MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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

- GFDL_ESM2M_input.nml is from Steve's email 2017-10-18, from an ESM2M config that Jie is currently running. Steve commented "note that it is coupled, so there are heaps of non-ocean items. Also note that "ocean_albedo" is set for a coupled model, and it is different for ocean/ice simulations. That is a major "gotcha" that Spence can share with you if interested." Fixed typo: replaced &diag_inESM2_Control_216.xmltegral_nml with &diag_integral_nml
- GFDL_ESM2M_input-cut.nml is GFDL_ESM2M_input.nml with irrelevant atmos/ESM namelist groups cut out. See comparison in final section for changes.
- MOM_SIS_TOPAZ_input.nml is from MOM_SIS_TOPAZ/INPUT/ in /g/data/ua8/mom/test_data/MOM_SIS_TOPAZ.input.tar.gz, dated 2009-12-16 10:44
- fabio_momsis1_input.nml is from Fabio's email 2017-09-20, derived from Paul's 1/4 degree (I think)
- paul_momsis025_input.nml is from Paul's email 2017-09-20
- fanghua_momsis01v5KDS75_WOA13_input.nml is /g/data3/hh5/tmp/cosima/mom01v5/KDS75_WOA13/output000/input.nml
- russ-accessom-mom4p1-input.nml is an old MOM4p1 ACCESS-OM input from years ago (Russ' email 2017-10-17)
- hogg_accessom2_1deg_jra55_ryf_input.nml is /short/v45/amh157/access-om2/control/1deg_jra55_ryf/ocean/input.nml
- kiss_accessom2_025deg_jra55_ryf_input.m.nml is /short/v45/aek156/access-om2/control/025deg_jra55_ryf/ocean/input.nml
- hogg_accessom2_01deg_jra55_ryf_input.nml is /short/v45/amh157/access-om2/control/01deg_jra55_ryf/ocean/input.nml

Other useful info:

• Griffies et al. (2015) p973

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

References

Griffies, S. M., and Coauthors, 2015: Impacts on ocean heat from transient mesoscale eddies in a hierarchy of climate models. *Journal of Climate*, **28 (3)**, 952–977, doi:10.1175/jcli-d-14-00353.1, URL http://dx.doi.org/10.1175/JCLI-D-14-00353.1.

Contents

1	Differences between new ACCESS-OM2 configs	2
2	Changes in new ACCESS-OM2 configs 2.1 accessom2_1deg_jra55_ryf	6
3	Old and new ACCESS-OM2 configs (differences highlighted)	9
4	All variables in all 9 configs (differences highlighted)	17
5	All variables in ACCESS configs (differences highlighted)	27
6	Differences between GFDL_ESM2M_input.nml and GFDL_ESM2M_input-cut.nml	34

