MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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Latest version is here: https://qithub.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_nphysicsa_nml, ocean_nphysicsb_nml, ocean_shortwave_csiro_nml, ocean_nphysicsb_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.

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1 Differences between new ACCESS-OM2 configs

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

Group	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&auscom_ice_nml	Mathematics	600		
&fms_io_nml			'multi'	'multi'
Willis_10_lillit				'multi'
&ocean_adv_vel_diag_nml	_			576
&ocean_barotropic_nml				576
&ocean_bihgen_friction_nml				False
				0.0 0.0
				1.0
&ocean_lapgen_friction_nml			1.0	1.0
13				
			False	False
			raisc	raisc
	viscosity_ncar			
	viscosity_scale_by_rossby			
&ocean_mixdownslope_nml				
			False	False
&ocean_model_nml				150
				10, 15
				80, 75
&ocean_nphysics_nml				False
				False
&ocean_nphysics_util_nml	Imput.mul Impu	100.0		
	agm_closure_eady_smooth_vert			
			1000	100.0
			100.0	100.0
			False	False
&ocean_nphysicsc_nml				
	do_gm_skewsion	True		
	do_neutral_diffusion	True		
	epsln_bv_freq	1×10^{-12}		
	gm_skewsion_bvproblem	True		
	gm_skewsion_modes neutral_eddy_depth	False True		
	neutral_eddy_depth 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 use_this_module	50.0 True	False	False
&ocean_solo_nml	days	1460	31	30
COCCUIT_50(0_11111)	days dt_cpld	3600	1200	600
&ocean_tracer_diag_nml	diag_step	4320	4320	576
&ocean_velocity_diag_nml	diag_step energy_diag_step	4320	4320	576

Group (continued)	jra	som2 1deg 02 55_ryf jra5	/_acces- som2 !5deg i5_ryf	new_acces- som2 01deg jra55_ryf
	in	put.nml inp	out.nml	input.nml
&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_acces- som2 1deg jra55_ryf input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
Waddenii 200 ziinii C	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 kmxice	1.0 5	1.0 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	$1 imes 10^{-6}$	
	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'
&fms_nml	threading_write clock_grain	'single' 'LOOP'	'single' 'COMPONENT'
ØIIIZJIIII	domains_stack_size	LUUP	115200
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',
William State of the Control of the	neta52m	'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',	'salt_flx',
		'mh_flux',	'mh_flux',
		'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',
		't_flux',	't_flux',
		'lw_flux', 'rupof' 'p'	'lw_flux',
		'runof', 'p', 'aice',	'runof', 'p', 'aice',
		'wfimelt',	'wfimelt',
		'wfiform'	'wfiform'
	fields_out	't_surf',	't_surf',
		's_surf',	's_surf',
		'u_surf',	'u_surf',
		'v_surf',	'v_surf',
		'dssldx',	'dssldx',
		'dssldy',	'dssldy',
	num fields in	'frazil'	'frazil'
	num_fields_in num_fields_out	15 7	15 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
Roccan advection valority nml	verbose_cfl	True 0.5	True 0.5
&ocean_advection_velocity_nml &ocean_albedo_nml	max_advection_velocity ocean_albedo_option	U.5	2
&ocean_barotropic_nml	barotropic_halo	10	10
COCCUIT-DUTOLIOPIC-IIIII	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_acces- som2 1deg jra55_ryf input.nml
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic	False	False
	smooth_pbot_t_laplacian truncate_eta	True False	True 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 zero_tendency	True	True False
&ocean_bbc_nml	bmf_implicit		True
Woccur_bbc_mit	cdbot	0.001	0.001
	cdbot_hi		0.007
	cdbot_law_of_wall	False	
	cdbot_roughness_length		False
	cdbot_roughness_uamp		True 0.05
	<mark>uresidual</mark> use_geothermal_heating	False	False
&ocean_bbc_ofam_nml	read_tide_speed	False	1 0136
	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 eq_vel_micom_aniso	0.0 0.0	0.0
	eq_vet_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	2	True
	ncar_rescale_power ncar_vconst_4	2×10^{-8}	2×10^{-8}
	ncar_vconst_5	5	5
	use_this_module	True	True
	vel_micom_aniso	0.0	0.0
	vel_micom_bottom	0.01	0.01
	vel_micom_iso	0.04 0.25	0.04 0.25
&ocean_convect_nml	visc_crit_scale convect_full_scalar	False	0.23
COCCAT_COTVCCC_TITE	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 eos_preteos10	False True	False True
	layer_nk	80	80
	neutralrho_max	1030.0	1030.0
	neutralrho_min	1020.0	1020.0
	potrho_max	1038.0	1038.0
&ocean_domains_nml	potrho_min	1028.0 10	1028.0
&ocean_domains_nml &ocean_form_draq_nml	max_tracers cprime_aiki	0.6	5
woccan_toffil_utag_filink	use_this_module	False	False
&ocean_frazil_nml	debug_this_module	. u.sc	False
	frazil_only_in_surface		False
	freezing_temp_preteos10	_	True
	f <mark>reezing_temp_simple</mark> use_this_module	True True	False
&ocean_grids_nml	debug_this_module	True	True False
Good San	read_rho0_profile	False	1 0130
&ocean_increment_eta_nml	days_to_increment	0	
	fraction_increment	1.0	
	secs_to_increment	1800	
9 again ingramant traggy and	use_this_module	False	False
&ocean_increment_tracer_nml	days_to_increment fraction_increment	0 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_acces- som2 1deg jra55_ryf input.nml
	use_this_module	False	False
&ocean_lap_friction_nml &ocean_lap_tracer_nml	lap_friction_scheme use_this_module	'general' False	'general' 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	Terro
	restrict_polar_visc restrict_polar_visc_lat	True 60.0	True 60.0
	restrict_potar_visc_ratio	0.35	0.35
	use_this_module	True	True
	vconst_1	8 000 000.0	
	vconst_2	0.0	
	vconst_4	$0.8 \\ 5 \times 10^{-9}$	
	vconst_5	3 × 10 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 viscosity_ncar_2007	False 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 read_mixdownslope_mask	4 False	4 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 io_layout	3600 4, 3	3600 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	True	False
	use_rayleigh_damp_table use_this_module	True True	True True
&ocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc	True	True
Socoon polycies util pml	use_this_module	True 600.0	True 600.0
&ocean_nphysics_util_nml	agm 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 agm_closure_eady_smooth_vert	True True	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 agm_closure_length_bczone	50 000.0	50 000.0
	agm closure length hozone	False	False False
		Ealco	
	agm_closure_length_fixed	False False	
		False False 2000.0	False 2000.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max	False 2000.0 600.0	False 2000.0 600.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min	False 2000.0 600.0 50.0	False 2000.0 600.0 50.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling	False 2000.0 600.0 50.0 0.07	False 2000.0 600.0 50.0 0.07
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth	False 2000.0 600.0 50.0 0.07 100.0	False 2000.0 600.0 50.0 0.07 100.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth agm_damping_time	False 2000.0 600.0 50.0 0.07 100.0 45.0	False 2000.0 600.0 50.0 0.07 100.0 45.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth agm_damping_time agm_smooth_space	False 2000.0 600.0 50.0 0.07 100.0	False 2000.0 600.0 50.0 0.07 100.0
	agm_closure_length_fixed agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth agm_damping_time	False 2000.0 600.0 50.0 0.07 100.0 45.0 False	False 2000.0 600.0 50.0 0.07 100.0 45.0 False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf 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 neutral_physics_limit	True True	True True
	number_bc_modes	nue 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	nuc .	False
&ocean_overexchange_nml	debug_this_module	False	False
woccursover exertaining earthing	overexch_check_extrema	False	1 0150
	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
			False
	do_bitwise_exact_sum		
	do_bitwise_exact_sum do_flux_correction		False
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes		False False
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore	0.5	False False 0.5
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness	8.0	False False 0.5 0.0
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask	8.0 False	False False 0.5 0.0 False
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl	8.0 False False	False False 0.5 0.0 False False
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity	8.0 False	False False 0.5 0.0 False False 0.0
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale	8.0 False False 0.0	False False 0.5 0.0 False False 0.0
	do_bitwise_exact.sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux	8.0 False False 0.0 True	False False 0.5 0.0 False False 0.0 0.0 True
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale	8.0 False False 0.0 True 15.0	False False 0.5 0.0 False False 0.0 0.0 True 60.0
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice	8.0 False False 0.0 True 15.0 True	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale	8.0 False False 0.0 True 15.0	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True — 10.0
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level	8.0 False False 0.0 True 15.0 True —1.0	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True —10.0 False
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux	8.0 False False 0.0 True 15.0 True -1.0	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True — 10.0
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux_tavg	8.0 False False 0.0 True 15.0 True —1.0 True False	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True —10.0 False True
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux waterflux_tavg zero_heat_fluxes	8.0 False False 0.0 True 15.0 True -1.0	False False 0.5 0.0 False False 0.0 True 60.0 True —10.0 False True
	do_bitwise_exact_sum do_flux_correction land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux_tavg	8.0 False False 0.0 True 15.0 True —1.0 True False	False False 0.5 0.0 False False 0.0 0.0 True 60.0 True —10.0 False True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
	zero_net_water_couple_restore	True	True
	zero_net_water_coupler	True	True
	zero_net_water_restore zero_surface_stress	True False	True False
	zero_surface_stress zero_water_fluxes	False	False
&ocean_sbc_ofam_nml	restore_mask_ofam	False	. 4.50
	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 enforce_sw_frac	False	False
	optics_manizza	True True	True True
	optics_manizza optics_morel_antoine	IIue	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 use_this_module	False True	False
&ocean_sigma_transport_nml	sigma_advection_on	False	True
&ocean_signa_transport_nint	sigma_advection_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	100.0 100.0	
	thickness_sigma_max 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 debug_this_module	1460 False	1460
	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	Falsa
Roccon changes valority had	use_this_module use_this_module	False False	False False
&ocean_sponges_velocity_nml &ocean_submesoscale_nml	coefficient_ce	1.4125	0.05
Section 200 mesoscient	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 Truo
	smooth_advect_transport smooth_advect_transport_num		True 4
	smooth_hblt	False	False
	smooth_psi	idisc	True
	smooth_psi_num		3
	submeso_advect_flux		False
	submeso_advect_limit		True
	submeso_advect_upwind		True
	submeso_advect_zero_bdy		True
	submeso_diffusion submeso_diffusion_biharmonic		False
	submeso_diffusion_binarmonic submeso_diffusion_scale		True 10.0
	submeso_limit_flux	True	10.0
	Submesoummetak	iiuc	

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
	submeso_skew_flux		True
	use_hblt_equal_mld	True	True
	use_psi_legacy	Т	False
&ocean_tempsalt_nml	use_this_module debug_this_module	True False	True False
wotean_tempsatt_mit	pottemp_2nd_iteration	True	True
	pottemp_equal_contemp		True
	s_max	55.0	70.0
	s_max_limit	42.0	42.0
	s_min s_min_limit	-1.0 0.0	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	'potential
&ocean_thickness_nml	debug_this_module	temp' False	temp' False
COCCUIT THE CHICAGO THE CONTROL OF T	debug_this_module_detail	False	False
	initialize_zero_eta	False	ruisc
	read_rescale_rho0_mask	False	
	rescale_mass_to_get_ht_mod		False
	rescale_rho0_basin_label	7.0 Falso	
	rescale_rho0_mask_gfdl rescale_rho0_value	False 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 async_domain_update	True True	
	debug_this_module	False	False
	read_basin_mask	. 4.50	False
&ocean_tracer_diag_nml	diag_step	4320	4320
	do_bitwise_exact_sum	False	False
0 4	tracer_conserve_days	1.0	30.0
&ocean_tracer_nml	age_tracer_max_init debug_this_module	0.0 False	0.0 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 zero_tendency	True False	True 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 max_cfl_value	10.0 100.0	10.0 100.0
&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 zero_tendency	True False	True False
	zero_tendency zero_tendency_explicit_a	raise	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	0.0
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw diff_con_limit	0.0 0.1	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 visc_cbu_iw	True 0.0	True 0.0
	visc_cou_liw visc_con_limit	0.0	0.0
&ocean_vert_mix_nml	afkph_00	0.65	

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf 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	'kpp
	-AL 00	mom4p1'	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	4 40-17	True $1 imes 10^{-10}$
	drhodz_min	1×10^{-12}	
	fixed_wave_dissipation	False	False
	max_drag_diffusivity	0.01	0.01
	max_wave_diffusivity mixing_efficiency_n2depend	0.01 True	0.01 True
	read_roughness	True	True
	read_toughness read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True
	reading_roughness_length	False	False
	roughness_tength	20 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0 -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	'second
		order'	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_acces- som2 025deg jra55_ryf 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_acces- som2 025deg jra55_ryf input.nml
	tmelt	-0.216	-0.216
&diag_manager_nml	use_ioaice debug_diag_manager	True True	True True
wildy_manager_mmt	issue_oor_warnings	True	True
&fms_io_nml	fileset_write	'single'	'multi'
	threading_read	'multi'	'multi'
	threading_write	'single'	'multi'
&fms_nml	clock_grain domains_stack_size	'LOOP'	'COMPONENT' 115200
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',
CHIOH_0d3i35_interface_inite	iictus_iii	u_nux, 'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',	'salt_flx',
		'mh_flux',	'mh_flux',
		'sw_flux', 'q_flux',	'sw_flux', 'q_flux',
		q_παx, 't_flux',	q_παχ, 't_flux',
		'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',
		'aice',	'aice',
		'wfimelt', 'wfiform'	'wfimelt', 'wfiform'
	fields_out	't_surf',	't_surf',
		's_surf',	's_surf',
		'u_surf',	'u_surf',
		'v_surf',	'v_surf',
		'dssldx', 'dssldy',	'dssldx',
		ussiuy, 'frazil'	'dssldy', 'frazil'
	num_fields_in	15	15
	num_fields_out	7	7
	send_after_ocean_update	True	True
	send_before_ocean_update	False	False
8 monin obukhov nml			
&monin_obukhov_nml &mop_io_nml	neutral	True	True
&monin_obukhov_nml &mpp_io_nml		True	True 5 1
	neutral <mark>deflate_level</mark> s <mark>huffle</mark> diag_step	True 4320	True 5 1 4320
&mpp_io_nml	neutral deflate_level shuffle diag_step large_cfl_value	4320 10.0	True 5 1 4320 10.0
&mpp_io_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value	4320 10.0 100.0	True 5 1 4320 10.0 100.0
&mpp_io_nml &ocean_adv_vel_diag_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl	4320 10.0 100.0 True	True 5 1 4320 10.0 100.0 True
&mpp_io_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity	4320 10.0 100.0	True 5 1 4320 10.0 100.0 True 0.5
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo	4320 10.0 100.0 True 0.5 2	True 5 1 4320 10.0 100.0 True
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a	10.0 100.0 True 0.5 2 10 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b	4320 10.0 100.0 True 0.5 2 10 True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module	4320 10.0 100.0 True 0.5 2 10 True False False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b	4320 10.0 100.0 True 0.5 2 10 True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_a beloug_this_module diag_step eta_max frac_crit_cell_height	10.0 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma	10.0 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian	True 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False 4320 8.0 0.2 0.2 True
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic	True 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False 4320 8.0 0.2 0.2 True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian	True 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False 4320 8.0 0.2 0.2 True
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian	True 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian truncate_eta	True 4320 10.0 100.0 17rue 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False True False False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_talo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos	True 4320 10.0 100.0 17rue 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False False True False False False False False False False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_bih	True 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False False False False True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False True False False True False True False False True False True False True False True False Toue False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_talo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos	True 4320 10.0 100.0 17rue 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False False True False False False False False False False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False Jrue False True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_bih vel_micom_lap_diag verbose_truncate zero_tendency	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False False False O.01 0.05 0.2 True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit	True 4320 10.0 100.0 True 0.5 2 10 True False False False False True	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_diag_laplacian smooth_eta_t_laplacian smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot	True 4320 10.0 100.0 True 0.5 2 10 True False False False True False O.01 0.05 0.2 True False True False True	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False O.01 0.05 0.2 True False
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_laplacian smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot cdbot_hi	True 4320 10.0 100.0 True 0.5 2 10 True False False False True False O.01 0.05 0.2 True False True False True False True False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False 0.01 0.05 0.2 True False False 0.01 0.05 0.2 True False True False False 0.01 0.05 0.2 True False True False O.01
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap vel_micom_lap diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length cdbot_roughness_length	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False 4320 8.0 0.2 0.2 True False True False False True True False True True True True True True True Tru	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True True False True O.001
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot_fi cdbot_roughness_length cdbot_roughness_length cdbot_roughness_uamp uresidual	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False 4320 8.0 0.2 0.2 True False True False False True O.05	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True O.01
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_albedo_nml &ocean_barotropic_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_b barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_bot_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap vel_micom_lap verbose_truncate zero_tendency bmf_implicit cdbot_fodbt_fodbt_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False False True False False True False True False False True False False O.01 0.05 0.2 True False True False False True False False False O.01 0.05 0.2 True False False True O.001 0.007 False True O.05 False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False False 0.01 0.05 0.2 True False True False True False False O.01 0.05 0.2 True False True O.001
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_barotropic_nml &ocean_barotropic_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_daplacian smooth_pbot	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False False True False False True False True False False True False False True False False O.01 0.05 0.2 True False True False True False True O.001 0.007 False True 0.005 False True 0.05 False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True O.05
&mpp_io_nml &ocean_adv_vel_diag_nml &ocean_advection_velocity_nml &ocean_barotropic_nml &ocean_barotropic_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_b barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_bot_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap vel_micom_lap verbose_truncate zero_tendency bmf_implicit cdbot_fodbt_fodbt_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	True 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False False True False False True False True False False True False False O.01 0.05 0.2 True False True False False True False False False O.01 0.05 0.2 True False False True O.001 0.007 False True O.05 False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False True False False True 0.001 0.007 False True 0.05 False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf 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	2×10^{-8}	2×10^{-8}
	ncar_vconst_4	2 × 10 °	2 × 10 °
	ncar_vconst_5 use_this_module		
	vel_micom_aniso	True 0.0	True 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	1.0
Goddin Leon Total IIII	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
a contraction of the contraction	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'	26
	time_tendency	'twolevel'	'twolevel'
Passan momentum source ned	vertical_coordinate	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	False	False
	use_rayleigh_damp_table	True	True
8 ocean polycies pml	use_this_module	True	True
&ocean_nphysics_nml	debug_this_module	False False	False False
	use_nphysicsa use_nphysicsb	False	False
		False	False
	use_nphysicsc use_this_module	False	False
&ocean_nphysics_util_nml		100.0	100.0
A Ocean Liphnysics_dutt_tillit	agm	True	True
	agm_closure		
	agm_closure_baroclinic	True	True
	agm_closure_buoy_freq	0.004	0.004 50 000.0
	agm_closure_length	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_acces- som2 025deg jra55_ryf input.nml
	agm_closure_length_rossby	False	False
	agm_closure_lower_depth agm_closure_max	2000.0 600.0	2000.0 600.0
	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 drhodz_mom4p1	False False	False False
	drhodz_moth_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 swidth	0.002 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
Rocean_nphysicsc_nml	use_this_module	False	False
&ocean_operators_nml	use_legacy_div_ud	False	False
kocean_overexchange_nml	debug_this_module overexch_npts	False 4	False
	overexch_weight_far	False	False
	overflow_umax	5.0	5.0
	use_this_module	False	False
&ocean_overflow_nml	debug_this_module	False	
kocean_overflow_ofp_nml	use_this_module debug_this_module	False False	False
&ocean_overnow_orp_nint	debug_tilis_illodute diaq_step	4320	
	do_entrainment_para_ofp	False	
	do_mass_ofp	True	
	frac_exchange_src	1.0	
	<mark>max_vol_trans_ofp</mark> use_this_module	10 000 000.0 False	Ealco
&ocean_polar_filter_nml	use_this_module	False	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 river_diffusivity	0.0 0.0	0.0 0.0
	river_insertion_thickness	40.0	40.0
	use_this_module	True	True
&ocean_riverspread_nml	use_this_module	False	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True
	avg_sfc_velocity calvingspread	True False	True 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
		0.0	0.0 False
	max_ice_thickness	Laica	raisi
	read_restore_mask	False False	
	read_restore_mask restore_mask_gfdl	False False 0.0	False
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale	False	Falso 0.0
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux	False 0.0 0.0 True	Falso 0.0 0.0 Truo
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale	False 0.0 0.0 True 60.0	Falso 0.0 0.0 Truo 60.0
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice	False 0.0 0.0 True 60.0 True	Falso O.0 O.0 True 60.0 True
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale	False 0.0 0.0 True 60.0 True —10.0	False 0.0 0.0 True 60.0 True — 10.0
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level	False 0.0 0.0 True 60.0 True	False 0.0 0.0 True 60.0 True — 10.0 False
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale	False 0.0 0.0 True 60.0 True —10.0 False	False 0.0 0.0 True 60.0 True —10.0 False True
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction	False 0.0 0.0 True 60.0 True —10.0 False True False False False	False 0.0 True 60.0 True — 10.0 False True False False
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction zero_net_salt_restore	False 0.0 0.0 True 60.0 True —10.0 False True False False True	False 0.0 0.0 True 60.0 True — 10.0 False True False False True
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction zero_net_salt_restore zero_net_water_correction	False 0.0 0.0 True 60.0 True — 10.0 False True False False True False False	False 0.0 0.0 True 60.0 True —10.0 False True False True False
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction zero_net_salt_restore zero_net_water_correction zero_net_water_correction	False 0.0 0.0 True 60.0 True —10.0 False True False False True False True False True	False 0.0 0.0 True 60.0 True —10.0 False False False True False
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction zero_net_salt_restore zero_net_water_correction	False 0.0 0.0 True 60.0 True — 10.0 False True False False True False False	False 0.0 0.0 True 60.0 True -10.0 False True False True False True False True
	read_restore_mask restore_mask_gfdl runoff_salinity salt_correction_scale salt_restore_as_salt_flux salt_restore_tscale salt_restore_under_ice temp_restore_tscale use_full_patm_for_sea_level use_waterflux zero_heat_fluxes zero_net_salt_correction zero_net_salt_restore zero_net_water_correction zero_net_water_correction zero_net_water_couple_restore zero_net_water_coupler	False 0.0 0.0 True 60.0 True —10.0 False True False False True False True False True False True	False 0.0 0.0 True 60.0 True -10.0 False True False True False True False True False True False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml
&ocean_shortwave_csiro_nml	debug_this_module	False	
	read_depth use_this_module	True False	False
	use_triis_modute zmax_pen	7000	raise
&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 use_this_module	True True	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
&ocean_sigma_transport_nml	use_this_module sigma_advection_on	True False	True
Coccur_signia_transport_mint	sigma_advection_on sigma_advection_sgs_only	False	
	sigma_diffusion_on	True	
	sigma_diffusivity_ratio	1×10^{-6}	
	sigma_just_in_bottom_cell	True	
	sigma_umax	0.01	
	smooth_sigma_thickness smooth_sigma_velocity	True True	
	smooth_velmicom	0.2	
	thickness_sigma_layer	100.0	
	thickness_sigma_max	100.0	
	thickness_sigma_min	100.0	
	tmask_sigma_on tracer_mix_micom	False True	
	use_this_module	False	False
	vel_micom	0.05	rusc
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	31 1200	31 1200
	dt_cpld hours	0	1200
	minutes	0	0
	months	0	0
	seconds	0	0
Recease spanned eta pml	years use_this_module	0 False	0 False
&ocean_sponges_eta_nml &ocean_sponges_tracer_nml	damp_coeff_3d	False	raise
woccur_sponges_tracer_nine	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 front_length_deform_radius	5000.0 True	5000.0 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 smooth_hblt	4 False	4 False
	smooth_nsi	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 submeso_diffusion	True False	True 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
&ocean_tempsalt_nml	use_this_module debug_this_module	True False	True False
жоссан_сетрэац_ппц	pottemp_2nd_iteration	True	True
	pottemp_equal_contemp	True	True
	s_max	70.0	70.0
	s_max_limit	42.0	42.0

