There Is No Alarming Sea Level Rise!

by Nils-Axel Mörner

One of the approximately 1,190 beautiful coral islands that comprise the nation of the Maldives. As Mörner shows, the Maldives are not in danger of inundation.

In an interview and paper published in *21st Century* in 2007,[1] I have shown that global sea level is not in an alarming rising mode, which is the main threat in the International Panel on Climate Change scenario. If sea level is not rising at a high rate, there is no serious threat and no real problem. In subsequent papers, I continued to present new data on sea level stability. In Mörner 2007b, our field observational database from the Maldive Islands was described in detail. A new study in Bangladesh was published in 2010 (Mörner 2010a). New data with respect to general sea level changes were published in another paper (2010b). Also, my short sea level booklet titled "The Greatest Lie Ever Told" (Mörner 2007c) was updated in new editions in 2009 and 2010.

While the IPCC and its boy scouts present wilder and wilder sea level predictions for the near future, the real observational facts demonstrate that sea level has remained virtually stable for the last 40-50 years.

Here I will investigate the proposed rates of sea level changes by IPCC and others.

Figure 1 illustrates the differences between the IPCC models and the observational facts. After 1965, the two curves start to diverge significantly (the area marked with a question mark). This paper will highlight the differences and seek the solution of what data to trust and what to discard.

Figure 2 shows the spectrum of present-day sea level estimates. The proposed rates of sea level rise range from 0.0 to 3.2 mm per year. Obviously, all these rates cannot be correct. I will try to straighten out the question mark in Figure 1 by undertaking a critical examination of the rates given in Figure 2.

Observational Facts

Clear observational measurements in the field indicate that sea level is not rising in the Mal-

1. The interview and article appear in the Fall 2007 *21st Century.* The interview is available online at www.21stcenturysciencetech.com/Articles%202007/MornerInterview.pdf

Renowned oceanographic expert Nils-Axel Mörner has studied sea level and its effects on coastal areas for some 45 years. Recently retired as director of the Paleogeophysics and Geodynamics Department at Stockholm University, Mörner is past president (1999-2003) of the INQUA Commission on Sea Level Changes and Coastal Evolution, and leader of the Maldives Sea Level Project. Now he has his own company on Paleogeophysics & Geodynamics in Sweden, and can be reached at morner@pog.nu.

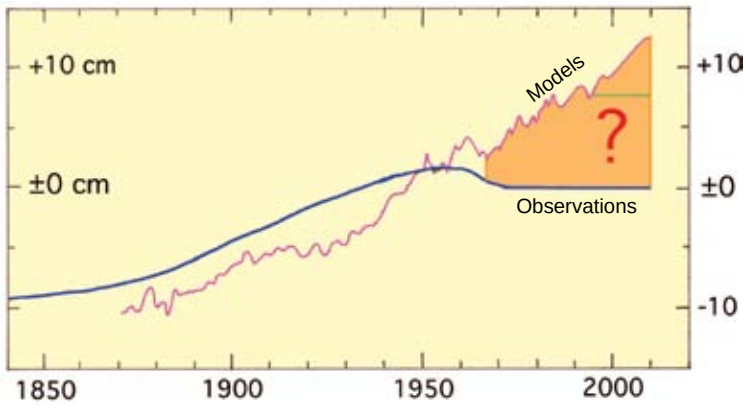


Figure 1
SEA LEVEL CHANGES (1840-2010)
The pink curve, "Models," represents the IPCC's combination of selected tide-gauge records and corrected satellite altimetry data. The blue curve, "Observations," represents the observed eustatic sea level changes in the field according to Mörner (1973) up to 1960 and (in this paper), thereafter. After 1965, the two curves start to diverge, presenting two totally different views (separated by the area with the question mark), where only one view can be tenable.

dives, Bangladesh, Tuvalu, Vanuatu, and French Guyana (Mörner, 2007a, 2007b, 2007c, 2010a, 2010b). All these places are key sites in the sea level debate, where the IPCC and its ideological associates have predicted terrible flooding scenarios. The reality is totally different from what the IPCC claims, however, as highlighted in my interview and article in *21st Century*.

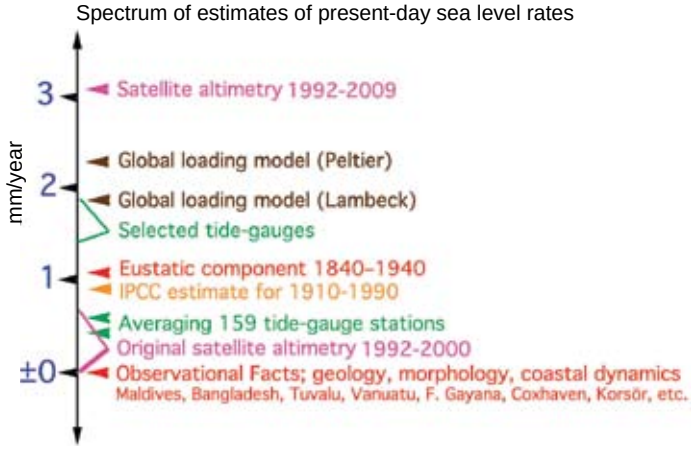


Figure 2
RATES OF SEA LEVEL CHANGES (mm/year)
The spectrum of proposed rates of present-day sea level changes ranges from 0.0 mm/year, according to observational facts from a number of key sites all over the world, to 3.2 mm/year, according to calibrated satellite altimetry.

The IPCC group and the Presidents of the Maldives and Tuvalu continue to claim that the flooding is in progress, and will soon flood the islands and wipe those island nations off the surface of the globe (or rather ocean). Already here we are facing a behavior that well might be termed a "sea-level-gate." In an open letter to the President of the Maldives (Mörner 2009), I addressed the divergence between his claim and our field observations. No reply has come.

Bangladesh is a nation cursed by disasters—heavy precipitation in the Himalayas and coastal cyclones. As if this were not bad enough, it has been claimed that sea level is in rapidly rising mode. This claim has been totally discredited by my study in the Sundarban area, where the facts are that the sea has remained stable for the last 40-50 years (Mörner 2010a).

