MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

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

also check /home/581/fbd581/payu/access-om2_JRA-ryf/ocean/input.nml? - fabio email 18 Oct

- 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 below 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
- 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 comigs	2
2	Changes in new ACCESS-OM2 configs 2.1 accessom2_1deg_jra55_ryf	7
3	Old and new ACCESS-OM2 configs (differences highlighted)	9
4	Differences between MOM-SIS and all new configs	17
5	All variables in all 8 configs (differences highlighted)	21
6	Differences between GFDL_ESM2M_input.nml and GFDL_ESM2M_input-cut.nml	30

1 Differences between new ACCESS-OM2 configs

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	1800	600
Oh, Jiff ha danadana and	redsea_gulfbay_sfix	$\frac{\text{True}}{1 \times 10^{-6}}$		
&bg_diff_lat_dependence_nml	bg_diff_eq lat_low_bgdiff	20.0		
&fms_io_nml	fileset_write	'single'	'multi'	'multi'
&ocean_adv_vel_diag_nml	threading_write diag_step	'single' 4320	'multi' 4320	'multi' 576
&ocean_barotropic_nml	diag_step	4320	4320	576
&ocean_lapgen_friction_nml	bottom_5point	True		
	k_smag_aniso	0.0	2.0	2.0
	k_smag_iso ncar_only_equatorial	0.0 True	2.0	2.0
	restrict_polar_visc	True		
	restrict_polar_visc_lat	60.0		
	restrict_polar_visc_ratio use_this_module	0.35 True	False	False
	vconst_1	8 000 000.0	raisc	raisc
	vconst_2	0.0		
	vconst_3	0.8		
	vconst_4 vconst_5	5×10^{-9}		
	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 mixdownslope_mask_gfdl	100.0 False		
Coccan_mixtownstope_mit	mixdownslope_npts	4		
	read_mixdownslope_mask	False		
&ocean_model_nml	use_this_module	True 3600	False	False 150
&otean_modet_min	dt_ocean io_layout	4, 3	1200 6, 5	10, 15
	layout	16, 15	48, 40	80,75
&ocean_nphysics_nml	use_nphysicsc	True	False	False
&ocean_nphysics_util_nml	use_this_module agm	True 600.0	False 100.0	False 100.0
Coccan_npnysics_addc_nint	agm_closure_eady_ave_mixed	True	100.0	100.0
	agm_closure_eady_cap	True		
	agm_closure_eady_smooth_horz	True		
	agm_closure_eady_smooth_vert agm_closure_eden_gamma	True 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 nphysics_util_zero_init	True True	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True		
	bvp_bc_mode	2		
	bvp_min_speed	0.1		
	bvp_speed debug_this_module	0.0 False		
	do_gm_skewsion	True		
		True		
	do_neutral_diffusion			
	epsln_bv_freq	1×10^{-12}		
	epsln_bv_freq gm_skewsion_bvproblem	$1 imes 10^{-12}$ True		
	epsln_bv_freq	1×10^{-12}		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes neutral_eddy_depth neutral_physics_limit	$1 imes 10^{-12}$ True False True True		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes neutral_eddy_depth neutral_physics_limit number_bc_modes	$\begin{array}{c} 1\times 10^{-12} \\ \text{True} \\ \text{False} \\ \text{True} \\ \text{True} \\ 2 \end{array}$		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes neutral_eddy_depth neutral_physics_limit	$1 imes 10^{-12}$ True False True True		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes neutral_eddy_depth neutral_physics_limit number_bc_modes regularize_psi smax_psi smooth_psi	$\begin{array}{c} 1\times 10^{-12} \\ \text{True} \\ \text{False} \\ \text{True} \\ \text{True} \\ 2 \\ \text{False} \\ 0.01 \\ \text{True} \end{array}$		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes neutral_eddy_depth neutral_physics_limit number_bc_modes regularize_psi smax_psi	$\begin{array}{c} 1\times 10^{-12} \\ \text{True} \\ \text{False} \\ \text{True} \\ \text{True} \\ 2 \\ \text{False} \\ 0.01 \end{array}$		

Group (continued)	Variable	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	use_this_module	True	False	False
&ocean_solo_nml	days	1460	31	30
	dt_cpld	3600	1200	600
&ocean_tracer_diag_nml	diag_step	4320	4320	576
&ocean_velocity_diag_nml	diag_step	4320	4320	576
	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

Group	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
&diag_manager_nml	debug_diag_manager	•	True
&fms_nml	issue_oor_warnings domains_stack_size	False	True 115200
&monin_obukhov_nml	neutral		True
&mpp_io_nml	deflate_level		5
	shuffle		1
&ocean_albedo_nml	ocean_albedo_option		2
&ocean_barotropic_nml	zero_tendency		False
&ocean_bbc_nml	bmf_implicit		True
	cdbot_hi cdbot_law_of_wall	False	0.007
	cdbot_roughness_length	raise	False
	cdbot_roughness_uamp		True
	uresidual		0.05
&ocean_bbc_ofam_nml	read_tide_speed	False	
	uresidual2_max	1.0	
&ocean_bih_tracer_nml	tracer_mix_micom		True
&ocean_bihgen_friction_nml	vel_micom bottom_5point	True	0.001 False
woccan_bingeri=medon_nine	ncar_boundary_scaling_read	iiuc	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	
9 ocean descitu and	convect_full_vector	True 1030.0	1038.0
&ocean_density_nml	neutralrho_max neutralrho_min	1030.0	1038.0
&ocean_domains_nml	max_tracers	1020.0	5
&ocean_form_drag_nml	cprime_aiki	0.6	
&ocean_frazil_nml	debug_this_module		False
	frazil_only_in_surface		False
	freezing_temp_preteos10	_	True
0	freezing_temp_simple	True	False
&ocean_grids_nml	debug_this_module read_rho0_profile	True False	False
&ocean_increment_eta_nml	days_to_increment	0	
G00001211010110101200211110	fraction_increment	1.0	
	secs_to_increment	1800	
&ocean_increment_tracer_nml	days_to_increment	0	
	fraction_increment	1.0	
9 ocean ingrement valerity and	secs_to_increment	1800	
&ocean_increment_velocity_nml	days_to_increment fraction_increment	0 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_ofp_nml	use_this_module		False False
&ocean_pressure_nml &ocean_rivermix_nml	zero_pressure_force river_diffuse_salt	False	True
Social Horizontal	river_diffuse_temp	False	True
&ocean_riverspread_nml	use_this_module	True	False
&ocean_rough_nml	rough_scheme		'beljaars'
&ocean_sbc_nml	calvingspread		False
	do_bitwise_exact_sum		False
	do_flux_correction land_model_heat_fluxes		False False
	tand_modet_neat_ituxes max_ice_thickness	8.0	0.0
	salt_correction_scale	0.0	0.0
	salt_restore_tscale	15.0	60.0
	temp_restore_tscale	-1.0	-10.0
	use_full_patm_for_sea_level		False
	waterflux_tavg	False	
	zero_net_salt_correction		False
	zero_net_water_correction		False

	Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
Account-Informative special special products of the products	&ocean_sbc_ofam_nml		False	
Second Scriptower Sc	&ncean shortwaye csiro nml			
	WOCCAN_SHOT (WAYC_CSHO_HIRE			False
Part			7000	
Principal Prin	&ocean_shortwave_gfdl_nml		Falso	
Second shortware small				iiuc
Access nations we sent See substraves each False False See substraves each False See substraves each False See substraves each False See substraves each See substraves each False See substraves each See substraves See substraves each See substraves See s		use_this_module		True
Second S	Pagana sharkuru a mal	·		
Access spin transport new conditions True False	&ocean_snortwave_nmt			
Content Cont	&ocean_sigma_transport_nml			False
	&ocean_solo_nml		False	
	&ocean_submesoscale_nml			0.05
Second thickness.mm				
Summes anderet_fluir		•		True
Submess advect_unity Submess advect_tame		smooth_psi_num		3
Submess advert_uppwind Submess advert_uppwind Submess advert_uppwind Submess advert_uppwind Submess advert_uppwind Submess advert_upp Submess		submeso_advect_flux		False
Submess of Historia of Histo				True
Submess. diffusion state Submess. diffusion				True
Submen of Affracion scale 100				False
Submeso Jamin Law True Submeso Jamin Law				True
Submeso Sken Mus False False Submeso Sken Mus False False Submeso Sken Mus False Submeso Sken Mus Submeso S			True	10.0
Society Soci			irue	True
				False
Second tracer diag .mm 1-10 0.0 2.0	&ocean_tempsalt_nml			True
				70.0
				-20.0
& cocean.thickness.nml temp* temp temp & cocean.thickness.nml initialize_zero.eta False read_rescale_rho0.mask False False rescale_rho0.mask_cpfdl False 7.0 rescale_rho0.mask_cpfdl False 7.0 thickness_det_min 1.0 1.0 thickness_det_min 1.0 1.0 & cocean.tracer_advect_nml 1.0 1.0 & cocean.tracer_diag_nml trace_comen_cove_chays 1.0 3.0 & cocean.velocity_nml truncate_velocity True False & cocean.velocity_nml truncate_velocity True False & cocean.vert_kpp_mom4p0_nml use_this_module False & cocean.vert_kpp_mom4p0_nml use_this_module False & cocean.vert_kpp_mom4p1_nml diffi_con.limit 0.1 & cocean.vert_kpp_mom4p1_nml diffi_con.limit 0.1 & cocean.vert_mix_nml alsph_b.0 0.5 & cocean.vert_mix_nml alsph_b.0 0.5 & cocean.vert_mix_nml alsph_b.0			-2.0	-5.0
Initialize zero.eta False		temperature_variable		'potential
Read rescale moto mask False False Rescale moto mask Rescale moto mask False Rescale moto mask Rescale mot	&acean thickness and	initialize zero eta		temp
Rescale_nhoo_nasin_label 70 rescale_nhoo_nasin_label 7	WOCEAN_LINCKNESS_INIC			
Palse Pals				False
Thickness_dzt_min_init 2.0 1.				
Socean_tracer_advect_nmil				
Socean_tracer_advect_nml advect_sweby_all async_domain_update True read_basin_mask False			2.0	
Socean_tracer_diag_nml Saync_domain_update False	&ocean_topog_nml			
Palse	&ocean_tracer_advect_nml			
&ocean_tracer_diag_nml tracer_conserve_days 1.0 30.0 &ocean_velocity_nml truncate_velocity True False zero_tendency_explicit_b zero_tendency_explicit_b False &ocean_vert_kpp_mom4p0_nml use_this_module False &ocean_vert_kpp_mom4p1_nml diff_con_limit 0.1 &ocean_vert_mix_nml afkph_00 0.65 afkph_00 0.75 0.75 bryan_lewis_lat_transition 35.0 dfkph_00 1.15 dfkph_00 1.15 dfkph_00 0.95 hwf_oiffusivity False 5 kph_00 45 x 10^{-5} 2 x 10^{-6} sfkph_00 45 x 10^{-5} 5 kph_00 45 x 10^{-5} 5 kph_00 250 0000 250 0000 &ocean_vert_tidal_nml background_diffusivity 5 x 10^{-6} 0.00 0.00			irue	False
True False Zero_tendency_explicit_a Zero_tendency_explicit_b Zero_tendency_explicit_b False Zero_tendency_explicit_b False Zero_tendency_implicit False Zero_tendency_implicit False Zero_tendency_implicit False Zero_tendency_implicit False Zero_tendency_implicit False Zero_tendency_implicit True False Zero_tendency_implicit False Zero_tendency_implicit True Talse Zero_tendency_implicit Zero_tendency_implicit_implication_implicit_implication_implication_implicit_implication_implicit_implication_implica	&ocean_tracer_diag_nml		1.0	30.0
Zero_tendency_explicit_b zero_tendency_implicit b zero_tendency_impli	&ocean_velocity_nml	truncate_velocity	True	False
				False
&ocean_vert_kpp_mom4p0_nml use_this_module False &ocean_vert_kpp_mom4p1_nml diff_con_limit 0.1 &ocean_vert_mix_nml afkph_00 0.65 afkph_90 0.75 bryan_lewis_lat_depend True False bryan_lewis_lat_transition 35.0 dfkph_00 1.15 dfkph_00 1.15 dfkph_00 0.95 False 0.95 Mrd_diffusivity False 2 x 10^-6 2 x 10^-6 0.00				
&ocean_vert_kpp_mom4p1_nml diff_con_limit visc_con_limit 0.1 visc_con_limit 0.6 visc_con_limit 0.6 visc_con_limit 0.6 visc_con_limit 0.1 visc_con_limit	&ocean_vert_kpp_mom4p0_nml		False	1 disc
Visc_con_limit 0.1	&ocean_vert_kpp_mom4p1_nml	diff_con_limit	0.1	
afkph_90				
bryan_lewis_lat_depend True False	&ocean_vert_mix_nml			
bryan_lewis_lat_transition				False
dfkph_00				. 4150
hwf_diffusivity hwf_min_diffusivity hwf_min_diffusivity hwf_min_diffusivity hwf_min_diffusivity hwf_n0_2omega linear_taper_diff_cbt_table sfkph_00 4.5 × 10^{-5} sfkph_90 4.5 × 10^{-5} zfkph_90 250 000.0 zfkph_90 250 000.0 scheduled background_diffusivity 5 × 10^{-6} 0.00 scheduled background_d				
hwf_min_diffusivity hwf_n0_2omega 20.0 linear_taper_diff_cbt_table sfkph_00 4.5 × 10^{-5} sfkph_90 4.5 × 10^{-5} zfkph_00 250 000.0 zfkph_90 250 000.0 scheme background_diffusivity 5 × 10^{-6} 0.0 scheme ba			0.95	Fala-
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 social_vert_tidal_nml background_diffusivity 5 × 10^{-6} 0.0 contact				
linear_taper_diff_cbt_table False sfkph_00 4.5 × 10^{-5} sfkph_90 4.5 × 10^{-5} sfkph_90 250 000.0 zfkph_90 250 000.0 scean_vert_tidal_nml background_diffusivity 5 × 10^{-6} 0.0				20.0
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				20.0
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		sfkph_00		
$\&$ ocean_vert_tidal_nml background_diffusivity $5 imes 10^{-6}$ 0.0				
	&ocean vert tidal nml			0.0
4004 ₁ _5000 5000		decay_scale	300.0	500.0

