MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

typeset 2017-10-23 17:18:35 +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
- kiss_accessom2_025deg_jra55_ryf_logfile.000000.out is the MOM output file /short/v45/aek156/access-om2/control/025deg_jra55_ryf/archive/output144/ocean/logfile.000000.out, modified by deleting lines not starting with whitespace (regex replace `^[^\s]+.*$` with nothing), replacing salt_flxmh_flux with salt_flx mh_flux, removing ascii gremlins from end of FIELDS_IN and FIELDS_OUT lines, and deleting the copy of input.nml from the start (to work around bug in nmltab.py). So this shows the values specified in input.nml, plus default values for those not specified in input.nml.

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

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

Group	Variable	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
&auscom_ice_nml	dt_cpl	3600	1800	600
	redsea_gulfbay_sfix	True		
&bg_diff_lat_dependence_nml	bg_diff_eq	1×10^{-6}		
	lat_low_bgdiff	20.0		
&fms_io_nml	fileset_write	'single'	'multi'	'multi'
	threading_write	'single'	'multi'	'multi'
&ocean_adv_vel_diag_nml	diag_step	4320	4320	576
&ocean_barotropic_nml	diag_step	4320	4320	576
&ocean_lapgen_friction_nml	bottom_5point	True		
	k_smag_aniso	0.0		
	k_smag_iso	0.0		
	ncar_only_equatorial	True		
	restrict_polar_visc	True		
	restrict_polar_visc_lat	60.0		
	restrict_polar_visc_ratio	0.35		
	use_this_module	True	False	False
	vconst_1	8 000 000.0		
	vconst_2	0.0		
	vconst_3	0.8		
	vconst_4	5×10^{-9}		
	vconst_5	3		
	vconst_6	300 000 000.0		
	vconst_7	100.0		
	vel_micom_iso	0.1		
	viscosity_ncar	True		
	viscosity_ncar_2000	False		
	viscosity_ncar_2007	True		
	viscosity_scale_by_rossby	True		
	viscosity_scale_by_rossby_power	100.0		
&ocean_mixdownslope_nml	debug_this_module	False		
	mixdownslope_mask_gfdl	False		
	mixdownslope_npts	4		
	read_mixdownslope_mask	False		
	use_this_module	True	False	False
&ocean_model_nml	dt_ocean	3600	1200	150
	io_layout	4, 3	6, 5	10, 15
	layout	16, 15	48, 40	80, 75
&ocean_nphysics_nml	use_nphysicsc	True	False	False
	use_this_module	True	False	False
&ocean_nphysics_util_nml	agm	600.0	100.0	100.0
	agm_closure_eady_ave_mixed	True		
	agm_closure_eady_cap	True		
	agm_closure_eady_smooth_horz	True		
	agm_closure_eady_smooth_vert	True		
	agm_closure_eden_gamma	0.0		
	agm_closure_eden_greatbatch	False		
	agm_closure_grid_scaling	True		
	agm_closure_min	50.0	100.0	100.0
	agm_damping_time	45.0		
	agm_smooth_space	False		
	agm_smooth_time	False		
	drhodz_mom4p1	True	False	False
	nphysics_util_zero_init	True		
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True		
	bvp_bc_mode	2		
	bvp_min_speed	0.1		
	bvp_speed	0.0		
	debug_this_module	False		
	do_gm_skewsion	True		
	do_neutral_diffusion	True		
	epsln_bv_freq	1×10^{-12}		
	gm_skewsion_bvproblem	True		
	gm_skewsion_modes	False		
	neutral_eddy_depth	True		
	neutral_physics_limit	True		
	number_bc_modes	2		
	regularize_psi	False		
	smax_psi	0.01		
	smooth_psi	True		

Group (continued)	Variable	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-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

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_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_1deg_jra55_ryf_input.nml
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
&fms_nml	domains_stack_size		115200
&monin_obukhov_nml	neutral		True
&mpp_io_nml	deflate_level		5
	shuffle		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
	uresidual		0.05
&ocean_bbc_ofam_nml	read_tide_speed	False	
	uresidual2_max	1.0	
&ocean_bihgen_friction_nml	bottom_5point	True	False
	ncar_boundary_scaling_read		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	
&ocean_density_nml	neutralrho_max	1030.0	1038.0
	neutralrho_min	1020.0	1028.0
&ocean_domains_nml	max_tracers	10	5
&ocean_form_drag_nml	cprime_aiki	0.6	
&ocean_frazil_nml	debug_this_module		False
	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	
	secs_to_increment	1800	
&ocean_increment_tracer_nml	days_to_increment	0	
	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	
&ocean_overflow_ofp_nml	use_this_module		False
&ocean_pressure_nml	zero_pressure_force		False
&ocean_rivermix_nml	river_diffuse_salt	False	True
	river_diffuse_temp	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		False
	max_ice_thickness	8.0	0.0
	salt_correction_scale		0.0
	salt_restore_tscale	15.0	60.0
	temp_restore_tscale	−1.0	−10.0
	use_full_patm_for_sea_level		False
	waterflux_tavg	False	
	zero_net_salt_correction		False
	zero_net_water_correction		False

Group (continued)	Variable	original/hogg_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml
&ocean_sbc_ofam_nml	restore_mask_ofam	False	
	river_temp_ofam	False	
&ocean_shortwave_csiro_nml	read_depth	True	
	use_this_module	True	False
	zmax_pen	7000	
&ocean_shortwave_gfdl_nml	optics_morel_antoine		False
	read_chl	False	True
	sw_pen_fixed_depths	False	
	use_this_module	False	True
	zmax_pen	200.0	300.0
&ocean_shortwave_nml	use_shortwave_csiro	True	False
	use_shortwave_gfdl	False	True
&ocean_sigma_transport_nml	sigma_advection_on	False	
	sigma_advection_sgs_only	False	
	sigma_diffusion_on	True	
	sigma_diffusivity_ratio	1×10^{-6}	
	sigma_just_in_bottom_cell	True	
	sigma_umax	0.01	
	smooth_sigma_thickness	True	
	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	
	use_this_module	True	False
	vel_micom	0.05	
&ocean_solo_nml	debug_this_module	False	
&ocean_sponges_tracer_nml	damp_coeff_3d	False	
&ocean_submesoscale_nml	coefficient_ce		0.05
	smooth_advect_transport		True
	smooth_advect_transport_num		4
	smooth_psi		True
	smooth_psi_num		3
	submeso_advect_flux		False
	submeso_advect_limit		True
	submeso_advect_upwind		True
	submeso_advect_zero_bdy		True
	submeso_diffusion		False
	submeso_diffusion_biharmonic		True
	submeso_diffusion_scale		10.0
	submeso_limit_flux	True	
	submeso_skew_flux		True
	use_psi_legacy		False
&ocean_tempsalt_nml	pottemp_equal_contemp		True
	s_max	55.0	70.0
	s_min	−1.0	0.0
	s_min_limit	0.0	2.0
	t_min	−5.0	−20.0
	t_min_limit	−2.0	−5.0
	temperature_variable	'conservative_-temp'	'potential_-temp'
&ocean_thickness_nml	initialize_zero_eta	False	
	read_rescale_rho0_mask	False	
	rescale_mass_to_get_ht_mod		False
	rescale_rho0_basin_label	7.0	
	rescale_rho0_mask_gfdl	False	
	rescale_rho0_value	0.75	
	thickness_dzt_min	1.0	
	thickness_dzt_min_init	2.0	
&ocean_topog_nml	min_thickness	25.0	
&ocean_tracer_advect_nml	advect_sweby_all	True	
	async_domain_update	True	
	read_basin_mask		False
&ocean_tracer_diag_nml	tracer_conserve_days	1.0	30.0
&ocean_velocity_nml	truncate_velocity	True	False
	zero_tendency_explicit_a		False
	zero_tendency_explicit_b		False
	zero_tendency_implicit		False
&ocean_vert_kpp_mom4p0_nml	use_this_module	False	
&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	
	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		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	
	xlandmix_kmt	True	
&xgrid_nml	nsubset		16

2.2 accessom2_025deg_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_-input.nml	new_acces-som2_-025deg_-jra55_ryf_-input.nml
&auscom_ice_nml	dt_cpl	1200	1800
&fms_io_nml	fileset_write	'single'	'multi'
	threading_write	'single'	'multi'
&fms_nml	domains_stack_size		115200
&mpp_io_nml	deflate_level		5
	shuffle		1
&ocean_bih_tracer_nml	tracer_mix_micom	True	
	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	
	zmax_pen	7000	
&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	

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 accessom2_01deg_jra55_ryf

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

Group	Variable	original/ hogg_acces- som2_- 01deg_- jra55_ryf_- input.nml	new_acces- som2_- 01deg_- jra55_ryf_- input.nml
&auscom_ice_nml	dt_cpl	150	600
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
	max_axes	300	
	max_files	1000	
	max_input_fields	700	
	max_num_axis_sets	40	
	max_output_fields	700	
&fms_io_nml	checksum_required	False	
	max_files_r	700	
	max_files_w	700	
&fms_nml	print_memory_usage	False	
&generic_tracer_nml	do_generic_cfc	False	
	do_generic_topaz	False	
	do_generic_tracer	False	
&ocean_advection_velocity_nml	max_advection_velocity	0.2	0.5
&ocean_barotropic_nml	vel_micom_lap_diag	0.5	0.2
&ocean_bih_tracer_nml	tracer_mix_micom	True	
	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_model_nml	cmip_units		True
&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	5760	
	do_entrainment_para_ofp	False	
	do_mass_ofp	True	
	frac_exchange_src	1.0	
	max_vol_trans_ofp	10 000 000.0	
&ocean_riverspread_nml	debug_this_module	False	
	use_this_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	
	thickness_sigma_max	100.0	

Group (continued)	Variable	original/hogg_access-som2_-01deg_-jra55_ryf_-input.nml	new_access-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	
&xgrid_nml	xgrid_log	False	

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

Group	Variable	original/ hogg_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_1deg_jra55_ryf_input.nml	original/ kiss_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	original/ hogg_accessom2_01deg_jra55_ryf_input.nml	new_accessom2_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	False	False	False	False	False	False
	do_ice_once	False	False	False	False	False	False
	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	True	True	True	True	True	True
	redsea_gulfbay_sfix	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	
	max_files					1000	
	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					700	
	threading_read	’multi’	’multi’	’multi’	’multi’	’multi’	’multi’
	threading_write	’single’	’single’	’single’	’multi’	’multi’	’multi’
&fms_nml	clock_grain	’LOOP’	’LOOP’	’LOOP’	’LOOP’	’LOOP’	’LOOP’
	domains_stack_size		115200		115200	115200	115200
	print_memory_usage					False	
&generic_tracer_nml	do_generic_cfc					False	
	do_generic_topaz					False	
	do_generic_tracer					False	
&mom_oasis3_interface_nml	fields_in	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’
	fields_out	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’
	num_fields_in	15	15	15	15	15	15
	num_fields_out	7	7	7	7	7	7
	send_after_ocean_update	True	True	True	True	True	True
	send_before_ocean_update	False	False	False	False	False	False
&monin_obukhov_nml	neutral		True	True	True	True	True
&mpp_io_nml	deflate_level		5		5	5	5
	shuffle		1		1	1	1
&ocean_adv_vel_diag_nml	diag_step	4320	4320	4320	4320	576	576
	large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	True	True	True	True	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5	0.5	0.5	0.2	0.5
&ocean_albedo_nml	ocean_albedo_option		2	2	2	2	2

