

Model Input Parameters: ROMS/TOMS version 4.1
Tuesday - June 7, 2022 - 3:36:45 PM

Extended North Sea, 0.12deg Resolution

Operating system : Linux
CPU/hardware : x86_64
Compiler system : gfortran
Compiler command : /sw/arch/Centos8/EB_production/2021/software/
OpenMPI/4.1.1-GCC-10.3.0/bin/mpif90
Compiler flags : -fpack-arrays -fallow-argument-mismatch
-fallow-argument-mismatch -O3 -ffast-math -
OCN Communicator : 0, PET size = 80

Input Script : /home/ikeizer/timnorthsea8_2/
ocean_northsea8_gen.in

SVN Root URL : https://www.myroms.org/svn/src/trunk
SVN Revision : 1131

Local Root : /gpfs/home6/ikeizer/roms
Header Dir : /home/ikeizer/timnorthsea8_2
Header file : north_sea8.h
Analytical Dir : /home/ikeizer/timnorthsea8_2

Resolution, Grid 01: 240x216x30, Parallel Nodes: 80, Tiling: 10x8

Physical Parameters, Grid: 01

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17280	ntimes	Number of timesteps for 3-D
equations.		
150.000	dt	Timestep size (s) for 3-D equations.
30	ndtfast	Number of timesteps for 2-D equations
between		
		each 3D timestep.
1	ERstr	Starting ensemble/perturbation run
number.		
1	ERend	Ending ensemble/perturbation run
number.		
0	nrrec	Number of restart records to read
from disk.		
F	LcycleRST	Switch to recycle time-records in
restart file.		
2880	nRST	Number of timesteps between the
writing of data		
		into restart fields.
1	ninfo	Number of timesteps between print of
information		

T	ldefout	to standard output.
file(s).		Switch to create a new output NetCDF
2880	nHIS	Number of timesteps between the
writing fields		into history file.
210240	ndefHIS	Number of timesteps between creation
of new		history files.
0	nQCK	Number of timesteps between the
writing fields		into quicksave file.
5.0000E+01	nl_tnu2(01)	NLM Horizontal, harmonic mixing
coefficient		(m2/s) for tracer 01: temp
5.0000E+01	nl_tnu2(02)	NLM Horizontal, harmonic mixing
coefficient		(m2/s) for tracer 02: salt
3.0000E+10	nl_visc4	NLM Horizontal, biharmonic mixing
coefficient		(m4/s) for momentum.
T	LuvSponge	Turning ON sponge on horizontal
momentum.		
T	LtracerSponge(01)	Turning ON sponge on tracer 01: temp
T	LtracerSponge(02)	Turning ON sponge on tracer 02: salt
1.0000E-06	Akt_bak(01)	Background vertical mixing
coefficient (m2/s)		for tracer 01: temp
1.0000E-06	Akt_bak(02)	Background vertical mixing
coefficient (m2/s)		for tracer 02: salt
1.0000E-05	Akv_bak	Background vertical mixing
coefficient (m2/s)		for momentum.
3.0000E-04	rdrg	Linear bottom drag coefficient (m/s).
3.0000E-03	rdrg2	Quadratic bottom drag coefficient.
2.0000E-02	Zob	Bottom roughness (m).
2.0000E+00	blk_ZQ	Height (m) of surface air humidity
measurement.		
2.0000E+00	blk_ZT	Height (m) of surface air temperature
measurement.		
1.0000E+01	blk_ZW	Height (m) of surface winds
measurement.		
3	lmd_Jwt	Jerlov water type.
2	Vtransform	S-coordinate transformation equation.
4	Vstretching	S-coordinate stretching function.
7.0000E+00	theta_s	S-coordinate surface control
parameter.		
2.0000E+00	theta_b	S-coordinate bottom control
parameter.		
50.000	Tcline	S-coordinate surface/bottom layer
width (m) used		in vertical coordinate stretching.
1025.000	rho0	Mean density (kg/m3) for Boussinesq

approximation.	
16451.000 dstart	Time-stamp assigned to model
initialization (days).	
19480101.00 time_ref	Reference time for units attribute
(yyyymmdd.dd)	
3.6000E+02 Tnudg(01)	Nudging/relaxation time scale (days)
	for tracer 01: temp
3.6000E+02 Tnudg(02)	Nudging/relaxation time scale (days)
	for tracer 02: salt
3.6000E+02 Znudg	Nudging/relaxation time scale (days)
	for free-surface.
3.6000E+02 M2nudg	Nudging/relaxation time scale (days)
	for 2D momentum.
3.6000E+02 M3nudg	Nudging/relaxation time scale (days)
	for 3D momentum.
3.6000E+02 obcfac	Factor between passive and active
	open boundary conditions.
F VolCons(1)	NLM western edge boundary volume
conservation.	
F VolCons(2)	NLM southern edge boundary volume
conservation.	
F VolCons(3)	NLM eastern edge boundary volume
conservation.	
F VolCons(4)	NLM northern edge boundary volume
conservation.	
10.000 T0	Background potential temperature (C)
constant.	
35.000 S0	Background salinity (PSU) constant.
-1.000 gamma2	Slipperiness variable: free-slip
(1.0) or	
	no-slip
(-1.0).	
F LuvSrc	Turning OFF momentum point Sources/
Sinks.	
F LwSrc	Turning OFF volume influx point
Sources/Sinks.	
T LtracerSrc(01)	Turning ON point Sources/Sinks on
tracer 01: temp	
T LtracerSrc(02)	Turning ON point Sources/Sinks on
tracer 02: salt	
F LsshCLM	Turning OFF processing of SSH
climatology.	
T Lm2CLM	Turning ON processing of 2D momentum
climatology.	
T Lm3CLM	Turning ON processing of 3D momentum
climatology.	
T LtracerCLM(01)	Turning ON processing of climatology
tracer 01: temp	
T LtracerCLM(02)	Turning ON processing of climatology
tracer 02: salt	
F LnudgeM2CLM	Turning OFF nudging of 2D momentum
climatology.	
F LnudgeM3CLM	Turning OFF nudging of 3D momentum
climatology.	

T LnudgeTCLM(01) Turning ON nudging of climatology
 tracer 01: temp
 T LnudgeTCLM(02) Turning ON nudging of climatology
 tracer 02: salt

T Hout(idFsur) Write out free-surface.

1 inp_lib Using standard NetCDF library for
 input files.
 1 out_lib Using standard NetCDF library for
 output files.

