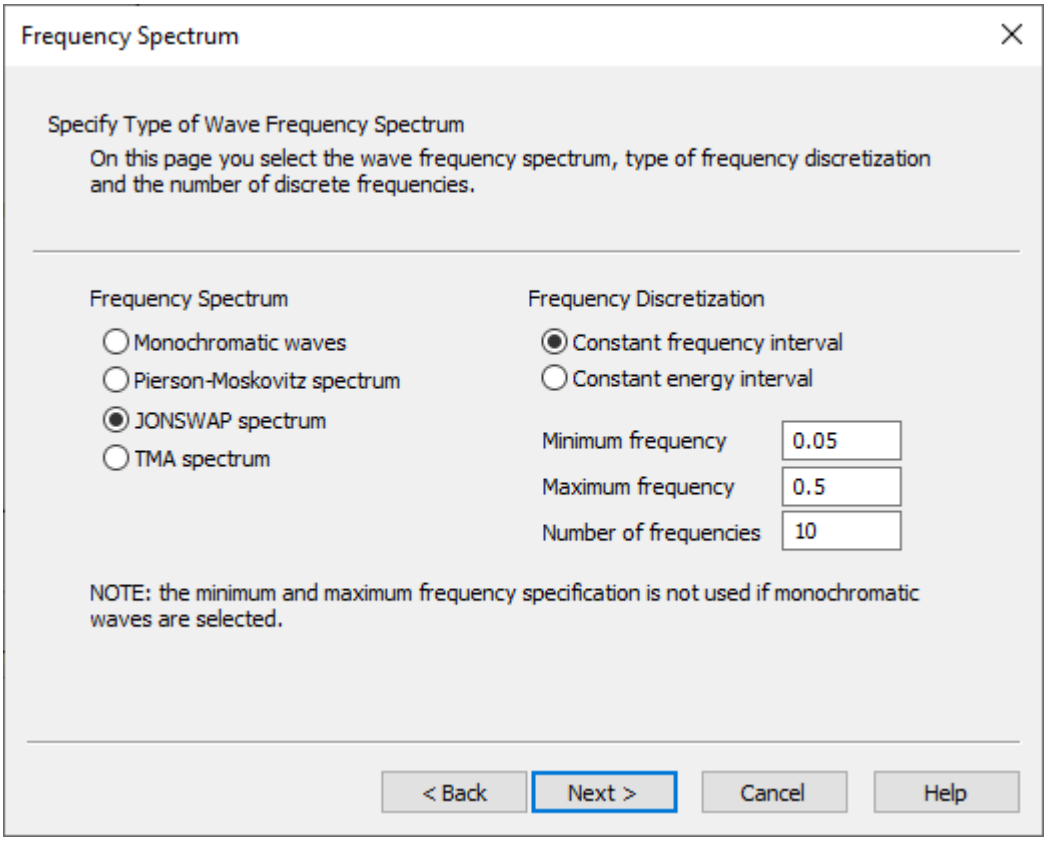
How to generate a white noise spectrum

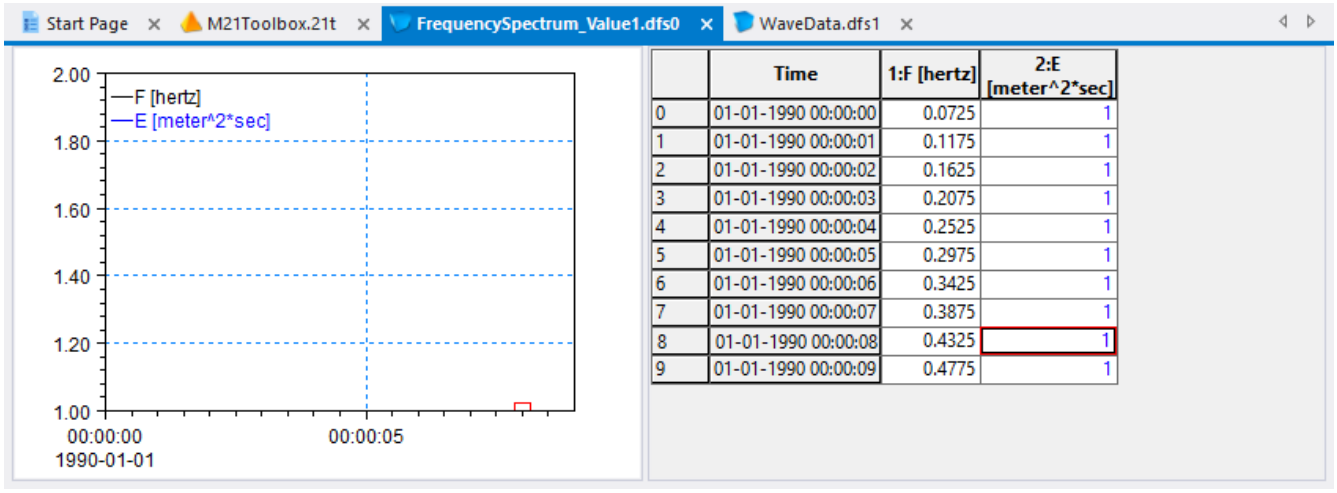
Below are the steps for generating a white noise spectrum for MIKE 21 BW by using the MIKE 21 Toolbox.