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	True	True	True	True	True	True
	barotropic_time_stepping_b	False	False	False	False	False	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	0.2	0.2	0.2	0.2	0.2	0.2
	smooth_eta_diag_laplacian	True	True	True	True	True	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	False	False	False	False	False	False
	vel_micom_bih	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
	vel_micom_lap_diag	0.2	0.2	0.2	0.2	0.5	0.2
	verbose_truncate	True	True	True	True	True	True
	zero_tendency		False	False	False	False	False
&ocean_bbc_nml	bmf_implicit		True	True	True	True	True
	cdbot	0.001	0.001	0.001	0.001	0.001	0.001
	cdbot_hi		0.007	0.007	0.007	0.007	0.007
	cdbot_law_of_wall	False					
	cdbot_roughness_length		False	False	False	False	False
	cdbot_roughness_uamp		True	True	True	True	True
	uresidual		0.05	0.05	0.05	0.05	0.05
	use_geothermal_heating	False	False	False	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'	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom			True		True	
	use_this_module	False	False	False	False	False	False
	vel_micom			0.001		0.001	
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	False	False	False	False	False
	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
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0
	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	5	5	5	5	5	5
	use_this_module	True	True	True	True	True	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	True		False		False	
	use_this_module	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	80	80	80	80	80	80
	neutralrho_max	1030.0	1038.0	1038.0	1038.0	1038.0	1038.0
	neutralrho_min	1020.0	1028.0	1028.0	1028.0	1028.0	1028.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	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					
	use_this_module	False	False	False	False	False	False
&ocean_frazil_nml	debug_this_module		False	False	False	False	False
	frazil_only_in_surface		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
	read_rho0_profile	False					
&ocean_increment_eta_nml	days_to_increment	0					
	fraction_increment	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					
	secs_to_increment	1800					
	use_this_module	False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	0					
	fraction_increment	1.0					
	secs_to_increment	1800					
	use_this_module	False	False	False	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'	'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				
	k_smag_iso	0.0	0.0	2.0		2.0	
	ncar_only_equatorial	True	True				
	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	8 000 000.0	8 000 000.0				
	vconst_2	0.0	0.0				
	vconst_3	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	100.0	100.0				
	vel_micom_iso	0.1	0.1				
	viscosity_ncar	True	True				
	viscosity_ncar_2000	False	False				
	viscosity_ncar_2007	True	True				
	viscosity_scale_by_rossby	True	True				
	viscosity_scale_by_rossby_power	4.0	100.0				
&ocean_mixdownslope_nml	debug_this_module	False	False	False		False	
	mixdownslope_mask_gfdl	False	False				
	mixdownslope_npts	4	4				
	read_mixdownslope_mask	False	False				
	use_this_module	True	True	False	False	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1	1	1
	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
	io_layout	4, 3	4, 3	6, 5	6, 5	10, 15	10, 15
	layout	16, 15	16, 15	48, 40	48, 40	80, 75	80, 75
	surface_height_split	1	1	1	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		False	False	False	False	False
	use_rayleigh_damp_table	True	True	True	True	True	True
	use_this_module	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
	use_this_module	True	True	False	False	False	False
&ocean_nphysics_util_nml	agm	600.0	600.0	100.0	100.0	100.0	100.0
	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				
	agm_closure_eady_cap	True	True				
	agm_closure_eady_smooth_horz	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	True				
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False	False	False

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	False	False	False	False	False	False
	agm_closure_length_rossby	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	0.07	0.07	0.07	0.07	0.07	0.07
	agm_closure_upper_depth	100.0	100.0	100.0	100.0	100.0	100.0
	agm_damping_time	45.0	45.0				
	agm_smooth_space	False	False				
	agm_smooth_time	False	False				
	aredi	600.0	600.0	600.0	600.0	600.0	600.0
	aredi_equal_agm	False	False	False	False	False	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				
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax			0.002		0.002	
	swidth			0.002		0.002	
	tracer_mix_micom	False	False	False	False	False	False
	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsb_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True				
	bvp_bc_mode	2	2				
	bvp_min_speed	0.1	0.1				
	bvp_speed	0.0	0.0				
	debug_this_module	False	False				
	do_gm_skewsion	True	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	True	True				
	neutral_physics_limit	True	True				
	number_bc_modes	2	2				
	regularize_psi	False	False				
	smax_psi	0.01	0.01				
	smooth_psi	True	True				
	tmask_neutral_on	True	True				
	turb_blayer_min	50.0	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
	overexch_check_extrema	False					
	overexch_npts	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		False		False	
	use_this_module	False	False	False	False	False	False
&ocean_overflow_ofp_nml	debug_this_module			False		False	
	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			10 000 000.0		10 000 000.0	
	use_this_module		False	False	False	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	True	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0
	use_this_module	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module					False	
	use_this_module	True	False	False	False	True	False
&ocean_rough_nml	rough_scheme		'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True
	avg_sfc_velocity	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
	calvingspread		False	False	False	False	False
	do_bitwise_exact_sum		False	False	False	False	False
	do_flux_correction		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	8.0	0.0	0.0	0.0	0.0	0.0
	read_restore_mask	False	False	False	False	False	False
	restore_mask_gfdl	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	15.0	60.0	60.0	60.0	60.0	60.0
	salt_restore_under_ice	True	True	True	True	True	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					
	zero_heat_fluxes	False	False	False	False	False	False
	zero_net_salt_correction		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	True	True	True	True	True	True
	zero_net_water_restore	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					
	river_temp_ofam	False					
&ocean_shortwave_csiro_nml	debug_this_module			False			
	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	True	True	True	True	True	True
	optics_manizza	True	True	True	True	True	True
	optics_morel_antoine		False	False	False	False	False
	read_chl	False	True	True	True	True	True
	sw_pen_fixed_depths	False					
	use_this_module	False	True	True	True	True	True
	zmax_pen	200.0	300.0	300.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False	False	False	False	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
	use_this_module	True	True	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False		False		False	
	sigma_advection_sgs_only	False		False		False	
	sigma_diffusion_on	True		True		True	
	sigma_diffusivity_ratio	1×10^{-6}		1×10^{-6}		1×10^{-6}	
	sigma_just_in_bottom_cell	True		True		True	
	sigma_umax	0.01		0.01		0.01	
	smooth_sigma_thickness	True		True		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	100.0		100.0		100.0	
	thickness_sigma_min	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
	vel_micom	0.05		0.05		0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	1460	1460	31	31	30	30
	debug_this_module	False					
	dt_cpld	3600	3600	1200	1200	150	600
	hours	0	0	0	0	0	0
	minutes	0	0	0	0	0	0
	months	0	0	0	0	0	0
	seconds	0	0	0	0	0	0
	years	0	0	0	0	0	0
&ocean_sponges_eta_nml	use_this_module	False	False	False	False	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False		False		False	False

Group (continued)	Variable	original/hogg_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	original/kiss_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	original/hogg_access-som2_-01deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	use_this_module	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False	False	False	False	False
&ocean_submesoscale_nml	coefficient_ce		0.05	0.05	0.05	0.05	0.05
	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	True	True	True	True
	smooth_advect_transport_num		4	4	4	4	4
	smooth_hblt	False	False	False	False	False	False
	smooth_psi		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		False	False	False	False	False
	submeso_diffusion_biharmonic		True	True	True	True	True
	submeso_diffusion_scale		10.0	10.0	10.0	10.0	10.0
	submeso_limit_flux	True					
	submeso_skew_flux		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		True	True	True	True	True
	s_max	55.0	70.0	70.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0	42.0	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_temp'	'potential_temp'	'potential_temp'	'potential_temp'	'potential_temp'	'potential_temp'
&ocean_thickness_nml	debug_this_module	False	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False	False
	initialize_zero_eta	False					
	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	2.0		10.0		10.0	
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
&ocean_topog_nml	min_thickness	25.0					
&ocean_tracer_advect_nml	advect_sweby_all	True					
	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	0.0	0.0
	debug_this_module	False	False	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True	True	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	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	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
	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	2.0	2.0	2.0	2.0	2.0	2.0
	truncate_verbose	True	True	True	True	True	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	use_this_module	False					
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0	0.0	0.0	0.0	0.0
	diff_con_limit	0.1					
	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	True	True	True	True	True	True
	use_this_module	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					
&ocean_vert_mix_nml	afkph_00	0.65					
	afkph_90	0.75					
	aidif	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False	False	False	False
	bryan_lewis_lat_depend	True	False	False	False	False	False
	bryan_lewis_lat_transition	35.0					
	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		20.0	20.0	20.0	20.0	20.0
	linear_taper_diff_cbt_table	False					
	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_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'
	zfkph_00	250 000.0					
	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		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	False	False	False	False	False	False
	max_drag_diffusivity	0.01					
	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	False	False	False	False	False	False
	roughness_scale	20 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	−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	True	True	True	True	True	True
	use_wave_dissipation	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	False	False	False	False	False	False
	verbose_init	True					
&ocean_xlandmix_nml	use_this_module	False	False	False	False	False	False
	verbose_init	True					
	xlandmix_kmt	True					
&sat_vapor_pres_nml	show_all_bad_values					True	
&surface_flux_nml	ncar_ocean_flux			True		True	
	raoult_sat_vap			True		True	
&xgrid_nml	do_alltoall					True	True
	do_alltoallv					True	True

Group (continued)	Variable	original/hogg_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	original/kiss_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	original/hogg_access-som2_-01deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	interp_method	'second_-order'	'second_-order'	'second_-order'	'second_-order'	'second_-order'	'second_-order'
	make_exchange_reproduce	False	False	False	False	False	False
	nsubset		16	16	16	16	16
	xgrid_log					False	

4 All variables in all 9 configs (differences highlighted)

Group	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ fabio_-momsis1_-input.nml	original/ paul_mom-sis025_input.nml	original/ fanghua_-mom-sis01v5KDS75_-WOA13_input.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_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
	dt_cpl						3600	3600	1800	600
	fixmeltt						False	False	False	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
	redsea_gulfbay_sfix							True		
	sign_stflx						1.0	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							1×10^{-6}	1×10^{-6}		
bg_diff_eq										
	lat_low_bgdiff						20.0	20.0		
&coupler_nml	atmos_npes	0	0	0	0	0				
	atmos_nthreads	4								
	calendar	'NOLEAP'	'NOLEAP'	'noleap'	'noleap'	'noleap'				
	check_stocks	0	0	0	0	0				
	concurrent	True	False	False	False	False				
	current_date	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0				
	days	0	2	0	365	1				
	do_atmos	True	False	False	False	False				
	do_flux	True								
	do_ice	True	True	True	True	True				
	do_land	True	False	False	False	False				
	do_ocean	True	True	True	True	True				
	dt_atmos	1800	7200	3600	1800	1800				
	dt_cpld	7200	7200	3600	1800	1800				
	months	12	0	12	0	0				
	ocean_npes	96	0	0	0	0				
	use_lag_fluxes	True	True	True	True	True				
&diag_integral_nml	file_name	'diag_-integral.out'	'diag_-integral.out'	'diag_-integral.out'	'diag_-integral.out'	'diag_-integral.out'				
	output_interval	1.0	1.0	−1.0	−1.0	−1.0				
	time_units	'days'	'days'	'days'	'days'	'days'				
&diag_manager_nml								True	True	True
debug_diag_manager										
	issue_oor_warnings	False	False	False	False	False	False	True	True	True
	max_axes	200	100	300	300	300				
	max_files	50		1000	1000	1000				
	max_input_fields	800	699	700	700	700				
	max_num_axis_sets	200	100	40	40	40				
	max_output_fields	1300	699	700	700	700				
	mix_snapshot_average_fields	False	False							
&flux_exchange_nml	debug_stocks	False	False							
	divert_stocks_report	True	True							
	do_area_weighted_flux	False	False	True	True	True				
	nblocks	4								
&fms_io_nml	checksum_required					False				
	fileset_write		'single'	'multi'	'multi'	'multi'	'single'	'single'	'multi'	'multi'
	max_files_r	300	200	700	700	700				
	max_files_w	300	200	700	700	700				
	threading_read	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	threading_write		'single'	'multi'	'multi'	'multi'	'single'	'single'	'multi'	'multi'
&fms_nml	clock_grain	'COMPONENT'	'LOOP'	'LOOP'	'LOOP'	'LOOP'	'LOOP'	'LOOP'	'LOOP'	'LOOP'
	domains_stack_size	5000000	8000000	115200	115200	115200		115200	115200	115200
	print_memory_usage			False	False	False				
	stack_size	0	0							
&generic_tracer_nml	do_generic_cfc	False	False	False	False	False				
	do_generic_topaz	True	True	False	False	False				
	do_generic_tracer	True	True	False	False	False				
&ice_albedo_nml	t_range	10.0	10.0							
&ice_model_nml	add_diurnal_sw	False	True							
	alb_ice	0.65	0.615	0.68	0.68	0.68				
	alb_sno	0.85	0.825	0.85	0.85	0.85				
	channel_viscosity	500 000.0								

