The Kattegatt and the Baltic as test-areas of absolute sea level changes, and an excellent new record from New Caledonia indicating absence of a present sea level rise

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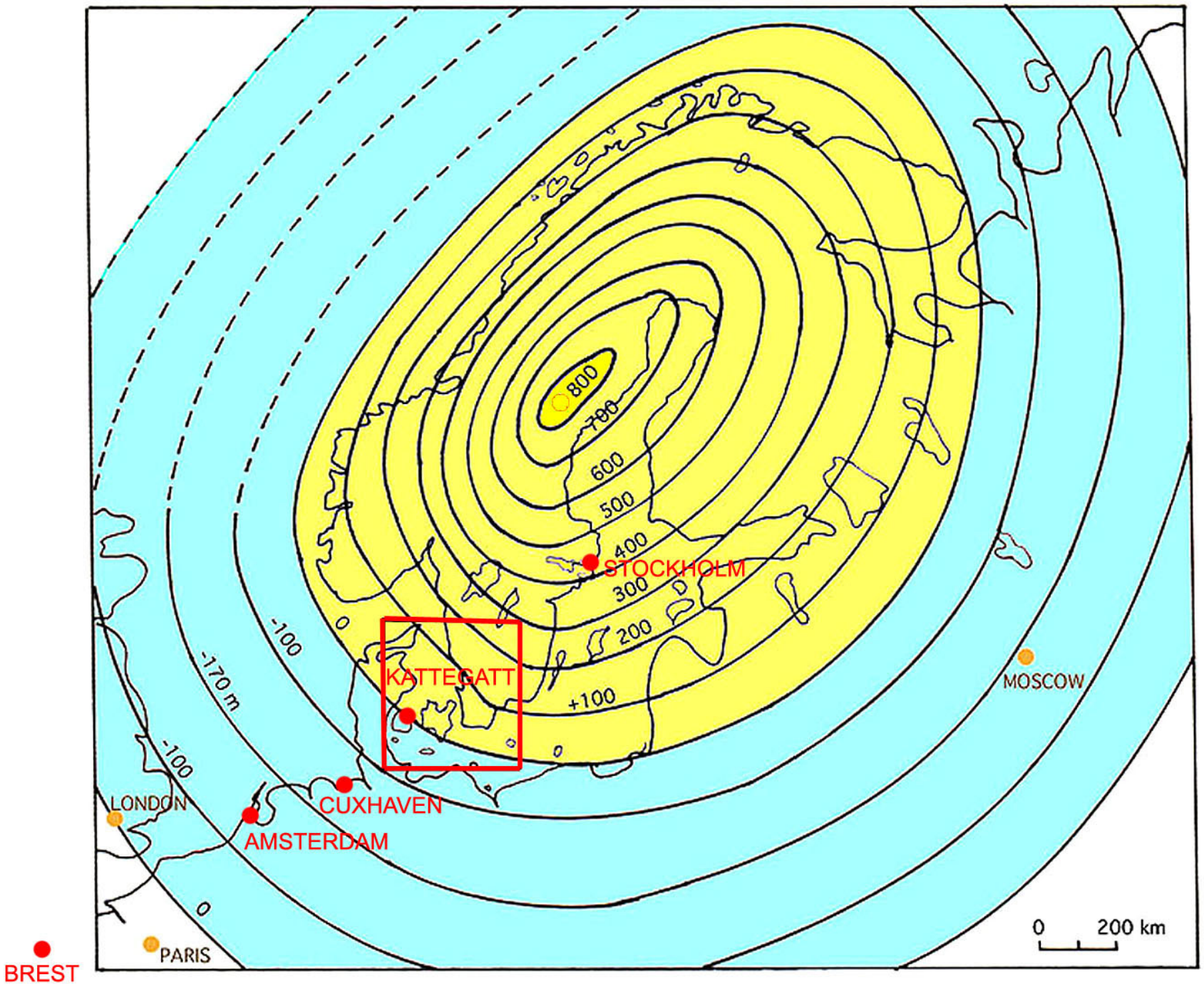
1.

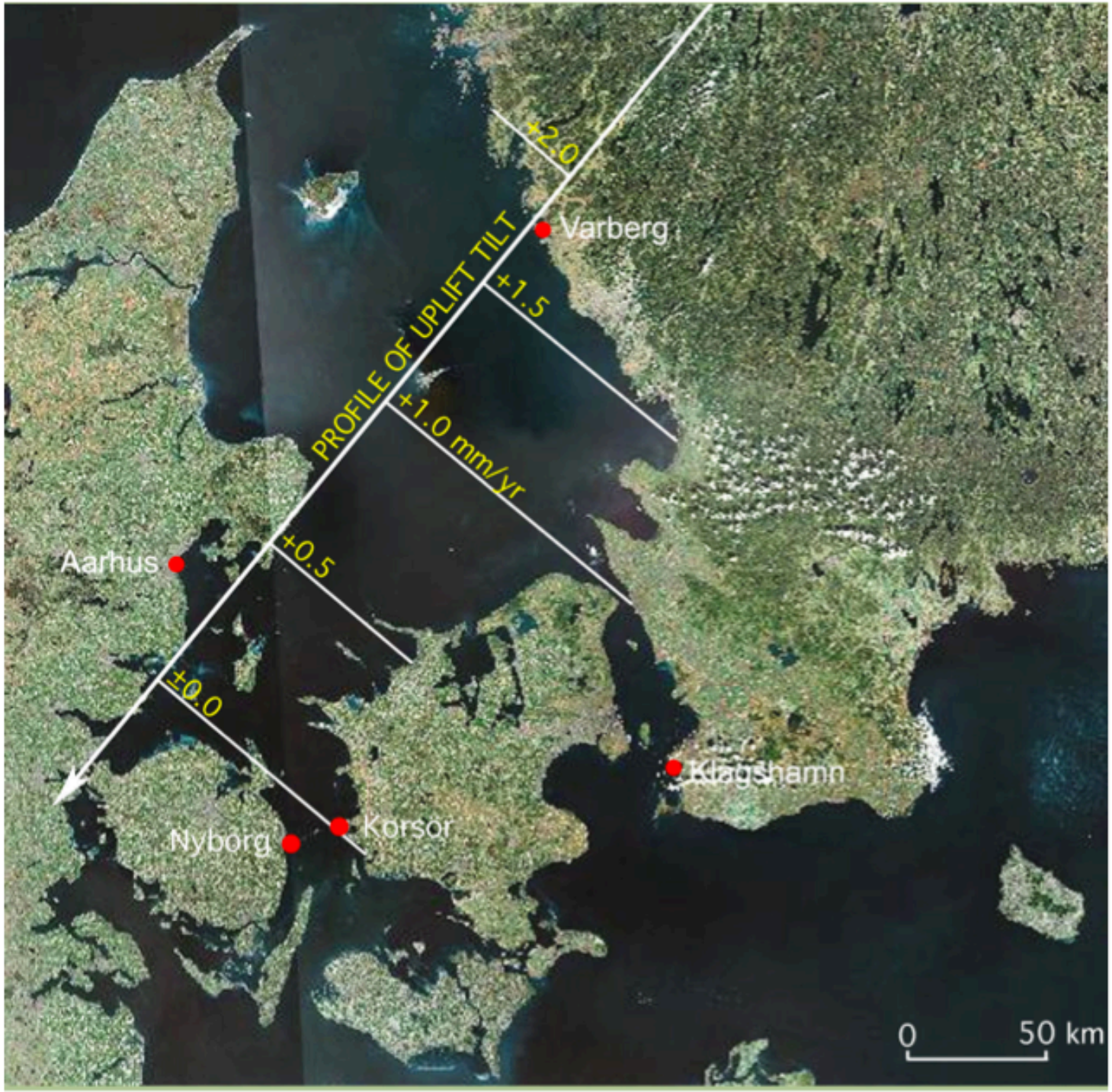
The test areas in NW Europe:

