

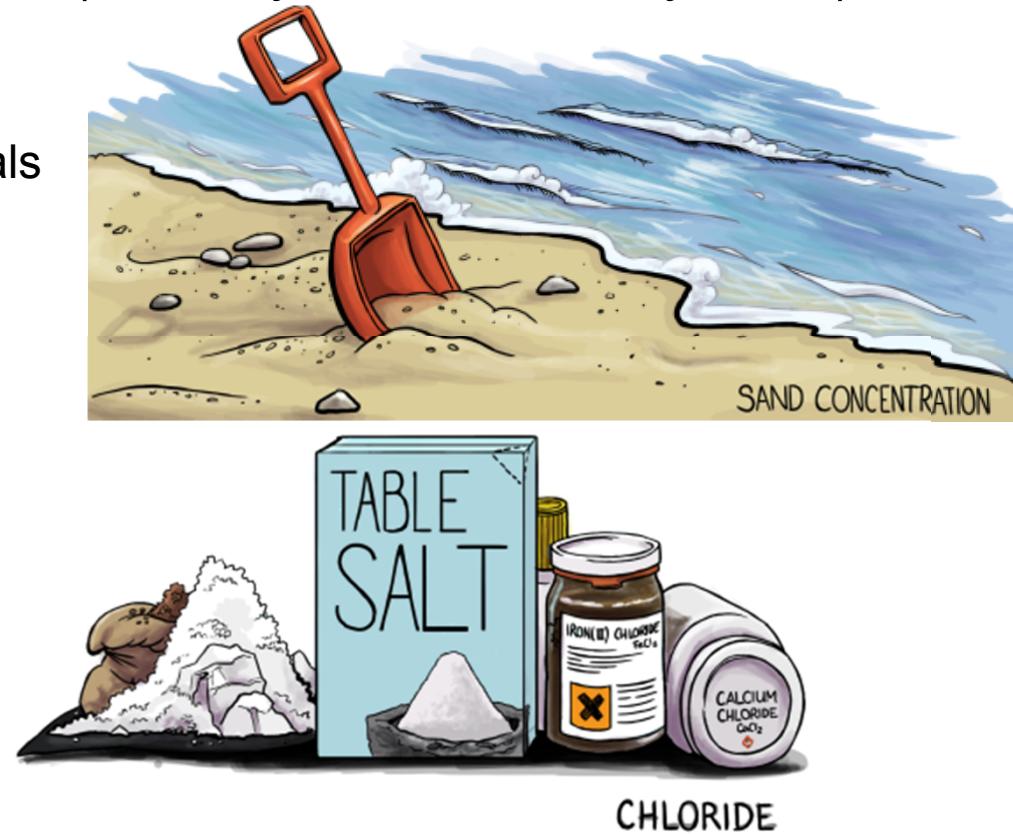
Modelling a Water Treatment Plant

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Water Parameters

- Water parameters used in this model (in reality there are many more)
 - Sand Concentration and Grain Size
 - Mass Density
 - Concentration of the following materials
 - Aluminum
 - Dissolved Organic Carbon
 - Chloride
 - Dry Matter
 - Organic Dry Matter
 - E. Coli
 - Coliform Bacteria
 - Enterococci
 - Turbidity
 - Volumetric Flow Rate