1 Differences between new ACCESS-OM2 configs

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

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

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

2 Changes in new ACCESS-OM2 configs

2.1 accessom2_1deg_jra55_ryf

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

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

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

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

$2.2 \quad accessom2_025 deg_jra55_ryf$

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

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

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

$2.3 \quad accessom2_01deg_jra55_ryf$

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

&diag_manager_mnl debug_diag_manager Total state of the state of	Group	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
Sisse. Or Namings False Time	&auscom_ice_nml	dt_cpl	150	600
Max August	&diag_manager_nml	debug_diag_manager		True
Max. Files 1000 max. input. field 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700 700		issue_oor_warnings		True
Back place of the control of				
Max. Junt maxis sets max. Junt mit mit max. Junt mit mit mit mit mit mit mit mit mit mi		max_files		
Kims.io.nml max.cutput.fields 700 Kims.io.nml chestsum.required False Kims.nml print.memory.usge False &generic.tracer.nml dogeneric.trc False & dogeneric.tracer False &cocean.bint.tracer, mil max.decr.mix.micom well_micro.mlap.ding 0.001 &cocean.printle convert.mix.cut.er False &cocean.mix.downshope.nml debug.this.module False &cocean.physics.util.ml generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.generic.g		•		
Kims.io.nml checksum.required max.files.rd False max.files.rd 700 ma				
kinsnil max.files.ur 700 kinsnil printmemony.usage False kgeneric.tracer.mll dogeneric.tracer False kocean.advection.velocity.nml max.advection.relocity Oz kocean.advection.velocity.nml vel.micom.lap.diag OS kocean.bib.tracer.nml vel.micom.lap.diag OS kocean.convect.nml convect.full.vector True kocean.convect.nml convect.full.vector False kocean.convect.nml kocean.convect.trull.vector False kocean.convect.nml kocean.convect.trull.vector False kocean.physic.util.nml kocean.physic.util.nml Kocean.physic.util.nml False kocean.model.mnl debug.this.module False False kocean.overflow.ofp.nml debug.this.module False False kocean.overflow.ofp.nml debug.this.module False		•		
ffmml max.files.wm 700 ffmml pint.memory.usage False &generic.tracer.ml do.generic.cric False do.generic.tracer False do.generic.tracer &ceae.a.dwection.velocity.mnl max.advection.xelocity 0.2 &ceae.a.bortorpic.nml mex.advection.pd.giag 0.5 &cocean.bin.tracer.mml tracer.mix.micom True &cocean.convect.nml convect.full.scalar True &cocean.convect.nml convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed convect.full.scalar True &cocean.mixed.mixed false True &cocean.mixed.mixed false True &cocean.model.nml debug.this.module False &cocean.overflow.nl debug.this.module False &cocean.overflow.ofp.mml debug.this.module False &cocean.overflow.ofp.mml debug.this.module False	&fms_io_nml			
&fms.nml print_memory.usage False &generic.tracer.nml do_generic.tracer False do_generic.tracer &coean_advection_velocity_nml mxx_advection_velocity 0.2 &coean_bin_tracer_nml vel_micom_lap_diag 0.5 &coean_bin_tracer_nml tracer_mix_micom vel_micom vel_micom 0.001 0.001 &coean_convect_nml convect_full_scalar convect_full_vector True convect_full_scalar convect_full_vector &coean_nindownslope_nml k.smag_iso 2.0 &coean_mixdownslope_nml debug_this_module convect_full_vector Talse &coean_noverflow.nml graph 5.000 &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector Talse &coean_overflow.ofp_nml debug_this_module convect_full_vector False convect_full_vector &coean_overflow.ofp_nml debug_this_module convect_full_vector False convect_full_vector &coean_inverspread_nml debug_this_module convect_full_vector <td></td> <td></td> <td></td> <td></td>				
Repensic_tracer_nml do_generic_tracer False of do_generic_tracer Do_generic_tracer_tracer Do_generic_tracer_tracer Do_generic_tracer_tracer_tracer Truce of tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tracer_tr		max_files_w	700	
Mogeneric Lapaz False Mogeneric Lapaz Mogeneric	&fms_nml	print_memory_usage		
Accean_advection_velocity_nml do_generic_tracer False &cocean_barctropic_nml vel_minom_lap_diag 0.5 &cocean_bib_t_tracer_nml tracer_mix_micm True &cocean_convect_nml convect_full_scalar convect_full_vector False &cocean_lapgen_friction_nml k. smagiso 2.0 &cocean_mixdownslope_nml debugthis_module False &cocean_model_nml smax 0.002 &cocean_model_nml smax 0.002 &cocean_overflow_nml debugthis_module False &cocean_overflow_nml debugthis_module False &cocean_overflow_ofp_nml debugthis_module False &cocean_overflow_ofp_nml debugthis_module False &cocean_overflow_and debugthis_module False &cocean_iverspread_nml debugthis_module False &cocean_iverspread_nml gen_a.voltrans.orp 100000000 &cocean_sigmatransport_nml sigmaadvection_sg, only False &cocean_sigmatransport_nml sigmaadvection_sg, only False &cocea	&generic_tracer_nml	do_generic_cfc	False	
& cocean_advection_velocity_nmll max_advection_velocity_moding 0.5 & cocean_bortoriop(ml) vel_mitorm_lap_diag 0.5 & cocean_init_mitor Tirue & cocean_init_mitor Quality_cover_mix_mitor Tirue & cocean_convect_nml convect_full_vector False & cocean_mixedownslope_nml debug_this_module False & cocean_mixedownslope_nml debug_this_module False & cocean_noverflow_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_overflow_ofp_nml debug_this_module False & cocean_inverspread_nml debug_this_module False & cocean_inverspread_nml debug_this_module False & cocean_sigma_transport_nml debug_this_module False & cocean_sigma_transport_nml debug_this_module False & sigma_addiffusion_on True False & cocean_sigma_transport_nml sigma_addiffusion_on True & sigma_initial_in			False	
&ocean_bardtropic_nml vel_micom ap_diag 0.5 &ocean_Libit_tracer_nml tracer_mix_micom vel_micom out True vel_micom out &ocean_convect_nml convect_full_scalar or False True convect_full_scalar or False &ocean_lapgen_friction_nml k_smagiso 2.0 &ocean_mixdownstoppe_nml debug_this_module False &ocean_model_nml smax 0.002 &ocean_noverflow_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False &ocean_overflow_ofp_nml debug_this_module False do_nass_ofp True False sigma_diffusion_on True			False	
& cean_bih_tracer_nml tracer_mix_micom vel_micom vel_micom 0.001 True vel_micom 0.001 & cean_convect_nml convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_scalar True convect_full_vector False 5.20 & cocean_lapgen_friction_nml k.smag_iso 2.0 2.0 & cocean_model_nml cmip_units True scalar True sigma_divection_os_only 5.60 & cocean_overflow_ofp_nml debug_this_module false do_unass_ofp frue frace.exchange_src 1.0 5.76 & cocean_verflow_ofp_nml debug_this_module false do_unass_ofp frue frace.exchange_src 1.0 5.76 & cocean_riverspread_nml debug_this_module scalar true scalar true scalar true scalar true sigma_advection_os_only false sigma_advection_os_only sigma_diffusion_on true sigma_advection_os_only sigma_unam on true sigma_advection_os_only sigma_unam on true sigma_advection_os_only sigma_unam on true scalar true sigma_unam on true scalar true sigma_unam on true scalar tr	&ocean_advection_velocity_nml	max_advection_velocity	0.2	0.5
Scorean_convect_nml vel_micom 0.001 & convect_full_vector False & cocean_lapgen_friction_nml k.smag_iso 2.0 & cocean_mixdownslope_nml debug_this_module False & cocean_model_nml msmax 0.002 & cocean_noter[low_nml swidth 0.002 & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & cocean_overflow_nml debug_this_module False & do_entrainment_para_ofp False False & do_entrainment_para_ofp False False & do_entrainment_para_ofp False False & do_entrainment_para_ofp True False & cocean_riverspread_nml gend_entrains_ofp 100000000 & cocean_sigma_transport_nml sigma_advection_on False & cocean_sigma_transport_nml sigma_advection_on True & sigma_uniffusion_on True & sigma_uniffusion_on True	&ocean_barotropic_nml	vel_micom_lap_diag	0.5	0.2
& ocean_convect_nml convect_full_scalar convect_full_vector True convect_full_vector False & ocean_laggen_friction_nml 0.2.0 0.2.0 & ocean_mixedownstope_nml debug_this_module False & ocean_model_nml 0.002 swidth 0.002 & ocean_overflow_inml debug_this_module False & ocean_overflow_ofp_nml debug_this_module False & ocean_overflow_ofp_nml frac_exchange_src 1.0 & ocean_iverspread_nml debug_this_module False & ocean_iverspread_nml debug_this_module False & ocean_sigma_transport_nml sigma_advection_on False & ocean_sigma_advection_on False False & sigma_advection_sgs_only False False sigma_advection_sgs_only False False sigma_diffusion_on True False sigma_injust_in_bottom_cell True False sigma_injust_in_bottom_cell True False sigma_unin_instruction_sgma_thickness_sigma_velocity True smooth_velmicon	&ocean_bih_tracer_nml	tracer_mix_micom	True	
Scoean_lapgen_friction_nml R.smag_iso 2.0 & ocean_mixidownslope_nml debug_this_module False & ocean_model_nml cmip_units Ti & ocean_nphysics_util_nml smax 0.002 Ti & ocean_overflow_nml debug_this_module False Cocean_overflow_nml False Cocean_overflow_of_nml Cocean_overflow_of_nml False Cocean_overflow_of_nml Cocean_overflow_overflow_of_nml		vel_micom	0.001	
Scoean_lapgen_friction_nml R.smag_iso 2.0 & ocean_mixidownslope_nml debug_this_module False & ocean_model_nml cmip_units Ti & ocean_nphysics_util_nml smax 0.002 Ti & ocean_overflow_nml debug_this_module False Cocean_overflow_nml False Cocean_overflow_of_nml Cocean_overflow_of_nml False Cocean_overflow_of_nml Cocean_overflow_overflow_of_nml	&ocean_convect_nml	convect_full_scalar	True	
&ocean_mixtdownslope_nml debug_this_module cmip_units False &ocean_model_nml cmip_units Ti &ocean_physics_util_nml smax swidth 0,002 swidth			False	
&ocean_mixtdownslope_nml debug_this_module cmip_units False &ocean_model_nml cmip_units Ti &ocean_physics_util_nml smax swidth 0,002 swidth	&ocean_lapgen_friction_nml	k_smag_iso	2.0	
& ocean_nphysics_util_nml smax swidth swidth no.002 0.002 swidth no.002 & ocean_overflow_nml debug_this_module debug_this_module noise and sidga_step noise and state noise noise and state noise and state nois		debug_this_module	False	
&ocean_overflow_nml swidth debug_this_module False &ocean_overflow_ofp_nml debug_this_module False & diag_step 5760 diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp False frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 frac_exchange_src	&ocean_model_nml	cmip_units		True
&ocean_overflow_nml swidth debug_this_module False &ocean_overflow_ofp_nml debug_this_module False & diag_step 5760 diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True True frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp False frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp 10 000 0000 do_max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 max_vol_trans_ofp frac_exchange_src 1.0 frac_exchange_src	&ocean_nphysics_util_nml	smax	0.002	
&ocean_overflow_ofp_nml debug_this_module diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True fac_exchange_src 1.0 do_mass_ofp True frac_exchange_src 1.0 10 000 000.0 &ocean_riverspread_nml debug_this_module use_this_module use_this_module False use_this_module True False use_this_module False use_this_module False use_this_module False use_this_module False use_this_module False use_this_module True False use_this_module False use_this_module True False use_this_module True Tru	• •	swidth	0.002	
&ocean_overflow_ofp_nml debug_this_module diag_step 5760 do_entrainment_para_ofp False do_mass_ofp True fac_exchange_src 1.0 do_mass_ofp True frac_exchange_src 1.0 10 000 000.0 &ocean_riverspread_nml debug_this_module use_this_module use_this_module False use_this_module True False use_this_module False use_this_module False use_this_module False use_this_module False use_this_module False use_this_module True False use_this_module False use_this_module True False use_this_module True Tru	&ocean_overflow_nml	debug_this_module	False	
diag_step5760do_entrainment_para_ofpFalsedo_mass_ofpTruefrac_exchange_src1.0max_vol_trans_ofp10 000 0000& ocean_riverspread_nmldebug_this_module use_this_module use_this_moduleFalse& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalse\$ sigma_diffusion_on sigma_diffusivity_ratioTrue\$ sigma_diffusivity_ratio1 × 10^{-6}\$ sigma_just_in_bottom_cell sigma_umax smooth_sigma_thicknessTrue\$ smooth_sigma_thicknessTrue\$ smooth_sigma_velocityTrue\$ smooth_velmicom smooth_velmicom0.2thickness_sigma_layer100.0	&ocean_overflow_ofp_nml		False	
do_entrainment_para_ofpFalsedo_mass_ofpTruefrac_exchange_src1.0max_vol_trans_ofp10 000 000.0& ocean_riverspread_nmldebug_this_module use_this_module use_this_moduleFalse& ocean_sigma_transport_nmlsigma_advection_on sigma_advection_sgs_only sigma_diffusion_onFalse& sigma_diffusion_onTrue& sigma_diffusivity_ratio1 × 10^{-6}sigma_just_in_bottom_cell sigma_thicknessTrue& sigma_thicknessTrue& smooth_sigma_thicknessTrue& smooth_sigma_velocity smooth_velmiconTrue& smooth_velmicon smooth_velmicon0.2thickness_sigma_layer100.0	'		5760	
do_mass_ofp frac_exchange_srcTrue frac_exchange_src4.01.04.0max_vol_trans_ofp10 000 000.04.0debug_this_module use_this_module u			False	
& ocean_riverspread_nml debug_this_module use_this_module use_this_ma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10^-6 sigma_just_in_bottom_cell use_this_module use_			True	
& ocean_riverspread_nml debug_this_module use_this_module use_this_ma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10^-6 sigma_just_in_bottom_cell use_this_module use_		frac_exchange_src	1.0	
weethis_module True False &ocean_sigma_transport_nml sigma_advection_on False sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0			10 000 000.0	
&ocean_sigma_transport_nml sigma_advection_on sigma_advection_sgs_only sigma_diffusion_on true sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell sigma_umax True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0	&ocean_riverspread_nml	debug_this_module	False	
sigma_advection_sgs_only False sigma_diffusion_on True sigma_diffusivity_ratio 1 × 10 ⁻⁶ sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0	•	use_this_module	True	False
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	&ocean_sigma_transport_nml	sigma_advection_on	False	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	•	sigma_advection_sgs_only	False	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		sigma_diffusion_on		
sigma_just_in_bottom_cell True sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0			$1 imes 10^{-6}$	
sigma_umax 0.01 smooth_sigma_thickness True smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0				
smooth_sigma_velocity True smooth_velmicom 0.2 thickness_sigma_layer 100.0			0.01	
smooth_velmicom 0.2 thickness_sigma_layer 100.0			True	
smooth_velmicom 0.2 thickness_sigma_layer 100.0			True	
			0.2	
			100.0	
TNICKNESS_SIGMA_MAX 100.0		thickness_sigma_max	100.0	

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

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

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

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

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
0	read_rho0_profile	False					
&ocean_increment_eta_nml	days_to_increment fraction_increment	0 1.0					
	secs_to_increment	1800					
	use_this_module	False	False	False	False	False	False
&ocean_increment_tracer_nml	days_to_increment	0					
	fraction_increment	1.0 1800					
	secs_to_increment use_this_module	False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	0	1 4136	1 4130	1 4136	1436	1 4130
	fraction_increment	1.0					
	secs_to_increment	1800	F-I	F-I	F-1	Falsa	F-1
&ocean_lap_friction_nml	use_this_module lap_friction_scheme	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'	False 'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False	False	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False	False	False	False	False
&ocean_lapgen_friction_nml	bottom_5point	True	True				
	k_smag_aniso	0.0	0.0	3.0		3.0	
	k_smag_iso ncar_only_equatorial	0.0 True	0.0 True	2.0		2.0	
	restrict_polar_visc	True	True				
	restrict_polar_visc_lat	60.0	60.0				
	restrict_polar_visc_ratio	0.35	0.35				
	use_this_module	True	True	False	False	False	False
	vconst_1 vconst_2	0.00 000 8 0.0	0.000 000 8 0.0				
	vconst_2	0.8	0.8				
	vconst_4	5×10^{-9}	5×10^{-9}				
	vconst_5	3	3				
	vconst_6	300 000 000.0	300 000 000.0				
	vconst_7 vel_micom_iso	100.0 0.1	100.0 0.1				
	viscosity_ncar	True	True				
	viscosity_ncar_2000	False	False				
	viscosity_ncar_2007	True	True				
	viscosity_scale_by_rossby	True	True				
&ocean_mixdownslope_nml	viscosity_scale_by_rossby_power debug_this_module	4.0 False	100.0 False	False		False	
a decarization of the control of the	mixdownslope_mask_gfdl	False	False	raise		raise	
	mixdownslope_npts	4	4				
	read_mixdownslope_mask	False	False				
&ocean_model_nml	use_this_module baroclinic_split	True 1	True 1	False 1	False 1	False 1	False 1
&ocean_modet_mit	baroctrinc_split barotropic_split	80	80	80	80	80	80
	cmip_units	True	True	True	True		True
	debug	False	False	False	False	False	False
	dt_ocean	3600	3600	1200	1200	150	150
	<mark>io_layout</mark> layout	4, 3 16, 15	4, 3 16, 15	6, 5 48, 40	6, 5 48, 40	10, 15 80, 75	10, 15 80, 75
	surface_height_split	10,13	10, 13	10, 40	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	T	False	False	False	False	False
	use_rayleigh_damp_table use_this_module	True True	True True	True True	True True	True True	True True
&ocean_nphysics_nml	debug_this_module	False	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False	False
	use_nphysicsb	False	False	False	False	False	False
	use_nphysicsc	True	True	False	False	False	False
&ocean_nphysics_util_nml	use_this_module agm	True 600.0	True 600.0	False 100.0	False 100.0	False 100.0	False 100.0
Social inpression and the second in the seco	agm_closure	True	True	True	True	True	True
	agm_closure_baroclinic	True	True	True	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed	True	True True				
	agm_closure_eady_cap agm_closure_eady_smooth_horz	True True	True				
	agm_closure_eady_smooth_vert	True	True				
	agm_closure_eden_gamma	0.0	0.0				
	agm_closure_eden_greatbatch	False	False				
	agm_closure_grid_scaling	True 50 000.0	True 50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length agm_closure_length_bczone	50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False	50 000.0 False
	agin_closure_length_bc20ffe	Larza	Larze	Lqrze	Larse	Larze	raise

