

Running WEC-Sim with MoorDyn

Instructions for running WEC-Sim with MoorDyn can be found in the README for the [WEC-Sim/MoorDyn repository](#). A short summary of those steps is detailed here:

1. Obtain the MoorDyn libraries, header files, and the MoorDyn caller
 - Download from the [WEC-Sim/MoorDyn repository](#)
 - Compile MoorDyn-C from source following the [instructions in the documentation](#)
 - This is only needed if libraries from the [WEC-Sim/MoorDyn repository](#) do not work
2. Move the MoorDyn libraries, `.h` header files, and MoorDyn caller (all the files in the [WEC-Sim/MoorDyn repository](#)) from step 1 to the `WEC-Sim/source/functions/moorDyn` directory.
 - To test the WEC-Sim MoorDyn setup, run the [WEC-Sim_Application/Mooring/MoorDyn](#) example case.
3. Configure the MoorDyn input file for your system.
 - Note that WEC-Sim requires a rigid 6 DOF body coupling for each mooring connection (a coupled MoorDyn body). Multiple bodies can be coupled to the WEC-Sim system, allowing the simulation of shared moorings for hydrokinetic devices.
4. Configure the WEC-Sim Simulink model
 - For each MoorDyn connection (a connection can consist of multiple lines and nodes but is between two distinct objects such as a floating body and the seafloor), there should be a MoorDyn Connection block in the Simulink model defining the relative motion between the objects.
 - When using MoorDyn, there should always be exactly one MoorDyn Caller block in the Simulink model. See [WEC-Sim MoorDyn docs](#) for more details.

5. Configure the WEC-Sim input file

- For each MoorDyn block in your system, you need to have a corresponding `mooring(i)` object, where `i` is the ID number of the body in the MoorDyn input file. Instructions for how to set up the mooring object are in the [WEC-Sim MoorDyn docs](#).
- The MoorDyn input file needs to be defined as `mooring(1).moorDynInputFile`, as WEC-Sim uses the file path defined in the first Mooring block to load the MoorDyn input file.

6. Run the simulation by executing `wecSim` from the command window.