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml
	drag_dissipation_use_cdbot		True
	drhodz_min	$1 imes 10^{-12}$	$1 imes 10^{-10}$
	max_drag_diffusivity	0.01	
	roughness_scale	20 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0
	use_legacy_methods		False
&ocean_xlandinsert_nml	verbose_init	True	
&ocean_xlandmix_nml	verbose_init	True	
	xlandmix_kmt	True	
&xgrid_nml	nsubset		16

2.2 accessom2_025deg_jra55_ryf

Group	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml
&auscom_ice_nml	dt_cpl	1200	1800
&fms_io_nml	fileset_write threading_write	'single' 'single'	'multi' 'multi'
&fms_nml	domains_stack_size		115200
&mpp_io_nml	deflate.level shuffle		5 1
&ocean_convect_nml	convect_full_scalar convect_full_vector	True False	
&ocean_nphysics_util_nml	smax swidth	0.002 0.002	
&ocean_overflow_ofp_nml	debug_this_module diag_step do_entrainment_para_ofp do_mass_ofp frac_exchange_src max_vol_trans_ofp	False 4320 False True 1.0 10 000 000.0	
&ocean_rivermix_nml	river_diffuse_temp	False False	True True
&ocean_shortwave_csiro_nml	debug_this_module read_depth zmax_pen	False True 7000	
&ocean_thickness_nml	thickness_dzt_min thickness_dzt_min_init	2.0 10.0	
&ocean_velocity_nml &surface_flux_nml	max_cgint ncar_ocean_flux raoult_sat_vap	1.5 True True	1.0

$2.3 \quad accessom2_01deg_jra55_ryf$

Group	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&auscom_ice_nml	dt_cpl	150	600
&diag_manager_nml	debug_diag_manager		True
	issue_oor_warnings	False	True
	max_axes	300	
	max_files	1000	
	max_input_fields	700	
	max_num_axis_sets	40	
	max_output_fields	700	
&fms_io_nml	checksum_required	False	
	max_files_r	700	
	max_files_w	700	
&fms_nml	print_memory_usage	False	
&generic_tracer_nml	do_generic_cfc	False	
	do_generic_topaz	False	
	do_generic_tracer	False	
&ocean_advection_velocity_nml	max_advection_velocity	0.2	0.5
&ocean_barotropic_nml	vel_micom_lap_diag	0.5	0.2
&ocean_convect_nml	convect_full_scalar	True	
	convect_full_vector	False	
&ocean_model_nml	cmip_units		True
&ocean_nphysics_util_nml	smax	0.002	
	swidth	0.002	
&ocean_overflow_ofp_nml	debug_this_module	False	
	diag_step	5760	
	do_entrainment_para_ofp	False	
	do_mass_ofp	True	
	frac_exchange_src	1.0	
	max_vol_trans_ofp	10 000 000.0	
&ocean_riverspread_nml	debug_this_module	False	
	use_this_module	True	False
&ocean_solo_nml	dt_cpld	150	600
&ocean_tempsalt_nml	debug_this_module	True	False