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	agm_closure_length_fixed agm_closure_length_rossby	False False	False False	False False	False False	False False	False False
	agm_closure_lower_depth	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
	agm_closure_max	600.0	600.0	600.0	600.0	600.0	600.0
	agm_closure_min	50.0	50.0	100.0	100.0	100.0	100.0
	agm_closure_scaling agm_closure_upper_depth	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0
	agm_damping_time	45.0	45.0	100.0	100.0	100.0	100.0
	agm_smooth_space	False	False				
	agm_smooth_time	False	False	(00.0	(000	(00.0	(00.0
	aredi aredi_equal_agm	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False	600.0 False
	drhodz_mom4p1	True	True	False	False	False	False
	drhodz_smooth_horz	False	False	False	False	False	False
	drhodz_smooth_vert	False	False	False	False	False	False
	nphysics_util_zero_init	True	True	100,000,0	100 000 0	100 000 0	100 000 0
	rossby_radius_max rossby_radius_min	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0	100 000.0 15 000.0
	rossby_radius_min smax	0.000	0.000	0.002	0.000	0.002	1.000.0
	swidth			0.002		0.002	
	tracer_mix_micom	False	False	False	False	False	False
Pagana nahusiga nad	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml &ocean_nphysicsb_nml	use_this_module use_this_module	False False	False False	False False	False False	False False	False False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True	1 8130	Talsc	raisc	Taisc
	bvp_bc_mode	2	2				
	bvp_min_speed	0.1	0.1				
	bvp_speed	0.0	0.0				
	debug_this_module do_gm_skewsion	False True	False True				
	do_neutral_diffusion	True	True				
	epsln_bv_freq	1×10^{-12}	1×10^{-12}				
	gm_skewsion_bvproblem	True	True				
	gm_skewsion_modes	False	False				
	neutral_eddy_depth neutral_physics_limit	True True	True True				
	number_bc_modes	2	2				
	regularize_psi	False	False				
	smax_psi	0.01	0.01				
	smooth_psi	True	True				
	tmask_neutral_on turb_blayer_min	True 50.0	True 50.0				
	use_this_module	True	True	False	False	False	False
&ocean_operators_nml	use_legacy_div_ud		False	False	False	False	False
&ocean_overexchange_nml	debug_this_module	False	False	False	False	False	False
	<pre>overexch_check_extrema overexch_npts</pre>	False 4	4	4	4	4	4
	overexch_weight_far	False	False	False	False	False	False
	overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False	False	False
&ocean_overflow_nml	debug_this_module	False	Falsa	False	Falsa	False	Falsa
&ocean_overflow_ofp_nml	use_this_module debug_this_module	False	False	False False	False	False False	False
&ocean_overnow_orp_nint	diag_step			4320		5760	
	do_entrainment_para_ofp			False		False	
	do_mass_ofp			True		True	
	frac_exchange_src			1.0		1.0	
	max_vol_trans_ofp use_this_module		False	10 000 000.0 False	False	10 000 000.0 False	False
&ocean_polar_filter_nml	use_this_module	False	False	False	False	False	False
&ocean_pressure_nml	zero_pressure_force		False	False	False	False	False
&ocean_rivermix_nml	debug_this_module	False	False	False	False	False	False
	river_diffuse_salt	False	True	False	True	True	True
	river_diffuse_temp	False 0.0	True 0.0	False 0.0	True 0.0	True 0.0	True 0.0
	river diffusion thickness	UU	0.0				0.0
	river_diffusion_thickness river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0
			0.0 40.0	0.0 40.0	0.0 40.0	0.0 40.0	40.0
	river_diffusivity river_insertion_thickness use_this_module	0.0				40.0 True	
&ocean_riverspread_nml	river_diffusivity river_insertion_thickness use_this_module debug_this_module	0.0 40.0 True	40.0 True	40.0 True	40.0 True	40.0 True False	40.0 True
·	river_diffusivity river_insertion_thickness use_this_module debug_this_module use_this_module	0.0 40.0	40.0 True False	40.0 True False	40.0 True False	40.0 True False True	40.0 True False
&ocean_riverspread_nml &ocean_rough_nml &ocean_sbc_nml	river_diffusivity river_insertion_thickness use_this_module debug_this_module	0.0 40.0 True	40.0 True	40.0 True	40.0 True	40.0 True False	40.0 True

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

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

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

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

4 All variables in all 9 configs (differences highlighted)

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

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

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

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

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

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

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
zero_net_salt_co	orrection			False	False	False		False	False	False
zero_net_salt				True	True	True	True	True	True	True
zero_net_water_co				False	False	False	Truo	False	False	False
zero_net_water_couple zero_net_water				True True	True True	True True	True True	True True	True True	True True
zero_net_water				True	True	True	True	True	True	True
zero_rive						False False				
zero_runo				Falsa	False	True	Falsa	False	Falsa	Falsa
zero_surfac zero_wate				False False	False False	False False	False False	False False	False False	False False
&ocean_sbc_ofam_nml				. 4.50	1 4130	. 4.50	False	1 4.50	1 4.50	
restore_mask_ofam										
river_ten	np_ofam						False			
&ocean_shortwave_csiro_nml				True			True			
read_depth use_this. zr	_module max_pen	False	False	True 7000	False	False	True 7000	False	False	False
	debug	False	False	False	False	False	False	False	False	False
this_module	-	_	_			_				
	_sw_frac	True	True	True	True	True	True	True	True	True
optics_ optics_morel.	manizza antoine	True False	True False	True False	True False	True False	True	True False	True False	True False
	ide_f_vis	False	False	i alse	raise	i alse		Talse	raise	1 0130
	read_chl	False	False	False	True	True	False False	True	True	True
use_this.	_module	True	True	False	True	True	False	True	True	True
	max_pen	200.0	200.0	300.0	300.0	300.0	200.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml this_module	use	False False	False	False	False	False False	False True	False False	False	False
&ocean_shortwave_nml use_shortwave_csiro use_shortwa	ave ofdl	True	False True	True False	False True	True	False	True	False True	False True
use_shortway		False	False	False	False	False	False	False	False	False
use_this.		True	True	True	True	True	True	True	True	True
&ocean_sigma_transport_nml sigma_advection_on		False	False	False	False	False	False			
sigma_advection_		False	False	False	False	False	False			
sigma_diffu sigma_diffusiv		True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$	True $1 imes 10^{-6}$			
sigma_just_in_boti	,	True	True	True	True	True	True			
	na_umax	0.01	0.01	0.01	0.01	0.01	0.01			
smooth_sigma_ti	hickness	True	True	True	True	True	True			
smooth_sigma.		True	True	True	True	True	True			
smooth_v thickness_sigr		0.2 100.0	0.2 100.0	0.2 100.0	0.2 100.0	0.2 100.0	0.2 100.0			
thickness_sig		100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sig		100.0	100.0	100.0	100.0	100.0	100.0			
tmask_s	igma_on	False	False	False	False	False	False			
tracer_mix		True	True	True	True	True	True			
use_this.	_module l_micom	True 0.05	True 0.05	False 0.05	False 0.05	False 0.05	True 0.05	False	False	False
	calendar	0.03	0.03	0.03	0.03	0.03	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init						1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days						0	1460	31	30
	dt_cpld						3600	3600	1200	600
	hours minutes						0	0 0	0	0
	months						12	0	0	0
	seconds						0	0	0	0
	years							0	0	0
module	se_this	False	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_nml		False	False	False	False	False	False			False
damp_coeff_3d use_this.	module	False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use	False	False	False	False	False	False	False	False	False
this_module										
&ocean_submesoscale_nml coefficient_ce				0.05	0.05	0.05		0.05	0.05	0.05
debug_this		False	False	False	False	False	False	False	False	False
front_leng		5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
front_length_deforr	II_I dUIUS	True	True	True	True	True	True	True	True	True

