

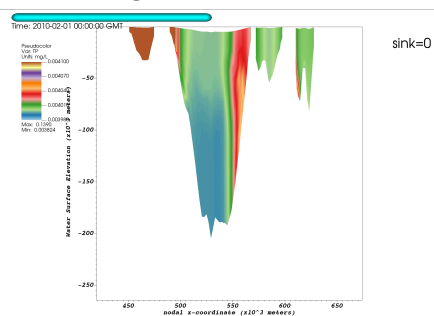
4.2.2021 - FVCOM 3.1.6, Source code/forcing from Mark Rowe

Using BIO model TP, Detritus variable used as TP, sinking copied from another subroutine.
January 1, 2010 to January 1, 2011. Constant initial value TP= $4\text{e-}3$, Sinking= $9.2\text{e-}7\text{m/s}$.

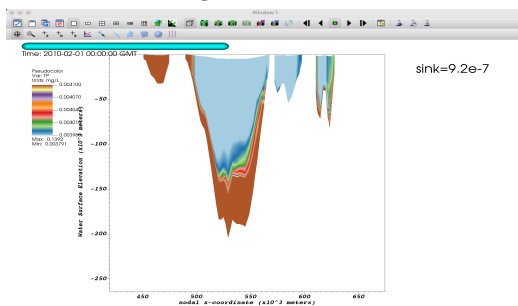
BUG in the 'TP' code Wilson currently has. Sinking array was not defined properly, so it was zero - I found that with a debugger. And sinking was really the only thing that was added, so here are my checks of it.

Check if sinking is likely to be working properly: run with sinking(m/s) = 0, $9.2\text{e-}7$, and $4\text{e-}4$.
Plots using VisIt, February 1st, 2010. 2D slice, constant Y at 76%, all plots are **TP**, 1 month run.

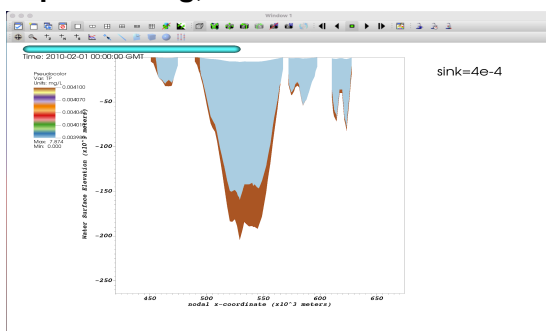
2D slice, constant y at 76%, colormap chosen to show differences in 'No sinking':
No sinking



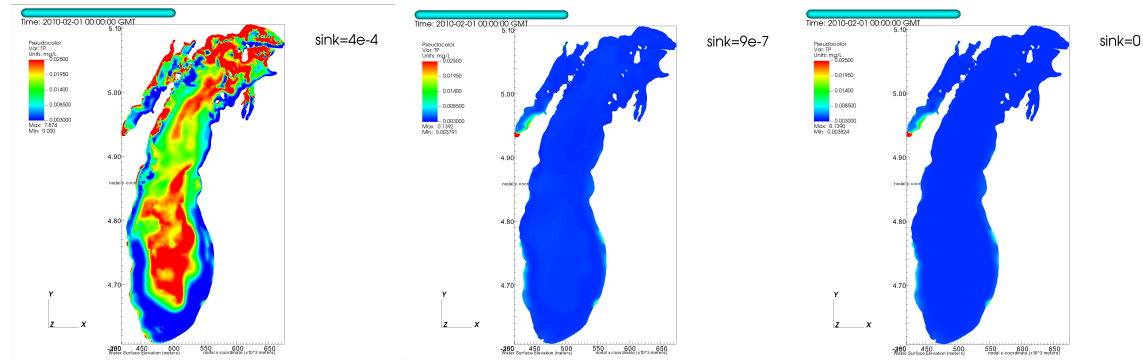
Normal sinking, $9.2\text{e-}7\text{m/s}$



