Sea level changes

from past and present records to future estimates

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Leader of *the Maldives Sea Level Project* (2000-2009+)
Co-ordinator INTAS project on *Geomagnetism and Climate* (1997-2003)

most Changes have Pros and Cons

Global Warming in particular

But there is nothing good to come from
A Rapid Sea Level Rise

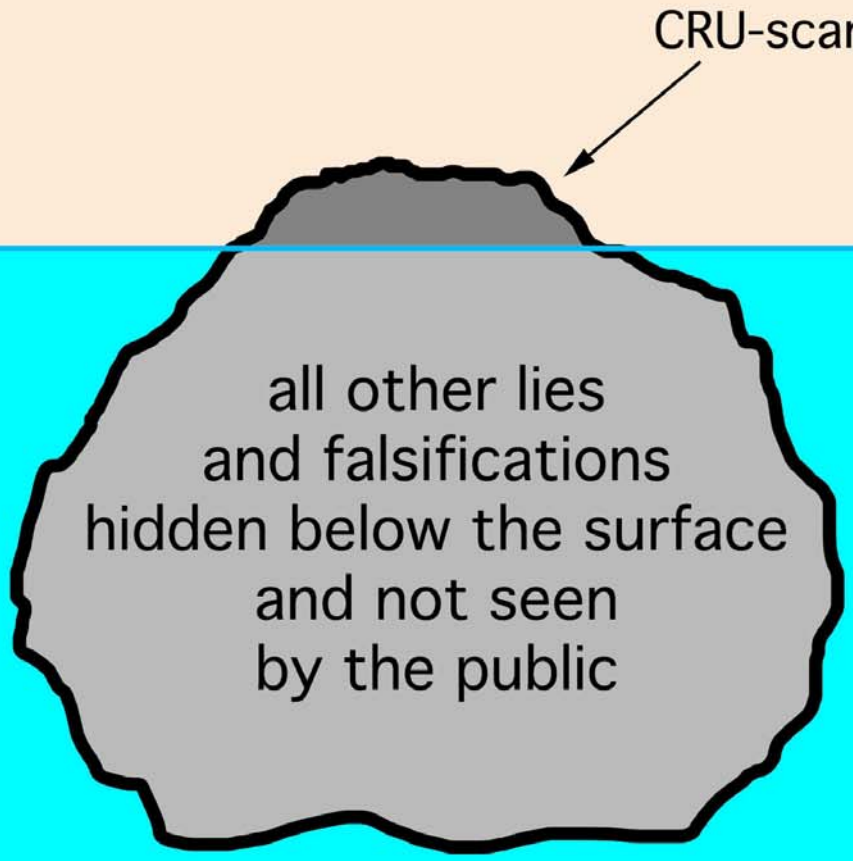
Therefore this is
the Only Real Threat

though, in fact,
Utterly Wrong !

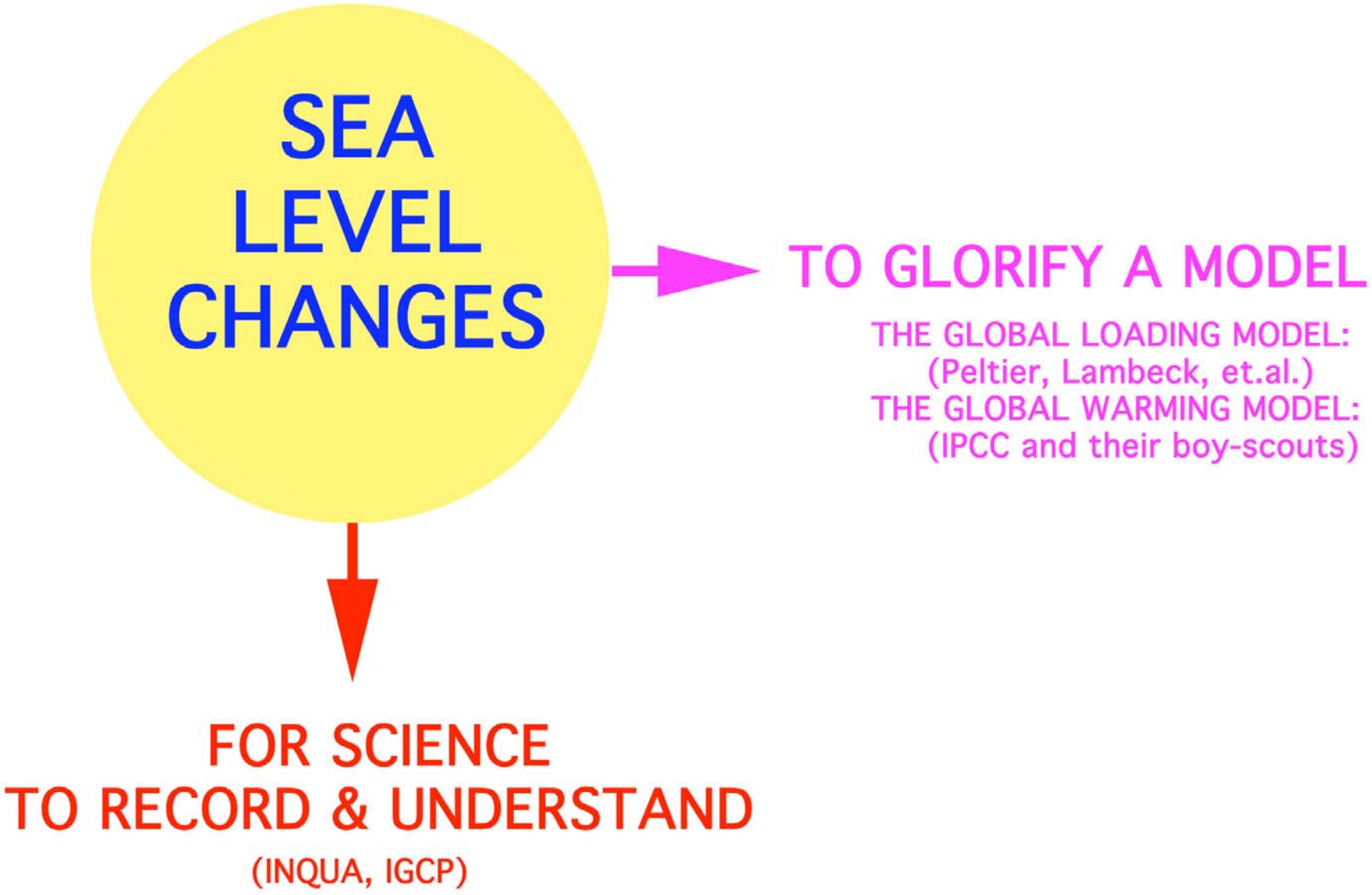
quod erat demonstrandum

the IPCC “iceberg of shame”

also called “climategate”