Group (continued)	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_ad	lvect_transport		'	True	True	True		True	True	True
smooth_advect_				4	4	4		4	4	4
	smooth_hblt	False	False	False	False	False	False	False	False	False
co	smooth_psi			True 3	True 3	True 3		True 3	True 3	True 3
	nooth_psi_num so_advect_flux			False	False	False		False	False	False
	o_advect_limit			True	True	True		True	True	True
submeso_i	advect_upwind			True	True	True		True	True	True
	dvect_zero_bdy			True	True	True		True	True	True
submeso_diffusi	meso_diffusion			False True	False True	False True		False True	False True	False True
	diffusion_scale			10.0	10.0	10.0		10.0	10.0	10.0
	neso_limit_flux	True	True	10.0	10.0	10.0	True	10.0	10.0	10.0
subm	neso_skew_flux			True	True	True		True	True	True
	nblt_equal_mld	True	True	True	True	True	True	True	True	True
	use_psi_legacy	True	T	False	False	False	Tr.va	False	False	False
us &ocean_tempsalt_nml	e_this_module	True False	True False	True False	True False	True False	True	True False	True False	True False
debug_this_module		1 0150	ו מנטכ	ו מנטכ	1 0125	i alse		ו מנטכ	ו מנטכ	raise
	_2nd_iteration	True	True	True	True	True	True	True	True	True
pottemp_6	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	-1.0 5.0	-1.0 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
tompo	t_min_limit	-1.9	-1.9 'potential	-5.0	—5.0	—5.0 'potential	-2.0 conservative	-5.0	-5.0	—5.0 'potential
temper	rature_variable	'potential temp'	temp'	'potential temp'	'potential temp'	temp'	temp'	'potential temp'	'potential temp'	temp'
0 111	teos10						False			
&ocean_thickness_nml module	debug_this	False	False	False	False	False	False	False	False	False
	_module_detail	False	False	False	False	False	False	False	False	False
	ialize_zero_eta	False	False				False			
	ale_rho0_mask	True	True	F-1	F-I	F-I	False	F-1	E-I	F-I
	to_get_ht_mod o0_basin_label	7.0	7.0	False	False	False	7.0	False	False	False
	ho0_mask_qfdl	True	True				False			
	ale_rho0_value	0.75	0.75				0.75			
	kness_dzt_min	2.0	2.0	2.0	2.0	2.0	1.0			
	ss_dzt_min_init	2.0	2.0	10.0	10.0	10.0	2.0			
thic &ocean_time_filter_nml	kness_method	'energetic' False	'energetic' False	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
use_this_module		rdise	raise							
&ocean_topog_nml	min_thickness	5.0	5.0				25.0			
&ocean_tracer_advect_nn	nl	False	False	False	False	False	True			
advect_sweby_all							-			
compute_gyre_over	rturn_alagnose lg_this_module	False	False	False	False	False	True False	False	False	False
	_fast_compute	raisc	raisc	1 4130	ratsc	raisc	True	raisc	raisc	raisc
	t_with_upwind	False	False							
	ad_basin_mask			False	False	False	True	False	False	False
&ocean_tracer_diag_nml	diag_step	1200	12	48	48	43200	120	4320	4320	576
do_bitw	vise_exact_sum smooth_mld	False True	False True	False	False	False	False	False	False	False
tracer	conserve_days	100.0	100.0	30.0	30.0	30.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml age_t		$1 \times 10^{+40}$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	g_this_module	False	False	False	False	False	False	False	False	False
frazil_heating.	_after_vphysics	True	True	True	True	True	True	True	True	True
frazil_heating_b		False	False	False	False	False	False	False	False	False
	tdiag_to_pbott	False False								
the state of the s	tprog_to_pbott mit_age_tracer	False True	True	True	True	True	True	True	True	True
	depth_to_s_init	False	False	False	False	False	False	False	False	False
•	_limit_ts_same	True	True	. 200	. 4.50	. 2.00		. 200	. 200	, 4.56
	lt chack range					True		True	True	True
use_tempsa										
	zero_tendency o_tracer_source	False False	False False	False False	False False	False False	False False	False False	False False	False 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 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 4320 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 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 2.0 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 2.0 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 2.0 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 2.0 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 2.0 2.0 2.0 2.0<	
Truncate velocity value 20 20 20 20 20 20 20 2	False
Palse False Fals	2.0
False Fals	True
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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 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0<	
Mouble_diffusion True Missandard_method False	0.0
Raise False Fals	True
Smooth District 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 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 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675 0.675	0.0
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Smooth_blind use this_module True Use Crbu iw 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
True 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 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725	
&ocean_vert_mix_nml afkph_90 0.675 0.675 0.675 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 0.725 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 300.0 300.0 500.0 500.0 300.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0 500.0	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_c	drag_dissipation	True	True	True	True	True	True	True	True	True
use_	legacy_methods	True		False	False	False		False	False	False
U	se_this_module	True	True	True	True	True	True	True	True	True
use_w	ave_dissipation	True	True	True	True	True	True	True	True	True
wave_e	nergy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_nm	l	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							
	_all_bad_values					True				
&surface_flux_nml	ncar_ocean_flux			True	True	True				
	old_dtaudv	False								
	raoult_sat_vap			True	True	True				
&topography_nml	topog_file	'INPUT/	'INPUT/							
		navy_topog-	navy_topog-							
		ra-	ra-							
		phy.data.nc'	phy.data.nc'							
&xgrid_nml	do_alltoall			True	True	True				True
	do_alltoallv			True	True	True				True
	$interp_method$	'second	'second	'second	'second	'second		'second	'second	'second
		order'	order'	order'	order'	order'		order'	order'	order
make_exch	ange_reproduce	True	True	False	False	False		False	False	False
	nsubset			16	16	16		16	16	16
	xgrid_log			False	False	False				False

5 All variables in ACCESS configs (differences highlighted)

Group	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15
	chk_i2o_fields	False	False	False	False
	chk_o2i_fields	False	False	False	False
	do_ice_once	False	False	False	False
	<mark>dt_cpl</mark> fixmeltt	3600 False	3600 False	1800 False	600 False
	frazil_factor	1.0	1.0	1.0	1.0
	iceform_adj_salt	False	False	False	False
	icemlt_factor	1.0	1.0	1.0	1.0
	kmxice	5	_ 5	_ 5	5
	pop_icediag	True	True	True	True
	redsea_gulfbay_sfix sign_stflx	1.0	True 1.0	1.0	1.0
	tmelt	-0.216	-0.216	-0.216	-0.216
	use_ioaice	True	True	True	True
&bg_diff_lat_dependence_nml	bg_diff_eq	$1 imes 10^{-6}$	$1 imes 10^{-6}$		
	lat_low_bgdiff	20.0	20.0		
&diag_manager_nml	debug_diag_manager		True	True	True
9 fmc io ami	issue_oor_warnings	False 'single'	True	True	True
&fms_io_nml	fileset_write threading_read	'single' 'multi'	'single' 'multi'	'multi' 'multi'	'multi' 'multi'
	threading_read threading_write	'single'	'single'	'multi'	'multi'
&fms_nml	clock_grain	'LOOP'	'LOOP'	'LOOP'	'LOOP'
	domains_stack_size		115200	115200	115200
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',	'u_flux',	'u_flux',
		'v_flux',	'v_flux',	'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx', 'mh_flux',	'salt_flx', 'mh_flux',	'salt_flx', 'mh_flux',	'salt_flx', 'mh_flux',
		'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',	'q_flux',	'q_flux',
		't_flux',	't_flux',	't_flux',	't_flux',
		'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',
		'aice',	'aice',	'aice',	'aice',
		'wfimelt', 'wfiform'	'wfimelt', 'wfiform'	'wfimelt', 'wfiform'	'wfimelt', 'wfiform'
	fields_out	't_surf',	't_surf',	't_surf',	't_surf',
	netas_out	's_surf',	's_surf',	's_surf',	's_surf',
		'u_surf',	'u_surf',	'u_surf',	'u_surf',
		'v_surf',	'v_surf',	'v_surf',	'v_surf',
		'dssldx',	'dssldx',	'dssldx',	'dssldx',
		'dssldy',	'dssldy',	'dssldy',	'dssldy',
	num_fields_in	'frazil' 15	'frazil' 15	'frazil' 15	'frazil' 15
	num_fields_out	7	7	7	7
	send_after_ocean_update	True	True	True	True
	send_before_ocean_update	False	False	False	False
&monin_obukhov_nml	neutral		True	True	True
&mpp_io_nml	deflate_level		5	5	5
Page and well dies well	shuffle	420	4720	4720	1
&ocean_adv_vel_diag_nml	<mark>diag_step</mark> large_cfl_value	120 10.0	4320 10.0	4320 10.0	576 10.0
	targe_crt_vatue max_cfl_value	10.0	10.0	10.0	10.0
	verbose_cfl	False	True	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5	0.5	0.5
&ocean_albedo_nml	ocean_albedo_option		2	2	2
&ocean_barotropic_nml	barotropic_halo		10	10	10
	barotropic_leap_frog	False			
	barotropic_pred_corr	True	т	т	T
	barotropic_time_stepping_a barotropic_time_stepping_b		True False	True False	True False
	barotropic_time_stepping_b barotropic_time_stepping_mom4p0	True	1 4125	1 0125	ו מנטכ
	barotropic_time_stepping_mom4p1	False			
	debug_this_module	False	False	False	False
	diag_step	120	4320	4320	576
	eta_max	8.0	8.0	8.0	8.0
	frac_crit_cell_height	0.2	0.2	0.2	0.2
	pred_corr_gamma	0.2 True	0.2 True	0.2 True	0.2 True
	smooth_eta_diag_laplacian smooth_eta_t_biharmonic	True True	True False	True False	True False
	SHOULI-Eta_t_UHIdIIIUHIU	nue	rdise	rdise	FdlSE