The erroneously inferred sea level rise has been used to create wild scenarios where it is claimed that tens to hundreds of thousands of people may be drowned and "millions of individuals will be displaced from their homes over the course of the century due to sea-level rise" (Byravana and Raja 2010). This is, indeed, a terrible falsification of the actual situation. We are undoubtedly facing a "sea-level-gate." The journal that published this false claim, *Ethics and International Affairs,* refuses to print a comment "that focuses on empirical data." With surprise, we must ask: What is the meaning of addressing moral concern, if the entire empirical base is wrong?

In Tuvalu, the President continues to claim that they are in the process of being flooded. Yet, the tide-gauge data provide clear indication of a stability over the last 30 years (Mörner 2007a, 2007c, 2010b; Murphy 2007). In Vanuatu, the tide-gauge indicates a stable sea level over the last 14 years (Mörner 2007c).

From the coasts of French Guyana and Surinam there is a very excellent sea level record covering multiple 18.6-year tidal cycles (Gratiot et al. 2008). It exhibits variations around a stable zero level over the last 50 years (Mörner 2010b). For the same area, satellite altimetry gives a sea level rise of 3.0 mm/year. This casts clear doubt on the satellite altimetry value, as discussed further below.

The sea level record from Venice may be used as a test area for global eustasy.[2] Subtracting the subsidence factor, it shows no rise of eustatic origin, no acceleration whatsoever in the last decades; instead, it shows a sea level *lowering* around the year 1970 (Mörner 2007a, 2007c).

The northwest European coasts are interesting be-

2. Eustacy or eustatic change (as opposed to changes in land level) refers to changes in the ocean level (earlier thought to be global, but nowadays realized also to be regional, because of horizontal redistribution of water-masses).

cause here we have sites that are experiencing both uplift and subsidence. The tide-gauge at Korsør in the Great Belt (the strait between the main Danish islands of Zealand and Funen), for example, is located at the hinge between uplift and subsidence for the last 8,000 years. This tide-gauge shows no sea level rise in the last 50-60 years.

The tide-gauge in Amsterdam, installed in 1682, is the oldest in the world. Superimposing this subsidence record on the uplift record from the Stockholm tide-gauge, I was able to isolate a eustatic factor for the time period 1680 to about 1970 (Mörner 1973). This shows a rise from 1830-1840 up to 1930-1940 of 11 cm. In that 100-year period, the Earth's rate of rotation decelerated at a value which corresponds to a 10-cm sea level rise (see, for example, Mörner 1996). Consequently, there is a very good fit between sea level rise and rotational deceleration, which seems to provide a measure of a global sea level factor (the blue line with respect to the red line in Figure 3).

Paulo Filgueiras/U.N. Photo

The global warming mania has captured many leaders of small island nations. Here, U.N. Secretary-General Ban Ki-moon (third from left) addresses a breakfast meeting with representatives of small island states, in Cancun, Mexico, on the sidelines of the U.N. Conference on Climate Change.

Cuxhaven, on the German coast, has a tide-gauge dating back to 1843, in an area that represents the subsiding segment of the North Sea coasts. Figure 3 shows the annual mean values for 160 years, with a long-term trend polynomial fitted to it (Herold unpubl.). This curve (blue) gives a slightly sinusoidal rising trend that represents the mean relative sea level changes in the area. Adding to this the eustatic component of the northwestern European region (Mörner 1973), we get partly the local rate of subsidence (red curve), and partly the eustatic component, extended up to the present and double-checked for the pre-1970 section (the difference between the blue and the red curves).

The regional eustatic sea level change decelerates after 1930-1940, becomes flat around 1950-1970, and falls from 1970 up to the present. This provides firm evidence that sea level is not at all in a rapidly rising mode today; rather there is

The kugelbake, an old wooden lighthouse at the North Sea port of Cuxhaven. This coastal area is an area of subsidence.

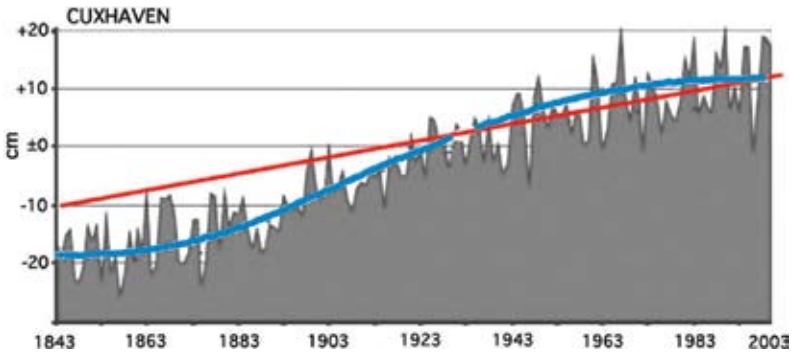


Figure 3
CUXHAVEN TIDE-GAUGE RECORD

The gray area gives the actual tide-gauge reading for the North Sea German port of Cuxhaven for 1843-2003—that is, for 160 years. A polynomial was fitted (by Jörn Herold) to this tide-gauge record. Adding the eustatic component of Mörner (1973) for the period 1840-1970, gives a straight line of subsidence (red) with a rate of 1.4 mm/year. The eustatic component (the difference between the blue and red curves) can now be extended up to 2003, and it shows a stop in the rise at around 1960, followed by a continual lowering up to 2003; that is, a trend totally different from that proposed by the IPCC models but in full agreement with the observational facts in Figure 1.

Vyron Lymberopoulos

Amsterdam has the oldest installed tide-gauge in the world, dating back to 1682. White marble stones (below) were inserted into the locks built after severe flooding (above).

eseas.org

A tide-gauge on an industrial pier in the Adriatic. It is grounded to the bottom with piles.

Vyron Lymberopoulos

the opposite trend: a slow falling mode.

These data are combined in the curve of "observations" in Figure 1.

