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Sea Level Manipulation

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Abstract: *Sea level changes is a key issue in the global warming scenario. It has been widely claimed that sea is rising as a function of the late 20th's warming pulse. Global tide gauge data sets may vary between +1.7 mm/yr to +0.25 mm/yr depending upon the choice of stations. At numerous individual sites, available tide gauges show variability around a stable zero level. Coastal morphology is a sharp tool in defining ongoing changes in sea level. A general stability has been defined in sites like the Maldives, Goa, Bangladesh and Fiji. In contrast to all those observations, satellite altimetry claim there is a global mean rise in sea level of about 3.0 mm/yr. In this paper, it is claimed that the satellite altimetry values have been "manipulated". In this situation, it is recommended that we return to the observational facts, which provides global sea level records varying between ±0.0 and +1.0 mm/yr; i.e. values that pose no problems in coastal protection.*

Keywords: *Manipulation, observational facts, satellite altimetry, sea level change, tide gauges*

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I. INTRODUCTION

The Mail recently had a benchmark article where Dr John Bates was allowed to present a remarkable documentation of the manipulation of NOAA's temperature measurements in order to provide the impression that global temperature is keeping on rising over the last decades [1]. This manipulated record was forced to appear in time for the COP21 decision in Paris 2015. The true temperature record provide an 18 year long temperature pause, despite the fact that global atmospheric CO2 content has kept on rising [2]. This sheds serious doubts on the core notion of the COP21 decision claiming the CO2 is the cause of recent global warming. In a follow-up article [3], David Ross posed the core question: *How can we trust them?* The present paper will reveal another case of "manipulation". It refers to the core issue in horror scenarios claiming that sea level is in a very rapidly rising mode, and that low-lying coasts and islands will soon be flooded [4].

II. OBSERVATIONAL FACTS

In the period 2000-2005, I led an international sea level project in the Maldives. By observational facts collected along the shores of a large number of islands, we were able to demonstrate that, indeed, there is no flooding going on, rather the sea level has remained stable over the last 40 years [5-8]. Therefore, in 2007, I wrote a booklet entitled "The Greatest Lie Ever Told" [9].

The same absence of any present sea level rise has now been documented also in Bangladesh, Goa in southern India, Qatar, Tuvalu, Vanuatu, Kiribati, Fiji, French Guiana and Venice. In all those places (and their surroundings) sea level has remained virtually stable over the last 40-50 years [10-13].

In Northwestern Europe with a very long history of recording local uplift and subsidence, we have quite consistent records of a mean rate of sea level rose over the last 125 years of 1.0 ±0.1 mm/yr [11-12, 14].

A summary providing a congruent picture of observed sea level changes over the globe is given in [15-16]. It implies that global sea level changes vary between 0.0 mm/yr to +1.0 ±0.1 mm/yr, which is far less that what is proposed by satellite altimetry (below). Furthermore, such rates pose no problems in coastal management.

III. SATELLITE ALTIMETRY

The NOAA satellite altimetry records of the last 24 years is said to give a rise of 2.9 ±0.4 mm/yr [17].The record of University of Colorado (UC) gives a rise of 3.3 ±0.4 mm/yr [18]. There is something strange in the satellite altimetry documentation, however (which I have tried to point the finger on in numerous papers and lectures of the last two decades [6, 9, 10, 15, 19-21]). I will hereby return to this question. I illustrate the case in Fig. 1, and claim that we here have another case of "manipulation" of measured data.

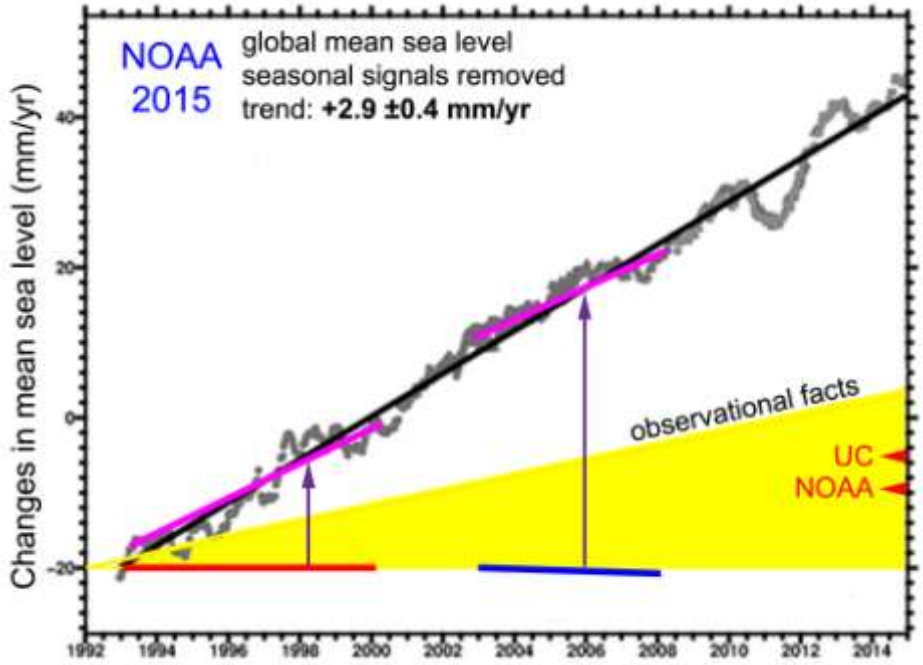

Fig. 1. The rising oblique cure gives the satellite altimetry record of NOAA in 2015, providing a rising trend of 2-9 ±0.4 mm/yr. The yellow field marks the field of observational facts [15, 16]. Both the original satellite altimetry record (red line) and the gravity record (blue line) were subjectively lifted up to cope with the rising trend of the NOAA record – this is the "manipulation". It is the NOAA curve that must be lowered down into the yellow field at a mean rate of +0.45 mm/yr [15].