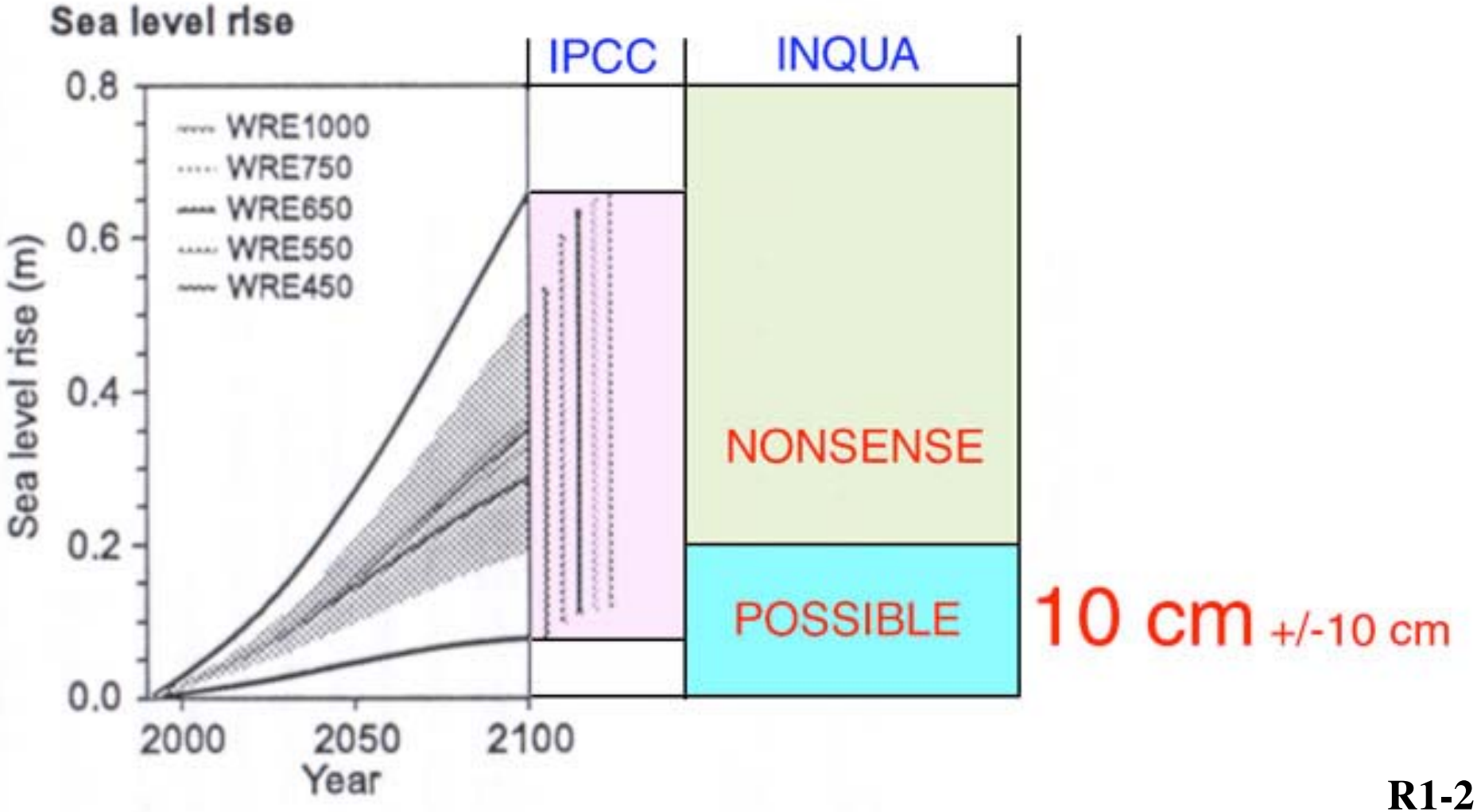


“The Greatest Lie Ever Told”


SEA
LEVEL
CHANGES
TO GLORIFY A MODEL
THE GLOBAL LOADING MODEL:
(Peltier, Lambeck, et.al.)
THE GLOBAL WARMING MODEL:
(IPCC and their boy-scouts)
FOR SCIENCE
TO RECORD & UNDERSTAND
(INQUA, IGCP)

The ”flooding scenario” of IPCC does not concur with observational sea level facts. Therefore, it must be called-off as a mistake.

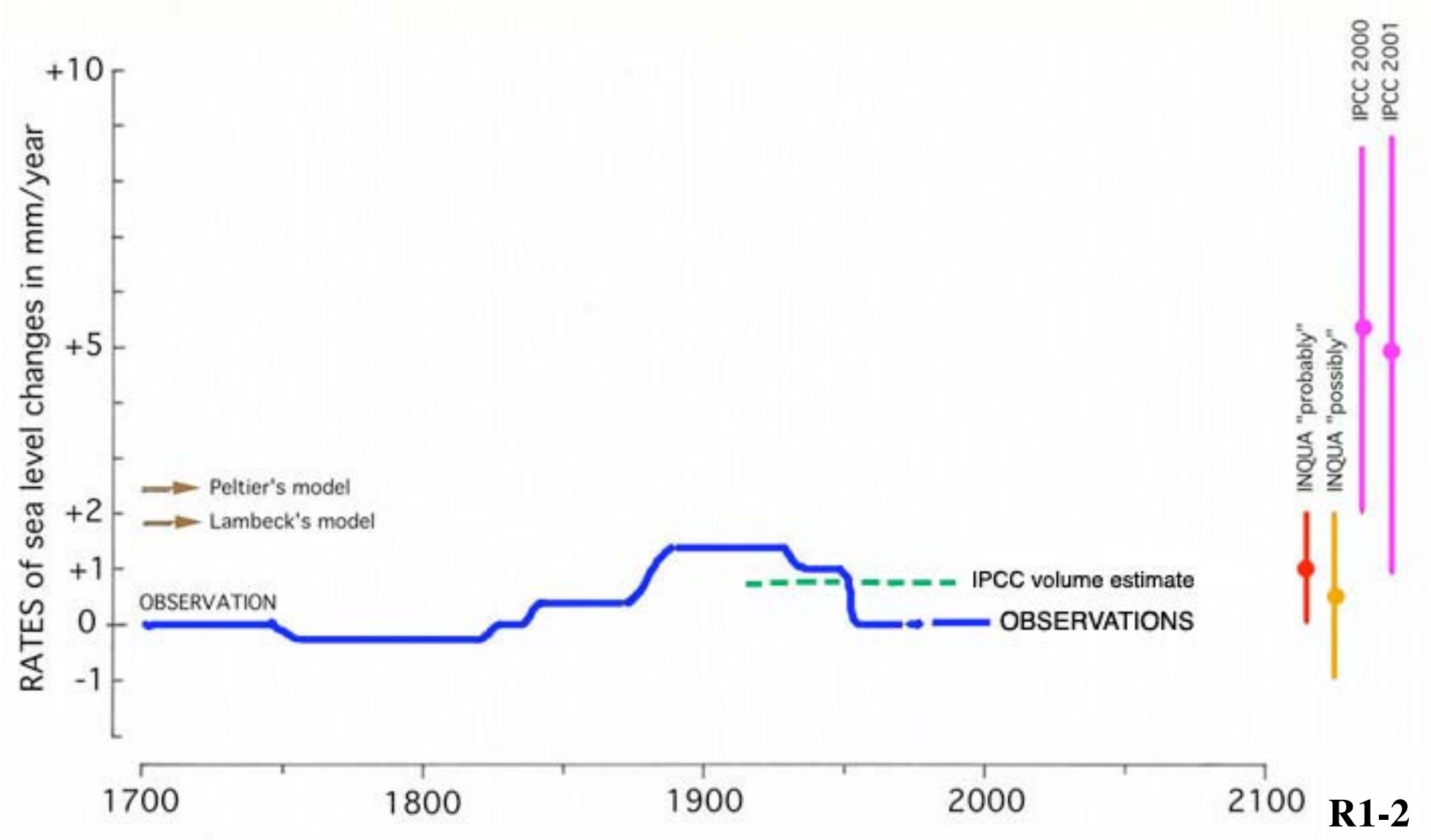
Today, we favour a 2100 value of +5 cm ±15 cm



R1-2

The combined observational records (in mm/year) for the last 300 years.

It shows **variations – ups and downs – but no trend**.
For year 2100, INQUA gives predictions in line with this record,
whilst the IPCC scenarios lie far above – way off – observational data



R1-2

How long can an ice cap exist before it is melted away ?