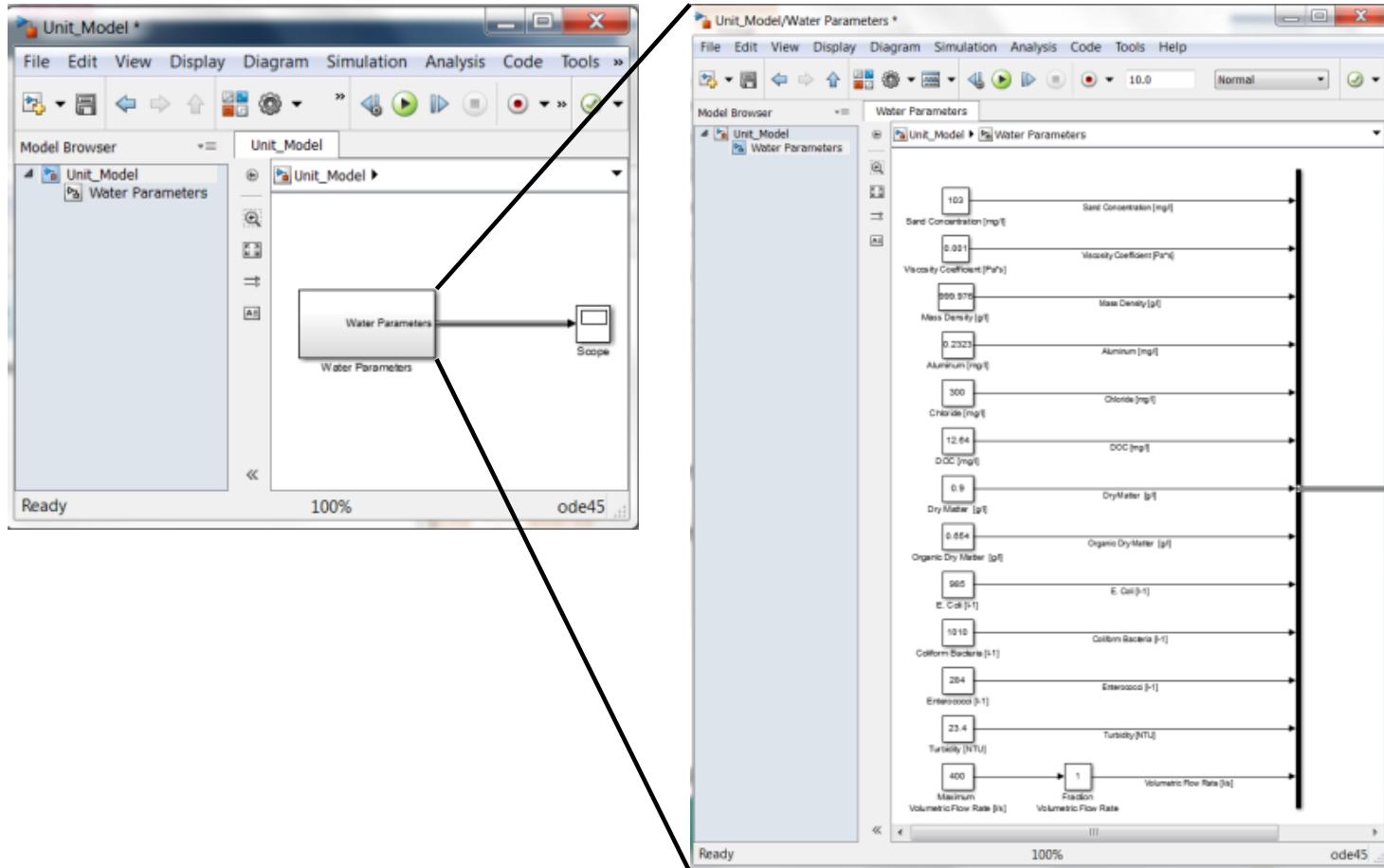
Values of Water Parameters

- For our model we suggest the following initial values for these parameters
 - Sand Concentration and Grain Size 750 mg/l and 0.0002 m
 - Mass Density 999.976 g/l
 - Concentration of the following materials
 - Aluminum 0.2323 mg/l
 - Dissolved Organic Carbon 12.64 mg/l
 - Chloride 300 mg/l
 - Dry Matter 1.8 g/l
 - Organic Dry Matter 0.6 g/l (i.e. 1/3 of the Dry Matter)
 - E. Coli 985 I^{-1}
 - Coliform Bacteria 1010 I^{-1}
 - Enterococci 284 I^{-1}
 - Turbidity 23.4 NTU (Nephelometric Turbidity Unit)
 - Maximum Volumetric Flow Rate 400 l/s





Modelling Water Parameters





Modelling Water Parameters: Exercise

- Build a Simulink® model that represents the water parameters described in this unit in a bus.
- Group your function blocks in a subsystem.
- Observe some of the parameterers in displays or scopes.