MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

typeset 2017-10-21 11:03:54 +11:00

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

- 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

Other useful info:

• Griffies et al. (2015) p973

Tables auto-generated by nmltab (https://github.com/aekiss/nmltab). Missing variables are shown as blank. Variables are weblinks to source code searches.

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.

Contents

| 1 | Differences between new ACCESS-OM2 configs | 2 | |
|---|---|----|---|
| 2 | Changes in new ACCESS-OM2 configs 2.1 accessom2_1deg_jra55_ryf | 6 | į |
| 3 | Old and new ACCESS-OM2 configs (differences highlighted) | 9 | , |
| 4 | All variables in all 9 configs (differences highlighted) | 17 | , |
| 5 | All variables in ACCESS configs (differences highlighted) | 27 | , |

1 Differences between new ACCESS-OM2 configs

Only differences are shown. We aim to make this list as short as possible...

| Group | Variable | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|--|--|--|---|
| &auscom_ice_nml | dt_cpl | 3600 True | 1800 | 600 |
| &bg_diff_lat_dependence_nml | redsea_gulfbay_sfix bg_diff_eq | $\frac{\text{True}}{1 \times 10^{-6}}$ | | |
| | lat_low_bgdiff | 20.0 | | |
| &fms_io_nml | fileset_write threading_write | 'single' 'single' | 'multi' 'multi' | 'multi' 'multi' |
| &ocean_adv_vel_diag_nml | diaq_step | 4320 | 4320 | 576 |
| &ocean_barotropic_nml | diag_step | 4320 | 4320 | 576 |
| &ocean_lapgen_friction_nml | bottom_5point | True | | |
| | k_smag_aniso k_smag_iso | 0.0 0.0 | | |
| | ncar_only_equatorial | True | | |
| | restrict_polar_visc | True | | |
| | restrict_polar_visc_lat restrict_polar_visc_ratio | 60.0 0.35 | | |
| | use_this_module | True | False | False |
| | vconst_1 | 0.000 000 8 | | |
| | vconst_2 | 0.0 | | |
| | vconst_3 vconst_4 | $0.8 \\ 5 \times 10^{-9}$ | | |
| | vconst_5 | 3 ~ 10 | | |
| | vconst_6 | 300 000 000.0 | | |
| | vconst_7 | 100.0 | | |
| | vel_micom_iso viscosity_ncar | 0.1 True | | |
| | viscosity_ncar_2000 | False | | |
| | viscosity_ncar_2007 | True | | |
| | viscosity_scale_by_rossby | True | | |
| &ocean_mixdownslope_nml | viscosity_scale_by_rossby_power debug_this_module | 100.0 False | | |
| accean_mixdownstope_mint | mixdownslope_mask_gfdl | False | | |
| | mixdownslope_npts | 4 | | |
| | read_mixdownslope_mask use_this_module | False | F-1 | F-1 |
| &ocean_model_nml | dt_ocean | True 3600 | False 1200 | False 150 |
| Woccur_moder_mit | io_layout | 4, 3 | 6,5 | 10, 15 |
| | layout | 16, 15 | 48,40 | 80,75 |
| &ocean_nphysics_nml | use_nphysicsc use_this_module | True True | False False | False False |
| &ocean_nphysics_util_nml | agm | 600.0 | 100.0 | 100.0 |
| account, p. 1) sees a contract of the contract | agm_closure_eady_ave_mixed | True | 20010 | 200.0 |
| | agm_closure_eady_cap | True | | |
| | agm_closure_eady_smooth_horz agm_closure_eady_smooth_vert | True True | | |
| | agm_closure_eden_gamma | 0.0 | | |
| | agm_closure_eden_greatbatch | False | | |
| | agm_closure_grid_scaling | True | 4000 | 4000 |
| | agm_closure_min agm_damping_time | 50.0 45.0 | 100.0 | 100.0 |
| | agm_smooth_space | False | | |
| | agm_smooth_time | False | | |
| | drhodz_mom4p1 | True | False | False |
| &ocean_nphysicsc_nml | nphysics_util.zero_init bv_freq_smooth_vert | True True | | |
| &ocean_nphysicsc_nint | bv_ireq_sinouti_vert bvp_bc_mode | 2 | | |
| | bvp_min_speed | 0.1 | | |
| | bvp_speed | 0.0 False | | |
| | debug_this_module do_qm_skewsion | False True | | |
| | do_neutral_diffusion | True | | |
| | epsln_bv_freq | 1×10^{-12} | | |
| | gm_skewsion_bvproblem | True | | |
| | gm_skewsion_modes neutral_eddy_depth | False True | | |
| | neutral_eddy_deptri neutral_physics_limit | True | | |
| | number_bc_modes | 2 | | |
| | regularize_psi | False | | |
| | smax_psi smooth_psi | 0.01 True | | |
| | Siliootn_psi | irue | | |

| Group (continued) | Variable | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---------------------------|------------------|--|--|---|
| | tmask_neutral_on | True | | |
| | turb_blayer_min | 50.0 | | |
| | use_this_module | True | False | False |
| &ocean_solo_nml | days | 1460 | 31 | 30 |
| | dt_cpld | 3600 | 1200 | 600 |
| &ocean_sponges_tracer_nml | damp_coeff_3d | | | False |
| &ocean_tracer_diag_nml | diag_step | 4320 | 4320 | 576 |
| &ocean_velocity_diag_nml | diag_step | 4320 | 4320 | 576 |
| | energy_diag_step | 4320 | 4320 | 5760 |
| &xgrid_nml | do_alltoall | | | True |
| | do_alltoallv | | | True |
| | xgrid_log | | | False |

2 Changes in new ACCESS-OM2 configs

2.1 accessom2_1deg_jra55_ryf

Only differences are shown (inconsequential where use_this_module = .false. - see complete list below).

| Group | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml |
|---|--|--|--|
| &diag_manager_nml | debug_diag_manager | шрислин | True |
| | issue_oor_warnings | False | True |
| &fms_nml | domains_stack_size | | 115200 |
| &monin_obukhov_nml | neutral | | True |
| &mpp_io_nml | deflate_level shuffle | | 5 1 |
| &ocean_albedo_nml | ocean_albedo_option | | 2 |
| &ocean_barotropic_nml | zero_tendency | | False |
| &ocean_bbc_nml | bmf_implicit | | True |
| | cdbot_hi | | 0.007 |
| | cdbot_law_of_wall | False | |
| | cdbot_roughness_length | | False |
| | cdbot_roughness_uamp | | True |
| Second has a farm and | uresidual | Falsa | 0.05 |
| &ocean_bbc_ofam_nml | read_tide_speed uresidual2_max | False 1.0 | |
| &ocean_bihgen_friction_nml | bottom_5point | True | False |
| - Addition generation and | ncar_boundary_scaling_read | nuc | True |
| | vel_micom_bottom | 0.01 | 0.0 |
| | vel_micom_iso | 0.04 | 0.0 |
| | visc_crit_scale | 0.25 | 1.0 |
| &ocean_convect_nml | convect_full_scalar | False | |
| | convect_full_vector | True | 40700 |
| &ocean_density_nml | neutralrho_max | 1030.0 | 1038.0 |
| &ocean_domains_nml | neutralrho_min | 1020.0 10 | 1028.0 |
| &ocean_form_drag_nml | max_tracers cprime_aiki | 0.6 | <u> </u> |
| &ocean_frazil_nml | debug_this_module | 0.0 | False |
| docum_nuzic_init | frazil_only_in_surface | | False |
| | freezing_temp_preteos10 | | True |
| | freezing_temp_simple | True | False |
| &ocean_grids_nml | debug_this_module | True | False |
| | read_rho0_profile | False | |
| &ocean_increment_eta_nml | days_to_increment | 0 | |
| | fraction_increment | 1.0 | |
| &ocean_increment_tracer_nml | secs_to_increment | 1800 0 | |
| &ocean_increment_tracer_nint | days_to_increment fraction_increment | 1.0 | |
| | secs_to_increment | 1800 | |
| &ocean_increment_velocity_nml | days_to_increment | 0 | |
| | fraction_increment | 1.0 | |
| | secs_to_increment | 1800 | |
| &ocean_lapgen_friction_nml | viscosity_scale_by_rossby_power | 4.0 | 100.0 |
| &ocean_momentum_source_nml | rayleigh_damp_exp_from_bottom | | False |
| &ocean_operators_nml | use_legacy_div_ud | | False |
| &ocean_overexchange_nml | overexch_check_extrema | False | |
| &ocean_overflow_nml | debug_this_module | False | Ealco |
| &ocean_overflow_ofp_nml &ocean_pressure_nml | use_this_module zero_pressure_force | | False False |
| &ocean_rivermix_nml | river_diffuse_salt | False | True |
| Goodana (Crimpania | river_diffuse_satt | False | True |
| &ocean_riverspread_nml | use_this_module | True | False |
| &ocean_rough_nml | rough_scheme | | 'beljaars' |
| &ocean_sbc_nml | calvingspread | | False |
| | do_bitwise_exact_sum | | False |
| | do_flux_correction | | False |
| | land_model_heat_fluxes | 0.0 | False |
| | max_ice_thickness salt_correction_scale | 8.0 | 0.0 0.0 |
| | salt_correction_scate salt_restore_tscale | 15.0 | 60.0 |
| | temp_restore_tscale | -1.0 | -10.0 |
| | use_full_patm_for_sea_level | 1.0 | False |
| | waterflux_tavg | False | |
| | zero_net_salt_correction | | False |
| | zero_net_water_correction | | False |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml |
|-----------------------------|--|--|--|
| &ocean_sbc_ofam_nml | restore_mask_ofam | False False | |
| &ocean_shortwave_csiro_nml | river_temp_ofam read_depth | True | |
| | use_this_module | True | False |
| &ocean_shortwave_gfdl_nml | zmax_pen optics_morel_antoine | 7000 | False |
| | read_chl | False | True |
| | sw_pen_fixed_depths use_this_module | False False | True |
| | zmax_pen | 200.0 | 300.0 |
| &ocean_shortwave_nml | use_shortwave_csiro | True | False |
| &ocean_sigma_transport_nml | use_shortwave_gfdl sigma_advection_on | False False | True |
| doccur-signaturisports into | sigma_advection_sgs_only | False | |
| | sigma_diffusion_on | True | |
| | sigma_diffusivity_ratio sigma_just_in_bottom_cell | $1 	imes 10^{-6}$ True | |
| | sigma_umax | 0.01 | |
| | smooth_sigma_thickness | True | |
| | smooth_sigma_velocity smooth_velmicom | True 0.2 | |
| | thickness_sigma_layer | 100.0 | |
| | thickness_sigma_max | 100.0 100.0 | |
| | thickness_sigma_min tmask_sigma_on | False | |
| | tracer_mix_micom | True | |
| | use_this_module vel_micom | True 0.05 | False |
| &ocean_solo_nml | debug_this_module | False | |
| &ocean_sponges_tracer_nml | damp_coeff_3d | False | |
| &ocean_submesoscale_nml | coefficient_ce smooth_advect_transport | | 0.05 True |
| | smooth_advect_transport_num | | 4 |
| | smooth_psi | | True |
| | smooth_psi_num submeso_advect_flux | | 3 False |
| | submeso_advect_limit | | True |
| | submeso_advect_upwind | | True |
| | submeso_advect_zero_bdy submeso_diffusion | | True False |
| | submeso_diffusion_biharmonic | | True |
| | submeso_diffusion_scale submeso_limit_flux | True | 10.0 |
| | submeso_skew_flux | iiue | True |
| | use_psi_legacy | | False |
| &ocean_tempsalt_nml | pottemp_equal_contemp s_max | 55.0 | True 70.0 |
| | S_min | -1.0 | 0.0 |
| | s_min_limit | 0.0 | 2.0 |
| | t_min t_min_limit | −5.0 −2.0 | -20.0 -5.0 |
| | temperature_variable | 'conservative | 'potential |
| O accordiations and | total the constant | temp' | temp' |
| &ocean_thickness_nml | initialize_zero_eta read_rescale_rho0_mask | False False | |
| | rescale_mass_to_get_ht_mod | | False |
| | rescale_rho0_basin_label rescale_rho0_mask_gfdl | 7.0 False | |
| | rescale_rho0_value | 0.75 | |
| | thickness_dzt_min | 1.0 | |
| &ocean_topog_nml | thickness_dzt_min_init min_thickness | 2.0 25.0 | |
| &ocean_tracer_advect_nml | advect_sweby_all | True | |
| | async_domain_update | True | . . |
| &ocean_tracer_diag_nml | read_basin_mask tracer_conserve_days | 1.0 | False 30.0 |
| &ocean_velocity_nml | tracer_conserve_days truncate_velocity | True | False |
| • | zero_tendency_explicit_a | | False |
| | zero_tendency_explicit_b zero_tendency_implicit | | False False |
| &ocean_vert_kpp_mom4p0_nml | use_this_module | False | raise |
| &ocean_vert_kpp_mom4p1_nml | diff_con_limit | 0.1 | |
| | visc_con_limit | 0.1 | |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml |
|--|-----------------------------|--|--|
| &ocean_vert_mix_nml | afkph_00 | 0.65 | |
| Wooding to the manufacture of th | afkph_90 | 0.75 | |
| | bryan_lewis_lat_depend | True | False |
| | bryan_lewis_lat_transition | 35.0 | |
| | dfkph_00 | 1.15 | |
| | dfkph_90 | 0.95 | |
| | hwf_diffusivity | | False |
| | hwf_min_diffusivity | | 2×10^{-6} |
| | hwf_n0_2omega | | 20.0 |
| | linear_taper_diff_cbt_table | False | |
| | sfkph_00 | 4.5×10^{-5} | |
| | sfkph_90 | 4.5×10^{-5} | |
| | zfkph_00 | 250 000.0 | |
| | zfkph_90 | 250 000.0 | |
| &ocean_vert_tidal_nml | background_diffusivity | 5×10^{-6} | 0.0 |
| | decay_scale | 300.0 | 500.0 |
| | drag_dissipation_use_cdbot | 42 | True |
| | drhodz_min | 1×10^{-12} | 1×10^{-10} |
| | max_drag_diffusivity | 0.01 | |
| | roughness_scale | 20 000.0 | 12 000.0 |
| | shelf_depth_cutoff | 160.0 | -1000.0 |
| | use_legacy_methods | | False |
| &ocean_xlandinsert_nml | verbose_init_ | True | |
| &ocean_xlandmix_nml | verbose_init | True | |
| 0 1 | xlandmix_kmt | True | 47 |
| &xgrid_nml | nsubset | | 16 |

$2.2 \quad accessom2_025 deg_jra55_ryf$

Only differences are shown (inconsequential where use_this_module = .false. - see complete list below). We aim to make this list as short as possible, as this is where we've invested most SU...

| Group | Variable | original/ kiss_acces- som2 025deg jra55_ryf | new_acces- som2 025deg jra55_ryf input.nml |
|---------------------------------|--|---|--|
| &auscom_ice_nml | dt_cpl | input.nml 1200 | 1800 |
| &duscom_ne_nimit &fms_io_nml | fileset_write | 'single' | 'multi' |
| XIIII3_IO_IIIIIL | threading_write | 'single' | 'multi' |
| &fms_nml | domains_stack_size | Siligic | 115200 |
| &mpp_io_nml | deflate_level | | 5 |
| жиррыодин | shuffle | | 1 |
| &ocean_bih_tracer_nml | tracer_mix_micom | True | |
| 2000412511244001211114 | vel_micom | 0.001 | |
| &ocean_convect_nml | convect_full_scalar | True | |
| | convect_full_vector | False | |
| &ocean_lapgen_friction_nml | k_smag_iso | 2.0 | |
| &ocean_mixdownslope_nml | debug_this_module | False | |
| &ocean_nphysics_util_nml | smax | 0.002 | |
| | swidth | 0.002 | |
| &ocean_overflow_nml | debug_this_module | False | |
| &ocean_overflow_ofp_nml | debug_this_module | False | |
| | diag_step | 4320 | |
| | do_entrainment_para_ofp | False | |
| | do_mass_ofp | True | |
| | frac_exchange_src | 1.0 | |
| | max_vol_trans_ofp | 10 000 000.0 | |
| &ocean_rivermix_nml | river_diffuse_salt | False | True |
| | river_diffuse_temp | False | True |
| &ocean_shortwave_csiro_nml | debug_this_module | False | |
| | read_depth | True 7000 | |
| Passan sigma transport ami | zmax_pen sigma_advection_on | False | |
| &ocean_sigma_transport_nml | _ | False | |
| | sigma_advection_sgs_only sigma_diffusion_on | True | |
| | sigma_diffusivity_ratio | 1×10^{-6} | |
| | sigma_umusivity_latio sigma_just_in_bottom_cell | True | |
| | sigina_just_in_bottom_cett sigma_umax | 0.01 | |
| | smooth_sigma_thickness | True | |

| Group (continued) | Variable | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml |
|---------------------------|------------------------|--|--|
| | smooth_sigma_velocity | 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 | |
| | vel_micom | 0.05 | |
| &ocean_sponges_tracer_nml | damp_coeff_3d | False | |
| &ocean_thickness_nml | thickness_dzt_min | 2.0 | |
| | thickness_dzt_min_init | 10.0 | |
| &ocean_velocity_nml | max_cgint | 1.5 | 1.0 |
| &surface_flux_nml | ncar_ocean_flux | True | |
| | raoult_sat_vap | True | |

$2.3 \quad accessom2_01deg_jra55_ryf$

Only differences are shown (inconsequential where use_this_module = .false. - see complete list below).

