

## S1. Ocean acidification output supplement

S1.0 Variables relevant to ocean acidification are saved in the 'usual' formats – *time-series* (.res) files, 3D netCDF, and also 2D netCDF *time-slice* files. The most relevant ones of interest are as follows (although this is not an exhaustive list of what might be relevant to look at ...) Refer to the lecture for a refresher on ocean acidification ...

### S1.1 *Time-series* files:

biogem_series_misc_surpH.res	- mean ocean surface pH
biogem_series_carb_sur_ohm_cal.res	- mean ocean surface carbonate saturation (calcite)
biogem_series_carb_sur_ohm_arg.res	- mean ocean surface carbonate saturation (aragonite)
biogem_series_fexport_CaCO3.res	- global CaCO <sub>3</sub> export (from planktic calcifiers)
biogem_series_fexport_POC.res	- global organic matter export (from all plankton)

And of course, time-series of temperature (e.g. mean surface ocean or air), Atlantic meridional overturning strength, and sea-ice cover.

### S1.2 3D netCDF *time-slice* file (fields\_biogem\_3d.nc):

misc_pH	- ocean pH
carb_ohm_cal	- carbonate saturation (calcite)
carb_ohm_arg	- carbonate saturation (aragonite)
bio_fpart_CaCO3	- CaCO <sub>3</sub> export flux (from planktic calcifiers)
bio_fpart_POC	- organic export flux (from all plankton)

And of course, temperature and salinity, perhaps also dissolved oxygen (ocn\_O2) that decreases in a warming ocean and also if the organic carbon flux increases.

### S1.3 2D netCDF *time-slice* file (fields\_biogem\_2d.nc):

ocn_int_DIC	- is the water-column integrated inventory of dissolved carbon (refer to hand-out)
misc_sur_rCaCO3toPOC	- is the ratio between CaCO <sub>3</sub> and POC export – i.e. comparatively, how much CaCO <sub>3</sub> is exported

And of course, the overturning streamfunction.