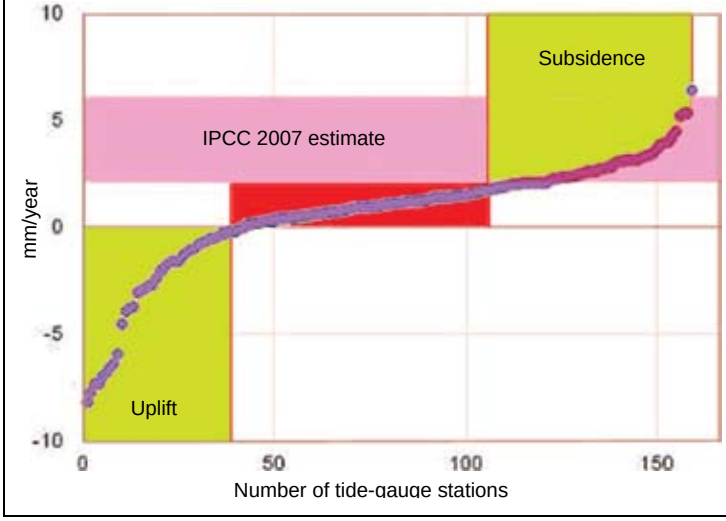
Tide-gauge Records

Tide-gauges were installed at harbor constructions to measure the changes in tidal level and long-term sea level changes. The Amsterdam tide-gauge is the oldest, installed in 1682; the Stockholm tide-gauge is the second oldest, installed in 1724/1774); and the Liverpool tide-gauge is the third oldest, installed in 1768. Most tide-gauges are installed on unstable harbor constructions or landing piers. Therefore, tide-gauge records are bound to exaggerate sea level rise. The National Oceanic and Atmospheric Administration (NOAA) tide-gauge database includes 159 stations (Figure 4).

The IPCC authors take the liberty to select what they call "representative" records for their reconstruction of the centennial sea level trend. This, of course, implies that their personal view—that is, the IPCC scenario laid down from the beginning of the project—is imposed in the selection and identification of their "representative" records. We start to smell another "sea-level-gate."

With this selection methodology, Douglas (1991) chose 25 tide-gauges and got a rate of sea level rise of 1.8 mm/year; Church et al. (2006) selected 6 tide-gauges and got a rate of 1.4 mm/year; and Holgate (2007) selected 9 tide-gauges and got a rate of 1.45

Figure 4
SPECTRUM OF RATES OF NOAA's 159 TIDE GAUGE STATIONS



The values of NOAA's 159 tide gauge stations indicate that they range from uplifted areas to subsiding areas (green areas). If the uplifting and subsiding sites (green areas) are excluded, we are left with a number of sites (red area) where the rise in sea level ranges between 0.0 and 2.0 mm/year. This is considerably below the rate given by IPCC (pink area) and satellite altimetry (as discussed below).

mm/year (Figure 2). The mean of all the 159 NOAA sites gives a rate of 0.5 mm/year to 0.6 mm/year (Burton 2010). A better approach, however, is to exclude those sites that represent uplifted and subsided areas (Figure 4). This leaves 68 sites of reasonable stability (still with the possibility of an exaggeration of the rate of change, as discussed above). These sites give a present rate of sea level rise in the order of 1.0 (± 1.0) mm/year. This is far below the rates given by satellite altimetry, and the smell of a "sea-level-gate" gets stronger.

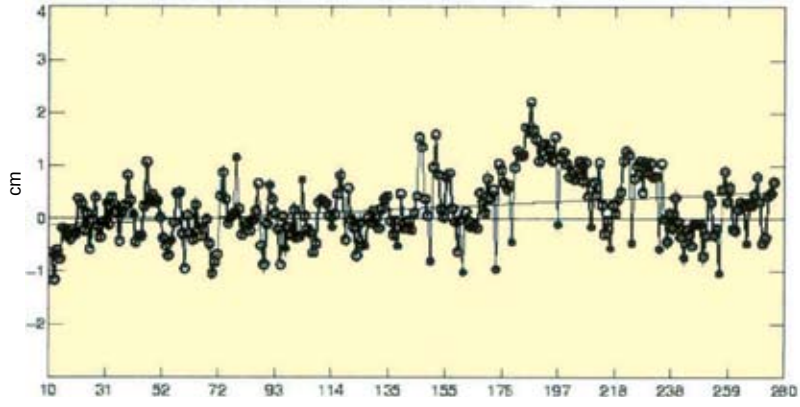


Figure 5
SEA LEVEL CHANGES AS OBSERVED BY TOPEX/POSEIDON IN 2000
These are the annual mean sea level changes from TOPEX/POSEIDON satellite observations, after technical "corrections" were applied (from Menard 2000). A slow, long-term rising trend of 1.0 mm/year was identified, but this linear approach ignores the ENSO event in cycles 175-200.

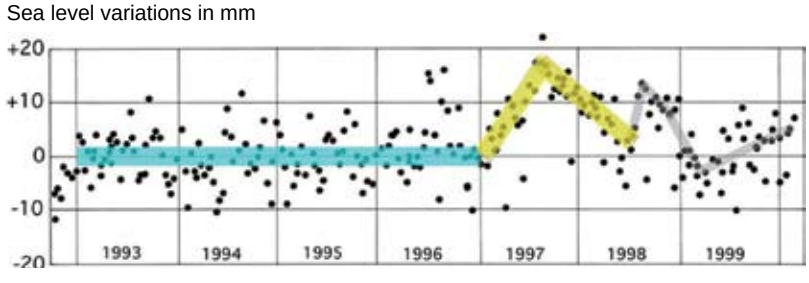


Figure 6
SEA LEVEL CHANGES FROM FIGURE 5, TAKING INTO ACCOUNT THE ENSO PEAK
The sea level changes as recorded in Figure 5 are presented here with a more realistic trend analysis that treats the 1997 ENSO peak (yellow) as a separate event superimposed on the long-term trend. This shows a stability over the first 5 years (blue) and possibly over the whole time period covered (from Mörner 2004, 2007c).

Satellite Altimetry

Satellite altimetry is a wonderful new technique that offers the reconstruction of sea level changes all over the ocean surface. This is vital, as sea level not only changes vertically but also horizontally. The horizontal redistribution of water masses was first observed for the centennial to decadal Late Holocene sea level changes (see, for example, Mörner 1995 and 1996) and is clearly shown in the satellite record from 1992-2010 (see, for example, Nicholls and Casenave 2010; Casenave and Llovel 2010)). Great problems remain with respect to the zero level chosen and to the long-term trend, however (Mörner 2004, 2007c, 2008).