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	smooth_eta_t_laplacian	False	True	True	True
	smooth_pbot_t_biharmonic	True	False	False	False
	smooth_pbot_t_laplacian truncate_eta	False False	True False	True False	True False
	use_legacy_barotropic_halos	rusc	False	False	False
	vel_micom_bih	0.01	0.01	0.01	0.01
	vel_micom_lap	0.05	0.05	0.05	0.05
	vel_micom_lap_diag	0.2	0.2	0.2	0.2
	verbose_truncate zero_tendency	True False	True False	True False	True False
ocean_bbc_nml	bmf_implicit	1 0130	True	True	True
	cdbot	0.001	0.001	0.001	0.001
	cdbot_hi		0.007	0.007	0.007
	cdbot_law_of_wall	False	F 1		F 1
	cdbot_roughness_length		False True	False True	False True
	cdbot_roughness_uamp uresidual		0.05	0.05	0.05
	use_geothermal_heating	False	False	False	False
&ocean_bbc_ofam_nml	read_tide_speed	False			
	uresidual2_max	1.0			
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'	'general'
&ocean_bih_tracer_nml	use_this_module	False	False	False	False
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	False	False	False 0.0
	eq_lat_micom eq_vel_micom_aniso	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
	equatorial_zonal	False	False	False	False
	k_smag_aniso	0.0	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True	True
	ncar_boundary_scaling_read	_	True	True	True
	ncar_rescale_power	2	2	2	2
	ncar_vconst_4	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
	vel_micom_aniso	0.0	0.0	0.0	0.0
	vel_micom_bottom	0.01	0.0	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0	1.0
&ocean_convect_nml	convect_full_scalar	False			
	convect_full_vector use_this_module	True	Falso	Falso	Falso
&ocean_coriolis_nml	use_this_module acor	False 0.5	False 0.5	False 0.5	False 0.5
wocean_conotis_nint	use_this_module	True	True	True	True
&ocean_density_nml	eos_linear	nuc	False	False	False
	eos_preteos10		True	True	True
	layer_nk	80	80	80	80
	linear_eos	False			
	neutralrho_max	1030.0	1038.0	1038.0	1038.0
	neutralrho_min	1020.0 1038.0	1028.0 1038.0	1028.0 1038.0	1028.0 1038.0
	potrho_max potrho_min	1038.0	1038.0	1038.0	1038.0
	teos10_eos	False	1020.0	1020.0	1020.0
&ocean_domains_nml	max_tracers	20	5	5	5
		0.6			
&ocean_form_drag_nml	cprime_aiki			Falsa	False
	use_this_module	False	False	False	
	use_this_module debug_this_module		False	False	False
	use_this_module debug_this_module frazil_only_in_surface	False			
	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate		False False	False False	False False
	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10	False True	False False True	False False True	False False True
	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple	False True False	False False True False	False False True False	False False True False
&ocean_frazil_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module	False True	False False True	False False True	False False True False True
&ocean_frazil_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple	False True False True	False False True False True	False False True False True	False False True False True
&ocean_frazil_nml &ocean_grids_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module	False True False True True	False False True False True	False False True False True	False False True False True
&ocean_frazil_nml &ocean_grids_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment	False True False True True False 0 1.0	False False True False True	False False True False True	False False True False True
&ocean_frazil_nml &ocean_grids_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment secs_to_increment	False True False True True False 0 1.0 3600	False False True False True False	False False True False True False	False False True False True False
&ocean_frazil_nml &ocean_grids_nml &ocean_increment_eta_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment secs_to_increment use_this_module	False True False True True False 0 1.0 3600 False	False False True False True	False False True False True	False False True False True False
&ocean_frazil_nml &ocean_grids_nml &ocean_increment_eta_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment use_this_module days_to_increment use_this_module	False True False True True False 0 1.0 3600 False 0	False False True False True False	False False True False True False	False False True False True False
&ocean_form_drag_nml &ocean_frazil_nml &ocean_grids_nml &ocean_increment_eta_nml &ocean_increment_tracer_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment use_this_module days_to_increment fraction_increment use_this_module	False True False True True False 0 1.0 3600 False 0 1.0	False False True False True False	False False True False True False	False False True False
&ocean_frazil_nml &ocean_grids_nml &ocean_increment_eta_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_accurate freezing_temp_preteos10 freezing_temp_simple use_this_module debug_this_module read_rho0_profile days_to_increment fraction_increment use_this_module days_to_increment use_this_module	False True False True True False 0 1.0 3600 False 0	False False True False True False	False False True False True False	False False True False True False

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	fraction_increment secs_to_increment	1.0 3600			
	use_this_module	False	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False	False
&ocean_lapcst_friction_nml &ocean_lapgen_friction_nml	use_this_module bottom_5point	False True	False True	False	False
&ocean_tapgen_mction_nmt	k_smag_aniso	0.0	0.0		
	k_smag_iso	0.0	0.0		
	ncar_only_equatorial	True	True		
	restrict_polar_visc restrict_polar_visc_lat	True 60.0	True 60.0		
	restrict_polar_visc_ratio	0.35	0.35		
	use_this_module	True	True	False	False
	vconst_1	0.000 000 8	0.000 000 8		
	vconst_2 vconst_3	0.0 0.8	0.0 0.8		
	vconst_4	5×10^{-9}	5×10^{-9}		
	vconst_5	3	3		
	vconst_6	300 000 000.0	300 000 000.0		
	vconst_7 vel_micom_iso	100.0 0.1	100.0 0.1		
	vet_micom_iso viscosity_ncar	V.1 False	7.1 True		
	viscosity_ncar_2000	False	False		
	viscosity_ncar_2007	True	True		
	viscosity_scale_by_rossby viscosity_scale_by_rossby_power	True 4.0	True 100.0		
kocean_mixdownslope_nml	debuq_this_module	False	False		
	mixdownslope_mask_gfdl	False	False		
	mixdownslope_npts	_ 4	4		
	read_mixdownslope_mask use_this_module	False True	False True	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1
	barotropic_split	80	80	80	80
	cmip_units	True	True	True	True
	debug dt_ocean	False 3600	False 3600	False 1200	False 150
	io_layout		4, 3	6,5	10, 15
	layout	12, 10	16, 15	48, 40	80,75
	surface_height_split time_tendency	1 'twolevel'	1 'twolevel'	1 'twolevel'	1 'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'
kocean_momentum_source_nml	rayleigh_damp_exp_from_bottom		False	False	False
	use_rayleigh_damp_table use_this_module	True	True	True	True
kocean_nphysics_nml	debug_this_module	True False	True False	True False	True False
coccuri_npriyalea_nint	use_nphysicsa	False	False	False	False
	use_nphysicsb	False	False	False	False
	use_nphysicsc use_this_module	True	True	False	False
cocean_nphysics_util_nml	use_tnis_module agm	True 600.0	True 600.0	False 100.0	False 100.0
occur_nphysics_ucr_nnt	agm_closure	True	True	True	True
	agm_closure_baroclinic	True	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed agm_closure_eady_cap	True True	True True		
	agm_closure_eady_smooth_horz	True	True		
	agm_closure_eady_smooth_vert	True	True		
	agm_closure_eden_gamma	0.0	0.0 False		
	agm_closure_eden_greatbatch agm_closure_grid_scaling	False True	False True		
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False
	agm_closure_length_fixed	False	False	False	False
	agm_closure_length_rossby agm_closure_lower_depth	False 2000.0	False 2000.0	False 2000.0	False 2000.0
	agm_closure_max	600.0	600.0	600.0	600.0
	agm_closure_min	50.0	50.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07	0.07 100.0
	agm_closure_upper_depth agm_damping_time	100.0 45.0	100.0 45.0	100.0	100.0
	agm_smooth_space	False	False		
	agm_smooth_time	False	False	(000	/000
	aredi	600.0	600.0	600.0	600.0

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	aredi_equal_agm	False	False	False	False
	drhodz_mom4p1	True	True	False	False
	drhodz_smooth_horz drhodz_smooth_vert	False False	False False	False False	False False
	nphysics_util_zero_init	True	True	raise	raise
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0
	tracer_mix_micom	False	False	False	False
	vel_micom	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False	False	False
&ocean_nphysicsb_nml	use_this_module	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True		
	bvp_bc_mode	2	2 0.1		
	bvp_min_speed bvp_speed	0.1 0.0	0.0		
	debuq_this_module	False	False		
	do_gm_skewsion	True	True		
	do_neutral_diffusion	True	True		
	epsln_bv_freq	$1 imes 10^{-12}$	$1 imes 10^{-12}$		
	gm_skewsion_bvproblem	True	True		
	gm_skewsion_modes	False	False		
	neutral_eddy_depth	True	True		
	neutral_physics_limit	True	True		
	number_bc_modes regularize_psi	2 False	2 False		
	smax_psi	0.01	0.01		
	smooth_psi	True	True		
	tmask_neutral_on	True	True		
	turb_blayer_min	50.0	50.0		
	use_this_module	True	True	False	False
&ocean_operators_nml &ocean_overexchange_nml	use_legacy_div_ud		False	False	False
	debug_this_module	False	False	False	False
	overexch_check_extrema	False			
	overexch_npts overexch_weight_far	4 False	4 False	4 False	4 False
	overflow_umax	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False
&ocean_overflow_nml	debug_this_module	False			
	use_this_module	False	False	False	False
&ocean_overflow_ofp_nml	use_this_module		False	False	False
&ocean_polar_filter_nml	use_this_module	False	False	False	False
&ocean_pressure_nml	zero_pressure_force		False	False	False
&ocean_rivermix_nml	debug_this_module	False	False	False	False
	river_diffuse_salt	False	True	True	True
	<pre>river_diffuse_temp river_diffusion_thickness</pre>	False 0.0	True 0.0	True 0.0	True 0.0
	river_diffusivity	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0
	use_this_module	True	True	True	True
&ocean_riverspread_nml	use_this_module	True	False	False	False
&ocean_rough_nml	rough_scheme		'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True
	avg_sfc_velocity	True	True	True	True
	calvingspread		False	False	False
	do_bitwise_exact_sum		False	False	False
	do_flux_correction ice_salt_concentration	0.005	False	False	False
	land_model_heat_fluxes	0.003	False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5	0.5
	max_ice_thickness	8.0	0.0	0.0	0.0
	read_restore_mask	False	False	False	False
	restore_mask_gfdl	False	False	False	False
	runoff_salinity	0.0	0.0	0.0	0.0
	salt_correction_scale	-	0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True	True
	<pre>salt_restore_tscale salt_restore_under_ice</pre>	15.0 True	60.0 True	60.0 True	60.0 True
	satt_restore_under_ice temp_restore_tscale	1.0	True —10.0	True —10.0	17ue —10.0
	use_full_patm_for_sea_level	-1.0	— 10.0 False	— 10.0 False	— 10.0 False
	use_waterflux	True	True	True	True
	waterflux_tavg	False			
	zero_heat_fluxes	False	False	False	False
	zero_net_salt_correction		False	False	False
	zero_net_salt_restore	True	True	True	True

