MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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

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

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).

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	dt_cpl	3600 True	1800	600
&bg_diff_lat_dependence_nml	bg_diff_eq	$1 imes 10^{-6}$		
&fms in nml			'multi'	'multi'
	threading_write	'single'	'multi'	'multi'
			4320	576
			4320	576
accounting and a second a second and a second a second and a second a second and a second and a second and a	k_smag_aniso	0.0		
			Falsa	Falsa
			False	False
	vconst_2	0.0		
		0.8		
&ocean_mixdownslope_nml	debug_this_module			
			False	False
&auscom_ice_nml &bg_diff_lat_dependence_nml &fms_io_nml &ocean_adv_vel_diag_nml &ocean_barotropic_nml &ocean_lapgen_friction_nml viscos &ocean_mixdownslope_nml &ocean_model_nml &ocean_nphysics_nml &ocean_nphysics_util_nml agm_i			1200	150
	•		6, 5 48, 40	10, 15 80, 75
&ocean_nphysics_nml			False	False
			False	False
&ocean_nphysics_util_nml			100.0	100.0
	agm_closure_eden_greatbatch			
			4000	400.0
			100.0	100.0
	agm_smooth_space	False		
			Falsa	Falsa
			False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True		
	debug_this_module	False		
	gm_skewsion_bvproblem	True		
	gm_skewsion_modes	False		
	neutral_eddy_depth neutral_physics_limit	True True		
	number_bc_modes	2		
	regularize_psi	False		
	smax_psi smooth_psi	0.01 True		
	3moun-par	iiuc		

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

2 Changes in new ACCESS-OM2 configs

2.1 accessom2_1deg_jra55_ryf

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

Group	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
&fms_nml	domains_stack_size		115200
			True
&mpp_io_nmi			5 1
&ocean_albedo_nml			2
	·		False
&ocean_bbc_nml	•		True
Woodingsocalinit			0.007
	cdbot_law_of_wall	False	
	cdbot_roughness_length		False
	cdbot_roughness_uamp		True
	uresidual		0.05
&ocean_bbc_ofam_nml		False	
		1.0	
&ocean_bihgen_friction_nml		True	False
ean_bihgen_friction_nml ean_convect_nml ean_density_nml ean_domains_nml ean_form_drag_nml ean_frazil_nml ean_frazil_nml ean_increment_eta_nml		0.04	True
		0.01 0.04	0.0
		0.04	0.0 1.0
&ocean convect nml		False	1.0
nin.obukhov.ml neutral p.in.ml deflate_level an.albedo.ml ocean.albedo.pnid an.bedot.ml zero.tendency an.betor.ml m.bibc.ml dobt.law.of wall cdbt.ml dobt.law.of wall cdbt.ml dobt.law.of wall cdbt.ml dobt.nam.nl restd.des.speed uresidual_max uresidual_max an.bibgen_friction.ml bottom_Spoint ncar_boundary.scaling_read vel.micom_bottom vel.micom_bottom vel.micom_bottom an.convect.nnl convect.full_vector an.density.nml convect.full_vector an.density.nml reutralino.mxi an.density.nml germantino.mxi an.form.gaml convect.full_vector feezing.temp freezing.temp.preteos10 feezing.temp freezing.temp.preteos10 feezing.temp freezing.temp.preteos10 feezing.temp.simple reat.not.proment an.increment.tracer.nml days.to.increment freezing.temp.simple reat.not.proment	True		
&ocean density nml		1030.0	1038.0
a contraction of the contraction		1020.0	1028.0
&ocean_domains_nml		10	5
		0.6	
&ocean_frazil_nml			False
	frazil_only_in_surface		False
	freezing_temp_preteos10		True
	freezing_temp_simple	True	False
&ocean_grids_nml		True	False
		False	
&ocean_increment_eta_nml		0	
		1.0	
Sacran increment tracer and		1800 0	
ocean_bbc_ofam_nml ocean_bihgen_friction_nml ocean_convect_nml ocean_density_nml ocean_domains_nml ocean_form_drag_nml ocean_frazil_nml ocean_frazil_nml ocean_increment_eta_nml ocean_increment_velocity_nml ocean_increment_velocity_nml ocean_operators_nml ocean_operators_nml ocean_overexchange_nml ocean_overflow_nml ocean_overflow_nml ocean_overflow_nml		1.0	
		1800	
&ocean increment velocity nml		0	
a continue and a cont		1.0	
		1800	
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom		False
&ocean_operators_nml			False
&ocean_overexchange_nml	overexch_check_extrema	False	
&ocean_overflow_nml		False	
&ocean_overflow_ofp_nml		·	False
&ocean_pressure_nml	· · · · · · · · · · · · · · · · · · ·		False
&ocean_rivermix_nml		False	True
0	river_diffuse_temp	False	True
	use_this_module	True	False 'holiaars'
	rough_scheme		'beljaars'
Øncequi=20C=1IIIIf	calvingspread do_bitwise_exact_sum		False False
	do_fitwise_exact_sum do_flux_correction		False
	land_model_heat_fluxes		False
	max_ice_thickness	8.0	0.0
	salt_correction_scale	0.0	0.0
	salt_restore_tscale	15.0	60.0
	temp_restore_tscale	-1.0	-10.0
	use_full_patm_for_sea_level		False
	waterflux_tavg	False	
	zero_net_salt_correction		False
	zero_net_water_correction		False
&ocean_sbc_ofam_nml	restore_mask_ofam	False	

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
	river_temp_ofam	False	
&ocean_shortwave_csiro_nml	read_depth		F-1
	use_this_module zmax_pen	hogg_acces- som2 1deg jra55_ryf input.nml False True True 7000 False False False False False False False False True 1 × 10 ⁻⁶ True 0.01 True True 0.01 True True 0.05 False False False True True 0.05 False False False False False True True 0.05 False	False
&ocean_shortwave_gfdl_nml	optics_morel_antoine	7000	False
	read_chl	False	True
	sw_pen_fixed_depths		
			True
8 ocean shortwaye ami	·		300.0 False
&ocean_Shortwave_tillif			True
			nuc .
	sw_pen_fixed_depths use_this_module Talse use_this_module Talse zmax_pen 200.0 use_shortwave_csiro True use_shortwave_gfdl False Sigma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_sigma_velocity True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0 thickness_sigma_min 100.0 tmask_sigma_on False tracer_mix_micom True use_this_module True vel_micom 0.05 debug_this_module False		
	smooth_sigma_thickness		
	thickness_sigma_min		
		False	
			False
O access and a grad			
		raise	0.05
COCCATI_SUUTICSOSCATC_TITIE			True
			4
			True
			3
			False
			True
			True True
			False
			True
	submeso_diffusion_scale		10.0
	submeso_limit_flux	True	
	submeso_skew_flux		True
	use_psi_legacy		False
&ocean_tempsalt_nml	pottemp_equal_contemp		True
	s_max ·		70.0
	s_min s_min_limit		0.0 2.0
	S_min_timit t_min		- 20.0
	t_min_limit		-20.0 -5.0
	temperature_variable		'potential
			temp'
			temp
&ocean_thickness_nml	initialize_zero_eta	False	temp
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask	False	·
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod	False False	False
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label	False False 7.0	·
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl	False False 7.0 False	·
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value	False False 7.0 False 0.75	·
&ocean_thickness_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl	False False 7.0 False 0.75 1.0	·
	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min	False False 7.0 False 0.75 1.0 2.0	·
&ocean_topog_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min_init	False False 7.0 False 0.75 1.0 2.0	·
&ocean_topog_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update	False False 7.0 False 0.75 1.0 2.0	False
&ocean_topog_nml &ocean_tracer_advect_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask	False False 7.0 False 0.75 1.0 2.0 25.0 True True	False
&ocean_thickness_nml &ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days	False False 7.0 False 0.75 1.0 2.0 25.0 True True	False False 30.0
&ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity	False False 7.0 False 0.75 1.0 2.0 25.0 True True	False False 30.0 False
&ocean_topog_nml &ocean_tracer_advect_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity zero_tendency_explicit_a	False False 7.0 False 0.75 1.0 2.0 25.0 True True	False False 30.0 False False
&ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity zero_tendency_explicit_a zero_tendency_explicit_b	False False 7.0 False 0.75 1.0 2.0 25.0 True True	False False 30.0 False False False False
&ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_velocity_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity zero_tendency_explicit_a zero_tendency_explicit_b zero_tendency_implicit	False False 7.0 False 0.75 1.0 2.0 25.0 True True 1.0 True	False False 30.0 False False
&ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_velocity_nml &ocean_vert_kpp_mom4p0_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity zero_tendency_explicit_a zero_tendency_explicit_b zero_tendency_implicit use_this_module	False False 7.0 False 0.75 1.0 2.0 25.0 True True 1.0 True False	False False 30.0 False False False False
&ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_velocity_nml	initialize_zero_eta read_rescale_rho0_mask rescale_mass_to_get_ht_mod rescale_rho0_basin_label rescale_rho0_mask_gfdl rescale_rho0_value thickness_dzt_min_init min_thickness advect_sweby_all async_domain_update read_basin_mask tracer_conserve_days truncate_velocity zero_tendency_explicit_a zero_tendency_explicit_b zero_tendency_implicit	False False 7.0 False 0.75 1.0 2.0 25.0 True True 1.0 True	False False 30.0 False False False False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
	afkph_90	0.75	
	bryan_lewis_lat_depend	True	False
	bryan_lewis_lat_transition	35.0	
	dfkph_00	1.15	
	dfkph_90	0.95	
	hwf_diffusivity		False
	hwf_min_diffusivity		2×10^{-6}
	hwf_n0_2omega		20.0
	linear_taper_diff_cbt_table	False	
	sfkph_00	4.5×10^{-5}	
	sfkph_90	4.5×10^{-5}	
	zfkph_00	250 000.0	
	zfkph_90	250 000.0	
&ocean_vert_tidal_nml	background_diffusivity	5 × 10 ⁻⁶	0.0
	decay_scale drag_dissipation_use_cdbot	300.0	500.0 True
	drag_dissipation_use_codot drhodz_min	1×10^{-12}	1×10^{-10}
	max_drag_diffusivity	0.01	1 × 10
	roughness_scale	20 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0
	use_legacy_methods	100.0	False
&ocean_xlandinsert_nml	verbose_init	True	
&ocean_xlandmix_nml	verbose_init	True	
	xlandmix_kmt	True	
&xgrid_nml	nsubset		16

$2.2 \quad accessom2_025 deg_jra55_ryf$

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

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

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml
	smooth_velmicom	0.2	
	thickness_sigma_layer	100.0	
	thickness_sigma_max	100.0	
	thickness_sigma_min	100.0	
	tmask_sigma_on	False	
	tracer_mix_micom	True	
	vel_micom	0.05	
&ocean_sponges_tracer_nml	damp_coeff_3d	False	
&ocean_thickness_nml	thickness_dzt_min	2.0	
	thickness_dzt_min_init	10.0	
&ocean_velocity_nml	max_cgint	1.5	1.0
&surface_flux_nml	ncar_ocean_flux	True	
	raoult_sat_vap	True	

$2.3 \quad accessom2_01deg_jra55_ryf$

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

&diag_manager_nml debug_diag_manager sissue_oor_warnings issue_oor_warnings max_aves and max_aves and max_aves and max_aves and max_intex in the max_inte	Group	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
SSUE.OF. WARTERS True Max. Aues Ma	&auscom_ice_nml	dt_cpl	150	600
Mary Name Mary	&diag_manager_nml	debug_diag_manager		True
Max. Input. fields		issue_oor_warnings		True
Max. Input., fields 700 Max. Chunu., axils. seet 40 &firms. io. mil chcksum., required max. files. r. 700 &firms. io. mil chcksum., required max. files. r. 700 &firms. mil print, memory, usage False &generic. tracer. nml do., generic. tracer False & one penetric. tracer. mil do., generic. tracer False & ocean. advection. velocity, mil max. advection. selocity. vi. vi. vi. vi. micron 70 & ocean. advection. velocity, mil max. advection. selocity. vi. vi. vi. vi. vi. vi. vi. vi. vi. vi				
Max cuturu, fields 40 &fms_io_nml checksum_required False Afms_io_nml checksum_required False Afms_mml print_memory_usage False &generic_tracer_nml dogeneric_topaz False &generic_tracer False dogeneric_topaz False &coean_abortorigic_nml max_advection_velocity 0.2 0.5 &coean_abortorigic_nml vel_micom_lap_aliag 0.5 0.2 &coean_abortorigic_nml vel_micom_lap_aliag 0.5 0.2 &coean_babortorigic_nml vel_micom_lap_aliag 0.5 0.2 &coean_babortorigic_nml vel_micom_lap_aliag 0.5 0.2 &coean_overtion_ml convect_full_vector False &coean_mixedownstope_nml debug_this_module False &coean_overtion_ml debug_this_module False &coean_overtion_origin_ml debug_this_module False &coean_overtion_origin_ml debug_this_module False &coean_overtion_origin_ml debug_this_module False				
&fms.io.nml max.output.felds checksum.required max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r max.flies.r flies do_generic.tracer.nml do_generic.tracer flate do_generic.tracer flate do_generic.tracer flate do_generic.tracer 				
&fms_io_nml checksum_required max_fles_w False max_fles_w 700 &fms_mml print_memory_usage False &generic_tracer.nml do_generic_cric False do_generic_tracer False do_generic_tracer do_generic_tracer False do_generic_tracer &cean_abortorioic_nml wel_micom_lap_diag 0.5 0.2 &cean_babtropic_nml vel_micom 0.001 vel_micom vel_micom vel_micom 0.002 vel_micom vel_micom<				
defines minimate max.files x mode 700 max.files x mode				
Kins.nml max.files ww 700 &generic.tracer.nml do.generic.tracer False &generic.tracer.ml do.generic.tracer False &cean_advection.velocity.nml max.advection.velocity 0.2 0.5 &cean_advection.velocity.nml vel.micom.pap.dig 0.5 0.2 &cean_bibl.tracer.nml tracer.mix.micom True vel.micom.pap.dig 0.5 0.2 &cean_convect.nml convect.full.vector False 0.0	&fms_io_nml			
&Instrument print_memory_usage False & generic_tracer_nml do_generic_tracer_rale false do_generic_tracer_rale & cosean_advection_velocity_nml max_advection_velocity_velocity Q				
&generic Lracer nml do .genericcfc ob .genericc				
do generic.topar (dogeneric.topar	&fms_nml			
Scorean.advection.velocity.nml do. generic.tracer False & Cocean.advection.velocity.nml vel_micom.lap.diag 0.5 0.2 0.5 0.5 0.2 0.5 0.0 0.0 0.0 0.0 0.0 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0 0.00 0.00 0.0 0.0 0.0 0.0 0.0 0.00 0.0	&generic_tracer_nml			
&cocean_advection_velocity_nml max_advection_velocity 0.2 0.5 &cocean_barotropic_nml vel_micom_lap_diag 0.5 0.2 &cocean_barotropic_nml true vel_micom 0.001 &cocean_barotropic_nml convect_full_scalar on vel_micom True &cocean_lagen_friction_nml k.smag_iso 2.0 &cocean_mixdownslope_nml debug_this_module False &cocean_mylysics_util_nml smax 0.002 &cocean_overflow_nml debug_this_module False &cocean_overflow_nml debug_this_module False &cocean_overflow_ofp_nml debug_this_module False &cocean_overflow_ofp_nml debug_this_module False &cocean_iverspread_nml debug_this_module False &cocean_iverspread_nml debug_this_module False &cocean_sigma_transport_nml sigma_advection_sqs_only False &cocean_sigma_transport_nml sigma_advection_sqs_only False &cocean_sigma_transport_nml sigma_diffusion_on False &cocean_sigma_transport_nml sigma_dif				
&ocean_bin_trracer_nml vel_micom_lap_diag 0.5 0.2 &ocean_bin_trracer_nml trracer_mix_micom vel_mix True vel_mix &ocean_convect_nml convect_full_scalar convect_full_vector True convect_full_vector &ocean_lapgen_friction_nml &.k.smag_iso 2.0 &ocean_mixdownslope_nml debug_this_module False &ocean_model_nml smax 0.002 &ocean_overflow.nml debug_this_module False &ocean_overflow.ofp_nml debug_this_module False &ocean_overflow.ofp_nml debug_this_module False &ocean_overflow.ofp_nml debug_this_module False &ocean_inverspread.nml debug_this_module False &ocean_inverspread.nml debug_this_module False &ocean_sigma_transport_nml debug_this_module False &ocean_sigma_transport_nml sigma_adevection_sp.only False &ocean_sigma_transport_nml sigma_adevection_sp.only False &ocean_sigma_transport_nml sigma_unex to 10-6 &ocean_sigma_transport_nml sigma_unex to				
&ocean_bih_tracer_nml tracer_mix_micom vel_micom up_mix_micom vel_micom up_mix_micom up_mix_micom up_mix_micom up_mix_micom up_mix_micom up_mix_micom up_mix_mix_micom up_mix_mix_micom up_mix_mix_mix_mix_mix_mix_mix_mix_mix_mix	•	•		
&ccean_convect_nml convect_full_scalar convect				0.2
&ocean_convert_nml convert_full_scalar convect_full_scalar convect	&ocean_bih_tracer_nml			
&coean_lappen_friction_nml k_smag_iso 2.0 &coean_mixdownstope_nml debug_this_module False &coean_model_nml cmip_units True &coean_nophysics_util_nml smax 0002 &coean_overflow_nml debug_this_module False &coean_overflow_ofp_nml debug_this_module False &coean_overflow_ofp_nml de_unss_ofp True &coean_overflow_ofp_nml frac_exchange_src 1.0 do_entrainment_para_ofp False sigma_advection_on False sigma_advection_on True <				
&ocean_lapgen_friction_nml k_smag_iso 2.0 &ocean_mixdownslope_nml debug_this_module False &ocean_model_nml cmip_units True &ocean_nphysics_util_nml smax 0.002 &ocean_overflow_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False do_mass_ofp True False do_mass_ofp True True frac_exchange_src 1.0 10 000 000.0 &ocean_riverspread_nml debug_this_module False &ocean_sigma_transport_nml sigma_advection_on False &ocean_sigma_transport_nml sigma_advection_on False &ocean_sigma_transport_nml sigma_advection_on True False &ocean_sigma_transport_nml sigma_advection_on True False &ocean_sigma_transport_nml sigma_inffusion_on True True sigma_just_in_bottom_cell True sigma_unax Ool sigma_unax Ool True sigma_inffusion_on True	&ocean_convect_nml			
&ocean_mixidownslope_nml debug_this_module corean_nodel_nml False corean_nodel_nml True &ocean_nphysics_util_nml smax swidth 0,002 0,002 swidth 0,002 0,002 swidth 0,002 swidth 0,002 swidth 0,002 swidth 0,002 swidth 0,002 swidth 0,002 swidth 0,002 swidth 0,000 swid				
&ocean_model_nml cmip_units True &ocean_nphysics_util_nml smax 0.002 &ocean_overflow_niml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False do_entrainment_para_ofp False True do_entrainment_para_ofp False 1.0 do_mass_ofp True True frac_exchange_src 1.0 1.0 max_vol_trans_ofp Toue False &ocean_riverspread_nml debug_this_module True False &ocean_sigma_transport_nml sigma_advection_on False sigma_advection_on Talse False sigma_diffusion_on True False sigma_diffusion_on True False sigma_diffusion_on True False sigma_iust_in_bottom_cell True True sigma_iust_in_bottom_cell True False sigma_iust_in_bottom_cell True False smooth_sigma_velocity True False	&ocean_lapgen_friction_nml			
&ocean_nphysics_util_nml smax swidth swidth 0,002 &ocean_overflow_nml debug_this_module debug_this_module false debug_this_module diag_step 5760 do_entrainment_para_ofp fac_exchange_src do_mass_ofp frac_exchange_src frac_exchange_src do_mass_ofp frac_exchange_src frac_exchange_src frac_exchange_src debug_this_module step frac_exchange_src frac_exchange_src debug_this_module step frac_exchange_src frac_		debug_this_module	False	
&ocean_overflow_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False do_entrainment_para_ofp False do_mass_ofp True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 &ocean_riverspread_nml debug_this_module True &ocean_sigma_transport_nml sigma_advection_sgs_only False &ocean_sigma_diffusion_on True False sigma_diffusivity_ratio 1 × 10^-6 rue sigma_just_in_bottom_cell True rue sigma_umax 0.01 rue smooth_sigma_velocity True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 1000 thickness_sigma_layer 1000 thickness_sigma_layer 1000	&ocean_model_nml	cmip_units		True
&ocean_overflow_nml debug_this_module debug_this_module diag_step False diag_step &ocean_overflow_ofp_nml false_step 5760 do_entrainment_para_ofp False do_mass_ofp True frac_exchange_src 1.0 True frac_exchange_src 1.0 True &ocean_riverspread_nml debug_this_module suse_this_module rule False &ocean_sigma_transport_nml sigma_advection_on sigma_advection_on sigma_advection_on sigma_advection_on sigma_advection_sgs_only sigma_advection_sgs_only sigma_advection_sgs_only sigma_advection_sgs_only sigma_advection_cell sigma_advection_cell sigma_umax on the sigma_thickness sigma_umax on the sigma_thickness sigma_thickness sigma_thickness rule	&ocean_nphysics_util_nml			
&ocean_overflow_ofp_nml debug_this_module diag_step 5760 do_entrainment_para_ofp False do_mass_ofp False do_mass_ofp do_mas_vol_trans_ofp True False do_mas_vol_trans_ofp &ocean_riverspread_nml debug_this_module use_this_module use_this_this_module use_this_module use_this_this_module use_this_this_module use_this_thi				
diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 000.0			False	
do_entrainment_para_ofp do_mass_ofp frac_exchange_src max_vol_trans_ofp to 000000000000000000000000000000000000	&ocean_overflow_ofp_nml			
do_mass_ofp frac_exchange_src max_vol_trans_ofpTrue 1.0 10 000 000.0& cocean_riverspread_nmldebug_this_module use_this_module use_this_module use_this_module use_this_module sigma_advection_on sigma_advection_sgs_only sigma_diffusion_on sigma_diffusivity_ratio sigma_diffusivity_ratio sigma_int_in_bottom_cell sigma_umax sigma_umax sigma_umax smooth_sigma_velocity smooth_velmicom smooth_velmicom thickness_sigma_layer thickness_sigma_max thickness_sigma_maxTrue smooth_velmicom thickness_sigma_max thickness_sigma_max		diag_step	5760	
frac_exchange_src max_vol_trans_ofp 10 000 0000 & ocean_riverspread_nml				
&ocean_riverspread_nml debug_this_module use_this_module use_thi				
&ocean_riverspread_nml debug_this_module use_this_module use_thi				
&ocean_sigma_transport_nml use_this_module True False &ocean_sigma_advection_nom False sigma_advection_sgs_only False sigma_adiffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0		·	10 000 000.0	
&ocean_sigma_transport_nml sigma_advection_on False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0	&ocean_riverspread_nml			
sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				False
sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0	&ocean_sigma_transport_nml			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
sigma_umax 0.01 smooth_sigma_thickness True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
smooth_velmicom 0.2 thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
thickness_sigma_layer 100.0 thickness_sigma_max 100.0				
thickness_sigma_max 100.0				
thickness_sigma_min 100.0				
		thickness_sigma_min	100.0	