Group (continued)	Variable	original/GFDL_ESM2M_input-cut.nml	original/MOM_SIS_TOPAZ_input.nml	original/fabio_momsis1_input.nml	original/paul_momsis025_input.nml	original/fanghua_momsis01v5KDS75_WOA13_input.nml	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	cm2_bugs	False	False							
	do_icebergs	True	False	False	False	False				
	h_lo_lim	1×10^{-10}	1×10^{-10}							
	heat_rough_ice		0.0005	0.0005	0.0005	0.0005				
	ice_bulk_salin	0.005	0.005	0.005	0.005	0.005				
	io_layout	1, 2			64, 30	8, 9				
	layout	15, 2		10, 12	64, 30	40, 45				
	mom_rough_ice			0.0005	0.0005	0.0005				
	nsteps_adv	1	1	1	1	6				
	nsteps_dyn	72	108	72	72	144				
	num_part	6	6	6	6	6				
	spec_ice	False	False	False	False	False				
	t_range_melt	1.0	10.0	1.0	1.0	1.0				
	wd_turn	0.0	0.0	0.0	0.0	0.0				
&icebergs_nml	add_weight_to_ocean			False	False	False				
	bergy_bit_erosion_fraction		0.0	0.0	0.0	0.0				
	debug		False	False	False	False				
	make_calving_reproduce	True								
	parallel_reprod		True	True	True	True				
	really_debug		False	False	False	False				
	sicn_shift		0.1	0.1	0.1	0.1				
	speed_limit	0.5								
	time_average_weight	False								
	traj_sample_hrs	0	0	0	0	0				
	use_operator_splitting		True	True	True	True				
	use_roundoff_fix	True								
	verbose	True	False	False	False	False				
	verbose_hrs	120	2400	2400	2400	2400				
&mom_oasis3_interface_nml	fields_in						'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'u_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfiform'
	fields_out						't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in						15	15	15	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	True		True	True	True
	rich_crit	10.0								
	stable_option	2								
	zeta_trans	0.5								
&mpp_io_nml	deflate_level					5		5	5	5
	shuffle					1		1	1	1
&ocean_adv_vel_diag_nml	diag_step	1200	12	4320	4320	43200	120	4320	4320	576
	large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	False	False	True	True	True	False	True	True	True
&ocean_advection_velocity_nml max_advection_velocity		0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5
&ocean_albedo_nml ocean_albedo_option		5	2	2	2	2		2	2	2
&ocean_barotropic_nml	barotropic_halo			10	10	10		10	10	10
	barotropic_leap_frog		False				False			
	barotropic_pred_corr		True				True			
	barotropic_time_stepping_a	True		True	True	True		True	True	True
	barotropic_time_stepping_b	False		False	False	False		False	False	False
	barotropic_time_stepping_mom4p0		True				True			
	barotropic_time_stepping_mom4p1		False				False			

Group (continued)	Variable	original/GFDL_ESM2M_input-cut.nml	original/MOM_SIS_TOPAZ_input.nml	original/fabio_momsis1_input.nml	original/paul_momsis025_input.nml	original/fanghua_momsis01v5KDS75_WOA13_input.nml	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	debug_this_module	False	False	False	False	False	False	False	False	False
	diag_step	1200	12	4320	4320	43200	120	4320	4320	576
	do_bitwise_exact_sum	True								
	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	smooth_eta_diag_laplacian	True	True	True	True	True	True	True	True	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
	smooth_pbot_t_laplacian	False	False	False	False	True	False	True	True	True
	truncate_eta	False	False	False	False	False	False	False	False	False
	use_legacy_barotropic_halos			False	False	False		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
	vel_micom_lap_diag	1.0	1.0	0.5	0.5	0.5	0.2	0.2	0.2	0.2
	verbose_truncate	True	True	True	True	True	True	True	True	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			0.007	0.007	0.007		0.007	0.007	0.007
	cdbot_law_of_wall						False			
	cdbot_roughness_length			False	False	False		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						False			
	uresidual2_max						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	False	False	False	False	False	False	False	False	False
	vel_micom			0.001	0.001	0.001				
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	True	False	False	False	True	False	False	False
	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	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}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5	5	5	5	5	5	5	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	0.04	0.0	0.0	0.0	0.04	0.0	0.0	0.0
	visc_crit_scale	0.25	0.25	1.0	1.0	1.0	0.25	1.0	1.0	1.0
&ocean_convect_nml	convect_full_scalar			True	True	True	False			
	convect_full_vector			False	False	False	True			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False		False	False	False		False	False	False
	eos_preteos10	True		True	True	True		True	True	True
	layer_nk	80	80	80	80	80	80	80	80	80
	linear_eos		False				False			
	neutralrho_max	1030.0	1030.0	1038.0	1038.0	1038.0	1030.0	1038.0	1038.0	1038.0
	neutralrho_min	1020.0	1020.0	1028.0	1028.0	1028.0	1020.0	1028.0	1028.0	1028.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
	teos10_eos						False			
&ocean_domains_nml	max_tracers						20	5	5	5
&ocean_drifters_nml	use_this_module	False	False							
&ocean_form_drag_nml	cprime_aiki						0.6			
	use_this_module	False	False	False	False	False	False	False	False	False

