The effect of short-term inundation on potential nutrient flux in a coastal ecosystem

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On the East coast of Florida (USA), evidence has shown an increase in storm surge frequency that predicts up to a ten-fold decrease in return interval of a given coastal surge by 2060 [1], while a rising sea level will leave more inland soils susceptible to flooding. One negative impact of sudden fluctuations in water levels is nutrient load distributions within the ecosystems and potential delivery of nutrients to coastal marine ecosystems. A flood simulation study across four different coastal ecosystems found that TN flux was significantly greater from the inland residential and upland soils, leaving the coast at risk given future flood predictions.

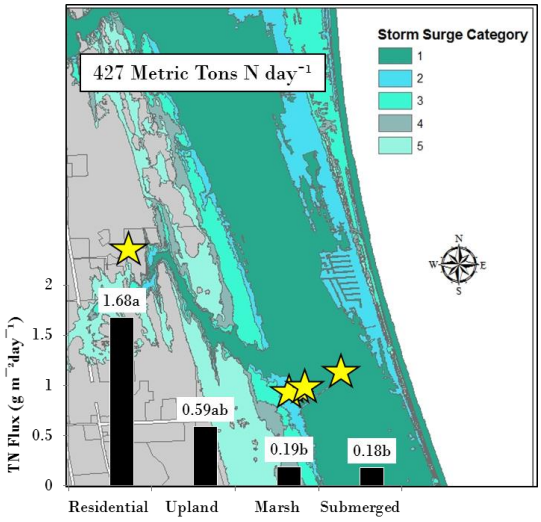

Figure 1. Total Nitrogen flux from four coastal soils after one day of flooding and equivalent potential TN flux for all FL.

[1] Park *et al.* (2011) *Clim. Change* **107**, 109-128.