The Topex/Poseidon and later Jason missions recorded the variations of the ocean surface with high resolution. Having applied all technical correction needed, Menard (2000 and also Aviso 2000) presented a first sea level graph ranging from 1992 to 2000 (Figure 5).

The Figure 5 trend of 1.0 mm/year is established by the linear trend approach, ignoring the fact that the big high in cycles 175-200 represents an ENSO-event. (ENSO is the El Niño/La Niña-Southern Oscillation, a quasi-periodic climate pattern that occurs across the tropical Pacific Ocean every few years.) Therefore, a much more realistic approach is to treat that ENSO-signal as a separate event, superimposed on the long-term trend, as shown in Figure 6 (Mörner 2004). Figure 6 shows a variability (of ±10 mm) around a stable zero level (blue line) and a strong ENSO-event (yellow lines) in 1997. The trend thereafter is less clear (gray lines). This graph provides no indication of any rise over the time-period covered (Mörner 2004, 2007a, 2007c).

When the satellite altimetry group realized that the 1997 rise was an ENSO signal, and they extended the trend up to 2003, they seemed to have faced a problem: There was no sea level rise visible, and therefore a "reinterpretation" needed to be undertaken. (This was orally confirmed at the Global Warming meeting held by the Russian Academy of Science in Moscow in 2005, which I attended). Exactly what was done remains unclear, as the satellite altimetry groups do not specify the additional "corrections" they now infer.

In 2003, the satellite altimetry record (Aviso 2003) suddenly took a new tilt—away from the quite horizontal record of 1992-2000, seen in Figures 5 and 6—of 2.3 (±0.1) mm/year (Figure 7).

From where does the new tilt come? What lies flat in Figure 5 of 2000 is now tilted upward in Figure 7 of 2003 (Aviso 2000, 2003). Obviously, some sort of "correction" has been made, without specifying this in a way that allows evaluation (see Mörner 2007c, 2008). In most graphs representing the

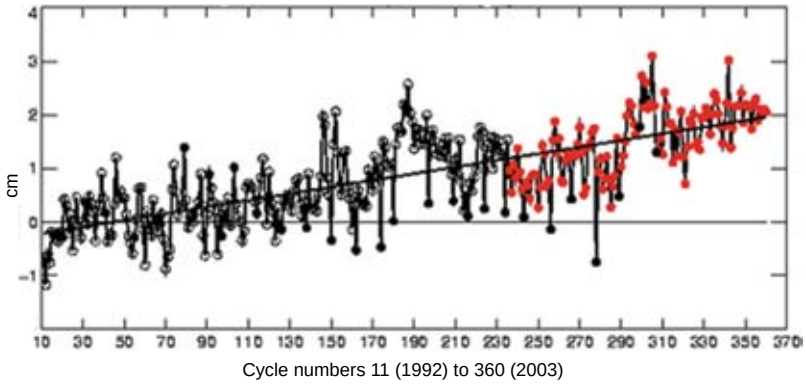


Figure 7
SEA LEVEL CHANGES AFTER CALIBRATION IN 2003
The satellite altimetry record is shown for TOPEX/POSEIDON (black) and Jason (red). As presented in 2003 (Aviso 2003), the record suddenly has a new trend representing an inferred rate of 2.3 (±0.1) mm/year sea level rise. This means that the original records presented in Figures 5 and 6 now have been tilted by a factor of 2.3 mm/year. We must now ask: From where does this tilt come?

satellite altimetry sea level record (on the Internet and in journal papers), it is not even noted that the graphs do not present trends as read by the satellites, but trends after "corrections."

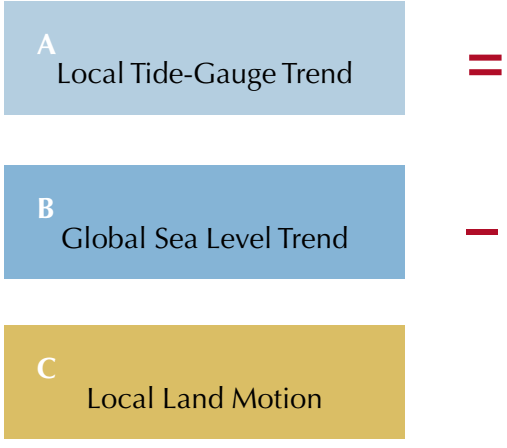
Originally, it seemed that this extra, unspecified "correction" referred to the global isostatic[3] adjustment (GIA) given as 2.4 mm/year (see, for example, Peltier 1998) or 1.8 mm/year (IPCC 2001). The zero isobase of GIA according to Peltier (1998) passed through Hong Kong, where one tide-gauge gives a relative sea level rise of 2.3 mm/year. This is exactly the value appearing in Figure 7. This tide-gauge record is contradicted by the four other records existing in Hong Kong, and obviously represents a site specific subsidence, a fact well known to local geologists.

Nevertheless, a new calibration factor has been introduced in the Figure 7 graph. At the Moscow global warming meeting in 2005, in answer to my criticisms about this "correction," one of the persons in the British IPCC delegation said, "We had to do so, otherwise there would not be any trend." To this I replied: "Did you hear what you were saying? This is just what I am accusing you of doing." Therefore, in my 2007 booklet (Mörner 2007c), the Figure 7 graph was tilted back to its original position (Figure 5).

The calibrations applied to the satellite altimetry readings were discussed in Mitchum (2000—cf. Casenave and Nerem 2004; Leuliette and Scharroo 2010). The tide-gauge records play a central role in this, implying some sort of circular reasoning in arriving at the calibrations. Other important factors are the global isostatic adjustment (GIA) and vertical movements of the tide-gauge sites.