Satellite altimetry measurements started in late 1992. The first record was published in early 2000 [6, 22]. It gave variability around a flat zero line, marked with a red line in the figure. In 2003, the same record was tilted to a rise of 2.4 mm/yr, marked with an arrow and a pink line in Fig. 1. At a discussion in Moscow Academy of Science in 2005, the British IPCC group said they *"had to do so, otherwise it would not be any trend"* [8], which was just what I accused them fore.

The first GRACE gravity records gave a sea level lowering of 0.12 ±0.06 mm/yr (blue line in Fig. 1). This measured value was hypothetically "corrected" for global glacial isostasy so it fitted the satellite altimetry trend as marked by an arrow and a pink line [19, 21, 23].

Observational facts (as discussed in section 2 above) lie within the yellow zone in Fig. 1. When the NOAA and UC records are tilted back to original measurements (i.e. removing the so-called "corrections"), both records fall within the yellow zone, NOAA at 0.45 mm/yr and UC at 0.65 mm/yr (i.e. both together at 0.55 ±0.10 mm/yr). And now the satellite altimetry records agree quite well with observational facts [15].

It implies that the satellite altimetry records have been significantly manipulated in order to document a strong rise in global sea level, which is one of the key issues the horror scenario of global warming [24].

IV. DISCUSSION

The satellite altimetry values provided by NOAA [17] and University of Colorado [18] do not agree with tide gage data, not even with those selected by persons related to the IPCC-project proposing rates in the order of +1.7 mm/yr [e.g. 25]. This would differ by 100% to the UC value [8] and >100% to a proposed updated value [26].

Available field observational data give a quite different picture where the oceanic eustatic component varies over the globe between ±0.0 to +1.0 mm/yr [15-16].This can be summarized in the following five points:

- +1.14 mm/yr, the mean of 184 tide gauge records scattered all over the globe selected by [18] for their global sea level analyses. This value is too high, however, because many sites used represent subsiding delta sites [15].
- +1.0 ± 0.1 mm/yr, the eustatic component the North Sea, Kattegatt and Baltic region[11, 12, 14].
- +0.55 ± 0.10 mm/yr, the revised satellite altimetry values of [15].
- +0.25 ± 0.19 mm/yr, the mean of 170 PSMSL tide gauge stations having a length of more than 60 years [27].
- ±0.0 mm/yr, the value obtained from many global test sites [11-13, 28]; the Maldives, Bangladesh, Goa in the Indian Ocean, Tuvalu, Vanuatu, Kiribati, Majuro, Fiji in the Pacific, Surinam-Guyana in NE South America, Venice in the Mediterranean.

With the re-calibration of the satellite altimetry data [15] to +0.55 ±0.10 mm/yr or +0.45 mm/yr instead of +2.9 mm/yr for the NOAA record [17] and +0.65 mm/yr instead of +3.3 mm/yr for the UC record [18] the global sea level data finally make sense and a congruent picture is established. This indicates global variations within a window ranging between ±0.0 and +1.0 mm/yr. This value represents observational facts [11-16], and has nothing to do with computer modeling and pre-conceived ideas [24].

V. CONCLUSION

Satellite altimetry is a new elegant tool to view the changes in sea level over the globe, maybe especially the spatial changes, which, indeed, verified the long-term notion that sea level change over the last 5000-6000 years are dominated by the redistribution of water masses [29]. The temporal changes, on the other hand, has always remained very questionable as they seem to over-estimate observed sea level changes by 100-400% [9-16]. It seems quite weird to claim that it would be the satellite altimetry that is right and that the true observations in the field are wrong (still this is what the people around the IPCC and the Paris agreement at COP21 continue to claim).

Fig. 1 reveals what is going on. It is the satellite altimetry data, which have been "corrected" to give a rise in the order of 3.0 mm/yr. This "correction" [19-21] may, of course, be classified as a "manipulation" of facts, like the manipulation temperature measurements recently revealed [1-3].

In this situation, there are all reasons to return to solid observational facts [11-16].Those facts are controllable, and this is a key criterion in science.The global perspective is general stability to a minor rise with variations between ±0.0 and +1.0 mm/yr [16]. This poses no problem for coastal protection. Therefore, we should free the world from the horror issue that low-lying coasts and islands will become seriously flooded in this century. Up to the present, there has been no convincing recording of any acceleration in sea level, rather the opposite: a total lack of any sign of an accelerating trend.

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