MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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

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

Other useful info:

- Griffies et al. (2015) p973

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

TODO: namelists for CICE (see AK email to Petra 2017-11-15) TODO: namelists for MATM

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/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
&auscom_ice_nml	dt_cpl	3600	1800	600
	redsea_gulfbay_sfix	True		
&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_bihgen_friction_nml	bottom_5point	True	False	False
	vel_micom_bottom	0.01	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0
&ocean_lapgen_friction_nml	bottom_5point	True		
	k_smag_aniso	0.0		
	k_smag_iso	0.0		
	restrict_polar_visc	True		
	restrict_polar_visc_lat	60.0		
	restrict_polar_visc_ratio	0.35		
	use_this_module	True	False	False
	vel_micom_iso	0.1		
	viscosity_ncar	False		
	viscosity_scale_by_rossby	True		
	viscosity_scale_by_rossby_power	4.0		
&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		
	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_tracer_diag_nml	diag_step	4320	4320	576
&ocean_velocity_diag_nml	diag_step	4320	4320	576

Group (continued)	Variable	new/control/1deg_-jra55_ryf/ocean/input.nml	new/control/025deg_-jra55_ryf/ocean/input.nml	new/control/01deg_-jra55_ryf/ocean/input.nml
	energy_diag_step	4320	4320	5760
&xgrid_nml	do_alltoall			True
	do_alltoallv			True

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

2.1 accessom2_1deg_jra55_ryf

Group	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
	chk_i2o_fields	False	False
	chk_o2i_fields	False	False
	do_ice_once	False	False
	dt_cpl	3600	3600
	fixmeltt	False	False
	frazil_factor	1.0	1.0
	iceform_adj_salt	False	False
	icemlt_factor	1.0	1.0
	kmxice	5	5
	pop_icediag	True	True
	redsea_gulfbay_sfix	True	True
	sign_stflx	1.0	1.0
	tmelt	−0.216	−0.216
	use_ioaice	True	True
&bg_diff_lat_dependence_nml	bg_diff_eq	1×10^{-6}	
	lat_low_bgdiff	20.0	
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
&fms_io_nml	fileset_write	'single'	'single'
	threading_read	'multi'	'multi'
	threading_write	'single'	'single'
&fms_nml	clock_grain	'LOOP'	'COMPONENT'
	domains_stack_size		115200
&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'
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in	15	15
	num_fields_out	7	7
	send_after_ocean_update	True	True
	send_before_ocean_update	False	False
&monin_obukhov_nml	neutral		True
&mpp_io_nml	deflate_level		5
	shuffle		1
&ocean_adv_vel_diag_nml	diag_step	4320	4320
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
	verbose_cfl	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5
&ocean_albedo_nml	ocean_albedo_option		2
&ocean_barotropic_nml	barotropic_halo	10	10
	barotropic_time_stepping_a	True	True
	barotropic_time_stepping_b	False	False
	debug_this_module	False	False
	diag_step	4320	4320
	eta_max	8.0	8.0
	frac_crit_cell_height	0.2	0.2
	pred_corr_gamma	0.2	0.2
	smooth_eta_diag_laplacian	True	True
	smooth_eta_t_biharmonic	False	False

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic	False	False
	smooth_pbot_t_laplacian	True	True
	truncate_eta	False	False
	use_legacy_barotropic_halos	False	False
	vel_micom_bih	0.01	0.01
	vel_micom_lap	0.05	0.05
	vel_micom_lap_diag	0.2	0.2
	verbose_truncate	True	True
	zero_tendency		False
&ocean_bbc_nml	bmf_implicit		True
	cdbot	0.001	0.001
	cdbot_hi		0.007
	cdbot_law_of_wall	False	
	cdbot_roughness_length		False
	cdbot_roughness_uamp		True
	uresidual		0.05
	use_geothermal_heating	False	False
&ocean_bbc_ofam_nml	read_tide_speed	False	
	uresidual2_max	1.0	
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'
&ocean_bih_tracer_nml	use_this_module	False	False
&ocean_bihcst_friction_nml	use_this_module	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	True
	eq_lat_micom	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0
	eq_vel_micom_iso	0.0	0.0
	equatorial_zonal	False	False
	k_smag_aniso	0.0	0.0
	k_smag_iso	2.0	2.0
	ncar_boundary_scaling	True	True
	ncar_boundary_scaling_read		True
	ncar_rescale_power	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5
	use_this_module	True	True
	vel_micom_aniso	0.0	0.0
	vel_micom_bottom	0.01	0.01
	vel_micom_iso	0.04	0.04
	visc_crit_scale	0.25	0.25
&ocean_convect_nml	convect_full_scalar	False	
	convect_full_vector	True	
	use_this_module	False	False
&ocean_coriolis_nml	acor	0.5	0.5
	use_this_module	True	True
&ocean_density_nml	eos_linear	False	False
	eos_preteos10	True	True
	layer_nk	80	80
	neutralrho_max	1030.0	1030.0
	neutralrho_min	1020.0	1020.0
	potrho_max	1038.0	1038.0
	potrho_min	1028.0	1028.0
&ocean_domains_nml	max_tracers	10	5
&ocean_form_drag_nml	cprime_aiki	0.6	
	use_this_module	False	False
&ocean_frazil_nml	debug_this_module		False
	frazil_only_in_surface		False
	freezing_temp_preteos10		True
	freezing_temp_simple	True	False
	use_this_module	True	True
&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	
	use_this_module	False	False
&ocean_increment_tracer_nml	days_to_increment	0	
	fraction_increment	1.0	
	secs_to_increment	1800	
	use_this_module	False	False
&ocean_increment_velocity_nml	days_to_increment	0	
	fraction_increment	1.0	
	secs_to_increment	1800	

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	use_this_module	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False
&ocean_lapgen_friction_nml	bottom_5point	True	True
	k_smag_aniso	0.0	0.0
	k_smag_iso	0.0	0.0
	ncar_only_equatorial	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
	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	0.1
	viscosity_ncar	True	False
	viscosity_ncar_2000	False	
	viscosity_ncar_2007	True	
	viscosity_scale_by_rossby	True	True
	viscosity_scale_by_rossby_power	4.0	4.0
&ocean_mixdownslope_nml	debug_this_module	False	False
	mixdownslope_mask_gfdl	False	False
	mixdownslope_npts	4	4
	read_mixdownslope_mask	False	False
	use_this_module	True	True
&ocean_model_nml	baroclinic_split	1	1
	barotropic_split	80	80
	cmip_units	True	True
	debug	False	False
	dt_ocean	3600	3600
	io_layout	4, 3	4, 3
	layout	16, 15	16, 15
	surface_height_split	1	1
	time_tendency	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom		False
	use_rayleigh_damp_table	True	True
	use_this_module	True	True
&ocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc	True	True
	use_this_module	True	True
&ocean_nphysics_util_nml	agm	600.0	600.0
	agm_closure	True	True
	agm_closure_baroclinic	True	True
	agm_closure_buoy_freq	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
	agm_closure_length_bczone	False	False
	agm_closure_length_fixed	False	False
	agm_closure_length_rossby	False	False
	agm_closure_lower_depth	2000.0	2000.0
	agm_closure_max	600.0	600.0
	agm_closure_min	50.0	50.0
	agm_closure_scaling	0.07	0.07
	agm_closure_upper_depth	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
	aredi_equal_agm	False	False

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	drhodz_mom4p1	True	True
	drhodz_smooth_horz	False	False
	drhodz_smooth_vert	False	False
	nphysics_util_zero_init	True	True
	rossby_radius_max	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0
	tracer_mix_micom	False	False
	vel_micom	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False
&ocean_nphysicsb_nml	use_this_module	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True
	bvp_bc_mode	2	2
	bvp_min_speed	0.1	0.1
	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
&ocean_operators_nml	use_legacy_div_ud		False
&ocean_overexchange_nml	debug_this_module	False	False
	overexch_check_extrema	False	
	overexch_npts	4	4
	overexch_weight_far	False	False
	overflow_umax	5.0	5.0
	use_this_module	False	False
&ocean_overflow_nml	debug_this_module	False	
	use_this_module	False	False
&ocean_overflow_ofp_nml	use_this_module		False
&ocean_polar_filter_nml	use_this_module	False	False
&ocean_pressure_nml	zero_pressure_force		False
&ocean_rivermix_nml	debug_this_module	False	False
	river_diffuse_salt	False	True
	river_diffuse_temp	False	True
	river_diffusion_thickness	0.0	0.0
	river_diffusivity	0.0	0.0
	river_insertion_thickness	40.0	40.0
	use_this_module	True	True
&ocean_riverspread_nml	use_this_module	True	False
&ocean_rough_nml	rough_scheme		'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True
	avg_sfc_velocity	True	True
	calvingspread		False
	do_bitwise_exact_sum		False
	do_flux_correction		False
	land_model_heat_fluxes		False
	max_delta_salinity_restore	0.5	0.5
	max_ice_thickness	8.0	0.0
	read_restore_mask	False	False
	restore_mask_gfdl	False	False
	runoff_salinity	0.0	0.0
	salt_correction_scale		0.0
	salt_restore_as_salt_flux	True	True
	salt_restore_tscale	15.0	60.0
	salt_restore_under_ice	True	True
	temp_restore_tscale	−1.0	−10.0
	use_full_patm_for_sea_level		False
	use_waterflux	True	True
	waterflux_tavg	False	
	zero_heat_fluxes	False	False
	zero_net_salt_correction		False
	zero_net_salt_restore	True	True
	zero_net_water_correction		False

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	zero_net_water_couple_restore	True	True
	zero_net_water_coupler	True	True
	zero_net_water_restore	True	True
	zero_surface_stress	False	False
	zero_water_fluxes	False	False
&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	debug_this_module	False	False
	enforce_sw_frac	True	True
	optics_manizza	True	True
	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_jerlov_nml	use_this_module	False	False
&ocean_shortwave_nml	use_shortwave_csiro	True	False
	use_shortwave_gfdl	False	True
	use_shortwave_jerlov	False	False
	use_this_module	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False	
	sigma_advection_sgs_only	False	
	sigma_diffusion_on	True	
	sigma_diffusivity_ratio	1×10^{-6}	
	sigma_just_in_bottom_cell	True	
	sigma_umax	0.01	
	smooth_sigma_thickness	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	calendar	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	1460	1460
	debug_this_module	False	
	dt_cpld	3600	3600
	hours	0	0
	minutes	0	0
	months	0	0
	seconds	0	0
	years	0	0
&ocean_sponges_eta_nml	use_this_module	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False	
	use_this_module	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False
&ocean_submesoscale_nml	coefficient_ce		0.05
	debug_this_module	False	False
	front_length_const	5000.0	5000.0
	front_length_deform_radius	True	True
	limit_psi	True	True
	limit_psi_velocity_scale	0.5	0.5
	min_kblt	4	4
	smooth_advect_transport		True
	smooth_advect_transport_num		4
	smooth_hblt	False	False
	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	

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	submeso_skew_flux		True
	use_hblt_equal_mld	True	True
	use_psi_legacy		False
	use_this_module	True	True
&ocean_tempsalt_nml	debug_this_module	False	False
	pottemp_2nd_iteration	True	True
	pottemp_equal_contemp		True
	s_max	55.0	70.0
	s_max_limit	42.0	42.0
	s_min	−1.0	0.0
	s_min_limit	0.0	2.0
	t_max	55.0	55.0
	t_max_limit	32.0	32.0
	t_min	−5.0	−20.0
	t_min_limit	−2.0	−5.0
	temperature_variable	'conservative_-temp'	'potential_-temp'
&ocean_thickness_nml	debug_this_module	False	False
	debug_this_module_detail	False	False
	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	
	thickness_method	'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
	read_basin_mask		False
&ocean_tracer_diag_nml	diag_step	4320	4320
	do_bitwise_exact_sum	False	False
	tracer_conserve_days	1.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0
	debug_this_module	False	False
	frazil_heating_after_vphysics	True	True
	frazil_heating_before_vphysics	False	False
	limit_age_tracer	True	True
	remap_depth_to_s_init	False	False
	use_tempsalt_check_range	True	True
	zero_tendency	False	False
	zero_tracer_source	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False
	diag_step	4320	4320
	energy_diag_step	4320	4320
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True
	max_cgint	1.0	1.0
	truncate_velocity	True	False
	truncate_velocity_value	2.0	2.0
	truncate_verbose	True	True
	zero_tendency	False	False
	zero_tendency_explicit_a		False
	zero_tendency_explicit_b		False
	zero_tendency_implicit		False
&ocean_vert_kpp_iow_nml	use_this_module	False	False
&ocean_vert_kpp_mom4p0_nml	use_this_module	False	
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0
	diff_con_limit	0.1	
	double_diffusion	True	True
	kbl_standard_method	False	False
	ricr	0.3	0.3
	smooth_blmc	False	False
	smooth_ri_kmax_eq_kmu	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	0.65	
	afkph_90	0.75	

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml
	aidif	1.0	1.0
	bryan_lewis_diffusivity	False	False
	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}	
	use_diff_cbt_table	False	False
	vert_diff_back_via_max	True	True
	vert_mix_scheme	'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
	background_viscosity	0.0001	0.0001
	decay_scale	300.0	500.0
	drag_dissipation_use_cdbot		True
	drhodz_min	1×10^{-12}	1×10^{-10}
	fixed_wave_dissipation	False	False
	max_drag_diffusivity	0.01	
	max_wave_diffusivity	0.01	0.01
	mixing_efficiency_n2depend	True	True
	read_roughness	True	True
	read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True
	reading_roughness_length	False	False
	roughness_scale	20 000.0	12 000.0
	shelf_depth_cutoff	160.0	−1000.0
	tide_speed_data_on_t_grid	True	True
	use_drag_dissipation	True	True
	use_legacy_methods		False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False
	verbose_init	True	
&ocean_xlandmix_nml	use_this_module	False	False
	verbose_init	True	
	xlandmix_kmt	True	
&xgrid_nml	interp_method	'second_-order'	'second_-order'
	make_exchange_reproduce	False	False
	nsubset		16

2.2 accessom2_025deg_jra55_ryf

We aim to have as few differences as possible, as this is where we've invested most SU...