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
&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	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	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 use_legacy_barotropic_halos	False False	False False	False False	False False	False False	False False
	use_legacy_barotropic_natos vel_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01
	vel_micom_lap	0.05	0.05	0.05	0.05	0.05	0.05
	vel_micom_lap_diag	0.2	0.2	0.2	0.2	0.5	0.2
	verbose_truncate	True	True	True	True	True	True
Rosean bhe nml	zero_tendency		False	False	False	False	False
&ocean_bbc_nml	bmf_implicit cdbot	0.001	True 0.001	True 0.001	True 0.001	True 0.001	True 0.001
	cdbot_hi	0.001	0.007	0.007	0.001	0.007	0.007
	cdbot_law_of_wall	False					
	cdbot_roughness_length		False	False	False	False	False
	cdbot_roughness_uamp		True	True	True	True	True
	uresidual use_geothermal_heating	False	0.05 False	0.05 False	0.05 False	0.05 False	0.05 False
&ocean_bbc_ofam_nml	read_tide_speed	False	i alse	1 0130	1 0130	1 atse	1 disc
	uresidual2_max	1.0					
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom		True	True	True	True	True
	use_this_module	False	False 0.001	False	False	False	False
&ocean_bihcst_friction_nml	vel_micom use_this_module	False	False	0.001 False	0.001 False	0.001 False	0.001 False
&ocean_bihgen_friction_nml	bottom_5point	True	False	False	False	False	False
	eq_lat_micom	0.0	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0	0.0
	equatorial_zonal	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0
	к_smag_aniso k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True	True	True	True
	ncar_boundary_scaling_read		True	True	True	True	True
	ncar_rescale_power	2	2	2	2	2	2
	ncar_vconst_4	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}	2×10^{-8}
	ncar_vconst_5 use_this_module	5 True	5 True	5 True	5 True	5 True	5 True
	vel_micom_aniso	0.0	0.0	0.0	0.0	0.0	0.0
	vel_micom_bottom	0.01	0.0	0.0	0.0	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0	0.0	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0	1.0	1.0	1.0
&ocean_convect_nml	convect_full_scalar convect_full_vector	False True		True False		True False	
	use_this_module	False	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5	0.5
	use_this_module	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False	False	False	False	False	False
	eos_preteos10	True	True	True	True	True	True
	layer_nk neutralrho_max	80 1030.0	80 1038.0	80 1038.0	80 1038.0	80 1038.0	80 1038.0
	neutralrho_min	1030.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
&ocean_domains_nml	max_tracers	10	5	5	5	5	5
&ocean_form_drag_nml	cprime_aiki	0.6		F 1	F .	F 1	F. 1
&ocean_frazil_nml	use_this_module debug_this_module	False	False False	False False	False False	False False	False False
WUCCOIL II OZIL III III	debug_tnis_module frazil_only_in_surface		False	False	False False	False False	False False
	freezing_temp_preteos10		True	True	True	True	True
	freezing_temp_simple	True	False	False	False	False	False
	use_this_module	True	True	True	True	True	True
&ocean_grids_nml	debug_this_module	True	False	False	False	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
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					
	secs_to_increment use_this_module	1800 False	False	False	False	False	False
&ocean_increment_velocity_nml	days_to_increment	0	raisc	Talsc	T disc	Tatsc	1 disc
	fraction_increment	1.0					
	secs_to_increment	1800					
0	use_this_module	False	False	False	False	False	False
&ocean_lap_friction_nml &ocean_lap_tracer_nml	lap_friction_scheme use_this_module	'general'	'general' False	'general' False	'general' False	'general'	'general'
&ocean_lapcst_friction_nml	use_this_module	False False	False	False	False	False False	False False
&ocean_lapgen_friction_nml	bottom_5point	True	True	Talsc	1 8130	raisc	raisc
13 1 11 2 2	k_smag_aniso	0.0	0.0				
	k_smag_iso	0.0	_ 0.0	2.0	2.0	2.0	2.0
	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	False	False
	vconst_1	8 000 000.0	0.000 000 8				
	vconst_2	0.0	0.0				
	vconst_3	$0.8 \\ 5 \times 10^{-9}$	$0.8 \\ 5 \times 10^{-9}$				
	vconst_4 vconst_5	5 × 10 ³	5 × 10 ³				
	vconst_6	300 000 000.0	300 000 000.0				
	vconst_7	100.0	100.0				
	vel_micom_iso	0.1	0.1				
	viscosity_ncar	True	True				
	viscosity_ncar_2000 viscosity_ncar_2007	False True	False True				
	viscosity_ncal_2007 viscosity_scale_by_rossby	True	True				
	viscosity_scale_by_rossby_power	4.0	100.0				
&ocean_mixdownslope_nml	debug_this_module	False	False	False	False	False	False
	mixdownslope_mask_gfdl	False	False				
	mixdownslope_npts read_mixdownslope_mask	4 False	4 False				
	use_this_module	True	True	False	False	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1	1	1
	barotropic_split	80	80	80	80	80	80
	cmip_units	True	True	True	True		True
	debug <mark>dt_ocean</mark>	False 3600	False 3600	False 1200	False 1200	False 150	False 150
	io_layout	4, 3	4, 3	6,5	6,5	10, 15	10, 15
	layout	16, 15	16, 15	48, 40	48, 40	80, 75	80,75
	surface_height_split	1	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel
0	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar
&ocean_momentum_source_nml	<pre>rayleigh_damp_exp_from_bottom use_rayleigh_damp_table</pre>	True	False True	False True	False True	False True	False True
	use_this_module	True	True	True	True	True	True
&ocean_nphysics_nml	debug_this_module	False	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False	False
	use_nphysicsb	False	False	False	False	False	False
	use_nphysicsc use_this_module	True True	True True	False False	False False	False False	False
&ocean_nphysics_util_nml	use_tnis_module agm	600.0	600.0	100.0	100.0	100.0	False 100.0
woccan inproject utilities	agm_closure	True	True	True	True	True	True
	agm_closure_baroclinic	True	True	True	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed	True	True				
	agm_closure_eady_cap	True	True				
	<pre>agm_closure_eady_smooth_horz agm_closure_eady_smooth_vert</pre>	True True	True True				
	agm_closure_eady_smooth_vert agm_closure_eden_gamma	0.0	0.0				
	agm_closure_eden_greatbatch	False	False				
	agm_closure_grid_scaling	True	True				
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 1deg jra55_ryf input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	agm_closure_length_fixed	False	False	False	False	False	False
	agm_closure_length_rossby agm_closure_lower_depth	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0
	agm_closure_max	600.0	600.0	600.0	600.0	600.0	600.0
	agm_closure_min	50.0	50.0	100.0	100.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07	0.07	0.07	0.07
	agm_closure_upper_depth agm_damping_time	100.0 45.0	100.0 45.0	100.0	100.0	100.0	100.0
	agm_smooth_space	False	False				
	agm_smooth_time	False	False				
	aredi	600.0	600.0	600.0	600.0	600.0	600.0
	aredi_equal_agm	False	False	False	False	False	False
	drhodz_mom4p1 drhodz_smooth_horz	True False	True False	False False	False False	False False	False False
	drhodz_smooth_rert	False	False	False	False	False	False
	nphysics_util_zero_init	True	True				
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax swidth			0.002 0.002		0.002 0.002	
	tracer_mix_micom	False	False	False	False	False	False
	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsb_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True 2				
	bvp_bc_mode bvp_min_speed	2 0.1	0.1				
	bvp_speed	0.0	0.0				
	debug_this_module	False	False				
	do_gm_skewsion	True	True				
	do_neutral_diffusion	True	True				
	epsln_bv_freq gm_skewsion_bvproblem	$1 imes 10^{-12}$ True	$1 imes 10^{-12}$ True				
	qm_skewsion_modes	False	False				
	neutral_eddy_depth	True	True				
	neutral_physics_limit	True	True				
	number_bc_modes	2	2				
	regularize_psi smax_psi	False 0.01	False 0.01				
	smooth_psi	True	True				
	tmask_neutral_on	True	True				
	turb_blayer_min	50.0	50.0				
	use_this_module	True	True	False	False	False	False
&ocean_operators_nml &ocean_overexchange_nml	use_legacy_div_ud debug_this_module	False	False False	False False	False False	False False	False False
&ocean_overexchange_nint	overexch_check_extrema	False	False	False	raise	raise	raise
	overexch_npts	4	4	4	4	4	4
	overexch_weight_far	False	False	False	False	False	False
	overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0
&ocean_overflow_nml	use_this_module	False False	False False	False False	False False	False False	False False
&ocean_overnow_nint	debug_this_module use_this_module	False	False	False	False	False	False
&ocean_overflow_ofp_nml	debug_this_module		1 4130	False	1 4150	False	1 4130
·	diag_step			4320		5760	
	do_entrainment_para_ofp			False		False	
	do_mass_ofp			True		True 1.0	
	frac_exchange_src max_vol_trans_ofp			1.0 10 000 000.0		1.0	
	use_this_module		False	False	False	False	False
&ocean_polar_filter_nml	use_this_module	False	False	False	False	False	False
&ocean_pressure_nml	zero_pressure_force		False	False	False	False	False
&ocean_rivermix_nml	debug_this_module	False	False	False	False	False	False
	river_diffuse_salt river_diffuse_temp	False False	True True	False False	True True	True True	True True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0
	and a first contract of the co	True	True	True	True	True	True
	use_this_module						
&ocean_riverspread_nml	debug_this_module		Ealco	Ealco	Ealco	False	Ealco
·	debug_this_module use_this_module	True	False 'heliaars'	False 'heliaars'	False 'heliaars'	True	False 'heliaars'
&ocean_riverspread_nml &ocean_rough_nml &ocean_sbc_nml	debug_this_module		False 'beljaars' True	False 'beljaars' True	False 'beljaars' True		False 'beljaars' 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	new_acces- som2 025deg jra55_ryf input.nml	original/ hogg_acces- som2 01deg jra55_ryf input	new_acces- som2 01deg jra55_ryf input.nml
	calvingspread do_bitwise_exact_sum		False False	False False	False False	False False	False False
	do_flux_correction		False	False	False	False	False
	land_model_heat_fluxes		False	False	False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5	0.5	0.5	0.5
	max_ice_thickness read_restore_mask	8.0 False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False
	restore_mask_gfdl	False	False	False	False	False	False
	runoff_salinity	0.0	0.0	0.0	0.0	0.0	0.0
	salt_correction_scale	-	0.0	0.0	0.0	0.0	0.0
	salt_restore_as_salt_flux salt_restore_tscale	True 15.0	True 60.0	True 60.0	True 60.0	True 60.0	True 60.0
	salt_restore_under_ice	True	True	True	True	True	True
	temp_restore_tscale	-1.0	-10.0	-10.0	-10.0	-10.0	-10.0
	use_full_patm_for_sea_level	_	False	False	False	False	False
	use_waterflux	True	True	True	True	True	True
	waterflux_tavg zero_heat_fluxes	False False	False	False	False	False	False
	zero_net_salt_correction	iusc	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 zero_net_water_coupler	True True	True True	True True	True True	True True	True True
	zero_net_water_coupler zero_net_water_restore	True	True	True	True	True	True
	zero_surface_stress	False	False	False	False	False	False
	zero_water_fluxes	False	False	False	False	False	False
&ocean_sbc_ofam_nml	restore_mask_ofam	False					
&ocean_shortwave_csiro_nml	river_temp_ofam debug_this_module	False		False			
COCCERT_SHOTEWAVE_CSHO_HINE	read_depth	True		True			
	use_this_module	True	False	False	False	False	False
	zmax_pen	7000		7000			
kocean_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_marieza optics_morel_antoine	nuc	False	False	False	False	False
	read_chl	False	True	True	True	True	True
	sw_pen_fixed_depths	False	_	-	-	-	-
	use_this_module	False 200.0	True 300.0	True 300.0	True 300.0	True 300.0	True 300.0
&ocean_shortwave_jerlov_nml	zmax_pen use_this_module	False	False	False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	True	False	False	False	False	False
	use_shortwave_gfdl	False	True	True	True	True	True
	use_shortwave_jerlov	False	False	False	False	False	False
&ocean_sigma_transport_nml	use_this_module sigma_advection_on	True False	True False	True False	True False	True False	True False
Cocean_signia_transport_min	sigma_advection_sgs_only	False	False	False	False	False	False
	sigma_diffusion_on	True	True	True	True	True	True
	sigma_diffusivity_ratio	$1 imes 10^{-6}$	1×10^{-6}	1×10^{-6}	1×10^{-6}	$1 imes 10^{-6}$	1×10^{-6}
	sigma_just_in_bottom_cell	True 0.01	True 0.01	True 0.01	True 0.01	True 0.01	True 0.01
	sigma_umax smooth_sigma_thickness	True	True	True	True	True	True
	smooth_sigma_velocity	True	True	True	True	True	True
	smooth_velmicom	0.2	0.2	0.2	0.2	0.2	0.2
	thickness_sigma_layer	100.0	100.0	100.0	100.0	100.0	100.0
	thickness_sigma_max thickness_sigma_min	100.0 100.0	100.0 100.0	100.0 100.0	100.0 100.0	100.0 100.0	100.0 100.0
	tmask_sigma_on	False	False	False	False	False	False
	tracer_mix_micom	True	True	True	True	True	True
	use_this_module	True	False	False	False	False	False
Roccan colo nmi	vel_micom	0.05	0.05	0.05	0.05	0.05	0.05 'NOLEAP'
&ocean_solo_nml	calendar date_init	'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	1460	1460	31	31	30	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	0	0	0	0	0	0
	seconds	0	0	0	0	0	0
&ocean_sponges_eta_nml	years use_this_module	0 False	0 False	0 False	0 False	0 False	0 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 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	nuc	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	ruise
	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 Differences between MOM-SIS and all new configs

Group	Variable	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.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
	chk_i2o_fields				False	False	False
	chk_o2i_fields				False	False	False
	do_ice_once				False 3600	False	False
	dt_cpl fixmeltt				False	1800 False	600 False
	frazil_factor				1.0	1.0	1.0
	iceform_adj_salt				False	False	False
	icemlt_factor				1.0	1.0	1.0
	kmxice				5	5	5
	pop_icediag				True	True	True
	redsea_gulfbay_sfix sign_stflx				True 1.0	1.0	1.0
	tmelt				-0.216	-0.216	-0.216
	use_ioaice				True	True	True
&bg_diff_lat_dependence_nml	bg_diff_eq				1×10^{-6}		
	lat_low_bgdiff				20.0		
&coupler_nml	atmos_npes	0	0	0			
	calendar	'noleap'	'noleap'	'noleap'			
	check_stocks	О Гаја	О Гаја	О Гајаа			
	concurrent current_date	False 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0			
	days	0	365	1, 1, 1, 0, 0, 0			
	do_atmos	False	False	False			
	do_ice	True	True	True			
	do_land	False	False	False			
	do_ocean	True	True	True			
	dt_atmos	3600	1800	1800			
	dt_cpld months	3600 12	1800 0	1800 0			
	ocean_npes	0	0	0			
	use_lag_fluxes	True	True	True			
&diag_integral_nml	file_name	'diag	'diag	'diag			
		integral.out'	integral.out'	integral.out'			
	output_interval	-1.0	-1.0	-1.0			
&diag_manager_nml	time_units	'days'	'days'	'days'	True	True	True
&ulag_manager_mint	debug_diag_manager issue_oor_warnings	False	False	False	True	True	True
	max_axes	300	300	300	nuc	nac	nuc
	max_files	1000	1000	1000			
	max_input_fields	700	700	700			
	max_num_axis_sets	40	40	40			
0.0	max_output_fields	700	700	700			
&flux_exchange_nml &fms_io_nml	do_area_weighted_flux checksum_required	True	True	True False			
&11115_10_11111L	fileset_write	'multi'	'multi'	'multi'	'single'	'multi'	'multi'
	max_files_r	700	700	700	Single	matti	matti
	max_files_w	700	700	700			
	threading_write	'multi'	'multi'	'multi'	'single'	'multi'	'multi'
&fms_nml	print_memory_usage	False	False	False			
&generic_tracer_nml	do_generic_cfc	False	False	False			
	do_generic_topaz	False	False	False			
&ice_model_nml	do_generic_tracer alb_ice	False 0.68	False 0.68	False 0.68			
CICC_INOUCL_IIIIL	alb_sno	0.85	0.85	0.85			
	do_icebergs	False	False	False			
	heat_rough_ice	0.0005	0.0005	0.0005			
	ice_bulk_salin	0.005	0.005	0.005			
	io_layout		64, 30	8,9			
	layout	10, 12	64, 30	40, 45			
	mom_rough_ice	0.0005	0.0005	0.0005			
	nsteps_adv nsteps_dyn	1 72	1 72	6 144			
	num_part	6	6	6			
	spec_ice	False	False	False			
	t_range_melt	1.0	1.0	1.0			
	wd_turn	0.0	0.0	0.0			
&icebergs_nml	add_weight_to_ocean	False	False	False			
	bergy_bit_erosion_fraction	0.0 Falso	0.0 Falso	0.0 False			
	debug	False	False	False			