1. First produce a wave spectrum that covers all the frequency values required by using the MIKE 21 tool "Generate Wave Energy Spectrum" (focus on specifying the frequency interval – minimum frequency should be smaller than shown here to investigate seiching).



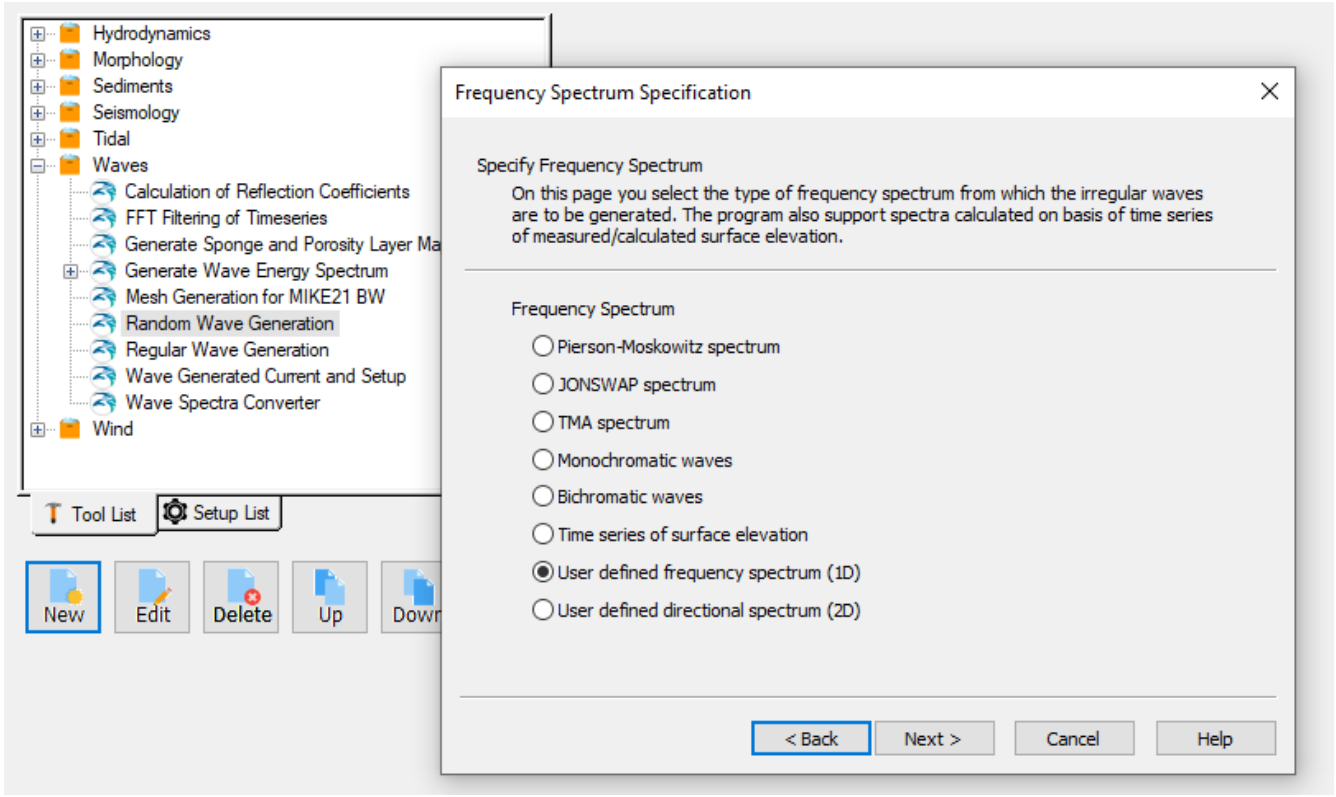
2. Copy the generated frequency spectrum file to a new file.