Second Process of Second Pro	Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml
Part				
Schemath (American Samuel) Step (Sep (Sep (Sep (Sep (Sep (Sep (Sep (S				
Part				temp'
Part	&ocean_thickness_nml	debug_this_module		
		debug_this_module_detail		
Coronal transcribed (minds) Office (minds) Office (minds) Coronal (minds)				False
Koncean transcruedvert.medi thickneers.deed Faster F				
Scores Intercardent, mile debug his mode False False Scores Intercarding mile Bild bill storm of the part o				'energetic'
Scoreal Jancer, ding, amil feed by displaying and by displayin	&ocean tracer advect nml			
Scoran. rateor, diag, amil dis. bitivities parta, amil False Fa	Woccan_tracer_advect_nint	read hasin mask		
Both brive seart sum False False False Externorme-day 500	&ocean_tracer_diag_nml			
Social Interconserve digits SOU SOU<	•			
		tracer_conserve_days		
	&ocean_tracer_nml			
pate lamp of the pate of the pa				
Time				
grammation free magnetight loss, and to use tempsal contendency to grammation and to use tempsal contendency and to the property of th				
Pate				
& cean, velocity, diag, nml debug, his, module False False & cean, velocity, diag, nml debug, his, module 4570 4570 & cean, velocity, and lang, step, cfl., value 100 4570 & cean, velocity, nml adams, shoften, hild 100 100 & cean, velocity, nml adams, shoften, hild 15 10 & cean, velocity, nml tame, cfl., value 20 20 & cean, velocity, squit, cl., a 20 20 20 & cean, velocity, squit, cl., a 20				
Beat		•		
Renergy ding step 1430 1570 1010 1	&ocean_velocity_diag_nml	debug_this_module	False	False
Part				
&ccean.velocity.nml dams.th.shiforth.third True True kocean.velocity.nml adams.bashforth.third True True merce sign 1.5 1.0 truncate velocity.value 2.0 2.0 truncate velocity.value 2.0 2.0 truncate verbose True True zero.tendency.explicit.a False False zero.tendency.explicit.a False False false False False docean.vert.kpp.low.nml use.f.his.module False False &ccean.vert.kpp.mom4p1.mml didff.cht.iw 0.0 0.0 docean.vert.lipp.mom4p1.mml didff.cht.iw 0.0 0.0 docean.vert.mix.mml false False False docean.vert.mix.mml false False False docean.vert.mix.nml false False False docean.vert.mix.nml false False False docean.vert.mix.nml false False False False				
&cean.velocity.mil adams.bashforth.third Tive Tive trace.grind 15 15 truncate velocity, value 20 20 truncate verlocity, value 20 20 truncate verlocity, value 20 20 truncate verlocity False False zero.tendency, explicit. False False zero.tendency, explicit. False False zero.tendency, explicit. False False zero.tendency, explicit. False False decean.vert.lxpp.momfal.min use.this.module False decean.vert.pp.momfal.min False False decean.vert.mix.min False False smooth.j.timax.e.q.km False False false False False f		-		
1.0 1.0				
Pase	&ocean_velocity_nml			
Truncate velocity value 2.0 7.0 Truncate velocity value 7.0				
Tuncate vertoss Tuncate vertoss Talss				
gene findency explicit. Is a part tendency explicit. In a part tendency explicit. Is a part tendency explicit. In a part tendency explicit. It a part tendency explicit		,		
sero_tendency_seplicit_b False pare tendency_implicit_b False pare t		zero_tendency	False	False
Scocan.vert.kpp.iow.mml zero.tendenoy.implicit False False & ocean.vert.kpp.iow.mml use.this.module 710 0		zero_tendency_explicit_a	False	False
&ocean.vert.kpp.iow.mnl use.this.module diff.cbt.iw Color of the				
& ccean.vert.kpp.mom4p1.mml diff.cbt.ivs 0.0 0.0 double_diffusion True True True False				
Manual M				
kbl_standard_method False False c 0.3 0.3 smooth_fix_kmax_eq_kmu False False smooth_fix_kmax_eq_kmu True True visc_bu_iw 0.0 0.0 & coean_vert_mix_nml aidiff 1.0 1.0 & coean_vert_mix_nml bysn_lewis_latt_depend False False <td>&ocean_vert_kpp_mom4p1_nml</td> <td></td> <td></td> <td></td>	&ocean_vert_kpp_mom4p1_nml			
Image:				
Smooth_ri_kmax_eq_kmu True Use_this_module Use_this_module Use_this_module Use_this_module Use_this_module Use_this_module Use_this_module Use_this_this Use_this_module Use_this_this Use_this_this Use_this_this Use_this_this_this Use_this_this_this_this Use_this_this_this_this_this_this_this_this				
&ocean_vert_mix_nml aidif bryan_lewis_diffusivity False False False False bryan_lewis_lat_depend False bryan_lewis_lat_depend False False hwf_diffusivity False False False False hwf_diffusivity False False False False False hwf_diffusivity False False False False False False hwf_nol_comega 200 200 200 use_diff_cbt_table False vert_diff_back_via_max True vert_diff_back_via_max True vert_diff_back_via_max True Vert_mix_scheme kyp_mom4p1' False False False False Vert_diff_back_via_max True vert_mix_scheme kyp_mom4p1' %pp_mom4p1' mom4p1' %pp_mom4p1' %pp_mom4p1' mom4p1' %pp_mom4p1' %pp_mom4p1' <t< td=""><td></td><td></td><td></td><td></td></t<>				
Bryan_Lewis_diffusivity				0.0
Bryan_Lewis_lat_depend False False hwf_diffusivity False False hwf_min_diffusivity False False hwf_min_diffusivity 2 × 10^-6 2 × 10^-6 hwf_mn0_20mega 20.0	&ocean_vert_mix_nml			
Nwf_diffusivity False False Nwf_min_diffusivity 2 × 10^-6 2 × 10^-6 Nwf_mon_diffusivity 2 × 10^-6 2 × 10^-6 Nwf_mon_diffusivity 2 × 10^-6 Nwf_mon_diffusivity 2 × 10^-6 Nwf_mon_diffusivity Ruse Ruse Ruse diff_cbt_table False False False Vert_diff_back_via_max True True Vert_mix_scheme Npp mom4p1 Npp mom4p1 Nmp4p1				
hwf_min_diffusivity 2 × 10^-6 2 × 10^-6 hwf_n0_20mega 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 0.00 background_viscosity 0.0001 0.0001 decay_scale 500.0 500.0 drag_dissipation_use_cdbot True True fixed_wave_difsipation False False max_wave_diffsipivity 0.01 0.01 mixing_efficiency_n2depend True True read_roughness True True <td></td> <td></td> <td></td> <td></td>				
Nwf_n0_20mega 200 200 use_diff_cbt_table False False vert_diff_back_via_max True vert_mix_scheme 'kpp- 'kpp- mom4p1' mom4p1' Mom4p1' Mom				
Label Use_diff_cbt_table False False Vert_diff_back_via_max True True Vert_mix_scheme 'kpp 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 fixed_wave_dissipation False False fixed_wave_dissipation False False max_wave_diffusivity 0.01 0.01 max_wave_diffusivity 0.01 0.001 max_wave_diffusivity 0.01 0.01 max_wav				
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				
vert_mix_scheme '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				
kocean_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				
&ocean_vert_tidal_nml background_diffusivity 0.0 0.0 background_viscosity 0.0001 0.0001 decay_scale 500.0 500.0 drhodz_min 1 × 10 ⁻¹⁰ 1 × 10 ⁻¹⁰ 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			mom4p1'	mom4p1'
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	&ocean_vert_tidal_nml			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
$\frac{\text{drhodz_min}}{\text{fixed_wave_dissipation}} \begin{array}{ccccccccccccccccccccccccccccccccccc$				
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				1 40-10
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				
mixing_efficiency_n2depend True True read_roughness True True read_tide_speed True True read_wave_dissipation False False				
read_roughness True True read_tide_speed True True read_wave_dissipation False False				
read_tide_speed True True read_wave_dissipation False False				
read_wave_dissipation False False		read_tide_speed		
reading_roughness_amp True True		read_wave_dissipation		
		reading_roughness_amp	True	True

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf 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	'second
		order'	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_acces- som2 01deg jra55_ryf 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	'L00P'	'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',	'u_flux',
		'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',	'salt_flx',
		'mh_flux',	'mh_flux',
		'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',
		't_flux',	't_flux',
		'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',
		'aice',	'aice',
		'wfimelt',	'wfimelt',
		williett,	'wfiform'

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf 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 num_fields_out	15	15
	num_πelds_out send_after_ocean_update	7 True	7 True
	send_before_ocean_update	False	False
&monin_obukhov_nml	neutral	True	True
&mpp_io_nml	deflate_level shuffle	5 1	5 1
&ocean_adv_vel_diag_nml	diag_step	576	576
	large_cfl_value	10.0	10.0
	max_cfl_value verbose_cfl	100.0 True	100.0 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 barotropic_time_stepping_b	True False	True False
	debug_this_module	False	False
	diag_step	576	576
	eta_max	8.0	8.0
	frac_crit_cell_height pred_corr_gamma	0.2 0.2	0.2 0.2
	smooth_eta_diag_laplacian	True	True
	smooth_eta_t_biharmonic	False	False
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic smooth_pbot_t_laplacian	False True	False True
	truncate_eta	False	False
	use_legacy_barotropic_halos	False	False
	vel_micom_bih vel_micom_lap	0.01 0.05	0.01 0.05
	vel_micom_tap vel_micom_lap_diaq	0.05	0.05
	verbose_truncate	True	True
	zero_tendency	False	False
&ocean_bbc_nml	bmf_implicit cdbot	1rue 0.001	0.001
	cdbot_hi	0.001	0.001
	cdbot_roughness_length	False	False
	cdbot_roughness_uamp	True	True
	uresidual use_geothermal_heating	0.05 False	0.05 False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom	True	-
	use_this_module	False	False
&ocean_bihcst_friction_nml	vel_micom use_this_module	0.001 False	False
&ocean_bihgen_friction_nml	bottom_5point	False	False
	eq_lat_micom	0.0	0.0
	eq_vel_micom_aniso eq_vel_micom_iso	0.0 0.0	0.0 0.0
	eq_vet_micom_iso equatorial_zonal	False	False
	k_smag_aniso	0.0	0.0
	k_smag_iso	2.0	2.0
	ncar_boundary_scaling ncar_boundary_scaling_read	True True	True True
	ncar_rescale_power	2	2
			2×10^{-8}
	ncar_vconst_4	$2 imes 10^{-8}$	
	ncar_vconst_4 ncar_vconst_5	5	5
	ncar_vconst_4 ncar_vconst_5 use_this_module	5 True	5 True
	ncar_vconst.4 ncar_vconst.5 use_this_module vel_micom_aniso	5 True 0.0	5 True 0.0
	ncar_vconst_4 ncar_vconst_5 use_this_module	5 True 0.0 0.0 0.0	5 True
	ncar_vconst_4 ncar_vconst_5 use_this_module vel_micom_aniso vel_micom_bottom vel_micom_iso visc_crit_scale	5 True 0.0 0.0 0.0 1.0	5 True 0.0 0.0
&ocean_convect_nml	ncar_vconst_4 ncar_vconst_5 use_this_module vel_micom_aniso vel_micom_bottom vel_micom_iso visc_crit_scale convect_full_scalar	5 True 0.0 0.0 0.0 1.0 True	5 True 0.0 0.0 0.0
&ocean_convect_nml	ncar_vconst_4 ncar_vconst_5 use_this_module vel_micom_aniso vel_micom_bottom vel_micom_iso visc_crit_scale	5 True 0.0 0.0 0.0 1.0	5 True 0.0 0.0 0.0

Scoen defolly, mill cee, sincers 10 stole folse ces, pretents 10 stole folse ces, pret	ıp (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
Beautiful				True
Injert of the content of the conte	ean_density_nml			False
		•		True
Beautifle man 1038.0 2021.0 2021.0 2022.0 202		•		80 1030.0
				1030.0
December				1038.0
Socean domains amil max.tracers Socean formal may the the module flate see this module flate flate freezing terms, simple flate flate freezing terms, simple flate socean flored terms and see this module flate		·		1028.0
Social Intelligence False	ean_domains_nml	·		5
frazil nny in surface freezing, stemp, stemples 50 True freezing, stemp, stemple 50 True freezing, stemp, stemple 50 True freezing, stemp, stemple 50 Easter 50 Secona, stemple 50 Secon	ean_form_drag_nml	use_this_module	False	False
freezing, temp, partees 10 freezing, temp, partees 10 freezing, temp, partee 15 freezing, temp, partee 15 greezing, partees 10 greezing, temp, partees 10 gr	ean_frazil_nml		False	False
freeing, temp, simple use, this, module false Gotean, increment, tea, and debug, this, module Gotean, increment, tea, and use, this, module false Gotean, lapper, friction, and to general Gotean, lapper, friction, and use, this, module false Gotean, module, and false false facean, module, and false fal				False
Description				True
				False
Accean increment, tax jumil use, this, module False Accean increment, taxade and use, this, module of processing and the processi	and add a soul			True
Kozen increment, tracer uml use, this, module False Kozen increment, tracer, uml use, this, module False Kozen in Increment, vedering, uml use, this, module False Kozen, Indiport, Triction, uml use, this, module False Kozen, Lapper, Triction mint use, this, module False Kozen, Lapper, Triction, mint debug this, module False Kozen, Lapper, Triction, mint debug this, module False Kozen, Lapper, Triction, mint debug this, module False Kozen, Loper, Triction, mint debug this, module False Kozen, model, mint barrotropic spit 1 Barrotropic spit 1 4 Barrotropic spit 1 8 debug this, module False 8 docean, momentum, source, mint debug this, module 1 Kocean, momentum, source, mi				False
Kocean Inspirition.mcl use. this. module feater (general cocean lap friction.scheme (general cocean lap friction.scheme (general cocean lap friction.nml) lap friction.scheme (general cocean laps friction.scheme (general cocean laps friction.nml) use. this. module feater (general cocean laps friction.nml) False (socean laps friction.nml) cocean laps friction.nml lap friction.scheme (general cocean laps friction.nml) False (socean laps friction.nml) <td></td> <td></td> <td></td> <td>False</td>				False
Accean Lap friction numb Lap friction scheme General Scorean Lap state mil Use. Lihs. module False Scorean Lappst. Friction.mml Leman Lappet. Brittion. Limit Leman Lappet. Brittion. Limit Scorean Lappst. Scorean Lappet. Friction.mml Leman Limit Limit Limit Limit. Limit Li				False False
Socean Lapscraff use shis, module False Socean Lapscraff (infon, mit) use, this, module False Socean, Lapscraft (infon, mit) Exmap 35 20 Socean, Lapscraft (infon, mit) Extragrafise 20 Socean, mix (infon, mit) debug ins, module False False Socean, model, mit Infontation (including infontation) 80 Group (infontation) Group (infontation) 80				'qeneral'
Sceen Lipst Lips		·		False
				False
Secean_mindownslope_nml Seleving_this_module False Secean_model_nml Seleving_this_module False Use_this_module False Use_this_module Use_this_module False Use_this_module Use_this_module Use_this_module False Use_this_module Use_this_module Use_this_module Use_this_module Use_this_module Use_this_module Use_this_this_module Use_this_this_this_this_this_this_this_module Use_this_				raisc
Accean.mixidownslope.mil glebus phis.module False use.this.module False use.this.module False use.this.module False to the control to the con	curzupgenzmenonzmie			False
Secen_model_nnt Sales S	ean_mixdownslope_nml			7 4150
Socean_model_nml				False
barotropic.split 80 cmlp.units debug False d.coean 150 io.layout 10,15 layout 80,75 surface_height_split 1 time_tendency vollevel* vertical_coordinate 'zstar' Socean_momentum_source_nml rayleigh_damp_cabp from_bottom False use_rayleigh_damp_table True use_trayleigh_damp_table True use_trayleigh_damp_table True use_trayleigh_damp_table True use_nphysics and debug_this_module False use_nphysics False use_nphysics False use_nphysics False use_nphysics False use_nphysics True agm_closure_buoy_freq agm_closure_branctinic True agm_closure_branctinic True agm_closure_branctinic True agm_closure_branctinic True agm_closure_length_fred agm_closure_length_brzone agm_closure_length_fred agm_closure_uper_depth agm_closure_u	ean_model_nml			1
timp_units debug False dt.ocean 150 debug False dt.ocean 150 io.layout 10,15 layout 11,15 layout			80	80
dt.ocean 150 10,15 10,				True
10.13yout				False
layout Surface, height_split 1 time_tendency twolevet' vertical_coordinate 'zstar' scean_momentum_source_nml rayleigh_damp_exp_from_bottom rake scean_momentum_source_nml rayleigh_damp_table use_this_module ruse_this_module use_this_module use_this_module use_this_module use_this_module use_this_module use_this_module use_this_module use_nphysics rake use_nphysics rake use_nphysics false use_nphysics false use_nphysics false use_nphysics use_this_module rake use_this_module use_this_module use_this_module rake use_this_module use_this_module rake agm_closure_baroclinic agm_closure_baroclinic use_this_module rake use_this_module use_this_module rake use_this_module rake use_this_module use_this_module rake use_this_module use_this_module use_this_module rake use_this_module use_this_module rake use_this_module rake use_this_module use_this_this_module use_this_module use_this_module use_this_module use_this_this_this_this_this_this_this_this				150
Surface_height_split 1 time_tendency 'twolevel' time_tendency 'twolevel' vertical_coordinate 2:star'				10, 15
time_tendency 'twolevel' vertical_coordinate 'zstar' store and time_tendency tertical_coordinate 'yestar' store and time_tendency tertical_coordinate 'zstar' store and time_tendency. & ocean_nphysics_nml				80, 75
& cocean_momentum_source_nml vertical_coordinate 'zstar' & cocean_momentum_source_nml rayleigh_damp_exp_from_bottom False use_rayleigh_damp_table True & cocean_nphysics_undle debug_this_module False use_nphysicsa False use_nphysics False agm_closure_lough_closure 50000 agm_closure_length_fixed False agm_closure_length_fixed False agm_closure_length_fixed False agm_closure_length_fixed False				1
&ocean_momentum_source_nml rayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_this_module use_this_module use_this_module use_this_module use_this_module use_nphysics and use_nphysics are use_nphysics and use_nphysics and use_this_module use_this_module and use_nphysics and use_nphysics are use_this_module and use_nphysics and use_this_module and use_nphysics_this_damp_closure_this_module and_closure_this_module and_closure_this_		•		'twolevel' 'zstar'
use_rayleigh_damp_table True use_this_module False use_nphysicsa False use_nphysics False use_nphysics False use_nphysics False use_this_module False use_nphysics False use_this_module False agm_closure_baroclinic True agm_closure_boy_freq 0.004 agm_closure_length_folser agm_closure_length 50 000.0 agm_closure_length_fixed agm_closure_length_fixed agm_closure_length_fixed agm_closure_length_fixed agm_closure_length_fixed agm_closure_length_fixed agm_closure_nower_depth 2000.0 agm_closure_max agm_closure_max fo00.0 agm_closure_max fo00.0 agm_closure_uper_depth 100.0 aredi_equal_agm_false drhodz_smooth_porz false drhodz_smooth_porz False drhodz_smooth_porz False drhodz_smooth_vert false rossby_radius_max 100 0000.0 rossby_radius_max 100 0000.0 rossby_radius_max 15 000.0	ean momentum source nml			False
kocean_nphysics_nml use_this_module True kocean_nphysics_nml debug_this_module False use_nphysics False use_nphysics False use_nphysics_c False use_nphysics_c False use_unphysics_c False use_this_module False kocean_nphysics_util_nml agm_closure agm_closure True agm_closure_buoy_freq 0,000 agm_closure_buoy_freq 0,000 agm_closure_length_brzone False agm_closure_length_fixed False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_length_nossby False agm_closure_length_rossby False agm_closure_length_nossby False agm_closure_length_rossby False agm_closure_length_nossby False agm_closure_length_rossby false agm_closure_length_nossby false agm_clo	can_momentum_source_mmt			True
Rocean_nphysics.nml debug.this.module use_nphysicsa False use_nphysicsb False use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc ralse use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc use_nphysicsc ralse use_nphysicsc use_nphysics_nphy				True
use_nphysics False use_nphysics False use_nphysics False use_nphysics False use_nphysics False use_nphysics_c False use_nphysics_c False use_nphysics_c False use_nphysics_c False use_nphysics_c False use_nphysics_util_nml agm 1000 agm_closure bargotinic True agm_closure_baroclinic True agm_closure_buoy_freq 0.004 agm_closure_length 50 000.0 agm_closure_length_bczone False agm_closure_length_fixed False agm_closure_length_fixed False agm_closure_length_rossby False agm_closure_length agm_closure_min 100.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_scaling 0.07 agm_closure_scaling aredi 600.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_horz False drhodz_smooth_vert False drhodz_smooth_vert False false drhodz_smooth_vert False false	ean_nphysics_nml			False
use_nphysics_ use_this_module False use_this_module False socean_nphysics_util_nml agmclosure	1,			False
kocean_nphysics_util_nml agm 100.0 kocean_nphysics_util_nml agm 100.0 agm_closure_lampt_closure True agm_closure_buoy_freq 0.004 agm_closure_length_brzone False agm_closure_length_fixed		use_nphysicsb	False	False
Rocean_nphysics_util_nml agm_closure agm_closure True agm_closure_baroclinic True True agm_closure_baroclinic True 1 agm_closure_baroclinic True 0.004 agm_closure_buoy_freq 0.004 0.004 agm_closure_length 50 000.0 5 agm_closure_length_bczone False 6 agm_closure_length_rossby False 6 agm_closure_lower_depth 2000.0 2 agm_closure_unax 600.0 6 agm_closure_scaling 0.07 2 agm_closure_upper_depth 100.0 2 aredi_equal_agm False 6 drhodz_mom4p1 False 6 drhodz_smooth_horz False 6 drhodz_smooth_vert False 6 drhodz_smooth_smax 100 000.0 1 rossby_radius_min 15 000.0 15 000.0 smax 0.002 1			False	False
agm_closure True agm_closure baroclinic True agm_closure_baroclinic True agm_closure_buoy_freq 0.004 agm_closure_length 50 000.00 agm_closure_length bzone False agm_closure_length_fixed False agm_closure_length_fixed False agm_closure_length_rossby False agm_closure_length_rossby False agm_closure_depth 2000.00 agm_closure_min 100.00 agm_closure_min 100.00 agm_closure_min 100.00 agm_closure_depth 100.00 aredi aredi 600.00 aredi aredi aredi 600.00 aredi aredi 600.00 aredi aredi aredi 600.00 aredi aredi 600.00 aredi		use_this_module		False
agm_closure_baroclinic agm_closure_buoy_freq 0.004 agm_closure_length	ean_nphysics_util_nml			100.0
agm_closure_buoy_freq 0.004 agm_closure_length 50 000.0 agm_closure_length_bczone False agm_closure_length_fixed False agm_closure_length_rossby False agm_closure_depth 2000.0 agm_closure_max 600.0 agm_closure_scaling 0.07 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				True
agm_closure_length_bczone False agm_closure_length_bczone False agm_closure_length_fixed False agm_closure_length_frossby False agm_closure_length_rossby False agm_closure_lower_depth 2000.0 agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi_equal_agm False drhodz_month_horz False drhodz_smooth_horz False drhodz_smooth_vert False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_max 100 000.0 rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				True
agm_closure_length_bczone False agm_closure_length_fixed False agm_closure_length_rossby False agm_closure_lower_depth 2000.0 agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi 600.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_horz False forssby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				0.004
agm_closure_length_fixed agm_closure_length_rossby False agm_closure_lower_depth 2000.0 agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi 600.0 aredi equal_agm False drhodz_mom4p1 False drhodz_smooth_horz false drhodz_smooth_vert False drhodz_smooth_vert False frossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				50 000.0 False
agm_closure_length_rossby False agm_closure_lower_depth 2000.0 agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				False
agm_closure_lower_depth 2000.0 agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				False
agm_closure_max 600.0 agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi_equal_agm False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				2000.0
agm_closure_min 100.0 agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				600.0
agm_closure_scaling 0.07 agm_closure_upper_depth 100.0 aredi 600.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				100.0
agm_closure_upper_depth 100.0 aredi 600.0 aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				0.07
aredi_equal_agm False drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002		agm_closure_upper_depth		100.0
drhodz_mom4p1 False drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				600.0
drhodz_smooth_horz False drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				False
drhodz_smooth_vert False rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				False
rossby_radius_max 100 000.0 rossby_radius_min 15 000.0 smax 0.002				False
rossby_radius_min 15 000.0 smax 0.002				False 100 000.0
smax 0.002				15 000.0
				0.000 د ت
tracer_mix_micom False				False
vel_micom 0.0				0.0
Rocean_nphysicsa_nml use_this_module False	ean_nphysicsa_nml			False
&ocean_nphysicsb_nml use_this_module False				False
kocean_nphysicsc_nml use_this_module False				False
kocean_operators_nml use_legacy_div_ud False				False