Group	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
	chk_i2o_fields	False	False
	chk_o2i_fields	False	False
	do_ice_once	False	False
	dt_cpl	1200	1800
	fixmeltt	False	False
	frazil_factor	1.0	1.0
	iceform_adj_salt	False	False
	icemlt_factor	1.0	1.0
	kmxice	5	5
	pop_icediag	True	True
	sign_stflx	1.0	1.0

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
	tmelt	−0.216	−0.216
	use_ioaice	True	True
&diag_manager_nml	debug_diag_manager	True	True
	issue_oor_warnings	True	True
&fms_io_nml	fileset_write	'single'	'multi'
	threading_read	'multi'	'multi'
	threading_write	'single'	'multi'
&fms_nml	clock_grain	'LOOP'	'COMPONENT'
	domains_stack_size		115200
&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'
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in	15	15
	num_fields_out	7	7
	send_after_ocean_update	True	True
	send_before_ocean_update	False	False
&monin_obukhov_nml	neutral	True	True
&mpp_io_nml	deflate_level		5
	shuffle		1
&ocean_adv_vel_diag_nml	diag_step	4320	4320
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
	verbose_cfl	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5
&ocean_albedo_nml	ocean_albedo_option	2	2
&ocean_barotropic_nml	barotropic_halo	10	10
	barotropic_time_stepping_a	True	True
	barotropic_time_stepping_b	False	False
	debug_this_module	False	False
	diag_step	4320	4320
	eta_max	8.0	8.0
	frac_crit_cell_height	0.2	0.2
	pred_corr_gamma	0.2	0.2
	smooth_eta_diag_laplacian	True	True
	smooth_eta_t_biharmonic	False	False
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic	False	False
	smooth_pbot_t_laplacian	True	True
	truncate_eta	False	False
	use_legacy_barotropic_halos	False	False
	vel_micom_bih	0.01	0.01
	vel_micom_lap	0.05	0.05
	vel_micom_lap_diag	0.2	0.2
	verbose_truncate	True	True
	zero_tendency	False	False
&ocean_bbc_nml	bmf_implicit	True	True
	cdbot	0.001	0.001
	cdbot_hi	0.007	0.007
	cdbot_roughness_length	False	False
	cdbot_roughness_uamp	True	True
	uresidual	0.05	0.05
	use_geothermal_heating	False	False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom	True	
	use_this_module	False	False
	vel_micom	0.001	

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
&ocean_bihcst_friction_nml	use_this_module	False	False
&ocean_bihgen_friction_nml	bottom_5point	False	False
	eq_lat_micom	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0
	eq_vel_micom_iso	0.0	0.0
	equatorial_zonal	False	False
	k_smag_aniso	0.0	0.0
	k_smag_iso	2.0	2.0
	ncar_boundary_scaling	True	True
	ncar_boundary_scaling_read	True	True
	ncar_rescale_power	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5
	use_this_module	True	True
	vel_micom_aniso	0.0	0.0
	vel_micom_bottom	0.0	0.0
	vel_micom_iso	0.0	0.0
	visc_crit_scale	1.0	1.0
&ocean_convect_nml	convect_full_scalar	True	
	convect_full_vector	False	
	use_this_module	False	False
&ocean_coriolis_nml	acor	0.5	0.5
	use_this_module	True	True
&ocean_density_nml	eos_linear	False	False
	eos_preteos10	True	True
	layer_nk	80	80
	neutralrho_max	1038.0	1030.0
	neutralrho_min	1028.0	1020.0
	potrho_max	1038.0	1038.0
	potrho_min	1028.0	1028.0
&ocean_domains_nml	max_tracers	5	5
&ocean_form_drag_nml	use_this_module	False	False
&ocean_frazil_nml	debug_this_module	False	False
	frazil_only_in_surface	False	False
	freezing_temp_preteos10	True	True
	freezing_temp_simple	False	False
	use_this_module	True	True
&ocean_grids_nml	debug_this_module	False	False
&ocean_increment_eta_nml	use_this_module	False	False
&ocean_increment_tracer_nml	use_this_module	False	False
&ocean_increment_velocity_nml	use_this_module	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False
&ocean_lapgen_friction_nml	k_smag_iso	2.0	
	use_this_module	False	False
&ocean_mixdownslope_nml	debug_this_module	False	
	use_this_module	False	False
&ocean_model_nml	baroclinic_split	1	1
	barotropic_split	80	80
	cmip_units	True	True
	debug	False	False
	dt_ocean	1200	1200
	io_layout	6, 5	6, 5
	layout	48, 40	48, 40
	surface_height_split	1	1
	time_tendency	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	False	False
	use_rayleigh_damp_table	True	True
	use_this_module	True	True
&ocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc	False	False
	use_this_module	False	False
&ocean_nphysics_util_nml	agm	100.0	100.0
	agm_closure	True	True
	agm_closure_baroclinic	True	True
	agm_closure_buoy_freq	0.004	0.004
	agm_closure_length	50 000.0	50 000.0
	agm_closure_length_bczone	False	False
	agm_closure_length_fixed	False	False

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
	agm_closure_length_rossby	False	False
	agm_closure_lower_depth	2000.0	2000.0
	agm_closure_max	600.0	600.0
	agm_closure_min	100.0	100.0
	agm_closure_scaling	0.07	0.07
	agm_closure_upper_depth	100.0	100.0
	aredi	600.0	600.0
	aredi_equal_agm	False	False
	drhodz_mom4p1	False	False
	drhodz_smooth_horz	False	False
	drhodz_smooth_vert	False	False
	rossby_radius_max	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0
	smax	0.002	
	swidth	0.002	
	tracer_mix_micom	False	False
	vel_micom	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False
&ocean_nphysicsb_nml	use_this_module	False	False
&ocean_nphysicsc_nml	use_this_module	False	False
&ocean_operators_nml	use_legacy_div_ud	False	False
&ocean_overexchange_nml	debug_this_module	False	False
	overexch_npts	4	4
	overexch_weight_far	False	False
	overflow_umax	5.0	5.0
	use_this_module	False	False
&ocean_overflow_nml	debug_this_module	False	
	use_this_module	False	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	
	use_this_module	False	False
&ocean_polar_filter_nml	use_this_module	False	False
&ocean_pressure_nml	zero_pressure_force	False	False
&ocean_rivermix_nml	debug_this_module	False	False
	river_diffuse_salt	False	True
	river_diffuse_temp	False	True
	river_diffusion_thickness	0.0	0.0
	river_diffusivity	0.0	0.0
	river_insertion_thickness	40.0	40.0
	use_this_module	True	True
&ocean_riverspread_nml	use_this_module	False	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True
	avg_sfc_velocity	True	True
	calvingspread	False	False
	do_bitwise_exact_sum	False	False
	do_flux_correction	False	False
	land_model_heat_fluxes	False	False
	max_delta_salinity_restore	0.5	0.5
	max_ice_thickness	0.0	0.0
	read_restore_mask	False	False
	restore_mask_gfdl	False	False
	runoff_salinity	0.0	0.0
	salt_correction_scale	0.0	0.0
	salt_restore_as_salt_flux	True	True
	salt_restore_tscale	60.0	60.0
	salt_restore_under_ice	True	True
	temp_restore_tscale	−10.0	−10.0
	use_full_patm_for_sea_level	False	False
	use_waterflux	True	True
	zero_heat_fluxes	False	False
	zero_net_salt_correction	False	False
	zero_net_salt_restore	True	True
	zero_net_water_correction	False	False
	zero_net_water_couple_restore	True	True
	zero_net_water_coupler	True	True
	zero_net_water_restore	True	True
	zero_surface_stress	False	False
	zero_water_fluxes	False	False

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
&ocean_shortwave_csiro_nml	debug_this_module	False	
	read_depth	True	
	use_this_module	False	False
	zmax_pen	7000	
&ocean_shortwave_gfdl_nml	debug_this_module	False	False
	enforce_sw_frac	True	True
	optics_manizza	True	True
	optics_morel_antoine	False	False
	read_chl	True	True
	use_this_module	True	True
	zmax_pen	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	False
	use_shortwave_gfdl	True	True
	use_shortwave_jerlov	False	False
	use_this_module	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False	
	sigma_advection_sgs_only	False	
	sigma_diffusion_on	True	
	sigma_diffusivity_ratio	1×10^{-6}	
	sigma_just_in_bottom_cell	True	
	sigma_umax	0.01	
	smooth_sigma_thickness	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	False	False
	vel_micom	0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	31	31
	dt_cpld	1200	1200
	hours	0	0
	minutes	0	0
	months	0	0
	seconds	0	0
	years	0	0
&ocean_sponges_eta_nml	use_this_module	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False	
	use_this_module	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False
&ocean_submesoscale_nml	coefficient_ce	0.05	0.05
	debug_this_module	False	False
	front_length_const	5000.0	5000.0
	front_length_deform_radius	True	True
	limit_psi	True	True
	limit_psi_velocity_scale	0.5	0.5
	min_kblt	4	4
	smooth_advect_transport	True	True
	smooth_advect_transport_num	4	4
	smooth_hblt	False	False
	smooth_psi	True	True
	smooth_psi_num	3	3
	submeso_advect_flux	False	False
	submeso_advect_limit	True	True
	submeso_advect_upwind	True	True
	submeso_advect_zero_bdy	True	True
	submeso_diffusion	False	False
	submeso_diffusion_biharmonic	True	True
	submeso_diffusion_scale	10.0	10.0
	submeso_skew_flux	True	True
	use_hblt_equal_mld	True	True
	use_psi_legacy	False	False
	use_this_module	True	True
&ocean_tempsalt_nml	debug_this_module	False	False
	pottemp_2nd_iteration	True	True
	pottemp_equal_contemp	True	True
	s_max	70.0	70.0
	s_max_limit	42.0	42.0

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
	s_min	0.0	0.0
	s_min_limit	2.0	2.0
	t_max	55.0	55.0
	t_max_limit	32.0	32.0
	t_min	−20.0	−20.0
	t_min_limit	−5.0	−5.0
	temperature_variable	'potential_-temp'	'potential_-temp'
&ocean_thickness_nml	debug_this_module	False	False
	debug_this_module_detail	False	False
	rescale_mass_to_get_ht_mod	False	False
	thickness_dzt_min	2.0	
	thickness_dzt_min_init	10.0	
	thickness_method	'energetic'	'energetic'
&ocean_tracer_advect_nml	debug_this_module	False	False
	read_basin_mask	False	False
&ocean_tracer_diag_nml	diag_step	4320	4320
	do_bitwise_exact_sum	False	False
	tracer_conserve_days	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0
	debug_this_module	False	False
	frazil_heating_after_vphysics	True	True
	frazil_heating_before_vphysics	False	False
	limit_age_tracer	True	True
	remap_depth_to_s_init	False	False
	use_tempsalt_check_range	True	True
	zero_tendency	False	False
	zero_tracer_source	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False
	diag_step	4320	4320
	energy_diag_step	4320	4320
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True
	max_cgint	1.5	1.0
	truncate_velocity	False	False
	truncate_velocity_value	2.0	2.0
	truncate_verbose	True	True
	zero_tendency	False	False
	zero_tendency_explicit_a	False	False
	zero_tendency_explicit_b	False	False
	zero_tendency_implicit	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0
	double_diffusion	True	True
	kbl_standard_method	False	False
	ricr	0.3	0.3
	smooth_blmc	False	False
	smooth_ri_kmax_eq_kmu	True	True
	use_this_module	True	True
	visc_cbu_iw	0.0	0.0
&ocean_vert_mix_nml	aidif	1.0	1.0
	bryan_lewis_diffusivity	False	False
	bryan_lewis_lat_depend	False	False
	hwf_diffusivity	False	False
	hwf_min_diffusivity	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega	20.0	20.0
	use_diff_cbt_table	False	False
	vert_diff_back_via_max	True	True
	vert_mix_scheme	'kpp_-mom4p1'	'kpp_-mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0
	background_viscosity	0.0001	0.0001
	decay_scale	500.0	500.0
	drag_dissipation_use_cdbot	True	True
	drhodz_min	1×10^{-10}	1×10^{-10}
	fixed_wave_dissipation	False	False
	max_wave_diffusivity	0.01	0.01
	mixing_efficiency_n2depend	True	True
	read_roughness	True	True
	read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True

Group (continued)	Variable	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml
	reading_roughness_length	False	False
	roughness_scale	12 000.0	12 000.0
	shelf_depth_cutoff	−1000.0	−1000.0
	tide_speed_data_on_t_grid	True	True
	use_drag_dissipation	True	True
	use_legacy_methods	False	False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False
&ocean_xlandmix_nml	use_this_module	False	False
&surface_flux_nml	ncar_ocean_flux	True	
	raoult_sat_vap	True	
&xgrid_nml	interp_method	'second_-order'	'second_-order'
	make_exchange_reproduce	False	False
	nsubset	16	16

2.3 accessom2_01deg_jra55_ryf

Group	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
	chk_i2o_fields	False	False
	chk_o2i_fields	False	False
	do_ice_once	False	False
	dt_cpl	150	600
	fixmeltt	False	False
	frazil_factor	1.0	1.0
	iceform_adj_salt	False	False
	icemlt_factor	1.0	1.0
	kmxice	5	5
	pop_icediag	True	True
	sign_stflx	1.0	1.0
	tmelt	−0.216	−0.216
	use_ioaice	True	True
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
	max_axes	300	
	max_files	1000	
	max_input_fields	700	
	max_num_axis_sets	40	
	max_output_fields	700	
&fms_io_nml	checksum_required	False	
	fileset_write	'multi'	'multi'
	max_files_r	700	
	max_files_w	700	
	threading_read	'multi'	'multi'
	threading_write	'multi'	'multi'
&fms_nml	clock_grain	'LOOP'	'COMPONENT'
	domains_stack_size	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'