Group (continued)	Variable	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.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
	parallel_reprod	True	True	True			
	really_debug sicn_shift	False 0.1	False 0.1	False 0.1			
	traj_sample_hrs	0	0	0			
	use_operator_splitting	True	True	True			
	verbose verbose_hrs	False 2400	False 2400	False 2400			
&mom_oasis3_interface_nml	fields_in				'u_flux',	'u_flux',	'u_flux',
					'v_flux',	'v_flux',	'v_flux',
					'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',
					'mh_flux',	'mh_flux',	'mh_flux',
					'sw_flux',	'sw_flux',	'sw_flux',
					'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',
					'lw_flux',	'lw_flux',	'lw_flux',
					'runof', 'p',	'runof', 'p',	'runof', 'p',
					'aice',	'aice', 'wfmolt'	'aice', 'wfmolt'
					'wfimelt', 'wfiform'	'wfimelt', 'wfiform'	'wfimelt', 'wfiform'
	fields_out				't_surf',	't_surf',	't_surf',
					's_surf',	's_surf',	's_surf',
					'u_surf', 'v_surf',	'u_surf', 'v_surf',	'u_surf', 'v_surf',
					'dssldx',	'dssldx',	'dssldx',
					'dssldy',	'dssldy',	'dssldy',
	num_fields_in				'frazil'	'frazil'	'frazil'
	num_fields_out				15 7	15 7	15 7
	send_after_ocean_update				True	True	True
	send_before_ocean_update				False	False	False
&mpp_io_nml	deflate_level shuffle			5 1	5 1	5 1	5 1
&ocean_adv_vel_diag_nml	diag_step	4320	4320	43200	4320	4320	576
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5	0.2	0.5	0.5	0.5
&ocean_barotropic_nml	diag_step smooth_eta_t_biharmonic	4320 True	4320 True	43200 False	4320 False	4320 False	576 False
	smooth_eta_t_laplacian	False	False	True	True	True	True
	smooth_pbot_t_biharmonic	True	True	False	False	False	False
	smooth_pbot_t_laplacian	False	False	True	True	True	True
&ocean_bihgen_friction_nml	vel_micom_lap_diag ncar_boundary_scaling_read	0.5 False	0.5 True	0.5 True	0.2 True	0.2 True	0.2 True
&ocean_convect_nml	convect_full_scalar	True	True	True			
	convect_full_vector	False	False	False			
&ocean_domains_nml &ocean_frazil_nml	max_tracers frazil_only_in_surface	True	True	True	5 False	5 False	5 False
&ocean_nazic_iiiit	freezing_temp_preteos10	iiue	iiue	iiue	True	True	True
	freezing_temp_simple	True	True	True	False	False	False
&ocean_lapgen_friction_nml	bottom_5point				True		
	k_smag_aniso k_smag_iso	2.0	2.0	2.0	0.0 0.0	2.0	2.0
	ncar_only_equatorial	2.0	2.0	2.0	True	2.0	2.0
	restrict_polar_visc				True		
	restrict_polar_visc_lat restrict_polar_visc_ratio				60.0 0.35		
	use_this_module	False	False	False	True	False	False
	vconst_1				8 000 000.0		
	vconst_2				0.0		
	vconst_3				0.8 5×10^{-9}		
					5×10^{-9}		
	vconst_3 vconst_4 vconst_5 vconst_6				5×10^{-9} 3 300 000 000.0		
	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7				5×10^{-9} 3 300 000 000.0 100.0		
	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso				5×10^{-9} 3 300000000.0 100.0 0.1		
	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar viscosity_ncar_2000				$\begin{array}{c} 5\times 10^{-9} \\ 3 \\ 300000000.0 \\ 100.0 \\ 0.1 \\ \text{True} \\ \text{False} \end{array}$		
	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar viscosity_ncar_2000 viscosity_ncar_2007				5×10^{-9} 3 300000000.0 100.0 0.1 True False True		
	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar viscosity_ncar_2000 viscosity_ncar_2007 viscosity_scale_by_rossby				5×10^{-9} 3 300000000.0 100.0 0.1 True False True True		
&ocean_mixdownslope_nml	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar viscosity_ncar_2000 viscosity_ncar_2007				5×10^{-9} 3 300000000.0 100.0 0.1 True False True		
&ocean_mixdownslope_nml	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar_2000 viscosity_ncar_2007 viscosity_ncar_2007 viscosity_scale_by_rossby viscosity_scale_by_rossby_power mixdownslope_mask_gfdl mixdownslope_npts				5 × 10 ⁻⁹ 3 300 000 000.0 100.0 0.1 True False True True 100.0 False 4		
&ocean_mixdownslope_nml	vconst_3 vconst_4 vconst_5 vconst_6 vconst_7 vel_micom_iso viscosity_ncar viscosity_ncar_2000 viscosity_ncar_2007 viscosity_scale_by_rossby viscosity_scale_by_rossby_power mixdownslope_mask_gfdl	False	False	False	5 × 10 ⁻⁹ 3 300 000 000.0 100.0 0.1 True False True True 100.0 False	False	False

Group (continued)	Variable	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75_ WOA13_in- put.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_model_nml	barotropic_split	80	80	60	80	80	80
	cmip_units	3600	1800	150	True 3600	True 1200	True 150
	dt_ocean io_layout	3000	64, 30	8,9	4, 3	6,5	10, 15
	layout	10, 12	64, 30	40, 45	16, 15	48, 40	80,75
&ocean_nphysics_nml	use_nphysicsc	False	False	False	True	False	False
	use_this_module	False	False	False	True	False	False
&ocean_nphysics_util_nml	agm_closure_eady_ave_mixed agm_closure_eady_cap agm_closure_eady_smooth_horz	100.0	100.0	100.0	600.0 True True True	100.0	100.0
	<pre>agm_closure_eady_smooth_vert agm_closure_eden_gamma agm_closure_eden_greatbatch agm_closure_grid_scaling</pre>				True 0.0 False True		
	agm_closure_min agm_damping_time agm_smooth_space agm_smooth_time	100.0	100.0	100.0	50.0 45.0 False False	100.0	100.0
	drhodz_mom4p1 nphysics_util_zero_init	False	False	False	True True	False	False
	smax	0.002	0.002	0.002			
&ocean_nphysicsc_nml	swidth bv_freq_smooth_vert bvp_bc_mode bvp_min_speed	0.002	0.002	0.002	True 2 0.1		
	bvp_speed debug_this_module do_gm_skewsion do_neutral_diffusion				0.0 False True True		
	epsln_bv_freq gm_skewsion_bvproblem gm_skewsion_modes				1×10^{-12} True False		
	neutral_eddy_depth neutral_physics_limit number_bc_modes				True True 2		
	regularize_psi smax_psi smooth_psi				False 0.01 True		
	tmask_neutral_on turb_blayer_min use_this_module	Falsa	False	Falsa	True 50.0	False	Falso
&ocean_overflow_ofp_nml	debuq_this_module	False False	False	False False	True	raise	False
adecan_overnow_orp_nint	diag_step	4320	4320	43200			
	do_entrainment_para_ofp	False	False	False			
	do_mass_ofp	True	True 1.0	True 1.0			
	frac_exchange_src max_vol_trans_ofp	1.0 10 000 000.0	10 000 000.0	10 000 000.0			
&ocean_rivermix_nml	river_diffuse_salt	False	False	False	True	True	True
	river_diffuse_temp	False	False	False	True	True	True
&ocean_riverspread_nml	debug_this_module	'.false'	'.false'	'.false'	F-1	F-1	F-1-
&ocean_sbc_nml	use_this_module max_ice_thickness	True 1.0	True 1.0	True 1.0	False 0.0	False 0.0	False 0.0
	zero_pme_fluxes zero_river_fluxes zero_runoff_fluxes		1.0	False False True	0.0	0.0	0.0
&ocean_shortwave_csiro_nml	read_depth use_this_module zmax_pen	True True 7000	False	False	False	False	False
&ocean_shortwave_gfdl_nml	read_chl	False	True	True	True	True	True
	use_this_module	False	True	True	True	True	True
&ocean_shortwave_nml	use_shortwave_csiro use_shortwave_gfdl	True False	False True	False True	False True	False True	False True
&ocean_solo_nml	calendar date_init				'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0	'NOLEAP' 1, 1, 1, 0, 0, 0
	days dt_cpld				1460 3600	31 1200	30 600
	hours				0000	1200	000
	minutes				0	0	0
	months				0	0	0
	seconds				0	0	0
&ocean_thickness_nml	years thickness_dzt_min	2.0	2.0	2.0	U	U	0
	E-HERHESS_UZE_HIIII	2.0	2.0	2.0			

Group (continued)	Variable	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75_ WOA13_in- put.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
	thickness_dzt_min_init	10.0	10.0	10.0			
&ocean_tracer_advect_nml	advect_sweby_all	False	False	False			
&ocean_tracer_diag_nml	diag_step	48	48	43200	4320	4320	576
&ocean_tracer_nml	use_tempsalt_check_range			True	True	True	True
&ocean_velocity_diag_nml	diag_step	4320	4320	43200	4320	4320	576
	energy_diag_step	4320	4320	43200	4320	4320	5760
&ocean_velocity_nml	max_cgint	1.5	1.5	1.0	1.0	1.0	1.0
&ocean_vert_kpp_mom4p1_nml	kbl_standard_method			False	False	False	False
	smooth_blmc	True	True	False	False	False	False
	smooth_ri_kmax_eq_kmu			True	True	True	True
&redseafix_nml	redsea_gulfbay_sfix	True					
&sat_vapor_pres_nml	show_all_bad_values			True			
&surface_flux_nml	ncar_ocean_flux	True	True	True			
	raoult_sat_vap	True	True	True			
&xgrid_nml	do_alltoall	True	True	True			True
	do_alltoallv	True	True	True			True
	xgrid_log	False	False	False			False