Mitchum (2000) states that in part, "We adopted the rate given by Douglas (1991, 1995) of 1.8 ±0.1 mm/yr," and in part that "the tide-gauges were assumed to be vertically stable." Both these assumptions are wrong. The 1.8 mm/yr rate is not well established, but rather the opposite (see Figure 2). The tide-gauge records, especially those selected, are far from vertically stable, but rather the opposite (this applies for the 6 sites used by Church et al. as well as the 25 sites used by Douglas). Mitchum (2000) provided the following relations (as expressed in the boxed equation below):

3. Isostatic refers to the balance of geological masses and the tendency towards equilibrium.



Each of the three boxes (**A**, **B**, and **C**) includes multiple variables that need painstaking and skillful handling, which certainly has not been done by the groups dealing with the satellite altimetry records and the IPCC community.

To establish a local tide-gauge trend (box **A**), is far from simple and straightforward. Cyclic trends, event signals, and segments must be identified and subtracted. Numerous different variables affect and interfere with the long-tern trend. Very often, there is no long-term trend, just segments that need individual treatment (as in the case of the Bombay tide-gauge record, discussed by Mörner, 2010a). ENSO-events (like Super-ENSO events) must be subtracted, as illustrated in Figure 6 and shown for the Tuvalu record by Mörner (2007c, 2010b).

The proposed "global sea level factor" (box **B**) is never clear and trustworthy; rather, it is a matter of personal opinion, as seen in Figure 2. The rate of 1.8 mm/yr is surely an overestimate that is strongly affected by subsidence at the tide-gauges selected (Figure 2). In my opinion, a better value would be 0.0 mm/yr (or just a little above this).

The local land motion at the tide-gauge sites (box **C**) is another intricate issue that calls for geological understanding of the specific site in question. Local sedimentary ground changes (such as compaction, water withdrawal, and so on) is a prime factor to assess (Mörner 2004, 2010b). These changes cannot be recorded by satellite measurements, but only by site-specific knowledge. Many tide-gauges are installed on harbor construc-

tions and landing piers that are far from stable. Crustal movements and seismotectonics are other factors. In the case of the harbor in the Maldives capital of Malé, this island is so heavily overloaded by building that the harbor constructions fracture, and are dislocated in ways that invalidate any trustworthy tide-gauge reading there.

One thing is for sure: satellite altimetry is not providing what is often claimed, an "independent measure of sea level changes" as opposed to that of tide-gauges and global isostatic adjustment. Instead, it is a record deeply dependent on those variables.

With the space gravimetry observations from GRACE it has become possible to record changes in the ocean water mass (Casenave et al. 2009), which approximate the mean global sea level changes (Figure 8).

The concept of the global isostatic adjustment, or GIA, is a model, in which some data are in support (see for example, Peltier 1998) and other data are in direct contradiction (for example, Mörner 2005).

GIA corrections have been applied to tide-gauges, sea level records, satellite altimetry, and now to ocean mass changes. It seems that without those GIA corrections, there is little or no room left for a global sea level rise. Correcting tide-gauges for GIA or regional crustal movement is not the correct way of treating these types of records. Instead, each site must be evaluated from its own criteria with respect to stability, wind, waves, sedimentation, compaction, loading, and tectonics. A blind GIA model correction may provide quite wrong results; it is a dangerous shortcut applied by those persons who are not sea level specialists by training, and hence without the skill to undertake careful site-specific stability analyses themselves.

Figure 9 shows the satellite altimetry records as presented by NOAA (2008), which give a rise of 3.2 (±0.4) mm/year.

In Figure 10, the satellite altimetry record of Figure 9 is back-tilted to fit the original trend in Figures 5 and 6 for the period 1992-2000 (yellow fields) and the raw data of GRACE in Figure 8, for the period 2003-2007 (yellow line). This gives an uncorrected satellite altimetry graph showing no signs of any sea level rise. The original record for the period 1992-2000 is restored (cf. Figures 5 and 6) and the GRACE raw data fit the record perfectly well.

This implies that the Figure 9 satellite altim-

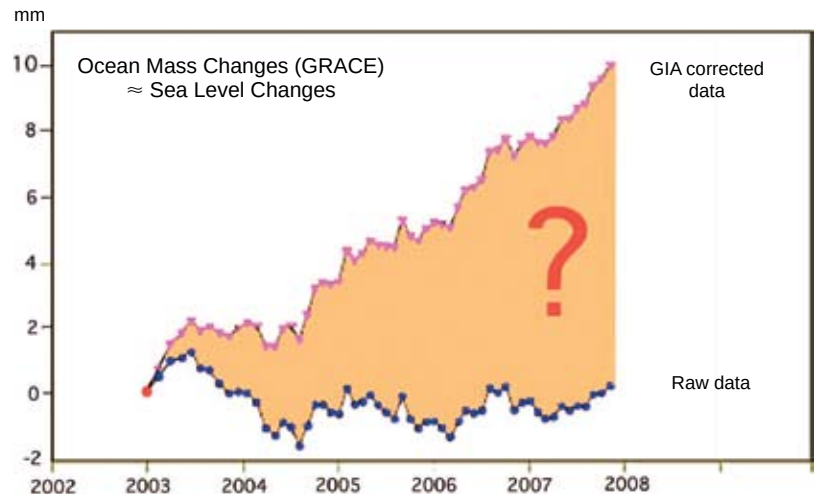


Figure 8
OCEAN MASS CHANGES FROM GRACE SATELLITE DATA

The space gravimetry readings from the GRACE satellites record changes in ocean mass which approximate mean global sea level changes (from Casenave et al. 2009). The raw data show a slight lowering by –0.12 (±0.06) mm/year (blue dots). Inferring a global isostatic adjustment (GIA) correction, which is to be questioned, Casenave et al. (2009) established a corrected rate of 1.9 (±0.9) mm/year (pink dots). The difference is significant. The question is whether or not this "correction" is justifiable.

