | restart_fy | False | False | False |
| | restart_lvl | False | False | False |
| | restart_pond_cesm | False | False | False |
| | restart_pond_lvl | False | False | False |
| | restart_pond_topo | False | False | False |
| | tr_aero | False | False | False |
| | tr_fy tr_iage | False False | False False | False False |
| | tr_lvl | False | False | False |
| | tr_pond_cesm | False | False | False |
| | tr_pond_lvl | False | False | False |
| | tr_pond_topo | False | False | False |
| &zbgc_nml | bgc_data_dir | 'unknown | 'unknown | 'unknown |
| | | bgc_data | bgc_data | bgc_data |
| | has flow tone | dir' | dir' | dir' |
| | bgc_flux_type nit_data_type | 'Jin2006' 'default' | 'Jin2006' 'default' | 'Jin2006' 'default' |
| | phi_snow | 0.5 | 0.5 | 0.5 |
| | restart_bgc | False | False | False |
| | restart_hbrine | False | False | False |
| | restore_bgc | False | False | False |
| | sil_data_type | 'default' | 'default' | 'default' |
| | skl_bgc | False | False | False |
| | tr_bgc_am_sk | False | False | False |
| | tr_bgc_c_sk tr_bgc_chl_sk | False False | False False | False False |
| | tr_bgc_dms_sk | False | False | False |
| | tr_bgc_dmspd_sk | False | False | False |
| | tr_bgc_dmspp_sk | False | False | False |
| | tr_bgc_sil_sk | False | False | False |
| | tr_brine | False | False | False |

2.1.2 Old and new configs (differences only)

| Group Variable | original/ | new/ |
|-------------------|-------------|-------------|
| | control/ | control/ |
| | 1deg | 1deg |
| | jra55_ryf/ | jra55_ryf/ |
| | ice/ | ice/ |
| | cice_in.nml | cice_in.nml |
| &setup_nml lcdf64 | False | True |
| print_points | False | True |

| Group | Variable | original/ | new/ |
|------------|--------------|-------------|-------------|
| | | control/ | control/ |
| | | 025deg | 025deg |
| | | jra55_ryf/ | jra55_ryf/ |
| | | ice/ | ice/ |
| | | cice_in.nml | cice_in.nml |
| &setup_nml | print_points | False | True |

| Group | Variable | original/ | new/ |
|------------|--------------|------------|-------------|
| · | | control/ | control/ |
| | | 01deg | 01deg |
| | | jra55_ryf/ | jra55_ryf/ |
| | | ice/ | ice/ |
| | c | ice_in.nml | cice_in.nml |
| &setup_nml | print_points | False | True |

2.2 input_ice.nml

2.2.1 All variables in new configs (differences highlighted)

| Group | Variable | new/ control/ | new/ control/ | new/ control/ |
|---------------|--------------------|------------------|------------------|------------------|
| | | 1deg | 025deg | 01deg |
| | | jra55_ryf/ | jra55_ryf/ | jra55_ryf/ |
| | | ice/input | ice/input | ice/input |
| | | ice.nml | ice.nml | ice.nml |
| &coupling_nml | chk_a2i_fields | False | False | False |
| | chk_frzmlt_sst | False | False | False |
| | chk_gfdl_roughness | False | False | False |
| | chk_i2a_fields | False | False | False |
| | chk_i2o_fields | False | False | False |
| | chk_o2i_fields | False | False | False |
| | cst_ocn_albedo | True | True | True |
| | dt_cpl_ai | 10800 | 10800 | 10800 |
| | dt_cpl_io | 3600 | 1200 | 400 |
| | gfdl_surface_flux | True | True | True |
| | ice_fwflux | True | True | True |
| | ice_pressure_on | True | True | True |
| | limit_icemelt | False | False | False |
| | meltlimit | —200.0 | -200.0 | —200.0 |
| | ocn_albedo | 0.1 | 0.1 | 0.1 |
| | pop_icediag | True | True | True |
| | precip_factor | 1.0 | 1.0 | 1.0 |
| | rotate_winds | True | True | True |
| | use_ocnslope | False | False | False |
| | use_umask | False | False | False |

2.2.2 Old and new configs (differences only)

| Group | | original/ control/ 1deg jra55_ryf/ ice/input ice.nml | new/ control/ 1deg jra55_ryf/ ice/input ice.nml |
|---------------|----------------|---|--|
| 9 coupling am | chk_frzmlt_sst | ice.iiiit | False |
| &coupling_nml | | | |
| | chk_i2a_fields | | False |
| | chk_i2o_fields | | False |
| | chk_o2i_fields | | False |

2.3 input_ice_gfdl.nml

2.3.1 All variables in new configs (differences highlighted)

| Group | Variable | new/ control/ 1deg jra55_ryf/ ice/ input_ice gfdl.nml | new/ control/ 025deg jra55_ryf/ ice/ input_ice gfdl.nml | new/ control/ 01deg jra55_ryf/ ice/ input_ice gfdl.nml |
|-------------------|----------------------|---|---|--|
| &ocean_rough_nml | charnock | 0.032 | 0.032 | 0.032 |
| | do_cap40 | False | False | False |
| | do_highwind | False | False | False |
| | rough_scheme | 'beljaars' | 'beljaars' | 'beljaars' |
| | roughness_heat | 5.8×10^{-5} | 5.8×10^{-5} | 5.8×10^{-5} |
| | roughness_min | $1 	imes 10^{-6}$ | $1	imes10^{-6}$ | $1 	imes 10^{-6}$ |
| | roughness_moist | 5.8×10^{-5} | 5.8×10^{-5} | 5.8×10^{-5} |
| | roughness_mom | 5.8×10^{-5} | $5.8 	imes 10^{-5}$ | 5.8×10^{-5} |
| | zcoh1 | 0.0 | 0.0 | 0.0 |
| | zcoq1 | 0.0 | 0.0 | 0.0 |
| &surface_flux_nml | alt_gustiness | False | False | False |
| | gust_const | 1.0 | 1.0 | 1.0 |
| | gust_min | 0.0 | 0.0 | 0.0 |
| | ncar_ocean_flux | True | True | True |
| | ncar_ocean_flux_orig | False | False | False |
| | no_neg_q | False | False | False |
| | old_dtaudv | False | False | False |
| | raoult_sat_vap | False | False | False |
| | use_mixing_ratio | False | False | False |
| | use_virtual_temp | True | True | True |

2.3.2 Old and new configs (differences only)

2.4 input_ice_monin.nml

2.4.1 All variables in new configs (differences highlighted)

| Group | Variable | new/ | new/ | new/ |
|--------------------|----------|------------|------------|-------------|
| | | control/ | control/ | control/ |
| | | 1deg | 025deg | $01deg_{-}$ |
| | | jra55_ryf/ | jra55_ryf/ | jra55_ryf/ |
| | | ice/ | ice/ | ice/ |
| | | input_ice | input_ice | input_ice |
| | | monin.nml | monin.nml | monin.nml |
| &monin_obukhov_nml | neutral | True | True | True |

2.4.2 Old and new configs (differences only)

3 MATM namelist 'input_atm.nml'

Originals are from a fresh git clone, 2017-11-18.

