



**SDI Review Form 1.6**

Journal Name:	<a href="#">Physical Science International Journal</a>
Manuscript Number:	2015_PSIJ_17461
Title of the Manuscript:	Discussion of A modelling study of coastal inundation induced by storm surge, sea-level rise, and subsidence in the Gulf of Mexico: the US average tide gauge is not accelerating consistently with the worldwide average
Type of the Article	Commentary

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



**SDI Review Form 1.6**

**PART 1: Review Comments**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<b>Compulsory</b> REVISION comments	<p>Although the paper is easy to follow, there is a need of language editing. Some sentences are hard to follow and needs to be rewritten. There are many instances where two or more words are joined. Introduction can be expanded in terms of literature review. Table 1 is very big and author should find a way to present it graphically. I am afraid that the subsidence or uplift of the tidal gages is large enough to mask the sea level rise, and is my major concern. My detail comments are below.</p>	<p>Many thanks to the reviewer. Suggestion have been implemented where possible. Table 1 has been moved to the appendix.</p> <p>To understand the global sea level rise from the sea level relative rate of rise of individual tide gauges is certainly very difficult. The vertical velocity of subsidence or uplift of the tide gauge is strongly variable from one site to the other, the record length is strongly variable with very few tide gauges covering more than 100 years worldwide, then because of the multi decadal oscillations with less than 60 years of recording the relative sea level velocity at the tide gauge may be largely overrated or underrated. The relative rates of rise computed in the 560 tide gages of the latest PSMSL survey (PSMSL, 2014) are variable from +9.72 mm/year to -17.42 mm/year with an average estimation of +1.04 mm/year. By using only the tide gauges with more than 60 years of recording the average rate of rise in 170 tide gauges is +0.25 mm/year. What we always suggest is to look at the relative acceleration of the tide gauges of enough length worldwide. In the latest survey of PSMSL, those satisfying the minimum requirement of 60 years recorded in the mid-1990s are 100. In these 100 tide gauges, the average relative velocity is +0.24 mm/year and the relative acceleration is about zero.</p>



**SDI Review Form 1.6**

	<p>Line 39: What is the distribution of gages over the oceans/sea? Unequal numbers at different samples from different ocean/sea may introduce bias.</p> <p>Line 41: What is the source of the data (before satellite altimetry)? How about their reliability? This is important as you are drawing conclusions based on these data.</p> <p>Lines 53-56: If there is high uncertainty in subsidence or uplift, how can you conclude that the rate of change in sea level is small? Did you adjust for the subsidence/uplift? The timing of the measurements at different locations also increases the uncertainty. This part should be dug out in detail. Lack of justification of this part can ruin the result of this paper.</p> <p>Table 1: This table is way too big for publication. Please find a way to present is graphically for</p>	<p>The distribution of tide gauges for the United States is relatively uniform, much better than any other location of the world except Northern Europe. More than the geographical location it is the record length that may bias considerably the survey.</p> <p>The source of data are usually port authorities and independent organizations. The reliability of the relative sea level results collected by NOAA is good. The sea level results of the NOAA surveys have not been manipulated so far as the temperature records of the GISS reconstruction of global temperature.</p> <p>In first instance, subsidence or uplift may be considered larger time scale movements vs. the sea level rise induced by thermal expansion and ice melting. Therefore, the subsidence or uplift at the tide gauges should not have any effect on the relative acceleration of tide gauges recording with good quality over a significant time frame. The sea level rise induced by thermal expansion and ice melting should conversely translate in a positive relative acceleration detected by the tide gauges, the worldwide average and the US average. If the relative acceleration is zero (or negative as it is the case of the US) then it means the effects of thermal expansion and ice melting are negligible.</p> <p>Table is important as a reference. May be located in the appendix.</p>
--	--	--



**SDI Review Form 1.6**

	<p>better visualization.</p> <p>Line 101: How about heavy emission of CO<sub>2</sub> and other greenhouse gases from the industries and other human uses (especially USA, China, and Europe)?</p>	<p>Even if the IPCC claims the emissions of CO<sub>2</sub> are driving temperatures to warm, rainfalls to reduce, ices to melt and sea levels to rise, with a direct proportionality factor, we prefer to apply the scientific method to the analyses of measured temperatures, rainfalls, ices and sea levels discussing what is in the data rather than what should be.</p>
<b><u>Minor</u></b> REVISION comments	<p>Lines 50-53: Hard to follow, consider re-writing.</p> <p>Lines 63-64: Hard to understand, rewrite it.</p> <p>Line 65 and 66: Write full form before using acronyms for SLA and SLR.</p> <p>Lines 70-75: Combine two paragraphs.</p> <p>Lines 80-81: Many joined words, split them properly.</p>	
<b><u>Optional/General</u></b> comments		