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ 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	debug_this_module	False	False	False	False	False		False	False	False
	frazil_only_in_surface	True	True	True	True	True	False	False	False	False
	freezing_temp_accurate		False				True			
	freezing_temp_preteos10							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	True	True	False	False	False	True	False	False	False
	do_bitwise_exact_sum	True								
	read_rho0_profile	False	False				False			
&ocean_increment_eta_nml							0			
days_to_increment										
	fraction_increment						1.0			
	secs_to_increment						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						3600			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_increment_velocity_nml							0			
days_to_increment										
	fraction_increment						1.0			
	secs_to_increment						3600			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_lap_friction_nml	lap_friction_-scheme	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
&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		
bottom_5point										
	k_smag_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	60.0	60.0				60.0	60.0		
	restrict_polar_visc_ratio	0.35	0.35				0.35	0.35		
	use_this_module	True	True	False	False	False	True	True	False	False
	vconst_1						8 000 000.0	8 000 000.0		
	vconst_2						0.0	0.0		
	vconst_3						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						100.0	100.0		
	vel_micom_iso	0.1	0.1				0.1	0.1		
	viscosity_ncar	False	False				False	True		
	viscosity_ncar_2000						False	False		
	viscosity_ncar_2007						True	True		
	viscosity_scale_by_rossby	True	True				True	True		
	viscosity_scale_by_rossby_power	4.0	4.0				4.0	100.0		
&ocean_mixdownslope_nml		False	False	False	False	False	False	False		
debug_this_module										
	mixdownslope_mask_gfdl	True	True				False	False		
	mixdownslope_npts	4	4				4	4		
	read_mixdownslope_mask	True	True				False	False		
	use_this_module	True	True	False	False	False	True	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	False	False	False	False	False	False	False	False	False
	dt_ocean	7200	7200	3600	1800	150	3600	3600	1200	150
	impose_init_from_restart	True	False							
	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	1	1	1	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml				False	False	False		False	False	False
rayleigh_damp_exp_from_bottom										
	use_rayleigh_damp_table			True	True	True	True	True	True	True
	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_input.nml	original/ fanghua_-mom-sis01v5KDS75_-WOA13_input.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	debug_this_-module	False	False	False	False	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False	False	False	False	False
	use_nphysicsb	False	True	False	False	False	False	False	False	False
	use_nphysicsc	True	False	False	False	False	True	True	False	False
	use_this_module	True	True	False	False	False	True	True	False	False
&ocean_nphysics_util_nml	agm	800.0	800.0	100.0	100.0	100.0	600.0	600.0	100.0	100.0
	agm_closure	True	True	True	True	True	True	True	True	True
	agm_closure_baroclinic	True	True	True	True	True	True	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed	True	True				True	True		
	agm_closure_eady_cap	True	True				True	True		
	agm_closure_eady_smooth_horz	True	True				True	True		
	agm_closure_eady_smooth_vert	True	True				True	True		
	agm_closure_eden_gamma	0.0	0.0				0.0	0.0		
	agm_closure_eden_greatbatch	False	False				False	False		
	agm_closure_grid_scaling	True	True				True	True		
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False	False	False	False	False	False
	agm_closure_length_fixed	False	False	False	False	False	False	False	False	False
	agm_closure_length_rossby	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	2000.0	2000.0	2000.0
	agm_closure_max	800.0	800.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
	agm_closure_min	100.0	100.0	100.0	100.0	100.0	50.0	50.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	agm_closure_upper_depth	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	agm_damping_time	45.0	45.0				45.0	45.0		
	agm_smooth_space	False	False				False	False		
	agm_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
	aredi_equal_agm	False	False	False	False	False	False	False	False	False
	drhodz_mom4p1	True	True	False	False	False	True	True	False	False
	drhodz_smooth_horz	False	False	False	False	False	False	False	False	False
	drhodz_smooth_vert	False	False	False	False	False	False	False	False	False
	nphysics_util_zero_init	True	True				True	True		
	rossby_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
	rossby_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				
	swidth	0.002	0.002	0.002	0.002	0.002				
	tracer_mix_micom	False	False	False	False	False	False	False	False	False
	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										
	neutral_linear_gm_taper	True	True							
	neutral_physics_limit	True	True							
	neutral_physics_simple	False	False							
	neutral_sine_taper	True	True							
	tmask_neutral_on	True	True							
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_nphysicsb_nml		False	False							
debug_this_module										
	nblayer_smooth	True	True							
	neutral_physics_limit	True	True							
	surf_turb_thick_min	50.0	50.0							
	surf_turb_thick_min_k	5	5							
	use_this_module	False	True	False	False	False	False	False	False	False
&ocean_nphysicsc_nml		True					True	True		
bv_freq_smooth_vert										
	bvp_bc_mode	2					2	2		
	bvp_min_speed	0.1					0.1	0.1		
	bvp_speed	0.0					0.0	0.0		
	debug_this_module	False					False	False		
	do_gm_skewsion	True					True	True		
	do_neutral_diffusion	True					True	True		
	epsln_bv_freq	1×10^{-12}					1×10^{-12}	1×10^{-12}		
	gm_skewsion_bvproblem	True					True	True		
	gm_skewsion_modes	False					False	False		
	neutral_eddy_depth	True					True	True		
	neutral_physics_limit	True					True	True		
	number_bc_modes	2					2	2		
	regularize_psi	False					False	False		
	smax_psi	0.01					0.01	0.01		
	smooth_psi	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_momsis025_input.nml	original/fanghua_momsis01v5KDS75_WOA13_input.nml	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	tmask_neutral_on	True					True	True		
	turb_blayer_min	50.0					50.0	50.0		
	use_this_module	True	False	False	False	False	True	True	False	False
&ocean_operators_nml		True		False	False	False		False	False	False
use_legacy_div_ud										
&ocean_overexchange_nml	debug_this_module	False	False	False	False	False	False	False	False	False
	overexch_check_extrema	False	False				False			
	overexch_npts	4	4	4	4	4	4	4	4	4
	overexch_weight_far	False	False	False	False	False	False	False	False	False
	overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_nml		False	False	False	False	False	False			
debug_this_module										
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml				False	False	False				
debug_this_module										
	diag_step			4320	4320	43200				
	do_entrainment_para_ofp			False	False	False				
	do_mass_ofp			True	True	True				
	frac_exchange_src			1.0	1.0	1.0				
	max_vol_trans_ofp			10 000 000.0	10 000 000.0	10 000 000.0				
	use_this_module			False	False	False		False	False	False
&ocean_polar_filter_nml	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_pressure_nml				False	False	False		False	False	False
zero_pressure_force										
&ocean_rivermix_nml		40.0	40.0							
calving_insertion_thickness										
	debug_this_module	False	False	False	False	False	False	False	False	False
	discharge_combine_runoff_calve	False	True							
	do_bitwise_exact_sum	True								
	river_diffuse_salt	False	False	False	False	False	False	True	True	True
	river_diffuse_temp	False	False	False	False	False	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	runoff_insertion_thickness	40.0	40.0							
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_riverspread_nml				'.false'	'.false'	'.false'				
debug_this_module										
	use_this_module	False	False	True	True	True	True	False	False	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'		'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True	True	True	True	True
	calvingspread	False	False	False	False	False		False	False	False
	do_bitwise_exact_sum			False	False	False		False	False	False
	do_flux_correction	True		False	False	False		False	False	False
	eta_restore_tscale	−10.0								
	ice_salt_concentration						0.005			
	land_model_heat_fluxes	True	False	False	False	False		False	False	False
	max_delta_salinity_restore			0.5	0.5	0.5	0.5	0.5	0.5	0.5
	max_ice_thickness	8.0	8.0	1.0	1.0	1.0	8.0	0.0	0.0	0.0
	read_restore_mask			False	False	False	False	False	False	False
	restore_mask_gfdl			False	False	False	False	False	False	False
	runoff_salinity			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
	salt_restore_as_salt_flux			True	True	True	True	True	True	True
	salt_restore_tscale	−10.0	−10.0	60.0	60.0	60.0	15.0	60.0	60.0	60.0
	salt_restore_under_ice			True	True	True	True	True	True	True
	tau_x_correction_scale	0.0								
	tau_y_correction_scale	0.0								
	temp_correction_scale	1.0								
	temp_restore_tscale	−10.0	−10.0	−10.0	−10.0	−10.0	−1.0	−10.0	−10.0	−10.0
	use_full_patm_for_sea_level	True	True	False	False	False		False	False	False
	use_waterflux	True	True	True	True	True	True	True	True	True
	use_waterflux_override_calving	False								
	use_waterflux_override_evap	False								
	use_waterflux_override_fprec	False								
	waterflux_tavg	False	False				False			
	zero_heat_fluxes			False	False	False	False	False	False	False
	zero_net_pme_eta_restore	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_correction			False	False	False		False	False	False
	zero_net_salt_restore			True	True	True	True	True	True	True
	zero_net_water_correction			False	False	False		False	False	False
	zero_net_water_couple_restore			True	True	True	True	True	True	True
	zero_net_water_coupler			True	True	True	True	True	True	True
	zero_net_water_restore			True	True	True	True	True	True	True
	zero_pme_fluxes					False				
	zero_river_fluxes					False				
	zero_runoff_fluxes					True				
	zero_surface_stress			False	False	False	False	False	False	False
	zero_water_fluxes			False	False	False	False	False	False	False
&ocean_sbc_ofam_nml	restore_mask_ofam						False			
	river_temp_ofam						False			
&ocean_shortwave_csiro_nml	read_depth			True			True			
	use_this_module	False	False	True	False	False	True	False	False	False
	zmax_pen			7000			7000			
&ocean_shortwave_gfdl_nml	debug_-this_module	False	False	False	False	False	False	False	False	False
	enforce_sw_frac	True	True	True	True	True	True	True	True	True
	optics_manizza	True	True	True	True	True	True	True	True	True
	optics_morel_antoine	False	False	False	False	False		False	False	False
	override_f_vis	False	False							
	read_chl	False	False	False	True	True	False	True	True	True
	sw_pen_fixed_depths						False			
	use_this_module	True	True	False	True	True	False	True	True	True
	zmax_pen	200.0	200.0	300.0	300.0	300.0	200.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml	use_-this_module	False	False	False	False	False	False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	False	True	False	False	True	False	False	False
	use_shortwave_gfdl	True	True	False	True	True	False	True	True	True
	use_shortwave_jerlov	False	False	False	False	False	False	False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False	False	False	False	False	False			
	sigma_advection_sgs_only	False	False	False	False	False	False			
	sigma_diffusion_on	True	True	True	True	True	True			
	sigma_diffusivity_ratio	1×10^{-6}	1×10^{-6}	1×10^{-6}	1×10^{-6}	1×10^{-6}	1×10^{-6}			
	sigma_just_in_bottom_cell	True	True	True	True	True	True			
	sigma_umax	0.01	0.01	0.01	0.01	0.01	0.01			
	smooth_sigma_thickness	True	True	True	True	True	True			
	smooth_sigma_velocity	True	True	True	True	True	True			
	smooth_velmicom	0.2	0.2	0.2	0.2	0.2	0.2			
	thickness_sigma_layer	100.0	100.0	100.0	100.0	100.0	100.0			
	thickness_sigma_max	100.0	100.0	100.0	100.0	100.0	100.0			
	thickness_sigma_min	100.0	100.0	100.0	100.0	100.0	100.0			
	tmask_sigma_on	False	False	False	False	False	False			
	tracer_mix_micom	True	True	True	True	True	True			
	use_this_module	True	True	False	False	False	True	False	False	False
	vel_micom	0.05	0.05	0.05	0.05	0.05	0.05			
&ocean_solo_nml	calendar						'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						0	0	0	0
	minutes						0	0	0	0
	months						12	0	0	0
	seconds						0	0	0	0
	years							0	0	0
&ocean_sponges_eta_nml	use_this_-module	False	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False	False	False	False	False	False			False
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use_-this_module	False	False	False	False	False	False	False	False	False
&ocean_submesoscale_nml	coefficient_ce			0.05	0.05	0.05		0.05	0.05	0.05
	debug_this_module	False	False	False	False	False	False	False	False	False
	front_length_const	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
	front_length_deform_radius	True	True	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_momsis025_input.nml	original/fanghua_momsis01v5KDS75_WOA13_input.nml	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	limit_psi	True	True	True	True	True	True	True	True	True
	limit_psi_velocity_scale	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	min_kblt	4	4	4	4	4	4	4	4	4
	smooth_advect_transport			True	True	True		True	True	True
	smooth_advect_transport_num			4	4	4		4	4	4
	smooth_hblt	False	False	False	False	False	False	False	False	False
	smooth_psi			True	True	True		True	True	True
	smooth_psi_num			3	3	3		3	3	3
	submeso_advect_flux			False	False	False		False	False	False
	submeso_advect_limit			True	True	True		True	True	True
	submeso_advect_upwind			True	True	True		True	True	True
	submeso_advect_zero_bdy			True	True	True		True	True	True
	submeso_diffusion			False	False	False		False	False	False
	submeso_diffusion_biharmonic			True	True	True		True	True	True
	submeso_diffusion_scale			10.0	10.0	10.0		10.0	10.0	10.0
	submeso_limit_flux	True	True				True			
	submeso_skew_flux			True	True	True		True	True	True
	use_hblt_equal_mld	True	True	True	True	True	True	True	True	True
	use_psi_legacy	True		False	False	False		False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	False	False	False		False	False	False
	pottemp_2nd_iteration	True	True	True	True	True	True	True	True	True
	pottemp_equal_contemp			True	True	True		True	True	True
	s_max	55.0	55.0	70.0	70.0	70.0	55.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
	s_min	−1.0	−1.0	0.0	0.0	0.0	−1.0	0.0	0.0	0.0
	s_min_limit	5.0	5.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
	t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
	t_min	−5.0	−5.0	−20.0	−20.0	−20.0	−5.0	−20.0	−20.0	−20.0
	t_min_limit	−1.9	−1.9	−5.0	−5.0	−5.0	−2.0	−5.0	−5.0	−5.0
	temperature_variable	'potential_temp'	'potential_temp'	'potential_temp'	'potential_temp'	'potential_temp'	'conservative_temp'	'potential_temp'	'potential_temp'	'potential_temp'
	teos10						False			
&ocean_thickness_nml	debug_this_module	False	False	False	False	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False	False	False	False	False
	initialize_zero_eta	False	False				False			
	read_rescale_rho0_mask	True	True				False			
	rescale_mass_to_get_ht_mod			False	False	False		False	False	False
	rescale_rho0_basin_label	7.0	7.0				7.0			
	rescale_rho0_mask_gfdl	True	True				False			
	rescale_rho0_value	0.75	0.75				0.75			
	thickness_dzt_min	2.0	2.0	2.0	2.0	2.0	1.0			
	thickness_dzt_min_init	2.0	2.0	10.0	10.0	10.0	2.0			
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
&ocean_time_filter_nml	use_this_module	False	False							
&ocean_topog_nml	min_thickness	5.0	5.0				25.0			
&ocean_tracer_advect_nml	advect_sweby_all	False	False	False	False	False	True			
	compute_gyre_overturn_diagnose						True			
	debug_this_module	False	False	False	False	False	False	False	False	False
	do_fast_compute						True			
	limit_with_upwind	False	False							
	read_basin_mask			False	False	False	True	False	False	False
&ocean_tracer_diag_nml	diag_step	1200	12	48	48	43200	120	4320	4320	576
	do_bitwise_exact_sum	False	False	False	False	False	False	False	False	False
	smooth_mld	True	True							
	tracer_conserve_days	100.0	100.0	30.0	30.0	30.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	$1 \times 10^{+40}$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	debug_this_module	False	False	False	False	False	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True	True	True	True	True	True
	frazil_heating_before_vphysics	False	False	False	False	False	False	False	False	False
	interpolate_tdiag_to_pbott	False								
	interpolate_tprog_to_pbott	False								
	limit_age_tracer	True	True	True	True	True	True	True	True	True
	remap_depth_to_s_init	False	False	False	False	False	False	False	False	False
	tmask_limit_ts_same	True	True							
	use_tempsalt_check_range					True		True	True	True
	zero_tendency	False	False	False	False	False	False	False	False	False
	zero_tracer_source	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_input.nml	original/fanghua_-mom-sis01v5KDS75_-WOA13_input.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_velocity_diag_nml	debug_this_-module	False	False	False	False	False	False	False	False	False
	diag_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	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
&ocean_velocity_nml	adams_-bashforth_third	True	True	True	True	True	True	True	True	True
	max_cgint			1.5	1.5	1.0	1.0	1.0	1.0	1.0
	truncate_velocity	False	False	False	False	False	False	False	False	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			False	False	False		False	False	False
	zero_tendency_explicit_b			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	use_this_module	False	False							
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0		0.0	0.0	0.0		0.0	0.0	0.0
	double_diffusion	True		True	True	True		True	True	True
	kbl_standard_method					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					True		True	True	True
	use_this_module	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						0.1			
	double_diffusion		True				True			
	kbl_standard_method						True			
	ricr		0.3				0.3			
	smooth_blmc		True				True			
	use_this_module		True				True			
	visc_cbu_iw		0.0				0.0			
	visc_con_limit						0.1			
&ocean_vert_mix_nml	afkph_00	0.675	0.675				0.65			
	afkph_90	0.725	0.725				0.75			
	aidif	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	True	True	False	False	False	False	False	False	False
	bryan_lewis_lat_depend	True	True	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				0.95			
	hwf_diffusivity			False	False	False		False	False	False
	hwf_min_diffusivity			2×10^{-6}	2×10^{-6}	2×10^{-6}		2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega			20.0	20.0	20.0		20.0	20.0	20.0
	linear_taper_diff_cbt_table	False	False				False			
	quebec_2009_10_bug	False								
	sfkph_00	4.5×10^{-5}	4.5×10^{-5}				4.5×10^{-5}			
	sfkph_90	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_-mom4p1'	'kpp'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'
	zfkph_00	250 000 000.0	250 000 000.0				250 000.0			
	zfkph_90	250 000 000.0	250 000 000.0				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	300.0	300.0	500.0	500.0	500.0	300.0	500.0	500.0	500.0
	drag_dissipation_use_cdbot			True	True	True		True	True	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						0.01			
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	mixing_efficiency_n2depend	True	True	True	True	True	True	True	True	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_momsis025_input.nml	original/fanghua_momsis01v5KDS75_WOA13_input.nml	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	reading_roughness_amp	True	True	True	True	True	True	True	True	True
	reading_roughness_length	False	False	False	False	False	False	False	False	False
	roughness_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
	shelf_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_drag_dissipation	True	True	True	True	True	True	True	True	True
	use_legacy_methods	True		False	False	False		False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
	use_wave_dissipation	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	0.1	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
&ocean_xlandmix_nml	use_this_module	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
	xlandmix_kmt	True	True				True			
&redseafix_nml	redsea_gulfbay_sfix			True						
&sat_vapor_pres_nml	construct_table_wrt_liq	True	True							
	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/navy_topography.data.nc'	'INPUT/navy_topography.data.nc'							
&xgrid_nml	do_alltoall			True	True	True				True
	do_alltoallv			True	True	True				True
	interp_method	'second_order'	'second_order'	'second_order'	'second_order'	'second_order'		'second_order'	'second_order'	'second_order'
	make_exchange_reproduce	True	True	False	False	False		False	False	False
	nsubset			16	16	16		16	16	16
	xgrid_log			False	False	False				