5 All variables in all 8 configs (differences highlighted)

Group	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	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
	chk_i2o_fields						False	False	False
	chk_o2i_fields do_ice_once						False False	False False	False False
	dt_cpl						3600	1800	600
	fixmeltt						False	False	False
	frazil_factor						1.0	1.0	1.0
	iceform_adj_salt						False	False	False
	icemlt_factor kmxice						1.0 5	1.0 5	1.0 5
	pop_icediag						True	True	True
	redsea_gulfbay_sfix						True		
	sign_stflx						1.0	1.0	1.0
	tmelt						-0.216	-0.216	-0.216
0 - 4:00 44	use_ioaice						$\frac{\text{True}}{1 \times 10^{-6}}$	True	True
&bg_diff_lat_dependence_nml	bg_diff_eq lat_low_bgdiff						20.0		
&coupler_nml	atmos_npes	0	0	0	0	0	20.0		
	atmos_nthreads	4	•	v	J	•			
	calendar	'NOLEAP'	'NOLEAP'	'noleap'	'noleap'	'noleap'			
	check_stocks	0 True	0 Falso	0 False	0 False	0			
	concurrent current_date	True 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0	False 1, 1, 1, 0, 0, 0			
	days	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	365	1, 1, 1, 0, 0, 0			
	do_atmos	True	False	False	False	False			
	do_flux	True							
	do_ice	True	True	True	True	True			
	do_land do_ocean	True True	False True	False True	False True	False True			
	dt_atmos	1800	7200	3600	1800	1800			
	dt_cpld	7200	7200	3600	1800	1800			
	months	12	0	12	0	0			
	ocean_npes	_ 96	_ 0	_ 0	_ 0	_ 0			
&diag_integral_nml	use_lag_fluxes file_name	True	True	True	True	True			
&diag_integrat_nint	nte_name	'diag integral.out'	'diag integral.out'	'diag integral.out'	'diag integral.out'	'diag integral.out'			
	output_interval	1.0	1.0	-1.0	-1.0	-1.0			
	time_units	'days'	'days'	'days'	'days'	'days'			
&diag_manager_nml	debug_diag_manager						True	True	True
	issue_oor_warnings	False	False	False	False	False	True	True	True
	max_axes max_files	200 50	100	300 1000	300 1000	300 1000			
	max_input_fields	800	699	700	700	700			
	max_num_axis_sets	200	100	40	40	40			
	max_output_fields	1300	699	700	700	700			
	c_snapshot_average_fields debug_stocks	False False	False						
&flux_exchange_nml	HEDUH STOCKS								
			False						
	divert_stocks_report do_area_weighted_flux	True	False True False	True	True	True			
	divert_stocks_report		True	True	True				
&fms_io_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required	True False	True False			False			
&fms_io_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write	True False 4	True False 'single'	'multi'	'multi'	False 'multi'	'single'	'multi'	'multi'
&fms_io_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r	True False 4	True False 'single' 200	'multi' 700	'multi' 700	False 'multi' 700	'single'	'multi'	'multi'
&fms_io_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w	True False 4	True False 'single'	'multi'	'multi'	False 'multi'	'single' 'multi'	'multi'	'multi' 'multi'
	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write	True False 4 300 300 'multi'	True False 'single' 200 200 'multi' 'single'	'multi' 700 700 'multi' 'multi'	'multi' 700 700 'multi' 'multi'	False 'multi' 700 700 'multi' 'multi'	'multi' 'single'	'multi' 'multi'	'multi' 'multi'
&fms_io_nml &fms_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain	True False 4 300 300 'multi' 'COMPONENT'	True False 'single' 200 200 'multi' 'single' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	False 'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size	True False 4 300 300 'multi'	True False 'single' 200 200 'multi' 'single'	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 'single'	'multi' 'multi'	'multi' 'multi'
	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage	True False 4 300 300 'multi' 'COMPONENT' 5000000	'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP'	False 'multi' 700 700 'multi' 'multi' 'LOOP'	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size	True False 4 300 300 'multi' 'COMPONENT'	True False 'single' 200 200 'multi' 'single' 'LOOP'	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 700 700 'multi' 'multi' 'LOOP' 115200	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
	divert_stocks_report do_area_weighted_flux	True False 4 300 300 300 'multi' 'COMPONENT' 5000000	True False 'single' 200 200 'multi' 'single' 'LOOP' 8000000	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_cfc do_generic_topaz do_generic_tracer	True False 4 300 300 300 'multi' 'COMPONENT' 5000000 0 False True True	'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml &ice_albedo_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_r max_files_d threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_cfc do_generic_topaz do_generic_tracer t_range	True False 4 300 300 300 'multi' 'COMPONENT' 5000000 0 False True True 100	'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_cfc do_generic_topaz do_generic_tracer t_range add_diurnal_sw	True False 4 300 300 300 'multi' COMPONENT' 5000000 0 False True True 10.0 False	'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0 True	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml &ice_albedo_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_topaz do_generic_tracer t_range add_diurnal_sw alb_ice	True False 4 300 300 300 'multi' COMPONENT' 5000000 False True True 10.0 False 0.65	'single' 200 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0 True 0.615	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False False O.68	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml &ice_albedo_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_cfc do_generic_topaz do_generic_tracer t_range add_diurnal_sw	True False 4 300 300 300 'multi' COMPONENT' 5000000 0 False True True 10.0 False	'single' 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0 True	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'
&fms_nml &generic_tracer_nml &ice_albedo_nml	divert_stocks_report do_area_weighted_flux nblocks checksum_required fileset_write max_files_r max_files_w threading_read threading_write clock_grain domains_stack_size print_memory_usage stack_size do_generic_topaz do_generic_tracer t_range add_diurnal_sw alb_ice alb_sno	True False 4 300 300 300 'multi' COMPONENT' 5000000 False True True 10.0 False 0.65 0.85	'single' 200 200 200 'multi' 'single' 'LOOP' 8000000 0 False True True 10.0 True 0.615	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False False O.68	'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False False	False 'multi' 700 700 'multi' 'multi' 'LOOP' 115200 False False False False	'multi' 'single' 'LOOP'	'multi' 'multi' 'LOOP'	'multi' 'multi' 'LOOP'

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	new_acces- som2 1deg - jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	h_lo_lim heat_rough_ice ice_bulk_salin	1×10^{-10} 0.005	$1 \times 10^{-10} \\ 0.0005 \\ 0.005$	0.0005 0.005	0.0005 0.005	0.0005 0.005			
	io_layout	1, 2	0.003	0.003	64, 30	8,9			
	layout	15, 2		10, 12	64, 30	40, 45			
	mom_rough_ice	1	1	0.0005 1	0.0005 1	0.0005 6			
	nsteps_adv nsteps_dyn	72	108	72	72	144			
	num_part	6	6	6	6	6			
	spec_ice t_range_melt	False 1.0	False 10.0	False 1.0	False 1.0	False 1.0			
	wd_turn	0.0	0.0	0.0	0.0	0.0			
&icebergs_nml	add_weight_to_ocean			False	False	False			
	bergy_bit_erosion_fraction debug		0.0 False	0.0 False	0.0 False	0.0 False			
	make_calving_reproduce	True	raisc	raisc	raisc	raisc			
	parallel_reprod		True	True	True	True			
	really_debug sicn_shift		False 0.1	False 0.1	False 0.1	False 0.1			
	speed_limit	0.5	0.1	0.1	0.1	0.1			
	time_average_weight	False	•	•	•	•			
	traj_sample_hrs use_operator_splitting	0	0 True	0 True	0 True	0 True			
	use_roundoff_fix	True	iiuc	nuc	iiuc	nuc			
	verbose verbose_hrs	True 120	False 2400	False 2400	False 2400	False 2400			
&mom_oasis3_interface_nm		120	2400	2400	2400	2400	'u_flux',	'u_flux',	'u_flux',
							'v_flux',	'v_flux',	'v_flux',
							'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',
							'mh_flux',	'mh_flux',	'mh_flux',
							'sw_flux',	'sw_flux',	'sw_flux',
							'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',
							'lw_flux',	'lw_flux',	'lw_flux',
							'runof', 'p',	'runof', 'p',	'runof', 'p',
							'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',
							williett,	williett,	williett, 'wfiform'
	fields_out						't_surf',	't_surf',	't_surf',
							's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',
							u_surf, 'v_surf',	u_surf, 'v_surf',	u_surf, 'v_surf',
							'dssldx',	'dssldx',	'dssldx',
							'dssldy',	'dssldy',	'dssldy',
	num_fields_in						'frazil' 15	'frazil' 15	'frazil' 15
	num_fields_out						7	7	7
	send_after_ocean_update						True	True	True
&monin_obukhov_nml	send_before_ocean_update neutral		True	True	True	True	False True	False True	False True
	rich_crit	10.0							
	stable_option zeta_trans	2 0.5							
&mpp_io_nml	deflate_level	0.5				5	5	5	5
	shuffle	4000	- 10	1200	/===	1	1	1	1
&ocean_adv_vel_diag_nml	<mark>diag_step</mark> large_cfl_value	1200 10.0	12 10.0	4320 10.0	4320 10.0	43200 10.0	4320 10.0	4320 10.0	576 10.0
	max_cfl_value	100.0	100.0	10.0	10.0	100.0	100.0	10.0	10.0
	verbose_cfl	False	False	True	True	True	True	True	True
&ocean_advection_velocity_ &ocean_albedo_nml	nml max_advection_velocity ocean_albedo_option	0.5 5	0.5 2	0.5 2	0.5 2	0.2	0.5 2	0.5 2	0.5 2
&ocean_barotropic_nml	barotropic_halo	J	L	10	10	10	10	10	10
	barotropic_leap_frog		False	•			-		-
	<pre>barotropic_pred_corr barotropic_time_stepping_a</pre>	True	True	Truo	True	True	True	True	True
	barotropic_time_stepping_a barotropic_time_stepping_b	False		True False	False	False	False	False	False
	ppic_time_stepping_mom4p0		True						
barotro	opic_time_stepping_mom4p1	Ealaa	False	Enlan	Falsa	Enlan	Ealaa	Falsa	Ealaa
	debug_this_module <mark>diag_step</mark>	False 1200	False 12	False 4320	False 4320	False 43200	False 4320	False 4320	False 576
	do_bitwise_exact_sum	True							
	eta_max	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

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	new_acces- som2 1deg - jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	frac_crit_cell_height	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	pred_corr_gamma	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
!	smooth_eta_diag_laplacian smooth_eta_t_biharmonic	True True	True	True True	True True	True False	True False	True False	True False
	smooth_eta_t_laplacian	False	True False	False	False	True	True	True	True
	smooth_pbot_t_biharmonic	True	True	True	True	False	False	False	False
	smooth_pbot_t_laplacian	False	False	False	False	True	True	True	True
_	truncate_eta	False	False	False	False	False	False	False	False
u:	se_legacy_barotropic_halos	0.01	0.01	False 0.01	False 0.01	False 0.01	False 0.01	False 0.01	False 0.01
	vel_micom_bih vel_micom_lap	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	vel_micom_lap_diag	1.0	1.0	0.5	0.5	0.5	0.2	0.2	0.2
	verbose_truncate	True	True	True	True	True	True	True	True
	zero_tendency	False	False	False	False	False	False	False	False
&ocean_bbc_nml	bmf_implicit	0.003	0.003	True	True	True	True	True	True
	cdbot cdbot_hi	0.002	0.002	0.001 0.007	0.001 0.007	0.001 0.007	0.001 0.007	0.001 0.007	0.001 0.007
	cdbot_roughness_length			False	False	False	False	False	False
	cdbot_roughness_uamp			True	True	True	True	True	True
	uresidual	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	use_geothermal_heating	True	True	False	False	False	False	False	False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_bih_tracer_nml	tracer_mix_micom use_this_module	False	False	True False	True False	True False	True False	True False	True False
	vel_micom	i atse	i aise	0.001	0.001	0.001	0.001	0.001	0.001
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False	False	False	False	False
&ocean_bihgen_friction_nml	bottom_5point	True	True	False	False	False	False	False	False
	eq_lat_micom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	eq_vel_micom_aniso eq_vel_micom_iso	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
	eq_vet_micom_iso equatorial_zonal	False	False	False	False	False	False	False	False
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	ncar_boundary_scaling	True	True	True	True	True	True	True	True
n	car_boundary_scaling_read ncar_rescale_power	2	2	False 2	True 2	True 2	True 2	True 2	True 2
	ncar_vconst_4 ncar_vconst_5	2×10^{-8} 5	$\begin{array}{c} 2\times10^{-8} \\ 5 \end{array}$	2×10^{-8} 5	2×10^{-8}	$\begin{array}{c} 2\times10^{-8} \\ 5 \end{array}$	2×10^{-8} 5	2×10^{-8}	$\begin{array}{c} 2\times10^{-8} \\ 5 \end{array}$
	use_this_module	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
	vel_micom_bottom	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0
	vel_micom_iso	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0.0
0	visc_crit_scale	0.25	0.25	1.0	1.0	1.0	1.0	1.0	1.0
&ocean_convect_nml	convect_full_scalar convect_full_vector			True False	True False	True False			
	use_this_module	False	False	False	False	False	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	use_this_module	True	True	True	True	True	True	True	True
&ocean_density_nml	eos_linear	False		False	False	False	False	False	False
	eos_preteos10	True 80	80	True 80	True 80	True 80	True 80	True 80	True 80
	layer_nk linear_eos	80	False	80	80	80	80	80	80
	neutralrho_max	1030.0	1030.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	neutralrho_min	1020.0	1020.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
	potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
&ocean_domains_nml	max_tracers	F-I	F-I				5	5	5
&ocean_drifters_nml	use_this_module	False	False	Falso	Falco	Falso	Ealco	Falso	Falso
&ocean_form_drag_nml &ocean_frazil_nml	use_this_module debug_this_module	False False	False False	False False	False False	False False	False False	False False	False False
- Securi - ruert - rinit	frazil_only_in_surface	True	True	True	True	True	False	False	False
	freezing_temp_accurate freezing_temp_preteos10		False				True	True	True
	freezing_temp_simple	True	True	True	True	True	False	False	False
	use_this_module	True	True	True	True	True	True	True	True
&ocean_grids_nml	debug_this_module	True	True	False	False	False	False	False	False
	do_bitwise_exact_sum	True							
Possan ingrament -t	read_rho0_profile	False	False	Fel	F-1	F=1	Fel	F-1	Ге!
&ocean_increment_eta_nml &ocean_increment_tracer_nml	use_this_module l use_this_module	False False	False False	False False	False False	False False	False False	False False	False False
&ocean_increment_tracer_nmi &ocean_increment_velocity_n		False	False	False	False	False	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False	False	False	False	False	False
		. 200	. 200	. 200	. 4.50	. 300	. 3.50	. 4.50	

