## MOM-SIS / ACCESS-OM2 MOM5 namelist comparisons

typeset 2017-11-17 09:35:37 +11:00
Latest version is here: https://qithub.com/aekiss/namelist-check

- 1deg\_jra55v13\_ryf9091\_spinup\_A-input.nml is Andy's 1deg namelist from 2017-11-06: /g/data3/hh5/tmp/cosima/access-om2/1deg\_jra55v13\_ryf9091\_spinup\_A/output039/ocean/input.nml
- GFDL\_ESM2M\_input-cut.nml is GFDL\_ESM2M\_input.nml from Steve's email 2017-10-18 with irrelevant atmos/ESM namelist groups cut out.
- MOM\_SIS\_TOPAZ\_input.nml is from MOM\_SIS\_TOPAZ/INPUT/ in /g/data/ua8/mom/test\_data/MOM\_SIS\_TOPAZ.input.tar.gz, dated 2009-12-16 10:44
- fabio\_momsis1\_input.nml is from Fabio's email 2017-09-20, derived from Paul's 1/4 degree (I think)
- paul\_momsis025\_input.nml is from Paul's email 2017-09-20
- fanghua\_momsis01v5KDS75\_WOA13\_input.nml is /g/data3/hh5/tmp/cosima/mom01v5/KDS75\_WOA13/output000/input.nml
- russ-accessom-mom4p1-input.nml is an old MOM4p1 ACCESS-OM input from years ago (Russ' email 2017-10-17)
- hogg\_accessom2\_1deg\_jra55\_ryf\_input.nml is /short/v45/amh157/access-om2/control/1deg\_jra55\_ryf/ocean/input.nml
- kiss\_accessom2\_025deg\_jra55\_ryf\_input.m.nml is /short/v45/aek156/access-om2/control/025deg\_jra55\_ryf/ocean/input.nml
- hogg\_accessom2\_01deg\_jra55\_ryf\_input.nml is /short/v45/amh157/access-om2/control/01deg\_jra55\_ryf/ocean/input.nml
- kiss\_accessom2\_025deg\_jra55\_ryf\_logfile.000000.out is the MOM output file /short/v45/aek156/access-om2/control/025deg\_jra55\_ryf/archive/output144/ocean/logfile.000000.out, modified by deleting lines not starting with whitespace (regex replace ^[^\s]+.\*\$ with nothing), replacing salt\_flxmh\_flux with salt\_flx mh\_flux, removing ascii gremlins from end of FIELDS\_IN and FIELDS\_OUT lines, and deleting the copy of input.nml from the start (to work around bug in nmltab.py). So this shows the values specified in input.nml, plus default values for those not specified in input.nml. However there are some namelist groups it doesn't include, e.g. generic\_tracer, monin\_obukhov\_nml, ocean\_albedo\_nml, ocean\_bihcst\_friction\_nml, ocean\_nphysics\_util\_nml, ocean\_nphysicsa\_nml, ocean\_nphysicsa\_nml, ocean\_nphysicsb\_nml, ocean\_shortwave\_csiro\_nml, ocean\_nphysicsb\_nml, ocean\_xlandmix\_nml, xgrid\_nml [and ocean\_vert\_kpp\_nml, was replaced by ocean\_vert\_kpp\_mom4p1\_nml in MOM5, and bg\_diff\_lat\_dependence\_nml, ocean\_polar\_filter and ocean\_vert\_kpp\_iow which are not in the MOM5 code at all]; there may be more.

#### Other useful info:

• Griffies et al. (2015) p973

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

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

#### References

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

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## 1 Differences between new ACCESS-OM2 configs

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

Group	Variable	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	dt_cpl	3600	1800	600
WWW.	redsea_gulfbay_sfix	True	1000	000
&fms_io_nml	fileset_write	'single'	'multi'	'multi'
	threading_write	'single'	'multi'	'multi'
&ocean_adv_vel_diag_nml	diag_step	4320	4320	576
&ocean_barotropic_nml	diag_step	4320	4320	576
&ocean_bihgen_friction_nml	bottom_5point	True	False	False
	vel_micom_bottom	0.01	0.0	0.0
	vel_micom_iso	0.04	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0
&ocean_lapgen_friction_nml	bottom_5point	True		
	k_smag_aniso	0.0 0.0		
	k_smag_iso restrict_polar_visc	True		
		60.0		
		0.35		
		True	False	False
	vel_micom_iso	0.1	ruisc	1 0130
	viscosity_ncar	False		
	viscosity_scale_by_rossby	True		
		4.0		
&ocean_mixdownslope_nml	debug_this_module	False		
	mixdownslope_mask_gfdl	False		
	mixdownslope_npts	4		
	read_mixdownslope_mask	False		
	use_this_module	True	False	False
viscosity_no viscosity_scale_by_ross viscosity_scale_by_ross viscosity_scale_by_rossby_pow ocean_mixdownslope_nml debug_this_modu mixdownslope_mask_g mixdownslope_mask_g mixdownslope_mask_g read_mixdownslope_mask_g use_this_modu ocean_model_nml dt_oce io_layo layo ocean_nphysics_nml use_nphysic	dt_ocean	3600	1200	150
	io_layout	4, 3	6, 5	10, 15
	layout	16, 15	48, 40	80, 75
&ocean_nphysics_nml	use_nphysicsc	True	False	False
	use_this_module	True	False	False
&ocean_nphysics_util_nml	agm	600.0	100.0	100.0
	agm_closure_eady_ave_mixed	True		
	agm_closure_eady_cap	True		
	agm_closure_eady_smooth_horz	True		
	agm_closure_eady_smooth_vert	True 0.0		
	agm_closure_eden_gamma agm_closure_eden_greatbatch	False		
	agm_closure_grid_scaling	True		
	agm_closure_min	50.0	100.0	100.0
	agm_damping_time	45.0	100.0	100.0
	agm_smooth_space	False		
	agm_smooth_time	False		
	drhodz_mom4p1	True	False	False
	nphysics_util_zero_init	True	, disc	
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True		
1 7	bvp_bc_mode	2		
	bvp_min_speed	0.1		
	bvp_speed	0.0		
	debug_this_module	False		
	do_gm_skewsion	True		
	do_neutral_diffusion	True		
	epsln_bv_freq	$1  imes 10^{-12}$		
	gm_skewsion_bvproblem	True		
	gm_skewsion_modes	False		
	neutral_eddy_depth	True		
	neutral_physics_limit	True		
	number_bc_modes	2		
	regularize_psi	False		
	smax_psi	0.01		
	smooth_psi	True		
	tmask_neutral_on	True		
	turb_blayer_min use_this_module	50.0 True	False	Ealer
&ocean solo nml		True 1460	31	False
&ocean_solo_nml	days dt_cpld	3600	1200	30 600
	OI CDIO	2000	1200	
&organ tracer diag nml		4770	/Z20	[74
&ocean_tracer_diag_nml &ocean_velocity_diag_nml	diag_step diag_step	4320 4320	4320 4320	576 576

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

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

### 2.1 accessom2\_1deg\_jra55\_ryf

Group	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
	chk_i2o_fields	False	False
	chk_o2i_fields	False	False
	do_ice_once	False	False
	$dt\_cpl$ fixmeltt	3600 False	3600 False
	frazil_factor	1.0	1.0
	iceform_adj_salt	False	False
	icemlt_factor	1.0	1.0
	kmxice	5	5
	pop_icediag	True	True
	redsea_gulfbay_sfix	True	True
	sign_stflx	1.0	1.0
	tmelt	-0.216	-0.216
9 ha diff lat dependence and	use_ioaice	True $1 \times 10^{-6}$	True
&bg_diff_lat_dependence_nml	bg_diff_eq lat_low_bgdiff	20.0	
&diag_manager_nml	debug_diag_manager	20.0	True
Wildy_manager_mm	issue_oor_warnings	False	True
&fms_io_nml	fileset_write	'single'	'single'
<u> </u>	threading_read	'multi'	'multi'
	threading_write	'single'	'single'
&fms_nml	clock_grain	'L00P'	'COMPONENT'
	domains_stack_size		115200
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',
		'v_flux',	'v_flux',
		'lprec', 'fprec', 'salt_flx',	'lprec', 'fprec', 'salt_flx',
		'mh_flux',	'mh_flux',
		'sw_flux',	'sw_flux',
		'q_flux',	'q_flux',
		't_flux',	't_flux',
		'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',
		'aice',	'aice',
		'wfimelt',	'wfimelt',
	fields_out	'wfiform' 't_surf',	'wfiform' 't_surf',
	netas_out	's_surf',	's_surf',
		'u_surf',	'u_surf',
		'v_surf',	'v_surf',
		'dssldx',	'dssldx',
		'dssldy',	'dssldy',
		'frazil'	'frazil'
	num_fields_in	15	15
	num_fields_out	7 Truo	7 Truo
	send_after_ocean_update send_before_ocean_update	True False	True False
&monin_obukhov_nml	neutral	raisc	True
&mpp_io_nml	deflate_level		5
	shuffle		1
&ocean_adv_vel_diag_nml	diag_step	4320	4320
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
	verbose_cfl	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5
&ocean_albedo_nml &ocean_barotropic_nml	ocean_albedo_option barotropic_halo	10	2 10
accan_parotropic_nint	barotropic_time_stepping_a	True	True
	barotropic_time_stepping_b	False	False
	debug_this_module	False	False
	diag_step	4320	4320
	eta_max	8.0	8.0
	frac_crit_cell_height	0.2	0.2
	pred_corr_gamma	0.2	0.2
	smooth_eta_diag_laplacian	True	True
	smooth_eta_t_biharmonic	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf inputml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
	smooth_eta_t_laplacian	True	True
	smooth_pbot_t_biharmonic smooth_pbot_t_laplacian	False True	False True
	truncate_eta	False	False
	use_legacy_barotropic_halos	False	False
	vel_micom_bih	0.01	0.01
	vel_micom_lap	0.05	0.05
	vel_micom_lap_diag	0.2	0.2
	verbose_truncate	True	True
	zero_tendency		False
&ocean_bbc_nml	bmf_implicit	0.001	True
	cdbot cdbot_hi	0.001	0.001 0.007
	cdbot_law_of_wall	False	0.007
	cdbot_roughness_length	Taisc	False
	cdbot_roughness_uamp		True
	uresidual		0.05
	use_geothermal_heating	False	False
&ocean_bbc_ofam_nml	read_tide_speed	False	
	uresidual2_max	1.0	
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'
&ocean_bih_tracer_nml	use_this_module	False	False
&ocean_bihost_friction_nml	use_this_module	False	False
&ocean_bihgen_friction_nml	bottom_5point eq_lat_micom	True 0.0	True 0.0
	eq_tat_micom eq_vel_micom_aniso	0.0	0.0
	eq_vel_micom_iso	0.0	0.0
	equatorial_zonal	False	False
	k_smag_aniso	0.0	0.0
	k_smag_iso	2.0	2.0
	ncar_boundary_scaling	True	True
	ncar_boundary_scaling_read		True
	ncar_rescale_power	2	2
	ncar_vconst_4 ncar_vconst_5	$2 \times 10^{-8}$ 5	$2 \times 10^{-8}$ 5
	use_this_module	True	True
	vel_micom_aniso	0.0	0.0
	vel_micom_bottom	0.01	0.01
	vel_micom_iso	0.04	0.04
	visc_crit_scale	0.25	0.25
&ocean_convect_nml	convect_full_scalar	False	
	convect_full_vector	True	
	use_this_module	False	False
&ocean_coriolis_nml	acor	0.5 True	0.5
&ocean_density_nml	use_this_module eos_linear	True False	True False
docum_density_nint	eos_preteos10	True	True
	layer_nk	80	80
	neutralrho_max	1030.0	1030.0
	neutralrho_min	1020.0	1020.0
	potrho_max	1038.0	1038.0
	potrho_min	1028.0	1028.0
&ocean_domains_nml	max_tracers	10	5
&ocean_form_drag_nml	<mark>cprime_aiki</mark> use_this_module	0.6 False	False
&ocean_frazil_nml	debug_this_module	raise	False
Coccur_muzit_lillt	frazil_only_in_surface		False
	freezing_temp_preteos10		True
	freezing_temp_simple	True	False
	use_this_module	True	True
&ocean_grids_nml	debug_this_module	True	False
	read_rho0_profile	False	
&ocean_increment_eta_nml	days_to_increment	0	
	fraction_increment secs_to_increment	1.0 1800	
	secs_to_increment use_this_module	1800 False	False
		raise	Lqrzg
&orean increment tracer nml	days to increment		
&ocean_increment_tracer_nml	days_to_increment fraction_increment		
&ocean_increment_tracer_nml	days_to_increment fraction_increment secs_to_increment	1.0 1800	
	fraction_increment secs_to_increment use_this_module	1.0	False
&ocean_increment_tracer_nml &ocean_increment_velocity_nml	fraction_increment secs_to_increment use_this_module days_to_increment	1.0 1800 False 0	False
	fraction_increment secs_to_increment use_this_module	1.0 1800 False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
9 access lan friction and	use_this_module	False	False
&ocean_lap_friction_nml &ocean_lap_tracer_nml	lap_friction_scheme use_this_module	'general' False	'general' False
&ocean_lapcst_friction_nml	use_this_module	False	False
&ocean_lapgen_friction_nml	bottom_5point	True	True
	k_smag_aniso	0.0	0.0
	k_smag_iso	0.0	0.0
	ncar_only_equatorial	True	Truo
	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
	vconst_1	8 000 000.0	
	vconst_2	0.0	
	vconst_4	$0.8 \\ 5 \times 10^{-9}$	
	vconst_5	3 × 10 ·	
	vconst_6	300 000 000.0	
	vconst_7	100.0	
	vel_micom_iso	0.1	0.1
	viscosity_ncar	True	False
	viscosity_ncar_2000 viscosity_ncar_2007	False True	
	viscosity_scale_by_rossby	True	True
	viscosity_scale_by_rossby_power	4.0	4.0
&ocean_mixdownslope_nml	debug_this_module	False	False
	mixdownslope_mask_gfdl	False	False
	mixdownslope_npts read_mixdownslope_mask	4 False	4 False
	use_this_module	True	True
&ocean_model_nml	baroclinic_split	1	1
	barotropic_split	80	80
	cmip_units	True	True
	debug	False 3600	False 3600
	dt_ocean io_layout	4, 3	4, 3
	layout	16, 15	16, 15
	surface_height_split	1	1
	time_tendency	'twolevel'	'twolevel'
9	vertical_coordinate	'zstar'	'zstar'
&ocean_momentum_source_nml	<pre>rayleigh_damp_exp_from_bottom use_rayleigh_damp_table</pre>	True	False True
	use_this_module	True	True
&ocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc use_this_module	True True	True True
&ocean_nphysics_util_nml	agm	600.0	600.0
, <del>, , , , , , , , , , , , , , , , , , </del>	agm_closure	True	True
	agm_closure_baroclinic	True	True
	agm_closure_buoy_freq	0.004	0.004
	agm_closure_eady_ave_mixed agm_closure_eady_cap	True True	True True
	agm_closure_eady_smooth_horz	True	True
	agm_closure_eady_smooth_vert	True	True
	agm_closure_eden_gamma	0.0	0.0
	agm_closure_eden_greatbatch	False	False
	agm_closure_grid_scaling	True	True
	agm_closure_length agm_closure_length_bczone	50 000.0 False	50 000.0 False
	agm_closure_length_fixed	False	False
	agm_closure_length_rossby	False	False
	agm_closure_lower_depth	2000.0	2000.0
	agm_closure_max	600.0	600.0
	agm_closure_min agm_closure_scaling	50.0 0.07	50.0 0.07
	agm_closure_scating agm_closure_upper_depth	100.0	100.0
	agm_ctosare_upper_uceptr	45.0	45.0
	agm_smooth_space	False	False
	agm_smooth_time	False	False
	aredi_equal_agm	600.0 False	600.0 False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
	drhodz_mom4p1	True	True
	drhodz_smooth_horz	False	False
	drhodz_smooth_vert nphysics_util_zero_init	False True	False True
	rossby_radius_max	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0
	tracer_mix_micom	False	False
	vel_micom	0.0	0.0
&ocean_nphysicsa_nml	use_this_module use_this_module	False False	False False
&ocean_nphysicsb_nml &ocean_nphysicsc_nml	by_freq_smooth_vert	True	True
woccan inphysics cining	bvp_bc_mode	2	2
	bvp_min_speed	0.1	0.1
	bvp_speed	0.0	0.0
	debug_this_module	False	False
	do_gm_skewsion do_neutral_diffusion	True True	True True
	epsln_bv_freq	$1 \times 10^{-12}$	$1 \times 10^{-12}$
	gm_skewsion_bvproblem	True	True
	gm_skewsion_modes	False	False
	neutral_eddy_depth	True	True
	neutral_physics_limit number_bc_modes	True	True
	number_bc_modes regularize_psi	2 False	2 False
	smax_psi	0.01	0.01
	smooth_psi	True	True
	tmask_neutral_on	True	True
	turb_blayer_min	50.0	50.0
&ocean_operators_nml	use_this_module use_legacy_div_ud	True	True False
&ocean_overexchange_nml	debug_this_module	False	False
a decement of the second of th	overexch_check_extrema	False	1 4130
	overexch_npts	4	4
	overexch_weight_far	False	False
	overflow_umax use_this_module	5.0 False	5.0 False
&ocean_overflow_nml	debug_this_module	False	raise
& OCEAN LOVETHOW LIMIT	use_this_module	False	False
&ocean_overflow_ofp_nml	use_this_module		False
&ocean_polar_filter_nml	use_this_module	False	False
&ocean_pressure_nml	zero_pressure_force		False
&ocean_rivermix_nml	debug_this_module	False	False
	river_diffuse_salt river_diffuse_temp	False False	True True
	river_diffusion_thickness	0.0	0.0
	river_diffusivity	0.0	0.0
	river_insertion_thickness	40.0	40.0
	use_this_module	True	True
&ocean_riverspread_nml	use_this_module	True	False 'beljaars'
&ocean_rough_nml &ocean_sbc_nml	<mark>rough_scheme</mark> avg_sfc_temp_salt_eta	True	True
COCCUI-DUCATION	avg_sfc_velocity	True	True
	calvingspread		False
	do_bitwise_exact_sum		False
	do_flux_correction		False
	land_model_heat_fluxes max_delta_salinity_restore	0.5	False 0.5
	max_ice_thickness	8.0	0.0
	read_restore_mask	False	False
	restore_mask_gfdl	False	False
	runoff_salinity	0.0	0.0
	salt_correction_scale salt_restore_as_salt_flux	True	0.0 True
	salt_restore_tscale	15.0	60.0
	salt_restore_under_ice	True	True
	temp_restore_tscale	-1.0	-10.0
	use_full_patm_for_sea_level		False
	use_waterflux	True	True
	waterflux_tavg zero_heat_fluxes	False False	False
	zero_net_salt_correction	ו מנאכ	False
	zero_net_salt_restore	True	True
	zero_net_water_correction		False

Peter   Pete	Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
Part				
Second				
Sozen Journal         Select Sozen Journal         False Sozen Journal				
Second shertweek scient and second	&ocean_sbc_ofam_nml			. 4.50
Sciences in Jerrary wave gill remail         Section in Jerrary wave gill remail         False remotives we gill remail         The process with an extension of the process with a remail of the process with a		river_temp_ofam	False	
	&ocean_shortwave_csiro_nml			
Second shortware gift limit   Select (inter-sound)   Select (inter				False
Part				
True   Part	&ocean_snortwave_grdl_nml			
Pate				
Part			Huc	
Second shortwee jeters melt   Second State   Seco		· · · · · · · · · · · · · · · · · · ·	False	
Manual Antonome   Manual Antonome   False		sw_pen_fixed_depths	False	
Sceran Shortwave Jerfox mml         use Jihi smodule         False         False           Scoran Shortwave Jamil         Bis Boltstayer gold         False         Tov           Scoran Shortwave Jamil         Bis Boltstayer gold         False         Tov           Scoran Signa, Jransport Limit         Signa Jamilan Shirtstande         Tov         Tov           Scoran Signa, Jransport Limit         Signa Jamilan Shirtstande         Tov         False           Signa Jamilan Shirtstande         1         10         False           Signa Jamilan Shirtstande         10         10         False           Signa Jamilan Shirtstande         10         10         False           Signa Jamilan Shirtstande         10				
& cocean.shortwave_nml         use_shortwave_effor         Face         Tought           & cocean.sigma.transport.mml         gigma.shortwant         Face         Tought           & cocean.sigma.transport.mml         gigma.shortwant         Face         Tought           & cocean.sigma.transport.mml         gigma.shortwant         Tought         Face           & cocean.sigma.transport.mml         gigma.shortwant         1 x 10 -		<u> </u>		
Second Signal Litamport Limit   False   Fals				
State   Stat	&ocean_SHOLFMAVE_HILL			
Social signal atransport nimit         Suscial signal atransport nimit         Time         Time           Social signal atransport nimit         \$Bignal atreetion sign signal				
Eccess-signal-transport.nml         Signal-adressions, sml         False           Signal-diffusion.ord         Title         Signal-diffusion.ord         Title           Signal-diffusion.ord         Title         Signal-diffusion.ord         Title           Signal-diffusion.ord         Title         Signal-diffusion.ord         Title           Signal-diffusion.ord         Title         Signal-diffusion.ord         Title           Signal-diffusion.ord         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title           Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title         Signal-diffusion.ord         Title		·		
Signs algorithms on the signs algorithms of the sign	&ocean_sigma_transport_nml			
Signal authon   Two   Two		sigma_advection_sgs_only	False	
Signa sist in Dottom: cell   Time   Signa sist in Dottom: cell   Signa sist in Dottom: cell   Signa signa signa   Si				
Second Some Market				
Smooth spins spi				
State				
Michaes Signal Jave   1000				
		thickness_sigma_layer		
Pate				
Tracer.nx.mides   Tracer.nx.				
cocean.solo.nml         use this.module verimition         Total content         Obtach content           & cocean.solo.nml         Calendar Alley of MoLEAP (1,10,0)         1,10,00         1,1				
Scorean.solo.nml         calendar         NOLEAP         NOLEAP           Cocean.solo.nml         calendar         NOLEAP         NOLEAP           Cocean.solo.nml         calendar         1,10,00         1,10,00           Label         debug this, module         False           Cocean.solo.nml         Calendar         Calendar           Accean.solo.nml         Calendar         Calendar           Cocean.solo.nml         Calendar         Calendar           Cocean.solo.nml         Calendar         Calendar           Cocean.solo.nml         Secondar         Calendar           Cocean.solo.nml         Secondar         Calendar           Cocean.solo.nml         Secondar         Calendar           Cocean.solo.nml         Secondar         Talse           Socean.solo.nml         Calendar         Talse           Socean.solo.nml         Geofficient.ce         Cools           Socean.solo.nml         Calendar         Talse           Socean.solo.nml         Talse         Talse           Socean.solo.nml         Talse         Talse           Socean.solo.nml         Talse         Talse           Socean.solo.nml         Talse         Talse           Socean.solo				False
&ocean.solo.nml         calendar date.init al,1,1,0,0         NOLEAP (1,0,0,0)         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,1,0,0         1,1,0,0         1,0				ruise
Material	&ocean_solo_nml	calendar		'NOLEAP'
Bebug.this.module		date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
				1460
Nours				7,000
Minimutes   Mini				
Manual				
&ccean_sponges_eta_nml         use_this_module         False         False           &ccean_sponges_tracer_nml         damp_coeff_3d         False         False           &ccean_sponges_tracer_nml         use_this_module         False         False           &ccean_sponges_velocity_nml         use_this_module         False         False           &ccean_submesoscale_nml         debug_this_module         False         False           front_length_const         5000.0				
& ocean_sponges_eta_nml     use_this_module     False       & ocean_sponges_tracer_nml     damp_coeff_3d     False       & ocean_sponges_velocity_nml     use_this_module     False     False       & ocean_submesoscale_nml     coefficient_ce     0.05       debug_this_module     False     False       front_length_const     5000.0     5000.0       front_length_censt     5000.0     5000.0       front_length_censt     5000.0     5000.0       front_length_censt     7true     True       limit_psi     True     True       limit_psi_velocity_scale     0.5     0.5       min_lbbt     4     4       smooth_advect_transport_num     4       smooth_advect_transport_num     4       smooth_bbt     False     False       smooth_psi_num     3     submeso_advect_flux     False       submeso_advect_flux     False     True       submeso_advect_tlimit     True       submeso_advect_tlimit     True       submeso_advect_tupwing     True       submeso_advect_tupwing     True       submeso_advect_tupwing     True       submeso_advect_tupwing     False       submeso_advect_tupwing     False       submeso_advect_tupwing     True <td></td> <td>seconds</td> <td>0</td> <td>0</td>		seconds	0	0
& ocean_sponges_tracer_nml         damp_coeff_3d use_this_module         False         False           & ocean_sponges_velocity_nml         use_this_module         False         False           & ocean_submesoscale_nml         debug_this_module         False				
Scoean sponges velocity.nml         Use.this.module         False         False           & ocean sponges velocity.nml         use.this.module         False         False         False         False         ODS           & ocean.submesoscale.nml         debug.this.module         False         True				False
&ocean_sponges_velocity_nml     use_this_module     False     False       &ocean_submesoscale_nml     toefficient_ce     0.05       debug_this_module     False     False       front_length_const     500.00     5000.00       front_length_deform_radius     True     True       limit_psi_velocity_scale     0.5     0.5       limit_psi_velocity_scale     0.5     0.5       min_kblt     4     4       smooth_advect_transport_num     4     4       smooth_advect_transport_num     4     4       smooth_psi_num     3     True       smooth_psi_num     3     3       submeso_advect_flux     False       submeso_advect_tlux     False       submeso_advect_tlux     True       submeso_advect_upwind     True       submeso_advect_tupwind     True       submeso_advect_tupwind <td>&amp;ocean_sponges_tracer_nml</td> <td></td> <td></td> <td>Falco</td>	&ocean_sponges_tracer_nml			Falco
&ocean_submesoscale_nml       coefficient_ce       0.05         debug_this_module       False       False         front_length_const       5000.0       5000.0         front_length_deform_radius       True       True         limit_psi_velocity_scale       0.5       0.5         min_kblt       4       4         smooth_advect_transport_num       4       4         smooth_advect_transport_num       4       4         smooth_psi_num       3       51se       False         smooth_psi_num       3       3       3         submeso_advect_flux       False       False         submeso_advect_tlimit       True       True         submeso_advect_tlimit       True       True         submeso_advect_tlimit       True       False         submeso_advect_tlimit       True       True         submeso_advect_tlimit       True       False         submeso_advect_tlimit       True       True	&ocean sponges velocity pml			
debug_this_module     False     False       front_length_const     5000.0     5000.0       front_length_deform_radius     True     True       limit_psi_velocity_scale     0.5     0.5       min_kblt     4     4       smooth_advect_transport     True       smooth_advect_transport_num     4       smooth_bblt     False     False       smooth_psi     True       smooth_psi_num     3       smooth_psi_num     3       submeso_advect_flux     False       submeso_advect_flux     False       submeso_advect_limit     True       submeso_advect_tero_bdy     Tru			1 atse	
front_length_const 5000.0 5000.0  front_length_deform_radius True True limit_psi True limit_psi.velocity_scale 0.5 0.5 0.5 min_kblt 4 4 4 msmooth_advect_transport True smooth_advect_transport um 4 smooth_advect_transport um 4 smooth_bblt False False smooth_psi True smooth_psi True smooth_psi True smooth_psi True smooth_psi True submeso_advect_flux False false submeso_advect_flux False submeso_advect_flux False submeso_advect_flux False submeso_advect_flux frue submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind False submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind False submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind True submeso_advect_pwind False subm			False	
front_length_deform_radius limit_psi True True limit_psi True limit_psi True limit_psi.velocity.scale limit_psi.velocity.scale limit_psi.velocity.scale min_kblt 4 4 4		front_length_const	5000.0	5000.0
Limit_psi_velocity_scale0.50.5min_kblt44smooth_advect_transportTruesmooth_advect_transport_num4smooth_nbltFalseFalsesmooth_psiTruesmooth_psi3submeso_advect_fluxFalsesubmeso_advect_limitTruesubmeso_advect_upwindTruesubmeso_advect_zero_bdyTruesubmeso_advect_zero_bdyTruesubmeso_diffusionFalsesubmeso_diffusion_biharmonicTruesubmeso_diffusion_scale10.0		front_length_deform_radius		
min_kblt 4 4 smooth_advect_transport True smooth_advect_transport_num 4 smooth_advect_transport_num 5 smooth_bblt False False smooth_psi True smooth_psi Submeso_advect_flux False submeso_advect_limit True submeso_advect_upwind submeso_advect_upwind submeso_advect_zero_bdy True submeso_advect_zero_bdy True submeso_diffusion submeso_diffusion_biharmonid True submeso_diffusion_scale				
smooth_advect_transport				
smooth_advect_transport_num       4         smooth_nblt       False       False         smooth_psi       True         smooth_psi_num       3         submeso_advect_flux       False         submeso_advect_limit       True         submeso_advect_upwind       True         submeso_advect_zero_bdy       True         submeso_diffusion       False         submeso_diffusion_biharmonic       True         submeso_diffusion_scale       10.0			4	
smooth_nblt False False smooth_psi True smooth_psi_num 3 submeso_advect_flux False submeso_advect_limit True submeso_advect_upwind True submeso_advect_upwind True submeso_advect_zero_bdy True submeso_diffusion False submeso_diffusion_biharmonic True submeso_diffusion_scale 10.0				
True  smooth_psi smooth_psi smooth_psi smooth_psi smooth_psi smooth_psi smooth_psi submeso_advect_limm submeso_advect_limit submeso_advect_upwind True submeso_advect_upwind True submeso_advect_zero_bdy True submeso_diffusion False submeso_diffusion_biharmonic True submeso_diffusion_scale			False	
submeso_advect_flux       False         submeso_advect_limit       True         submeso_advect_upwind       True         submeso_advect_zero_bdy       True         submeso_diffusion       False         submeso_diffusion_biharmonic       True         submeso_diffusion_scale       10.0				
submeso_advect_limit True submeso_advect_upwind True submeso_advect_zero_bdy True submeso_diffusion False submeso_diffusion_biharmonic True submeso_diffusion_scale 10.0				
submeso_advect_upwind True submeso_advect_zero_bdy True submeso_diffusion False submeso_diffusion_biharmonic True submeso_diffusion_scale 10.0				
submeso_advect_zero_bdy     True       submeso_diffusion     False       submeso_diffusion_biharmonic     True       submeso_diffusion_scale     10.0				
submeso_diffusion     False       submeso_diffusion_biharmonic     True       submeso_diffusion_scale     10.0				
submeso_diffusion_biharmonid True submeso_diffusion_scale 10.0				
submeso_diffusion_scale 10.0				
submeso_limit_flux True				10.0
		submeso_limit_flux	True	

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
	submeso_skew_flux	•	True
	use_hblt_equal_mld	True	True
	use_psi_legacy		False
	use_this_module	True	True
&ocean_tempsalt_nml	debug_this_module	False	False
&ocean_tempsalt_nml &ocean_thickness_nml &ocean_topog_nml &ocean_tracer_advect_nml &ocean_tracer_diag_nml	pottemp_2nd_iteration pottemp_equal_contemp	True	True True
	potternp_equat_contemp	55.0	70.0
	s_max_limit	42.0	42.0
	s_min	-1.0	0.0
	s_min_limit	0.0	2.0
	t_max	55.0	55.0
	t_max_limit	32.0	32.0
	t_min	<b>-5.0</b>	-20.0
	t_min_limit	-2.0	-5.0
	temperature_variable	'conservative	'potential
Rocean thickness and	debug_this_module	temp' False	temp' False
xoccan_cmckiic35_iiiik	debug_this_module_detail	False	False
	initialize_zero_eta	False	i alsc
	read_rescale_rho0_mask	False	
	rescale_mass_to_get_ht_mod		False
	rescale_rho0_basin_label	7.0	
	rescale_rho0_mask_gfdl	False	
	rescale_rho0_value	0.75	
	thickness_dzt_min	1.0	
	thickness_dzt_min_init thickness_method	2.0 'energetic'	'energetic'
Rocean tonno nmi	min_thickness	25.0	energenc
	advect_sweby_all	True	
A COCA 1 2 COC 2 THE	async_domain_update	True	
	debug_this_module	False	False
	read_basin_mask		False
&ocean_tracer_diag_nml	diag_step	4320	4320
	do_bitwise_exact_sum	False	False
	tracer_conserve_days	1.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0
	debug_this_module frazil_heating_after_vphysics	False True	False True
	frazit_heating_after_vphysics	False	False
	limit_age_tracer	True	True
	remap_depth_to_s_init	False	False
cean_topog_nml cean_tracer_advect_nml cean_tracer_diag_nml cean_tracer_nml	use_tempsalt_check_range	True	True
	zero_tendency	False	False
	zero_tracer_source	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False
	diag_step	4320	4320
	energy_diag_step	4320	4320 10.0
	large_cfl_value max_cfl_value	10.0 100.0	10.0
ccean_velocity_nml	adams_bashforth_third	True	True
Accountriesdity	max_cgint	1.0	1.0
	truncate_velocity	True	False
	truncate_velocity_value	2.0	2.0
	truncate_verbose	True	True
	zero_tendency	False	False
	zero_tendency_explicit_a		False
	zero_tendency_explicit_b		False
&ocean_vert_kpp_iow_nml	zero_tendency_implicit use_this_module	False	False False
xocean_vert_kpp_now_nml &ocean_vert_kpp_mom4p0_nml	use_this_module	False	raise
&ocean_vert_kpp_mon4p1_nml	diff_cbt_iw	0.0	0.0
жосон с. с. прринон транник	diff_con_limit	0.0	0.0
	double_diffusion	True	True
		False	False
	kbl_standard_method	1 0130	
	ricr	0.3	0.3
	ricr smooth_blmc	0.3 False	False
	ricr smooth_blmc smooth_ri_kmax_eq_kmu	0.3 False True	False True
	ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module	0.3 False True True	False True True
	ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module visc_cbu_iw	0.3 False True True 0.0	False True
&ocean_vert_mix_nml	ricr smooth_blmc smooth_ri_kmax_eq_kmu use_this_module	0.3 False True True	False True True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml
	aidif	1.0	1.0
	bryan_lewis_diffusivity	False	False
	bryan_lewis_lat_depend	True	False
b	ryan_lewis_lat_transition	35.0	
	dfkph_00	1.15	
	dfkph_90	0.95	
	hwf_diffusivity		False
	hwf_min_diffusivity		$2 \times 10^{-6}$
	hwf_n0_2omega		20.0
u de la companya de	near_taper_diff_cbt_table	False	
	sfkph_00	$4.5 \times 10^{-5}$	
	sfkph_90	$4.5 \times 10^{-5}$	
	use_diff_cbt_table	False	False
	vert_diff_back_via_max	True	True
	vert_mix_scheme	'kpp	'kpp
		mom4p1'	mom4p1'
	zfkph_00	250 000.0	
	zfkph_90	250 000.0	
&ocean_vert_tidal_nml	background_diffusivity	$5 \times 10^{-6}$	0.0
	background_viscosity	0.0001	0.0001
	decay_scale	300.0	500.0
dra	ag_dissipation_use_cdbot		True
	drhodz_min	$1  imes 10^{-12}$	$1  imes 10^{-10}$
	fixed_wave_dissipation	False	False
	max_drag_diffusivity	0.01	
	max_wave_diffusivity	0.01	0.01
cim	king_efficiency_n2depend	True	True
	read_roughness	True	True
	read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True
TO THE PROPERTY OF THE PROPERT	eading_roughness_length	False	False
	roughness_scale	20 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0
ti	de_speed_data_on_t_grid	True	True
	use_drag_dissipation	True	True
	use_legacy_methods	_	False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module verbose_init	<b>False</b> True	False
&ocean_xlandmix_nml	use_this_module	False	False
	verbose_init	True	. 4.50
	xlandmix_kmt	True	
&xgrid_nml	interp_method	'second	'second
of the state of th			
		order	order
m	ake_exchange_reproduce	order' False	order' False