Output/Input Files:

Output Restart File: NorthSea8_rst.nc
 Prefix for History Files: NorthSea8_his
 Input Grid File:
 NorthSea8_smooth013_sponge_nudg.nc
 Input Nonlinear Initial File:
 NorthSea8_rst_Y2019_14_01_2018_NoneVar.nc
 Input Sources/Sinks File:
 Rivers_NorthSea8_smooth013_Dai2014_AnnualCycle_1993-2019.nc
 Input Forcing File 01:
 ERA5_NorthAtlantic_an_ForROMS.nc
 Input Forcing File 02:
 ERA5_NorthAtlantic_fc_ForROMS.nc
 Input Climatology File 01:
 NS8_smooth013_glorys12v1_clim_19930115_to_20181231.nc
 Input Nudge Coefficients File:
 NorthSea8_smooth013_sponge_nudg.nc
 Input Lateral Boundary File 01:
 NS8_smooth013_glorys12v1_bry_19930115_to_20181231.nc
 ROMS I/O variables Metadata File: ../roms/ROMS/External/
 varinfo_2.yaml

Tile partition information for Grid 01: 240x216x30 tiling: 10x8

tile	Istr	Iend	Jstr	Jend	Npts
0	1	24	1	27	19440
1	25	48	1	27	19440
2	49	72	1	27	19440
3	73	96	1	27	19440
4	97	120	1	27	19440
5	121	144	1	27	19440
6	145	168	1	27	19440
7	169	192	1	27	19440
8	193	216	1	27	19440
9	217	240	1	27	19440
10	1	24	28	54	19440
11	25	48	28	54	19440
12	49	72	28	54	19440
13	73	96	28	54	19440
14	97	120	28	54	19440

15	121	144	28	54	19440
16	145	168	28	54	19440
17	169	192	28	54	19440
18	193	216	28	54	19440
19	217	240	28	54	19440
20	1	24	55	81	19440
21	25	48	55	81	19440
22	49	72	55	81	19440
23	73	96	55	81	19440
24	97	120	55	81	19440
25	121	144	55	81	19440
26	145	168	55	81	19440
27	169	192	55	81	19440
28	193	216	55	81	19440
29	217	240	55	81	19440
30	1	24	82	108	19440
31	25	48	82	108	19440
32	49	72	82	108	19440
33	73	96	82	108	19440
34	97	120	82	108	19440
35	121	144	82	108	19440
36	145	168	82	108	19440
37	169	192	82	108	19440
38	193	216	82	108	19440
39	217	240	82	108	19440
40	1	24	109	135	19440
41	25	48	109	135	19440
42	49	72	109	135	19440
43	73	96	109	135	19440
44	97	120	109	135	19440
45	121	144	109	135	19440
46	145	168	109	135	19440
47	169	192	109	135	19440
48	193	216	109	135	19440
49	217	240	109	135	19440
50	1	24	136	162	19440
51	25	48	136	162	19440
52	49	72	136	162	19440
53	73	96	136	162	19440
54	97	120	136	162	19440
55	121	144	136	162	19440
56	145	168	136	162	19440
57	169	192	136	162	19440
58	193	216	136	162	19440
59	217	240	136	162	19440
60	1	24	163	189	19440
61	25	48	163	189	19440
62	49	72	163	189	19440
63	73	96	163	189	19440
64	97	120	163	189	19440
65	121	144	163	189	19440
66	145	168	163	189	19440
67	169	192	163	189	19440
68	193	216	163	189	19440

69	217	240	163	189	19440
70	1	24	190	216	19440
71	25	48	190	216	19440
72	49	72	190	216	19440
73	73	96	190	216	19440
74	97	120	190	216	19440
75	121	144	190	216	19440
76	145	168	190	216	19440
77	169	192	190	216	19440
78	193	216	190	216	19440
79	217	240	190	216	19440

Tile minimum and maximum fractional coordinates for Grid 01:
(interior points only)

tile	Xmin	Xmax	Ymin	Ymax	grid
0	0.50	24.50	0.50	27.50	RH0-points
1	24.50	48.50	0.50	27.50	RH0-points
2	48.50	72.50	0.50	27.50	RH0-points
3	72.50	96.50	0.50	27.50	RH0-points
4	96.50	120.50	0.50	27.50	RH0-points
5	120.50	144.50	0.50	27.50	RH0-points
6	144.50	168.50	0.50	27.50	RH0-points
7	168.50	192.50	0.50	27.50	RH0-points
8	192.50	216.50	0.50	27.50	RH0-points
9	216.50	240.50	0.50	27.50	RH0-points
10	0.50	24.50	27.50	54.50	RH0-points
11	24.50	48.50	27.50	54.50	RH0-points
12	48.50	72.50	27.50	54.50	RH0-points
13	72.50	96.50	27.50	54.50	RH0-points
14	96.50	120.50	27.50	54.50	RH0-points
15	120.50	144.50	27.50	54.50	RH0-points
16	144.50	168.50	27.50	54.50	RH0-points
17	168.50	192.50	27.50	54.50	RH0-points
18	192.50	216.50	27.50	54.50	RH0-points
19	216.50	240.50	27.50	54.50	RH0-points
20	0.50	24.50	54.50	81.50	RH0-points
21	24.50	48.50	54.50	81.50	RH0-points
22	48.50	72.50	54.50	81.50	RH0-points
23	72.50	96.50	54.50	81.50	RH0-points
24	96.50	120.50	54.50	81.50	RH0-points
25	120.50	144.50	54.50	81.50	RH0-points
26	144.50	168.50	54.50	81.50	RH0-points
27	168.50	192.50	54.50	81.50	RH0-points
28	192.50	216.50	54.50	81.50	RH0-points
29	216.50	240.50	54.50	81.50	RH0-points
30	0.50	24.50	81.50	108.50	RH0-points
31	24.50	48.50	81.50	108.50	RH0-points
32	48.50	72.50	81.50	108.50	RH0-points
33	72.50	96.50	81.50	108.50	RH0-points
34	96.50	120.50	81.50	108.50	RH0-points
35	120.50	144.50	81.50	108.50	RH0-points
36	144.50	168.50	81.50	108.50	RH0-points