	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	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_lapcst_friction_nml	use_this_module	False	False	False	False	False	False	False	False
	&ocean_lapgen_friction_nml									
Marco					2.0	20	2.0		2.0	2.0
Content patient service 600 60			0.0	0.0	2.0	2.0	2.0		2.0	2.0
Part										
					False	False	False		False	False
Weight W										
Mathematics										
False Fals			0.1	0.1						
Microsity Scale Dynostop Deep False Fals			1 4130	1 4130						
Recear		•	_	_						
Socean.model.mml debug.this.module	visco									
Mindownstoper, mask True True True False F					False	False	False		False	False
Part		•								
Bosen										
Barcelinic Split 1					Falso	Ealco	Falso		Ealco	Ealco
Description Section	&ocean_model_nml									1
False Fals		•	80						80	80
CLOSES 17200 17200 1800 1800 1500 3600 120				F 1	F 1	F 1	F.1			True
Impose init from restart True False		•								False 150
Section 12,8 6,4 10,12 64,30 40,45 16,15 48,40 80,					3000	1000	150	3000	1200	150
Surface height, split 1										10, 15
time.tendency vortical.coordinate 'twolevel' volume'et										80,75
Vertical_coordinate Vistar										1 'twolevel'
True										'zstar'
Second					False	False	False	False	False	False
Second	rayleigh_damp_exp_from_bott				Truo	Truo	Truo	Truo	Truo	True
&ocean_nphysics_nml debug_this_module use_nphysicsa False False False False False False False False Fa			False	False						True
False Fals	&ocean_nphysics_nml			False	False	False	False	False	False	False
Live										False
Second S										False False
agm.closure adm.closure.baroclinic agm_closure.baroclinic True True True True True True True True True True True True										False
agm.closure_baroclinic agm_closure_baroclinic agm_closure_buoy_freq True Tr	&ocean_nphysics_util_nml		800.0						100.0	100.0
agm_closure_buoy_freq 0.004<										True
agm_closure_eady_ave_mixed True True <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>True 0.004</td></th<>										True 0.004
agm_closure_eady_smooth_horz True <	agı				0.001	0.001	0.001		0.001	0.001
agm_closure_eady_smooth_vert True True True True True agm_closure_eden_gamma 0.0										
agm_closure_eden_gamma 0.0										
agm_closure_eden_greatbatch False False True		•								
agm_closure_length 50 000.0 20 00.0		3								
agm_closure_length_bczone False Fa										
agm_closure_length_fixed False Fal	,									50 000.0 False
agm_closure_length_rossby False Fa	d									False
agm_closure_max 800.0 800.0 600.0 100.0	i	agm_closure_length_rossby	False	False	False	False	False	False	False	False
agm_closure_min 100.0 100.0 100.0 100.0 100.0 100.0 50.0 100.0 100.0 agm_closure_scaling 0.07 0.00 100.0										2000.0
agm_closure_scaling 0.07 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>600.0 100.0</td>										600.0 100.0
agm_closure_upper_depth 100.0 100.										0.07
agm_smooth_space False False False agm_smooth_time False False False aredi 600.0 <td></td> <td>agm_closure_upper_depth</td> <td>100.0</td> <td>100.0</td> <td></td> <td></td> <td></td> <td>100.0</td> <td></td> <td>100.0</td>		agm_closure_upper_depth	100.0	100.0				100.0		100.0
agm_smooth_time False False False False False aredi 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 False Fa		3 . 3								
aredi 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 600.0 foliaredi_equal_agm										
aredi_equal_agm False False False False False False False Fal		_			600.0	600.0	600.0		600.0	600.0
drhodz mom4p1 True True False False False True False Fal		aredi_equal_agm	False		False	False	False		False	False
and the rade rade rade rade rade		drhodz_mom4p1	True	True	False	False	False	True	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	new_acces- som2 1deg jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	drhodz_smooth_horz	False	False	False	False	False	False	False	False
	drhodz_smooth_vert nphysics_util_zero_init	False True	False True	False	False	False	False True	False	False
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax swidth	0.005 0.002	0.005 0.002	0.002 0.002	0.002 0.002	0.002 0.002			
	tracer_mix_micom	False	False	False	False	False	False	False	False
	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml	debug_this_module	False	False						
	neutral_linear_gm_taper neutral_physics_limit	True True	True True						
	neutral_physics_simple	False	False						
	neutral_sine_taper	True	True						
	<pre>tmask_neutral_on use_this_module</pre>	True False	True False	False	False	False	False	False	False
&ocean_nphysicsb_nml	debug_this_module	False	False	1 0130	1 0130	i alse	1 0130	1 0130	1 0130
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	nblayer_smooth	True	True						
	neutral_physics_limit	True	True						
	surf_turb_thick_min surf_turb_thick_min_k	50.0 5	50.0 5						
	use_this_module	False	True	False	False	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True					True		
	bvp_bc_mode	2					2		
	bvp_min_speed bvp_speed	0.1 0.0					0.1 0.0		
	debug_this_module	False					False		
	do_gm_skewsion	True					True		
	do_neutral_diffusion	True $1 imes 10^{-12}$					True 1×10^{-12}		
	epsln_bv_freq gm_skewsion_bvproblem	True					True		
	gm_skewsion_modes	False					False		
	neutral_eddy_depth	True					True		
	neutral_physics_limit number_bc_modes	True 2					True 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	False	False	False	False	True	False	False
&ocean_operators_nml	use_legacy_div_ud	True		False	False	False	False	False	False
&ocean_overexchange_nml	debug_this_module overexch_check_extrema	False	False	False	False	False	False	False	False
	overexch_npts	False 4	False 4	4	4	4	4	4	4
	overexch_weight_far	False	False	False	False	False	False	False	False
	overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
&ocean_overflow_nml	use_this_module debug_this_module	False False	False False	False False	False False	False False	False False	False False	False False
&ocean_overitow_nint	use_this_module	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml	debug_this_module			False	False	False			
	diag_step			4320	4320	43200			
	do_entrainment_para_ofp do_mass_ofp			False True	False True	False True			
	frac_exchange_src			1.0	1.0	1.0			
	max_vol_trans_ofp			10 000 000.0	10 000 000.0	10 000 000.0			
	use_this_module			False	False	False	False	False	False
&ocean_polar_filter_nml &ocean_pressure_nml	use_this_module zero_pressure_force	False	False	False False	False False	False False	False False	False False	False False
&ocean_pressure_nnnt	calving_insertion_thickness	40.0	40.0	ו'מוטכ	1.9125	1 0135	ו מנטכ	1 0135	raise
	debug_this_module	False	False	False	False	False	False	False	False
disc	harge_combine_runoff_calve	False	True						
	do_bitwise_exact_sum river_diffuse_salt	True False	False	False	False	False	True	True	True
	river_diffuse_temp	False	False	False	False	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness runoff_insertion_thickness	40.0 40.0	40.0 40.0	40.0	40.0	40.0	40.0	40.0	40.0
	use_this_module	40.0 True	40.0 True	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module			'.false'	'.false'	'.false'			
			F-I		True	True	Ealco	Ealco	False
&ocean_rough_nml	use_this_module rough_scheme	False 'beljaars'	False 'beljaars'	True 'beljaars'	'beljaars'	'beljaars'	False 'beljaars'	False 'beljaars'	'beljaars'

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	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_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True	True		True
	calvingspread do_bitwise_exact_sum	False	False	False False	False False	False False	False False	som2 - 025deg - jra55 ryf - input.nml True False False False 0.5 0.0 False False 0.0 True 60.0 True 60.0 True False True False True False True True True True False True True True True True True True Tru	False False
	do_flux_correction	True		False	False	False	False		False
	eta_restore_tscale	-10.0							
	land_model_heat_fluxes	True	False	False	False	False	False		False
	max_delta_salinity_restore	0.0	0.0	0.5	0.5	0.5	0.5		0.5
	max_ice_thickness read_restore_mask	8.0	8.0	1.0 False	1.0 False	1.0 False	0.0 False		0.0 False
	restore_mask_qfdl			False	False	False	False		False
	runoff_salinity			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
	salt_restore_as_salt_flux	400	400	True	True	True	True		True
	salt_restore_tscale salt_restore_under_ice	-10.0	-10.0	60.0 True	60.0 True	60.0 True	60.0 True		60.0 True
	tau_x_correction_scale	0.0		iiue	iiue	iiue	iiue	iiue	iiue
	tau_y_correction_scale	0.0							
	temp_correction_scale	1.0							
	temp_restore_tscale	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0		-10.0
l	use_full_patm_for_sea_level	True	True	False	False	False	False		False
	use_waterflux	True	True	True	True	True	True	True	True
	_waterflux_override_calving	False							
	<pre>ise_waterflux_override_evap se_waterflux_override_fprec</pre>	False False							
<u>u</u>	waterflux_tavq	False	False						
	zero_heat_fluxes	ruise	ruise	False	False	False	False	False	False
	zero_net_pme_eta_restore	False							
	zero_net_salt_correction			False	False	False	False	False	False
	zero_net_salt_restore			True	True	True	True		True
	zero_net_water_correction			False	False	False	False		False
zer	o_net_water_couple_restore			True True	True True	True True	True True		True True
	zero_net_water_coupler zero_net_water_restore			True	True	True	True		True
	zero_pme_fluxes zero_river_fluxes					False False			
	zero_runoff_fluxes zero_surface_stress			False	False	True False	False	False	False
	zero_water_fluxes			False	False	False	False		False
&ocean_shortwave_csiro_nm				True					
	use_this_module	False	False	True	False	False	False	False	False
	zmax_pen			7000					
&ocean_shortwave_gfdl_nml		False	False	False	False	False	False		False
	enforce_sw_frac	True	True	True	True	True	True		True
	optics_manizza optics_morel_antoine	True False	True False	True False	True False	True False	True False		True False
	override_f_vis	False	False	raise	raise	raise	raise	raise	raise
	read_chl	False	False	False	True	True	True	True	True
	use_this_module	True	True	False	True	True	True	True	True
	zmax_pen	200.0	200.0	300.0	300.0	300.0	300.0		300.0
&ocean_shortwave_jerlov_nn		False	False	False	False	False	False		False
&ocean_shortwave_nml	use_shortwave_csiro	False	False	True	False	False	False		False
	use_shortwave_gfdl	True	True	False	True	True	True		True
	use_shortwave_jerlov use_this_module	False True	False True	False True	False True	False True	False True		False True
&ocean_sigma_transport_nm		False	False	False	False	False	False		False
a decent 251gma 2transport 21mm	sigma_advection_sgs_only	False	False	False	False	False	False		False
	sigma_diffusion_on	True	True	True	True	True	True	True	True
	sigma_diffusivity_ratio	$1 imes 10^{-6}$	$1 imes 10^{-6}$	$1 imes 10^{-6}$	$1 imes 10^{-6}$	$1 imes 10^{-6}$	1×10^{-6}	$1 imes 10^{-6}$	1×10^{-6}
	sigma_just_in_bottom_cell	True	True	True	True	True	True	True	True
	sigma_umax	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	smooth_sigma_thickness smooth_sigma_velocity	True True	True True	True True	True True	True True	True True	True True	True True
	smooth_velmicom	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	thickness_sigma_layer	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	thickness_sigma_max	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	thickness_sigma_min	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	tmask_sigma_on	False	False	False	False	False	False	False	False
	tracer_mix_micom	True	True	True	True	True	True	True	True
	use_this_module	True	True	False	False	False	False	False	False
Pagan gala mad	vel_micom	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
&ocean_solo_nml	calendar						'NOLEAP'	'NOLEAP'	'NOLEAP'

