Science of Sea Level Changes

Local Sea Level (LSL) = high-frequency part + low-frequency part

Separation at periods of about 2 months

High-frequency part of LSL equation:

$$h_{\mathrm{lft}} = y(t) + h_{\mathrm{tidal}}(t) + h_{\mathrm{atmos}}(t) + h_{\mathrm{seiches}}(t) + h_{\mathrm{tsunami}}(t).$$

Important for projections of flood levels

High-frequency LSL variations are the <u>result of local and regional processes</u> including waves, tides, atmospheric forcing, seiches, tsunamis, and earthquakes