3.1 All variables in new configs (differences highlighted)

| Group | Variable | new/ control/ 1deg jra55_ryf/ atmosphere/ input atm.nml | new/ control/ 025deg jra55_ryf/ atmosphere/ input atm.nml | new/ control/ 01deg jra55_ryf/ atmosphere/ input atm.nml |
|---|------------|---|---|--|
| &coupling | caltype | 0 | 0 | 0 |
| | dataset | 'jra55' | 'jra55' | 'jra55' |
| day | s_per_year | 365 | 365 | 365 |
| det de la companya de | output | False | | |
| | dt_atm | 3600 | 1200 | 400 |
| | dt_cpl | 10800 | 10800 | 10800 |
| | inidate | 10101 | 10101 | 10101 |
| | init_date | 10101 | 10101 | 10101 |
| | runtime | 126144000 | 2678400 | 2592000 |
| | runtype | 'NY' | 'NY' | 'NY' |
| | truntime0 | 0 | 0 | 0 |

3.1.1 Old and new configs (differences only)

| Group | Variable | original/ | new/ |
|-----------|----------------|-------------|-------------|
| | | control/ | control/ |
| | | 1deg | 1deg |
| | | jra55_ryf/ | jra55_ryf/ |
| | | atmosphere/ | atmosphere/ |
| | | input | input |
| | | atm.nml | atm.nml |
| &coupling | chk_a2i_fields | False | |
| | chk_i2a_fields | False | |

| Group | Variable | original/ | new/ |
|-----------|----------------|-------------|-------------|
| | | control/ | control/ |
| | | 025deg | 025deg |
| | | jra55_ryf/ | jra55_ryf/ |
| | | atmosphere/ | atmosphere/ |
| | | input | input |
| | | atm.nml | atm.nml |
| &coupling | chk_a2i_fields | False | |
| | chk_i2a_fields | False | |

4 Andy's 1 deg configs (differences highlighted)

4.1 MOM namelist 'input.nml'

| Easternier mit abez auchtif (nix 10 halb) (nix | Group | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ocean/ | new/ control/ 1deg jra55_ryf/ ocean/ input.nml |
|--|-------------------------------|------------------------------------|--|---|
| Pate | | | input.nml | 0.45 |
| Common | &auscom_ice_nml | | | |
| Martin M | | | | |
| Manual | | | | False |
| | | | 3600 | 3600 |
| Part | | fixmeltt | | False |
| Programmer Pro | | | | 1.0 |
| Memory M | | | | False |
| Product Prod | | | | 1.0 |
| Programmer Pro | | | | 5 True |
| Sign.cht Sign.cht | | pop_iceuldy redsea_culfbay_sfiv | | True |
| Kaliag, manager, mil finest — 27.16 <td></td> <td></td> <td></td> <td>1.0</td> | | | | 1.0 |
| Kelsig.manager.mil Sebug kisig.manager.mis Tales False Single < | | | | -0.216 |
| Sisse.oi.wanings Ture Single Si | | | | True |
| Efmsio.ml filest.ex.wite threading.read multi multi threading.read multi multi multi threading.read multi mu | &diag_manager_nml | | | True |
| kms.ml threading.read threading.re | | | | True |
| &fms.nmi threading.wite single single Component Component Component Component Component Component Component Institute Linux Linux <th< td=""><td>&tms_1o_nml</td><td></td><td></td><td>'single'</td></th<> | &tms_1o_nml | | | 'single' |
| Birms.mil doors, state, size 10.00° OMMONE Amom.oasis5.interface.mil fields.in U. flux, V. fl | | | | |
| Momm.asis5.interface.mlt Interface.mlt Interface.mlt 115.00 115.20 <th< td=""><td>&fmc nml</td><td></td><td></td><td>'COMPONENT'</td></th<> | &fmc nml | | | 'COMPONENT' |
| Emontosi53.interface.nml fields.in u.flux, v.flux, | XIIIIZ_IIIIIL | | | |
| | &mom_oasis3_interface_nml | | | 'u_flux', |
| Satt.Rt, S | | | | 'v_flux', |
| | | | 'lprec', 'fprec', | 'lprec', 'fprec', |
| Sw.flux, Sw.flux 1.1 | | | | |
| | | | | |
| T. flux, 't. flux ' | | | | |
| | | | | 't flux' |
| Tunof, p. Tuno | | | | 'lw_flux', |
| Minet Mine | | | | 'runof', 'p', |
| Minternation Mint | | | | 'aice', |
| Fields.out T.surf, S.surf, | | | | 'wfimelt', |
| | | | | |
| | | nelds_out | | |
| | | | | |
| | | | | 'v_surf', |
| kmoninobukhov.nml diag.step dissidy, frazi dissidue, frasi dissid, frazi dissidue, frasi dissid | | | | 'dssldx', |
| Num_fields_in num_fields_out num_f | | | 'dssldy', | 'dssldy', |
| Num_fields_out False Fal | | | | 'frazil' |
| kmonin_obukhov_nml send_before_ocean_update True True &monin_obukhov_nml neutral True True &mpp_io_nml deflate_level 5 &ocean_adv_vel_diag_nml diag_step 4320 4320 &ocean_adv_ect_diag_nml large_cfl_value 100 100 &ocean_adv_ect_or_diag_nml verbose_cfl True True &ocean_adv_ect_or_velocity_nml max_advect_or_velocity 0.5 0.0 &ocean_advect_or_velocity_nml max_advect_or_velocity 0.5 0.0 &ocean_abedo_nml ocean_abedo_option 2 &ocean_barotropic_nml barotropic_time_stepping_a True True barotropic_time_stepping_a True True True debug_this_module False False False diag_step 4320 4320 | | | | 15 |
| &monin_obukhov_nml False False &monin_obukhov_nml neutral True True &mpp_io_nml deflate_level 5 1 &ocean_adv_vel_diag_nml diag_step 4320 4320 & large_cfl_value 100 100 & max_cfl_value 1000 100 & ocean_advection_velocity_nml max_advection_velocity 0.5 0. & ocean_albedo_nml ocean_albedo_option 2 0. & ocean_barotropic_nml barotropic_time_stepping_a True True & barotropic_time_stepping_a True True & barotropic_time_stepping_a True True & debug_this_module False False & debug_this_module False False & debug_this_module False False & diag_step 4320 4320 | | | | 7 True |
| &monin_obukhov_nml neutral deflate_level True True &mpp_io_nml deflate_level 5 &ocean_adv_vel_diag_nml shuffle 1 &ocean_adv_vel_diag_nml diag_step 4320 4320 max_cfl_value 10.0 10.0 10.0 max_cfl_value 100.0 100.0 100.0 &ocean_advection_velocity_nml max_advection_velocity 0.5 0. &ocean_albedo_nml ocean_albedo_option 2 &ocean_barotropic_nml barotropic_time_stepping_a True True barotropic_time_stepping_a True True barotropic_time_stepping_a True True debug_this_module False False debug_this_module False False diag_step 4320 4320 | | | | False |
| &mpp_io_nml deflate_level 5 shuffle 1 &ocean_adv_vel_diag_nml diag_step 4320 4320 large_cfl_value 10.0 10.0 10.0 max_cfl_value 100.0 100.0 100.0 100.0 &ocean_advection_velocity_nml max_advection_velocity 0.5 0. &ocean_albedo_nml ocean_albedo_option 2 2 &ocean_barotropic_nml barotropic_time_stepping_a True True barotropic_time_stepping_a True True True barotropic_time_stepping_a False False False debug_this_module False False False diag_step 4320 4320 | &monin_obukhov_nml | | | True |
| Shuffle 1 &ocean_adv_vel_diag_nml diag_step 4320 4320 large_cfl_value 100 100 max_cfl_value 1000 1000 verbose_cfl True True &ocean_advection_velocity_nml max_advection_velocity 0.5 0.0 &ocean_albedo_nml ocean_albedo_option 2 &ocean_barotropic_nml barotropic_time_stepping_a True True barotropic_time_stepping_b False False debug_this_module False False diag_step 4320 4320 | | | | 5 |
| Large_cfl_value 100 | | shuffle | 1 | 1 |
| Max_cfl_value 1000 | &ocean_adv_vel_diag_nml | | | 4320 |
| & ccean_advection_velocity_nmlverbose_cflTrueTrue& ccean_advection_velocity_nmlmax_advection_velocity0.50.5& ccean_albedo_nmlocean_albedo_option2& ccean_barotropic_nmlbarotropic_tallo1010barotropic_time_stepping_aTrueTruebarotropic_time_stepping_bFalseFalsedebug_this_moduleFalseFalsediag_step43204320 | | | | 10.0 |
| &ocean_advection_velocity_nml max_advection_velocity 0.5 0.0 &ocean_albedo_nml ocean_albedo_option 2 0.0 &ocean_barotropic_nml barotropic_halo 10 10 barotropic_time_stepping_a True True barotropic_time_stepping_b False False debug_this_module False False diag_step 4320 4320 | | | | |
| &ocean_albedo_nml ocean_albedo_option 2 &ocean_barotropic_nml barotropic_halo 10 10 barotropic_time_stepping_a True True barotropic_time_stepping_b False False debug_this_module False False diag_step 4320 4320 | &ocean advection velocity nml | | | 0.5 |
| & ocean_barotropic_nmlbarotropic_halo1010barotropic_time_stepping_aTrueTruebarotropic_time_stepping_bFalseFalsedebug_this_moduleFalseFalsediag_step43204320 | | | | 2 |
| barotropic_time_stepping_a True Tru barotropic_time_stepping_b False Fals debug_this_module False Fals diag_step 4320 4321 | | | | 10 |
| barotropic_time_stepping_b False False debug_this_module False False diag_step 4320 4321 | | barotropic_time_stepping_a | | True |
| debug_this_module False Fals diag_step 4320 4321 | | barotropic_time_stepping_b | False | False |
| | | debug_this_module | | False |
| eta max 80 80 | | | | 4320 |
| Cta_nax U.S | | eta_max | 8.0 | 8.0 |