The Kattegatt Sea

The Stockholm area

The North Sea coasts


800
700
600
500
400
300
200
+100
0
-100
-170 m
-100
0
STOCKHOLM
KATTEGATT
MOSCOW
LONDON
AMSTERDAM
CUXHAVEN
PARIS
BREST
0
200 km



The Kattegatt Sea

Here the uplift in the is known in great details. The location of the zero isobase (or axis of tilting) has remained stable for 8000 years in the Great Belt area. Knowing the rate of absolute uplift and the relative sea level in the five tide gauge stations used (red dots), **the eustatic factor can be determined with very high precision at +0.9 mm/yr** (Mörner, 2014b).

RSL	Isostasy	Eustasy
0.86	1.75	0.89
0.60	0.30	0.90
0.63	0.28	0.91
0.81	0.00	0.81
1.01	-0.10	0.91

In mm/yr for
last 125 yrs

3.1 The Kattegatt Sea

Sea-level data preserved along the northwest European coasts—uplifted around Fennoscandia and subsided along the North Sea coast—provide a unique database for the definition of the eustatic component. This was quite successfully done for past sea-level change in the Late Glacial and Holocene (Mörner, 1969, 1971, 1973, 1980). Having established the isostatic uplift (in Fennoscandia) and subsidence (in the North Sea coast) in great detail, we are also able to handle the delicate issue of present to future sea-level changes in a much better way than elsewhere in the world (Mörner, 2014b).

The Kattegatt Sea (an embayment between the North Atlantic and the Baltic) is probably the best test area in the world for regional eustasy (Mörner, 2014b). We have a closely determined and dated shoreline spectrum of the last 14,000 years (Mörner, 1969). A constant direction of tilting and isobase system cover an area of about 300 × 250 km. Laterally the area is bounded by faults and lineaments beyond which there are changes in the uplift geometry (Mörner, 1969). The zero isobase (ie, the boundary between uplift to the NE and subsidence to the SW) has remained stable in the Great Belt region for the last 8000 years (Mörner, 1973, 2014b), as illustrated in Fig. 12.4.

Knowing the crustal component of uplift (Fig. 12.4) and having the measured tide gauge values (red dots in Fig. 12.4), it is easy to determine the eustatic component (cf. Mörner, 2014a, Table 1): the value is 0.9 mm/year over that last 125 years.

The details are as follows: R − I = E; ie, Relative sea level − Isostasy = Eustasy (Mörner, 2014a,b, 2015f):

Nyborg	+1.01 ± 0.16	−0.1	+0.91
Korsör	+0.81 ± 0.18	±0.0	+0.81
Aarhus	+0.63 ± 0.11	+0.28	+0.91
Klagshamn	+0.64 ± 0.40	+0.3	+0.94
Varberg	−0.86 ± 0.16	+1.75	+0.89

The Stockholm area

Stockholm has the second longest tide gauge record in the world.
The rate of absolute glacial isostatic uplift is closely defined at **4.9 mm/year**
(Mörner, 1973).

The present tide gage record gives a mean rate of relative sea- level changes of
3.8 mm/year.

Consequently, the eustatic component
can be firmly set at 1.1 mm/year sea-level rise
(Mörner, 2014).

The North Sea Region

The southeast coast of the North Sea is dominated by long-term, postglacial, crustal subsidence. In Amsterdam, the subsidence is known to be of a rate of 0.4 mm/yr (Mörner, 1973; Kooijmans, 1974), a value that should also apply for the Ijmuiden tide gauge. At Cuxhaven, the subsidence is estimated at 1.4 mm/yr (Mörner, 2010d, 2013). Brest, on the other hand, seems to represent a more or less stable area over the last 10,000 years (Mörner, 1969, 1973).

With the crustal component reasonably well established, we can assess the eustatic components from the tide gauge values presented by PSMSL (2014) as follows:

Cuxhaven	+2.53 ±0.13	–1.4	+1.14
Amsterdam	+1.5	–0.4	+1.1
Ijmuide	+1.47 ±0.30	–0.4	+1.05
Brest	+0.05 ±0.10	~0.0	+1.05

Therefore, it seems fair to conclude that **the eustatic component** of the North Sea region has been in the order of **1.1 ±0.5 mm/yr for the last 100-150 years**.