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	zero_net_water_correction		False	False	False
	zero_net_water_couple_restore	True	True	True	True
	zero_net_water_coupler	True	True	True	True
	zero_net_water_restore	True	True	True	True
	zero_surface_stress	False	False	False	False
&ocean_sbc_ofam_nml	zero_water_fluxes restore_mask_ofam	False False	False	False	False
wocean_soc_orani_nint	river_temp_ofam	False			
&ocean_shortwave_csiro_nml	read_depth	True			
	use_this_module	True	False	False	False
	zmax_pen	7000			
&ocean_shortwave_gfdl_nml	debug_this_module	False	False	False	False
	enforce_sw_frac	True	True	True	True
	optics_manizza	True	True	True	True
	optics_morel_antoine read_chl	Falsa	False	False	False True
	sw_pen_fixed_depths	False False	True	True	irue
	use_this_module	False	True	True	True
	zmax_pen	200.0	300.0	300.0	300.0
kocean_shortwave_jerlov_nml	use_this_module	False	False	False	False
kocean_shortwave_nml	use_shortwave_csiro	True	False	False	False
	use_shortwave_gfdl	False	True	True	True
Roccan signa transport pm	use_shortwave_jerlov	False	False	False	False
	use_this_module	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False			
	sigma_advection_sgs_only	False			
	sigma_diffusion_on	True			
	sigma_diffusivity_ratio	$1 imes 10^{-6}$ True			
	sigma_just_in_bottom_cell sigma_umax	0.01			
	smooth_sigma_thickness	True			
	smooth_sigma_velocity	True			
	smooth_velmicom	0.2			
	thickness_sigma_layer	100.0			
	thickness_sigma_max	100.0			
	thickness_sigma_min	100.0			
	tmask_sigma_on	False			
	tracer_mix_micom use_this_module	True True	False	False	False
	use_triis_iniodate vel_micom	0.05	raise	raise	rdise
kocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
COCCUT-50t0-1111t	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	0	1460	31	30
	dt_cpld	3600	3600	1200	600
	hours	0	0	0	0
	minutes	0	0	0	0
	months	12	0	0	0
	seconds	0	0	0	0
Vassan anamas ata mul	years 	False	0 False	0 False	0 False
kocean_sponges_eta_nml kocean_sponges_tracer_nml	use_this_module damp_coeff_3d	False	raise	raise	False
Rocean_sponges_cracer_ninc	use_this_module	False	False	False	False
cocean_sponges_velocity_nml	use_this_module	False	False	False	False
cocean_submesoscale_nml	coefficient_ce	ruise	0.05	0.05	0.05
	debug_this_module	False	False	False	False
	front_length_const	5000.0	5000.0	5000.0	5000.0
	front_length_deform_radius	True	True	True	True
	limit_psi	True	True	True	True
	limit_psi_velocity_scale	0.5	0.5	0.5	0.5
	min_kblt	4	4 Truo	4 Truo	4 Truo
	smooth_advect_transport smooth_advect_transport_num		True 4	True 4	True 4
	smooth_hblt	False	False	False	False
	smooth_psi	1 0130	True	True	True
	smooth_psi_num		3	3	3
	submeso_advect_flux		False	False	False
	submeso_advect_limit		True	True	True
	submeso_advect_upwind		True	True	True
	submeso_advect_zero_bdy		True	True	True
	submeso_diffusion		False	False	False
	submeso_diffusion_biharmonic		True	True	True
	submeso_diffusion_scale		10.0	10.0	10.0
	submeso_limit_flux	True	-	-	-
	submeso_skew_flux		True	True	True

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	use_hblt_equal_mld	True	True	True	True
	<mark>use_psi_legacy</mark> use_this_module	True	False True	False True	False True
&ocean_tempsalt_nml	debug_this_module		False	False	False
	pottemp_2nd_iteration pottemp_equal_contemp	True	True True	True True	True True
	pottemp_equat_contemp s_max	55.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0
	s_min s_min_limit	-1.0 0.0	0.0 2.0	0.0 2.0	0.0 2.0
	t_max	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0
	t_min t_min_limit	−5.0 −2.0	-20.0 -5.0	−20.0 −5.0	−20.0 −5.0
	temperature_variable	'conservative	'potential	'potential	'potential
	10	temp'	temp'	temp'	temp'
&ocean_thickness_nml	teos10 debug_this_module	False False	False	False	False
	debug_this_module_detail	False	False	False	False
	initialize_zero_eta	False			
	read_rescale_rhoO_mask rescale_mass_to_qet_ht_mod	False	False	False	False
	rescale_rho0_basin_label	7.0			
	rescale_rho0_mask_gfdl	False			
	rescale_rho0_value thickness_dzt_min	0.75 1.0			
	thickness_dzt_min_init	2.0			
9	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'
&ocean_tracer_advect_nml	min_thickness advect_sweby_all	25.0 True			
Wocdin_trucer_duvect_min	compute_gyre_overturn_diagnose	True			
	debug_this_module	False	False	False	False
	do_fast_compute read_basin_mask	True True	False	False	False
&ocean_tracer_diag_nml	diag_step	120	4320	4320	576
	do_bitwise_exact_sum	False	False	False	False
&ocean_tracer_nml	tracer_conserve_days age_tracer_max_init	1.0 0.0	30.0 0.0	30.0 0.0	30.0 0.0
Coccan_tracer_mint	debug_this_module	False	False	False	False
	frazil_heating_after_vphysics	True	True	True	True
	frazil_heating_before_vphysics limit_age_tracer	False True	False True	False True	False True
	remap_depth_to_s_init	False	False	False	False
	use_tempsalt_check_range	5 .1	True	True	True
	zero_tendency zero_tracer_source	False False	False False	False False	False False
&ocean_velocity_diag_nml	debug_this_module	False	False	False	False
, · ·	diag_step	120	4320	4320	576
	energy_diag_step large_cfl_value	120 10.0	4320 10.0	4320 10.0	5760 10.0
	max_cfl_value	100.0	100.0	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True	True	True
	max_cgint truncate_velocity	1.0 False	1.0 False	1.0 False	1.0 False
	truncate_velocity_value	2.0	2.0	2.0	2.0
	truncate_verbose	True	True	True	True
	zero_tendency zero_tendency_explicit_a	False	False False	False False	False False
	zero_tendency_explicit_b		False	False	False
	zero zeridenej zexperete b				False
9	zero_tendency_implicit		False	False	
&ocean_vert_kpp_iow_nml	zero_tendency_implicit use_this_module		False	False	False
&ocean_vert_kpp_iow_nml &ocean_vert_kpp_mom4p1_nml	zero_tendency_implicit				
	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method		False 0.0 True False	False 0.0 True False	False 0.0 True False
	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method ricr		False 0.0 True False 0.3	False 0.0 True False 0.3	False 0.0 True False 0.3
	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method		False 0.0 True False	False 0.0 True False	False 0.0 True False
	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module		False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True
&ocean_vert_kpp_mom4p1_nml	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module visc_cbu_iw	00	False 0.0 True False 0.3 False True	False 0.0 True False 0.3 False True	False 0.0 True False 0.3 False True
	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module	0.0 0.1	False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True
&ocean_vert_kpp_mom4p1_nml	zero_tendency_implicit use_this_module diff_cbt_iw double_diffusion kbl_standard_method ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module visc_cbu_iw diff_cbt_iw		False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True	False 0.0 True False 0.3 False True True

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

${\bf 6} \quad Differences\ between\ GFDL_ESM2M_input.nml\ and\ GFDL_ESM2M_input-cut.nml}$

 \dots just to double-check only irrelevant atmos/ESM stuff has been cut. Only differences are shown.

Group	Variable	original/ GFDL	original/ GFDL
		ESM2M input.nml	ESM2M input- cut.nml
&aerosol_nml aero	sol_dataset_entry	1860, 1, 1, 0,	cucinnic
		0, 0, 1860, 1,	
		1, 0, 0, 0, 1860, 1, 1, 0,	
		0, 0, 1860, 1,	
		1, 0, 0, 0, 1860, 1, 1, 0,	
		0, 0, 1860, 1,	
		1, 0, 0, 0,	
		1860, 1, 1, 0, 0, 0, 1860, 1,	
		1, 0, 0, 0,	
		1860, 1, 1, 0,	
		0, 0, 1860, 1, 1, 0, 0, 0,	
		1860, 1, 1, 0,	
		0, 0, 1860, 1,	
	data_names	1, 0, 0, 0 'so4', 'black	
		carbon',	
		'organic carbon',	
		'dust_0.1',	
		'dust_0.2',	
		'dust_0.4', 'dust_0.8',	
		'sea_salt',	
		'dust_1.0',	
		'dust_2.0', 'dust_4.0',	
		'dust_8.0'	
	family_names	'small_dust',	
		'large_dust', 'sulfate',	
		'aerosol',	
		'dust', 'pm2.5'	
	filename	'aerosol.climatolo	ogy.nc'
	in_family1	False, False, False, True,	
		True, True,	
		True, False,	
		True, False, False, False	
	in_family2	False, False,	
		False, False,	
		False, False, False, False,	
		False, True,	
	in_family3	True, True True, False,	
	III_IaIIIIty5	False, False,	
		False, False,	
		False, False, False, False,	
		False, False	
	in_family4	True, True, True, True,	
		True, True,	
		True, True,	
		True, True, True, True	
	in_family5	False, False,	
	•	False, True,	
		True, True, True, False,	
		True, True,	
		True, True	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input- cut.nml
	in_family6	True, True,	
		False, False,	
		False, False	
	time_varying_species	False, False,	
		False, False,	
		False, False,	
		False, False,	
	False, False,		
		False, False	
	use_aerosol_timeseries	False	
&aerosolrad_package_nml	aerosol_data_set	'shettle	
		fenn'	