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

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

Group	Variable	original/ hogg_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	False	False	False	False	False	False
	do_ice_once	False	False	False	False	False	False
	<mark>dt_cpl</mark> fixmeltt	3600 False	3600 False	1200 False	1800 False	150 False	600 False
	frazil_factor	1.0	1.0	1.0	1.0	1.0	1.0
	iceform_adj_salt	False	False	False	False	False	False
	icemlt_factor	1.0	1.0	1.0	1.0	1.0	1.0
	kmxice	5	5	5	5	5	5
	pop_icediag	True	True	True	True	True	True
	redsea_gulfbay_sfix	True	True	4.0	4.0	4.0	4.0
	sign_stflx	1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216
	tmelt use_ioaice	—0.216 True	—0.216 True	—0.216 True	—0.216 True	—0.216 True	—0.216 True
&bg_diff_lat_dependence_nml	bg_diff_eq	1×10^{-6}	1×10^{-6}	iiue	iiue	iiue	iiuc
aby_am_tat_acpendence_min	lat_low_bgdiff	20.0	20.0				
&diag_manager_nml	debug_diag_manager	20.0	True	True	True		True
3	issue_oor_warnings	False	True	True	True	False	True
	max_axes						
	max_files						
	max_input_fields max_num_axis_sets					700 700 multi' 'multi' 'r multi' 'multi' 'r .00P' 'LOOP' 'L	
	max_output_fields						
&fms_io_nml	checksum_required						
	fileset_write	'single'	'single'	'single'	'multi'		'multi'
	max_files_r	,	,	,			
	max_files_w						
	threading_read	'multi'	'multi'	'multi'	'multi'		'multi'
0.5	threading_write	'single'	'single'	'single'			'multi'
&fms_nml	clock_grain domains_stack_size	'LOOP'	'LOOP' 115200	'LOOP'	115200		'LOOP' 115200
	print_memory_usage		113200		113200		113200
&generic_tracer_nml	do_generic_cfc						
	do_generic_topaz					False	
9 man assis7 interfess and	do_generic_tracer	' A'	' A'	' A'	' A'		' A'
&mom_oasis3_interface_nml	fields_in	'u_flux', 'v_flux',	'u_flux', 'v_flux',	'u_flux', 'v_flux',	'u_flux', 'v_flux',		'u_flux', 'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',		'lprec', 'fprec',
		'salt_flx',	'salt_flx',	'salt_flx',	'salt_flx',		'salt_flx',
		'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',
		'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',	'q_flux',	'q_flux',		'q_flux',
		't_flux',	't_flux',	't_flux',	't_flux',		't_flux',
		'lw_flux', 'runof', 'p',	'lw_flux', 'runof', 'p',	'lw_flux', 'runof', 'p',	'lw_flux', 'runof', 'p',	False 'u_flux', 'i 'v_flux', '' 'lprec', 'fprec', 'lprec', 'salt_flx', 'sa 'mh_flux', 'ml 'sw_flux', 'sv 'q_flux', 't 't_flux', 'lw_flux', 'lv	'lw_flux', 'runof', 'p',
		'aice',	runor, p, 'aice',	runor, ρ, 'aice',	runor, ρ, 'aice',	runor, ρ, 'aice',	runor, p, 'aice',
		'wfimelt',	wfimelt',	wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',
		'wfiform'	'wfiform'	'wfiform'	'wfiform'	'wfiform'	'wfiform'
	fields_out	't_surf',	't_surf',	't_surf',	't_surf',	't_surf',	't_surf',
		's_surf',	's_surf',	's_surf',	's_surf',	's_surf',	's_surf',
		'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',
		'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',
		'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',
		'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'
		'frazil' 15	'frazil' 15	rrazil 15	rrazil 15	rrazii 15	frazit 15
	num fields in		1)	7	7	7	7
	num_fields_in num_fields_out		7	/			,
	num_fields_in num_fields_out send_after_ocean_update	7 True	7 True			True	True
	num_fields_out	7	7 True False	True False	True False		True False
&monin_obukhov_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral	7 True	True	True	True	True	
&monin_obukhov_nml &mpp_io_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level	7 True	True False True 5	True False	True False True 5	True False True 5	False True 5
&mpp_io_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle	7 True False	True False True 5 1	True False True	True False True 5 1	True False True 5 1	False True 5 1
	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step	7 True False	True False True 5 1 4320	True False True 4320	True False True 5 1 4320	True False True 5 1	False True 5 1 576
&mpp_io_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value	7 True False 4320 10.0	True False True 5 1 4320 10.0	True False True 4320 10.0	True False True 5 1 4320 10.0	True False True 5 1 576 100	False True 5 1 576 10.0
&mpp_io_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step	7 True False	True False True 5 1 4320	True False True 4320	True False True 5 1 4320	True False True 5 1	False True 5 1 576
&mpp_io_nml	num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value	7 True False 4320 10.0 100.0	True False True 5 1 4320 10.0 100.0	True False True 4320 10.0 100.0	True False True 5 1 4320 10.0 100.0	True False True 5 1 576 10.0 100.0	False True 5 1 576 10.0 100.0

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 use_legacy_barotropic_halos	False False	False False	False False	False False	False False	False False
	use_legacy_barotropic_natos vel_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01
	vel_micom_lap	0.05	0.05	0.05	0.05	0.05	0.05
	vel_micom_lap_diag	0.2	0.2	0.2	0.2	0.5	0.2
	verbose_truncate	True	True	True	True	True	True
Rosean bhe nml	zero_tendency		False	False	False	False	False
&ocean_bbc_nml	bmf_implicit cdbot	0.001	True 0.001	True 0.001	True 0.001	True 0.001	True 0.001
	cdbot_hi	0.001	0.007	0.007	0.001	0.007	0.007
	cdbot_law_of_wall	False					
	cdbot_roughness_length		False	False	False	False	False
	cdbot_roughness_uamp		True 0.05	True 0.05	True 0.05	True 0.05	True 0.05
	uresidual use_geothermal_heating	False	0.05 False	0.05 False	0.05 False	0.05 False	False
&ocean_bbc_ofam_nml	read_tide_speed	False	i alse	i alse	1 0130	raise	1 disc
	uresidual2_max	1.0					
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom			True		True	
	use_this_module	False	False	False	False	False	False
&ocean_bihcst_friction_nml	vel_micom use_this_module	False	False	0.001 False	False	0.001 False	False
&ocean_bihgen_friction_nml	bottom_5point	True	False	False	False	False	False
	eq_lat_micom	0.0	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0	0.0
	equatorial_zonal	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0
	к_smag_aniso k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True	True	True	True
	ncar_boundary_scaling_read		True	True	True	True	True
	ncar_rescale_power	2	2	2	2	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5 use_this_module	5 True	5 True	5 True	5 True	5 True	5 True
	vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	0.0
	vel_micom_bottom	0.01	0.0	0.0	0.0	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0	0.0	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0	1.0	1.0	1.0
&ocean_convect_nml	convect_full_scalar convect_full_vector	False True		True False		True False	
	use_this_module	False	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5	0.5
	use_this_module	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False	False	False	False	False	False
	eos_preteos10	True	True	True	True	True	True
	layer_nk neutralrho_max	80 1030.0	80 1038.0	80 1038.0	80 1038.0	80 1038.0	80 1038.0
	neutralrho_min	1030.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
&ocean_domains_nml	max_tracers	10	5	5	5	5	5
&ocean_form_drag_nml	cprime_aiki	0.6		F 1	F 1	F 1	F. 1
&ocean_frazil_nml	use_this_module debug_this_module	False	False False	False False	False False	False False	False False
COCCOLLINGZILLIIIII	debug_tnis_module frazil_only_in_surface		False	False	False False	False False	False False
	freezing_temp_preteos10		True	True	True	True	True
	freezing_temp_simple	True	False	False	False	False	False
	use_this_module	True	True	True	True	True	True
&ocean_grids_nml	debug_this_module	True	False	False	False	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	read_rho0_profile	False					
&ocean_increment_eta_nml	days_to_increment fraction_increment	0 1.0					
	secs_to_increment	1800					
	use_this_module	False	False	False	False	False	False
&ocean_increment_tracer_nml	days_to_increment	0					
	fraction_increment secs_to_increment	1.0 1800					
	use_this_module	False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	0					
	fraction_increment	1.0					
	secs_to_increment use_this_module	1800 False	False	False	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False	False	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False	False	False	False	False
&ocean_lapgen_friction_nml	bottom_5point k_smag_aniso	True 0.0	True 0.0				
	k_smaq_iso	0.0	0.0	2.0		2.0	
	ncar_only_equatorial	True	True	An 100		210	
	restrict_polar_visc	True	True				
	restrict_polar_visc_lat	60.0	60.0 0.35				
	restrict_polar_visc_ratio use_this_module	0.35 True	0.55 True	False	False	False	False
	vconst_1	8 000 000.0	0.000 000 8	ratsc	ratsc	Tutse	ruisc
	vconst_2	0.0	0.0				
	vconst_3	0.8	0.8				
	vconst_4 vconst_5	5×10^{-9}	5×10^{-9}				
	vconst_6	300 000 000.0	300 000 000.0				
	vconst_7	100.0	100.0				
	vel_micom_iso	0.1	0.1				
	viscosity_ncar	True	True				
	viscosity_ncar_2000 viscosity_ncar_2007	False True	False True				
	viscosity_ncal_2007 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 True	80 True	80 True	80 True	80	80 True
	<mark>cmip_units</mark> debug	False	False	False	False	False	False
	dt_ocean	3600	3600	1200	1200	150	150
	io_layout	4, 3	4, 3	6, 5	6, 5	10, 15	10, 15
	layout	16, 15	16, 15	48, 40	48, 40	80,75	80,75
	surface_height_split time_tendency	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 '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
&ocean_nphysics_nml	use_this_module debug_this_module	True False	True False	True False	True False	True False	True False
QUCEAT_TIPMYSICS_TIME	use_nphysicsa	False	False	False	False	False	False
	use_nphysicsb	False	False	False	False	False	False
	use_nphysicsc	True	True	False	False	False	False
&ocean_nphysics_util_nml	use_this_module	True 600.0	True 600.0	False 100.0	False 100.0	False 100.0	False 100.0
Accent_nphysics_util_nnt	<mark>agm</mark> agm_closure	True	True	True	True	True	True
	agm_closure_baroclinic	True	True	True	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed	True	True				
	agm_closure_eady_cap agm_closure_eady_smooth_horz	True True	True True				
	agm_closure_eady_smooth_vert	True	True				
	agm_closure_eden_gamma	0.0	0.0				
	agm_closure_eden_greatbatch	False	False				
	agm_closure_grid_scaling	True 50,000,0	True 50,000,0	50 000 0	50,000,0	50 000 n	50 000.0
							False
	<pre>agm_closure_grid_scaling agm_closure_length agm_closure_length_bczone</pre>	True 50 000.0 False	True 50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False	