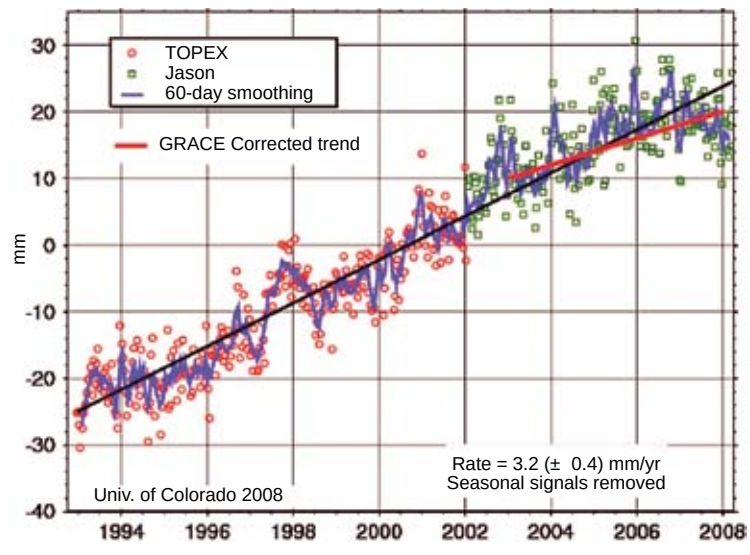
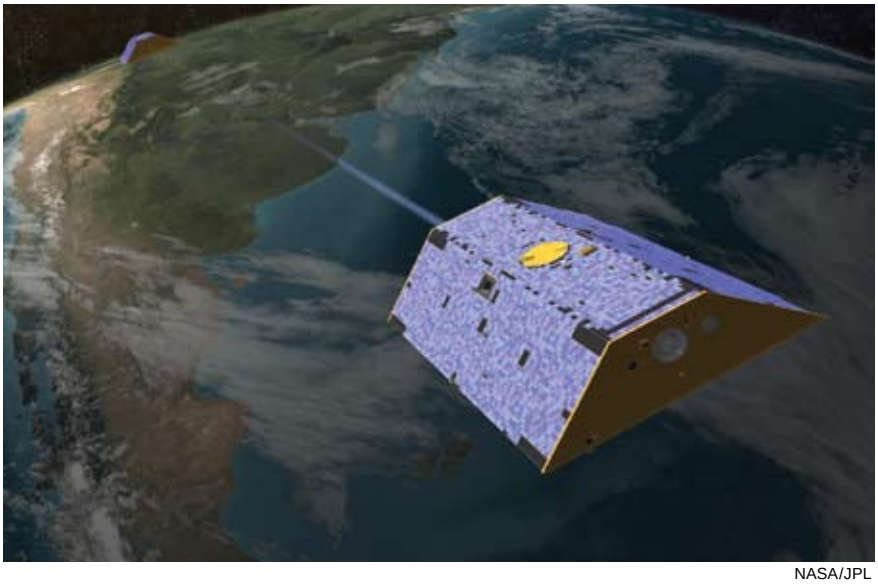


Figure 9
SATELLITE ALTIMETRY AS GIVEN BY NOAA

The TOPEX-Jason satellite data provide a record suggesting a mean sea level rise over the period 1993-2007 of 3.2 mm/year. The Figure 8 (GRACE) GIA-corrected trend for 2003-2007 (red line) agrees with the Jason data. This seems to verify that the satellite record is strongly affected by "corrections." Consequently, this satellite altimetry graph has a long-term trend, which does not represent actual instrumental measurements, but is created by inferred "corrections."



NASA/JPL

An artist's illusration of GRACE, the Gravity Recovery and Climate Experiment, a joint U.S./German satellite mission that provides high-resolution estimates of the Earth's gravity field and its variability. Two identical GRACE spacecraft fly about 220 kilometers apart in a polar orbit, 500 kilometers above the Earth. They map the Earth's gravity field by accurately measuring the distance between the two satellites, using GPS and a microwave ranging system. This provides information about the distribution and flow of mass within the Earth and its surroundings, including changes caused by surface and deep currents in the ocean and exchanges between ice sheets and the oceans.

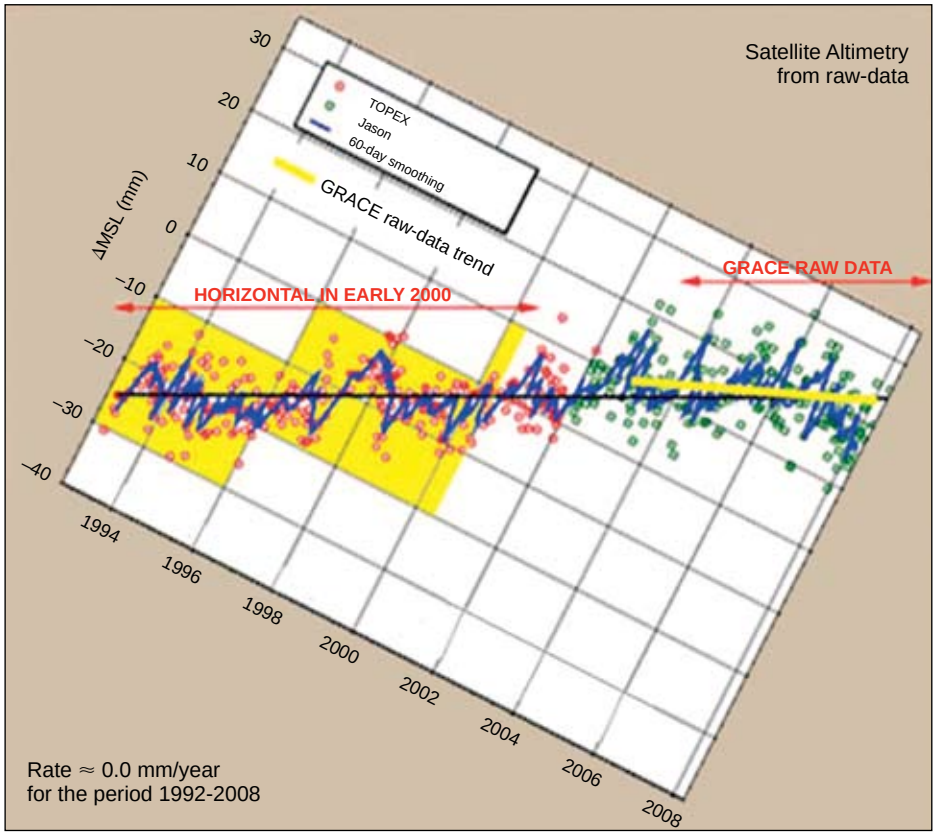
etry record is significantly altered by non-technical "corrections" (whatever they exactly may be). The "corrections" applied are not specified by the responsible groups at CNES (The French space agency, Centre National d'Etudes Spatiales) and NOAA. Various types of corrections can be applied, but these have to be clearly specified. This is not the case with the presently circulated trend of sea level rise from satellite altimetry (see, for example, Aviso 2003 and NOAA 2008). No doubt, we are here facing a serious "sea-level-gate."