Message to the COP24

The regional eustatic component in the Northwest European area is
a modest rise
of +1.1 mm/year

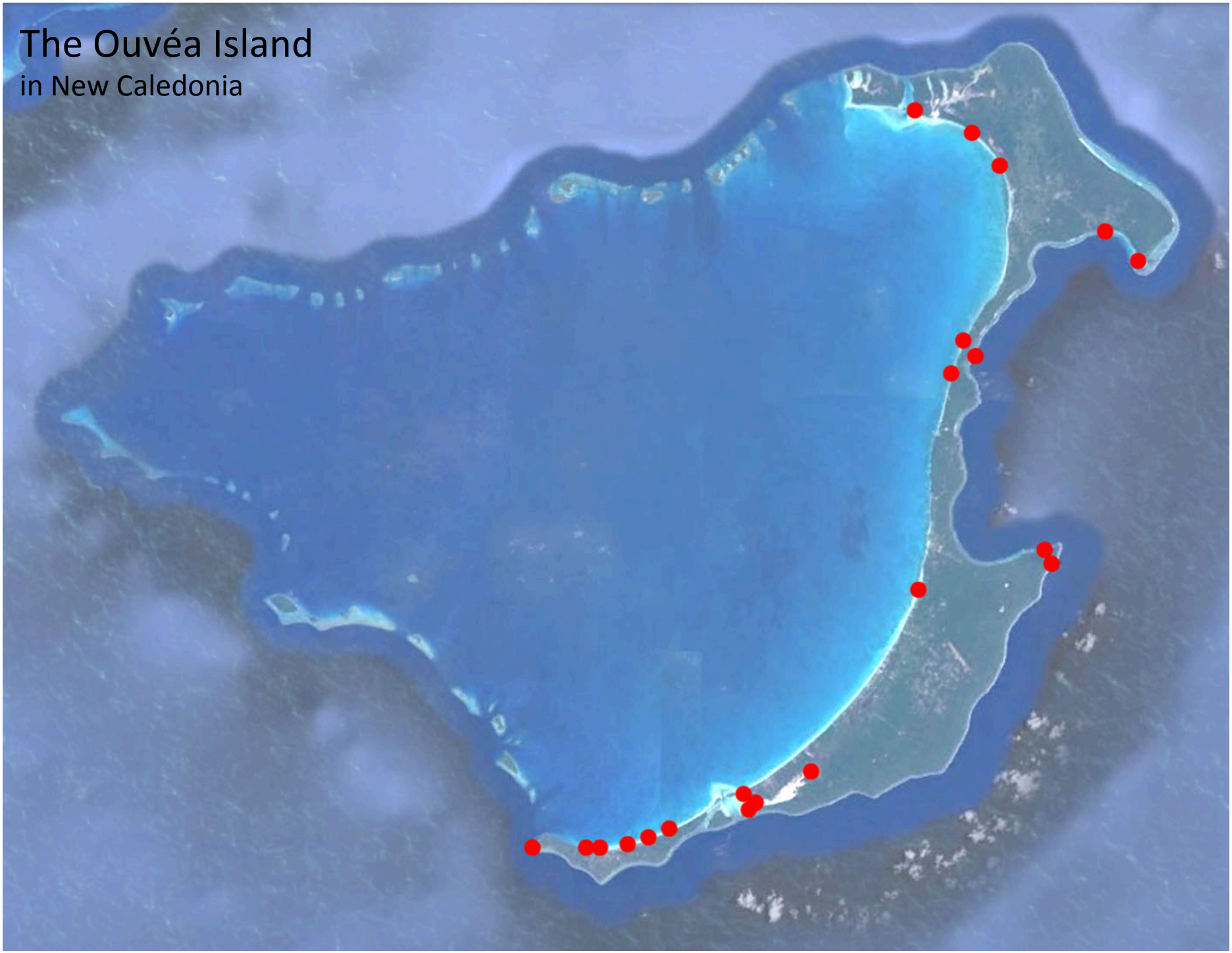
We can allow for a margin of error of ±0.2 mm/yr

+1.1 ±0.2 mm/yr

If you at the COP24 meeting claim higher values,
You are simply wrong

2.

New data from New Caledonia:


The Ouvéa Island
in New Caledonia

This was my Sea

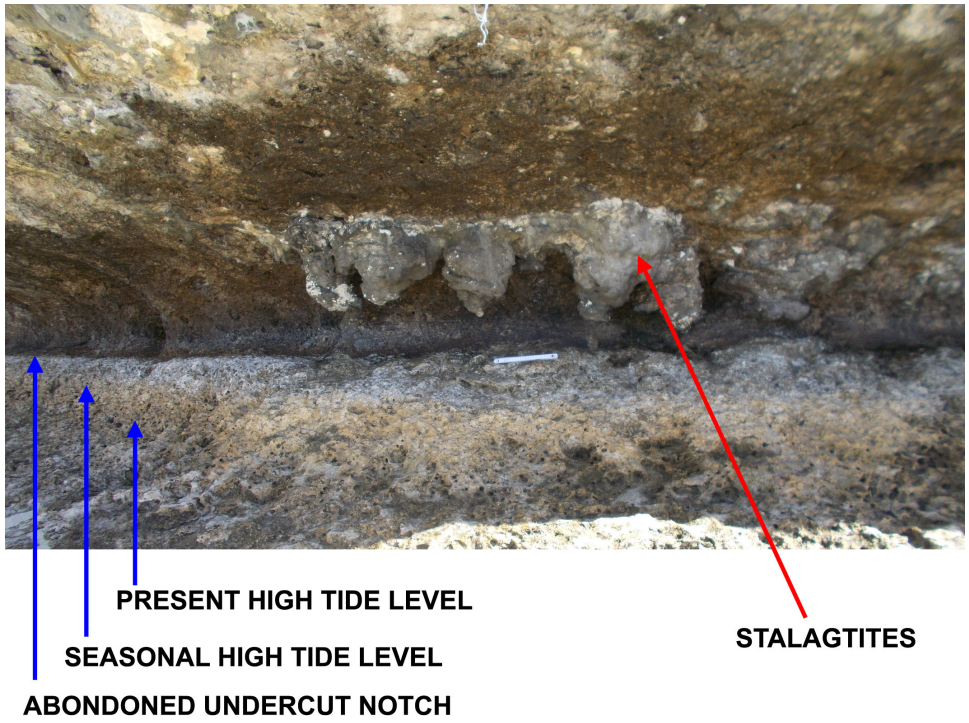
And this was my home
and research station
right at the shore