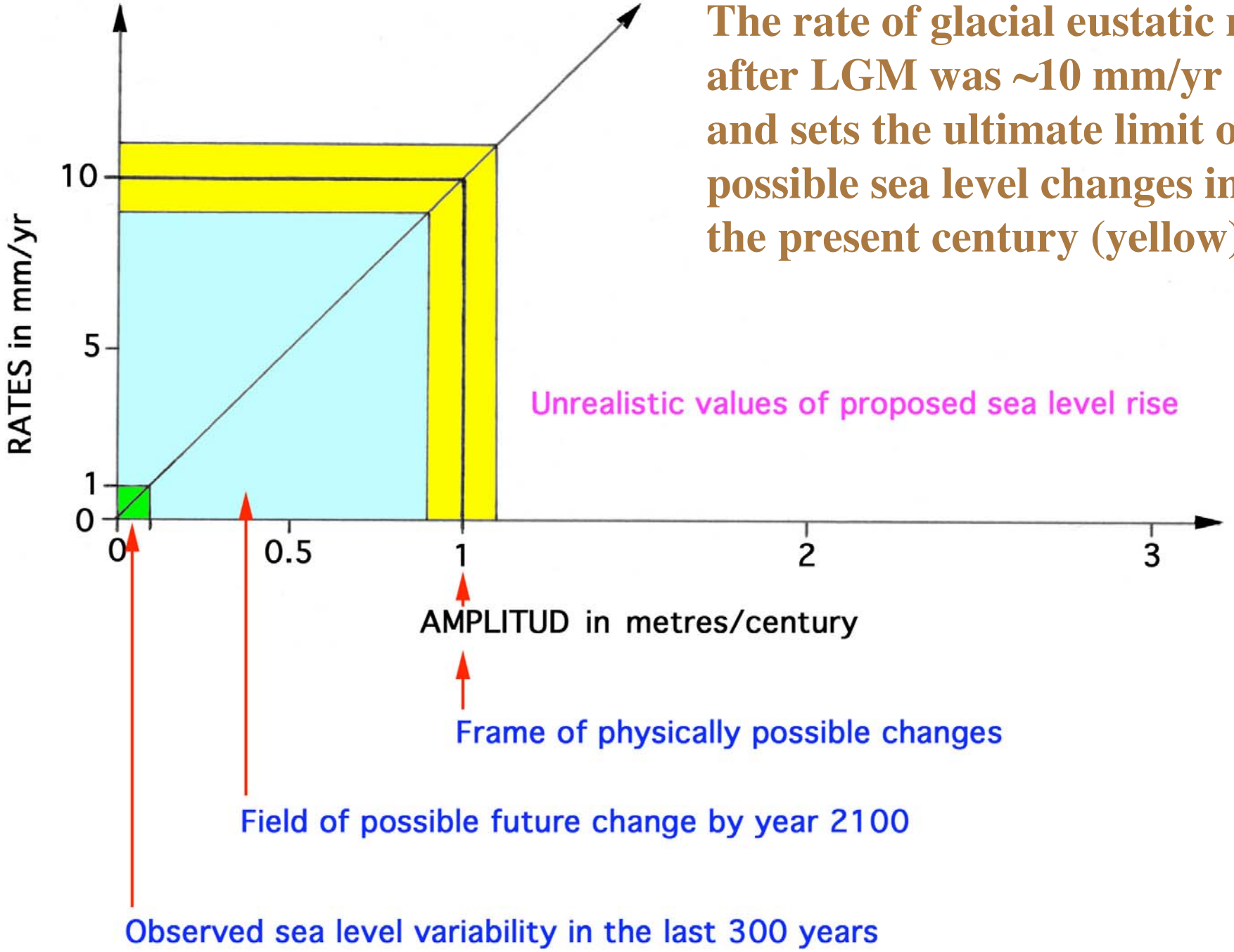
The answer is not blowing in the wind

The answer is many thousands of years

The melting of the Ice Age glaciers took 10,000 years

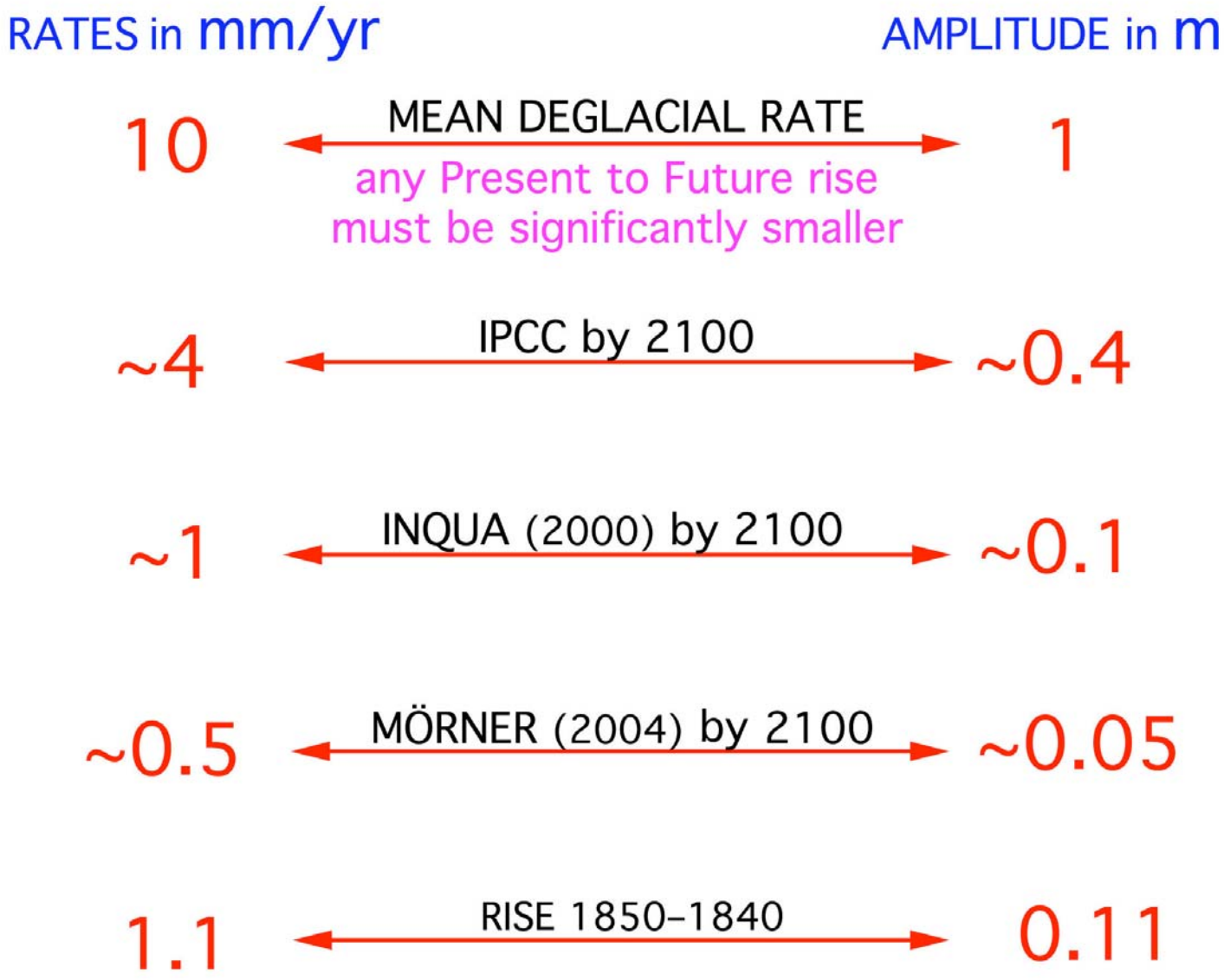
and the corresponding sea level rise was 10 mm/year (1 m/cy)