37	168.50	192.50	81.50	108.50	RH0-points
38	192.50	216.50	81.50	108.50	RH0-points
39	216.50	240.50	81.50	108.50	RH0-points
40	0.50	24.50	108.50	135.50	RH0-points
41	24.50	48.50	108.50	135.50	RH0-points
42	48.50	72.50	108.50	135.50	RH0-points
43	72.50	96.50	108.50	135.50	RH0-points
44	96.50	120.50	108.50	135.50	RH0-points
45	120.50	144.50	108.50	135.50	RH0-points
46	144.50	168.50	108.50	135.50	RH0-points
47	168.50	192.50	108.50	135.50	RH0-points
48	192.50	216.50	108.50	135.50	RH0-points
49	216.50	240.50	108.50	135.50	RH0-points
50	0.50	24.50	135.50	162.50	RH0-points
51	24.50	48.50	135.50	162.50	RH0-points
52	48.50	72.50	135.50	162.50	RH0-points
53	72.50	96.50	135.50	162.50	RH0-points
54	96.50	120.50	135.50	162.50	RH0-points
55	120.50	144.50	135.50	162.50	RH0-points
56	144.50	168.50	135.50	162.50	RH0-points
57	168.50	192.50	135.50	162.50	RH0-points
58	192.50	216.50	135.50	162.50	RH0-points
59	216.50	240.50	135.50	162.50	RH0-points
60	0.50	24.50	162.50	189.50	RH0-points
61	24.50	48.50	162.50	189.50	RH0-points
62	48.50	72.50	162.50	189.50	RH0-points
63	72.50	96.50	162.50	189.50	RH0-points
64	96.50	120.50	162.50	189.50	RH0-points
65	120.50	144.50	162.50	189.50	RH0-points
66	144.50	168.50	162.50	189.50	RH0-points
67	168.50	192.50	162.50	189.50	RH0-points
68	192.50	216.50	162.50	189.50	RH0-points
69	216.50	240.50	162.50	189.50	RH0-points
70	0.50	24.50	189.50	216.50	RH0-points
71	24.50	48.50	189.50	216.50	RH0-points
72	48.50	72.50	189.50	216.50	RH0-points
73	72.50	96.50	189.50	216.50	RH0-points
74	96.50	120.50	189.50	216.50	RH0-points
75	120.50	144.50	189.50	216.50	RH0-points
76	144.50	168.50	189.50	216.50	RH0-points
77	168.50	192.50	189.50	216.50	RH0-points
78	192.50	216.50	189.50	216.50	RH0-points
79	216.50	240.50	189.50	216.50	RH0-points

0	1.00	24.50	0.50	27.50	U-points
1	24.50	48.50	0.50	27.50	U-points
2	48.50	72.50	0.50	27.50	U-points
3	72.50	96.50	0.50	27.50	U-points
4	96.50	120.50	0.50	27.50	U-points
5	120.50	144.50	0.50	27.50	U-points
6	144.50	168.50	0.50	27.50	U-points
7	168.50	192.50	0.50	27.50	U-points
8	192.50	216.50	0.50	27.50	U-points
9	216.50	240.00	0.50	27.50	U-points

10	1.00	24.50	27.50	54.50	U-points
11	24.50	48.50	27.50	54.50	U-points
12	48.50	72.50	27.50	54.50	U-points
13	72.50	96.50	27.50	54.50	U-points
14	96.50	120.50	27.50	54.50	U-points
15	120.50	144.50	27.50	54.50	U-points
16	144.50	168.50	27.50	54.50	U-points
17	168.50	192.50	27.50	54.50	U-points
18	192.50	216.50	27.50	54.50	U-points
19	216.50	240.00	27.50	54.50	U-points
20	1.00	24.50	54.50	81.50	U-points
21	24.50	48.50	54.50	81.50	U-points
22	48.50	72.50	54.50	81.50	U-points
23	72.50	96.50	54.50	81.50	U-points
24	96.50	120.50	54.50	81.50	U-points
25	120.50	144.50	54.50	81.50	U-points
26	144.50	168.50	54.50	81.50	U-points
27	168.50	192.50	54.50	81.50	U-points
28	192.50	216.50	54.50	81.50	U-points
29	216.50	240.00	54.50	81.50	U-points
30	1.00	24.50	81.50	108.50	U-points
31	24.50	48.50	81.50	108.50	U-points
32	48.50	72.50	81.50	108.50	U-points
33	72.50	96.50	81.50	108.50	U-points
34	96.50	120.50	81.50	108.50	U-points
35	120.50	144.50	81.50	108.50	U-points
36	144.50	168.50	81.50	108.50	U-points
37	168.50	192.50	81.50	108.50	U-points
38	192.50	216.50	81.50	108.50	U-points
39	216.50	240.00	81.50	108.50	U-points
40	1.00	24.50	108.50	135.50	U-points
41	24.50	48.50	108.50	135.50	U-points
42	48.50	72.50	108.50	135.50	U-points
43	72.50	96.50	108.50	135.50	U-points
44	96.50	120.50	108.50	135.50	U-points
45	120.50	144.50	108.50	135.50	U-points
46	144.50	168.50	108.50	135.50	U-points
47	168.50	192.50	108.50	135.50	U-points
48	192.50	216.50	108.50	135.50	U-points
49	216.50	240.00	108.50	135.50	U-points
50	1.00	24.50	135.50	162.50	U-points
51	24.50	48.50	135.50	162.50	U-points
52	48.50	72.50	135.50	162.50	U-points
53	72.50	96.50	135.50	162.50	U-points
54	96.50	120.50	135.50	162.50	U-points
55	120.50	144.50	135.50	162.50	U-points
56	144.50	168.50	135.50	162.50	U-points
57	168.50	192.50	135.50	162.50	U-points
58	192.50	216.50	135.50	162.50	U-points
59	216.50	240.00	135.50	162.50	U-points
60	1.00	24.50	162.50	189.50	U-points
61	24.50	48.50	162.50	189.50	U-points
62	48.50	72.50	162.50	189.50	U-points
63	72.50	96.50	162.50	189.50	U-points

64	96.50	120.50	162.50	189.50	U-points
65	120.50	144.50	162.50	189.50	U-points
66	144.50	168.50	162.50	189.50	U-points
67	168.50	192.50	162.50	189.50	U-points
68	192.50	216.50	162.50	189.50	U-points
69	216.50	240.00	162.50	189.50	U-points
70	1.00	24.50	189.50	216.50	U-points
71	24.50	48.50	189.50	216.50	U-points
72	48.50	72.50	189.50	216.50	U-points
73	72.50	96.50	189.50	216.50	U-points
74	96.50	120.50	189.50	216.50	U-points
75	120.50	144.50	189.50	216.50	U-points
76	144.50	168.50	189.50	216.50	U-points
77	168.50	192.50	189.50	216.50	U-points
78	192.50	216.50	189.50	216.50	U-points
79	216.50	240.00	189.50	216.50	U-points