| | | access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ocean/ | ocean/ input.nml |
|--|---|---|---------------------|
| | | input.nml | |
| | frac_crit_cell_height pred_corr_gamma | 0.2 0.2 | 0.2 0.2 |
| | smooth_eta_diag_laplacian | True | True |
| | smooth_eta_t_biharmonic | False | False |
| | smooth_eta_t_laplacian | True | True |
| | smooth_pbot_t_biharmonic smooth_pbot_t_laplacian | False True | False True |
| | truncate_eta | False | False |
| | use_legacy_barotropic_halos | False | False |
| | vel_micom_bih | 0.01 | 0.01 |
| | vel_micom_lap | 0.05 | 0.05 0.2 |
| | vel_micom_lap_diag verbose_truncate | 0.2 True | U.2 True |
| | zero_tendency | False | False |
| &ocean_bbc_nml | bmf_implicit | True | True |
| | cdbot | 0.001 | 0.001 |
| | cdbot_hi cdbot_roughness_length | 0.007 False | 0.007 False |
| | cdbot_roughness_uamp | True | True |
| | uresidual | 0.05 | 0.05 |
| | use_geothermal_heating | False | False |
| &ocean_bih_friction_nml &ocean_bih_tracer_nml | bih_friction_scheme | 'general' | 'general |
| &ocean_bin_tracer_nml &ocean_bihcst_friction_nml | use_this_module use_this_module | False False | False False |
| &ocean_bihgen_friction_nml | bottom_5point | True | True |
| | eq_lat_micom | 0.0 | 0.0 |
| | eq_vel_micom_aniso | 0.0 | 0.0 |
| | eq_vel_micom_iso | 0.0 | 0.0 |
| | equatorial_zonal k_smag_aniso | False 0.0 | False 0.0 |
| | k_smag_iso | 2.0 | 2.0 |
| | ncar_boundary_scaling | True | True |
| | ncar_boundary_scaling_read | False | False |
| | ncar_rescale_power ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} |
| | ncar_vconst_5 | 5 | 5 |
| | use_this_module | True | True |
| | vel_micom_aniso | 0.0 | 0.0 |
| | <pre>vel_micom_bottom vel_micom_iso</pre> | 0.1 0.04 | 0.01 0.04 |
| | visc_crit_scale | 0.25 | 0.25 |
| &ocean_convect_nml | use_this_module | False | False |
| &ocean_coriolis_nml | acor | 0.5 | 0.5 |
| &ocean_density_nml | use_this_module eos_linear | True False | True False |
| xoccan_ucnorty_milt | eos_preteos10 | True | True |
| | layer_nk | 80 | 80 |
| | neutralrho_max | 1030.0 | 1030.0 |
| | neutralrho_min potrho_max | 1020.0 1038.0 | 1020.0 1038.0 |
| | potrho_min | 1038.0 | 1038.0 |
| &ocean_domains_nml | max_tracers | 5 | 5 |
| &ocean_form_drag_nml | use_this_module | False | False |
| &ocean_frazil_nml | debug_this_module | False False | False False |
| | frazil_only_in_surface freezing_temp_preteos10 | True | False True |
| | freezing_temp_simple | False | False |
| | use_this_module | True | True |
| &ocean_grids_nml | debug_this_module | False | False |
| &ocean_increment_eta_nml &ocean_increment_tracer_nml | use_this_module use_this_module | False False | False False |
| &ocean_increment_velocity_nml | use_this_module | False | False |
| &ocean_lap_friction_nml | lap_friction_scheme | 'general' | 'general' |
| work and the state of the state | | | |
| &ocean_lap_tracer_nml &ocean_lapcst_friction_nml | use_this_module use_this_module | False False | False False |