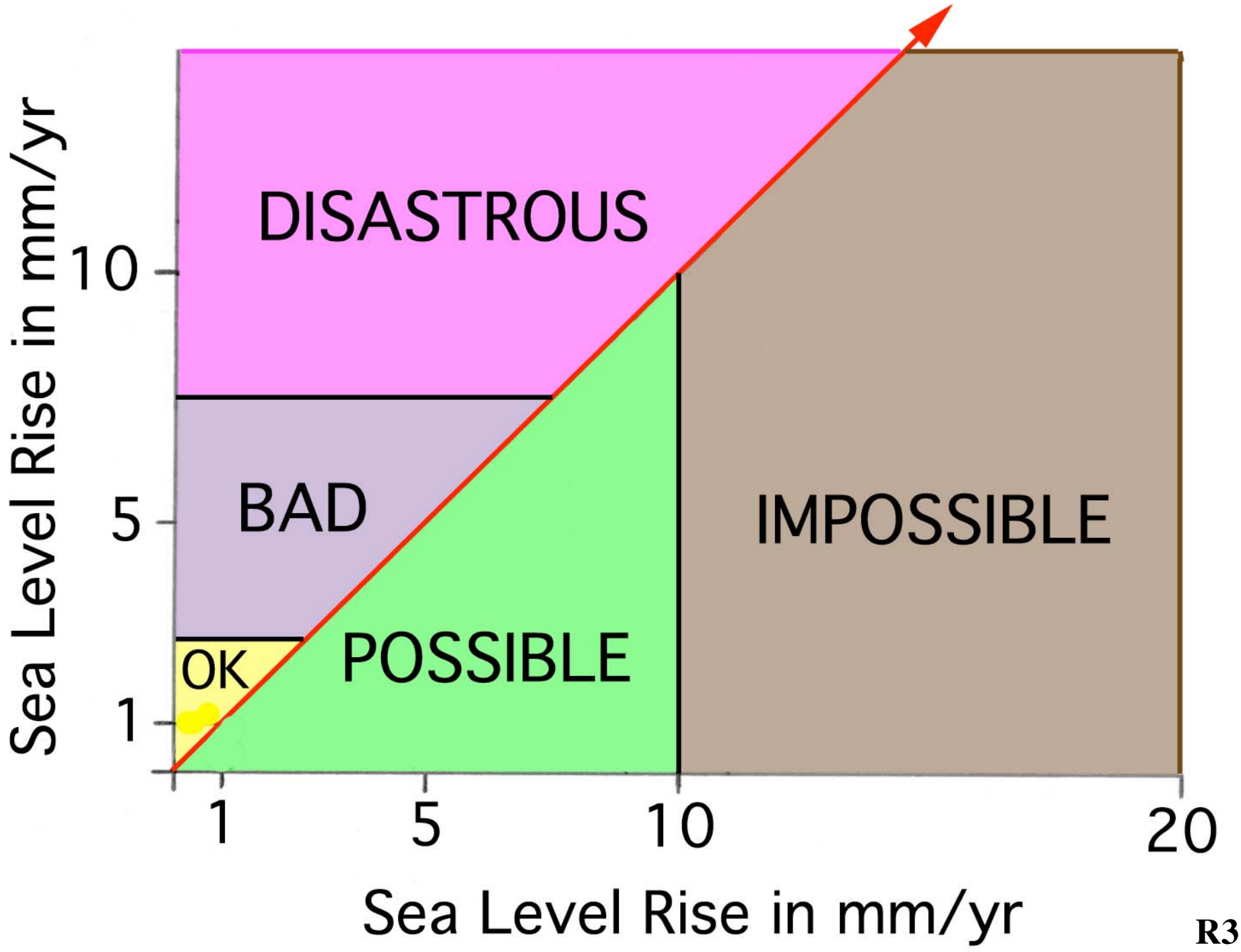
The rate of glacial eustatic rise after LGM was ~10 mm/yr and sets the ultimate limit of possible sea level changes in the present century (yellow).



R3

Sea Level Changes

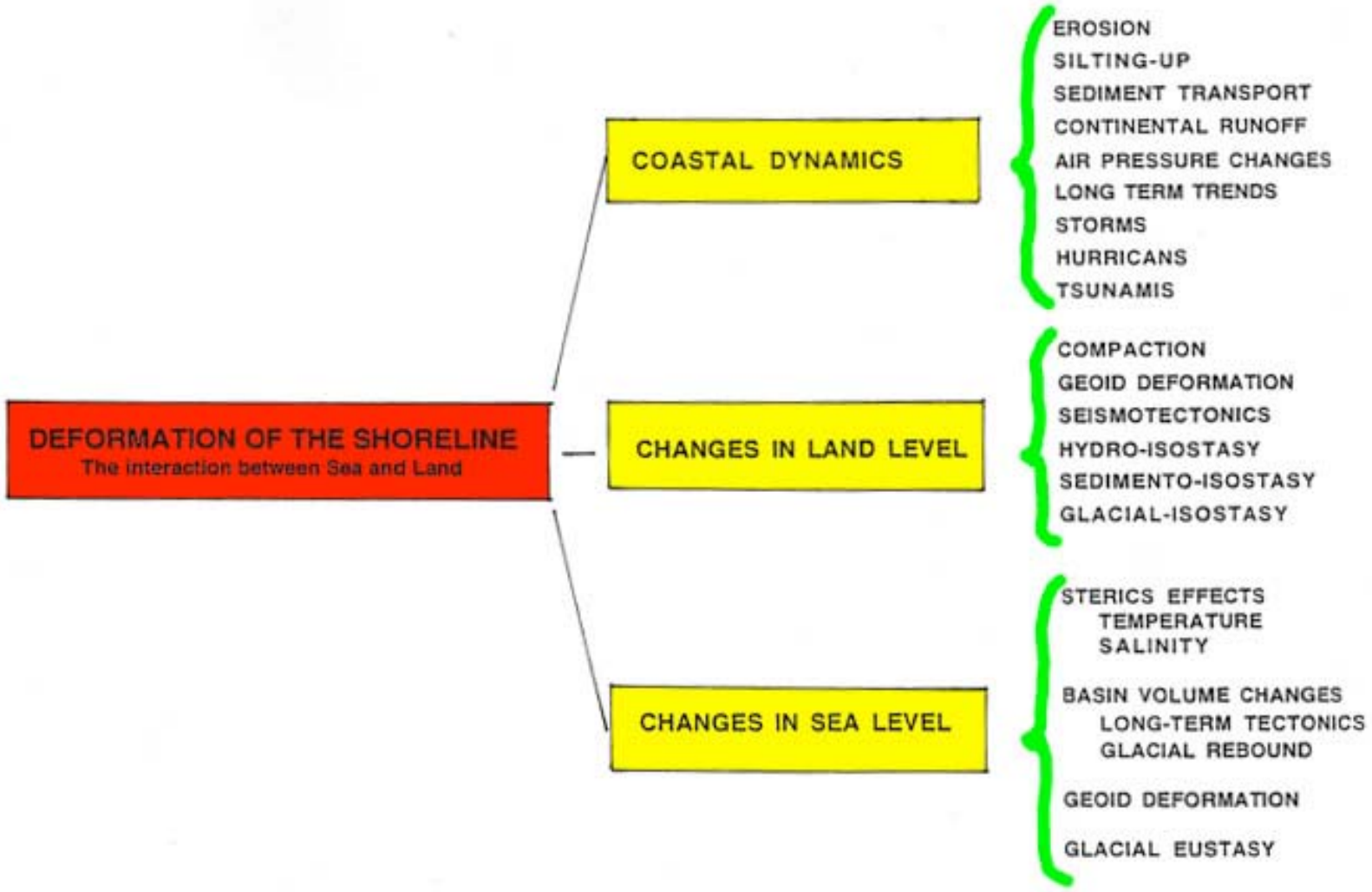



DISASTROUS
BAD
OK
POSSIBLE
IMPOSSIBLE
Sea Level Rise in mm/yr
10
5
1
1
5
10
20
Sea Level Rise in mm/yr