3. Open this new file and set all the energy values to the same value, e.g., 1 (or less).

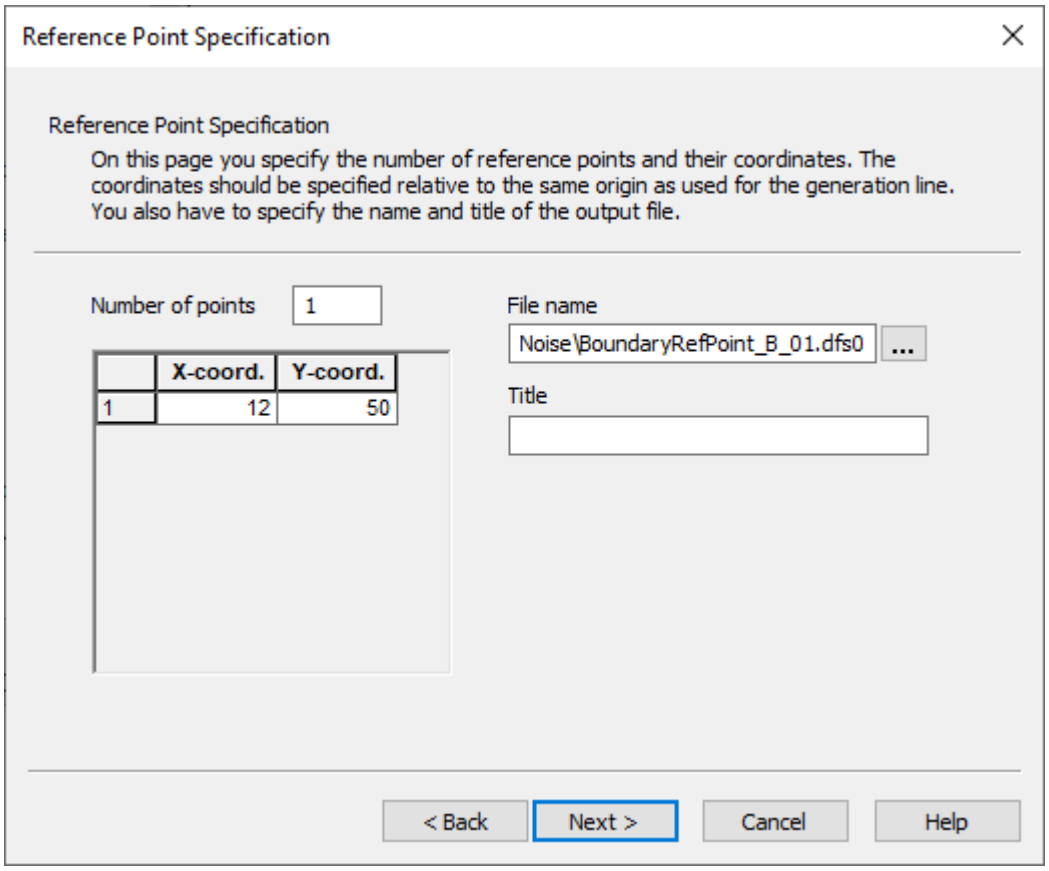


	Time	1:F [hertz]	2:E [meter^2*sec]
0	01-01-1990 00:00:00	0.0725	1
1	01-01-1990 00:00:01	0.1175	1
2	01-01-1990 00:00:02	0.1625	1
3	01-01-1990 00:00:03	0.2075	1
4	01-01-1990 00:00:04	0.2525	1
5	01-01-1990 00:00:05	0.2975	1
6	01-01-1990 00:00:06	0.3425	1
7	01-01-1990 00:00:07	0.3875	1
8	01-01-1990 00:00:08	0.4325	1
9	01-01-1990 00:00:09	0.4775	1

4. Use the MIKE 21 tool "Random Wave Generation" with the modified frequency spectrum file to produce the wave properties for a white noise case.



5. In "Random Wave Generation" you can also select to output the resulting water level at a reference point at the generated boundary in order to evaluate the effect of the chosen energy value.



6. You can now use the generated dfs1 file directly as input to the BW simulation.