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	new_acces- som2 1deg - jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
	date_init						1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days dt_cpld						1460 3600	31 1200	30 600
	hours						0	0	0
	minutes						0	0	0
	months						0	0	0
	seconds years						0 0	0 0	0
&ocean_sponges_eta_nml	use_this_module	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d	False	False	False	False	False	False	False	False
0	use_this_module	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nm &ocean_submesoscale_nml	nl use_this_module coefficient_ce	False	False	False 0.05	False 0.05	False 0.05	False 0.05	False 0.05	
QOCEGII_SUDINESOSCATE_IIIII	debug_this_module	False	False	False	False	False	False	False	False
	front_length_const	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
	front_length_deform_radius	True	True	True	True	True	True	True	True
	limit_psi	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
	smooth_advect_transport	7	7	True	True	True	True	True	True
smo	ooth_advect_transport_num			4	4	4	4	4	4
	smooth_hblt	False	False	False	False	False	False	False	False
	smooth_psi smooth_psi_num			True 3	True 3	True 3	True 3	True 3	True
	submeso_advect_flux			False	False	False	False	False	
	submeso_advect_limit			True	True	True	True	True	True
	submeso_advect_upwind			True	True	True	True	True	True
	submeso_advect_zero_bdy			True	True	True	True	True	True
cuh	submeso_diffusion meso_diffusion_biharmonic			False True	False True	False True	False True	False True	
Suu	submeso_diffusion_scale			10.0	10.0	10.0	10.0	10.0	
	submeso_limit_flux	True	True	20.0	2010	10.0	20.0	10.0	2010
	submeso_skew_flux			True	True	True	True	True	True
	use_hblt_equal_mld	True	True	True	True	True	True	True	True
	<pre>use_psi_legacy use_this_module</pre>	True True	True	False True	False True	False True	False True	False True	
&ocean_tempsalt_nml	debug_this_module	False	False	False	False	False	False	False	False
, , , , , , , , , , , , , , , , , , , ,	pottemp_2nd_iteration	True	True	True	True	True	True	True	True
	pottemp_equal_contemp			True	True	True	True	True	True
	S_max	55.0 42.0	55.0	70.0	70.0	70.0	70.0	70.0	
	s_max_limit <mark>s_min</mark>	42.0 —1.0	42.0 —1.0	42.0 0.0	42.0 0.0	42.0 0.0	42.0 0.0	42.0 0.0	
	s_min_limit	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0
	t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
	t_min t_min_limit	−5.0 −1.9	−5.0 −1.9	-20.0 -5.0	−20.0 −5.0	−20.0 −5.0	— 20.0 — 5.0	-20.0 -5.0	
	temperature_variable	-1.9 'potential	-1.9 'potential	3.U 'potential	2.0 potential	- 5.0 'potential	- 2.0 'potential	- 3.U 'potential	-5.0 -\potential
		temp'	temp'	temp'	temp'	temp'	temp'	temp'	temp'
&ocean_thickness_nml	debug_this_module	False	False	False	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False	False	False	False
	initialize_zero_eta read_rescale_rho0_mask	False True	False True						
re	escale_mass_to_get_ht_mod	iiuc	nuc	False	False	False	False	False	False
	rescale_rho0_basin_label	7.0	7.0						
	rescale_rho0_mask_gfdl	True	True						
	rescale_rho0_value	0.75	0.75	20	2.0	20			
	thickness_dzt_min thickness_dzt_min_init	2.0 2.0	2.0 2.0	2.0 10.0	2.0 10.0	2.0 10.0			Som2 O1deg jra55 - ryf input.nml
	thickness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
&ocean_time_filter_nml	use_this_module	False	False						
&ocean_topog_nml	min_thickness	5.0	5.0				-		-
&ocean_tracer_advect_nml	advect_sweby_all	False	False	False	False	False	Ealaa	Ealaa	Fals-
	debug_this_module <mark>limit_with_upwind</mark>	False False	False False	False	False	False	False	False	False
	read_basin_mask	1 0130	1 0130	False	False	False	False	False	False
&ocean_tracer_diag_nml	diag_step	1200	12	48	48	43200	4320	4320	576
•	do_bitwise_exact_sum	False	False	False	False	False	False	False	False
	smooth_mld	True	True	700	700	700	700	700	70.0
l ocean tracer ami	tracer_conserve_days	$\frac{100.0}{1 \times 10^{+40}}$	100.0	30.0	30.0	30.0	30.0	30.0	
&ocean_tracer_nml	<pre>age_tracer_max_init debug_this_module</pre>	1 × 10 ^{+ →} False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False	
fr	razil_heating_after_vphysics	True	True	True	True	True	True	True	True
	3								

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	new_acces- som2 1deg - jra55_ryf input.nml	new_acces- som2 025deg jra55_ryf input.nml	new_acces- som2 01deg jra55_ryf input.nml
fra	zil_heating_before_vphysics	False	False	False	False	False	False	False	False
	<pre>interpolate_tdiag_to_pbott interpolate_tproq_to_pbott</pre>	False False							
	limit_age_tracer	True	True	True	True	True	True	True	True
	remap_depth_to_s_init	False	False	False	False	False	False	False	False
	tmask_limit_ts_same use_tempsalt_check_range	True	True			True	True	True	True
	zero_tendency	False	False	False	False	False	False	False	False
	zero_tracer_source	False	False	False	False	False	False	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False	False	False	False	False	False	False
	diag_step energy_diag_step	1200 1200	12 12	4320 4320	4320 4320	43200 43200	4320 4320	4320 4320	576 5760
	large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True	True	True	True	True	True	True
	<mark>max_cgint</mark> truncate_velocity	False	False	1.5 False	1.5 False	1.0 False	1.0 False	1.0 False	1.0 False
	truncate_velocity_value	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	truncate_verbose	True	True	True	True	True	True	True	True
	zero_tendency	False	False	False	False	False	False	False	False
	zero_tendency_explicit_a zero_tendency_explicit_b			False False	False False	False False	False False	False False	False False
	zero_tendency_implicit			False	False	False	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False	False	False	False	False	False	False
&ocean_vert_kpp_mom4p0_r		False	False	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_vert_kpp_mom4p1_r	nml diff_cbt_iw double_diffusion	0.0 True		0.0 True	0.0 True	0.0 True	0.0 True	0.0 True	0.0 True
	kbl_standard_method	iiuc		iiuc	iiuc	False	False	False	False
	ricr	0.3		0.3	0.3	0.3	0.3	0.3	0.3
	smooth_blmc	True		True	True	False	False	False	False
	smooth_ri_kmax_eq_kmu use_this_module	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	0.0
	wsfc_combine_runoff_calve	False							
&ocean_vert_kpp_nml	diff_cbt_iw double_diffusion ricr		0.0 True 0.3						
	smooth_blmc		True						
	use_this_module		True						
&ocean_vert_mix_nml	visc_cbu_iw afkph_00	0.675	0.0 0.675						
WOCCON_VCTC_IIIIX_IIIII	afkph_90	0.725	0.725						
	aidif	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity bryan_lewis_lat_depend	True	True	False False	False False	False False	False	False False	False False
	bryan_lewis_lat_transition	True 35.0	True 35.0	raise	raise	raise	False	rdise	raise
	dfkph_00	1.15	1.15						
	dfkph_90	1.15	1.15						
	hwf_diffusivity hwf_min_diffusivity			False 2×10^{-6}	False $2 imes 10^{-6}$	False $2 imes 10^{-6}$	False $2 imes 10^{-6}$	False $2 imes 10^{-6}$	False 2×10^{-6}
	hwf_n0_2omega			20.0	20.0	20.0	20.0	20.0	20.0
	linear_taper_diff_cbt_table	False	False	20.0	20.0		20.0	20.0	20.0
	quebec_2009_10_bug	False							
	sfkph_00 sfkph_90	4.5×10^{-5} 4.5×10^{-5}	4.5×10^{-5} 4.5×10^{-5}						
	use_diff_cbt_table	4.5 × 10 False	4.5 × 10 False	False	False	False	False	False	False
	vert_diff_back_via_max	True	True	True	True	True	True	True	True
	vert_mix_scheme	'kpp	'kpp'	'kpp	'kpp	'kpp	'kpp	'kpp	'kpp
	zfkph_00 zfkph_90	mom4p1' 250 000 000.0 250 000 000.0	250 000 000.0 250 000 000.0	mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	background_viscosity	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	decay_scale	300.0	300.0	500.0	500.0	500.0	500.0	500.0	500.0
	drag_dissipation_use_cdbot drhodz_min	1×10^{-12}	1×10^{-12}	True $1 imes 10^{-10}$	True 1×10^{-10}	True $1 imes 10^{-10}$	True 1×10^{-10}	True $1 imes 10^{-10}$	True 1×10^{-10}
	fixed_wave_dissipation	False	False	False	False	False	False	False	False
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
r	mixing_efficiency_n2depend	True	True	True	True	True	True	True	True
	read_roughness read_tide_speed	True	True	True	True True	True	True True	True	True
	read_tide_speed read_wave_dissipation	True False	True False	True False	False	True False	False	True False	True False
	reading_roughness_amp	True	True	True	True	True	True	True	True
	•								

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 W0A13_in- put.nml	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_length	False	False	False	False	False	False	False	False
	roughness_scale	30 000.0	30 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	160.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0
	tide_speed_data_on_t_grid	True	True	True	True	True	True	True	True
	use_drag_dissipation	True	True	True	True	True	True	True	True
	use_legacy_methods	True		False	False	False	False	False	False
	use_this_module	True	True	True	True	True	True	True	True
	use_wave_dissipation	True	True	True	True	True	True	True	True
	wave_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	True	True	False	False	False	False	False	False
	verbose_init	True	True						
&ocean_xlandmix_nml	use_this_module	True	True	False	False	False	False	False	False
	verbose_init	True	True						
	xlandmix_kmt	True	True						
&redseafix_nml	redsea_gulfbay_sfix			True					
&sat_vapor_pres_nml	construct_table_wrt_liq	True	True						
CC	onstruct_table_wrt_liq_and_ice	True	True						
	show_all_bad_values					True			
&surface_flux_nml	ncar_ocean_flux			True	True	True			
	old_dtaudv	False							
	raoult_sat_vap			True	True	True			
&topography_nml	topog_file	'INPUT/	'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_exchange_reproduce	True	True	False	False	False	False	False	False
	nsubset			16	16	16	16	16	16
	xgrid_log			False	False	False			False