## 2.2 accessom2\_025deg\_jra55\_ryf

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

Group	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15
	chk_i2o_fields	False	False
	chk_o2i_fields	False	False
	do_ice_once	False	False
	dt_cpl	1200	1800
	fixmeltt	False	False
	frazil_factor	1.0	1.0
	iceform_adj_salt	False	False
	icemlt_factor	1.0	1.0
	kmxice	5	5
	pop_icediag	True	True
	sign_stflx	1.0	1.0

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
	tmelt	-0.216	-0.216
&diag_manager_nml	use_ioaice debug_diag_manager	True True	True True
&diag_nanager_nint	issue_oor_warnings	True	True
&fms_io_nml	fileset_write	'single'	'multi'
	threading_read	'multi'	'multi'
	threading_write	'single'	'multi'
&fms_nml	clock_grain domains_stack_size	'LOOP'	'COMPONENT' 115200
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',
CATION SOCIAL PROCESSION CONTRACTOR CONTRACT	neta5_iii	'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',	'salt_flx',
		'mh_flux', 'sw_flux',	'mh_flux', 'sw_flux',
		'q_flux',	'q_flux',
		't_flux',	't_flux',
		'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',
		'aice', 'wfimelt',	'aice', 'wfimelt',
		wilmett, 'wfiform'	wnmett, 'wfiform'
	fields_out	't_surf',	't_surf',
		's_surf',	's_surf',
		'u_surf',	'u_surf',
		'v_surf', 'dealdy'	'v_surf', 'dssldx',
		'dssldx', 'dssldy',	'dssldy',
		'frazil'	'frazil'
	num_fields_in	15	15
	num_fields_out	_ 7	_ 7
	send_after_ocean_update send_before_ocean_update	True False	True False
	Send before ocean ubdate		
&monin obukhov nml			
&monin_obukhov_nml &mpp_io_nml	neutral deflate_level	True	True 5
&mpp_io_nml	neutral <mark>deflate_level</mark> shuffle	True	True 5 1
	neutral <mark>deflate_level</mark> s <mark>huffle</mark> diag_step	True 4320	True 5 1 4320
&mpp_io_nml	neutral deflate_level shuffle diag_step large_cfl_value	4320 10.0	True 5 1 4320 10.0
&mpp_io_nml	neutral <mark>deflate_level</mark> s <mark>huffle</mark> diag_step	4320 10.0 100.0	True 5 1 4320 10.0 100.0
&mpp_io_nml &ocean_adv_vel_diag_nml	neutral  deflate_level shuffle diag_step large_cfl_value max_cfl_value	4320 10.0	True 5 1 4320 10.0
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option	4320 10.0 100.0 True 0.5	True 5 1 4320 10.0 100.0 True 0.5
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo	4320 10.0 100.0 True 0.5 2	True 5 1 4320 10.0 100.0 True 0.5 2
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a	10.0 100.0 True 0.5 2 10 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b	4320 10.0 100.0 True 0.5 2 10 True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a	10.0 100.0 True 0.5 2 10 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max	10.0 10.0 100.0 True 0.5 2 10 True False False 4320 8.0	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height	10.0 10.0 10.0 10.0 True 0.5 2 10 True False False 4320 8.0 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma	10.0 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian	True  4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma	10.0 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_biharmonic	True  4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_biharmonic	True  4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_binarmonic smooth_pbot_t_binarmonic smooth_pbot_t_laplacian truncate_eta	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False True False False	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False False False False False False False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_binarmonic smooth_pbot_t_binarmonic smooth_pbot_t_laplacian truncate_eta	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False False O.01 0.05	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False True False False 0.01 0.05 0.2	True 5 1 4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False Jrue False True False True False O.01 0.05 0.2
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b  debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False False True False False False False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False False True False False True False False False False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_albedo_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False 10.0 True False False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_diag_laplacian smooth_eta_t_biharmonic smooth_eta_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False False True False False False False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False O.01 0.05 0.2 True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False O.01 0.05 0.2 True False True False True False False True False False True False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False O.01 0.05 0.2 True False True False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_taloe barotropic_time_stepping_a barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length cdbot_roughness_length cdbot_roughness_length	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True True False True	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True O.001
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_time_stepping_b barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length cdbot_roughness_length	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True O.05	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True O.05
&mpp_io_nml  &ocean_advection_velocity_nml &ocean_albedo_nml &ocean_barotropic_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap.diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating	True  4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False True False False True False False True False False False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False False O.01 0.05 0.2 True False True False True False False False O.01 0.05 0.2 True False True False True False True False True False True False True O.001 0.007 False True 0.05 False
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml  &ocean_albedo_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_time_stepping_b barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap_diag verbose_truncate zero_tendency bmf_implicit cdbot_roughness_length cdbot_roughness_length	True  4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False False True False False True False True False False True False False True False False O.01 0.05 0.2 True False True False True False True False False True False False True False True False True False True False True O.001 0.007 False True 0.005 False True 0.05 False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True True False True 0.05
&mpp_io_nml  &ocean_adv_vel_diag_nml  &ocean_advection_velocity_nml &ocean_barotropic_nml  &ocean_barotropic_nml  &ocean_barotropic_nml	neutral  deflate_level shuffle  diag_step large_cfl_value max_cfl_value verbose_cfl  max_advection_velocity ocean_albedo_option barotropic_halo barotropic_time_stepping_b debug_this_module diag_step eta_max frac_crit_cell_height pred_corr_gamma smooth_eta_t_biharmonic smooth_eta_t_biharmonic smooth_pbot_t_biharmonic smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian smooth_pbot_t_laplacian truncate_eta use_legacy_barotropic_halos vel_micom_lap vel_micom_lap vel_micom_lap diag verbose_truncate zero_tendency bmf_implicit cdbot_foughness_length cdbot_roughness_length cdbot_roughness_uamp uresidual use_geothermal_heating bih_friction_scheme	True  4320 10.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False True False False True False False True False False False False True False	True 5 1 4320 10.0 100.0 100.0 True 0.5 2 10 True False False 4320 8.0 0.2 0.2 True False True False False True False False True False True False False True 0.001 0.007 False True 0.055 False

	Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
Repert   R	&ocean_bihcst_friction_nml	use_this_module		False
Page	&ocean_bihgen_friction_nml	bottom_5point		False
Page		eq_lat_micom		0.0
Part				0.0
				0.0
Remail   R				False
March Bounday scaling   Face   Face				0.0
				2.0
				True
				True
Real Street				2 40-8
Base				
New   microm micros   00   10   10   10   10   10   10   1				5
Nemarican   Nema				True
Management   Man				0.0
Scorean Conwect mail         Wiss.criti.scale convent mail         10           Scorean Convisionmal         Convent failurectors convent mail         Faite convent mail           Scorean Acroisis mail         Scorean Convent mail         Convent mail           Scorean Acroisis mail         Convent mail         Convent mail				0.0
Scorean, convect, mini         convect, finili stateable (use, this, module (ase, this, module				0.0
	Passan convert and			1.0
Bosean_cereent_cal_ment	&OCEAH_CONVECT_NML			
Bones noticis mil         sacht is, module         Ture           Borean, density, mml         ec., Liniar         False         False<				Ealco
Scoran, density, nml         cost, lincar (not lincar)         False (not lincar) <t< td=""><td>Rocan cariolis am</td><td></td><td></td><td>False 0.5</td></t<>	Rocan cariolis am			False 0.5
Eocean_density.mnl         eos.pineptess10         False         False <th< td=""><td>QUEENI_CUTIONS_TITIN</td><td></td><td></td><td>0.5 True</td></th<>	QUEENI_CUTIONS_TITIN			0.5 True
	&ocean density and			False
Bank	Coccan_uclisity_lillit			True
				80
				1030.0
				1020.0
Scoean domains.nnl         max.t.zearest         5           8coean form.drag.nml         use.this.module         False         F           8coean.frazil.nml         debug.nis.module         False         F           6coean.frazil.nml         debug.nis.module         False         F           freezing temp.pretess10         Tue         F         F           freezing temp.pretess10         Tue         Use.this.module         False         F           &coean.judement.et.an.nnl         use.this.module         False         F           &coean.increment.tacar.nml         use.this.module         False         F           &coean.judement.et.an.nnl         use.this.module         False         F           &coean.ap.friction.xml         use.this.module         False         F           &coean.ap.gr.t.friction.xml         use.this.module         False         F           &coean.apgen.friction.xml         use.this.module         False         F           &coean.apgen.friction.xml         use.this.module         False         F           &coean.middownslope.nml         barrotici.spit         1           &coean.middownslope.nml         barrotici.spit         1           &coean.middownslope.nml         tue.this.module				1038.0
&cocean_famil         max_tracers         5           &cocean_famil         use_this_module         False         F           &cocean_famil         debug_ithis module         False         F           &cocean_famil         debug_ithis module         False         F           freeding_temp         False         F				1028.0
&coccan.frazil.mnt         duse, this, module frazil. chily, his, surface freezin, temp. preteos 10 True debug, this, module false freezin, temp. preteos 10 True freezin, temp. preteos	&ocean domains nml	· · · · · · · · · · · · · · · · · · ·		5
& cean_frazil.mil         debug_this_module in frazil.only in_surface in_s				False
				False
Teacing temp, preteasil   Teacher   False	Woccur-nuzr-nint			False
Receing temps simple   False   False				True
cocan_grids.nml         debug.this.module         False				False
&ocean_indrement_tea_nmil         debug_this_module         False         F           &ocean_increment_tracer_nmil         use_this_module         False         F           &ocean_increment_tracer_nmil         use_this_module         False         F           &ocean_increment_velocity_nmil         use_this_module         False         F           &ocean_lap_friction_nmil         use_this_module         False         F           &ocean_lapset_friction_nmil         use_this_module         False         F           &ocean_lapset_friction_nmil         use_this_module         False         F           &ocean_lapset_friction_nmil         use_this_module         False         F           &ocean_mixdownslope_nmil         gebug_this_module         False         F           &ocean_model_nmil         barotinic_split         1         T           &ocean_model_nmil         barotinic_split         1         T         T           &ocean_model_nmil         barotinic_split         1         T         <				True
&ocean_increment.tal_mnl         use_this.module         False	&ocean_arids_nml			False
& cocan_increment_tracer_nml         use_this_module         False         False         Accean_increment_velocity_nml         gus_this_module         False         F				False
& cocan_lap_friction_nml         lap_friction_scheme         'general'         'general'           & cocan_lap_tracer_nml         use_this_module         False         F           & cocan_lapste_friction_nml         use_this_module         False         F           & cocan_lapgen_friction_nml         lebug_this_module         False         F           & cocan_mixidownstope_nml         lebug_this_module         False         F           & cocan_model_nml         barotcinic_split         1         L         F           & cocan_model_nml         barotcinic_split         1         L         F<	&ocean_increment_tracer_nml	use_this_module	False	False
& cocan_lap_tracer_nml         use_this_module         False         F           & cocan_lapcet_friction_nml         use_this_module         False         F           & cocan_lapgen_friction_nml         k_csmag_isso         2.0           & cocan_mixidownslope_nml         debug_this_module         False         F           & cocan_model_nml         barottopic_split         1         1           & cocan_model_nml         barottopic_split         80         6         F         6         7         7         7         7         7         7         7         7         7         8         7         8         8         7         9         9         9         9         9         9         9         9         9         9         9         9	&ocean_increment_velocity_nml	use_this_module	False	False
&ocean_lap.tracer_nml         use_this_module         False         F           &ocean_lapset_friction_nml         use_this_module         False         F           &ocean_lapgen_friction_nml         (s.c.mag_iss)         2.0           &ocean_lapgen_friction_nml         use_this_module         False         F           &ocean_mix/downstope_nml         debug_this_module         False         F           &ocean_model_nml         barotropic_split         80         F           &ocean_model_nml         barotropic_split         80         F           &ocean_model_nml         barotropic_split         80         F           debug         False         F         C         C         C         T         C         C         C         T         C		lap_friction_scheme	'general'	'general'
&ocean_laperst_friction_nml         use_this_module         False         False           &ocean_lapgen_friction_nml         & xmagiso         20           & cocean_mixedownslope_nml         use_this_module         False           & cocean_mixedownslope_nml         debug_this_module         False           & cocean_model_nml         barotropic_split         1           & barotropic_split         1           & cocean_model_nml         cmip_units         True           & debug_this_module         False         F           & cocean_model_nml         time_tendency         two level         Y           & surface_height_split         1         1           & surface_height_split         1         1           & cocean_model_nml         time_tendency         two level         two		use_this_module		False
& ccean_lapgen_friction_nml         k smag_siss         2.0           & ccean_mixdownslope_nml         use_this_module         False           & ccean_mixdownslope_nml         debug_this module         False         False           & ccean_model_nml         barottinic_split         1         False         False <t< td=""><td></td><td></td><td></td><td>False</td></t<>				False
Base   False   False				
&ocean_mixtdownslope_nml         debug this_module use_this_module use_this_this_module use_this_module use_this_this_this_module use_this_this_module use_thi				False
Scorean_model_nml         use_this_module         False         F           &corean_model_nml         barottopic.split         1           barottopic.split         80           cmip_units         True           debug         False         F           dt_cocean         1200         1           dt_cocean         1200         1           layout         48, 40         48           surface_height_split         1         1           time_tendency         'twolevel'         'twolevel'           vertical_coordinate         '2star'         '2           &cocean_momentum_source_nml         rayleigh_damp_exp_from_bottom         False         F           wse_rayleigh_damp_table         True         T           use_rayleigh_damp_table         True         T           wse_rayleigh_damp_table         True         T           wse_rayleigh_damp_table         True         T           use_rayleigh_damp_table	&ocean_mixdownslope_nml			
& ocean_model_nml         baroctinic_split         1           barotropic_split         80           cmip_units         True           debug         False         F           debug         False         F           dt.ocean         1200         1           dt.ocean         1200         1           surface_height_split         1         1           surface_height_split         1         1           time_tendency         'twolevel'         'twolevel	·			False
Barotropic_split   80   Cmip_units   True   Cmip_units   C	&ocean_model_nml			1
Cmip_units   Cmi				80
Balance   Bala				True
				False
layout48, 4048Surface_height_split1time_tendency'twolevel''twolevel'vertical_coordinate'zstar''z& ocean_momentum_source_nmlrayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_this_moduleFalseF& ocean_nphysics_nmldebug_this_module use_nphysicsaFalseF& ocean_nphysics_nmldebug_this_module use_nphysicsaFalseF& ocean_nphysics_use_nphysicsaFalseFuse_nphysicsaFalseF& ocean_nphysics_util_nmlagm_closureFalse& ocean_nphysics_util_nmlagm_closure_baroclinic agm_closure_baroclinicTrueagm_closure_baroclinicTrueTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrue				1200
surface_height_split1time_tendency'twolevel''twolevel'time_tendency'twolevel''twolevel'vertical_coordinate'zstar''z& ocean_momentum_source_nmlrayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_rayleigh_damp_table use_this_moduleFalse& ocean_nphysics_nmldebug_this_module use_nphysicsFalseFFalseFFuse_nphysicsFalseFEuse_nphysicsFalseF& ocean_nphysics_util_nmlagm10.001agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic agm_closure_baroclinic 				6, 5
time_tendency'twolevel''twolevel'decean_momentum_source_nnllrayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_rayleigh_damp_tableFalse True& ocean_nphysics_nmldebug_this_module use_nphysicsFalse FalseF& ocean_nphysics_nmldebug_this_module use_nphysicsFalse FalseF& ocean_nphysics_nmluse_nphysicsFalseF& ocean_nphysics_nmluse_nphysics_nmlTF& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlTT& ocean_nphysics_nmluse_nphysics_nmlT <td< td=""><td></td><td></td><td></td><td>48, 40</td></td<>				48, 40
kocean_momentum_source_nmlvertical_coordinate'zstar''z& ocean_momentum_source_nmlrayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_this_moduleFalseF& ocean_nphysics_nmldebug_this_module use_nphysicsaFalseF& use_nphysicsaFalseFuse_nphysicsbFalseF& use_nphysicsbFalseF& use_nphysicscFalseF& ocean_nphysics_util_nmluse_this_moduleFalseF& ocean_nphysics_util_nmlagm_closure_baroclinicTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrueagm_closure_baroclinicTrue				1
&ocean_momentum_source_nml       rayleigh_damp_exp_from_bottom use_rayleigh_damp_table use_this_module use_this_module use_this_module use_this_module use_nphysics_nml       True         &ocean_nphysics_nml       debug_this_module use_nphysicsa       False       F				'twolevel'
&ocean_nphysics_nml     debug_this_module use_this_module use_nphysicsa     False False False     False False False False     False F				'zstar'
&ocean_nphysics_nml     use_this_module use_nphysics     False use_nphysics_use     Fa	&ocean_momentum_source_nml			False
&ocean_nphysics_nml     debug_this_module use_nphysicsa     False Is use_nphysicsa     False Is use_nphysicsb     False Is use_nphysicsb     False Is use_nphysicsc     False Is use_nphysicsc     False Is use_nphysicsc     False Is use_nphysics_util_nml     False Is use_nphysi				True
use_nphysicsa ralse F use_nphysicsb False F use_nphysicsc False F use_nphysicsc False F use_nphysicsc False F use_this_module False F &ocean_nphysics_util_nml agm 100.0 1 agm_closure True agm_closure_baroclinic True agm_closure_buoy_freq 0.004 0				True
wse_nphysicsbFalseFalseuse_nphysicscFalseFalsewse_this_moduleFalseFalse&ocean_nphysics_util_nmlagm100.01agm_closureTrueagm_closure_baroclinicTrueagm_closure_buoy_freq0.0040	&ocean_nphysics_nml			False
wse_nphysicscFalseF& ocean_nphysics_util_nmlFalseF& ocean_nphysics_util_nmlagm100.01agm_closureTrueagm_closure_baroclinicTrueagm_closure_buoy_freq0.0040				False
& ccean_nphysics_util_nmluse_this_module agmFalse 100.0F& ccean_nphysics_util_nmlagm100.01agm_closureTrueagm_closure_baroclinic agm_closure_buoy_freqTrue0.0040				False
&ocean_nphysics_util_nmlagm100.01agm_closureTrueagm_closure_baroclinicTrueagm_closure_buoy_freq0.0040				False
agm_closure True agm_closure_baroclinic True agm_closure_buoy_freq 0.004 0				False
agm_closure_baroclinic True agm_closure_buoy_freq 0.004 0	&ocean_nphysics_util_nml			100.0
agm_closure_buoy_freq 0.004 0				True
				True
1 1 1 500000 5000				0.004
		agm_closure_length	50 000.0	50 000.0
				False
agm_closure_length_fixed False F		agm_closure_length_fixed	False	False

	Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
Septembry   Sept		agm_closure_length_rossby	False	False
Section   1000   1001   1000				
				100.0
Bands   George   Ge		agm_closure_scaling	0.07	0.07
Part				100.0
Pate				
				False
				False
Second		•		15 000.0
State				
				False
		vel_micom		0.0
	&ocean_nphysicsa_nml			False
				False
Eccean_coverexhange_mml         debug_this_module overexth_veight_far overexth_veight_far overexth_veight_far overexth_veight_far overexth_veight_far overexth_veight_far overexth_veight_far overexth_veight_far overexth_module         False F				
Second	access 200 and access			4
Bosen Description			False	False
& cocan_overflow_nith         genue_this_module state         False False         False False         False False         False False         False False         False False         False False False         False				5.0
& coean.overflow.ofp.nml         debug this.module (False False False False)         False				False
&ocean.overflow.olp.mml         debug this module flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. A \$200 do entralment para. Olf flags after days. O	&ocean_overflow_nml			Ealco
	&ncean overflow of nml			raise
	Coccur-sychion-sup-min			
Trace extrange set   10   10   10   10   10   10   10   1				
& cocean polar filter nml         use this module         False         False           & cocean pressure nml         zero pressure force         False         False           & cocean pressure nml         zero pressure force         False         False           & cocean fire minimized         debug this module         False         True           three diffusion in thickness         0.0 <td></td> <td></td> <td></td> <td></td>				
&ocean polar, filter , mml         sue, this, module false         False         False false focean, pressure, mml         False pressure, force         False False false false false false from the false fals				False
&ocean_rivermix.ml         zero_pressure_force         False         False           &ocean_rivermix.ml         debug_this_module         False         False           iver_diffuse_stemp         False         True           river_diffuse_temp         False         True           iver_diffusivity         00         00           river_diffusivity         00         00           river_diffusivity         00         00           river_diffusivity         00         00           river_diffusivity         00         00           decean_record         use_this_module         True         True           weet_an_record         rough_scheme         belgars         belgars           belgars         belgars         belgars         belgars           belgars         deligars         false         False           do_but_schect_scheme         false         False         False           do_but_scheme         false         False         False           do_but_scheme         false         False         False           do_but_scheme         false         False         False           do_but_scheme         false         False         False <t< td=""><td>&amp;ocean_polar_filter_nml</td><td></td><td></td><td>False</td></t<>	&ocean_polar_filter_nml			False
river diffuse state   False   True   Tru	&ocean_pressure_nml	zero_pressure_force	False	False
False   True   False   True   False   True   False   True   False   True   False   True   False   Fa	&ocean_rivermix_nml			False
river_diffusion_thickness				
river_diffusivity   0.0   0.				
kocean_riverspread_nml         river_insertion_thickness         40.0         40.0           &ocean_riverspread_nml         use_this_module         Tate         False				
&ocean_riverspread_nml         use_this_module         False         False           &ocean_rough_nml         rough_scheme         betjaars'         'betjaars'           &ocean_sbc_nml         avg_sfc_temp_salt_eta         True         True           avg_sfc_velocity         True         True           ado_bitwise_exact_sum         False         False           do_bitwise_exact_sum         False         False           do_flux_correction         False         False           do_flux_correction         False         False           do_flux_correction         False         False           do_flux_correction         False         False           false         false         false           max_icle_thickness         0.0         0.0           max_icle_thickness         0.0         0.0           max_icle_thickness         0.0         0.0           max_icle_thickness         0.0         0.0           read_restore_mask_fall         False         False           restore_mask_fall         False         False           restore_mask_fall         False         False           restore_mask_fall         False         False           restore_mask_fall				40.0
&ocean.rough.nml         rough.scheme         'beljaars'         'beljaars'           &ocean.sbc.nml         avg.sfc.temp.salt.eta         True         True           avg.sfc.velocity         True         True           calvingspread         False         False           db. Ditwise.exact.sum         False         False           db. Ditwise.exact.sum         False         False           db. flux.correction         False         False           db. flux.correction         False         False           db. flux.correction         False         False           max.ide.th.chcess         0.0         0.0           salt.corector.mask.gfdl         False         False           restore.mask.gfdl         False         False           restore.mask.gfdl         False         False           salt.restore.scale.ed.         60.0         60.				True
&ocean_sbc_nml         avg_sfc_temp_salt_eta         True         True           avg_sfc_velocity         True         False         False         False         Gald_nux_correction         False				
avg_sfc_velocity				
CalvingspreadFalseFalsedo_bitwise_exact_sumFalseFalsedo_flux_correctionFalseFalseland_model_heat_fluxesFalseFalsemax_ice_thickness0.00.0max_ice_thickness0.00.0max_ice_thickness0.00.0read_restore_mask_gfdlFalseFalserestore_mask_gfdlFalseFalserestore_mask_gfdlFalseFalserunoff_salinity0.00.0salt_restore_mask_gfdlFalseFalserunoff_salinity0.00.0salt_restore_mask_gfdlTrueTruesalt_restore_tracale6.06.0salt_restore_tracale6.06.0salt_restore_tracale-1.0-1.0use_salt_nestore_tracale-1.0-1.0use_mater_trace_tracale-1.0-1.0use_mater_trace_tracale-1.0-1.0use_mater_trace_tracale-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace_trace-1.0-1.0use_mater_trace	&ocean_soc_ninc			
do_bitwise_exact_sum   False   False   do_flux_correction   False   False   do_flux_correction   False   fal				False
Land_model_heat_fluxes   False   False     max_delta_salinity_restore   0.5   0.5     max_ice_thickness   0.0   0.0     read_restore_mask   False   False     restore_mask_gfdl   False   False     restore_mask_gfdl   False   False     restore_mask_gfdl   False   False     restore_mask_gfdl   False   False     restore_as_salt_flux   True   True     salt_restore_as_salt_flux   True   True     salt_restore_tscale   6.00   6.00     salt_restore_tscale   6.00   6.00     salt_restore_tscale   -1.00   -1.00     use_full_patm_for_sea_level   False   False     use_waterflux   True   True     zero_net_salt_correction   False   False     zero_net_salt_restore   True   True     zero_net_water_correction   False   False     zero_net_water_correction   False   False     zero_net_water_coupler   True   True     zero_net_water_coupler   True     zero_net_water_coupler   True     zero_surface_stress   False   False     zero_surface_stress   False   False     zero_net_water_coupler   True     zero_net_water_coupler   True     zero_surface_stress   False   False		do_bitwise_exact_sum	False	False
max_delta_salinity_restore         0.5         0.5           max_ice_thickness         0.0         0.0           read_restore_mask         False         False           restore_mask_gfdl         False         False           runoff_salinity         0.0         0.0           salt_correction_scale         0.0         0.0           salt_restore_as_salt_flux         True         True           runoff_salinity         0.0         0.0           salt_restore_tool_as_talt_flux         True         True           salt_restore_as_salt_flux         True         True           salt_restore_under_ice         True         True         True           temp_restore_tscale         -10.0         -10.0         -10.0           use_full_patm_for_sea_level         False         False         False           use_waterflux         True         True         True         True           zero_net_salt_restore         True				False
max_ice_thickness 0.0 0.0  read_restore_mask False False  restore_mask_gfdl False False  restore_nes_salt_flux False False  salt_restore_as_salt_flux True True  salt_restore_as_salt_flux True True  salt_restore_under_ice True True  temp_restore_tscale —10.0 —10.0  use_full_patm_for_sea_level False False  use_waterflux True True  zero_heat_fluxes False False  zero_net_salt_correction False False  zero_net_salt_restore True True  zero_net_salt_restore True True  zero_net_water_couple_restore True True  zero_net_water_coupler_restore True True  zero_net_water_restore True True				
read_restore_mask_gfdl False False restore_mask_gfdl False False runoff_salinity 0.0 0.0 salt_correction_scale 0.0 0.0 salt_restore_as_salt_flux True True salt_restore_as_salt_flux True True salt_restore_tscale 60.0 60.0 salt_restore_tscale 60.0 60.0 salt_restore_tscale 7.00 -10.0 salt_restore_tscale_tscale 7.00 -10.0 salt_restore_tscale		•		
restore_mask_gfdl False False runoff_salinity 0.0 0.0 salt_correction_scale 0.0 0.0 salt_restore_as_salt_flux True True salt_restore_tscale 6.0.0 6.0.0 salt_restore_tscale 6.0.0 7.0.0 salt_restore_tscale 6.0.0 6.0.0 salt_restore_tscale 5.0.0 6.0.0 salt_r				False
runoff_salinity 0.0 0.0  salt_correction_scale 0.0 0.0  salt_restore_as_salt_flux True True  salt_restore_tscale 60.0 60.0  salt_restore_tscale -10.0 -10.0  salt_restore_tscale -10.0 -10.0  use_full_patm_for_sea_level False False  use_waterflux True True  zero_net_salt_correction False False  zero_net_salt_correction False False  zero_net_salt_correction False False  zero_net_salt_correction False False  zero_net_water_correction False False  zero_net_water_correction False False  zero_net_water_couple_restore True True  zero_net_water_coupler True True  zero_net_water_coupler True True  zero_net_water_restore True True			False	False
salt_restore_as_salt_flux True True salt_restore_tscale 60.0 60.0 salt_restore_under_ice True True temp_restore_tscale -10.0 -10.0 use_full_patm_for_sea_level False False use_waterflux True True  zero_heat_fluxes False False zero_net_salt_restore True True zero_net_salt_restore True True zero_net_water_correction False False zero_net_water_correction False False zero_net_water_correction False False zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_coupler True True zero_net_water_coupler True True zero_net_water_coupler True True		runoff_salinity		0.0
salt_restore_tscale 60.0 60.0  salt_restore_under_ice True True temp_restore_tscale -10.0 -10.0  use_full_patm_for_sea_level False Isse Use_waterflux True True True True True True True True				0.0
salt_restore_under_ice     True     True       temp_restore_tscale     -10.0     -10.0       use_full_patm_for_sea_level     False     False       use_waterflux     True     True       zero_heat_fluxes     False     False       zero_net_salt_correction     False     False       zero_net_water_correction     False     False       zero_net_water_couple_restore     True     True       zero_net_water_coupler     True     True       zero_net_water_restore     True     True       zero_net_water_restore     True     True       zero_net_water_restore     True     True       False     False				
temp_restore_tscale —10.0 —10.0  use_full_patm_for_sea_level False False				True
use_waterflux True True  zero_heat_fluxes False False  zero_net_salt_correction False False  zero_net_salt_restore True True  zero_net_water_correction False False  zero_net_water_correction False False  zero_net_water_couple_restore True True  zero_net_water_coupler True True  zero_net_water_coupler True True  zero_net_water_restore True True  zero_net_water_restore True True  zero_surface_stress False False		temp_restore_tscale	-10.0	-10.0
zero_heat_fluxes False False zero_net_salt_correction False False zero_net_salt_restore True True zero_net_water_correction False False zero_net_water_correction False False zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_restore True True zero_net_water_restore True True zero_net_water_restore True True		use_full_patm_for_sea_level	False	False
zero_net_salt_correction False False zero_net_salt_restore True True zero_net_water_correction False False zero_net_water_correction False False zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_restore True True zero_net_water_restore True True zero_surface_stress False False				True
zero_net_salt_restore True True zero_net_water_correction False False zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_restore True True zero_net_water_restore True True zero_surface_stress False False				
zero_net_water_correction False False zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_restore True True zero_surface_stress False False				
zero_net_water_couple_restore True True zero_net_water_coupler True True zero_net_water_restore True True zero_surface_stress False False				False
zero_net_water_coupler True True zero_net_water_restore True True zero_surface_stress False False				True
zero_surface_stress False False		zero_net_water_coupler	True	True
				True
zero_water_fluxes False False				False False

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
	is_module	False	•
	ead_depth	True	Falsa
	is_module zmax_pen	False 7000	False
	is_module	False	False
	e_sw_frac	True	True
	s_manizza	True	True
optics_more	el_antoine	False	False
	read_chl	True	True
	is_module	True	True
	zmax_pen	300.0 False	300.0 False
&ocean_shortwave_jerlov_nml use_th &ocean_shortwave_nml use_shortv	is_module	False	False
&ocean_snortwave_nint use_snortv		True	True
use_shortw		False	False
	is_module	True	True
&ocean_sigma_transport_nml sigma_adv		False	
sigma_advection		False	
sigma_dil	fusion_on	True	
sigma_diffus	,	$1 \times 10^{-6}$	
sigma_just_in_b(		True	
	jma_umax	0.01	
smooth_sigma smooth_sigm		True True	
	velmicom	0.2	
thickness_si		100.0	
thickness_s	ioma_max	100.0	
thickness_s		100.0	
	_sigma_on	False	
tracer.m	nix_micom	True	
	is_module	False	False
	rel_micom	0.05	11101 5 4 51
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init days	1, 1, 1, 0, 0, 0 31	1, 1, 1, 0, 0, 0
	dt_cpld	1200	1200
	hours	0	0
	minutes	0	0
	months	0	0
	seconds	0	0
	years	0	0
	is_module	False	False
	coeff_3d is_module	False	Falsa
	is_module	False False	False False
	fficient_ce	0.05	0.05
	is_module	False	False
	igth_const	5000.0	5000.0
front_length_defo		True	True
	limit_psi	True	True
limit_psi_velo		0.5	0.5
	min_kblt	4	4
smooth_advect_trans		True	True
smooth_advect_trans	sport_num looth_hblt	4 False	4 False
	mooth_psi	True	True
	1_psi_num	3	3
submeso_a		False	False
submeso_ad	vect_limit	True	True
submeso_adve		True	True
submeso_advect		True	True
	_diffusion	False	False
submeso_diffusion_b submeso_diffus		True 10.0	True 10.0
	sion_scale .skew_flux	True	True
use_hblt_		True	True
	psi_legacy	False	False
use_th	is_module	True	True
&ocean_tempsalt_nml debug_th	is_module	False	False
pottemp_2nc	l_iteration	True	True
pottemp_equal		True	True
	s_max	70.0	70.0
S.	max_limit	42.0	42.0

	Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
Communication   Communicatio				0.0
				2.0
Beat				
				-5.0
Scientificines.mid         effect         feet         person           Scientificines.mid         debug this model debug this model of path         False         5.00         7.00 <t< td=""><td></td><td></td><td></td><td>'potential</td></t<>				'potential
				temp'
Part	&ocean_thickness_nml	debug_this_module		False
Bellet		debug_this_module_detail		False
Michaes and Section				False
Scorean tracer, advect, mild         emiddens, method         engles         Faite				
Scores Intercadentuml         Chapter and basis must be seen and basis be seen and bas				'anaraatis'
Scorean tracer, diag, mill         de dua sin, sasse         4520         4520         4520         4520         4520         4520         4520         4520         4520         4520         4520         4520         4520         4520         500 <t< td=""><td>8 ocean tracer advect nml</td><td></td><td></td><td></td></t<>	8 ocean tracer advect nml			
docean.tracer.diag.mini         diag.steps         452 bit 525 bits         152 bits         False         False <td>QUEdil_tideel_duvect_iiiit</td> <td>read hasin mask</td> <td></td> <td></td>	QUEdil_tideel_duvect_iiiit	read hasin mask		
March   Marc	&ocean tracer diag nml			4320
Kocean tracer mmi         department maximit         00         0				False
Scoran Tracer mell         age tracer max intit         00         0         0         0         0         0         0         0         0         0         1         5         Fall				30.0
Trail	&ocean_tracer_nml			0.0
Falle   Fall				False
				True
Pate	fr			False
				True
koncean.velocity.diag.nnl         Zero_tracer_source         False				
& cocan_velocity_diag_nml         zero_tracer_source         False         False           & cocan_velocity_diag_nml         debug_this_module         False         False           diag_strp         4320				False
Bocean.velocity_diag.mml         debug_hist_module         False flast glag_step day         430		•		False
	&ocean_velocity_diag_nml			False
Barge_cff_value   100	, J		4320	4320
Koccan.velocity.mil         max.cl.ivalue         1000         1000           &ccean.velocity.mil         adams.bashforth.thiid         Tire         Tru           Incompany         1.5         1.1           truncate velocity         False         False           truncate velocity         False         False           truncate velocity         False         False           gero. Lendency.explicit.a         False         False           gero. Lendency.explicit.a         False         False           palse         False         False         False           koccan.vert.kpp.iow.mil         Giff.cfc.Liw         0         0           koccan.vert.kpp.mom4p1.mil         diff.cfc.Liw         0         0           koccan.vert.kpp.mom4p1.mil         false         False         False           koccan.vert.mix.mil         false         False         False         False				4320
Eccean-velocity-nnil         adams bashforth.ntind         True         True           internation         15         1.1           trut nate velocity         Fals         Fals           trut nate velocity value         2.0         2.2           trut nate velocity value         2.0         2.6           part of trut nate velocity value         2.0         2.2           part of trut nate velocity value         2.0         2.0           part of trut nate velocity value         2.0         2.0           part of trut nate velocity value         2.0         2.0           part of trut nate velocity         2.0         2.0           part of				10.0
				100.0
Truncate velocity value   Fals   Fa	&ocean_velocity_nml			True
tuncate_verbois   Table   False   Fals				1.0 Falso
				2.0
Palse   Pals		•		True
secon medical m				False
& cocan.vert.kpp.iow.nml         zero.tendency.implicit         False         False           & cocan.vert.kpp.iow.nml         use.this.module         False         False           & cocan.vert.kpp.mom4p1.nml         double_diffusion         True         True           kbl_standard.method         False         False         False           kbl_standard.method         False         False         False           smooth_i.fl.max_eq.kmu         True         True </td <td></td> <td>zero_tendency_explicit_a</td> <td>False</td> <td>False</td>		zero_tendency_explicit_a	False	False
&ocean.vert.kpp.mom4p1.mml         use.this.module difficusion of use double_diffusion of the				False
Scorean_vert_kpp_mom4p1_nml         diff_cbt_iw double_diffusion kbl_standard_method         False False False False         False False False           smoot_bl_mc         False         False False         False False False         False False False         False Fa				False
				False
kbl.standard_method fir         False fals fir         False fals fol smooth_fir         False false false false	&ocean_vert_kpp_mom4p1_nml			0.0
Repair   R				
Smooth_blms   False   False   Smooth_fi.kmax_eq.kmu   True   Visc.cbu.iw   0.0				Palse 0.3
Smooth_ri_kmax_eq_kmu   True   True   Use_this_module   True   True   Use_this_module   Use_this_mod				
Use_this_module   True   True   Visc.tou_inw   0.0				True
& ccean_vert_mix_nml         visc_cbu_iw         0.0         0.0           & ccean_vert_mix_nml         aidif         1.0         1.1           bryan_lewis_diffusivity         False         False           bryan_lewis_lat_depend         False         False           hwf_min_diffusivity         False         False           hwf_mlo_2_omega         2.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0 <td< td=""><td></td><td></td><td></td><td>True</td></td<>				True
&ocean_vert_mix_nml         aidiff bryan_lewis_diffusivity         False         False Fals Fals False           bryan_lewis_latt_depend         False         False         False           hwf_min_diffusivity         False         True         Tru			0.0	0.0
bryan_lewis_lat_depend hwf_diffusivity False Fals hwf_diffusivity False Fals hwf_diffusivity 2 x 10^-6 2 x 10^- hwf_nnl_diffusivity 2 x 10^-6 2 x 10^- hwf_nnl_o_zomega 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.	&ocean_vert_mix_nml			1.0
hwf_diffusivity				False
hwf_min_diffusivity   2 × 10^-6   2 × 10^-6   10 × 10^-				False
hwf_n0_20mega   20.0   20.0				False
Secondary   Seco				
vert_diff_back_via_max				
kocean_vert_tidal_nml         vert_mix_scheme mom4p1         'kpp mom4p1         'kpp mom4p1           &ocean_vert_tidal_nml         background_diffusivity         0.0         0.00           background_viscosity         0.0001         0.000           decay_scale         500.0         500.0           drag_dissipation_use_cdbot         True         Tru           drhodz_min         1 × 10 <sup>-10</sup> 1 × 10 <sup>-1</sup> fixed_wave_dissipation         False         False           max_wave_diffusivity         0.01         0.0           mixing_efficiency_n2depend         True         True           read_roughness         True         True           read_tide_speed         True         True				True
&ocean_vert_tidal_nml         background_diffusivity         0.0         0.0           background_viscosity         0.0001         0.000         0.000           decay_scale         500.0         500.0         500.0         500.0         500.0         500.0         1 x 10^-10         1 x 10^-10         1 x 10^-10         1 x 10^-1         0.0				'kpp
&ocean_vert_tidal_nml         background_diffusivity background_viscosity background_viscosity         0.0001 0.000           decay_scale drag_dissipation_use_cdbot         500.0 500.0           drhodz_min				mom4p1'
background_viscosity	&ocean_vert_tidal_nml		0.0	0.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		background_viscosity	0.0001	0.0001
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				500.0
fixed_wave_dissipation False Fals max_wave_diffusivity 0.01 0.0 mixing_efficiency_n2depend True Tru read_roughness True Tru read_tide_speed True Tru				True
max_wave_diffusivity 0.01 0.0 mixing_efficiency_n2depend True Tru read_roughness True Tru read_tide_speed True Tru				
mixing_efficiency_n2depend True Tru read_roughness True Tru read_tide_speed True Tru				False
read_roughness True Tru read_tide_speed True Tru				
read_tide_speed True Tru				
				True
				False
				True

Group (continued)	Variable	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml
	reading_roughness_length	False	False
	roughness_scale	12 000.0	12 000.0
	shelf_depth_cutoff	-1000.0	-1000.0
	tide_speed_data_on_t_grid	True	True
	use_drag_dissipation	True	True
	use_legacy_methods	False	False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False
&ocean_xlandmix_nml	use_this_module	False	False
&surface_flux_nml	ncar_ocean_flux	True	
	raoult_sat_vap	True	
&xgrid_nml	interp_method	'second	'second
		order'	order'
	make_exchange_reproduce	False	False
	nsubset	16	16

### 2.3 accessom2\_01deg\_jra55\_ryf

Chit.20. fields	Group	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
Chearing   Chearing   False	&auscom_ice_nml	aice_cutoff	0.15	0.15
				False
False   Fals		do_ice_once		
Trail Later   10   10   10   10   10   10   10   1				
Palse   Iceform adj.salt   False   False   Spop.ledfag   Tou   Tou   Spop.ledfag   Tou   Tou   Iceform adj.salt   Tou   Iceform adj.salt   Tou   Iceform adj.salt   Iceform adj				
			1.0	1.0
Remainder		iceform_adj_salt		
Pop   First   Sign		icemlt_factor	1.0	1.0
Sign.sttk   10   10   10   10   10   10   10   1		kmxice	5	5
diag. manager.nml         fmelt use. loiding manager.ml         — 0,216 to run t		pop_icediag	True	True
diag.manager.ml         debug diag.manager         Time           & diag.manager.ml         febug diag.manager         False         Time           Issue-orr.warnings         False         Time           max.maxes         300         Time           max.maxes         100         Time           max.minum.axis.sets         40         Time           max.minum.axis.sets         40         Time           max.minum.axis.sets         40         Time           fileset.write         mutt         mutt           max.minum.axis.sets         40         Time           fileset.write         mutt         mutt           max.minum.axis.sets         40         Time           fileset.write         mutt         mutt           fileset.write         fileset.write         mutt           fileset.write         fileset.write <td< td=""><td></td><td>sign_stflx</td><td>1.0</td><td>1.0</td></td<>		sign_stflx	1.0	1.0
& debig diag manager mml         debug diag manager         True           Issue on warmings         Fals         True           max sings         1000         1000           max num axis sets         1000         1000           max num axis sets         40         1000           finest with max num axis sets         40         1000           finest with max num axis sets         700         115200           print memory usage         False         15200           generic trace numl         filed on a num num axis sets         700         115200 <td></td> <td>tmelt</td> <td>-0.216</td> <td>-0.216</td>		tmelt	-0.216	-0.216
SSUE_DOT_WARTINGS   False   True   max.case   300   max.files   1000   max.files   1000   max.files   1000   max.mupt_fields   700   max.mupt_fields   700   max.mupt_fields   700   max.must_sets   40   max.must_sets   40   max.must_sets   40   max.must_sets   40   max.must_sets   700   max.files.d   700		use_ioaice	True	
Maximus   Maxi	&diag_manager_nml	debug_diag_manager		True
Max.input.felds   1000   100		issue_oor_warnings	False	True
Max.input.fields   700			300	
Rems_io_nml         max_num_axis_sets max_num_axis_s		max_files		
&fms_io_nml         checksum_required         False           &fms_io_nml         checksum_required         False           fines_io_nml         max_files_v         700           max_files_w         700         multi'           fms_nml         threading_write         multi'         multi'           &fms_nml         clock-grain         'LOOP         COMPONENT           domains_stack.size         115200         115200           print_memory_usage         False         False           &generic.tracer_nml         do_generic_tracer         False           &generic.tracer         fields_in         V_flux,           &mom_oasis_5_interface_nml         fields_in         V_flux,         'V_flux,           &mom_oasis_5_interface_nml         fields_in         V_flux,         'V_flux,         'V_flux,<		max_input_fields	700	
Kims.io.nml         thecksum required filesetwrite mutti         False max. files         Thutti         mutti		max_num_axis_sets	40	
Rilest_wirts   Rilest_wirts   Rulti		max_output_fields	700	
	&fms_io_nml	checksum_required	False	
Max_files_w   700		fileset_write	'multi'	'multi'
Emerican (Interesting and Interesting		max_files_r	700	
kfms_nml         threading_write         multi         multi           &fms_nml         clock_grain         LOOP         COMPONENT           do_dins.stack.size         115200         115200           print_memory.usage         False         False           do_generic_tracer         False         False           kmom_oasis3_interface.nml         fields_in         'u_flux', 'v_flux', 'v		max_files_w		
kfms_nml         ctock_grain domains_stack_size domains_stack_size print_memory_usage print_memory_usage print_memory_usage print_memory_usage do_generic_tracer_ml         do_generic_tracer_ml         do_generic_tracer_ml         False do_generic_tracer false do_generic_tracer false leds_in         "u_flux', "v_flux', "sat_flx', "sat_flx', "sat_flx', "sat_flx', "mh_flux, "mh_flux, "mh_flux, "mh_flux, "mh_flux, "mh_flux, "mh_flux, "t_flux, "v_flux', "v_fl		threading_read	'multi'	'multi'
		threading_write	'multi'	'multi'
	&fms_nml	clock_grain	'LOOP'	'COMPONENT'
&generic_tracer_nml         ddgeneric_topat         False           &generic_tracer         ddgeneric_topat         False           &mom_oasis3_interface_nml         fields_in         'u_flux', 'u_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 's_flux', 't_flux',			115200	
&generic_tracer_nmldo_generic_ctopaz do_generic_tracerFalse do_generic_tracerFalse do_generic_tracer&mom_oasis3_interface_nmlfields_in'u_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'hm_flux', 'salt_flx', 'mh_flux', 'sw_flux', 'y_flux', 'y_flux', 'y_flux', 'y_flux', 'y_flux', 'y_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 				
&mom_oasis3_interface_nml false   &mom_oasis3_interface_nml fields_in 'u_flux', 'v_flux', 'u_flx',	&generic_tracer_nml		False	
&mom_oasis3_interface_nml     fields_in     'u_flux', 'v_flux', 'v_flux				
&mom_oasis3_interface_nml       fields_in       'u_flux', 'u_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'v_flux', 'salt_flx', 'salt_flx', 'mh_flux', 'mh_flux', 'mh_flux', 'sw_flux', 'sw_flux', 'sw_flux', 'sw_flux', 'y_flux', 'q_flux', 'q_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 't_flux', 'v_flux', 'v_flux'				
'v_flux', 'v_flux', 'lprec', 'fprec', 'salt_flx', 'salt_flx', 'mh_flux', 'mh_flux', 'sw_flux', 'q_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfimelt', 'v_flux', 'v_flux', 'v_flux', 'wfimelt', 'v_flux', 'wfimelt', 'wfimelt', 'v_flux', 'wfimelt', 'wfimelt', 'wfimelt', 'vinof', 'p', 'wfimelt', 'wfimelt'	&mom_oasis3_interface_nml			'u_flux'.
'lprec,' ffprec,' 'lprec,' ffprec,' 'lprec,' ffprec,' 'salt_flx,' 'salt_flx,' 'salt_flx,' 'mh_flux,' 'mh_flux,' 'mh_flux,' 'sw_flux,' 'sw_flux,' 'q_flux,' 'q_flux,' 'q_flux,' 't_flux,' 't_flux,' 't_flux,' 'lw_flux,' 'lw_flux,' 'runof,' p', 'runof,' p', 'aice', 'aice', 'wfimelt', 'wfime				
'salt_flx', 'salt_flx', 'mh_flux', 'mh_flux', 'sw_flux', 'sw_flux', 'q_flux', 'q_flux', 't_flux', 't_flux', 'lw_flux', 'lw_flux', 'runof', 'p', 'runof', 'p', 'aice', 'aice', 'wfimelt', 'wfimelt',				'lprec'. 'fprec'.
'mh_flux', 'mh_flux', 'mh_flux', 'sw_flux', 'sw_flux', 'sw_flux', 'q_flux', 'q_flux', 'q_flux', 't_flux', 't_flux', 'tw_flux', 'lw_flux', 'runof', 'p', 'runof', 'p', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'marker', 'marke				
'sw_flux, 'sw_flux, 'q_flux, 'q_flux, 'q_flux, 'q_flux, 'q_flux, 't_flux, 't_flux, 't_flux, 'lw_flux, 'lw_flux, 'runof, 'p', 'runof, 'p', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'wfimelt', 'main to the content of the co				
'q_flux', 'q_flux', 'q_flux', 't_flux', 't_flux', 't_flux', 't_flux', 'lw_flux', 'lw_flux', 'runof', 'p', 'runof', 'p', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt',			,	
't_flux', 't_flux', 't_flux', 'lw_flux', 'lw_flux', 'lw_flux', 'runof', 'p', 'runof', 'p', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt',				
'lw_flux <sup>'</sup> , 'lw_flux <sup>'</sup> , 'runof, 'p', 'runof, 'p', 'runof, 'p', 'aice', 'aice', 'aice', 'wfimelt',				
'runof', 'p', 'runof', 'p', 'aice', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt', 'mfimelt', 'mfimelt', 'wfimelt', 'wf			,	
'aice', 'aice', 'aice', 'wfimelt', 'wfimelt', 'wfimelt',				
'wfimelt', 'wfimelt',				
			'wfiform'	'wfiform'

February   1.3.000   1.3	Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
		fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',
Send affers.cocan.pubote   Time   T				
Amonin cobalishos amil         enterial         Faite         Faite         Tow           dempo to until         deligate Jeet         5 </td <td></td> <td></td> <td></td> <td></td>				
Ampo to mind         definite level         5         5           Submitted         1         1         1         1         10         100			False	False
Society and well diag mil         diag diag step         576	&mpp_10_nmi			
Socian abeedion velocity, nml         mass off-viction velocity, nml         Tou         Tou           Socian abbedion, mml         occan abbedion, mml         Control abbediod, pulped in 2         2         2           Socian abbedion, mml         decensa abbedion, mml         2         2         2           Socian abbedion, mml         description, mml         absorbropic, fumil support, pl.         1         1         1           Access in bindropic, mml         description, mml         606, 3150         7.05         576	&ocean_adv_vel_diag_nml	diag_step	576	576
docean advection velocity mail         websee city         Time         Time           docean abbed mill         ocean abbed mill         0 Cean abbed mill         10         10           docean abbed mill         bartorigic mill         10         10         10           docean bis decling mills         bartorigic mills stepping abbed between mills module         False				
&ocean bardropic mil         bardropic fablo         10         10           bardropic immedia         bardropic immedia         Tore         True         True         True         True         True         True         True         True         Fable	&ocean_advection_velocity_nml	max_advection_velocity	0.2	0.5
Bartortopic.time.stepping.ab   True   Fate   Fate	&ocean_albedo_nml			
Bartonic time stepping.b   False   False   Gebug.th.in.module   False	&ocean_barotropic_nint	•		
diag. tag.   576		barotropic_time_stepping_b	False	False
Smooth_etal_talpalpaichs   Tale   Tale   Tale   Smooth_etal_talpaich   Tale   Tale   Tale   Smooth_etal_talpaich   Tale   Tale   Tale   Smooth_etal_talpaich   Tale   Tale		frac_crit_cell_height	0.2	0.2
Smooth_teta_L haiptacian   Time   True   True   Smooth_pbt_L haiptacian   Time   True   Smooth_pbt_L haiptacian   Time   True   Smooth_pbt_L haiptacian   Time   True   True   truncate_eta   true_teta   true_t				
Smooth pbott.labarcoin   False   False   Smooth pbott.labarcoin   True   True				
Smooth_plot_L Laplacian trucate at False   F		smooth_eta_t_laplacian	True	True
False   Fals				
		use_legacy_barotropic_halos	False	False
& cocan_bbc_mml         zero_tendency         False         False           & cocan_bbc_mml         bmf_implicit         True         True           c cobot         0.001         0.001         0.001           cdbot_roughness_length         False		•		
&ocean_bbc.nml         bmf_implicit         True         True           cdbot         cdbot         0.0001         0.0001           cdbot.roughness_length         False         False         False         False         False         Cdbot_roughness_length         False         False         False         Cdbot_roughness_length         False         False         False         False         Cdbot_roughness_length         False				
Cabbot   C	&orean bhr nml	1 61 115	_	-
Cdbot_roughness_length   False   False   Cdbot_roughness_uamp   True	Woccan_boc_imit			
decembility         Cdbot_roughness_uamp uresiduat uresiduat uresiduat use_geothermal_heating         Titue permatike         Titue permatike           &ccean_bih.friction.nml         bih.friction.scheme         general         'general'           &ccean_bih.tracer_nml         tracer_mix_micon         True         'general'           use_this.module         False         False         False           &ccean_bihstst.friction_nml         use_this.module         False         False         False           &ccean_bihgen_friction.nml         bottom_Spoint         False				
Base				
&ocean_bih_friction_nml         bih_friction_scheme         'general'         'general'           &ocean_bih_tracer_nml         tracer_mix_micom         Irus           wel_micom         0001           &ocean_bihcst_friction_nml         use_this_module         False           &ocean_bihgen_friction_nml         buttom_5point         False           &ocean_bihgen_friction_nml         00         00           eq_vel_micom_aniso         00         00           e_vel_micom_aniso         00         00           e_vel_micom_aniso         00         00           e_vel_micom_aniso         00         0           e_vel_micom_aniso <t< td=""><td></td><td>uresidual</td><td></td><td></td></t<>		uresidual		
&ocean_bih_tracer_nml         tracer_mix_micom use_this_module ve_l_micom         True false ve_micom         False 0.0001           &ocean_bihgen_friction_nml         use_this_module ve_l_micom         False 1.5se         False 1.5se           &ocean_bihgen_friction_nml         bottom_5point 1.5se         False 1.5se         False 1.5se           &ocean_bihgen_friction_nml         eq_lat_micom 0.0         0.0         0.0           eq_vel_micom_aniso 0.0         0.0         0.0         0.0         0.0           eq_vel_micom_iso 0.0         <				
Base   False   Vert.micom   V				general
&ocean_bihcst_friction_nml         use_this_module         False         False           &ocean_bihgen_friction_nml         bottom_Spoint         False         False           eq_lat_micom         0.0         0.0           eq_vel_micom_aniso         0.0         0.0           equatorial_zonal         False         False           k_smag_aniso         0.0         0.0           k_smag_iso         2.0         2.0           ncar_boundary_scaling         True         True           ncar_boundary_scaling_read         True         True           ncar_vconst_4         2 × 10^-8         2 × 10^-8           ncar_vconst_5         5         5         5           use_this_module         True         True           vel_micom_aniso         0.0         0.0           vel_mi	ween_bii_dideci_liiit			False
&ocean_bihgen_friction_nml         bottom_5point eq_ulat_micom         False eq_alat_micom         Column to the page of the				F.1
eq_lat_micom   0.0   0				
eq_vel_micom_iso   0.0   0.0     equatorial_zonal   False   False     k_smag_aniso   0.0   0.0     k_smag_iso   0.0   0.0     mcar_boundary_scaling_read   True   True     mcar_escale_power   2   2     mcar_vconst_4   2 × 10^-8   2 × 10^-8     mcar_vconst_5   5   5     mcar_vconst_5   5   5     mcar_vconst_5   5   5     mcar_vconst_5   5   5     use_this_module   True   True     vel_micom_aniso   0.0   0.0     vel_micom_bottom   0.0   0.0     vel_micom_iso   0.0	avecan_bingen_meton_ann	eq_lat_micom	0.0	0.0
Equatorial_zonal   False   False     k_smag_aniso   0.0   0.0     k_smag_iso   2.0   2.0     ncar_boundary_scaling   True     ncar_boundary_scaling_read   True     ncar_rescale_power   2   2     ncar_vconst_4   2 × 10^8   2 × 10^8     ncar_vconst_5   5   5     ncar_vconst_5   5   5     use_this_module   True     rue   True     vel_micom_aniso   0.0   0.0     vel_micom_bottom   0.0   0.0     vel_micom_iso   0.0   0.0		eq_vel_micom_aniso		
k_smag_aniso         0.0         0.0           k_smag_iso         2.0         2.0           ncar_boundary_scaling         True         True           ncar_boundary_scaling_read         True         True           ncar_vconst_4         2 × 10^-8         2 × 10^-8           ncar_vconst_5         5         5           use_this_module         True         True           vel_micom_aniso         0.0         0.0           vel_micom_bottom         0.0         0.0           vel_micom_bottom<				
		k_smag_aniso	0.0	0.0
ncar_boundary_scaling_read         True         True           ncar_rescale_power         2         2           ncar_vconst_4         2 × 10^-8         2 × 10^-8           ncar_vconst_5         5         5           use_this_module         True         True           vel_micom_aniso         0,0         0,0           vel_micom_bottom         0,0         0,0           vel_micom_iso         0,0         0,0           vel_micom_iso         0,0         0,0           vel_micom_iso         0,0         0,0           vel_micom_iso         0,0         0,0           visc_crit_scale         1,0         1,0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False				
ncar_rescale_power         2         2           ncar_vconst_4         2 × 10^-8         2 × 10^-8           ncar_vconst_5         5         5           use_this_module         True         True           vel_micom_aniso         0.0         0.0           vel_micom_bottom         0.0         0.0           vel_micom_iso         0.0         0.0           visc_crit_scale         1.0         1.0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False           use_this_module         False         False				
ncar_vconst_5         5         5           use_this_module         True         True           vel_micom_aniso         0.0         0.0           vel_micom_bottom         0.0         0.0           vel_micom_iso         0.0         0.0           visc_crit_scale         1.0         1.0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False           use_this_module         False         False		ncar_rescale_power	2	2
use_this_module         True         True           vel_micom_aniso         0.0         0.0           vel_micom_bottom         0.0         0.0           vel_micom_iso         0.0         0.0           visc_crit_scale         1.0         1.0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False           use_this_module         False         False				
vel_micom_aniso         0.0         0.0           vel_micom_bottom         0.0         0.0           vel_micom_iso         0.0         0.0           visc_crit_scale         1.0         1.0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False           use_this_module         False         False				
vel_micom_iso         0.0         0.0           visc_crit_scale         1.0         1.0           &ocean_convect_nml         convect_full_scalar         True           convect_full_vector         False           use_this_module         False         False		vel_micom_aniso	0.0	0.0
visc_crit_scale     1.0     1.0       & ocean_convect_nml     convect_full_scalar     True       convect_full_vector     False       use_this_module     False     False				
&ocean_convect_nml     convect_full_scalar     True       convect_full_vector     False       use_this_module     False     False				
use_this_module False False	&ocean_convect_nml	convect_full_scalar	True	2.0
				Ealaa
	&ocean_coriolis_nml	use_tnis_module acor	0.5	0.5

	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	use_this_module	True	True
&ocean_density_nml	eos_linear	False	False
	eos_preteos10	True	True
	layer_nk neutralrho_max	80 1038.0	80 1030.0
	neutralrho_min	1038.0	1030.0
	potrho_max	1038.0	1038.0
	potrho_min	1028.0	1028.0
&ocean_domains_nml	max_tracers	5	5
&ocean_form_drag_nml	use_this_module	False	False
&ocean_frazil_nml	debug_this_module	False	False
	frazil_only_in_surface	False	False
	freezing_temp_preteos10	True	True
	freezing_temp_simple use_this_module	False True	False
&ocean_grids_nml	debug_this_module	False	True False
&ocean_increment_eta_nml	use_this_module	False	False
&ocean_increment_tracer_nml	use_this_module	False	False
&ocean_increment_velocity_nml	use_this_module	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False
&ocean_lapcst_friction_nml	use_this_module	False	False
&ocean_lapgen_friction_nml	k_smag_iso	2.0	
	use_this_module	False	False
&ocean_mixdownslope_nml	debug_this_module	False	
0	use_this_module	False	False
&ocean_model_nml	baroclinic_split	1 80	1 80
	barotropic_split <mark>cmip_units</mark>	80	True
	debug	False	False
	dt_ocean	150	150
	io_layout	10, 15	10, 15
	layout	80,75	80,75
	surface_height_split	1	1
	time_tendency	'twolevel'	'twolevel'
&ocean_momentum_source_nml	vertical_coordinate rayleiqh_damp_exp_from_bottom	'zstar' False	'zstar' False
xocean_momentum_source_mint	use_rayleigh_damp_table	True	True
	use_this_module	True	True
Rocean_nphysics_nml	debug_this_module	False	False
	use_nphysicsa	False	False
	use_nphysicsb	False	False
	use_nphysicsc	False	False
	use_this_module	False	False
&ocean_nphysics_util_nml	agm	100.0	100.0
	agm_closure agm_closure_baroclinic	True True	True True
	agm_closure_buoy_freq	0.004	0.004
	agm_closure_length	50 000.0	50 000.0
	agm_closure_length_bczone	False	False
		i atsc	
	agm_closure_length_fixed	False	
	agm_closure_length_rossby	False False	False False
	agm_closure_length_rossby agm_closure_lower_depth	False False 2000.0	False False 2000.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max	False False 2000.0 600.0	False False 2000.0 600.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min	False False 2000.0 600.0 100.0	False False 2000.0 600.0 100.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling	False False 2000.0 600.0 100.0 0.07	False False 2000.0 600.0 100.0 0.07
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth	False False 2000.0 600.0 100.0 0.07 100.0	False False 2000.0 600.0 100.0 0.07 100.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling	False False 2000.0 600.0 100.0 0.07	False False 2000.0 600.0 100.0 0.07 100.0 600.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi	False False 2000.0 600.0 100.0 0.07 100.0 600.0	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False 100 000.0	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False 100 000.0 15 000.0	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False 100 000.0 15 000.0	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min smax swidth	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False 100 000.0 15 000.0 0.002	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min smax swidth tracer_mix_micom	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0 0.002 0.002 False	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0
&ocean_nphysicsa_nml	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min smax swidth tracer_mix_micom vel_micom	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False False 100 000.0 15 000.0 0.002	False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0
&ocean_nphysicsa_nml &ocean_nphysicsb_nml	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min smax swidth tracer_mix_micom	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0 0.002 0.002 False 0.0	False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0 False
	agm_closure_length_rossby agm_closure_lower_depth agm_closure_max agm_closure_min agm_closure_scaling agm_closure_upper_depth aredi aredi_equal_agm drhodz_mom4p1 drhodz_smooth_horz drhodz_smooth_vert rossby_radius_max rossby_radius_min smax swidth tracer_mix_micom vel_micom use_this_module	False False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0 0.002 0.002 False 0.0 False	False 2000.0 600.0 100.0 0.07 100.0 600.0 False False False 100 000.0 15 000.0 False

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	overexch_npts overexch_weight_far	4 False	4 False
	overflow_umax	5.0	5.0
	use_this_module	False	False
&ocean_overflow_nml	debug_this_module	False	Ealco
&ocean_overflow_ofp_nml	use_this_module debug_this_module	False False	False
a decurity and a decu	diag_step	5760	
	do_entrainment_para_ofp	False	
	do_mass_ofp frac_exchange_src	True 1.0	
	max_vol_trans_ofp	10 000 000.0	
	use_this_module	False	False
&ocean_polar_filter_nml	use_this_module	False	False
&ocean_pressure_nml &ocean_rivermix_nml	zero_pressure_force	False False	False False
&ocean_rivermix_nml	debug_this_module river_diffuse_salt	True	True
	river_diffuse_temp	True	True
	river_diffusion_thickness	0.0	0.0
	river_diffusivity	0.0	0.0
	river_insertion_thickness use_this_module	40.0 True	40.0 True
&ocean_riverspread_nml	debug_this_module	False	
	use_this_module	True	False
&ocean_rough_nml	rough_scheme	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta avg_sfc_velocity	True True	True True
	calvingspread	False	False
	do_bitwise_exact_sum	False	False
	do_flux_correction	False	False
	land_model_heat_fluxes	False 0.5	False 0.5
	max_delta_salinity_restore max_ice_thickness	0.0	0.0
	read_restore_mask	False	False
	restore_mask_gfdl	False	False
	runoff_salinity salt_correction_scale	0.0 0.0	0.0 0.0
	salt_restore_as_salt_flux	True	True
	salt_restore_tscale	60.0	60.0
	salt_restore_under_ice	True	True
	temp_restore_tscale use_full_patm_for_sea_level	—10.0 False	—10.0 False
	use_waterflux	True	True
	zero_heat_fluxes	False	False
	zero_net_salt_correction	False	False
	zero_net_salt_restore zero_net_water_correction	True False	True False
	zero_net_water_couple_restore	True	True
	zero_net_water_coupler	True	True
	zero_net_water_restore	True	True
	zero_surface_stress zero_water_fluxes	False False	False False
&ocean_shortwave_csiro_nml	use_this_module	False	False
&ocean_shortwave_gfdl_nml	debug_this_module	False	False
	enforce_sw_frac	True	True
	optics_manizza optics_morel_antoine	True False	True False
	optics_moret_antome read_chl	True	True
	use_this_module	True	True
9 dayley and	zmax_pen	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module use_shortwave_csiro	False False	False False
&ocean shortwave nml	use_shortwave_gfdl	True	True
&ocean_shortwave_nml			
&ocean_shortwave_nml	use_shortwave_jerlov	False	False
	use_this_module	True	True
&ocean_shortwave_nml &ocean_sigma_transport_nml	use_this_module sigma_advection_on	<b>True</b> False	
	use_this_module sigma_advection_on sigma_advection_sgs_only	True	
	use_this_module sigma_advection_on	<b>True</b> False False	
	use_this_module sigma_advection_on sigma_advection_sgs_only sigma_diffusion_on sigma_diffusivity_ratio sigma_just_in_bottom_cell	$\begin{array}{c} \text{True} \\ \text{False} \\ \text{False} \\ \text{True} \\ 1 \times 10^{-6} \\ \text{True} \end{array}$	
	use_this_module sigma_advection_on sigma_advection_sgs_only sigma_diffusion_on sigma_diffusivity_ratio	$\begin{tabular}{ll} True \\ False \\ False \\ True \\ 1 \times 10^{-6} \end{tabular}$	

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	smooth_velmicom	0.2	•
	thickness_sigma_layer	100.0	
	thickness_sigma_max	100.0 100.0	
	thickness_sigma_min tmask_sigma_on	False	
	tracer_mix_micom	True	
	use_this_module	False	False
	vel_micom	0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'
	date_init days	1, 1, 1, 0, 0, 0 30	1, 1, 1, 0, 0, 0 30
	dt_cpld	150	600
	hours	0	0
	minutes	0	0
	months	0	0
	seconds	0	0
0	years	0	0
Rocean_sponges_eta_nml	use_this_module	False	False
&ocean_sponges_tracer_nml	damp_coeff_3d use_this_module	False False	False
&ocean_sponges_velocity_nml	use_this_module use_this_module	False	False
&ocean_submesoscale_nml	coefficient_ce	0.05	0.05
× 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	debug_this_module	False	False
	front_length_const	5000.0	5000.0
	front_length_deform_radius	True	True
	limit_psi	True	True
	limit_psi_velocity_scale	0.5	0.5
	min_kblt	4 True	4 True
	smooth_advect_transport smooth_advect_transport_num	True 4	True 4
	smooth_advect_transport_indiff smooth_hblt	False	False
	smooth_psi	True	True
	smooth_psi_num	3	3
	submeso_advect_flux	False	False
	submeso_advect_limit	True	True
	submeso_advect_upwind	True	True
	submeso_advect_zero_bdy submeso_diffusion	True	True
	submeso_diffusion_biharmonic	False True	False True
	submeso_diffusion_scale	10.0	10.0
	submeso_skew_flux	True	True
	use_hblt_equal_mld	True	True
	use_psi_legacy	False	False
	use_this_module	True	True
kocean_tempsalt_nml	debug_this_module	True	False
	pottemp_2nd_iteration	True True	True
	pottemp_equal_contemp s_max	70.0	True 70.0
	s_max_limit	42.0	42.0
	s_min	0.0	0.0
	s_min_limit	2.0	2.0
	t_max	55.0	55.0
	t_max_limit	32.0	32.0
	t_min t_min_limit	-20.0	-20.0
	t_min_limit temperature_variable	— 5.0 'potential	—5.0 'potential
	temperature_variable	temp'	temp'
kocean_thickness_nml	debug_this_module	False	False
	debug_this_module_detail	False	False
	rescale_mass_to_get_ht_mod	False	False
	thickness_dzt_min	2.0	
	thickness_dzt_min_init	10.0	
Coccan tracer advect nml	thickness_method	'energetic'	'energetic'
kocean_tracer_advect_nml	debug_this_module read_basin_mask	False False	False False
&ocean_tracer_diag_nml	read_basin_mask diag_step	576	576
xoccun-tracer-unay-nine	do_bitwise_exact_sum	False	False
	tracer_conserve_days	30.0	30.0
kocean_tracer_nml	age_tracer_max_init	0.0	0.0
	debug_this_module	False	False
	frazil_heating_after_vphysics	True	True
	frazil_heating_before_vphysics	False	False
	limit_age_tracer	True	True

Group (continued)	Variable	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	remap_depth_to_s_init	False	False
	use_tempsalt_check_range	True	True
	zero_tendency	False	False
	zero_tracer_source	False	False
&ocean_velocity_diag_nml	debug_this_module	False	False
	diag_step energy_diag_step	576 5760	576 5760
	large_cfl_value	10.0	10.0
	max_cfl_value	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True
	max_cgint	1.0	1.0
	truncate_velocity	False	False
	truncate_velocity_value	2.0	2.0
	truncate_verbose	True	True
	zero_tendency zero_tendency_explicit_a	False False	False False
	zero_tendency_explicit_b	False	False
	zero_tendency_implicit	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw	0.0	0.0
	double_diffusion	True	True
	kbl_standard_method	False	False
	ricr	0.3	0.3
	smooth_blmc	False True	False
	smooth_ri_kmax_eq_kmu use_this_module	True	True True
	visc_cbu_iw	0.0	0.0
&ocean_vert_mix_nml	aidif	1.0	1.0
	bryan_lewis_diffusivity	False	False
	bryan_lewis_lat_depend	False	False
	hwf_diffusivity	False	False
	hwf_min_diffusivity	$2 \times 10^{-6}$	$2 \times 10^{-6}$
	hwf_n0_2omega	20.0	20.0
	use_diff_cbt_table	False	False
	vert_diff_back_via_max vert_mix_scheme	True 'kpp	True 'kpp
	Verential	mom4p1'	mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0
	background_viscosity	0.0001	0.0001
	decay_scale	500.0	500.0
	drag_dissipation_use_cdbot	True	True
	drhodz_min	$1 \times 10^{-10}$	$1 \times 10^{-10}$
	fixed_wave_dissipation	False	False
	max_wave_diffusivity mixing_efficiency_n2depend	0.01 True	0.01 True
	read_roughness	True	True
	read_tide_speed	True	True
	read_wave_dissipation	False	False
	reading_roughness_amp	True	True
	reading_roughness_length	False	False
	roughness_scale	12 000.0	12 000.0
	shelf_depth_cutoff tide_speed_data_on_t_grid	-1000.0	—1000.0 True
	tide_speed_data_on_t_grid use_drag_dissipation	True True	True
	use_legacy_methods	False	False
	use_this_module	True	True
	use_wave_dissipation	True	True
	wave_energy_flux_max	0.1	0.1
&ocean_xlandinsert_nml	use_this_module	False	False
&ocean_xlandmix_nml	use_this_module	False	False
&sat_vapor_pres_nml	show_all_bad_values	True	
&surface_flux_nml	ncar_ocean_flux	True	
&xgrid_nml	<mark>raoult_sat_vap</mark> do_alltoall	True True	True
wyndamit	do_alltoallv	True	True
	interp_method	'second	'second
		order'	order'
	make_exchange_reproduce	False	False
	nou-book	16	16
	nsubset <mark>xgrid_log</mark>	False	10