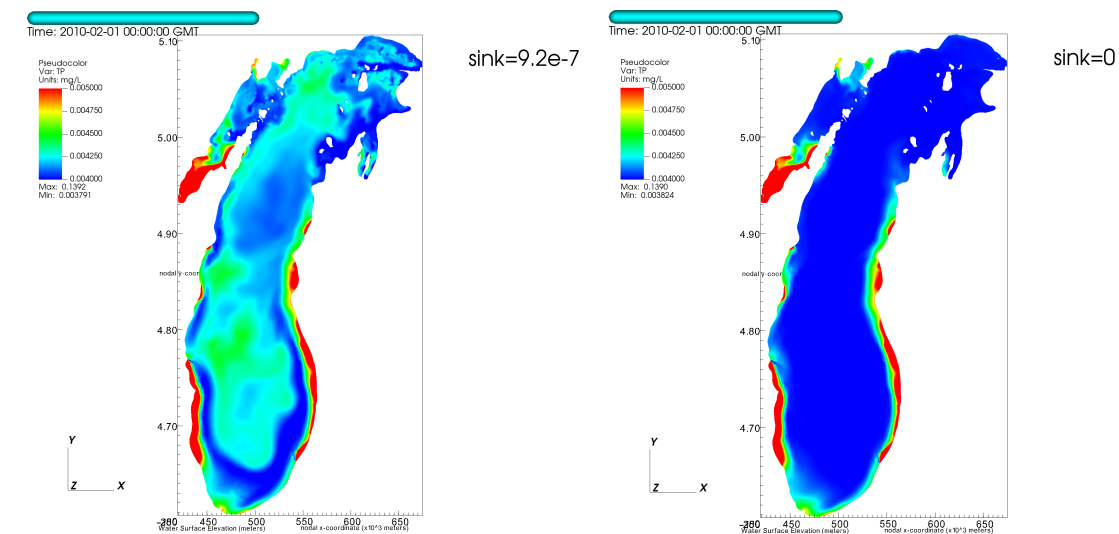
Super sinking, $4.0\text{e-}4\text{m/s}$



Bottom of Lake, colormap chosen for Super sinking



Bottom of Lake, colormap chosen for Normal sinking



So it appears to be sinking...

Temperature Check...See next page

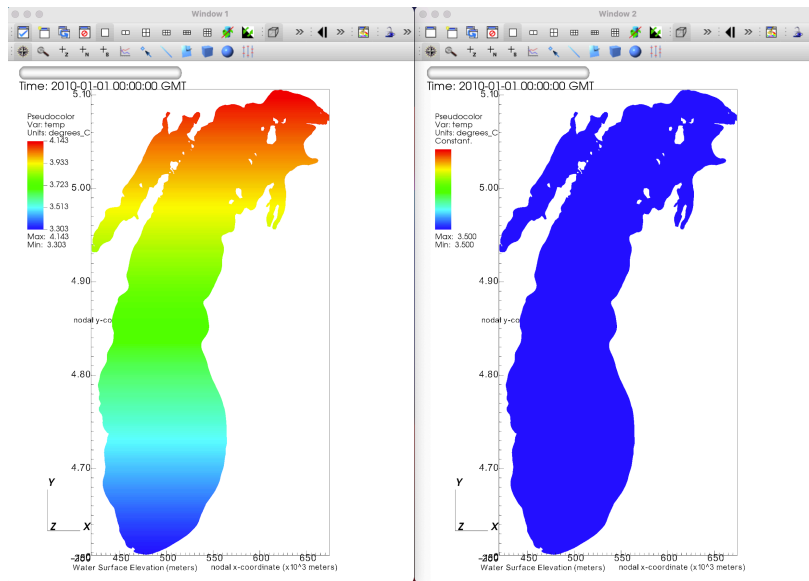
Temperature Check

Since I don't know hydro codes, I had a problem believing things can start at constant initial value and be normal at the end of a run with no ramp up. Mark did not have a 'ramp up' in the restart file, rather he defined (fake) variable initial temperature values. I initialized temperature as a constant. This shows the initial conditions for temperature on Jan 1, 2010, and the final values on Jan 1, 2011. It looks, and has min/max, almost exactly the same

January 1, 2010

Archived mi_0013.nc

mi_2xd_1yr.nc



January 1, 2011

Archived mi_0013.nc

mi_2xd_1yr.nc