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input_nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input_nml	new_acces- som2 01deg jra55_ryf input.nml
	agm_closure_length_fixed agm_closure_length_rossby	False False	False False	False False	False False	False False	False False
	agm_closure_lower_depth	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
	agm_closure_max	600.0	600.0	600.0	600.0	600.0	600.0
	agm_closure_min	50.0	50.0	100.0	100.0	100.0	100.0
	agm_closure_scaling	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0
	agm_closure_upper_depth 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	False
	drhodz_mom4p1 drhodz_smooth_horz	True False	True False	False	False False	False False	False False
	drhodz_smooth_vert	False	False	False	False	False	False
	nphysics_util_zero_init	True	True				
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax swidth			0.002 0.002		0.002 0.002	
	tracer_mix_micom	False	False	False	False	False	False
	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsb_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert 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 gm_skewsion_bvproblem	$1 imes 10^{-12}$ True	$1 imes 10^{-12}$ True				
	gm_skewsion_modes	False	False				
	neutral_eddy_depth	True	True				
	neutral_physics_limit	True	True				
	number_bc_modes	2	2				
	regularize_psi smax_psi	False 0.01	False 0.01				
	smooth_psi	True	True				
	tmask_neutral_on	True	True				
	turb_blayer_min	50.0	50.0				
	use_this_module	True	True	False	False	False	False
&ocean_operators_nml &ocean_overexchange_nml	use_legacy_div_ud debug_this_module	Falso	False	False	False	False	False
&ocean_overexchange_nint	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
2 accom avertless and	use_this_module	False	False	False	False	False	False
&ocean_overflow_nml	<mark>debug_this_module</mark> use_this_module	False False	False	False False	False	False False	False
&ocean_overflow_ofp_nml	debug_this_module	ruse	ruse	False	1 4130	False	Tube
	diag_step			4320		5760	
	do_entrainment_para_ofp			False		False	
	do_mass_ofp			True		True	
	frac_exchange_src max_vol_trans_ofp			1.0 10 000 000.0		1.0 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
	<pre>river_diffuse_temp river_diffusion_thickness</pre>	False	True	False	True	True	True
	river_diffusion_thickness river_diffusivity	0.0 0.0	0.0 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
	use_this_module	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module					False	
	use_this_module	True	False	False	False	True	False
&ocean_rough_nml	rough_scheme	-	'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True	True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	calvingspread		False False	False	False False	False False	False
	do_bitwise_exact_sum do_flux_correction		False	False False	False	False False	False False
	land_model_heat_fluxes		False	False	False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5	0.5	0.5	0.5
	max_ice_thickness	8.0	0.0	0.0	0.0	0.0	0.0
	read_restore_mask restore_mask_gfdl	False False	False False	False False	False False	False False	False False
	runoff_salinity	0.0	0.0	0.0	0.0	0.0	0.0
	salt_correction_scale		0.0	0.0	0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True	True	True	True
	salt_restore_tscale	15.0	60.0	60.0	60.0	60.0	60.0
	salt_restore_under_ice temp_restore_tscale	True — 1.0	True —10.0	True —10.0	True — 10.0	True —10.0	True —10.0
	use_full_patm_for_sea_level	1.0	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
	<pre>zero_net_salt_correction zero_net_salt_restore</pre>	True	False True	False True	False True	False True	False True
	zero_net_salt_restore zero_net_water_correction	irue	False	False	False	False	False
	zero_net_water_couple_restore	True	True	True	True	True	True
	zero_net_water_coupler	True	True	True	True	True	True
	zero_net_water_restore	True	True	True	True	True	True
	zero_surface_stress	False	False	False	False	False	False
&ocean_sbc_ofam_nml	zero_water_fluxes restore_mask_ofam	False False	False	False	False	False	False
Coccan_sbc_orani_nint	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
9	zmax_pen	7000	Falsa	7000	Falsa	Falas	F-I
&ocean_shortwave_gfdl_nml	debug_this_module enforce_sw_frac	False True	False True	False True	False True	False True	False True
	optics_manizza	True	True	True	True	True	True
	optics_morel_antoine		False	False	False	False	False
	read_chl	False	True	True	True	True	True
	sw_pen_fixed_depths	False	T	T	T	T	Т
	use_this_module zmax_pen	False 200.0	True 300.0	True 300.0	True 300.0	True 300.0	True 300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False	False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	True	False	False	False	False	False
	use_shortwave_gfdl	False	True	True	True	True	True
	use_shortwave_jerlov	False	False	False	False	False	False
Passan siama transport ami	use_this_module sigma_advection_on	True	True	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on sigma_advection_sqs_only	False False		False False		False False	
	sigma_diffusion_on	True		True		True	
	sigma_diffusivity_ratio	$1 imes 10^{-6}$		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 smooth_sigma_velocity	True True		True True		True True	
	smooth_velmicom	0.2		0.2		0.2	
	thickness_sigma_layer	100.0		100.0		100.0	
	thickness_sigma_max	100.0		100.0		100.0	
	thickness_sigma_min	100.0		100.0		100.0	
	tmask_sigma_on tracer_mix_micom	False		False True		False True	
		True True	False	False	False	False	False
	use mis modille	1100	. 4150	0.05	. 4150	0.05	1 4130
	use_this_module vel_micom	0.05		0.00			
&ocean_solo_nml	vel_micom calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	
&ocean_solo_nml	vel_micom calendar date_init	'NOLEAP' 1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
&ocean_solo_nml	vel_micom calendar date_init days	'NOLEAP' 1, 1, 1, 0, 0, 0 1460		'NOLEAP'			
&ocean_solo_nml	vel_micom calendar date_init <mark>days</mark> debug_this_module	'NOLEAP' 1, 1, 1, 0, 0, 0 1460 False	1, 1, 1, 0, 0, 0 1460	'NOLEAP' 1, 1, 1, 0, 0, 0 31	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
&ocean_solo_nml	vel_micom calendar date_init days debug_this_module dt_cpld	'NOLEAP' 1, 1, 1, 0, 0, 0 1460 False 3600	1, 1, 1, 0, 0, 0 1460 3600	'NOLEAP' 1,1,1,0,0,0 31 1200	1, 1, 1, 0, 0, 0 31 1200	1, 1, 1, 0, 0, 0 30 150	1,1,1,0,0,0 30 600
&ocean_solo_nml	vel_micom calendar date_init <mark>days</mark> debug_this_module	'NOLEAP' 1, 1, 1, 0, 0, 0 1460 False	1, 1, 1, 0, 0, 0 1460	'NOLEAP' 1, 1, 1, 0, 0, 0 31	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
&ocean_solo_nml	vel_micom calendar date_init days debug_this_module dt_cpld hours	'NOLEAP' 1,1,1,0,0,0 1460 False 3600 0 0	1,1,1,0,0,0 1460 3600 0	'NOLEAP' 1,1,1,0,0,0 31 1200 0 0 0	1,1,1,0,0,0 31 1200 0 0	1,1,1,0,0,0 30 150 0 0	1,1,1,0,0,0 30 600 0 0
&ocean_solo_nml	vel_micom calendar date_init days debug_this_module dt_cpld hours minutes months seconds	'NOLEAP' 1,1,1,0,0,0 1460 False 3600 0 0 0	1,1,1,0,0,0 1460 3600 0 0 0	'NOLEAP' 1,1,1,0,0,0 31 1200 0 0 0 0	1,1,1,0,0,0 31 1200 0 0 0	1,1,1,0,0,0 30 150 0 0 0	1,1,1,0,0,0 30 600 0 0
&ocean_solo_nml &ocean_sponges_eta_nml	vel_micom calendar date_init days debug_this_module dt_cpld hours minutes months	'NOLEAP' 1,1,1,0,0,0 1460 False 3600 0 0	1,1,1,0,0,0 1460 3600 0 0	'NOLEAP' 1,1,1,0,0,0 31 1200 0 0 0	1,1,1,0,0,0 31 1200 0 0	1,1,1,0,0,0 30 150 0 0	30 600 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	F-I	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		<u>З</u>	3 Falsa	3 Felse	3 False	3 Falsa
	submeso_advect_flux		False	False	False	False	False
	submeso_advect_limit submeso_advect_upwind		True True	True True	True True	True True	True True
	submeso_advect_zero_bdy		True	True	True	True	True
	submeso_diffusion		False	False	False	False	False
	submeso diffusion biharmonic		True	True	True	True	True
	submeso_diffusion_scale		10.0	10.0	10.0	10.0	10.0
	submeso_limit_flux	True	20.0	2010	20.0	20.0	20.0
	submeso_skew_flux		True	True	True	True	True
	use_hblt_equal_mld	True	True	True	True	True	True
	use_psi_legacy		False	False	False	False	False
	use_this_module	True	True	True	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	False	False	True	False
	pottemp_2nd_iteration	True	True	True	True	True	True
	pottemp_equal_contemp		True	True	True	True	True
	s_max	55.0	70.0	70.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0	42.0	42.0
	s_min	-1.0	0.0	0.0	0.0	0.0	0.0
	s_min_limit	0.0	2.0	2.0	2.0	2.0	2.0
	t_max t_max_limit	55.0 32.0	55.0 32.0	55.0 32.0	55.0 32.0	55.0 32.0	55.0 32.0
	t_min	-5.0 -5.0	-20.0	- 20.0	- 20.0	-20.0	-20.0
	t_min_limit	-2.0	-20.0 -5.0	-20.0 -5.0	-20.0 -5.0	-20.0 -5.0	-20.0 -5.0
	temperature_variable	'conservative	'potential	'potential	'potential	'potential	'potential
	temperature_runaste	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					
	rescale_mass_to_get_ht_mod		False	False	False	False	False
	rescale_rho0_basin_label	7.0					
	rescale_rho0_mask_gfdl	False					
	rescale_rho0_value	0.75		2.0		2.0	
	thickness_dzt_min	1.0		2.0		2.0	
	thickness_dzt_min_init thickness_method	2.0 'energetic'	'energetic'	10.0 'energetic'	'energetic'	10.0 'energetic'	'energetic'
&ocean_topog_nml	min_thickness	25.0	energetic	energetic	energetic	energetic	energetic
&ocean_tracer_advect_nml	advect_sweby_all	True					
Coccan_tracer_advect_nint	async_domain_update	True					
	debug_this_module	False	False	False	False	False	False
	read_basin_mask		False	False	False	False	False
&ocean_tracer_diag_nml	diag_step	4320	4320	4320	4320	576	576
	do_bitwise_exact_sum	False	False	False	False	False	False
	tracer_conserve_days	1.0	30.0	30.0	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0	0.0	0.0	0.0
	debug_this_module	False	False	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True	True	True
	frazil_heating_before_vphysics	False	False	False	False	False	False
	limit_age_tracer	True	True	True	True	True	True
	remap_depth_to_s_init	False	False	False	False	False	False
	use_tempsalt_check_range	True	True	True	True	True	True
	zero_tendency	False	False	False	False	False	False
9 accord valocity disc and	zero_tracer_source	False	False	False	False	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False 4320	False 4320	False 4320	False 576	False
	diag_step	4320 4320	4320 4320	4320 4320	4320 4320	576 5760	576 5760
	energy_diag_step large_cfl_value	4320 10.0	4320 10.0	4320 10.0	4520 10.0	10.0	10.0
	targe_crt_vatue max_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0
&ocean velocity nml	adams_bashforth_third						True
&ocean_velocity_nml	agams_bashfortn_third	True	True	True	True	True	irue

		hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	max_cgint	1.0	1.0	1.5	1.0	1.0	1.0
	truncate_velocity	True	False	False	False	False	False
	truncate_velocity_value truncate_verbose	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True
	zero_tendency	False	False	False	False	False	False
	zero_tendency_explicit_a	. 4.50	False	False	False	False	False
	zero_tendency_explicit_b		False	False	False	False	False
	zero_tendency_implicit		False	False	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False	False	False	False	False
&ocean_vert_kpp_mom4p0_nml &ocean_vert_kpp_mom4p1_nml	use_this_module diff_cbt_iw	False 0.0	0.0	0.0	0.0	0.0	0.0
Quean_vert_kpp_mom+p1_mm	diff_con_limit	0.0	0.0	0.0	0.0	0.0	0.0
	double_diffusion	True	True	True	True	True	True
	kbl_standard_method	False	False	False	False	False	False
	ricr	0.3	0.3	0.3	0.3	0.3	0.3
	smooth_blmc	False	False	False	False	False	False
	smooth_ri_kmax_eq_kmu use_this_module	True True	True True	True True	True True	True True	True True
	visc_cbu_iw	0.0	0.0	0.0	0.0	0.0	0.0
	visc_con_limit	0.1	0.0	0.0	0.0	0.0	0.0
&ocean_vert_mix_nml	afkph_00	0.65					
	afkph_90	0.75					
	aidif	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False	False	False	False
	bryan_lewis_lat_depend bryan_lewis_lat_transition	True 35.0	False	False	False	False	False
	dfkph_00	1.15					
	dfkph_90	0.95					
	hwf_diffusivity		False	False	False	False	False
	hwf_min_diffusivity		$2 imes 10^{-6}$	2×10^{-6}	2×10^{-6}	2×10^{-6}	2×10^{-6}
	hwf_n0_2omega		20.0	20.0	20.0	20.0	20.0
	linear_taper_diff_cbt_table	False					
	sfkph_00	4.5×10^{-5} 4.5×10^{-5}					
	<mark>sfkph_90</mark> use_diff_cbt_table	False	False	False	False	False	False
	vert_diff_back_via_max	True	True	True	True	True	True
	vert_mix_scheme	'kpp	'kpp	'kpp	'kpp	'kpp	'kpp
		mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'
	zfkph_00	250 000.0					
	zfkph_90	250 000.0					
&ocean_vert_tidal_nml	<pre>background_diffusivity background_viscosity</pre>	5×10^{-6} 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001
	decay_scale	300.0	500.0	500.0	500.0	500.0	500.0
	drag_dissipation_use_cdbot	300.0	True	True	True	True	True
	drhodz_min	$1 imes 10^{-12}$	1×10^{-10}	1×10^{-10}	1×10^{-10}	1×10^{-10}	1×10^{-10}
	fixed_wave_dissipation	False	False	False	False	False	False
	max_drag_diffusivity	0.01					
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01
	mixing_efficiency_n2depend	True	True	True	True	True	True
	read_roughness read_tide_speed	True True	True True	True True	True True	True True	True True
	read_wave_dissipation	False	False	False	False	False	False
	reading_roughness_amp	True	True	True	True	True	True
	reading_roughness_length	False	False	False	False	False	False
	roughness_scale	20 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0
	tide_speed_data_on_t_grid	True	True True	True True	True	True	True True
	use_drag_dissipation use_legacy_methods	True	rue False	False	True False	True False	False
	use_this_module	True	True	True	True	True	True
	use_wave_dissipation	True	True	True	True	True	True
	wave_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False	False	False	False	False
O	verbose_init	True	F :	F :	F .	F :	
&ocean_xlandmix_nml	use_this_module	False	False	False	False	False	False
QUCEATI_Xtariumix_mit	verbose_init	True					
&ocean_xtanumix_mit	vlandniv limt						
	xlandmix_kmt	True				Truo	
&sat_vapor_pres_nml	show_all_bad_values	Irue		True		True True	
		irue		True True		True True True	

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

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 ai	ce_cutoff					, parameter	0.15	0.15	0.15	0.15
	2o_fields						False	False	False	False
	o2i_fields						False	False	False	False
do.	_ice_once						False	False	False	False
	dt_cpl						3600 Felse	3600	1800	600
fra	fixmeltt zil_factor						False 1.0	False 1.0	False 1.0	False 1.0
	ı_adj_salt						False	False	False	False
	nlt_factor						1.0	1.0	1.0	1.0
	kmxice						5	5	5	5
	p_icediag						True	True	True	True
redsea_gu							4.0	True	4.0	4.0
	sign_stflx tmolt						1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216
ii ii	tmelt se_ioaice						—0.216 True	—0.216 True	—0.216 True	—0.216 True
&bg_diff_lat_dependence_nml	3C_IOGICC						1×10^{-6}	1×10^{-6}	nuc	nuc
bg_diff_eq	1:00						20.0	20.0		
	nos_npes	0	0	0	0	0	20.0	20.0		
	nthreads	4	U	U	U	U				
	calendar	'NOLEAP'	'NOLEAP'	'noleap'	'noleap'	'noleap'				
che	ck_stocks	0	0	0	0	0				
	oncurrent	True	False	False	False	False				
curi	rent_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 do_atmos	0 True	2 False	0 False	365 False	1 False				
(do_flux	True	raise	raise	raise	False				
	do_ice	True	True	True	True	True				
	do_land	True	False	False	False	False				
l l	do_ocean	True	True	True	True	True				
	dt_atmos	1800	7200	3600	1800	1800				
	dt_cpld	7200	7200	3600	1800	1800				
nc.	months	12 96	0	12 0	0	0				
	ean_npes ag_fluxes	True	True	True	True	True				
	ile_name	'diag	'diag	'diag	'diag	'diag				
		integral.out'	integral.out'	integral.out'	integral.out'	integral.out'				
the state of the s	t_interval	1.0	1.0	-1.0	-1.0	-1.0				
	me_units	'days'	'days'	'days'	'days'	'days'		True	True	True
&diag_manager_nml debug_diag_manager								iiue	iiue	iiue
issue_oor_	warnings	False	False	False	False	False	False	True	True	True
	max_axes	200	100	300	300	300				
	max_files	50		1000	1000	1000				
	out_fields	800	699	700	700	700				
max_num_ max_outp		200 1300	100 699	40 700	40 700	40 700				
mix_snapshot_avera		False	False	700	700	700				
	ug_stocks	False	False							
divert_stoc		True	True							
do_area_weig		False	False	True	True	True				
&fms_io_nml checksum.	nblocks	4				False				
	_required set_write		'single'	'multi'	'multi'	ratse 'multi'	'single'	'single'	'multi'	'multi'
	ax_files_r	300	200	700	700	700	Jgic	5igic		
	x_files_w	300	200	700	700	700				
	ling_read	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	ing_write	1601	'single'	'multi'	'multi'	'multi'	'single'	'single'	'multi'	'multi'
	ock_grain	'COMPONENT'	'LOOP'	'LOOP'	'LOOP'	'LOOP'	'L00P'	'LOOP'	'LOOP'	'LOOP'
domains_s print_memo		5000000	8000000	115200 False	115200 False	115200 False		115200	115200	115200
	tack_size	0	0	, uisc	iuuc	1 4150				
	eneric_cfc	False	False	False	False	False				
do_gene	ric_topaz	True	True	False	False	False				
	ric_tracer	True	True	False	False	False				
&ice_albedo_nml	t_range	10.0	10.0							
&ice_model_nml add_di	iurnal_sw alb_ice	False 0.65	True 0.615	0.68	0.68	0.68				
	alb_ice alb_sno	0.65	0.615	0.68	0.68	0.68				
channel		500 000.0	0.023	0.03	0.03	0.03				
channel	_viscosity	500 000.0								