Group (continued)	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in	15	15
	num_fields_out	7	7
	send_after_ocean_update	True	True
	send_before_ocean_update	False	False
&monin_obukhov_nml	neutral	True	True
&mpp_io_nml	deflate_level	5	5
	shuffle	1	1
&ocean_adv_vel_diag_nml	diag_step	576	576
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
	verbose_cfl	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.2	0.5
&ocean_albedo_nml	ocean_albedo_option	2	2
&ocean_barotropic_nml	barotropic_halo	10	10
	barotropic_time_stepping_a	True	True
	barotropic_time_stepping_b	False	False
	debug_this_module	False	False
	diag_step	576	576
	eta_max	8.0	8.0
	frac_crit_cell_height	0.2	0.2
	pred_corr_gamma	0.2	0.2
	smooth_eta_diag_laplacian	True	True
	smooth_eta_t_biharmonic	False	False
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic	False	False
	smooth_pbot_t_laplacian	True	True
	truncate_eta	False	False
	use_legacy_barotropic_halos	False	False
	vel_micom_bih	0.01	0.01
	vel_micom_lap	0.05	0.05
	vel_micom_lap_diag	0.5	0.2
	verbose_truncate	True	True
	zero_tendency	False	False
&ocean_bbc_nml	bmf_implicit	True	True
	cdbot	0.001	0.001
	cdbot_hi	0.007	0.007
	cdbot_roughness_length	False	False
	cdbot_roughness_uamp	True	True
	uresidual	0.05	0.05
	use_geothermal_heating	False	False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom	True	
	use_this_module	False	False
	vel_micom	0.001	
&ocean_bihcst_friction_nml	use_this_module	False	False
&ocean_bihgen_friction_nml	bottom_5point	False	False
	eq_lat_micom	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0
	eq_vel_micom_iso	0.0	0.0
	equatorial_zonal	False	False
	k_smag_aniso	0.0	0.0
	k_smag_iso	2.0	2.0
	ncar_boundary_scaling	True	True
	ncar_boundary_scaling_read	True	True
	ncar_rescale_power	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5
	use_this_module	True	True
	vel_micom_aniso	0.0	0.0
	vel_micom_bottom	0.0	0.0
	vel_micom_iso	0.0	0.0
	visc_crit_scale	1.0	1.0
&ocean_convect_nml	convect_full_scalar	True	
	convect_full_vector	False	
	use_this_module	False	False
&ocean_coriolis_nml	acor	0.5	0.5

Group (continued)	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	use_this_module	True	True
&ocean_density_nml	eos_linear	False	False
	eos_preteos10	True	True
	layer_nk	80	80
	neutralrho_max	1038.0	1030.0
	neutralrho_min	1028.0	1020.0
	potrho_max	1038.0	1038.0
	potrho_min	1028.0	1028.0
&ocean_domains_nml	max_tracers	5	5
&ocean_form_drag_nml	use_this_module	False	False
&ocean_frazil_nml	debug_this_module	False	False
	frazil_only_in_surface	False	False
	freezing_temp_preteos10	True	True
	freezing_temp_simple	False	False
	use_this_module	True	True
&ocean_grids_nml	debug_this_module	False	False
&ocean_increment_eta_nml	use_this_module	False	False
&ocean_increment_tracer_nml	use_this_module	False	False
&ocean_increment_velocity_nml	use_this_module	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False
&ocean_lapgen_friction_nml	k_smag_iso	2.0	
	use_this_module	False	False
&ocean_mixdownslope_nml	debug_this_module	False	
	use_this_module	False	False
&ocean_model_nml	baroclinic_split	1	1
	barotropic_split	80	80
	cmip_units		True
	debug	False	False
	dt_ocean	150	150
	io_layout	10, 15	10, 15
	layout	80, 75	80, 75
	surface_height_split	1	1
	time_tendency	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	False	False
	use_rayleigh_damp_table	True	True
	use_this_module	True	True
&ocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc	False	False
	use_this_module	False	False
&ocean_nphysics_util_nml	agm	100.0	100.0
	agm_closure	True	True
	agm_closure_baroclinic	True	True
	agm_closure_buoy_freq	0.004	0.004
	agm_closure_length	50 000.0	50 000.0
	agm_closure_length_bczone	False	False
	agm_closure_length_fixed	False	False
	agm_closure_length_rossby	False	False
	agm_closure_lower_depth	2000.0	2000.0
	agm_closure_max	600.0	600.0
	agm_closure_min	100.0	100.0
	agm_closure_scaling	0.07	0.07
	agm_closure_upper_depth	100.0	100.0
	aredi	600.0	600.0
	aredi_equal_agm	False	False
	drhodz_mom4p1	False	False
	drhodz_smooth_horz	False	False
	drhodz_smooth_vert	False	False
	rossby_radius_max	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0
	smax	0.002	
	swidth	0.002	
	tracer_mix_micom	False	False
	vel_micom	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False
&ocean_nphysicsb_nml	use_this_module	False	False
&ocean_nphysicsc_nml	use_this_module	False	False
&ocean_operators_nml	use_legacy_div_ud	False	False
&ocean_overexchange_nml	debug_this_module	False	False

Group (continued)	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	overexch_npts	4	4
	overexch_weight_far	False	False
	overflow_umax	5.0	5.0
	use_this_module	False	False
&ocean_overflow_nml	debug_this_module	False	
	use_this_module	False	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	
	use_this_module	False	False
&ocean_polar_filter_nml	use_this_module	False	False
&ocean_pressure_nml	zero_pressure_force	False	False
&ocean_rivermix_nml	debug_this_module	False	False
	river_diffuse_salt	True	True
	river_diffuse_temp	True	True
	river_diffusion_thickness	0.0	0.0
	river_diffusivity	0.0	0.0
	river_insertion_thickness	40.0	40.0
	use_this_module	True	True
&ocean_riverspread_nml	debug_this_module	False	
	use_this_module	True	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True
	avg_sfc_velocity	True	True
	calvingspread	False	False
	do_bitwise_exact_sum	False	False
	do_flux_correction	False	False
	land_model_heat_fluxes	False	False
	max_delta_salinity_restore	0.5	0.5
	max_ice_thickness	0.0	0.0
	read_restore_mask	False	False
	restore_mask_gfdl	False	False
	runoff_salinity	0.0	0.0
	salt_correction_scale	0.0	0.0
	salt_restore_as_salt_flux	True	True
	salt_restore_tscale	60.0	60.0
	salt_restore_under_ice	True	True
	temp_restore_tscale	−10.0	−10.0
	use_full_patm_for_sea_level	False	False
	use_waterflux	True	True
	zero_heat_fluxes	False	False
	zero_net_salt_correction	False	False
	zero_net_salt_restore	True	True
	zero_net_water_correction	False	False
	zero_net_water_couple_restore	True	True
	zero_net_water_coupler	True	True
	zero_net_water_restore	True	True
	zero_surface_stress	False	False
	zero_water_fluxes	False	False
&ocean_shortwave_csiro_nml	use_this_module	False	False
&ocean_shortwave_gfdl_nml	debug_this_module	False	False
	enforce_sw_frac	True	True
	optics_manizza	True	True
	optics_morel_antoine	False	False
	read_chl	True	True
	use_this_module	True	True
	zmax_pen	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	False
	use_shortwave_gfdl	True	True
	use_shortwave_jerlov	False	False
	use_this_module	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False	
	sigma_advection_sgs_only	False	
	sigma_diffusion_on	True	
	sigma_diffusivity_ratio	1×10^{-6}	
	sigma_just_in_bottom_cell	True	
	sigma_umax	0.01	
	smooth_sigma_thickness	True	
	smooth_sigma_velocity	True	

Group (continued)	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	smooth_velmicom	0.2	
	thickness_sigma_layer	100.0	
	thickness_sigma_max	100.0	
	thickness_sigma_min	100.0	
	tmask_sigma_on	False	
	tracer_mix_micom	True	
	use_this_module	False	False
	vel_micom	0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	30	30
	dt_cpld	150	600
	hours	0	0
	minutes	0	0
	months	0	0
	seconds	0	0
	years	0	0
&ocean_sponges_eta_nml	use_this_module	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False	
	use_this_module	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False
&ocean_submesoscale_nml	coefficient_ce	0.05	0.05
	debug_this_module	False	False
	front_length_const	5000.0	5000.0
	front_length_deform_radius	True	True
	limit_psi	True	True
	limit_psi_velocity_scale	0.5	0.5
	min_kblt	4	4
	smooth_advect_transport	True	True
	smooth_advect_transport_num	4	4
	smooth_hblt	False	False
	smooth_psi	True	True
	smooth_psi_num	3	3
	submeso_advect_flux	False	False
	submeso_advect_limit	True	True
	submeso_advect_upwind	True	True
	submeso_advect_zero_bdy	True	True
	submeso_diffusion	False	False
	submeso_diffusion_biharmonic	True	True
	submeso_diffusion_scale	10.0	10.0
	submeso_skew_flux	True	True
	use_hblt_equal_mld	True	True
	use_psi_legacy	False	False
	use_this_module	True	True
&ocean_tempsalt_nml	debug_this_module	True	False
	pottemp_2nd_iteration	True	True
	pottemp_equal_contemp	True	True
	s_max	70.0	70.0
	s_max_limit	42.0	42.0
	s_min	0.0	0.0
	s_min_limit	2.0	2.0
	t_max	55.0	55.0
	t_max_limit	32.0	32.0
	t_min	−20.0	−20.0
	t_min_limit	−5.0	−5.0
	temperature_variable	'potential_-temp'	'potential_-temp'
&ocean_thickness_nml	debug_this_module	False	False
	debug_this_module_detail	False	False
	rescale_mass_to_get_ht_mod	False	False
	thickness_dzt_min	2.0	
	thickness_dzt_min_init	10.0	
	thickness_method	'energetic'	'energetic'
&ocean_tracer_advect_nml	debug_this_module	False	False
	read_basin_mask	False	False
&ocean_tracer_diag_nml	diag_step	576	576
	do_bitwise_exact_sum	False	False
	tracer_conserve_days	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0
	debug_this_module	False	False
	frazil_heating_after_vphysics	True	True
	frazil_heating_before_vphysics	False	False
	limit_age_tracer	True	True

Group (continued)	Variable	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	remap_depth_to_s_init	False	False
	use_tempsalt_check_range	True	True
	zero_tendency	False	False
	zero_tracer_source	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False
	diag_step	576	576
	energy_diag_step	5760	5760
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True
	max_cgint	1.0	1.0
	truncate_velocity	False	False
	truncate_velocity_value	2.0	2.0
	truncate_verbose	True	True
	zero_tendency	False	False
	zero_tendency_explicit_a	False	False
	zero_tendency_explicit_b	False	False
	zero_tendency_implicit	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0
	double_diffusion	True	True
	kbl_standard_method	False	False
	ricr	0.3	0.3
	smooth_blmc	False	False
	smooth_ri_kmax_eq_kmu	True	True
	use_this_module	True	True
	visc_cbu_iw	0.0	0.0
&ocean_vert_mix_nml	aidif	1.0	1.0
	bryan_lewis_diffusivity	False	False
	bryan_lewis_lat_depend	False	False
	hwf_diffusivity	False	False
	hwf_min_diffusivity	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega	20.0	20.0
	use_diff_cbt_table	False	False
	vert_diff_back_via_max	True	True
	vert_mix_scheme	'kpp_-mom4p1'	'kpp_-mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0
	background_viscosity	0.0001	0.0001
	decay_scale	500.0	500.0
	drag_dissipation_use_cdbot	True	True
	drhodz_min	1×10^{-10}	1×10^{-10}
	fixed_wave_dissipation	False	False
	max_wave_diffusivity	0.01	0.01
	mixing_efficiency_n2depend	True	True
	read_roughness	True	True
	read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True
	reading_roughness_length	False	False
	roughness_scale	12 000.0	12 000.0
	shelf_depth_cutoff	−1000.0	−1000.0
	tide_speed_data_on_t_grid	True	True
	use_drag_dissipation	True	True
	use_legacy_methods	False	False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False
&ocean_xlandmix_nml	use_this_module	False	False
&sat_vapor_pres_nml	show_all_bad_values	True	
&surface_flux_nml	ncar_ocean_flux	True	
	raoult_sat_vap	True	
&xgrid_nml	do_alltoall	True	True
	do_alltoallv	True	True
	interp_method	'second_-order'	'second_-order'
	make_exchange_reproduce	False	False
	nsubset	16	16
	xgrid_log	False	

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

Group	Variable	original/hogg_accessom2_1deg_jra55_ryf_input.nml	new/control/1deg_jra55_ryf/ocean/input.nml	original/kiss_accessom2_025deg_jra55_ryf_input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	original/hogg_accessom2_01deg_jra55_ryf_input.nml	new/control/01deg_jra55_ryf/ocean/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}					
	lat_low_bgdiff	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'	'COMPONENT'	'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
&ocean_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	True	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	0.01	0.0	0.0	0.0	0.0
	vel_micom_iso	0.04	0.04	0.0	0.0	0.0	0.0
	visc_crit_scale	0.25	0.25	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	1030.0	1038.0	1030.0	1038.0	1030.0
	neutralrho_min	1020.0	1020.0	1028.0	1020.0	1028.0	1020.0
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	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					
	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					
	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	0.1				
	viscosity_ncar	True	False				
	viscosity_ncar_2000	False					
	viscosity_ncar_2007	True					
	viscosity_scale_by_rossby	True	True				
	viscosity_scale_by_rossby_power	4.0	4.0				
&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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	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	