Content overflow mail False Fals	Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
		overexch_npts	4 Falso	4 False
Scient process Scient process False Fa				
Section one flow of purity False			False	False
Stocent (Control of Control of	&ocean_overflow_nml			F-1
Begand 1970	&ocean overflow of pnml			False
Command Comm	Wording-Overheit-Organitie			
The contemps of the contemp of the				
		·		
Access prize filter and Use, Biss, module False False Coccons pressure filter Participated Partic				
	•			
Process				
Price of this sont hickness 0.0 0.0 0.0	& OCEAN LITTER MINISTER METAL			
Mexical State				True
obsession in thickness 400 400 400 400 400 400 400 500				
Second streets Seco		•		
December December	&ocean_riverspread_nml			
Social Social September True True True Captings September True True Captings				
ang_sfx_velocity True True Calvimpgread False Fals				
Calvingspread False False False Gobbivise, exact.sum False False False False Gobbivise, exact.sum False False False False Gobbivise, exact.sum False	WOCEAN_SUC_INIT			
do. flux.correction		calvingspread		
Iland.moder.Laft.luxes				
max. delta. salinity, restore 0.5 0.				
maxice thickness 00 00 read.nestore.mask False F				
restore_mask_gful False		max_ice_thickness	0.0	
Salt_restore_as_salt_flux				
Salt_restore_tscale G0.0 G0.0 G0.0 Go.0				
Salt_restore_under_ice				
See False See Se				
Region		use_full_patm_for_sea_level	False	False
Raise Rais				
&ocean_shortwave_csiro_nml use_this_module debug_this_module enforce_sw_frac False True True True optics_manizza True True True optics_monizza True True True use_this_module True True use_this_module optics_monizza True True True use_this_module True True use_this_module Use_this_this_this_this_this_this_this_this		zero_surface_stress	False	False
&ocean_shortwave_gfdl_nml debug_this_module enforce_sw_frac enforce_sw_frac optics_manizza False True True optics_manizza True True True optics_morel_antoine False in False enforce_sw_frac optics_morel_antoine in False in Fals				
Benforce_sw_frac optics_manizza True optics_manizza True optics_manizza True optics_manizza True optics_manizza True optics_morel_antoine False False				
Optics_manizza True True Optics_morel_antoine False False read_chi True True use_this_module True True use_this_module True True use_this_module True True use_this_module False False &ocean_shortwave_jerlov_nml use_this_module False False &ocean_shortwave_nml use_shortwave_cirro False False use_shortwave_jerlov False False use_shortwave_jerlov False False use_shortwave_jerlov False False use_shortwave_jerlov False False use_this_module True True true true True	&ocean_snot wave_grat_nint			
True True Use_this_module True Use_this_module True True Use_this_module True Tr				
use_this_module zmax_pen True zmax_pen 300.0 300.0 &ocean_shortwave_jerlov_nml use_this_module use_shortwave_csiro ise_shortwave_gfdl False ise_shortwave_gfdl True				
kocean_shortwave_jerlov_nml use_this_module False False &ocean_shortwave_nml use_shortwave_csiro False False use_shortwave_jerlov False False 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_diffusion_ty_ratio 1 × 10^-6 sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True				
&ocean_shortwave_jerlov_nml use_this_module False False &ocean_shortwave_nml use_shortwave_cjerlo False False use_shortwave_jerlov False False False use_this_module True True True True &ocean_sigma_transport_nml sigma_advection_on sigma_diffusion_on rue False				
use_shortwave_gfdl True True use_shortwave_jerlov False False use_this_module True True &ocean_sigma_transport_nml sigma_advection_on sigma_advection_sgs_only sigma_advection_sgs_only sigma_advection_on true False sigma_diffusion_on sigma_diffusivity_ratio True sigma_just_in_bottom_cell sigma_umax smooth_sigma_thickness True smooth_sigma_thickness True	&ocean_shortwave_jerlov_nml	use_this_module		
use_shortwave_jerlov use_this_module False use_this_module False True &ocean_sigma_transport_nml sigma_advection_on sigma_advection_sgs_only False False sigma_diffusion_on sigma_diffusion_on sigma_diffusivity_ratio True sigma_just_in_bottom_cell sigma_umax sigma_umax smooth_sigma_thickness True	&ocean_shortwave_nml			
use_this_module True True &ocean_sigma_transport_nml sigma_advection_on sigma_advection_sgs_only sigma_advection_sgs_only sigma_diffusion_on true False sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell sigma_umax sigma_umax sigma_umax smooth_sigma_thickness 0.01				
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		use_this_module		
sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True	&ocean_sigma_transport_nml			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
\$igma_just_in_bottom_cellTrue\$igma_umax0.01\$mooth_sigma_thicknessTrue				
smooth_sigma_thickness		sigma_just_in_bottom_cell	True	
		smooth_sigma_thickness smooth_sigma_velocity	True True	

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	smooth_velmicom	0.2	
	thickness_sigma_layer	100.0	
	thickness_sigma_max thickness_sigma_min	100.0 100.0	
	tmask_sigma_inin	False	
	tracer_mix_micom	True	
	use_this_module	False	False
	vel_micom	0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init days	1, 1, 1, 0, 0, 0 30	1, 1, 1, 0, 0, 0 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	F 1
Passan spansos valositu ppl	use_this_module	False	False
&ocean_sponges_velocity_nml &ocean_submesoscale_nml	use_this_module coefficient_ce	False 0.05	False 0.05
xucean_submesustate_mill	coemcient_ce 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 smooth_psi_num	True 3	True 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 use_psi_leqacy	True False	True 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 t_max_limit	55.0 32.0	55.0 32.0
	t_max_umit t_min	-20.0	- 20.0
	t_min_limit	-20.0 -5.0	20.0 5.0
	temperature_variable	'potential	'potential
		temp'	temp'
cocean_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 thickness_method	10.0 'energetic'	'energetic'
&ocean_tracer_advect_nml	tnickness_method debug_this_module	False	False
xoccan_cracci_auvect_nint	read_basin_mask	False	False
&ocean_tracer_diag_nml	diag_step	576	576
A Cocan La deci Langua inite	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_acces- som2 01deg jra55_ryf 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 5760	576 5760
	energy_diag_step 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
& occasa work Iran jow ami	zero_tendency_implicit	False	False
&ocean_vert_kpp_iow_nml	use_this_module diff_cbt_iw	False 0.0	False 0.0
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw double_diffusion	0.0 True	0.0 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 vert_diff_back_via_max	False True	False True
	vert_mix_scheme	'kpp	'kpp
	Verezmikuseneme	mom4p1'	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	$1 imes 10^{-10}$	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 False	True False
	read_wave_dissipation reading_roughness_amp	True	False 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
Passan ylandinsert aml	wave_energy_flux_max	0.1 Falso	0.1
&ocean_xlandinsert_nml &ocean_xlandmix_nml	use_this_module use_this_module	False False	False False
&ocean_xtandmix_nmt &sat_vapor_pres_nml	use_tnis_module show_all_bad_values	True	Larse
&surface_flux_nml	ncar_ocean_flux	True	
Courace_ntuA_nnt	raoult_sat_vap	True	
&xgrid_nml	do_alltoall	True	True
Sing received.	do_alltoallv	True	True
	interp_method	'second	'second
		order'	order'
	make_exchange_reproduce	False	False
	nsubset	16	16
		False	

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

Group	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15	0.15	0.15
	chk_i2o_fields	False	False	False	False	False	False
	chk_o2i_fields do_ice_once	False False	False False	False False	False False	False False	False False
	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
	<mark>redsea_gulfbay_sfix</mark> sign_stflx	True 1.0	True 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}					
3 1 11 112 1	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 max_num_axis_sets					700 40	
	max_output_fields					700	
&fms_io_nml	checksum_required					False	
W.11021011111	fileset_write	'single'	'single'	'single'	'multi'	'multi'	'multi'
	max_files_r	J	3	J		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 domains_stack_size	'LOOP'	'COMPONENT' 115200	'LOOP'	'COMPONENT' 115200	'LOOP' 115200	'COMPONENT' 115200
	print_memory_usage		113200		113200	False	113200
&generic_tracer_nml	do_generic_cfc					False	
	do_generic_topaz					False	
	do_generic_tracer					False	
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',
		'v_flux',	'v_flux',	'v_flux',	'v_flux',	'v_flux',	'v_flux',
		'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx'.	'lprec', 'fprec', 'salt_flx',
		'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',
		'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',	'q_flux',	'q_flux',	'q_flux',	'q_flux',
		't_flux',	't_flux',	't_flux',	't_flux',	't_flux',	't_flux',
		'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',
		'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt'	'aice', 'wfimelt'	'aice', 'wfimelt',	'aice', 'wfimelt'
		wnmett, 'wfiform'	wiimeit, 'wfiform'	'wfimelt', 'wfiform'	'wfimelt', 'wfiform'	wnmett, 'wfiform'	'wfimelt', 'wfiform'
		***************************************			't_surf',	't_surf',	't_surf',
	fields out	't_surf'.	't_surf'.	L_SUIT.			,
	fields_out	't_surf', 's_surf',	't_surf', 's_surf',	't_surf', 's_surf',	's_surf',	's_surf',	's_surf',
	fields_out	's_surf', 'u_surf',	't_surf', 's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',	'u_surf',	's_surf', 'u_surf',
	fields_out	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	'u_surf', 'v_surf',	'u_surf', 'v_surf',
	fields_out	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	'u_surf', 'v_surf', 'dssldx',	'u_surf', 'v_surf', 'dssldx',
	fields_out	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	'u_surf', 'v_surf', 'dssldx', 'dssldy',	'u_surf', 'v_surf', 'dssldx', 'dssldy',
		's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15	'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15
	num_fields_in num_fields_out	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7
	num_fields_in	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15	'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15
&monin_obukhov_nml	num_fields_in num_fields_out send_after_ocean_update	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7
&monin_obukhov_nml &mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5
	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1	'u_surf', 'v_surf', 'dssldx', 'dssldy, 'frazil' 15 7 True False True 5 1
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 100	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 10.0
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False 4320 10.0 100.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 1000	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 4320 10.0 100.0	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 1000	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 1000	'u_surf', 'v_surf', 'dssldx', 'dssldy, 'frazil' 15 7 True False True 5 1 576 10.0 100.0
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 100	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576	'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 10.0

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_barotropic_nml	barotropic_halo	10	10	10	10	10	10
	barotropic_time_stepping_a barotropic_time_stepping_b	True False	True False	True False	True False	True False	True False
	debug_this_module	False	False	False	False	False	False
	diag_step	4320	4320	4320	4320	576	576
	eta_max	8.0	8.0	8.0	8.0	8.0	8.0
	frac_crit_cell_height	0.2	0.2	0.2	0.2	0.2	0.2
	pred_corr_gamma smooth_eta_diag_laplacian	0.2 True	0.2 True	0.2 True	0.2 True	0.2 True	0.2 True
	smooth_eta_t_biharmonic	False	False	False	False	False	False
	smooth_eta_t_laplacian	True	True	True	True	True	True
	smooth_pbot_t_biharmonic	False	False	False	False	False	False
	smooth_pbot_t_laplacian	True	True	True	True	True	True
	truncate_eta	False	False	False	False	False	False
	use_legacy_barotropic_halos vel_micom_bih	False 0.01	False 0.01	False 0.01	False 0.01	False 0.01	False 0.01
	vel_micom_lap	0.01	0.01	0.01	0.01	0.01	0.01
	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	Falsa	0.007	0.007	0.007	0.007	0.007
	cdbot_law_of_wall cdbot_roughness_length	False	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	Falsa	Falsa	True	False	True	Falsa
	use_this_module vel_micom	False	False	False 0.001	False	False 0.001	False
&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
3	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 k_smag_iso	0.0 2.0	0.0 2.0	0.0 2.0	0.0 2.0	0.0 2.0	0.0 2.0
	ncar_boundary_scaling	True	True	True	True	True	True
	ncar_boundary_scaling_read		True	True	True	True	True
	ncar_rescale_power	2	2	2	2	2	2
	ncar_vconst_4	2×10^{-8}	$2 imes 10^{-8}$	$2 imes 10^{-8}$	2×10^{-8}	$2 imes 10^{-8}$	$2 imes 10^{-8}$
	ncar_vconst_5	_ 5	_ 5	_ 5	_ 5	_ 5	_ 5
	use_this_module	True	True	True	True	True	True
	vel_micom_aniso vel_micom_bottom	0.0 0.01	0.0 0.01	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
	vel_micom_bottom vel_micom_iso	0.01	0.01	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	0.23	True	2.0	True	2.0
	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
9	use_this_module	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False	False True	False True	False True	False True	False True
	eos_preteos10 layer_nk	True 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
		40	5	5	5	5	5
&ocean_domains_nml	max_tracers	10					
&ocean_domains_nml &ocean_form_drag_nml	cprime_aiki	0.6		F :	F ·	F ·	
&ocean_form_drag_nml	<mark>cprime_aiki</mark> use_this_module		False	False	False	False	False
	<mark>cprime_aiki</mark> use_this_module <mark>debug_this_module</mark>	0.6	False False	False	False	False	False
&ocean_form_drag_nml	cprime_aiki use_this_module debug_this_module frazil_only_in_surface	0.6	False False False	False False	False False	False False	False False
&ocean_form_drag_nml	cprime_aiki use_this_module debug_this_module frazil_only_in_surface freezing_temp_preteos10	0.6 False	False False False True	False False True	False False True	False False True	False False True
&ocean_form_drag_nml	cprime_aiki use_this_module debug_this_module frazil_only_in_surface	0.6	False False False	False False	False False	False False	False False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	read_rho0_profile	False				•	
&ocean_increment_eta_nml	days_to_increment	0					
	fraction_increment secs_to_increment	1.0 1800					
	use_this_module	False	False	False	False	False	False
&ocean_increment_tracer_nml	days_to_increment	0	1 4130	1 4130	1 4130		1 4130
	fraction_increment	1.0					
	secs_to_increment	1800					
9	use_this_module	False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment fraction_increment	0 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 bottom_5point	False True	False True	False	False	False	False
&ocean_lapgen_friction_nml	k_smag_aniso	0.0	0.0				
	k_smaq_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	False	False	Falsa	False
	use_this_module vconst_1	True 8 000 000.0	True	False	False	False	False
	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	0.1				
	vel_micom_iso viscosity_ncar	0.1 True	0.1 False				
	viscosity_ncar_2000	False	i alse				
	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 mixdownslope_npts	False 4	False 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 4, 3	3600 4, 3	1200 6, 5	1200 6, 5	150 10, 15	150 10, 15
	io_layout layout	16, 15	16, 15	48, 40	48, 40	80,75	80,75
	surface_height_split	10, 15	10,13	10, 10	10, 10	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
Passan nahysiss aml	use_this_module	True	True	True False	True	True	True
&ocean_nphysics_nml	debug_this_module use_nphysicsa	False False	False False	False	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 agm_closure_buoy_freq	True 0.004	True 0.004	True 0.004	True 0.004	True 0.004	True 0.004
	agm_closure_buoy_freq agm_closure_eady_ave_mixed	True	True	0.004	0.004	0.004	0.004
	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				
	<pre>agm_closure_grid_scaling agm_closure_length</pre>	True 50 000.0	True 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
	agin_closure_lengtin_bcz0ffe	i alsc	ו מנאכ	ו מנאכ	ו מנטכ	1 0130	i alse

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	agm_closure_length_fixed	False	False	False	False	False	False
	agm_closure_length_rossby	False	False	False	False	False	False
	agm_closure_lower_depth	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
	agm_closure_max	600.0	600.0	600.0	600.0	600.0	600.0
	<pre>agm_closure_min agm_closure_scaling</pre>	50.0 0.07	50.0 0.07	100.0 0.07	100.0 0.07	100.0 0.07	100.0 0.07
	agm_closure_upper_depth	100.0	100.0	100.0	100.0	100.0	100.0
	agm_damping_time	45.0	45.0	100.0	100.0	100.0	100.0
	agm_smooth_space	False	False				
	agm_smooth_time	False	False				
	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 drhodz_smooth_vert	False False	False False	False False	False False	False False	False False
	nphysics_util_zero_init	True	True	i alse	i atse	raise	i alse
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min smax	15 000.0	15 000.0	15 000.0 0.002	15 000.0	15 000.0 0.002	15 000.0
	swidth			0.002		0.002	
	tracer_mix_micom	False	False	False	False	False	False
2 acces multiplicate and	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 bvp_bc_mode	True 2	True 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	$1 imes 10^{-12}$	1×10^{-12}				
	gm_skewsion_bvproblem	True	True				
	gm_skewsion_modes	False	False				
	neutral_eddy_depth neutral_physics_limit	True True	True True				
	number_bc_modes	2	2				
	regularize_psi	False	False				
	smax_psi	0.01	0.01				
	smooth_psi	True	True				
	tmask_neutral_on	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	F-1	False	False	False	False	False
&ocean_overexchange_nml	debug_this_module overexch_check_extrema	False False	False	False	False	False	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 frac_exchange_src			True 1.0		True 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 Truo	40.0 Truo	40.0 Truo	40.0 Truo	40.0
&ocean_riverspread_nml	use_this_module debug_this_module	True	True	True	True	True False	True
COCCOUNTINGERS PROCEEDING	debug_tnis_module use_this_module	True	False	False	False	True	False
&ocean_rough_nml	rough_scheme	iiuc	'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'
	avg_sfc_temp_salt_eta						
&ocean_sbc_nml	avo sto temp sait eta	True	True	True	True	True	True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	calvingspread		False	False	False	False	False
	do_bitwise_exact_sum		False	False	False	False False	False
	do_flux_correction land_model_heat_fluxes		False False	False False	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 salt_restore_tscale	True 15.0	True 60.0	True 60.0	True 60.0	True 60.0	True 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	2.0	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
	<pre>zero_net_water_correction zero_net_water_couple_restore</pre>	True	False True	False True	False True	False True	False True
&ocean_sbc_ofam_nml	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
	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
&ocean_shortwave_gfdl_nml	zmax_pen debuq_this_module	7000 False	False	7000 False	False	False	False
&ocean_shortwave_grat_nint	enforce_sw_frac	True	True	True	True	True	True
	optics_manizza	True	True	True	True	True	True
	optics_morel_antoine	IIde	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 use_shortwave_qfdl	True	False	False	False	False	False
	use_shortwave_jerlov	False False	True False	True False	True False	True False	True False
	use_this_module	True	True	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False	iruc	False	nuc	False	nuc
a see an as grown and see a	sigma_advection_sqs_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 thickness_sigma_layer	0.2 100.0		0.2 100.0		0.2 100.0	
	thickness_sigma_tayer	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 False	1460	31	31	30	30
	debug_this_module dt_cpld	3600	3600	1200	1200	150	600
	hours	0 0	0 0	1200	1200	130	000
	minutes	0	0	0	0	0	0
	months	0	0	0	0	0	0
		-	-		-		
	seconds	0	0	0	0	0	0
		0 0	0	0	0	0	0

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	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	Falsa	0.05	0.05	0.05	0.05	0.05
	debug_this_module front_length_const	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 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 submeso_advect_flux		3 False	3 False	3 False	<u>З</u>	3 False
	submeso_advect_tiux submeso_advect_limit		False True	False True	False True	False True	False True
	submeso_advect_unit		True	True	True	True	True
	submeso_advect_upwind		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	FF 0	True	True	True	True	True
	S_max	55.0	70.0	70.0 42.0	70.0	70.0	70.0
	s_max_limit s_min	42.0 —1.0	42.0 0.0	42.0 0.0	42.0 0.0	42.0 0.0	42.0 0.0
	s_min_limit	-1.0 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
	t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0
	t_min	-5.0	-20.0	-20.0	-20.0	-20.0	-20.0
	t_min_limit	-2.0	-5.0	-5.0	-5.0	-5.0	-5.0
	temperature_variable	'conservative	'potential	'potential	'potential	'potential	'potential
		temp'	temp'	temp'	temp'	temp'	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				<u>.</u> .	
	rescale_mass_to_get_ht_mod	7.0	False	False	False	False	False
	rescale_rho0_basin_label	7.0					
	rescale_rho0_mask_gfdl						
	roccala rha() valua	False					
	rescale_rho0_value	0.75		20		20	
	thickness_dzt_min	0.75 1.0		2.0		2.0	
	thickness_dzt_min thickness_dzt_min_init	0.75 1.0 2.0	'energetic'	10.0	'eneraetic'	10.0	'energetic'
&ocean_topog_nml	thickness_dzt_min	0.75 1.0	'energetic'		'energetic'		'energetic'
&ocean_topog_nml &ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness	0.75 1.0 2.0 'energetic' 25.0	'energetic'	10.0	'energetic'	10.0	'energetic'
	thickness_dzt_min thickness_dzt_min_init thickness_method	0.75 1.0 2.0 'energetic'	'energetic'	10.0	'energetic'	10.0	'energetic'
	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all	0.75 1.0 2.0 'energetic' 25.0 True	'energetic' False	10.0	'energetic'	10.0	'energetic' False
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update	0.75 1.0 2.0 'energetic' 25.0 True True False	False False	10.0 'energetic' False False	False False	10.0 'energetic' False False	False False
	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True	False False 4320	10.0 'energetic' False False 4320	False False 4320	10.0 'energetic' False False 576	False
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False	False False 4320 False	False False 4320 False	False False 4320 False	10.0 'energetic' False False 576 False	False False 576 False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0	False False 4320 False 30.0	False False False 4320 False 30.0	False False 4320 False 30.0	False False False 576 False 30.0	False False 576 False 30.0
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min.init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0	False False 4320 False 30.0	False False False 4320 False 30.0	False False 4320 False 30.0	False False 576 False 30.0	False False 576 False 30.0
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False	False False 4320 False 30.0 0.0 False	False False False 4320 False 30.0 0.0 False	False False 4320 False 30.0 0.0 False	False False 576 False 30.0 0.0 False	False False 576 False 30.0 0.0 False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True	False False 4320 False 30.0 0.0 False True	False False False 4320 False 30.0 0.0 False True	False False 4320 False 30.0 0.0 False True	False False False 576 False 30.0 0.0 False True	False False 576 False 30.0 0.0 False True
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False	False False 4320 False 30.0 0.0 False True False	False False 4320 False 30.0 0.0 False True False	False False 4320 False 30.0 0.0 False True False	False False False 30.0 0.0 False True False	False False 576 False 30.0 0.0 False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True	False False 4320 False 30.0 0.0 False True False True	False False False 4320 False 30.0 0.0 False True False True	False False 4320 False 30.0 0.0 False True False True	False False False 576 False 30.0 0.0 False True False True	False False 576 False 30.0 0.0 False True False True
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False False	False False False False False False False False False True False False False	False False 4320 False 30.0 0.0 False True False True False False	False False False 576 False 30.0 0.0 False True False True False	False False 576 False 30.0 0.0 False True False True False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True	False False 4320 False 30.0 0.0 False True False True False True False	False False False 4320 False 30.0 0.0 False True False True False True False True False True	False False 4320 False 30.0 0.0 False True False True False True False True	False False 576 False 30.0 0.0 False True False True False True False True False True	False False 576 False 30.0 0.0 False True False True False True False True
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False	False False 4320 False 30.0 0.0 False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False True False	False False 576 False 30.0 0.0 False True False True False True False True False	False False 576 False 30.0 0.0 False True False True False True False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tracer_source	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False True False True False False True False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False True False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency zero_tracer_source debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency zero_tracer_source debug_this_module diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False False False True False False True False False True False False True False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False False 576 False 30.0 0.0 False True False True False True False	False False 576 False 30.0 0.0 False True False True False False False False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency zero_tracer_source debug_this_module diag_step energy_diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency zero_tracer_source debug_this_module diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False False False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 576 False 30.0 0.0 False True False True False True False	False False 576 False 30.0 0.0 False True False True False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	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 True	2.0 True	2.0	2.0 True
	truncate_verbose zero_tendency	True False	True False	True False	True False	True False	True False
	zero_tendency_explicit_a	Tube	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	0.0	0.0	0.0	0.0	0.0
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw diff_con_limit	0.0 0.1	0.0	0.0	0.0	0.0	0.0
	double_diffusion	True	True	True	True	True	True
	kbl_standard_method	False	False	False	False	False	False
	ricr	0.3	0.3	0.3	0.3	0.3	0.3
	smooth_blmc	False	False	False	False	False	False
	smooth_ri_kmax_eq_kmu	True	True	True	True	True	True
	use_this_module	True	True	True	True	True	True
	visc_cbu_iw visc_con_limit	0.0 0.1	0.0	0.0	0.0	0.0	0.0
&ocean_vert_mix_nml	afkph_00	0.1					
COCCUTE FOR CAMPACITIES	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 hwf_diffusivity	0.95	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	2010	20.0	20.0	20.0	20.0
	sfkph_00	4.5×10^{-5}					
	sfkph_90	4.5×10^{-5}					
	use_diff_cbt_table	False	False	False	False	False	False
	vert_diff_back_via_max	True	True	True	True	True	True
	vert_mix_scheme zfkph_00	'kpp mom4p1' 250 000.0	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'
	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 drhodz_min	1×10^{-12}	True $1 imes 10^{-10}$	True $1 imes 10^{-10}$	True $1 imes 10^{-10}$	True $1 imes 10^{-10}$	True 1×10^{-10}
	fixed_wave_dissipation	False	False	False	False	False	False
	max_drag_diffusivity	0.01	Tutse	ratse	ruse	raise	Tuisc
	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 reading_roughness_length	True False	True False	True False	True False	True False	True 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 -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 wave_energy_flux_max	True 0.1	True 0.1	True 0.1	True 0.1	True 0.1	True 0.1
	wave_energy_nux_max use_this_module	False	False	False	False	False	False
Kncean xlandinserf nml		True	ו מנטכ	ו מנאכ	ו מנאכ	ו מנטכ	i alse
&ocean_xlandinsert_nml	verbose_init			False	False	False	False
&ocean_xlandinsert_nml &ocean_xlandmix_nml	verbose_init use_this_module	False	False	i alse	i utsc		
&ocean_xlandinsert_nml &ocean_xlandmix_nml	use_this_module verbose_init	True	False	i alse	ruisc	. 4.50	
&ocean_xlandmix_nml	use_this_module verbose_init xlandmix_kmt		False	1 8136	ruse		
&ocean_xlandmix_nml &sat_vapor_pres_nml	use_this_module verbose_init xlandmix_kmt show_all_bad_values	True	False		Tuisc	True	
&ocean_xlandmix_nml	use_this_module verbose_init xlandmix_kmt show_all_bad_values ncar_ocean_flux	True	False	True	Tutse	True True	
&ocean_xlandmix_nml &sat_vapor_pres_nml	use_this_module verbose_init xlandmix_kmt show_all_bad_values	True	False		Tuisc	True	True