Group (continued) Variable	original/	original/
	GFDL	GFDL
	ESM2M input.nml	ESM2M input-
	input.iiiit	cut.nml
aerosol_optical_names	'sulfate	
	30%',	
	'sulfate	
	35%',	
	'sulfate 40%',	
	'sulfate	
	45%',	
	'sulfate	
	50%',	
	'sulfate	
	55%',	
	'sulfate 60%',	
	'sulfate	
	65%',	
	'sulfate	
	70%',	
	'sulfate	
	75%', 'sulfate	
	sutrate 80%',	
	'sulfate	
	82%',	
	'sulfate	
	84%',	
	'sulfate	
	86%', 'sulfate	
	88%,	
	'sulfate	
	90%',	
	'sulfate	
	91%',	
	'sulfate 92%',	
	'sulfate	
	93%',	
	'sulfate	
	94%',	
	'sulfate	
	95%', 'sulfate	
	96%,	
	'sulfate	
	97%',	
	'sulfate	
	98%',	
	'sulfate 99%',	
	'sulfate	
	100%',	
	'organic	
	carbon',	
	'soot',	
	'sea_salt', 'dust_0.1',	
	'dust_0.1',	
	'dust_0.4',	
	'dust_0.8',	
	'dust_1.0',	
	'dust_2.0', 'dust_4.0',	
	'dust_4.0',	
do_lwaerosol	True	
do_swaerosol	True	
lw_asy_filename	,,	
lw_asy_root	,,	
lw_ext_filename	,,	
lw_ext_root lw_ssa_filename	,,	
tw_ssa_net tw_ssa_root	,,	
optical_filename	'aerosol.optical.d	at'
sw_asy_filename		
sw_asy_root	,,	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input- cut.nml
	sw_ext_filename	,,	
	sw_ext_root sw_ssa_filename	,,	
	doo1_622_W2	,,	
	using_volcanic_lw_files	False	
	using_volcanic_sw_files	False	
&amip_interp_nml	volcanic_dataset_entry	1, 1, 1, 0, 0, 0 'reynolds_oi'	
&allip_litterp_littt	data_set date_out_of_range	'fail'	
&atmos_co2_nml	co2_radiation_override	True	
	do_co2_emissions	False	
	do_co2_restore	True	
	restore_klimit restore_tscale	24 31 536 000.0	
&atmos_model_nml	nxblocks	2	
	nyblocks	2	
&cana_nml	canopy_air_mass_for_tracers	10.0	
	init_co2	0.000 286	
&ca drag pml	turbulence_to_use bt.0	'lm3v' 0.0015	
&cg_drag_nml	Dt_U calculate_ked	0.0015 False	
	cg_drag_freq	1800	
	cg_drag_offset	0	
	debug	False	
	itest	12 42	
	jtest ktest	9	
	lat_limit	25.0	
&cloud_rad_nml	do_brenguier	False	
	overlap	2	
&cloud_spec_nml	cloud_type_form	'strat'	
&cloudrad_package_nml	use_cloud_tracers_in_radiation microphys_form	True 'predicted'	
&clouds_nml	do_obs_clouds	False	
	do_zonal_clouds	False	
&cu_mo_trans_nml	diff_norm	2.0	
&damping_driver_nml	do_cg_drag	False	
	do_conserve_energy do_mg_drag	True True	
	do_topo_drag	False	
	nlev_rayfric	1	
	trayfric	-40.0	
&diag_cloud_nml	L_theqv	True	
	lcnvcld linvers	False False	
	lomega	True	
	low_lev_cloud_index	16	
	nofog	False	
&diag_cloud_rad_nml	l_anom_abs_v	True	·
	Lhar_anvil L_har_coldcld	True True	
&donner_deep_clouds_w_nml	using_dge_lw	True	
	using_dge_sw	True	
&donner_deep_nml	cell_ice_size_type	'default'	
	cell_liquid_size_type	'bower'	
	debug donner_deep_freq	False 1800	
	donner_deep_neq donner_deep_offset	0	
	itest	53	
	jtest	32	
	ktest_model kttest	17 5	
	save_donner_deep_diagnostics	5 True	
&edt_nml	do_gaussian_cloud	False	
	min_adj_time	1.0	
	n_print_levels	14	
	num_pts.ij use_extrapolated_ql	0 False	
	use_extrapolated_ql use_qcmin	Faise True	
&entrain_nml	apply_entrain	True	
	ashear	25.0	
	beta_rad	0.5	
	convect_shutoff	True	
	critjump	0.1	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input- cut.nml
	i_entprt_gl	112, 96, 89,	cucinific
		105, 81, 97	
	j_entprt_gl	71, 61, 56, 64, 53, 46	
	num_pts_ij	0	
	parcel_buoy	0.25	
	parcel_option radperturb	2 0.1	
&esfsw_parameters_nml	sw_diff_streams	1	
&fv_core_nml	sw_resolution	'low' True	
&IV_COTE_IIIIIL	change_time consv_te	0.7	
	layout	1, 30	
	mlat	90	
	n_split ncnst	5 4	
	nlev	24	
	nlon	144	
	pnats	, NETCDE,	
&gas_tf_nml	restart_format do_calcstdch4tfs	'NETCDF' True	
g	do_calcstdco2tfs	True	
	do_calcstdn2otfs	True	
	do_readstdch4tfs do_readstdco2tfs	False False	
	do_readstdc02tfs do_readstdn2otfs	False	
	do_writestdch4tfs	False	
	do_writestdco2tfs	False	
	do_writestdn2otfs interp_form	False 'log'	
&glac_data_nml	dat_emis_dry	1.0	
	dat_emis_sat	1.0	
	rsa_exp_global	10.0	
&glac_nml	use_lm2_awc conserve_glacier_mass	True True	
	lm2	True	
&harvesting_nml	crop_seed_density	0.1	
	do_harvesting frac_wood_wasted_clear	False 0.25	
	frac_wood_wasted_ctear	0.25	
	grazing_intensity	0.25	
	grazing_residue waste_below_ground_wood	0.1 Falso	
&lake_data_nml	waste_betow_ground_wood dat_emis_dry	False 1.0	
	dat_emis_sat	1.0	
	dat_heat_capacity_ref	0.0	
	f_geo_ice f_geo_liq	0.0, 0.0 0.0, 0.0	
	f_iso_ice	0.02, 0.01	
	f_iso_liq	0.02, 0.01	
	f_vol_ice	0.003, 0.0 0.003, 0.0	
	f_vol_liq lake_to_use	'from-rivers'	
	num_l	20	
&lake_nml	albedo_to_use	'brdf-	
	float_ice_to_top	params' True	
&land_debug_nml	watch_point	0,0,0,1	
&land_model_nml	io_layout	1, 3	
	layout	1, 30	
	prohibit_negative_canopy_water tau_snow_t_adj	False 604 800.0	
&landuse_nml	do_landuse_change	False	
	input_file	'INPUT/	
&iscale cond nmi	ممالة مام	landuse.nc'	
&lscale_cond_nml &lw_gases_stdtf_nml	do_evap nstdco2lvls	True 496	
&mg_drag_nml	acoef	1.0	
	do_conserve_energy	True	
	gmax	1.0	
µphys_rad_nml	source_of_sgsmtn lwem_form	'computed' 'fuliou'	
&moist_conv_nml	beta	0.0	
&moist_processes_nml	do_cmt	True	