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

Group	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15	0.15	0.15
	chk_i2o_fields chk_o2i_fields	False	False	False	False	False	False
	do_ice_once	False False	False False	False False	False False	False False	False False
	dt_cpl	3600	3600	1200	1800	150	600
	fixmeltt	False	False	False	False	False	False
	frazil_factor	1.0	1.0	1.0	1.0	1.0	1.0
	iceform_adj_salt	False	False	False	False	False	False
	icemlt_factor	1.0	1.0	1.0	1.0	1.0	1.0
	kmxice	5 True	5 True	5 True	5 True	5 Trus	5 True
	pop_icediag <mark>redsea_qulfbay_sfix</mark>	True True	True True	True	nue	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	$1  imes 10^{-6}$					
	lat_low_bgdiff	20.0					
&diag_manager_nml	debug_diag_manager		True	True	True		True
	issue_oor_warnings	False	True	True	True	False	True
	max_axes max_files					300 1000	
	max_input_fields					700	
	max_num_axis_sets					40	
	max_output_fields					700	
&fms_io_nml	checksum_required					False	
	fileset_write	'single'	'single'	'single'	'multi'	'multi'	'multi'
	max_files_r					700	
	max_files_w	, ,,,,	, ,,,,	, , , ,	, ,,,,	700	, ,,,,
	threading_read	'multi' 'single'	'multi' 'single'	'multi' 'single'	'multi' 'multi'	'multi' 'multi'	'multi' 'multi'
&fms_nml	threading_write clock_grain	'single' 'LOOP'	'COMPONENT'	'single' 'LOOP'	'COMPONENT'	'LOOP'	COMPONENT
WIII STILL	domains_stack_size	2001	115200	2001	115200	115200	115200
	print_memory_usage		113100		223200	False	113200
&generic_tracer_nml	do_generic_cfc					False	
	do_generic_topaz					False	
	do_generic_tracer					False	
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',	'u_flux',
		'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', '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',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',
		'runof', 'p', 'aice',	'runof', 'p', 'aice',	'runof', 'p', 'aice',	'runof', 'p', 'aice',	'runof', 'p', 'aice',	'runof', 'p', 'aice',
		arce, 'wfimelt',	'wfimelt',	arce, 'wfimelt',	aice, 'wfimelt',	arce, 'wfimelt',	'wfimelt',
		'wfiform'	wifiform'	'wfiform'	wifiform'	'wfiform'	williett,
		VVIIIIIIII					
	fields_out	't_surf',	't_surf',	't_surf',	't_surf',	't_surf',	't_surf',
	fields_out			't_surf', 's_surf',	t_surr, 's_surf',	's_surf',	t_surf, 's_surf',
	fields_out	't_surf', 's_surf', 'u_surf',	't_surf', 's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',	's_surf', 'u_surf',
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf',	't_surf', 's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',	's_surf', 'u_surf', 'v_surf',
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx',	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',	's_surf', 'u_surf', 'v_surf', 'dssldx',
	fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',
		't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	fields_out num_fields_in num_fields_out	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy',
	num_fields_in	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
	num_fields_in num_fields_out	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False
&monin_obukhov_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True
&monin_obukhov_nml &mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'frazil' 15 7 True False True 5	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf', 'u_surf', 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5
	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False  4320 10.0	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 100	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 10.0
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value max_cfl_value	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False  4320 10.0 100.0	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 1000	's_surf, 'u_surf, 'v_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False True 4320 10.0 100.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 1000	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 100 1000	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 10.0 100.0
&mpp_io_nml	num_fields_in num_fields_out send_after_ocean_update send_before_ocean_update neutral deflate_level shuffle diag_step large_cfl_value	't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil' 15 7 True False  4320 10.0	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 4320 10.0	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 100	's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil' 15 7 True False True 5 1 576 10.0

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&ocean_barotropic_nml	barotropic_halo	10	10	10	10	hogg_acces- som2 01deg jra55_ryf	10
	barotropic_time_stepping_a barotropic_time_stepping_b	True False	True False	True False	True False		True False
	debug_this_module	False	False	False	False		False
	diag_step	4320	4320	4320	4320		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
	pred_corr_gamma	0.2	0.2	0.2	0.2		0.2
	smooth_eta_diag_laplacian	True	True	True	True		True
	smooth_eta_t_biharmonic smooth_eta_t_laplacian	False True	False True	False True	False True		False True
	smooth_pbot_t_biharmonic	False	False	False	False		False
	smooth_pbot_t_laplacian	True	True	True	True		True
	truncate_eta	False	False	False	False		False
	use_legacy_barotropic_halos	False	False	False	False	False	False
	vel_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01
	vel_micom_lap	0.05	0.05	0.05	0.05		0.05
	vel_micom_lap_diag	0.2	0.2	0.2	0.2		0.2
	verbose_truncate	True	True	True	True		True
&ocean_bbc_nml	zero_tendency bmf_implicit		False True	False True	False True		False True
COCCOTI-UUC_IIIIL	cdbot	0.001	0.001	0.001	0.001		0.001
	cdbot_hi	0.001	0.001	0.001	0.001		0.001
	cdbot_law_of_wall	False	0.007	0.007	0.007	0.007	0.007
	cdbot_roughness_length		False	False	False	False	False
	cdbot_roughness_uamp		True	True	True		True
	uresidual		0.05	0.05	0.05		0.05
	use_geothermal_heating	False	False	False	False	False	False
&ocean_bbc_ofam_nml	read_tide_speed	False					
0 12 6 4	uresidual2_max	1.0	, ,,	, ,	, ,	, ,	, ,
&ocean_bih_friction_nml &ocean_bih_tracer_nml	bih_friction_scheme tracer_mix_micom	'general'	'general'	'general' True	'general'		'general'
&ocean_bin_cracer_ninc	use_this_module	False	False	False	False		False
	vel_micom	raisc	Taisc	0.001	raisc		i disc
&ocean_bihcst_friction_nml	use_this_module	False	False	False	False		False
&ocean_bihgen_friction_nml	bottom_5point	True	True	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
	eq_vel_micom_iso	0.0	0.0	0.0	0.0		0.0
	equatorial_zonal	False	False	False	False		False
	k_smag_aniso	0.0	0.0	0.0	0.0		0.0
	k_smag_iso ncar_boundary_scaling	2.0 True	2.0 True	2.0 True	2.0 True		2.0 True
	ncar_boundary_scaling_read	iiue	True	True	True		True
	ncar_rescale_power	2	2	2	2		2
	ncar_vconst_4	$2  imes 10^{-8}$	$2 \times 10^{-8}$	$2  imes 10^{-8}$	$2 \times 10^{-8}$		$2  imes 10^{-8}$
	ncar_vconst_5	5	5	5	5		5
	use_this_module	True	True	True	True	True	True
	vel_micom_aniso	0.0	0.0	0.0	0.0		0.0
	vel_micom_bottom	0.01	0.01	0.0	0.0		0.0
	vel_micom_iso	0.04	0.04	0.0	0.0		0.0
0	visc_crit_scale convect_full_scalar	0.25	0.25	1.0	1.0		1.0
&ocean_convect_nml	convect_full_vector	False True		True False			
	use_this_module	False	False	False	False		False
&ocean_coriolis_nml	acor	0.5	0.5	0.5	0.5		0.5
	use_this_module	True	True	True	True		True
&ocean_density_nml	eos_linear	False	False	False	False		False
	eos_preteos10	True	True	True	True	True	True
	layer_nk	80	80	80	80		80
	neutralrho_max	1030.0	1030.0	1038.0	1030.0		1030.0
	neutralrho_min	1020.0	1020.0	1028.0	1020.0		1020.0
	potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
&ocean_domains_nml	potrho_min max_tracers	1028.0 10	1028.0	1028.0	1028.0	1028.0	1028.0
&ocean_domains_nml &ocean_form_drag_nml	max_tracers cprime_aiki	0.6	)	)	)	3	)
a occan_ronn_aray_mill	CDITITE_dIKI		False	False	False	False	False
		False					i uiju
&ocean_frazil_nml	use_this_module	False					
&ocean_frazil_nml		False	False False	False	False False	False False	False False
&ocean_frazil_nml	use_this_module debug_this_module	False	False		False	False	False
&ocean_frazil_nml	use_this_module debug_this_module frazil_only_in_surface	False True	False False	False False	False False	False False	False False
&ocean_frazil_nml &ocean_grids_nml	use_this_module debug_this_module frazil_only_in_surface freezing_temp_preteos10		False False True	False False True	False False True	False False True	False False True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	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	1800	F 1		F 1		F 1
&ocean_increment_velocity_nml	use_this_module  days_to_increment	False 0	False	False	False	False	False
&ocean_increment_vetocity_init	fraction_increment	1.0					
	secs_to_increment	1800					
	use_this_module	False	False	False	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_lap_tracer_nml	use_this_module	False	False	False	False	False	False
&ocean_lapcst_friction_nml &ocean_lapgen_friction_nml	use_this_module bottom_5point	False True	False True	False	False	False	False
&ocean_tapgen_mction_mit	k_smaq_aniso	0.0	0.0				
	k_smag_iso	0.0	0.0	2.0		2.0	
	ncar_only_equatorial	True					
	restrict_polar_visc	True	True				
	restrict_polar_visc_lat	60.0	60.0				
	restrict_polar_visc_ratio	0.35	0.35	False	Falsa	False	False
	use_this_module vconst_1	True 8 000 000.0	True	False	False	False	False
	vconst_1	0.0					
	vconst_3	0.8					
	vconst_4	$5 \times 10^{-9}$					
	vconst_5	3					
	vconst_6	300 000 000.0					
	vconst_7	100.0					
	vel_micom_iso	0.1	0.1 False				
	viscosity_ncar viscosity_ncar_2000	True False	False				
	viscosity_ncar_2007	True					
	viscosity_scale_by_rossby	True	True				
	viscosity_scale_by_rossby_power	4.0	4.0				
&ocean_mixdownslope_nml	debug_this_module	False	False	False		False	
	mixdownslope_mask_gfdl	False	False				
	mixdownslope_npts	4 Falso	4 Falso				
	read_mixdownslope_mask use_this_module	False True	False True	False	False	False	False
&ocean_model_nml	baroclinic_split	1	1	1	1	1	1
	barotropic_split	80	80	80	80	80	80
	cmip_units	True	True	True	True		True
	debug	False	False	False	False	False	False
	dt_ocean	3600	3600	1200	1200	150	150
	io_layout	4, 3 16, 15	4, 3 16, 15	6, 5 48, 40	6, 5 48, 40	10, 15 80, 75	10, 15 80, 75
	<mark>layout</mark> surface_height_split	10, 13	10, 13	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom		False	False	False	False	False
	use_rayleigh_damp_table	True	True	True	True	True	True
	use_this_module	True	True	True	True	True	True
&ocean_nphysics_nml	debug_this_module	False	False	False	False False	False	False
	use_nphysicsa use_nphysicsb	False False	False False	False False	False	False False	False False
	use_nphysicsc use_nphysicsc	True	True	False	False	False	False
	use_this_module	True	True	False	False	False	False
&ocean_nphysics_util_nml	agm	600.0	600.0	100.0	100.0	100.0	100.0
	agm_closure	True	True	True	True	True	True
	agm_closure_baroclinic	True	True	True	True	True	True
	agm_closure_buoy_freq	0.004 True	0.004 True	0.004	0.004	0.004	0.004
	agm_closure_eady_ave_mixed agm_closure_eady_cap	True True	True True				
	agm_closure_eady_smooth_horz	True	True				
	agm_closure_eady_smooth_vert	True	True				
	agm_closure_eden_gamma	0.0	0.0				
	agm_closure_eden_greatbatch	False	False				
	agm_closure_grid_scaling	True	True				
	agm_closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False	False	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	agm_closure_length_fixed	False	False	False	False	False	False
	agm_closure_length_rossby	False	False	False	False	False	False
	agm_closure_lower_depth	2000.0	2000.0	2000.0	2000.0	2000.0	2000.0
	agm_closure_max	600.0	600.0	600.0	600.0	600.0	600.0
	agm_closure_min	50.0	50.0	100.0	100.0	100.0	100.0
	agm_closure_scaling agm_closure_upper_depth	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0	0.07 100.0
	agin_ctosure_upper_ueptin agm_damping_time	45.0	45.0	100.0	100.0	100.0	100.0
	agm_smooth_space	False	False				
	agm_smooth_time	False	False				
	aredi	600.0	600.0	600.0	600.0	600.0	600.0
	aredi_equal_agm	False	False	False	False	False	False
	drhodz_mom4p1	True	True	False	False	False	False
	drhodz_smooth_horz	False	False	False	False	False	False
	drhodz_smooth_vert	False	False	False	False	False	False
	nphysics_util_zero_init	True	True				
	rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax			0.002		0.002	
	swidth	F 1	F 1	0.002	F 1	0.002	
	tracer_mix_micom vel_micom	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0	False 0.0
Locan popurises pml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsa_nml &ocean_nphysicsb_nml	use_this_module	False	False	False	False	False	False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	True	raise	raise	raise	Lqrze
&ocean_nphysicsc_nint	bv_freq_sinouti_vert bvp_bc_mode	2	2				
	bvp_min_speed	0.1	0.1				
	bvp_speed	0.0	0.0				
	debug_this_module	False	False				
	do_gm_skewsion	True	True				
	do_neutral_diffusion	True	True				
	epsln_bv_freq	$1 \times 10^{-12}$	$1 \times 10^{-12}$				
	gm_skewsion_bvproblem	True	True				
	gm_skewsion_modes	False	False				
	neutral_eddy_depth	True	True				
	neutral_physics_limit	True	True				
	number_bc_modes	2	2				
	regularize_psi	False	False				
	smax_psi	0.01	0.01				
	smooth_psi	True	True				
	tmask_neutral_on	True	True				
	turb_blayer_min	50.0	50.0				
	use_this_module	True	True	False	False	False	False
&ocean_operators_nml	use_legacy_div_ud		False	False	False	False	False
&ocean_overexchange_nml	debug_this_module overexch_check_extrema	False	False	False	False	False	False
	overexch_npts	False 4	4	4	4	4	4
	overexch_npts overexch_weight_far	False	False	False	False	False	False
	overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0
	use_this_module	False	False	False	False	False	False
&ocean_overflow_nml	debug_this_module	False	raise	False	raise	False	i disc
a occursorement	use_this_module	False	False	False	False	False	False
&ocean_overflow_ofp_nml	debug_this_module	1 4.50		False	. 4.50	False	1 4130
30ccan=37cnton=37p=nnn	diaq_step			4320		5760	
	do_entrainment_para_ofp			False		False	
	do_mass_ofp			True		True	
	frac_exchange_src			1.0		1.0	
	max_vol_trans_ofp			10 000 000.0		10 000 000.0	
	use_this_module		False	False	False	False	False
&ocean_polar_filter_nml	use_this_module	False	False	False	False	False	False
&ocean_pressure_nml	zero_pressure_force		False	False	False	False	False
&ocean_rivermix_nml	debug_this_module	False	False	False	False	False	False
	river_diffuse_salt	False	True	False	True	True	True
	river_diffuse_temp	False	True	False	True	True	True
	river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0
	river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0
	river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0
O	use_this_module	True	True	True	True	True	True
&ocean_riverspread_nml	debug_this_module	<b>-</b>	F .	F. I	F !	False	
0	use_this_module	True	False	False	False	True	False
&ocean_rough_nml	rough_scheme		'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml	avg_sfc_temp_salt_eta	True	True	True	True	True	True
	avg_sfc_velocity	True	True	True	True	True	True

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	calvingspread		False	False	False	False	False
	do_bitwise_exact_sum		False	False	False	False	False
	do_flux_correction		False	False	False	False	False
	land_model_heat_fluxes		False	False	False	False	False
	max_delta_salinity_restore	0.5	0.5	0.5	0.5	0.5	0.5
	max_ice_thickness read_restore_mask	8.0	0.0	0.0	0.0	0.0	0.0
	restore_mask_gfdl	False False	False False	False False	False False	False False	False False
	runoff_salinity	0.0	0.0	0.0	0.0	0.0	0.0
	salt_correction_scale	0.0	0.0	0.0	0.0	0.0	0.0
	salt_restore_as_salt_flux	True	True	True	True	True	True
	salt_restore_tscale	15.0	60.0	60.0	60.0	60.0	60.0
	salt_restore_under_ice	True	True	True	True	True	True
	temp_restore_tscale	-1.0	-10.0	-10.0	-10.0	-10.0	-10.0
	use_full_patm_for_sea_level		False	False	False	False	False
	use_waterflux	True	True	True	True	True	True
	waterflux_tavg	False					
	zero_heat_fluxes	False	False	False	False	False	False
	zero_net_salt_correction		False	False	False	False	False
	zero_net_salt_restore	True	True	True	True	True	True
	zero_net_water_correction		False	False	False	False	False
	zero_net_water_couple_restore	True	True	True	True	True	True
	zero_net_water_coupler	True	True	True	True	True	True
	zero_net_water_restore	True	True	True	True	True	True
	zero_surface_stress	False	False	False	False	False	False
	zero_water_fluxes	False	False	False	False	False	False
&ocean_sbc_ofam_nml	restore_mask_ofam	False					
	river_temp_ofam	False					
&ocean_shortwave_csiro_nml	debug_this_module	_		False			
	read_depth	True		True			
	use_this_module	True	False	False	False	False	False
0	zmax_pen	7000		7000			F 1
&ocean_shortwave_gfdl_nml	debug_this_module	False	False	False	False	False	False
	enforce_sw_frac	True	True	True	True	True	True
	optics_manizza	True	True	True	True	True	True
	optics_morel_antoine read_chl	False	False True	False True	False True	False	False
	sw_pen_fixed_depths	False	irue	irue	irue	True	True
	use_this_module	False	True	True	True	True	True
	zmax_pen	200.0	300.0	300.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml	use_this_module	False	False	False	False	False	False
&ocean_shortwave_nml	use_shortwave_csiro	True	False	False	False	False	False
WOCCUT_SHOTEWAYC_TITLE	use_shortwave_qfdl	False	True	True	True	True	True
	use_shortwave_jerlov	False	False	False	False	False	False
	use_this_module	True	True	True	True	True	True
&ocean_sigma_transport_nml	sigma_advection_on	False		False		False	
woccuri-3igina_cransport_innt	sigma_advection_sqs_only	False		False		False	
	sigma_diffusion_on	True		True		True	
	sigma_diffusivity_ratio	$1 \times 10^{-6}$		$1 \times 10^{-6}$		$1 \times 10^{-6}$	
	sigma_just_in_bottom_cell	True		True		True	
	sigma_umax	0.01		0.01		0.01	
	smooth_sigma_thickness	True		True		True	
	smooth_sigma_velocity	True		True		True	
	smooth_velmicom	0.2		0.2		0.2	
	thickness_sigma_layer	100.0		100.0		100.0	
	thickness_sigma_max	100.0		100.0		100.0	
	thickness_sigma_min	100.0		100.0		100.0	
	tmask_sigma_on	False		False		False	
	tracer_mix_micom	True		True		True	
	use_this_module	True	False	False	False	False	False
	vel_micom	0.05		0.05		0.05	
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP
	date_init	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days	1460	1460	31	31	30	30
	debug_this_module	False					
	dt_cpld	3600	3600	1200	1200	150	600
	hours	0	0	0	0	0	(
	minutes	0	0	0	0	0	(
	months	0	0	0	0	0	C
	seconds	0	0	0	0	0	0
	years use_this_module	0	0	0	0	0	0
&ocean_sponges_eta_nml		False	False	False	False	False	False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	use_this_module	False	False	False	False	False	False
&ocean_sponges_velocity_nml	use_this_module	False	False	False	False	False	False
&ocean_submesoscale_nml	coefficient_ce	Falas	0.05	0.05	0.05	0.05	0.05
	debug_this_module front_length_const	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0	False 5000.0
	front_length_deform_radius	True	True	True	True	True	True
	limit_psi	True	True	True	True	True	True
	limit_psi_velocity_scale	0.5	0.5	0.5	0.5	0.5	0.5
	min_kblt	4	4	4	4	4	4
	smooth_advect_transport		True	True	True	True	True
	smooth_advect_transport_num		4	4	_ 4	4	_ 4
	smooth_hblt	False	False	False	False	False	False
	smooth_psi smooth_psi_num		True 3	True 3	True 3	True 3	True 3
	submeso_advect_flux		False	False	False	False	False
	submeso_advect_limit		True	True	True	True	True
	submeso_advect_upwind		True	True	True	True	True
	submeso_advect_zero_bdy		True	True	True	True	True
	submeso_diffusion		False	False	False	False	False
	submeso_diffusion_biharmonic		True	True	True	True	True
	submeso_diffusion_scale	_	10.0	10.0	10.0	10.0	10.0
	submeso_limit_flux	True	_	_	_	_	_
	submeso_skew_flux	Т	True	True	True	True	True
	use_hblt_equal_mld use_psi_legacy	True	True False	True False	True False	True False	True False
	use_this_module	True	True	True	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	False	False	True	False
docean_tempsate_nnt	pottemp_2nd_iteration	True	True	True	True	True	True
	pottemp_equal_contemp		True	True	True	True	True
	s_max	55.0	70.0	70.0	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0	42.0	42.0	42.0
	s_min	-1.0	0.0	0.0	0.0	0.0	0.0
	s_min_limit	0.0	2.0	2.0	2.0	2.0	2.0
	t_max	55.0	55.0 73.0	55.0 32.0	55.0	55.0	55.0
	t_max_limit t_min	32.0 —5.0	32.0 —20.0	- 20.0	32.0 —20.0	32.0 —20.0	32.0 — 20.0
	t_min_limit	-2.0	-5.0	-5.0	-5.0	-5.0	-5.0
	temperature_variable	'conservative	'potential	'potential	'potential	'potential	'potential
		temp'	temp'	temp'	temp'	temp'	temp'
&ocean_thickness_nml	debug_this_module	False	False	False	False	False	False
	debug_this_module_detail	False	False	False	False	False	False
	initialize_zero_eta	False					
	read_rescale_rho0_mask	False	Falsa	F-I	Falsa	Falsa	F-1
	rescale_mass_to_get_ht_mod rescale_rho0_basin_label	7.0	False	False	False	False	False
	rescale_rho0_mask_gfdl	7.0 False					
	rescale rho0 value						
	rescale_rho0_value thickness_dzt_min	0.75		2.0		2.0	
	rescale_rho0_value thickness_dzt_min thickness_dzt_min_init			2.0 10.0		2.0 10.0	
	thickness_dzt_min	0.75 1.0	'energetic'		'energetic'		'energetic'
&ocean_topog_nml	thickness_dzt_min thickness_dzt_min_init	0.75 1.0 2.0	'energetic'	10.0	'energetic'	10.0	'energetic'
&ocean_topog_nml &ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all	0.75 1.0 2.0 'energetic' 25.0 True	'energetic'	10.0	'energetic'	10.0	'energetic'
	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update	0.75 1.0 2.0 'energetic' 25.0 True True		10.0 'energetic'	-	10.0 'energetic'	
	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True	False	10.0 'energetic' False	False	10.0 'energetic' False	False
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask	0.75 1.0 2.0 'energetic' 25.0 True True False	False False	10.0 'energetic' False False	False False	10.0 'energetic' False False	False False
	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False	False False 4320	10.0 'energetic' False False 4320	False False 4320	10.0 'energetic' False False 576	False False 576
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_swm	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False	False False 4320 False	False False 4320 False	False False 4320 False	False False False False False	False False 576 False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0	False False 4320 False 30.0	False False 4320 False 30.0	False False 4320 False 30.0	False False False 576 False 30.0	False False 576 False 30.0
&ocean_tracer_advect_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0	False False 4320 False 30.0	False False 4320 False 30.0	False False 4320 False 30.0	False False 576 False 30.0	False False 576 False 30.0
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0	False False 4320 False 30.0	False False 4320 False 30.0	False False 4320 False 30.0	False False False 576 False 30.0	False False 576 False 30.0
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False	False False 4320 False 30.0 0.0 False	False False 4320 False 30.0 0.0 False	False False 4320 False 30.0 0.0 False	False False False 576 False 30.0 0.0 False	False False 576 False 30.0 0.0 False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True	False False 4320 False 30.0 0.0 False True False True	False False 4320 False 30.0 0.0 False True False True	False False 4320 False 30.0 0.0 False True False True	False False 576 False 30.0 0.0 False True False	False False 576 False 30.0 0.0 False True False True
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False False	False False False 4320 False 30.0 0.0 False True False True False False	False False 4320 False 30.0 0.0 False True False True False False	False False False 576 False 30.0 0.0 False True False True False	False False 576 False 30.0 0.0 False True False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True	False False 4320 False 30.0 0.0 False True False True False True False	False False False 4320 False 30.0 0.0 False True False True False True False True	False False 4320 False 30.0 0.0 False True False True False True False True	False False False 576 False 30.0 0.0 False True False True False True False True	False False 576 False 30.0 0.0 False True False True False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_before_vphysics limit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False	False False 4320 False 30.0 0.0 False True False True False True False True False	False False False 4320 False 30.0 0.0 False True False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False True False	False False 576 False 30.0 0.0 False True False True False True False True False	False False 576 False 30.0 0.0 False True False True False True False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics climit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tracer_source	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False True False True False False True False False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics climit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tracer_source debug_this_module	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False False False	False False 576 False 30.0 0.0 False True False True False True False False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics climit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tracer_source debug_this_module diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False False False True False False True False False True False True False False True False False True False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False False 576 False 30.0 0.0 False True False True False	False False 576 False 30.0 0.0 False True False True False True False False False False False False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics climit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tendency zero_tracer_source debug_this_module diag_step energy_diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False False False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False True False	False False 4320 False 30.0 0.0 False True False True False	False False 576 False 30.0 0.0 False True False True False True False	False False 576 False 30.0 0.0 False True False True False
&ocean_tracer_advect_nml &ocean_tracer_diag_nml &ocean_tracer_nml	thickness_dzt_min thickness_dzt_min_init thickness_method min_thickness advect_sweby_all async_domain_update debug_this_module read_basin_mask diag_step do_bitwise_exact_sum tracer_conserve_days age_tracer_max_init debug_this_module frazil_heating_after_vphysics frazil_heating_after_vphysics climit_age_tracer remap_depth_to_s_init use_tempsalt_check_range zero_tracer_source debug_this_module diag_step	0.75 1.0 2.0 'energetic' 25.0 True True False 4320 False 1.0 0.0 False True False True False True False False False True False False True False False True False True False False True False False True False False False False False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False 4320 False 30.0 0.0 False True False True False	False False 4320 False 30.0 0.0 False True False True False True False False False False False False False False False	False False False 576 False 30.0 0.0 False True False True False	False False 576 False 30.0 0.0 False True False True False True False False False False False False

Group (continued)	Variable	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	max_cgint	1.0	1.0	1.5	1.0	1.0	1.0
	truncate_velocity	True	False	False	False	False	False
	truncate_velocity_value	2.0	2.0 True	2.0 True	2.0 True	2.0 True	2.0 Truo
	truncate_verbose zero_tendency	True False	True False	False	True False	True False	True False
	zero_tendency_explicit_a	raise	False	False	False	False	False
	zero_tendency_explicit_b		False	False	False	False	False
	zero_tendency_implicit		False	False	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False	False	False	False	False
&ocean_vert_kpp_mom4p0_nml	use_this_module	False	0.0	0.0	0.0	0.0	0.0
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw diff_con_limit	0.0 0.1	0.0	0.0	0.0	0.0	0.0
	double_diffusion	True	True	True	True	True	True
	kbl_standard_method	False	False	False	False	False	False
	ricr	0.3	0.3	0.3	0.3	0.3	0.3
	smooth_blmc	False	False	False	False	False	False
	smooth_ri_kmax_eq_kmu	True	True	True	True	True	True
	use_this_module	True	True	True	True	True	True
	visc_cbu_iw visc_con_limit	0.0 0.1	0.0	0.0	0.0	0.0	0.0
&ocean_vert_mix_nml	visc_con_limit afkph_00	0.1					
QOCEAN_VETC_INIX_INIT	afkph_90	0.75					
	aidif	1.0	1.0	1.0	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False	False	False	False
	bryan_lewis_lat_depend	True	False	False	False	False	False
	bryan_lewis_lat_transition	35.0					
	dfkph_00	1.15					
	dfkph_90	0.95					
	hwf_diffusivity		False	False	False	False	False
	hwf_min_diffusivity		$2 \times 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$ 20.0	$2 \times 10^{-6}$	$2 \times 10^{-6}$
	hwf_n0_2omega linear_taper_diff_cbt_table	False	20.0	20.0	20.0	20.0	20.0
	sfkph_00	$4.5 \times 10^{-5}$					
	sfkph_90	$4.5 \times 10^{-5}$					
	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
		mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'	mom4p1'
	zfkph_00	250 000.0 250 000.0					
Passan vert tidal ami	zfkph_90		0.0	0.0	0.0	0.0	0.0
&ocean_vert_tidal_nml	<pre>background_diffusivity background_viscosity</pre>	$5 \times 10^{-6}$ 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001	0.0 0.0001
	decay_scale	300.0	500.0	500.0	500.0	500.0	500.0
	drag_dissipation_use_cdbot	300.0	True	True	True	True	True
	drhodz_min	$1  imes 10^{-12}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$
	fixed_wave_dissipation	False	False	False	False	False	False
	max_drag_diffusivity	0.01					
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01
	mixing_efficiency_n2depend	True	True	True	True	True	True
	read_roughness	True	True	True	True	True	True
	read_tide_speed read_wave_dissipation	True False	True False	True False	True False	True False	True False
	reading_roughness_amp	True	True	True	True	True	True
	reading_roughness_length	False	False	False	False	False	False
	roughness_scale	20 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0
	tide_speed_data_on_t_grid	True	True	True	True	True	True
	use_drag_dissipation	True	True	True	True	True	True
	use_legacy_methods	<b>T</b>	False	False	False	False	False
	use_this_module	True	True True	True True	True True	True True	True
	use_wave_dissipation wave_energy_flux_max	True 0.1	0.1	0.1	0.1	0.1	True 0.1
&ocean_xlandinsert_nml	use_this_module	False	False	False	False	False	False
	verbose_init	True	. 4150	. 4130	. 4150	. 4150	ruisc
	use_this_module	False	False	False	False	False	False
&ocean_xlandmix_nml		True					
&ocean_xlandmix_nml	verbose_init	IIue					
	xlandmix_kmt	True					
&sat_vapor_pres_nml	xlandmix_kmt show_all_bad_values					True	
	xlandmix_kmt show_all_bad_values ncar_ocean_flux			True		True	
&sat_vapor_pres_nml	xlandmix_kmt show_all_bad_values			True True			True

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

# 4 All variables in all 9 configs (differences highlighted)

Group Vari	able original, GFDL_ ESM2M_ input cut.nm	- MOM_SIS - TOPAZ - input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&auscom_ice_nml aice_c	itoff				•	0.15	0.15	0.15	0.15
chk_i2o_f	elds					False	False	False	False
chk_o2i_f						False	False	False	False
do_ice_						False	False	False	False
	<mark>_cpl</mark> ieltt					3600 False	3600 False	1800 False	600 False
frazil_fa						1.0	1.0	1.0	1.0
iceform_adj						False	False	False	False
icemlt_fa						1.0	1.0	1.0	1.0
km	xice					5	5	5	5
pop_ice						True	True	True	True
redsea_gulfbay -:						1.0	True	1.0	10
sign_	nelt					1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216
use_ic						-0.216 True	—0.216 True	-0.216 True	-0.216 True
&bg_diff_lat_dependence_nml bg_diff_eq	dice					$1 \times 10^{-6}$	nue	nue	nue
lat_low_b						20.0			
&coupler_nml atmos_			0	0	0				
atmos_nthr			?I?	212	212				
cale check_st			'noleap' O	'noleap' 0	'noleap' O				
CONCUI			False	False	False				
current_			1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0				
	lays (		0	365	1				
do_at			False	False	False				
do	f <mark>lux</mark> True	2							
	<u>_ice</u> True	e True	True	True	True				
	and True		False	False	False				
do_o			True	True	True				
dt_ai			3600 3600	1800 1800	1800 1800				
	cpld 7200 orths 12		12	1000	1800				
ocean_			0	0	0				
use_laq_fl			True	True	True				
&diag_integral_nml file_n		- 'diag	'diag	'diag	'diag				
	integral.out	_	integral.out'	integral.out'	integral.out'				
output_inte	rval 1.0	1.0	-1.0	-1.0	-1.0				
time_	nits 'days	s' 'days'	'days'	'days'	'days'				
&diag_manager_nml							True	True	True
debug_diag_manager	F-1	. F-1	Falsa	Falas	F-I	F-1	T	Т	T
issue_oor_warr max_			False 300	False 300	False 300	False	True	True	True
max.			1000	1000	1000				
max_input_f			700	700	700				
max_num_axis.			40	40	40				
max_output_f			700	700	700				
mix_snapshot_average_f									
&flux_exchange_nml debug_st									
divert_stocks_re			_	_	_				
do_area_weighted			True	True	True				
	ocks 4	t			False				
&fms_io_nml		'single'	'multi'	'multi'	raise 'multi'	'single'	'single'	'multi'	'multi'
max_fi			700	700	700	Single	siliyte	mutti	muttl
max_file			700	700	700				
threading_			'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
threading_\	<i>r</i> rite	'single'	'multi'	'multi'	'multi'	'single'	'single'	'multi'	'multi'
&fms_nml clock_c			'L00P'	'L00P'	'LOOP'	'L00P'	'COMPONENT'	'COMPONENT'	'COMPONENT'
domains_stack		8000000	115200	115200	115200		115200	115200	115200
print_memory_u			False	False	False				
Stack			F.I.	F-1	Fe!				
&generic_tracer_nml do_generic_t  do_generic_t			False False	False	False False				
do_generic_ti			False	False False	False				
	nge 10.0		1 0136	i aise	I alse				
&ice_model_nml add_diurna	<u> </u>								
			0.00	0.68	0.68				
alt	_100	0.013	0.68	0.00	0.00				
	sno 0.83		0.85	0.85	0.85				