Group (continued)	Variable	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	use_this_module	False	False	False	False	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	max_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_acces- som2_- 1deg_- jra55_ryf_- input.nml	new/ control/ 1deg_- jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2_- 025deg_- jra55_ryf_- input.nml	new/ control/ 025deg_- jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2_- 01deg_- jra55_ryf_- input.nml	new/ control/ 01deg_- jra55_ryf/ ocean/ input.nml
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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										
bg_diff_eq							1×10^{-6}			
	lat_low_bgdiff						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'	'COMPONENT'	'COMPONENT'	'COMPONENT'
	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/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/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_mom-sis025_input.nml	original/ fanghua_-mom-sis01v5KDS75 WOA13_input.nml	original/ russ-accessom-mom4p1-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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	True	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	0.01	0.0	0.0
	vel_micom_iso	0.04	0.04	0.0	0.0	0.0	0.04	0.04	0.0	0.0
	visc_crit_scale	0.25	0.25	1.0	1.0	1.0	0.25	0.25	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	1030.0	1030.0	1030.0
	neutralrho_min	1020.0	1020.0	1028.0	1028.0	1028.0	1020.0	1020.0	1020.0	1020.0
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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			
	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			
	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	0.1				0.1	0.1		
	viscosity_ncar	False	False				False	False		
	viscosity_ncar_2000						False			
	viscosity_ncar_2007						True			
	viscosity_scale_by_rossby	True	True				True	True		
	viscosity_scale_by_rossby_power	4.0	4.0				4.0	4.0		
&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_in-put.nml	original/ fanghua_-mom-sis01v5KDS75 WOA13_in-put.nml	original/ russ-accessom-mom4p1-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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	debug_this_module	False	False							
	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	debug_this_module	False	False							
	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	bv_freq_smooth_vert	True					True	True		
	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_mom- sis025_in- put.nml	original/ fanghua_- mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg_- jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_- jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_- jra55_ryf/ ocean/ 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	use_legacy_div_ud	True		False	False	False		False	False	False
&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	debug_this_module	False	False	False	False	False	False			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml	debug_this_module			False	False	False				
	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	zero_pressure_force			False	False	False		False	False	False
&ocean_rivermix_nml	calving_insertion_thickness	40.0	40.0							
	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	debug_this_module			'.false'	'.false'	'.false'				
	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/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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			
	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_mom-sis025_in-put.nml	original/ fanghua_-mom-sis01v5KDS75 WOA13_in-put.nml	original/ russ-accessom-mom4p1-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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_in-put.nml	original/ fanghua_-mom-sis01v5KDS75 WOA13_in-put.nml	original/ russ-accessom-mom4p1-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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_mom-sis025_in-put.nml	original/ fanghua_-mom-sis01v5KDS75 WOA13_in-put.nml	original/ russ-accessom-mom4p1-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ 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_topog-ra-phy.data.nc'	'INPUT/ navy_topog-ra-phy.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 GFDL & ACCESS configs (differences highlighted)

Group	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff			0.15	0.15	0.15	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	False	False
	chk_o2i_fields			False	False	False	False	False	False	False
	do_ice_once			False	False	False	False	False	False	False
	dt_cpl			3600	3600	3600	1800	1800	150	600
	fixmeltt			False	False	False	False	False	False	False
	frazil_factor			1.0	1.0	1.0	1.0	1.0	1.0	1.0
	iceform_adj_salt			False	False	False	False	False	False	False
	icemlt_factor			1.0	1.0	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	5	5
	ksmax						5			
	limit_srfstress						False			
	mstress						2.0			
	pop_icediag			True	True	True	True	True	True	True
	redsea_gulfbay_sfix				True	True	False			
	sfix_hours						12			
	sign_stflx			1.0	1.0	1.0	1.0	1.0	1.0	1.0
	tlthk0						10.0			
	tmelt			−0.216	−0.216	−0.216	−0.216	−0.216	−0.216	−0.216
	use_ioaice			True	True	True	True	True	True	True
&bg_diff_lat_dependence_nml										
bg_diff_eq				1×10^{-6}	1×10^{-6}					
	lat_low_bgdiff			20.0	20.0					
&coupler_nml	atmos_npes	0	0							
	atmos_nthreads	4								
	calendar	'NOLEAP'	'NOLEAP'							
	check_stocks	0	0							
	concurrent	True	False							
	current_date	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0							
	days	0	2							
	do_atmos	True	False							
	do_flux	True								
	do_ice	True	True							
	do_land	True	False							
	do_ocean	True	True							
	dt_atmos	1800	7200							
	dt_cpld	7200	7200							
	months	12	0							
	ocean_npes	96	0							
	use_lag_fluxes	True	True							
&data_override_nml							False			
debug_data_override										
	grid_center_bug						False			
&diag_integral_nml	file_name	'diag_-integral.out'	'diag_-integral.out'							
	output_interval	1.0	1.0							
	time_units	'days'	'days'							
&diag_manager_nml							False			
append_pelist_name										
	conserve_water						True			
	debug_diag_manager					True	True	True		True
	do_diag_field_log						False			
	issue_oor_warnings	False	False	False	False	True	True	True	False	True
	max_axes	200	100				60		300	
	max_field_attributes						2			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	max_file_attributes						2			
	max_files	50					31		1000	
	max_input_fields	800	699				300		700	
	max_num_axis_sets	200	100				25		40	
	max_out_per_in_field						150			
	max_output_fields	1300	699				300		700	
	mix_snapshot_average_fields	False	False				False			
	oor_warnings_fatal						False			
	prepend_date						True			
	region_out_use_alt_value						True			
	use_cmor						False			
	write_bytes_in_file						False			
&flux_exchange_nml	debug_stocks	False	False							
	divert_stocks_report	True	True							
	do_area_weighted_flux	False	False							
	nblocks	4								
&fms_io_nml	checksum_required						True		False	
	debug_mask_list						False			
	dr_set_size						10			
	fileset_write		'single'	'single'	'single'	'single'	'single'	'multi'	'multi'	'multi'
	fms_netcdf_override						True			
	fms_netcdf_restart						True			
	format						'netcdf'			
	iospec_ieee32						':', 'N', 'ieee_32'			
	max_files_r	300	200				40		700	
	max_files_w	300	200				40		700	
	print_chksum						False			
	read_all_pe						True			
	read_data_bug						False			
	show_open_namelist_file_warning						False			
	threading_read	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	threading_write		'single'	'single'	'single'	'single'	'single'	'multi'	'multi'	'multi'
	time_stamp_restart						True			
&fms_nml	clock_flags						'NONE'			
	clock_grain	'COMPONENT'	'LOOP'	'LOOP'	'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'
	domains_stack_size	5000000	8000000			115200	0	115200	115200	115200
	iospec_ieee32						':', 'N', 'ieee_32'			
	print_memory_usage						False		False	
	read_all_pe						True			
	stack_size	0	0				0			
	warning_level						'warning'			
&generic_tracer_nml	do_generic_cfc	False	False						False	
	do_generic_topaz	True	True						False	
	do_generic_tracer	True	True						False	
&get_cal_time_nml	allow_calendar_conversion						True			
&horiz_interp_nml	reproduce_siena						False			
&ice_albedo_nml	t_range	10.0	10.0							
&ice_model_nml	add_diurnal_sw	False	True							
	alb_ice	0.65	0.615							
	alb_sno	0.85	0.825							
	channel_viscosity	500 000.0								
	cm2_bugs	False	False							
	do_icebergs	True	False							
	h_lo_lim	1×10^{-10}	1×10^{-10}							
	heat_rough_ice		0.0005							
	ice_bulk_salin	0.005	0.005							
	io_layout	1, 2								
	layout	15, 2								
	nsteps_adv	1	1							
	nsteps_dyn	72	108							
	num_part	6	6							
	spec_ice	False	False							
	t_range_melt	1.0	10.0							
	wd_turn	0.0	0.0							
&icebergs_nml	bergy_bit_erosion_fraction		0.0							
	debug		False							
	make_calving_reproduce	True								
	parallel_reprod		True							

Group (continued)	Variable	original/GFDL_ESM2M_input-cut.nml	original/MOM_SIS_TOPAZ_input.nml	original/russ-accessom-mom4p1-input.nml	original/hogg_accessom2_1deg_jra55_ryf_input.nml	new/control/1deg_jra55_ryf/ocean/input.nml	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.ou	new/control/025deg_jra55_ryf/ocean/input.nml	original/hogg_accessom2_01deg_jra55_ryf_input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	really_debug		False							
	sicn_shift		0.1							
	speed_limit	0.5								
	time_average_weight	False								
	traj_sample_hrs	0	0							
	use_operator_splitting		True							
	use_roundoff_fix	True								
	verbose	True	False							
	verbose_hrs	120	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'	'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'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in			15	15	15	15	15	15	15
	num_fields_out			7	7	7	7	7	7	7
	send_after_ocean_update			True	True	True	True	True	True	True
	send_before_ocean_update			False	False	False	False	False	False	False
&monin_obukhov_nml	neutral		True			True		True	True	True
	rich_crit	10.0								
	stable_option	2								
	zeta_trans	0.5								
&mpp_io_nml	deflate_level					5	-1	5	5	5
	global_field_on_root_pe						True			
	header_buffer_val						16384			
	io_clocks_on						False			
	shuffle					1	0	1	1	1
&ocean_adv_vel_diag_nml	diag_step	1200	12	120	4320	4320	4320	4320	576	576
	large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	False	False	False	True	True	True	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	0.5	0.5	0.2	0.5
	read_advection_transport						False			
	read_advection_velocity						False			
&ocean_albedo_nml	ocean_albedo_option	5	2			2		2	2	2
&ocean_barotropic_nml	alphat						0.948			
	barotropic_halo				10	10	10	10	10	10
	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						
	debug_this_module	False	False	False	False	False	False	False	False	False
	diag_step	1200	12	120	4320	4320	4320	4320	576	576
	do_bitwise_exact_sum	True					False			
	eta_max	8.0	8.0	8.0	8.0	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	0.2	0.2	0.2	0.2
	geoid_forcing						False			
	ideal_initial_eta						False			
	ideal_initial_eta_amplitude						5.0			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	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	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	True	True	True	True
	smooth_eta_t_biharmonic	True	True	True	False	False	False	False	False	False
	smooth_eta_t_bt_biharmonic						False			
	smooth_eta_t_bt_laplacian						False			
	smooth_eta_t_laplacian	False	False	False	True	True	True	True	True	True
	smooth_pbot_t_biharmonic	True	True	True	False	False	False	False	False	False
	smooth_pbot_t_biharmonic_legacy						False			
	smooth_pbot_t_laplacian	False	False	False	True	True	True	True	True	True
	tidal_forcing_8						False			
	tidal_forcing_ideal						False			
	tidal_forcing_m2						False			
	truncate_eta	False	False	False	False	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	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_bih_diag						0.1			
	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	0.2	0.2	0.2	0.2	0.2	0.5	0.2
	verbose_init						True			
	verbose_truncate	True	True	True	True	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	False	False	False
&ocean_bbc_nml	bmf_implicit					True	True	True	True	True
	bmf_max						1.0			
	cdbot	0.002	0.002	0.001	0.001	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	0.007
	cdbot_law_of_wall			False	False		False			
	cdbot_lo						0.001			
	cdbot_roughness_length					False	False	False	False	False
	cdbot_roughness_uamp					True	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	0.05	0.05	0.05
	use_geothermal_heating	True	True	False	False	False	False	False	False	False
	uvmag_max						10.0			
&ocean_bbc_ofam_nml	read_tide_speed			False	False		False			
	uresidual2_max			1.0	1.0		0.05			
&ocean_bih_friction_nml	bih_friction_-scheme	'general'	'general'	'general'	'general'	'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			
	read_diffusivity_mask						False			
	tracer_mix_micom						True		True	