R3

OBSERVATIONAL FACTS

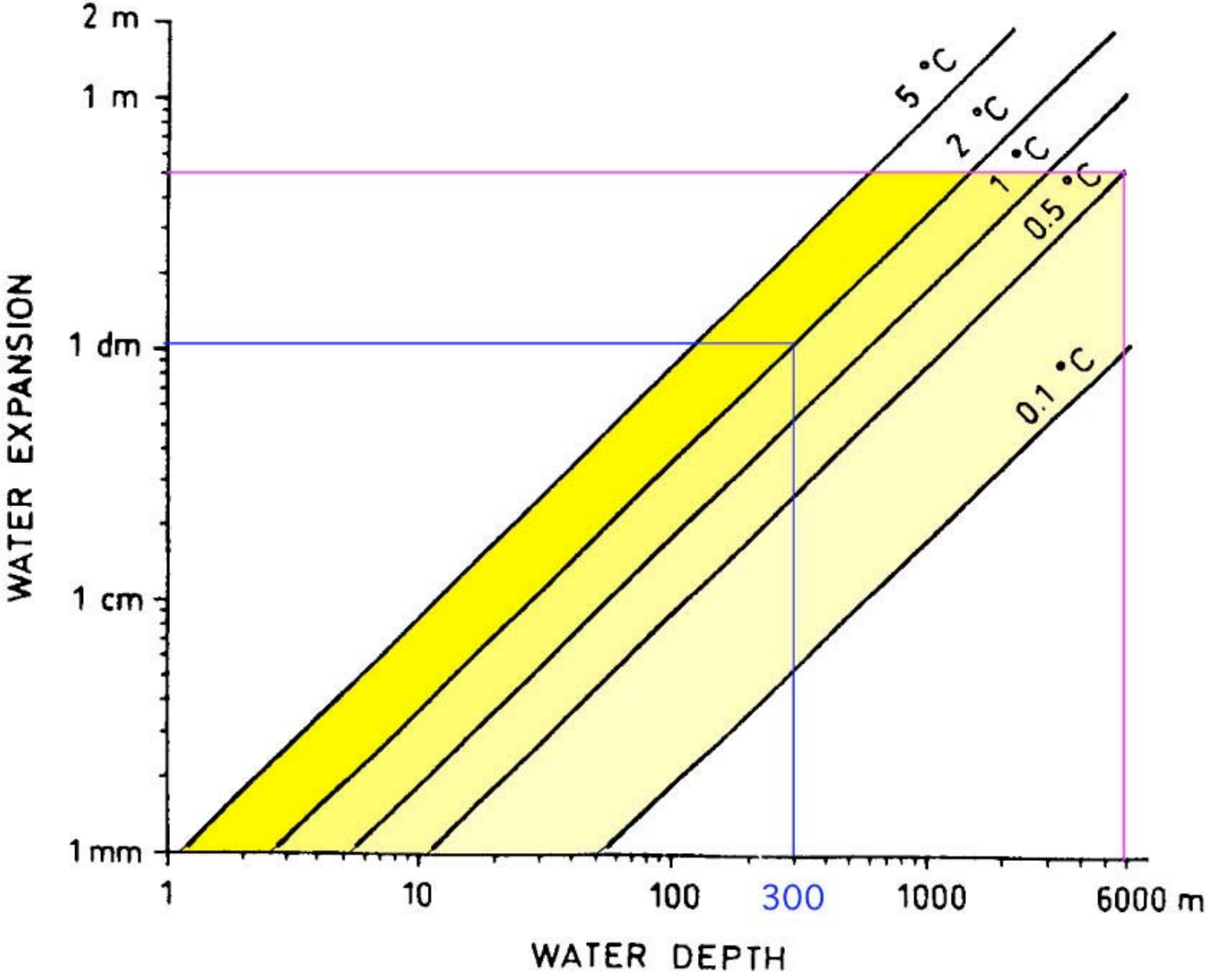
Numerous interacting factors control the stability of the shoreline



R2

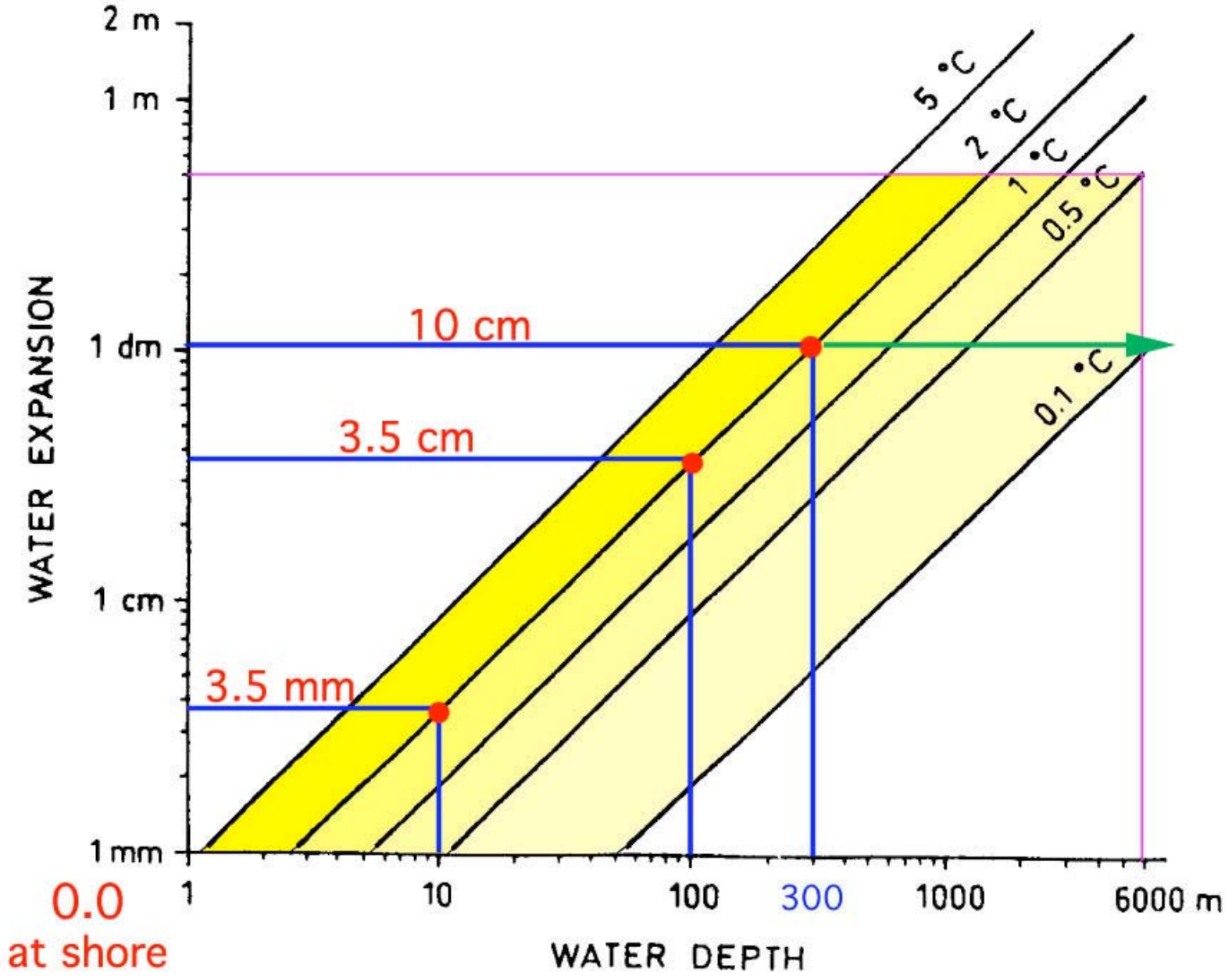
1.