| Barotropic_split 80 80 80 6 6 6 6 6 6 6 6 6 | Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ocean/ | new/ control/ 1deg jra55_ryf/ ocean/ input.nml |
|--|----------------------------|-----------------------------------|--|---|
| Ratingation County Count | | li anna anta | | 0.0 |
| Peter Pete | | | | |
| Petritri polar visc part Sol S | | | | |
| | | | | |
| | | | 0.35 | 0.35 |
| Pate | | use_this_module | | |
| | | | | |
| | | | | False |
| | | | | |
| | | | | True |
| | | | | |
| middownstope_mask_pful False False middownstope_mask pful False middownstope_mask pful False middownstope_mask False False | &ocean mixdownslone nml | | | |
| Michael September Mich | | | | |
| Read mixidownstopen mask False False False Socean model .mml barrollmic split 1 1 1 1 1 1 1 1 1 | | mixdownslope_npts | | |
| Boreclinic split | | | False | False |
| Barotropic.spitt S0 | | | True | |
| Crimpunits True True False F | &ocean_model_nml | | | 1 |
| debug False False Grace Grac | | | | |
| | | | | |
| 1 | | | | |
| Surface_height_spite | | | | |
| Surface, height, spilt 1 1 1 1 1 1 1 1 1 | | | | |
| Two lever Two | | | | |
| &ocean_momentum_source_nml rayleigh_damp_table use_rayleigh_damp_table use_this_module rayleigh_damp_table use_this_module rayleigh_damp_table use_this_module rayleigh_damp_table use_this_module rayleigh_damp_table use_physics_rayleigh_damp_table use_physics_rayleigh_damp_table_physics_rayleigh_damp_table_use_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleigh_damp_table_physics_rayleig | | | | |
| Sezent S | | vertical_coordinate | 'zstar' | 'zstar' |
| & cean.nphysics.nml use.nphysics blass False False False False False False use.nphysics False False False use.nphysics False False use.nphysics False False use.nphysics. True True True True True True agm.closure.pandule True True True agm.closure.pandule True True agm.closure.pandule True True True agm.closure.pandule True True True agm.closure.pandule True True True True True True True Tru | &ocean_momentum_source_nml | | False | False |
| &ocean.nphysics.nml debug_this_module use_nphysics use_nphysics use_nphysics and use_nphysics that see False use_nphysics. True use_this_module use_this_this_module use_this_module use_this_module use_this_this_module use_this_module use_this_thi | | | | |
| See | | | | |
| Balance Bala | &ocean_nphysics_nml | | | |
| decean_nphysics_util_nml use_nphysics_module True True &ccean_nphysics_util_nml agm 60000 60000 agm_closure_addy_cave_mixed frue True True agm_closure_buoy_freq 0,004 0,004 agm_closure_buoy_freq 0,004 0,004 agm_closure_buoy_freq 0,004 0,004 agm_closure_eady_ave_mixed True True agm_closure_eady_smooth_horz True True True agm_closure_eady_smooth_horz True | | | | |
| &ocean_nphysics_util_nml use_this_module True True &ocean_nphysics_util_nml agm_closure True True agm_closure_baroclinic True True True agm_closure_buoy_freq 0.004 0.004 agm_closure_eady_cap True True True agm_closure_eady_cap True True True agm_closure_eady_smooth_vert True True True agm_closure_eady_smooth_vert True True True agm_closure_eady_smooth_vert True True True agm_closure_eady_smooth_vert True T | | | _ | _ |
| &ocean_nphysics_util.nml agm_closure agm_closure True True agm_closure_baroctinic True True agm_closure_baroctinic True True agm_closure_baroctinic True True agm_closure_baroctinic True True agm_closure_eady_are_mixed True True agm_closure_eady_smooth_horz True True agm_closure_eady_smooth_horz True True agm_closure_eady_smooth_horz True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_horz True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert True True agm_closure_length True True agm_closure_length_force True True agm_closure_length_force True True agm_closure_length True True agm_closure_length </td <td></td> <td></td> <td></td> <td></td> | | | | |
| Agm.closure buoy.freq Agm. | &ocean_nphysics_util_nml | | | |
| agm_closure_buoy_freq | 1, | agm_closure | | |
| agm_closure_eady_ave_mixed agm_closure_eady_ave_mixed agm_closure_eady_smooth_norz True agm_closure_eady_smooth_horz True agm_closure_eady_smooth_horz True agm_closure_eady_smooth_horz True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert agm_closure_eady_smooth_vert True True agm_closure_eady_scaling True True agm_closure_length_fised False False agm_closure_length_fised False False agm_closure_length_fixed False False agm_closure_length_fixed False False agm_closure_length_fixed False False agm_closure_lower_depth 2000, 2000, agm_closure_max 600, 600, agm_closure_max 600, 600, agm_closure_max 600, 600, agm_closure_max 600, 600, agm_closure_scaling 0,07 0,07 agm_closure_upper_depth 100, 100, 100, agm_closure_upper_depth 100, agm_closure_upper_depth 100, agm_closure_upper_depth 100, agm_closure_upper_depth 100, agm_closure_upper_depth 100, agm_closure_upper_depth 100, agm_closure_length 100, agm_closure_length 100, agm_closure_length 100, agm_closure_length 100, agm_closure_length | | agm_closure_baroclinic | | True |
| agm_closure_eady_cap | | | | |
| agm_closure_eady_smooth_norz True True agm_closure_eady_smooth_vert True True agm_closure_eady_smooth_vert True True agm_closure_eden_gamma 0,0 | | agm_closure_eady_ave_mixed | | |
| agm_closure_eady_smooth_vert agm_closure_eden_gamma 0.0 0. | | agm_closure_eady_cap | | |
| agm.closure_eden_grambar agm.closure_eden_grambar False False agm.closure_ength_scaling True True agm.closure_length 50 000.0 50 000.0 agm.closure_length 50 000.0 50 000.0 agm.closure_length_bczone False False agm.closure_length_rossby False False agm.closure_length_rossby False False agm.closure_length_rossby False False agm.closure_max 600.0 600.0 agm.closure_min 50.0 50.0 agm.closure_scaling 0.07 0.07 0.07 agm.closure_upper_depth 100.0 100.0 agm.closure_upper_depth 100.0 100.0 agm.closure_upper_depth 100.0 100.0 agm.smooth_space False False agm.smooth_time False False agm.smooth_time False False aredi 600.0 600.0 aredi.equal_agm False False drhodz_mon4p1 True True drhodz_smooth_horz False False false drhodz_smooth_horz False False False Adhodz_smooth_horz False False False True Tru | | agm_closure_eady_smooth_horz | | |
| agm_closure_eden_greatbatch False False agm_closure_grid_scaling True True agm_closure_length 50 000.0 50 000.0 agm_closure_length_bczone False False False agm_closure_length_fixed False False agm_closure_length_rossby False False agm_closure_length_rossby False False Agm_closure_length_grid 50 000.0 2000.0 agm_closure_max 600.0 600.0 agm_closure_max 600.0 600.0 agm_closure_max 600.0 600.0 agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_closure_upper_depth 100.0 100.0 agm_smooth_space False False False agm_smooth_time False False False agm_smooth_time False False ared 600.0 600.0 ared 600.0 600.0 ared 600.0 600.0 false fal | | agiii_ctosure_eduy_siiiootii_vert | | |
| agm_closure_grid_scaling agm_closure_length 50 000.0 50 000.0 agm_closure_length_prozone False False False agm_closure_length_fixed False False | | | | |
| agm_closure_length 50 000.0 50 000.0 agm_closure_length_bczone False False agm_closure_length_fixed False False agm_closure_length_fixed False False agm_closure_lower_depth 2000.0 2000.0 agm_closure_lower_depth 2000.0 2000.0 agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_closure_upper_depth 100.0 100.0 agm_smooth_space False F | | agm_closure_grid_scaling | | |
| agm_closure_length_bczone False False agm_closure_length_fixed False False agm_closure_length_rossby False False agm_closure_length_rossby False False agm_closure_lower_depth 2000.0 2000.0 agm_closure_max 600.0 600.0 agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_domping_time 45.0 45.0 45.0 agm_smooth_space False Fa | | | | 50 000.0 |
| agm_closure_length_fixed False False agm_closure_length_rossby False False agm_closure_length_rossby False False agm_closure_length_rossby False False agm_closure_length 2000.0 2000.0 agm_closure_max 600.0 600.0 agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 45.0 agm_smooth_space False False | | agm_closure_length_bczone | False | False |
| agm_closure_Lower_depth 2000.0 2000.0 agm_closure_max 600.0 600.0 agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi_equal_agm False False aredi_equal_agm False False drhodz_mooth_horz False False drhodz_smooth_torz False False drhodz_smooth_vert False False aredi_equal_agm False False ar | | agm_closure_length_fixed | | |
| agm_closure_max 600.0 600.0 agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi_equal_agm False False drhodz_smooth_horz False False drhodz_smooth_vert False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_closure_min 50.0 50.0 agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi_equal_agm False False drhodz_smooth_horz False False drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_closure_scaling 0.07 0.07 agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi_equal_agm False False drhodz_smooth_horz False False drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_closure_upper_depth 100.0 100.0 agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi_equal_agm False False drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_damping_time 45.0 45.0 agm_smooth_space False False agm_smooth_time False False aredi 600.0 600.0 aredi_equal_agm False False drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_smooth_space False False agm_smooth_time False False aredi 600.0 600.0 aredi_equal_agm False False drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| agm_smooth_time False False aredi 600.0 600.0 aredi_equal_agm False False drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| aredi 600.0 600.0 aredi_equal_agm False False drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | False | False |