| &diag_manager_mnl debug_diag_manager Total state of the state of | Group | Variable | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|-------------------------------|--------------------------|---|---|
| Sisse. Or Namings False Time | &auscom_ice_nml | dt_cpl | 150 | 600 |
| Max August | &diag_manager_nml | debug_diag_manager | | True |
| Max. Files 1000 max. input. field 700 | | issue_oor_warnings | | True |
| Back place of the control of | | | | |
| Max. Junt maxis sets max. Junt mit mit max. Junt mit mit mit mit mit mit mit mit mit mi | | max_files | | |
| Kims.io.nml max.cutput.fields 700 Kims.io.nml chestsum.required False Kims.nml print.memory.usge False &generic.tracer.nml dogeneric.trc False & dogeneric.tracer False &cocean.bint.tracer, mil max.decr.mix.micom well_micro.mlap.ding 0.001 &cocean.printle convert.mix.cut.er False &cocean.mix.downshope.nml debug.this.module False &cocean.physics.util.ml generic.tracer false &cocean.moverflow.ml debug.this.module False &cocean.moverflow.ml debug.this.module False <t< td=""><td></td><td>•</td><td></td><td></td></t<> | | • | | |
| Kims.io.nml checksum.required max.files.rd False max.files.rd 700 ma | | | | |
| kinsnil max.files.ur 700 kinsnil printmemony.usage False kgeneric.tracer.mll dogeneric.tracer False kocean.advection.velocity.nml max.advection.relocity Oz kocean.advection.velocity.nml vel.micom.lap.diag OS kocean.bib.tracer.nml vel.micom.lap.diag OS kocean.convect.nml convect.full.vector True kocean.convect.nml convect.full.vector False kocean.convect.nml kocean.convect.trull.vector False kocean.convect.nml kocean.convect.trull.vector False kocean.physic.util.nml kocean.physic.util.nml Kocean.physic.util.nml False kocean.model.mnl debug.this.module False False kocean.overflow.ofp.nml debug.this.module False False kocean.overflow.ofp.nml debug.this.module False | | • | | |
| ffmml max.files.wm 700 ffmml pint.memory.usage False &generic.tracer.ml do.generic.cric False do.generic.tracer False do.generic.tracer &ceae.a.dwection.velocity.mnl max.advection.xelocity 0.2 &ceae.a.bortorpic.nml mex.advection.pd.giag 0.5 &cocean.bin.tracer.mml tracer.mix.micom True &cocean.convect.nml convect.full.scalar True &cocean.convect.nml convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed false True &cocean.mixed.mixed false True &cocean.model.nml debug.this.module False &cocean.overflow.nl debug.this.module False &cocean.overflow.ofp.mml debug.this.module False &cocean.overflow.ofp.mml debug.this.module False | &fms_io_nml | | | |
| &fms.nml print_memory.usage False &generic.tracer.nml do_generic.tracer False do_generic.tracer &coean_advection_velocity_nml mxx_advection_velocity 0.2 &coean_bin_tracer_nml vel_micom_lap_diag 0.5 &coean_bin_tracer_nml tracer_mix_micom vel_micom vel_micom 0.001 0.001 &coean_convect_nml convect_full_scalar convect_full_vector True convect_full_scalar convect_full_vector &coean_nindownslope_nml k.smag_iso 2.0 &coean_mixdownslope_nml debug_this_module convect_full_vector Talse &coean_noverflow.nml graph 5.000 &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector False convect_full_vector &coean_overflow.ofp_nml debug_this_module convect_full_vector False convect_full_vector &coean_inverspread_nml debug_this_module convect_full_vector <td></td> <td></td> <td></td> <td></td> | | | | |
| Repensic_tracer_nml do_generic_tracer False of do_generic_tracer Do_generic_tracer_tracer Do_generic_tracer_tracer Do_generic_tracer_tracer_tracer Truce of tracer_tr | | max_files_w | 700 | |
| Mogeneric Lapaz False Mogeneric Lapaz Mogeneric | &fms_nml | print_memory_usage | | |
| Accean_advection_velocity_nml do_generic_tracer False &cocean_barctropic_nml vel_minom_lap_diag 0.5 &cocean_bib_t_tracer_nml tracer_mix_micm True &cocean_convect_nml convect_full_scalar convect_full_vector False &cocean_lapgen_friction_nml k. smagiso 2.0 &cocean_mixdownslope_nml debugthis_module False &cocean_model_nml smax 0.002 &cocean_model_nml smax 0.002 &cocean_noverflow_nml debugthis_module False &cocean_overflow_nml debugthis_module False &cocean_overflow_ofp_nml debugthis_module False &cocean_overflow_ofp_nml debugthis_module False &cocean_overflow_and debugthis_module False &cocean_iverspread_nml debugthis_module False &cocean_iverspread_nml gen_a.voltrans.orp 100000000 &cocean_sigmatransport_nml sigmaadvection_sg, only False &cocean_sigmatransport_nml sigmaadvection_sg, only False &coce | &generic_tracer_nml | do_generic_cfc | False | |
| & cocean_advection_velocity_nmll max_advection_velocity_moding 0.5 & cocean_bortoriop(ml) vel_mitorm_lap_diag 0.5 & cocean_init_mitor Tirue & cocean_init_mitor Quality_cover_mix_mitor Tirue & cocean_convect_nml convect_full_vector False & cocean_mixedownslope_nml debug_this_module False & cocean_mixedownslope_nml debug_this_module False & cocean_noverflow_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_inverspread_nml debug_this_module False & cocean_inverspread_nml debug_this_module False & cocean_sigma_transport_nml debug_this_module False & cocean_sigma_transport_nml debug_this_module False & sigma_addiffusion_on True False & cocean_sigma_transport_nml sigma_addiffusion_on True & sigma_addiffusio | | | False | |
| &ocean_bardtropic_nml vel_micom ap_diag 0.5 &ocean_Libit_tracer_nml tracer_mix_micom vel_micom out True vel_micom out &ocean_convect_nml convect_full_scalar or False True convect_full_scalar or False &ocean_lapgen_friction_nml k_smagiso 2.0 &ocean_mixdownstoppe_nml debug_this_module False &ocean_model_nml smax 0.002 &ocean_noverflow_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False do_nass_ofp True False sigma_diffusion_on True | | | False | |
| & cean_bih_tracer_nml tracer_mix_micom vel_micom vel_micom 0.001 True vel_micom 0.001 & cean_convect_nml convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_vector False 5.20 & cocean_lapgen_friction_nml k.smag_iso 2.0 2.0 & cocean_model_nml cmip_units True scalar True sigma_divection_os_only 5.60 & cocean_overflow_ofp_nml debug_this_module false do_unass_ofp frue frace.exchange_src 1.0 5.76 & cocean_riverspread_nml debug_this_module false do_unass_ofp frue frace.exchange_src 1.0 5.76 & cocean_riverspread_nml debug_this_module scalar true scalar true scalar true sigma_advection_os_only false sigma_advection_os_only sigma_diffusion_on true sigma_advection_os_only sigma_unam true sigma_advection_os_only sigma_unam 0.01 5.76 & cocean_sigma_transport_nml sigma_diffusion_true true sigma_unam 0.01 1 x 10 -6 & sigma_diffusion_true true sigma_unam 0.01 1 x 10 -6 1 x 10 -6 & sigma_diffusion_true true true sigma_unam 0.01 1 x 10 -6 1 x 10 -6 & sigma_diffusion_true true true true true true true true | &ocean_advection_velocity_nml | max_advection_velocity | 0.2 | 0.5 |
| Scorean_convect_nml vel_micom 0.001 & convect_full_vector False & cocean_lapgen_friction_nml k.smag_iso 2.0 & cocean_mixdownslope_nml debug_this_module False & cocean_model_nml msmax 0.002 & cocean_noter[low_nml swidth 0.002 & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & do_entrainment_para_ofp False False & do_entrainment_para_ofp False False & do_entrainment_para_ofp False False & do_entrainment_para_ofp True False & cocean_riverspread_nml gend_entrains_ofp 100000000 & cocean_sigma_transport_nml sigma_advection_on False & cocean_sigma_transport_nml sigma_advection_on True & sigma_uniffusion_on True & sigma_uniffusion_on True | &ocean_barotropic_nml | vel_micom_lap_diag | 0.5 | 0.2 |
| & ocean_convect_nml convect_full_scalar convect_full_vector True convect_full_vector False & ocean_laggen_friction_nml 0.2.0 0.2.0 & ocean_mixedownstope_nml debug_this_module False & ocean_model_nml 0.002 swidth 0.002 & ocean_overflow_inml debug_this_module False & ocean_overflow_ofp_nml debug_this_module False & ocean_overflow_ofp_nml frac_exchange_src 1.0 & ocean_iverspread_nml debug_this_module False & ocean_iverspread_nml debug_this_module False & ocean_sigma_transport_nml sigma_advection_on False & ocean_sigma_advection_on False False & sigma_advection_sgs_only False False sigma_advection_sgs_only False False sigma_diffusion_on True False sigma_injust_in_bottom_cell True False sigma_injust_in_bottom_cell True False sigma_unin_insport_nml 1 × 10 ⁻⁶ False sigma_injust_in_bottom_cell </td <td>&ocean_bih_tracer_nml</td> <td>tracer_mix_micom</td> <td>True</td> <td></td> | &ocean_bih_tracer_nml | tracer_mix_micom | True | |
| Scoean_lapgen_friction_nml R.smag_iso 2.0 & ocean_mixidownslope_nml debug_this_module False & ocean_model_nml cmip_units Ti & ocean_nphysics_util_nml smax 0.002 Ti & ocean_overflow_nml debug_this_module False Cocean_overflow_nml False Cocean_overflow_of_nml Cocean_overflow_of_nml False Cocean_overflow_of_nml Cocean_overflow_overflow_of_nml | | vel_micom | 0.001 | |
| Scoean_lapgen_friction_nml R.smag_iso 2.0 &coean_mixidownslope_nml debug_this_module False &coean_model_nml cmip_units Ti &coean_nphysics_util_nml smax 0.002 Ti &coean_overflow_nml debug_this_module False Coean_overflow_nml False Coean_overflow_of_nml Coean_overflow_of_nml False Coean_overflow_of_nml Coean_overflow_overflow_overflow_overflow_overflow_overflow_overflow_overflow_overflow_overflow_overflow_overflow_ | &ocean_convect_nml | convect_full_scalar | True | |
| &ocean_mixtdownslope_nml debug_this_module corean_nodel_nml False corean_nodel_nml &ocean_nodel_nml smax swidth 0,002 swidth | | | False | |
| &ocean_mixtdownslope_nml debug_this_module corean_nodel_nml False corean_nodel_nml &ocean_nodel_nml smax swidth 0,002 swidth | &ocean_lapgen_friction_nml | k_smag_iso | 2.0 | |
| & ocean_nphysics_util_nml smax swidth swidth no.002 0.002 swidth no.002 & ocean_overflow_nml debug_this_module debug_this_module noise and suggestion a | | debug_this_module | False | |
| &ocean_overflow_nml swidth debug_this_module False &ocean_overflow_ofp_nml debug_this_module False & diag_step 5760 diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp False frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 frac_exchange_src | &ocean_model_nml | cmip_units | | True |
| &ocean_overflow_nml swidth debug_this_module False &ocean_overflow_ofp_nml debug_this_module False & diag_step 5760 diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp False frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 frac_exchange_src | &ocean_nphysics_util_nml | smax | 0.002 | |
| &ocean_overflow_ofp_nml debug_this_module diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True fac_exchange_src 1.0 do_mass_ofp True frac_exchange_src 1.0 10 000 000.0 &ocean_riverspread_nml debug_this_module use_this_module use_this_module False use_this_module True False use_this_module True use_ | • • | swidth | 0.002 | |
| &ocean_overflow_ofp_nml debug_this_module diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True fac_exchange_src 1.0 do_mass_ofp True frac_exchange_src 1.0 10 000 000.0 &ocean_riverspread_nml debug_this_module use_this_module use_this_module False use_this_module True False use_this_module True use_ | &ocean_overflow_nml | debug_this_module | False | |
| diag_step5760do_entrainment_para_ofpFalsedo_mass_ofpTruefrac_exchange_src1.0max_vol_trans_ofp10 000 0000&ocean_riverspread_nmldebug_this_module use_this_module use_this_moduleFalse&ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalsesigma_diffusion_onTruesigma_diffusivity_ratio1 × 10^{-6}sigma_just_in_bottom_cell sigma_umax smooth_sigma_thicknessTruesmooth_sigma_thicknessTruesmooth_sigma_velocityTruesmooth_velmicom smooth_velmicom0.2thickness_sigma_layer100.0 | &ocean_overflow_ofp_nml | | False | |
| do_entrainment_para_ofpFalsedo_mass_ofpTruefrac_exchange_src1.0max_vol_trans_ofp10 000 000.0& ocean_riverspread_nmldebug_this_module use_this_module use_this_moduleFalse& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalse& sigma_diffusion_on sigma_diffusion_call sigma_just_in_bottom_cell sigma_just_in_bottom_cell sigma_tunax sigma_thickness sigma_thickness sigma_thickness smooth_sigma_velocity smooth_velmicon smooth_velmicon thickness_sigma_layerTrue smooth_velmicon 0.2 thickness_sigma_layer | ' | | 5760 | |
| do_mass_ofp frac_exchange_srcTrue frac_exchange_src4.01.04.0max_vol_trans_ofp10 000 000.04.0debug_this_module use_this_module u | | | False | |
| & ocean_riverspread_nml debug_this_module use_this_module use_this_ma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10^-6 sigma_just_in_bottom_cell use_this_module use_ | | | True | |
| & ocean_riverspread_nml debug_this_module use_this_module use_this_ma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10^-6 sigma_just_in_bottom_cell use_this_module use_ | | frac_exchange_src | 1.0 | |
| weethis_module True False &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 True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | 10 000 000.0 | |
| &ocean_sigma_transport_nml sigma_advection_on sigma_advection_sgs_only sigma_diffusion_on true sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell sigma_umax True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | &ocean_riverspread_nml | debug_this_module | 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 True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | • | use_this_module | True | False |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | &ocean_sigma_transport_nml | sigma_advection_on | False | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | • | sigma_advection_sgs_only | False | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | sigma_diffusion_on | | |
| sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | $1 	imes 10^{-6}$ | |
| sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | | |
| smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | 0.01 | |
| smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | True | |
| smooth_velmicom 0.2 thickness_sigma_layer 100.0 | | | True | |
| | | | 0.2 | |
| | | | 100.0 | |
| TNICKNESS_SIGMA_MAX 100.0 | | thickness_sigma_max | 100.0 | |

| Group (continued) | Variable | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|----------------------|------------------------|---|---|
| | thickness_sigma_min | 100.0 | |
| | tmask_sigma_on | False | |
| | tracer_mix_micom | True | |
| | vel_micom | 0.05 | |
| &ocean_solo_nml | dt_cpld | 150 | 600 |
| &ocean_tempsalt_nml | debug_this_module | True | False |
| &ocean_thickness_nml | thickness_dzt_min | 2.0 | |
| | thickness_dzt_min_init | 10.0 | |
| &sat_vapor_pres_nml | show_all_bad_values | True | |
| &surface_flux_nml | ncar_ocean_flux | True | |
| | raoult_sat_vap | True | |