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
cm2_bugs	False	False			•		прислип	прислик	трислик
do_icebergs h_lo_lim	True $1 imes 10^{-10}$	False $1 imes 10^{-10}$	False	False	False				
heat_rough_ice	1 × 10	0.0005	0.0005	0.0005	0.0005				
ice_bulk_salin	0.005	0.005	0.005	0.005	0.005				
io_layout layout	1, 2 15, 2		10, 12	64, 30 64, 30	8, 9 40, 45				
mom_rough_ice	13, 2		0.0005	0.0005	0.0005				
nsteps_adv	1	1	1	1	6				
nsteps_dyn num_part	72 6	108 6	72 6	72 6	144 6				
spec_ice	False	False	False	False	False				
t_range_melt	1.0	10.0	1.0	1.0	1.0				
wd_turn	0.0	0.0	0.0	0.0	0.0				
&icebergs_nml add_weight_to_ocean bergy_bit_erosion_fraction		0.0	False 0.0	False 0.0	False 0.0				
debug		False	False	False	False				
make_calving_reproduce	True								
parallel_reprod really_debug		True False	True False	True False	True False				
reatty_debug sicn_shift		0.1	0.1	0.1	0.1				
speed_limit	0.5								
time_average_weight	False	0	0	٥	٥				
traj_sample_hrs use_operator_splitting	0	0 True	0 True	0 True	0 True				
use_roundoff_fix	True	nuc	nuc	nuc	nuc				
verbose	True	False	False	False	False				
werbose_hrs &mom_oasis3_interface_nml fields_in	120	2400	2400	2400	2400	'u_flux',	'u_flux',	'u_flux',	'u_flux',
						'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'tw_flux', 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux, 't_flux, 'lw_flux, 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux, 't_flux, 'lw_flux, 'runof', 'p', 'aice', 'wfimelt', 'wfiform'	'v_flux', 'lprec', 'fprec', 'salt_flx', 'mh_flux', 'sw_flux', 'q_flux', 't_flux', 'lw_flux', 'runof', 'p', 'aice', 'wfinett', 'wfiform'
fields_out						't_surf, 's_surf, 'u_surf, 'v_surf, 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'	't_surf', 's_surf', 'u_surf', 'v_surf', 'dssldx', 'dssldy', 'frazil'
num_fields_in						15 7	15 7	15 7	15
num_fields_out send_after_ocean_update						True	True	True	7 True
send_before_ocean_update						False	False	False	False
&monin_obukhov_nml neutral rich_crit stable_option	10.0	True	True	True	True		True	True	True
zeta_trans	0.5								
&mpp_io_nml deflate_level					5		5	5	5
shuffle & ocean_adv_vel_diag_nml diag_step	1200	12	4320	4320	43200	120	4320	4320	576
large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<pre>&amp;ocean_advection_velocity_nml max_advection_velocity</pre>	False 0.5	False 0.5	True 0.5	True 0.5	True 0.2	False 0.5	True 0.5	True 0.5	True 0.5
&ocean_albedo_nml	5	2	2	2	2		2	2	2
ocean_albedo_option &ocean_barotropic_nml barotropic_halo			10	10	10		10	10	10
barotropic_leap_froq		False	10	10	10	False	10	10	10
barotropic_pred_corr		True				True			
barotropic_time_stepping_a	True False		True False	True False	True False		True False	True False	True False
barotropic_time_stepping_b barotropic_time_stepping_mom4p0	raise	True	raise	raise	rdise	True	raise	raise	raise
barotropic_time_stepping_mom4p1		False				False			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
debug_this_module	False	False	False	False	False	False	False	False	False
diag_step do_bitwise_exact_sum	1200 True	12	4320	4320	43200	120	4320	4320	576
eta_max	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
frac_crit_cell_height	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
pred_corr_gamma	0.2	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	True False	True True	True False	True False	True False
smooth_eta_t_laplacian	False	False	False	False	True	False	True	True	True
smooth_pbot_t_biharmonic	True	True	True	True	False	True	False	False	False
smooth_pbot_t_laplacian	False	False	False	False	True	False	True	True	True
truncate_eta	False	False	False	False	False	False	False	False	False
use_legacy_barotropic_halos	0.01	0.01	False	False	False	0.01	False	False	False
vel_micom_bih vel_micom_lap	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05	0.01 0.05
vel_micom_lap_diag	1.0	1.0	0.05	0.5	0.5	0.03	0.03	0.2	0.03
verbose_truncate	True	True	True	True	True	True	True	True	True
zero_tendency	False	False	False	False	False	False	False	False	False
&ocean_bbc_nml bmf_implicit	0.003	0.000	True	True	True	0.004	True	True	True
cdbot cdbot_hi	0.002	0.002	0.001 0.007	0.001 0.007	0.001 0.007	0.001	0.001 0.007	0.001 0.007	0.001 0.007
cdbot_law_of_wall			0.007	0.007	0.007	False	0.007	0.007	0.007
cdbot_roughness_length			False	False	False	1 4150	False	False	False
cdbot_roughness_uamp			True	True	True		True	True	True
uresidual	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05
use_geothermal_heating	True	True	False	False	False	False	False	False	False
&ocean_bbc_ofam_nml read_tide_speed uresidual2_max						False 1.0			
&ocean_bih_friction_nml bih_friction scheme	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
&ocean_bih_tracer_nml tracer_mix_micom			True	True	True				
use_this_module	False	False	False	False	False	False	False	False	False
vel_micom			0.001	0.001	0.001				
&ocean_bihcst_friction_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_bihgen_friction_nml bottom_5point	True	True	False	False	False	True	True	False	False
eq_lat_micom eq_vel_micom_aniso	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
eq_vel_micom_iso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
equatorial_zonal	False	False	False	False	False	False	False	False	False
k_smag_aniso	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
k_smag_iso	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ncar_boundary_scaling ncar_boundary_scaling_read	True	True	True False	True True	True True	True	True True	True True	True True
ncar_rescale_power	2	2	2	2	2	2	2	2	2
ncar_vconst_4	$2  imes 10^{-8}$	$2  imes 10^{-8}$	$2  imes 10^{-8}$	$2 \times 10^{-8}$	$2  imes 10^{-8}$	$2  imes 10^{-8}$	$2 \times 10^{-8}$	$2  imes 10^{-8}$	$2  imes 10^{-8}$
ncar_vconst_5	5	5	5	5	5	5	5	5	5
use_this_module	True	True	True	True	True	True	True	True	True
vel_micom_aniso vel_micom_bottom	0.0 0.01	0.0 0.01	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.01	0.0 0.01	0.0 0.0	0.0 0.0
vel_micom_iso	0.01	0.01	0.0	0.0	0.0	0.01	0.01	0.0	0.0
visc_crit_scale	0.25	0.25	1.0	1.0	1.0	0.25	0.25	1.0	1.0
&ocean_convect_nml convect_full_scalar			True	True	True	False			
convect_full_vector			False	False	False	True	F .	F .	
use_this_module	False	False 0.5	False 0.5	False	False	False 0.5	False 0.5	False 0.5	False 0.5
&ocean_coriolis_nml acor use_this_module	0.5 True	0.5 True	0.5 True	0.5 True	0.5 True	0.5 True	0.5 True	0.5 True	0.5 True
&ocean_density_nml eos_linear	False	nue	False	False	False	iiue	False	False	False
eos_preteos10	True		True	True	True		True	True	True
layer_nk linear_eos	80	80 False	80	80	80	80 False	80	80	80
unear <u>e</u> os neutralrho_max	1030.0	1030.0	1038.0	1038.0	1038.0	1030.0	1030.0	1030.0	1030.0
neutralrho_min	1020.0	1020.0	1038.0	1038.0	1028.0	1030.0	1020.0	1020.0	1030.0
potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
teos10_eos						False			
&ocean_domains_nml max_tracers &ocean_drifters_nml use_this_module	False	False				20	5	5	5
&ocean_form_drag_nml	False	False	False	False	False	0.6 False	False	False	False

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&ocean_frazil_nml debug_this_module	False	False	False	False	False		False	False	False
frazil_only_in_surface	True	True	True	True	True	False	False	False	False
freezing_temp_accurate freezing_temp_preteos10		False				True	True	True	True
freezing_temp_simple	True	True	True	True	True	False	False	False	False
use_this_module	True	True	True	True	True	True	True	True	True
&ocean_grids_nml debug_this_module	True	True	False	False	False	True	False	False	False
do_bitwise_exact_sum	True	Falsa				F-I			
read_rho0_profile &ocean_increment_eta_nml	False	False				False			
days_to_increment						O			
fraction_increment						1.0			
secs_to_increment	F-I	Falsa	F-I	F-1	Falas	3600	F-I	Falsa	Falsa
use_this_module &ocean_increment_tracer_nml	False	False	False	False	False	False	False	False	False
days_to_increment						U			
fraction_increment						1.0			
secs_to_increment	_	_	_	_	_	3600	_	_	
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_increment_velocity_nml days_to_increment						0			
fraction_increment secs_to_increment						1.0 3600			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_lap_friction_nml lap_friction	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
scheme &ocean_lap_tracer_nml use_this	False	False	False	False	False	False	False	False	False
module &ocean_lapcst_friction_nml use_this	False	False	False	False	False	False	False	False	False
module &ocean_lapgen_friction_nml	True	True				True	True		
bottom_5point	0.0	0.0				0.0	2.0		
k_smag_aniso k_smag_iso	0.0 0.0	0.0 0.0	2.0	2.0	2.0	0.0 0.0	0.0 0.0		
ncar_only_equatorial	0.0	0.0	2.0	2.0	2.0	True	0.0		
restrict_polar_visc	True	True				True	True		
restrict_polar_visc_lat	60.0	60.0				60.0	60.0		
restrict_polar_visc_ratio use_this_module	0.35	0.35	Ealco	False	False	0.35 True	0.35	Ealco	False
vconst_1	True	True	False	raise	raise	8 000 000.0	True	False	raise
vconst_2						0.0			
vconst_3						0.8			
vconst_4						$5 \times 10^{-9}$			
vconst_5 vconst_6						3 300 000 000.0			
vconst_7						100.0			
vel_micom_iso	0.1	0.1				0.1	0.1		
viscosity_ncar	False	False				False	False		
viscosity_ncar_2000						False			
viscosity_ncar_2007 viscosity_scale_by_rossby	True	True				True True	True		
viscosity_scale_by_rossby_power	4.0	4.0				4.0	4.0		
&ocean_mixdownslope_nml debug_this_module	False	False	False	False	False	False	False		
mixdownslope_mask_gfdl	True	True				False	False		
mixdownslope_npts	4	4				4	4		
read_mixdownslope_mask use_this_module	True True	True True	False	False	False	False True	False True	False	False
&ocean_model_nml baroclinic_split	1	1	raise 1	raise 1	raise	1	1	raise 1	raise 1
barotropic_split	80	80	80	80	60	80	80	80	80
cmip_units	False					True	True	True	True
debug	False	False	False	False	False	False	False	False	False
dt_ocean impose_init_from_restart	7200 True	7200 False	3600	1800	150	3600	3600	1200	150
inpose_init_non_restart io_layout	1, 4	า สเวต		64, 30	8,9		4, 3	6,5	10, 15
layout	12,8	6,4	10, 12	64, 30	40, 45	12, 10	16, 15	48, 40	80,75
surface_height_split	1	1	1	1	1	1	1	1	1
time_tendency vertical_coordinate	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
&ocean_momentum_source_nml rayleigh_damp_exp_from_bottom	'zstar'	'zstar'	'zstar' False	'zstar' False	'zstar' False	'zstar'	'zstar' False	'zstar' False	'zstar' False
use_rayleigh_damp_table			True	True	True	True	True	True	True

module					put.nml	sis01v5KDS75 WOA13_in- put.nml	mom4p1- input.nml	jra55_ryf/ ocean/ input.nml	jra55_ryf/ ocean/ input.nml	jra55_ryf/ ocean/ input.nml
	debug_this	False	False	False	False	False	False	False	False	False
	use_nphysicsa	False	False	False	False	False	False	False	False	False
i i	use_nphysicsb	False	True	False	False	False	False	False	False	False
	use_nphysicsc	True	False	False	False	False	True	True	False	False
	_this_module	True	True	False	False	False	True	True	False	False
&ocean_nphysics_util_nml	. agm	800.0	0.008	100.0	100.0	100.0	600.0	600.0	100.0	100.0
	agm_closure	True	True	True	True	True	True	True	True	True
•	ure_baroclinic	True	True	True	True	True	True	True	True	True
	ure_buoy_freq	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
agm_closure_ead	uy_ave_IIIIxeu ure_eady_cap	True True	True True				True True	True True		
agm_closure_eady.		True	True				True	True		
agm_closure_eady		True	True				True	True		
agm_closure_		0.0	0.0				0.0	0.0		
agm_closure_ede		False	False				False	False		
agm_closure	e_grid_scaling	True	True				True	True		
	losure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0
agm_closure_le		False	False	False	False	False	False	False	False	False
•	_length_fixed	False	False	False	False	False	False	False	False	False
agm_closure_l	length_rossby _lower_depth	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0	False 2000.0
•	_closure_max	800.0	800.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
	n_closure_min	100.0	100.0	100.0	100.0	100.0	50.0	50.0	100.0	100.0
	osure_scaling	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	_upper_depth	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	damping_time	45.0	45.0				45.0	45.0		
agm_s	smooth_space	False	False				False	False		
agm.	_smooth_time	False	False				False	False		
	aredi	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
	di_equal_agm	False	False	False	False	False	False	False	False	False
	odz_mom4p1 _smooth_horz	True False	True False	False False	False False	False False	True False	True False	False False	False False
	_smooth_vert	False	False	False	False	False	False	False	False	False
	_util_zero_init	True	True	ruisc	rusc	Tube	True	True	ratsc	ruisc
	y_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0
	y_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0
	smax	0.005	0.005	0.002	0.002	0.002				
	swidth	0.002	0.002	0.002	0.002	0.002				
trace	er_mix_micom	False	False	False	False	False	False	False	False	False
9 accon unbusiesa uml	vel_micom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&ocean_nphysicsa_nml debug_this_module		False	False							
	ear_gm_taper	True	True							
	_physics_limit	True	True							
	hysics_simple	False	False							
	ral_sine_taper sk_neutral_on	True True	True True							
	this_module	False	False	False	False	False	False	False	False	False
&ocean_nphysicsb_nml debug_this_module	_tm3_modute	False	False	Tuisc	ruse	ruisc	ruisc	ruse	ruisc	ruse
	layer_smooth	True	True							
	_physics_limit	True	True							
	urb_thick_min	50.0	50.0							
	b_thick_min_k e_this_module	5 False	5 True	False	False	False	False	False	False	False
&ocean_nphysicsc_nml bv_freq_smooth_vert	Lins_module	True	nue	raise	raise	raise	True	True	raise	raise
	bvp_bc_mode	2					2	2		
	/p_min_speed	0.1					0.1	0.1		
	bvp_speed	0.0					0.0	0.0		
	_this_module	False					False	False		
	_gm_skewsion	True					True	True		
	itral_diffusion	True					True	True		
	epsln_bv_freq	$1 \times 10^{-12}$					$1 \times 10^{-12}$	$1 \times 10^{-12}$		
		True False					True False	True False		
gm_skewsic	WSION MODE						True			
gm_skewsic gm_ske	wsion_modes						IIII	ILITE		
gm_skewsic gm_ske neutra	l_eddy_depth	True						True True		
gm_skewsic gm_ske neutra neutral	l_eddy_depth _physics_limit	True True					True 2	True		
gm_skewsic gm_ske neutra neutral numt	l_eddy_depth	True					True			
gm_skewsic gm_ske neutra neutral numt	l_eddy_depth _physics_limit per_bc_modes	True True 2					True 2	True 2		

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
tmask_neutral_on	True				p	True	True		
turb_blayer_min	50.0					50.0	50.0		
use_this_module	True	False	False	False	False	True	True	False	False
&ocean_operators_nml use_legacy_div_ud	True		False	False	False		False	False	False
&ocean_overexchange_nml debug this_module	False	False	False	False	False	False	False	False	False
overexch_check_extrema overexch_npts	False 4	False 4	4	4	4	False 4	4	4	4
overexch_weight_far	False	False	False	False	False	False	False	False	False
overflow_umax	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_nml debug_this_module	False	False	False	False	False	False			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml			False	False	False				
debug_this_module diaq_step			4320	4320	43200				
do_entrainment_para_ofp			False	False	False				
do_enass_ofp			True	True	True				
frac_exchange_src			1.0	1.0	1.0				
max_vol_trans_ofp			10 000 000.0	10 000 000.0	10 000 000.0				
use_this_module			False	False	False		False	False	False
&ocean_polar_filter_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_pressure_nml zero_pressure_force			False	False	False		False	False	False
&ocean_rivermix_nml calving_insertion_thickness	40.0	40.0							
debug_this_module	False	False	False	False	False	False	False	False	False
discharge_combine_runoff_calve	False	True							
do_bitwise_exact_sum river_diffuse_salt	True False	False	False	False	False	False	True	True	True
river_diffuse_temp	False	False	False	False	False	False	True	True	True
river_diffusion_thickness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
river_diffusivity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
runoff_insertion_thickness	40.0	40.0	-	-	-	-	-	-	_
use_this_module	True	True	True 'false'	True 'false'	True 'false'	True	True	True	True
&ocean_riverspread_nml debug_this_module			.iaise	.iaise	.iaise				
use_this_module	False	False	True	True	True	True	False	False	False
&ocean_rough_nml rough_scheme	'beljaars'	'beljaars'	'beljaars'	'beljaars'	'beljaars'		'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml avg_sfc_temp_salt_eta	True	True	True	True	True	True	True	True	True
avg_sfc_velocity	True	True	True	True	True	True	True	True	True
calvingspread	False	False	False	False	False		False	False	False
do_bitwise_exact_sum do_flux_correction	True		False False	False False	False False		False False	False False	False False
eta_restore_tscale	-10.0		ruisc	Tube	raise		ruisc	Tuisc	ruisc
ice_salt_concentration						0.005			
land_model_heat_fluxes	True	False	False	False	False		False	False	False
max_delta_salinity_restore			0.5	0.5	0.5	0.5	0.5	0.5	0.5
max_ice_thickness	8.0	8.0	1.0 Falso	1.0	1.0	8.0 Falso	0.0	0.0	0.0 Falso
read_restore_mask restore_mask_qfdl			False False	False False	False False	False False	False False	False False	False False
runoff_salinity			0.0	0.0	0.0	0.0	0.0	0.0	0.0
runoffspread	False	False	0.0	0.0	0.0	0.0	0.0	0.0	0.0
salt_correction_scale	0.0		0.0	0.0	0.0		0.0	0.0	0.0
salt_restore_as_salt_flux			True	True	True	True	True	True	True
salt_restore_tscale	-10.0	-10.0	60.0	60.0	60.0	15.0	60.0	60.0	60.0
salt_restore_under_ice	0.0		True	True	True	True	True	True	True
tau_x_correction_scale tau_y_correction_scale	0.0 0.0								
temp_correction_scale	1.0								
temp_restore_tscale	-10.0	-10.0	-10.0	-10.0	-10.0	-1.0	-10.0	-10.0	-10.0
use_full_patm_for_sea_level	True	True	False	False	False		False	False	False
use_waterflux	True	True	True	True	True	True	True	True	True
use_waterflux_override_calving	False								
use_waterflux_override_evap	False								
use_waterflux_override_fprec waterflux_tavq	False False	False				False			
zero_heat_fluxes	Lqrzg	Larse	False	False	False	False	False	False	False
zero_net_pme_eta_restore	False		. 400	. 4.50	· ausc	. 4.50	. 4.50	. 4.50	. uisc

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
zero_net_salt_correction			False	False	False		False	False	False
zero_net_salt_restore			True	True	True	True	True	True	True
zero_net_water_correction			False	False	False		False	False	False
zero_net_water_couple_restore			True	True	True	True	True	True	True
zero_net_water_coupler zero_net_water_restore			True True	True True	True True	True True	True True	True True	True True
zero_net_water_restore zero_pme_fluxes			iiue	iiue	False	iiuc	iiuc	iiue	iiuc
zero_river_fluxes					False				
zero_runoff_fluxes					True				
zero_surface_stress			False	False	False	False	False	False	False
<pre>cero_water_fluxes &amp;ocean_sbc_ofam_nml</pre>			False	False	False	False False	False	False	False
restore_mask_ofam						False			
river_temp_ofam						False			
&ocean_shortwave_csiro_nml			True			True			
read_depth									
use_this_module	False	False	True	False	False	True	False	False	False
&ocean_shortwave_qfdl_nml debuq	False	False	7000 False	False	False	7000 False	False	False	False
this_module	rdise	raise	Lqrzg	raise	LGIZE	Ldl2G	FdlSC	raise	Larze
enforce_sw_frac	True	True	True	True	True	True	True	True	True
optics_manizza	True	True	True	True	True	True	True	True	True
optics_morel_antoine	False	False	False	False	False		False	False	False
override_f_vis	False	False		_	_		_	_	_
read_chl	False	False	False	True	True	False False	True	True	True
sw_pen_fixed_depths use_this_module	True	True	False	True	True	False	True	True	True
zmax_pen	200.0	200.0	300.0	300.0	300.0	200.0	300.0	300.0	300.0
&ocean_shortwave_jerlov_nml use this_module	False	False	False	False	False	False	False	False	False
&ocean_shortwave_nml use_shortwave_csiro	False	False	True	False	False	True	False	False	False
use_shortwave_gfdl	True	True	False	True	True	False	True	True	True
use_shortwave_jerlov	False	False	False	False	False	False	False	False	False
use_this_module &ocean_sigma_transport_nml	True False	True False	True False	True False	True False	True False	True	True	True
sigma_advection_on									
sigma_advection_sgs_only	False	False	False	False	False	False			
sigma_diffusion_on	True	True	True	True	True	True			
sigma_diffusivity_ratio	$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$			
sigma_just_in_bottom_cell sigma_umax	True 0.01	True 0.01	True 0.01	True 0.01	True 0.01	True 0.01			
smooth_sigma_thickness	True	True	True	True	True	True			
smooth_sigma_velocity	True	True	True	True	True	True			
smooth_velmicom	0.2	0.2	0.2	0.2	0.2	0.2			
thickness_sigma_layer	100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sigma_max	100.0	100.0	100.0	100.0	100.0	100.0			
thickness_sigma_min	100.0	100.0	100.0	100.0	100.0	100.0			
tmask_sigma_on tracer_mix_micom	False True	False True	False True	False True	False True	False True			
use_this_module	True	True	False	False	False	True	False	False	False
vel_micom	0.05	0.05	0.05	0.05	0.05	0.05			
&ocean_solo_nml calendar						'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
date_init						1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
days						0 3600	1460 3600	31 1200	30 600
dt_cpld hours						0	0	0	0
minutes						0	0	0	0
months						12	0	0	0
seconds						0	0	0	0
years					-		0	0	0
&ocean_sponges_eta_nml use_this module	False	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_nml damp_coeff_3d	False	False	False	False	False	False			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_nml use	False	False	False	False	False	False	False	False	False
this_module									
&ocean_submesoscale_nml coefficient_ce			0.05	0.05	0.05		0.05	0.05	0.05
debug_this_module	False	False	False	False	False	False	False	False	False
front_length_const	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
front_length_deform_radius	True	True	True	True	True	True	True	True	True

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in-	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/	new/ control/ 025deg jra55_ryf/ ocean/	new/ control/ 01deg jra55_ryf/ ocean/
limit_psi	True	True	True	True	<b>put.nml</b> True	True	input.nml True	input.nml True	input.nml True
limit_psi_velocity_scale	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
min_kblt	4	4	4	4	4	4	4	4	4
smooth_advect_transport			True	True	True		True	True	True
smooth_advect_transport_num	False	False	4 False	4 Falsa	4 Falsa	False	4 False	4 False	<b>4</b>
smooth_hblt smooth_psi	False	False	False True	False True	False True	False	False True	False True	False True
smooth_psi_num			3	3	3		3	3	3
submeso_advect_flux			False	False	False		False	False	False
submeso_advect_limit			True	True	True		True	True	True
submeso_advect_upwind			True	True	True		True	True	True
submeso_advect_zero_bdy submeso_diffusion			True False	True False	True False		True False	True False	True False
submeso_diffusion_biharmonic			True	True	True		True	True	True
submeso_diffusion_scale			10.0	10.0	10.0		10.0	10.0	10.0
submeso_limit_flux	True	True				True			
submeso_skew_flux	_	_	True	True	True	_	True	True	True
use_hblt_equal_mld use_psi_legacy	True True	True	True	True False	True False	True	True False	True	True False
use_psi_tegacy use_this_module	True	True	False True	True	True	True	True	False True	True
&ocean_tempsalt_nml	False	False	False	False	False	nuc	False	False	False
debug_this_module									
pottemp_2nd_iteration	True	True	True	True	True	True	True	True	True
pottemp_equal_contemp	550	550	True	True	True	55.0	True	True	True
<b>s_max</b> s_max_limit	55.0 42.0	55.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0	55.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0
s_min	-1.0	-1.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.0
s_min_limit	5.0	5.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
t_min	-5.0	-5.0	-20.0	-20.0	-20.0	-5.0	-20.0	-20.0	-20.0
t_min_limit	-1.9	-1.9	-5.0	-5.0	-5.0	-2.0	-5.0	-5.0	-5.0
temperature_variable teos10	'potential temp'	'potential temp'	'potential temp'	'potential temp'	'potential temp'	'conservative temp' False	'potential temp'	'potential temp'	'potential temp'
&ocean_thickness_nml debug_this module	False	False	False	False	False	False	False	False	False
debug_this_module_detail	False	False	False	False	False	False	False	False	False
initialize_zero_eta	False	False				False			
read_rescale_rho0_mask	True	True	Ealso	Ealco	Ealco	False	Ealco	Ealco	Ealco
rescale_mass_to_get_ht_mod rescale_rho0_basin_label	7.0	7.0	False	False	False	7.0	False	False	False
rescale_rho0_mask_qfdl	True	True				False			
rescale_rho0_value	0.75	0.75				0.75			
thickness_dzt_min	2.0	2.0	2.0	2.0	2.0	1.0			
thickness_dzt_min_init	2.0	2.0	10.0	10.0	10.0	2.0			
thickness_method &ocean_time_filter_nml use_this_module	'energetic' False	'energetic' False	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
&ocean_topog_nml min_thickness	5.0	5.0				25.0			
&ocean_tracer_advect_nml advect_sweby_all	False	False	False	False	False	True			
compute_gyre_overturn_diagnose						True			= :
debug_this_module do_fast_compute	False	False	False	False	False	False True	False	False	False
limit_with_upwind	False	False							
read_basin_mask			False	False	False	True	False	False	False
&ocean_tracer_diag_nml diag_step	1200 Falso	12 False	48 Falso	48 Falso	43200 Falso	120 Falso	4320 Falso	4320 Falso	576
do_bitwise_exact_sum smooth_mld	False True	False True	False	False	False	False	False	False	False
tracer_conserve_days	100.0	100.0	30.0	30.0	30.0	1.0	30.0	30.0	30.0
&ocean_tracer_nml age_tracer_max_init	$1 \times 10^{+40}$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
debug_this_module	False	False	False	False	False	False	False	False	False
frazil_heating_after_vphysics	True	True	True	True	True	True	True	True	True
frazil_heating_before_vphysics	False	False	False	False	False	False	False	False	False
interpolate_tdiag_to_pbott	False								
<mark>interpolate_tprog_to_pbott</mark> limit_age_tracer	False True	True	True	True	True	True	True	True	True
remap_depth_to_s_init	False	False	False	False	False	False	False	False	False
tmask_limit_ts_same	True	True	rauc	iaisc	i disc	i alsc	ו ענגונ	i alsc	i alse
unask_mm is admit					Truc		True	T	Truo
use_tempsalt_check_range					True		iiue	True	True
	False False	False False	False False	False False	False False	False False	False False	False	False False

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in-	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/	new/ control/ 025deg jra55_ryf/ ocean/	new/ control/ 01deg jra55_ryf/ ocean/
&ocean_velocity_diag_nml debug_this	False	False	False	False	<b>put.nml</b> False	False	<b>input.nml</b> False	input.nml False	input.nml False
module	4200	42	4720	4720	47200	420	4720	4720	F7.
diag_step energy_diag_step	1200 1200	12 12	4320 4320	4320 4320	43200 43200	120 120	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	10.0
max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
&ocean_velocity_nml adams bashforth_third	True	True	True	True	True	True	True	True	True
max_cgint truncate_velocity	False	False	1.5 False	1.5 False	1.0 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	2.0
truncate_verbose	True	True	True	True	True	True	True	True	True
zero_tendency	False	False	False	False	False	False	False	False	False
zero_tendency_explicit_a zero_tendency_explicit_b			False False	False False	False False		False False	False False	False False
zero_tendency_implicit			False	False	False		False	False	False
&ocean_vert_kpp_iow_nml use_this_module	False	False	False	False	False		False	False	False
&ocean_vert_kpp_mom4p0_nml use_this_module	False	False							
&ocean_vert_kpp_mom4p1_nml diff_cbt_iw	0.0		0.0	0.0	0.0		0.0	0.0	0.0
double_diffusion	True		True	True	True		True	True	True
kbl_standard_method ricr	0.3		0.3	0.3	False 0.3		False 0.3	False 0.3	False 0.3
smooth_blmc	True		True	True	False		False	False	False
smooth_ri_kmax_eq_kmu	nuc		nuc	iiuc	True		True	True	True
use_this_module	True		True	True	True		True	True	True
visc_cbu_iw	0.0		0.0	0.0	0.0		0.0	0.0	0.0
wsfc_combine_runoff_calve &ocean_vert_kpp_nml diff_cbt_iw	False	0.0				0.0			
diff_con_limit		0.0				0.0			
double_diffusion		True				True			
kbl_standard_method		0.7				True			
ricr smooth_blmc		0.3 True				0.3 True			
use_this_module		True				True			
visc_cbu_iw		0.0				0.0			
visc_con_limit	0.475	0.475				0.1			
&ocean_vert_mix_nml afkph_00 afkph_90	0.675 0.725	0.675 0.725				0.65 0.75			
aidif	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
bryan_lewis_diffusivity	True	True	False	False	False	False	False	False	False
bryan_lewis_lat_depend	True	True	False	False	False	True	False	False	False
bryan_lewis_lat_transition dfkph_00	35.0 1.15	35.0 1.15				35.0 1.15			
dfkph_90	1.15	1.15				0.95			
hwf_diffusivity			False	False	False		False	False	False
hwf_min_diffusivity			$2 \times 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$		$2 \times 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$
hwf_n0_2omega linear_taper_diff_cbt_table	False	False	20.0	20.0	20.0	False	20.0	20.0	20.0
quebec_2009_10_bug	False	i alst							
sfkph_00	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$				$4.5 \times 10^{-5}$			
sfkph_90	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$	F 1	F .		$4.5 \times 10^{-5}$	F .	F .	
use_diff_cbt_table vert_diff_back_via_max	False True	False True	False True	False True	False True	False True	False True	False True	False True
vert_uiiback_via_niax vert_mix_scheme	'kpp	'kpp'	'kpp	'kpp	'kpp	'kpp'	'kpp	'kpp	'kpp
	mom4p1'		mom4p1'	mom4p1'	mom4p1'		mom4p1'	mom4p1'	mom4p1'
zfkph_00	250 000 000.0	250 000 000.0				250 000.0			
&ocean_vert_tidal_nml	250 000 000.0	250 000 000.0	0.0	0.0	0.0	$\frac{250000.0}{5\times10^{-6}}$	0.0	0.0	0.0
background_diffusivity background_viscosity	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
decay_scale	300.0	300.0	500.0	500.0	500.0	300.0	500.0	500.0	500.0
drag_dissipation_use_cdbot			True	True	True		True	True	True
drhodz_min	$1 \times 10^{-12}$	$1 \times 10^{-12}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-12}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$	$1 \times 10^{-10}$
fixed_wave_dissipation	False	False	False	False	False	False	False	False	False
max_drag_diffusivity max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01 0.01	0.01	0.01	0.01
mixing_efficiency_n2depend	True	True	True	True	True	True	True	True	True
read_roughness	True	True	True	True	True	True	True	True	True
read_tide_speed	True	True	True	True	True	True	True	True	True
read_wave_dissipation	False	False	False	False	False	False	False	False	False

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ fabio momsis1 input.nml	original/ paul_mom- sis025_in- put.nml	original/ fanghua mom- sis01v5KDS75 WOA13_in- put.nml	original/ russ- accessom- mom4p1- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
readi	ng_roughness_amp	True	True	True	True	True	True	True	True	True
reading	_roughness_length	False	False	False	False	False	False	False	False	False
	roughness_scale	30 000.0	30 000.0	12 000.0	12 000.0	12 000.0	20 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	160.0	-1000.0	-1000.0	-1000.0	160.0	-1000.0	-1000.0	-1000.0
tide_spe	eed_data_on_t_grid	True	True	True	True	True	True	True	True	True
us	se_drag_dissipation	True	True	True	True	True	True	True	True	True
u	se_legacy_methods	True		False	False	False		False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
us	e_wave_dissipation	True	True	True	True	True	True	True	True	True
	e_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_xlandinsert_ use_this_module	nml	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
&ocean_xlandmix_nr	ml use_this_module	True	True	False	False	False	False	False	False	False
	verbose_init	True	True				True			
	xlandmix_kmt	True	True				True			
&redseafix_nml	redsea_gulfbay_sfix			True						
&sat_vapor_pres_nm construct_table_wrt_		True	True							
construct_tab	ole_wrt_lig_and_ice	True	True							
sh	now_all_bad_values					True				
&surface_flux_nml	ncar_ocean_flux			True	True	True				
	old_dtaudv	False								
	raoult_sat_vap			True	True	True				
&topography_nml	topog_file	'INPUT/	'INPUT/							
		navy_topog-	navy_topog-							
		ra-	ra-							
		phy.data.nc'	phy.data.nc'							
&xgrid_nml	do_alltoall			True	True	True				True
	do_alltoallv			True	True	True				True
	interp_method	'second order'	'second order'	'second order'	'second order'	'second order'		'second order'	'second order'	'second order'
make_ex	xchange_reproduce	True	True	False	False	False		False	False	False
	nsubset			16	16	16		16	16	16
	xgrid_log			False	False	False				

## 5 All variables in GFDL & ACCESS configs (differences highlighted)

Marconnice	Group	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
Mile	gaussam isa nml	nico cutoff			015	015	015		015	015	015
Part					0.15	0.15	0.15		0.15	0.15	0.15
Part											
False   Fals											
Part											
							1.0	10			
					1.0		1.0	1.0			
		ige									
1											
Part											
		jge						198			
Fig.		jgs						189			
		jre1						196			
Second   S											
Second   S		Jrs1 irs2									
Second   S					5	5	5		5	5	5
False							,		,	,	,
True											
True		mstress						2.0			
Single					True				True	True	True
Sign.STINK     10	rec					True	True				
Title					10	10	10		10	10	10
True					1.0	1.0	1.0		1.0	1.0	1.0
True					-0.216	-0.216	-0.216		-0.216	-0.216	-0.216
Seconder   Seconder						True				True	True
Second   S											
Time					20.0	20.0					
Calendar	&coupler_nml			0							
Concurrent				'N∩I FAD'							
False		Catchiaan									
Class											
False		current_date	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0							
True											
True				False							
False				Truo							
True											
Conserve_water   Cons											
Manual											
		dt_cpld									
dadata_override_nml         False           debug_data_override         False           grid_center_bug         False           &diag_integral_nml         file_name integral_out in											
&data_override_nml False   debug_data_override False   &diag_integral_nml file_name 'diag integral_out' 'diag integral_out'   output_interval 1.0 1.0   time_units 'days' 'days'    False  True  True  True  False  False  False  True  True  False  False  True  True  False  True  True  True  False  True  True  True  True  True  False  True  Tr		months									
debug_data_override           grid_center_bug         False           &diag_integral_nml         file_name integral_out integral_out integral_out         'diag integral_out integral_out           time_units         'days'         'days'           &diag_manager_nml append_pelist_name         False         False           conserve_water         Conserve_water         Firue         True         True <th< td=""><td></td><td>months ocean_npes</td><td>96</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		months ocean_npes	96	0							
&diag_integral_nml         file_name integral_out i	9. data	months ocean_npes	96	0				Falsa			
time_units     'days'     'days'       &diag_manager_nml     False       append_pelist_name     False       conserve_water     True       debug_diag_manager     True       false     False       do_diag_field_log     False       issue_oor_warnings     False     False     False     True     True     True     False     True       max_axes     200     100     60     300	debug_data_override	months ocean_npes use_lag_fluxes	96	0							
&diag_manager_nml     False       append_pelist_name     True       conserve_water     True       debug_diag_manager     True       do_diag_field_log     False       issue_oor_warnings     False     False       False     True     True       True     True     True       False     False     True     True       True     True     False     True       max_axes     200     100     60     300	debug_data_override	months ocean_npes use_lag_fluxes grid_center_bug file_name	96 True 'diag integral.out'	0 True 'diag integral.out'							
tonserve_water       debug_diag_manager     True     True     True     True     True       do_diag_field_log     False     False       issue_oor_warnings     False     False     False     True     True     True     False     True       max_axes     200     100     60     300	debug_data_override	months ocean_npes use_lag_fluxes  grid_center_bug file_name output_interval	96 True 'diag integral.out' 1.0	0 True 'diag integral.out' 1.0							
do_diag_field_log False False False False True True False True  max_axes 200 100 60 300	debug_data_override  &diag_integral_nml  &diag_manager_nml	months ocean_npes use_lag_fluxes  grid_center_bug file_name output_interval	96 True 'diag integral.out' 1.0	0 True 'diag integral.out' 1.0				False			
issue_oor_warnings False False False False True True True False True max_axes 200 100 60 300	debug_data_override  &diag_integral_nml  &diag_manager_nml	months ocean_npes use_lag_fluxes  grid_center_bug file_name output_interval time_units	96 True 'diag integral.out' 1.0	0 True 'diag integral.out' 1.0				False False True			
max_axes 200 100 60 300	debug_data_override  &diag_integral_nml  &diag_manager_nml append_pelist_name	months ocean_npes use_lag_fluxes  grid_center_bug file_name output_interval time_units  conserve_water ug_diag_manager	96 True 'diag integral.out' 1.0	0 True 'diag integral.out' 1.0			True	False False True True	True		True
	debug_data_override  &diag_integral_nml  &diag_manager_nml append_pelist_name	months ocean_npes use_lag_fluxes  grid_center_bug file_name  output_interval time_units  conserve_water ug_diag_manager o_diag_field_log	'diag integral.out' 1.0 'days'	'diag integral.out' 1.0 'days'				False False True True False			
	debug_data_override  &diag_integral_nml  &diag_manager_nml append_pelist_name	months ocean_npes use_lag_fluxes  grid_center_bug file_name  output_interval time_units  conserve_water ug_diag_manager o_diag_field_log ue_oor_warnings	'diag integral.out' 1.0 'days'	'diag integral.out' 1.0 'days'	False	False		False False True True False True			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.or	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	max_file_attributes						2			
	max_files	50	(00				31		1000	
	max_input_fields max_num_axis_sets	800 200	699 100				300 25		700 40	
	nax_out_per_in_field	200	100				150		70	
	max_output_fields	1300	699				300		700	
mix_snap	shot_average_fields	False	False				False			
	oor_warnings_fatal prepend_date						False True			
region	n_out_use_alt_value						True			
	use_cmor						False			
0.0	write_bytes_in_file						False			
&flux_exchange_nm	l debug_stocks divert_stocks_report	False True	False True							
	_area_weighted_flux	False	False							
	nblocks	4								
&fms_io_nml	checksum_required						True		False	
	debug_mask_list						False			
	dr_set_size fileset_write		'single'	'single'	'single'	'single'	10 'single'	'multi'	'multi'	'multi'
f	fms_netcdf_override		Jiligic	Jiligic	Siligic	Single	True	matti	matti	mater
	fms_netcdf_restart						True			
	format						'netcdf'			
	iospec_ieee32						' <del>'</del> , 'N', 'ieee_32'			
	max_files_r	300	200				40		700	
	max_files_w	300	200				40		700	
	print_chksum						False			
	read_all_pe read_data_bug						True False			
show open na	melist_file_warning						False			
SHOW EXPENSE	threading_read	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'	'multi'
	threading_write		'single'	'single'	'single'	'single'	'single'	'multi'	'multi'	'multi'
&fms_nml	time_stamp_restart						True			
&IIIIS_IIIIL	clock_flags clock_grain	'COMPONENT'	'LOOP'	'LOOP'	'LOOP'	'COMPONENT'	'NONE' 'LOOP'	'COMPONENT'	'LOOP'	'COMPONENT'
	domains_stack_size	5000000	8000000			115200	0	115200	115200	115200
_	iospec_ieee32						"; 'N', 'ieee_32'			
P	orint_memory_usage read_all_pe						False True		False	
	stack_size	0	0				0			
	warning_level						'warning'			
&generic_tracer_nm		False	False						False	
	do_generic_topaz do_generic_tracer	True True	True True						False False	
&get_cal_time_nml	dolgenericleideer	nac	nuc				True		ratse	
allow_calendar_conv										
&horiz_interp_nml	reproduce_siena	400	100				False			
&ice_albedo_nml &ice_model_nml	t_range add_diurnal_sw	10.0 False	10.0 True							
CICC_IIIUUEL_IIIIL	adu_didinat_sw alb_ice	0.65	0.615							
	alb_sno	0.85	0.825							
	channel_viscosity	500 000.0	F. !							
	cm2_bugs do_icebergs	False True	False False							
	h_lo_lim	$1 \times 10^{-10}$	$1 \times 10^{-10}$							
	heat_rough_ice		0.0005							
	ice_bulk_salin	0.005	0.005							
	io_layout layout	1, 2 15, 2								
	nsteps_adv	15, 2	1							
	nsteps_dyn	72	108							
	num_part	6	6							
	spec_ice	False	False 10.0							
	t_range_melt wd_turn	1.0 0.0	0.0							
&icebergs_nml	u=tuill	0.0	0.0							
bergy_bit_erosion_fr										
	debug	т	False							
make	c_calving_reproduce parallel_reprod	True	True							
	pa.attet_reprod		iiuc							