| drhodz_mom4p1 True True drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | aredi | | |
| drhodz_smooth_horz False False drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| drhodz_smooth_vert False False nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| nphysics_util_zero_init True True rossby_radius_max 100 000.0 100 000.0 | | | | |
| rossby_radius_max | | | | |
| | | | | |
| | | | | |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ocean/ | new/ control/ 1deg jra55_ryf/ ocean/ input.nml |
|-------------------------|--|--|---|
| | tracer_mix_micom | input.nml False | False |
| | vel_micom | 0.0 | 0.0 |
| &ocean_nphysicsa_nml | use_this_module | False | False |
| &ocean_nphysicsb_nml | use_this_module | False | False |
| &ocean_nphysicsc_nml | bv_freq_smooth_vert | True | True |
| | bvp_bc_mode | 2 | 2 |
| | bvp_min_speed | 0.1 0.0 | 0.1 0.0 |
| | bvp_speed debug_this_module | 0.0 False | 0.0 False |
| | do_qm_skewsion | True | True |
| | do_gneutral_diffusion | True | True |
| | epsln_bv_freq | 1×10^{-12} | 1×10^{-12} |
| | gm_skewsion_bvproblem | True | True |
| | gm_skewsion_modes | False | False |
| | neutral_eddy_depth | True | True |
| | neutral_physics_limit | True | True |
| | number_bc_modes | 2 | 2 |
| | regularize_psi smax_psi | False 0.01 | False 0.01 |
| | smooth_psi | True | True |
| | tmask_neutral_on | True | True |
| | turb_blayer_min | 50.0 | 50.0 |
| | use_this_module | True | True |
| &ocean_operators_nml | use_legacy_div_ud | False | False |
| &ocean_overexchange_nml | debug_this_module | False | False |
| | overexch_npts | 4 | 4 |
| | overexch_weight_far overflow_umax | False 5.0 | False 5.0 |
| | use_this_module | False | False |
| &ocean_overflow_nml | use_this_module | False | False |
| &ocean_overflow_ofp_nml | use_this_module | False | False |
| &ocean_polar_filter_nml | use_this_module | False | False |
| &ocean_pressure_nml | zero_pressure_force | False | False |
| &ocean_rivermix_nml | debug_this_module | False | False |
| | river_diffuse_salt | True | True |
| | river_diffuse_temp | True | True |
| | river_diffusion_thickness river_diffusivity | 0.0 0.0 | 0.0 0.0 |
| | river_insertion_thickness | 40.0 | 40.0 |
| | use_this_module | True | True |
| &ocean_riverspread_nml | use_this_module | False | False |
| &ocean_rough_nml | rough_scheme | 'beljaars' | 'beljaars' |
| &ocean_sbc_nml | avg_sfc_temp_salt_eta | True | True |
| | avg_sfc_velocity | True | True |
| | calvingspread | False | False |
| | do_bitwise_exact_sum do_flux_correction | False | False |
| | do_nux_correction land_model_heat_fluxes | False False | False False |
| | max_delta_salinity_restore | 0.5 | 0.5 |
| | max_ice_thickness | 0.0 | 0.0 |
| | read_restore_mask | False | False |
| | restore_mask_gfdl | False | False |
| | runoff_salinity | 0.0 | 0.0 |
| | salt_correction_scale | 0.0 True | 0.0 |
| | salt_restore_as_salt_flux salt_restore_tscale | True 60.0 | True 60.0 |
| | satt_restore_tscate salt_restore_under_ice | True | True |
| | temp_restore_tscale | -10.0 | -10.0 |
| | use_full_patm_for_sea_level | False | False |
| | use_waterflux | True | True |
| | zero_heat_fluxes | False | False |
| | zero_net_salt_correction | False | False |
| | zero_net_salt_restore | True | True |
| | zero_net_water_correction | False | False |
| | zero_net_water_couple_restore | True True | True |
| | zero_net_water_coupler | irue | True |
| | | | |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup.A/ output000/ ocean/ | new/ control/ 1deg jra55_ryf/ ocean/ input.nml |
|---|---|---|---|
| | | input.nml | |
| | zero_net_water_restore zero_surface_stress | True False | True False |
| | zero_water_fluxes | False | False |
| &ocean_shortwave_csiro_nml | use_this_module | False | False |
| &ocean_shortwave_gfdl_nml | debug_this_module | False | False |
| | enforce_sw_frac | True | True |
| | optics_manizza | True | True |
| | optics_morel_antoine read_chl | False True | False True |
| | use_this_module | True | True |
| | zmax_pen | 300.0 | 300.0 |
| &ocean_shortwave_jerlov_nml | use_this_module | False | False |
| &ocean_shortwave_nml | use_shortwave_csiro | False | False |
| | use_shortwave_gfdl use_shortwave_jerlov | True False | True False |
| | use_shiotwave_jertov use_this_module | True | True |
| &ocean_sigma_transport_nml | use_this_module | False | False |
| &ocean_solo_nml | calendar | 'NOLEAP' | 'NOLEAP' |
| | date_init | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 |
| | days | 7.000 | 7.00 |
| | dt_cpld hours | 3600 0 | 3600 0 |
| | minutes | 0 | 0 |
| | months | 0 | 0 |
| | seconds | 0 | 0 |
| | years | 2 | 2 |
| &ocean_sponges_eta_nml | use_this_module | False | False |
| &ocean_sponges_tracer_nml | use_this_module use_this_module | False False | False False |
| &ocean_sponges_velocity_nml &ocean_submesoscale_nml | coefficient_ce | 0.05 | 0.05 |
| xoccur-submesoscute_mit | debug_this_module | False | False |
| | front_length_const | 5000.0 | 5000.0 |
| | front_length_deform_radius | True | True |
| | limit_psi limit_psi_velocity_scale | True 0.5 | True 0.5 |
| | tillit_psi_vetocity_scate min_kblt | 0.5 4 | 4 |
| | smooth_advect_transport | True | True |
| | smooth_advect_transport_num | 4 | 4 |
| | smooth_hblt | False | False |
| | smooth_psi | True 3 | True 3 |
| | smooth_psi_num submeso_advect_flux | False | False |
| | submeso_advect_limit | True | True |
| | submeso_advect_upwind | True | True |
| | submeso_advect_zero_bdy | True | True |
| | submeso_diffusion | False | False |
| | submeso_diffusion_biharmonic submeso_diffusion_scale | True 10.0 | True 10.0 |
| | submeso_skew_flux | True | True |
| | use_hblt_equal_mld | True | True |
| | use_psi_legacy | False | False |
| 0 | use_this_module | True | True |
| kocean_tempsalt_nml | debug_this_module pottemp_2nd_iteration | False True | False True |
| | pottemp_znd_iteration pottemp_equal_contemp | True | True |
| | s_max | 70.0 | 70.0 |
| | s_max_limit | 42.0 | 42.0 |
| | s_min | 0.0 | 0.0 |
| | s_min_limit | 2.0 | 2.0 |
| | t_max t_max_limit | 55.0 32.0 | 55.0 32.0 |
| | t_max_umit t_min | -20.0 | - 20.0 |
| | t_min_limit | -20.0 -5.0 | -20.0 -5.0 |
| | temperature_variable | 'potential | 'potential |
| | | temp' | temp' |
| Rocean_thickness_nml | debug_this_module | False | False |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ocean/ | new/ control/ 1deg jra55_ryf/ ocean/ input.nml |
|--|---|---|---|
| | debug_this_module_detail | input.nml False | False |
| | rescale_mass_to_get_ht_mod | False | False |
| | thickness_method | 'energetic' | 'energetic' |
| &ocean_tracer_advect_nml | debug_this_module read_basin_mask | False False | False False |
| &ocean_tracer_diag_nml | diag_step | 4320 | 4320 |
| | do_bitwise_exact_sum | False | False |
| &ocean_tracer_nml | tracer_conserve_days age_tracer_max_init | 30.0 0.0 | 30.0 0.0 |
| &ocean_tracer_nime | debug_this_module | False | False |
| | frazil_heating_after_vphysics | True | True |
| | frazil_heating_before_vphysics | False | False |
| | limit_age_tracer remap_depth_to_s_init | True False | True False |
| | use_tempsalt_check_range | True | True |
| | zero_tendency | False | False |
| 9 again valority diag and | zero_tracer_source | False False | False False |
| &ocean_velocity_diag_nml | debug_this_module diaq_step | 4320 | 4320 |
| | energy_diag_step | 4320 | 4320 |
| | large_cfl_value | 10.0 | 10.0 |
| &ocean_velocity_nml | max_cfl_value adams_bashforth_third | 100.0 True | 100.0 True |
| &ocean_vetocity_nint | max_cqint | 1.0 | 1.0 |
| | truncate_velocity | False | False |
| | truncate_velocity_value | 2.0 | 2.0 |
| | truncate_verbose zero_tendency | True False | True False |
| | zero_tendency_explicit_a | False | False |
| | zero_tendency_explicit_b | False | False |
| &ocean_vert_kpp_iow_nml | zero_tendency_implicit use_this_module | False False | False False |
| &ocean_vert_kpp_mom4p1_nml | diff_cbt_iw | 0.0 | 0.0 |
| The second secon | double_diffusion | True | True |
| | kbl_standard_method | False | False |
| | ricr smooth_blmc | 0.3 False | 0.3 False |
| | smooth_ri_kmax_eq_kmu | True | True |
| | use_this_module | True | True |
| | visc_cbu_iw | 0.0 | 0.0 |
| &ocean_vert_mix_nml | aidif bryan_lewis_diffusivity | 1.0 False | 1.0 False |
| | bryan_lewis_lat_depend | False | False |
| | hwf_diffusivity | False | False |
| | hwf_min_diffusivity | 2×10^{-6} | 2×10^{-6} |
| | hwf_n0_2omega use_diff_cbt_table | 20.0 False | 20.0 False |
| | vert_diff_back_via_max | True | True |
| | vert_mix_scheme | 'kpp | 'kpp |
| &ocean_vert_tidal_nml | background_diffusivity | mom4p1' 0.0 | mom4p1' 0.0 |
| COCCUIT OF CHARLETING | background_unitosivity background_viscosity | 0.0001 | 0.0001 |
| | decay_scale | 500.0 | 500.0 |
| | drag_dissipation_use_cdbot | True | True |
| | drhodz_min fixed_wave_dissipation | $1 	imes 10^{-10}$ False | $1 	imes 10^{-10}$ False |
| | max_wave_diffusivity | 0.01 | 0.01 |
| | mixing_efficiency_n2depend | True | True |
| | read_roughness | True | True |
| | read_tide_speed read_wave_dissipation | True False | True False |
| | reading_roughness_amp | True | True |
| | reading_roughness_length | False | False |
| | roughness_scale shelf_depth_cutoff | 12 000.0 1000.0 | 12 000.0 —1000.0 |
| | snetr_deptn_cutorr tide_speed_data_on_t_grid | — 1000.0 True | — 1000.0 True |
| | tiuc_specu_uata_on_t_grid | nuc | iiuc |