Lekiny Cliff
+30
+22
+13
+8-9
+4
+1

A sub-recent shore level at +70 cm

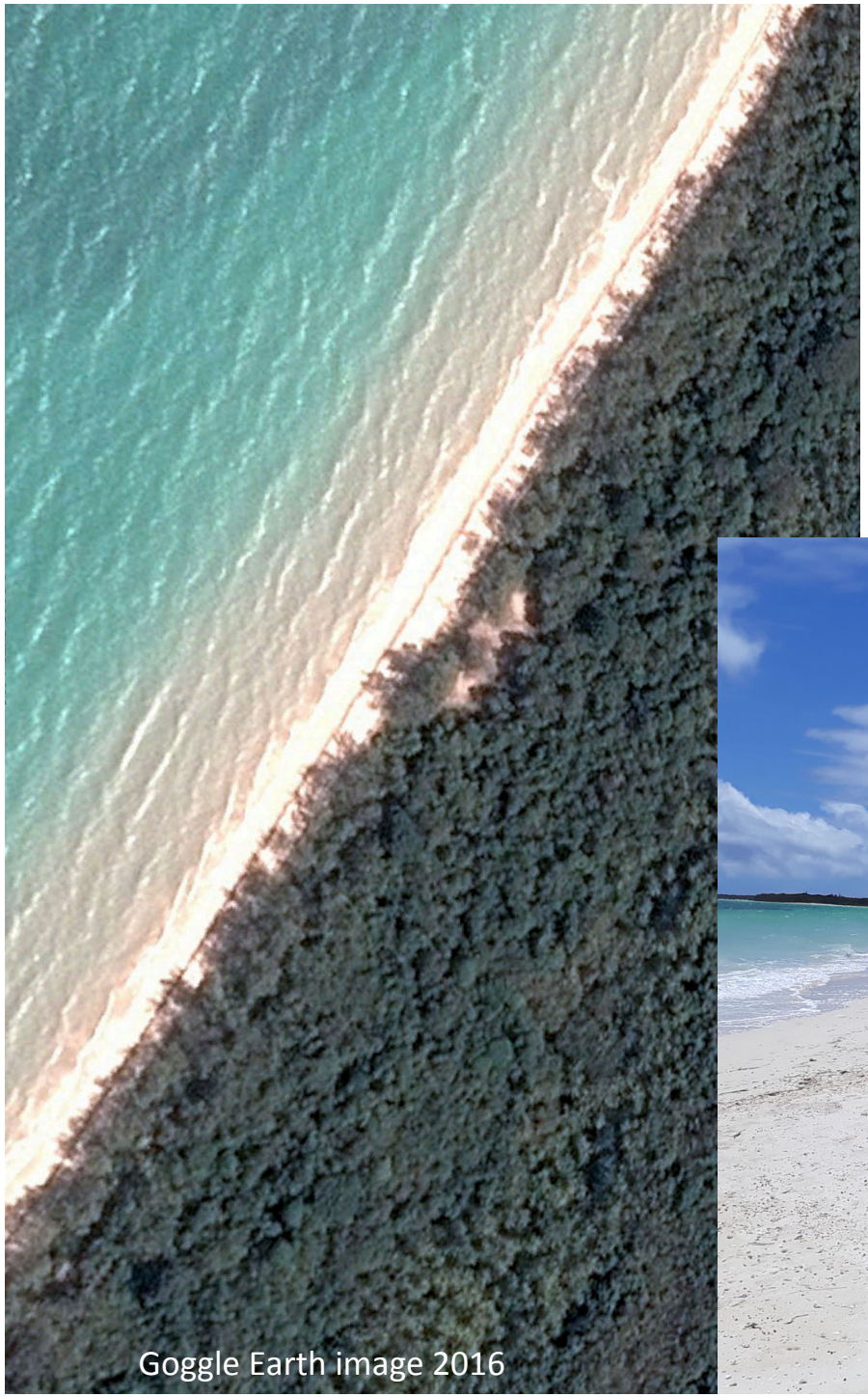
+150 cm old and weathered shore
+70 cm rock-cut platform (sub-recent)
±0 cm present HTL with undercut notches

The +70 cm shore
here represented by an abandoned shore with shore caves and undercut notches
There are also numerous examples of a 70 cm higher sandy shore level (now overgrown).
The +70 cm shore must be of sub-recent age.
A correlation with the +70 cm shore level in Fiji, which dates from the 1700th century, seems obvious.



The present undercut notch (in Lekiny Cliff)

is composed by a notch no longer in active erosion
and a present HTL 20 cm below with active new notch erosion 40 cm below
In one place there are small stalactites in the roof, indicating that the notch is no longer under active erosion, which must imply a sub-recent sea level lowering
(just as documented in Fiji; Mörner & Matlack-Klein, 2017)



EVIDENCE

Absolute evidence of absence of an on-going sea level rise in Ouvéa

A new zone is added due to a sea level lowering of 5-10 cm in recent time.
(1) Present washing limit
(2) former washing limit & notch

Message to the COP24

Sea level changes are not at all as is being claimed by the IPCC.

There is no scientific base for claiming that sea level is rapidly rising (and maybe even in an accelerating mode).

The global changes are dominated by rotational eustasy: a modest rise in the north and stability in the equatorial region

The driving force is planetary beat on the Sun and the Earth-Moon system

CO2 should simply be left out as direct or indirect driver of sea level changes

3.

