

```
1 from sympy import (
2     TimeDifferencingWrapper, NetCDFMonitor)
3 import climt
4 from datetime import timedelta
5
6 # Define model timestep in minutes
7 model_timestep = timedelta(minutes=1)
8
9 # Create Components
10 radiation = climt.RRTMGLongwave()
11 convection = climt.EmanuelConvection()
12 boundary_layer = TimeDifferencingWrapper(
13     climt.SimplePhysics())
14 time_stepper = GFSDynamicalCore(
15     [radiation, convection, boundary_layer])
16
17 # Create model grid
18 model_grid = climt.get_grid(nx=64, ny=64, nz=28)
19
20 # Create model state
21 model_state = climt.get_default_state(
22     [time_stepper], grid_state=model_grid)
23
24 # Create monitor
25 monitor = NetCDFMonitor('moist_agcm.nc')
26
27 # step model forward
28 for step in range(10):
29     diagnostics, new_state = time_stepper(
30         model_state, model_timestep)
31     model_state.update(diagnostics)
32     monitor.store(model_state)
33     model_state.update(new_state)
34     model_state['time'] += model_timestep
```