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	use_this_module	False	False	False	False	False	False	False	False	False
	vel_micom						0.001		0.001	
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False	False		False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	True	True	True	True	False	False	False	False
	debug_this_module						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
	equatorial_zonal_lat						0.0			
	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					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
	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	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	0.01	0.01	0.01	0.0	0.0	0.0	0.0
	vel_micom_iso	0.04	0.04	0.04	0.04	0.04	0.0	0.0	0.0	0.0
	visc_crit_scale	0.25	0.25	0.25	0.25	0.25	1.0	1.0	1.0	1.0
	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			False	False		True		True	
	convect_full_vector			True	True		False		False	
	convect_ncon						False			
	ncon						7			
	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
	debug_this_module						False			
	use_this_module	True	True	True	True	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	False	False	False
	eos_preteos10	True			True	True	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	80	80	80	80
	linear_eos		False	False						
	mask_domain_restart						False			
	neutral_density_omega						False			
	neutral_density_potrho						True			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	neutralrho_max	1030.0	1030.0	1030.0	1030.0	1030.0	1038.0	1030.0	1038.0	1030.0
	neutralrho_min	1020.0	1020.0	1020.0	1020.0	1020.0	1028.0	1020.0	1028.0	1020.0
	num_121_passes						1			
	p_test						1000.0			
	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
	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			20	10	5	5	5	5	5
	x_cyclic_offset						0			
	y_cyclic_offset						0			
&ocean_drifters_nml	output_interval						1			
	use_this_module	False	False				False			
&ocean_form_drag_nml	agm_form_drag						600.0			
	cprime_aiki			0.6	0.6		0.3			
	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	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	False	False	False
	frazil_factor						1.0			
	frazil_only_in_surface	True	True	False		False	False	False	False	False
	freezing_temp_accurate		False	True						
	freezing_temp_preteos10					True	True	True	True	True
	freezing_temp_simple	True	True	False	True	False	False	False	False	False
	freezing_temp_teos10						False			
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_grids_nml	debug_this_module	True	True	True	True	False	False	False	False	False
	do_bitwise_exact_sum	True					False			
	read_rho0_profile	False	False	False	False		False			
	verbose_init						True			
	write_grid						False			
&ocean_increment_eta_nml	days_to_increment			0	0		1			
	fraction_increment			1.0	1.0		1.0			
	secs_to_increment			3600	1800		0			
	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/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
&ocean_increment_tracer_nml				0	0		1			
days_to_increment										
	fraction_increment			1.0	1.0		1.0			
	secs_to_increment			3600	1800		0			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_increment_velocity_nml				0	0		1			
days_to_increment										
	fraction_increment			1.0	1.0		1.0			
	secs_to_increment			3600	1800		0			
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_lap_friction_nml							False			
debug_this_module										
	lap_friction_scheme	'general'	'general'	'general'	'general'	'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	False	False	False	False
	vel_micom						0.0			
	verbose_init						True			
&ocean_lapcst_friction_nml		False	False	False	False	False		False	False	False
use_this_module										
&ocean_lapgen_friction_nml							False			
async_domain_update										
	blocksize						10			
	bottom_5point	True	True	True	True	True	False			
	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	0.0	0.0	0.0			
	k_smag_iso	0.0	0.0	0.0	0.0	0.0	2.0		2.0	
	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			True	True		False			
	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	True	True	True	True	True	False			
	restrict_polar_visc_lat	60.0	60.0	60.0	60.0	60.0	60.0			
	restrict_polar_visc_ratio	0.35	0.35	0.35	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	True	True	True	True	True	False	False	False	False
	vconst_1			8 000 000.0	8 000 000.0		10 000 000.0			
	vconst_2			0.0	0.0		0.0			
	vconst_3			0.8	0.8		0.16			
	vconst_4			5×10^{-9}	5×10^{-9}		2×10^{-8}			
	vconst_5			3	3		3			
	vconst_6			300 000 000.0	300 000 000.0		10 000 000.0			
	vconst_7			100.0	100.0		100.0			
	vconst_8						45.0			
	vel_micom_aniso						0.0			
	vel_micom_iso	0.1	0.1	0.1	0.1	0.1	0.0			
	visc_vel_scale_length						150 000.0			
	viscosity_ncar	False	False	False	True	False	False			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	viscosity_ncar_2000			False	False		True			
	viscosity_ncar_2007			True	True		False			
	viscosity_scale_by_rossby	True	True	True	True	True	False			
	viscosity_scale_by_rossby_power	4.0	4.0	4.0	4.0	4.0	2.0			
&ocean_mixdownslope_nml	debug_this_module	False	False	False	False	False	False		False	
	do_bitwise_exact_sum						False			
	mixdownslope_frac_central						0.25			
	mixdownslope_mask_gfdl	True	True	False	False	False	False			
	mixdownslope_npts	4	4	4	4	4	1			
	mixdownslope_weight_far						False			
	mixdownslope_width						1			
	read_mixdownslope_mask	True	True	False	False	False	False			
	use_this_module	True	True	True	True	True	False	False	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1	1	1	1	1	1
	barotropic_split	80	80	80	80	80	80	80	80	80
	cmip_units	False		True	True	True	True	True		True
	debug	False	False	False	False	False	False	False	False	False
	dt_ocean	7200	7200	3600	3600	3600	1800	1200	150	150
	horizontal_grid						'bgrid'			
	impose_init_from_restart	True	False				False			
	io_layout	1, 4			4, 3	4, 3	6, 5	6, 5	10, 15	10, 15
	layout	12, 8	6, 4	12, 10	16, 15	16, 15	48, 40	48, 40	80, 75	80, 75
	mask_table						'INPUT'			
	reinitialize_thickness						False			
	surface_height_split	1	1	1	1	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	use_blobs						False			
	use_velocity_override						False			
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	debug_this_module						False			
	rayleigh_damp_exp_from_bottom					False	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	True	True
	use_this_module	False	False	True	True	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	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	True	True	True	False	False	False	False
	use_this_module	True	True	True	True	True	False	False	False	False
	write_a_restart						True			
&ocean_nphysics_util_new_nml	num_121_passes						1			
&ocean_nphysics_util_nml	agm	800.0	800.0	600.0	600.0	600.0		100.0	100.0	100.0
	agm_closure	True	True	True	True	True		True	True	True
	agm_closure_baroclinic	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
	agm_closure_eady_ave_mixed	True	True	True	True	True				
	agm_closure_eady_cap	True	True	True	True	True				
	agm_closure_eady_smooth_horz	True	True	True	True	True				
	agm_closure_eady_smooth_vert	True	True	True	True	True				
	agm_closure_eden_gamma	0.0	0.0	0.0	0.0	0.0				
	agm_closure_eden_greatbatch	False	False	False	False	False				
	agm_closure_grid_scaling	True	True	True	True	True				
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0		50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False	False		False	False	False
	agm_closure_length_fixed	False	False	False	False	False		False	False	False
	agm_closure_length_rossby	False	False	False	False	False		False	False	False
	agm_closure_lower_depth	2000.0	2000.0	2000.0	2000.0	2000.0		2000.0	2000.0	2000.0
	agm_closure_max	800.0	800.0	600.0	600.0	600.0		600.0	600.0	600.0
	agm_closure_min	100.0	100.0	50.0	50.0	50.0		100.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07	0.07	0.07		0.07	0.07	0.07

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	agm_closure_upper_depth	100.0	100.0	100.0	100.0	100.0		100.0	100.0	100.0
	agm_damping_time	45.0	45.0	45.0	45.0	45.0				
	agm_smooth_space	False	False	False	False	False				
	agm_smooth_time	False	False	False	False	False				
	aredi	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
	drhodz_mom4p1	True	True	True	True	True		False	False	False
	drhodz_smooth_horz	False	False	False	False	False		False	False	False
	drhodz_smooth_vert	False	False	False	False	False		False	False	False
	nphysics_util_zero_init	True	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
	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
	smax	0.005	0.005						0.002	
	swidth	0.002	0.002						0.002	
	tracer_mix_micom	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
&ocean_nphysicsa_nml	debug_this_module	False	False							
	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
&ocean_nphysicsb_nml	debug_this_module	False	False							
	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
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True		True	True	True				
	bvp_bc_mode	2		2	2	2				
	bvp_min_speed	0.1		0.1	0.1	0.1				
	bvp_speed	0.0		0.0	0.0	0.0				
	debug_this_module	False		False	False	False				
	do_gm_skewsion	True		True	True	True				
	do_neutral_diffusion	True		True	True	True				
	epsln_bv_freq	1×10^{-12}		1×10^{-12}	1×10^{-12}	1×10^{-12}				
	gm_skewsion_bvproblem	True		True	True	True				
	gm_skewsion_modes	False		False	False	False				
	neutral_eddy_depth	True		True	True	True				
	neutral_physics_limit	True		True	True	True				
	number_bc_modes	2		2	2	2				
	regularize_psi	False		False	False	False				
	smax_psi	0.01		0.01	0.01	0.01				
	smooth_psi	True		True	True	True				
	tmask_neutral_on	True		True	True	True				
	turb_blayer_min	50.0		50.0	50.0	50.0				
	use_this_module	True	False	True	True	True		False	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'			

Group (continued)	Variable	original/GFDL_ESM2M_input-cut.nml	original/MOM_SIS_TOPAZ_input.nml	original/russ-accessom-mom4p1-input.nml	original/hogg_accessom2_1deg_jra55_ryf_input.nml	new/control/1deg_jra55_ryf/ocean/input.nml	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.ou	new/control/025deg_jra55_ryf/ocean/input.nml	original/hogg_accessom2_01deg_jra55_ryf_input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	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			
	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'			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_access-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_access-som2_-025deg_-jra55_ryf_-log-file.000000.ou	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_access-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	obc_flow_relax						1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 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'			
	obc_relax_tracer						False, False			
	obc_tan						'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'			

Group (continued)	Variable	original/GFDL_ESM2M_input-cut.nml	original/MOM_SIS_TOPAZ_input.nml	original/russ-accessom-mom4p1-input.nml	original/hogg_accessom2_1deg_jra55_ryf_input.nml	new/control/1deg_jra55_ryf/ocean/input.nml	original/kiss_accessom2_025deg_jra55_ryf_log-file.000000.ou	new/control/025deg_jra55_ryf/ocean/input.nml	original/hogg_accessom2_01deg_jra55_ryf_input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	obc_tra						'NOGRAD', 'NOGRAD'			
	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			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.o	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	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	True				False	False	False	False	False
&ocean_overexchange_nml	debug_this_module	False	False	False	False	False	False	False	False	False
	do_bitwise_exact_sum						False			
	overexch_check_extrema	False	False	False	False		False			
	overexch_min_thickness						4.0			
	overexch_npts	4	4	4	4	4	4	4	4	4
	overexch_stability						0.25			
	overexch_weight_far	False	False	False	False	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	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_nml	debug_this_module	False	False	False	False		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	False	False	False	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	

Group (continued)	Variable	original/ GFDL_- ESM2M_- input- cut.nml	original/ MOM_SIS_- TOPAZ_- input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2_- 1deg_- jra55_ryf_- input.nml	new/ control/ 1deg_- jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2_- 025deg_- jra55_ryf_- log- file.000000.01	new/ control/ 025deg_- jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2_- 01deg_- jra55_ryf_- input.nml	new/ control/ 01deg_- jra55_ryf/ ocean/ input.nml
	use_this_module					False		False	False	False
&ocean_parameters_nml	cp_liquid_runoff						4218.0			
	cp_ocean						3992.103 223			
	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	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	False
&ocean_rivermix_nml	calving_insertion_thickness	40.0	40.0				0.0			
	debug_all_in_top_cell						False			
	debug_this_module	False	False	False	False	False	False	False	False	False
	debug_this_module_heat						False			
	discharge_combine_runoff_calve	False	True				True			
	do_bitwise_exact_sum	True					False			
	river_diffuse_salt	False	False	False	False	True	False	True	True	True
	river_diffuse_temp	False	False	False	False	True	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	runoff_insertion_thickness	40.0	40.0				0.0			
	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module						False		False	
	riverspread_diffusion						False			
	riverspread_diffusion_passes						0			
	use_this_module	False	False	True	True	False	False	False	True	False
	vel_micom_smooth						0.2			
&ocean_rough_nml	rough_scheme	'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
	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	False
	do_flux_correction	True				False	False	False	False	False
	do_langmuir						False			
	eta_restore_tscale	−10.0					−30.0			
	ice_salt_concentration			0.005			0.005			
	land_model_heat_fluxes	True	False			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	8.0	8.0	0.0	0.0	0.0	0.0	0.0
	read_restore_mask			False	False	False	False	False	False	False
	read_stokes_drift						False			
	restore_mask_gfdl			False	False	False	False	False	False	False
	rotate_winds						False			
	runoff_salinity			0.0	0.0	0.0	0.0	0.0	0.0	0.0
	runoff_temp_min						0.0			
	runoffspread	False	False				False			
	salinity_ref						35.0			
	salt_correction_scale	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	15.0	15.0	60.0	60.0	60.0	60.0	60.0
	salt_restore_under_ice			True	True	True	True	True	True	True
	sbc_heat_fluxes_const						False			
	sbc_heat_fluxes_const_seasonal						False			
	sbc_heat_fluxes_const_value						0.0			
	tau_x_correction_scale	0.0					0.0			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	tau_y_correction_scale	0.0					0.0			
	taux_sinx						False			
	tauy_siny						False			
	temp_correction_scale	1.0					0.0			
	temp_restore_tscale	−10.0	−10.0	−1.0	−1.0	−10.0	−10.0	−10.0	−10.0	−10.0
	use_constant_sss_for_restore						False			
	use_constant_sst_for_restore						False			
	use_full_patm_for_sea_level	True	True			False	False	False	False	False
	use_ideal_calving						False			
	use_ideal_runoff						False			
	use_waterflux	True	True	True	True	True	True	True	True	True
	use_waterflux_override_calving	False					False			
	use_waterflux_override_evap	False					False			
	use_waterflux_override_fprec	False					False			
	waterflux_tavg	False	False	False	False		False			
	zero_calving_fluxes						False			
	zero_heat_fluxes			False	False	False	False	False	False	False
	zero_net_pme_eta_restore	False					False			
	zero_net_salt_correction					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
	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						False			
	zero_surface_stress			False	False	False	False	False	False	False
	zero_water_fluxes			False	False	False	False	False	False	False
&ocean_sbc_ofam_nml				False	False		False			
restore_mask_ofam										
	river_temp_ofam			False	False		False			
&ocean_shortwave_csiro_nml				True	True					
read_depth										
	use_this_module	False	False	True	True	False		False	False	False
	zmax_pen			7000	7000					
&ocean_shortwave_gfdl_nml							0.08			
chl_default										
	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_for_uniform_chl						False			
	optics_manizza	True	True	True	True	True	True	True	True	True
	optics_morel_antoine	False	False			False	False	False	False	False
	override_f_vis	False	False				True			
	read_chl	False	False	False	False	True	True	True	True	True
	sw_frac_top						0.0			
	sw_morel_fixed_depths						False			
	sw_pen_fixed_depths			False	False					
	use_this_module	True	True	False	False	True	True	True	True	True
	zmax_pen	200.0	200.0	200.0	200.0	300.0	300.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml		False	False	False	False	False		False	False	False
use_this_module										
&ocean_shortwave_nml		False	False	True	True	False	False	False	False	False
use_shortwave_csiro										
	use_shortwave_ext						False			
	use_shortwave_gfdl	True	True	False	False	True	True	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							0.3333			
campingoose_delta										
	campingoose_mu						0.0001			
	debug_this_module						False			
	sigma_advection_check						True			
	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						1000.0			
	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	

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	smooth_velmicom	0.2	0.2	0.2	0.2		0.2		0.2	
	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	True	True	False	False	False	False	False
	vel_micom	0.05	0.05	0.05	0.05		0.05		0.05	
	verbose_init						True			
	write_a_restart						True			
&ocean_solo_nml	calendar			'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init			1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days			0	1460	1460	0	31	30	30
	debug_this_module				False		False			
	dt_cpld			3600	3600	3600	1800	1200	150	600
	hours			0	0	0	0	0	0	0
	layout_mask						0, 0			

Group (continued)	Variable	original/ GFDL_- ESM2M_- input- cut.nml	original/ MOM_SIS_- TOPAZ_- input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2_- 1deg_- jra55_ryf_- input.nml	new/ control/ 1deg_- jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2_- 025deg_- jra55_ryf_- log- file.000000.ou	new/ control/ 025deg_- jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2_- 01deg_- jra55_ryf_- input.nml	new/ control/ 01deg_- jra55_ryf/ ocean/ input.nml
	mask_list						0, 0,			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	minutes			0	0	0	0	0	0	0
	months			12	0	0	0	0	0	0
	n_mask						0			
	restart_interval						0, 0, 0, 0, 0, 0			
	seconds			0	0	0	0	0	0	0
	years				0	0	1	0	0	0
&ocean_sponges_eta_nml	use_this_-module	False	False	False	False	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	False		False		False	
	use_this_module	False	False	False	False	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	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	0.05
	constant_hblt						100.0			
	debug_this_module	False	False	False	False	False	False	False	False	False
	diag_step						1200			
	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
	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
	minimum_hblt						0.0			
	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	False	False	False
	smooth_hblt_num						2			
	smooth_psi					True	True	True	True	True
	smooth_psi_num					3	3	3	3	3
	submeso_advect_flux					False	False	False	False	False