3 Old and new ACCESS-OM2 configs (differences highlighted)

| Group | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|-----------------------------------|--|--|--|--|--|---|---|
| &auscom_ice_nml | aice_cutoff | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| | chk_i2o_fields | False | False | False | False | False | False |
| | chk_o2i_fields do_ice_once | False False | False False | False False | False False | False False | False False |
| | do_ice_once dt_cpl | 3600 | 3600 | 1200 | 1800 | 150 | 600 |
| | fixmeltt | False | False | False | False | False | False |
| | frazil_factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | iceform_adj_salt | False | False | False | False | False | False |
| | icemlt_factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | kmxice | 5 | 5 | 5 | 5 | 5 | 5 |
| | pop_icediag <mark>redsea_gulfbay_sfix</mark> | True True | True True | True | True | True | True |
| | sign_stflx | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | tmelt | -0.216 | -0.216 | -0.216 | -0.216 | -0.216 | -0.216 |
| | use_ioaice | True | True | True | True | True | True |
| &bg_diff_lat_dependence_nml | bg_diff_eq | 1×10^{-6} | 1×10^{-6} | | | | |
| | lat_low_bgdiff | 20.0 | 20.0 | | | | |
| &diag_manager_nml | debug_diag_manager | | True | True | True | | True |
| | issue_oor_warnings | False | True | True | True | False | True |
| | max_axes | | | | | 300 1000 | |
| | max_files max_input_fields | | | | | 700 | |
| | max_num_axis_sets | | | | | 40 | |
| | max_output_fields | | | | | 700 | |
| &fms_io_nml | checksum_required | | | | | False | |
| | fileset_write | 'single' | 'single' | 'single' | 'multi' | 'multi' | 'multi' |
| | max_files_r | | | | | 700 | |
| | max_files_w | 1 1.0 | | | | 700 | 1 1.11 |
| | threading_read | 'multi' 'ainala' | 'multi' | 'multi' | 'multi' | 'multi' | 'multi' |
| &fms_nml | threading_write clock_grain | 'single' 'LOOP' | 'single' 'LOOP' | 'single' 'LOOP' | 'multi' 'LOOP' | 'multi' 'LOOP' | 'multi' 'LOOP' |
| &IIIIS_IIIII | domains_stack_size | LOOP | 115200 | LOOP | 115200 | 115200 | 115200 |
| | print_memory_usage | | 113200 | | 113200 | False | 113200 |
| &generic_tracer_nml | do_generic_cfc | | | | | False | |
| | do_generic_topaz | | | | | False | |
| 9 | do_generic_tracer | 3. A2 | ·. a | · | ·. a | False | ' a' |
| &mom_oasis3_interface_nml | fields_in | 'u_flux', 'v_flux', | 'u_flux', 'v_flux', | 'u_flux', 'v_flux', | 'u_flux', 'v_flux', | 'u_flux', 'v_flux', | 'u_flux', 'v_flux', |
| | | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', |
| | | 'salt_flx', | 'salt_flx', | 'salt_flx', | 'salt_flx', | 'salt_flx', | 'salt_flx', |
| | | 'mh_flux', | 'mh_flux', | 'mh_flux', | 'mh_flux', | 'mh_flux', | 'mh_flux', |
| | | 'sw_flux', | 'sw_flux', | 'sw_flux', | 'sw_flux', | 'sw_flux', | 'sw_flux', |
| | | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', |
| | | 't_flux', | 't_flux', | 't_flux', | 't_flux', | 't_flux', | 't_flux', |
| | | 'lw_flux', 'runof' 'n' | 'lw_flux', 'runof' 'n' | 'lw_flux', 'runof' 'n' | 'lw_flux', 'runof' 'n' | 'lw_flux', 'runof' 'n' | 'lw_flux', 'runof', 'p', |
| | | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'aice', |
| | | 'wfimelt', | 'wfimelt', | 'wfimelt', | 'wfimelt', | 'wfimelt', | 'wfimelt', |
| | | 'wfiform' | 'wfiform' | 'wfiform' | 'wfiform' | 'wfiform' | 'wfiform' |
| | fields_out | 't_surf', | 't_surf', | 't_surf', | 't_surf', | 't_surf', | 't_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', |
| | | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', | 'v_surf', 'dssldx', |
| | | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', |
| | | 'frazil' | 'frazil' | 'frazil' | 'frazil' | 'frazil' | 'frazil' |
| | num_fields_in | 15 | 15 | 15 | 15 | 15 | 15 |
| | | 7 | 7 | 7 | 7 | 7 | 7 |
| | num_fields_out | | | - | True | True | True |
| | send_after_ocean_update | True | True | True | | | |
| | send_after_ocean_update send_before_ocean_update | | False | False | False | False | False |
| | send_after_ocean_update send_before_ocean_update neutral | True | False True | | False True | False True | False True |
| &monin_obukhov_nml &mpp_io_nml | send_after_ocean_update send_before_ocean_update neutral deflate_level | True | False True 5 | False | False True 5 | False True 5 | False True 5 |
| &mpp_io_nml | send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle | True False | False True 5 1 | False True | False True 5 1 | False True 5 1 | False True 5 1 |
| &mpp_io_nml | send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step | True False | False True 5 1 4320 | False True 4320 | False True 5 1 4320 | False True 5 1 576 | False True 5 1 576 |
| &mpp_io_nml | send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value | True False 4320 10.0 | False True 5 1 4320 10.0 | False True 4320 10.0 | False True 5 1 4320 10.0 | False True 5 1 576 10.0 | False True 5 1 576 10.0 |
| | send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value | True False | False True 5 1 4320 | False True 4320 | False True 5 1 4320 | False True 5 1 576 | False True 5 1 576 10.0 100.0 |
| &mpp_io_nml | send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value | True False 4320 10.0 100.0 | False True 5 1 4320 1000 | False True 4320 10.0 100.0 | False True 5 1 4320 100 1000 | False True 5 1 576 1000 | False True 5 1 576 10.0 |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|------------------------------|--|--|--|--|--|---|---|
| &ocean_barotropic_nml | barotropic_halo | _ 10 | _ 10 | _ 10 | _ 10 | _ 10 | 10 |
| | barotropic_time_stepping_a barotropic_time_stepping_b | True False | True False | True False | True False | True False | True False |
| | debug_this_module | False | False | False | False | False | False |
| | diag_step | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| | eta_max | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | frac_crit_cell_height | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | pred_corr_gamma smooth_eta_diag_laplacian | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True |
| | smooth_eta_t_biharmonic | False | False | False | False | False | False |
| | smooth_eta_t_laplacian | True | True | True | True | True | True |
| | smooth_pbot_t_biharmonic | False | False | False | False | False | False |
| | smooth_pbot_t_laplacian | True | True | True | True | True | True |
| | truncate_eta | False | False | False | False | False | False |
| | use_legacy_barotropic_halos vel_micom_bih | False 0.01 | False 0.01 | False 0.01 | False 0.01 | False 0.01 | False 0.01 |
| | vel_micom_lap | 0.05 | 0.05 | 0.01 | 0.01 | 0.05 | 0.05 |
| | vel_micom_lap_diag | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.2 |
| | verbose_truncate | True | True | True | True | True | True |
| 2 accor blog mad | zero_tendency | | False | False | False | False | False |
| &ocean_bbc_nml | bmf_implicit cdbot | 0.001 | True 0.001 | True 0.001 | True 0.001 | True 0.001 | True 0.001 |
| | cdbot_hi | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| | cdbot_law_of_wall | False | | | | | |
| | cdbot_roughness_length | | False | False | False | False | False |
| | cdbot_roughness_uamp | | True | True | True | True | True |
| | uresidual | False | 0.05 False | 0.05 False | 0.05 False | 0.05 Falso | 0.05 |
| &ocean_bbc_ofam_nml | use_geothermal_heating read_tide_speed | False | raise | raise | raise | False | False |
| Woccan_bbc_blam_min | uresidual2_max | 1.0 | | | | | |
| &ocean_bih_friction_nml | bih_friction_scheme | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' |
| &ocean_bih_tracer_nml | tracer_mix_micom | | | True | | True | |
| | use_this_module | False | False | False | False | False | False |
| &ocean_bihcst_friction_nml | vel_micom use_this_module | False | False | 0.001 False | False | 0.001 False | False |
| &ocean_bingen_friction_nml | bottom_5point | True | False | False | False | False | False |
| a decan shinger shedon shine | eq_lat_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | eq_vel_micom_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | eq_vel_micom_iso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | equatorial_zonal | False | False | False | False | False | False |
| | к_smag_aniso k_smag_iso | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 |
| | ncar_boundary_scaling | True | True | True | True | True | True |
| | ncar_boundary_scaling_read | | True | True | True | True | True |
| | ncar_rescale_power | 2 | 2 | 2 | 2 | 2 | 2 |
| | ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} | 2×10^{-8} |
| | ncar_vconst_5 use_this_module | 5 True | 5 True | 5 True | 5 True | 5 True | 5 True |
| | vel_micom_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | vel_micom_bottom | 0.01 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | vel_micom_iso | 0.04 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | visc_crit_scale | 0.25 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| &ocean_convect_nml | convect_full_scalar | False | | True | | True | |
| | convect_full_vector use_this_module | True False | False | False False | False | False False | False |
| &ocean_coriolis_nml | acor | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | use_this_module | True | True | True | True | True | True |
| &ocean_density_nml | eos_linear | False | False | False | False | False | False |
| | eos_preteos10 | True | True | True | True | True | True |
| | layer_nk | 10700 | 80 10790 | 80 1079 0 | 80 1079.0 | 80 1078 0 | 80 1079.0 |
| | neutralrho_max neutralrho_min | 1030.0 1020.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1038.0 1028.0 |
| | potrho_max | 1020.0 | 1028.0 | 1028.0 | 1028.0 | 1028.0 | 1038.0 |
| | potrho_min | 1028.0 | 1028.0 | 1028.0 | 1028.0 | 1028.0 | 1028.0 |
| &ocean_domains_nml | max_tracers | 10 | 5 | 5 | 5 | 5 | 5 |
| &ocean_form_drag_nml | cprime_aiki | 0.6 | | - · | . . | | <u>.</u> . |
| Paran frazil ped | use_this_module | False | False | False | False | False | False |
| &ocean_frazil_nml | debug_this_module frazil_only_in_surface | | False False | False False | False False | False False | False False |
| | freezing_temp_preteos10 | | True | True | True | True | True |
| | freezing_temp_simple | True | False | False | False | False | False |
| | use_this_module | True | True | True | True | True | True |
| &ocean_grids_nml | debug_this_module | True | False | False | False | False | False |
| | | | | | | | |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|--|--|--|--|--|---|---|
| 0 | read_rho0_profile | False | | | | | |
| &ocean_increment_eta_nml | days_to_increment fraction_increment | 0 1.0 | | | | | |
| | secs_to_increment | 1800 | | | | | |
| | use_this_module | False | False | False | False | False | False |
| &ocean_increment_tracer_nml | days_to_increment | 0 | | | | | |
| | fraction_increment | 1.0 1800 | | | | | |
| | secs_to_increment use_this_module | False | False | False | False | False | False |
| &ocean_increment_velocity_nml | days_to_increment | 0 | 1 4136 | 1 4130 | 1 4136 | 1400 | 1 4130 |
| | fraction_increment | 1.0 | | | | | |
| | secs_to_increment | 1800 | F-I | F-I | F-1 | Falsa | F-1 |
| &ocean_lap_friction_nml | use_this_module lap_friction_scheme | False 'general' | False 'general' | False 'general' | False 'general' | False 'general' | False 'general' |
| &ocean_lap_tracer_nml | use_this_module | False | False | False | False | False | False |
| &ocean_lapcst_friction_nml | use_this_module | False | False | False | False | False | False |
| &ocean_lapgen_friction_nml | bottom_5point | True | True | | | | |
| | k_smag_aniso | 0.0 | 0.0 | 3.0 | | 3.0 | |
| | k_smag_iso ncar_only_equatorial | 0.0 True | 0.0 True | 2.0 | | 2.0 | |
| | restrict_polar_visc | True | True | | | | |
| | restrict_polar_visc_lat | 60.0 | 60.0 | | | | |
| | restrict_polar_visc_ratio | 0.35 | 0.35 | | | | |
| | use_this_module | True | True | False | False | False | False |
| | vconst_1 vconst_2 | 0.00 000 8 0.0 | 0.000 000 8 0.0 | | | | |
| | vconst_2 | 0.8 | 0.8 | | | | |
| | vconst_4 | 5×10^{-9} | 5×10^{-9} | | | | |
| | vconst_5 | 3 | 3 | | | | |
| | vconst_6 | 300 000 000.0 | 300 000 000.0 | | | | |
| | vconst_7 vel_micom_iso | 100.0 0.1 | 100.0 0.1 | | | | |
| | viscosity_ncar | True | True | | | | |
| | viscosity_ncar_2000 | False | False | | | | |
| | viscosity_ncar_2007 | True | True | | | | |
| | viscosity_scale_by_rossby | True | True | | | | |
| &ocean_mixdownslope_nml | viscosity_scale_by_rossby_power debug_this_module | 4.0 False | 100.0 False | False | | False | |
| a decarization of the control of the | mixdownslope_mask_gfdl | False | False | raise | | raise | |
| | mixdownslope_npts | 4 | 4 | | | | |
| | read_mixdownslope_mask | False | False | | | | |
| &ocean_model_nml | use_this_module baroclinic_split | True 1 | True 1 | False 1 | False 1 | False 1 | False 1 |
| &ocean_modet_mit | baroctrinc_split barotropic_split | 80 | 80 | 80 | 80 | 80 | 80 |
| | cmip_units | True | True | True | True | | True |
| | debug | False | False | False | False | False | False |
| | dt_ocean | 3600 | 3600 | 1200 | 1200 | 150 | 150 |
| | <mark>io_layout</mark> layout | 4, 3 16, 15 | 4, 3 16, 15 | 6, 5 48, 40 | 6, 5 48, 40 | 10, 15 80, 75 | 10, 15 80, 75 |
| | surface_height_split | 10,13 | 10, 13 | 10, 40 | 1 | 1 | 1 |
| | time_tendency | 'twolevel' | 'twolevel' | 'twolevel' | 'twolevel' | 'twolevel' | 'twolevel' |
| | vertical_coordinate | 'zstar' | 'zstar' | 'zstar' | 'zstar' | 'zstar' | 'zstar' |
| &ocean_momentum_source_nml | rayleigh_damp_exp_from_bottom | T | False | False | False | False | False |
| | use_rayleigh_damp_table use_this_module | True True | True True | True True | True True | True True | True True |
| &ocean_nphysics_nml | debug_this_module | False | False | False | False | False | False |
| | use_nphysicsa | False | False | False | False | False | False |
| | use_nphysicsb | False | False | False | False | False | False |
| | use_nphysicsc | True | True | False | False | False | False |
| &ocean_nphysics_util_nml | use_this_module agm | True 600.0 | True 600.0 | False 100.0 | False 100.0 | False 100.0 | False 100.0 |
| Social inpression and the second in the seco | agm_closure | True | True | True | True | True | True |
| | agm_closure_baroclinic | True | True | True | True | True | True |
| | agm_closure_buoy_freq | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| | agm_closure_eady_ave_mixed | True | True True | | | | |
| | agm_closure_eady_cap agm_closure_eady_smooth_horz | True True | True | | | | |
| | agm_closure_eady_smooth_vert | True | True | | | | |
| | agm_closure_eden_gamma | 0.0 | 0.0 | | | | |
| | agm_closure_eden_greatbatch | False | False | | | | |
| | agm_closure_grid_scaling | True 50 000.0 | True 50 000.0 | 50 000.0 | 50 000.0 | 50 000.0 | 50 000.0 |
| | agm_closure_length agm_closure_length_bczone | 50 000.0 False | 50 000.0 False | 50 000.0 False | 50 000.0 False | 50 000.0 False | 50 000.0 False |
| | agin_closure_length_bc20ffe | Larza | Larze | Lqrze | Larse | Larze | raise |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---|--|--|--|--|---|---|
| | agm_closure_length_fixed agm_closure_length_rossby | False False | False False | False False | False False | False False | False False |
| | agm_closure_lower_depth | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 |
| | agm_closure_max | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 |
| | agm_closure_min | 50.0 | 50.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | agm_closure_scaling agm_closure_upper_depth | 0.07 100.0 | 0.07 100.0 | 0.07 100.0 | 0.07 100.0 | 0.07 100.0 | 0.07 100.0 |
| | agm_damping_time | 45.0 | 45.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | agm_smooth_space | False | False | | | | |
| | agm_smooth_time | False | False | (00.0 | (000 | (00.0 | (00.0 |
| | aredi aredi_equal_agm | 600.0 False | 600.0 False | 600.0 False | 600.0 False | 600.0 False | 600.0 False |
| | drhodz_mom4p1 | True | True | False | False | False | False |
| | drhodz_smooth_horz | False | False | False | False | False | False |
| | drhodz_smooth_vert | False | False | False | False | False | False |
| | nphysics_util_zero_init | True | True | 100,000,0 | 100 000 0 | 100 000 0 | 100 000 0 |
| | rossby_radius_max rossby_radius_min | 100 000.0 15 000.0 | 100 000.0 15 000.0 | 100 000.0 15 000.0 | 100 000.0 15 000.0 | 100 000.0 15 000.0 | 100 000.0 15 000.0 |
| | rossby_radius_min smax | 0.000 | 0.000 | 0.002 | 0.000 | 0.002 | 1.000.0 |
| | swidth | | | 0.002 | | 0.002 | |
| | tracer_mix_micom | False | False | False | False | False | False |
| Pagana nahusiga nad | vel_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| &ocean_nphysicsa_nml &ocean_nphysicsb_nml | use_this_module use_this_module | False False | False False | False False | False False | False False | False False |
| &ocean_nphysicsc_nml | bv_freq_smooth_vert | True | True | 1 8130 | Talsc | Tatsc | Taisc |
| | bvp_bc_mode | 2 | 2 | | | | |
| | bvp_min_speed | 0.1 | 0.1 | | | | |
| | bvp_speed | 0.0 | 0.0 | | | | |
| | debug_this_module do_gm_skewsion | False True | False True | | | | |
| | do_neutral_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 neutral_physics_limit | True True | True True | | | | |
| | number_bc_modes | 2 | 2 | | | | |
| | regularize_psi | False | False | | | | |
| | smax_psi | 0.01 | 0.01 | | | | |
| | smooth_psi | True | True | | | | |
| | tmask_neutral_on turb_blayer_min | True 50.0 | True 50.0 | | | | |
| | use_this_module | True | True | False | False | False | False |
| &ocean_operators_nml | use_legacy_div_ud | | False | False | False | False | False |
| &ocean_overexchange_nml | debug_this_module | False | False | False | False | False | False |
| | <pre>overexch_check_extrema overexch_npts</pre> | False 4 | 4 | 4 | 4 | 4 | 4 |
| | overexch_weight_far | False | False | False | False | False | False |
| | overflow_umax | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | use_this_module | False | False | False | False | False | False |
| &ocean_overflow_nml | debug_this_module | False | Falsa | False | Falsa | False | Falsa |
| &ocean_overflow_ofp_nml | use_this_module debug_this_module | False | False | False False | False | False False | False |
| &ocean_overnow_orp_nint | diag_step | | | 4320 | | 5760 | |
| | do_entrainment_para_ofp | | | False | | False | |
| | do_mass_ofp | | | True | | True | |
| | frac_exchange_src | | | 1.0 | | 1.0 | |
| | max_vol_trans_ofp use_this_module | | False | 10 000 000.0 False | False | 10 000 000.0 False | False |
| &ocean_polar_filter_nml | use_this_module | False | False | False | False | False | False |
| &ocean_pressure_nml | zero_pressure_force | | False | False | False | False | False |
| &ocean_rivermix_nml | debug_this_module | False | False | False | False | False | False |
| | river_diffuse_salt | False | True | False | True | True | True |
| | river_diffuse_temp | False 0.0 | True 0.0 | False 0.0 | True 0.0 | True 0.0 | True 0.0 |
| | river diffusion thickness | UU | 0.0 | | | | 0.0 |
| | river_diffusion_thickness river_diffusivity | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | 0.0 40.0 | 0.0 40.0 | 0.0 40.0 | 0.0 40.0 | 40.0 |
| | river_diffusivity river_insertion_thickness use_this_module | 0.0 | | | | 40.0 True | |
| &ocean_riverspread_nml | river_diffusivity river_insertion_thickness use_this_module debug_this_module | 0.0 40.0 True | 40.0 True | 40.0 True | 40.0 True | 40.0 True False | 40.0 True |
| · | river_diffusivity river_insertion_thickness use_this_module debug_this_module use_this_module | 0.0 40.0 | 40.0 True False | 40.0 True False | 40.0 True False | 40.0 True False True | 40.0 True False |
| &ocean_riverspread_nml &ocean_rough_nml &ocean_sbc_nml | river_diffusivity river_insertion_thickness use_this_module debug_this_module | 0.0 40.0 True | 40.0 True | 40.0 True | 40.0 True | 40.0 True False | 40.0 True |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|-----------------------------|--|--|--|--|--|---|---|
| | calvingspread | | False False | False | False False | False False | False |
| | do_bitwise_exact_sum do_flux_correction | | False | False False | False | False | False False |
| | land_model_heat_fluxes | | False | False | False | False | False |
| | max_delta_salinity_restore | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | max_ice_thickness read_restore_mask | 8.0 Falso | 0.0 False | 0.0 False | 0.0 False | 0.0 False | 0.0 |
| | read_restore_mask_qfdl | False False | False | False | False | False | False False |
| | runoff_salinity | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | salt_correction_scale | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | salt_restore_as_salt_flux | True | True | True | True | True | True |
| | salt_restore_tscale salt_restore_under_ice | 15.0 True | 60.0 True | 60.0 True | 60.0 True | 60.0 True | 60.0 True |
| | temp_restore_tscale | -1.0 | -10.0 | -10.0 | -10.0 | -10.0 | -10.0 |
| | use_full_patm_for_sea_level | | False | False | False | False | False |
| | use_waterflux | True | True | True | True | True | True |
| | waterflux_tavg | False False | Ealco | Ealco | Ealco | Ealso | Ealco |
| | zero_heat_fluxes zero_net_salt_correction | raise | False False | False False | False False | False False | False False |
| | zero_net_salt_restore | True | True | True | True | True | True |
| | zero_net_water_correction | | False | False | False | False | False |
| | zero_net_water_couple_restore | True | True | True | True | True | True |
| | zero_net_water_coupler zero_net_water_restore | True True | True True | True True | True True | True True | True True |
| | zero_surface_stress | False | False | False | False | False | False |
| | zero_water_fluxes | False | False | False | False | False | False |
| &ocean_sbc_ofam_nml | restore_mask_ofam | False | | | | | |
| Pagana shartugua saira ami | river_temp_ofam | False | | False | | | |
| &ocean_shortwave_csiro_nml | debug_this_module read_depth | True | | True | | | |
| | use_this_module | True | False | False | False | False | False |
| | zmax_pen | 7000 | | 7000 | | | |
| &ocean_shortwave_gfdl_nml | debug_this_module | False | False | False | False | False | False |
| | enforce_sw_frac optics_manizza | True True | True True | True True | True True | True True | True True |
| | optics_morel_antoine | iiue | False | False | False | False | False |
| | read_chl | False | True | True | True | True | True |
| | sw_pen_fixed_depths | False | _ | _ | _ | _ | _ |
| | use_this_module | False | True | True 300.0 | True | True | True |
| &ocean_shortwave_jerlov_nml | zmax_pen use_this_module | 200.0 False | 300.0 False | False | 300.0 False | 300.0 False | 300.0 False |
| &ocean_shortwave_nml | use_shortwave_csiro | True | False | False | False | False | False |
| | use_shortwave_gfdl | False | True | True | True | True | True |
| | use_shortwave_jerlov | False | False | False | False | False | False |
| Passan siama transport pml | use_this_module sigma_advection_on | True False | True | True False | True | True False | True |
| &ocean_sigma_transport_nml | sigma_advection_sqs_only | False | | False | | False | |
| | sigma_diffusion_on | True | | True | | True | |
| | sigma_diffusivity_ratio | $1 	imes 10^{-6}$ | | $1 	imes 10^{-6}$ | | $1 	imes 10^{-6}$ | |
| | sigma_just_in_bottom_cell | True | | True | | True | |
| | sigma_umax smooth_sigma_thickness | 0.01 True | | 0.01 True | | 0.01 True | |
| | smooth_sigma_velocity | True | | True | | True | |
| | smooth_velmicom | 0.2 | | 0.2 | | 0.2 | |
| | thickness_sigma_layer | 100.0 | | 100.0 | | 100.0 | |
| | thickness_sigma_max thickness_sigma_min | 100.0 100.0 | | 100.0 100.0 | | 100.0 100.0 | |
| | tmask_sigma_on | False | | False | | False | |
| | tracer_mix_micom | True | | True | | True | |
| | use_this_module | True | False | False | False | False | False |
| Possan sala nmi | vel_micom | 0.05 | 'NOLEAD' | 0.05 | 'NOI FAD' | 0.05 | יאוחו ראסי |
| &ocean_solo_nml | calendar date_init <mark>days</mark> | 'NOLEAP' 1, 1, 1, 0, 0, 0 1460 | 'NOLEAP' 1, 1, 1, 0, 0, 0 1460 | 'NOLEAP' 1, 1, 1, 0, 0, 0 31 | 'NOLEAP' 1, 1, 1, 0, 0, 0 31 | 'NOLEAP' 1, 1, 1, 0, 0, 0 30 | 'NOLEAP' 1, 1, 1, 0, 0, 0 30 |
| | debug_this_module dt_cpld | False 3600 | 3600 | 1200 | 1200 | 150 | 600 |
| | hours | 0 | 0 | 0 | 0 | 0 | 0 |
| | minutes | 0 | 0 | 0 | 0 | 0 | 0 |
| | months | | | | | | |
| | months seconds | 0 0 | 0 | 0 | 0 | 0 | 0 |
| &ocean_sponges_eta_nml | | | | | | | |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input_nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input_nml | new_acces- som2 01deg jra55_ryf input.nml |
|-----------------------------|---|--|--|--|--|---|---|
| 0 1 : | use_this_module | False | False | False | False | False | False |
| &ocean_sponges_velocity_nml | use_this_module | False | False 0.05 | False 0.05 | False 0.05 | False 0.05 | False 0.05 |
| &ocean_submesoscale_nml | coefficient_ce debug_this_module | False | False | False | False | False | False |
| | front_length_const | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 | 5000.0 |
| | front_length_deform_radius | True | True | True | True | True | True |
| | limit_psi | True | True | True | True | True | True |
| | limit_psi_velocity_scale | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | min_kblt | 4 | _ 4 | _ 4 | _ 4 | _ 4 | _ 4 |
| | smooth_advect_transport | | True 4 | True | True | True | True |
| | <pre>smooth_advect_transport_num smooth_hblt</pre> | False | False | 4 False | 4 False | 4 False | 4 False |
| | smooth_psi | raisc | True | True | True | True | True |
| | smooth_psi_num | | 3 | 3 | 3 | 3 | 3 |
| | submeso_advect_flux | | False | False | False | False | False |
| | submeso_advect_limit | | True | True | True | True | True |
| | submeso_advect_upwind | | True | True | True | True | True |
| | submeso_advect_zero_bdy | | True | True | True | True | True |
| | submeso_diffusion submeso_diffusion_biharmonic | | False | False | False | False | False |
| | submeso_diffusion_binarmonic submeso_diffusion_scale | | True 10.0 | True 10.0 | True 10.0 | True 10.0 | True 10.0 |
| | submeso_timit_flux | True | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | submeso_skew_flux | iiuc | True | True | True | True | True |
| | use_hblt_equal_mld | True | True | True | True | True | True |
| | use_psi_legacy | | False | False | False | False | False |
| | use_this_module | True | True | True | True | True | True |
| &ocean_tempsalt_nml | debug_this_module | False | False | False | False | True | False |
| | pottemp_2nd_iteration | True | True | True | True | True | True |
| | pottemp_equal_contemp | FF 0 | True | True | True | True | True |
| | <mark>s_max</mark> s_max_limit | 55.0 42.0 | 70.0 42.0 | 70.0 42.0 | 70.0 42.0 | 70.0 42.0 | 70.0 42.0 |
| | s_min | -1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | s_min_limit | 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 |
| | t_max_limit | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 |
| | t_min | -5.0 | -20.0 | -20.0 | -20.0 | -20.0 | -20.0 |
| | t_min_limit | -2.0 | -5.0 | -5.0 | -5.0 | -5.0 | -5.0 |
| | temperature_variable | 'conservative | 'potential | 'potential | 'potential | 'potential | 'potential |
| | 11 11 11 | temp' | temp' | temp' | temp' | temp' | temp' |
| &ocean_thickness_nml | debug_this_module debug_this_module_detail | False False | False False | False False | False False | False False | False False |
| | initialize_zero_eta | False | False | raise | raise | raise | raise |
| | read_rescale_rho0_mask | False | | | | | |
| | rescale_mass_to_get_ht_mod | | False | False | False | False | False |
| | rescale_rho0_basin_label | 7.0 | | | | | |
| | rescale_rho0_mask_gfdl | False | | | | | |
| | rescale_rho0_value | 0.75 | | | | | |
| | thickness_dzt_min | 1.0 | | 2.0 | | 2.0 | |
| | thickness_dzt_min_init thickness_method | 2.0 | 'energetic' | 10.0 | 'anaraatis' | 10.0 | 'anaraatis' |
| &ocean_topog_nml | min_thickness | 'energetic' 25.0 | energetic | 'energetic' | 'energetic' | 'energetic' | 'energetic' |
| &ocean_tracer_advect_nml | advect_sweby_all | True | | | | | |
| Woccan_tracer_advect_nint | async_domain_update | True | | | | | |
| | debug_this_module | False | False | False | False | False | False |
| | read_basin_mask | | False | False | False | False | False |
| &ocean_tracer_diag_nml | diag_step | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| | do_bitwise_exact_sum | False | False | False | False | False | False |
| | tracer_conserve_days | 1.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| &ocean_tracer_nml | age_tracer_max_init | 0.0 | 0.0 | 0.0 | 0.0 False | 0.0 | 0.0 |
| | debug_this_module frazil_heating_after_vphysics | False True | False True | False True | False True | False True | False True |
| | frazil_heating_before_vphysics | False | False | False | False | False | False |
| | limit_age_tracer | True | True | True | True | True | True |
| | remap_depth_to_s_init | False | False | False | False | False | False |
| | use_tempsalt_check_range | True | True | True | True | True | True |
| | zero_tendency | False | False | False | False | False | False |
| | zero_tracer_source | False | False | False | False | False | False |
| &ocean_velocity_diag_nml | debug_this_module | False | False | False | False | False | False |
| | diag_step | 4320 | 4320 | 4320 | 4320 | 576 | 576 |
| | energy_diag_step | 4320 | 4320 | 4320 | 4320 | 5760 | 5760 |
| | large_cfl_value max_cfl_value | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 | 10.0 100.0 |
| &ocean_velocity_nml | max_crt_value adams_bashforth_third | True | True | True | True | True | True |
| wocedii_vetocity_IIIIIt | dudins_DdSilioitil_tNlfQ | irue | irue | irue | iiue | irue | irue |