0	0.50	24.50	1.00	27.50	V-points
1	24.50	48.50	1.00	27.50	V-points
2	48.50	72.50	1.00	27.50	V-points
3	72.50	96.50	1.00	27.50	V-points
4	96.50	120.50	1.00	27.50	V-points
5	120.50	144.50	1.00	27.50	V-points
6	144.50	168.50	1.00	27.50	V-points
7	168.50	192.50	1.00	27.50	V-points
8	192.50	216.50	1.00	27.50	V-points
9	216.50	240.50	1.00	27.50	V-points
10	0.50	24.50	27.50	54.50	V-points
11	24.50	48.50	27.50	54.50	V-points
12	48.50	72.50	27.50	54.50	V-points
13	72.50	96.50	27.50	54.50	V-points
14	96.50	120.50	27.50	54.50	V-points
15	120.50	144.50	27.50	54.50	V-points
16	144.50	168.50	27.50	54.50	V-points
17	168.50	192.50	27.50	54.50	V-points
18	192.50	216.50	27.50	54.50	V-points
19	216.50	240.50	27.50	54.50	V-points
20	0.50	24.50	54.50	81.50	V-points
21	24.50	48.50	54.50	81.50	V-points
22	48.50	72.50	54.50	81.50	V-points
23	72.50	96.50	54.50	81.50	V-points
24	96.50	120.50	54.50	81.50	V-points
25	120.50	144.50	54.50	81.50	V-points
26	144.50	168.50	54.50	81.50	V-points
27	168.50	192.50	54.50	81.50	V-points
28	192.50	216.50	54.50	81.50	V-points
29	216.50	240.50	54.50	81.50	V-points
30	0.50	24.50	81.50	108.50	V-points
31	24.50	48.50	81.50	108.50	V-points
32	48.50	72.50	81.50	108.50	V-points
33	72.50	96.50	81.50	108.50	V-points
34	96.50	120.50	81.50	108.50	V-points
35	120.50	144.50	81.50	108.50	V-points
36	144.50	168.50	81.50	108.50	V-points

37	168.50	192.50	81.50	108.50	V-points
38	192.50	216.50	81.50	108.50	V-points
39	216.50	240.50	81.50	108.50	V-points
40	0.50	24.50	108.50	135.50	V-points
41	24.50	48.50	108.50	135.50	V-points
42	48.50	72.50	108.50	135.50	V-points
43	72.50	96.50	108.50	135.50	V-points
44	96.50	120.50	108.50	135.50	V-points
45	120.50	144.50	108.50	135.50	V-points
46	144.50	168.50	108.50	135.50	V-points
47	168.50	192.50	108.50	135.50	V-points
48	192.50	216.50	108.50	135.50	V-points
49	216.50	240.50	108.50	135.50	V-points
50	0.50	24.50	135.50	162.50	V-points
51	24.50	48.50	135.50	162.50	V-points
52	48.50	72.50	135.50	162.50	V-points
53	72.50	96.50	135.50	162.50	V-points
54	96.50	120.50	135.50	162.50	V-points
55	120.50	144.50	135.50	162.50	V-points
56	144.50	168.50	135.50	162.50	V-points
57	168.50	192.50	135.50	162.50	V-points
58	192.50	216.50	135.50	162.50	V-points
59	216.50	240.50	135.50	162.50	V-points
60	0.50	24.50	162.50	189.50	V-points
61	24.50	48.50	162.50	189.50	V-points
62	48.50	72.50	162.50	189.50	V-points
63	72.50	96.50	162.50	189.50	V-points
64	96.50	120.50	162.50	189.50	V-points
65	120.50	144.50	162.50	189.50	V-points
66	144.50	168.50	162.50	189.50	V-points
67	168.50	192.50	162.50	189.50	V-points
68	192.50	216.50	162.50	189.50	V-points
69	216.50	240.50	162.50	189.50	V-points
70	0.50	24.50	189.50	216.00	V-points
71	24.50	48.50	189.50	216.00	V-points
72	48.50	72.50	189.50	216.00	V-points
73	72.50	96.50	189.50	216.00	V-points
74	96.50	120.50	189.50	216.00	V-points
75	120.50	144.50	189.50	216.00	V-points
76	144.50	168.50	189.50	216.00	V-points
77	168.50	192.50	189.50	216.00	V-points
78	192.50	216.50	189.50	216.00	V-points
79	216.50	240.50	189.50	216.00	V-points

Maximum halo size in XI and ETA directions:

```

HaloSizeI(1) =    114
HaloSizeJ(1) =    123
TileSide(1)  =     35
TileSize(1)  =   1120

```

Tracer Advection Scheme: NLM

=====

Variable -----	Grid ----	Horizontal -----	Vertical -----
temp	1	Upstream3	Centered4
salt	1	Upstream3	Centered4
Akima4 Fourth-order Akima advection Centered2 Second-order centered differences advection Centered4 Fourth-order centered differences advection HSIMT Third High-order Spatial Inteporlation at Middle Time Advection with TVD limiter MPDATA Multidimensional Positive Definite Advection Algorithm, recursive method Splines Conservative Parabolic Splines Reconstruction Advection (only vertical; not recommended) Split_U3 Split third-order Upstream Advection Upstream3 Third-order Upstream-biased Advection (only horizontal)			

Lateral Boundary Conditions: NLM

=====

Variable North Edge ----- -----	Grid ----	West Edge -----	South Edge -----	East Edge -----
zeta Chapman Imp	1	Chapman Imp	Chapman Imp	Chapman Imp
ubar Flather	1	Flather	Flather	Flather
vbar Flather	1	Flather	Flather	Flather
u Rad + Nud	1	Rad + Nud	Rad + Nud	Rad + Nud
v Rad + Nud	1	Rad + Nud	Rad + Nud	Rad + Nud
temp Rad + Nud	1	Rad + Nud	Rad + Nud	Rad + Nud
salt Rad + Nud	1	Rad + Nud	Rad + Nud	Rad + Nud

Activated C-preprocessing Options:

NORTH_SEA8 Extended North Sea, 0.12deg Resolution
ANA_BSFLUX Analytical kinematic bottom salinity flux

ANA_BTFLUX	Analytical kinematic bottom temperature
flux	
ASSUMED_SHAPE	Using assumed-shape arrays
ATM_PRESS	Impose inverse barometer effect in
pressure gradient term	
BOUNDARY_ALLREDUCE	Using mpi_allreduce in mp_boundary routine
BULK_FLUXES	Surface bulk fluxes parameterization
COLLECT_ALLREDUCE	Using mpi_allreduce in mp_collect routine
CURVGRID	Orthogonal curvilinear grid
DIURNAL_SRFLUX	Modulate shortwave radiation by the local
diurnal cycle	
DJ_GRADPS	Parabolic Splines density Jacobian
(Shchepetkin, 2002)	
DOUBLE_PRECISION	Double precision arithmetic numerical
kernel.	
EMINUSP	Compute Salt Flux using E-P
LMD_CONVEC	LMD convective mixing due to shear
instability	
LMD_MIXING	Large/McWilliams/Doney interior mixing
LMD_NONLOCAL	LMD convective nonlocal transport
LMD_RIMIX	LMD diffusivity due to shear instability
LMD_SKPP	KPP surface boundary layer mixing
LONGWAVE	Compute net longwave radiation internally
MASKING	Land/Sea masking
MIX_GEO_TS	Mixing of tracers along geopotential
surfaces	
MIX_S_UV	Mixing of momentum along constant S-
surfaces	
MPI	MPI distributed-memory configuration
NONLINEAR	Nonlinear Model
NONLIN_EOS	Nonlinear Equation of State for seawater
PRESS_COMPENSATE	Compensate for boundary data without ATM
pressure effect	
POWER_LAW	Power-law shape time-averaging barotropic
filter	
PROFILE	Time profiling activated
RADIATION_2D	Use tangential phase speed in radiation
conditions	
REDUCE_ALLREDUCE	Using mpi_allreduce in mp_reduce routine
RI_SPLINES	Parabolic Spline Reconstruction for
Richardson Number	
!RST_SINGLE	Double precision fields in restart NetCDF
file	
SALINITY	Using salinity
SOLAR_SOURCE	Solar Radiation Source Term
SOLVE3D	Solving 3D Primitive Equations
SPLINES_VDIFF	Parabolic Spline Reconstruction for
Vertical Diffusion	
SPLINES_VVISC	Parabolic Spline Reconstruction for
Vertical Viscosity	
TS_DIF2	Harmonic mixing of tracers
UV_ADV	Advection of momentum
UV_COR	Coriolis term
UV_U3HADVECTION	Third-order upstream horizontal advection