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_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	F-I					
do_icebergs h_lo_lim	True $1 imes 10^{-10}$	False $1 imes 10^{-10}$	False	False	False				
heat_rough_ice		0.0005	0.0005	0.0005	0.0005				
ice_bulk_salin io_layout	0.005 1, 2	0.005	0.005	0.005 64, 30	0.005 8, 9				
layout	15, 2		10, 12	64, 30	40, 45				
mom_rough_ice nsteps_adv	1	1	0.0005 1	0.0005 1	0.0005 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				
% isobores and weight to essen	0.0	0.0	0.0	0.0	0.0				
&icebergs_nml add_weight_to_ocean bergy_bit_erosion_fraction		0.0	False 0.0	False 0.0	False 0.0				
debug	_	False	False	False	False				
make_calving_reproduce parallel_reprod	True	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 True	0 True	0 True	0 True				
use_operator_splitting use_roundoff_fix	True	nue	iiue	iiue	iiue				
verbose	True	False	False	False	False				
werbose_hrs &mom_oasis3_interface_nml fields_in	120	2400	2400	2400	2400	'u_flux',	'u_flux',	'u_flux',	'u_flux',
					•	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', p', 'aice', 'wfmelt',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', p', 'aice', 'wfiffered',	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt',	'v_flux' 'lprec', 'fprec' 'salt_flx' 'mh_flux' 'sw_flux' 'q_flux' 't_flux' 'tw_flux' 'runof, 'p' 'aice'
num_fields_in						'wfiform' 't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15	'wfiform' 't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx, 'dssldy, 'frazil' 15 7	'wfiform' 't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	'wfiform 't_surf 's_surf 'u_surf 'v_surf 'dssldx 'dssldy 'frazil
num_fields_out send_after_ocean_update						True	True	True	7 True
send_before_ocean_update						False	False	False	False
&monin_obukhov_nml	10.0	True	True	True	True		True	True	True
&mpp_io_nml deflate_level	0.5				5		5	5	5
shuffle	1200	4.7	4720	4720	47200	120	1 4720	1 4720	1
&ocean_adv_vel_diag_nml diag_step large_cfl_value	1200 10.0	12 10.0	4320 10.0	4320 10.0	43200 10.0	120 10.0	4320 10.0	4320 10.0	576 10.0
max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<pre>& verbose_cfl & ocean_advection_velocity_nml</pre>	False 0.5	False 0.5	True 0.5	True 0.5	True 0.2	False 0.5	True 0.5	True 0.5	True 0.5
max_advection_velocity									
&ocean_albedo_nml ocean_albedo_option	5	2	2	2	2		2	2	2
&ocean_barotropic_nml barotropic_halo barotropic_leap_frog		False	10	10	10	False	10	10	10
barotropic_pred_corr barotropic_time_stepping_a barotropic_time_stepping_b	True False	True	True False	True False	True False	True	True False	True False	True False
barotropic_time_stepping_mom4p0 barotropic_time_stepping_mom4p1		True False				True False			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
d	lebug_this_module	False	False	False	False	False	False	False	False	False
do_	diag_step 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
fr	ac_crit_cell_height pred_corr_gamma	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	0.2 0.2	0.2 0.2
smooth_	eta_diag_laplacian	True	True	True	True	True	True	True	True	True
smooth	_eta_t_biharmonic	True	True	True	True	False	True	False	False	False
	th_eta_t_laplacian	False	False	False	False	True	False	True	True	True
· ·	pbot_t_biharmonic h_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_legac	y_barotropic_halos	0.04	0.04	False	False	False	0.04	False	False	False
	vel_micom_bih vel_micom_lap	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05
Ve	el_micom_lap_diag	1.0	1.0	0.05	0.5	0.5	0.03	0.03	0.03	0.03
	verbose_truncate	True	True	True	True	True	True	True	True	True
0	zero_tendency	False	False	False	False	False	False	False	False	False
&ocean_bbc_nml	bmf_implicit cdbot	0.002	0.002	True 0.001	True 0.001	True 0.001	0.001	True 0.001	True 0.001	True 0.001
	cdbot_hi	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.007	0.001
	cdbot_law_of_wall						False			
	_roughness_length			False	False True	False True		False True	False True	False True
CUDO	t_roughness_uamp uresidual	0.05	0.05	True 0.05	0.05	0.05		0.05	0.05	0.05
use_g	eothermal_heating	True	True	False	False	False	False	False	False	False
&ocean_bbc_ofam_nr							False			_
&ocean_bih_friction_cscheme	uresidual2_max nml bih_friction	'general'	'general'	'general'	'general'	'general'	1.0 'general'	'general'	'general'	'general'
&ocean_bih_tracer_ni tracer_mix_micom	ml			True	True	True				
udeer_imx_imcom	use_this_module	False	False	False	False	False	False	False	False	False
&ocean_bihcst_frictio	n_nml use_this	False	False	0.001 False	0.001 False	0.001 False	False	False	False	False
module &ocean_bihgen_fricti	on_nml	True	True	False	False	False	True	False	False	False
bottom_5point										
00	eq_lat_micom vel_micom_aniso_	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
ec	eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	equatorial_zonal	False	False	False	False	False	False	False	False	False
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ncar	k_smag_iso boundary_scaling	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True
	ndary_scaling_read	iiuc	nuc	False	True	True	iiuc	True	True	True
n	car_rescale_power	2	2	2	2	2	2	2	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5 use_this_module	5 True	5 True	5 True	5 True	5 True	5 True	5 True	5 True	5 True
	vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	vel_micom_bottom	0.01	0.01	0.0	0.0	0.0	0.01	0.0	0.0	0.0
	vel_micom_iso visc_crit_scale	0.04 0.25	0.04 0.25	0.0 1.0	0.0 1.0	0.0 1.0	0.04 0.25	0.0 1.0	0.0 1.0	0.0 1.0
&ocean_convect_nml		0.23	0.23	True	True	True	False	1.0	1.0	1.0
convect_full_scalar										
C	convect_full_vector	Falsa	Falsa	False	False	False	True	Falsa	Falsa	Falsa
&ocean_coriolis_nml	use_this_module acor	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5	False 0.5
Coccur_corrotis_rime	use_this_module	True	True	True	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False		False	False	False		False	False	False
	eos_preteos10 layer_nk	True 80	80	True 80	True 80	True 80	80	True 80	True 80	True 80
	linear_eos	ου	False	00	00	00	False	00	00	00
	neutralrho_max	1030.0	1030.0	1038.0	1038.0	1038.0	1030.0	1038.0	1038.0	1038.0
	neutralrho_min	1020.0	1020.0	1028.0	1028.0	1028.0	1020.0	1028.0	1028.0	1028.0
	potrho_max potrho_min	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0
	teos10_eos	1020.0	1020.0	1020.0	1020.0	1020.0	False	1020.0	1020.0	1020.0
&ocean_domains_nm	l max_tracers						20	5	5	5
&ocean_drifters_nml		False	False				^′			
&ocean_form_drag_n	ml <mark>cprime_aiki</mark> use_this_module	False	False	False	False	False	0.6 False	False	False	False
	asc_cms_mount	ו מנטכ	1 0130	ו מנגכ	1 0130	i atsc	1 0130	ו מנטכ	ו מנטכ	1 0130

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_t		False	False	False	False	False		False	False	False
frazil_only freezing_ter	/_in_surface np_accurate	True	True False	True	True	True	False True	False	False	False
freezing_temp								True	True	True
	emp_simple	True	True	True	True	True	False	False	False	False
	his_module	True	True	True	True	True	True	True	True	True
&ocean_grids_nml debug_t	_exact_sum	True True	True	False	False	False	True	False	False	False
	ho0_profile	False	False				False			
&ocean_increment_eta_nml							0			
days_to_increment							4.0			
	_increment _increment						1.0 3600			
	his_module	False	False	False	False	False	False	False	False	False
&ocean_increment_tracer_ni							0			
	_increment _increment						1.0 3600			
	his_module	False	False	False	False	False	False	False	False	False
&ocean_increment_velocity_							0			
	_increment						1.0			
	_increment :his_module	False	False	False	False	False	3600 False	False	False	False
&ocean_lap_friction_nml la		'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
scheme &ocean_lap_tracer_nml	use_this	False	False	False	False	False	False	False	False	False
module &ocean_lapcst_friction_nml	use_this	False	False	False	False	False	False	False	False	False
module &ocean_lapgen_friction_nml bottom_5point	[True	True				True	True		
	smaq_aniso	0.0	0.0				0.0	0.0		
_	k_smag_iso	0.0	0.0	2.0	2.0	2.0	0.0	0.0		
	_equatorial	_	_				True	True		
	t_polar_visc	True 60.0	True 60.0				True 60.0	True 60.0		
restrict_pola	olar_visc_lat or visc ratio	0.35	0.35				0.35	0.35		
	his_module	True	True	False	False	False	True	True	False	False
	vconst_1						8 000 000.0	0.000 000 8		
	vconst_2						0.0	0.0		
	vconst_4						$0.8 \\ 5 \times 10^{-9}$	$0.8 \\ 5 \times 10^{-9}$		
	vconst_5						3 \ 3	3 ~ 10		
	vconst_6						300 000 000.0	300 000 000.0		
	vconst_7						100.0	100.0		
	_micom_iso	0.1	0.1 False				0.1	0.1		
	scosity_ncar _ncar_2000	False	False				False False	True False		
	_ncar_2007						True	True		
viscosity_scal	, ,	True	True				True	True		
viscosity_scale_by_ro	ssby_power	4.0	4.0	Гојео	Falsa	Falsa	4.0	4.0		
&ocean_mixdownslope_nml debug_this_module		False	False	False	False	False	False	False		
mixdownslope	_mask_gfdl	True	True				False	False		
mixdow	nslope_npts	4	4				4	4		
read_mixdown		True	True	Falsa	F-I	Falss	False	False	Fel	F-I-
	his_module oclinic_split	True 1	True 1	False 1	False 1	False 1	True 1	True 1	False 1	False 1
	otropic_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
impose_init_f	dt_ocean rom_restart	7200 True	7200 False	3600	1800	150	3600	3600	1200	150
mpose_mit_i	io_layout	1, 4	1 0130		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
	height_split	1	1	1	1	1	1	1	1	1
	e_tendency _coordinate	'twolevel' 'zstar'	'twolevel' 'zstar'	'twolevel' 'zstar'	'twolevel' 'zstar'	'twolevel'	'twolevel' 'zstar'	'twolevel' 'zstar'	'twolevel' 'zstar'	'twolevel' 'zstar'
&ocean_momentum_source_		ZSldI	ZSLdI	False	False	'zstar' False	ZSLdI	False	False	False
out				, alsc	iuisc	i alse		1 4130	1 4130	, alsc
rayleigh_damp_exp_from_bo	ttom									
use_rayleigh_		False	False	True True	True True	True 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 W0A13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&ocean_nphysics_nml module	debug_this	False	False	False	False	False	False	False	False	False
	se_nphysicsa	False	False	False	False	False	False	False	False	False
u	se_nphysicsb	False	True	False	False	False	False	False	False	False
·	ise_nphysicsc	True	False	False	False	False	True	True	False	False
	_this_module	True	True	False	False	False	True	True	False	False
&ocean_nphysics_util_nml	agm_closure	800.0 True	800.0 True	100.0 True	100.0 True	100.0 True	600.0 True	600.0 True	100.0 True	100.0 True
	re_baroclinic	True	True	True	True	True	True	True	True	True
•	re_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
agm_closure_ead	•	True	True				True	True		
	ure_eady_cap	True	True				True	True		
agm_closure_eady_ agm_closure_eady.		True True	True True				True True	True True		
agm_closure_		0.0	0.0				0.0	0.0		
agm_closure_ede		False	False				False	False		
	_grid_scaling	True	True				True	True		
	osure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
agm_closure_le agm_closure.		False False	False False	False False	False False	False False	False False	False False	False False	False False
agm_closure_l	_	False	False	False	False	False	False	False	False	False
agm_closure.		2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
agm.	_closure_max	0.008	0.008	600.0	600.0	600.0	600.0	600.0	600.0	600.0
	_closure_min	100.0	100.0	100.0	100.0	100.0	50.0	50.0	100.0	100.0
	osure_scaling	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0
agm_closure_	amping_time	45.0	45.0	100.0	100.0	100.0	45.0	45.0	100.0	100.0
	mooth_space	False	False				False	False		
	smooth_time	False	False				False	False		
	aredi	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
	di_equal_agm	False	False	False	False	False	False	False	False	False
	odz_mom4p1 .smooth_horz	True False	True False	False False	False False	False False	True False	True False	False False	False False
	_smooth_vert	False	False	False	False	False	False	False	False	False
	util_zero_init	True	True				True	True		
•	y_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
rossb	y_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax swidth	0.005 0.002	0.005 0.002	0.002 0.002	0.002 0.002	0.002 0.002				
trace	r_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							
	ear_gm_taper	True	True							
neutral_	physics_limit	True	True							
	nysics_simple	False	False							
	al_sine_taper	True	True							
	k_neutral_on _this_module	True False	True False	False	False	False	False	False	False	False
&ocean_nphysicsb_nml		False	False	1 4130	ratse	Tube	ruise	ruise	ruisc	1 4130
debug_this_module		_	_							
	layer_smooth	True	True							
· · · · · · · · · · · · · · · · · · ·	.physics_limit irb_thick_min	True 50.0	True 50.0							
	_thick_min_k	50.0	50.0							
	_this_module	False	True	False	False	False	False	False	False	False
&ocean_nphysicsc_nml bv_freq_smooth_vert		True					True	True		
	ovp_bc_mode	2					2	2		
bv	p_min_speed	0.1					0.1	0.1		
	bvp_speed	0.0					0.0	0.0		
	_this_module gm_skewsion	False True					False True	False True		
	giii_skewsion tral_diffusion	True					True	True		
	epsln_bv_freq	1×10^{-12}					1×10^{-12}	1×10^{-12}		
	n_bvproblem	True					True	True		
giii_skewsio	wsion_modes	False					False	False		
gm_ske							True	True		
gm_ske\ neutra	l_eddy_depth	True					-	_		
gm_skev neutral neutral	physics_limit	True					True	True		
gm_ske\ neutral neutral numb	physics_limit er_bc_modes	True 2					2	2		
gm_ske\ neutral neutral numb	physics_limit	True								

Group (continued) Varial	ole 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
tmask_neutral_						True	True		
turb_blayer_n		Falsa	Falsa	F-I	F-1	50.0	50.0	Falsa	F-I
&ocean_operators_nml	ule True True	False	False False	False False	False False	True	True False	False False	False False
use_legacy_div_ud	nuc		ruisc	rusc	rusc		ruisc	Tutse	ruisc
&ocean_overexchange_nml debu	g False	False	False	False	False	False	False	False	False
this_module overexch_check_extre	<mark>ma</mark> False	False				False			
overexch_n		4	4	4	4	4	4	4	4
overexch_weight_		False	False	False	False	False	False	False	False
overflow_um use_this_modi		5.0 False	5.0 Falso	5.0 False	5.0	5.0 False	5.0 Falso	5.0	5.0 False
&ocean_overflow_nml	ule False False	False False	False False	False False	False False	False False	False	False	False
debug_this_module	1 4.50	1 0 00	1 01250	1 000	. 4650	1 000			
use_this_mod	ule False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml debug_this_module			False	False	False				
diaq_st	ер		4320	4320	43200				
do_entrainment_para_o	ofp		False	False	False				
do_mass_o	•		True 1.0	True 1.0	True 1.0				
frac_exchange_ max_vol_trans_c			10 000 000.0	10 000 000.0	10 000 000.0				
use_this_mod	•		False	False	False		False	False	False
&ocean_polar_filter_nml use_thi	s False	False	False	False	False	False	False	False	False
module			Falsa	Falsa	False		Falsa	Falsa	Falsa
&ocean_pressure_nml zero_pressure_force			False	False	False		False	False	False
&ocean_rivermix_nml	40.0	40.0							
calving_insertion_thickness									
debug_this_mod discharge_combine_runoff_ca		False True	False	False	False	False	False	False	False
do_bitwise_exact_si		iiue							
river_diffuse_s		False	False	False	False	False	True	True	True
river_diffuse_tel		False	False	False	False	False	True	True	True
river_diffusion_thickno river_diffusiv		0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
river_insertion_thickne	,	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
runoff_insertion_thickno		40.0							
use_this_mod	ule True	True	True '.false'	True '.false'	True '.false'	True	True	True	True
&ocean_riverspread_nml debug_this_module			.IdlSE	.iaise	.iaise				
use_this_mod		False	True	True	True	True	False	False	False
&ocean_rough_nml rough_schel		'beljaars'	'beljaars'	'beljaars'	'beljaars'		'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml avg_sfc_temp_salt_o avg_sfc_veloo		True True	True True	True True	True True	True True	True True	True True	True True
calvingspre		False	False	False	False	iiue	False	False	False
do_bitwise_exact_si	um		False	False	False		False	False	False
do_flux_correcti			False	False	False		False	False	False
eta_restore_tsc ice_salt_concentrati						0.005			
land_model_heat_flux		False	False	False	False	0.003	False	False	False
max_delta_salinity_resto			0.5	0.5	0.5	0.5	0.5	0.5	0.5
max_ice_thicknot read_restore_material		8.0	1.0 False	1.0 False	1.0 False	8.0 False	0.0 False	0.0 False	0.0 False
restore_mask_q			False	False	False	False	False	False	False
runoff_salin	ity		0.0	0.0	0.0	0.0	0.0	0.0	0.0
runoffspre		False	0.0	0.0	0.0		0.0	0.0	0.0
salt_correction_sc salt_restore_as_salt_f			0.0 True	0.0 True	0.0 True	True	0.0 True	0.0 True	0.0 True
salt_restore_tsci		-10.0	60.0	60.0	60.0	15.0	60.0	60.0	60.0
salt_restore_under_	ice		True	True	True	True	True	True	True
tau_x_correction_sc									
tau_y_correction_sc temp_correction_sc									
temp_restore_tsci		-10.0	-10.0	-10.0	-10.0	-1.0	-10.0	-10.0	-10.0
use_full_patm_for_sea_le	<mark>vel</mark> True	True	False	False	False	_	False	False	False
use_waterfl use_waterflux_override_calvi		True	True	True	True	True	True	True	True
use_waterflux_override_catvi	<u> </u>								
use_waterflux_override_fp	rec False								
waterflux_ta		False	F-1	Γ-!	Falss	False	F-1	F-1	F-I-
zero_heat_flux zero_net_pme_eta_resto			False	False	False	False	False	False	False
zero_net_pine_eta_resti	raise								