| Group (continued) Varia | , | new/ |
|-------------------------------------|-----------------|--------------------|
| | data3/hh5/ | control/ |
| | tmp/ cosima/ | 1deg jra55_ryf/ |
| | access- | ocean/ |
| | om2/ | input.nml |
| | 1deg | приспп |
| | jra55v13 | |
| | ryf8485 | |
| | spinup_A/ | |
| | output000/ | |
| | ocean/ | |
| | input.nml | |
| use_drag_dissipa | | True |
| use_legacy_meth | | False |
| use_this_mod | ule True | True |
| use_wave_dissipa | ion True | True |
| wave_energy_flux_i | nax 0.1 | 0.1 |
| &ocean_xlandinsert_nml use_this_moc | ule False | False |
| &ocean_xlandmix_nml use_this_moc | ule False | False |
| &xgrid_nml interp_met | nod 'second | 'second |
| | order' | order' |
| make_exchange_reprod | uce False | False |
| nsut | set 16 | 16 |

4.2 CICE namelists 'cice_in.nml', 'input_ice.nml', 'input_ice_gfdl.nml', 'input_ice_monin.nml'

| data3/h tr cosii acco or 1de jra55v1 ryf848 spinup output0 | raijin/g/ new, data3/hh5/ control, tmp/ 1deg_ cosima/ jra55_ryf, access- ice, om2/ cice_in.nm 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | data 3/l t cosi acc 1d jra 5 5 v ryf 8 4 spinu output 0 |
|---|---|---|
| | 'cartesian' 'cartesian | |
| | 'latitude' 'latitude | |
| ry_type 'cy | 'cyclic' 'cyclic | |
| | True True | |
| lo_dyn 1 | True True | |
| | True True | |
| nprocs | 24 24 | |
| | 'tripole' 'tripole | |
| | 'slenderX1' 'slenderX1 | |
| | 'remap' 'remap | |
| | 0.96 0.96 | |
| | 0.005 36 0.005 36 | |
| | 0.0005 0.0005 | 0.0 |
| kdyn | 1 1 | |
| _partic | 1 1 | |
| _redist | 1 1 | |
| rength | 1 1 | |
| nu_rdg ndte | 120 120 | |
| | False False | |
| | 0.28 0.28 | |
| | 'unknown 'unknown_ | |
| | atm_data atm_data_ dir' dir | |
| format | 'nc' 'nc | |
| | 'default' 'default | |
| | 'default' 'default | |
| | True True | |
| | True True | |
| • | False False | F |
| ear_init | 1 1 | , , |
| 000 | 'unknown ocean- mixed_file' 'unknown_ ocean mixed_file' | 00 |
| | False False | |
| ata_dir 'unknov | 'unknown ocn_data dir' orn_data dir' | 'unkno |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml |
|--|---------------------------------|--|---|
| | ocn_data_format | 'nc' | 'nc' |
| | precip_units | 'mks' | 'mks' |
| | restore_ice restore_sst | False False | False False |
| | sss_data_type | 'default' | 'default' |
| | sst_data_type | 'default' | 'default' |
| | trestore | 0 | 0 |
| | update_ocn_f | True | True |
| | ustar_min ycycle | 0.0005 1 | 0.0005 1 |
| &grid_nml | grid_file | 'RESTART/ | 'RESTART/ |
| - | | grid.nc' | grid.nc' |
| | grid_format | 'nc' | 'nc' |
| | grid_type kcatbound | 'tripole' 0 | 'tripole' 0 |
| | kmt_file | 'RESTART/ | 'RESTART/ |
| | | kmt.nc' | kmt.nc' |
| &icefields_bgc_nml | f_aero | 'X' | 'X' |
| | f_bgc_am_ml f_bgc_am_sk | 'x' 'x' | 'x' 'x' |
| | f_bgc_c_sk | 'x' | 'x' |
| | f_bgc_chl_sk | 'x' | 'x' |
| | f_bgc_dms_sk | 'X' | 'X' |
| | f_bgc_dmsp_ml f_bgc_dmspd_sk | 'x' 'x' | 'x' 'x' |
| | f_bgc_dmspp_sk | 'x' | 'x' |
| | f_bgc_n_sk | 'x' | 'x' |
| | f_bgc_nit_ml | 'X' | 'X' |
| | f_bgc_nit_sk f_bgc_sil_ml | 'x' 'x' | 'x' 'x' |
| | f_bgc_sil_sk | 'x' | 'x' |
| | f_bphi | 'X' | 'X' |
| | f_btin f_faero_atm | 'x' 'x' | 'x' 'x' |
| | f_faero_ocn | , , , , , , , , , , , , , , , , , , , | , X |
| | f_fbri | 'm' | 'm' |
| | f_fn | 'X' | 'X' |
| | f_fn_ai f_fnh | 'x' 'x' | 'x' 'x' |
| | f_fnh_ai | , , , , , , , , , , , , , , , , , , , | 'x' |
| | f_fno | 'x' | 'x' |
| | f_fno_ai f_fsil | 'X' | 'X' |
| | T_TSIL f_fsil_ai | 'x' 'x' | 'x' 'x' |
| | f_grownet | 'x' | 'x' |
| | f_hbri | 'm' | 'm' |
| &icefields_drag_nml | f_ppnet f_cdn_atm | 'x' 'x' | 'X' 'X' |
| Circuita de la companya del companya del companya de la companya d | f_cdn_ocn | X 'X' | , X 'X' |
| | f_drag | 'x' | 'x' |
| &icefields_mechred_nml | f_alvl | 'm' | 'm' |
| | f_aparticn f_araftn | 'x' 'x' | 'x' 'x' |
| | f_ardg | 'm' | 'm' |
| | f_ardgn | 'x' | 'x' |
| | f_aredistn | 'X' | ,χ, |
| | f_dardg1dt f_dardg1ndt | 'x' 'x' | 'x' 'x' |
| | f_dardg2dt | 'x' | 'x' |
| | f_dardg2ndt | 'x' | 'x' |
| | f_dvirdgdt f_dvirdgndt | 'x' 'v' | 'x' 'x' |
| | r_aviragnat f_krdgn | 'x' 'x' | X 'X' |
| | f_opening | 'x' | 'x' |
| | f_vlvl | 'm' | 'm' |
| | f_vraftn f_vrdg | 'x' 'm' | 'x' 'm' |
| | ı_viug | III | III |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml |
|-------------------|--------------------------|--|---|
| | f_vrdgn | 'x' | 'x' |
| | f_vredistn | 'x' | 'x' 'm' |
| &icefields_nml | f_aice f_aicen | 'm' 'm' | 'm' 'm' |
| | f_aisnap | 'X' | 'X' |
| | f_albice | 'm' | 'm' |
| | f_albpnd | 'x' | 'x' |
| | f_albsni | 'm' | 'm' |
| | f_albsno f_alidr | 'm' 'x' | 'm' 'x' |
| | f_alvdr | , X 'X' | ,x 'x' |
| | f_angle | True | True |
| | f_anglet | True | True |
| | f_bounds | False | False |
| | f_congel f_coszen | 'm' 'x' | 'm' 'x' |
| | f_daidtd | 'm' | 'n' |
| | f_daidtt | 'm' | 'm' |
| | f_divu | 'm' | 'm' |
| | f_dsnow | 'x' | 'x' |
| | f_dvidtd f_dvidtt | 'm' 'm' | 'm' 'm' |
| | f_dxt | True | True |
| | f_dxu | True | True |
| | f_dyt | True | True |
| | f_dyu | True | True |
| | f_evap f_evap_ai | 'x' 'm' | 'x' 'm' |
| f fr | ondtop_ai | 'm' | 'm' |
| f_fco | ndtopn_ai | 'm' | 'm' |
| | f_fhocn | 'x' | 'x' |
| | _fhocn_ai | 'm' | 'm' |
| | f_flat f_flat_ai | 'X' 'm' | 'x' 'm' |
| | f_flatn_ai | 'm' 'm' | 'm' |
| | f_flwdn | 'm' | 'm' |
| | f_flwup | 'X' | 'X' |
| | _flwup_ai _fmeltt_ai | 'm' 'x' | 'm' 'x' |
| f | melttn_ai | x 'm' | 'm' |
| ·- | f_frazil | 'm' | 'm' |
| | f_fresh | 'x' | 'x' |
| | f_fresh_ai | 'm' | 'm' |
| | _frz_onset f_frzmlt | 'm' 'm' | 'm' 'm' |
| | f_fsalt | 'X' | 'x' |
| | f_fsalt_ai | 'm' | 'm' 'x' |
| | f_fsens | 'x' | 'X' |
| | f_fsens_ai f_fsurf_ai | 'm' 'x' | 'm' 'x' |
| | _fsurfn_ai | 'm' | 'm' |
| | f_fswabs | 'x' | 'm' 'x' |
| f. | fswabs_ai | 'm' | 'm' |
| | f_fswdn | 'm' '…' | 'm' |
| | f_fswfac f_fswthru | 'm' 'x' | 'm' 'x' |
| | swthru_ai | 'm' | 'm' |
| | f_fy | 'x' | 'x' |
| | f_hi | 'm' | 'm' |
| | f_hisnap f_hs | 'x' 'm' | 'x' 'm' |
| | f_hte | m True | m True |
| | f_htn | True | True |
| | f_iage | 'm' | 'm' |
| f.i | cepresent | 'm' | 'm' |
| | f_meltb f_meltl | 'm' 'm' | 'm' 'm' |
| | Linettt | III | III |