Global Eustasy – a Summary:

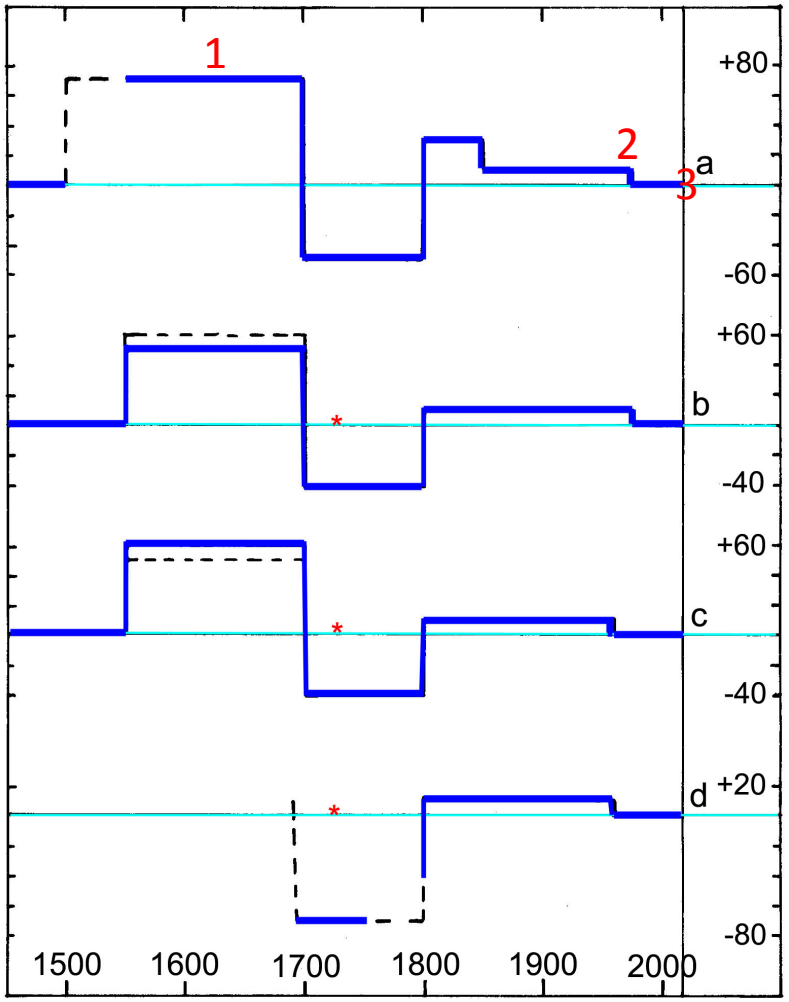
A dominance of rotational eustasy

and Lunar-tidal Super Cycles

(the 60 yr cycle and the cycles of Grand Solar Maxima & Minima)

driven by planetary beat

on the Sun and the Earth-Moon system



Sea level changes

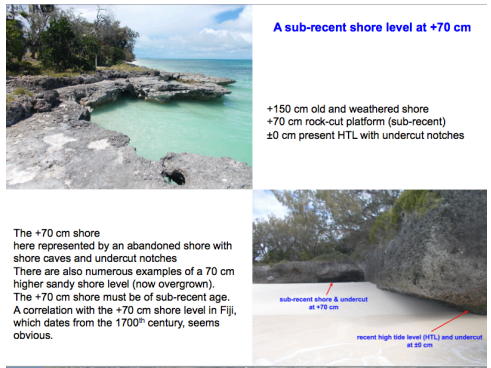
in the Fiji Islands

in the Maldives

in Goa, India

in Bangladesh

1



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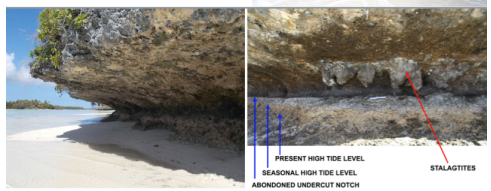