Group (continued) V	ariable	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_cor	rection			False	False	False		False	False	False
zero_net_salt_				True	True	True	True	True	True	True
zero_net_water_cor zero_net_water_couple_				False True	False True	False True	True	False True	False True	False True
zero_net_water_couple_				True	True	True	True	True	True	True
zero_net_water_	_			True	True	True	True	True	True	True
zero_pme zero_river	_fluxes					False False				
zero_runoff				Ealco	Falso	True False	False	Falso	Falso	Ealco
zero_surface zero_water				False False	False False	False	False False	False False	False False	False False
&ocean_sbc_ofam_nml	Littanes			. 4.50	1 4130		False	1 4.50	1 4150	. 4.50
restore_mask_ofam										
river_temp	o_ofam			-			False			
&ocean_shortwave_csiro_nml read_depth				True			True			
use_this_r	nodule ax_pen	False	False	True 7000	False	False	True 7000	False	False	False
3	ebug	False	False	False	False	False	False	False	False	False
this_module	,	-	-	_	_	-	-	_	_	_
enforce_s		True True	True True	True	True	True True	True	True	True True	True True
optics_m optics_morel_a		Irue False	Irue False	True False	True False	Irue False	True	True False	Irue False	True False
optics_moret_a overrid		False	False	raise	raise	raise		False	raise	raise
	ead_chl	False	False	False	True	True	False False	True	True	True
use_this_r	nodule	True	True	False	True	True	False	True	True	True
&ocean_shortwave_jerlov_nml	use	200.0 False	200.0 False	300.0 False	300.0 False	300.0 False	200.0 False	300.0 False	300.0 False	300.0 False
this_module &ocean_shortwave_nml use_shortwave_csiro		False	False	True	False	False	True	False	False	False
use_shortwaye	ve_afdl	True	True	False	True	True	False	True	True	True
use_shortwave		False	False	False	False	False	False	False	False	False
use_this_r	•	True	True	True	True	True	True	True	True	True
&ocean_sigma_transport_nml sigma_advection_on		False	False	False	False	False	False			
sigma_advection_so		False	False	False	False	False	False			
sigma_diffus sigma_diffusivit		True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True 1×10^{-6}	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$			
sigma_just_in_botto	,	True	True	True	True	True	True			
	ı_umax	0.01	0.01	0.01	0.01	0.01	0.01			
smooth_sigma_thi		True	True	True	True	True	True			
smooth_sigma_v	elocity	True	True	True	True	True	True			
smooth_vel	.micom	0.2	0.2	0.2	0.2	0.2	0.2			
thickness_sigm	•	100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sigm		100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sign tmask_sig		100.0 False	100.0 False	100.0 False	100.0 False	100.0 False	100.0 False			
tracer_mix_		True	True	True	True	True	True			
use_this_r		True	True	False	False	False	True	False	False	False
vel_	micom	0.05	0.05	0.05	0.05	0.05	0.05			
	lendar						'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
da	te_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 dt_cpld						0 3600	1460 3600	31 1200	30 600
,	hours						0	0	0	0
n	ninutes						0	0	0	0
r	months						12	0	0	0
S	econds						0	0	0	0
Roccom changes at and	years	Enlan	Ealaa	Ealaa	Falsa	Ealea	Ealaa	O Ealso	0 Ealso	0 Ealso
&ocean_sponges_eta_nml use module &ocean_sponges_tracer_nml	e_this	False False	False False	False False	False False	False False	False False	False	False	False False
damp_coeff_3d		FdlSt	FdlSC	Lql2G	Larza	rdlSt	rdlSt			r,qr2g
use_this_r	nodule	False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use	False	False	False	False	False	False	False	False	False
this_module										
&ocean_submesoscale_nml coefficient_ce	a dolo	F. I	F. I	0.05	0.05 Falsa	0.05	F. !	0.05	0.05	0.05
debug_this_r front_length		False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0
front_lengtr front_length_deform		True	True	5000.0 True	True	5000.0 True	True	True	True	True
mont_tengtn_derorm.	_i auius	nue	nue	nue	iiue	iiue	nue	iiue	iiue	nue

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 min_kblt	0.5 4	0.5 4	0.5 4	0.5 4	0.5 4	0.5 4	0.5 4	0.5 4	0.5 4
smooth_advect_transport	7	т.	True	True	True		True	True	True
smooth_advect_transport_num			4	4	4		4	4	4
smooth_hblt	False	False	False	False	False	False	False	False	False
smooth_psi smooth_psi_num			True 3	True 3	True 3		True 3	True 3	True 3
submeso_advect_flux			False	False	False		False	False	False
submeso_advect_limit			True	True	True		True	True	True
submeso_advect_upwind			True	True	True		True	True	True
submeso_advect_zero_bdy			True	True	True		True	True	True
submeso_diffusion submeso_diffusion_biharmonic			False True	False True	False True		False True	False True	False True
submeso_diffusion_scale			10.0	10.0	10.0		10.0	10.0	10.0
submeso_limit_flux	True	True	10.0	10.0	10.0	True	10.0	10.0	10.0
submeso_skew_flux			True	True	True		True	True	True
use_hblt_equal_mld	True	True	True	True	True	True	True	True	True
use_psi_legacy	True	T	False	False	False	Terra	False	False	False
use_this_module &ocean_tempsalt_nml	True False	True False	True False	True False	True False	True	True False	True False	True False
debug_this_module	1 0135	ו מנטכ	ו מנטכ	1 0130	i atse		ו מנטכ	ו מנטכ	ו מנטכ
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 s_min	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_limit	5.0	5.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
t_min	-5.0	-5.0	-20.0	-20.0	-20.0	-5.0	-20.0	-20.0	-20.0
t_min_limit	-1.9	-1.9	-5.0	—5.0	-5.0	-2.0	-5.0	-5.0	-5.0
temperature_variable	'potential temp'	'potential temp'	'potential temp'	'potential temp'	'potential temp'	'conservative temp'	'potential temp'	'potential temp'	'potential temp'
teos10	temp	temp	temp	temp	temp	False	temp	temp	temp
&ocean_thickness_nml debug_this module	False	False	False	False	False	False	False	False	False
debug_this_module_detail	False	False	False	False	False	False	False	False	False
initialize_zero_eta	False	False				False			
read_rescale_rho0_mask	True	True	False	False	False	False	False	False	False
rescale_mass_to_get_ht_mod rescale_rho0_basin_label	7.0	7.0	raise	raise	raise	7.0	raise	raise	raise
rescale_rho0_mask_gfdl	True	True				False			
rescale_rho0_value	0.75	0.75				0.75			
thickness_dzt_min	2.0	2.0	2.0	2.0	2.0	1.0			
thickness_dzt_min_init thickness_method	2.0	2.0	10.0	10.0	10.0	2.0	'anavaatis'	'anazaatia'	'anavastis'
&ocean_time_filter_nml	'energetic' False	'energetic' False	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
use_this_module	raisc	raisc							
&ocean_topog_nml min_thickness	5.0	5.0				25.0			
&ocean_tracer_advect_nml	False	False	False	False	False	True			
advect_sweby_all						т			
<pre>compute_gyre_overturn_diagnose debug_this_module do_fast_compute</pre>	False	False	False	False	False	True 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	700	700	700	4.0	700	700	70.0
tracer_conserve_days	$\frac{100.0}{1 \times 10^{+40}}$	100.0	30.0	30.0	30.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml age_tracer_max_init debug_this_module	1 × 10 ⁺⁺ False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False
frazil_heating_after_vphysics	True	True	True	True	True	True	True	True	True
frazil_heating_before_vphysics	False	False	False	False	False	False	False	False	False
interpolate_tdiag_to_pbott	False								
interpolate_tprog_to_pbott	False	_	_	_	_	_	_	_	=
	True	True	True	True	True	True	True	True	True
limit_age_tracer					F '				
remap_depth_to_s_init	False	False	False	False	False	False	False	False	False
remap_depth_to_s_init tmask_limit_ts_same			False	False		False			
remap_depth_to_s_init	False	False	False False	False False	False True False	False False	False True False	False True False	True False

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	False 576 5760 10.0 100.0 True
Many 1200 121 4320 4320 43200 120 4320 4320 43200 120 4320 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 4320 4320 120 432	5760 10.0 100.0 True
Renemy Lake 1200	5760 10.0 100.0 True
True	100.0 True
True	True
Dashforth.third Truncate.velocity False	1.0
truncate velocity truncate, velocity value 2.0 2.0<	
Truncate velocity value 20 20 20 20 20 20 20 2	False
Palse False Fals	2.0
False Fals	True
False Fals	False
False Fals	False False
Use: 11st module False False Second False Second False Second Seco	False
False Fals	False
& ceean_vert_kpp_mom4p1_nml 0.0 0.0 0.0 0.0 0.0 0.0 double_diffusion limit True True True False Fa	
Mouble_diffusion True Missandard_method True False	0.0
Raise False Fals	True
Smooth District 0.3	False
Smooth ri kmax. eq. kmu True Tr	0.3
True	False
No.	True True
&ocean_vert_kpp.nml diff_cbt_iw diff_con_limit 0.0 0.1 double_diffusion True True True kbl_standard_method 0.3 0.3 0.3 smooth_blmc True True True use_this_module True True True visc_con_limit 0.0 0.0 0.0 visc_con_limit 0.675	0.0
Company	
Main	
Ref	
Smooth_blind use this_module True Use Crbu iw 0.0	
True Visc cbu iw Visc column Visc co	
visc_con_limit 0.0 &ocean_vert_mix_nml afkph_00 on 0.675 on 0.675 on 0.675 on 0.725 on	
visc_con_limit 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.725	
&ocean_vert_mix_nml afkph_90 0.675 0.675 0.675 0.725	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.0 False
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	False
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	False
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\times 10^{-6}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20.0
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
$\frac{1}{5}$ $\frac{10^{-5}}{4.5 \times 10^{-5}}$ $\frac{1}{4.5 \times 10^{-5}}$ $\frac{1}{4.5 \times 10^{-5}}$	
use_diff_cbt_table	False
vert_diff_back_via_max	True
vert_mix_scheme 'kpp 'kpp' 'kpp 'kpp 'kpp 'kpp 'kpp	'kpp
mom4p1' mom4p1' mom4p1' mom4p1' mom4p1' mom4p1' mom4p1' n zfkph_00	mom4p1'
zfkph_90 250 000 000.0 250 000 000.0 250 000 000.0 250 000.0	
&ocean_vert_tidal_nml 0.0 0.0 0.0 0.0 0.0 5 \times 10 $^{-6}$ 0.0 0.0 background_diffusivity	0.0
background_viscosity 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001	0.0001
decay_scale 300.0 300.0 500.0 500.0 300.0 500.0	500.0 True
	$\times 10^{-10}$
fixed_wave_dissipation False False False False False False False False	False
max_drag_diffusivity 0.01	001
max_wave_diffusivity 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.0	0.01 True
mixing_efficiency_n2depend 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

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
reading_	roughness_amp	True	True	True	True	True	True	True	True	True
reading_ro	ughness_length	False	False	False	False	False	False	False	False	False
r	oughness_scale	30 000.0	30 000.0	12 000.0	12 000.0	12 000.0	20 000.0	12 000.0	12 000.0	12 000.0
she	elf_depth_cutoff	160.0	160.0	-1000.0	-1000.0	-1000.0	160.0	-1000.0	-1000.0	-1000.0
tide_speed.	_data_on_t_grid	True	True	True	True	True	True	True	True	True
use_d	lrag_dissipation	True	True	True	True	True	True	True	True	True
use_l	legacy_methods	True		False	False	False		False	False	False
u	se_this_module	True	True	True	True	True	True	True	True	True
use_w	ave_dissipation	True	True	True	True	True	True	True	True	True
	nergy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_nm	Į.	True	True	False	False	False	False	False	False	False
use_this_module										
	verbose_init	True	True				True			
&ocean_xlandmix_nml u	se_this_module	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
	xlandmix_kmt	True	True				True			
&redseafix_nml reds	sea_gulfbay_sfix			True						
&sat_vapor_pres_nml		True	True							
construct_table_wrt_liq										
construct_table_	wrt_liq_and_ice	True	True							
show	_all_bad_values					True				
&surface_flux_nml r	ncar_ocean_flux			True	True	True				
	old_dtaudv	False								
	raoult_sat_vap			True	True	True				
&topography_nml	topog_file	'INPUT/	'INPUT/							
		navy_topog-	navy_topog-							
		ra-	ra-							
		phy.data.nc'	phy.data.nc'							
&xgrid_nml	do_alltoall			True	True	True				True
	do_alltoallv			True	True	True				True
	interp_method	'second	'second	'second	'second	'second		'second	'second	'second
		order'	order'	order'	order'	order'		order'	order'	order
make_excha	ange_reproduce	True	True	False	False	False		False	False	False
	nsubset			16	16	16		16	16	16
	xgrid_log			False	False	False				

5 All variables in ACCESS configs (differences highlighted)

Group	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.out	original/ GFDL ESM2M input- cut.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	0.15
	chk_fields_period	1					
	chk_fields_start_time	0			F 1	F 1	
	chk_i2o_fields chk_o2i_fields	False False		False False	False False	False False	False False
	do_ice_once	False		False	False	False	False
	dt_cpl	1800		3600	3600	1800	600
	fixmeltt	False		False	False	False	False
	frazil_factor iceform_adj_salt	1.0 False		1.0 False	1.0 False	1.0 False	1.0 False
	icemlt_factor	1.0		1.0	1.0	1.0	1.0
	ige	345					
	igs	328					
	ire1 ire2	324 331					
	irs1	314					
	irs2	325					
	jge	198					
	jgs	189					
	jre1 jre2	196 180					
	jrs1	169					
	jrs2	169					
	kmxice	5		5	5	5	5
	ksmax	5 False					
	limit_srfstress mstress	False 2.0					
	pop_icediag	True		True	True	True	True
	redsea_gulfbay_sfix	False			True		
	sfix_hours	12		4.0	4.0	10	4.0
	sign_stflx tlthk0	1.0 10.0		1.0	1.0	1.0	1.0
	tmelt	-0.216		-0.216	-0.216	-0.216	-0.216
	use_ioaice	True		True	True	True	True
&bg_diff_lat_dependence_nml	bg_diff_eq			1×10^{-6}	1×10^{-6}		
&coupler_nml	lat_low_bgdiff atmos_npes		0	20.0	20.0		
&coupler_mint	atmos_nthreads		4				
	calendar		'NOLEAP'				
	check_stocks		_ 0				
	concurrent		True				
	current_date days		1, 1, 1, 0, 0, 0 0				
	do_atmos		True				
	do_flux		True				
	do_ice		True				
	do_land do_ocean		True True				
	dt_atmos		1800				
	dt_cpld		7200				
	months		12				
	ocean_npes		96 True				
&data_override_nml	use_lag_fluxes debug_data_override	False	True				
addid_override_rime	grid_center_bug	False					
&diag_integral_nml	file_name		'diag				
			integral.out'				
	output_interval time_units		1.0 'days'				
	append_pelist_name	False	'days'				
&diag_manager_nml							
&diag_manager_nml	conserve_water	True					_
&diag_manager_nml	conserve_water debug_diag_manager	True			True	True	True
&diag_manager_nml	conserve_water debug_diag_manager do_diag_field_log	True False	_	_			
&diag_manager_nml	conserve_water debug_diag_manager do_diag_field_log issue_oor_warnings	True False True	False	False	True True	True True	True True
&diag_manager_nml	conserve_water debug_diag_manager do_diag_field_log issue_oor_warnings max_axes	True False True 60	False 200	False			
&diag_manager_nml	conserve_water debug_diag_manager do_diag_field_log issue_oor_warnings	True False True 60 2		False			
&diag_manager_nml	conserve_water debug_diag_manager do_diag_field_log issue_oor_warnings max_axes max_field_attributes	True False True 60		False			

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf	original/ GFDL ESM2M input- cut.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
		log- file.000000.out					
	max_num_axis_sets	25	200				
	max_out_per_in_field	150	1700				
	max_output_fields mix_snapshot_average_fields	300 False	1300 False				
	oor_warnings_fatal	False	rube				
	prepend_date	True					
	region_out_use_alt_value use_cmor	True False					
	write_bytes_in_file	False					
&flux_exchange_nml	debug_stocks		False				
	divert_stocks_report do_area_weighted_flux		True False				
	nblocks		4				
&fms_io_nml	checksum_required	True					
	debug_mask_list dr_set_size	False 10					
	fileset_write	'single'		'single'	'single'	'multi'	'multi'
	fms_netcdf_override	True					
	fms_netcdf_restart format	True 'netcdf'					
	iospec_ieee32	"; 'N',					
		'ieee_32'					
	max_files_r max_files_w	40 40	300 300				
	print_chksum	False	300				
	read_all_pe	True					
	read_data_bug	False					
	<pre>show_open_namelist_file_warning threading_read</pre>	False 'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	threading_write	'single'		'single'	'single'	'multi'	'multi'
	time_stamp_restart	True					
&fms_nml	clock_flags clock_grain	'NONE' 'LOOP'	'COMPONENT'	'L00P'	'LOOP'	'LOOP'	'LOOP'
	domains_stack_size	0	5000000	LOOI	115200	115200	115200
	iospec_ieee32	", 'N',					
	print_memory_usage	'ieee_32' False					
	read_all_pe	True					
	stack_size	. 0	0				
&generic_tracer_nml	warning_level do_generic_cfc	'warning'	False				
ageneric_tracer_min	do_generic_topaz		True				
	do_generic_tracer		True				
&get_cal_time_nml &horiz_interp_nml	allow_calendar_conversion reproduce_siena	True False					
&ice_albedo_nml	t_range	raise	10.0				
&ice_model_nml	add_diurnal_sw		False				
	alb_ice alb_sno		0.65				
	channel_viscosity		0.85 500 000.0				
	cm2_bugs		False				
	do_icebergs		True				
	h_lo_lim ice_bulk_salin		$1 \times 10^{-10} \\ 0.005$				
	io_layout		1, 2				
	layout		15, 2				
	nsteps_adv nsteps_dyn		1 72				
	num_part		6				
	spec_ice		False				
	t_range_melt wd_turn		1.0 0.0				
&icebergs_nml	make_calving_reproduce		True				
•	speed_limit		0.5				
	time_average_weight		False				
	trai cample bro		n				
	traj_sample_hrs use_roundoff_fix		0 True				
			0 True True 120				