| Group (continued) | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml |
|---------------------|------------------------|--|---|
| | f_melts | 'm' | 'm' |
| | f_meltt f_mlt_onset | 'm' 'm' | 'm' 'm' |
| | f_ncat | True | True |
| | f_qref | 'x' | 'x' |
| | f_rain | 'x' | 'x' |
| | f_rain_ai f_shear | 'm' 'm' | 'm' 'm' |
| | f_sice | 'm' | 'm' |
| | f_sig1 | 'x' | 'x' |
| | f_sig2 | 'x' | 'x' |
| | f_sinz f_snoice | 'X' 'm' | 'X' 'm' |
| | f_snow | 'm' 'x' | 'm' 'x' |
| | f_snow_ai | 'm' | 'm' |
| | f_sss | 'm' | 'm' |
| | f_sst | 'm' '' | 'm' |
| | f_strairx f_strairy | 'm' 'm' | 'm' 'm' |
| | f_strcorx | 'm' | 'm' |
| | f_strcory | 'm' | 'm' |
| | f_strength | 'm' '' | 'm' '~~' |
| | f_strintx f_strinty | 'm' 'm' | 'm' 'm' |
| | f_strocnx | 'm' | 'm' |
| | f_strocny | 'm' | 'm' |
| | f_strtltx | 'm' '' | 'm' '' |
| | f_strtlty f_tair | 'm' 'm' | 'm' 'm' |
| | f_tarea | True | True |
| | f_tinz | 'x' | 'x' |
| | f_tmask | True | True |
| | f_tref f_trsig | 'x' 'm' | 'x' 'm' |
| | f_tsfc | 'm' | 'm' |
| | f_tsnz | 'x' | 'x' |
| | f_uarea | True | True |
| | f_uocn f_uvel | 'm' 'm' | 'm' 'm' |
| | f_vgrdb | False | False |
| | f_vgrdi | False | False |
| | f_vgrds f_vicen | False 'm' | False 'm' |
| | f_vocn | 'm' | 'm' |
| | f_vvel | 'm' | 'm' |
| &icefields_pond_nml | f_apeff | 'm' | 'm' |
| | f_apeff_ai f_apeffn | 'm' 'x' | 'm' 'x' |
| | f_apond | 'm' | 'm' |
| | f_apond_ai | 'm' | 'm' |
| | f_apondn f_hpond | 'X' 'm' | 'X' 'm' |
| | f_hpond_ai | 'm' 'm' | 'm' 'm' |
| | f_hpondn | 'x' | 'x' |
| | f_ipond | 'm' | 'm' |
| & ponds nml | f_ipond_ai | 'm' | 'm' 0.001 |
| &ponds_nml | dpscale frzpnd | 0.001 'hlid' | 0.001 'hlid' |
| | hp1 | 0.01 | 0.01 |
| | hs0 | 0.0 | 0.0 |
| | hs1 | 0.03 0.8 | 0.03 0.8 |
| | pndaspect rfracmax | 1.0 | 1.0 |
| | rfracmin | 0.15 | 0.15 |
| &setup_nml | days_per_year | 365 | 365 |
| | dbug diag_file | False 'ice_diag.d' | False |
| | uiag_file | ice_uiag.a | 'ice_diag.d' |