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

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_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&auscom_ice_nml	aice_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 dt_cpl						False 3600	False 3600	False 1800	False 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	True
i e	edsea_gulfbay_sfix 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_depende bg_diff_eq	nce_nml						1×10^{-6}			
0 1	lat_low_bgdiff			•			20.0			
&coupler_nml	atmos_npes	0	0	0	0	0				
	atmos_nthreads calendar	4 'NOLEAP'	'NOLEAP'	'noleap'	'noleap'	'noleap'				
	check_stocks	NULEAP 0	NULEAP 0	Поцеар	поцеар	110teap 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	T	Т	Т	T				
	do_ice do_land	True True	True False	True False	True False	True False				
	do_ccean	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				
0.1: :	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 debug_diag_manager		•		•	•	•		True	True	True
	sue_oor_warnings	False	False	False	False	False	False	True	True	True
	max_axes	200	100	300	300	300				
	max_files	50	400	1000	1000	1000				
	max_input_fields	800 200	699 100	700 40	700 40	700 40				
	ax_num_axis_sets max_output_fields	1300	699	700	700	700				
				, 00	, 00	700				
	not_average_fields									
		False False	False False							
mix_snapsh &flux_exchange_nml div	not_average_fields debug_stocks vert_stocks_report	False False True	False False True							
mix_snapsh &flux_exchange_nml div	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux	False False True False	False False	True	True	True				
mix_snapsi &flux_exchange_nml div do_ai	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks	False False True	False False True	True	True					
mix_snapsi &flux_exchange_nml div do_ai	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required	False False True False	False False True False			False	'single'	'cinala'	'mul+i'	'mul+i'
mix_snapsi &flux_exchange_nml div do_ai	not_average_fields	False False True False 4	False False True False 'single'	'multi'	'multi'	False 'multi'	'single'	'single'	'multi'	'multi'
mix_snapsi &flux_exchange_nml div do_ai	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required	False False True False	False False True False 'single' 200	'multi' 700		False 'multi' 700	'single'	'single'	'multi'	'multi'
mix_snapsi &flux_exchange_nml div do_ai	not_average_fields	False False True False 4	False False True False 'single'	'multi'	'multi' 700	False 'multi'	'single' 'multi'	'single' 'multi'	'multi'	'multi'
mix_snapst &flux_exchange_nml div do_al &fms_io_nml d	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w	False False True False 4 300 300 'multi'	False False True False 'single' 200 200 'multi' 'single'	'multi' 700 700 'multi' 'multi'	'multi' 700 700 'multi' 'multi'	False 'multi' 700 700 'multi' 'multi'	'multi' 'single'	'multi' 'single'	'multi' 'multi'	'multi' 'multi'
mix_snapst &flux_exchange_nml div do_al &fms_io_nml div dfms_nml	debug_stocks debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain	False False True False 4 300 300 'multi'	False False True False 'single' 200 200 'multi' 'single' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	False 'multi' 700 700 'multi' 'multi' 'LOOP'	'multi'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapst &flux_exchange_nml dis do_al &fms_io_nml dis &fms_nml dis do_al	debug_stocks debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size	False False True False 4 300 300 'multi'	False False True False 'single' 200 200 'multi' 'single'	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 'single'	'multi' 'single'	'multi' 'multi'	'multi' 'multi'
mix_snapst &flux_exchange_nml dis do_al &fms_io_nml dis &fms_nml dis do_al	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage	False False True False 4 300 300 'multi' 'COMPONENT' 5000000	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	False 'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml din do_al &fms_io_nml din do_al	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage stack_size	False False True False 4 300 300 300 multi' 'COMPONENT' 5000000	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml div do_al &fms_io_nml div do_al &fms_io_nml div &fms_nml div pri	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage stack_size do_generic_cfc	False False True False 4 300 300 'multi' 'COMPONENT' 5000000	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml div do_ai &fms_io_nml div do_ai &fms_io_nml div addiv addi	not_average_fields debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage stack_size	False False True False 4 300 300 300 multi' 'COMPONENT' 5000000 0 False	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 700 700 'multi' 'multi' 'multi' 'LOOP' 115200 False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml div do_ai &fms_io_nml & &fms_nml di pri &generic_tracer_nml &ice_albedo_nml	debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage stack_size do_generic_topaz do_generic_tracer t_range	False False True False 4 300 300 300 multi' COMPONENT' 5000000 0 False True True 10.0	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 700 700 'multi' 'multi' 'hulti' 'LOOP' 115200 False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml div do_ai &fms_io_nml & &fms_nml di pri &generic_tracer_nml	debug_stocks debug_stocks deta_stocks do_generic_topaz do_generic_tracer t_range add_diurnal_sw	False False True False 4 300 300 300 'multi' 'COMPONENT' 5000000 0 False True True 10.0 False	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0 True	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'
mix_snapsi &flux_exchange_nml div do_ai &fms_io_nml & &fms_nml di pri &generic_tracer_nml &ice_albedo_nml	debug_stocks vert_stocks_report rea_weighted_flux nblocks hecksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain omains_stack_size nt_memory_usage stack_size do_generic_topaz do_generic_tracer t_range	False False True False 4 300 300 300 multi' COMPONENT' 5000000 0 False True True 10.0	False False True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 700 700 'multi' 'multi' 'hulti' 'LOOP' 115200 False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 'single'	'multi' 'single' 'COMPONENT'	'multi' 'multi' 'COMPONENT'	'multi' 'multi' 'COMPONENT'

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	cm2_bugs	False	False	Falsa	False	•				
	do_icebergs h_lo_lim	True $1 imes 10^{-10}$	False $1 imes 10^{-10}$	False	False	False				
	heat_rough_ice	1 / 10	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		10 12	64, 30	8,9				
	layout mom_rough_ice	15, 2		10, 12 0.0005	64, 30 0.0005	40, 45 0.0005				
	nsteps_adv	1	1	1	1	6				
	nsteps_dyn	72	108	72	72	144				
	num_part spec_ice	6 False	6 False	6 False	6 False	6 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				
	_weight_to_ocean		0.0	False	False	False				
pergy_bit	_erosion_fraction debug		0.0 False	0.0 False	0.0 False	0.0 False				
make_c	alving_reproduce	True	Tutsc	rubc	Tube	raise				
	parallel_reprod		True	True	True	True				
	really_debug		False	False	False	False				
	sicn_shift speed_limit	0.5	0.1	0.1	0.1	0.1				
time	_average_weight	False								
	traj_sample_hrs	0	0	0	0	0				
use_c	operator_splitting	Tura	True	True	True	True				
	use_roundoff_fix verbose	True True	False	False	False	False				
	verbose_hrs	120	2400	2400	2400	2400				
&mom_oasis3_interfac	e_nml fields_in						'u_flux',	'u_flux',	'u_flux',	'u_flux',
							'v_flux',	'v_flux',	'v_flux',	'v_flux',
							'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',
							'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',
							'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',
							'q_flux',	'q_flux',	'q_flux',	'q_flux',
							't_flux', 'lw_flux',	't_flux', 'lw_flux',	't_flux', 'lw_flux',	't_flux', 'lw_flux',
							runof', 'p',	'runof', 'p',	'runof', 'p',	runof, 'p',
							'aice',	'aice',	'aice',	'aice',
							'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',
	fields_out						'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',
	neta320ac						's_surf',	's_surf',	's_surf',	's_surf',
							'u_surf',	'u_surf',	'u_surf',	'u_surf',
							'v_surf',	'v_surf',	'v_surf',	'v_surf',
							'dssldx', 'dssldy',	'dssldx', 'dssldy',	'dssldx', 'dssldy',	'dssldx', 'dssldy',
							'frazil'	'frazil'	'frazil'	'frazil'
	num_fields_in						15	15	15	15
cond aff	num_fields_out ter_ocean_update						7 True	7 Truo	7 Truo	7 True
	re_ocean_update						False	True False	True False	False
&monin_obukhov_nml	neutral		True	True	True	True	1 4.50	True	True	True
	rich_crit	10.0								
	stable_option	2								
&mpp_io_nml	zeta_trans deflate_level	0.5				5		5	5	5
a.npp=io=iiiit	shuffle					1		1	1	1
&ocean_adv_vel_diag_		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 verbose_cfl	100.0 False	100.0 False	100.0 True	100.0 True	100.0 True	100.0 False	100.0 True	100.0 True	100.0 True
&ocean_advection_velo		0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5
max_advection_velocity	•									
&ocean_albedo_nml		5	2	2	2	2		2	2	2
ocean_albedo_option &ocean_barotropic_nm	harotronic halo			10	10	10		10	10	10
&ocean_barotropic_nm	otropic_leap_froq		False	10	10	10	False	10	10	10
	otropic_teap_nog otropic_pred_corr		True				True			
barotropic	_time_stepping_a	True		True	True	True		True	True	True
	_time_stepping_b	False	7	False	False	False	-	False	False	False
barotropic_time_st barotropic_time_st			True False				True False			
parotropic_time_St	chhind-inoinaht		raise				Lqrze			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
debug_this_module	False	False	False	False	False	False	False	False	False
diag_step do_bitwise_exact_sum	1200 True	12	4320	4320	43200	120	4320	4320	576
eta_max	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
frac_crit_cell_height	0.2	0.2 0.2	0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.2 0.2	0.2
pred_corr_gamma smooth_eta_diag_laplacian	0.2 True	True	0.2 True	True	True	True	0.2 True	True	0.2 True
smooth_eta_t_biharmonic	True	True	True	True	False	True	False	False	False
smooth_eta_t_laplacian	False	False	False	False	True	False	True	True	True
smooth_pbot_t_biharmonic smooth_pbot_t_laplacian	True False	True False	True False	True False	False True	True False	False True	False True	False 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 vel_micom_lap_diag	0.05 1.0	0.05 1.0	0.05 0.5	0.05 0.5	0.05 0.5	0.05 0.2	0.05 0.2	0.05 0.2	0.05 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	0.003	0.002	True	True	True	0.004	True	True	True
cdbot cdbot_hi	0.002	0.002	0.001 0.007	0.001 0.007	0.001 0.007	0.001	0.001 0.007	0.001 0.007	0.001 0.007
cdbot_law_of_wall			0.007	0.007		False	0.007	0.007	0.007
cdbot_roughness_length			False	False	False		False	False	False
cdbot_roughness_uamp	0.05	0.05	True 0.05	True 0.05	True 0.05		True 0.05	True 0.05	True
uresidual use_geothermal_heating	True	True	False	False	False	False	False	False	0.05 False
&ocean_bbc_ofam_nml read_tide_speed	nuc	nuc .	rube	1 4 5 5	1 4130	False	rube	ruisc	1 0130
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 vel_micom	False	False	False 0.001	False 0.001	False 0.001	False	False	False	False
&ocean_bihcst_friction_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_bihgen_friction_nml 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 eq_vel_micom_iso	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 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 ncar_boundary_scaling_read	True	True	True False	True True	True True	True	True True	True True	True True
ncar_rescale_power	2	2	2	2	2	2	2	2	2
ncar_vconst_4	2×10^{-8}	$2 imes 10^{-8}$	$2 imes 10^{-8}$	2×10^{-8}	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$	2×10^{-8}
ncar_vconst_5	5	5	5	5 Tours	5 T	5	5 T	5	5
use_this_module vel_micom_aniso	True 0.0	True 0.0	True 0.0	True 0.0	True 0.0	True 0.0	True 0.0	True 0.0	True 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 convect_full_vector			True False	True False	True 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
<mark>eos_preteos10</mark> layer_nk	True 80	80	True 80	True 80	True 80	80	True 80	True 80	True 80
linear_eos	40700	False	40700	40=00	40700	False	40700	40=00	40=0.5
neutralrho_max neutralrho_min	1030.0 1020.0	1030.0 1020.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0
neutraurno_min potrho_max	1020.0	1020.0	1028.0	1028.0	1028.0	1020.0	1020.0	1020.0	1020.0
potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
&ocean_domains_nml max_tracers						False 20	5	5	5
&ocean_drifters_nml use_this_module &ocean_form_drag_nml cprime_aiki	False	False				0.6	,	,	,
use_this_module	False	False	False	False	False	False	False	False	False

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_frazil_nml debug_this_module	False	False	False	False	False		False	False	False
frazil_only_in_surface	True	True	True	True	True	False	False	False	False
freezing_temp_accurate freezing_temp_preteos10		False				True	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	Falsa				Falsa			
read_rho0_profile &ocean_increment_eta_nml	False	False				False			
days_to_increment						U			
fraction_increment						1.0			
secs_to_increment	Falsa	Falsa	Falsa	Falsa	False	3600 False	Falsa	Falsa	False
use_this_module &ocean_increment_tracer_nml	False	False	False	False	False	False	False	False	False
days_to_increment						U			
fraction_increment						1.0			
secs_to_increment				F .		3600	F .		
use_this_module &ocean_increment_velocity_nml	False	False	False	False	False	False 0	False	False	False
days_to_increment_velocity_nint									
fraction_increment						1.0			
secs_to_increment	Falsa	Falsa	Falsa	Falsa	False	3600 False	Falsa	Falsa	False
use_this_module &ocean_lap_friction_nml lap_friction	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'
scheme	general	generat	generat	generat	generat	generat	generat	generat	generat
&ocean_lap_tracer_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_lapcst_friction_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_lapgen_friction_nml bottom_5point	True	True				True	True		
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 restrict_polar_visc	True	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 vconst_2						0.00 000 8			
vconst_3						0.8			
vconst_4						5×10^{-9}			
vconst_5						3			
vconst_6						300 000 000.0			
vconst_7 vel_micom_iso	0.1	0.1				100.0 0.1	0.1		
viscosity_ncar	False	False				False	False		
viscosity_ncar_2000	rubc	ratse				False	raisc		
viscosity_ncar_2007						True			
viscosity_scale_by_rossby	True	True				True	True		
viscosity_scale_by_rossby_power &ocean_mixdownslope_nml	4.0 False	4.0 False	False	False	False	4.0 False	4.0 False		
debug_this_module	1 atse	i atse	1 disc	Talse	i disc	i alse	i alse		
mixdownslope_mask_gfdl	True	True				False	False		
mixdownslope_npts	_ 4	_ 4				4	- 4		
read_mixdownslope_mask use_this_module	True True	True	False	False	False	False True	False True	False	False
&ocean_model_nml baroclinic_split	1 Irue	True 1	False 1	False 1	False 1	1 rue	1 rue	False 1	False 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 impose_init_from_restart	7200 True	7200 False	3600	1800	150	3600	3600	1200	150
impose_init_from_restart io_layout	1, 4	rdise		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 &ocean_momentum_source_nml rayleigh_damp_exp_from_bottom	'zstar'	'zstar'	'zstar' False	'zstar' False	'zstar' False	'zstar'	'zstar' False	'zstar' False	'zstar' False
use_rayleigh_damp_table			True	True	True	True	True	True	True

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_nphysics_nml 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
&ocean_nphysics_util_nml agm	True 800.0	True 800.0	False 100.0	False 100.0	False 100.0	True 600.0	True 600.0	False 100.0	False 100.0
&ocean_nphysics_util_nml agm 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				True True	True True		
agm_closure_eady_smooth_vert 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 agm_closure_lower_depth	False	False	False	False 2000.0	False 2000.0	False	False	False 2000.0	False 2000.0
agm_closure_lower_depth agm_closure_max	2000.0 800.0	2000.0 800.0	2000.0 600.0	600.0	600.0	2000.0 600.0	2000.0 600.0	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	(00.0	(00.0	(000	False	False	(00.0	(00.0
aredi	600.0	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False
aredi_equal_agm drhodz_mom4p1	False 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 swidth	0.005 0.002	0.005 0.002	0.002 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 tmask_neutral_on	True True	True True							
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_nphysicsb_nml debua_this_module	False	False	Tube	ruse	ruse	raise	i disc	1430	Tuise
nblayer_smooth	True	True							
neutral_physics_limit	True	True							
surf_turb_thick_min	50.0	50.0							
surf_turb_thick_min_k	5 False	5 True	Γalsa	Falsa	False	False	Falsa	Falsa	Falsa
<u>use_this_module</u> &ocean_nphysicsc_nml	False True	True	False	False	False	False True	False True	False	False
bv_freq_smooth_vert									
bvp_bc_mode bvp_min_speed	2 0.1					2 0.1	2 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 gm_skewsion_modes	True False					True False	True 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_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	nask_neutral_on	True				-	True	True		
	turb_blayer_min ise_this_module	50.0 True	False	False	False	False	50.0 True	50.0 True	False	False
&ocean_operators_nml	Joe_timo_modate	True	ratse	False	False	False	Huc	False	False	False
use_legacy_div_ud										
&ocean_overexchange_r this_module	_	False	False	False	False	False	False	False	False	False
overexch_check_extrema overexch_npts		False 4	False 4	4	4	4	False 4	4	4	4
overe	exch_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
	ise_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_nml debug_this_module		False	False	False	False	False	False			
	ise_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nidebug_this_module	ml			False	False	False				
	diag_step			4320	4320	43200				
do_entraii	nment_para_ofp do_mass_ofp			False True	False True	False True				
fra	ac_exchange_src			1.0	1.0	1.0				
	x_vol_trans_ofp			10 000 000.0	10 000 000.0	10 000 000.0				
	ise_this_module			False	False	False		False	False	False
&ocean_polar_filter_nml module	l use_this	False	False	False	False	False	False	False	False	False
&ocean_pressure_nml zero_pressure_force				False	False	False		False	False	False
&ocean_rivermix_nml		40.0	40.0							
calving_insertion_thickn		Falsa	F-I	Falsa	F-I	Falsa	F-1	F-I	Falsa	Falsa
debug_this_module discharge_combine_runoff_calve		False False	False True	False	False	False	False	False	False	False
	wise_exact_sum	True	iiuc							
	ver_diffuse_salt	False	False	False	False	False	False	True	True	True
river_diffuse_temp		False 0.0	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0	True 0.0	True 0.0	True 0.0
river_diffusion_thickness 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
	ertion_thickness	40.0	40.0	_	_	_	_	_	_	_
&ocean_riverspread_nm	ıse_this_module	True	True	True '.false'	True 'false'	True 'false'	True	True	True	True
debug_this_module	·			.idi3C	.iaisc	.iauc				
	ise_this_module	False	False	True	True	True	True	False	False	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'	T	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml avg_sf	c_temp_salt_eta avg_sfc_velocity	True True	True True	True True	True True	True True	True True	True True	True True	True True
	calvingspread	False	False	False	False	False	Huc	False	False	False
	wise_exact_sum			False	False	False		False	False	False
	_flux_correction	True — 10.0		False	False	False		False	False	False
	a_restore_tscale lt_concentration	-10.0					0.005			
	del_heat_fluxes	True	False	False	False	False	0.003	False	False	False
	_salinity_restore			0.5	0.5	0.5	0.5	0.5	0.5	0.5
	ax_ice_thickness ad_restore_mask	8.0	8.0	1.0 False	1.0 False	1.0 False	8.0 False	0.0 False	0.0 False	0.0 False
	store_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			2.2			2.2	2.2
	correction_scale ore_as_salt_flux	0.0		0.0 True	0.0 True	0.0 True	True	0.0 True	0.0 True	0.0 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
	correction_scale	0.0								
	correction_scale correction_scale	0.0 1.0								
	p_restore_tscale	-10.0	-10.0	-10.0	-10.0	-10.0	-1.0	-10.0	-10.0	-10.0
	m_for_sea_level	True	True	False	False	False		False	False	False
usa watarila	use_waterflux	True	True	True	True	True	True	True	True	True
use_waterflux_c	x_override_evap	False False								
	c_override_evap	False								
	waterflux_tavg	False	False				False			
zero_heat_fluxes zero_net_pme_eta_restore		False		False	False	False	False	False	False	False

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
zero_net_salt_co	orrection			False	False	False		False	False	False
zero_net_salt	t_restore			True	True	True	True	True	True	True
zero_net_water_co				False	False	False	_	False	False	False
zero_net_water_couple				True True	True True	True True	True True	True True	True True	True
zero_net_water zero_net_water				True	True	True	True	True	True	True True
	ie_fluxes			nuc	iiuc	False	iiuc	iiuc	nuc	iiuc
zero_rive						False				
zero_runo						True				
zero_surfac				False	False	False	False	False	False	False
&ocean_sbc_ofam_nml	er_tluxes			False	False	False	False False	False	False	False
restore_mask_ofam							raisc			
river_ter	np_ofam						False			
&ocean_shortwave_csiro_nml				True			True			
read_depth	_module	False	False	True	False	False	True	False	False	False
	max_pen	raise	raise	7000	raise	raise	7000	raise	raise	raise
&ocean_shortwave_gfdl_nml		False	False	False	False	False	False	False	False	False
this_module										
	_sw_frac	True	True	True	True	True	True	True	True	True
•	manizza	True	True	True	True	True	True	True	True	True
optics_morel	ide_f_vis	False False	False False	False	False	False		False	False	False
	read_chl	False	False	False	True	True	False	True	True	True
sw_pen_fixed	d_depths						False			
use_this	_module	True	True	False	True	True	False	True	True	True
	max_pen	200.0	200.0	300.0	300.0	300.0	200.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml this_module	use	False	False	False	False	False	False	False	False	False
&ocean_shortwave_nml use_shortwave_csiro	6.11	False	False	True	False	False	True	False	False	False
use_shortw		True False	True False	False False	True False	True False	False False	True False	True False	True False
use_shortwa use_this	•	True	True	True	True	True	True	True	True	True
&ocean_sigma_transport_nml sigma_advection_on	inodute	False	False	False	False	False	False	nuc	nuc	nuc
sigma_advection_	sqs_only	False	False	False	False	False	False			
sigma_diffu	usion_on	True	True	True	True	True	True			
sigma_diffusiv	•	$1 imes 10^{-6}$	$1 imes 10^{-6}$	1×10^{-6}	1×10^{-6}	$1 imes 10^{-6}$	$1 imes 10^{-6}$			
sigma_just_in_bot		True	True	True	True	True	True			
sign smooth_sigma_t	na_umax	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True			
smooth_sigma_c		True	True	True	True	True	True			
smooth_v		0.2	0.2	0.2	0.2	0.2	0.2			
thickness_sign		100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sig	ma_max	100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sig		100.0	100.0	100.0	100.0	100.0	100.0			
	igma_on ·	False	False	False	False	False	False			
tracer_mix	_module	True True	True True	True False	True False	True False	True True	False	False	False
	L_micom	0.05	0.05	0.05	0.05	0.05	0.05	False	False	raise
	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 minutes						0	0	0	0
	months						12	0	0	0
	seconds						0	0	0	0
_	years							0	0	0
module	se_this	False	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_nml damp_coeff_3d		False	False	False	False	False	False			
use_this		False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use	False	False	False	False	False	False	False	False	False
this_module &ocean_submesoscale_nml				0.05	0.05	0.05		0.05	0.05	0.05
coefficient_ce debug_this	module	False	False	False	False	False	False	False	False	False
front_leng		5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
front_length_deform		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_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
limit_psi	True	True	True	True	True	True	True	True	True
limit_psi_velocity_scale	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
min_kblt	4	4	_ 4	_ 4	_ 4	4	_ 4	_ 4	_ 4
smooth_advect_transport			True 4	True 4	True 4		True 4	True 4	True
smooth_advect_transport_num smooth_hblt	False	False	False	False	False	False	False	False	4 False
smooth_psi	ruse	ruse	True	True	True	ruise	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 submeso_advect_zero_bdy			True True	True True	True True		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	T	T	True	True	True	T	True	True	True
use_hblt_equal_mld use_psi_legacy	True True	True	True False	True False	True False	True	True False	True False	True False
use_psi_legacy use_this_module	True	True	True	True	True	True	True	True	True
&ocean_tempsalt_nml	False	False	False	False	False	Huc	False	False	False
debug_this_module		. 200			. 3.00		. 200	. 4.50	, 4.50
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 —1.0	42.0 —1.0	42.0 0.0	42.0 0.0	42.0 0.0	42.0 —1.0	42.0 0.0	42.0 0.0	42.0 0.0
s_min s_min_limit	-1.0 5.0	-1.0 5.0	2.0	2.0	2.0	-1.0 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'
&ocean_thickness_nml debug_this module	False	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	70	70	False	False	False	70	False	False	False
rescale_rho0_basin_label rescale_rho0_mask_qfdl	7.0 True	7.0 True				7.0 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 &ocean_time_filter_nml	'energetic' False	'energetic' False	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
use_this_module	5.0	5.0				25.0			
&ocean_topog_nml min_thickness &ocean_tracer_advect_nml	False	False	False	False	False	True			
advect_sweby_all compute_gyre_overturn_diagnose	i alse	Taise	1 alse	i disc	Tabe	True			
debug_this_module do_fast_compute	False	False	False	False	False	False True	False	False	False
limit_with_upwind read_basin_mask	False	False	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 interpolate_tdiag_to_pbott	False False	False	False	False	False	False	False	False	False
interpolate_tolag_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 use_tempsalt_check_range	True	True			True		True	True	True
zero_tendency	False	False	False	False	False	False	False	False	False