5 All variables in ACCESS configs (differences highlighted)

Group	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15	0.15
	chk_fields_period	1				
	chk_fields_start_time	0				
	chk_i2o_fields	False	False	False	False	False
	chk_o2i_fields	False	False	False	False	False
	do_ice_once	False	False	False	False	False
	dt_cpl	1800	3600	3600	1800	600
	fixmeltt	False	False	False	False	False
	frazil_factor	1.0	1.0	1.0	1.0	1.0
	iceform_adj_salt	False	False	False	False	False
	icemlt_factor	1.0	1.0	1.0	1.0	1.0
	ige	345				
	igs	328				
	ire1	324				
	ire2	331				
	irs1	314				
	irs2	325				
	jge	198				
	jgs	189				
	jre1	196				
	jre2	180				
	jrs1	169				
	jrs2	169				
	kmxice	5	5	5	5	5
	ksmax	5				
	limit_srfstress	False				
	mstress	2.0				
	pop_icediag	True	True	True	True	True
	redsea_gulfbay_sfix	False		True		
	sfix_hours	12				
	sign_stflx	1.0	1.0	1.0	1.0	1.0
	tlthk0	10.0				
	tmelt	−0.216	−0.216	−0.216	−0.216	−0.216
	use_ioaice	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		
&data_override_nml	debug_data_override	False				
	grid_center_bug	False				
&diag_manager_nml	append_pelist_name	False				
	conserve_water	True				
	debug_diag_manager	True		True	True	True
	do_diag_field_log	False				
	issue_oor_warnings	True	False	True	True	True
	max_axes	60				
	max_field_attributes	2				
	max_file_attributes	2				
	max_files	31				
	max_input_fields	300				
	max_num_axis_sets	25				
	max_out_per_in_field	150				
	max_output_fields	300				
	mix_snapshot_average_fields	False				
	oor_warnings_fatal	False				
	prepend_date	True				
	region_out_use_alt_value	True				
	use_cmor	False				
	write_bytes_in_file	False				
&fms_io_nml	checksum_required	True				
	debug_mask_list	False				
	dr_set_size	10				
	fileset_write	'single'	'single'	'single'	'multi'	'multi'
	fms_netcdf_override	True				
	fms_netcdf_restart	True				
	format	'netcdf'				
	iospec_ieee32	'-', 'N', 'ieee_32'				
	max_files_r	40				
	max_files_w	40				
	print_chksum	False				

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_logfile.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	read_all_pe	True				
	read_data_bug	False				
	show_open_namelist_file_warning	False				
	threading_read	’multi’	’multi’	’multi’	’multi’	’multi’
	threading_write	’single’	’single’	’single’	’multi’	’multi’
	time_stamp_restart	True				
&fms_nml	clock_flags	’NONE’				
	clock_grain	’LOOP’	’LOOP’	’LOOP’	’LOOP’	’LOOP’
	domains_stack_size	0		115200	115200	115200
	iospec_ieee32	’-’, ’N’, ’ieee_32’				
	print_memory_usage	False				
	read_all_pe	True				
	stack_size	0				
	warning_level	’warning’				
&get_cal_time_nml	allow_calendar_conversion	True				
&horiz_interp_nml	reproduce_siena	False				
&mom_oasis3_interface_nml	fields_in	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’	’u_flux’, ’v_flux’, ’lprec’, ’fprec’, ’salt_flx’, ’mh_flux’, ’sw_flux’, ’q_flux’, ’t_flux’, ’lw_flux’, ’runof’, ’p’, ’aice’, ’wfimelt’, ’wfiform’
	fields_out	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’	’t_surf’, ’s_surf’, ’u_surf’, ’v_surf’, ’dssldx’, ’dssldy’, ’frazil’
	num_fields_in	15	15	15	15	15
	num_fields_out	7	7	7	7	7
	send_after_ocean_update	True	True	True	True	True
	send_before_ocean_update	False	False	False	False	False
&monin_obukhov_nml	neutral			True	True	True
&mpp_io_nml	deflate_level	-1		5	5	5
	global_field_on_root_pe	True				
	header_buffer_val	16384				
	io_clocks_on	False				
	shuffle	0		1	1	1
&ocean_adv_vel_diag_nml	diag_step	4320	120	4320	4320	576
	large_cfl_value	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	True	False	True	True	True
&ocean_advection_velocity_nml	constant_advection_velocity	False				
	debug_this_module	False				
	inflow_nboundary	False				
	max_advection_velocity	0.5	0.5	0.5	0.5	0.5
	read_advection_transport	False				
	read_advection_velocity	False				
&ocean_albedo_nml	ocean_albedo_option			2	2	2
&ocean_barotropic_nml	alphat	0.948				
	barotropic_halo	10		10	10	10
	barotropic_leap_frog		False			
	barotropic_pred_corr		True			
	barotropic_time_stepping_a	True		True	True	True
	barotropic_time_stepping_b	False		False	False	False
	barotropic_time_stepping_mom4p0		True			
	barotropic_time_stepping_mom4p1		False			
	debug_this_module	False	False	False	False	False
	diag_step	4320	120	4320	4320	576
	do_bitwise_exact_sum	False				
	eta_max	8.0	8.0	8.0	8.0	8.0
	eta_offset	1×10^{-12}				
	frac_crit_cell_height	0.2	0.2	0.2	0.2	0.2

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	geoid_forcing	False				
	ideal_initial_eta	False				
	ideal_initial_eta_amplitude	5.0				
	ideal_initial_eta_xwidth	100 000.0				
	ideal_initial_eta_ywidth	100 000.0				
	initsum_with_bar_mom4p0	False				
	initsum_with_bar_mom4p1	True				
	pbot_offset	1×10^{-12}				
	pred_corr_gamma	0.2	0.2	0.2	0.2	0.2
	smooth_anompb_bt_biharmonic	False				
	smooth_anompb_bt_laplacian	False				
	smooth_eta_diag_biharmonic	False				
	smooth_eta_diag_laplacian	True	True	True	True	True
	smooth_eta_t_biharmonic	False	True	False	False	False
	smooth_eta_t_bt_biharmonic	False				
	smooth_eta_t_bt_laplacian	False				
	smooth_eta_t_laplacian	True	False	True	True	True
	smooth_pbot_t_biharmonic	False	True	False	False	False
	smooth_pbot_t_biharmonic_legacy	False				
	smooth_pbot_t_laplacian	True	False	True	True	True
	tidal_forcing_8	False				
	tidal_forcing_ideal	False				
	tidal_forcing_m2	False				
	truncate_eta	False	False	False	False	False
	udrho_bih	False				
	udrho_bih_vel_micom	0.01				
	udrho_bt_bih	False				
	udrho_bt_lap	False				
	udrho_lap	False				
	udrho_lap_vel_micom	0.05				
	use_legacy_barotropic_halos	False		False	False	False
	vel_micom_bih	0.01	0.01	0.01	0.01	0.01
	vel_micom_bih_diag	0.1				
	vel_micom_lap	0.05	0.05	0.05	0.05	0.05
	vel_micom_lap_diag	0.2	0.2	0.2	0.2	0.2
	verbose_init	True				
	verbose_truncate	True	True	True	True	True
	write_a_restart	True				
	zero_coriolis_bt	False				
	zero_eta_ic	False				
	zero_eta_t	False				
	zero_eta_tendency	False				
	zero_eta_u	False				
	zero_forcing_bt	False				
	zero_nonlinear_forcing_bt	False				
	zero_tendency	False	False	False	False	False
&ocean_bbc_nml	bmf_implicit	True		True	True	True
	bmf_max	1.0				
	cdbot	0.001	0.001	0.001	0.001	0.001
	cdbot_gamma	40.0				
	cdbot_hh	1100.0				
	cdbot_hi	0.007		0.007	0.007	0.007
	cdbot_law_of_wall	False	False			
	cdbot_lo	0.001				
	cdbot_roughness_length	False		False	False	False
	cdbot_roughness_uamp	True		True	True	True
	cdbot_uu	1.0				
	cdbot_wave	False				
	convert_geothermal	0.001				
	debug_this_module	False				
	law_of_wall_rough_length	0.01				
	uresidual	0.05		0.05	0.05	0.05
	use_geothermal_heating	False	False	False	False	False
	uvmag_max	10.0				
&ocean_bbc_ofam_nml	read_tide_speed	False	False			
	uresidual2_max	0.05	1.0			
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'	'general'	'general'
	debug_this_module	False				
	write_a_restart	True				
&ocean_bih_tracer_nml	abih	0.0				
	horz_s_diffuse	True				
	horz_z_diffuse	False				

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	read_diffusivity_mask	False				
	tracer_mix_micom	True				
	use_this_module	False	False	False	False	False
	vel_micom	0.001				
&ocean_bihcst_friction_nml	use_this_module		False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	False	True	False	False	False
	debug_this_module	False				
	eq_lat_micom	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0
	equatorial_zonal	False	False	False	False	False
	equatorial_zonal_lat	0.0				
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True	True	True
	ncar_boundary_scaling_read	True		True	True	True
	ncar_rescale_power	2	2	2	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5	5	5	5
	neptune	False				
	neptune_depth_min	100.0				
	neptune_length_eq	4200.0				
	neptune_length_pole	17 000.0				
	neptune_scaling	1.0				
	neptune_smooth	True				
	neptune_smooth_num	1				
	read_aiso_bih_back	False				
	side_drag_friction_max	1.0				
	side_drag_friction_scaling	1.0				
	side_drag_friction_uvmag_max	10.0				
	use_side_drag_friction	False				
	use_this_module	True	True	True	True	True
	vel_micom_aniso	0.0	0.0	0.0	0.0	0.0
	vel_micom_bottom	0.0	0.01	0.0	0.0	0.0
	vel_micom_iso	0.0	0.04	0.0	0.0	0.0
	visc_crit_scale	1.0	0.25	1.0	1.0	1.0
	visc_diverge_scaling	0.0				
&ocean_blob_nml	bitwise_reproduction	False				
	blob_small_mass	1000.0				
	debug_this_module	False				
	do_bitwise_exact_sum	False				
	max_prop_thickness	0.7				
	really_debug	False				
&ocean_convect_nml	convect_full_scalar	True	False			
	convect_full_vector	False	True			
	convect_ncon	False				
	ncon	7				
	use_this_module	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5
	debug_this_module	False				
	use_this_module	True	True	True	True	True
&ocean_density_nml	alpha_linear_eos	0.255				
	beta_linear_eos	0.0				
	buoyfreq_smooth_vert	True				
	debug_this_module	False				
	density_equal_potrho	False				
	do_bitwise_exact_sum	False				
	drhodz_diag_stable	True				
	eos_linear	False		False	False	False
	eos_preteos10	True		True	True	True
	eos_teos10	False				
	epsln_drhodz	1×10^{-10}				
	epsln_drhodz_diag	1×10^{-10}				
	grad_nrho_lrpotrho_compute	False				
	grad_nrho_lrpotrho_max	10.0				
	grad_nrho_lrpotrho_min	1.0				
	layer_nk	80	80	80	80	80
	linear_eos		False			
	mask_domain_restart	False				
	neutral_density_omega	False				
	neutral_density_potrho	True				
	neutralrho_max	1038.0	1030.0	1038.0	1038.0	1038.0