If the "corrections" applied are not clearly specified (and discussed and argued for), then the product cannot be objectively evaluated. In this case, it seems to have merged into the sector of disinformation. What is worse, this seems to be intentionally done in order to back up the IPCC sea level flooding scenario.

I have previously claimed (Mörner 2008) that the satellite altimetry recording consists of three steps: (1) satellite instrumental reading; (2) "instrumental record" (after correction from technical

Figure 10
SATELLITE ALTIMETRY BACK TILTED TO ITS UNCORRECTED ORIGINAL

The adjusted satellite altimetry of Figure 9 is here back-tilted to its uncorrected original trend. The original record for the period 1992-2000 (yellow field) showed variability around a stable horizontal zero line (Figures 5 and 6). The GRACE raw data (Figure 8) show a slightly lowering trend for the period 2003-2007 (yellow line). Together these two data sets indicate that the mean sea level trend has remained stable over the entire period.



adjustments), as presented in Figure 10; and (3) "interpretational record (after the application of "personal calibrations"), as presented in Figure 9. This is illustrated in Figure 11.

As reported above regarding such adjustments, an IPCC member told me that "We had to do so, otherwise it would not be any trend," and this seems exactly to be the case. This means that we are facing a very grave, if not to say, unethical, "sea-level-gate." Therefore, the actual "instrumental record" of satellite altimetry (Figure 10) gives a sea level rise around 0.0 mm/year. This fits the observational facts much better, and we seem to reach a coherent picture of no, or, at most, a minor (in the order of 0.5 mm/yr), sea level rise over the last 50 years.

Conclusions

Observational facts indicate that sea level is by no means in a rapidly rising mode, but rather quite stable. This is the case in key sites like the Maldives, Bangladesh, Tuvalu, Vanuatu, Saint Paul Island, Qatar, French Guyana, Venice, and northwest Europe.

Tide-gauges tend to exaggerate rising trends because of subsidence and compaction. Full stability over the last 30-50 years is indicated in sites like Tuvalu, India, the Maldives (and also the Laccadives to the north of the Maldives), Venice (after subtracting the subsidence factor), Cuxhaven (after subtracting the subsidence factor), and Korsør (a stable hinge for the last 8,000 years).

Satellite altimetry is shown to record variations around a stable zero level for the entire period 1992-2010. Trends in the order of 3 mm/year represent "interpretational records," after the application of "personal calibrations," which cannot be substantiated by observational facts.

Therefore, we can now return to Figure 1 and claim that the "models" (pink curve) provide an illusive picture of a strong sea level rise and that the "observations" (blue curve) provide a good reconstruction of the actual sea level changes over the last 170 years, with stability over the last 40 years.

We can also return to the spectrum of present-day sea level rates (Figure 2) and evaluate the various values proposed. This is illustrated in Figure 12. Only rates in the order of 0.0 mm/year to maximum 0.7 mm/year seem realistic. This fits well with the values proposed for year 2100 by INQUA (2000) and Mörner (2004), but differs significantly from the values proposed by the IPCC (2001, 2007).

Thus we see that the sea level threat of the IPCC disappears. The idea of an ongoing sea

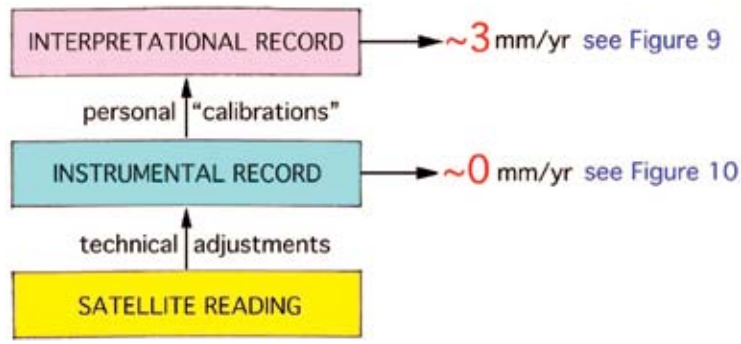


Figure 11
SATELLITE ALTIMETRY AND THE TWO TYPES OF CORRECTIONS APPLIED

Technical adjustments have to be applied to the satellite instrument readings. These corrections were applied to the original altimetry graph of Figure 5 (Menard 2000, Aviso 2000) and Figure 6. The "instrumental record" gives a sea level trend on the order of 0.0 mm/year (as seen in Figures 2, 6 and 10). By applying additional "personal calibrations" of a subjective nature, graphs ("interpretational records") were produced (for example, Aviso 2003 and NOAA 2008) that give an inferred sea level rise in the order of 3 mm/year (as seen in Figure 9). Therefore, the "interpretational record" represents disinformation, not a true "instrumental record" (from Mörner 2008).

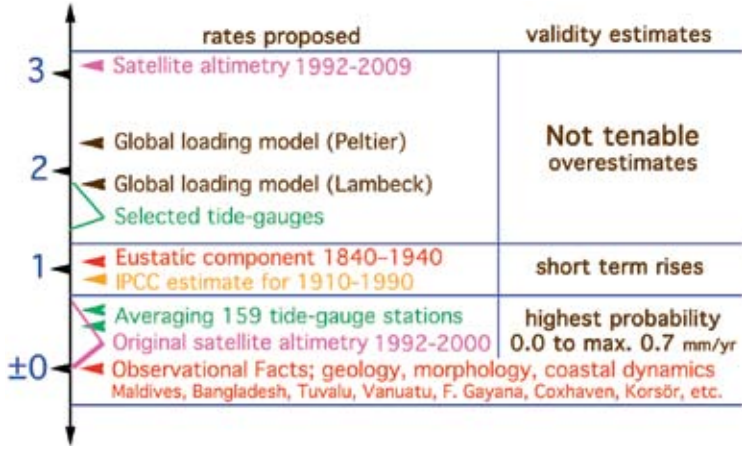


Figure 12
EVALUATION OF RELIABILITY FOR DIFFERENT PROPOSED SEA LEVEL RATES

The spectrum of rate values of present-day sea level rise can now be estimated as to validity. Only values in the order of 0.0 mm/year (as suggested by observational facts) to a maximum of 0.7 mm/year seem probable. Values ranging from 1.3 to 3.4 mm/year are considered to be untenable overestimates. Values in the order of 1 mm/year represent minor centennial rises (and falls). This agrees with estimates of a possible sea level rise by year 2100 of 5 ±15 cm (Mörner 2004) and 10 ±10 cm (INQUA 2000), but differs significantly from the value proposed by IPCC of 37 ±19 cm (IPCC 2007).

