Science of Sea Level Changes

Low-frequency part of LSL equation:

Contributing factors for LSL (monthly time scales and longer):

$$\delta h_{\mathrm{M}}(\vec{x},t) = S(\vec{x},t) + C(\vec{x},t) + A(\vec{x},t) + I(\vec{x},t) + G(\vec{x},t) + T(\vec{x},t) + P(\vec{x})(t-t_0) + V_0(\vec{x})(t-t_0) + \delta V(\vec{x},t) + B(\vec{x},t)$$

S: steric changes (including freshening due to sea ice and land ice)
C: changes in ocean currents
A: changes in atmospheric circulation
I: changes in the mass of the large ice sheets
G: changes in continental glaciers
T: changes in terrestrial hydrosphere
P: postglacial rebound
V_0: secular vertical land motion & Geoid changes
δV: non-linear vertical land motion
B: changes in shape and extent of ocean basins.

Important for projection of mean sea level