of 3D momentum	
UV_C4VADVECTION	Fourth-order centered vertical advection
of momentum	
UV_QDRAG	Quadratic bottom stress
UV_VIS4	Biharmonic mixing of momentum
VAR_RHO_2D	Variable density barotropic mode
VISC_GRID	Horizontal viscosity coefficient scaled by
grid size	

Process Information:

```

Node #    0 (pid= 1826709) is active.
Node #    1 (pid= 1826710) is active.
Node #    3 (pid= 1826712) is active.
Node #    4 (pid= 1826713) is active.
Node #    5 (pid= 1826714) is active.
Node #    7 (pid= 1826716) is active.
Node #    9 (pid= 1826718) is active.
Node #   10 (pid= 1826719) is active.
Node #   12 (pid= 1826721) is active.
Node #   13 (pid= 1826722) is active.
Node #   15 (pid= 1826724) is active.
Node #   16 (pid= 1826725) is active.
Node #   17 (pid= 1826726) is active.
Node #   18 (pid= 1826727) is active.
Node #   19 (pid= 1826728) is active.
Node #   20 (pid= 1826729) is active.
Node #   21 (pid= 1826730) is active.
Node #   23 (pid= 1826732) is active.
Node #   24 (pid= 1826733) is active.
Node #   25 (pid= 1826734) is active.
Node #   26 (pid= 1826735) is active.
Node #   29 (pid= 1826738) is active.
Node #   31 (pid= 1826740) is active.
Node #   32 (pid= 1826741) is active.
Node #   33 (pid= 1826742) is active.
Node #   35 (pid= 1826744) is active.
Node #   36 (pid= 1826745) is active.
Node #   37 (pid= 1826746) is active.
Node #   39 (pid= 1826748) is active.
Node #   41 (pid= 1826750) is active.
Node #   42 (pid= 1826751) is active.
Node #   45 (pid= 1826754) is active.
Node #   47 (pid= 1826756) is active.
Node #   48 (pid= 1826757) is active.
Node #   49 (pid= 1826758) is active.
Node #   51 (pid= 1826760) is active.
Node #   52 (pid= 1826761) is active.
Node #   53 (pid= 1826762) is active.
Node #   55 (pid= 1826764) is active.
Node #   57 (pid= 1826766) is active.
Node #   58 (pid= 1826767) is active.
Node #   61 (pid= 1826770) is active.
Node #   63 (pid= 1826772) is active.

```

```

Node # 64 (pid= 1826773) is active.
Node # 65 (pid= 1826774) is active.
Node # 67 (pid= 1826776) is active.
Node # 68 (pid= 1826777) is active.
Node # 69 (pid= 1826778) is active.
Node # 71 (pid= 1826780) is active.
Node # 73 (pid= 1826782) is active.
Node # 74 (pid= 1826783) is active.
Node # 77 (pid= 1826786) is active.
Node # 79 (pid= 1826788) is active.
Node # 2 (pid= 1826711) is active.
Node # 6 (pid= 1826715) is active.
Node # 8 (pid= 1826717) is active.
Node # 11 (pid= 1826720) is active.
Node # 14 (pid= 1826723) is active.
Node # 22 (pid= 1826731) is active.
Node # 27 (pid= 1826736) is active.
Node # 28 (pid= 1826737) is active.
Node # 30 (pid= 1826739) is active.
Node # 34 (pid= 1826743) is active.
Node # 38 (pid= 1826747) is active.
Node # 40 (pid= 1826749) is active.
Node # 43 (pid= 1826752) is active.
Node # 44 (pid= 1826753) is active.
Node # 46 (pid= 1826755) is active.
Node # 50 (pid= 1826759) is active.
Node # 54 (pid= 1826763) is active.
Node # 56 (pid= 1826765) is active.
Node # 59 (pid= 1826768) is active.
Node # 60 (pid= 1826769) is active.
Node # 62 (pid= 1826771) is active.
Node # 66 (pid= 1826775) is active.
Node # 70 (pid= 1826779) is active.
Node # 72 (pid= 1826781) is active.
Node # 75 (pid= 1826784) is active.
Node # 76 (pid= 1826785) is active.
Node # 78 (pid= 1826787) is active.

```

Point Sources/Sinks grid-cell flag locations counter:

```

Grid: 1, file:
Rivers_NorthSea8_smooth013_Dai2014_AnnualCycle_1993-2019.nc
      LuvSrc = F   u-face = 63
      LuvSrc = F   v-face = 0
      LwSrc  = F   w-face = 0

```

INITIAL: Configuring and initializing forward nonlinear model ...

```

GET_GRID_NF90    - bathymetry at RH0-points: h
                  (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
                  (Min = 0.00000000E+00 Max = 5.41787266E+03)
GET_GRID_NF90    - Coriolis parameter at RH0-points: f

```

```

(Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - reciprocal XI-grid spacing: pm
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - reciprocal ETA-grid spacing: pn
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - ETA-derivative of inverse metric factor pm:
dmde
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - XI-derivative of inverse metric factor pn: dndx
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - x-location of RHO-points: x_rho
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - y-location of RHO-points: y_rho
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - x-location of U-points: x_u
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - y-location of U-points: y_u
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - x-location of V-points: x_v
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - y-location of V-points: y_v
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - x-location of PSI-points: x_psi
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - y-location of PSI-points: y_psi
      (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min = 0.00000000E+00 Max = 0.00000000E+00)
GET_GRID_NF90 - angle between XI-axis and EAST: angler
      (Grid = 01, File:

```

```

NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - mask on RHO-points: mask_rho
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - mask on U-points: mask_u
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - mask on V-points: mask_v
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - mask on PSI-points: mask_psi
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - horizontal viscosity sponge factor: visc_factor
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)
  GET_GRID_NF90    - horizontal diffusivity sponge factor:
diff_factor
                    (Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
      (Min =  0.00000000E+00 Max =  0.00000000E+00)