Malé, the island capital of the Maldives, where most of the nation's population is located. Dr. Mörner's research of the sea level record of the past 2,600 years shows a significant sea level fall in the 1970s and no signs of any ongoing rise.

A beach in the Pacific island of Tuvalu, where contrary to the IPCC fear scenarios, the sea level has been stable for three decades.

level rise that would flood islands and low-lying coasts, drowning tens of thousands of people and forcing hundreds of thousands, to millions, of people to become sea level refugees is simply a grave error, hereby revealed as an illusion, humbug, and terrible disinformation. This, without doubt, is a serious and shabby "sea-level-gate."

The true facts are to be found in nature itself; certainly not at the modelling tables. Some records are interpretative. Others are quite clear and straightforward. I have often claimed that "trees don't lie" (for example in Mörner 2007c), referring to the lonely tree in the Maldives, which indicated a stable sea level for the last 50-60 years (and therefore was pulled down by hand by a group of Australian "scientists" and IPCC boy-scouts). And also the trees on the beach in Sundarban, indicating a strong erosion but no sea level rise at all (Mörner 2007c, 2010a).

By this I hope, we can free the world from the artificial crisis, to which it has been condemned by the IPCC and its boy-scouts, of an extensive and disastrous sea level flooding in the near future. This was the main threat in the IPCC scenario, and now it is gone.

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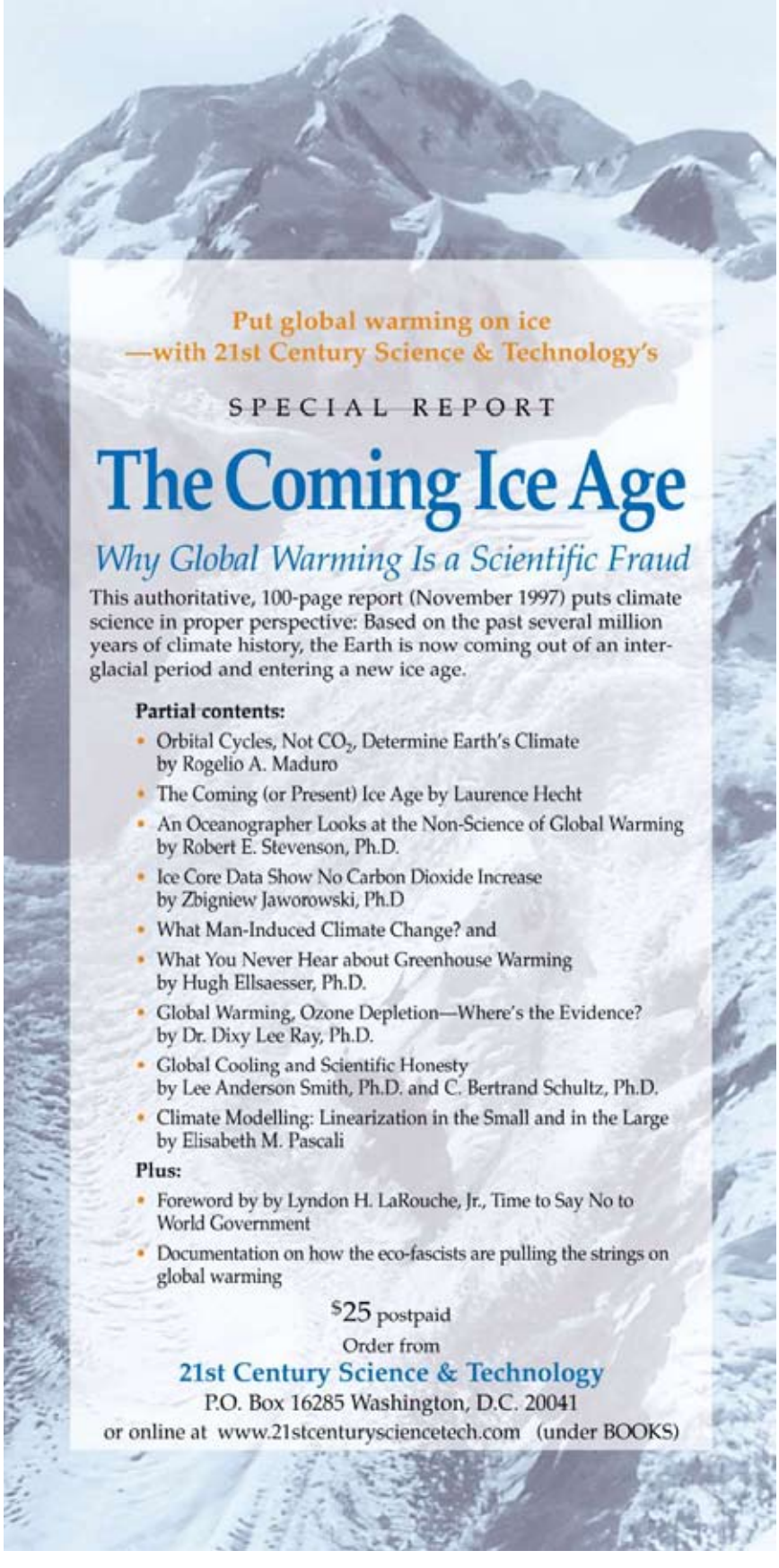
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