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_velocity_diag_nml debug_this module	False	False	False	False	False	False	False	False	False
diaq_step	1200	12	4320	4320	43200	120	4320	4320	576
energy_diag_step	1200	12	4320	4320	43200	120	4320	4320	5760
large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
max_cfl_value	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 1.5	True	True 1.0	True 1.0	True	True	True
max_cgint truncate_velocity	False	False	False	1.5 False	False	False	1.0 False	False	1.0 False
truncate_velocity_value	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
truncate_verbose	True	True	True	True	True	True	True	True	True
zero_tendency	False	False	False	False	False	False	False	False	False
zero_tendency_explicit_a zero_tendency_explicit_b			False False	False False	False False		False False	False False	False False
zero_tendency_explicit_b			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				0.7	False		False	False	False
ricr	0.3 True		0.3 True	0.3 Truo	0.3 False		0.3 Falso	0.3 Falso	0.3 False
smooth_blmc smooth_ri_kmax_eq_kmu	True		irue	True	True		False True	False 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 double_diffusion		True				0.1 True			
kbl_standard_method		nuc				True			
ricr		0.3				0.3			
smooth_blmc		True				True			
use_this_module visc_cbu_iw		True 0.0				True 0.0			
visc_cou_iw visc_con_limit		0.0				0.0			
&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 bryan_lewis_lat_depend	True True	True True	False False	False False	False False	False True	False False	False False	False False
bryan_lewis_lat_transition	35.0	35.0	1 0130	Taise	i alse	35.0	i alse	i alse	1 0130
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 hwf_n0_2omega			2×10^{-6} 20.0	2×10^{-6} 20.0	2×10^{-6} 20.0		2×10^{-6} 20.0	2×10^{-6} 20.0	2×10^{-6} 20.0
linear_taper_diff_cbt_table	False	False	20.0	20.0	20.0	False	20.0	20.0	20.0
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}	F. 1	F .	F-1	4.5×10^{-5}		F	F .
use_diff_cbt_table vert_diff_back_via_max	False True	False True	False True	False True	False True	False True	False True	False True	False True
vert_mix_scheme	'kpp	'kpp'	'kpp	'kpp	'kpp	'kpp'	'kpp	'kpp	'kpp
	mom4p1'		mom4p1'	mom4p1'	mom4p1'		mom4p1'	mom4p1'	mom4p1'
zfkph_00	250 000 000.0	250 000 000.0				250 000.0			
&ocean_vert_tidal_nml	250 000 000.0	250 000 000.0	0.0	0.0	0.0	$\frac{250000.0}{5\times10^{-6}}$	0.0	0.0	0.0
background_diffusivity 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	500.0	500.0	True	True	True		True	True	True
drhodz_min	1×10^{-12}	1×10^{-12}	1×10^{-10}	1×10^{-10}	$1 imes 10^{-10}$	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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
max_wave_diffusivity mixing_efficiency_n2depend	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True	0.01 True
read_roughness	True	True	True	True	True	True	True	True	True
read_tide_speed	True	True	True	True	True	True	True	True	True
read_wave_dissipation	False	False	False	False	False	False	False	False	False

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
readi	ing_roughness_amp	True	True	True	True	True	True	True	True	True
reading	g_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
	eed_data_on_t_grid	True	True	True	True	True	True	True	True	True
	se_drag_dissipation	True	True	True	True	True	True	True	True	True
<u>u</u>	ise_legacy_methods	True		False	False	False		False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
	se_wave_dissipation	True	True	True	True	True	True	True	True	True
	ve_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_ use_this_module	_nml	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
&ocean_xlandmix_ni	ml 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_nm construct_table_wrt_		True	True							
construct_tal	ble_wrt_liq_and_ice	True	True							
si	how_all_bad_values					True				
&surface_flux_nml	ncar_ocean_flux			True	True	True				
	old_dtaudv	False								
	raoult_sat_vap			True	True	True				
&topography_nml	topog_file	'INPUT/	'INPUT/							
		navy_topog-	navy_topog-							
		ra-	ra-							
		phy.data.nc'	phy.data.nc'							
&xgrid_nml	do_alltoall			True	True	True				True
	do_alltoallv			True	True	True				True
	interp_method	'second order'	'second order'	'second order'	'second order'	'second order'		'second order'	'second order'	'second order'
make_e	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)

	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
0				0.15	0.15	015	file.000000.ou	0.15	0.15	015
&auscom_ice_nml	aice_cutoff hk_fields_period			0.15	0.15	0.15	0.15 1	0.15	0.15	0.15
	fields_start_time						0			
CHICA	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 frazil_factor			False 1.0	False 1.0	False 1.0	False 1.0	False 1.0	False 1.0	False 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						331 314			
	irs1 irs2						325			
	jge						198			
	jgs						189			
	jre1						196			
	jre2						180			
	jrs1						169			
	jrs2			_	-	г	169	г		-
	kmxice ksmax			5	5	5	5 5	5	5	5
	limit_srfstress						False			
	mstress						2.0			
	pop_icediag			True	True	True	True	True	True	True
reds	sea_gulfbay_sfix				True	True	False			
	sfix_hours						12			
	sign_stflx tlthk0			1.0	1.0	1.0	1.0 10.0	1.0	1.0	1.0
	tmelt			-0.216	-0.216	-0.216	-0.216	-0.216	-0.216	-0.216
	use_ioaice			True	True	True	True	True	True	True
&bg_diff_lat_dependenc bg_diff_eq	ce_nml			1×10^{-6}	1×10^{-6}					
	lat_low_bgdiff			20.0	20.0					
&coupler_nml	atmos_npes	0	0							
	atmos_nthreads calendar	4 'NOLEAP'	'NOLEAP'							
	check_stocks	NULEAP 0	NULEAP 0							
	concurrent	True	False							
	current_date	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0							
	days	0	2							
	de execute									
	do_atmos	True	False							
	do_flux	True								
	do_flux do_ice	True True	True							
	do_flux do_ice do_land	True True True	True False							
	do_flux do_ice do_land do_ocean	True True True True	True False True							
	do_flux do_ice do_land	True True True	True False							
	do_flux do_ice do_land do_ocean dt_atmos	True True True True 1800 7200	True False True 7200							
	do_flux do_ice do_land do_ocean dt_atmos dt_cpld	True True True True 1800 7200	True False True 7200 7200							
	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months	True True True True 1800 7200	True False True 7200 7200 0							
&data_override_nml debug_data_override	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes	True True True True True 1800 7200 12 96	True False True 7200 7200 0				False			
debug_data_override &diag_integral_nml	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name	True True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True				False False			
debug_data_override &diag_integral_nml	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name output_interval	True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True 'diag integral.out'							
debug_data_override &diag_integral_nml	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name	True True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True							
debug_data_override &diag_integral_nml &diag_manager_nml append_pelist_name	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name output_interval time_units	True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True 'diag integral.out'				False False True			
debug_data_override &diag_integral_nml &diag_manager_nml append_pelist_name	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name output_interval time_units conserve_water g_diag_manager	True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True 'diag integral.out'			True	False False True True	True		True
debug_data_override &diag_integral_nml &diag_manager_nml append_pelist_name debug debug_data_override	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name output_interval time_units conserve_water g_diag_manager o_diag_field_log	True True True 1800 7200 12 96 True 'diag integral.out' 1.0 'days'	True False True 7200 7200 0 True 'diag integral.out' 1.0 'days'		Falsa		False False True True False		Felix	
debug_data_override &diag_integral_nml &diag_manager_nml append_pelist_name debug debug_data_override	do_flux do_ice do_land do_ocean dt_atmos dt_cpld months ocean_npes use_lag_fluxes grid_center_bug file_name output_interval time_units conserve_water g_diag_manager	True True True 1800 7200 12 96 True	True False True 7200 7200 0 0 True 'diag integral.out'	False	False	True True	False False True True	True True	False 300	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	max_file_attributes						2		4000	
	max_files	50	600				31		1000	
	max_input_fields max_num_axis_sets	800 200	699 100				300 25		700 40	
	nax_out_per_in_field	200	100				150		10	
	max_output_fields	1300	699				300		700	
mix_snap	shot_average_fields	False	False				False			
	oor_warnings_fatal prepend_date						False True			
region	n_out_use_alt_value						True			
	use_cmor						False			
0.0	write_bytes_in_file	Falas	F-1				False			
&flux_exchange_nm	l debug_stocks divert_stocks_report	False True	False True							
	.area_weighted_flux	False	False							
	nblocks	4								
&fms_io_nml	checksum_required						True		False	
	debug_mask_list dr_set_size						False 10			
	fileset_write		'single'	'single'	'single'	'single'	'single'	'multi'	'multi'	'multi'
f	fms_netcdf_override		. 3	. 3	. J	. .	True			
	fms_netcdf_restart						True			
	format iospec_ieee32						'netcdf' '', 'N',			
	iospec_ieee32						'ieee_32'			
	max_files_r	300	200				40		700	
	max_files_w	300	200				40		700	
	print_chksum						False True			
	read_all_pe read_data_bug						False			
show_open_na	melist_file_warning						False			
	threading_read	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	threading_write		'single'	'single'	'single'	'single'	'single'	'multi'	'multi'	'multi'
&fms_nml	time_stamp_restart clock_flags						True 'NONE'			
G.IIII	clock_grain	'COMPONENT'	'LOOP'	'LOOP'	'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'
	domains_stack_size	5000000	8000000			115200	0	115200	115200	115200
ņ	iospec_ieee32 rint_memory_usage						'; 'N', 'ieee_32' False		False	
	read_all_pe						True		raise	
	stack_size	0	0				0			
	warning_level						'warning'			
&generic_tracer_nm	<pre>do_generic_cfc do_generic_topaz</pre>	False True	False True						False False	
	do_generic_tracer	True	True						False	
&get_cal_time_nml							True			
allow_calendar_conv										
&horiz_interp_nml &ice_albedo_nml	reproduce_siena t_range	10.0	10.0				False			
&ice_model_nml	add_diurnal_sw	False	True							
	alb_ice	0.65	0.615							
	alb_sno	0.85	0.825							
	channel_viscosity cm2_bugs	500 000.0 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 layout	1, 2 15, 2								
	nsteps_adv	1	1							
	nsteps_dyn	72	108							
	num_part	6 Falso	6 False							
	spec_ice t_range_melt	False 1.0	False 10.0							
	wd_turn	0.0	0.0							
&icebergs_nml			0.0							
bergy_bit_erosion_fr			F .							
make	debug e_calving_reproduce	True	False							
make	parallel_reprod	iiue	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
really_debug	i	False				iile.uuuuuu.ui			
sicn_shif		0.1							
speed_limi									
time_average_weigh traj_sample_hrs		0							
use_operator_splitting		True							
use_roundoff_fix	•								
verbose		False							
verbose_hrs &mom_oasis3_interface_nml fields_ir		2400	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',
CHIOIL-06353_INCHOCC_IIII			'v_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice',	'v_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof, 'p', 'aice',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof,'p', 'aice',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', p', 'aice',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof, 'p', 'aice',	'v.flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw.flux', 'q_flux', 't_flux', 'lw_flux', 'runof,'p', 'aice',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof, 'p', 'aice',
			'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',
fields_ou			'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',
netus_ou			's_surf',	's_surf',	's_surf',	's_surf',	's_surf',	's_surf',	's_surf',
			'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',
			'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',
			'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',
			'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'
num_fields_ir	i		15	15	15	15	15	15	15
num_fields_ou			7	7	7	7	7	7	7
send_after_ocean_update send_before_ocean_update			True False	True False	True False	True False	True False	True False	True False
&monin_obukhov_nml neutra		True	raise	raise	True	raise	True	True	True
rich_cri									
stable_option									
&mpp_io_nml deflate_leve					5	-1	5	5	5
global_field_on_root_pe header_buffer_va io_clocks_or	l I					True 16384 False			
shuffle &ocean_adv_vel_diag_nml diag_ster		12	120	4320	4320	4320	4320	1 576	576
&ocean_adv_vel_diag_nml diag_step large_cfl_value		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
verbose_cf	l False	False	False	True	True	True	True	True	True
&ocean_advection_velocity_nml constant_advection_velocity debug_this_module	s.					False False			
inflow_nboundary						False			
max_advection_velocity		0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5
read_advection_transpor read_advection_velocity						False False			
&ocean_albedo_nml	5	2			2	raise	2	2	2
ocean_albedo_option									
&ocean_barotropic_nml alpha						0.948			
barotropic_halo barotropic_leap_froo		False	False	10	10	10	10	10	10
barotropic_teap_frog barotropic_pred_cor	<u> </u>	True	True						
barotropic_time_stepping_a	True			True	True	True	True	True	True
barotropic_time_stepping_t		-	-	False	False	False	False	False	False
barotropic_time_stepping_mom4p0 barotropic_time_stepping_mom4p1		True False	True False						
debug_this_module		False	False	False	False	False	False	False	False
diag_ster	1200	12	120	4320	4320	4320	4320	576	576
do_bitwise_exact_sum		0.0	0.0	0.0	0.0	False	0.0	0.0	0.0
eta_max eta_offse		8.0	8.0	8.0	8.0	$8.0 \\ 1 \times 10^{-12}$	8.0	8.0	8.0
frac_crit_cell_heigh		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
geoid_forcing	i	0.2	Ü.	0.2	0.2	False	0.2	Ü.E	0.2
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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
ideal_initial	_eta_xwidth						100 000.0			
ideal_initial							100 000.0			
initsum_with_b							False			
initsum_with_b							True			
prod	pbot_offset corr_gamma	0.2	0.2	0.2	0.2	0.2	1×10^{-12} 0.2	0.2	0.2	0.2
smooth_anompb_bt		0.2	0.2	0.2	0.2	0.2	False	0.2	0.2	0.2
smooth_anompb_							False			
smooth_eta_diag	_biharmonic						False			
smooth_eta_dia		True	True	True	True	True	True	True	True	True
smooth_eta_t smooth_eta_t_bt		True	True	True	False	False	False False	False	False	False
smooth_eta_t_bt							False			
	_t_laplacian	False	False	False	True	True	True	True	True	True
smooth_pbot_t		True	True	True	False	False	False	False	False	False
smooth_pbot_t_biharn							False			
smooth_pbot		False	False	False	True	True	True	True	True	True
	al_forcing_8 orcing_ideal						False False			
	_forcing_m2						False			
	runcate_eta	False	False	False	False	False	False	False	False	False
	udrho_bih						False			
udrho_bih	_vel_micom						0.01			
	drho_bt_bih						False			
u	drho_bt_lap						False			
udaha lau	udrho_lap						False			
udrno_lap use_legacy_baro	_vel_micom				False	False	0.05 False	False	False	False
	_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	m_bih_diaq	0.01	0.01	0.01	0.01	0.01	0.1	0.01	0.01	0.01
	_micom_lap	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
vel_mico	m_lap_diag	1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.5	0.2
	verbose_init	_	_	_	_	_	True		_	
	se_truncate	True	True	True	True	True	True	True	True	True
	te_a_restart o_coriolis_bt						True False			
ZCI	zero_eta_ic						False			
	zero_eta_t						False			
zero_e	ta_tendency						False			
	zero_eta_u						False			
	o_forcing_bt						False			
zero_nonlinea		Falsa	Falsa	F-1		Falsa	False	F-1	Falsa	F-I
	ro_tendency omf_implicit	False	False	False		False True	False True	False True	False True	False True
Woccan_bbc_nint	bmf_max					iiuc	1.0	iiuc	Huc	Huc
	cdbot	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
cd	bot_gamma						40.0			
	cdbot_hh						1100.0			
	cdbot_hi					0.007	0.007	0.007	0.007	0.007
cdbot_	law_of_wall			False	False		False			
cdbot_rough	cdbot_lo					False	0.001 False	False	False	False
	ness_uamp					True	True	True	True	True
cabotiloug	cdbot_uu					11 40	1.0	iiuc	iide	iiuc
	cdbot_wave						False			
	.geothermal						0.001			
	this_module						False			
law_of_wall_ro		0.05	0.05			۸۸۲	0.01	0.05	0.05	0.05
use_geother	uresidual mal heating	0.05 True	0.05 True	False	False	0.05 False	0.05 False	0.05 False	0.05 False	0.05 False
	uvmaq_max	IIUC	iluc	ו מנגד	ו מנטכ	ו מנטכ	10.0	ו מנטכ	ו מנאכ	i alse
&ocean_bbc_ofam_nml read				False	False		False			
ures	sidual2_max			1.0	1.0		0.05			
&ocean_bih_friction_nml b scheme	ih_friction	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
debug_:	this_module						False			
	te_a_restart						True			
	abih						0.0			
&ocean_bih_tracer_nml	and a diff.									
ho	rz_s_diffuse						True			
ho ho	rz_s_diffuse rz_z_diffuse usivity_mask						False False			

Group (continued) Varial	ole 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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
use_this_modu		False	False	False	False	False	False	False	False
&ocean_bihcst_friction_nml	om False	False	False	False	False	0.001	False	0.001 False	False
wse_this_module &ocean_bihgen_friction_nml	True	True	True	True	True	False	False	False	False
bottom_5point						F-I			
<mark>debug_this_mod</mark> i eg_lat_mico		0.0	0.0	0.0	0.0	False 0.0	0.0	0.0	0.0
eq_vel_micom_an		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
eq_vel_micom_		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
equatorial_zor		False	False	False	False	False	False	False	False
equatorial_zonal_		0.0	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0
k_smag_ani k_smag_i		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ncar_boundary_scali		True	True	True	True	True	True	True	True
ncar_boundary_scaling_re					True	True	True	True	True
ncar_rescale_pow	ver 2	2	2	2	2	2	2	2	2
ncar_vconst		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 False	5	5	5
neptu neptune_depth_n						100.0			
neptune_length_						4200.0			
neptune_length_po						17 000.0			
neptune_scali						1.0			
neptune_smoo						True			
neptune_smooth_nu read_aiso_bih_ba						1 False			
side_drag_friction_m						1.0			
side_drag_friction_scali						1.0			
side_drag_friction_uvmag_m	•					10.0			
use_side_drag_fricti						False			
use_this_modu		True	True	True	True	True	True	True	True
vel_micom_ani vel_micom_botto		0.0 0.01	0.0 0.01	0.0 0.01	0.0 0.01	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
vet_micom_		0.01	0.01	0.01	0.01	0.0	0.0	0.0	0.0
visc_crit_sca		0.25	0.25	0.25	0.25	1.0	1.0	1.0	1.0
visc_diverge_scali						0.0			
&ocean_blob_nml bitwise_reproducti						False			
blob_small_ma						1000.0			
debug_this_modu do_bitwise_exact_su						False False			
max_prop_thickne						0.7			
really_deb	ug					False			
&ocean_convect_nml convect_full_scalar			False	False		True		True	
convect_full_vec	tor		True	True		False		False	
convect_no	on					False			
	on	F .	F 1		F.1	7	F 1		F 1
use_this_module	ule False	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5
debug_this_modu		0.5	0.5	0.5	0.5	False	0.5	0.5	0.5
use_this_modu		True	True	True	True	True	True	True	True
&ocean_density_nml alpha_linear_e	<u> </u>					0.255			
beta_linear_e						0.0			
buoyfreq_smooth_v						True			
debug_this_modu density_equal_potr						False False			
do_bitwise_exact_su	um					False			
drhodz_diag_stal	ole					True			
eos_line	ear False			False	False	False	False	False	False
eos_preteos				True	True	True	True	True	True
eos_teos epsln_drho						False $1 imes 10^{-10}$			
epsin_arno epsin_drhodz_di						1×10^{-10} 1×10^{-10}			
grad_nrho_lrpotrho_compt						False			
grad_nrho_lrpotrho_m						10.0			
grad_nrho_lrpotrho_n						1.0			
layer.		80	80	80	80	80	80	80	80
linear_e		False	False			Felse			
mask_domain_rest neutral_density_ome						False False			
neutral_density_one						True			
neutrat_uensity_poti	no.					iiuc			

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
						file.000000.oı			
neutralrho_max	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1038.0	1030.0 1020.0	1038.0 1028.0	1030.0 1020.0
neutralrho_min num_121_passes	1020.0	1020.0	1020.0	1020.0	1020.0	1028.0 1	1020.0	1028.0	1020.0
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 press_standard						2000.0 0.0			
rho0_density						False			
s_test						20.0			
smax_diag						-1.0			
smax_min_in_column						False			
smooth_stratification_factor sn_test						False 35.0			
t_test						20.0			
teos10_eos			False			20.0			
theta_max						30.0			
theta_min						-2.0			
tn_test update_diagnostic_factors						20.0 False			
write_a_restart						True			
&ocean_domains_nml halo						1			
max_tracers			20	10	5	5	5	5	5
x_cyclic_offset						0			
y_cyclic_offset						0			
Rocean_drifters_nml output_interval use_this_module	False	False				False			
&ocean_form_drag_nml	1 8150	1 8130				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 form_drag_aiki_gradh_max						False 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 form_drag_gbatch_f2overn2						False 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 ksurf_blayer_min						False 3			
n_squared_min						1×10^{-10}			
num_121_passes						1			
use_form_drag_aiki						False			
use_form_drag_gbatch	F.1		F 1		F 1	False		F 1	
use_this_module vel_form_drag_max	False	False	False	False	False	False 1.0	False	False	False
verbose_init						True			
visc_cbu_form_drag_max						1.0			
Rocean_frazil_nml						True			
debug_this_module	False	False			False	False	False	False	False
frazil_factor	Terra	Tuus	Falsa		Falsa	1.0	Falsa	Falsa	Falsa
frazil_only_in_surface freezing_temp_accurate	True	True False	False True		False	False	False	False	False
freezing_temp_preteos10		ו מנטכ	iiuc		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
kocean_grids_nml	True True	True	True	True	False	False False	False	False	False
uo_bitwise_exact_sum	False	False	False	False		False			
read rhot profile	, and	1 0130	, acc	i alsc		True			
read_rho0_profile verbose_init									
verbose_init write_grid						False			
verbose_init write_grid &ocean_increment_eta_nml			0	0		False 1			
verbose_init write_grid kocean_increment_eta_nml lays_to_increment						1			
verbose_init write_grid kocean_increment_eta_nml			0 1.0 3600	0 1.0 1800		1.0 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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.or	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_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 &ocean_increment_velocity_nml	False	False	False 0	False	False	False	False	False	False
days_to_increment			U	U		1			
fraction_increment			1.0	1.0		1.0			
secs_to_increment use_this_module	False	False	3600 False	1800 False	False	0 False	False	False	False
&ocean_lap_friction_nml	1 4 4 5 6			1 4.50	1 4130	False	. 4130		1 4.50
debug_this_module	'aanaral'	'aanaral'	'aanaval'	'a an aval'	'aanaval'	'aanaral'	'a a n a val'	'a an aval'	'aanaral'
lap_friction_scheme write_a_restart	'general'	'general'	'general'	'general'	'general'	'general' True	'general'	'general'	'general'
&ocean_lap_tracer_nml alap						0.0			
horz_s_diffuse horz_z_diffuse						True False			
read_diffusivity_mask						False			
tracer_mix_micom						False			
use_this_module vel_micom	False	False	False	False	False	False 0.0	False	False	False
verbose_init						True			
&ocean_lapcst_friction_nml use_this_module	False	False	False	False	False		False	False	False
&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 debug_this_module						False False			
divergence_damp						False			
divergence_damp_vel_micom						0.0			
eq_lat_micom eq_vel_micom_aniso						0.0			
eq_vel_micom_iso						0.0			
equatorial_no_smag						False			
equatorial_zonal equatorial_zonal_lat						False 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 False		2.0	
ncar_isotropic_at_depth ncar_isotropic_at_depth_visc						10 000.0			
ncar_isotropic_depth						4000.0			
ncar_isotropic_off_equator ncar_only_equatorial			True	True		False False			
ncar_onty_equatoriat neptune			irue	irue		False			
neptune_depth_min						100.0			
neptune_length_eq neptune_length_pole						1200.0 3000.0			
neptune_tengtn_pote neptune_smooth						True			
neptune_smooth_num	_	_	_	_		_ 1			
restrict_polar_visc restrict_polar_visc_lat	True 60.0	True 60.0	True 60.0	True 60.0	True 60.0	False 60.0			
restrict_potar_visc_ratio	0.35	0.35	0.35	0.35	0.35	0.35			
side_drag_friction_max						1.0			
side_drag_friction_scaling side_drag_friction_uvmag_max						1.0 10.0			
use_side_drag_friction						False			
use_this_module	True	True	True	True	True	False	False	False	False
vconst_1 vconst_2			0.000 000 8	8 000 000.0 0.0		10 000 000.0			
vconst_3			0.8	0.8		0.16			
vconst_4			5×10^{-9}	5×10^{-9}		2×10^{-8}			
vconst_5			3 300 000 000.0	300 000 000.0		3 10 000 000.0			
vconst_6 vconst_7			100.0	100.0		10 000 000.0			
vconst_8			_00.0			45.0			
vel_micom_aniso	0.4	0.4	0.4	0.4	0.4	0.0			
vel_micom_iso visc_vel_scale_length	0.1	0.1	0.1	0.1	0.1	0.0 150 000.0			
viscosity_ncar	False	False	False	True	False	False			