```

Vertical S-coordinate System, Grid 01:

level at hmax	S-coord	Cs-curve	Z	at hmin	at hc	half way
30 0.000	0.0000000	0.0000000		0.000	0.000	0.000
29 -2.272	-0.0333333	-0.0001156		-0.000	-0.836	-1.944
28 -5.818	-0.0666667	-0.0004685		-0.000	-1.678	-4.519
27 -10.741	-0.1000000	-0.0010779		-0.000	-2.527	-7.776
26 -17.217	-0.1333333	-0.0019766		-0.000	-3.383	-11.803
25 -25.506	-0.1666667	-0.0032130		-0.000	-4.247	-16.728
24 -35.964	-0.2000000	-0.0048536		-0.000	-5.121	-22.729
23 -49.064	-0.2333333	-0.0069862		-0.000	-6.008	-30.037
22 -65.414	-0.2666667	-0.0097241		-0.000	-6.910	-38.956
21 -85.791	-0.3000000	-0.0132122		-0.000	-7.830	-49.871
20	-0.3333333	-0.0176335		-0.000	-8.774	-63.267

-111.176					
19	-0.3666667	-0.0232170	-0.000	-9.747	-79.755
-142.802					
18	-0.4000000	-0.0302484	-0.000	-10.756	-100.094
-182.200					
17	-0.4333333	-0.0390807	-0.000	-11.810	-125.223
-231.267					
16	-0.4666667	-0.0501474	-0.000	-12.920	-156.295
-292.328					
15	-0.5000000	-0.0639753	-0.000	-14.099	-194.711
-368.212					
14	-0.5333333	-0.0811979	-0.000	-15.363	-242.157
-462.320					
13	-0.5666667	-0.1025651	-0.000	-16.731	-300.627
-578.677					
12	-0.6000000	-0.1289464	-0.000	-18.224	-372.433
-721.952					
11	-0.6333333	-0.1613228	-0.000	-19.866	-460.186
-897.411					
10	-0.6666667	-0.2007569	-0.000	-21.686	-566.711
-1110.758					
9	-0.7000000	-0.2483317	-0.000	-23.708	-694.889
-1367.806					
8	-0.7333333	-0.3050421	-0.000	-25.959	-847.366
-1673.898					
7	-0.7666667	-0.3716257	-0.000	-28.457	-1026.105
-2032.992					
6	-0.8000000	-0.4483212	-0.000	-31.208	-1231.739
-2446.370					
5	-0.8333333	-0.5345589	-0.000	-34.197	-1462.754
-2910.974					
4	-0.8666667	-0.6286208	-0.000	-37.382	-1714.580
-3417.581					
3	-0.9000000	-0.7273553	-0.000	-40.684	-1978.835
-3949.272					
2	-0.9333333	-0.8261019	-0.000	-43.986	-2243.122
-4481.028					
1	-0.9666667	-0.9190220	-0.000	-47.142	-2491.911
-4981.505					
0	-1.0000000	-1.0000000	-0.000	-50.000	-2708.936
-5417.873					

Time Splitting Weights for Grid 01: ndtfast = 30 nfast = 42
=====

Primary Step	Secondary	Accumulated to Current
-----------------	-----------	------------------------

1-0.0008094437383769	0.0333333333333333	-0.0008094437383769
0.0333333333333333		
2-0.0014053566728197	0.0333603147912792	-0.0022148004111966
0.0666936481246126		
3-0.0017877524645903	0.0334071600137066	-0.0040025528757869
0.1001008081383191		

4-0.0019566842408176 0.0334667517625262-0.0059592371166046
0.1335675599008453
5-0.0019122901320372 0.0335319745705535-0.0078715272486418
0.1670995344713988
6-0.0016548570247459 0.0335957175749547-0.0095263842733877
0.2006952520463536
7-0.0011849025289723 0.0336508794757796-0.0107112868023600
0.2343461315221331
8-0.0005032751608631 0.0336903762267453-0.0112145619632232
0.2680365077488784
9 0.0003887272597151 0.0337071520654408-0.0108258347035081
0.3017436598143192
10 0.0014892209965583 0.0336941944901169-0.0093366137069498
0.3354378543044362
11 0.0027955815694920 0.0336445537902317-0.0065410321374578
0.3690824080946679
12 0.0043042707117221 0.0335513677379153-0.0022367614257357
0.4026337758325831
13 0.0060106451121704 0.0334078920475245 0.0037738836864347
0.4360416678801076
14 0.0079087469427945 0.0332075372104522 0.0116826306292293
0.4692492050905598
15 0.0099910761708920 0.0329439123123590 0.0216737068001212
0.5021931174029188
16 0.0122483446563884 0.0326108764399960 0.0339220514565096
0.5348039938429148
17 0.0146692120341107 0.0322025982847830 0.0485912634906203
0.5670065921276978
18 0.0172400033810439 0.0317136245503127 0.0658312668716642
0.5987202166780105
19 0.0199444086685725 0.0311389577709445 0.0857756755402367
0.6298591744489550
20 0.0227631639997064 0.0304741441486588 0.1085388395399431
0.6603333185976138
21 0.0256737146312910 0.0297153720153352 0.1342125541712341
0.6900486906129490
22 0.0286498597812016 0.0288595815276255 0.1628624139524357
0.7189082721405746
23 0.0316613792205220 0.0279045862015855 0.1945237931729577
0.7468128583421600
24 0.0346736416507075 0.0268492068942347 0.2291974348236651
0.7736620652363948
25 0.0376471948657328 0.0256934188392112 0.2668446296893979
0.7993554840756060
26 0.0405373376992232 0.0244385123436867 0.3073819673886211
0.8237939964192927
27 0.0432936737565711 0.0230872677537126 0.3506756411451922
0.8468812641730054
28 0.0458596469320356 0.0216441452951603 0.3965352880772278
0.8685254094681656
29 0.0481720587108284 0.0201154903974257 0.4447073467880562
0.8886408998655914
30 0.0501605672561820 0.0185097551070648 0.4948679140442381
0.9071506549726561

```

31 0.0517471682814030 0.0168377361985254 0.5466150823256412
0.9239883911711815
32 0.0528456577069106 0.0151128305891453 0.5994607400325517
0.9391012217603267
33 0.0533610761022577 0.0133513086655816 0.6528218161348094
0.9524525304259084
34 0.0531891349131379 0.0115726061288397 0.7060109510479473
0.9640251365547481
35 0.0522156244733761 0.0097996349650684 0.7582265755213234
0.9738247715198165
36 0.0503158038019031 0.0080591141492892 0.8085423793232265
0.9818838856691057
37 0.0473537721847153 0.0063819206892258 0.8558961515079418
0.9882658063583315
38 0.0431818225418188 0.0048034616164019 0.8990779740497606
0.9930692679747335
39 0.0376397765791564 0.0033640675316746 0.9367177506289170
0.9964333355064081
40 0.0305543017255206 0.0021094083123694 0.9672720523544377
0.9985427438187775
41 0.0217382098544505 0.0010909315881854 0.9890102622088881
0.9996336754069629
42 0.0109897377911119 0.0003663245930371 1.0000000000000000
1.0000000000000000