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL- ESM2M input- cut.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
&mom_oasis3_interface_nml	fields_in	file.00000.out		'u_flux',	'u_flux',	'u_flux',	'u_flux',
G.110111_003135_111611106_111111		'v_flux',		'v_flux',	'v_flux',	'v_flux',	'v_flux',
		'lprec', 'fprec',		'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',		'salt_flx',	'salt_flx',	'salt_flx',	'salt_flx',
		'mh_flux', 'sw_flux',		'mh_flux', 'sw_flux',	'mh_flux', 'sw_flux',	'mh_flux', 'sw_flux',	'mh_flux', 'sw_flux',
		'q_flux',		'q_flux',	'q_flux',	'q_flux',	'q_flux',
		't_flux',		't_flux',	't_flux',	't_flux',	't_flux',
		'lw_flux',		'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',
		'runof', 'p',		'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',
		'aice', 'wfimelt',		'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',
		wiifiett, 'wfiform'		williett, 'wfiform'	williett, 'wfiform'	williett, 'wfiform'	williett, 'wfiform'
	fields_out	't_surf',		't_surf',	't_surf',	't_surf',	't_surf',
		's_surf',		's_surf',	's_surf',	's_surf',	's_surf',
		'u_surf',		'u_surf',	'u_surf',	'u_surf',	'u_surf',
		'v_surf',		'v_surf',	'v_surf',	'v_surf',	'v_surf',
		'dssldx', 'dssldy',		'dssldx', 'dssldy',	'dssldx', 'dssldy',	'dssldx', 'dssldy',	'dssldx', 'dssldy',
		'frazil'		'frazil'	'frazil'	'frazil'	'frazil'
	num_fields_in	15		15	15	15	15
	num_fields_out	7		7	7	7	7
	send_after_ocean_update	True		True	True	True	True
&monin_obukhov_nml	send_before_ocean_update neutral	False		False	False True	False True	False True
&monin_obuknov_nint	rich_crit		10.0		iiue	iiue	iiue
	stable_option		2				
	zeta_trans		0.5				
&mpp_io_nml	deflate_level	1			5	5	5
	global_field_on_root_pe	True					
	header_buffer_val io_clocks_on	16384 False					
	shuffle	0			1	1	1
&ocean_adv_vel_diag_nml	diag_step	4320	1200	120	4320	4320	576
•	large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0
&ocean_advection_velocity_nml	verbose_cfl constant_advection_velocity	True False	False	False	True	True	True
&ocean_advection_vetocity_init	debug_this_module	False					
	inflow_nboundary	False					
	max_advection_velocity	0.5	0.5	0.5	0.5	0.5	0.5
	read_advection_transport	False					
9 a company allowed a grant	read_advection_velocity	False			2	1	2
&ocean_albedo_nml &ocean_barotropic_nml	ocean_albedo_option alphat	0.948	5		2	2	2
&occan_barotropic_nint	barotropic_halo	10			10	10	10
	barotropic_leap_frog			False			
	barotropic_pred_corr			True			
	barotropic_time_stepping_a	True	True		True	True	True
	<pre>barotropic_time_stepping_b barotropic_time_stepping_mom4p0</pre>	False	False	True	False	False	False
	barotropic_time_stepping_mom4p1			False			
	debug_this_module	False	False	False	False	False	False
	diag_step	4320	1200	120	4320	4320	576
	do_bitwise_exact_sum	False	True				
	eta_max	8.0	8.0	8.0	8.0	8.0	8.0
	<mark>eta_offset</mark> frac_crit_cell_height	1×10^{-12} 0.2	0.2	0.2	0.2	0.2	0.2
	frac_crit_cett_neight geoid_forcing	0.2 False	0.2	0.2	0.2	0.2	0.2
	ideal_initial_eta	False					
	ideal_initial_eta_amplitude	5.0					
	ideal_initial_eta_xwidth	100 000.0					
	ideal_initial_eta_ywidth	100 000.0					
	initsum_with_bar_mom4p0 initsum_with_bar_mom4p1	False True					
	initsum_witn_bar_mom4p1 pbot_offset	1×10^{-12}					
	pred_corr_gamma	0.2	0.2	0.2	0.2	0.2	0.2
	smooth_anompb_bt_biharmonic	False	V.2	V.E	V.E	V.E	V.2
	smooth_anompb_bt_laplacian	False					
	smooth_eta_diag_biharmonic	False	_				
	smooth_eta_diag_laplacian	True	True	True	True	True	True
	smooth_eta_t_biharmonic	False	True	True	False	False	False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
	smooth_eta_t_bi_biharmonic	file.00000.out False					
	smooth_eta_t_bt_laplacian	False			_	_	_
	smooth_eta_t_laplacian smooth_pbot_t_biharmonic	True False	False True	False True	True False	True False	True False
	smooth_pbot_t_biharmonic_legacy	False				. 4650	
	smooth_pbot_t_laplacian	True	False	False	True	True	True
	tidal_forcing_8 tidal_forcing_ideal	False False					
	tidal_forcing_m2	False					
	truncate_eta	False	False	False	False	False	False
	udrho_bih udrho_bih_vel_micom	False 0.01					
	udrho_bt_bih	False					
	udrho_bt_lap	False					
	udrho_lap udrho_lap_vel_micom	False 0.05					
	use_legacy_barotropic_halos	False			False	False	False
	vel_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01
	<mark>vel_micom_bih_diag</mark> vel_micom_lap	0.1	0.05	0.05	0.05	0.05	0.05
	vel_micom_lap vel_micom_lap_diag	0.05 0.2	1.0	0.05	0.05	0.05	0.05
	verbose_init	True					
	verbose_truncate	True	True	True	True	True	True
	write_a_restart zero_coriolis_bt	True False					
	zero_eta_ic	False					
	zero_eta_t	False					
	zero_eta_tendency	False					
	zero_eta_u zero_forcing_bt	False False					
	zero_nonlinear_forcing_bt	False					
	zero_tendency	False	False	False	False	False	False
&ocean_bbc_nml	bmf_implicit	True			True	True	True
	bmf_max cdbot	1.0 0.001	0.002	0.001	0.001	0.001	0.001
	cdbot_gamma	40.0	0.002	0.001	0.001	0.001	0.001
	cdbot_hh	1100.0			0.007	0.007	0.007
	cdbot_hi cdbot_law_of_wall	0.007 False		False	0.007	0.007	0.007
	cdbot_lo	0.001		raisc			
	cdbot_roughness_length	False			False	False	False
	cdbot_roughness_uamp cdbot_uu	True			True	True	True
	cdbot_uu cdbot_wave	1.0 False					
	convert_geothermal	0.001					
	debug_this_module	False					
	law_of_wall_rough_length uresidual	0.01 0.05	0.05		0.05	0.05	0.05
	use_geothermal_heating	False	True	False	False	False	False
	uvmag_max	10.0					
&ocean_bbc_ofam_nml	read_tide_speed	False		False			
&ocean_bih_friction_nml	uresidual2_max bih_friction_scheme	0.05 'general'	'general'	1.0 'general'	'general'	'general'	'general'
Coccur_bin_inction_init	debug_this_module	False	generat	generat	generat	generat	generat
	write_a_restart	True					
&ocean_bih_tracer_nml	abih horz_s_diffuse	0.0 True					
	horz_z_diffuse	False					
	read_diffusivity_mask	False					
	tracer_mix_micom	True	F :	F .	. .	F :	
	use_this_module vel_micom	False 0.001	False	False	False	False	False
&ocean_bihcst_friction_nml	use_this_module	0.001	False	False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	False	True	True	False	False	False
	debug_this_module	False	0.0	2.2	2.2	2.2	2.2
	eq_lat_micom eq_vel_micom_aniso	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
	eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0	0.0
	equatorial_zonal	False	False	False	False	False	False
	equatorial_zonal_lat	0.0	0.0	0.0	0.0	0.0	0.0
	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
	k_sillay_is0	2.0	2.0	2.0	2.0	2.0	2.0

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	original/ GFDL ESM2M input- cut.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
	ncar_boundary_scaling	True	True	True	True	True	True
	ncar_boundary_scaling_read ncar_rescale_power	True 2	2	2	True 2	True 2	True 2
	ncar_vconst_4	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$	$2 imes 10^{-8}$
	ncar_vconst_5 neptune	5 False	5	5	5	5	5
	neptune_depth_min	100.0					
	neptune_length_eq neptune_length_pole	4200.0 17 000.0					
	neptune_scaling	1.0					
	neptune_smooth neptune_smooth_num	True 1					
	read_aiso_bih_back	False					
	side_drag_friction_max side_drag_friction_scaling	1.0 1.0					
	side_drag_friction_uvmag_max	10.0					
	<pre>use_side_drag_friction use_this_module</pre>	False True	True	True	True	True	Truo
	vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	True 0.0
	vel_micom_bottom	0.0	0.01	0.01	0.0	0.0	0.0
	vel_micom_iso visc_crit_scale	0.0 1.0	0.04 0.25	0.04 0.25	0.0 1.0	0.0 1.0	0.0 1.0
9 blak wwd	visc_diverge_scaling	0.0					
&ocean_blob_nml	bitwise_reproduction blob_small_mass	False 1000.0					
	debug_this_module	False					
	do_bitwise_exact_sum max_prop_thickness	False 0.7					
	really_debug	False					
&ocean_convect_nml	convect_full_scalar convect_full_vector	True False		False True			
	convect_ncon	False					
	ncon use_this_module	7 False	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5	0.5
	debug_this_module use_this_module	False True	True	True	True	True	True
&ocean_density_nml	alpha_linear_eos	0.255					
	beta_linear_eos buoyfreq_smooth_vert	0.0 True					
	debug_this_module	False					
	density_equal_potrho do_bitwise_exact_sum	False False					
	drhodz_diag_stable	True				F.,	
	eos_linear eos_preteos10	False True	False True		False True	False True	False True
	eos_teos10	False					
	epsln_drhodz epsln_drhodz_diag	$\begin{array}{c} 1\times 10^{-10} \\ 1\times 10^{-10} \end{array}$					
	grad_nrho_lrpotrho_compute	False					
	grad_nrho_lrpotrho_max grad_nrho_lrpotrho_min	10.0 1.0					
	layer_nk	80	80	80	80	80	80
	linear_eos mask_domain_restart	False		False			
	neutral_density_omega	False					
	neutral_density_potrho neutralrho_max	True 1038.0	1030.0	1030.0	1038.0	1038.0	1038.0
	neutralrho_min	1028.0	1020.0	1020.0	1028.0	1028.0	1028.0
	num_121_passes p_test	1 1000.0					
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min potrho_press	1028.0 2000.0	1028.0	1028.0	1028.0	1028.0	1028.0
	press_standard	0.0					
	rhoO_density s_test	False 20.0					
	smax_diag	-1.0					
	smax_min_in_column smooth_stratification_factor	False False					
	Sn_test	35.0					
	t_test	20.0					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
	teos10_eos	file.000000.out		False			
	theta_max	30.0		ruisc			
	theta_min	-2.0					
	tn_test	20.0					
	update_diagnostic_factors write_a_restart	False True					
&ocean_domains_nml	write_a_restart halo	1					
Qoccan_domanis_nint	max_tracers	5		20	5	5	5
	x_cyclic_offset	0					
	y_cyclic_offset	0					
&ocean_drifters_nml	output_interval use_this_module	1 False	False				
&ocean_form_drag_nml	agm_form_drag	600.0	raise				
doccur_form_drug_filit	cprime_aiki	0.3		0.6			
	debug_this_module	False					
	form_drag_aiki_bottom_klevels	3					
	form_drag_aiki_bottom_layer	False					
	form_drag_aiki_gradh_max form_drag_aiki_gradh_power	0.05 1.0					
	form_drag_aiki_scale_by_gm	False					
	form_drag_aiki_scale_by_gradh	False					
	form_drag_gbatch_alpha	300 000 000.0					
	form_drag_gbatch_alpha_f2	False					
	form_drag_gbatch_f2overn2	False					
	form_drag_gbatch_f2overnb2	False					
	form_drag_gbatch_f2overno2 form_drag_gbatch_no	False 0.005					
	form_drag_gbatch_smooth_n2	False					
	form_drag_gbatch_surf_layer	False					
	ksurf_blayer_min	3					
	n_squared_min	1×10^{-10}					
	num_121_passes	_ 1					
	use_form_drag_aiki	False					
	use_form_drag_gbatch use_this_module	False False	False	False	False	False	False
	vel_form_drag_max	1.0	1 0130	i alse	i alse	i atse	1 0130
	verbose_init	True					
	visc_cbu_form_drag_max	1.0					
&ocean_frazil_nml	air_saturated_water	True					
	debug_this_module	False	False		False	False	False
	frazil_factor frazil_only_in_surface	1.0 False	True	False	False	False	False
	freezing_temp_accurate	rube	iiuc	True	raise	ruisc	raisc
	freezing_temp_preteos10	True			True	True	True
	freezing_temp_simple	False	True	False	False	False	False
	freezing_temp_teos10	False	_	_	_	_	_
	use_this_module	True	True	True	True	True	True
&ocean_grids_nml	debug_this_module do_bitwise_exact_sum	False False	True True	True	False	False	False
	read_rho0_profile	False	False	False			
	verbose_init	True	1 0130	i alse			
	write_grid	False					
&ocean_increment_eta_nml	days_to_increment	1		0			
	fraction_increment	1.0		1.0			
	secs_to_increment	0		3600			
S occas increment tracer ami	use_this_module	False	False	False	False	False	False
&ocean_increment_tracer_nml	days_to_increment fraction_increment	1 1.0		0 1.0			
	secs_to_increment	0		3600			
	use_this_module	False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	1		0			
	fraction_increment	1.0		1.0			
	secs_to_increment	() False	Fal	3600 Ealeo	F-I	Falsa	F-I
&ocean_lap_friction_nml	use_this_module debug_this_module	False False	False	False	False	False	False
«осеан_цар_птецоп_ппП	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general
	write_a_restart	True	general	general	general	generat	generat
&ocean_lap_tracer_nml	alap	0.0					
•	horz_s_diffuse	True					
	horz_z_diffuse	False					
	read_diffusivity_mask	False					
	tracer_mix_micom	False					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.out	original/ GFDL ESM2M input- cut.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
	use_this_module	False	False	False	False	False	False
	vel_micom	0.0					
&ocean_lapcst_friction_nml	verbose_init use_this_module	True	False	False	False	False	False
&ocean_lapgen_friction_nml	async_domain_update	False	1 4130	ruisc	1 4150	1 4130	ruise
	blocksize	10	_	_	_		
	bottom_5point debug_ncar_a	False False	True	True	True		
	debug_ncar_b	False					
	debug_this_module	False					
	divergence_damp divergence_damp_vel_micom	False 0.0					
	eq_lat_micom	0.0					
	eq_vel_micom_aniso	0.0					
	eq_vel_micom_iso equatorial_no_smag	0.0 False					
	equatorial_zonal	False					
	equatorial_zonal_lat	0.0	0.0	0.0	2.0		
	k_smag_aniso k_smag_iso	0.0 2.0	0.0 0.0	0.0 0.0	0.0 0.0		
	ncar_isotropic_at_depth	False	0.0	0.0	0.0		
	ncar_isotropic_at_depth_visc	10 000.0					
	ncar_isotropic_depth ncar_isotropic_off_equator	4000.0 False					
	ncar_only_equatorial	False		True	True		
	neptune	False					
	neptune_depth_min neptune_length_eq	100.0 1200.0					
	neptune_length_pole	3000.0					
	neptune_smooth	True					
	neptune_smooth_num restrict_polar_visc	1 False	True	True	True		
	restrict_polar_visc_lat	60.0	60.0	60.0	60.0		
	restrict_polar_visc_ratio	0.35 1.0	0.35	0.35	0.35		
	side_drag_friction_max side_drag_friction_scaling	1.0					
	side_drag_friction_uvmag_max	10.0					
	use_side_drag_friction use_this_module	False False	True	True	True	False	False
	vconst_1	10 000 000.0	nuc	0.000 000 8	8 000 000.0	ratsc	ratsc
	vconst_2	0.0		0.0	0.0		
	vconst_3 vconst_4	0.16 2×10^{-8}		$0.8 \\ 5 \times 10^{-9}$	$0.8 \\ 5 \times 10^{-9}$		
	vconst_5	3		3	3		
	vconst_6	10 000 000.0		300 000 000.0	300 000 000.0		
	vconst_7 vconst_8	100.0 45.0		100.0	100.0		
	vel_micom_aniso	0.0					
	vel_micom_iso visc_vel_scale_length	0.0 150 000.0	0.1	0.1	0.1		
	visc_vet_scate_tength viscosity_ncar	False	False	False	True		
	viscosity_ncar_2000	True		False	False		
	viscosity_ncar_2007 viscosity_scale_by_rossby	False False	True	True True	True True		
	viscosity_scale_by_rossby_power	2.0	4.0	4.0	4.0		
&ocean_mixdownslope_nml	debug_this_module	False	False	False	False		
	do_bitwise_exact_sum mixdownslope_frac_central	False 0.25					
	mixdownslope_mask_gfdl	False	True	False	False		
	mixdownslope_npts	1	4	4	4		
	mixdownslope_weight_far mixdownslope_width	False 1					
	read_mixdownslope_mask	False	True	False	False		
8 ocean model and	use_this_module	False	True	True	True	False	False
&ocean_model_nml	baroclinic_split barotropic_split	1 80	1 80	1 80	1 80	1 80	1 80
	cmip_units	True	False	True	True	True	True
	debug <mark>dt_ocean</mark>	False 1800	False 7200	False 3600	False 3600	False 1200	False 150
	at_ocean horizontal_grid	1800 'bgrid'	/200	2000	υυσο	1200	150
	impose_init_from_restart	False	True				
	io_layout	6, 5	1,4		4, 3	6, 5	10, 15