do_diag_clouds False do_donner_deep False do_donner_deep False do_do_gust_cv False do_legacy_strat_cloud True do_mca False do_mca False do_mca False do_rtas True do_strat True do_strat True include_donnca_in_cosp False do_strat True include_donnca_in_cosp False kmy25_turb_nml akmin_sea 0.0 do_thv_stab True dat_n_ame 1 × 10^-8 kozone_nml basic_ozone_type data_n_ame filename ozone_dataset_entry ozone_dataset_entry 1860, 1, 1, 0, 0, 0, 0	Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input-
But John Carter		do dian claude	Falso	cut.nml
Description Control of the person Control of the		do_diag_ciouds		
do juppo print i cloud		do_qust_cv		
do not doubted for the control of		do_legacy_strat_cloud		
Beautiful and content of the conte				
do th. decided Father Fa				
Industry				
Section Sect				
Committee Comm	&my25_turb_nml			
Section Sect				
Commons	8 ozono pml			
Section Sect	&OZUTE_TITIK			
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domedis-jum Fake radiotion, disparting face				
Note		•	0,0	
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12,70				
Acadistion_driver_claig_nmi all_step_disposities Tive	&radiation_diag_nml			
Availation driver.nml do. dears sylpass rad package Sea set Time Sea set Sea set Time Sea set Sea set Time Sea set				
True Factor Fac	&radiation driver diag oml	all sten diagnostics		
rad parkage grad datine_step renomize_sw_flues_step renomize_sw_flues_step renomize_sw_flues_step sus_00_tracer_field using_restart.file dusing_restart.file false false dusing_restart.file false false dusing_restart.file false false dusing_restart.file false dusing_restart.file false false dusing_restart.file false false dusing_restart.file false f				
rad time step renormalize w. fluxes use .co.2. Tracer field using restart.file varieth.spec diurnally- wayning varidative.gases.nml ch4_datas_surce ch4_datas_surce ch4_datas_surce ch2_datas_surce co2_datas_set.enty co2_datas_surce co2_da	A CONTROL SHIPE			
Use_CD_Tracer_field Using_restar_file False Fa		rad_time_step		
Septemble Sept				
Tendinative gases Characteristic				
varying variation_type cth_variation_type cth_varia				
Cht.datasource Cht.dataset.entry 1860,1.1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.		zenitn_spec		
Ch4_state_tentry	&radiative cases nml	ch4 data source		
Ch4 variation.type	Widdle-Gaster-link		1860, 1, 1, 0, 0, 0	
Co2_base_time Co2_data_source Co2_datas_cource Co2_datas_cource Co2_datas_cource Co2_datas_cource Co2_datas_cource Co2_specification_type Co2_rofor Co2_specification_type Co2_variation_type Co2_v				
0,0				
co2.datas_ource co2.datas_curty co2.floor co2.specification.type f113.datas_curty f113.datas_curty f113.datas_curty f113.datas_curty f113.datas_curty f113.datas_curty f11.datas_curty f12.datas_curty f13.datas_curty f14.data_source f15.data_source f16.data_source f17.datas_curty f10.eas_rics finput finear finput f1860,1,1,0, 0,0 finea_rics finear finput f1860,1,1,0, 0,0 finea_rics f1860,1,1,0, 0,0 finea_rics finput f1860,1,1,0, 0,0 finea_rics finput f1860,1,1,0, 0,0 finea_rics finput f1860,1,1,0, 0,0 finea_rics f1860,1,1,0, 0,0 finea_rics finput finput f1860,1,1,0, 0,0 finea_rics finput f1860,1,1,0, 0,0 f			0,0	
Co2_dataset_entry				
co2_specification_type co2_variation_type fil3_data_source fil3_data_source fil3_specification_type fil3_specification_type fil3_data_set_entry fil_data_source fil_data_set_entry fil_data_source fil_variation_type fil2_variation_type fil2_variati				
trend			0.0001	
f113_data_source			trend'	
f113_dataset_entry 1860, 1, 1, 0, 0, 0 f113_specification_type f11_data_source f11_data_set_entry 1860, 1, 1, 0, 0, 0 f11_specification_type f11_variation_type f12_data_source f12_data_set_entry f12_data_set_entry f12_data_source f12_variation_type f12_variation_type f12_data_set_entry f13_data_set_entry f				
0,0				
f113_specification_type		III3_UalaSet_entry		
f113_variation_type f11_data_source f11_data_source f11_dataset_entry f11_dataset_entry f11_dataset_entry f11_variation_type f11_variation_type f11_variation_type f11_variation_type f11_variation_type f11_variation_type f11_variation_type f12_dataset_entry f12_dataset_entry f12_dataset_entry f12_dataset_entry f12_dataset_entry f12_dataset_entry f12_dataset_entry f12_variation_type f		f113_specification_type		
f11_data_source f11_data_source f11_data_source f11_data_source f12_data_source f11_variation_type f11_variation_type f11_variation_type f12_data_source f12_variation_type f1360_t_t_t_t_t_t_t_t_t_t_t_t_t_t_t_t_t_t_t		f113_variation_type		
0,0 f11_specification_type f11_variation_type f12_data_source f12_data_source f12_specification_type f12_specification_type f12_variation_type f12_variation_type f22_data_source f22_data_source f22_data_set_entry f22_data_set_entry f22_specification_type f22_specification_type f22_variation_type f22_variation_type f22_variation_type f22_variation_type f22_variation_type f22_variation_type f22_variation_type f22_variation_type f23_variation_type f240 f240 f240 f25_variation_type f20_variation_type f20_variation_type f20_variation_type f20_variation_type f20_variation_type f20_variation_type f20_variation_type f20_variation_type f21_variation_type f21_variation_type f21_variation_type f21_variation_type f22_variation_type f21_variation_type f22_variation_type f23_variation_type f24_variation_type f24_variation_type f24_variation_type f24_		f11_data_source		
f11_variation_type f12_data_source f12_data_source f12_data_source f12_data_source f12_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0 f13_variation_type f1360, 1, 1, 0, 0, 0 f1360, 1, 1, 0 f1360, 1, 1, 0, 0 f1360, 1, 1, 0 f1		•	0,0	
f12_data_source 'input' f12_dataset_entry 1860, 1, 1, 0, 0, 0 f12_specification_type 'time_series' 'tinear' 'tinea				
f12_dataset_entry f12_specification_type f12_variation_type f12_data_source f22_data_source f22_dataset_entry f22_specification_type f22_variation_type f23_variation_type f240 f240 f25_f12_f12_f12_f12_f12_f12_f12_f12_f12_f12				
f12_specification_type f12_variation_type f22_data_source f22_dataset_entry f22_specification_type f22_variation_type f23_variation_type f240 f240 f240 f240 f240 f240 f240 f240			1860, 1, 1, 0,	
f12_variation_type f22_data_source f22_dataset_entry f22_dataset_entry f22_specification_type f22_variation_type f23_variation_type f24_variation_type f24_variation_		f12_specification_type		
f22_data_source 'input' f22_dataset_entry 1860, 1, 1, 0,				
0, 0 f22_specification_type 'time_series' f22_variation_type 'linear' gas_printout_freq 240 n2o_data_source 'input' n2o_dataset_entry 1860, 1, 1, 0, 0, 0 n2o_specification_type 'time_series' n2o_variation_type 'linear'		f22_data_source		
f22_variation_type 'linear' gas_printout_freq 240 n2o_data_source 'input' n2o_dataset_entry 1860, 1, 1, 0, 0, 0 n2o_specification_type 'time_series' n2o_variation_type 'linear'			0,0	
gas_printout_freq 240 n2o_data_source 'input' n2o_dataset_entry 1860, 1, 1, 0, 0, 0 n2o_specification_type 'time_series' n2o_variation_type 'linear'				
n2o_data_source 'input' n2o_dataset_entry 1860, 1, 1, 0, 0, 0 n2o_specification_type 'time_series' n2o_variation_type 'linear'				
n2o_dataset_entry 1860, 1, 1, 0, 0, 0 n2o_specification_type 'time_series' n2o_variation_type 'linear'				
n2o_specification_type 'time_series' n2o_variation_type 'linear'			1860, 1, 1, 0,	
n2o_variation_type 'linear'		n2o_specification_type		

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input- cut.nml
	time_varying_co2 time_varying_f11 time_varying_f113 time_varying_f12 time_varying_f22 time_varying_n2o verbose	False False False False False 5	CULTIME
&random_number_streams_nml	do_legacy_seed_generation	True	
&ras_nml	force_use_of_temp_for_seed a	False 1.6851, 1.1686, 0.7663, 0.5255, 0.41, 0.3677, 0.3151, 0.2216, 0.1521,	
	aratio modify_pbl puplim rn_frac_bot rn_frac_top rn_pbot rn_ptop tokioka_con tokioka_on	0.075, 0.0, 0.0, 0.0, 0.0, 0.0 1.0 True 2000.0 0.5 0.975 80 000.0 50 000.0 0.025 True	
	tokioka_plim	50 000.0	
&rh_based_clouds_nml	cirrus_cld_prop_form cldht_type_form	'part' '93'	
&river_nml	all_big_outlet_ctn0 dt_slow land_area_called_cellarea	True 86 400.0 True	
&river_physics_nml &sealw99_nml	lake_sfc_w_min continuum_form do_lwcldemiss do_nlte do_thick linecatalog_form	20.0 'ckd2.1' True False False 'hitran 2000'	
&shortwave_driver_nml	verbose do_cmip_diagnostics solar_dataset_entry swform time_varying_solar_constant	5 True 1860, 1, 1, 0, 0, 0 'esfsw99' False	
&snow_data_nml	emis_snow_max emis_snow_min f_geo_cold f_geo_warm f_iso_cold f_iso_warm	0.05 0.05, 0.2, 0.5, 0.2, 0.05, 0.0, 0.0, 0.0, 0.0, 0.0 1.0 1.0 0.0, 0.0 0.0, 0.0 0.0, 0.0 0.0, 0.0 0.0, 0.0	
	f_vol_cold f_vol_warm num_L z0_momentum	0.9, 0.6 0.09, 0.13 0.09, 0.13 5 0.01	
&snow_nml	albedo_to_use max_snow min_snow_mass	'brdf- params' 1000.0 1 × 10 ⁻¹⁰	
&soil_data_nml	comp dat_emis_dry dat_emis_sat	0.0001 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input-
	dat_tf_depr	2.0, 2.0, 2.0,	cut.nml
	uat_tr_uepr	2.0, 2.0, 2.0,	
		2.0, 2.0, 2.0	
	dz	0.02, 0.04,	
		0.04, 0.05,	
		0.05, 0.1, 0.1, 0.2, 0.2, 0.2,	
		0.4, 0.4, 0.4,	
		0.4, 0.4, 1.0,	
		1.0, 1.0, 1.5,	
		2.5	
	freeze_factor	2.0	
	geohydrology_to_use	'hill_ar5'	
	gw_scale_soil_depth num_l	10.0 20	
&soil_nml	active_layer_drainage_acceleration	100.0	
	albedo_to_use	'brdf-maps'	
	init_w	500.0	
	uptake_oneway	True	
	uptake_to_use	'darcy2d-	
	write_soil_carbon_restart	linearized' False	
&stable_bl_turb_nml	write_soit_carbon_restart alsh	500.0	
X STADIE_DE_TUID_TIIIE	alsm	500.0	
&static_veg_nml	end_loop	2470, 1, 1, 0,	
		0,0	
	fill_land_mask	True	
	start_loop	2420, 1, 1, 0,	
	timeline	0,0	
	use_static_veg	'loop' False	
&strat_cloud_nml	diff_thresh	0.1	
33.41.21.04.21.11.1	dmin	1×10^{-7}	
	do_old_snowmelt	True	
	eros_choice	True	
	eros_scale	1×10^{-6}	
	eros_scale_c	8×10^{-6}	
	eros_scale_t mc_thresh	5×10^{-5} 0.001	
	n_land	300 000 000.0	
	retain_cm3_bug	True	
	rthresh	8.0	
	super_choice	True	
	tracer_advec	True	
	u00 u00_profile	0.8 True	
&topo_rough_nml	αυυ_proπιε max_topo_rough	100.0	
жероложунания	topo_rough_factor	0.01	
	use_topo_rough	True	
&vegn_nml	co2_for_photosynthesis	0.000 286	
	co2_to_use_for_photosynthesis	'interactive'	
	do_biogeography	True	
	do_cohort_dynamics do_patch_disturbance	True True	
	do_patch_disturbance do_phenology	True	
	do_seed_transport	True	
	init_tv	288.0	
	photosynthesis_to_use	'leuning'	
	rad_to_use	'two-stream'	
	snow_rad_to_use	'paint- leaves'	
	tau_smooth_ncm	22.0	
_diff_driver_nml	do_conserve_energy	True	
_turb_driver_nml	do_diffusivity	False	
	do_edt	False	
	do_entrain	True	
	do_mellor_yamada	False	
	do_shallow_conv	False	
	do_stable_bl gust_scheme	True 'beljaars'	
	duct cchomo		