Group (continued) Var	iable	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
viscosity_ncar_	2000			False	False		True			
viscosity_ncar_				True	True		False			
viscosity_scale_by_r		True	True	True	True	True	False			
<pre>viscosity_scale_by_rossby_p &ocean_mixdownslope_nml</pre>	ower	4.0 False	4.0 False	4.0 False	4.0 False	4.0 False	2.0 False		False	
debug_this_module		raise	raise	raise	raise	raise	raise		raise	
do_bitwise_exact	_sum						False			
mixdownslope_frac_ce		_	_				0.25			
mixdownslope_mask	_	True 4	True 4	False 4	False 4	False 4	False 1			
mixdownslope mixdownslope_weigh		7	4	7	4	7	False			
mixdownslope_\							1			
read_mixdownslope_		True	True	False	False	False	False			
use_this_m		True	True	True	True	True	False	False	False	False
&ocean_model_nml baroclinic barotropic	•	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80
cmip_	•	False	80	True	True	True	True	True	80	True
d	ebug	False	False	False	False	False	False	False	False	False
	cean	7200	7200	3600	3600	3600	1800	1200	150	150
horizontal impose_init_from_re		True	False				'bgrid' False			
	ayout	1, 4	raise		4, 3	4, 3	6, 5	6, 5	10, 15	10, 15
	ayout	12, 8	6, 4	12, 10	16, 15	16, 15	48, 40	48, 40	80,75	80,75
mask_	table	•	,	,	,	,	'INPUT'	,	,	•
reinitialize_thic			_		_		False		_	
surface_height time_tend		1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'
	blobs	twotevet	twotevet	twotevet	twotevet	twotevet	False	twotevet	twotevet	twotevet
use_velocity_ove							False			
vertical_coord	inate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml							False			
debug_this_module rayleigh_damp_exp_from_bo	ttom					False	False	False	False	False
rayleigh_damp_exp_						raise	100.0	raise	raise	raise
rayleigh_damp_exp.							864 000.0			
use_rayleigh_damp_				True	True	True	True	True	True	True
use_this_mo verbosi		False	False	True	True	True	True	True	True	True
&ocean_nphysics_new_nml	e_IIIIL						True False			
drhodz_smooth_horz							i disc			
drhodz_smooth	_vert						False			
	smax						0.01			
use_this_mo vel_micom_sn							False 0.2			
&ocean_nphysics_nml debug_		False	False	False	False	False	False	False	False	False
module										
use_nphy		False	False	False	False	False	False	False	False	False
use_nphy use_nphy		False True	True False	False True	False True	False True	False False	False False	False False	False False
use_this_mo		True	True	True	True	True	False	False	False	False
write_a_re							True			
&ocean_nphysics_util_new_nml							1			
num_121_passes		0000	0000	(000	(000	(00.0		1000	1000	1000
&ocean_nphysics_util_nml agm_cli	agm osure	800.0 True	800.0 True	600.0 True	600.0 True	600.0 True		100.0 True	100.0 True	100.0 True
agm_closure_baro		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_n		True	True	True	True	True				
agm_closure_ead agm_closure_eady_smooth		True True	True True	True True	True True	True True				
agm_closure_eady_smooth		True	True	True	True	True				
agm_closure_eden_ga	ımma	0.0	0.0	0.0	0.0	0.0				
agm_closure_eden_great		False	False	False	False	False				
agm_closure_grid_sc		True	True	True	True	True		EU 000 0	FO 000 0	E0 000 0
agm_closure_le agm_closure_length_bo		50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False		50 000.0 False	50 000.0 False	50 000.0 False
agm_closure_length_		False	False	False	False	False		False	False	False
agm_closure_length_r	ossby	False	False	False	False	False		False	False	False
agm_closure_lower_c		2000.0	2000.0	2000.0	2000.0	2000.0		2000.0	2000.0	2000.0
agm_closure agm_closure		800.0 100.0	800.0 100.0	600.0 50.0	600.0 50.0	600.0 50.0		600.0 100.0	600.0 100.0	600.0 100.0
agm_closure_sc		0.07	0.07	0.07	0.07	0.07		0.07	0.07	0.07
agiii_ctosurc_sc		5.07	5.07	0.07	0.07	0.07		0.07	0.07	0.07

agm_closure_upper_depth agm_damping_time agm_smooth_space agm_smooth_time aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	100.0 45.0 False False 600.0 False True False	100.0 45.0 False False 600.0 False	100.0 45.0 False False	100.0 45.0 False	100.0	file.000000.oı			
agm_damping_time agm_smooth_space agm_smooth_time aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	45.0 False False 600.0 False True False False	45.0 False False 600.0 False	45.0 False False	45.0			100.0	100.0	100.0
agm_smooth_space agm_smooth_time aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	False False 600.0 False True False False	False False 600.0 False	False False		45.0		100.0	100.0	100.0
aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	600.0 False True False False	600.0 False		raise	False				
aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	False True False False	False	/ ^ ^ ^	False	False				
drhodz_mom4p1 drhodz_smooth_horz	True False False		600.0	600.0	600.0		600.0	600.0	600.0
drhodz_smooth_horz	False False		False True	False True	False True		False False	False False	False False
	False	True False	False	False	False		False	False	False
drhodz_smooth_vert	Т	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 tracer_mix_micom	0.002 False	0.002 False	False	False	False		False	0.002 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	0.0	0.0	0.0		0.0	0.0	0.0
neutral_linear_gm_taper	True	True							
neutral_physics_limit	True	True							
neutral_physics_simple	False	False							
neutral_sine_taper	True	True							
tmask_neutral_on use_this_module	True False	True False	False	False	False		False	False	False
&ocean_nphysicsb_nml debug_this_module	False	False	raise	raise	raise		raise	raise	raise
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 2		True 2	True 2	True 2				
bvp_bc_mode 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 True		False	False	False				
neutral_eddy_depth neutral_physics_limit	True		True True	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	False	50.0	50.0	50.0		Falsa	False	Falsa
&ocean_obc_nml ctrop_inc	True	False	True	True	True	00 00 00	False	False	False
&ocean_obc_nml ctrop_inc ctrop_max						0.0, 0.0, 0.0, 0.0 1.5, 1.5, 1.5,			
ctrop_min						1.5 0.1, 0.1, 0.1,			
ctrop_smooth						0.1 0.7, 0.7, 0.7,			
direction						0.7 None			
enh_fac_d						1.0, 1.0, 1.0,			
enh_fac_v						1.0			
enh_pnts						0.9 1, 1, 1, 1			
fieldname_eta						'eta_t', 'none', 'none', 'none'			
fieldname_ud						'ud', 'none', 'none', 'none'			
filename_eta						'obc_eta_t', '.nc', 'none', 'none', 'none'			

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	filename_tracer						file.000000.ou 'INPUT'			
	filename_ud						'obc_ud', '.nc',			
	nterialite_da						'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,			
	itrs						-999, -999 -999, -999,			
	1013						-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,			
	name						-999, -999 'test_obc',			
	Hume						'none', 'none',			
							'none'			
	nobc						0			
obc_a	djust_forcing_bt						False, False,			
ohc	_consider_convu						False, False False, False,			
ODC.	_consider_convu						False, False			
obc_c	onsider_sources						False, False,			
							False, False,			
							False, False,			
							False, False, False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False, False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False, False, False,			
							False, False,			
							False, False			
obc_en	hance_diff_back						'NONE',			
							'NONE',			
							'NONE',			
ohc ent	hance_visc_back						'NONE' 'NONE',			
ooc_em	Harree_vise_Dack						'NONE',			
							'NONE',			
							'NONE'			
	obc_eta						'NOTHIN',			
							'NOTHIN', 'NOTHIN',			
							NOTHIN, 'NOTHIN'			
							.10111111			

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	obc_flow_relax						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, False, False,			
	obc_tan						'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'			

## 0,0000.00 ***ORGAUT** ***NOGRAUT** ***NO	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces som2_ 01deg_ jra55_ryf_ input.nml
NOGRACY NOGRAC		ohe tra				F · · · ·		file.000000.oı			
NOGRAD; NOGRAD		UUL_LIA									
NOGRAD, NOGRAD								'NOGRAD',			
NOCRAD, NOCRAD											
NOGRAD, NOGRAD								'NOGRAD'.			
"NOCRAD, NOCRAD, NOCRA								'NOGRAD',			
NOGBAUT, NOG								'NOGRAD',			
NOGRACY NOGRAC											
NOGRAD, NOGRAD											
NOGRAD, NOGR								'NOGRAD',			
NOCARD False, Fals								'NOGRAD',			
NOGRAD, NOGRAD											
NOGRAD, NOGRAD											
NOGRAD, NOGRAD								'NOGRAD',			
NOGRAD False, Fa								'NOGRAD',			
NOGRAD False, Fa											
NOGRAD; NOGR								'NOGRAD',			
NOGRAD' NOGRAD								'NOGRAD',			
NOGRAD											
NOGRAD' NOGRAD								NOGRAD,			
NOGRAD, False, F								'NOGRAD',			
NOGRAD, False, Fal								'NOGRAD',			
NOGRAD; Nogr											
NOGRAD; False, False, False, False								NOGRAD,			
NOGRAD; NOGR											
NOGRAD; NOGR								'NOGRAD',			
NOGRAD; NOGR											
"NOGRAD", "Alse, False, False											
"NOGRAD", "NOGRAD", "NOGRAD" "NOGRAD" "NOGRAD" "NOGRAD" "Talse, False, Fals											
NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD; Palse, False, Fal								'NOGRAD',			
NOGRAD **obc.tracer_no_inflow** **False, False, Fals											
obc_tracer_no_inflow False, F											
False, False	obc_t	racer_no_inflow									
False, False Obc_ud Obc_vert_advel_t False, False False, False								False, False,			
False, False False, False Obc_ud NOGRAD; NOGRAD; NOGRAD; NOGRAD Obc_vert_advel_t False, Fa											
False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' Obc_vert_advel_t False, False											
False, False Obc_ud 'NOGRAD',											
False, False False, False False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' 'NOGRAD' Obc_vert_advel_t False, False, False, False, False											
False, False False, False, False, False, False, False, False, False											
False, False False, False False, False False, False Obc_ud NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD; False, False											
False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' False,								False, False,			
False, False VNOGRAD', VNOGRAD', VNOGRAD' VNOGRAD' Sobc_vert_advel_t False, False											
False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' 'NOGRAD' False,											
False, False Obc_ud NOGRAD; NOGRAD; NOGRAD; NOGRAD THOGRAD Sobc_vert_advel_t False, False, False, False, False, False											
False, False, False, False, False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD' Obc_vert_advel_t False, False, False, False, False, False								False, False,			
False, False, False, False obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' obc_vert_advel_t False, False, False, False											
False, False obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' obc_vert_advel_t False, False, False, False											
obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' obc_vert_advel_t False, False, False, False								False, False			
'NOGRAD', 'NOGRAD' obc_vert_advel_t False, False, False, False		obc_ud						'NOGRAD',			
'NOGRAD' obc_vert_advel_t False, False, False											
obc_vert_advel_t False, False, False								NOGRAD, 'NOGRAD'			
False, False	O	bc_vert_advel_t									
obs vert adval u								False, False			
odc_vert_advet_u False, False, False, False	ol	bc_vert_advel_u						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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
rel_clin_pnts						file.00000.ot 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, 1,1,1,1,1, 1,1,1,1,1,			
rel_coef_eta_in						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,			
<mark>rel_eta_pnts</mark> &ocean_operators_nml	True				False	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,	False	False	False
use_legacy_div_ud					-				
&ocean_overexchange_nml debug this_module	False	False	False	False	False	False	False	False	False
do_bitwise_exact_sum overexch_check_extrema overexch_min_thickness overexch_npts	False 4	False 4	False 4	False 4	4	False False 4.0 4	4	4	4
overexch_stability		-	-	-		0.25	-		
overexch_weight_far overexch_width overflow_delta overflow_mu overflow_umax	False 5.0	False 5.0	False 5.0	False 5.0	False 5.0	False 1 0.3333 0.0001 5.0	False 5.0	False 5.0	False 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		False	
no_return_flow overflow_delta overflow_mu overflow_umax transport_units						False 0.3333 0.0001 0.01 'Sv'			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml debug_this_module diag_step								False 5760	
do_entrainment_para_ofp do_mass_ofp frac_exchange_src max_vol_trans_ofp								False True 1.0 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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
use_this_module					False	inte.000000.00	False	False	False
&ocean_parameters_nml					Taisc	4218.0	1 disc	raisc	T disc
cp_liquid_runoff						.22010			
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	False	False	False	False	False		False	False	False
use_this_module									
&ocean_pressure_nml						False			
debug_this_module						F.1			
zero_correction_term_grad zero_diagonal_press_grad						False False			
zero_eta_over_h_zstar_pressure						False			
zero_pressure_force					False	False	False	False	False
&ocean_rivermix_nml	40.0	40.0				0.0			
calving_insertion_thickness									
debug_all_in_top_cell						False			
debug_this_module	False	False	False	False	False	False	False	False	False
debug_this_module_heat discharge_combine_runoff_calve	False	True				False True			
do_bitwise_exact_sum	True	iiue				False			
river_diffuse_salt	False	False	False	False	True	False	True	True	True
river_diffuse_temp	False	False	False	False	True	False	True	True	True
river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
river_insertion_thickness	40.0 40.0	40.0 40.0	40.0	40.0	40.0	40.0 0.0	40.0	40.0	40.0
runoff_insertion_thickness use_this_module	True	True	True	True	True	True	True	True	True
&ocean_riverspread_nml	iiuc	nuc	iiuc	nuc	nuc	False	nuc	False	nuc_
debug_this_module									
riverspread_diffusion						False			
riverspread_diffusion_passes			-	-		0		-	
use_this_module vel_micom_smooth	False	False	True	True	False	False	False	True	False
&ocean_rough_nml rough_scheme	'beljaars'	'beljaars'			'beljaars'	0.2	'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 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	400					False			
eta_restore_tscale ice_salt_concentration	-10.0		0.005			-30.0 0.005			
land_model_heat_fluxes	True	False	0.005		False	False	False	False	False
max_delta_salinity_restore	iiuc	ruisc	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					F .	False	F .		
restore_mask_gfdl			False	False	False	False	False	False	False
rotate_winds runoff_salinity			0.0	0.0	0.0	False 0.0	0.0	0.0	0.0
runoff_temp_min			0.0	0.0	0.0	0.0	0.0	0.0	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	400	400	True	True	True	True	True	True	True
salt_restore_tscale salt_restore_under_ice	-10.0	-10.0	15.0 True	15.0 True	60.0 True	60.0 True	60.0 True	60.0 True	60.0 True
satt_restore_under_ice sbc_heat_fluxes_const			irue	irue	irue	False	iiue	irue	irue
sbc_heat_fluxes_const_seasonal						False			
sbc_heat_fluxes_const_value						0.0			
tau_x_correction_scale	0.0					0.0			

Group (continued) Variab	e 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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
tau_y_correction_sca	e 0.0					0.0			
taux_sir						False			
tauy_sii	/					False			
temp_correction_sca temp_restore_tsca		-10.0	-1.0	-1.0	-10.0	0.0 10.0	-10.0	-10.0	-10.0
use_constant_sss_for_resto		-10.0	-1.0	- 1.0	-10.0	— 10.0 False	-10.0	-10.0	-10.0
use_constant_sst_for_resto						False			
use_full_patm_for_sea_lev	el True	True			False	False	False	False	False
use_ideal_calvir						False			
use_ideal_runo		T	Т	T	Т	False	Т	Т	T
use_waterflu use_waterflux_override_calvir		True	True	True	True	True False	True	True	True
use_waterflux_override_eva	<u> </u>					False			
use_waterflux_override_fpro	•					False			
waterflux_tav	g False	False	False	False		False			
zero_calving_flux						False			
zero_heat_flux			False	False	False	False	False	False	False
zero_net_pme_eta_resto					False	False False	False	False	False
zero_net_salt_correction zero_net_salt_resto			True	True	True	True	True	True	True
zero_net_water_correction			iiue	iiue	False	False	False	False	False
zero_net_water_couple_resto			True	True	True	True	True	True	True
zero_net_water_coupl			True	True	True	True	True	True	True
zero_net_water_resto	e		True	True	True	True	True	True	True
zero_pme_flux						False			
zero_river_flux						False			
zero_runoff_flux						False			
zero_surface_stre			False False	False False	False False	False False	False False	False False	False
<pre></pre>	:5		False	False	False	False	False	raise	False
restore_mask_ofam			i alse	raise		i alse			
river_temp_ofa	m		False	False		False			
&ocean_shortwave_csiro_nml			True	True					
read_depth use_this_modu	o Falco	Falso	Truo	Truo	False		Ealco	Falso	Ealco
use_tnis_modu zmax_pe		False	True 7000	True 7000	False		False	False	False
&ocean_shortwave_gfdl_nml	<mark>II</mark>		7000	7000		0.08			
chl_default									
debug_this_modu	e False	False	False	False	False	False	False	False	False
enforce_sw_fra		True	True	True	True	True	True	True	True
optics_for_uniform_c						False			
optics_maniz		True	True	True	True	True	True	True	True
optics_morel_antoir override_f_v		False False			False	False True	False	False	False
read_c		False	False	False	True	True	True	True	True
sw_frac_to		ruisc	Tube	raisc	iruc	0.0	iiuc	iiuc	iruc
sw_morel_fixed_depti						False			
sw_pen_fixed_deptl	IS		False	False					
use_this_modu		True	False	False	True	True	True	True	True
zmax_pe		200.0	200.0	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	False	False
&ocean_shortwave_nml	False	False	True	True	False	False	False	False	False
use_shortwave_csiro						False			
use_shortwave_e use_shortwave_qf		True	False	False	True	False True	True	True	True
use_shortwave_jerlo		False	False	False	False	False	False	False	False
use_this_modu		True	True	True	True	True	True	True	True
&ocean_sigma_transport_nml						0.3333			
campingoose_delta campingoose_m	II.					0.0001			
debug_this_modu						False			
sigma_advection_che						True			
sigma_advection_c	n False	False	False	False		False		False	
sigma_advection_sgs_on		False	False	False		False		False	
sigma_diffusion_c		True	True	True		True		True	
sigma_diffusivi						1000.0			
sigma_diffusivity_rat		1×10^{-6}	1×10^{-6}	1×10^{-6}		1×10^{-6}		1×10^{-6}	
sigma_just_in_bottom_ce		True	True	True		True		True	
sigma_uma smooth_sigma_thickne		0.01 True	0.01 True	0.01 True		0.01 True		0.01 True	
smooth_sigma_veloci		True	True	True		True		True	
Sinootii_Sigina_vetoti	y nue	iiue	iiue	iiue		iluc		IIUC	

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oı	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
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 inout nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	mark 12 a				input.nml		log- file.000000.oı		iiiput.nmt	
	mask_list						0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			
					5 7		0, 0, 0, 0, 0, 0, 0, 0, 0, 0,			
					57		0, 0, 0, 0, 0,			
							0, 0, 0, 0, 0,			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
minutes			0	0	0	0	0	0	0
months			12	0	0	0	0	0	0
n_mask						0			
restart_interval seconds			0	0	0	0, 0, 0, 0, 0, 0	0	0	0
years			U	0	0	1	0	0	0
&ocean_sponges_eta_nml use_this	False	False	False	False	False	False	False	False	False
module									
&ocean_sponges_eta_ofam_nml athresh						0.5 1			
days_to_restore lambda						0.0083			
npower						1.0			
secs_to_restore						0			
taumin						720.0			
use_adaptive_restore use_hard_thump						False False			
use_normalising						False			
use_sponge_after_init						False			
&ocean_sponges_tracer_nml	False	False	False	False		False		False	
damp_coeff_3d	Ealaa	Enlan	Ealaa	Falsa	Falsa	Ealaa	Enlan	Falsa	Fala-
use_this_module &ocean_sponges_tracer_ofam_nml	False	False	False	False	False	False 0.5	False	False	False
athresh						0.5			
days_to_restore						1			
deflate						False			
deflate_fraction						0.6 0.0083			
lambda limit_salt						False			
limit_salt_min						0.01			
limit_salt_restore						3600.0			
limit_temp						False			
limit_temp_min						-1.8 10 800.0			
limit_temp_restore npower						10 800.0			
secs_to_restore						0			
taumin						720.0			
use_adaptive_restore						False			
use_hard_thump						False False			
use_normalising 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						0.5			
athresh days_to_restore						1			
lambda						0.0083			
npower						1.0			
secs_to_restore						0			
taumin use_adaptive_restore						720.0 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 debug_this_module	False	False	False	False	False	100.0 False	False	False	False
debug_tills_inodute diag_step	i alsc	ו מנטכ	1 0136	ו מנטכ	i alsc	1200	i alsc	ו מנטכ	1 0136
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 limit_psi_velocity_scale	True 0.5	True 0.5	True 0.5	True 0.5	True 0.5	True 0.5	True 0.5	True 0.5	True 0.5
min_kblt	0.5 4	4	4	0.5 4	4	4	0.5 4	0.5 4	4
minimum_hblt	•	'		•	'	0.0		•	,
smooth_advect_transport					True	True	True	True	True
smooth_advect_transport_num	F. 1	F. 1		F 1	4	4 False	4 False	4 False	4 False
smooth_hblt smooth_hblt_num	False	False	False	False	False	False 2	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