| Group (continued) | Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|--|--|--|--|--|---|---|
| | max_cgint | 1.0 | 1.0 | 1.5 | 1.0 | 1.0 | 1.0 |
| | truncate_velocity | True | False | False | False | False | False |
| | truncate_velocity_value truncate_verbose | 2.0 True | 2.0 True | 2.0 True | 2.0 True | 2.0 True | 2.0 True |
| | zero_tendency | False | False | False | False | False | False |
| | zero_tendency_explicit_a | | False | False | False | False | False |
| | 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 |
| &ocean_vert_kpp_mom4p0_nml &ocean_vert_kpp_mom4p1_nml | use_this_module diff_cbt_iw | False 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queen_vert_kpp_mom+p1_mmt | diff_con_limit | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | double_diffusion | True | True | True | True | True | True |
| | kbl_standard_method | False | False | False | False | False | False |
| | ricr | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| | smooth_blmc | False | False | False | False | False | False |
| | smooth_ri_kmax_eq_kmu use_this_module | True True | True True | True True | True True | True True | True True |
| | visc_cbu_iw | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | visc_con_limit | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 |
| &ocean_vert_mix_nml | afkph_00 | 0.65 | | | | | |
| | afkph_90 | 0.75 | | | | | |
| | aidif bryan_lewis_diffusivity | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False |
| | bryan_lewis_lat_depend | True | False | False | False | False | False |
| | bryan_lewis_lat_transition | 35.0 | ruise | raise | raise | raise | raise |
| | dfkph_00 | 1.15 | | | | | |
| | dfkph_90 | 0.95 | | | | | |
| | hwf_diffusivity | | False | False | False | False | False |
| | hwf_min_diffusivity | | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} | 2×10^{-6} |
| | hwf_n0_2omega linear_taper_diff_cbt_table | False | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| | sfkph_00 | 4.5×10^{-5} | | | | | |
| | sfkph_90 | 4.5×10^{-5} | | | | | |
| | use_diff_cbt_table | False | False | False | False | False | False |
| | vert_diff_back_via_max | True | True | True | True | True | True |
| | vert_mix_scheme | 'kpp | 'kpp | 'kpp | 'kpp | 'kpp | 'kpp |
| | zflosh 00 | mom4p1' 250 000.0 | mom4p1' | mom4p1' | mom4p1' | mom4p1' | mom4p1' |
| | zfkph_00 zfkph_90 | 250 000.0 | | | | | |
| &ocean_vert_tidal_nml | background_diffusivity | 5×10^{-6} | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | background_viscosity | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| | decay_scale | 300.0 | 500.0 | 500.0 | 500.0 | 500.0 | 500.0 |
| | drag_dissipation_use_cdbot | 12 | True | True | True | True | True |
| | drhodz_min | 1×10^{-12} | 1×10^{-10} | 1×10^{-10} | 1×10^{-10} | 1×10^{-10} | 1×10^{-10} |
| | fixed_wave_dissipation max_drag_diffusivity | False 0.01 | False | False | False | False | False |
| | max_drag_drifusivity max_wave_diffusivity | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | mixing_efficiency_n2depend | True | True | True | True | True | True |
| | read_roughness | True | True | True | True | True | True |
| | read_tide_speed | True | True | True | True | True | True |
| | read_wave_dissipation | False | False | False | False | False | False |
| | reading_roughness_amp | True | True | True | True | True | True |
| | reading_roughness_length roughness_scale | False 20 000.0 | False 12 000.0 | False 12 000.0 | False 12 000.0 | False 12 000.0 | False 12 000.0 |
| | shelf_depth_cutoff | 160.0 | -1000.0 -1000.0 | -1000.0 -1000.0 | -1000.0 -1000.0 | -1000.0 -1000.0 | -1000.0 -1000.0 |
| | tide_speed_data_on_t_grid | True | True | True | True | True | True |
| | use_drag_dissipation | True | True | True | True | True | True |
| | use_legacy_methods | - | False | False | False | False | False |
| | use_this_module use_wave_dissipation | True True | True True | True True | True True | True True | True True |
| | wave_energy_flux_max | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| &ocean_xlandinsert_nml | use_this_module verbose_init | False True | False | False | False | False | False |
| &ocean_xlandmix_nml | use_this_module | False | False | False | False | False | False |
| S C C C C C C C C C C C C C C C C C C C | verbose_init | True | i alsc | i alsc | iaisc | iaisc | 1 0130 |
| | xlandmix_kmt | True | | | | | |
| | show all had values | | | | | True | |
| &sat_vapor_pres_nml | show_all_bad_values | | | | | | |
| &sat_vapor_pres_nml &surface_flux_nml | ncar_ocean_flux | | | True | | True | |
| | | | | True True | | True True True | True |

| Group (continued) Variable | original/ hogg_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 1deg jra55_ryf input.nml | original/ kiss_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | original/ hogg_acces- som2 01deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|----------------------------|--|--|--|--|---|---|
| interp_method | 'second | 'second | 'second | 'second | 'second | 'second |
| | order' | order' | order' | order' | order' | order' |
| make_exchange_reproduce | False | False | False | False | False | False |
| nsubset | | 16 | 16 | 16 | 16 | 16 |
| xgrid_log | | | | | False | False |

