

Course on Sustainable Design of Water Resources Systems
Exercise: assessment of salt water intrusion

The cross-shore profile of sea bed and land in a costal area is described by the following coordinates:

X	Y
0	0
20	1
40	3
60	4
80	5.5
110	7
140	8

The sea level is located at $Y = 55$.

The freshwater level in the land is described by the following coordinates:

X	Y
80	5.5
90	5.54
100	5.57
110	5.59
140	5.62

By assuming that the mass density of sea water and freshwater is 1024 and 1000 kg/m^3 , respectively, the student is required to draw on the cross-shore profile the line of separation between salt water and freshwater.