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
	layout	file.000000.out 48, 40	12,8	12, 10	16, 15	48, 40	80,75
	mask_table reinitialize_thickness	'INPUT'					
	surface_height_split	False 1	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel
	use_blobs use_velocity_override	False False					
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	debug_this_module	False					
	rayleigh_damp_exp_from_bottom rayleigh_damp_exp_scale	False 100.0			False	False	False
	rayleigh_damp_exp_state	864 000.0					
	use_rayleigh_damp_table	True	F 1	True	True	True	True
	use_this_module verbose_init	True True	False	True	True	True	True
&ocean_nphysics_new_nml	drhodz_smooth_horz	False					
	drhodz_smooth_vert	False					
	smax use_this_module	0.01 False					
	vel_micom_smooth	0.2					
&ocean_nphysics_nml	debug_this_module	False	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False	False
	use_nphysicsb <mark>use_nphysicsc</mark>	False False	False True	False True	False True	False False	False False
	use_this_module	False	True	True	True	False	False
	write_a_restart	True					
&ocean_nphysics_util_new_nml &ocean_nphysics_util_nml	num_121_passes	1	800.0	600.0	600.0	100.0	100.0
	agm_ agm_closure		True	True	True	True	True
	agm_closure_baroclinic		True	True	True	True	True
	agm_closure_buoy_freq		0.004	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed agm_closure_eady_cap		True True	True True	True True		
	agm_closure_eady_smooth_horz		True	True	True		
	agm_closure_eady_smooth_vert		True	True	True		
	agm_closure_eden_gamma agm_closure_eden_greatbatch		0.0 False	0.0 False	0.0 False		
	agm_closure_grid_scaling		True	True	True		
	agm_closure_length		50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone agm_closure_length_fixed		False False	False False	False False	False False	False False
	agm_closure_length_rossby		False	False	False	False	False
	agm_closure_lower_depth		2000.0	2000.0	2000.0	2000.0	2000.0
	agm_closure_max		800.0 100.0	600.0 50.0	600.0 50.0	600.0 100.0	600.0 100.0
	agm_closure_min agm_closure_scaling		0.07	0.07	0.07	0.07	0.07
	agm_closure_upper_depth		100.0	100.0	100.0	100.0	100.0
	agm_damping_time		45.0	45.0	45.0		
	agm_smooth_space agm_smooth_time		False False	False False	False False		
	aredi		600.0	600.0	600.0	600.0	600.0
	aredi_equal_agm		False	False	False	False	False
	drhodz_mom4p1 drhodz_smooth_horz		True False	True False	True False	False False	False False
	drhodz_smooth_vert		False	False	False	False	False
	nphysics_util_zero_init		True	True	True	400,000,0	400,000
	rossby_radius_max rossby_radius_min		100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0
	iossby_radius_ffilit smax		0.005	13 000.0	13 000.0	17 000.0	15 000.0
	swidth		0.002		_ :	_ :	= :
	tracer_mix_micom vel_micom		False 0.0	False 0.0	False 0.0	False 0.0	False 0.0
&ocean_nphysicsa_nml	debug_this_module		False	0.0	0.0	0.0	0.0
	neutral_linear_gm_taper		True				
	neutral_physics_limit		True				
	neutral_physics_simple neutral_sine_taper		False True				
	tmask_neutral_on		True				
	use_this_module		False	False	False	False	False
&ocean_nphysicsb_nml	debug_this_module nblayer_smooth		False True				

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
surf_turb	_thick_min	file.000000.ou	t 50.0				
surf_turb_ti	nick_min_k		5				
	is_module		False True	False True	False True	False	False
	_bc_mode		2	2	2		
bvp_	min_speed		0.1	0.1	0.1		
	bvp_speed is_module		0.0 False	0.0 False	0.0 False		
	_skewsion		True	True	True		
do_neutra			True	True	True		
eps gm_skewsion_	ln_bv_freq		$1 imes 10^{-12}$ True	$1 imes 10^{-12}$ True	$1 imes 10^{-12}$ True		
gm_skewsi			False	False	False		
neutral_e	ddy_depth		True	True	True		
neutral_ph	ysics_limit _bc_modes		True 2	True 2	True 2		
	ularize_psi		False	False	False		
	smax_psi		0.01	0.01	0.01		
	mooth_psi neutral_on		True True	True True	True True		
	olayer_min		50.0	50.0	50.0		
use_th	is_module		True	True	True	False	False
&ocean_obc_nml	ctrop_inc	0.0, 0.0, 0.0, 0.0					
	ctrop_max	1.5, 1.5, 1.5,					
		1.5					
	ctrop_min	0.1, 0.1, 0.1, 0.1					
ctro	op_smooth	0.7, 0.7, 0.7, 0.7					
	direction	None					
	enh_fac_d	1.0, 1.0, 1.0,					
	enh_fac_v	1.0 0.9, 0.9, 0.9,					
		0.9					
foli	enh_pnts dname_eta	1, 1, 1, 1 'eta_t', 'none',					
nett	illallie_eta	'none', 'none'					
fiel	dname_ud	'ud', 'none',					
file	ename_eta	'none', 'none' 'obc_eta_t',					
****	manic_cta	'.nc', 'none',					
		'none', 'none'					
	ame_tracer ename_ud	'INPUT' 'obc_ud', '.nc',					
•	chanic_aa	'none', 'none',					
		'none'					
	ie	-999, -999, -999, -999					
	iere	-999, -999,					
	-	-999, -999					
	iers	-999, -999, -999, -999					
	is	-999, -999,					
	itro	-999, -999					
	itre	-999, -999, -999, -999					
	itrs	-999, -999,					
		-999, -999 -999, -999,					
	1						
	je						
	je jere	-999, -999 -999, -999,					
	jere	-999, -999 -999, -999, -999, -999					
		-999, -999 -999, -999, -999, -999 -999, -999,					
	jere	-999, -999 -999, -999, -999, -999 -999, -999, -999, -999,					
	jere jers js	-999, -999 -999, -999, -999, -999 -999, -999, -999, -999, -999, -999,					
	jere jers	-999, -999 -999, -999, -999, -999, -999, -999, -999, -999, -999, -999, -999, -999,					
	jere jers js	-999, -999 -999, -999, -999, -999 -999, -999, -999, -999, -999, -999,					

Group (continued) Variable	original/ kiss_acces- som2 025deg jra55_ryf	original/ GFDL ESM2M input- cut.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
	log-					
name	file.000000.out 'test_obc',					
	'none', 'none',					
	'none'					
nobc	0					
obc_adjust_forcing_bt	False, False, False, False					
obc_consider_convu	False, False,					
	False, False					
obc_consider_sources	False, False,					
	False, False,					
	False, False,					
	False, False, False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False, False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False,					
	False, False, False, False					
obc_enhance_diff_back	'NONE',					
WALLETT AND A STREET AND A STRE	'NONE',					
	'NONE',					
	'NONE'					
obc_enhance_visc_back	'NONE',					
	'NONE',					
	'NONE', 'NONE'					
obc_eta	'NOTHIN',					
	'NOTHIN',					
	'NOTHIN',					
	'NOTHIN'					
obc_flow_relax	1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1, 1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1,					
	1, 1, 1, 1, 1					
obc_mix	'NOGRAD',					
	'NOGRAD', 'NOGRAD',					
	'NOGRAD'					
obc_nor	'NOGRAD',					
333a130	'NOGRAD',					
	'NOGRAD',					
	'NOGRAD'					

Group (continued)	Variable	original/	original/	original/	new_acces-	new_acces-	new_acces-
		kiss_acces-	GFDL	russ-	som2	som2	som2
		som2	ESM2M	accessom-	1deg	025deg	01 deg-
		025deg	input-	mom4p1-	jra55_ryf	jra55_ryf	jra55_ryf
		jra55_ryf	cut.nml	input.nml	input.nml	input.nml	input.nml
		log-					
	obc_relax_tracer	file.000000.out False, False,					
	UUC_IEIAX_LIACEI	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_tan	'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD'					
	obc_tra	'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD', 'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD', 'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD', 'NOGRAD',					
		NOGRAD,					
		'NOGRAD',					
		'NOGRAD'					
		HOUNAD					

Group (continued)	Variable	original/	original/	original/	new_acces-	new_acces-	new_acces-
		kiss_acces-	GFDL	russ-	som2	som2	som2
		som2 025deg	ESM2M input-	accessom- mom4p1-	1deg jra55_ryf	025deg jra55_ryf	01deg jra55_ryf
		jra55_ryf	cut.nml	input.nml	input.nml	input.nml	input.nml
		log-		•	•	•	•
	obc_tracer_no_inflow	file.00000.out 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_ud	'NOGRAD',					
		'NOGRAD',					
		'NOGRAD',					
		'NOGRAD'					
	obc_vert_advel_t	False, False, False, False					
	obc_vert_advel_u	False, False,					
	ODC_VCTC_ddvCt_d	False, False					
	rel_clin_pnts	1, 1, 1, 1, 1,					
		1, 1, 1, 1, 1,					
		1, 1, 1, 1, 1,					
		1, 1, 1, 1, 1,					
		1, 1, 1, 1, 1, 1, 1, 1, 1, 1,					
		1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1					
		1, 1, 1, 1, 1					
	rel_coef_eta_in	0.0, 0.0, 0.0,					
		0.0					
	rel_coef_eta_out	0.0, 0.0, 0.0,					
	rel_coef_tracer_in	0.0 0.0, 0.0, 0.0,					
	ret_coer_tracer_iii	0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0, 0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0					
	rel_coef_tracer_out	0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0, 0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0, 0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0, 0.0, 0.0,					
		0.0					
	rel_eta_pnts	1, 1, 1, 1					
					F-1	False	Гаја
&ocean_operators_nml &ocean_operaychange_nml	use_legacy_div_ud	False	True False	Falco	False False	False False	
&ocean_operators_nml &ocean_overexchange_nml			True False	False	False	False	False False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.00000.out	original/ GFDL ESM2M input- cut.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
	overexch_min_thickness	4.0					
	overexch_npts	4	4	4	4	4	4
	<pre>overexch_stability overexch_weight_far</pre>	0.25 False	False	False	False	False	False
	overexch_width	1	1 4150	i disc	1 4130	1 0130	ratse
	overflow_delta	0.3333					
	<mark>overflow_mu</mark> overflow_umax	0.0001 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			
	do_bitwise_exact_sum	False					
	no_return_flow overflow_delta	False 0.3333					
	overflow_mu	0.0001					
	overflow_umax	0.01					
	transport_units	'Sv'	F.1	F 1	F 1	F 1	F.1
&ocean_overflow_ofp_nml	use_this_module use_this_module	False	False	False	False False	False False	False False
&ocean_parameters_nml	cp_liquid_runoff	4218.0			raisc	raisc	raisc
•	cp_ocean	3992.103 223 296	6 49				
	cp_solid_runoff	2106.0					
	grav omega_earth	9.8 7.2921 ×					
	omega_cartii	10 ⁻⁵					
	rho0	1035.0					
O a series filtre and	tfreeze	273.15	F-1	F-1	F-1	F-1	F-1
&ocean_polar_filter_nml &ocean_pressure_nml	use_this_module debug_this_module	False	False	False	False	False	False
docean_pressure_nint	zero_correction_term_grad	False					
	zero_diagonal_press_grad	False					
	zero_eta_over_h_zstar_pressure	False			False	False	Falso
&ocean_rivermix_nml	zero_pressure_force calving_insertion_thickness	False 0.0	40.0		raise	raise	False
a decement of the control of the con	debug_all_in_top_cell	False	10.0				
	debug_this_module	False	False	False	False	False	False
	<pre>debug_this_module_heat discharge_combine_runoff_calve</pre>	False True	False				
	do_bitwise_exact_sum	False	True				
	river_diffuse_salt	False	False	False	True	True	True
	river_diffuse_temp	False	False	False	True	True	True
	river_diffusion_thickness river_diffusivity	0.0 0.0	0.0 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
	runoff_insertion_thickness	0.0	40.0				
9 accomply overseased and	use_this_module	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module riverspread_diffusion	False False					
	riverspread_diffusion_passes	0					
	use_this_module	False	False	True	False	False	False
&ocean_rough_nml	vel_micom_smooth rough_scheme	0.2	'beljaars'		'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True	True
	calvingspread	False	False		False	False	False
	constant_hlf constant_hlv	True True					
	constant_sss_for_restore	35.0					
	constant_sst_for_restore	12.0					
	convert_river_to_pme	False					
	debug_water_fluxes do_bitwise_exact_sum	False False			False	False	False
	do_flux_correction	False	True		False	False	False
	uo_itux_coirection						
	do_langmuir	False					
	do_langmuir eta_restore_tscale	-30.0	-10.0	0.005			
	do_langmuir eta_restore_tscale ice_salt_concentration	-30.0 0.005		0.005	Falca	Falca	Falce
	do_langmuir eta_restore_tscale	—30.0 0.005 False	—10.0 True	0.005	False 0.5	False 0.5	
	do_langmuir eta_restore_tscale ice_salt_concentration land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness	-30.0 0.005		0.5 8.0			0.5
	do_langmuir eta_restore_tscale ice_salt_concentration land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness read_restore_mask	—30.0 0.005 False 0.5 0.0 False	True	0.5	0.5	0.5	0.5 0.0
	do_langmuir eta_restore_tscale ice_salt_concentration land_model_heat_fluxes max_delta_salinity_restore max_ice_thickness	—30.0 0.005 False 0.5 0.0	True	0.5 8.0	0.5 0.0	0.5 0.0	False 0.5 0.0 False False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
		file.000000.out		0.0	0.0	0.0	0.0
	runoff_salinity runoff_temp_min	0.0 0.0		0.0	0.0	0.0	0.0
	runoffspread	False	False				
	salinity_ref	35.0					
	salt_correction_scale salt_restore_as_salt_flux	0.0 True	0.0	True	0.0 True	0.0 True	0.0 True
	salt_restore_tscale	60.0	-10.0	15.0	60.0	60.0	60.0
	salt_restore_under_ice	True		True	True	True	True
	sbc_heat_fluxes_const	False					
	sbc_heat_fluxes_const_seasonal sbc_heat_fluxes_const_value	False 0.0					
	tau_x_correction_scale	0.0	0.0				
	tau_y_correction_scale	0.0	0.0				
	taux_sinx	False					
	tauy_siny	False	4.0				
	temp_correction_scale temp_restore_tscale	0.0 10.0	1.0 —10.0	-1.0	-10.0	-10.0	-10.0
	use_constant_sss_for_restore	False	-10.0	-1.0	-10.0	-10.0	-10.0
	use_constant_sst_for_restore	False					
	use_full_patm_for_sea_level	False	True		False	False	False
	use_ideal_calving	False					
	<mark>use_ideal_runoff</mark> use_waterflux	False True	True	True	True	True	True
	use_waterflux_override_calving	False	False	iiue	iiuc	iiue	iiuc
	use_waterflux_override_evap	False	False				
	use_waterflux_override_fprec	False	False				
	waterflux_tavg	False	False	False			
	zero_calving_fluxes zero_heat_fluxes	False False		False	False	False	False
	zero_net_pme_eta_restore	False	False	rusc	raise	ruisc	ratse
	zero_net_salt_correction	False			False	False	False
	zero_net_salt_restore	True		True	True	True	True
	zero_net_water_correction	False		Tuus	False	False	False
	zero_net_water_couple_restore zero_net_water_coupler	True True		True True	True True	True True	True True
	zero_net_water_restore	True		True	True	True	True
	zero_pme_fluxes	False					
	zero_river_fluxes	False					
	zero_runoff_fluxes	False		Falsa	Falsa	Falsa	Falsa
	zero_surface_stress zero_water_fluxes	False False		False False	False False	False False	False False
&ocean_sbc_ofam_nml	restore_mask_ofam	False		False	ruisc	ruse	1 4130
	river_temp_ofam	False		False			
&ocean_shortwave_csiro_nml	read_depth			True			
	use_this_module		False	True	False	False	False
&ocean_shortwave_gfdl_nml	zmax_pen chl_default	0.08		7000			
Queen_shortwave_grat_hint	debug_this_module	False	False	False	False	False	False
	enforce_sw_frac	True	True	True	True	True	True
	optics_for_uniform_chl	False					
	optics_manizza	True	True	True	True	True	True
	optics_morel_antoine override_f_vis	False True	False False		False	False	False
	read_chl	True	False	False	True	True	True
	sw_frac_top	0.0					
	sw_morel_fixed_depths	False					
	sw_pen_fixed_depths	-	-	False	-	-	-
	use_this_module zmax_pen	True 300.0	True 200.0	False 200.0	True 300.0	True 300.0	True 300.0
&ocean_shortwave_jerlov_nml	use_this_module	300.0	False	False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	False	False	True	False	False	False
	use_shortwave_ext	False					
	use_shortwave_gfdl	True	True	False	True	True	True
	use_shortwave_jerlov use_this_module	False True	False True	False True	False True	False True	False True
		0.3333	iiue	iiue	iiue	iiue	iiue
&ocean_sigma_transport_nml	campingose delta						
&ocean_sigma_transport_nml	campingoose_delta campingoose_mu	0.0001					
&ocean_sigma_transport_nml	campingoose_mu debug_this_module	0.0001 False					
&ocean_sigma_transport_nml	campingoose_mu debug_this_module sigma_advection_check	0.0001 False True					
&ocean_sigma_transport_nml	campingoose_mu debug_this_module	0.0001 False	False False	False False			

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
	-1	file.000000.ou	t				
	sigma_diffusivity	1000.0	4 40-6	4 40-6			
	sigma_diffusivity_ratio	1×10^{-6}	1×10^{-6}	1×10^{-6}			
	sigma_just_in_bottom_cell 	True	True	True			
	sigma_umax	0.01	0.01	0.01			
	smooth_sigma_thickness	True	True	True			
	smooth_sigma_velocity	True	True	True			
	smooth_velmicom	0.2	0.2	0.2			
	thickness_sigma_layer	100.0	100.0	100.0			
	thickness_sigma_max	100.0	100.0	100.0			
	thickness_sigma_min	100.0	100.0	100.0			
	tmask_sigma_on	False	False	False			
	tracer_mix_micom	True	True	True			
	use_this_module	False	True	True	False	False	False
	vel_micom	0.05	0.05	0.05			
	verbose_init	True					
	write_a_restart	True					
&ocean_solo_nml	calendar	'NOLEAP'		'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init	1, 1, 1, 0, 0, 0		1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	0		0	1460	31	30
	debug_this_module	False					
	dt_cpld	1800		3600	3600	1200	600
	hours	0		0	0	0	0
	layout_mask	0, 0					