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ou	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
really_debug		False				1116.000000.01			
sicn_shift		0.1							
speed_limit	0.5								
time_average_weight	False	•							
traj_sample_hrs use_operator_splitting	0	0 True							
use_operator_splitting use_roundoff_fix	True	iiue							
verbose	True	False							
verbose_hrs	120	2400							
&mom_oasis3_interface_nml fields_in			'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',	'u_flux', 'v_flux', 'lprec', 'fprec',
			'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',	'salt_flx', 'mh_flux', 'sw_flux',
			'q_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',	't_flux',
			'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',
			'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',
			'aice',	'aice',	'aice',	'aice',	'aice',	'aice',	'aice',
			'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',	'wfimelt',
fields_out			'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform'	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',
Hetus_out			's_surf',	's_surf',	't_surf', 's_surf',	's_surf',	's_surf',	's_surf',	's_surf',
			'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',	'u_surf',
			'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',	'v_surf',
			'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',	'dssldx',
			'dssldy',	'dssldy',	'dssldy',	'dssldy',	'dssldy',	'dssldy',	'dssldy',
			'frazil'	'frazil'	'frazil'	'frazil'	'frazil'	'frazil'	'frazil'
num_fields_in			15 7	15	15 7	15 7	15	15	15
num_fields_out send_after_ocean_update			True	7 True	True	True	7 True	7 True	7 True
send_before_ocean_update			False	False	False	False	False	False	False
&monin_obukhov_nml neutral		True	rube	ruse	True	ruise	True	True	True
rich_crit	10.0								
stable_option	2								
zeta_trans	0.5								
&mpp_io_nml deflate_level					5	1	5	5	5
global_field_on_root_pe						True			
header_buffer_val io_clocks_on						16384 False			
shuffle					1	0	1	1	1
&ocean_adv_vel_diag_nml diag_step	1200	12	120	4320	4320	4320	4320	576	576
large_cfl_value	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
max_cfl_value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
verbose_cfl	False	False	False	True	True	True	True	True	True
&ocean_advection_velocity_nml constant_advection_velocity debug_this_module						False False			
inflow_nboundary						False			
max_advection_velocity	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5
read_advection_transport						False			
read_advection_velocity						False			
&ocean_albedo_nml	5	2			2		2	2	2
ocean_albedo_option &ocean_barotropic_nml alphat						0.948			
barotropic_halo				10	10	10	10	10	10
barotropic_leap_froq		False	False	10	10	10	10	10	10
barotropic_pred_corr		True	True						
barotropic_time_stepping_a	True			True	True	True	True	True	True
barotropic_time_stepping_b	False	-	-	False	False	False	False	False	False
barotropic_time_stepping_mom4p0		True	True						
<pre>barotropic_time_stepping_mom4p1</pre>	False	False False	False False	False	False	False	False	False	False
debug_triis_modute diag_step	1200	12	120	4320	4320	4320	4320	576	576
do_bitwise_exact_sum	True	12	120	1320	1320	False	1320	570	5,0
eta_max	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
eta_offset						$1 \times 10^{-12}$			
frac_crit_cell_height	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
geoid_forcing						False			
ideal_initial_eta						False			
ideal_initial_eta_amplitude						5.0			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ot	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
ideal_initia	l_eta_xwidth						100 000.0			
	l_eta_ywidth						100 000.0			
initsum_with_							False			
initsum_with_							True $1  imes 10^{-12}$			
nred	pbot_offset _corr_gamma	0.2	0.2	0.2	0.2	0.2	1 × 10 12 0.2	0.2	0.2	0.2
smooth_anompb_b		0.2	0.2	0.2	0.2	0.2	False	0.2	0.2	0.2
smooth_anompb							False			
smooth_eta_dia							False			
smooth_eta_d		True	True	True	True	True	True	True	True	True
smootn_eta_ smooth_eta_t_b	t_biharmonic	True	True	True	False	False	False False	False	False	False
smooth_eta_t							False			
	a_t_laplacian	False	False	False	True	True	True	True	True	True
smooth_pbot_		True	True	True	False	False	False	False	False	False
smooth_pbot_t_bihar				F .	_	_	False	_	_	_
	t_t_laplacian dal_forcing_8	False	False	False	True	True	True False	True	True	True
	forcing_ideal						False			
	l_forcing_m2						False			
	truncate_eta	False	False	False	False	False	False	False	False	False
	udrho_bih						False			
	h_vel_micom						0.01			
	udrho_bt_bih udrho_bt_lap						False False			
	udrho_lap						False			
udrho_la	p_vel_micom						0.05			
use_legacy_bar					False	False	False	False	False	False
	l_micom_bih	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	om_bih_diag	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05
	el_micom_lap com_lap_diag	0.05 1.0	0.05 1.0	0.05 0.2	0.05 0.2	0.05 0.2	0.05 0.2	0.05 0.2	0.05 0.5	0.05 0.2
vct_iiii	verbose_init	1.0	1.0	0.2	0.2	0.2	True	0.2	0.5	0.2
verb	ose_truncate	True	True	True	True	True	True	True	True	True
	rite_a_restart						True			
ze	o_coriolis_bt						False			
	zero_eta_ic zero_eta_t						False False			
zero	eta_tendency						False			
20102	zero_eta_u						False			
ze	ro_forcing_bt						False			
zero_nonline							False			
	ero_tendency	False	False	False		False	False	False	False	False
&ocean_bbc_nml	bmf_implicit bmf_max					True	True 1.0	True	True	True
	cdbot	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ċ	dbot_gamma	0.002	0.002	0.001	0.001	0.001	40.0	0.001	0.001	0.001
	cdbot_hh						1100.0			
	cdbot_hi					0.007	0.007	0.007	0.007	0.007
cdbot	_law_of_wall cdbot_lo			False	False		False 0.001			
cdhot roug	nness_length					False	False	False	False	False
	hness_uamp					True	True	True	True	True
	cdbot_uu						1.0			
	cdbot_wave						False			
	_geothermal						0.001			
debug _law_of_wall	this_module						False 0.01			
law_UI_Wall_	uresidual	0.05	0.05			0.05	0.05	0.05	0.05	0.05
use_geothe	rmal_heating	True	True	False	False	False	False	False	False	False
	uvmag_max						10.0			
&ocean_bbc_ofam_nml rea				False	False		False			
	esidual2_max	)	J 17	1.0	1.0	2	0.05	), II	2	) II
&ocean_bih_friction_nml scheme	DIN_TRICTION	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'	'general'
	_this_module						False			
	rite_a_restart						True			
W							0.0			
&ocean_bih_tracer_nml	abih									
&ocean_bih_tracer_nml	orz_s_diffuse						True			
&ocean_bih_tracer_nml h										

Group (continued) Variat	ole original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.ot	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
use_this_modu vel_mico		False	False	False	False	False 0.001	False	False 0.001	False
&ocean_bihcst_friction_nml	False	False	False	False	False	0.001	False	False	False
wse_this_module &ocean_bihgen_friction_nml	True	True	True	True	True	False	False	False	False
bottom_5point						F-1			
<mark>debug_this_mod</mark> u eg_lat_mico		0.0	0.0	0.0	0.0	False 0.0	0.0	0.0	0.0
eq_vel_micom_an		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
eq_vel_micom_i		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
equatorial_zor		False	False	False	False	False	False	False	False
equatorial_zonal_ k_smag_an		0.0	0.0	0.0	0.0	0.0 0.0	0.0	0.0	0.0
k_smaq_i		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ncar_boundary_scali		True	True	True	True	True	True	True	True
ncar_boundary_scaling_re					True	True	True	True	True
ncar_rescale_pov	ver 2	2	2	2	2	2	2	2	2
ncar_vconst		$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$	$2 \times 10^{-8}$
ncar_vconst <mark>neptu</mark>		5	5	5	5	5 False	5	5	5
neptune_depth_n						100.0			
neptune_length_						4200.0			
neptune_length_po	ole					17 000.0			
neptune_scali	-					_1.0			
neptune_smoo						True 1			
neptune_smooth_nu read_aiso_bih_ba						False			
side_drag_friction_m						1.0			
side_drag_friction_scali	ng					1.0			
side_drag_friction_uvmag_m						10.0			
use_side_drag_fricti use_this_modu		True	True	True	True	False True	True	True	True
vel_micom_an		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
vel_micom_botto		0.01	0.01	0.01	0.01	0.0	0.0	0.0	0.0
vel_micom_		0.04	0.04	0.04	0.04	0.0	0.0	0.0	0.0
visc_crit_sca		0.25	0.25	0.25	0.25	1.0	1.0	1.0	1.0
visc_diverge_scali &ocean_blob_nml bitwise_reproducti						0.0 False			
blob_small_ma						1000.0			
debuq_this_modu						False			
do_bitwise_exact_su						False			
max_prop_thickne						0.7			
<pre>ceally_deb &amp;ocean_convect_nml</pre>	ug		False	False		False True		True	
convect_full_scalar			rdise	rdise					
convect_full_vec			True	True		False		False	
convect_no	on on					False 7			
use_this_modu		False	False	False	False	False	False	False	False
	or 0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
debug_this_modu						False			
use_this_modu		True	True	True	True	True	True	True	True
&ocean_density_nml alpha_linear_e beta_linear_e						0.255 0.0			
buoyfreq_smooth_v						True			
debuq_this_modu						False			
density_equal_potr	ho					False			
do_bitwise_exact_su						False			
drhodz_diag_stal				False	False	True	False	Ealso	Ealco
eos_line eos_preteos				True	True	False True	True	False True	False True
eos_teos				nuc	iiuc	False	nuc	nuc	Huc
epsln_drhc	dz					$1  imes 10^{-10}$			
epsln_drhodz_di						$1 \times 10^{-10}$			
grad_nrho_lrpotrho_compt						False			
grad_nrho_lrpotrho_m grad_nrho_lrpotrho_n						10.0 1.0			
grad_nimo_trpotino_n layer_		80	80	80	80	80	80	80	80
linear_e		False	False	- 00	- 00	- 00	- 00	00	- 00
mask_domain_rest						False			
neutral_density_ome						False			
neutral_density_potr	ho					True			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	40700	10700	40700	10700	40700	file.000000.oı	40700	40700	40700
neutralrho_max neutralrho_min	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1030.0 1020.0	1038.0 1028.0	1030.0 1020.0	1038.0 1028.0	1030.0 1020.0
num_121_passes	1020.0	1020.0	1020.0	1020.0	1020.0	1020.0	1020.0	1020.0	1020.0
p_test						1000.0			
potrho_max	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0	1038.0
potrho_min	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0	1028.0
potrho_press press_standard						2000.0 0.0			
rho0_density						False			
s_test						20.0			
smax_diag						-1.0			
smax_min_in_column smooth_stratification_factor						False False			
sn_test						35.0			
t_test						20.0			
teos10_eos			False						
theta_max						30.0			
theta_min tn_test						2.0 20.0			
update_diagnostic_factors						False			
write_a_restart						True			
&ocean_domains_nml halo						1			
max_tracers			20	10	5	5	5	5	5
x_cyclic_offset y_cyclic_offset						0			
&ocean_drifters_nml output_interval						1			
use_this_module	False	False				False			
&ocean_form_drag_nml						600.0			
cprime_aiki			0.6	0.6		0.3			
debug_this_module						False			
form_drag_aiki_bottom_klevels form_drag_aiki_bottom_layer						3 False			
form_drag_aiki_gradh_max						0.05			
form_drag_aiki_gradh_power						1.0			
form_drag_aiki_scale_by_gm						False			
form_drag_aiki_scale_by_gradh						False			
form_drag_gbatch_alpha form_drag_gbatch_alpha_f2						300 000 000.0 False			
form_drag_gbatch_f2overn2						False			
form_drag_gbatch_f2overnb2						False			
form_drag_gbatch_f2overno2						False			
form_drag_gbatch_no						0.005			
form_drag_gbatch_smooth_n2 form_drag_gbatch_surf_layer						False False			
ksurf_blayer_min						3			
n_squared_min						$1 \times 10^{-10}$			
num_121_passes						1			
use_form_drag_aiki						False			
use_form_drag_gbatch use_this_module	False	False	False	False	False	False False	False	False	False
vel_form_drag_max	raise	raise	False	raise	raise	1.0	raise	raise	raise
verbose_init						True			
visc_cbu_form_drag_max						1.0			
&ocean_frazil_nml air_saturated_water						True			
debug_this_module	False	False			False	False	False	False	False
frazil_factor frazil_only_in_surface	True	True	False		False	1.0 False	False	False	False
freezing_temp_accurate	nuc	False	True		i alsc	i disc	i alsc	iauc	1 0130
freezing_temp_preteos10					True	True	True	True	True
freezing_temp_simple	True	True	False	True	False	False	False	False	False
freezing_temp_teos10	Т	Terra	Terra	Terra	Т	False	Terra	Т	Т
use_this_module &ocean_grids_nml	True True	True True	True True	True True	True False	True False	True False	True False	True False
do_bitwise_exact_sum	True	nue	iiue	nue	1 0135	False	1 0125	ו מנטכ	raise
	False	False	False	False		False			
read rhol) profile		. 200		. 200		True			
read_rho0_profile verbose_init						False			
verbose_init write_grid									
verbose_init write_grid &ocean_increment_eta_nml			0	0		1			
verbose_init write_grid &ocean_increment_eta_nml days_to_increment						1			
verbose_init write_grid			0 1.0 3600	0 1.0 1800		1 1.0 0			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oı	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
&ocean_increment_tracer_nml days_to_increment			0	0		1			
fraction_increment			1.0	1.0		1.0			
secs_to_increment use_this_module	False	False	3600 False	1800 False	False	0 False	False	False	False
&ocean_increment_velocity_nml days_to_increment	raise	raise	0	0	raise	1	raise	raise	raise
fraction_increment secs_to_increment			1.0 3600	1.0 1800		1.0			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_lap_friction_nml debug_this_module	'l'	·	'l'	?!?	·	False		'P	2
lap_friction_scheme write_a_restart	'general'	'general'	'general'	'general'	'general'	'general' True	'general'	'general'	'general'
&ocean_lap_tracer_nml alap						0.0			
horz_s_diffuse horz_z_diffuse						True False			
read_diffusivity_mask						False			
tracer_mix_micom	False	Falsa	False	False	False	False	False	Falsa	False
use_this_module vel_micom	raise	False	False	raise	raise	False 0.0	raise	False	False
verbose_init						True			
&ocean_lapcst_friction_nml use_this_module &ocean_lapgen_friction_nml	False	False	False	False	False	False	False	False	False
async_domain_update						Lqtse			
blocksize	_	_	_	_	_	10			
bottom_5point debug_ncar_a	True	True	True	True	True	False False			
debug_ncar_b						False			
debug_this_module						False			
divergence_damp divergence_damp_vel_micom						False 0.0			
eq_lat_micom						0.0			
eq_vel_micom_aniso						0.0			
eq_vel_micom_iso equatorial_no_smag						0.0 False			
equatorial_zonal						False			
equatorial_zonal_lat k_smag_aniso	0.0	0.0	0.0	0.0	0.0	0.0			
k_smaq_iso	0.0	0.0	0.0	0.0	0.0	2.0		2.0	
ncar_isotropic_at_depth						False			
ncar_isotropic_at_depth_visc ncar_isotropic_depth						10 000.0 4000.0			
ncar_isotropic_off_equator						False			
ncar_only_equatorial			True	True		False			
neptune neptune_depth_min						False 100.0			
neptune_length_eq						1200.0			
neptune_length_pole						3000.0			
neptune_smooth neptune_smooth_num						True 1			
restrict_polar_visc	True	True	True	True	True	False			
restrict_polar_visc_lat restrict_polar_visc_ratio	60.0 0.35	60.0 0.35	60.0 0.35	60.0 0.35	60.0 0.35	60.0 0.35			
side_drag_friction_max	0.55	0.55	0.55	0.55	0.55	1.0			
side_drag_friction_scaling						1.0			
side_drag_friction_uvmag_max use_side_drag_friction						10.0 False			
use_this_module vconst_1	True	True	True 8 000 000.0	True 8 000 000.0	True	False 10 000 000.0	False	False	False
vconst_2			0.0	0.0		0.0			
vconst_3 vconst_4			$0.8 \\ 5 \times 10^{-9}$	$0.8 \\ 5 \times 10^{-9}$		$0.16$ $2 \times 10^{-8}$			
vconst_5			3	3		3			
vconst_6			300 000 000.0	300 000 000.0		10 000 000.0			
vconst_7 vconst_8			100.0	100.0		100.0 45.0			
vel_micom_aniso						0.0			
vel_micom_iso	0.1	0.1	0.1	0.1	0.1	0.0			
visc_vel_scale_length viscosity_ncar	False	False	False	True	False	150 000.0 False			
viscosity_illdl	1 4125	ו מנאכ	ו מואכ	ilue	1 9125	1 4125			

Group (continued)	Variable	original/ GFDL- ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.os	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
visco	sity_ncar_2000			False	False		True			
visco	sity_ncar_2007			True	True		False			
	cale_by_rossby	True	True	True	True	True	False			
<pre>viscosity_scale_by &amp;ocean_mixdownslope_r</pre>		4.0 False	4.0 False	4.0 False	4.0 False	4.0 False	2.0 False		False	
debug_this_module	IIIIL	raise	raise	raise	raise	raise	raise		raise	
	vise_exact_sum						False			
	pe_frac_central						0.25			
	ope_mask_gfdl	True	True	False	False	False	False			
	ownslope_npts ope_weight_far	4	4	4	4	4	1 False			
	wnslope_width						1			
	wnslope_mask	True	True	False	False	False	False			
	se_this_module	True	True	True	True	True	False	False	False	False
	baroclinic_split	1	1	1	1	1	1	1	1	1
t	parotropic_split	80 False	80	80 Truo	80 True	80 True	80 True	80 Truo	80	80 Truo
	<mark>cmip_units</mark> debug	False False	False	True False	True False	False	False	True False	False	True False
	dt_ocean	7200	7200	3600	3600	3600	1800	1200	150	150
	horizontal_grid						'bgrid'			
impose_in	it_from_restart	True	False				False			
	io_layout	1, 4		42.40	4, 3	4, 3	6,5	6, 5	10, 15	10, 15
	layout mask_table	12, 8	6,4	12, 10	16, 15	16, 15	48, 40 'INPUT'	48, 40	80,75	80,75
reiniti	alize_thickness						False			
	ce_height_split	1	1	1	1	1	1	1	1	1
	time_tendency	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'	'twolevel'
	use_blobs						False			
	locity_override	'makau'	'=stor'	'makau'	'antar'	'actor'	False	,	'	'meter'
&ocean_momentum_sou	ical_coordinate	'zstar'	'zstar'	'zstar'	'zstar'	'zstar'	'zstar' False	'zstar'	'zstar'	'zstar'
debug_this_module	CC_IIIIC						Talsc			
rayleigh_damp_ex	p_from_bottom					False	False	False	False	False
	amp_exp_scale						100.0			
, ,	lamp_exp_time			_	-	-	864 000.0	-	<b>-</b>	-
	gh_damp_table se_this_module	False	False	True True	True True	True True	True True	True True	True True	True True
u	verbose_init	raise	raise	iiue	iiue	iiue	True	iiue	iiue	iiue
&ocean_nphysics_new_n							False			
drhodz_smooth_horz										
drhoo	lz_smooth_vert						False			
	smax						0.01			
	se_this_module micom_smooth						False 0.2			
&ocean_nphysics_nml	debug_this	False	False	False	False	False	False	False	False	False
module	,									
	use_nphysicsa	False	False	False	False	False	False	False	False	False
	use_nphysicsb	False	True	False	False	False	False	False	False	False
110	use_nphysicsc se_this_module	True True	False True	True True	True True	True True	False False	False False	False False	False False
	write_a_restart	iiuc	iiuc	iiuc	Huc	iiuc	True	raisc	raisc	raisc
&ocean_nphysics_util_ne							1			
num_121_passes										
&ocean_nphysics_util_nn		800.0	800.0	600.0	600.0	600.0		100.0	100.0	100.0
n am1-	agm_closure	True	True	True	True	True		True	True	True True
	sure_baroclinic sure_buoy_freq	True 0.004	True 0.004	True 0.004	True 0.004	True 0.004		True 0.004	True 0.004	0.004
agm_closure_e		True	True	True	True	True		0.001	0.00	0.007
agm_clo	sure_eady_cap	True	True	True	True	True				
agm_closure_ead		True	True	True	True	True				
agm_closure_eac		True	True	True	True	True				
agm_closure agm_closure_ed	e_eden_gamma den_oreathatch	0.0 False	0.0 False	0.0 False	0.0 False	0.0 False				
	re_grid_scaling	True	True	True	True	True				
	closure_length	50 000.0	50 000.0	50 000.0	50 000.0	50 000.0		50 000.0	50 000.0	50 000.0
	length_bczone	False	False	False	False	False		False	False	False
	re_length_fixed	False	False	False	False	False		False	False	False
aom closure	_length_rossby	False	False	False	False	False 2000.0		False 2000.0	False 2000.0	False 2000.0
	o lower death	1/1/1/11								/ 1 1 1 1 1 1 1
agm_closui	e_lower_depth  m_closure_max	2000.0 800.0	2000.0 800.0	2000.0 600.0	2000.0 600.0					
agm_closui ag	re_lower_depth m_closure_max m_closure_min	2000.0 800.0 100.0	800.0 100.0	600.0 50.0	600.0 50.0	600.0 50.0		600.0 100.0	600.0 100.0	600.0 100.0

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
agm_closure_upper_depth	100.0	100.0	100.0	100.0	100.0	file.000000.oı	100.0	100.0	100.0
agm_ctosure_upper_deptir	45.0	45.0	45.0	45.0	45.0		100.0	100.0	100.0
agm_smooth_space	False	False	False	False	False				
agm_smooth_time	False	False	False	False	False				
aredi	600.0	600.0	600.0	600.0	600.0		600.0	600.0	600.0
aredi_equal_agm	False	False	False	False	False		False	False	False
drhodz_mom4p1	True	True	True	True	True		False	False	False
drhodz_smooth_horz drhodz_smooth_vert	False False	False False	False False	False False	False False		False False	False False	False False
nphysics_util_zero_init	True	True	True	True	True		1 0130	i atse	1 0130
rossby_radius_max	100 000.0	100 000.0	100 000.0	100 000.0	100 000.0		100 000.0	100 000.0	100 000.0
rossby_radius_min	15 000.0	15 000.0	15 000.0	15 000.0	15 000.0		15 000.0	15 000.0	15 000.0
smax	0.005	0.005						0.002	
swidth	0.002	0.002						0.002	
tracer_mix_micom	False	False	False	False	False		False	False	False
vel_micom	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
&ocean_nphysicsa_nml debug_this_module neutral_linear_gm_taper	False True	False True							
neutral_physics_limit	True	True							
neutral_physics_simple	False	False							
neutral_sine_taper	True	True							
tmask_neutral_on	True	True							
use_this_module	False	False	False	False	False		False	False	False
&ocean_nphysicsb_nml debug_this_module	False	False							
nblayer_smooth	True	True							
neutral_physics_limit surf_turb_thick_min	True 50.0	True 50.0							
surf_turb_thick_min_k	50.0	50.0							
use_this_module	False	True	False	False	False		False	False	False
&ocean_nphysicsc_nml bv_freq_smooth_vert	True		True	True	True			. 4.00	1 4.50
bvp_bc_mode	2		2	2	2				
bvp_min_speed	0.1		0.1	0.1	0.1				
bvp_speed	0.0		0.0	0.0	0.0				
debug_this_module do_qm_skewsion	False True		False True	False True	False True				
do_neutral_diffusion	True		True	True	True				
epsln_bv_freq	$1 \times 10^{-12}$		$1 \times 10^{-12}$	$1 \times 10^{-12}$	$1 \times 10^{-12}$				
gm_skewsion_bvproblem	True		True	True	True				
gm_skewsion_modes	False		False	False	False				
neutral_eddy_depth	True		True	True	True				
neutral_physics_limit	True		True	True	True				
number_bc_modes	2		2	2	2				
regularize_psi smax_psi	False 0.01		False 0.01	False 0.01	False 0.01				
smooth_psi	True		True	True	True				
tmask_neutral_on	True		True	True	True				
turb_blayer_min	50.0		50.0	50.0	50.0				
use_this_module	True	False	True	True	True		False	False	False
&ocean_obc_nml ctrop_inc						0.0, 0.0, 0.0,			
ctrop_max						1.5, 1.5, 1.5, 1.5			
ctrop_min ctrop_smooth						0.1, 0.1, 0.1, 0.1 0.7, 0.7, 0.7,			
direction						0.7 None			
enh_fac_d						1.0, 1.0, 1.0,			
enh_fac_v						1.0 0.9, 0.9, 0.9,			
enh_pnts						0.9 1, 1, 1, 1			
fieldname_eta						'eta_t', 'none', 'none', 'none'			
fieldname_ud						'ud', 'none', 'none', 'none'			
filename_eta						'obc_eta_t', '.nc', 'none', 'none', 'none'			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg - jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o1	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	filename_tracer						'INPUT'			
	filename_ud						'obc_ud', '.nc',			
							'none', 'none',			
							'none'			
	ie						-999, -999,			
							-999, -999			
	iere						-999, -999, -999, -999			
	iers						-999, -999,			
							-999, -999			
	is						-999, -999,			
							-999, -999			
	itre						-999, -999,			
	itrs						-999, -999 -999, -999,			
	IUS						-999, -999, -999, -999			
	j <mark>e</mark>						-999, -999,			
	,-						-999, -999			
	jere						-999, -999,			
							-999, -999			
	jers						-999, -999,			
	100						-999, -999 -999, -999,			
	js						-999, -999, -999, -999			
	jtre						-999, -999,			
	,						-999, -999			
	jtrs						-999, -999,			
							-999, -999			
	name						'test_obc',			
							'none', 'none',			
	nobc						'none' 0			
obc. ac	djust_forcing_bt						False, False,			
	.,						False, False			
obc_	.consider_convu						False, False,			
							False, False			
obc_co	onsider_sources						False, False,			
							False, False, False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False, False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False,			
							False, False, False, False,			
							False, False,			
							False, False			
obc_ent	hance_diff_back						'NONE',			
							'NONE',			
							'NONE',			
aha ash	anco vice back						'NONE'			
obc_enf	nance_visc_back						'NONE', 'NONE',			
							'NONE',			
							'NONE'			
	obc_eta						'NOTHIN',			
							'NOTHIN',			
							'NOTHIN',			
							'NOTHIN'			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	obc_flow_relax						1, 1, 1, 1, 1, 1, 1, 1, 1, 1,			
	obc_mix						'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD',			
	obc_nor						'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'			
	obc_relax_tracer						False, False, False, False,			
	obc_tan						'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'			

## (AD000000	Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg_ jra55_ryf/ ocean/ input.nml
NOGRADT NOGRAD		ohe tra						file.000000.oı	<b>.</b>		•
NOGRAD, NOGRAD		UUL_LI d									
NOGRAD, NOGRAD								'NOGRAD',			
NOGRAD, NOGRAD											
NOGRAD, NOGRAD								'NOGRAD',			
NOGANT,								'NOGRAD',			
NOGRAD, NOGRAD								'NOGRAD',			
NOGRAD,											
NOCRAD								'NOGRAD',			
NOGRAD,   NOGR											
NOGRAD    NOGR								'NOGRAD',			
NOGRAD,								'NOGRAD',			
NOGRAD,											
NOGRAD;   NOGR								NOGRAD, 'NOGRAD'			
NOGRAD; NOGR								'NOGRAD',			
NOGRAD; NOGRAD, NOGR								'NOGRAD',			
NOGRAD; NOGRAD, NOGRAD;											
NOGRAD, False, Fals								'NOGRAD',			
NOGRAD;   NOGR								'NOGRAD',			
NOGRAD											
NOGRAD    Salse, False, False											
NOGRAD; NOGR								'NOGRAD',			
NOGRAD; NOGR								'NOGRAD',			
NOGRAD; NOGR											
"NOGRAD", "Alse, False, False								'NOGRAD',			
NOGRAD; NOGRAD   NOGRAD; NOG											
NOGRAD;   State, False, Fal											
NOGRAD; Palse, False, False											
NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD; NOGRAD;   False, False								'NOGRAD',			
**NOGRAD**  **obc.tracer_no_inflow**  False,											
False, Fa											
False, Fa	obc_ti	racer_no_inflow									
False, Fa											
False, Fa											
False, Fa								False, False,			
False, False Obc_ud  'NOGRAD', 'NOGR											
False, False  ODC_UD  'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' 'NOGRAD'											
False, False 'NOGRAD',								False, False,			
False, False 'NOGRAD',											
False, False 'NOGRAD', 'NOGRAD'											
False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'								False, False,			
False, False, False, False, False, False, False, False, False, False Obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'											
False, False, False, False, False, False, False, False  Obc_ud  'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'											
False, False, False, False  Obc_ud  'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD' 'NOGRAD'											
False, False  obc_ud  'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'								False, False,			
obc_ud 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD', 'NOGRAD'											
'NOGRAD', 'NOGRAD', 'NOGRAD'		obc_ud						'NOGRAD',			
'NOGRAD'								'NOGRAD',			
								NOGRAD', 'NOGRAD'			
obc_vert_advel_t False,	0	bc_vert_advel_t									
False, False								False, False			
<mark>obc. vert_advel_u</mark> False, False, False, False	ot	oc_vert_advel_u						False, False,			

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
rel_clin_pnts						file.00000.ot  1,			
rel_coef_eta_in						0.0, 0.0, 0.0,			
rel_coef_eta_out						0.0 0.0, 0.0, 0.0, 0.0			
rel_coef_tracer_in						0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,			
<mark>rel_eta_pnts</mark> &ocean_operators_nml	True				False	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,	False	False	False
use_legacy_div_ud									
&ocean_overexchange_nml debug this_module	False	False	False	False	False	False	False	False	False
do_bitwise_exact_sum overexch_check_extrema overexch_min_thickness overexch_npts	False 4	False	False	False	4	False False 4.0	4	A	4
overexch_stability	'	т	т	Т	т	0.25	7	7	
overexch_weight_far overexch_width overflow_delta overflow_mu	False	False	False	False	False	False 1 0.3333 0.0001	False	False	False
overflow_umax use_this_module	5.0 False	5.0 False	5.0 False	5.0 False	5.0 False	5.0 False	5.0 False	5.0 False	5.0 False
&ocean_overflow_nml debug_this_module	False	False	False	False	rusc	False False	ruise	False	ruise
no_return_flow overflow_delta overflow_mu overflow_umax transport_units						False 0.3333 0.0001 0.01 'Sv'			
use_this_module	False	False	False	False	False	False	False	False	False
&ocean_overflow_ofp_nml debug_this_module diag_step								False 5760	
do_entrainment_para_ofp do_mass_ofp frac_exchange_src max_vol_trans_ofp								False True 1.0 10 000 000.0	

Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
use_this_module					False	1110.000000.01	False	False	False
&ocean_parameters_nml						4218.0			
cp_liquid_runoff									
cp_ocean						3992.103 223			
cp_solid_runoff grav						2106.0 9.8			
omega_earth						7.2921 ×			
						$10^{-5}$			
rho0						1035.0			
&ocean_polar_filter_nml	False	False	False	False	False	273.15	False	False	False
use_this_module	raise	raise	raise	raise	raise		raise	raise	raise
&ocean_pressure_nml						False			
debug_this_module									
zero_correction_term_grad						False			
zero_diagonal_press_grad zero_eta_over_h_zstar_pressure						False False			
zero_eta_over_n_zstar_pressure zero_pressure_force					False	False	False	False	False
&ocean_rivermix_nml	40.0	40.0			. 4.00	0.0		. 4.50	. 4100
calving_insertion_thickness									
debug_all_in_top_cell		F. !	F 1	F !		False	F. 1	F 1	
debug_this_module debug_this_module_heat	False	False	False	False	False	False False	False	False	False
discharge_combine_runoff_calve	False	True				True			
do_bitwise_exact_sum	True					False			
river_diffuse_salt	False	False	False	False	True	False	True	True	True
river_diffuse_temp	False	False	False	False	True	False	True	True	True
river_diffusion_thickness river_diffusivity	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
river_insertion_thickness	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
runoff_insertion_thickness	40.0	40.0	1010	10.0	1010	0.0	1010		1010
use_this_module	True	True	True	True	True	True	True	True	True
&ocean_riverspread_nml						False		False	
debug_this_module riverspread_diffusion						False			
riverspread_diffusion_passes						0			
use_this_module	False	False	True	True	False	False	False	True	False
vel_micom_smooth						0.2			
&ocean_rough_nml rough_scheme	'beljaars'	'beljaars'	Т	T	'beljaars'	Tour	'beljaars'	'beljaars'	'beljaars'
&ocean_sbc_nml avg_sfc_temp_salt_eta avg_sfc_velocity	True True	True True	True True	True True	True True	True True	True True	True True	True True
calvingspread	False	False	iiuc	nuc	False	False	False	False	False
constant_hlf						True			
constant_hlv						True			
constant_sss_for_restore constant_sst_for_restore						35.0 12.0			
convert_river_to_pme						False			
debug_water_fluxes						False			
do_bitwise_exact_sum					False	False	False	False	False
do_flux_correction	True				False	False	False	False	False
do_langmuir eta_restore_tscale	-10.0					False — 30.0			
ice_salt_concentration	-10.0		0.005			- 30.0 0.005			
land_model_heat_fluxes	True	False	0.003		False	False	False	False	False
max_delta_salinity_restore			0.5	0.5	0.5	0.5	0.5	0.5	0.5
max_ice_thickness	8.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0
read_restore_mask read_stokes_drift			False	False	False	False False	False	False	False
restore_mask_qfdl			False	False	False	False	False	False	False
rotate_winds						False			
runoff_salinity			0.0	0.0	0.0	0.0	0.0	0.0	0.0
runoff_temp_min	Ealaa	Enlan				0.0 Falso			
runoffspread salinity_ref	False	False				False 35.0			
salt_correction_scale	0.0				0.0	0.0	0.0	0.0	0.0
salt_restore_as_salt_flux			True	True	True	True	True	True	True
salt_restore_tscale	-10.0	-10.0	15.0	15.0	60.0	60.0	60.0	60.0	60.0
salt_restore_under_ice			True	True	True	True	True	True	True
sbc_heat_fluxes_const sbc_heat_fluxes_const_seasonal						False False			
sbc_heat_fluxes_const_value						0.0			
tau_x_correction_scale	0.0					0.0			

Management   Man	Group (continued) Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
Part	tau_y_correction_scale	0.0								
Memory consent part   100										
The content of the										
March   Marc			100	1.0	1.0	100		100	10.0	-10.0
Second   S		-10.0	-10.0	-1.0	-1.0	-10.0		-10.0	-10.0	-10.0
Part   Control   Part										
The Content	use_full_patm_for_sea_level	True	True			False		False	False	False
Second										
Pale		T	T	T	T	Т		T	Т	T
Part			Irue	Irue	Irue	Irue		Irue	Irue	True
Pale										
Part										
False   Fals	waterflux_tavg	False	False	False	False		False			
Part		Falso		False	False	False		False	False	False
True		raise				Falsa		Falsa	False	False
Part   Part   Part   Part   Part   Part   Part   Part   True				True	True					True
True										False
True	zero_net_water_couple_restore			True	True	True	True	True	True	True
Palse   Pals	zero_net_water_coupler			True	True	True	True	True	True	True
Reco. marter fluxes   False				True	True	True		True	True	True
Pale   False										
Palse   False   Fals										
False   Fals				Falso	Falso	Falso		Falso	Falso	False
False   Fals										False
Palse						7 4 13 0		. 4.50		
True										
Palse							False			
False   False   False   False   True   True   False				True	True					
Marca   Marc		Ealco	Ealso	Truo	Truo	Ealco		Falso	Falso	False
Color		raise	raise			raise		raise	raise	raise
## False   Fa				7000	7000		0.08			
Part										
Palse	debug_this_module	False	False	False	False	False	False	False	False	False
True		True	True	True	True	True		True	True	True
Palse   Pals		True	Truce	Truce	Tuus	Truce		Tuus	True	Teuro
False   False   False   False   False   False   False   False   False   True   True   True				Irue	ITUE					True False
False   False   False   False   False   False   True   T						raisc		i disc	raisc	raisc
Sw. frac. Log   Swy. morel. Fixed. depths   False				False	False	True		True	True	True
Sw.pen.fixed.depths use.this.module True True False False False True True True True Palse False False True True True True Palse False Talse Talse Palse Talse Tals	sw_frac_top						0.0			
use this module zmax_pen     True zmax_pen							False			
zmax.pen200.0200.0200.0200.0300.0300.0300.0300.0& ocean_shortwave_jerlov_nmlFalseFalseFalseFalseFalseFalseuse_shortwave_nmlFalseFalseTrueTrueFalseFalseFalseuse_shortwave_extFalseFalseTrue		<b>-</b>	<b>.</b>			<del>-</del>	<b>-</b>	_	<b>.</b>	-
&ocean_shortwave_jerlov_nml       False       False <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>True 300.0</td></t<>										True 300.0
use_this_module       &ocean_shortwave_nml     False     False     True     True     False     False     False       use_shortwave_cstro       use_shortwave_ext							300.0			False
use shortwave_ext         False           use_shortwave_gfdt         True         True         False         True	•	1 4650	. 4.50	. 4.50	. 4.50			· disc	. 4.50	
use_shortwave_gfdl True True False False True True Use_shortwave_gfdl True Use_shortwave_gfdl True Use_shortwave_gfdl True Use_shortwave_gfdl True Use_shortwave_gfdl True Use_shortwave_gfdl Use_this_module Use_shortwave_gfdl True Use_State Use_this_module Use_shortwave_gfdl True Use_True Use_state Use_this_module Use_shortwave_gfdl True Use_True Use_state Use_this_module Use_shortwave_gfdl Use_shortwave_gfd Use_shortwave_gfd Use_shortwave_gfd Use	&ocean_shortwave_nml	False	False	True	True	False	False	False	False	False
True   True   False										
use_shortwave_jertov     False		_	_	F 1	F 1	<b>-</b>		-	-	-
use_this_module     True       &ccean_sigma_transport_nml     0.33333     0.33333     0.0001     0.0001     0.0001     0.0001     0.0001     0.0001     0.0001     0.0001     0.0001     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.0000     0.001										True False
&ocean_sigma_transport_nml         0,3333           campingoose_delta         0,0001           debug_this_module         False           sigma_advection_check         False           sigma_advection_one         False         False           sigma_advection_soponly         False         False         False           sigma_diffusion_on         True         True         True         True         True           sigma_diffusivity         True         True         True         True         True           sigma_just_in_bottom_cell         True         True         True         True         True           sigma_umax         0.01         0.01         0.01         0.01         0.01           smooth_sigma_thickness         True         True         True         True         True	•									True
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		nuc	nac	nuc	nuc	nuc		nuc	nac	nuc
debug this module sigma_advection_check sigma_advection_on False										
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$										
$\begin{tabular}{c ccccccccccccccccccccccccccccccccccc$										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Ealaa	Ealaa	Ealaa	Ealaa				Ealaa	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$										
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		nuc	iiuc	iiuc	nuc				Huc	
sigma_just_in_bottom_cell         True         O.01		$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$	$1 \times 10^{-6}$				$1 \times 10^{-6}$	
sigma_umax         0.01         0.01         0.01         0.01         0.01         0.01           smooth_sigma_thickness         True         True         True         True         True         True										
<mark>smooth_sigma_velocity True True True True True True True True</mark>										
	smooth_sigma_velocity	True	True	True	True		True		True	

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
;	smooth_velmicom	0.2	0.2	0.2	0.2		0.2		0.2	
thick	kness_sigma_layer	100.0	100.0	100.0	100.0		100.0		100.0	
thic	:kness_sigma_max	100.0	100.0	100.0	100.0		100.0		100.0	
thic	ckness_sigma_min	100.0	100.0	100.0	100.0		100.0		100.0	
	tmask_sigma_on	False	False	False	False		False		False	
f	tracer_mix_micom	True	True	True	True		True		True	
	use_this_module	True	True	True	True	False	False	False	False	False
	vel_micom	0.05	0.05	0.05	0.05		0.05		0.05	
	verbose_init						True			
	write_a_restart						True			
&ocean_solo_nml	calendar			'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'
	date_init			1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0
	days			0	1460	1460	0	31	30	30
de	ebug_this_module				False		False			
	dt_cpld			3600	3600	3600	1800	1200	150	600
	hours			0	0	0	0	0	0	0
	layout_mask						0,0			

Mark State   Mar	Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new, control, 01deg_ jra55_ryf, ocean, input.nm
0,000   0,00		mask_list				прислик	put.iiiit	6, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	прислик	put	puc.iiii
0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.								0, 0, 0, 0, 0,			
0.0.0.0 0.0.0.								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,											
0.0.0.0 0.0.0.								0, 0, 0, 0, 0,			
0.00.0 0.00.0 0.00.0 0.00.0 0.00.0 0.00.0								0, 0, 0, 0, 0,			
0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.											
0.000 0.0000								0, 0, 0, 0, 0,			
0,000, 0,								0, 0, 0, 0, 0,			
0.0.0.0 0.0.0.								0, 0, 0, 0, 0,			
0,0,0,0 0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0											
0,0,0,0 0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0 0,0,0,0								0, 0, 0, 0, 0,			
0,00,0, 0,00,0, 0,00,0, 0,00,0, 0,00,0, 0,00,0								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,											
0,00,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0								0, 0, 0, 0, 0,			
0,0,0,0 0,0,0 0,0,0 0,0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,								0, 0, 0, 0, 0,			
0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,											
0,0,0,0, 0,0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0, 0,0,0,0								0, 0, 0, 0, 0,			
0,0,0,0 0,0,0 0,0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,0,0 0,								0, 0, 0, 0, 0,			
0.0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0											
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0, 0, 0, 0, 0, 0.			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0 0,0,0,0,0 0,0,0,0,0,0 0,0,0,0,0,0 0,0,0,0,0,0,0,0,0,0,0,0,0,0 0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0 0,0,0,0,0 0,0,0,0,0 0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0, 0,0,0,0,0,0, 0,								0, 0, 0, 0, 0, 0, 0, 0, 0, 0.			
0,0,0,0,0, 0,0,0,0,0,0,0,0,0,0,0,0,0,0,								0, 0, 0, 0, 0,			
$\begin{array}{c} 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,$								0, 0, 0, 0, 0,			
$\begin{array}{c} 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,$								0, 0, 0, 0, 0,			
$\begin{array}{c} 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,$											
$\begin{array}{c} 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,$								0, 0, 0, 0, 0,			
$\begin{array}{c} 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,0,\\ 0,0,0,0,$								0, 0, 0, 0, 0,			
$\begin{array}{c} 0,0,0,0,0,0,\\ 0,0,0,0,0,0,\\ 0,0,0,0,0,0$											
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0								0, 0, 0, 0, 0,			
0, 57 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,								0, 0, 0, 0, 0,			
0, 0,								0, 0, 0, 0, 0,			
57 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,								0, 0, 0, 0, 0,			
0, 0, 0, 0, 0,						57		0, 0, 0, 0, 0,			
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0								0, 0, 0, 0, 0,			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.o	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	minutes			0	0	0	0	0	0	0
	months n_mask			12	0	0	0	0	0	0
restart	interval						0, 0, 0, 0, 0, 0			
	seconds			0	0	0	0	0	0	0
	years				0	0	1	0	0	0
	se_this	False	False	False	False	False	False	False	False	False
module &ocean_sponges_eta_ofam_nml	athroch						0.5			
	restore						1			
	lambda						0.0083			
	npower						1.0			
secs_to	_restore						0 720.0			
use_adaptive	taumin						7 20.0 False			
use_hard							False			
use_nor							False			
use_sponge_a	ifter_init						False			
&ocean_sponges_tracer_nml		False	False	False	False		False		False	
damp_coeff_3d use_this.	modulo	False	False	False	False	False	False	False	False	False
&ocean_sponges_tracer_ofam_n		raise	raise	raise	raise	raise	0.5	raise	raise	raise
athresh							0.5			
days_to	restore						1			
	deflate						False			
deflate.	fraction						0.6			
li li	lambda mit_salt						0.0083 False			
	salt_min						0.01			
limit_salt							3600.0			
lin	nit_temp						False			
	mp_min						-1.8			
limit_temp							10 800.0 1.0			
sers to	npower _restore						0			
300320	taumin						720.0			
use_adaptive	_restore						False			
use_hard							False			
use_nor							False			
use_sponge_a &ocean_sponges_velocity_nml	inter_init						False False			
damp_coeff_3d							1 4130			
use_this		False	False	False	False	False	False	False	False	False
&ocean_sponges_velocity_ofam	_nml						0.5			
athresh	rostova						1			
uays_to	_restore lambda						0.0083			
	npower						1.0			
secs_to	restore						0			
	taumin						720.0			
use_adaptive							False			
	d_thump malising						False False			
use_sponge_a							False			
&ocean_submesoscale_nml coefficient_ce						0.05	0.05	0.05	0.05	0.05
	ant_hblt						100.0			
debug_this.		False	False	False	False	False	False 1200	False	False	False
a front_leng	i <mark>ag_step</mark> th_const	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0	5000.0
front_length_deforr		True	True	True	True	True	True	True	True	True
	limit_psi	True	True	True	True	True	True	True	True	True
limit_psi_veloci	ity_scale	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	min_kblt	4	4	4	4	4	4	4	4	4
minim smooth_advect_t	um_hblt					True	0.0 True	True	True	True
smooth_advect_transp						True	True	True	True	True
	oth_hblt	False	False	False	False	False	False	False	False	False
smooth_h	blt_num						2			
	ooth_psi					True	True	True	True	True
smooth_						5 Falso	3 Falso	3 False	3 False	5 Falso
submeso_adv	rect_flux					False	False	False	False	False

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
suhme	so_advect_limit					True	True	True	True	True
	_advect_sweby					iiuc	False	nuc	nac	nuc
submeso.	_advect_upwind					True	True	True	True	True
	dvect_zero_bdy					True	True	True	True	True
submeso_diffus	meso_diffusion					False True	False True	False True	False True	False True
	_diffusion_scale					10.0	10.0	10.0	10.0	10.0
	meso_limit_flux	True	True	True	True		True			
subr	meso_skew_flux					True	True	True	True	True
	time_constant						86 400.0			
	e_hblt_constant hblt_equal_mld	True	True	True	True	True	False True	True	True	True
usc_	use_psi_legacy	True	iiuc	iiuc	nuc	False	False	False	False	False
u	se_this_module	True	True	True	True	True	True	True	True	True
&ocean_tempsalt_nml		False	False		False	False	False	False	True	False
debug_this_module	2.12	<b>-</b>	_	-	<del>-</del>	-	<b>-</b>	_	_	_
	p_2nd_iteration equal_contemp	True	True	True	True	True True	True True	True True	True True	True True
	it_ts_with_ideal					iiue	False	iiue	iiue	iiue
	vith_ideal_efold						1000.0			
	th_ideal_svalue						30.0			
reinit_ts_wi	th_ideal_tvalue	55.0	FF 0	55.0	55.0	70.0	10.0	70.0	70.0	70.0
	s_max s_max_limit	55.0 42.0	55.0 42.0	55.0 42.0	55.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0	70.0 42.0
	s_min	-1.0	-1.0	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0
	s_min_limit	5.0	5.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0
	t_max	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
	t_max_limit	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
	t_min t_min_limit	−5.0 −1.9	-5.0 -1.9	−5.0 −2.0	-5.0 -2.0	-20.0 -5.0	−20.0 −5.0	-20.0 -5.0	-20.0 -5.0	-20.0 -5.0
temne	rature_variable	'potential	-1.9 'potential	conservative		-J.o 'potential	-J.u 'potential	-J.o 'potential	j.u 'potential	j.o 'potential
	teos10	temp'	temp'	temp' False	temp'	temp'	temp' False	temp'	temp'	temp'
&ocean_thickness_nml	debug_this	False	False	False	False	False	False	False	False	False
module										
•	_module_detail _min_for_sigma	False	False	False	False	False	False 0.01	False	False	False
	ce_positive_dzt						False			
	n_init_thickness						$1 \times 10^{-5}$			
full_s	tep_topography						False			
	tialize_zero_eta	False	False	False	False		False			
	ar_free_surface _num_bad_print						False 25			
IIIdX.	pbot0_simple						False			
read_reso	cale_rho0_mask	True	True	False	False		False			
re	ad_rho0_profile						False			
	_to_get_ht_mod					False	False	False	False	False
	noO_basin_label	7.0	7.0 Truo	7.0	7.0 Falso		-1.0			
	rho0_mask_gfdl cale_rho0_value	True 0.75	True 0.75	False 0.75	False 0.75		False 1.0			
	ckness_dzt_min	2.0	2.0	1.0	1.0		2.0		2.0	
thickne	ss_dzt_min_init	2.0	2.0	2.0	2.0		10.0		10.0	
	ckness_method	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'	'energetic'
	pdate_dzwu_k0						True			
&ocean_time_filter_nml use_this_module	write_a_restart	False	False				True			
&ocean_topog_nml debu	ua_this_module						True			
2.0000topog_mmt_dcbt	flat_bottom						False			
	flat_bottom_ht						5500.0			
	lat_bottom_kmt						50			
	kmt_recompute compute_offset						False 0			
KIIIÚ_FE	min_thickness	5.0	5.0	25.0	25.0		1.0			
	write_topog	5.0	5.0	23.0	23.0		False			
&ocean_tracer_advect_n		False	False	True	True		False			
advect_sweby_all					_					
•	domain_update			т	True		False			
compute_gyre_ove	ug_this_module	False	False	True False	False	False	False	False	False	False
	o_fast_compute	i aisc	1 0130	True	ו מנגכ	ו מנטכ	ו מנאכ	ו מנטכ	ו מנאכ	ו מנטכ
	it_with_upwind	False	False				False			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log-	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
psom_limit	prather						file.000000.oı False			
read_bas				True		False	False	False	False	False
	_restart						True			
zero_tracer_adv							False			
zero_tracer_adv ocean_tracer_diag_nml buoya&							False 0.0003			
debuq_diagnose_	,						False			
debug_diagnose_							False			
debug_diagnose_							False			
debug_diagnose_							False			
	iag_step	1200 Falso	12 Falso	120 Falso	4320 Falso	4320 False	4320 Falso	4320 Falso	576	576
do_bitwise_ex	neta_crit	False	False	False	False	False	False 2.0	False	False	False
	il_factor						1.0			
	psu2ppt						1.004 867			
rho_g	rad_max						$1  imes 10^{+28}$			
	ırad_min						$1 \times 10^{-5}$			
smooth_ka <sub> </sub>		_	_				0			
	oth_mld	True	True				False			
smooth_mld_for_sul		1000	100.0	1.0	1.0	700	True	700	30.0	700
tracer_conser _ocean_tracer_nml		$\frac{100.0}{1 \times 10^{+40}}$	100.0	1.0 0.0	1.0 0.0	30.0 0.0	30.0 0.0	30.0 0.0	0.0	30.0 0.0
&ocean_tracer_nmt		1 × 10 ,	0.0	0.0	0.0	0.0	0.0 True	0.0	0.0	0.0
debug_this.		False	False	False	False	False	False	False	False	False
frazil_heating_after_		True	True	True	True	True	True	True	True	True
frazil_heating_before_	vphysics	False	False	False	False	False	False	False	False	False
inflow_nb	,						False			
interpolate_tdiag_:		False					False			
interpolate_tprog_		False	Truce	Tuus	True	Terro	True True	Tura	True	Truce
umit_ag <mark>ocean_tpn</mark>	e_tracer	True	True	True	irue	True	False	True	True	True
remap_depth_		False	False	False	False	False	False	False	False	False
tmask_limit_		True	True	· utse	. 4.50	1 4130	True	, disc	. 4.50	7 4150
use_tempsalt_chec	ck_range				True	True	True	True	True	True
	a_restart						True			
	endency	False	False	False	False	False	False	False	False	False
zero_trace &ocean_tracer_util_nml	r_source	False	False	False	False	False	False False	False	False	False
debug_diagnose_mass_of_layer							raise			
epsln_diagnose_mass_	of_laver						$1 \times 10^{-5}$			
rebin_onto_rho_al							True			
&ocean_velocity_advect_nml							False			
debug_this_module										
velocity_advect_c							True			
velocity_advect zero_velocity_adv							False False			
zero_velocity_adv zero_velocity_adv							False			
&ocean_velocity_diag_nml debu		False	False	False	False	False	False	False	False	False
module	·· 5									
d	iag_step	1200	12	120	4320	4320	4320	4320	576	576
do_bitwise_ex							False			
energy_d	-	1200	12	120	4320	4320	4320	4320	5760	5760
land_cell_n		100	100	100	10.0	100	100	100	10.0	10.0
	cfl_value 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	10.0 100.0	10.0 100.0	10.0 100.0
	bose_cfl	100.0	100.0	100.0	100.0	100.0	False	100.0	100.0	100.0
&ocean_velocity_nml							0.6			
adams_bashforth_epsilon										
adams_bashfor		True	True	True	True	True	True	True	True	True
	nstant_u						0.0			
co debug_this	nstant_v module						0.0 False			
	_module ax_cgint			1.0	1.0	1.0	1.5	1.0	1.0	1.0
truncate.		False	False	False	True	False	False	False	False	False
truncate_vel		i auc	raise	i disc	nuc	raisc	0.0	raisc	iauc	ruist
truncate_veloci		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
truncate.		True	True	True	True	True	True	True	True	True
update_velocity_via							True			
use_constant.							False			
	a_restart	F-1	Fe1	F-I	F-1	F-1	True	Fel	F-I	F-I-
zero_t zero_tendency_e	endency	False	False	False	False	False False	False	False False	False False	False
zero_tenuency_e	vhricit_q					raise	False	raise	raise	False

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	ndency_explicit_b					False	False	False	False	False
zero_t &ocean_vert_kpp_iow_	tendency_implicit	False	False		False	False False	False	False False	False False	False False
use_this_module	311111	raise	i alse		i alse	i atse		Talse	i alse	i alse
&ocean_vert_kpp_mom	n4p0_nml	False	False		False					
use_this_module &ocean_vert_kpp_mom byf_from_below	n4p1_nml						False			
C	alc_visc_on_cgrid						False			
	concv cw_0						1.8 0.15			
de	bug_this_module						False			
	diff_cbt_iw	0.0			0.0	0.0	0.0	0.0	0.0	0.0
	diff_cbt_limit				0.4		0.005			
	diff_con_limit do_langmuir				0.1		0.1 False			
	double_diffusion	True			True	True	True	True	True	True
	hbl_with_rit						False			
kbl_s	standard_method				False	False	False	False	False	False
	kl_min l_smyth						2 2.0			
	lgam						1.04			
	limit_ghats						False			
lir	mit_with_hekman linear_hbl						True True			
	ltmax						5.0			
	non_local_kpp						True			
	radiation_iow						False			
	radiation_large radiation_zero						False False			
	ricr	0.3			0.3	0.3	0.3	0.3	0.3	0.3
	$shear\_instability$						True			
	smooth_blmc	True			False	False	False	False	False	False
smootn.	_ri_kmax_eq_kmu use_max_shear				True	True	True False	True	True	True
use	sbl_bottom_flux						False			
	use_this_module	True			True	True	True	True	True	True
	variable_vtc visc_cbu_iw	0.0			0.0	0.0	False 0.0	0.0	0.0	0.0
	visc_cbu_limit	0.0			0.0	0.0	0.005	0.0	0.0	0.0
	visc_con_limit				0.1		0.1			
wsfc_comb	bine_runoff_calve	False					True 0.6			
&ocean_vert_kpp_nml	wstfac diff_cbt_iw		0.0	0.0			0.0			
woccur-rere-kpp=mit	diff_con_limit		0.0	0.1						
	double_diffusion		True	True						
kbl_s	standard_method ricr		0.3	True 0.3						
	smooth_blmc		True	True						
	use_this_module		True	True						
	visc_cbu_iw visc_con_limit		0.0	0.0 0.1						
&ocean_vert_mix_nml		0.675	0.675	0.1	0.65		0.55			
GGCCGII_TCIC_IIIX_IIII	afkph_90	0.725	0.725	0.75	0.75		0.55			
	aidif	_1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	_lewis_diffusivity lewis_lat_depend	True True	True True	False True	False True	False False	False False	False False	False False	False False
	wis_lat_transition	35.0	35.0	35.0	35.0	1 0136	35.0	1 0130	i atse	i alsc
	bug_this_module						False			
	dfkph_00	1.15	1.15	1.15	1.15		1.05			
	dfkph_90 diff_cbt_tanh	1.15	1.15	0.95	0.95		1.05 False			
d	liff_cbt_tanh_max						0.001			
d	diff_cbt_tanh_min						$2 \times 10^{-5}$			
	iff_cbt_tanh_zmid						150.0			
	iff_cbt_tanh_zwid iwf_30_diffusivity						$30.0$ $2 \times 10^{-5}$			
	_depth_transition						25 000 000.0			
	hwf_diffusivity					False	False	False	False	False
	nwf_diffusivity_3d					$2 \times 10^{-6}$	False $2 imes 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$
	vf_min_diffusivity hwf_n0_2omega					2 × 10 ° 20.0	2 × 10 ° 20.0	2 × 10 ° 20.0	2 × 10 ° 20.0	2 × 10 ° 20.0
	uzzonicyu					20.0	20.0	20.0	20.0	20.0

		ESM2M input- cut.nml	MOM_SIS TOPAZ input.nml	russ- accessom- mom4p1- input.nml	hogg_acces- som2 1deg jra55_ryf input.nml	control/ 1deg jra55_ryf/ ocean/ input.nml	kiss_acces- som2 025deg jra55_ryf log-	control/ 025deg jra55_ryf/ ocean/ input.nml	hogg_acces- som2 01deg jra55_ryf input.nml	control/ 01deg jra55_ryf/ ocean/ input.nml
	linear_taper_diff_cbt_table	False	False	False	False		file.00000.ou False			
	num_121_passes						_ 1			
	quebec_2009_10_bug sfkph_00	False $4.5  imes 10^{-5}$	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$		False $4.5  imes 10^{-5}$			
	sfkph_90	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$		$4.5 \times 10^{-5}$			
	smooth_rho_n2						True			
	use_diff_cbt_table use_explicit_vert_diffuse	False	False	False	False	False	False True	False	False	False
	verbose_init						True			
	vert_diff_back_via_max	True	True	True	True	True	True	True	True	True
	vert_mix_scheme	'kpp mom4p1'	'kpp'	'kpp'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'
	vert_visc_back	шоштрі			шоштрі	шоштрі	False	шоштрі	шоштрі	шоштрі
	visc_cbu_back_max						0.01			
	visc_cbu_back_min visc_cbu_back_zmid						0.001 50.0			
	visc_cbu_back_zwid						30.0			
<mark>vr</mark>	mix_min_diss_bvfreq_scale						0.0006			
	vmix_min_diss_const vmix_min_diss_flux_ri_max						$1 \times 10^{-7}$ 0.2			
V	vmix_rescale_nonbouss						False			
	vmix_set_min_dissipation						False			
	zfkph_00	250 000 000.0	250 000 000.0	250 000.0	250 000.0		250 000.0			
&ocean_vert_	zfkph_90	250 000 000.0	250 000 000.0	$\frac{250000.0}{5\times10^{-6}}$	$\frac{250000.0}{5\times10^{-6}}$	0.0	250 000.0 0.0	0.0	0.0	0.0
background_d		0.0	0.0	2 × 10 -	3 × 10 -	0.0	0.0	0.0	0.0	0.0
ouchground_u	background_viscosity	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	bottom_drag_cd						0.0024			
	debug_this_module decay_scale	300.0	300.0	300.0	300.0	500.0	False 500.0	500.0	500.0	500.0
	default_roughness_length	300.0	500.0	500.0	500.0	300.0	25.0	300.0	300.0	300.0
	default_tide_speed						0.01			
de	drag_dissipation_efold aq_dissipation_tide_period						True 43 200.0			
	lrag_dissipation_use_cdbot					True	True	True	True	True
	drag_mask_deep						True			
	drag_mask_deep_ratio	1 10-17	1 10-17	1 10-17	4 40-17	1 10-10	0.1	1 10-10	4 40-10	1 10-10
	drhodz_min fixed_wave_dissipation	$1 imes 10^{-12}$ False	$1  imes 10^{-12}$ False	$1  imes 10^{-12}$ False	$1  imes 10^{-12}$ False	$1  imes 10^{-10}$ False	$1 imes10^{-10}$ False	$1  imes 10^{-10}$ False	$1  imes 10^{-10}$ False	$1  imes 10^{-10}$ False
	max_drag_diffusivity	rube	rusc	0.01	0.01	ratsc	0.005	raisc	ruisc	rusc
	max_wave_diffusivity	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
m'	mixing_efficiency ixing_efficiency_n2depend	True	True	True	True	True	0.2 True	True	True	True
1111	munk_anderson_p	iiue	iiuc	iiuc	iiuc	iiuc	0.25	iiue	iiue	iiuc
	munk_anderson_sigma						3.0			
	num_121_passes read_leewave_dissipation						1 False			
	read_roughness	True	True	True	True	True	True	True	True	True
	read_tide_speed	True	True	True	True	True	True	True	True	True
	read_wave_dissipation	False	False	False	False	False	False	False	False	False
ſ	reading_roughness_amp reading_roughness_length	True False	True False	True False	True False	True False	True False	True False	True False	True False
	roughness_scale	30 000.0	30 000.0	20 000.0	20 000.0	12 000.0	12 000.0	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	160.0	160.0	160.0	160.0	-1000.0	-1000.0	-1000.0	-1000.0	-1000.0
	smooth_bvfreq_bottom smooth_rho_n2						True True			
	speed_min						0.005			
	tidal_diss_efficiency						0.333 33			
t	tide_speed_data_on_t_grid use_draq_dissipation	True True	True True	True True	True True	True True	True True	True True	True True	True True
	use_drag_dissipation use_leewave_dissipation	irue	irue	irue	irue	irue	False	iiue	irue	irue
	use_legacy_methods	True				False	False	False	False	False
	use_this_module	True	True	True	True	True	True	True	True	True
	use_wave_dissipation vel_micom_smooth	True	True	True	True	True	True 0.2	True	True	True
W	vave_diffusivity_monotonic						True			
	wave_energy_flux_max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
&ocean_vert_debug_this_ma							False			
acoug_tills_file	num_n2_smooth						1			
	num_ri_smooth						1			
	smooth_n2						True			

Group (continued)	Variable	original/ GFDL ESM2M input- cut.nml	original/ MOM_SIS TOPAZ input.nml	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ kiss_acces- som2 025deg jra55_ryf log- file.000000.oi	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	original/ hogg_acces- som2 01deg jra55_ryf input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	smooth_ri_number						True			
&ocean_wave_nml	damp_where_ice						True			
	debug_this_module						False			
	filter_wave_mom						True			
	use_this_module						False			
	use_tma						True			
	wavedamp						-10.0			
&ocean_xlandinsert	write_a_restart	True	True	False	False	False	True	False	False	False
use_this_module						raise		raise	False	raise
	verbose_init	True	True	True	True					
&ocean_xlandmix_n	ml use_this_module	True	True	False	False	False		False	False	False
	verbose_init	True	True	True	True					
0 .	xlandmix_kmt	True	True	True	True					
&sat_vapor_pres_nn construct_table_wrt	_liq	True	True							
	able_wrt_liq_and_ice	True	True							
	how_all_bad_values								True	
&surface_flux_nml	ncar_ocean_flux								True	
	old_dtaudv	False							-	
0 +: :	raoult_sat_vap						F-1		True	
&time_interp_extern debug_this_module							False			
	max_fields						100			
	max_files num_io_buffers						40 2			
&time_interp_nml							False			
	perthlike_behavior	'INPUT/	'INPUT/				raise			
&topography_nml	topog_file		-							
		navy_topog- ra-	navy_topog- ra-							
		phy.data.nc'	phy.data.nc'							
&xgrid_nml	do_alltoall	priy.uutu.ric	priy.uutu.iit						True	True
g	do_alltoally								True	True
	interp_method	'second	'second		'second	'second		'second	'second	'second
		order'	order'		order'	order'		order'	order'	order'
make_c	exchange_reproduce	True	True		False	False		False	False	False
	nsubset					16		16	16	16
	xgrid_log								False	

## 6 All variables in new configs (differences highlighted)

Group	Variable	new/	new/	new/
		control/ 1deg jra55_ryf/	control/ 025deg jra55_ryf/	control/ 01deg jra55_ryf/
		ocean/	ocean/	ocean/
		input.nml	input.nml	input.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15
	chk_i2o_fields chk_o2i_fields	False False	False False	False False
	do_ice_once	False	False	False
	dt_cpl	3600	1800	600
	fixmeltt	False	False	False
	frazil_factor	1.0	1.0	1.0
	iceform_adj_salt icemlt_factor	False 1.0	False 1.0	False 1.0
	kmxice	5	5	5
	pop_icediag	True	True	True
	redsea_gulfbay_sfix	True		
	sign_stflx	1.0	1.0	1.0
	tmelt use_ioaice	−0.216 True	−0.216 True	—0.216 True
&diag_manager_nml	debug_diag_manager	True	True	True
g	issue_oor_warnings	True	True	True
&fms_io_nml	fileset_write	'single'	'multi'	'multi'
	threading_read	'multi'	'multi'	'multi'
9 face mod	threading_write	'single'	'multi'	'multi'
&fms_nml	clock_grain domains_stack_size	'COMPONENT' 115200	'COMPONENT' 115200	'COMPONENT' 115200
&mom_oasis3_interface_nml	domains_stack_size fields_in	'u_flux',	'u_flux',	'u_flux',
CHIOH-003137_Interface_thint	netus_m	'v_flux',	'v_flux',	'v_flux',
		'lprec', 'fprec',	'lprec', 'fprec',	'lprec', 'fprec',
		'salt_flx',	'salt_flx',	'salt_flx',
		'mh_flux',	'mh_flux',	'mh_flux',
		'sw_flux', 'q_flux',	'sw_flux', 'q_flux',	'sw_flux', 'q_flux',
		't_flux',	q_παχ, 't_flux',	't_flux',
		'lw_flux',	'lw_flux',	'lw_flux',
		'runof', 'p',	'runof', 'p',	'runof', 'p',
		'aice',	'aice',	'aice',
		'wfimelt', 'wfiform'	'wfimelt',	'wfimelt',
	fields_out	vnrorm 't_surf',	'wfiform' 't_surf',	'wfiform' 't_surf',
	netus_out	's_surf',	's_surf',	's_surf',
		'u_surf',	'u_surf',	'u_surf',
		'v_surf',	'v_surf',	'v_surf',
		'dssldx',	'dssldx',	'dssldx',
		'dssldy', 'frazil'	'dssldy', 'frazil'	'dssldy', 'frazil'
	num_fields_in	15	15	15
	num_fields_out	7	7	7
	send_after_ocean_update	True	True	True
	send_before_ocean_update	False	False	False
&monin_obukhov_nml	neutral	True	True	True
&mpp_io_nml	deflate_level shuffle	5	5	5
&ocean_adv_vel_diag_nml	snume diag_step	4320	4320	<u>1</u> 576
accontain the same same	large_cfl_value	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0
	verbose_cfl	True	True	True
&ocean_advection_velocity_nml	max_advection_velocity	0.5	0.5	0.5
&ocean_albedo_nml	ocean_albedo_option	2	2	2
&ocean_barotropic_nml	barotropic_halo barotropic_time_stepping_a	10 True	10 True	10 True
	barotropic_time_stepping_b	False	False	False
	debug_this_module	False	False	False
	diag_step	4320	4320	576
	eta_max	8.0	8.0	8.0
	frac_crit_cell_height	0.2	0.2	0.2
	pred_corr_gamma smooth_eta_diag_laplacian	0.2 True	0.2 True	0.2 True
	smooth_eta_t_biharmonic	False	False	False
	smooth_eta_t_laplacian	True	True	True
	smooth_pbot_t_biharmonic	False	False	False
	smooth_pbot_t_laplacian	True	True	True
	truncate_eta	False	False	False
	use_legacy_barotropic_halos	False	False	False

