Vertical Land Movement and Sea Level Rise

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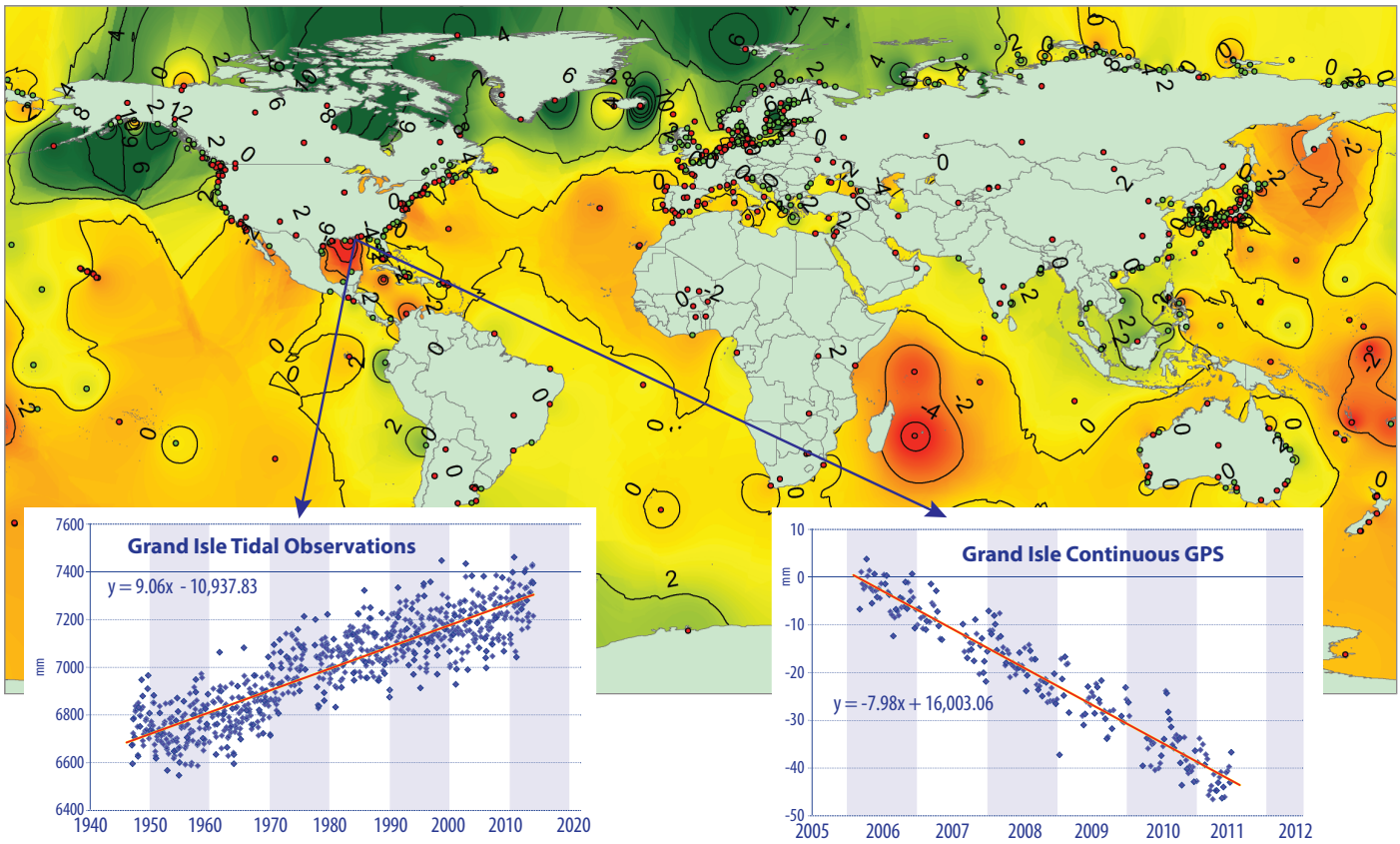
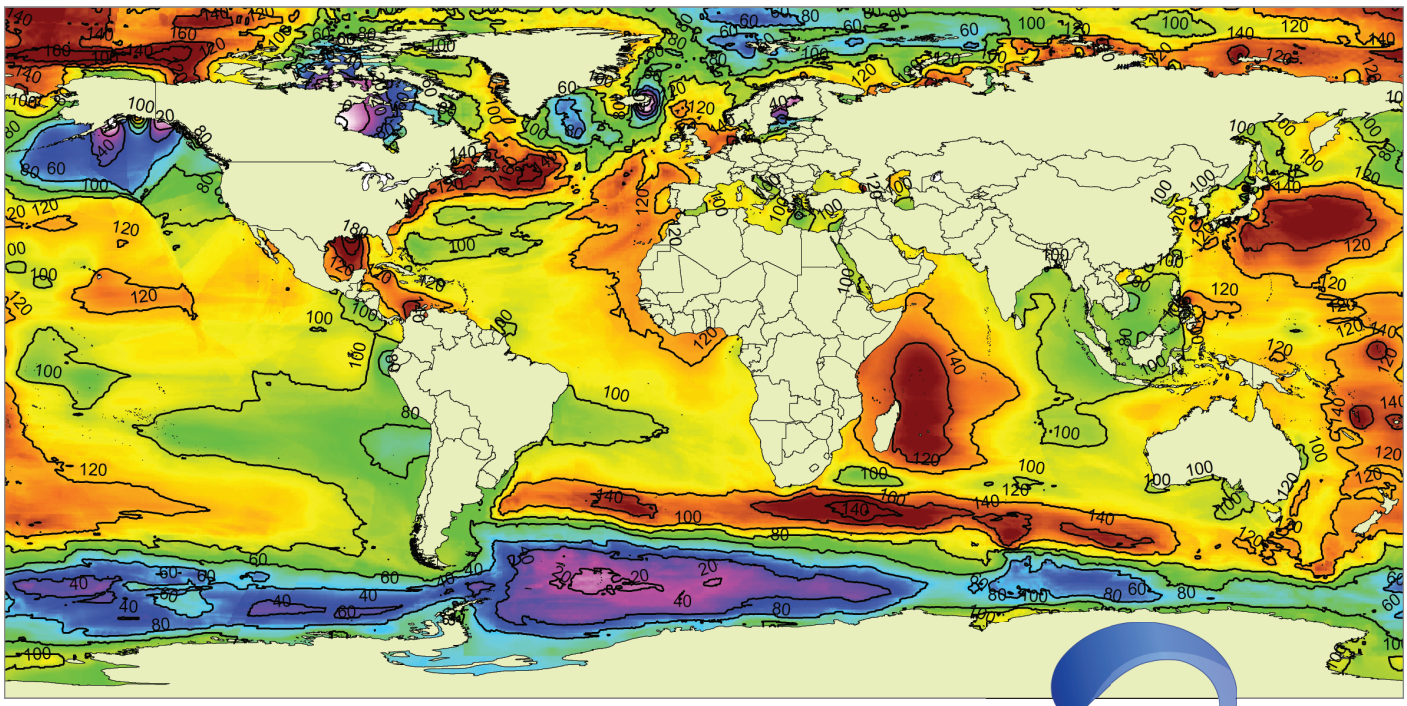


How sea level rise is experienced locally is depending on the vertical land movement at that location. If land moves up while the sea is rising, the experienced sea level rise is lower. If land sinks while sea level is rising, the experienced sea level rise is higher. Vertical land movement is not homogenous around the globe. It can be measured directly with local continuous GPS observations, or inferred from local tidal observations. The two graphs both show that the Grand Isle tidal station is sinking, exacerbating local sea level rise.

The top image shows what the vertical land movement looks like when all available observations from continuous GPS (SONEL) and tidal observations (PSMSL) are combined and spatially interpolated (numbers in mm/year).
The bottom image had overlaid this information with the median sea level rise results of a 24-GCM ensemble, by 2100, under the assumption of the RCP8.5 greenhouse-gas emissions and high climate sensitivity (which projects 98cm as a global average) (numbers in cm by 2100).



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