Thermal Expansion



SHORE – SHALLOW WATER – SHELF – – – – – DEEP SEA

R4



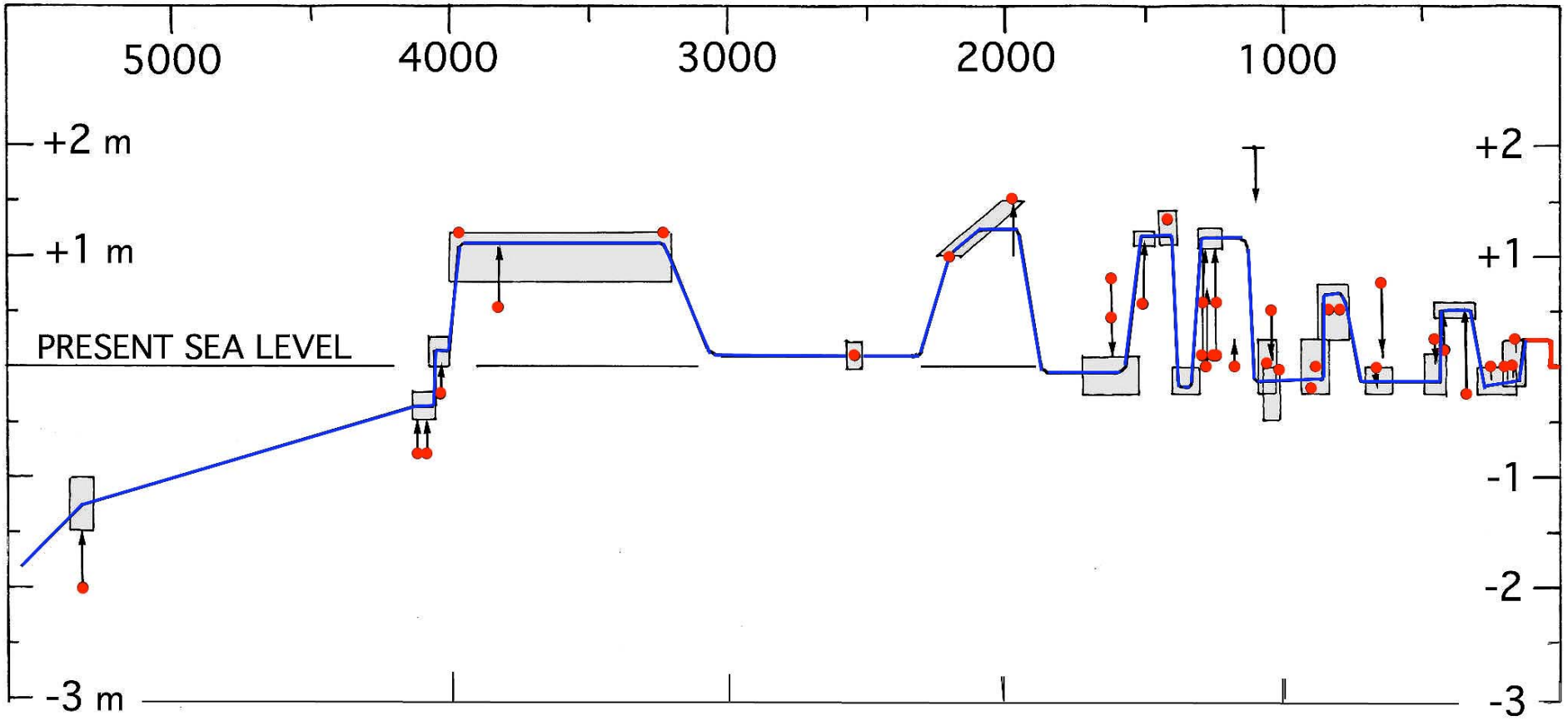
SHORE – SHALLOW WATER – SHELF – – – – – DEEP SEA

R4

2.

The Maldives

Doomed to be flooded in 50-100 years



The new sea level curve of the Maldives

recording a seven oscillations

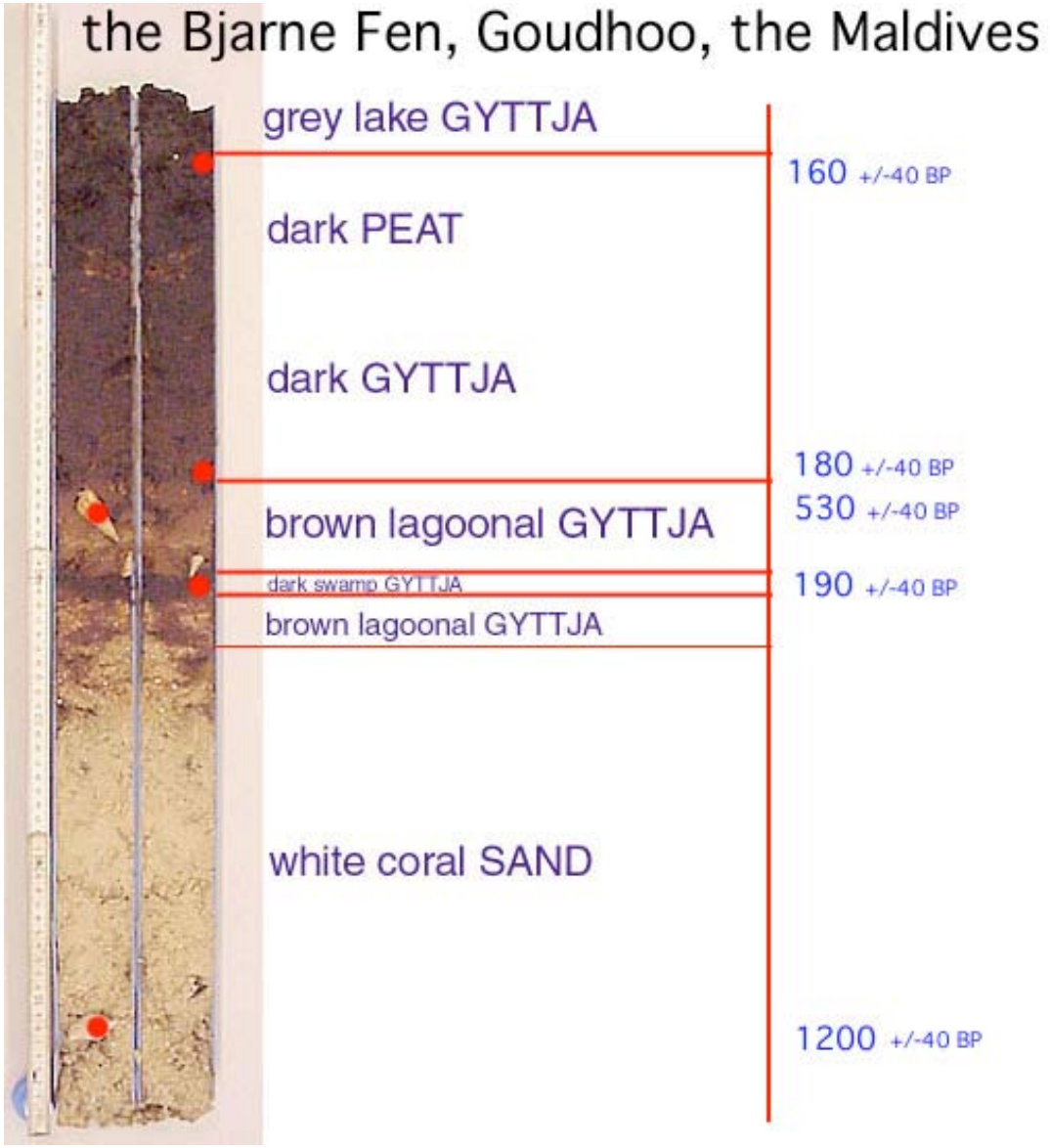
driven by the redistribution of ocean water masses