4 All variables in all 9 configs (differences highlighted)

| | GFDL ESM2M_ input cut.nm | - TOPAZ - input.nml | fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75_ WOA13_in- put.nml | original/ russ- accessom- - mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---------------------------------------|------------------------|-------------------------------|---|---|---|--|--|---|
| &auscom_ice_nml aice_ | utoff | | | | putililit | 0.15 | 0.15 | 0.15 | 0.15 |
| chk_i2o_ | | | | | | False | False | False | False |
| chk_o2i_ | | | | | | False | False | False | False |
| do_ice | | | | | | False | False | False | False |
| - | t_cpl neltt | | | | | 3600 False | 3600 False | 1800 False | 600 False |
| frazil_: | | | | | | 1.0 | 1.0 | 1.0 | 1.0 |
| iceform_ad | | | | | | False | False | False | False |
| icemlt_ | actor | | | | | 1.0 | 1.0 | 1.0 | 1.0 |
| | nxice | | | | | _ 5 | _ 5 | _ 5 | _ 5 |
| pop_ic | | | | | | True | True | True | True |
| redsea_gulfba sign | _stflx | | | | | 1.0 | True 1.0 | 1.0 | 1.0 |
| | melt | | | | | -0.216 | -0.216 | -0.216 | -0.216 |
| use_i | | | | | | True | True | True | True |
| &bg_diff_lat_dependence_nml bg_diff_eq | | | | | | 1×10^{-6} | 1×10^{-6} | | |
| lat_low_l | | | | | | 20.0 | 20.0 | | |
| &coupler_nml atmos_ atmos_nth | • | 0 0 | 0 | 0 | 0 | | | | |
| | ndar 'NOLEAF | | 'noleap' | 'noleap' | 'noleap' | | | | |
| check_s | | 0 0 | 0 | 0 | 0 | | | | |
| concu | | | False | False | False | | | | |
| current | | | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | | | | |
| | | 0 2 | 0 | 365 | _ 1 | | | | |
| | t <mark>mos</mark> True _flux True | | False | False | False | | | | |
| | o_ice Tru | | True | True | True | | | | |
| | land True | | False | False | False | | | | |
| | cean True | | True | True | True | | | | |
| dt_a | tmos 1800 | | 3600 | 1800 | 1800 | | | | |
| en de la companya de | <u>cpld</u> 7200 | | 3600 | 1800 | 1800 | | | | |
| | onths 1 | | 12 | 0 | 0 | | | | |
| ocean. | | | 0 True | 0 True | 0 Truo | | | | |
| use_lag_f &diag_integral_nml file_ | uxes Truc name 'diag_ | | True 'diag | True 'diag | True 'diag | | | | |
| Quiag-integrat-init inte- | integral.ou | | integral.out' | integral.out' | integral.out' | | | | |
| output_in | - | | -1.0 | -1.0 | -1.0 | | | | |
| time. | units 'day: | s' 'days' | 'days' | 'days' | 'days' | | | | |
| &diag_manager_nml | | | | | | | True | True | True |
| debug_diag_manager issue_oor_war | nings Fals | e False | False | False | False | False | True | True | True |
| | axes 200 | | 300 | 300 | 300 | raise | iiue | iiue | iiue |
| | files 50 | | 1000 | 1000 | 1000 | | | | |
| max_input_ | | | 700 | 700 | 700 | | | | |
| max_num_axis | | | 40 | 40 | 40 | | | | |
| max_output_ | | | 700 | 700 | 700 | | | | |
| <pre>mix_snapshot_average_ &flux_exchange_nml</pre> | | | | | | | | | |
| divert_stocks_r | | | | | | | | | |
| do_area_weighted | | | True | True | True | | | | |
| | | 4 | | | | | | | |
| &fms_io_nml | uired | | | | False | | | | |
| fileset | | 'single' | 'multi' | 'multi' | 'multi' | 'single' | 'single' | 'multi' | 'multi' |
| max_f | | | 700 | 700 | 700 | | | | |
| <mark>max_fi</mark> threading | | | 700 'multi' | 700 'multi' | 700 'multi' | 'multi' | 'multi' | 'multi' | 'multi' |
| threading. | | 'single' | 'multi' | 'multi' | 'multi' | 'single' | 'single' | 'multi' | 'multi |
| &fms_nml clock_ | | | 'LOOP' | 'LOOP' | 'LOOP' | 'LOOP' | 'LOOP' | 'LOOP' | 'LOOP |
| domains_stacl | _size 500000 | | 115200 | 115200 | 115200 | | 115200 | 115200 | 115200 |
| print_memory_ | | _ | False | False | False | | | | |
| | | 0 0 | | | | | | | |
| &generic_tracer_nml do_gener | | | False | False | False | | | | |
| do_generic_ do_generic_ | | | False False | False False | False False | | | | |
| | ange 10. | | 1 0136 | 1 0136 | i alse | | | | |
| &ice_model_nml add_diurn | | | | | | | | | |
| &ice_iiiouet_iiiit auu_uiuiii | | | | | | | | | |
| | b_ice 0.6 | | 0.68 | 0.68 | 0.68 | | | | |
| a | b_ice 0.65 -sno 0.85 | 5 0.825 | 0.68 0.85 | 0.68 0.85 | 0.68 0.85 | | | | |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|---|--|--|---|--|---|--|--|---|
| cm2_bugs do_icebergs h_lo_lim | False True 1×10^{-10} | False False 1×10^{-10} | False | False | False | | | | |
| heat_rough_ice ice_bulk_salin | 0.005 | 0.0005 0.005 | 0.0005 0.005 | 0.0005 0.005 | 0.0005 0.005 | | | | |
| io_layout layout | 1, 2 15, 2 | | 10, 12 | 64, 30 64, 30 | 8, 9 40, 45 | | | | |
| mom_rough_ice nsteps_adv | 1 | 1 | 0.0005 1 | 0.0005 1 | 0.0005 6 | | | | |
| nsteps_dyn num_part | 72 6 | 108 6 | 72 6 | 72 6 | 144 6 | | | | |
| spec_ice t_range_melt wd_turn | False 1.0 0.0 | False 10.0 0.0 | False 1.0 0.0 | False 1.0 0.0 | False 1.0 0.0 | | | | |
| &icebergs_nml add_weight_to_ocean | 0.0 | | False | False | False | | | | |
| bergy_bit_erosion_fraction debug make_calving_reproduce | True | 0.0 False | 0.0 False | 0.0 False | 0.0 False | | | | |
| parallel_reprod | iiuc | True | True | True | True | | | | |
| really_debug sicn_shift | | False 0.1 | False 0.1 | False 0.1 | False 0.1 | | | | |
| speed_limit | 0.5 | | | | | | | | |
| time_average_weight traj_sample_hrs | False 0 | 0 | 0 | 0 | 0 | | | | |
| use_operator_splitting use_roundoff_fix | True | True | True | True | True | | | | |
| verbose verbose_hrs | True 120 | False 2400 | False 2400 | False 2400 | False 2400 | | | | |
| &mom_oasis3_interface_nml fields_in | 120 | 2400 | 2400 | 2400 | 2400 | 'u_flux', | 'u_flux', | 'u_flux', | 'u_flux', |
| | | | | | | 'v_flux', 'lprec', 'fprec', | 'v_flux', 'lprec', 'fprec', | 'v_flux', 'lprec', 'fprec', | 'v_flux', 'lprec', 'fprec', |
| | | | | | | 'salt_flx', | 'salt_flx', | 'salt_flx', | 'salt_flx', |
| | | | | | | 'mh_flux', 'sw_flux', | 'mh_flux', 'sw_flux', | 'mh_flux', 'sw_flux', | 'mh_flux', 'sw_flux', |
| | | | | | | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', |
| | | | | | | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', | 't_flux', 'lw_flux', |
| | | | | | | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', | 'runof', 'p', 'aice', |
| | | | | | | wfimelt', | 'wfimelt', | 'wfimelt', | 'wfimelt', |
| fields_out | | | | | | 'wfiform' 't_surf', | 'wfiform' 't_surf', | 'wfiform' 't_surf', | 'wfiform' 't_surf', |
| nctus_out | | | | | | 's_surf', | 's_surf', | 's_surf', | 's_surf', |
| | | | | | | 'u_surf', 'v_surf', | 'u_surf', 'v_surf', | 'u_surf', 'v_surf', | 'u_surf', 'v_surf', |
| | | | | | | 'dssldx', | 'dssldx', | 'dssldx', | 'dssldx', |
| | | | | | | 'dssldy', 'frazil' | 'dssldy', 'frazil' | 'dssldy', 'frazil' | 'dssldy', 'frazil' |
| num_fields_in | | | | | | 15 | 15 | 15 | 15 |
| num_fields_out | | | | | | 7 | 7 | 7 | 7 |
| send_after_ocean_update send_before_ocean_update | | | | | | True False | True False | True False | True False |
| &monin_obukhov_nml neutral | 400 | True | True | True | True | | True | True | True |
| rich_crit stable_option | 10.0 2 | | | | | | | | |
| zeta_trans | 0.5 | | | | | | | | |
| &mpp_io_nml deflate_level shuffle | | | | | 5 1 | | 5 1 | 5 1 | 5 1 |
| &ocean_adv_vel_diag_nml diag_step large_cfl_value | 1200 10.0 | 12 10.0 | 4320 10.0 | 4320 10.0 | 43200 10.0 | 120 10.0 | 4320 10.0 | 4320 10.0 | 576 10.0 |
| targe_ctt_value max_cfl_value | 10.0 | 100.0 | 100.0 | 10.0 | 100.0 | 100.0 | 100.0 | 100.0 | 10.0 |
| <pre> verbose_cfl &ocean_advection_velocity_nml</pre> | False 0.5 | False 0.5 | True 0.5 | True 0.5 | True 0.2 | False 0.5 | True 0.5 | True 0.5 | True 0.5 |
| max_advection_velocity | | | | | | 0.5 | | | |
| &ocean_albedo_option | 5 | 2 | 10 | 2 | 2 | | 2 | 2 | 2 |
| &ocean_barotropic_nml barotropic_halo | | False | 10 | 10 | 10 | False True | 10 | 10 | 10 |
| barotropic_leap_frog barotropic_pred_corr | | True | | | | Huc | | | |
| | True False | True | True False | True False | True False | iiuc | True False | True False | True False |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---|--|--|---|--|---|--|--|---|
| debug_this_module | False | False | False | False | False | False | False | False | False |
| diag_step do_bitwise_exact_sum | 1200 True | 12 | 4320 | 4320 | 43200 | 120 | 4320 | 4320 | 576 |
| eta_max | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| frac_crit_cell_height | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| pred_corr_gamma smooth_eta_diag_laplacian | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True |
| smooth_eta_t_biharmonic | True | True | True | True | False | True | False | False | False |
| smooth_eta_t_laplacian | False | False | False | False | True | False | True | True | True |
| smooth_pbot_t_biharmonic | True | True | True | True | False | True | False | False | False |
| <pre>smooth_pbot_t_laplacian truncate_eta</pre> | False False | False False | False False | False False | True False | False False | True False | True False | True False |
| use_legacy_barotropic_halos | rauc | raisc | False | False | False | raisc | False | False | False |
| vel_micom_bih | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| vel_micom_lap | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| <mark>vel_micom_lap_diag</mark> verbose_truncate | 1.0 True | 1.0 True | 0.5 True | 0.5 True | 0.5 True | 0.2 True | 0.2 True | 0.2 True | 0.2 True |
| zero_tendency | False | False | False | False | False | False | False | False | False |
| &ocean_bbc_nml bmf_implicit | | | True | True | True | | True | True | True |
| cdbot | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| cdbot_hi cdbot_law_of_wall | | | 0.007 | 0.007 | 0.007 | False | 0.007 | 0.007 | 0.007 |
| cdbot_roughness_length | | | False | False | False | 1 0130 | False | False | False |
| cdbot_roughness_uamp | | | True | True | True | | True | True | True |
| uresidual | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | | 0.05 | 0.05 | 0.05 |
| use_geothermal_heating | True | True | False | False | False | False | False | False | False |
| &ocean_bbc_ofam_nml read_tide_speed uresidual2_max | | | | | | False 1.0 | | | |
| &ocean_bih_friction_nml bih_friction scheme | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' | 'general' |
| &ocean_bih_tracer_nml tracer_mix_micom | | | True | True | True | | | | |
| use_this_module vel_micom | False | False | False 0.001 | False 0.001 | False 0.001 | False | False | False | False |
| &ocean_bihcst_friction_nml use_this module | False | False | False | False | False | False | False | False | False |
| &ocean_bihgen_friction_nml | True | True | False | False | False | True | False | False | False |
| bottom_5point eq_lat_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| eq_vel_micom_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| eq_vel_micom_iso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| equatorial_zonal | False | False | False | False | False | False | False | False | False |
| k_smag_aniso k_smag_iso | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 | 0.0 2.0 |
| ncar_boundary_scaling | True | True | True | True | True | True | True | True | True |
| ncar_boundary_scaling_read | | | False | True | True | | True | True | True |
| ncar_rescale_power | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} 5 | 2×10^{-8} 5 | $2 	imes 10^{-8}$ | $2 	imes 10^{-8}$ | 2×10^{-8} 5 | $\begin{array}{c} 2\times 10^{-8} \\ 5 \end{array}$ | $\begin{array}{c} 2\times 10^{-8} \\ 5 \end{array}$ | 2×10^{-8} 5 |
| ncar_vconst_5 use_this_module | True | True | True | True | True | True | True | True | True |
| vel_micom_aniso | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| vel_micom_bottom | 0.01 | 0.01 | 0.0 | 0.0 | 0.0 | 0.01 | 0.0 | 0.0 | 0.0 |
| vel_micom_iso | 0.04 0.25 | 0.04 0.25 | 0.0 1.0 | 0.0 1.0 | 0.0 1.0 | 0.04 0.25 | 0.0 1.0 | 0.0 1.0 | 0.0 1.0 |
| <pre>visc_crit_scale &ocean_convect_nml</pre> | 0.23 | 0.23 | True | True | True | False | 1.0 | 1.0 | 1.0 |
| convect_full_scalar | | | nuc | nuc | nac | ratse | | | |
| convect_full_vector | | | False | False | False | True | | | |
| use_this_module | False | False | False | False | False | False | False | False | False |
| &ocean_coriolis_nml acor use_this_module | 0.5 True | 0.5 True | 0.5 True | 0.5 True | 0.5 True | 0.5 True | 0.5 True | 0.5 True | 0.5 True |
| &ocean_density_nml eos_linear | False | iiuc | False | False | False | iiuc | False | False | False |
| eos_preteos10 | True | | True | True | True | | True | True | True |
| | 80 | 80 | 80 | 80 | 80 | 80 False | 80 | 80 | 80 |
| layer_nk | | | | | | False | | | |
| linear_eos | | False | 10700 | 10700 | 10790 | 10700 | 10700 | 10700 | 10700 |
| • | 1030.0 | 1030.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1030.0 1020.0 | 1038.0 1028.0 | 1038.0 1028.0 | 1038.0 1028.0 |
| linear_eos neutralrho_max | | 1030.0 1020.0 1038.0 | 1028.0 1038.0 | 1038.0 1028.0 1038.0 | 1038.0 1028.0 1038.0 | 1020.0 1038.0 | 1028.0 1038.0 | 1038.0 1028.0 1038.0 | 1028.0 1038.0 |
| linear_eos neutralrho_max neutralrho_min potrho_max potrho_min | 1030.0 1020.0 | 1030.0 1020.0 | 1028.0 | 1028.0 | 1028.0 | 1020.0 1038.0 1028.0 | 1028.0 | 1028.0 | 1028.0 |
| linear_eos neutralrho_max neutralrho_min potrho_max potrho_min teos10_eos | 1030.0 1020.0 1038.0 | 1030.0 1020.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1020.0 1038.0 1028.0 False | 1028.0 1038.0 1028.0 | 1028.0 1038.0 1028.0 | 1028.0 1038.0 1028.0 |
| linear_eos neutralrho_max neutralrho_min potrho_max potrho_min teos10_eos &ocean_domains_nml max_tracers | 1030.0 1020.0 1038.0 1028.0 | 1030.0 1020.0 1038.0 1028.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1020.0 1038.0 1028.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 |
| linear_eos neutralrho_max neutralrho_min potrho_max potrho_min teos10_eos | 1030.0 1020.0 1038.0 | 1030.0 1020.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1028.0 1038.0 | 1020.0 1038.0 1028.0 False | 1028.0 1038.0 1028.0 | 1028.0 1038.0 1028.0 | 1028.0 1038.0 1028.0 |

| Group (continued) Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75_ WOA13_in- put.nml | original/ russ- accessom- - mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---|--|--|---|---|---|--|--|---|
| &ocean_frazil_nml | False | False | False | False | False | | False | False | False |
| frazil_only_in_surface freezing_temp_accurate | True | True False | True | True | True | False True | False | False | False |
| freezing_temp_accurate | | raisc | | | | iiuc | True | True | True |
| freezing_temp_simple | True | True | True | True | True | False | False | False | False |
| use_this_module | True | True | True | True | True | True | True | True | True |
| &ocean_grids_nml debug_this_module do_bitwise_exact_sum | True True | True | False | False | False | True | False | False | False |
| read_rho0_profile | False | False | | | | False | | | |
| &ocean_increment_eta_nml | | | | | | 0 | | | |
| days_to_increment | | | | | | | | | |
| fraction_increment secs_to_increment | | | | | | 1.0 3600 | | | |
| use_this_module | False | False | False | False | False | False | False | False | False |
| &ocean_increment_tracer_nml | | | | | | 0 | | | |
| days_to_increment fraction_increment | | | | | | 1.0 | | | |
| secs_to_increment | Falsa | Falsa | Falsa | Falsa | False | 3600 Falsa | Falsa | Falsa | Falsa |
| use_this_module &ocean_increment_velocity_nml | False | False | False | False | False | False 0 | False | False | False |
| days_to_increment | | | | | | U | | | |
| fraction_increment | | | | | | 1.0 | | | |
| secs_to_increment | | | | | | 3600 | | | |
| use_this_module &ocean_lap_friction_nml lap_friction | False 'general' | False 'general' | False 'general' | False 'general' | 'annoral' | False 'general' | False 'general' | False | False 'general' |
| scheme | general | yenerat | general | generat | 'general' | generat | general | 'general' | generat |
| &ocean_lap_tracer_nml use_this module | False | False | False | False | False | False | False | False | False |
| &ocean_lapcst_friction_nml use_this module | False | False | False | False | False | False | False | False | False |
| &ocean_lapgen_friction_nml | True | True | | | | True | True | | |
| oottom_5point k_smaq_aniso | 0.0 | 0.0 | | | | 0.0 | 0.0 | | |
| k_smag_iso | 0.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | | |
| ncar_only_equatorial | | | | | | True | True | | |
| restrict_polar_visc | True | True | | | | True | True | | |
| restrict_polar_visc_lat restrict_polar_visc_ratio | 60.0 0.35 | 60.0 0.35 | | | | 60.0 0.35 | 60.0 0.35 | | |
| use_this_module | True | True | False | False | False | True | True | False | False |
| vconst_1 | | | | | | 0.000 000 8 | 8 000 000.0 | | |
| vconst_2 | | | | | | 0.0 | 0.0 | | |
| vconst_3 vconst_4 | | | | | | $0.8 \\ 5 \times 10^{-9}$ | $0.8 \\ 5 \times 10^{-9}$ | | |
| vconst_5 | | | | | | 3 | 3 ~ 10 | | |
| vconst_6 | | | | | | 300 000 000.0 | 300 000 000.0 | | |
| vconst_7 | • | • • | | | | 100.0 | 100.0 | | |
| vel_micom_iso | 0.1 | 0.1 | | | | 0.1 | 0.1 | | |
| viscosity_ncar viscosity_ncar_2000 | False | False | | | | False False | True False | | |
| viscosity_ncar_2007 | | | | | | True | True | | |
| viscosity_scale_by_rossby | True | True | | | | True | True | | |
| <pre>viscosity_scale_by_rossby_power &ocean_mixdownslope_nml</pre> | 4.0 False | 4.0 False | False | False | False | 4.0 False | 100.0 False | | |
| &ocean_mxdownstope_mmt debug_this_module | raise | raise | raise | raise | raise | raise | rdise | | |
| mixdownslope_mask_gfdl | True | True | | | | False | False | | |
| mixdownslope_npts | _ 4 | _ 4 | | | | . 4 | . 4 | | |
| read_mixdownslope_mask use_this_module | True True | True True | False | False | False | False True | False True | False | False |
| &ocean_model_nml baroclinic_split | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| barotropic_split | 80 | 80 | 80 | 80 | 60 | 80 | 80 | 80 | 80 |
| cmip_units | False | | | | | True | True | True | True |
| debug dt_ocean | False 7200 | False 7200 | False 3600 | False 1800 | False 150 | False 3600 | False 3600 | False 1200 | False 150 |
| impose_init_from_restart | True | 7200 False | 0000 | 1000 | 130 | 0000 | טטטכ | 1200 | 130 |
| io_layout | 1, 4 | | | 64, 30 | 8,9 | | 4, 3 | 6,5 | 10, 15 |
| layout | 12, 8 | 6, 4 | 10, 12 | 64, 30 | 40, 45 | 12, 10 | 16, 15 | 48,40 | 80, 75 |
| surface_height_split | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | 1 'twolovol' | ²twolovol |
| time_tendency vertical_coordinate | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' | 'twolevel' 'zstar' |
| &ocean_momentum_source_nml | 23(0) | 23(0) | False | False | False | 23(0) | False | False | False |
| rayleigh_damp_exp_from_bottom | | | | | | | | | |
| use_rayleigh_damp_table | | | True | True | True | True | True | True | True |
| use_raytergri_damp_table use_this_module | False | False | True | True | True | True | True | True | True |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- - mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|---|---|--|--|---|--|---|--|--|---|
| &ocean_nphysics_nml module | debug_this | False | False | False | False | False | False | False | False | False |
| | se_nphysicsa | False | False | False | False | False | False | False | False | False |
| | se_nphysicsb | False | True | False | False | False | False | False | False | False |
| <u></u> | se_nphysicsc | True | False | False | False | False | True | True | False | False |
| | _this_module | True | True | False | False | False | True | True | False | False |
| &ocean_nphysics_util_nml | agm_closure | 800.0 True | 800.0 True | 100.0 True | 100.0 True | 100.0 True | 600.0 True | 600.0 True | 100.0 True | 100.0 True |
| | re_baroclinic | True | True | True | True | True | True | True | True | True |
| • | re_buoy_freq | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| agm_closure_ead | | True | True | | | | True | True | | |
| | ure_eady_cap | True | True | | | | True | True | | |
| agm_closure_eady_ | | True | True | | | | True | True True | | |
| agm_closure_eady_ agm_closure_e | | True 0.0 | True 0.0 | | | | True 0.0 | 0.0 | | |
| agm_closure_ede | | False | False | | | | False | False | | |
| - | _grid_scaling | True | True | | | | True | True | | |
| | osure_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 | 50 000.0 |
| agm_closure_le | | False | False | False | False | False | False | False | False | False |
| agm_closure_ agm_closure_lo | _ | False False | False False | False False | False False | False False | False False | False False | False False | False False |
| agm_closure_ | | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 | 2000.0 |
| • | _closure_max | 800.0 | 800.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 |
| | _closure_min | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 50.0 | 50.0 | 100.0 | 100.0 |
| | osure_scaling | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| agm_closure_ | | 100.0 45.0 | 100.0 45.0 | 100.0 | 100.0 | 100.0 | 100.0 45.0 | 100.0 45.0 | 100.0 | 100.0 |
| | amping_time mooth_space | False | False | | | | False | False | | |
| | smooth_time | False | False | | | | False | False | | |
| | aredi | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 | 600.0 |
| | li_equal_agm | False | False | False | False | False | False | False | False | False |
| | odz_mom4p1 | True | True | False | False | False | True | True | False | False |
| | .smooth_horz _smooth_vert | False False | False False | False False | False False | False False | False False | False False | False False | False False |
| | util_zero_init | True | True | raisc | raisc | raisc | True | True | raisc | raisc |
| | y_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 | 100 000.0 |
| rossb | y_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 | 15 000.0 |
| | smax | 0.005 | 0.005 | 0.002 | 0.002 | 0.002 | | | | |
| tracei | swidth r_mix_micom | 0.002 False | 0.002 False | 0.002 False | 0.002 False | 0.002 False | False | False | False | False |
| tracer | vel_micom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| &ocean_nphysicsa_nml | | False | False | | | | | | | |
| debug_this_module | ear_gm_taper | True | True | | | | | | | |
| | physics_limit | True | True | | | | | | | |
| | rysics_simple | False | False | | | | | | | |
| · · · · · · · · · · · · · · · · · · · | al_sine_taper | True | True | | | | | | | |
| | k_neutral_on | True | True | Falsa | F-1 | Falas | F-1 | Falsa | Falsa | F-1 |
| &ocean_nphysicsb_nml | _this_module | False False | False False | False | False | False | False | False | False | False |
| debug_this_module | | Tube | raise | | | | | | | |
| | .ayer_smooth | True | True | | | | | | | |
| | physics_limit | True | True | | | | | | | |
| | rb_thick_min _thick_min_k | 50.0 5 | 50.0 5 | | | | | | | |
| | _this_module | False | True | False | False | False | False | False | False | False |
| &ocean_nphysicsc_nml bv_freq_smooth_vert | | True | | | | | True | True | | |
| | ovp_bc_mode | 2 | | | | | 2 | 2 | | |
| bv | p_min_speed | 0.1 | | | | | 0.1 | 0.1 | | |
| d-bar- | bvp_speed | 0.0 | | | | | 0.0 | 0.0 | | |
| | _this_module gm_skewsion | False True | | | | | False True | False True | | |
| | tral_diffusion | True | | | | | True | True | | |
| | psln_bv_freq | 1×10^{-12} | | | | | 1×10^{-12} | 1×10^{-12} | | |
| e | | True | | | | | True | True | | |
| gm_skewsio | n_bvproblem | | | | | | False | False | | |
| gm_skewsio gm_skev | wsion_modes | False | | | | | | | | |
| gm_skewsio gm_skev neutral | wsion_modes l_eddy_depth | False True | | | | | True | True | | |
| gm_skewsio gm_skev neutral neutral | wsion_modes l_eddy_depth physics_limit | False True True | | | | | True True | True True | | |
| gm_skewsio gm_skev neutral neutral numb | wsion_modes l_eddy_depth physics_limit er_bc_modes | False True True 2 | | | | | True True 2 | True True 2 | | |
| gm_skewsio gm_skev neutral neutral numb | wsion_modes l_eddy_depth physics_limit | False True True | | | | | True True | True True | | |