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ot	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
cuhmeco	_advect_limit					True	True	True	True	True
	dvect_sweby					iiuc	False	iiuc	nuc	iiuc
	vect_upwind					True	True	True	True	True
submeso_adv						True	True	True	True	True
submeso_diffusior	eso_diffusion					False True	False True	False True	False True	False True
	ffusion_scale					10.0	10.0	10.0	10.0	10.0
subme	so_limit_flux	True	True	True	True		True			
	so_skew_flux					True	True	True	True	True
	me_constant iblt_constant						86 400.0			
	lt_equal_mld	True	True	True	True	True	False True	True	True	True
	e_psi_legacy	True	iiuc	iiuc	nuc	False	False	False	False	False
use.	_this_module	True	True	True	True	True	True	True	True	True
&ocean_tempsalt_nml		False	False		False	False	False	False	True	False
debug_this_module	and itemstica	Truce	Terra	Turra	Tour	Tuus	True	Tura	Tura	Terra
	2nd_iteration ual_contemp	True	True	True	True	True True	True True	True True	True True	True True
	:s_with_ideal					iiuc	False	nuc	Huc	iiuc
reinit_ts_with							1000.0			
reinit_ts_with_							30.0			
reinit_ts_with.		EE 0	EEO	EE 0	EE 0	70.0	10.0 70.0	70.0	70.0	70.0
	s_max s_max_limit	55.0 42.0	55.0 42.0	55.0 42.0	55.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0
	s_min	-1.0	-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 t_min_limit	-5.0 -1.9	-5.0 -1.9	-5.0 -2.0	-5.0 -2.0	-20.0 -5.0	−20.0 −5.0	-20.0 -5.0	-20.0 -5.0	-20.0 -5.0
tempera	ture_variable	'potential	'potential	'conservative		'potential	'potential	'potential	'potential	'potential
	teos10	temp'	temp'	temp' False	temp'	temp'	temp' False	temp'	temp'	temp'
	debug_this	False	False	False	False	False	False	False	False	False
module	and the state of	Falsa	F-I	Falsa	F-1	Falsa	F-1	F-1	Falsa	Falsa
debug_this_m	in_for_sigma	False	False	False	False	False	False 0.01	False	False	False
	_positive_dzt						False			
epsilon_ii	nit_thickness						1×10^{-5}			
	_topography						False			
	lize_zero_eta _free_surface	False	False	False	False		False			
	im_bad_print						False 25			
	bot0_simple						False			
	e_rho0_mask	True	True	False	False		False			
	_rho0_profile						False			
rescale_mass_to	_	7.0	7.0	7.0	7.0	False	False —1.0	False	False	False
	_basin_label O_mask_qfdl	7.0 True	7.0 True	7.0 False	7.0 False		— 1.0 False			
	e_rhoO_value	0.75	0.75	0.75	0.75		1.0			
	ness_dzt_min	2.0	2.0	1.0	1.0		2.0		2.0	
	_dzt_min_init	2.0	2.0	2.0	2.0		10.0		10.0	
	ness_method ate_dzwu_k0	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic' True	'energetic'	'energetic'	'energetic'
	rite_a_restart						True			
&ocean_time_filter_nml use_this_module		False	False							
&ocean_topog_nml debug_	_this_module						True			
	flat_bottom						False			
	hottom_ht						5500.0			
	_bottom_kmt it_recompute						50 False			
	mpute_offset						0			
	nin_thickness	5.0	5.0	25.0	25.0		1.0			
	write_topog						False			
&ocean_tracer_advect_nml		False	False	True	True		False			
advect_sweby_all asvnc_do	main_update				True		False			
compute_gyre_overtu				True	iiuc		i disc			
debug	_this_module	False	False	False	False	False	False	False	False	False
	ast_compute		F 1	True			E. I			
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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	.limit_prather			_			False			
	d_basin_mask rite_a_restart			True		False	False True	False	False	False
	_advect_horz						False			
	r_advect_vert						False			
&ocean_tracer_diag_nml t							0.0003			
	nose_mixinga						False			
	nose_mixingb nose_mixingc						False False			
	nose_mixingd						False			
	diag_step	1200	12	120	4320	4320	4320	4320	576	576
do_bitwis	se_exact_sum	False	False	False	False	False	False	False	False	False
	dtheta_crit frazil_factor						2.0 1.0			
	psu2ppt						1.004 867			
r	ho_grad_max						$1 \times 10^{+28}$			
	rho_grad_min						1×10^{-5}			
smoot	h_kappa_sort						0			
	smooth_mld	True	True				False			
smooth_mld_fo		100.0	100.0	1.0	1.0	30.0	True 30.0	30.0	30.0	30.0
tracer_co Socean_tracer_nml	onserve_days acer_max_init	100.0 $1 \times 10^{+40}$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	nask_limit_on	1 // 10	0.0	0.0	0.0	0.0	True	0.0	0.0	0.0
	_this_module	False	False	False	False	False	False	False	False	False
frazil_heating_a		True	True	True	True	True	True	True	True	True
frazil_heating_bef		False	False	False	False	False	False	False	False	False
interpolate_to	w_nboundary	False					False False			
interpolate_tp		False					True			
	nit_age_tracer	True	True	True	True	True	True	True	True	True
ocear	n_tpm_debug						False			
•	pth_to_s_init	False	False	False	False	False	False	False	False	False
tmask_l use_tempsalt.	imit_ts_same	True	True		True	True	True True	True	True	True
	rite_a_restart				iiue	iiue	True	iiue	iiue	iiue
	ero_tendency	False	False	False	False	False	False	False	False	False
	tracer_source	False	False	False	False	False	False	False	False	False
&ocean_tracer_util_nml lebuq_diagnose_mass_of_l	avor						False			
epsln_diagnose_n							1×10^{-5}			
rebin_onto_rh							True			
&ocean_velocity_advect_nr	ml						False			
debug_this_module										
	/ect_centered						True			
velocity_ad zero_velocity	dvect_upwind						False False			
	y_advect_norz						False			
ocean_velocity_diag_nml		False	False	False	False	False	False	False	False	False
nodule										
U. Lie .	diag_step	1200	12	120	4320	4320	4320	4320	576	576
	se_exact_sum rgy_diag_step	1200	12	120	4320	4320	False 4320	4320	5760	5760
	ell_num_max	1200	14	120	1320	1320	100	1320	5700	3700
	rge_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
n	nax_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pagan valagitu nml	verbose_cfl						False			
&ocean_velocity_nml adams_bashforth_epsilon							0.6			
	shforth_third	True	True	True	True	True	True	True	True	True
	constant_u						0.0			
	constant_v						0.0			
debug.	_this_module			1.0	1.0	1.0	False	10	1.0	10
trun	max_cgint cate_velocity	False	False	1.0 False	1.0 True	1.0 False	1.5 False	1.0 False	1.0 False	1.0 False
	e_velocity_lat	i aisc	1 0130	1 0136	iiuc	ו מנטכ	0.0	า สเรต	ו מנטכ	1 0136
truncate_v	elocity_value	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	cate_verbose	True	True	True	True	True	True	True	True	True
update_velocit							True			
	stant_velocity rite_a_restart						False True			
	ero_tendency	False	False	False	False	False	False	False	False	False
	ncy_explicit_a	. 4.00	. 2.00	. 4.50	. 4.00	False	False	False	False	False

Group (continued) Variabl	e 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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
zero_tendency_explicit_	0				False	False	False	False	False
zero_tendency_implic	t				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 byf_from_below						False			
calc_visc_on_cgri	d					False			
conc						1.8			
cw_ debug_this_modul						0.15 False			
debug_tilis_modut diff_cbt_iv				0.0	0.0	0.0	0.0	0.0	0.0
diff_cbt_lim						0.005			
diff_con_lim				0.1		0.1			
do_langmui				_	_	False	_	-	-
double_diffusio hbl_with_ri				True	True	True False	True	True	True
kbl_standard_metho				False	False	False	False	False	False
kl_mi				raise	. 4.50	2	1 4130	. 4.50	1 4150
l_smyt	1					2.0			
lgar 						1.04			
limit_ghat						False			
limit_with_hekma linear_ht						True True			
ltma						5.0			
non_local_kp						True			
radiation_iov						False			
radiation_larg						False			
radiation_zer ric				0.3	0.3	False 0.3	0.3	0.3	0.3
shear_instabilit				0.5	0.5	True	0.5	0.5	0.5
smooth_blm	•			False	False	False	False	False	False
smooth_ri_kmax_eq_km	J			True	True	True	True	True	True
use_max_shea						False			
use_sbl_bottom_flu use_this_modul				True	True	False True	True	True	True
variable_vt				iiue	iiue	False	iiue	iiue	iiue
visc_cbu_iv				0.0	0.0	0.0	0.0	0.0	0.0
visc_cbu_lim	t					0.005			
visc_con_limi				0.1		0.1			
wsfc_combine_runoff_calv wstfa						True 0.6			
&ocean_vert_kpp_nml diff_cbt_iv		0.0	0.0			0.0			
diff_con_lim		0.0	0.1						
double_diffusio		True	True						
kbl_standard_metho			True						
ric		0.3	0.3						
smooth_blm use_this_modul		True True	True True						
visc_cbu_iv		0.0	0.0						
visc_con_lim			0.1						
&ocean_vert_mix_nml afkph_0		0.675	0.65	0.65		0.55			
afkph_9		0.725	0.75	0.75	4.0	0.55			
aid bryan_lewis_diffusivit		1.0 True	1.0 False	1.0 False	1.0 False	1.0 False	1.0 False	1.0 False	1.0 False
bryan_lewis_lat_depen		True	True	True	False	False	False	False	False
bryan_lewis_lat_transitio		35.0	35.0	35.0	ruise	35.0	ruisc	raise	ruise
debug_this_modul	e					False			
dfkph_0		1.15	1.15	1.15		1.05			
dfkph_9		1.15	0.95	0.95		1.05			
diff_cbt_tan diff_cbt_tanh_ma						False 0.001			
diff_cbt_tanh_mi						2×10^{-5}			
diff_cbt_tanh_zmi						150.0			
diff_cbt_tanh_zwi						30.0			
hwf_30_diffusivit						2×10^{-5}			
hwf_depth_transitio						25 000 000.0		F .	
hwf_diffusivity 7					False	False	False	False	False
hwf_diffusivity_3 hwf_min_diffusivit					2×10^{-6}	False $2 imes 10^{-6}$	2×10^{-6}	2×10^{-6}	2×10^{-6}
hwf_n0_2omeg					20.0	20.0	20.0	20.0	20.0

Group (continued) Va	riable	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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
linear_taper_diff_cbt	table	False	False	False	False		file.000000.ou False			
num_121_		Tube	rusc	ruse	rube		1			
quebec_2009_1		False					False			
	ph_00	4.5×10^{-5} 4.5×10^{-5}	4.5×10^{-5} 4.5×10^{-5}	4.5×10^{-5} 4.5×10^{-5}	4.5×10^{-5} 4.5×10^{-5}		4.5×10^{-5} 4.5×10^{-5}			
STK SMOOth_r	ph_90	4.5 × 10	4.5 × 10 °	4.5 × 10	4.5 × 10 °		4.5 × 10 °			
use_diff_cbt		False	False	False	False	False	False	False	False	False
use_explicit_vert_c							True			
verbos vert_diff_back_via		True	True	True	True	True	True True	True	True	True
vert_uir_back_via		'kpp	'kpp'	'kpp'	'kpp	'kpp	'kpp	'kpp	'kpp	'kpp
vert_viso		mom4p1'			mom4p1'	mom4p1'	mom4p1' False	mom4p1'	mom4p1'	mom4p1'
visc_cbu_bac							0.01			
visc_cbu_bac visc_cbu_back							0.001 50.0			
visc_cbu_back							30.0			
vmix_min_diss_bvfreq	_scale						0.0006			
vmix_min_diss							1×10^{-7}			
vmix_min_diss_flux_r							0.2			
vmix_rescale_non vmix_set_min_dissi							False False			
	ph_00	250 000 000.0	250 000 000.0	250 000.0	250 000.0		250 000.0			
	ph_90	250 000 000.0	250 000 000.0	250 000.0	250 000.0		250 000.0			
&ocean_vert_tidal_nml		0.0	0.0	5×10^{-6}	5×10^{-6}	0.0	0.0	0.0	0.0	0.0
packground_diffusivity background_vis	scosity	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
bottom_dr	•	0.0001	0.0001	0.0001	0.0001	0.0001	0.0024	0.0001	0.0001	0.0001
debug_this_m							False			
	_scale	300.0	300.0	300.0	300.0	500.0	500.0 25.0	500.0	500.0	500.0
default_roughness_l default_tide_							0.01			
drag_dissipation							True			
drag_dissipation_tide_							43 200.0			
_drag_dissipation_use _drag_mask						True	True True	True	True	True
drag_mask_deep							0.1			
	lz_min	$1 imes 10^{-12}$	1×10^{-12}	1×10^{-12}	1×10^{-12}	1×10^{-10}	1×10^{-10}	$1 imes 10^{-10}$	1×10^{-10}	1×10^{-10}
fixed_wave_dissi		False	False	False	False	False	False	False	False	False
max_drag_diffi max_wave_diffi		0.01	0.01	0.01 0.01	0.01 0.01	0.01	0.005 0.01	0.01	0.01	0.01
mixing_effi		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
mixing_efficiency_n2d	•	True	True	True	True	True	True	True	True	True
munk_ander							0.25			
munk_anderson_ num_121_;							3.0 1			
read_leewave_dissi							False			
read_roug	hness	True	True	True	True	True	True	True	True	True
read_tide_		True	True	True	True	True	True	True	True	True
read_wave_dissi reading_roughnes:	•	False True	False True	False True	False True	False True	False True	False True	False True	False True
reading_roughness_l		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_		160.0	160.0	160.0	160.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0
smooth_bvfreq_b smooth_r							True True			
	d_min						0.005			
tidal_diss_effi							0.333 33			
tide_speed_data_on_ use_drag_dissi		True True	True True	True True	True True	True True	True True	True True	True True	True True
use_urag_urssi use_leewave_dissi		iiue	iiue	nue	iiue	iiue	False	iiue	iiue	iiue
use_legacy_me		True				False	False	False	False	False
use_this_m		True	True	True	True	True	True	True	True	True
use_wave_dissi <mark>vel_micom_s</mark> i		True	True	True	True	True	True 0.2	True	True	True
wave_diffusivity_mon							True			
wave_energy_flu		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_sı num_ri_sı							1			
	mootn oth_n2						True			
Sillot							.iuc			

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_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
S	mooth_ri_number						True			
&ocean_wave_nml	damp_where_ice						True			
de	ebug_this_module						False			
	filter_wave_mom						True			
	use_this_module						False			
	use_tma						True			
	wavedamp						-10.0			
&ocean xlandinsert n	write_a_restart	True	True	False	False	False	True	False	False	False
use_this_module						False		False	False	False
	verbose_init	True	True	True	True					
&ocean_xlandmix_nm		True	True	False	False	False		False	False	False
	verbose_init	True	True	True	True					
0	xlandmix_kmt	True	True	True	True					
&sat_vapor_pres_nml construct_table_wrt_lice		True	True							
	e_wrt_liq_and_ice	True	True							
	w_all_bad_values								True	
&surface_flux_nml	ncar_ocean_flux								True	
	old_dtaudv raoult_sat_vap	False							True	
&time_interp_external debug_this_module	l_nml						False			
	max_fields						100			
	max_files						40			
	num_io_buffers						2			
	erthlike_behavior						False			
&topography_nml	topog_file	'INPUT/	'INPUT/							
		navy_topog-	navy_topog-							
		ra-	ra-							
Quarid pupi	do allec-II	phy.data.nc'	phy.data.nc'						Tur-	Tarre
&xgrid_nml	do_alltoall do_alltoallv								True	True True
	interp_method	'second	'second		'second	'second		'second	True 'second	'second
	mterp_metriou	order	order'		order'	order'		order'	order'	order'
make exc	change_reproduce	True	True		False	False		False	False	False
manc_cm	nsubset	nac.	ii ac		1 4.50	16		16	16	16
	xgrid_log					10		20	False	10

6 All variables in new configs (differences highlighted)

Group	Variable	new_acces- som2 1deg jra55_ryf	new_acces- som2 025deg jra55_ryf	new_acces- som2 01deg jra55_ryf
&auscom_ice_nml	nice substi	input.nml	input.nml 0.15	input.nml 0.15
&duscom_ice_nint	aice_cutoff chk_i2o_fields	0.15 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 icemlt_factor	False 1.0		False 1.0
	kmxice	1.0		1.0
	pop_icediag	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
&diag_manager_nml	debug_diag_manager	True		True
&fms_io_nml	issue_oor_warnings fileset_write	True		True 'multi'
WIIII2_IU_IIIIII	threading_read	'single' 'multi'		'multi'
	threading_read 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',	'u_flux',	'u_flux',
		'v_flux',		'v_flux',
		'lprec', 'fprec',		'lprec', 'fprec',
		'salt_flx', 'mh_flux',		'salt_flx', 'mh_flux',
		'sw_flux',		'sw_flux',
		'q_flux',		'q_flux',
		't_flux',	't_flux',	't_flux',
		'lw_flux',	'lw₋flux',	'lw_flux',
		'runof', 'p',		'runof', 'p',
		'aice', 'wfmalt'		'aice',
		'wfimelt', 'wfiform'		'wfimelt', 'wfiform'
	fields_out	't_surf',		't_surf',
		's_surf',	's_surf',	's_surf',
		'u_surf',	'u_surf',	'u_surf',
		'v_surf',	'v_surf',	'v_surf',
		'dssldx',		'dssldx',
		'dssldy',		'dssldy',
	num_fields_in	'frazil' 15		'frazil' 15
	num_fields_out	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
9 according and	shuffle	4720		1
&ocean_adv_vel_diag_nml	<mark>diag_step</mark> large_cfl_value	4320 10.0	False 1.0 5 True 1.0 -0.216 True True True True True 'multi' 'multi' 'multi' 'multi' 'multi' 'smulti'	576 10.0
	max_cfl_value	10.0		10.0
	verbose_cfl	True		True
&ocean_advection_velocity_nml	max_advection_velocity	0.5		0.5
&ocean_albedo_nml	ocean_albedo_option	2	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 4320		False 576
	<mark>diag_step</mark> eta_max	8.0		8.0
	frac_crit_cell_height	0.2		0.2
	pred_corr_gamma	0.2	0.2	0.2
	smooth_eta_diag_laplacian	True		True
	smooth_eta_t_biharmonic	False		False
	smooth_eta_t_laplacian	True		True
	smooth_pbot_t_biharmonic	False		False
	smooth_pbot_t_laplacian	True		True
	truncate_eta use_legacy_barotropic_halos	False False		False False
	vel_micom_bih	0.01		0.01
	· ccameonia di	V.U.	J.U.2	0.02

&ocean_bbc_nml &ocean_bih_friction_nml &ocean_bih_tracer_nml &ocean_bihcst_friction_nml &ocean_bihcst_friction_nml	vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	0.05 0.2 True False True 0.001 0.007 False True	0.05 0.2 True False True 0.001 0.007	input.nml 0.05 0.2 True False True 0.001
&ocean_bih_friction_nml &ocean_bih_tracer_nml &ocean_bihcst_friction_nml	vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	True False True 0.001 0.007 False True	True False True 0.001 0.007	True False True
&ocean_bih_friction_nml &ocean_bih_tracer_nml &ocean_bihcst_friction_nml	zero_tendency bmf_implicit cdbot cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	False True 0.001 0.007 False True	False True 0.001 0.007	False True
&ocean_bih_friction_nml &ocean_bih_tracer_nml &ocean_bihcst_friction_nml	bmf_implicit cdbot cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	True 0.001 0.007 False True	True 0.001 0.007	True
&ocean_bih_friction_nml &ocean_bih_tracer_nml &ocean_bihcst_friction_nml	cdbot cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	0.001 0.007 False True	0.001 0.007	
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml	cdbot_hi cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	0.007 False True	0.007	
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml	cdbot_roughness_uamp uresidual use_geothermal_heating	True		0.001
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml	uresidual use_geothermal_heating		False	False
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml	use_geothermal_heating		True	True
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml				0.05
&ocean_bih_tracer_nml &ocean_bihcst_friction_nml	hih friction schomo			False 'general'
&ocean_bihcst_friction_nml				False
	use_this_module	False	False	False
and a state of the	bottom_5point	True	False	False
	eq_lat_micom	0.0	0.0	0.0
		0.0		0.0
				0.0
	•			False 0.0
				2.0
		True	True	True
	ncar_boundary_scaling_read	True	True	True
	ncar_rescale_power	2	2	2
	ncar_vconst_4	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$
	ncar_vconst_5	5	5	5
		True		True
				0.0
				0.0
				1.0
&ocean_convect_nml				False
&ocean_coriolis_nml				0.5
	use_this_module	True	True	True
&ocean_density_nml	eos_linear	False	False	False
	eos_preteos10	True	True	True
				80
				1030.0 1020.0
				1020.0
	•			1028.0
&ocean_domains_nml	<u> </u>	5	5	5
&ocean_form_drag_nml	use_this_module	False	False	False
&ocean_frazil_nml	vel.microm.lap.dag vel.microm.lap.dagg 0.2 0.2 0.2 verbose_tunnate True True zero_tendency False False decided ODD1 ODD1 celbot ODD1 ODD0 celbot ODD1 ODD0 celbot ODD0 ODD0 celbot OD00 OD00 celbot OD00 O	False		
				False
				True
			False	
		True False		
				False
&ocean_increment_tracer_nml				False
&ocean_increment_velocity_nml				False
&ocean_lap_friction_nml				'general'
&ocean_lap_tracer_nml				False
&ocean_lapcst_friction_nml	use_this_module	False	False	False
&ocean_lapgen_friction_nml				
			False	False
			. 4.50	. uisc
	viscosity_ncar	False		
	, , ,			
		False		
&ocean_mixdownslope_nml				
&ocean_mixdownslope_nml	mixdownslope_mask_gfdl	False		
&ocean_mixdownslope_nml	mixdownslope_mask_gfdl mixdownslope_npts	False 4		
&ocean_mixdownslope_nml	mixdownslope_mask_gfdl mixdownslope_npts read_mixdownslope_mask	False 4 False	False	False
	mixdownslope_mask_gfdl mixdownslope_npts read_mixdownslope_mask use_this_module	False 4 False True		False 1
&ocean_mixdownslope_nml &ocean_model_nml	mixdownslope_mask_gfdl mixdownslope_npts read_mixdownslope_mask use_this_module baroclinic_split	False 4 False True 1	1	False 1 80

Property Property	Group (continued)	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
		debug		False	
Secont properties 1					
Section of the control of th					
Scoral, momentum, currar, mill Sylephi, dump par from, battom False					
		•			
Some supplysis.nml fixed before the medial of the state	&ocean momentum source nml				
δασεια μηθημίας καπί Cince Total Total Total California California False	docean_momentum_source_mint				
Sceau ruphysics amil debug pils module False		use_this_module			
Pate	&ocean_nphysics_nml		False	False	
Beat Page			False	False	False
Access n.physicsstilnml Gene Bis modes Time Time Tou		use_nphysicsb	False	False	False
		use_this_module			
	&ocean_nphysics_util_nml				
Bagan Clasure Legal Crade True Faste F				0.004	0.004
Maint closure celeta parel barie False F					
		3			
			50 000.0	50 000.0	50 000.0
			False	False	False
Name					
Baym.Samoth Line False F					
Palse Pals				100.0	100.0
Batter B					
Ratio Rati					
Britotz mondpo True False Fals				600.0	600.0
Part		drhodz_mom4p1		False	False
Page		drhodz_smooth_horz	False	False	
		drhodz_smooth_vert		False	False
Tossby_radius_min 15 000.0					
kocean_nphysicsa.nml tracer_mix_micom False vel.micom O.0 Palse False Fal					
& cocan_nphysics_nml ve_this_module False False False & cocan_nphysics_nml use_this_module False False False & cocan_nphysics_nml by_bc_mode True False False <td></td> <td></td> <td></td> <td></td> <td></td>					
& ccean.nphysicsnml use.this.module False False False & ccean.nphysicsnml use.this.module False False False & ccean.nphysicsnml bv_freq.smooth.vert True True Line True True True Line Line<					
& ccean.nphysicsc.nml use.this.module False False & ccean.nphysicsc.nml by free, smooth vert True True 2 1 <t< td=""><td>l ocean polycicca pml</td><td></td><td></td><td></td><td></td></t<>	l ocean polycicca pml				
Kocean.nphysicsc.nml by_fer_amooth_vert True byp_br.mode 2 byp_br.mode 0 byp_min_speed 0.0 byp_speed 0.0 byp_speed 0.0 do_gm_skewsion True do_neutral_diffusion True epsin_bv_freq 1 × 10 ⁻¹² gm_skewsion.byroblem True gm_skewsion.byroblem True gm_skewsion.modes False neutral_edy_depth True neutral_edy_depth True neutral_edy_sics_limit True regularize_psi False smax_psi 0.01 smax_psi 0.01 smax_psi 0.01 turb_blayer_min 50.0 use_this_module True turb_blayer_min 50.0 use_this_module True kocean_operators.nml False False &coean_operators.nml general_engl False False kocean_operators.nml general_engl					
Dvp Dr. Dr. Dr. Dr. Dr. Dr. Dr. Dr. Dr. Dvp Dr. Dr. Dr. Dvp Dr. Dr. Dr. Dvp Dr. Dr. Dr. Dvp Dr. Dr. Dvp Dr. Dr. Dvp				1 4125	וימנטט
Dyp min. speed 0.1	woccur-aphysicscannic				
Byp_Speed 0.0 1.5					
Coccan_operators_nml Coccan_skewsion False Coccan_operators_nml Coccan_operators_					
epsin_bv_freq 1 × 10 ⁻¹² gm_skewsion_bvproblem True gm_skewsion_modes False peutral_eddy_depth True neutral_physics_limit True neutral_physics_limit True peqularize_psi False regularize_psi False smax_psi 0.01 smax_psi 0.01 smooth_psi True turb_blayer_min 500 turb_blayer_min 500 turb_blayer_min 500 turb_blayer_min 500 secean_operators_nml tuse_this_module False False &ocean_overexchange_nml debug_this_module False False False overexch_npts 4 4 4 overexch_weight_far False False False			True		
		do_neutral_diffusion			
gm_skewsion_modes False neutral_eddy_depth True neutral_physics_limit True number_bc_modes 2 regularize_psi False smax_psi 0.01 smax_psi 0.01 tmask_neutral_on True tmask_neutral_on True turb_blayer_min 50.0 true False False &ccean_operators_nml use_legacy_div_ud False False False &ccean_overexchange_nml debug_this_module False False False &ccean_overexchange_nml overexch_weight_far False False False			1×10^{-12}		
neutral_eddy_depth True neutral_physics_limit True number_bc_modes 2 regularize_psi False smax_psi 0.01 smox_psi 0.01 smox_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 &ocean_overexchange_nml debug_this_module False False False &overexch_npts 4 4 4 overexch_weight_far False False False					
neutral_physics.limit True number_bc_modes 2 regularize_psi False gmax_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 overexch_npts 4 4 4 doverexch_weight_far False False False					
number_bc_modes 2 regularize_psi False smax_psi 0.01 smooth_psi True 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 overexch_npts 4 4 4 overexch_weight_far False False False					
False False <th< td=""><td></td><td></td><td></td><td></td><td></td></th<>					
Smax_psi 0.01 smooth_psi True 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 overexch_uper 4 4 4 overexch_weight_far False False False					
smooth_psi True tmask_neutral_on True turb_blayer_min 500 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 overexch_ungt 4 4 4 4 overexch_weight_far False False False					
tmask_neutral_on turb_blayer_min turb_blayer_minTrueFalse& ocean_operators_nmluse_legacy_div_ud debug_this_moduleFalseFalseFalse& overexchange_nmldebug_this_module overexch_nptsFalseFalseFalse6 overexch_weight_far4446 overexch_weight_farFalseFalseFalse					
turb_blayer_min use_this_module50.0FalseFalse&ocean_operators_nmluse_legacy_div_udFalseFalseFalse&ocean_overexchange_nmldebug_this_moduleFalseFalseFalseoverexch_npts444overexch_weight_farFalseFalseFalse					
& cocean_operators_nmluse_legacy_div_udFalseFalseFalse& cocean_overexchange_nmldebug_this_moduleFalseFalseFalseoverexch_npts444overexch_weight_farFalseFalseFalse					
& ocean_operators_nmluse_legacy_div_udFalseFalseFalse& overexchange_nmldebug_this_moduleFalseFalseFalseoverexch_npts444overexch_weight_farFalseFalseFalse				False	False
&ocean_overexchange_nmldebug_this_module overexch_nptsFalseFalseFalse004440044400FalseFalseFalse	&ocean_operators_nml		False	False	
overexch_weight_far False False False		debug_this_module	False	False	
			4	4	
overflow_umax 5.0 5.0 5.0					
		overflow_umax	5.0	5.0	5.0