| Group (continued) Variable | e raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml |
|---------------------------------|--|---|
| diag_typ | e 'file' | 'file' |
| diagfre | q 24 t 3600 | 24 3600 |
| dump_las | | True |
| dumpfre | | 'y' |
| dumpfreq_ | n 1 | 1 |
| hist_av | | True |
| histfre | q 'd', 'm', 'x', 'x', 'x', 'x' | 'd', 'm', 'x', 'x', 'x' |
| histfreq_ | n 1, 1, 1, 1, 1 | 1, 1, 1, 1, 1 |
| history_d | r './OUTPUT/' | './OUTPUT/' |
| history_fil ice_i | | 'iceh' 'default' |
| incond_d | | './OUTPUT/' |
| incond_fil | e 'iceh_ic' | 'iceh_ic' |
| istep | | 000 650 |
| latpr | t 90.0, —65.0 False | 90.0, —65.0 True |
| lonpr | | 0.0, -45.0 |
| ndt | | 1 |
| n <mark>r</mark> pointer_fil | | 35040 './RESTART/ |
| pointeralit | ice.restart file' | ice.restart file' |
| print_globa | | False |
| print_point | | True |
| restar restart_d | | False './RESTART/' |
| restart_ex | | False |
| restart_fill | | 'iced' |
| restart_forma | | 'nc' 'initial' |
| runtyp use_leap_year | | False |
| use_restart_tim | e True | True |
| write.: | | False |
| | | 0.1 |
| albedo_typ | | 'default' |
| albice | ei 0.44 | 0.44 |
| albice | | 0.86 |
| albsnow albsnow | | 0.7 0.98 |
| $dalb_{-m}$ | t -0.02 | -0.02 |
| dt_m | | 1.0 |
| r_ic r_pn | | 0.0 0.0 |
| r_sm | | 0.0 |
| rsnw_m | t 1500.0 | 1500.0 |
| shortway tocnfr | | 'default' —1.8 |
| &thermo_nml a_rapid_mod | | 0.0005 |
| aspect_rapid_mod | e 1.0 | 1.0 |
| chi | | 0.004 |
| conduc dsdt_slow_mod | | 'bubbly' $-5 \times$ |
| kit | 10^{-8} | 10 ⁻⁸ |
| ktherr | n 1 | 1 |
| phi_c_slow_mod | | 0.05 |
| phi_i_mush rac_rapid_mod | | 0.85 10.0 |
| &tracer_nml restart_aer | o False | False |
| restart_ag | e False | False |
| restart_l restart_l | | False False |
| restart_pond_cesr | | False |
| restart_pond_tv | l False | False |

| new/ control/ 1deg jra55_ryf/ ice/ cice_in.nml | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ cice_in.nml | oup (continued) Variable |
|---|--|--------------------------|
| False | False | restart_pond_topo |
| False | False | tr_aero tr_aero |
| False | False | tr_fy |
| False | False | tr_iage |
| False | False | tr_lvl |
| False | False | tr_pond_cesm |
| False | False | tr_pond_lvl |
| False | False | tr_pond_topo |
| 'unknown bgc_data dir' | 'unknown bgc_data dir' | bgc_nml bgc_data_dir |
| 'Jin2006' | 'Jin2006' | bgc_flux_type |
| 'default' | 'default' | nit_data_type |
| 0.5 | 0.5 | ph_snow |
| False | False | restart_bgc |
| False | False | restart_hbrine |
| False | False | restore_bgc |
| 'default' | 'default' | siL.data_type |
| False | False | skL-bgc |
| False | False | tr_bgc_am_sk |
| False | False | tr_bgc_c_sk |
| False | False | tr_bgc_chl_sk |
| False | False | tr_bgc_dms_sk |
| False | False | tr_bgc_dmspd_sk |
| False | False | tr_bgc_dmspp_sk |
| False | False | tr_bgc_sil_sk |
| False | False | tr_brine |

| Group Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/input ice.nml | new/ control/ 1deg jra55_ryf/ ice/input ice.nml |
|-------------------------------|---|--|
| &coupling_nml chk_a2i_fields | False | False |
| chk_frzmit_sst | | False |
| chk_gfdL.roughness | False | False |
| chk_i2a_fields | | False |
| chk_i2o_fields | | False |
| chk_o2i_fields | | False |
| cst_ocn_albedo | True | True |
| dt_cpl_ai | 10800 | 10800 |
| dt_cpL-io | 3600 | 3600 |
| gfdl_surface_flux | | True |
| ice_fwflux | True | True |
| ice_pressure_on | True | True |
| limit_icemelt | False | False |
| meltlimit | -200.0 | -200.0 |
| ocn_albedo | 0.1 | 0.1 |
| pop_icediag | True 1.0 | True |
| precip_factor rotate_winds | True | 1.0 True |
| | | False |
| | | False |
| use_ocnslope use_umask | False False | |

| Group | Variable | raijin/g/ data3/hh5/ tmp/ cosima/ access- om2/ 1deg jra55v13 ryf8485 spinup_A/ output000/ ice/ input_ice gfdl.nml | new/ control/ 1deg jra55_ryf/ ice/ input_ice gfdl.nml |
|-------------------|----------------------|---|---|
| &ocean_rough_nml | charnock | 0.032 | 0.032 |
| | do_cap40 | False | False |
| | do_highwind | False | False |
| | rough_scheme | 'beljaars' | 'beljaars' |
| | roughness_heat | 5.8×10^{-5} | 5.8×10^{-5} |
| | roughness_min | 1×10^{-6} | 1×10^{-6} |
| | roughness_moist | 5.8×10^{-5} | 5.8×10^{-5} |
| | roughness_mom | 5.8×10^{-5} | 5.8×10^{-5} |
| | zcoh1 | 0.0 | 0.0 |
| | zcoq1 | 0.0 | 0.0 |
| &surface_flux_nml | alt_gustiness | False | False |
| | gust_const | 1.0 | 1.0 |
| | gust_min | 0.0 | 0.0 |
| | ncar_ocean_flux | True | True |
| | ncar_ocean_flux_orig | False | False |
| | no_neg_q | False | False |
| | old_dtaudv | False | False |
| | raoult_sat_vap | False | False |
| | use_mixing_ratio | False | False |
| | use_virtual_temp | True | True |

| Group | Variable raijin/g/ | new/ |
|--------------------|--------------------|------------|
| | data3/hh5/ | control/ |
| | tmp/ | 1deg |
| | cosima/ | jra55_ryf/ |
| | access- | ice/ |
| | om2/ | input_ice |
| | 1deg | monin.nml |
| | jra55v13 | |
| | ryf8485 | |
| | spinup_A/ | |
| | output000/ | |
| | ice/ | |
| | input_ice | |
| | monin.nml | |
| &monin_obukhov_nml | neutral True | True |

4.3 MATM namelist 'input_atm.nml'

| Group | Variable | raijin/g/ | new/ |
|-----------|----------------|-------------|-------------|
| | | data3/hh5/ | control/ |
| | | tmp/ | 1deg |
| | | cosima/ | jra55_ryf/ |
| | | access- | atmosphere/ |
| | | om2/ | input |
| | | 1deg | atm.nml |
| | | jra55v13 | |
| | | ryf8485 | |
| | | spinup_A/ | |
| | | output000/ | |
| | | atmosphere/ | |
| | | input | |
| | | atm.nml | |
| &coupling | caltype | 0 | 0 |
| | chk_a2i_fields | False | |
| | chk_i2a_fields | False | |
| | dataset | 'jra55' | 'jra55' |
| | days_per_year | 365 | 365 |
| | debug_output | False | False |
| | dt_atm | 3600 | 3600 |
| | dt_cpl | 10800 | 10800 |
| | ut_upt | 10000 | 10000 |

| Group (continued) | Variable | raijin/g/ | new/ |
|-------------------|-----------|-------------|-------------|
| | | data3/hh5/ | control/ |
| | | tmp/ | 1deg |
| | | cosima/ | jra55_ryf/ |
| | | access- | atmosphere/ |
| | | om2/ | input |
| | | 1deg | atm.nml |
| | | jra55v13 | |
| | | ryf8485 | |
| | | spinup_A/ | |
| | | output000/ | |
| | | atmosphere/ | |
| | | input | |
| | | atm.nml | |
| | inidate | 10101 | 10101 |
| | init_date | 10101 | 10101 |
| | runtime | 63072000 | 126144000 |
| | runtype | 'NY' | 'NY' |
| | truntime0 | 0 | 0 |

References

Griffies, S. M., and Coauthors, 2015: Impacts on ocean heat from transient mesoscale eddies in a hierarchy of climate models. $Journal\ of\ Climate$, 28 (3), 952–977, doi:10.1175/jcli-d-14-00353.1, URL http://dx.doi.org/10.1175/JCLI-D-14-00353.1.