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	submeso_advect_limit					True	True	True	True	True
	submeso_advect_sweby						False			
	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	True	True	True		True			
	submeso_skew_flux					True	True	True	True	True
	time_constant						86 400.0			
	use_hblt_constant						False			
	use_hblt_equal_mld	True	True	True	True	True	True	True	True	True
	use_psi_legacy	True				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	True	False
	pottemp_2nd_iteration	True	True	True	True	True	True	True	True	True
	pottemp_equal_contemp					True	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	55.0	55.0	55.0	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	42.0	42.0	42.0
	s_min	−1.0	−1.0	−1.0	−1.0	0.0	0.0	0.0	0.0	0.0
	s_min_limit	5.0	5.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0
	t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
	t_min	−5.0	−5.0	−5.0	−5.0	−20.0	−20.0	−20.0	−20.0	−20.0
	t_min_limit	−1.9	−1.9	−2.0	−2.0	−5.0	−5.0	−5.0	−5.0	−5.0
	temperature_variable	'potential_-temp'	'potential_-temp'	'conservative_-temp'	'conservative_-temp'	'potential_-temp'	'potential_-temp'	'potential_-temp'	'potential_-temp'	'potential_-temp'
	teos10			False			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
	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	False	False		False			
	linear_free_surface						False			
	max_num_bad_print						25			
	pbot0_simple						False			
	read_rescale_rho0_mask	True	True	False	False		False			
	read_rho0_profile						False			
	rescale_mass_to_get_ht_mod					False	False	False	False	False
	rescale_rho0_basin_label	7.0	7.0	7.0	7.0		−1.0			
	rescale_rho0_mask_gfdl	True	True	False	False		False			
	rescale_rho0_value	0.75	0.75	0.75	0.75		1.0			
	thickness_dzt_min	2.0	2.0	1.0	1.0		2.0		2.0	
	thickness_dzt_min_init	2.0	2.0	2.0	2.0		10.0		10.0	
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
	update_dzwu_k0						True			
	write_a_restart						True			
&ocean_time_filter_nml	use_this_module	False	False							
&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	5.0	5.0	25.0	25.0		1.0			
	write_topog						False			
&ocean_tracer_advect_nml	advect_sweby_all	False	False	True	True		False			
	async_domain_update				True		False			
	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				False			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	psom_limit_prather						False			
	read_basin_mask			True		False	False	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	1200	12	120	4320	4320	4320	4320	576	576
	do_bitwise_exact_sum	False	False	False	False	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	True	True				False			
	smooth_mld_for_subduction						True			
	tracer_conserve_days	100.0	100.0	1.0	1.0	30.0	30.0	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
	compute_tmask_limit_on						True			
	debug_this_module	False	False	False	False	False	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True	True	True	True	True	True
	frazil_heating_before_vphysics	False	False	False	False	False	False	False	False	False
	inflow_nboundary						False			
	interpolate_tdiag_to_pbott	False					False			
	interpolate_tprog_to_pbott	False					True			
	limit_age_tracer	True	True	True	True	True	True	True	True	True
	ocean_tpm_debug						False			
	remap_depth_to_s_init	False	False	False	False	False	False	False	False	False
	tmask_limit_ts_same	True	True				True			
	use_tempsalt_check_range				True	True	True	True	True	True
	write_a_restart						True			
	zero_tendency	False	False	False	False	False	False	False	False	False
	zero_tracer_source	False	False	False	False	False	False	False	False	False
&ocean_tracer_util_nml	debug_diagnose_mass_of_layer						False			
	epsln_diagnose_mass_of_layer						1×10^{-5}			
	rebin_onto_rho_all_values						True			
&ocean_velocity_advect_nml	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	False	False	False	False
	diag_step	1200	12	120	4320	4320	4320	4320	576	576
	do_bitwise_exact_sum						False			
	energy_diag_step	1200	12	120	4320	4320	4320	4320	5760	5760
	land_cell_num_max						100			
	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			
&ocean_velocity_nml	adams_bashforth_epsilon						0.6			
	adams_bashforth_third	True	True	True	True	True	True	True	True	True
	constant_u						0.0			
	constant_v						0.0			
	debug_this_module						False			
	max_cgint			1.0	1.0	1.0	1.5	1.0	1.0	1.0
	truncate_velocity	False	False	False	True	False	False	False	False	False
	truncate_velocity_lat						0.0			
	truncate_velocity_value	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	truncate_verbose	True	True	True	True	True	True	True	True	True
	update_velocity_via_uprime						True			
	use_constant_velocity						False			
	write_a_restart						True			
	zero_tendency	False	False	False	False	False	False	False	False	False
	zero_tendency_explicit_a					False	False	False	False	False

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	zero_tendency_explicit_b					False	False	False	False	False
	zero_tendency_implicit					False	False	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False		False	False		False	False	False
&ocean_vert_kpp_mom4p0_nml	use_this_module	False	False		False					
&ocean_vert_kpp_mom4p1_nml	bvf_from_below						False			
	calc_visc_on_cgrid						False			
	concv						1.8			
	cw_0						0.15			
	debug_this_module						False			
	diff_cbt_iw	0.0			0.0	0.0	0.0	0.0	0.0	0.0
	diff_cbt_limit						0.005			
	diff_con_limit				0.1		0.1			
	do_langmuir						False			
	double_diffusion	True			True	True	True	True	True	True
	hbl_with_rit						False			
	kbl_standard_method				False	False	False	False	False	False
	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	0.3	0.3	0.3
	shear_instability						True			
	smooth_blmc	True			False	False	False	False	False	False
	smooth_ri_kmax_eq_kmu				True	True	True	True	True	True
	use_max_shear						False			
	use_sbl_bottom_flux						False			
	use_this_module	True			True	True	True	True	True	True
	variable_vtc						False			
	visc_cbu_iw	0.0			0.0	0.0	0.0	0.0	0.0	0.0
	visc_cbu_limit						0.005			
	visc_con_limit				0.1		0.1			
	wsfc_combine_runoff_calve	False					True			
	wstfac						0.6			
&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	0.65		0.55			
	afkph_90	0.725	0.725	0.75	0.75		0.55			
	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	True	True	False	False	False	False	False
	bryan_lewis_lat_transition	35.0	35.0	35.0	35.0		35.0			
	debug_this_module						False			
	dfkph_00	1.15	1.15	1.15	1.15		1.05			
	dfkph_90	1.15	1.15	0.95	0.95		1.05			
	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	False
	hwf_diffusivity_3d						False			
	hwf_min_diffusivity					2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega					20.0	20.0	20.0	20.0	20.0

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	linear_taper_diff_cbt_table	False	False	False	False		False			
	num_121_passes						1			
	quebec_2009_10_bug	False					False			
	sfkph_00	4.5×10^{-5}	4.5×10^{-5}	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}	4.5×10^{-5}		4.5×10^{-5}			
	smooth_rho_n2						True			
	use_diff_cbt_table	False	False	False	False	False	False	False	False	False
	use_explicit_vert_diffuse						True			
	verbose_init						True			
	vert_diff_back_via_max	True	True	True	True	True	True	True	True	True
	vert_mix_scheme	'kpp_-mom4p1'	'kpp'	'kpp'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'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}			
	vmix_min_diss_flux_ri_max						0.2			
	vmix_rescale_nonbouss						False			
	vmix_set_min_dissipation						False			
	zfkph_00	250 000 000.0	250 000 000.0	250 000.0	250 000.0		250 000.0			
	zfkph_90	250 000 000.0	250 000 000.0	250 000.0	250 000.0		250 000.0			
&ocean_vert_tidal_nml										
	background_diffusivity	0.0	0.0	5×10^{-6}	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	0.0001	0.0001	0.0001
	bottom_drag_cd						0.0024			
	debug_this_module						False			
	decay_scale	300.0	300.0	300.0	300.0	500.0	500.0	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	True
	drag_mask_deep						True			
	drag_mask_deep_ratio						0.1			
	drhodz_min	1×10^{-12}	1×10^{-12}	1×10^{-12}	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	False	False	False
	max_drag_diffusivity			0.01	0.01		0.005			
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	mixing_efficiency						0.2			
	mixing_efficiency_n2depend	True	True	True	True	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	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
	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	20 000.0	20 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	160.0	160.0	160.0	−1000.0	−1000.0	−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	True	True	True	True
	use_drag_dissipation	True	True	True	True	True	True	True	True	True
	use_leewave_dissipation						False			
	use_legacy_methods	True				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
	vel_micom_smooth						0.2			
	wave_diffusivity_monotonic						True			
	wave_energy_flux_max	0.1	0.1	0.1	0.1	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			

Group (continued)	Variable	original/ GFDL_-ESM2M_-input-cut.nml	original/ MOM_SIS_-TOPAZ_-input.nml	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ kiss_acces-som2_-025deg_-jra55_ryf_-log-file.000000.01	new/ control/ 025deg_-jra55_ryf/ ocean/ input.nml	original/ hogg_acces-som2_-01deg_-jra55_ryf_-input.nml	new/ control/ 01deg_-jra55_ryf/ ocean/ input.nml
	smooth_ri_number						True			
&ocean_wave_nml	damp_where_ice						True			
	debug_this_module						False			
	filter_wave_mom						True			
	use_this_module						False			
	use_tma						True			
	wavedamp						—10.0			
	write_a_restart						True			
&ocean_xlandinsert_nml	use_this_module	True	True	False	False	False		False	False	False
	verbose_init	True	True	True	True					
&ocean_xlandmix_nml	use_this_module	True	True	False	False	False		False	False	False
	verbose_init	True	True	True	True					
	xlandmix_kmt	True	True	True	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	
	old_dtaudv	False								
	raoult_sat_vap								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			
&topography_nml	topog_file	'INPUT/ navy_topog-ra-phy.data.nc'	'INPUT/ navy_topog-ra-phy.data.nc'							
&xgrid_nml	do_alltoall								True	True
	do_alltoallv								True	True
	interp_method	'second_-order'	'second_-order'		'second_-order'	'second_-order'		'second_-order'	'second_-order'	'second_-order'
	make_exchange_reproduce	True	True		False	False		False	False	False
	nsubset					16		16	16	16
	xgrid_log								False	

6 All variables in new configs (differences highlighted)

Group	Variable	new/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15
	chk_i2o_fields	False	False	False
	chk_o2i_fields	False	False	False
	do_ice_once	False	False	False
	dt_cpl	3600	1800	600
	fixmeltt	False	False	False
	frazil_factor	1.0	1.0	1.0
	iceform_adj_salt	False	False	False
	icemlt_factor	1.0	1.0	1.0
	kmxice	5	5	5
	pop_icediag	True	True	True
	redsea_gulfbay_sfix	True		
	sign_stflx	1.0	1.0	1.0
	tmelt	−0.216	−0.216	−0.216
	use_ioaice	True	True	True
&diag_manager_nml	debug_diag_manager	True	True	True
	issue_oor_warnings	True	True	True
&fms_io_nml	fileset_write	'single'	'multi'	'multi'
	threading_read	'multi'	'multi'	'multi'
	threading_write	'single'	'multi'	'multi'
&fms_nml	clock_grain	'COMPONENT'	'COMPONENT'	'COMPONENT'
	domains_stack_size	115200	115200	115200
&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'
	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'
	num_fields_in	15	15	15
	num_fields_out	7	7	7
	send_after_ocean_update	True	True	True
	send_before_ocean_update	False	False	False
&monin_obukhov_nml	neutral	True	True	True
&mpp_io_nml	deflate_level	5	5	5
	shuffle	1	1	1
&ocean_adv_vel_diag_nml	diag_step	4320	4320	576
	large_cfl_value	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0
	verbose_cfl	True	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5	0.5
&ocean_albedo_nml	ocean_albedo_option	2	2	2
&ocean_barotropic_nml	barotropic_halo	10	10	10
	barotropic_time_stepping_a	True	True	True
	barotropic_time_stepping_b	False	False	False
	debug_this_module	False	False	False
	diag_step	4320	4320	576
	eta_max	8.0	8.0	8.0
	frac_crit_cell_height	0.2	0.2	0.2
	pred_corr_gamma	0.2	0.2	0.2
	smooth_eta_diag_laplacian	True	True	True
	smooth_eta_t_biharmonic	False	False	False
	smooth_eta_t_laplacian	True	True	True
	smooth_pbot_t_biharmonic	False	False	False
	smooth_pbot_t_laplacian	True	True	True
	truncate_eta	False	False	False
	use_legacy_barotropic_halos	False	False	False