Group (continued)	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	use_this_module	False	False	False
&ocean_overflow_nml	use_this_module	False	False	False
&ocean_overflow_ofp_nml	use_this_module	False		False
&ocean_polar_filter_nml &ocean_pressure_nml	use_this_module zero_pressure_force	False False		False False
&ocean_rivermix_nml	debug_this_module	False		False
Woccur I I Yellin X I III I	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
	river_insertion_thickness use_this_module	40.0 True		40.0
&ocean_riverspread_nml	use_this_module	False		True False
&ocean_rough_nml	rough_scheme	'beljaars'		'beljaars'
&ocean_sbc_nml	avq_sfc_temp_salt_eta	True		True
	avg_sfc_velocity	True	True	True
	calvingspread	False	False	False
	do_bitwise_exact_sum	False		False
	do_flux_correction	False		False
	land_model_heat_fluxes max_delta_salinity_restore	False 0.5		False 0.5
	max_detta_satinity_restore max_ice_thickness	0.0		0.5
	read_restore_mask	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
	salt_restore_tscale	60.0		60.0
	salt_restore_under_ice temp_restore_tscale	True —10.0		True —10.0
	use_full_patm_for_sea_level	False		False
	use_waterflux	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 zero_net_water_couple_restore True zero_net_water_coupler True				False
		True True		
	zero_net_water_coupler zero_net_water_restore	True		True
	zero_surface_stress	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	e False e True 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0 0 0 0.0 0 0 0.0 0 0 0 0.0 0 0 0 0.0 0 0 0 0.0 0 0 0 0	True
	optics_manizza	True		True
	optics_morel_antoine read_chl	False True		False True
	use_this_module	True		True
	zmax_pen	300.0		300.0
&ocean_shortwave_jerlov_nml	use_this_module	False		False
&ocean_shortwave_nml	use_shortwave_csiro	False		False
	use_shortwave_gfdl	True		True
	use_shortwave_jerlov	False		False
	use_this_module	True		True
&ocean_sigma_transport_nml &ocean_solo_nml	use_this_module calendar	False 'NOLEAP'		False 'NOLEAP'
&ocean_soto_nint	date_init	1, 1, 1, 0, 0, 0		1, 1, 1, 0, 0, 0
	days	1460		30
	dt_cpld	3600		600
	hours	0	0	0
	minutes	0		0
	months	0		0
	seconds	0		0
&ocean_sponges_eta_nml	years use_this_module	False		False
&ocean_sponges_tracer_nml	use_this_module 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	True
	limit_psi_velocity_scale	0.5	0.5	0.5
	min_kblt	4	4	4

Group (continued)	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
Sn	nooth_advect_transport	True	True	True
	_advect_transport_num	4	4	4
	smooth_hblt	False	False	False
	smooth_psi	True 3	True 3	True
	smooth_psi_num submeso_advect_flux	False	False	3 False
	submeso_advect_limit	True	True	True
SU	ubmeso_advect_upwind	True	True	True
sub	meso_advect_zero_bdy	True	True	True
	submeso_diffusion	False	False	False
	o_diffusion_biharmonic ubmeso_diffusion_scale	True 10.0	True 10.0	True 10.0
50	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
рі	ottemp_equal_contemp	True	True	True
	s_max	70.0	70.0	70.0
	s_max_limit s_min	42.0 0.0	42.0 0.0	42.0 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	'potential	'potential
		temp'	temp'	temp'
&ocean_thickness_nml	debug_this_module	False	False	False
	oug_this_module_detail e_mass_to_get_ht_mod	False False	False False	False False
lescati	thickness_method	'energetic'	'energetic'	'energetic'
&ocean_tracer_advect_nml	debug_this_module	False	False	False
WOOCHI LINGUI LI	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
	_heating_after_vphysics	True	True	True
IIdZIL_II	eating_before_vphysics limit_age_tracer	False True	False True	False True
	remap_depth_to_s_init	False	False	False
	_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 max_cfl_value	10.0 100.0	10.0 100.0	10.0 100.0
&ocean_velocity_nml	adams_bashforth_third	True	True	True
docum_retocity_limit	max_cgint	1.0	1.0	1.0
	truncate_velocity	False	False	False
t de la companya de	truncate_velocity_value	2.0	2.0	2.0
	truncate_verbose	True	True	True
	zero_tendency	False	False	False
	ero_tendency_explicit_a	False	False	False
	ero_tendency_explicit_b	False	False	False
	zero_tendency_implicit	False	False	False
&ocean_vert_kpp_iow_nml &ocean_vert_kpp_mom4p1_nml	use_this_module diff_cbt_iw	False 0.0	False 0.0	False 0.0
wocean_vert_kpp_mom*pt_mm	diπ_cot_iw double_diffusion	True	True	True
	kbl_standard_method	False	False	False
	ricr	0.3	0.3	0.3
	smooth_blmc	False	False	False
Sn	nooth_ri_kmax_eq_kmu	True	True	True
	use_this_module	True	True	True
	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
	oryan_lewis_lat_depend	False	False	False
	hwf_diffusivity	False	False	False

Group (continued)	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	hwf_min_diffusivity	2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega	20.0	20.0	20.0
	use_diff_cbt_table	False	False	False
	vert_diff_back_via_max	True	True	True
	vert_mix_scheme	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0	0.0
	background_viscosity	0.0001	0.0001	0.0001
	decay_scale	500.0	500.0	500.0
	drag_dissipation_use_cdbot	True	True	True
	drhodz_min	$1 imes 10^{-10}$	1×10^{-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
0 1 1 1 1	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 do_alltoallv			True True
	interp_method	'second	'second	'second
	merpinethou	order'	order'	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_acces- som2 1deg jra55_ryf input.nml	original/ GFDL ESM2M input- cut.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15	
addsoniace:iiii	chk_i2o_fields	False	False	False	False	
	chk_o2i_fields	False	False	False	False	
	do_ice_once	False	False	False	False	
	dt_cpl fixmeltt	3600 False	3600 False	3600 False	3600 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 sign_stflx	1.0	True 1.0	True 1.0	True 1.0	
	sign_stitx 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 'NOLEAD'
	calendar check_stocks					'NOLEAP' 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 dt_atmos					True 1800
	dt_cpld					7200
	months					12
	ocean_npes					96
	use_lag_fluxes					True
&diag_integral_nml	file_name output_interval					'diag integral.out' 1.0
	time_units					'days'
&diag_manager_nml	debug_diag_manager			False	True	days
	issue_oor_warnings	False	False	True	True	False
	max_axes					200
	max_files					50
	max_input_fields					800
	max_num_axis_sets max_output_fields					200 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'	700
	max_files_r max_files_w					300 300
	max_nies_w threading_write	'single'	'single'	'single'	'single'	300
&fms_nml	clock_grain	'LOOP'	'LOOP'	'LOOP'	'COMPONENT'	'COMPONENT'
- Alle	domains_stack_size	LOOI	2001	115200	115200	5000000
	stack_size					0
&generic_tracer_nml	do_generic_cfc					False
	do_generic_topaz					True
gica albada ami	do_generic_tracer					True
&ice_albedo_nml &ice_model_nml	t_range add_diurnal_sw					10.0 False
CICC_INDUCT_INIT	add_diumat_sw alb_ice					0.65
	alb_ce 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_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ GFDL- ESM2M input- cut.nml
	layout nsteps_adv					15, 2
	nsteps_dyn					72
	num_part spec_ice					6 False
	t_range_melt					1.0
	wd_turn					0.0
&icebergs_nml	make_calving_reproduce speed_limit					True 0.5
	time_average_weight					False
	traj_sample_hrs					0
	use_roundoff_fix verbose					True True
	verbose_hrs					120
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',	'u_flux',	'u_flux',	
		'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	
		'salt_flx',	'salt_flx',	'salt_flx',	'salt_flx',	
		'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	
		'sw_flux', 'a_flux'	'sw_flux', 'a_flux'	'sw_flux', 'o_flux'	'sw_flux', 'a_flux'	
		'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',	
		'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	
		'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	
		'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',	
		'wfiform'	'wfiform'	'wfiform'	'wfiform'	
	fields_out	't_surf',	't_surf',	't_surf',	't_surf',	
		's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',	
		'v_surf',	'v_surf',	'v_surf',	'v_surf',	
		'dssldx',	'dssldx',	'dssldx',	'dssldx',	
		'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	
	num_fields_in	15	15	15	15	
	num_fields_out	_ 7	_ 7	_ 7	_ 7	
	send_after_ocean_update send_before_ocean_update	True False	True False	True False	True False	
&monin_obukhov_nml	neutral	Taisc	1 disc	True	True	
	rich_crit					10.0
	stable_option zeta_trans					2 0.5
&mpp_io_nml	deflate_level			5	5	0.5
	shuffle			1	1	
&ocean_adv_vel_diag_nml	diag_step verbose_cfl	120 False	4320 True	4320 True	4320 True	1200 False
&ocean_albedo_nml	ocean_albedo_option	1 atse	iiue	2	2	5
&ocean_barotropic_nml	barotropic_halo		10	10	10	
	barotropic_leap_frog	False				
	barotropic_pred_corr barotropic_time_stepping_a	True	True	True	True	True
	barotropic_time_stepping_b		False	False	False	False
	barotropic_time_stepping_mom4p0	True				
	barotropic_time_stepping_mom4p1 diag_step	False 120	4320	4320	4320	1200
	do_bitwise_exact_sum	120	7320	7320	7320	True
	smooth_eta_t_biharmonic	True	False	False	False	True
	smooth_eta_t_laplacian smooth_pbot_t_biharmonic	False True	True False	True False	True 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 Falso	0.2	0.2 False	0.2 False	1.0 Falso
&ocean_bbc_nml	zero_tendency bmf_implicit	False		True	True	False
	cdbot	0.001	0.001	0.001	0.001	0.002
				0.007	0.007	
	cdbot_hi		F 1			
	cdbot_law_of_wall	False	False	Falca	Falsa	
		False	False	False True	False True	
	cdbot_law_of_wall cdbot_roughness_length cdbot_roughness_uamp uresidual			True 0.05	True 0.05	0.05
&ocean_bbc_ofam_nml	cdbot_law_of_wall cdbot_roughness_length cdbot_roughness_uamp	False False False	False False False	True	True	0.05 True

	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ GFDL ESM2M input- cut.nml
&ocean_bihgen_friction_nml	ncar_boundary_scaling_read vel_micom_bottom	0.01	0.01	False 0.1	True 0.01	0.01
&ocean_convect_nml	convect_full_scalar	False	False	0.1	0.01	0.01
&ocean_convect_mint	convect_full_vector	True	True			
&ocean_density_nml	eos_linear	nuc	False	False	False	False
,	eos_preteos10		True	True	True	True
	linear_eos	False				
	teos10_eos	False	40			
&ocean_domains_nml	max_tracers	20	10	5	5	Falsa
&ocean_drifters_nml &ocean_form_drag_nml	use_this_module cprime_aiki	0.6	0.6			False
&ocean_frazil_nml	debug_this_module	0.0	0.0	False	False	False
	frazil_only_in_surface	False		False	False	True
	freezing_temp_accurate	True				
	freezing_temp_preteos10			True	True	_
0 1 1	freezing_temp_simple	False	True	False	False	True
&ocean_grids_nml	debug_this_module	True	True	False	False	True
	do_bitwise_exact_sum read_rho0_profile	False	False			True False
&ocean_increment_eta_nml	days_to_increment	0	0			1 0130
	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			
0	secs_to_increment	3600	1800			
&ocean_increment_velocity_nml	days_to_increment fraction_increment	0 1.0	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 60.0	True 60.0	True 60.0	True 60.0	True
	restrict_polar_visc_lat restrict_polar_visc_ratio	0.35	0.35	0.35	0.35	60.0 0.35
	use_this_module	True	True	True	True	True
	vconst_1	8 000 000.0	0.000 000 8			
	vconst_2	0.0	0.0			
	vconst_3	0.8	0.8			
	vconst_4	5×10^{-9} 3	5×10^{-9}			
	vconst_5 vconst_6		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 viscosity_scale_by_rossby	True True	True True	False 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 io_layout		A 7	A 7	A 7	True
	io_layout layout	12, 10	4, 3 16, 15	4, 3 16, 15	4, 3 16, 15	1, 4 12, 8
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	12,10	10, 13	False	False	12,0
	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 smax	50.0	50.0	50.0	50.0	100.0 0.005
	swidth					0.003
	Stridell					False
&ocean_nphysicsa_nml	debug_this_module					
&ocean_nphysicsa_nml	debug_this_module neutral_linear_gm_taper					True
&ocean_nphysicsa_nml	neutral_linear_gm_taper neutral_physics_limit					True True
&ocean_nphysicsa_nml	neutral_linear_gm_taper neutral_physics_limit neutral_physics_simple					True True False
&ocean_nphysicsa_nml	neutral_linear_gm_taper neutral_physics_limit neutral_physics_simple neutral_sine_taper					True True False True
	neutral_linear_gm_taper neutral_physics_limit neutral_physics_simple neutral_sine_taper tmask_neutral_on					True True False True True
&ocean_nphysicsa_nml &ocean_nphysicsb_nml	neutral_linear_gm_taper neutral_physics_limit neutral_physics_simple neutral_sine_taper					True True False True

March 1981	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_acces- som2 1deg jra55_ryf input.nml	original/ GFDL ESM2M input- cut.nml
Secons consentant methods							50.0
Secons.corecommany	&ocean operators nml				Falso	Falco	5 True
Scoran perflox ent George pin module False Fal			False	False	1 0130	i atse	False
Search pressure roots							False
Scream sheemix annil Caching Intention Inticates du bitwise, coart, sun False False Tou Time False False False Tou Time False Fals	&ocean_overflow_ofp_nml	use_this_module				False	
		•			False	False	
The control of the	&ocean_rivermix_nml						40.0
Process		•					
True			False	False	True	True	False
Secres Page							False
Secons.nogn.mm		runoff_insertion_thickness					40.0
Calman Calmanger Calmanger False Fal			True	True			False
Description		_					'beljaars'
Description	&ocean_spc_nml						False
etaestinc.escenties							True
Manual					. 4.50	. 200	-10.0
max deta salinfy restore max max ceta miscres		ice_salt_concentration	0.005				
							True
Part		•					8.0
Part							8.0
Setter							
Sett. restore, as, sail, flux							False
Salt. restore. Income Salt							0.0
Salt.restore_under_ice True Tru							400
Taux x. correction, scale 1							-10.0
The properties of the proper			irue	irue	irue	irue	0.0
							0.0
							1.0
			-1.0	-1.0	-10.0	-10.0	-10.0
Use.waterflux.override.prec False					False	False	True
Second							False
Materillux, law False Fa							
Palse Pals			False	False			False
					False	False	ruse
							False
			True	True			
			Truc	True			
		•					
& ocean_sbc_ofam_nml restore_mask_ofam river_temp_ofam False False False False & ocean_shortwave_csiro_nml read_depth use_this_module use_this_module True True True True False False False False True True False False False False True True False False False True True False False False False True True False False False False True True False False True True False True True False Sw_pen_fixed_depths False False False False True True True True True True True Tru							
Kocean_shortwave_csiro_nml river_temp_ofam False					False	False	
&ocean_shortwave_csiro_nml read_depth use_this_module use_this_module True True True False False False	&ocean_sbc_ofam_nml						
March Marc	&ocean_shortwave_csiro_nml	•					
& ccean_shortwave_gfdl_nml optics_morel_antoine False False <td>·</td> <td></td> <td></td> <td>Ealco</td> <td>Falso</td> <td>False</td>		·			Ealco	Falso	False
& ocean_shortwave_gfdl_nmloptics_morel_antoineFalseFalseFalseoverride_f_visread_chlFalseFalseTrueTrueFalseread_chlFalseFalseFalseTrueTrueFalsesw_pen_fixed_depthsFalseFalseTrueTrueTrueuse_this_moduleFalseFalseFalseTrueTrueamax_pen20002000300030002000&ocean_shortwave_nmluse_shortwave_csiroTrueTrueFalseFalseFalseFalse&ocean_sigma_transport_nmlsigma_advection_onFalseFalseFalseFalsesigma_advection_sgs_onlyFalseFalseFalseFalsesigma_diffusion_onTrueTrueTrueTruesigma_diffusivity_ratio1 × 10^-61 × 10^-61 × 10^-61 × 10^-6sigma_umax0.010.010.00sigma_umax0.010.010.00smooth_sigma_thicknessTrueTrueTrueTruesmooth_sigma_velocityTrueTrueTrueTruesmooth_velmicon0.20.20.20.00					rdise	raise	rdise
override_f_vis read_chlFalseFalseTrueTrueFalsesw_pen_fixed_depthsFalseFalseTrueTrueTruesuse_this_moduleFalseFalseTrueTrueTruemax_pen200.0200.0300.0300.0300.0200cocean_shortwave_nmluse_shortwave_csiroTrueTrueFalseFalseFalseFalseFalsecocean_sigma_transport_nmlsigma_advection_onFalseFalseFalseFalsesigma_advection_sgs_onlyFalseFalseFalseFalsesigma_diffusion_onTrueTrueTrueTruesigma_diffusion_bcutTrueTrueTrueTruesigma_just_in_bottom_cellTrueTrueTrueTruesigma_umax0.010.010.020.02smooth_sigma_velocityTrueTrueTrueTruesmooth_velmicom0.20.20.00.0		•	7000	7000	False	False	False
read_chl sw_pen_fixed_depths sw_pen_fixed_depths use_this_module salse shortwave_nml use_shortwave_csiro use_shortwave_gdl sigma_advection_on sigma_diffusion_on sigma_diffusion_on sigma_diffusion_cell sigma_duse_thottcale sigma_duse_thottca		•					False
use_this_module zmax_penFalse 2000False 2000TrueTrueTrueTrue& ocean_shortwave_nmluse_shortwave_csiro use_shortwave_gftlTrueTrueFalseFalseFalse& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalseFalseFalseFalse& sigma_diffusion_on sigma_diffusivity_ratioTrueTrueTrueTrue& sigma_diffusivity_ratio sigma_just_in_bottom_cellTrueTrueTrueTrue& sigma_just_in_bottom_cellTrueTrueTrueTrue& sigma_umax sigma_umax0.010.010.00& smooth_sigma_velocityTrueTrueTrue\$ mooth_sigma_velocityTrueTrueTrue\$ mooth_velmicom0.20.20.2		read_chl			True	True	False
zmax_pen200.0200.0300.0300.0200.0&ocean_shortwave_nmluse_shortwave_csiroTrueTrueFalseFalseFalse&ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalseFalseFalseFalseSigma_diffusivity_ratioTrueTrueTrueTrueSigma_diffusivity_ratio1 × 10^-61 × 10^-61 × 10^-61 × 10^-6Sigma_just_in_bottom_cellTrueTrueTrueSigma_umax0.010.010.00Smooth_sigma_thicknessTrueTrueTrueSmooth_sigma_velocityTrueTrueTrueSmooth_velmicom0.20.20.2					_	-	_
&ocean_shortwave_nml use_shortwave_csiro True True False							True
use_shortwave_gfdlFalseFalseTrueTrueTrue& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalseFalseFalsesigma_diffusion_on sigma_diffusivity_ratioTrueTrueTrueTruesigma_diffusivity_ratio1 × 10^-61 × 10^-61 × 10^-61 × 10^-6sigma_just_in_bottom_cell sigma_umaxTrueTrueTrueTruesigma_umax smooth_sigma_thicknessTrueTrueTruesmooth_sigma_velocity smooth_velmicomTrueTrueTrue		·					
& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalse FalseFalse Falsesigma_diffusion_on sigma_diffusivity_ratioTrue 1×10^{-6} True 1×10^{-6} True 1×10^{-6} True Truesigma_just_in_bottom_cell sigma_umax sigma_umax smooth_sigma_thickness 	COCCEDIT SHOLLMANG THINK						True
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	&ocean_sigma_transport_nml				iiuc	ii uc	False
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		sigma_advection_sgs_only					False
sigma_just_in_bottom_cell True True True sigma_umax 0.01 0.01 0.0 smooth_sigma_thickness True True True smooth_sigma_velocity True True True smooth_velmicom 0.2 0.2 0.2		sigma_diffusion_on					True
sigma_umax 0.01 0.01 smooth_sigma_thickness True True smooth_sigma_velocity True True True smooth_velmicom 0.2 0.2 0.2 0.2							1×10^{-6}
smooth_sigma_thickness True True True smooth_sigma_velocity True True True smooth_velmicom 0.2 0.2 0.2		3 ,					True
smooth_sigma_velocity True True True True True smooth_velmicom 0.2 0.2 0.2							0.01
smooth_velmicom 0.2 0.2 0.2							True True
							0.2
UNICKTICOS_STQTTQ_LQVCT 100.0 100.0 100.0 100		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_acces- som2 1deg jra55_ryf input.nml	original/ GFDL ESM2M input- cut.nml
	thickness_sigma_max	100.0	100.0			100.0
	thickness_sigma_min tmask_sigma_on	100.0 False	100.0 False			100.0 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 1460	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0 1460	
	days debug_this_module	U	False	U	1400	
	dt_cpld	3600	3600	3600	3600	
	hours	0	0	0	0	
	minutes	0	0	0	0	
	months seconds	12 0	0	0	0 0	
	years	U	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 Trus	4 True	
	smooth_psi smooth_psi_num			True 3	True 3	
	sillootii-psi-iidii submeso_advect_flux			False	False	
	submeso_advect_limit			True	True	
	submeso_advect_upwind			True	True	
	submeso_advect_zero_bdy			True	True	
	submeso_diffusion submeso_diffusion_biharmonic			False True	False True	
	submeso_diffusion_scale			10.0	10.0	
	submeso_limit_flux	True	True	10.0	10.0	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 s_max	55.0	55.0	True 70.0	True 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	temp'	'conservative temp'	'potential temp'	'potential temp'	'potential temp'
	teos10	False	temp	стр	temp	temp
&ocean_thickness_nml	initialize_zero_eta	False	False			False
	read_rescale_rho0_mask	False	False			True
	rescale_mass_to_get_ht_mod	70	7.0	False	False	70
	rescale_rho0_basin_label rescale_rho0_mask_gfdl	7.0 False	7.0 False			7.0 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	25.0	25.0			False
&ocean_tracer_advect_nml	min_thickness advect_sweby_all	25.0 Truo	25.0 True			5.0 Falso
	advect_sweby_all async_domain_update	True	True			False
	compute_gyre_overturn_diagnose	True	iiue			
	do_fast_compute	True				
	limit_with_upwind					False
0 4: 4:-	read_basin_mask	True	1730	False	False	4200
&ocean_tracer_diag_nml	diag_step smooth_mld	120	4320	4320	4320	1200 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	0.0	0.0	0.0	0.0	False
	interpolate_tprog_to_pbott					False
	tmask_limit_ts_same		-	-	-	True
2 ocean velocity disc and	use_tempsalt_check_range	120	True	True	True	1200
&ocean_velocity_diag_nml	diag_step energy_diag_step	120 120	4320 4320	4320 4320	4320 4320	1200 1200
&ocean_velocity_nml	max_cgint	1.0	1.0	1.0	1.0	1200
	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_acces- som2 1deg jra55_ryf 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	T
	use_this_module		True 0.0	True 0.0	True 0.0	True
	visc_cbu_iw visc_con_limit		0.0	0.0	0.0	0.0
	wsfc_combine_runoff_calve		0.1			False
&ocean_vert_kpp_nml	diff_cbt_iw	0.0				1 4150
ооссиндустскурдини Станара	diff_con_limit	0.0				
	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	False	False	1.15
	hwf_diffusivity hwf_min_diffusivity			2×10^{-6}	2×10^{-6}	
	hwf_n0_2omega			2 × 10	20.0	
	linear_taper_diff_cbt_table	False	False	20.0	20.0	False
	quebec_2009_10_bug	1 alse	1 disc			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	12	12	True	True	12
	drhodz_min	1×10^{-12}	1×10^{-12}	1×10^{-10}	1×10^{-10}	1×10^{-12}
	max_drag_diffusivity	0.01	0.01	12,000.0	12,000.0	70,000,0
	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
&ocean_xlandinsert_nml	use_legacy_methods use_this_module	False	False	False False	False False	True True
COCCUIT_AttandingCrt_nillt	verbose_init	True	True	ו מנטכ	וימנטכ	True
&ocean_xlandmix_nml	use_this_module	False	False	False	False	True
WOOGAN AND THE CONTRACT OF THE	verbose_init	True	True	i alsc	ו מנטכ	True
	xlandmix_kmt	True	True			True
&sat_vapor_pres_nml	construct_table_wrt_liq		11 01 0			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	'second	'second	'second
&xgrid_nml			order'	order'	order'	'second order'
&xgrid_nml	interp_method make_exchange_reproduce nsubset					'second