| March Marc | Group (continued) Variable | e original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 W0A13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---------------------------------------|---|--|--|---|--|---|--|--|---|
| The content | | | | | | • | | | | |
| Second programmer and True False | | | Ealco | Ealco | Ealco | Ealco | | | Ealco | Ealco |
| Section Part Pale | | | raise | | | | irue | | | |
| ## 15th module Content Fiste Fi | • | iide | | rubc | ruisc | rusc | | Tutse | ruisc | ruisc |
| Part | - | - False | False | False | False | False | False | False | False | False |
| Overstack_marght 4 | | - Ealso | Ealco | | | | Ealco | | | |
| Part | | | | 4 | 4 | 4 | | 4 | 4 | 4 |
| March False Fals | | r False | | False | False | | | False | | |
| False Fals | | | | | | | | | | |
| False Fals | | | | | | | | False | False | False |
| False Fals | | Tube | ruisc | rubc | ruisc | rusc | raise | | | |
| Barrier Barr | | e False | False | | | | False | False | False | False |
| | | | | False | False | False | | | | |
| False Fals | | n | | 4320 | 4320 | 43200 | | | | |
| True exchange and 10 00000000 1000000000 1000000000 100000000 | | | | | | | | | | |
| March Marc | do_mass_of | D | | True | True | True | | | | |
| False Fals | | | | | | | | | | |
| Access polar filter, and use this. False F | | | | | | | | False | False | False |
| False Fals | | | False | | | | False | | | |
| Access A | | | | | | | | | | |
| Access Comment Comme | | | | False | False | False | | False | False | False |
| Pale False | | 40.0 | 40.0 | | | | | | | |
| District Parks False True | | 10.0 | 10.0 | | | | | | | |
| True | | | | False | False | False | False | False | False | False |
| False True Tru | | | True | | | | | | | |
| Part | | | False | False | False | False | False | True | True | True |
| Part | | | | | | | | | | |
| river insertion. Inicidness 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40 | | | | | | | | | | |
| Month Mont | | • | | | | | | | | |
| True | | | | U.UT | TU.U | +0.0 | TU.U | T0.0 | TU.U | TU.U |
| Seed of the content | use_this_modul | | | True | True | True | True | True | True | True |
| False False False False True True True True False | | | | '.false' | '.false' | '.false' | | | | |
| &occan_rough_nml fought scheme beljaars' | | False | False | True | True | True | True | False | False | False |
| ## Cocon.sbc.nnl avg.sfc.temp.salt.eta | | | | | | | nuc | | | |
| Calvingspread Guingspread Guin | &ocean_sbc_nml avg_sfc_temp_salt_et | a True | True | True | True | True | True | | True | True |
| do bitwise exact sum do flux correction True et al. False de do flux correction True et al. False de la restore t-Scale —10.0 ice -salt concentration land model heat fluxes and the flux of the flux | | | | | | | True | | | |
| do flux correction de la cestore. Incade de la restore. Incade de la restore. Incade de la restore. Incade de la restore. Incade de la cestore. Incade de | | | False | | | | | | | |
| True False | | | | | | | | | | |
| land model heat fluxes max delta salinity, restore 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 | | | | | | | | | | |
| max_delta_salinity_restore 8.0 8.0 1.0 1.0 1.0 8.0 0.0 </td <td></td> <td></td> <td>Ealco</td> <td>Ealco</td> <td>Ealco</td> <td>Ealco</td> <td>0.005</td> <td>Ealco</td> <td>Ealco</td> <td>Ealco</td> | | | Ealco | Ealco | Ealco | Ealco | 0.005 | Ealco | Ealco | Ealco |
| max_ice_thickness | | | raise | | | | 0.5 | | | |
| restore_mask_gfdl runoff_salinity | | | 8.0 | | | | | | | |
| runoffspread False False Salt correction scale 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0. | | | | | | | | | | |
| runoffspread False False Salt correction scale 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0. | | | | | | | | | | |
| salt_correction_scale 0.0 60.0 | | | False | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| salt_restore_tscale —10.0 —10.0 60.0 60.0 60.0 15.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 6 | salt_correction_scal | e 0.0 | | | | | | | | |
| salt_restore_under_ice | | | 400 | | | | | | | |
| tau x correction scale 0.0 tau y correction scale 0.0 temp_correction_scale 1.0 temp_restore_tscale 1.0 temp_restore_tscale 1.0 temp_to_t_scale 1. | | | -10.0 | | | | | | | |
| tau_y_correction_scale | | | | iiue | nue | irue | iiuc | iiuc | iiuc | nue |
| temp_restore_tscale | • | e 0.0 | | | | | | | | |
| use_full_patm_for_sea_level True True False True True <t< td=""><td>_ ·</td><td></td><td>100</td><td>100</td><td>100</td><td>100</td><td>1.0</td><td>100</td><td>100</td><td>100</td></t<> | _ · | | 100 | 100 | 100 | 100 | 1.0 | 100 | 100 | 100 |
| use_waterflux True | | | | | | | -1.0 | | | |
| use_waterflux_override_evap False use_waterflux_override_fprec False waterflux_tavg False | - | | | | | | True | | | |
| <mark>use_waterflux_override_fprec</mark> False <mark>waterflux_tavg</mark> False False False False False zero_heat_fluxes False F | · · · · · · · · · · · · · · · · · · · | <u> </u> | | | | | | | | |
| waterflux_tavg False Fal | | | | | | | | | | |
| zero_heat_fluxes False False False False False False | | | False | | | | False | | | |
| zero_net_pme_eta_restore False | | - | . 4.50 | False | False | False | | False | False | False |
| | zero_net_pme_eta_restor | e False | | | | | | | | |

| Group (continued) | Variable | original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|--------------------|---|--|--|---|--|---|--|--|---|
| zero_net_salt_co | orrection | | | False | False | False | | False | False | False |
| zero_net_salt | | | | True | True | True | True | True | True | True |
| zero_net_water_co | | | | False | False | False | Truo | False | False | False |
| zero_net_water_couple zero_net_water | | | | True True | True True | True True | True True | True True | True True | True True |
| zero_net_water | | | | True | True | True | True | True | True | True |
| zero_rive | | | | | | False False | | | | |
| zero_runo | | | | Falsa | False | True | Falsa | False | Falsa | Falsa |
| zero_surfac zero_wate | | | | False False | False False | False False | False False | False False | False False | False False |
| &ocean_sbc_ofam_nml | | | | . 4.50 | 1 4130 | . 4.50 | False | 1 4.50 | 1 4.50 | |
| restore_mask_ofam | | | | | | | | | | |
| river_ten | np_ofam | | | | | | False | | | |
| &ocean_shortwave_csiro_nml | | | | True | | | True | | | |
| read_depth use_this. zr | _module max_pen | False | False | True 7000 | False | False | True 7000 | False | False | False |
| | debug | False | False | False | False | False | False | False | False | False |
| this_module | - | _ | _ | | | _ | | | | |
| | _sw_frac | True | True | True | True | True | True | True | True | True |
| optics_ optics_morel. | manizza antoine | True False | True False | True False | True False | True False | True | True False | True False | True False |
| | ide_f_vis | False | False | i alse | raise | i alse | | Talse | raise | 1 0130 |
| | read_chl | False | False | False | True | True | False False | True | True | True |
| use_this. | _module | True | True | False | True | True | False | True | True | True |
| | max_pen | 200.0 | 200.0 | 300.0 | 300.0 | 300.0 | 200.0 | 300.0 | 300.0 | 300.0 |
| &ocean_shortwave_jerlov_nml this_module | use | False False | False | False | False | False False | False True | False False | False | False |
| &ocean_shortwave_nml use_shortwave_csiro use_shortwa | ave ofdl | True | False True | True False | False True | True | False | True | False True | False True |
| use_shortway | | False | False | False | False | False | False | False | False | False |
| use_this. | | True | True | True | True | True | True | True | True | True |
| &ocean_sigma_transport_nml sigma_advection_on | | False | False | False | False | False | False | | | |
| sigma_advection_ | | False | False | False | False | False | False | | | |
| sigma_diffu sigma_diffusiv | | True $1 	imes 10^{-6}$ | True $1	imes 10^{-6}$ | True $1 	imes 10^{-6}$ | True 1×10^{-6} | True $1	imes 10^{-6}$ | True $1 	imes 10^{-6}$ | | | |
| sigma_just_in_bot | , | True | True | True | True | True | True | | | |
| | na_umax | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | | |
| smooth_sigma_ti | hickness | True | True | True | True | True | True | | | |
| smooth_sigma. | | True | True | True | True | True | True | | | |
| smooth_v thickness_sigr | | 0.2 100.0 | 0.2 100.0 | 0.2 100.0 | 0.2 100.0 | 0.2 100.0 | 0.2 100.0 | | | |
| thickness_sig | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| thickness_sig | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| tmask_s | igma_on | False | False | False | False | False | False | | | |
| tracer_mix | | True | True | True | True | True | True | | | |
| use_this. | _module l_micom | True 0.05 | True 0.05 | False 0.05 | False 0.05 | False 0.05 | True 0.05 | False | False | False |
| | calendar | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | '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 |
| | days | | | | | | 0 | 1460 | 31 | 30 |
| | dt_cpld | | | | | | 3600 | 3600 | 1200 | 600 |
| | hours minutes | | | | | | 0 | 0 0 | 0 | 0 |
| | months | | | | | | 12 | 0 | 0 | 0 |
| | seconds | | | | | | 0 | 0 | 0 | 0 |
| | years | | | | | | | 0 | 0 | 0 |
| module | se_this | False | False | False | False | False | False | False | False | False |
| &ocean_sponges_tracer_nml | | False | False | False | False | False | False | | | False |
| damp_coeff_3d use_this. | module | False | False | False | False | False | False | False | False | False |
| &ocean_sponges_velocity_nml | use | False | False | False | False | False | False | False | False | False |
| this_module | | | | | | | | | | |
| &ocean_submesoscale_nml coefficient_ce | | | | 0.05 | 0.05 | 0.05 | | 0.05 | 0.05 | 0.05 |
| debug_this | | False | False | False | False | False | False | 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_deforr | II_I dUIUS | True | True | True | True | True | True | True | True | True |

| Group (continued) Vari | able original/ GFDL ESM2M input- cut.nml | original/ MOM_SIS TOPAZ input.nml | original/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|--|--|--|---|--|---|--|--|---|
| | t_psi True | True | True | True | True | True | True | True | True |
| limit_psi_velocity_s min | cale 0.5 kblt 4 | 0.5 4 | 0.5 4 | 0.5 4 | 0.5 4 | 0.5 4 | 0.5 4 | 0.5 4 | 0.5 4 |
| smooth_advect_trans | | | True | True | True | | True | True | True |
| smooth_advect_transport_ | • | | 4 | 4 | 4 | | 4 | 4 | 4 |
| smooth. | | False | False | False | False | False | False | False | False |
| smooth pri | • | | True 3 | True 3 | True 3 | | True 3 | True 3 | True 3 |
| smooth_psi_ submeso_advect | | | False | False | False | | False | False | False |
| submeso_advect_ | | | True | True | True | | True | True | True |
| submeso_advect_up | wind | | True | True | True | | True | True | True |
| submeso_advect_zero | • | | True | True | True | | True | True | True |
| submeso_diffu submeso_diffusion_biharm | | | False True | False True | False True | | False True | False True | False True |
| submeso_diffusion_s | | | 10.0 | 10.0 | 10.0 | | 10.0 | 10.0 | 10.0 |
| submeso_limit | | True | 10.0 | 10.0 | 10.0 | True | 10.0 | 10.0 | 10.0 |
| submeso_skew. | flux | | True | True | True | | True | True | True |
| use_hblt_equal | | True | True | True | True | True | True | True | True |
| use_psi_le | | T | False | False | False | Tr.va | False | False | False |
| use_this_mo &ocean_tempsalt_nml | dule True False | True False | True False | True False | True False | True | True False | True False | True False |
| debug_this_module | rasc | raisc | raisc | raisc | raisc | | raisc | raisc | raisc |
| pottemp_2nd_itera | ation True | True | True | True | True | True | True | True | True |
| pottemp_equal_cont | | | True | True | True | | True | True | True |
| | .max 55.0 | 55.0 | 70.0 | 70.0 | 70.0 | 55.0 | 70.0 | 70.0 | 70.0 |
| s_max_ | limit 42.0 _min −1.0 | 42.0 —1.0 | 42.0 0.0 | 42.0 0.0 | 42.0 0.0 | 42.0 —1.0 | 42.0 0.0 | 42.0 0.0 | 42.0 0.0 |
| s_min_ | | -1.0 5.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 |
| | .max 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 |
| t_max_ | | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 |
| | _min — 5.0 | -5.0 | -20.0 | -20.0 | -20.0 | -5.0 | -20.0 | -20.0 | -20.0 |
| t_min_ | | —1.9 'potential | -5.0 | -5.0 | —5.0 'potential | -2.0 conservative | -5.0 | -5.0 | -5.0 'potential |
| temperature_vari | able 'potential temp' | potentiat temp' | 'potential temp' | 'potential temp' | temp' | temp' | 'potential temp' | 'potential temp' | temp' |
| | os10 | <u> </u> | | · | | False | | | <u> </u> |
| &ocean_thickness_nml debug_t module | his False | False | False | False | False | False | False | False | False |
| debug_this_module_d | etail False | False | False | False | False | False | False | False | False |
| initialize_zero | | False | | | | False | | | |
| read_rescale_rho0_r | | True | | | | False | | | |
| rescale_mass_to_get_ht_ rescale_rho0_basin_ | | 7.0 | False | False | False | 7.0 | False | False | False |
| rescale_rho0_mask. | | 7.0 True | | | | 7.0 False | | | |
| rescale_rho0_v | | 0.75 | | | | 0.75 | | | |
| thickness_dzt | <u>min</u> 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | | | |
| thickness_dzt_min | | 2.0 | 10.0 | 10.0 | 10.0 | 2.0 | | | |
| thickness_me | | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' | 'energetic' |
| &ocean_time_filter_nml use_this_module | False | False | | | | | | | |
| &ocean_topog_nml min_thick | ness 5.0 | 5.0 | | | | 25.0 | | | |
| &ocean_tracer_advect_nml | False | False | False | False | False | True | | | |
| advect_sweby_all | | | | | | - | | | |
| <pre>compute_gyre_overturn_diag</pre> | | False | False | False | False | True False | False | False | False |
| debug_triis_ino do_fast_com | | raise | raise | raise | raise | True | raise | raise | raise |
| limit_with_up | | False | | | | nuc | | | |
| read_basin_r | nask | | False | False | False | True | False | False | False |
| &ocean_tracer_diag_nml diag_ | | 12 | 48 | 48 | 43200 | 120 | 4320 | 4320 | 576 |
| do_bitwise_exact_ | | False | False | False | False | False | False | False | False |
| smooth. tracer_conserve_ | | True 100.0 | 30.0 | 30.0 | 30.0 | 1.0 | 30.0 | 30.0 | 30.0 |
| &ocean_tracer_nml age_tracer_max | <u> </u> | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| debug_this_mo | | False | False | False | False | False | False | False | False |
| frazil_heating_after_vph | ysics True | True | True | True | True | True | True | True | True |
| frazil_heating_before_vph | | False | False | False | False | False | False | False | False |
| interpolate_tdiag_to_p | | | | | | | | | |
| <mark>interpolate_tprog_to_p</mark> limit_age_ti | | True | True | True | True | True | True | True | True |
| remap_depth_to_s | | False | False | False | False | False | False | False | False |
| tmask_limit_ts_s | | True | i alsc | i alsc | i auc | i alde | iauc | iuuc | i uisc |
| | | | | | True | | True | True | True |
| use_tempsalt_check_ra | ange | | | | | | iiuc | iiuc | |
| | ency False | False False | False False | False False | False 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/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|---|--|--|---|---|---|--|--|---|
| &ocean_velocity_diag_nml debug_this | False | False | False | False | put.nml False | False | False | False | False |
| module diaq_step | 1200 | 12 | 4320 | 4320 | 43200 | 120 | 4320 | 4320 | 576 |
| energy_diag_step | 1200 | 12 | 4320 | 4320 | 43200 | 120 | 4320 | 4320 | 5760 |
| large_cfl_value | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| max_cfl_value &ocean_velocity_nml adams | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True | 100.0 True |
| bashforth_third | iiue | iiue | | | | | | | |
| <mark>max_cgint</mark> truncate_velocity | False | False | 1.5 False | 1.5 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False |
| 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 |
| zero_tendency | False | False | False | False | False | False | False | False | False |
| zero_tendency_explicit_a zero_tendency_explicit_b | | | False False | False False | False False | | False False | False False | False False |
| zero_tendency_implicit | | | False | False | False | | False | False | False |
| &ocean_vert_kpp_iow_nml use_this_module | False | False | False | False | False | | False | False | False |
| &ocean_vert_kpp_mom4p0_nml | False | False | | | | | | | |
| wse_this_module &ocean_vert_kpp_mom4p1_nml | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| diff_cbt_iw double_diffusion | True | | True | True | True | | True | True | True |
| kbl_standard_method | iiuc | | iiuc | iiuc | False | | False | False | False |
| ricr | 0.3 | | 0.3 | 0.3 | 0.3 | | 0.3 | 0.3 | 0.3 |
| smooth_blmc | True | | True | True | False | | False | False | False |
| smooth_ri_kmax_eq_kmu use_this_module | True | | True | True | True True | | True True | True True | True True |
| visc_cbu_iw | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| wsfc_combine_runoff_calve | False | | | | | | | | |
| &ocean_vert_kpp_nml diff_cbt_iw | | 0.0 | | | | 0.0 | | | |
| diff_con_limit double_diffusion | | True | | | | 0.1 True | | | |
| kbl_standard_method | | nuc | | | | True | | | |
| ricr | | 0.3 | | | | 0.3 | | | |
| smooth_blmc | | True | | | | True | | | |
| use_this_module visc_cbu_iw | | True 0.0 | | | | True 0.0 | | | |
| visc_con_limit | | 0.0 | | | | 0.1 | | | |
| &ocean_vert_mix_nml afkph_00 | 0.675 | 0.675 | | | | 0.65 | | | |
| afkph_90 | 0.725 | 0.725 | | | | 0.75 | | | |
| aidif bryan_lewis_diffusivity | 1.0 True | 1.0 True | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False | 1.0 False |
| bryan_lewis_lat_depend | True | True | False | False | False | True | False | False | False |
| bryan_lewis_lat_transition | 35.0 | 35.0 | | | | 35.0 | | | |
| dfkph_00 | 1.15 | 1.15 | | | | 1.15 | | | |
| dfkph_90 | 1.15 | 1.15 | Falsa | Falsa | Falsa | 0.95 | Falsa | Falsa | Falsa |
| hwf_diffusivity hwf_min_diffusivity | | | False 2×10^{-6} | False $2 	imes 10^{-6}$ | False $2 	imes 10^{-6}$ | | False $2 	imes 10^{-6}$ | False $2 	imes 10^{-6}$ | False $2 	imes 10^{-6}$ |
| hwf_n0_2omega | | | 20.0 | 20.0 | 20.0 | | 20.0 | 20.0 | 20.0 |
| linear_taper_diff_cbt_table | False | False | | | | False | | | |
| quebec_2009_10_bug | False | 45 40-5 | | | | 45 40-5 | | | |
| 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} | | | |
| use_diff_cbt_table | False | False | False | False | False | False | False | False | False |
| vert_diff_back_via_max | True | True | True | True | True | True | True | True | True |
| vert_mix_scheme | 'kpp | 'kpp' | 'kpp | 'kpp | 'kpp | 'kpp' | 'kpp | 'kpp | 'kpp |
| zfkph_00 | mom4p1' 250 000 000.0 | 250 000 000.0 | mom4p1' | mom4p1' | mom4p1' | 250 000.0 | mom4p1' | mom4p1' | mom4p1' |
| zfkph_90 | 250 000 000.0 | 250 000 000.0 | | 0.0 | | 250 000.0 | | | |
| &ocean_vert_tidal_nml background_diffusivity | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5×10^{-6} | 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 |
| decay_scale draq_dissipation_use_cdbot | 300.0 | 300.0 | 500.0 True | 500.0 True | 500.0 True | 300.0 | 500.0 True | 500.0 True | 500.0 True |
| drhodz_min | 1×10^{-12} | 1×10^{-12} | 1×10^{-10} | 1×10^{-10} | 1×10^{-10} | 1×10^{-12} | 1×10^{-10} | 1×10^{-10} | 1×10^{-10} |
| fixed_wave_dissipation | False | False | False | False | False | False | False | False | False |
| max_drag_diffusivity | 0.04 | 0.04 | 004 | 201 | 0.04 | 0.01 | 004 | 0.04 | 204 |
| max_wave_diffusivity mixing_efficiency_n2depend | 0.01 True | 0.01 True | 0.01 True | 0.01 True | 0.01 True | 0.01 True | 0.01 True | 0.01 True | 0.01 True |
| read_roughness | True | True | True | True | True | True | True | True | True |
| read_tide_speed | True | True | True | True | True | True | True | True | True |
| read_wave_dissipation | 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/ fabio momsis1 input.nml | original/ paul_mom- sis025_in- put.nml | original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|-------------------------|------------------|---|--|--|---|--|---|--|--|---|
| reading_ | roughness_amp | True | True | True | True | True | True | True | True | True |
| reading_ro | ughness_length | False | False | False | False | False | False | False | False | False |
| r | oughness_scale | 30 000.0 | 30 000.0 | 12 000.0 | 12 000.0 | 12 000.0 | 20 000.0 | 12 000.0 | 12 000.0 | 12 000.0 |
| she | elf_depth_cutoff | 160.0 | 160.0 | -1000.0 | -1000.0 | -1000.0 | 160.0 | -1000.0 | -1000.0 | -1000.0 |
| tide_speed | _data_on_t_grid | True | True | True | True | True | True | True | True | True |
| use_c | lrag_dissipation | True | True | True | True | True | True | True | True | True |
| use_ | legacy_methods | True | | False | False | False | | False | False | False |
| u | se_this_module | True | True | True | True | True | True | True | True | True |
| use_w | ave_dissipation | True | True | True | True | True | True | True | True | True |
| wave_e | nergy_flux_max | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| &ocean_xlandinsert_nm | | True | True | False | False | False | False | False | False | False |
| use_this_module | | | | | | | | | | |
| | verbose_init | True | True | | | | True | | | |
| &ocean_xlandmix_nml u | se_this_module | True | True | False | False | False | False | False | False | False |
| | verbose_init | True | True | | | | True | | | |
| | xlandmix_kmt | True | True | | | | True | | | |
| &redseafix_nml reds | sea_gulfbay_sfix | | | True | | | | | | |
| &sat_vapor_pres_nml | | True | True | | | | | | | |
| construct_table_wrt_liq | | | | | | | | | | |
| construct_table_ | wrt_liq_and_ice | True | True | | | | | | | |
| show | _all_bad_values | | | | | True | | | | |
| &surface_flux_nml | ncar_ocean_flux | | | True | True | True | | | | |
| | old_dtaudv | False | | | | | | | | |
| | raoult_sat_vap | | | True | True | True | | | | |
| &topography_nml | topog_file | 'INPUT/ | 'INPUT/ | | | | | | | |
| | | navy_topog- | navy_topog- | | | | | | | |
| | | ra- | ra- | | | | | | | |
| | | phy.data.nc' | phy.data.nc' | | | | | | | |
| &xgrid_nml | do_alltoall | | | True | True | True | | | | True |
| | do_alltoallv | | | True | True | True | | | | True |
| | interp_method | 'second | 'second | 'second | 'second | 'second | | 'second | 'second | 'second |
| | | order' | order' | order' | order' | order' | | order' | order' | order |
| make_excha | ange_reproduce | True | True | False | False | False | | False | False | False |
| | nsubset | | | 16 | 16 | 16 | | 16 | 16 | 16 |
| | xgrid_log | | | False | False | False | | | | False |