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	neutralrho_min	1028.0	1020.0	1028.0	1028.0	1028.0
	num_121_passes	1				
	p_test	1000.0				
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0
	potrho_press	2000.0				
	press_standard	0.0				
	rho0_density	False				
	s_test	20.0				
	smax_diag	−1.0				
	smax_min_in_column	False				
	smooth_stratification_factor	False				
	sn_test	35.0				
	t_test	20.0				
	teos10_eos		False			
	theta_max	30.0				
	theta_min	−2.0				
	tn_test	20.0				
	update_diagnostic_factors	False				
	write_a_restart	True				
&ocean_domains_nml	halo	1				
	max_tracers	5	20	5	5	5
	x_cyclic_offset	0				
	y_cyclic_offset	0				
&ocean_drifters_nml	output_interval	1				
	use_this_module	False				
&ocean_form_drag_nml	agm_form_drag	600.0				
	cprime_aiki	0.3	0.6			
	debug_this_module	False				
	form_drag_aiki_bottom_klevels	3				
	form_drag_aiki_bottom_layer	False				
	form_drag_aiki_gradh_max	0.05				
	form_drag_aiki_gradh_power	1.0				
	form_drag_aiki_scale_by_gm	False				
	form_drag_aiki_scale_by_gradh	False				
	form_drag_gbatch_alpha	300 000 000.0				
	form_drag_gbatch_alpha_f2	False				
	form_drag_gbatch_f2overn2	False				
	form_drag_gbatch_f2overnb2	False				
	form_drag_gbatch_f2overno2	False				
	form_drag_gbatch_no	0.005				
	form_drag_gbatch_smooth_n2	False				
	form_drag_gbatch_surf_layer	False				
	ksurf_blayer_min	3				
	n_squared_min	1×10^{-10}				
	num_121_passes	1				
	use_form_drag_aiki	False				
	use_form_drag_gbatch	False				
	use_this_module	False	False	False	False	False
	vel_form_drag_max	1.0				
	verbose_init	True				
	visc_cbu_form_drag_max	1.0				
&ocean_frazil_nml	air_saturated_water	True				
	debug_this_module	False		False	False	False
	frazil_factor	1.0				
	frazil_only_in_surface	False	False	False	False	False
	freezing_temp_accurate		True			
	freezing_temp_preteos10	True		True	True	True
	freezing_temp_simple	False	False	False	False	False
	freezing_temp_teos10	False				
	use_this_module	True	True	True	True	True
&ocean_grids_nml	debug_this_module	False	True	False	False	False
	do_bitwise_exact_sum	False				
	read_rho0_profile	False	False			
	verbose_init	True				
	write_grid	False				
&ocean_increment_eta_nml	days_to_increment	1	0			
	fraction_increment	1.0	1.0			
	secs_to_increment	0	3600			
	use_this_module	False	False	False	False	False
&ocean_increment_tracer_nml	days_to_increment	1	0			
	fraction_increment	1.0	1.0			

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	secs_to_increment	0	3600			
	use_this_module	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	1	0			
	fraction_increment	1.0	1.0			
	secs_to_increment	0	3600			
	use_this_module	False	False	False	False	False
&ocean_lap_friction_nml	debug_this_module	False				
	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'
	write_a_restart	True				
&ocean_lap_tracer_nml	alap	0.0				
	horz_s_diffuse	True				
	horz_z_diffuse	False				
	read_diffusivity_mask	False				
	tracer_mix_micom	False				
	use_this_module	False	False	False	False	False
	vel_micom	0.0				
	verbose_init	True				
&ocean_lapcst_friction_nml	use_this_module		False	False	False	False
&ocean_lapgen_friction_nml	async_domain_update	False				
	blocksize	10				
	bottom_5point	False	True	True		
	debug_ncar_a	False				
	debug_ncar_b	False				
	debug_this_module	False				
	divergence_damp	False				
	divergence_damp_vel_micom	0.0				
	eq_lat_micom	0.0				
	eq_vel_micom_aniso	0.0				
	eq_vel_micom_iso	0.0				
	equatorial_no_smag	False				
	equatorial_zonal	False				
	equatorial_zonal_lat	0.0				
	k_smag_aniso	0.0	0.0	0.0		
	k_smag_iso	2.0	0.0	0.0		
	ncar_isotropic_at_depth	False				
	ncar_isotropic_at_depth_visc	10 000.0				
	ncar_isotropic_depth	4000.0				
	ncar_isotropic_off_equator	False				
	ncar_only_equatorial	False	True	True		
	neptune	False				
	neptune_depth_min	100.0				
	neptune_length_eq	1200.0				
	neptune_length_pole	3000.0				
	neptune_smooth	True				
	neptune_smooth_num	1				
	restrict_polar_visc	False	True	True		
	restrict_polar_visc_lat	60.0	60.0	60.0		
	restrict_polar_visc_ratio	0.35	0.35	0.35		
	side_drag_friction_max	1.0				
	side_drag_friction_scaling	1.0				
	side_drag_friction_uvmag_max	10.0				
	use_side_drag_friction	False				
	use_this_module	False	True	True	False	False
	vconst_1	10 000 000.0	8 000 000.0	8 000 000.0		
	vconst_2	0.0	0.0	0.0		
	vconst_3	0.16	0.8	0.8		
	vconst_4	2×10^{-8}	5×10^{-9}	5×10^{-9}		
	vconst_5	3	3	3		
	vconst_6	10 000 000.0	300 000 000.0	300 000 000.0		
	vconst_7	100.0	100.0	100.0		
	vconst_8	45.0				
	vel_micom_aniso	0.0				
	vel_micom_iso	0.0	0.1	0.1		
	visc_vel_scale_length	150 000.0				
	viscosity_ncar	False	False	True		
	viscosity_ncar_2000	True	False	False		
	viscosity_ncar_2007	False	True	True		
	viscosity_scale_by_rossby	False	True	True		
	viscosity_scale_by_rossby_power	2.0	4.0	100.0		
&ocean_mixdownslope_nml	debug_this_module	False	False	False		
	do_bitwise_exact_sum	False				
	mixdownslope_frac_central	0.25				

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	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
	mixdownslope_mask_gfdl	False	False	False		
	mixdownslope_npts	1	4	4		
	mixdownslope_weight_far	False				
	mixdownslope_width	1				
	read_mixdownslope_mask	False	False	False		
	use_this_module	False	True	True	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1	1
	barotropic_split	80	80	80	80	80
	cmip_units	True	True	True	True	True
	debug	False	False	False	False	False
	dt_ocean	1800	3600	3600	1200	150
	horizontal_grid	'bgrid'				
	impose_init_from_restart	False				
	io_layout	6, 5		4, 3	6, 5	10, 15
	layout	48, 40	12, 10	16, 15	48, 40	80, 75
	mask_table	'INPUT'				
	reinitialize_thickness	False				
	surface_height_split	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	use_blobs	False				
	use_velocity_override	False				
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	debug_this_module	False				
	rayleigh_damp_exp_from_bottom	False		False	False	False
	rayleigh_damp_exp_scale	100.0				
	rayleigh_damp_exp_time	864 000.0				
	use_rayleigh_damp_table	True	True	True	True	True
	use_this_module	True	True	True	True	True
	verbose_init	True				
&ocean_nphysics_new_nml	drhodz_smooth_horz	False				
	drhodz_smooth_vert	False				
	smax	0.01				
	use_this_module	False				
	vel_micom_smooth	0.2				
&ocean_nphysics_nml	debug_this_module	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False
	use_nphysicsb	False	False	False	False	False
	use_nphysicsc	False	True	True	False	False
	use_this_module	False	True	True	False	False
	write_a_restart	True				
&ocean_nphysics_util_new_nml	num_121_passes	1				
&ocean_nphysics_util_nml	agm		600.0	600.0	100.0	100.0
	agm_closure		True	True	True	True
	agm_closure_baroclinic		True	True	True	True
	agm_closure_buoy_freq		0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed		True	True		
	agm_closure_eady_cap		True	True		
	agm_closure_eady_smooth_horz		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	True		
	agm_closure_length		50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone		False	False	False	False
	agm_closure_length_fixed		False	False	False	False
	agm_closure_length_rossby		False	False	False	False
	agm_closure_lower_depth		2000.0	2000.0	2000.0	2000.0
	agm_closure_max		600.0	600.0	600.0	600.0
	agm_closure_min		50.0	50.0	100.0	100.0
	agm_closure_scaling		0.07	0.07	0.07	0.07
	agm_closure_upper_depth		100.0	100.0	100.0	100.0
	agm_damping_time		45.0	45.0		
	agm_smooth_space		False	False		
	agm_smooth_time		False	False		
	aredi		600.0	600.0	600.0	600.0
	aredi_equal_agm		False	False	False	False
	drhodz_mom4p1		True	True	False	False
	drhodz_smooth_horz		False	False	False	False
	drhodz_smooth_vert		False	False	False	False
	nphysics_util_zero_init		True	True		
	rossby_radius_max		100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min		15 000.0	15 000.0	15 000.0	15 000.0

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	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	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert		True	True		
	bvp_bc_mode		2	2		
	bvp_min_speed		0.1	0.1		
	bvp_speed		0.0	0.0		
	debug_this_module		False	False		
	do_gm_skewsion		True	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		True	True		
	neutral_physics_limit		True	True		
	number_bc_modes		2	2		
	regularize_psi		False	False		
	smax_psi		0.01	0.01		
	smooth_psi		True	True		
	tmask_neutral_on		True	True		
	turb_blayer_min		50.0	50.0		
	use_this_module		True	True	False	False
&ocean_obc_nml	ctrop_inc	0.0, 0.0, 0.0, 0.0				
	ctrop_max	1.5, 1.5, 1.5, 1.5				
	ctrop_min	0.1, 0.1, 0.1, 0.1				
	ctrop_smooth	0.7, 0.7, 0.7, 0.7				
	direction	None				
	enh_fac_d	1.0, 1.0, 1.0, 1.0				
	enh_fac_v	0.9, 0.9, 0.9, 0.9				
	enh_pnts	1, 1, 1, 1				
	fieldname_eta	'eta_t', 'none', 'none', 'none'				
	fieldname_ud	'ud', 'none', 'none', 'none'				
	filename_eta	'obc_eta_t', '.nc', 'none', 'none', 'none'				
	filename_tracer	'INPUT'				
	filename_ud	'obc_ud', '.nc', 'none', 'none', 'none'				
	ie	-999, -999, -999, -999				
	iere	-999, -999, -999, -999				
	iers	-999, -999, -999, -999				
	is	-999, -999, -999, -999				
	itre	-999, -999, -999, -999				
	itrs	-999, -999, -999, -999				
	je	-999, -999, -999, -999				
	jere	-999, -999, -999, -999				
	jers	-999, -999, -999, -999				
	js	-999, -999, -999, -999				
	jtre	-999, -999, -999, -999				
	jtrs	-999, -999, -999, -999				

Group (continued)	Variable	original/ kiss_access-om2_-025deg_-jra55_ryf_-log-file.000000.out	original/ russ-accessom-mom4p1-input.nml	new_access-om2_-1deg_-jra55_ryf_-input.nml	new_access-om2_-025deg_-jra55_ryf_-input.nml	new_access-om2_-01deg_-jra55_ryf_-input.nml
	name	'test_obc', 'none', 'none', 'none'				
	nobc	0				
	obc_adjust_forcing_bt	False, False, False, False				
	obc_consider_convu	False, False, False, False				
	obc_consider_sources	False, False				
	obc_enhance_diff_back	'NONE', 'NONE', 'NONE', 'NONE'				
	obc_enhance_visc_back	'NONE', 'NONE', 'NONE', 'NONE'				
	obc_eta	'NOTHIN', 'NOTHIN', 'NOTHIN', 'NOTHIN'				
	obc_flow_relax	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1				
	obc_mix	'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'				
	obc_nor	'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'				