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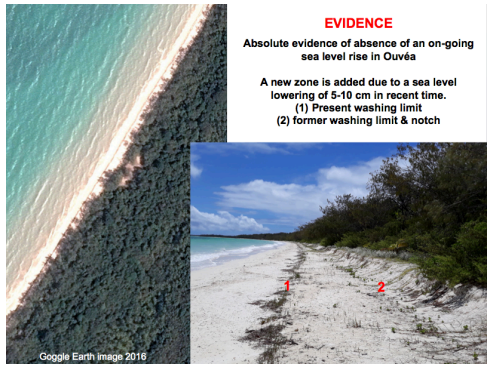
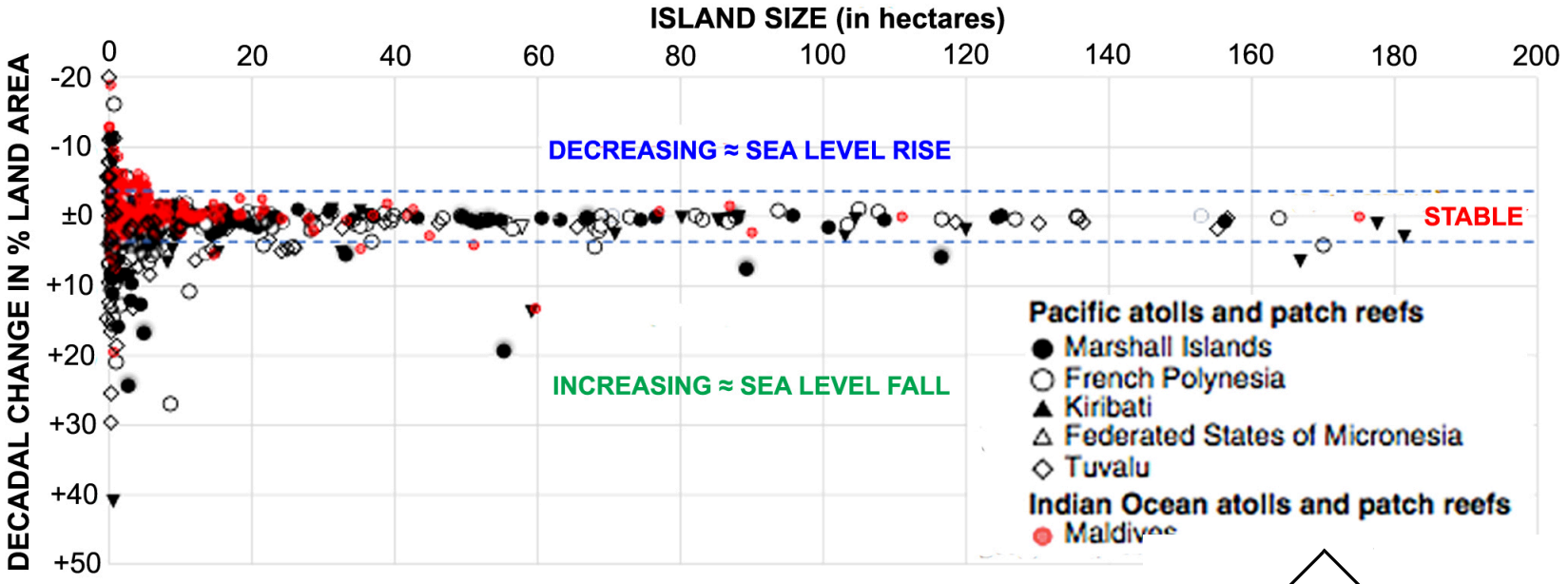
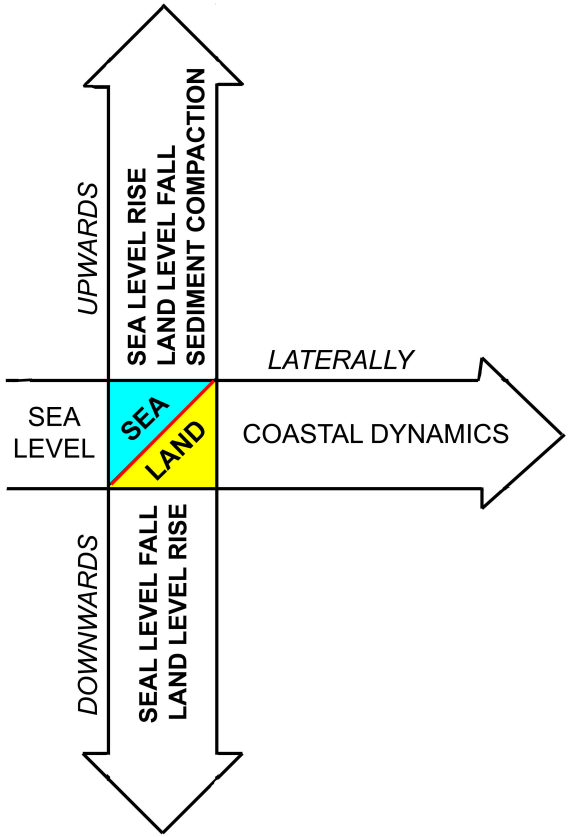
3