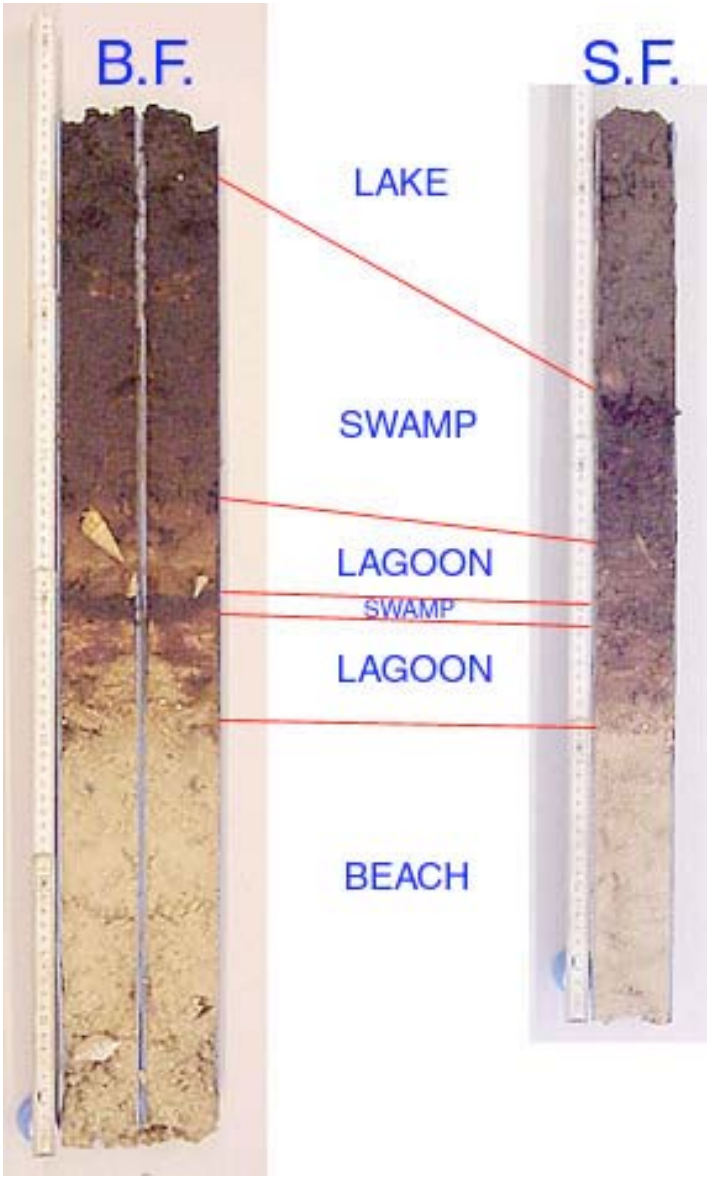
(from Mörner, 2007)

R5,2

Sea level oscillations in the last millennium (cores from two fens)

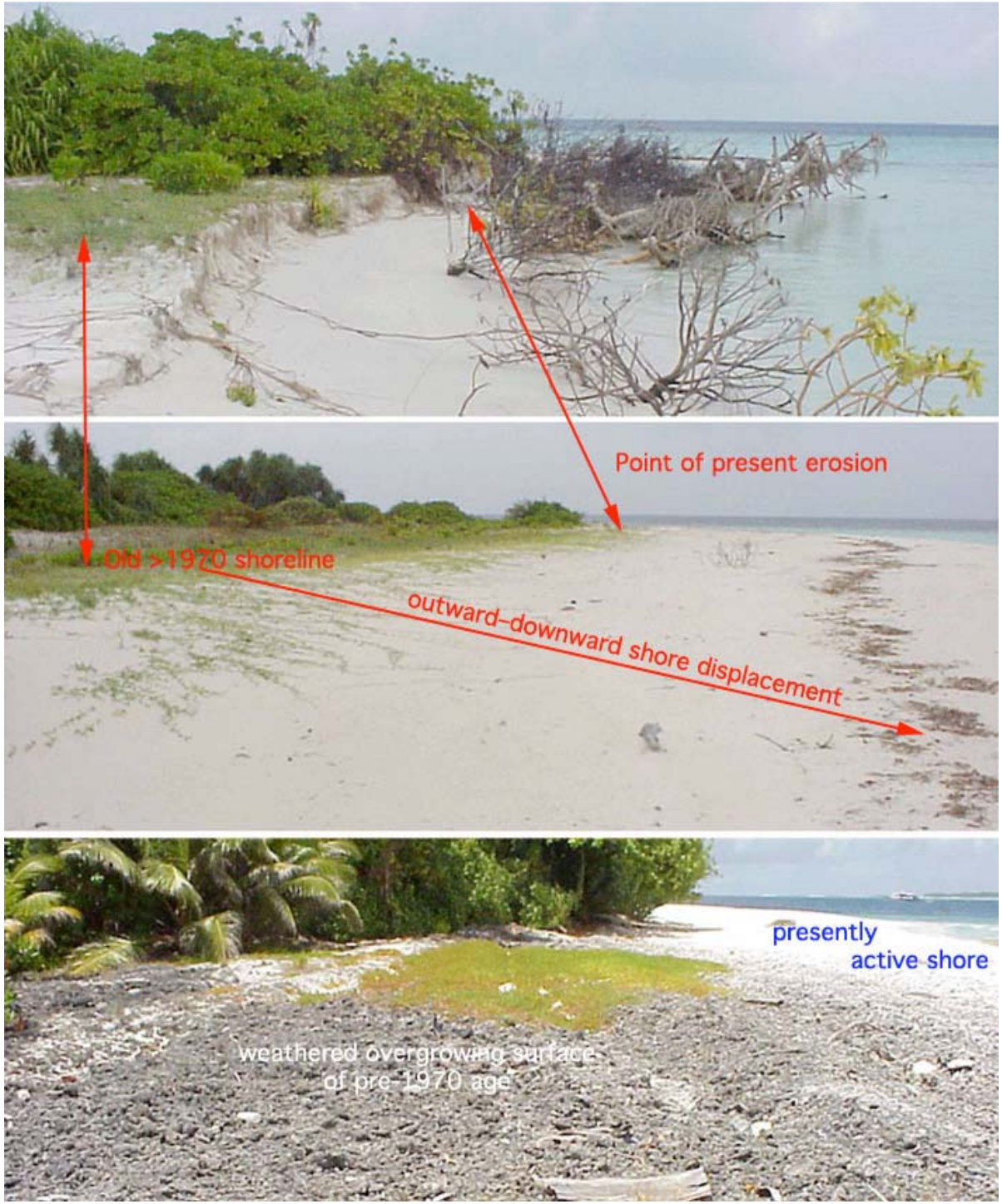
The 2 swamps became lakes in ~1790 and both dried up in ~1970





NB. Peat and shell dates differ by 350 years, a good measure of the local "sea correction"

R5



At ~1970

Sea Level fell some 20 cm

Causing erosion

with sand deposition

outward, downward

Leaving an old fossil shore and an old overgrewing surface of grey weathered corals.