Group (continued)	Variable	original/ kiss_accessom2_025deg_jra55_ryf_logfile.000000.out	original/ russaccessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	obc_relax_tracer	False, False				
	obc_tan	'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'				
	obc_tra	'NOGRAD', 'NOGRAD'				

Group (continued)	Variable	original/ kiss_access-om2_025deg_jra55_ryf_logfile.000000.out	original/ russ-accessom-mom4p1-input.nml	new_access-om2_1deg_jra55_ryf_input.nml	new_access-om2_025deg_jra55_ryf_input.nml	new_access-om2_01deg_jra55_ryf_input.nml
	obc_tracer_no_inflow	False, False				
	obc_ud	'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'				
	obc_vert_advel_t	False, False, False, False				
	obc_vert_advel_u	False, False, False, False				
	rel_clin_pnts	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1				
	rel_coef_eta_in	0.0, 0.0, 0.0, 0.0				
	rel_coef_eta_out	0.0, 0.0, 0.0, 0.0				
	rel_coef_tracer_in	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0				
	rel_coef_tracer_out	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0				
	rel_eta_pnts	1, 1, 1, 1				
&ocean_operators_nml	use_legacy_div_ud	False		False	False	False
&ocean_overexchange_nml	debug_this_module	False	False	False	False	False
	do_bitwise_exact_sum	False				
	overexch_check_extrema	False	False			

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	overexch_min_thickness	4.0				
	overexch_npts	4	4	4	4	4
	overexch_stability	0.25				
	overexch_weight_far	False	False	False	False	False
	overexch_width	1				
	overflow_delta	0.3333				
	overflow_mu	0.0001				
	overflow_umax	5.0	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False	False
&ocean_overflow_nml	debug_this_module	False	False			
	do_bitwise_exact_sum	False				
	no_return_flow	False				
	overflow_delta	0.3333				
	overflow_mu	0.0001				
	overflow_umax	0.01				
	transport_units	'Sv'				
	use_this_module	False	False	False	False	False
&ocean_overflow_ofp_nml	use_this_module			False	False	False
&ocean_parameters_nml	cp_liquid_runoff	4218.0				
	cp_ocean	3992.103 223 296 49				
	cp_solid_runoff	2106.0				
	grav	9.8				
	omega_earth	7.2921×10^{-5}				
	rho0	1035.0				
	tfreeze	273.15				
&ocean_polar_filter_nml	use_this_module		False	False	False	False
&ocean_pressure_nml	debug_this_module	False				
	zero_correction_term_grad	False				
	zero_diagonal_press_grad	False				
	zero_eta_over_h_zstar_pressure	False				
	zero_pressure_force	False		False	False	False
&ocean_rivermix_nml	calving_insertion_thickness	0.0				
	debug_all_in_top_cell	False				
	debug_this_module	False	False	False	False	False
	debug_this_module_heat	False				
	discharge_combine_runoff_calve	True				
	do_bitwise_exact_sum	False				
	river_diffuse_salt	False	False	True	True	True
	river_diffuse_temp	False	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0
	runoff_insertion_thickness	0.0				
	use_this_module	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module	False				
	riverspread_diffusion	False				
	riverspread_diffusion_passes	0				
	use_this_module	False	True	False	False	False
	vel_micom_smooth	0.2				
&ocean_rough_nml	rough_scheme			'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True
	calvingspread	False		False	False	False
	constant_hlf	True				
	constant_hlv	True				
	constant_sss_for_restore	35.0				
	constant_sst_for_restore	12.0				
	convert_river_to_pme	False				
	debug_water_fluxes	False				
	do_bitwise_exact_sum	False		False	False	False
	do_flux_correction	False		False	False	False
	do_langmuir	False				
	eta_restore_tscale	−30.0				
	ice_salt_concentration	0.005	0.005			
	land_model_heat_fluxes	False		False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5	0.5	0.5
	max_ice_thickness	0.0	8.0	0.0	0.0	0.0
	read_restore_mask	False	False	False	False	False
	read_stokes_drift	False				
	restore_mask_gfdl	False	False	False	False	False
	rotate_winds	False				

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.out	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
	runoff_salinity	0.0	0.0	0.0	0.0	0.0
	runoff_temp_min	0.0				
	runoffspread	False				
	salinity_ref	35.0				
	salt_correction_scale	0.0		0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True	True	True
	salt_restore_tscale	60.0	15.0	60.0	60.0	60.0
	salt_restore_under_ice	True	True	True	True	True
	sbc_heat_fluxes_const	False				
	sbc_heat_fluxes_const_seasonal	False				
	sbc_heat_fluxes_const_value	0.0				
	tau_x_correction_scale	0.0				
	tau_y_correction_scale	0.0				
	taux_sinx	False				
	tauy_siny	False				
	temp_correction_scale	0.0				
	temp_restore_tscale	−10.0	−1.0	−10.0	−10.0	−10.0
	use_constant_sss_for_restore	False				
	use_constant_sst_for_restore	False				
	use_full_patm_for_sea_level	False		False	False	False
	use_ideal_calving	False				
	use_ideal_runoff	False				
	use_waterflux	True	True	True	True	True
	use_waterflux_override_calving	False				
	use_waterflux_override_evap	False				
	use_waterflux_override_fprec	False				
	waterflux_tavg	False	False			
	zero_calving_fluxes	False				
	zero_heat_fluxes	False	False	False	False	False
	zero_net_pme_eta_restore	False				
	zero_net_salt_correction	False		False	False	False
	zero_net_salt_restore	True	True	True	True	True
	zero_net_water_correction	False		False	False	False
	zero_net_water_couple_restore	True	True	True	True	True
	zero_net_water_coupler	True	True	True	True	True
	zero_net_water_restore	True	True	True	True	True
	zero_pme_fluxes	False				
	zero_river_fluxes	False				
	zero_runoff_fluxes	False				
	zero_surface_stress	False	False	False	False	False
	zero_water_fluxes	False	False	False	False	False
&ocean_sbc_ofam_nml	restore_mask_ofam	False	False			
	river_temp_ofam	False	False			
&ocean_shortwave_csiro_nml	read_depth		True			
	use_this_module		True	False	False	False
	zmax_pen		7000			
&ocean_shortwave_gfdl_nml	chl_default	0.08				
	debug_this_module	False	False	False	False	False
	enforce_sw_frac	True	True	True	True	True
	optics_for_uniform_chl	False				
	optics_manizza	True	True	True	True	True
	optics_morel_antoine	False		False	False	False
	override_f_vis	True				
	read_chl	True	False	True	True	True
	sw_frac_top	0.0				
	sw_morel_fixed_depths	False				
	sw_pen_fixed_depths		False			
	use_this_module	True	False	True	True	True
	zmax_pen	300.0	200.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module		False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	True	False	False	False
	use_shortwave_ext	False				
	use_shortwave_gfdl	True	False	True	True	True
	use_shortwave_jerlov	False	False	False	False	False
	use_this_module	True	True	True	True	True
&ocean_sigma_transport_nml	campingoose_delta	0.3333				
	campingoose_mu	0.0001				
	debug_this_module	False				
	sigma_advection_check	True				
	sigma_advection_on	False	False			
	sigma_advection_sgs_only	False	False			
	sigma_diffusion_on	True	True			

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	sigma_diffusivity	1000.0				
	sigma_diffusivity_ratio	1×10^{-6}	1×10^{-6}			
	sigma_just_in_bottom_cell	True	True			
	sigma_umax	0.01	0.01			
	smooth_sigma_thickness	True	True			
	smooth_sigma_velocity	True	True			
	smooth_velmicom	0.2	0.2			
	thickness_sigma_layer	100.0	100.0			
	thickness_sigma_max	100.0	100.0			
	thickness_sigma_min	100.0	100.0			
	tmask_sigma_on	False	False			
	tracer_mix_micom	True	True			
	use_this_module	False	True	False	False	False
	vel_micom	0.05	0.05			
	verbose_init	True				
	write_a_restart	True				
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	0	0	1460	31	30
	debug_this_module	False				
	dt_cpld	1800	3600	3600	1200	600
	hours	0	0	0	0	0
	layout_mask	0, 0				

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_logfile.000000.out	original/russaccessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	mask_list	0, 0,				

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	minutes	0	0	0	0	0
	months	0	12	0	0	0
	n_mask	0				
	restart_interval	0, 0, 0, 0, 0, 0				
	seconds	0	0	0	0	0
	years	1		0	0	0
&ocean_sponges_eta_nml	use_this_module	False	False	False	False	False
&ocean_sponges_eta_ofam_nml	athresh	0.5				
	days_to_restore	1				
	lambda	0.0083				
	npower	1.0				
	secs_to_restore	0				
	taumin	720.0				
	use_adaptive_restore	False				
	use_hard_thump	False				
	use_normalising	False				
	use_sponge_after_init	False				
&ocean_sponges_tracer_nml	damp_coeff_3d	False	False			False
	use_this_module	False	False	False	False	False
&ocean_sponges_tracer_ofam_nml	athresh	0.5				
	days_to_restore	1				
	deflate	False				
	deflate_fraction	0.6				
	lambda	0.0083				
	limit_salt	False				
	limit_salt_min	0.01				
	limit_salt_restore	3600.0				
	limit_temp	False				
	limit_temp_min	−1.8				
	limit_temp_restore	10 800.0				
	npower	1.0				
	secs_to_restore	0				
	taumin	720.0				
	use_adaptive_restore	False				
	use_hard_thump	False				
	use_normalising	False				
	use_sponge_after_init	False				
&ocean_sponges_velocity_nml	damp_coeff_3d	False				
	use_this_module	False	False	False	False	False
&ocean_sponges_velocity_ofam_nml	athresh	0.5				
	days_to_restore	1				
	lambda	0.0083				
	npower	1.0				
	secs_to_restore	0				
	taumin	720.0				
	use_adaptive_restore	False				
	use_hard_thump	False				
	use_normalising	False				
	use_sponge_after_init	False				
&ocean_submesoscale_nml	coefficient_ce	0.05		0.05	0.05	0.05
	constant_hblt	100.0				
	debug_this_module	False	False	False	False	False
	diag_step	1200				
	front_length_const	5000.0	5000.0	5000.0	5000.0	5000.0
	front_length_deform_radius	True	True	True	True	True
	limit_psi	True	True	True	True	True
	limit_psi_velocity_scale	0.5	0.5	0.5	0.5	0.5
	min_kblt	4	4	4	4	4
	minimum_hblt	0.0				
	smooth_advect_transport	True		True	True	True
	smooth_advect_transport_num	4		4	4	4
	smooth_hblt	False	False	False	False	False
	smooth_hblt_num	2				
	smooth_psi	True		True	True	True
	smooth_psi_num	3		3	3	3
	submeso_advect_flux	False		False	False	False
	submeso_advect_limit	True		True	True	True
	submeso_advect_sweby	False				
	submeso_advect_upwind	True		True	True	True
	submeso_advect_zero_bdy	True		True	True	True
	submeso_diffusion	False		False	False	False
	submeso_diffusion_biharmonic	True		True	True	True