Group (continued)	Variable	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	vel_micom_bih	0.01	0.01	0.01
	vel_micom_lap	0.05 0.2	0.05 0.2	0.05 0.2
	vel_micom_lap_diag verbose_truncate	U.2 True	True	True
	zero_tendency	False	False	False
&ocean_bbc_nml	bmf_implicit	True	True	True
	cdbot	0.001	0.001	0.001
	cdbot_hi	0.007	0.007	0.007
	cdbot_roughness_length cdbot_roughness_uamp	False True	False True	False True
	uresidual	0.05	0.05	0.05
	use_geothermal_heating	False	False	False
&ocean_bih_friction_nml	bih_friction_scheme	'general'	'general'	'general'
&ocean_bih_tracer_nml	use_this_module	False	False	False
&ocean_bihcst_friction_nml	use_this_module	False	False	False
&ocean_bihgen_friction_nml	bottom_Spoint eq_lat_micom	True 0.0	False 0.0	False 0.0
	eq_vel_micom_aniso	0.0	0.0	0.0
	eq_vel_micom_iso	0.0	0.0	0.0
	equatorial_zonal	False	False	False
	k_smag_aniso	0.0	0.0	0.0
	k_smag_iso	2.0 True	2.0 True	2.0 True
	ncar_boundary_scaling ncar_boundary_scaling_read	True	True	True
	ncar_rescale_power	2	2	2
	ncar_vconst_4	$2  imes 10^{-8}$	$2  imes 10^{-8}$	$2 \times 10^{-8}$
	ncar_vconst_5	_ 5	_ 5	5
	use_this_module	True	True	True
	vel_micom_aniso vel_micom_bottom	0.0 0.01	0.0 0.0	0.0 0.0
	vel_micom_iso	0.04	0.0	0.0
	visc_crit_scale	0.25	1.0	1.0
&ocean_convect_nml	use_this_module	False	False	False
&ocean_coriolis_nml	acor	0.5	0.5	0.5
&ocean_density_nml	use_this_module eos_linear	True False	True False	True False
&ocean_density_nint	eos_preteos10	True	True	True
	layer_nk	80	80	80
	neutralrho_max	1030.0	1030.0	1030.0
	neutralrho_min	1020.0	1020.0	1020.0
	potrho_max	1038.0 1028.0	1038.0 1028.0	1038.0 1028.0
&ocean_domains_nml	potrho_min max_tracers	1028.0	1028.0	5
&ocean_form_drag_nml	use_this_module	False	False	False
&ocean_frazil_nml	debug_this_module	False	False	False
	frazil_only_in_surface	False	False	False
	freezing_temp_preteos10	True	True	True
	freezing_temp_simple use_this_module	False True	False True	False True
&ocean_grids_nml	debuq_this_module	False	False	False
&ocean_increment_eta_nml	use_this_module	False	False	False
&ocean_increment_tracer_nml	use_this_module	False	False	False
&ocean_increment_velocity_nml	use_this_module	False	False	False
&ocean_lap_friction_nml	lap_friction_scheme	'general'	'general'	'general'
&ocean_lap_tracer_nml &ocean_lapcst_friction_nml	use_this_module use_this_module	False False	False False	False False
&ocean_lapgen_friction_nml	bottom_5point	True	raise	raise
woccan_tapycn_mcton_mit	k_smag_aniso	0.0		
	k_smag_iso	0.0		
	restrict_polar_visc	True		
	restrict_polar_visc_lat	60.0		
	restrict_polar_visc_ratio use_this_module	0.35 True	False	False
	vel_micom_iso	0.1	rdise	Lqt2G
	viscosity_ncar	False		
	viscosity_scale_by_rossby	True		
	viscosity_scale_by_rossby_power	4.0		
&ocean_mixdownslope_nml	debug_this_module	False		
	mixdownslope_mask_gfdl mixdownslope_npts	False 4		
	read_mixdownslope_mask	False		
	use_this_module	True	False	False
&ocean_model_nml	baroclinic_split	1	1	1
	23.23	_	_	_

Group (continued)	Variable	new/ control/ 1deg jra55_ryf/	new/ control/ 025deg jra55_ryf/	input.nml
		ocean/ input.nml	ocean/ input.nml	ocean/ input.nml
	barotropic_split	80	80	80
	cmip_units	True	True	True
	debug dt_ocean	False 3600	False 1200	False 150
	io_layout	4, 3	6, 5	10, 15
	layout	16, 15	48, 40	80,75
	surface_height_split time_tendency	1 'twolevel'	1 'twolevel'	1 'twolevel'
	vertical_coordinate	'zstar'	'zstar'	'zstar'
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom	False	False	False
	use_rayleigh_damp_table	True	True	True
&ocean_nphysics_nml	use_this_module debug_this_module	True False	True False	True False
wocean_npmysics_nmt	use_nphysicsa	False	False	False
	use_nphysicsb	False	False	False
	use_nphysicsc	True	False	False
&ocean_nphysics_util_nml	use_this_module agm	True 600.0	False 100.0	False 100.0
a decembrigates a decimina	agm_closure	True	True	True
	agm_closure_baroclinic	True	True	True
	agm_closure_buoy_freq	0.004	0.004	0.004
	agm_closure_eady_ave_mixed agm_closure_eady_cap	True True		
	agm_closure_eady_smooth_horz	True		
	agm_closure_eady_smooth_vert	True		
	agm_closure_eden_gamma	0.0		
	agm_closure_eden_greatbatch agm_closure_grid_scaling	False True		
	agm_closure_length	50 000.0	50 000.0	50 000.0
	agm_closure_length_bczone	False	False	False
	agm_closure_length_fixed	False	False	False
	agm_closure_length_rossby agm_closure_lower_depth	False 2000.0	False 2000.0	False 2000.0
	agm_closure_max	600.0	600.0	600.0
	agm_closure_min	50.0	100.0	100.0
	agm_closure_scaling	0.07	0.07	0.07
	agm_closure_upper_depth agm_damping_time	100.0 45.0	100.0	100.0
	agm_smooth_space	False		
	agm_smooth_time	False		
	aredi	600.0 False	600.0 False	600.0 False
	aredi_equal_agm drhodz_mom4p1	True	False	False
	drhodz_smooth_horz	False	False	False
	drhodz_smooth_vert	False	False	False
	nphysics_util_zero_init	True 100 000.0	100 000.0	100 000.0
	rossby_radius_max rossby_radius_min	15 000.0	15 000.0	15 000.0
	tracer_mix_micom	False	False	False
	vel_micom	0.0	0.0	0.0
&ocean_nphysicsa_nml &ocean_nphysicsb_nml	use_this_module use_this_module	False False	False False	False False
&ocean_nphysicsc_nml	bv_freq_smooth_vert	True	raise	raise
	bvp_bc_mode	2		
	bvp_min_speed	0.1		
	bvp_speed debug_this_module	0.0 False		
	do_qm_skewsion	True		
	do_neutral_diffusion	True		
	epsln_bv_freq	$1 \times 10^{-12}$		
	gm_skewsion_bvproblem qm_skewsion_modes	True False		
	gm_skewsion_modes neutral_eddy_depth	True		
	neutral_physics_limit	True		
	number_bc_modes	2		
	regularize_psi	False		
	smax_psi smooth_psi	0.01 True		
	tmask_neutral_on	True		
	turb_blayer_min	50.0		
9 according to the control of the co	use_this_module	True	False	False
&ocean_operators_nml &ocean_overexchange_nml	use_legacy_div_ud debug_this_module	False False	False False	False False
xoccan_overexchange_nint	debug_triis_module	Lqf2G	rdlSt	raise

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

Group (continued)	Variable	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	front_length_deform_radius	True	True	True
	limit_psi limit_psi_velocity_scale	True 0.5	True 0.5	True 0.5
	min_kblt	4	4	4
	smooth_advect_transport	True	True	True
	smooth_advect_transport_num	4	4	4
	smooth_hblt	False	False	False
	smooth_psi	True	True 3	True 3
	smooth_psi_num submeso_advect_flux	3 False	False	False
	submeso_advect_limit	True	True	True
	submeso_advect_upwind	True	True	True
	submeso_advect_zero_bdy	True	True	True
	submeso_diffusion	False	False	False
	submeso_diffusion_biharmonic submeso_diffusion_scale	True 10.0	True 10.0	True 10.0
	submeso_skew_flux	True	True	True
	use_hblt_equal_mld	True	True	True
	use_psi_legacy	False	False	False
	use_this_module	True	True	True
&ocean_tempsalt_nml	debug_this_module	False	False	False
	pottemp_2nd_iteration pottemp_equal_contemp	True True	True True	True True
	pottemp_equat_contemp s_max	70.0	70.0	70.0
	s_max_limit	42.0	42.0	42.0
	s_min	0.0	0.0	0.0
	s_min_limit	2.0	2.0	2.0
	t_max	55.0	55.0	55.0
	t_max_limit t_min	32.0 — 20.0	32.0 —20.0	32.0 —20.0
	t_min_limit	-20.0 -5.0	-20.0 -5.0	20.0 5.0
	temperature_variable	'potential	'potential	'potential
		temp'	temp'	temp'
&ocean_thickness_nml	debug_this_module	False	False	False
	debug_this_module_detail	False	False	False
	rescale_mass_to_get_ht_mod	False	False	False
&ocean_tracer_advect_nml	thickness_method debug_this_module	'energetic' False	'energetic' False	'energetic' False
Woccan_tracer_advect_nint	read_basin_mask	False	False	False
&ocean_tracer_diag_nml	diag_step	4320	4320	576
	do_bitwise_exact_sum	False	False	False
	tracer_conserve_days	30.0	30.0	30.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0
	debug_this_module frazil_heating_after_vphysics	False True	False True	False True
	frazil_heating_arter_vphysics	False	False	False
	limit_age_tracer	True	True	True
	remap_depth_to_s_init	False	False	False
	use_tempsalt_check_range	True	True	True
	zero_tendency	False	False	False
&ocean velocity diag nml	zero_tracer_source debug_this_module	False False	False False	False False
&ocean_velocity_diag_nml	debug_tnis_module diaq_step	4320	4320	576
	energy_diag_step	4320	4320	5760
	large_cfl_value	10.0	10.0	10.0
	max_cfl_value	100.0	100.0	100.0
&ocean_velocity_nml	adams_bashforth_third	True	True	True
	max_cgint	1.0	1.0	1.0 Falso
	truncate_velocity truncate_velocity_value	False 2.0	False 2.0	False 2.0
	truncate_verbose	True	True	True
	zero_tendency	False	False	False
	zero_tendency_explicit_a	False	False	False
	zero_tendency_explicit_b	False	False	False
O annual transition and	zero_tendency_implicit	False	False	False
&ocean_vert_kpp_iow_nml	use_this_module	False	False	False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw double_diffusion	0.0 True	0.0 True	0.0 True
	kbl_standard_method	False	False	False
	ricr	0.3	0.3	0.3
	smooth_blmc	False	False	False
	smooth_ri_kmax_eq_kmu	True	True	True
	use_this_module	True	True	True

Group (continued)	Variable	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	new/ control/ 025deg jra55_ryf/ ocean/ input.nml	new/ control/ 01deg jra55_ryf/ ocean/ input.nml
	visc_cbu_iw	0.0	0.0	0.0
&ocean_vert_mix_nml	aidif	1.0	1.0	1.0
	bryan_lewis_diffusivity	False	False	False
	bryan_lewis_lat_depend	False	False	False
	hwf_diffusivity	False	False	False
	hwf_min_diffusivity	$2 \times 10^{-6}$	$2  imes 10^{-6}$	$2  imes 10^{-6}$
	hwf_n0_2omega	20.0	20.0	20.0
	use_diff_cbt_table	False	False	False
	vert_diff_back_via_max	True	True	True
	vert_mix_scheme	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'
&ocean_vert_tidal_nml	background_diffusivity	0.0	0.0	0.0
	background_viscosity	0.0001	0.0001	0.0001
	decay_scale	500.0	500.0	500.0
	drag_dissipation_use_cdbot	True	True	True
	drhodz_min	$1  imes 10^{-10}$	$1  imes 10^{-10}$	$1  imes 10^{-10}$
	fixed_wave_dissipation	False	False	False
	max_wave_diffusivity	0.01	0.01	0.01
	mixing_efficiency_n2depend	True	True	True
	read_roughness	True	True	True
	read_tide_speed	True	True	True
	read_wave_dissipation	False	False	False
	reading_roughness_amp	True	True	True
	reading_roughness_length	False	False	False
	roughness_scale	12 000.0	12 000.0	12 000.0
	shelf_depth_cutoff	-1000.0	-1000.0	-1000.0
	tide_speed_data_on_t_grid	True	True	True
	use_drag_dissipation	True	True	True
	use_legacy_methods	False	False	False
	use_this_module use_wave_dissipation	True True	True True	True True
		0.1	0.1	0.1
&ocean_xlandinsert_nml	wave_energy_flux_max use_this_module	False	False	False
&ocean_xlandmix_nml	use_this_module	False	False	False
&xgrid_nml	do_alltoall	1 0136	1 0136	True
waynu anni	do_attoatt do_atltoatly			True
	interp_method	'second	'second	'second
	interp_inetriou	order'	order'	order'
	make_exchange_reproduce	False	False	False
	nsubset	16	16	16

## 7 1 deg configs (differences only)

Group	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL ESM2M input- cut.nml
&auscom_ice_nml	aice_cutoff	0.15	0.15	0.15	0.15	
C C C C C C C C C C C C C C C C C C C	chk_i2o_fields	False	False	False	False	
	chk_o2i_fields	False	False	False	False	
	do_ice_once	False	False	False	False	
	dt_cpl	3600	3600	3600	3600	
	fixmeltt frazil_factor	False 1.0	False 1.0	False 1.0	False 1.0	
	iceform_adj_salt	False	False	False	False	
	icemlt_factor	1.0	1.0	1.0	1.0	
	kmxice	5	5	5	5	
	pop_icediag	True	True	True	True	
	redsea_gulfbay_sfix	4.0	True	True	True	
	sign_stflx tmelt	1.0 0.216	1.0 0.216	1.0 0.216	1.0 0.216	
	use_ioaice	-0.216 True	-0.216 True	—0.216 True	—0.216 True	
&bg_diff_lat_dependence_nml	bg_diff_eq	$1 \times 10^{-6}$	$1 \times 10^{-6}$	nuc	nuc	
g	lat_low_bgdiff	20.0	20.0			
&coupler_nml	atmos_npes					0
	atmos_nthreads					4
	calendar					'NOLEAP'
	check_stocks					0 True
	concurrent current_date					True
	days					1, 1, 1, 0, 0, 0
	do_atmos					True
	do_flux					True
	do_ice					True
	do_land					True
	do_ocean					True
	dt_atmos					1800 7200
	dt_cpld months					12
	ocean_npes					96
	use_lag_fluxes					True
&diag_integral_nml	file_name					'diag
						integral.out'
	output_interval					1.0
&diag_manager_nml	time_units  debug_diag_manager			False	True	'days'
Colog_manager_mm	issue_oor_warnings	False	False	True	True	False
	max_axes					200
	max_files					50
	max_input_fields					800
	max_num_axis_sets					200
	max_output_fields mix_snapshot_average_fields					1300 False
&flux_exchange_nml	debug_stocks					False
&ttux_exchange_min	divert_stocks_report					True
	do_area_weighted_flux					False
	nblocks					4
&fms_io_nml	fileset_write	'single'	'single'	'single'	'single'	
	max_files_r					300
	max_files_w	'ai1-'	1 <sub>0</sub> 1 <sub>1</sub> -1-1	2 <sub>4</sub> 1 <sub>1</sub> = 1 = 2	2a11-2	300
&fms_nml	threading_write	'single' 'LOOP'	'single' 'LOOP'	'single' 'LOOP'	'single' 'COMPONENT'	'COMPONENT'
JIIILciiiix	clock_grain domains_stack_size	LUUP	LUUP	115200	115200	5000000
	stack_size			117200	117200	0
&generic_tracer_nml	do_generic_cfc					False
	do_generic_topaz					True
	do_generic_tracer					True
&ice_albedo_nml	t_range					10.0
&ice_model_nml	add_diurnal_sw					False
	alb_ice					0.65
	alb_sno channel_viscosity					0.85 500 000.0
	cm2_bugs					False
	do_icebergs					True
	h_lo_lim					$1 \times 10^{-10}$
	ice_bulk_salin					0.005
	io_layout					1, 2

Group (continued)	<b>Variable</b> layout	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL- ESM2M input- cut.nml
	nsteps_adv					1
	nsteps_dyn					72
	num_part spec_ice					6 False
	t_range_melt					1.0
	wd_turn					0.0
&icebergs_nml	make_calving_reproduce speed_limit					True 0.5
	time_average_weight					False
	traj_sample_hrs					_ 0
	use_roundoff_fix verbose					True True
	verbose_hrs					120
&mom_oasis3_interface_nml	fields_in	'u_flux',	'u_flux',	'u_flux',	'u_flux',	
		'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	'v_flux', 'lprec', 'fprec',	
		'salt_flx',	'salt_flx',	'salt_flx',	'salt_flx',	
		'mh_flux',	'mh_flux',	'mh_flux',	'mh_flux',	
		'sw_flux',	'sw_flux',	'sw_flux',	'sw_flux',	
		'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',	'q_flux', 't_flux',	
		'lw_flux',	'lw_flux',	'lw_flux',	'lw_flux',	
		'runof', 'p',	'runof', 'p',	'runof', 'p',	'runof', 'p',	
		'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',	'aice', 'wfimelt',	
		wifiform'	williett,	williett,	'wfiform'	
	fields_out	't_surf',	't_surf',	't_surf',	't_surf',	
		's_surf',	's_surf',	's_surf',	's_surf',	
		'u_surf', 'v_surf',	'u_surf', 'v_surf',	'u_surf', 'v_surf',	'u_surf', 'v_surf',	
		'dssldx',	'dssldx',	'dssldx',	'dssldx',	
		'dssldy',	'dssldy',	'dssldy',	'dssldy',	
	num_fields_in	'frazil' 15	'frazil' 15	'frazil' 15	'frazil' 15	
	num_fields_out	7	7	7	7	
	send_after_ocean_update	True	True	True	True	
&monin_obukhov_nml	send_before_ocean_update	False	False	False True	False	
&monin_oduknov_nint	neutral rich_crit			irue	True	10.0
	stable_option					2
	zeta_trans					0.5
&mpp_io_nml	deflate_level shuffle			5 1	5 1	
&ocean_adv_vel_diag_nml	diag_step	120	4320	4320	4320	1200
-	verbose_cfl	False	True	True	True	False
&ocean_albedo_nml	ocean_albedo_option barotropic_halo		10	2	2	5
&ocean_barotropic_nml	barotropic_leap_frog	False	10	10	10	
	barotropic_pred_corr	True				
	barotropic_time_stepping_a		True	True	True	True
	barotropic_time_stepping_b barotropic_time_stepping_mom4p0	True	False	False	False	False
	barotropic_time_stepping_mom4p1	False				
	diag_step	120	4320	4320	4320	1200
	do_bitwise_exact_sum smooth_eta_t_biharmonic	True	False	False	False	True True
	smooth_eta_t_laplacian	False	Faise True	Faise True	True	False
	smooth_pbot_t_biharmonic	True	False	False	False	True
	smooth_pbot_t_laplacian	False	True	True	True	False
	use_legacy_barotropic_halos vel_micom_lap_diag	0.2	False 0.2	False 0.2	False 0.2	1.0
	zero_tendency	False	0.2	False	False	False
&ocean_bbc_nml	bmf_implicit			True	True	
	cdbot	0.001	0.001	0.001	0.001	0.002
	cdbot_hi cdbot_law_of_wall	False	False	0.007	0.007	
	cdbot_roughness_length	iuuc	i uisc	False	False	
	cdbot_roughness_uamp			True	True	
	uresidual			0.05	0.05	0.05
		Falco	Enloc	Falco	Ealco	Truc
&ocean_bbc_ofam_nml	use_geothermal_heating read_tide_speed	False False	False False	False	False	True

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL- ESM2M input- cut.nml
&ocean_bihgen_friction_nml	ncar_boundary_scaling_read vel_micom_bottom	0.01	0.01	False 0.1	True 0.01	0.01
&ocean_convect_nml	convect_full_scalar	False	False	0.1	0.01	0.01
Woccun_convect_mint	convect_full_vector	True	True			
&ocean_density_nml	eos_linear		False	False	False	False
	eos_preteos10		True	True	True	True
	linear_eos	False				
&ocean_domains_nml	teos10_eos	False 20	10	г	г	
&ocean_drifters_nml	max_tracers use_this_module	20	10	5	5	False
&ocean_form_drag_nml	cprime_aiki	0.6	0.6			i disc
&ocean_frazil_nml	debug_this_module			False	False	False
	frazil_only_in_surface	False		False	False	True
	freezing_temp_accurate	True				
	freezing_temp_preteos10		-	True	True	-
9 access saids mad	freezing_temp_simple	False	True	False	False	True
&ocean_grids_nml	debug_this_module do_bitwise_exact_sum	True	True	False	False	True True
	read_rho0_profile	False	False			False
&ocean_increment_eta_nml	days_to_increment	0	0			. 3150
	fraction_increment	1.0	1.0			
	secs_to_increment	3600	1800			
&ocean_increment_tracer_nml	days_to_increment	0	0			
	fraction_increment	1.0	1.0			
Pagan ingrament valogity and	secs_to_increment	3600 0	1800			
&ocean_increment_velocity_nml	days_to_increment fraction_increment	1.0	1.0			
	secs_to_increment	3600	1800			
&ocean_lapgen_friction_nml	bottom_5point	True	True	True	True	True
	k_smag_aniso	0.0	0.0	0.0	0.0	0.0
	k_smag_iso	0.0	0.0	0.0	0.0	0.0
	ncar_only_equatorial	True	True	_	_	_
	restrict_polar_visc	True	True	True	True	True
	restrict_polar_visc_lat restrict_polar_visc_ratio	60.0 0.35	60.0 0.35	60.0 0.35	60.0 0.35	60.0 0.35
	use_this_module	True	True	True	True	True
	vconst_1	0.000 000 8	8 000 000.0			
	vconst_2	0.0	0.0			
	vconst_3	0.8	0.8			
	vconst_4	$5 \times 10^{-9}$	$5 \times 10^{-9}$			
	vconst_5 vconst_6	700,000,000,0	3 300 000 000.0			
	vconst_7	100.0	100.0			
	vel_micom_iso	0.1	0.1	0.1	0.1	0.1
	viscosity_ncar	False	True	False	False	False
	viscosity_ncar_2000	False	False	False		
	viscosity_ncar_2007	True	True	False	_	_
	viscosity_scale_by_rossby	True	True	True	True	True
&ocean_mixdownslope_nml	viscosity_scale_by_rossby_power mixdownslope_mask_gfdl	4.0 False	4.0 False	4.0 False	4.0 False	4.0 True
&ocean_mixdownstope_nint	read_mixdownslope_mask	False	False	False	False	True
&ocean_model_nml	cmip_units	True	True	True	True	False
	dt_ocean	3600	3600	3600	3600	7200
	impose_init_from_restart					True
	io_layout		4, 3	4, 3	4, 3	1, 4
	layout	12, 10	16, 15	16, 15	16, 15	12,8
&ocean_momentum_source_nml	rayleigh_damp_exp_from_bottom use_rayleigh_damp_table	Truo	True	False True	False True	
	use_rayteign_damp_table use_this_module	True True	True	True	True	False
&ocean_nphysics_util_nml	agm	600.0	600.0	600.0	600.0	800.0
, ,	agm_closure_max	600.0	600.0	600.0	600.0	800.0
	agm_closure_min	50.0	50.0	50.0	50.0	100.0
	smax					0.005
	swidth					0.002
&ocean_nphysicsa_nml	debug_this_module					False
	neutral_linear_gm_taper neutral_physics_limit					True True
	neutral_physics_simple					False
	neutral_sine_taper					True
	tmask_neutral_on					True
&ocean_nphysicsb_nml	debug_this_module					False
	nblayer_smooth					True
	neutral_physics_limit					True

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL ESM2M input- cut.nml
	surf_turb_thick_min					50.0
&ocean_operators_nml	surf_turb_thick_min_k use_legacy_div_ud			False	False	5 True
&ocean_overexchange_nml	overexch_check_extrema	False	False	Tutsc	ruisc	False
&ocean_overflow_nml	debug_this_module	False	False			False
&ocean_overflow_ofp_nml	use_this_module			False	False	
&ocean_pressure_nml	zero_pressure_force			False	False	40.0
&ocean_rivermix_nml	calving_insertion_thickness discharge_combine_runoff_calve					40.0 False
	do_bitwise_exact_sum					True
	river_diffuse_salt	False	False	True	True	False
	river_diffuse_temp	False	False	True	True	False
	runoff_insertion_thickness					40.0
&ocean_riverspread_nml	use_this_module	True	True	False	False	False
&ocean_rough_nml &ocean_sbc_nml	rough_scheme calvingspread			'beljaars' False	'beljaars' False	'beljaars' False
&ocean_soc_nint	do_bitwise_exact_sum			False	False	raise
	do_flux_correction			False	False	True
	eta_restore_tscale					-10.0
	ice_salt_concentration	0.005		F .	F 1	-
	land_model_heat_fluxes max_delta_salinity_restore	0.5	0.5	False 0.5	False 0.5	True
	max_ice_thickness	8.0	8.0	0.0	0.0	8.0
	read_restore_mask	False	False	False	False	0.0
	restore_mask_gfdl	False	False	False	False	
	runoff_salinity	0.0	0.0	0.0	0.0	
	runoffspread salt_correction_scale			0.0	0.0	False 0.0
	salt_restore_as_salt_flux	True	True	True	True	0.0
	salt_restore_tscale	15.0	15.0	60.0	60.0	-10.0
	salt_restore_under_ice	True	True	True	True	
	tau_x_correction_scale					0.0
	tau_y_correction_scale					0.0
	temp_correction_scale temp_restore_tscale	-1.0	-1.0	-10.0	-10.0	1.0 10.0
	use_full_patm_for_sea_level	1.0	1.0	False	False	True
	use_waterflux_override_calving					False
	use_waterflux_override_evap					False
	use_waterflux_override_fprec	F-I	Falsa			False
	waterflux_tavg zero_heat_fluxes	False False	False False	False	False	False
	zero_net_pme_eta_restore	raisc	raisc	raisc	ratsc	False
	zero_net_salt_correction			False	False	
	zero_net_salt_restore	True	True	True	True	
	zero_net_water_correction	_	<b>-</b>	False	False	
	zero_net_water_couple_restore zero_net_water_coupler	True True	True True	True True	True True	
	zero_net_water_coupler	True	True	True	True	
	zero_surface_stress	False	False	False	False	
	zero_water_fluxes	False	False	False	False	
&ocean_sbc_ofam_nml	restore_mask_ofam	False	False			
&ocean_shortwave_csiro_nml	river_temp_ofam read_depth	False True	False True			
	use_this_module	True	True	False	False	False
	zmax_pen	7000	7000	raisc	ratsc	raisc
&ocean_shortwave_gfdl_nml	optics_morel_antoine			False	False	False
	override_f_vis					False
	read_chl	False	False	True	True	False
	sw_pen_fixed_depths use_this_module	False False	False False	True	True	True
	zmax_pen	200.0	200.0	300.0	300.0	200.0
&ocean_shortwave_nml	use_shortwave_csiro	True	True	False	False	False
&ocean_sigma_transport_nml	use_shortwave_gfdl	False	False	True	True	True
	sigma_advection_on	False	False			False
	sigma_advection_sgs_only	False	False			False
	sigma_diffusion_on sigma_diffusivity_ratio	True $1 \times 10^{-6}$	True $1  imes 10^{-6}$			True $1  imes 10^{-6}$
	sigma_uniusivity_ratio sigma_just_in_bottom_cell	True	True			True
	sigma_umax	0.01	0.01			0.01
	smooth_sigma_thickness	True	True			True
	smooth_sigma_velocity	True	True			True
	smooth_velmicom	0.2	0.2			0.2
	thickness_sigma_layer	100.0	100.0			100.0

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.ml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL ESM2M input- cut.nml
	thickness_sigma_max thickness_sigma_min	100.0 100.0	100.0 100.0			100.0 100.0
	tmask_sigma_on	False	False			False
	tracer_mix_micom	True	True			True
	use_this_module	True	True	False	False	True
	vel_micom	0.05	0.05	1101 5481	NIOLE 181	0.05
&ocean_solo_nml	calendar	'NOLEAP'	'NOLEAP'	'NOLEAP'	'NOLEAP'	
	date_init days	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0 1460	1, 1, 1, 0, 0, 0	1, 1, 1, 0, 0, 0 1460	
	debug_this_module	· ·	False	J .	1100	
	dt_cpld	3600	3600	3600	3600	
	hours	0	0	0	0	
	minutes	0	0	0	0	
	months seconds	12 0	0	0	0 0	
	years	· ·	0	2	0	
&ocean_sponges_tracer_nml	damp_coeff_3d	False	False			False
&ocean_submesoscale_nml	coefficient_ce			0.05	0.05	
	smooth_advect_transport			True	True	
	smooth_advect_transport_num smooth_psi			4 True	4 True	
	smooth_psi_num			3	3	
	submeso_advect_flux			False	False	
	submeso_advect_limit			True	True	
	submeso_advect_upwind			True	True	
	submeso_advect_zero_bdy			True False	True False	
	submeso_diffusion submeso_diffusion_biharmonic			True	True	
	submeso_diffusion_scale			10.0	10.0	
	submeso_limit_flux	True	True			True
	submeso_skew_flux			True	True	
	use_psi_legacy			False	False	True
&ocean_tempsalt_nml	debug_this_module pottemp_equal_contemp		False	False True	False True	False
	s_max	55.0	55.0	70.0	70.0	55.0
	s_min	-1.0	-1.0	0.0	0.0	-1.0
	s_min_limit	0.0	0.0	2.0	2.0	5.0
	t_min	-5.0	-5.0	-20.0	-20.0	-5.0
	t_min_limit temperature_variable	-2.0	-2.0 conservative	— 5.0 'potential	— 5.0 'potential	-1.9 'potential
	temperature_variable	temp'	temp'	temp'	temp'	temp'
	teos10	False				
&ocean_thickness_nml	initialize_zero_eta	False	False			False
	read_rescale_rho0_mask	False	False			True
	rescale_mass_to_get_ht_mod rescale_rho0_basin_label	7.0	7.0	False	False	7.0
	rescale_rho0_mask_gfdl	False	False			True
	rescale_rho0_value	0.75	0.75			0.75
	thickness_dzt_min	1.0	1.0			2.0
	thickness_dzt_min_init	2.0	2.0			2.0
&ocean_time_filter_nml	use_this_module	25.0	25.0			False
&ocean_topog_nml &ocean_tracer_advect_nml	min_thickness advect_sweby_all	Z5.0 True	True			5.0 False
A Decarizated Laure Cellinit	async_domain_update	IIUC	True			1 0130
	compute_gyre_overturn_diagnose	True	11 4 5			
	do_fast_compute	True				
	limit_with_upwind	-			F 1	False
&ocean tracer diag and	read_basin_mask diag_step	True 120	4320	False 4320	False 4320	1200
&ocean_tracer_diag_nml	grag_step smooth_mld	120	4320	4320	4320	True
	tracer_conserve_days	1.0	1.0	30.0	30.0	100.0
&ocean_tracer_nml	age_tracer_max_init	0.0	0.0	0.0	0.0	1 × 10 <sup>+40</sup>
	interpolate_tdiag_to_pbott					False
	interpolate_tprog_to_pbott					False
	tmask_limit_ts_same		Tarra	Т	Т	True
&ocean_velocity_diag_nml	use_tempsalt_check_range diag_step	120	True 4320	True 4320	True 4320	1200
COCCUIT-VCIOCITY-utag-IIIII	energy_diag_step	120	4320	4320	4320	1200
&ocean_velocity_nml	max_cqint	1.0	1.0	1.0	1.0	-100
·	truncate_velocity	False	True	False	False	False
	zero_tendency_explicit_a			False	False	
	zero_tendency_explicit_b zero_tendency_implicit			False False	False False	

Group (continued)	Variable	original/ russ- accessom- mom4p1- input.nml	original/ hogg_acces- som2 1deg jra55_ryf input.nml	1deg jra55v13 ryf9091 spinup_A- input.nml	new/ control/ 1deg jra55_ryf/ ocean/ input.nml	original/ GFDL ESM2M input- cut.nml
&ocean_vert_kpp_iow_nml	use_this_module		False	False	False	False
&ocean_vert_kpp_mom4p0_nml	use_this_module		False			False
&ocean_vert_kpp_mom4p1_nml	diff_cbt_iw		0.0	0.0	0.0	0.0
	diff_con_limit		0.1	_	_	_
	double_diffusion		True	True	True	True
	kbl_standard_method		False	False	False	0.7
	ricr smooth_blmc		0.3 False	0.3 False	0.3 False	0.3 True
	smooth_ri_kmax_eq_kmu		True	True	True	iiue
	use_this_module		True	True	True	True
	visc_cbu_iw		0.0	0.0	0.0	0.0
	visc_con_limit		0.1	0.0	0.0	0.0
	wsfc_combine_runoff_calve					False
&ocean_vert_kpp_nml	diff_cbt_iw	0.0				
"	diff_con_limit	0.1				
	double_diffusion	True				
	kbl_standard_method	True				
	ricr	0.3				
	smooth_blmc	True				
	use_this_module	True				
	visc_cbu_iw	0.0				
	visc_con_limit	0.1				
&ocean_vert_mix_nml	afkph_00	0.65	0.65			0.675
	afkph_90	0.75	0.75	Falsa	Falsa	0.725
	bryan_lewis_diffusivity	False	False	False	False False	True
	bryan_lewis_lat_depend bryan_lewis_lat_transition	True 35.0	True 35.0	False	False	True 35.0
	dfkph_00	1.15	1.15			1.15
	dfkph_90	0.95	0.95			1.15
	hwf_diffusivity	0.75	0.75	False	False	1.13
	hwf_min_diffusivity			$2 \times 10^{-6}$	$2 \times 10^{-6}$	
	hwf_n0_2omega			20.0	20.0	
	linear_taper_diff_cbt_table	False	False			False
	quebec_2009_10_bug					False
	sfkph_00	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$			$4.5 \times 10^{-5}$
	sfkph_90	$4.5 \times 10^{-5}$	$4.5 \times 10^{-5}$			$4.5 \times 10^{-5}$
	vert_mix_scheme	'kpp'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'	'kpp mom4p1'
	zfkph_00	250 000.0	250 000.0			250 000 000.0
	zfkph_90	250 000.0	250 000.0		2.5	250 000 000.0
&ocean_vert_tidal_nml	background_diffusivity	$5 \times 10^{-6}$	$5 \times 10^{-6}$	0.0	0.0	0.0
	decay_scale	300.0	300.0	500.0	500.0	300.0
	drag_dissipation_use_cdbot	$1 \times 10^{-12}$	$1 \times 10^{-12}$	True $1  imes 10^{-10}$	True $1  imes 10^{-10}$	1 > 10-17
	drhodz_min	1 × 10 12 0.01	1 × 10 12 0.01	1 × 10 19	1 × 10 -10	$1 \times 10^{-12}$
	max_drag_diffusivity roughness_scale	20 000.0	20 000.0	12 000.0	12 000.0	30 000.0
	shelf_depth_cutoff	160.0	160.0	-1000.0 -1000.0	-1000.0 -1000.0	160.0
	use_legacy_methods	100.0	100.0	False	- 1000.0 False	True
&ocean_xlandinsert_nml	use_this_module	False	False	False	False	True
	verbose_init	True	True	1 4130	1 4150	True
&ocean_xlandmix_nml	use_this_module	False	False	False	False	True
	verbose_init	True	True	. 4.50	. 4.50	True
	xlandmix_kmt	True	True			True
&sat_vapor_pres_nml	construct_table_wrt_liq					True
	construct_table_wrt_liq_and_ice					True
&surface_flux_nml	old_dtaudv					False
&topography_nml	topog_file					'INPUT/ navy_topog-
						ra- phy.data.nc'
&xgrid_nml	interp_method		'second	'second	'second	'second
&xgrid_nml	•		'second order'	'second order'	'second order'	
&xgrid_nml	interp_method make_exchange_reproduce nsubset					'second