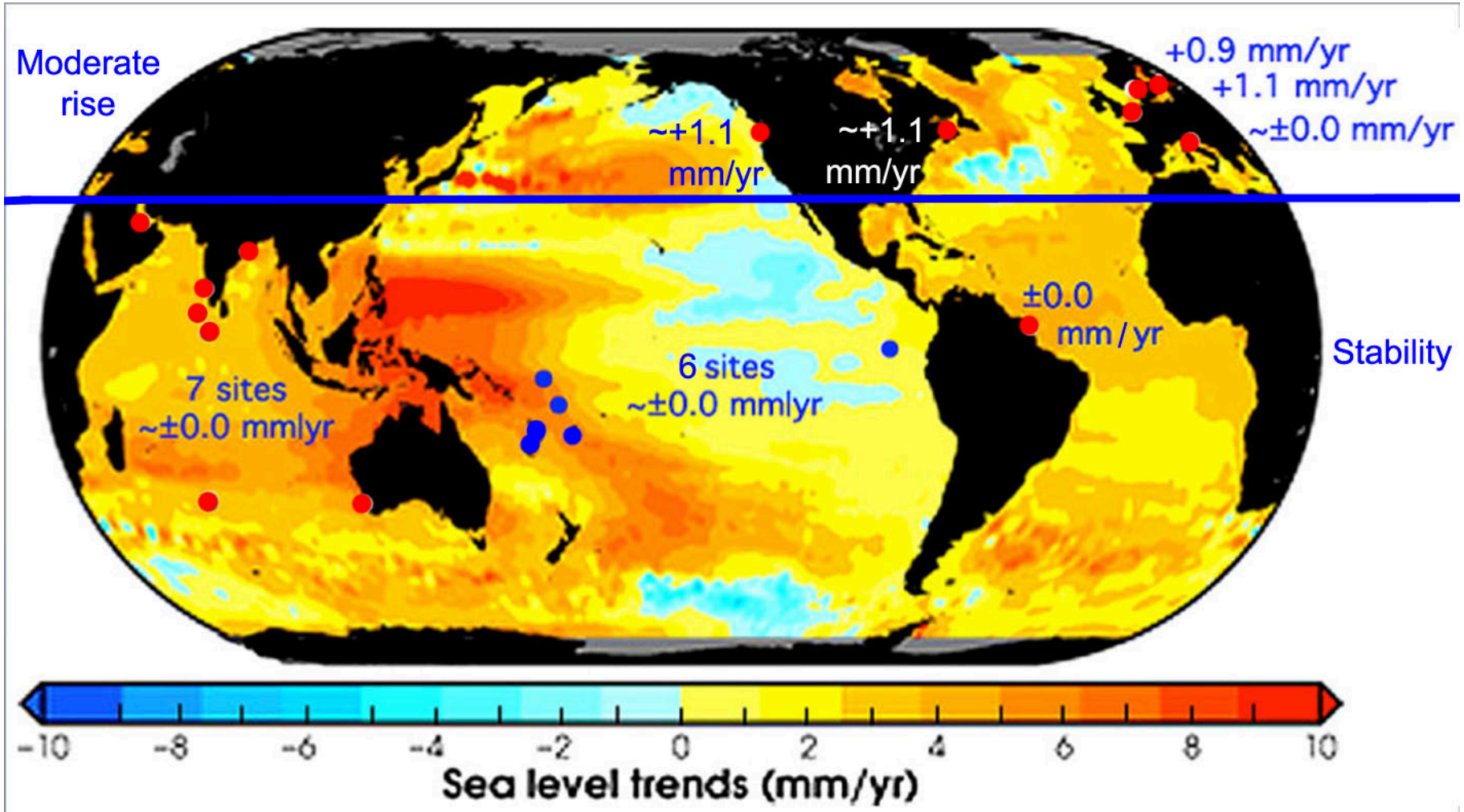


The new data from New Caledonia
are in good agreement with our records from Fiji:
a +70 cm high sea level in sub-recent time (1)
a sea level lowering of about 20 cm in sub-recent time (2)
besides, there was a 5 cm lowering in recent time (3)



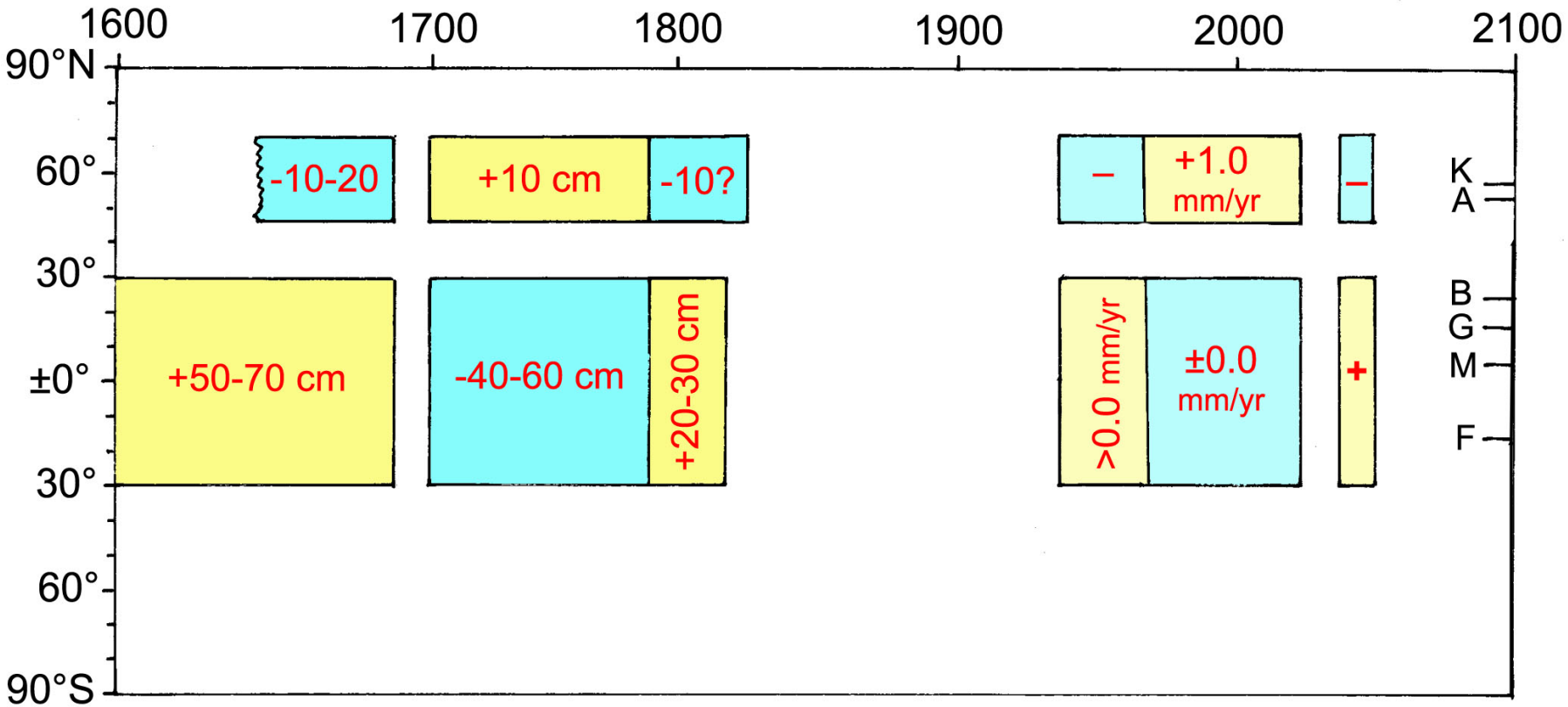
Changes in size of a very large number of atolls
(redrawn from Duvet, 2018)
indicate an overwhelming predominance of **stability**
implying coastal dynamic lateral changes
and a general absence of effect from sea level rise
in full agreement with our observations of
equatorial sea level changes of ±0.0 mm/yr
in the Pacific and Indian Ocean

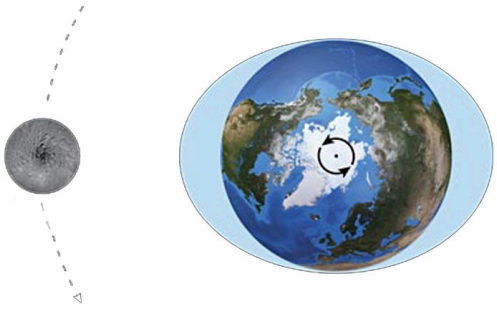


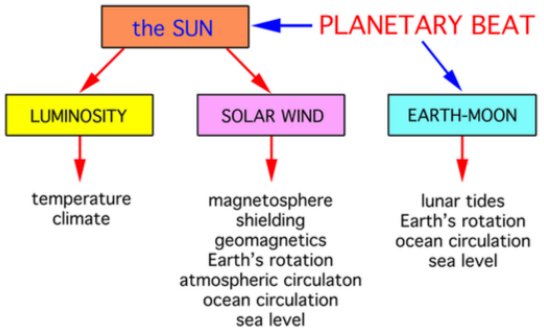


Key sites in the Indian Ocean, the Pacific, the Atlantic, the Mediterranean, the North Sea and the Kattegatt with regional eustatic sea level values plotted on the NOAA map of sea level changes from satellite altimetry. **At no point**, the observational facts agree with the satellite altimetry rates.