5 All variables in ACCESS configs (differences highlighted)

| Group | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|-------------------------------|--|---|--|--|---|
| &auscom_ice_nml | aice_cutoff | 0.15 | 0.15 | 0.15 | 0.15 |
| | chk_i2o_fields | False | False | False | False |
| | chk_o2i_fields | False | False | False | False |
| | do_ice_once | False | False | False | False |
| | <mark>dt_cpl</mark> fixmeltt | 3600 False | 3600 False | 1800 False | 600 False |
| | frazil_factor | 1.0 | 1.0 | 1.0 | 1.0 |
| | iceform_adj_salt | False | False | False | False |
| | icemlt_factor | 1.0 | 1.0 | 1.0 | 1.0 |
| | kmxice | _ 5 | _ 5 | _ 5 | 5 |
| | pop_icediag | True | True | True | True |
| | <mark>redsea_gulfbay_sfix</mark> sign_stflx | 1.0 | True 1.0 | 1.0 | 1.0 |
| | tmelt | -0.216 | -0.216 | -0.216 | -0.216 |
| | use_ioaice | True | True | True | True |
| &bg_diff_lat_dependence_nml | bg_diff_eq | $1 	imes 10^{-6}$ | $1 	imes 10^{-6}$ | | - |
| | lat_low_bgdiff | 20.0 | 20.0 | | |
| &diag_manager_nml | debug_diag_manager | | True | True | True |
| P free in and | issue_oor_warnings | False | True | True | True |
| &fms_io_nml | fileset_write threading_read | 'single' 'multi' | 'single' 'multi' | 'multi' 'multi' | 'multi' 'multi' |
| | threading_read | 'single' | 'single' | 'multi' | 'multi' |
| &fms_nml | clock_grain | 'LOOP' | 'LOOP' | 'LOOP' | 'LOOP' |
| | domains_stack_size | | 115200 | 115200 | 115200 |
| &mom_oasis3_interface_nml | fields_in | 'u_flux', | 'u_flux', | 'u_flux', | 'u_flux', |
| | | 'v_flux', | 'v_flux', | 'v_flux', | 'v_flux', |
| | | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', | 'lprec', 'fprec', |
| | | 'salt_flx', 'mh_flux', | 'salt_flx', 'mh_flux', | 'salt_flx', 'mh_flux', | 'salt_flx', 'mh_flux', |
| | | 'sw_flux', | 'sw_flux', | 'sw_flux', | 'sw_flux', |
| | | 'q_flux', | 'q_flux', | 'q_flux', | 'q_flux', |
| | | 't_flux', | 't_flux', | 't_flux', | 't_flux', |
| | | 'lw_flux', | 'lw_flux', | 'lw_flux', | 'lw_flux', |
| | | 'runof', 'p', | 'runof', 'p', | | 'runof', 'p', |
| | | 'aice', | 'aice', | | 'aice', |
| | | 'wfimelt', 'wfiform' | 'wfimelt', 'wfiform' | ix, 'lw_flux', 'p', 'runof', p', ce', 'aice', lt', 'wfimelt', m' 'wfiform' | 'wfimelt', 'wfiform' |
| | fields_out | 't_surf', | 't_surf', | 't_surf', | 't_surf', |
| | netas_out | 's_surf', | 's_surf', | 's_surf', | 's_surf', |
| | | 'u_surf', | 'u_surf', | 'u_surf', | 'u_surf', |
| | | 'v_surf', | 'v_surf', | 'v_surf', | 'v_surf', |
| | | 'dssldx', | 'dssldx', | 'dssldx', | 'dssldx', |
| | | 'dssldy', | 'dssldy', | 'dssldy', | 'dssldy', |
| | num_fields_in | 'frazil' 15 | 'frazil' 15 | 'frazil' 15 | 'frazil' 15 |
| | num_fields_out | 7 | 7 | 7 | 7 |
| | send_after_ocean_update | True | True | True | True |
| | send_before_ocean_update | False | False | False | False |
| &monin_obukhov_nml | neutral | | True | True | True |
| &mpp_io_nml | deflate_level | | 5 | 5 | 5 |
| Passan advival disa mal | shuffle | 420 | 4720 | 4720 | 1 |
| &ocean_adv_vel_diag_nml | <mark>diag_step</mark> large_cfl_value | 120 10.0 | 4320 10.0 | 4320 10.0 | 576 10.0 |
| | targe_crt_value max_cfl_value | 10.0 | 10.0 | 10.0 | 10.0 |
| | verbose_cfl | False | True | True | True |
| &ocean_advection_velocity_nml | max_advection_velocity | 0.5 | 0.5 | 0.5 | 0.5 |
| &ocean_albedo_nml | ocean_albedo_option | | 2 | 2 | 2 |
| &ocean_barotropic_nml | barotropic_halo | | 10 | 10 | 10 |
| | barotropic_leap_frog | False | | | |
| | barotropic_pred_corr | True | Т | Т | Tour |
| | barotropic_time_stepping_a barotropic_time_stepping_b | | True False | True False | True False |
| | barotropic_time_stepping_mom4p0 | True | 1 0125 | 1 0135 | ו מנאכ |
| | barotropic_time_stepping_mom4p1 | False | | | |
| | debug_this_module | False | False | False | False |
| | diag_step | 120 | 4320 | 4320 | 576 |
| | eta_max | 8.0 | 8.0 | 8.0 | 8.0 |
| | frac_crit_cell_height | 0.2 | 0.2 | 0.2 | 0.2 |
| | pred_corr_gamma | 0.2 True | 0.2 True | 0.2 True | 0.2 Truo |
| | smooth_eta_diag_laplacian smooth_eta_t_biharmonic | True True | True False | True False | True False |
| | JIIIOUIII_CLG_L_UIIIdIIIIUIIIC | iiue | ו מואכ | 1 912 | ו מנאכ |

| Group (continued) | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|-----------------------------|--|---|--|--|---|
| | smooth_eta_t_laplacian | False | True | True | True |
| | smooth_pbot_t_biharmonic | True | False | | False |
| | <pre>smooth_pbot_t_laplacian truncate_eta</pre> | False False | True False | | True False |
| | use_legacy_barotropic_halos | rusc | False | False | False |
| | vel_micom_bih | 0.01 | 0.01 | 0.01 | 0.01 |
| | vel_micom_lap | 0.05 | 0.05 | 0.05 | 0.05 |
| | vel_micom_lap_diag | 0.2 | 0.2 | | 0.2 |
| | verbose_truncate zero_tendency | True False | True False | | True False |
| &ocean_bbc_nml | bmf_implicit | i alse | True | | True |
| | cdbot | 0.001 | 0.001 | 0.001 | 0.001 |
| | cdbot_hi | | 0.007 | 0.007 | 0.007 |
| | cdbot_law_of_wall | False | | F 1 | F 1 |
| | cdbot_roughness_length | | False True | | False True |
| | cdbot_roughness_uamp uresidual | | 0.05 | | 0.05 |
| | use_geothermal_heating | False | False | | False |
| &ocean_bbc_ofam_nml | read_tide_speed | False | | | |
| | uresidual2_max | 1.0 | | | |
| &ocean_bih_friction_nml | bih_friction_scheme | 'general' | 'general' | 'general' | 'general' |
| &ocean_bih_tracer_nml | use_this_module | False | False | False | False |
| &ocean_bihcst_friction_nml | use_this_module | False | False | | False |
| &ocean_bihgen_friction_nml | bottom_5point | True | False | | False 0.0 |
| | eq_lat_micom eg_vel_micom_aniso | 0.0 0.0 | 0.0 0.0 | | 0.0 |
| | eq_vet_inicom_aniso eq_vet_micom_iso | 0.0 | 0.0 | | 0.0 |
| | equatorial_zonal | False | False | | False |
| | k_smag_aniso | 0.0 | 0.0 | 0.0 | 0.0 |
| | k_smag_iso | 2.0 | 2.0 | 2.0 | 2.0 |
| | ncar_boundary_scaling | True | True | True | True |
| | ncar_boundary_scaling_read | | True | True | True |
| | ncar_rescale_power | 2 | 2 | | 2 |
| | ncar_vconst_4 | 2×10^{-8} | 2×10^{-8} | | 2×10^{-8} |
| | ncar_vconst_5 use_this_module | 5 True | 5 True | | 5 True |
| | vel_micom_aniso | 0.0 | 0.0 | | 0.0 |
| | vel_micom_bottom | 0.01 | 0.0 | 0.0 | 0.0 |
| | vel_micom_iso | 0.04 | 0.0 | 0.0 | 0.0 |
| | visc_crit_scale | 0.25 | 1.0 | 1.0 | 1.0 |
| &ocean_convect_nml | convect_full_scalar | False | | Som2 O25deg jra55 _ ryf input.nml | |
| | <pre>convect_full_vector use_this_module</pre> | True | Ealco | Falso | Ealco |
| &ocean_coriolis_nml | use_tms_modute acor | False 0.5 | False 0.5 | | False 0.5 |
| Wocean_conocis_nint | use_this_module | True | True | | True |
| &ocean_density_nml | eos_linear | Huc | False | | False |
| , | eos_preteos10 | | True | | True |
| | layer_nk | 80 | 80 | O25deg | 80 |
| | linear_eos | False | | | |
| | neutralrho_max | 1030.0 | 1038.0 | | 1038.0 |
| | neutralrho_min | 1020.0 1038.0 | 1028.0 1038.0 | | 1028.0 1038.0 |
| | potrho_max potrho_min | 1038.0 | 1038.0 | | 1038.0 |
| | teos10_eos | False | 1020.0 | 1020.0 | 1020.0 |
| &ocean_domains_nml | max_tracers | 20 | 5 | 5 | 5 |
| &ocean_form_drag_nml | cprime_aiki | 0.6 | | | |
| | use_this_module | False | False | | False |
| &ocean_frazil_nml | debug_this_module | | False | | False |
| | frazil_only_in_surface | False | False | False | False |
| | freezing_temp_accurate freezing_temp_preteos10 | True | True | True | True |
| | freezing_temp_simple | False | False | | False |
| | use_this_module | True | True | | True |
| &ocean_grids_nml | debug_this_module | True | False | | False |
| | read_rho0_profile | False | | | |
| &ocean_increment_eta_nml | days_to_increment | 0 | _ | _ | _ |
| | fraction_increment | 1.0 | | | |
| | | 3600 | | | |
| | secs_to_increment | | | | |
| Record increment tracer and | use_this_module | False | False | False | False |
| &ocean_increment_tracer_nml | use_this_module days_to_increment | False 0 | False | False | False |
| &ocean_increment_tracer_nml | use_this_module days_to_increment fraction_increment | False 0 1.0 | False | False | False |
| &ocean_increment_tracer_nml | use_this_module days_to_increment | False 0 | False False | | False |

| Group (continued) | V ariable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|--|---|--|--|---|
| | fraction_increment secs_to_increment | 1.0 3600 | | | |
| | use_this_module | False | False | False | False |
| &ocean_lap_friction_nml | lap_friction_scheme | 'general' | 'general' | 'general' | 'general' |
| &ocean_lap_tracer_nml | use_this_module | False | False | False | False |
| &ocean_lapcst_friction_nml &ocean_lapgen_friction_nml | use_this_module bottom_5point | False True | | False | False |
| &ocean_tapgen_mction_mmt | k_smag_aniso | 0.0 | | | |
| | k_smag_iso | 0.0 | 0.0 | | |
| | ncar_only_equatorial | True | True | | |
| | restrict_polar_visc restrict_polar_visc_lat | True 60.0 | | | |
| | restrict_polar_visc_ratio | 0.35 | 0.35 | | |
| | use_this_module | True | True | False | False |
| | vconst_1 | 0.000 000 8 | | | |
| | vconst_3 | 0.0 0.8 | | | |
| | vconst_4 | 5×10^{-9} | | | |
| | vconst_5 | 3 | 3 | | |
| | vconst_6 | 300 000 000.0 | 300 000 000.0 | | |
| | vconst_7 vel_micom_iso | 100.0 0.1 | | | |
| | vet_micom_iso viscosity_ncar | V.1 False | 7.1 True | | |
| | viscosity_ncar_2000 | False | False | | |
| | viscosity_ncar_2007 | True | True | | |
| | viscosity_scale_by_rossby | True | | | |
| kocean_mixdownslope_nml | ope_nml debug_this_module False False mixdownslope_mask_gfdl False False | | | | |
| | | | | lse lse 4 lse | |
| ocean_model_nml | mixdownslope_npts | _ 4 | | | |
| | read_mixdownslope_mask use_this_module | False True | | Falso | False |
| kocean_model_nml | baroclinic_split | 1 | 1 | 1 | 1 |
| occar_mocc_mit | barotropic_split | 80 | 80 | 80 | 80 |
| | cmip_units | True | | | True |
| | debug dt_ocean | False 3600 | | | False 150 |
| | io_layout | | 4, 3 | 6,5 | 10, 15 |
| | layout | 12, 10 | 16, 15 | Som2 - 1 deg | 80,75 |
| | surface_height_split time_tendency | 1 'twolevel' | | | 1 'twolevel' |
| | vertical_coordinate | 'zstar' | | | 'zstar' |
| kocean_momentum_source_nml | rayleigh_damp_exp_from_bottom | | | Som2 O25 deg jra55 - ryf input.nml | False |
| | use_rayleigh_damp_table use_this_module | True | | False False False General False Fa | True |
| kocean_nphysics_nml | debug_this_module | True False | | | True False |
| coccuratiphysics_mit | use_nphysicsa | False | | Som2 O25deg jra55 - ryf input.nml | False |
| | use_nphysicsb | False | | | False |
| | use_nphysicsc use_this_module | True | | | False |
| cocean_nphysics_util_nml | use_tnis_module agm | True 600.0 | | | False 100.0 |
| occur_nphysics_uct_nmt | agm_closure | True | | | True |
| | agm_closure_baroclinic | True | | | True |
| | agm_closure_buoy_freq | 0.004 | | 0.004 | 0.004 |
| | agm_closure_eady_ave_mixed agm_closure_eady_cap | True True | | | |
| | agm_closure_eady_smooth_horz | True | | | |
| | agm_closure_eady_smooth_vert | True | | | |
| | agm_closure_eden_gamma | 0.0 | | | |
| | agm_closure_eden_greatbatch agm_closure_grid_scaling | False True | | | |
| | agm_closure_length | 50 000.0 | | 50 000.0 | 50 000.0 |
| | agm_closure_length_bczone | False | False | 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 | | 600.0 |
| | agm_closure_min | 50.0 | 50.0 | 100.0 | 100.0 |
| | agm_closure_scaling | 0.07 100.0 | | | 0.07 100.0 |
| | agm_closure_upper_depth agm_damping_time | 45.0 | | 100.0 | 100.0 |
| | agm_smooth_space | False | False | | |
| | agm_smooth_time | False | | | |
| | aredi | 600.0 | 600.0 | 600.0 | 600.0 |
| | | | | | |