Group (continued)	Variable	new/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	vel_micom_bih	0.01	0.01	0.01
	vel_micom_lap	0.05	0.05	0.05
	vel_micom_lap_diag	0.2	0.2	0.2
	verbose_truncate	True	True	True
	zero_tendency	False	False	False
&ocean_bbc_nml	bmf_implicit	True	True	True
	cdbot	0.001	0.001	0.001
	cdbot_hi	0.007	0.007	0.007
	cdbot_roughness_length	False	False	False
	cdbot_roughness_uamp	True	True	True
	uresidual	0.05	0.05	0.05
	use_geothermal_heating	False	False	False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'
&ocean_bih_tracer_nml	use_this_module	False	False	False
&ocean_bihcst_friction_nml	use_this_module	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	False	False
	eq_lat_micom	0.0	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0	0.0
	eq_vel_micom_iso	0.0	0.0	0.0
	equatorial_zonal	False	False	False
	k_smag_aniso	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True
	ncar_boundary_scaling_read	True	True	True
	ncar_rescale_power	2	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5	5
	use_this_module	True	True	True
	vel_micom_aniso	0.0	0.0	0.0
	vel_micom_bottom	0.01	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0
&ocean_convect_nml	use_this_module	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5
	use_this_module	True	True	True
&ocean_density_nml	eos_linear	False	False	False
	eos_preteos10	True	True	True
	layer_nk	80	80	80
	neutralrho_max	1030.0	1030.0	1030.0
	neutralrho_min	1020.0	1020.0	1020.0
	potrho_max	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0
&ocean_domains_nml	max_tracers	5	5	5
&ocean_form_drag_nml	use_this_module	False	False	False
&ocean_frazil_nml	debug_this_module	False	False	False
	frazil_only_in_surface	False	False	False
	freezing_temp_preteos10	True	True	True
	freezing_temp_simple	False	False	False
	use_this_module	True	True	True
&ocean_grids_nml	debug_this_module	False	False	False
&ocean_increment_eta_nml	use_this_module	False	False	False
&ocean_increment_tracer_nml	use_this_module	False	False	False
&ocean_increment_velocity_nml	use_this_module	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False	False
&ocean_lapgen_friction_nml	bottom_5point	True		
	k_smag_aniso	0.0		
	k_smag_iso	0.0		
	restrict_polar_visc	True		
	restrict_polar_visc_lat	60.0		
	restrict_polar_visc_ratio	0.35		
	use_this_module	True	False	False
	vel_micom_iso	0.1		
	viscosity_ncar	False		
	viscosity_scale_by_rossby	True		
	viscosity_scale_by_rossby_power	4.0		
&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	baroclinic_split	1	1	1

Group (continued)	Variable	new/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	barotropic_split	80	80	80
	cmip_units	True	True	True
	debug	False	False	False
	dt_ocean	3600	1200	150
	io_layout	4, 3	6, 5	10, 15
	layout	16, 15	48, 40	80, 75
	surface_height_split	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	False	False	False
	use_rayleigh_damp_table	True	True	True
	use_this_module	True	True	True
&ocean_nphysics_nml	debug_this_module	False	False	False
	use_nphysicsa	False	False	False
	use_nphysicsb	False	False	False
	use_nphysicsc	True	False	False
	use_this_module	True	False	False
&ocean_nphysics_util_nml	agm	600.0	100.0	100.0
	agm_closure	True	True	True
	agm_closure_baroclinic	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004
	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_length	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False
	agm_closure_length_fixed	False	False	False
	agm_closure_length_rossby	False	False	False
	agm_closure_lower_depth	2000.0	2000.0	2000.0
	agm_closure_max	600.0	600.0	600.0
	agm_closure_min	50.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07
	agm_closure_upper_depth	100.0	100.0	100.0
	agm_damping_time	45.0		
	agm_smooth_space	False		
	agm_smooth_time	False		
	aredi	600.0	600.0	600.0
	aredi_equal_agm	False	False	False
	drhodz_mom4p1	True	False	False
	drhodz_smooth_horz	False	False	False
	drhodz_smooth_vert	False	False	False
	nphysics_util_zero_init	True		
	rossby_radius_max	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0
	tracer_mix_micom	False	False	False
	vel_micom	0.0	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False	False
&ocean_nphysicsb_nml	use_this_module	False	False	False
&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		
	tmask_neutral_on	True		
	turb_blayer_min	50.0		
	use_this_module	True	False	False
&ocean_operators_nml	use_legacy_div_ud	False	False	False
&ocean_overexchange_nml	debug_this_module	False	False	False

Group (continued)	Variable	new/control/1deg_-jra55_ryf/ocean/input.nml	new/control/025deg_-jra55_ryf/ocean/input.nml	new/control/01deg_-jra55_ryf/ocean/input.nml
	overexch_npts	4	4	4
	overexch_weight_far	False	False	False
	overflow_umax	5.0	5.0	5.0
	use_this_module	False	False	False
&ocean_overflow_nml	use_this_module	False	False	False
&ocean_overflow_ofp_nml	use_this_module	False	False	False
&ocean_polar_filter_nml	use_this_module	False	False	False
&ocean_pressure_nml	zero_pressure_force	False	False	False
&ocean_rivermix_nml	debug_this_module	False	False	False
	river_diffuse_salt	True	True	True
	river_diffuse_temp	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0
	use_this_module	True	True	True
&ocean_riverspread_nml	use_this_module	False	False	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True
	avg_sfc_velocity	True	True	True
	calvingspread	False	False	False
	do_bitwise_exact_sum	False	False	False
	do_flux_correction	False	False	False
	land_model_heat_fluxes	False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5
	max_ice_thickness	0.0	0.0	0.0
	read_restore_mask	False	False	False
	restore_mask_gfdl	False	False	False
	runoff_salinity	0.0	0.0	0.0
	salt_correction_scale	0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True
	salt_restore_tscale	60.0	60.0	60.0
	salt_restore_under_ice	True	True	True
	temp_restore_tscale	−10.0	−10.0	−10.0
	use_full_patm_for_sea_level	False	False	False
	use_waterflux	True	True	True
	zero_heat_fluxes	False	False	False
	zero_net_salt_correction	False	False	False
	zero_net_salt_restore	True	True	True
	zero_net_water_correction	False	False	False
	zero_net_water_couple_restore	True	True	True
	zero_net_water_coupler	True	True	True
	zero_net_water_restore	True	True	True
	zero_surface_stress	False	False	False
	zero_water_fluxes	False	False	False
&ocean_shortwave_csiro_nml	use_this_module	False	False	False
&ocean_shortwave_gfdl_nml	debug_this_module	False	False	False
	enforce_sw_frac	True	True	True
	optics_manizza	True	True	True
	optics_morel_antoine	False	False	False
	read_chl	True	True	True
	use_this_module	True	True	True
	zmax_pen	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	False	False
	use_shortwave_gfdl	True	True	True
	use_shortwave_jerlov	False	False	False
	use_this_module	True	True	True
&ocean_sigma_transport_nml	use_this_module	False	False	False
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	1460	31	30
	dt_cpld	3600	1200	600
	hours	0	0	0
	minutes	0	0	0
	months	0	0	0
	seconds	0	0	0
	years	0	0	0
&ocean_sponges_eta_nml	use_this_module	False	False	False
&ocean_sponges_tracer_nml	use_this_module	False	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False	False
&ocean_submesoscale_nml	coefficient_ce	0.05	0.05	0.05
	debug_this_module	False	False	False
	front_length_const	5000.0	5000.0	5000.0

Group (continued)	Variable	new/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	front_length_deform_radius	True	True	True
	limit_psi	True	True	True
	limit_psi_velocity_scale	0.5	0.5	0.5
	min_kblt	4	4	4
	smooth_advect_transport	True	True	True
	smooth_advect_transport_num	4	4	4
	smooth_hblt	False	False	False
	smooth_psi	True	True	True
	smooth_psi_num	3	3	3
	submeso_advect_flux	False	False	False
	submeso_advect_limit	True	True	True
	submeso_advect_upwind	True	True	True
	submeso_advect_zero_bdy	True	True	True
	submeso_diffusion	False	False	False
	submeso_diffusion_biharmonic	True	True	True
	submeso_diffusion_scale	10.0	10.0	10.0
	submeso_skew_flux	True	True	True
	use_hblt_equal_mld	True	True	True
	use_psi_legacy	False	False	False
	use_this_module	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	False
	pottemp_2nd_iteration	True	True	True
	pottemp_equal_contemp	True	True	True
	s_max	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0
	s_min	0.0	0.0	0.0
	s_min_limit	2.0	2.0	2.0
	t_max	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0
	t_min	−20.0	−20.0	−20.0
	t_min_limit	−5.0	−5.0	−5.0
	temperature_variable	'potential_temp'	'potential_temp'	'potential_temp'
&ocean_thickness_nml	debug_this_module	False	False	False
	debug_this_module_detail	False	False	False
	rescale_mass_to_get_ht_mod	False	False	False
	thickness_method	'energetic'	'energetic'	'energetic'
&ocean_tracer_advect_nml	debug_this_module	False	False	False
	read_basin_mask	False	False	False
&ocean_tracer_diag_nml	diag_step	4320	4320	576
	do_bitwise_exact_sum	False	False	False
	tracer_conserve_days	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0
	debug_this_module	False	False	False
	frazil_heating_after_vphysics	True	True	True
	frazil_heating_before_vphysics	False	False	False
	limit_age_tracer	True	True	True
	remap_depth_to_s_init	False	False	False
	use_tempsalt_check_range	True	True	True
	zero_tendency	False	False	False
	zero_tracer_source	False	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False	False
	diag_step	4320	4320	576
	energy_diag_step	4320	4320	5760
	large_cfl_value	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True	True
	max_cgint	1.0	1.0	1.0
	truncate_velocity	False	False	False
	truncate_velocity_value	2.0	2.0	2.0
	truncate_verbose	True	True	True
	zero_tendency	False	False	False
	zero_tendency_explicit_a	False	False	False
	zero_tendency_explicit_b	False	False	False
	zero_tendency_implicit	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False	False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0	0.0
	double_diffusion	True	True	True
	kbl_standard_method	False	False	False
	ricr	0.3	0.3	0.3
	smooth_blmc	False	False	False
	smooth_ri_kmax_eq_kmu	True	True	True
	use_this_module	True	True	True

Group (continued)	Variable	new/control/1deg_jra55_ryf/ocean/input.nml	new/control/025deg_jra55_ryf/ocean/input.nml	new/control/01deg_jra55_ryf/ocean/input.nml
	visc_cbu_iw	0.0	0.0	0.0
&ocean_vert_mix_nml	aidif	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False
	bryan_lewis_lat_depend	False	False	False
	hwf_diffusivity	False	False	False
	hwf_min_diffusivity	2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega	20.0	20.0	20.0
	use_diff_cbt_table	False	False	False
	vert_diff_back_via_max	True	True	True
	vert_mix_scheme	'kpp_mom4p1'	'kpp_mom4p1'	'kpp_mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0	0.0
	background_viscosity	0.0001	0.0001	0.0001
	decay_scale	500.0	500.0	500.0
	drag_dissipation_use_cdbot	True	True	True
	drhodz_min	1×10^{-10}	1×10^{-10}	1×10^{-10}
	fixed_wave_dissipation	False	False	False
	max_wave_diffusivity	0.01	0.01	0.01
	mixing_efficiency_n2depend	True	True	True
	read_roughness	True	True	True
	read_tide_speed	True	True	True
	read_wave_dissipation	False	False	False
	reading_roughness_amp	True	True	True
	reading_roughness_length	False	False	False
	roughness_scale	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	−1000.0	−1000.0	−1000.0
	tide_speed_data_on_t_grid	True	True	True
	use_drag_dissipation	True	True	True
	use_legacy_methods	False	False	False
	use_this_module	True	True	True
	use_wave_dissipation	True	True	True
	wave_energy_flux_max	0.1	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False	False
&ocean_xlandmix_nml	use_this_module	False	False	False
&xgrid_nml	do_alltoall			True
	do_alltoallv			True
	interp_method	'second_order'	'second_order'	'second_order'
	make_exchange_reproduce	False	False	False
	nsubset	16	16	16

7 1 deg configs (differences only)

Group	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	1deg_-jra55v13_-ryf9091_-spinup_A-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ GFDL_-ESM2M_-input-cut.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	3600	3600	
	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	True	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	bg_diff_eq	1×10^{-6}	1×10^{-6}			
	lat_low_bgdiff	20.0	20.0			
&coupler_nml	atmos_npes					0
	atmos_nthreads					4
	calendar					'NOLEAP'
	check_stocks					0
	concurrent					True
	current_date					1, 1, 1, 0, 0, 0
	days					0
	do_atmos					True
	do_flux					True
	do_ice					True
	do_land					True
	do_ocean					True
	dt_atmos					1800
	dt_cpld					7200
	months					12
	ocean_npes					96
	use_lag_fluxes					True
&diag_integral_nml	file_name					'diag_-integral.out'
	output_interval					1.0
	time_units					'days'
&diag_manager_nml	debug_diag_manager			False	True	
	issue_oor_warnings	False	False	True	True	False
	max_axes					200
	max_files					50
	max_input_fields					800
	max_num_axis_sets					200
	max_output_fields					1300
	mix_snapshot_average_fields					False
&flux_exchange_nml	debug_stocks					False
	divert_stocks_report					True
	do_area_weighted_flux					False
	nblocks					4
&fms_io_nml	fileset_write	'single'	'single'	'single'	'single'	
	max_files_r					300
	max_files_w					300
	threading_write	'single'	'single'	'single'	'single'	
&fms_nml	clock_grain	'LOOP'	'LOOP'	'LOOP'	'COMPONENT'	'COMPONENT'
	domains_stack_size			115200	115200	5000000
	stack_size					0
&generic_tracer_nml	do_generic_cfc					False
	do_generic_topaz					True
	do_generic_tracer					True
&ice_albedo_nml	t_range					10.0
&ice_model_nml	add_diurnal_sw					False
	alb_ice					0.65
	alb_sno					0.85
	channel_viscosity					500 000.0
	cm2_bugs					False
	do_icebergs					True
	h_lo_lim					1×10^{-10}
	ice_bulk_salin					0.005
	io_layout					1, 2

