

```
main ["tmm_main.c"]
```

```
{initialize the model physics, I/O etc.}
```

- **iniExternalForcing** ["external_forcing_mops_biogeochem.c"]
 - **mops_biogeochem_copy_data** ["mops_biogeochem_copy_data.F"]
 - **mops_biogeochem_ini** ["mops_biogeochem_ini.F"]
 - **BGC_INI** ["BGC_INI.F"]
 - **mops_biogeochem_set_params** ["mops_biogeochem_set_params.F"]
 - **mops_biogeochem_copy_data** ["mops_biogeochem_copy_data.F"]
 - **mops_biogeochem_ini** ["mops_biogeochem_ini.F"]
 - **BGC_INI** ["BGC_INI.F"]
- **iniMonitor** ["tmm_monitor.c"]
- **iniMisfit** ["tmm_misfit.c"]

BGC_PARAMS.h

```
{Start Time Loop From 1 to "maxSteps"}
```

- **calcExternalForcing** ["external_forcing_mops_biogeochem.c"]
 - **insolation** ["insolation.F"]
 - **mops_biogeochem_copy_data** ["mops_biogeochem_copy_data.F"]
 - **mops_biogeochem_model** ["mops_biogeochem_model.F"]
 - **BGC_MODEL** ["BGC_MODEL.F"]
 - **mops_biogeochem_copy_data** ["mops_biogeochem_copy_data.F"]
 - **mops_biogeochem_diagnostics** ["mops_biogeochem_diagnostics.F"]
 - **mops_biogeochem_misfit** ["mops_biogeochem_misfit.F"]
- **updateMonitor** ["tmm_monitor.c"]
- **writeMonitor** ["tmm_monitor.c"]
- **calcMisfit** ["tmm_misfit.c"]
- **writeMisfit** ["tmm_misfit.c"]
- **forwardStep** ["tmm_forward_step.c"] {physical transport via transport matrix}

mops_biogeochem_misfit_data.h

BGC_MISFIT.h

mops_biogeochem_misfit_data.h

```
{write output every "writeSteps" time step}
```

```
{End Time Loop}
```

```
end
```