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	submeso_diffusion_scale	10.0		10.0	10.0	10.0
	submeso_limit_flux	True	True			
	submeso_skew_flux	True		True	True	True
	time_constant	86 400.0				
	use_hblt_constant	False				
	use_hblt_equal_mld	True	True	True	True	True
	use_psi_legacy	False		False	False	False
	use_this_module	True	True	True	True	True
&ocean_tempsalt_nml	debug_this_module	False		False	False	False
	pottemp_2nd_iteration	True	True	True	True	True
	pottemp_equal_contemp	True		True	True	True
	reinit_ts_with_ideal	False				
	reinit_ts_with_ideal_efold	1000.0				
	reinit_ts_with_ideal_svalue	30.0				
	reinit_ts_with_ideal_tvalue	10.0				
	s_max	70.0	55.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0	42.0
	s_min	0.0	−1.0	0.0	0.0	0.0
	s_min_limit	2.0	0.0	2.0	2.0	2.0
	t_max	55.0	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0	32.0
	t_min	−20.0	−5.0	−20.0	−20.0	−20.0
	t_min_limit	−5.0	−2.0	−5.0	−5.0	−5.0
	temperature_variable	'potential_-temp'	'conservative_-temp'	'potential_-temp'	'potential_-temp'	'potential_-temp'
	teos10	False	False			
&ocean_thickness_nml	debug_this_module	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False
	depth_min_for_sigma	0.01				
	enforce_positive_dzt	False				
	epsilon_init_thickness	1×10^{-5}				
	full_step_topography	False				
	initialize_zero_eta	False	False			
	linear_free_surface	False				
	max_num_bad_print	25				
	pbot0_simple	False				
	read_rescale_rho0_mask	False	False			
	read_rho0_profile	False				
	rescale_mass_to_get_ht_mod	False		False	False	False
	rescale_rho0_basin_label	−1.0	7.0			
	rescale_rho0_mask_gfdl	False	False			
	rescale_rho0_value	1.0	0.75			
	thickness_dzt_min	2.0	1.0			
	thickness_dzt_min_init	10.0	2.0			
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
	update_dzwu_k0	True				
	write_a_restart	True				
&ocean_topog_nml	debug_this_module	True				
	flat_bottom	False				
	flat_bottom_ht	5500.0				
	flat_bottom_kmt	50				
	kmt_recompute	False				
	kmt_recompute_offset	0				
	min_thickness	1.0	25.0			
	write_topog	False				
&ocean_tracer_advect_nml	advect_sweby_all	False	True			
	async_domain_update	False				
	compute_gyre_overturn_diagnose		True			
	debug_this_module	False	False	False	False	False
	do_fast_compute		True			
	limit_with_upwind	False				
	psom_limit_prather	False				
	read_basin_mask	False	True	False	False	False
	write_a_restart	True				
	zero_tracer_advect_horz	False				
	zero_tracer_advect_vert	False				
&ocean_tracer_diag_nml	buoyancy_crit	0.0003				
	debug_diagnose_mixinga	False				
	debug_diagnose_mixingb	False				
	debug_diagnose_mixingc	False				
	debug_diagnose_mixingd	False				
	diag_step	4320	120	4320	4320	576

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	do_bitwise_exact_sum	False	False	False	False	False
	dtheta_crit	2.0				
	frazil_factor	1.0				
	psu2ppt	1.004 867				
	rho_grad_max	$1 \times 10^{+28}$				
	rho_grad_min	1×10^{-5}				
	smooth_kappa_sort	0				
	smooth_mld	False				
	smooth_mld_for_subduction	True				
	tracer_conserve_days	30.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0	0.0	0.0
	compute_tmask_limit_on	True				
	debug_this_module	False	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True	True
	frazil_heating_before_vphysics	False	False	False	False	False
	inflow_nboundary	False				
	interpolate_tdiag_to_pbott	False				
	interpolate_tprog_to_pbott	True				
	limit_age_tracer	True	True	True	True	True
	ocean_tpm_debug	False				
	remap_depth_to_s_init	False	False	False	False	False
	tmask_limit_ts_same	True				
	use_tempsalt_check_range	True		True	True	True
	write_a_restart	True				
	zero_tendency	False	False	False	False	False
	zero_tracer_source	False	False	False	False	False
&ocean_tracer_util_nml	debug_diagnose_mass_of_layer	False				
	epsln_diagnose_mass_of_layer	1×10^{-5}				
	rebin_onto_rho_all_values	True				
&ocean_velocity_advect_nml	debug_this_module	False				
	velocity_advect_centered	True				
	velocity_advect_upwind	False				
	zero_velocity_advect_horz	False				
	zero_velocity_advect_vert	False				
&ocean_velocity_diag_nml	debug_this_module	False	False	False	False	False
	diag_step	4320	120	4320	4320	576
	do_bitwise_exact_sum	False				
	energy_diag_step	4320	120	4320	4320	5760
	land_cell_num_max	100				
	large_cfl_value	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	False				
&ocean_velocity_nml	adams_bashforth_epsilon	0.6				
	adams_bashforth_third	True	True	True	True	True
	constant_u	0.0				
	constant_v	0.0				
	debug_this_module	False				
	max_cgint	1.5	1.0	1.0	1.0	1.0
	truncate_velocity	False	False	False	False	False
	truncate_velocity_lat	0.0				
	truncate_velocity_value	2.0	2.0	2.0	2.0	2.0
	truncate_verbose	True	True	True	True	True
	update_velocity_via_uprime	True				
	use_constant_velocity	False				
	write_a_restart	True				
	zero_tendency	False	False	False	False	False
	zero_tendency_explicit_a	False		False	False	False
	zero_tendency_explicit_b	False		False	False	False
	zero_tendency_implicit	False		False	False	False
&ocean_vert_kpp_iow_nml	use_this_module			False	False	False
&ocean_vert_kpp_mom4p1_nml	bvf_from_below	False				
	calc_visc_on_cgrid	False				
	concv	1.8				
	cw_0	0.15				
	debug_this_module	False				
	diff_cbt_iw	0.0		0.0	0.0	0.0
	diff_cbt_limit	0.005				
	diff_con_limit	0.1				
	do_langmuir	False				
	double_diffusion	True		True	True	True
	hbl_with_rit	False				
	kbl_standard_method	False		False	False	False

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_logfile.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	kl_min	2				
	l_smyth	2.0				
	lgam	1.04				
	limit_ghats	False				
	limit_with_hekman	True				
	linear_hbl	True				
	ltmax	5.0				
	non_local_kpp	True				
	radiation_iow	False				
	radiation_large	False				
	radiation_zero	False				
	ricr	0.3		0.3	0.3	0.3
	shear_instability	True				
	smooth_blmc	False		False	False	False
	smooth_ri_kmax_eq_kmu	True		True	True	True
	use_max_shear	False				
	use_sbl_bottom_flux	False				
	use_this_module	True		True	True	True
	variable_vtc	False				
	visc_cbu_iw	0.0		0.0	0.0	0.0
	visc_cbu_limit	0.005				
	visc_con_limit	0.1				
	wsfc_combine_runoff_calve	True				
	wstfac	0.6				
&ocean_vert_kpp_nml	diff_cbt_iw		0.0			
	diff_con_limit		0.1			
	double_diffusion		True			
	kbl_standard_method		True			
	ricr		0.3			
	smooth_blmc		True			
	use_this_module		True			
	visc_cbu_iw		0.0			
	visc_con_limit		0.1			
&ocean_vert_mix_nml	afkph_00	0.55	0.65			
	afkph_90	0.55	0.75			
	aidif	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False	False	False
	bryan_lewis_lat_depend	False	True	False	False	False
	bryan_lewis_lat_transition	35.0	35.0			
	debug_this_module	False				
	dfkph_00	1.05	1.15			
	dfkph_90	1.05	0.95			
	diff_cbt_tanh	False				
	diff_cbt_tanh_max	0.001				
	diff_cbt_tanh_min	2×10^{-5}				
	diff_cbt_tanh_zmid	150.0				
	diff_cbt_tanh_zwid	30.0				
	hwf_30_diffusivity	2×10^{-5}				
	hwf_depth_transition	25 000 000.0				
	hwf_diffusivity	False		False	False	False
	hwf_diffusivity_3d	False				
	hwf_min_diffusivity	2×10^{-6}		2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega	20.0		20.0	20.0	20.0
	linear_taper_diff_cbt_table	False	False			
	num_121_passes	1				
	quebec_2009_10_bug	False				
	sfkph_00	4.5×10^{-5}	4.5×10^{-5}			
	sfkph_90	4.5×10^{-5}	4.5×10^{-5}			
	smooth_rho_n2	True				
	use_diff_cbt_table	False	False	False	False	False
	use_explicit_vert_diffuse	True				
	verbose_init	True				
	vert_diff_back_via_max	True	True	True	True	True
	vert_mix_scheme	'kpp_mom4p1'	'kpp'	'kpp_mom4p1'	'kpp_mom4p1'	'kpp_mom4p1'
	vert_visc_back	False				
	visc_cbu_back_max	0.01				
	visc_cbu_back_min	0.001				
	visc_cbu_back_zmid	50.0				
	visc_cbu_back_zwid	30.0				
	vmix_min_diss_bvfreq_scale	0.0006				
	vmix_min_diss_const	1×10^{-7}				

Group (continued)	Variable	original/kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_access-som2_-1deg_-jra55_ryf_-input.nml	new_access-som2_-025deg_-jra55_ryf_-input.nml	new_access-som2_-01deg_-jra55_ryf_-input.nml
	vmix_min_diss_flux_ri_max	0.2				
	vmix_rescale_nonbouss	False				
	vmix_set_min_dissipation	False				
	zfkph_00	250 000.0	250 000.0			
	zfkph_90	250 000.0	250 000.0			
&ocean_vert_tidal_nml	background_diffusivity	0.0	5×10^{-6}	0.0	0.0	0.0
	background_viscosity	0.0001	0.0001	0.0001	0.0001	0.0001
	bottom_drag_cd	0.0024				
	debug_this_module	False				
	decay_scale	500.0	300.0	500.0	500.0	500.0
	default_roughness_length	25.0				
	default_tide_speed	0.01				
	drag_dissipation_efold	True				
	drag_dissipation_tide_period	43 200.0				
	drag_dissipation_use_cdbot	True		True	True	True
	drag_mask_deep	True				
	drag_mask_deep_ratio	0.1				
	drhodz_min	1×10^{-10}	1×10^{-12}	1×10^{-10}	1×10^{-10}	1×10^{-10}
	fixed_wave_dissipation	False	False	False	False	False
	max_drag_diffusivity	0.005	0.01			
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01
	mixing_efficiency	0.2				
	mixing_efficiency_n2depend	True	True	True	True	True
	munk_anderson_p	0.25				
	munk_anderson_sigma	3.0				
	num_121_passes	1				
	read_leewave_dissipation	False				
	read_roughness	True	True	True	True	True
	read_tide_speed	True	True	True	True	True
	read_wave_dissipation	False	False	False	False	False
	reading_roughness_amp	True	True	True	True	True
	reading_roughness_length	False	False	False	False	False
	roughness_scale	12 000.0	20 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	−1000.0	160.0	−1000.0	−1000.0	−1000.0
	smooth_bvfreq_bottom	True				
	smooth_rho_n2	True				
	speed_min	0.005				
	tidal_diss_efficiency	0.333 33				
	tide_speed_data_on_t_grid	True	True	True	True	True
	use_drag_dissipation	True	True	True	True	True
	use_leewave_dissipation	False				
	use_legacy_methods	False		False	False	False
	use_this_module	True	True	True	True	True
	use_wave_dissipation	True	True	True	True	True
	vel_micom_smooth	0.2				
	wave_diffusivity_monotonic	True				
	wave_energy_flux_max	0.1	0.1	0.1	0.1	0.1
&ocean_vert_util_nml	debug_this_module	False				
	num_n2_smooth	1				
	num_ri_smooth	1				
	smooth_n2	True				
	smooth_ri_number	True				
&ocean_wave_nml	damp_where_ice	True				
	debug_this_module	False				
	filter_wave_mom	True				
	use_this_module	False				
	use_tma	True				
	wavedamp	−10.0				
	write_a_restart	True				
&ocean_xlandinsert_nml	use_this_module		False	False	False	False
	verbose_init		True			
&ocean_xlandmix_nml	use_this_module		False	False	False	False
	verbose_init		True			
	xlandmix_kmt		True			
&time_interp_external_nml	debug_this_module	False				
	max_fields	100				
	max_files	40				
	num_io_buffers	2				
&time_interp_nml	perthlike_behavior	False				
&xgrid_nml	do_alltoall					True
	do_alltoallv					True

Group (continued)	Variable	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.out	original/russ-accessom-mom4p1-input.nml	new_accessom2_1deg_jra55_ryf_input.nml	new_accessom2_025deg_jra55_ryf_input.nml	new_accessom2_01deg_jra55_ryf_input.nml
	interp_method			'second_order'	'second_order'	'second_order'
	make_exchange_reproducible			False	False	False
	nsubset			16	16	16