| Group (continued) | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|--|---|---|--|--|
| | aredi_equal_agm | False | False | False | False |
| | drhodz_mom4p1 | True | | | False |
| | drhodz_smooth_horz drhodz_smooth_vert | False | | | False False |
| | nphysics_util_zero_init | | | raise | raise |
| | rossby_radius_max | 100 000.0 | | 100 000 0 | 100 000.0 |
| | rossby_radius_min | 15 000.0 | 15 000.0 | 15 000.0 | 15 000.0 |
| | tracer_mix_micom | False | False | False | False |
| | vel_micom | 0.0 | 0.0 | 0.0 | 0.0 |
| &ocean_nphysicsa_nml | use_this_module | False | False | False | False |
| &ocean_nphysicsb_nml | use_this_module | False | | False | False |
| &ocean_nphysicsc_nml | bv_freq_smooth_vert | True | | | |
| | bvp_bc_mode bvp_min_speed | | | | |
| | bvp_speed | | | | |
| | debug_this_module | False | | | |
| in_nphysicsc_nml in_operators_nml in_operators_nml in_overflow_nml in_overflow_ofp_nml in_overflow_ofp_nml in_operators_nml in_overflow_ofp_nml in_overflow_ofp_nml in_overflow_nml in_overflow_ofp_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml in_overflow_nml | do_gm_skewsion | True | | | |
| | do_neutral_diffusion | True | True | | |
| | epsln_bv_freq | 1×10^{-12} | $1 	imes 10^{-12}$ | | |
| | gm_skewsion_bvproblem | True | True | | |
| | gm_skewsion_modes | False | False | | |
| | neutral_eddy_depth | True | True | | |
| | neutral_physics_limit | True | | | |
| | number_bc_modes regularize_psi | | | | |
| | smax_psi | | | | |
| | smooth_psi | True | | | |
| | tmask_neutral_on | True | | som21deg1 | |
| | turb_blayer_min | 50.0 | ass-branch som2 - 1deg - 1ga55 ryf - input.nml som2 - 1ga55 ryf - input.nml alse False Irue True False alse False Fal | | |
| | use_this_module | True | True | False | False |
| &ocean_operators_nml | use_legacy_div_ud | | | | False |
| &ocean_overexchange_nml | debug_this_module | False | False | False | False |
| | overexch_check_extrema | False | | 100 000.0 15 000.0 | |
| | overexch_npts overexch_weight_far | | | | 4 False |
| | overflow_umax | | | | 5.0 |
| | use_this_module | False | | | False |
| &ocean_overflow_nml | debug_this_module | False | | | |
| | use_this_module | False | 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 |
| &ocean_rivermix_nml | debug_this_module | False | | | False |
| | river_diffuse_salt | False | | | True |
| | <mark>river_diffuse_temp</mark> river_diffusion_thickness | | | | True 0.0 |
| | river_diffusivity | | | som2 025deg jra55 ryf input.nml False False False False 100 000.0 15 000.0 False 0.0 False | 0.0 |
| | river_insertion_thickness | 40.0 | | | 40.0 |
| | use_this_module | True | | | True |
| &ocean_riverspread_nml | use_this_module | True | 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 |
| | calvingspread | | | | False |
| | do_bitwise_exact_sum | | | | False |
| | do_flux_correction ice_salt_concentration | 0.005 | False | raise | False |
| | land_model_heat_fluxes | 0.003 | False | False | False |
| | max_delta_salinity_restore | 0.5 | | | 0.5 |
| | max_ice_thickness | | | | 0.0 |
| | | | | | False |
| | read_restore_mask | False | | | |
| | restore_mask_gfdl | False | False | | False |
| | restore_mask_gfdl runoff_salinity | | False 0.0 | 0.0 | 0.0 |
| | restore_mask_gfdl runoff_salinity salt_correction_scale | False 0.0 | False 0.0 0.0 | 0.0 0.0 | 0.0 0.0 |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux | False 0.0 True | False 0.0 0.0 True | 0.0 0.0 True | 0.0 0.0 True |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale | False 0.0 True 15.0 | False 0.0 0.0 True 60.0 | 0.0 0.0 True 60.0 | 0.0 0.0 True 60.0 |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice | False 0.0 True 15.0 True | False 0.0 0.0 True 60.0 True | 0.0 0.0 True 60.0 True | 0.0 0.0 True 60.0 True |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale | False 0.0 True 15.0 | False 0.0 0.0 True 60.0 True —10.0 | 0.0 0.0 True 60.0 True —10.0 | 0.0 0.0 True 60.0 True — 10.0 |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice | False 0.0 True 15.0 True | False 0.0 0.0 True 60.0 True —10.0 False | 0.0 0.0 True 60.0 True —10.0 False | 0.0 0.0 True 60.0 True |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level | False 0.0 True 15.0 True —1.0 | False 0.0 0.0 True 60.0 True —10.0 False | 0.0 0.0 True 60.0 True —10.0 False | 0.0 0.0 True 60.0 True — 10.0 False |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux | False 0.0 True 15.0 True —1.0 True | False 0.0 0.0 True 60.0 True —10.0 False True | 0.0 0.0 True 60.0 True —10.0 False True | 0.0 0.0 True 60.0 True — 10.0 False |
| | restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux_tavg | False 0.0 True 15.0 True -1.0 True False False | False 0.0 0.0 True 60.0 True —10.0 False True False False | 0.0 0.0 True 60.0 True —10.0 False True False False | 0.0 0.0 True 60.0 True —10.0 False True |

| Group (continued) | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|--|--|---|--|--|---|
| | zero_net_water_correction | | False | False | False |
| | zero_net_water_couple_restore | True | True | True | True |
| | zero_net_water_coupler | True | True | | True |
| | zero_net_water_restore zero_surface_stress | True False | True False | | True False |
| | zero_water_fluxes | False | False | | False |
| &ocean_sbc_ofam_nml | restore_mask_ofam | False | 14136 | ruse | ruise |
| | river_temp_ofam | False | | | |
| &ocean_shortwave_csiro_nml | read_depth | True | | | |
| | use_this_module | True | False | False | False |
| O coop shouth one of diame | zmax_pen | 7000 False | Falsa | Falsa | False |
| xocean_snortwave_grut_nint | debug_this_module enforce_sw_frac | True | False True | | True |
| | optics_manizza | True | True | | True |
| | optics_morel_antoine | | False | False | False |
| | read_chl | False | True | True | True |
| | sw_pen_fixed_depths | False | | | |
| | use_this_module | False | True | | True |
| Passan sharthunus isalawarat | zmax_pen | 200.0 | 300.0 | | 300.0 |
| | use_this_module | False True | False | | False |
| xucean_Snortwave_nint | use_shortwave_csiro use_shortwave_qfdl | True False | False True | Som2 025deg jra55 ryf input.nml False True True False False True True False True False True True False True False True True False True True False True True | False True |
| ean_sbc_ofam_nml ean_shortwave_csiro_nml ean_shortwave_jerlov_nml ean_shortwave_nml ean_shortwave_nml ean_sigma_transport_nml ean_sigma_transport_nml ean_sigma_transport_nml ean_sponges_eta_nml ean_sponges_eta_nml ean_sponges_velocity_nml | use_shortwave_jut | False | False | | False |
| | use_this_module | True | True | | True |
| kocean_sigma_transport_nml | sigma_advection_on | False | | | |
| | sigma_advection_sgs_only | False | | | |
| | sigma_diffusion_on | True | | | |
| | sigma_diffusivity_ratio | $1	imes10^{-6}$ | | | |
| | sigma_just_in_bottom_cell | True | | | |
| | sigma_umax | 0.01 | | | |
| | smooth_sigma_thickness | True True | | | |
| | smooth_sigma_velocity 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 | True | False | False False | False |
| 2 | vel_micom | 0.05 | 'NOLEAD' | 'NOLEAD' | 'NOLEAD' |
| kocean_solo_nml | calendar date_init | 'NOLEAP' 1, 1, 1, 0, 0, 0 | 1, 1, 1, 0, 0, 0 | LEAP' 'NOLEAP' 0,0,0 1,1,1,0,0,0 1460 31 3600 1200 0 0 | 'NOLEAP' 1, 1, 1, 0, 0, 0 |
| | date_init | 1, 1, 1, 0, 0, 0 | | | 30 |
| | dt_cpld | 3600 | 3600 | | 600 |
| | hours | 0 | 0 | | 0 |
| | minutes | 0 | 0 | 0 | 0 |
| | months | 12 | 0 | | 0 |
| | seconds | 0 | 0 | | 0 |
| | years | | 0 | | 0 |
| | use_this_module | False False | False | False | False False |
| kocean_sponges_cracer_ninc | <mark>damp_coeff_3d</mark> use_this_module | False | False | False | False |
| ocean sponges velocity nml | use_this_module | False | False | | False |
| kocean_submesoscale_nml | coefficient_ce | 1 0150 | 0.05 | | 0.05 |
| | debug_this_module | False | False | | False |
| | front_length_const | 5000.0 | 5000.0 | | 5000.0 |
| | front_length_deform_radius | True | True | True | True |
| | limit_psi | True | True | | True |
| | limit_psi_velocity_scale | 0.5 | 0.5 | | 0.5 |
| | min_kblt | 4 | 4 True | | 4 True |
| | smooth_advect_transport_num | | True 4 | | True 4 |
| | <pre>smooth_advect_transport_num smooth_hblt</pre> | False | 4 False | | 4 False |
| | smooth_nsi | ו מנגל | True | | True |
| | smooth_psi_num | | 3 | | 3 |
| | 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 | | True | | True |
| | submeso_diffusion_scale | т | 10.0 | 10.0 | 10.0 |
| | submeso_limit_flux | True | True | Truo | Terra |
| | submeso_skew_flux | | True | True | True |

| Group (continued) | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|----------------------------|---|---|---|--|---|
| | use_hblt_equal_mld | True | True | True | True |
| | <mark>use_psi_legacy</mark> use_this_module | True | False True | False True | False True |
| &ocean_tempsalt_nml | debug_this_module | | False | False | False |
| | pottemp_2nd_iteration pottemp_equal_contemp | True | | True True | True True |
| | potternp_equat_contemp s_max | 55.0 | 70.0 | 70.0 | 70.0 |
| | s_max_limit | 42.0 | 42.0 | 42.0 | 42.0 |
| | s_min s_min_limit | -1.0 0.0 | | 0.0 2.0 | 0.0 2.0 |
| | t_max | 55.0 | 55.0 | 55.0 | 55.0 |
| | t_max_limit | 32.0 | | 32.0 | 32.0 |
| | t_min t_min_limit | −5.0 −2.0 | | −20.0 −5.0 | −20.0 −5.0 |
| | temperature_variable | 'conservative | 'potential | 'potential | 'potential |
| | toos10 | temp' | temp' | temp' | temp' |
| &ocean_thickness_nml | teos10 debug_this_module | False False | False | False | False |
| | debug_this_module_detail | False | False | False | False |
| | initialize_zero_eta read_rescale_rho0_mask | False False | | | |
| | rescale_mass_to_qet_ht_mod | raise | False | False | False |
| | rescale_rho0_basin_label | 7.0 | | | |
| | rescale_rho0_mask_gfdl rescale_rho0_value | False 0.75 | | | |
| | thickness_dzt_min | 1.0 | | | |
| | thickness_dzt_min_init | 2.0 | | | |
| &ocean_topog_nml | thickness_method min_thickness | 'energetic' 25.0 | 'energetic' | 'energetic' | 'energetic' |
| &ocean_tracer_advect_nml | advect_sweby_all | True | | | |
| | compute_gyre_overturn_diagnose | True | | | |
| | debug_this_module do_fast_compute | False True | False | False | False |
| | read_basin_mask | True | False | False | False |
| &ocean_tracer_diag_nml | diag_step | 120 | 4320 | 4320 | 576 |
| | do_bitwise_exact_sum tracer_conserve_days | False 1.0 | | False 30.0 | False 30.0 |
| &ocean_tracer_nml | age_tracer_max_init | 0.0 | | 0.0 | 0.0 |
| | debug_this_module | False | False | False | False |
| | frazil_heating_after_vphysics frazil_heating_before_vphysics | True False | | True False | True False |
| | limit_age_tracer | True | True | True | True |
| | remap_depth_to_s_init | False | False | False | False |
| | use_tempsalt_check_range zero_tendency | False | | True False | True False |
| | zero_tracer_source | False | False | False | False |
| &ocean_velocity_diag_nml | debug_this_module | False | False | False | False |
| | diag_step energy_diag_step | 120 120 | | 4320 4320 | 576 5760 |
| | large_cfl_value | 10.0 | 10.0 | 10.0 | 10.0 |
| | max_cfl_value | 100.0 | 100.0 | 100.0 | 100.0 |
| &ocean_velocity_nml | adams_bashforth_third max_cgint | True 1.0 | True False True False True False True True 70.0 42.0 0.0 2.0 55.0 32.0 -20.0 -5.0 'potential 'p temp' False False False False False False False False False True False True False True False True False False False False True False True False False True False | True 1.0 | True 1.0 |
| | truncate_velocity | False | False | False | False |
| | truncate_velocity_value | 2.0 | | 2.0 | 2.0 |
| | truncate_verbose zero_tendency | True False | | True False | True False |
| | zero_tendency_explicit_a | | False | 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 | 0.0 |
| | double_diffusion | | | True | True |
| | kbl_standard_method ricr | | | False 0.3 | False 0.3 |
| | smooth_blmc | | False | False | False |
| | smooth_ri_kmax_eq_kmu | | | True | True |
| | use_this_module visc_cbu_iw | | | True 0.0 | True 0.0 |
| &ocean_vert_kpp_nml | diff_cbt_iw | 0.0 | 0.0 | | |
| | diff_con_limit | 0.1 True | | | |
| | double_diffusion kbl_standard_method | True True | | | |
| | ricr | 0.3 | | | |

| Group (continued) | Variable | original/ russ- accessom- mom4p1- input.nml | new_acces- som2 1deg jra55_ryf input.nml | new_acces- som2 025deg jra55_ryf input.nml | new_acces- som2 01deg jra55_ryf input.nml |
|---|--|---|--|--|---|
| | smooth_blmc | True | | | |
| | use_this_module | True | | | |
| | visc_cbu_iw | 0.0 | | | |
| | visc_con_limit | 0.1 | | | |
| &ocean_vert_mix_nml | afkph_00 | 0.65 | | | |
| | afkph_90 aidif | 0.75 1.0 | 1.0 | 10 | 1.0 |
| | bryan_lewis_diffusivity | False | False | | False |
| | bryan_lewis_lat_depend | True | False | | False |
| | bryan_lewis_lat_transition | 35.0 | | | |
| | dfkph_00 | 1.15 | | | |
| | dfkph_90 | 0.95 | | | |
| | hwf_diffusivity | | False | False | False |
| | hwf_min_diffusivity | | 2×10^{-6} | | 2×10^{-6} |
| | hwf_n0_2omega | | 20.0 | 20.0 | 20.0 |
| | linear_taper_diff_cbt_table | False | | | |
| | sfkph_00 | 4.5×10^{-5} | | | |
| | sfkph_90 | 4.5×10^{-5} | Falsa | Falsa | Γalaa |
| | use_diff_cbt_table vert_diff_back_via_max | False True | False True | | False True |
| | vert_mix_scheme | 'kpp' | 'kpp | | 'kpp |
| | vert_illix_scheme | крр | mom4p1' | | mom4p1 |
| | zfkph_00 | 250 000.0 | momipi | momipi | 111011111112 |
| | zfkph_90 | 250 000.0 | | | |
| kocean_vert_tidal_nml | background_diffusivity | 5×10^{-6} | 0.0 | 0.0 | 0.0 |
| | background_viscosity | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| | decay_scale | 300.0 | 500.0 | 500.0 | 500.0 |
| | drag_dissipation_use_cdbot | 43 | True | True | True |
| | drhodz_min | 1×10^{-12} | 1×10^{-10} | | 1×10^{-10} |
| | fixed_wave_dissipation | False | False | False | False |
| | max_drag_diffusivity | 0.01 | 0.01 | 0.01 | 0.01 |
| | max_wave_diffusivity mixing_efficiency_n2depend | 0.01 True | 0.01 True | | 0.01 True |
| | read_roughness | True | True | | True |
| | read_tide_speed | True | True | | True |
| | read_wave_dissipation | False | False | | False |
| | reading_roughness_amp | True | True | True | True |
| | reading_roughness_length | False | False | False | False |
| | roughness_scale | 20 000.0 | 12 000.0 | 12 000.0 | 12 000.0 |
| | shelf_depth_cutoff | 160.0 | -1000.0 | -1000.0 | -1000.0 |
| | tide_speed_data_on_t_grid | True | True | True | True |
| | use_drag_dissipation | True | True | | True |
| | use_legacy_methods use_this_module | T | False | | False True |
| cean_xlandinsert_nml cean_xlandmix_nml | use_tnis_module use_wave_dissipation | True True | True | | True |
| | wave_energy_flux_max | 0.1 | True 0.1 | 1.0 False False True False True False True True True False True True False True True True True False True True True False True True | 0.1 |
| &ocean xlandinsert nml | use_this_module | False | False | | False |
| | verbose_init | True | 1 4130 | i disc | 1 4150 |
| &ocean_xlandmix_nml | use_this_module | False | False | False | False |
| | verbose_init | True | | | |
| | xlandmix_kmt | True | | | |
| &xgrid_nml | do_alltoall | | | | True |
| | do_alltoallv | | | | True |
| | interp_method | | 'second | | 'second |
| | | | order' | | order |
| | make_exchange_reproduce | | False | | False |
| | nsubset | | 16 | 16 | 16 |
| | xgrid_log | | | | False |