Group (continued)	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_accessom2_1deg_jra55_ryf_input.nml	1deg_jra55v13_ryf9091_spinup_A-input.nml	new/ control/ 1deg_jra55_ryf/ ocean/ input.nml	original/ GFDL_ESM2M_input-cut.nml
	layout					15, 2
	nsteps_adv					1
	nsteps_dyn					72
	num_part					6
	spec_ice					False
	t_range_melt					1.0
	wd_turn					0.0
&icebergs_nml	make_calving_reproduce					True
	speed_limit					0.5
	time_average_weight					False
	traj_sample_hrs					0
	use_roundoff_fix					True
	verbose					True
	verbose_hrs					120
&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	
	rich_crit					10.0
	stable_option					2
	zeta_trans					0.5
&mpp_io_nml	deflate_level			5	5	
	shuffle			1	1	
&ocean_adv_vel_diag_nml	diag_step	120	4320	4320	4320	1200
	verbose_cfl	False	True	True	True	False
&ocean_albedo_nml	ocean_albedo_option			2	2	5
&ocean_barotropic_nml	barotropic_halo		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				
	diag_step	120	4320	4320	4320	1200
	do_bitwise_exact_sum					True
	smooth_eta_t_biharmonic	True	False	False	False	True
	smooth_eta_t_laplacian	False	True	True	True	False
	smooth_pbot_t_biharmonic	True	False	False	False	True
	smooth_pbot_t_laplacian	False	True	True	True	False
	use_legacy_barotropic_halos		False	False	False	
	vel_micom_lap_diag	0.2	0.2	0.2	0.2	1.0
	zero_tendency	False		False	False	False
&ocean_bbc_nml	bmf_implicit			True	True	
	cdbot	0.001	0.001	0.001	0.001	0.002
	cdbot_hi			0.007	0.007	
	cdbot_law_of_wall	False	False			
	cdbot_roughness_length			False	False	
	cdbot_roughness_uamp			True	True	
	uresidual			0.05	0.05	0.05
	use_geothermal_heating	False	False	False	False	True
&ocean_bbc_ofam_nml	read_tide_speed	False	False			
	uresidual2_max	1.0	1.0			

Group (continued)	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	1deg_-jra55v13_-ryf9091_-spinup_A-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ GFDL_-ESM2M_-input-cut.nml
&ocean_bihgen_friction_nml	ncar_boundary_scaling_read			False	True	
	vel_micom_bottom	0.01	0.01	0.1	0.01	0.01
&ocean_convect_nml	convect_full_scalar	False	False			
	convect_full_vector	True	True			
&ocean_density_nml	eos_linear		False	False	False	False
	eos_preteos10		True	True	True	True
	linear_eos	False				
	teos10_eos	False				
&ocean_domains_nml	max_tracers	20	10	5	5	
&ocean_drifters_nml	use_this_module					False
&ocean_form_drag_nml	cprime_aiki	0.6	0.6			
&ocean_frazil_nml	debug_this_module			False	False	False
	frazil_only_in_surface	False		False	False	True
	freezing_temp_accurate	True				
	freezing_temp_preteos10			True	True	
	freezing_temp_simple	False	True	False	False	True
&ocean_grids_nml	debug_this_module	True	True	False	False	True
	do_bitwise_exact_sum					True
	read_rho0_profile	False	False			False
&ocean_increment_eta_nml	days_to_increment	0	0			
	fraction_increment	1.0	1.0			
	secs_to_increment	3600	1800			
&ocean_increment_tracer_nml	days_to_increment	0	0			
	fraction_increment	1.0	1.0			
	secs_to_increment	3600	1800			
&ocean_increment_velocity_nml	days_to_increment	0	0			
	fraction_increment	1.0	1.0			
	secs_to_increment	3600	1800			
&ocean_lapgen_friction_nml	bottom_5point	True	True	True	True	True
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	0.0	0.0	0.0	0.0	0.0
	ncar_only_equatorial	True	True			
	restrict_polar_visc	True	True	True	True	True
	restrict_polar_visc_lat	60.0	60.0	60.0	60.0	60.0
	restrict_polar_visc_ratio	0.35	0.35	0.35	0.35	0.35
	use_this_module	True	True	True	True	True
	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	0.1
	viscosity_ncar	False	True	False	False	False
	viscosity_ncar_2000	False	False	False		
	viscosity_ncar_2007	True	True	False		
	viscosity_scale_by_rossby	True	True	True	True	True
	viscosity_scale_by_rossby_power	4.0	4.0	4.0	4.0	4.0
&ocean_mixdownslope_nml	mixdownslope_mask_gfdl	False	False	False	False	True
	read_mixdownslope_mask	False	False	False	False	True
&ocean_model_nml	cmip_units	True	True	True	True	False
	dt_ocean	3600	3600	3600	3600	7200
	impose_init_from_restart					True
	io_layout		4, 3	4, 3	4, 3	1, 4
	layout	12, 10	16, 15	16, 15	16, 15	12, 8
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom			False	False	
	use_rayleigh_damp_table	True	True	True	True	
	use_this_module	True	True	True	True	False
&ocean_nphysics_util_nml	agm	600.0	600.0	600.0	600.0	800.0
	agm_closure_max	600.0	600.0	600.0	600.0	800.0
	agm_closure_min	50.0	50.0	50.0	50.0	100.0
	smax					0.005
	swidth					0.002
&ocean_nphysicsa_nml	debug_this_module					False
	neutral_linear_gm_taper					True
	neutral_physics_limit					True
	neutral_physics_simple					False
	neutral_sine_taper					True
	tmask_neutral_on					True
&ocean_nphysicsb_nml	debug_this_module					False
	nblayer_smooth					True
	neutral_physics_limit					True

Group (continued)	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	1deg_-jra55v13_-ryf9091_-spinup_A-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ GFDL_-ESM2M_-input-cut.nml
	surf_turb_thick_min					50.0
	surf_turb_thick_min_k					5
&ocean_operators_nml	use_legacy_div_ud			False	False	True
&ocean_overexchange_nml	overexch_check_extrema	False	False			False
&ocean_overflow_nml	debug_this_module	False	False			False
&ocean_overflow_ofp_nml	use_this_module			False	False	
&ocean_pressure_nml	zero_pressure_force			False	False	
&ocean_rivermix_nml	calving_insertion_thickness					40.0
	discharge_combine_runoff_calve					False
	do_bitwise_exact_sum					True
	river_diffuse_salt	False	False	True	True	False
	river_diffuse_temp	False	False	True	True	False
	runoff_insertion_thickness					40.0
&ocean_riverspread_nml	use_this_module	True	True	False	False	False
&ocean_rough_nml	rough_scheme			'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	calvingspread			False	False	False
	do_bitwise_exact_sum			False	False	
	do_flux_correction			False	False	True
	eta_restore_tscale					−10.0
	ice_salt_concentration	0.005				
	land_model_heat_fluxes			False	False	True
	max_delta_salinity_restore	0.5	0.5	0.5	0.5	
	max_ice_thickness	8.0	8.0	0.0	0.0	8.0
	read_restore_mask	False	False	False	False	
	restore_mask_gfdl	False	False	False	False	
	runoff_salinity	0.0	0.0	0.0	0.0	
	runoffspread					False
	salt_correction_scale			0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True	True	
	salt_restore_tscale	15.0	15.0	60.0	60.0	−10.0
	salt_restore_under_ice	True	True	True	True	
	tau_x_correction_scale					0.0
	tau_y_correction_scale					0.0
	temp_correction_scale					1.0
	temp_restore_tscale	−1.0	−1.0	−10.0	−10.0	−10.0
	use_full_patm_for_sea_level			False	False	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	
	zero_net_pme_eta_restore					False
	zero_net_salt_correction			False	False	
	zero_net_salt_restore	True	True	True	True	
	zero_net_water_correction			False	False	
	zero_net_water_couple_restore	True	True	True	True	
	zero_net_water_coupler	True	True	True	True	
	zero_net_water_restore	True	True	True	True	
	zero_surface_stress	False	False	False	False	
	zero_water_fluxes	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	True			
	use_this_module	True	True	False	False	False
	zmax_pen	7000	7000			
&ocean_shortwave_gfdl_nml	optics_morel_antoine			False	False	False
	override_f_vis					False
	read_chl	False	False	True	True	False
	sw_pen_fixed_depths	False	False			
	use_this_module	False	False	True	True	True
	zmax_pen	200.0	200.0	300.0	300.0	200.0
&ocean_shortwave_nml	use_shortwave_csiro	True	True	False	False	False
	use_shortwave_gfdl	False	False	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

Group (continued)	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	1deg_-jra55v13_-ryf9091_-spinup_A-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ GFDL_-ESM2M_-input-cut.nml
	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	True	False	False	True
	vel_micom	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	0	1460	
	debug_this_module		False			
	dt_cpld	3600	3600	3600	3600	
	hours	0	0	0	0	
	minutes	0	0	0	0	
	months	12	0	0	0	
	seconds	0	0	0	0	
	years		0	2	0	
&ocean_sponges_tracer_nml	damp_coeff_3d	False	False			False
&ocean_submesoscale_nml	coefficient_ce			0.05	0.05	
	smooth_advect_transport			True	True	
	smooth_advect_transport_num			4	4	
	smooth_psi			True	True	
	smooth_psi_num			3	3	
	submeso_advect_flux			False	False	
	submeso_advect_limit			True	True	
	submeso_advect_upwind			True	True	
	submeso_advect_zero_bdy			True	True	
	submeso_diffusion			False	False	
	submeso_diffusion_biharmonic			True	True	
	submeso_diffusion_scale			10.0	10.0	
	submeso_limit_flux	True	True			True
	submeso_skew_flux			True	True	
	use_psi_legacy			False	False	True
&ocean_tempsalt_nml	debug_this_module		False	False	False	False
	pottemp_equal_contemp			True	True	
	s_max	55.0	55.0	70.0	70.0	55.0
	s_min	−1.0	−1.0	0.0	0.0	−1.0
	s_min_limit	0.0	0.0	2.0	2.0	5.0
	t_min	−5.0	−5.0	−20.0	−20.0	−5.0
	t_min_limit	−2.0	−2.0	−5.0	−5.0	−1.9
	temperature_variable	'conservative_-temp'	'conservative_-temp'	'potential_-temp'	'potential_-temp'	'potential_-temp'
	teos10	False				
&ocean_thickness_nml	initialize_zero_eta	False	False			False
	read_rescale_rho0_mask	False	False			True
	rescale_mass_to_get_ht_mod			False	False	
	rescale_rho0_basin_label	7.0	7.0			7.0
	rescale_rho0_mask_gfdl	False	False			True
	rescale_rho0_value	0.75	0.75			0.75
	thickness_dzt_min	1.0	1.0			2.0
	thickness_dzt_min_init	2.0	2.0			2.0
&ocean_time_filter_nml	use_this_module					False
&ocean_topog_nml	min_thickness	25.0	25.0			5.0
&ocean_tracer_advect_nml	advect_sweby_all	True	True			False
	async_domain_update		True			
	compute_gyre_overturn_diagnose	True				
	do_fast_compute	True				
	limit_with_upwind					False
	read_basin_mask	True		False	False	
&ocean_tracer_diag_nml	diag_step	120	4320	4320	4320	1200
	smooth_mld					True
	tracer_conserve_days	1.0	1.0	30.0	30.0	100.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0	0.0	$1 \times 10^{+40}$
	interpolate_tdiag_to_pbott					False
	interpolate_tprog_to_pbott					False
	tmask_limit_ts_same					True
	use_tempsalt_check_range		True	True	True	
&ocean_velocity_diag_nml	diag_step	120	4320	4320	4320	1200
	energy_diag_step	120	4320	4320	4320	1200
&ocean_velocity_nml	max_cgint	1.0	1.0	1.0	1.0	
	truncate_velocity	False	True	False	False	False
	zero_tendency_explicit_a			False	False	
	zero_tendency_explicit_b			False	False	
	zero_tendency_implicit			False	False	

Group (continued)	Variable	original/ russ-accessom-mom4p1-input.nml	original/ hogg_acces-som2_-1deg_-jra55_ryf_-input.nml	1deg_-jra55v13_-ryf9091_-spinup_A-input.nml	new/ control/ 1deg_-jra55_ryf/ ocean/ input.nml	original/ GFDL_-ESM2M_-input-cut.nml
&ocean_vert_kpp_iow_nml	use_this_module		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
	diff_con_limit		0.1			
	double_diffusion		True	True	True	True
	kbl_standard_method		False	False	False	
	ricr		0.3	0.3	0.3	0.3
	smooth_blmc		False	False	False	True
	smooth_ri_kmax_eq_kmu		True	True	True	
	use_this_module		True	True	True	True
	visc_cbu_iw		0.0	0.0	0.0	0.0
	visc_con_limit		0.1			
	wsfc_combine_runoff_calve					False
&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	0.65	0.65			0.675
	afkph_90	0.75	0.75			0.725
	bryan_lewis_diffusivity	False	False	False	False	True
	bryan_lewis_lat_depend	True	True	False	False	True
	bryan_lewis_lat_transition	35.0	35.0			35.0
	dfkph_00	1.15	1.15			1.15
	dfkph_90	0.95	0.95			1.15
	hwf_diffusivity			False	False	
	hwf_min_diffusivity			2×10^{-6}	2×10^{-6}	
	hwf_n0_2omega			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}
	vert_mix_scheme	'kpp'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'	'kpp_-mom4p1'
	zfkph_00	250 000.0	250 000.0			250 000 000.0
	zfkph_90	250 000.0	250 000.0			250 000 000.0
&ocean_vert_tidal_nml	background_diffusivity	5×10^{-6}	5×10^{-6}	0.0	0.0	0.0
	decay_scale	300.0	300.0	500.0	500.0	300.0
	drag_dissipation_use_cdbot			True	True	
	drhodz_min	1×10^{-12}	1×10^{-12}	1×10^{-10}	1×10^{-10}	1×10^{-12}
	max_drag_diffusivity	0.01	0.01			
	roughness_scale	20 000.0	20 000.0	12 000.0	12 000.0	30 000.0
	shelf_depth_cutoff	160.0	160.0	−1000.0	−1000.0	160.0
	use_legacy_methods			False	False	True
&ocean_xlandinsert_nml	use_this_module	False	False	False	False	True
	verbose_init	True	True			True
&ocean_xlandmix_nml	use_this_module	False	False	False	False	True
	verbose_init	True	True			True
	xlandmix_kmt	True	True			True
&sat_vapor_pres_nml	construct_table_wrt_liq					True
	construct_table_wrt_liq_and_ice					True
&surface_flux_nml	old_dtaudv					False
&topography_nml	topog_file					'INPUT/ navy_topog-ra-phy.data.nc'
&xgrid_nml	interp_method		'second_-order'	'second_-order'	'second_-order'	'second_-order'
	make_exchange_reproduce		False	False	False	True
	nsubset			16	16	