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

 \ldots confirming only irrelevant atmos/ESM stuff has been cut

Group Va	ariable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input- cut.nml
&aerosol_nml aerosol_dataset		1860, 1, 1, 0,	cucinne
		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, 1, 0, 0, 0	
data_	names	'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'	
fil	ename	'aerosol.climat	ology.nc'
		False, False,	3,
		False, True, True, True,	
		True, False,	
		True, False,	
in f	amily2	False, False False, False,	
		False, False,	
		False, False,	
		False, False, False, True,	
		True, True	
in_f	amily3	True, False, False, False,	
		False, False,	
		False, False,	
		False, False, False, False	
in_f	amily4	True, True,	
		True, True,	
		True, True, True, True,	
		True, True,	
	amilio F	True, True	
in_f	amily5	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	
	use_aerosol_timeseries	False	
&aerosolrad_package_nml	aerosol_data_set	'shettle	
		fenn'	

Group (continued)	Variable	original/	original/
		GFDL	GFDL
		ESM2M input.nml	ESM2M input-
		прислип	cut.nml
aeroso	l_optical_names	'sulfate	
		30%',	
		'sulfate	
		35%', 'sulfate	
		40%',	
		'sulfate	
		45%',	
		'sulfate	
		50%',	
		'sulfate	
		55%', 'sulfate	
		60%',	
		'sulfate	
		65%',	
		'sulfate	
		70%',	
		'sulfate	
		75%',	
		'sulfate 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_0.2',	
		'dust_0.4', 'dust_0.8',	
		dust_0.8, 'dust_1.0',	
		'dust_2.0',	
		'dust_4.0',	
		'dust_8.0'	
	do_lwaerosol	True	
	do_swaerosol	True	
	lw_asy_filename	,,	
	lw_asy_root lw_ext_filename	,,	
	lw_ext_root	,,	
	lw_ssa_filename	,,	
	lw_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	,,	
	too1_ss2_ws	,,	
	using_volcanic_lw_files	False	
	using_volcanic_sw_files	False	
Quarter internal	volcanic_dataset_entry	1, 1, 1, 0, 0, 0	
&amip_interp_nml	data_set date_out_of_range	'reynolds_oi' 'fail'	
&atmos_co2_nml	co2_radiation_override	True	
mip_interp_nml tmos_co2_nml tmos_model_nml ana_nml g_drag_nml oud_rad_nml oud_spec_nml ouds_peckage_nml ouds_nml mo_trans_nml amping_driver_nml iag_cloud_nml onner_deep_clouds_w_nml	do_co2_emissions	False	
	do_co2_restore	True	
	restore_klimit	24	
Patrosa model and	restore_tscale	31 536 000.0	
&atmos_modet_nint	nxblocks nyblocks	2	
&cana_nml	canopy_air_mass_for_tracers	10.0	
	init_co2	0.000 286	
	turbulence_to_use	'lm3v'	
&cg_drag_nml	bt_0	0.0015	
ana_nml g_drag_nml loud_rad_nml loud_spec_nml loudrad_package_nml louds_nml u_mo_trans_nml lamping_driver_nml	calculate_ked cg_drag_freq	False 1800	
	cg_drag_neq cg_drag_offset	1800	
	debug	False	
	itest	12	
	jtest	42	
	ktest lat_limit	9 25.0	
&cloud rad nml	do_brenguier	False	
CCCCCC CONTROL	overlap	2	
&cloud_spec_nml	cloud_type_form	'strat'	
	use_cloud_tracers_in_radiation	True	
	microphys_form	'predicted'	
&clouds_nml	do_obs_clouds do_zonal_clouds	False False	
&cu mo trans nml	du_zorial_ctouds	2.0	
&damping_driver_nml	do_cg_drag	False	
louds_nml u_mo_trans_nml	do_conserve_energy	True	
	do_mg_drag	True	
	do_topo_drag	False 1	
	nlev_rayfric trayfric	-40.0	
&diag_cloud_nml	L_theqv	True	
	lcnvcld	False	
	linvers	False	
	lomega	True	
	low_lev_cloud_index nofog	16 False	
tmos.model.nml ana_nml g_drag_nml loud_rad_nml loud_spec_nml louds_package_nml louds_nml u_mo_trans_nml lamping_driver_nml liag_cloud_nml ling_cloud_rad_nml lonner_deep_clouds_w_nml lonner_deep_nml dt_nml	l_anom_abs_v	True	
3	l_har_anvil	True	
p. Interp.nml as.co2.nml as.model.nml as.nml drad.mml dd.spec.nml ddrad.package.nml dds.pml no.trans.nml pring.driver.nmlcloud.nmlcloud.rad.nml ner.deep.clouds.w.nml ner.deep.nml	l_har_coldcld	True	
Services Servic	using_dge_lw	True	
&donner deen nml	using_dge_sw cell_ice_size_type	True 'default'	
жиоппет-исер-ппп	cett_ice_size_type	'bower'	
	debug	False	
	donner_deep_freq	1800	
	donner_deep_offset	0	
	itest	53 32	
	jtest ktest⊥model	52 17	
	kttest	5	
	save_donner_deep_diagnostics	True	
&edt_nml	do_gaussian_cloud	False	
	min_adj_time	1.0	
	n_print_levels num_pts_ij	14 0	
	use_extrapolated_ql	False	
	use_qcmin	True	
&entrain_nml	apply_entrain	True	
	ashear	25.0	
	beta_rad	0.5 Truo	
	convect_shutoff critjump	True 0.1	
	Cityuiip	0.1	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL_ ESM2M_ input- cut.nml
	i_entprt_gl	112, 96, 89,	cut.iiiii
		105, 81, 97	
	j_entprt_gl	71, 61, 56, 64, 53, 46	
	num_pts_ij	0 1, 33, 10	
	parcel_buoy	0.25	
	parcel_option	2	
&esfsw_parameters_nml	radperturb sw_diff_streams	0.1	
xesisw_parameters_mm	sw_resolution	'low'	
&fv_core_nml	change_time	True	
	consv_te	0.7	
	layout	1, 30	
	mlat n_split	90 5	
	ncnst	4	
	nlev	24	
	nlon	144	
	pnats	, METCDE,	
&gas_tf_nml	restart_format do_calcstdch4tfs	'NETCDF' True	
xyaɔ_u_ıııIll	do_calcstdcn4trs do_calcstdco2tfs	True	
	do_calcstdn2otfs	True	
	do_readstdch4tfs	False	
	do_readstdco2tfs	False	
	do_readstdn2otfs do_writestdch4tfs	False False	
	do_writestdco2tfs	False	
	do_writestdco2t/3	False	
	interp_form	'log'	
glac_data_nml	dat_emis_dry	1.0	
	dat_emis_sat	1.0	
	rsa_exp_global use_lm2_awc	10.0 True	
&glac_nml	conserve_glacier_mass	True	
	lm2	True	
&harvesting_nml	crop_seed_density	0.1	
	do_harvesting frac_wood_wasted_clear	False 0.25	
	frac_wood_wasted_cteal	0.25	
	grazing_intensity	0.25	
	grazing_residue	0.1	
	waste_below_ground_wood	False	
&lake_data_nml	dat_emis_dry dat_emis_sat	1.0 1.0	
	dat_heat_capacity_ref	0.0	
	f_geo_ice	0.0, 0.0	
	f_geo_liq	0.0, 0.0	
	f_iso_ice	0.02, 0.01	
	f_iso_liq f_vol_ice	0.02, 0.01 0.003, 0.0	
	f_vol_liq	0.003, 0.0	
	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	False	
klanduse_nml	tau_snow_t_adj do_landuse_change	604 800.0 False	
AMINAGE	input_file	'INPUT/ landuse.nc'	
klscale_cond_nml	do_evap	True	
&lw_gases_stdtf_nml	nstdco2lvls	496	
&mg_drag_nml	acoef	1.0 True	
	do_conserve_energy gmax	1.0	
	source_of_sgsmtn	'computed'	
µphys_rad_nml	lwem_form	'fuliou'	
&moist_conv_nml &moist_processes_nml	beta do_cmt	0.0 True	

Group (continued)	Variable	original/ GFDL ESM2M input.nml	original/ GFDL ESM2M input-
	do dian clouds	False	cut.nml
	do_diag_clouds do_donner_deep	False	
	do_gust_cv	False	
	do_legacy_strat_cloud	True	
	do_lsc	False	
	do_mca	False	
	do_ras do_rh_clouds	True False	
	do_strat	True	
	include_donmca_in_cosp	False	
&my25_turb_nml	akmin_land	5.0	
	akmin_sea	0.0	
	do_thv_stab	True $1 imes 10^{-8}$	
&ozone_nml	tkemin basic_ozone_type	'fixed_year'	
&OZONE_IIIIL	data_name	'ozone'	
	filename	'o 3.climatology.nc'	
	ozone_dataset_entry	1860, 1, 1, 0,	
	•	0,0	
&physics_driver_nml	do_modis_yim	False	
&rad_output_file_nml	write_data_file	True	
&radiation_diag_nml	iradprt_gl	20,6	
	jradprt_gl	12, 20 0	
&radiation_driver_diag_nml	num_pts_ij all_step_diagnostics	True	
&radiation_driver_unag_mmt	do_clear_sky_pass	True	
ATABILITY CLAIME	rad_package	'sea_esf'	
	rad_time_step	10800	
	renormalize_sw_fluxes	True	
	use_co2_tracer_field	True	
	using_restart_file	False	
	zenith_spec	'diurnally varying'	
&radiative_gases_nml	ch4_data_source	'input'	
Widdle Care Care Care Care Care Care Care Car	ch4_dataset_entry	1860, 1, 1, 0, 0, 0	
	ch4_specification_type	'time_series'	
	ch4_variation_type	'linear'	
	co2_base_time	101, 1, 1, 0, 0, 0 0.0016	
	co2_ceiling co2_data_source	'predicted'	
	co2_dataset_entry	1, 1, 1, 0, 0, 0	
	co2_floor	0.0001	
	co2_specification_type	'base_and trend'	
	co2_variation_type	'linear'	
	f113_data_source	'input'	
	f113_dataset_entry	1860, 1, 1, 0,	
	f113_specification_type	0, 0 'time_series'	
	f113_specification_type	'linear'	
	f11_data_source	'input'	
	f11_dataset_entry	1860, 1, 1, 0, 0, 0	
	f11_specification_type	'time_series'	
	f11_variation_type f12_data_source	'linear'	
	f12_dataset_entry	'input' 1860, 1, 1, 0, 0, 0	
	f12_specification_type	'time_series'	
	f12_variation_type	'linear'	
	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 n2o_data_source	240 'input'	
	n2o_dataset_entry	'input' 1860, 1, 1, 0, 0, 0	
	n2o_specification_type	'time_series'	
	n2o_variation_type	'linear'	
	time_varying_ch4	False	

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	
ason_mit	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,	
usuuc_veg_iiiit		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	
&topo_rougn_nml	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		