```

ndtfast, nfast = 30 42 nfast/ndtfast = 1.40000

Centers of gravity and integrals (values must be 1, 1, approx 1/2, 1, 1):

```

1.000000000000 1.047601458608 0.523800729304 1.000000000000
1.000000000000

```

Power filter parameters, Fgamma, gamma = 0.28400 0.18933

Metrics information for Grid 01:

=====

```

Minimum X-grid spacing, DXmin = 1.00000000E+17 km    Water points
= 1.00000000E+17 km
Maximum X-grid spacing, DXmax =          Infinity km    Water points
= -1.00000000E+17 km
Minimum Y-grid spacing, DYmin = 1.00000000E+17 km    Water points
= 1.00000000E+17 km
Maximum Y-grid spacing, DYmax =          Infinity km    Water points
= -1.00000000E+17 km
Minimum Z-grid spacing, DZmin = 0.00000000E+00 m    Water points
= 1.00000000E+20 m
Maximum Z-grid spacing, DZmax = 5.31755614E+02 m    Water points
= -1.00000000E+20 m

```

```

Minimum barotropic Courant Number = 1.00000000E+20
Maximum barotropic Courant Number = -1.00000000E+20
Maximum Coriolis Courant Number = -1.00000000E+20

```

Horizontal mixing scaled by grid area squared root, MAXVAL(grdscl)
= -1.00000000E+17 km (Water points)

GET_NUDGCOEF_NF90 - generic tracer inverse nudging coefficients:
tracer_NudgeCoef

(Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
(Min = 0.00000000E+00 Max = 0.00000000E+00)

GET_NUDGCOEF_NF90 - generic tracer inverse nudging coefficients:
tracer_NudgeCoef

(Grid = 01, File:
NorthSea8_smooth013_sponge_nudg.nc)
(Min = 0.00000000E+00 Max = 0.00000000E+00)

GET_STATE_NF90 - NLM: state initial conditions,
1993-01-15 00:00:00.00

(Grid 01, t = 16451.0000, File:
NorthSea8_rst_Y2019_14_01_2018_NoneVar.nc, Rec=0001, Index=1)
- free-surface
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- vertically integrated u-momentum component
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- vertically integrated v-momentum component
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- u-momentum component
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- v-momentum component
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- potential temperature
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- salinity
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- vertical viscosity coefficient
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- temperature vertical diffusion coefficient
(Min = 0.00000000E+00 Max = 0.00000000E+00)
- salinity vertical diffusion coefficient
(Min = 0.00000000E+00 Max = 0.00000000E+00)

GET_NGFLD_NF90 - river runoff XI-positions at RHO-points
(Grid = 01, Min = 8.50000000E+01 Max =
2.40000000E+02)

GET_NGFLD_NF90 - river runoff ETA-positions at RHO-points
(Grid = 01, Min = 6.00000000E+00 Max =
1.85000000E+02)

GET_NGFLD_NF90 - river runoff direction
(Grid = 01, Min = 0.00000000E+00 Max =
0.00000000E+00)

GET_NGFLD_NF90 - river runoff mass transport vertical profile
(Grid = 01, Min = 0.00000000E+00 Max =
1.00000000E+00)

GET_NGFLD_NF90 - river runoff potential temperature,
1992-12-15 00:00:00.00

(Grid= 01, Rec=540, Index=2, File:

```

Rivers_NorthSea8_smooth013_Dai2014_AnnualCycle_1993-2019.nc)
      (Tmin=          14.0000 Tmax=          26281.0000)
t =          16420.0000
      (Min =  0.00000000E+00 Max =  1.39565896E+01)
  GET_NGFLD_NF90   - river runoff salinity,
1992-12-15 00:00:00.00
      (Grid= 01, Rec=540, Index=2, File:
Rivers_NorthSea8_smooth013_Dai2014_AnnualCycle_1993-2019.nc)
      (Tmin=          14.0000 Tmax=          26281.0000)
t =          16420.0000
      (Min =  0.00000000E+00 Max =  0.00000000E+00)

```

REGRID - input gridded data does not contain model grid:

```

      Gridded:  LonMin = -24.0000 LonMax =  14.0000
                LatMin =  32.0000 LatMax =  66.0000
      Model:   LonMin =   0.0000 LonMax =   0.0000
                LatMin =   0.0000 LatMax =   0.0000
Found Error: 04 Line: 354 Source: ROMS/Utility/get_2dfld.F,
get_2dfld_nf90

```

```

  GET_2DFLD_NF90 - error while reading variable: Uwind   at TIME
index = 56
Found Error: 04 Line: 112 Source: ROMS/Utility/get_2dfld.F
Found Error: 04 Line: 169 Source: ROMS/Nonlinear/get_data.F
Found Error: 04 Line: 670 Source: ROMS/Nonlinear/initial.F
Found Error: 04 Line: 197 Source: ROMS/Drivers/nl_roms.h,
ROMS_initialize

```

Elapsed wall CPU time for each process (seconds):

```

Node  #    0 CPU:      0.785
Total:      77.284
Average:    0.966
Minimum:    0.785
Maximum:    0.971

```

Nonlinear model elapsed CPU time profile, Grid: 01

```

  Allocation and array initialization ..... 2.848
( 3.6849 %)
  Reading of input data ..... 0.994
( 1.2855 %)
  2D/3D coupling, vertical metrics ..... 0.292
( 0.3773 %)
  Omega vertical velocity ..... 0.028
( 0.0367 %)
  Equation of state for seawater ..... 0.130
( 0.1679 %)
                                     Total: 4.291
5.5524 %

  Unique kernel(s) regions profiled ..... 4.291
5.5524 %

```

Residual, non-profiled code	72.993
94.4476 %	

All percentages are with respect to total time =	77.284
--	--------

MPI communications profile, Grid: 01

Message Passage: 2D halo exchanges	0.833
(1.0782 %)	
Message Passage: 3D halo exchanges	2.266
(2.9326 %)	
Message Passage: 4D halo exchanges	0.609
(0.7878 %)	
Message Passage: data broadcast	31.434
(40.6729 %)	
Message Passage: data reduction	0.103
(0.1327 %)	
Message Passage: data scattering.....	35.095
(45.4106 %)	
Message Passage: point data gathering	0.033
(0.0422 %)	
Message Passage: synchronization barrier	0.172
(0.2221 %)	
Total:	70.545