Corres (continued)							
Group (continued)	Variable	original/ kiss_acces-	original/ GFDL	original/ russ-	new_acces- som2	new_acces- som2	new_acces- som2
		som2 025deg	ESM2M input-	accessom- mom4p1-	1deg jra55_ryf	025deg jra55_ryf	01deg jra55_ryf
		jra55_ryf	cut.nml	input.nml	input.nml	input.nml	input.nml
		log- file.000000.out					
	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, 43 ⁰ , 0, 0, 0, 0,					
		0, 0, 0, 0, 0, 0, 0, 0, 0, 0,					
		0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.out	original/ GFDL ESM2M input- cut.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
	minutes	0		0	0	0	0
	months n_mask	0		12	0	0	0
	restart_interval	0, 0, 0, 0, 0, 0		0	0	0	0
	seconds years	0 1		0	0 0	0 0	0
&ocean_sponges_eta_nml	use_this_module	False	False	False	False	False	False
&ocean_sponges_eta_ofam_nml	athresh days_to_restore	0.5 1					
	lambda	0.0083					
	npower secs_to_restore	1.0 0					
	taumin	720.0					
	use_adaptive_restore use_hard_thump	False False					
	use_normalising	False					
9 according to the control	use_sponge_after_init	False	False	False			Folso
&ocean_sponges_tracer_nml	<mark>damp_coeff_3d</mark> use_this_module	False False	False False	False False	False	False	False False
&ocean_sponges_tracer_ofam_nml	athresh	0.5					
	days_to_restore deflate	1 False					
	deflate_fraction	0.6					
	lambda limit_salt	0.0083 False					
	limit_salt_min	0.01					
	limit_salt_restore	3600.0					
	limit_temp limit_temp_min	False — 1.8					
	limit_temp_restore	10 800.0					
	npower secs_to_restore	1.0 0					
	taumin	720.0					
	use_adaptive_restore use_hard_thump	False False					
	use_nard_thump use_normalising	False					
	use_sponge_after_init	False					
&ocean_sponges_velocity_nml	<mark>damp_coeff_3d</mark> use_this_module	False False	False	False	False	False	False
&ocean_sponges_velocity_ofam_nml	athresh	0.5					
	days_to_restore lambda	1 0.0083					
	npower	1.0					
	secs_to_restore taumin	0 720.0					
	use_adaptive_restore	False					
	use_hard_thump	False					
	use_normalising use_sponge_after_init	False False					
&ocean_submesoscale_nml	coefficient_ce	0.05			0.05	0.05	0.05
	<mark>constant_hblt</mark> debug_this_module	100.0 False	False	False	False	False	False
	diag_step	1200					
	front_length_const front_length_deform_radius	5000.0 True	5000.0 True	5000.0 True	5000.0 True	5000.0 True	5000.0 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 <mark>minimum_hblt</mark>	4 0.0	4	4	4	4	4
	smooth_advect_transport	True			True	True	True
	<pre>smooth_advect_transport_num smooth_hblt</pre>	4 False	False	False	4 False	4 False	4 False
	smooth_hblt_num	2	raise	i alsc			
	smooth_psi smooth_psi_num	True 3			True 3	True 3	True 3
	smootn_psi_num submeso_advect_flux	5 False			5 False	5 False	5 False
					True	True	True
	submeso_advect_limit	True			iiue	iiuc	iiuc
	submeso_advect_sweby	False					
					True True False	True True False	True True False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
	submeso_diffusion_scale	file.000000.out 10.0			10.0	10.0	10.0
	submeso_limit_flux	True	True	True	10.0	10.0	10.0
	submeso_skew_flux	True			True	True	True
	time_constant	86 400.0					
	<mark>use_hblt_constant</mark> use_hblt_equal_mld	False True	True	True	True	True	True
	use_psi_legacy	False	True	nuc	False	False	False
	use_this_module	True	True	True	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	_	False	False	False
	pottemp_2nd_iteration pottemp_equal_contemp	True True	True	True	True True	True True	True True
	reinit_ts_with_ideal	False			iiue	iiue	iiue
	reinit_ts_with_ideal_efold	1000.0					
	reinit_ts_with_ideal_svalue	30.0					
	reinit_ts_with_ideal_tvalue	10.0					
	s_max	70.0	55.0	55.0	70.0	70.0	70.0
	s_max_limit <mark>s_min</mark>	42.0 0.0	42.0 —1.0	42.0 —1.0	42.0 0.0	42.0 0.0	42.0 0.0
	s_min_limit	2.0	5.0	0.0	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	-20.0	-5.0	-5.0	-20.0	-20.0	-20.0
	t_min_limit temperature_variable	— 5.0 'potential	—1.9 'potential	-2.0 conservative	— 5.0 'potential	— 5.0 'potential	—5.0 'potential_
	temperature_variable	temp'	temp'	temp'	temp'	temp'	temp
	teos10	False	temp	False	p	comp	
&ocean_thickness_nml	debug_this_module	False	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False	False
	depth_min_for_sigma	0.01					
	enforce_positive_dzt epsilon_init_thickness	False $1 imes 10^{-5}$					
	full_step_topography	False					
	initialize_zero_eta	False	False	False			
	linear_free_surface	False					
	max_num_bad_print	25					
	pbot0_simple read_rescale_rho0_mask	False False	True	False			
	read_rhoO_profile	False	iiuc	i alse			
	rescale_mass_to_get_ht_mod	False			False	False	False
	rescale_rho0_basin_label	-1.0	7.0	7.0			
	rescale_rho0_mask_gfdl	False	True	False			
	rescale_rho0_value thickness_dzt_min	1.0 2.0	0.75 2.0	0.75 1.0			
	thickness_dzt_min_init	10.0	2.0	2.0			
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetio
	update_dzwu_k0	True					
0	write_a_restart	True					
&ocean_time_filter_nml &ocean_topog_nml	use_this_module debug_this_module	True	False				
&ocean_topog_nmt	flat_bottom	False					
	flat_bottom_ht	5500.0					
	flat_bottom_kmt	50					
	kmt_recompute	False					
	kmt_recompute_offset min_thickness	0 1.0	5.0	25.0			
	write_topog	False	3.0	23.0			
&ocean_tracer_advect_nml	advect_sweby_all	False	False	True			
	async_domain_update	False					
	compute_gyre_overturn_diagnose	- ·	. .	True	
	debug_this_module	False	False	False	False	False	False
	do_fast_compute limit_with_upwind	False	False	True			
	psom_limit_prather	False	i disc				
	read_basin_mask	False		True	False	False	False
	write_a_restart	True					
	zero_tracer_advect_vert	False					
&ocean_tracer_diag_nml	zero_tracer_advect_vert buoyancy_crit	False 0.0003					
aocean_tracer_ulay_fillit	debuq_diagnose_mixinga	False					
	debug_diagnose_mixingb	False					
	debug_diagnose_mixingb debug_diagnose_mixingc debug_diagnose_mixingd	False False False					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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
		file.000000.out					
	diag_step	4320	1200	120	4320	4320	576
	do_bitwise_exact_sum dtheta_crit	False 2.0	False	False	False	False	False
	frazil_factor	1.0					
	psu2ppt	1.004 867					
	rho_grad_max	$1 \times 10^{+28}$					
	rho_grad_min	1×10^{-5}					
	smooth_kappa_sort smooth_mld	0 False	True				
	smooth_mld_for_subduction	True	iiue				
	tracer_conserve_days	30.0	100.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	$1 \times 10^{+40}$	0.0	0.0	0.0	0.0
	compute_tmask_limit_on	True					
	debug_this_module	False	False True	False True	False True	False True	False
	frazil_heating_after_vphysics frazil_heating_before_vphysics	True False	False	False	False	False	True False
	inflow_nboundary	False	ruisc	ruisc	ruisc	ruisc	ratsc
	interpolate_tdiag_to_pbott	False	False				
	interpolate_tprog_to_pbott	True	False	_	_	_	
	limit_age_tracer	True	True	True	True	True	True
	ocean_tpm_debug remap_depth_to_s_init	False False	False	False	False	False	False
	tmask_limit_ts_same	True	True	raisc	raisc	raisc	raisc
	use_tempsalt_check_range	True			True	True	True
	write_a_restart	True					
	zero_tendency	False	False	False	False	False	False
&ocean_tracer_util_nml	zero_tracer_source debug_diagnose_mass_of_layer	False False	False	False	False	False	False
&ocean_tracer_utit_nint	epsln_diagnose_mass_of_layer	1×10^{-5}					
	rebin_onto_rho_all_values	True					
&ocean_velocity_advect_nml	debug_this_module	False					
	velocity_advect_centered	True					
	velocity_advect_upwind	False					
	zero_velocity_advect_horz zero_velocity_advect_vert	False False					
&ocean_velocity_diag_nml	debug_this_module	False	False	False	False	False	False
	diag_step	4320	1200	120	4320	4320	576
	do_bitwise_exact_sum	False					
	energy_diag_step	4320	1200	120	4320	4320	5760
	land_cell_num_max large_cfl_value	100 10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0
	verbose_cfl	False					
&ocean_velocity_nml	adams_bashforth_epsilon	0.6					
	adams_bashforth_third	True	True	True	True	True	True
	constant_u constant_v	0.0 0.0					
	debug_this_module	False					
	max_cgint	1.5		1.0	1.0	1.0	1.0
	truncate_velocity	False	False	False	False	False	False
	truncate_velocity_lat	0.0	3.0	3.0	3.0	3.0	3.0
	truncate_velocity_value truncate_verbose	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True	2.0 True
	update_velocity_via_uprime	True	iiue	iiue	iiue	iiue	iiue
	use_constant_velocity	False					
	write_a_restart	True					
	zero_tendency	False	False	False	False	False	False
	zero_tendency_explicit_a	False			False False	False	False
	zero_tendency_explicit_b zero_tendency_implicit	False False			False False	False False	False False
&ocean_vert_kpp_iow_nml	use_this_module	rauc	False		False	False	False
&ocean_vert_kpp_mom4p0_nml	use_this_module		False				
&ocean_vert_kpp_mom4p1_nml	bvf_from_below	False					
	calc_visc_on_cgrid	False					
	concv cw_0	1.8 0.15					
	debug_this_module	False					
	diff_cbt_iw	0.0	0.0		0.0	0.0	0.0
	diff_cbt_limit	0.005					
	diff_con_limit	0.1					
	do_langmuir	False	т		T	T	т
	double_diffusion	True	True		True	True	True

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.out	original/ GFDL ESM2M input- cut.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
	hbl_with_rit	False					
	kbl_standard_method kl_min	False 2			False	False	False
	L_smyth	2.0					
	lgam	1.04					
	limit_ghats limit_with_hekman	False True					
	linear_hbl	True					
	ltmax	_5.0					
	non_local_kpp radiation_iow	True False					
	radiation_large	False					
	radiation_zero	False	0.7		0.7	0.7	0.7
	ricr shear_instability	0.3 True	0.3		0.3	0.3	0.3
	smooth_blmc	False	True		False	False	False
	smooth_ri_kmax_eq_kmu	True			True	True	True
	use_max_shear use_sbl_bottom_flux	False False					
	use_this_module	True	True		True	True	True
	variable_vtc	False					
	visc_cbu_iw	0.0	0.0		0.0	0.0	0.0
	visc_cbu_limit visc_con_limit	0.005 0.1					
	wsfc_combine_runoff_calve	True	False				
	wstfac	0.6					
&ocean_vert_kpp_nml	diff_cbt_iw			0.0			
	diff_con_limit double_diffusion			0.1 True			
	kbl_standard_method			True			
	ricr			0.3			
	smooth_blmc use_this_module			True True			
	visc_cbu_iw			0.0			
	visc_con_limit			0.1			
&ocean_vert_mix_nml	afkph_00 afkph_90	0.55 0.55	0.675 0.725	0.65 0.75			
	aidif	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	True	False	False	False	False
	bryan_lewis_lat_depend bryan_lewis_lat_transition	False 35.0	True 35.0	True 35.0	False	False	False
	debug_this_module	False	33.0	33.0			
	dfkph_00	1.05	1.15	1.15			
	dfkph_90	1.05	1.15	0.95			
	diff_cbt_tanh diff_cbt_tanh_max	False 0.001					
	diff_cbt_tanh_min	2×10^{-5}					
	diff_cbt_tanh_zmid	150.0					
	diff_cbt_tanh_zwid hwf_30_diffusivity	30.0 2×10^{-5}					
	hwf_depth_transition	2 × 10 ° 25 000 000.0					
	hwf_diffusivity	False			False	False	False
	hwf_diffusivity_3d	False			6	6	6
	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
	linear_taper_diff_cbt_table	False	False	False	20.0	20.0	20.0
	num_121_passes	1					
	quebec_2009_10_bug	False	False	4540-5			
	sfkph_00 sfkph_90		4.5×10^{-5} 4.5×10^{-5}	4.5×10^{-5} 4.5×10^{-5}			
	smooth_rho_n2	True	\ 10	1.7 ∨ TΩ			
	use_diff_cbt_table	False	False	False	False	False	False
	use_explicit_vert_diffuse	True					
	<mark>verbose_init</mark> vert_diff_back_via_max	True True	True	True	True	True	True
	vert_mix_scheme	'kpp	'kpp	'kpp'	'kpp	'kpp	'kpp
		mom4p1'	mom4p1'		mom4p1'	mom4p1'	mom4p1'
	vert_visc_back	False 0.01					
		UUI					
	visc_cbu_back_max visc_cbu_back_min	0.001					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log-	original/ GFDL ESM2M input- cut.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.nm
		file.000000.ou	ut				
	vmix_min_diss_bvfreq_scale	0.0006					
	vmix_min_diss_const vmix_min_diss_flux_ri_max	1×10^{-7}					
	vmix_rescale_nonbouss	0.2 False					
	vmix_set_min_dissipation	False					
	zfkph_00	250 000.0	250 000 000.0	250 000.0			
	zfkph_90	250 000.0	250 000 000.0	250 000.0			
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0	5×10^{-6}	0.0	0.0	0.0
	background_viscosity bottom_drag_cd	0.0001 0.0024	0.0001	0.0001	0.0001	0.0001	0.000
	debug_this_module	False					
	decay_scale	500.0	300.0	300.0	500.0	500.0	500.
	default_roughness_length	25.0					
	default_tide_speed	0.01					
	drag_dissipation_efold drag_dissipation_tide_period	True 43 200.0					
	drag_dissipation_use_cdbot	43 200.0 True			True	True	Tru
	drag_uissipation_use_ccasoc drag_mask_deep	True			1100	1100	
	drag_mask_deep_ratio	0.1					
	drhodz_min	1×10^{-10}	1×10^{-12}	1×10^{-12}	1×10^{-10}	1×10^{-10}	1×10^{-1}
	fixed_wave_dissipation	False	False	False	False	False	Fals
	<pre>max_drag_diffusivity max_wave_diffusivity</pre>	0.005	0.01	0.01 0.01	0.01	0.01	0.0
	max_wave_diffusivity <mark>mixing_efficiency</mark>	0.01 0.2	0.01	0.01	0.01	0.01	0.0
	mixing_efficiency_n2depend	True	True	True	True	True	Tru
	munk_anderson_p	0.25	iiuc	nuc	nac	1100	110
	munk_anderson_sigma	3.0					
	num_121_passes	1					
	read_leewave_dissipation	False	-	-	-	-	-
	read_roughness read_tide_speed	True	True True	True True	True True	True True	Tru Tru
	read_tide_speed read_wave_dissipation	True False	False	False	False	False	Fals
	reading_roughness_amp	True	True	True	True	True	Tru
	reading_roughness_length	False	False	False	False	False	Fals
	roughness_scale	12 000.0	30 000.0	20 000.0	12 000.0	12 000.0	12 000.
	shelf_depth_cutoff	-1000.0	160.0	160.0	-1000.0	-1000.0	-1000.0
	smooth_bvfreq_bottom smooth_rho_n2	True True					
	speed_min	0.005					
	tidal_diss_efficiency	0.333 33					
	tide_speed_data_on_t_grid	True	True	True	True	True	Tru
	use_drag_dissipation	True	True	True	True	True	Tru
	use_leewave_dissipation	False	Truc		False	False	Fala
	use_legacy_methods use_this_module	False True	True True	True	False True	False True	Fals Tru
	use_wave_dissipation	True	True	True	True	True	Tru
	vel_micom_smooth	0.2	7100	1140	1100	1100	
	wave_diffusivity_monotonic	True					
	wave_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.
&ocean_vert_util_nml	debug_this_module	False					
	num_n2_smooth num_ri_smooth	1 1					
	smooth_n2	True					
	smooth_ri_number	True					
&ocean_wave_nml	damp_where_ice	True					
	debug_this_module	False					
	filter_wave_mom	True					
	use_this_module	False True					
	use_tma wavedamp	—10.0					
	write_a_restart	True					
&ocean_xlandinsert_nml	use_this_module		True	False	False	False	Fals
	verbose_init		True	True			
&ocean_xlandmix_nml	use_this_module		True	False	False	False	Fals
	verbose_init		True	True			
&sat_vapor_pres_nml	xlandmix_kmt construct_table_wrt_lig		True True	True			
coat_vapot_preo_HIIIL	construct_table_wrt_liq construct_table_wrt_liq_and_ice		True				
&surface_flux_nml	old_dtaudv		False				
&time_interp_external_nml	debug_this_module	False	. 200				
	max_fields	100					

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	original/ GFDL ESM2M input- cut.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
	num_io_buffers	7					
&time_interp_nml	perthlike_behavior	False					
&topography_nml	topog_file		'INPUT/				
			navy_topog-				
			ra-				
			phy.data.nc'				
&xgrid_nml	do_alltoall						True
	do_alltoally						True
	interp_method		'second		'second	'second	'second
			order'		order'	order'	order'
	make_exchange_reproduce		True		False	False	False
	nsubset				16	16	16