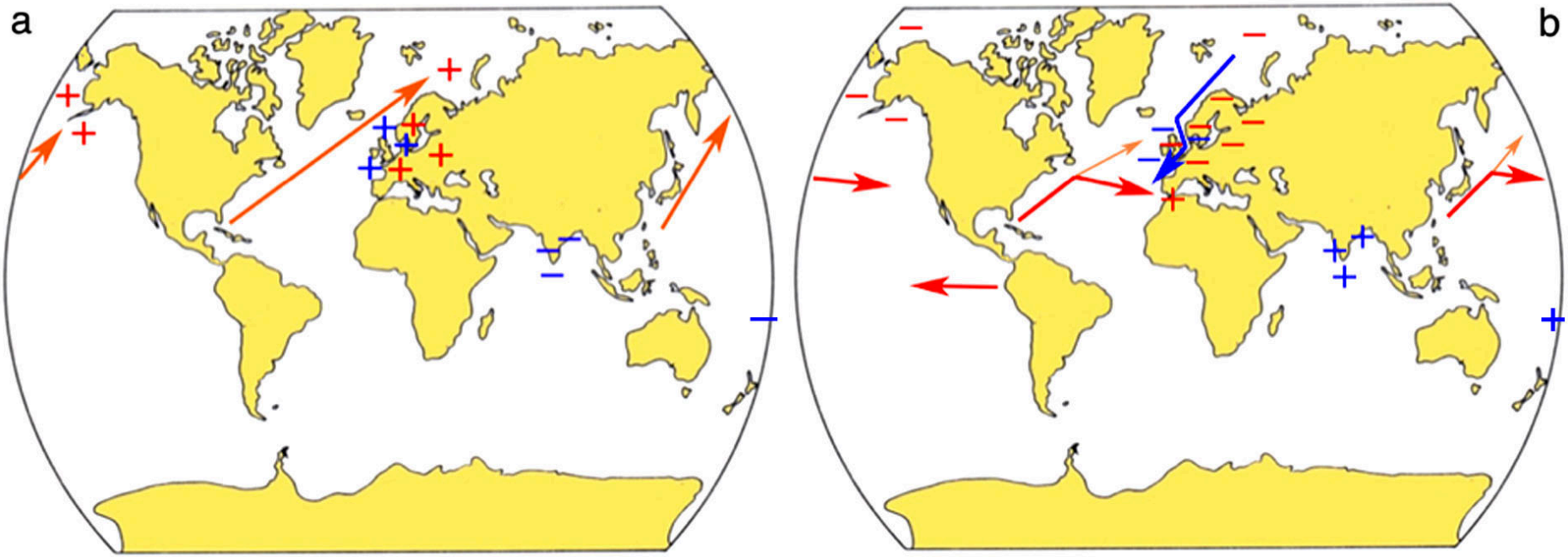
The North–South anti-correlations in sea level (rotational eustasy)
give evidence of *Lunar-Tidal Super Cycles* following the Grand Solar Cycles







Rotational Eustasy



Grand Solar Maximum

Rotation slows down

Gulf Streams to the NE

Sea rises in the north

Sea falls at the equator

Grand Solar Minimum

Rotation speeds up

Gulf Stream to the ESE

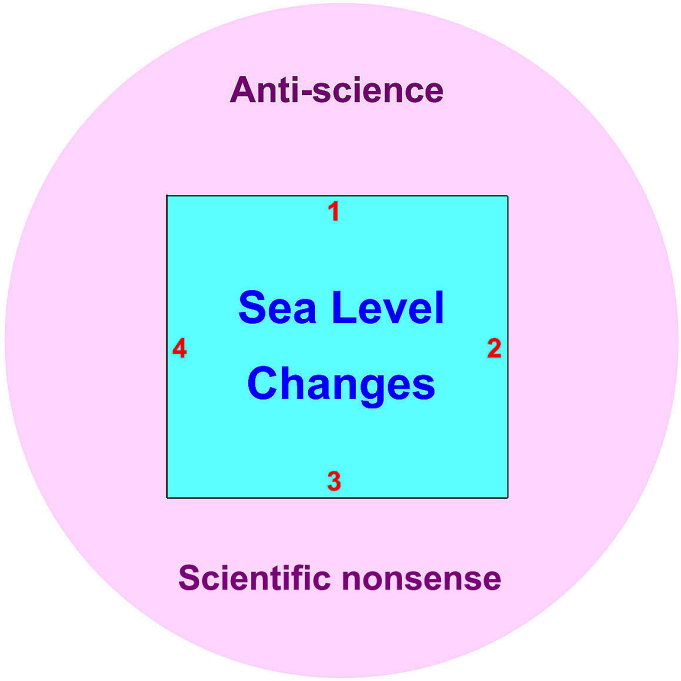
Sea falls in the north

Sea rises in the equator

We see a *Grand Solar Cycle Oscillation* (GSCO)

Message to the COP24

Watch out!
Much of what you are claiming falls well outside the frames of realistic sea level changes in the pink field of nonsense



Frames of realistic sea level changes:

1. physical laws
2. accumulate knowledge
3. observational facts
4. scientific/ethical principles

Outside the frames there is nothing but nonsense and anti-science to be found

The frames change with increased knowledge and observational facts.
All what is said, shown and claimed in this paper lie well within the frames of the blue box.
Very much of what IPCC and its proponents claim lie well out side the frames realistic sea level changes in the pink field of nonsense.

Finished

Many thanks for listening,
dear Sisters & Brothers of Climate Realism