91.2791 %

Node #	1 CPU:	0.969
Node #	2 CPU:	0.971
Node #	3 CPU:	0.969
Node #	4 CPU:	0.968
Node #	5 CPU:	0.967
Node #	6 CPU:	0.969
Node #	7 CPU:	0.969
Node #	8 CPU:	0.970
Node #	9 CPU:	0.969
Node #	10 CPU:	0.969
Node #	11 CPU:	0.966
Node #	12 CPU:	0.970
Node #	13 CPU:	0.968
Node #	14 CPU:	0.968
Node #	15 CPU:	0.966
Node #	16 CPU:	0.969
Node #	17 CPU:	0.968
Node #	18 CPU:	0.958
Node #	19 CPU:	0.970
Node #	20 CPU:	0.970
Node #	21 CPU:	0.968
Node #	22 CPU:	0.967
Node #	23 CPU:	0.970
Node #	24 CPU:	0.968
Node #	25 CPU:	0.967
Node #	26 CPU:	0.966
Node #	27 CPU:	0.968

Node	#	28	CPU:	0.966
Node	#	29	CPU:	0.967
Node	#	30	CPU:	0.970
Node	#	31	CPU:	0.967
Node	#	32	CPU:	0.968
Node	#	33	CPU:	0.966
Node	#	34	CPU:	0.967
Node	#	35	CPU:	0.969
Node	#	36	CPU:	0.968
Node	#	37	CPU:	0.970
Node	#	38	CPU:	0.970
Node	#	39	CPU:	0.967
Node	#	40	CPU:	0.968
Node	#	41	CPU:	0.966
Node	#	42	CPU:	0.967
Node	#	43	CPU:	0.968
Node	#	44	CPU:	0.968
Node	#	45	CPU:	0.966
Node	#	46	CPU:	0.970
Node	#	47	CPU:	0.968
Node	#	48	CPU:	0.965
Node	#	49	CPU:	0.967
Node	#	50	CPU:	0.970
Node	#	51	CPU:	0.968
Node	#	52	CPU:	0.967
Node	#	53	CPU:	0.968
Node	#	54	CPU:	0.968
Node	#	55	CPU:	0.967
Node	#	56	CPU:	0.968
Node	#	57	CPU:	0.968
Node	#	58	CPU:	0.969
Node	#	59	CPU:	0.968
Node	#	60	CPU:	0.967
Node	#	61	CPU:	0.969
Node	#	62	CPU:	0.970
Node	#	63	CPU:	0.967
Node	#	64	CPU:	0.971
Node	#	65	CPU:	0.969
Node	#	66	CPU:	0.968
Node	#	67	CPU:	0.969
Node	#	68	CPU:	0.970
Node	#	69	CPU:	0.971
Node	#	70	CPU:	0.971
Node	#	71	CPU:	0.970
Node	#	72	CPU:	0.970
Node	#	73	CPU:	0.971
Node	#	74	CPU:	0.970
Node	#	75	CPU:	0.971
Node	#	76	CPU:	0.970
Node	#	77	CPU:	0.968
Node	#	78	CPU:	0.969
Node	#	79	CPU:	0.970

[illegible]

[illegible]

Dynamic and Automatic memory (MB) usage for Grid 01: 240x216x30
tiling: 10x8

tile	Dynamic	Automatic	USAGE
MPI-Buffers			
0	14.92	26.17	41.08
1	0.00	26.17	26.17
2	0.00	26.17	26.17
3	0.00	26.17	26.17
4	0.00	26.17	26.17
5	0.00	26.17	26.17
6	0.00	26.17	26.17
7	0.00	26.17	26.17
8	0.00	26.17	26.17
9	0.00	26.17	26.17
10	0.00	26.17	26.17
11	0.00	26.17	26.17
12	0.00	26.17	26.17
13	0.00	26.17	26.17
14	0.00	26.17	26.17
15	0.00	26.17	26.17
16	0.00	26.17	26.17
17	0.00	26.17	26.17
18	0.00	26.17	26.17
19	0.00	26.17	26.17
20	0.00	26.17	26.17
21	0.00	26.17	26.17
22	0.00	26.17	26.17

0.00	23	0.00	26.17	26.17
0.00	24	0.00	26.17	26.17
0.00	25	0.00	26.17	26.17
0.00	26	0.00	26.17	26.17
0.00	27	0.00	26.17	26.17
0.00	28	0.00	26.17	26.17
0.00	29	0.00	26.17	26.17
0.00	30	0.00	26.17	26.17
0.00	31	0.00	26.17	26.17
0.00	32	0.00	26.17	26.17
0.00	33	0.00	26.17	26.17
0.00	34	0.00	26.17	26.17
0.00	35	0.00	26.17	26.17
0.00	36	0.00	26.17	26.17
0.00	37	0.00	26.17	26.17
0.00	38	0.00	26.17	26.17
0.00	39	0.00	26.17	26.17
0.00	40	0.00	26.17	26.17
0.00	41	0.00	26.17	26.17
0.00	42	0.00	26.17	26.17
0.00	43	0.00	26.17	26.17
0.00	44	0.00	26.17	26.17
0.00	45	0.00	26.17	26.17
0.00	46	0.00	26.17	26.17
0.00	47	0.00	26.17	26.17
0.00	48	0.00	26.17	26.17
0.00	49	0.00	26.17	26.17

0.00	50	0.00	26.17	26.17
0.00	51	0.00	26.17	26.17
0.00	52	0.00	26.17	26.17
0.00	53	0.00	26.17	26.17
0.00	54	0.00	26.17	26.17
0.00	55	0.00	26.17	26.17
0.00	56	0.00	26.17	26.17
0.00	57	0.00	26.17	26.17
0.00	58	0.00	26.17	26.17
0.00	59	0.00	26.17	26.17
0.00	60	0.00	26.17	26.17
0.00	61	0.00	26.17	26.17
0.00	62	0.00	26.17	26.17
0.00	63	0.00	26.17	26.17
0.00	64	0.00	26.17	26.17
0.00	65	0.00	26.17	26.17
0.00	66	0.00	26.17	26.17
0.00	67	0.00	26.17	26.17
0.00	68	0.00	26.17	26.17
0.00	69	0.00	26.17	26.17
0.00	70	0.00	26.17	26.17
0.00	71	0.00	26.17	26.17
0.00	72	0.00	26.17	26.17
0.00	73	0.00	26.17	26.17
0.00	74	0.00	26.17	26.17
0.00	75	0.00	26.17	26.17
0.00	76	0.00	26.17	26.17

[illegible]

```
ROMS/TOMS - Output NetCDF summary for Grid 01:
Found Error: 04   Line: 401   Source: ROMS/Utility/close_io.F,
close_out
```

ERROR: I/O related problem.