The present shore

has remained stable

for ~30 years

The two laked on Goudhoo

dried up

R5,2

"Queen's Bath" (Hithadoo Island, Addoo Atoll)

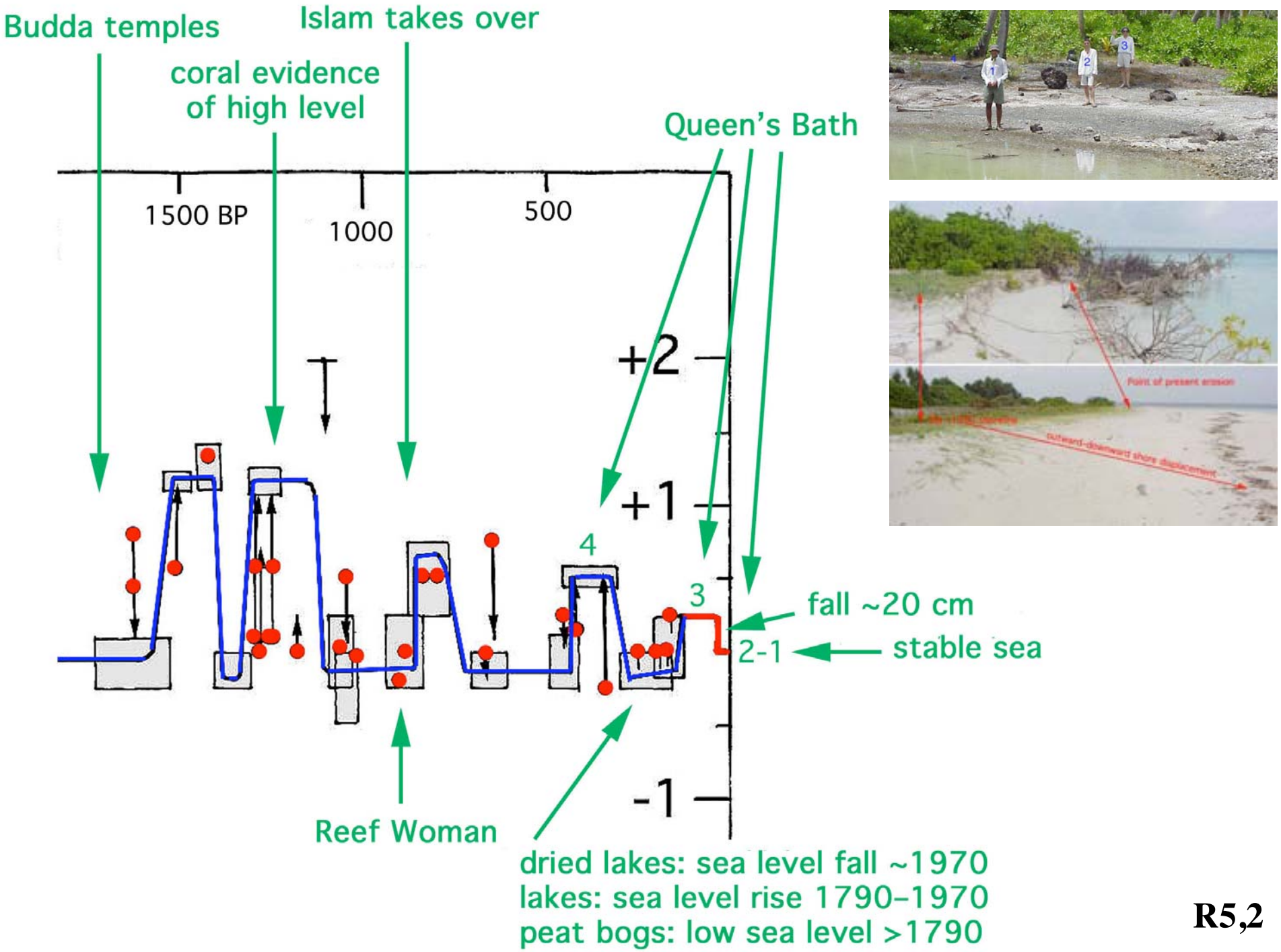
(4) Shore terrace 400 BP: +60 cm

(3) High-tide level 1790–1970: +20-30 cm

(2) High-tide level today

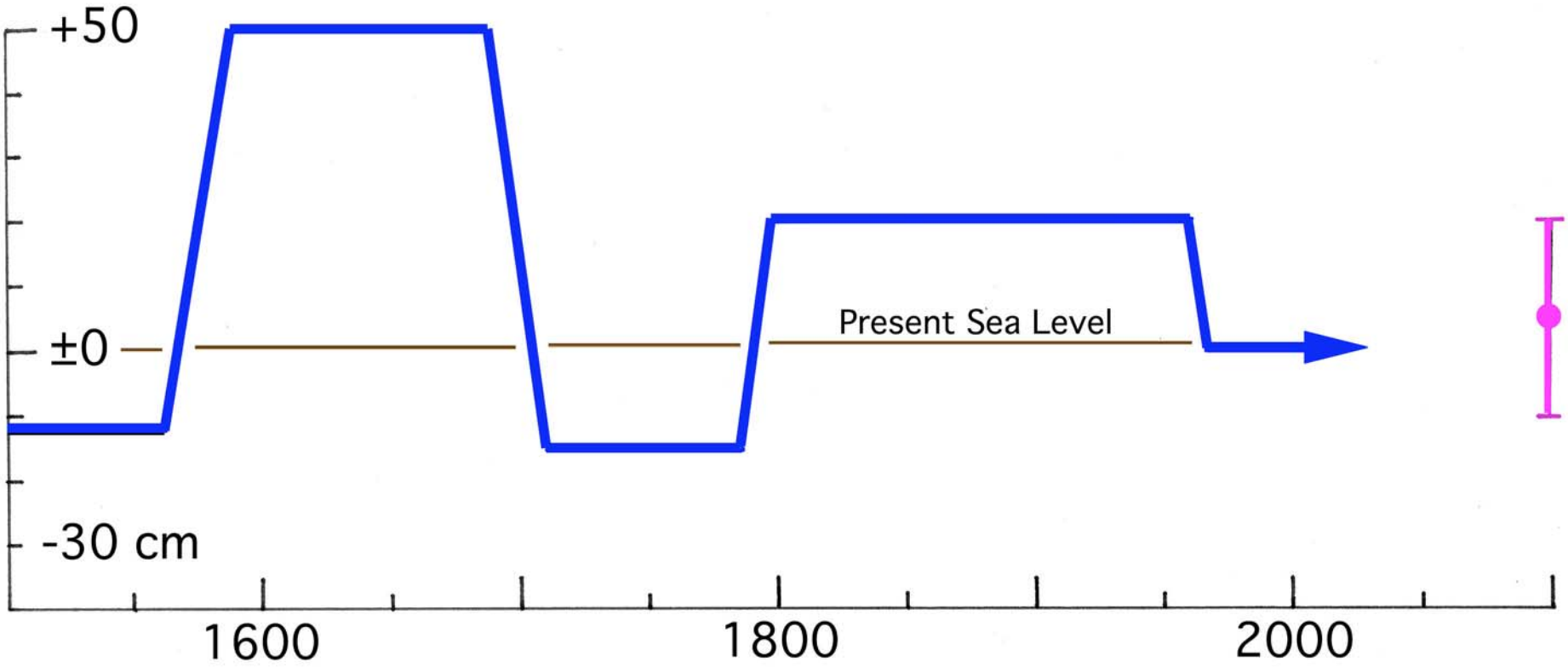
(1) Mean-tide level today

R5,2


Budda temples
Islam takes over
coral evidence
of high level
Queen's Bath
1500 BP
1000
500
+2
+1
-1
4
3
2-1
fall ~20 cm
stable sea
Reef Woman
dried lakes: sea level fall ~1970
lakes: sea level rise 1790–1970
peat bogs: low sea level >1790

R5,2

Sea level changes in the Maldives from 1500 to 2009 and 2100



No reasons for any alarm.

Sea level has been stable for the last 30 years.

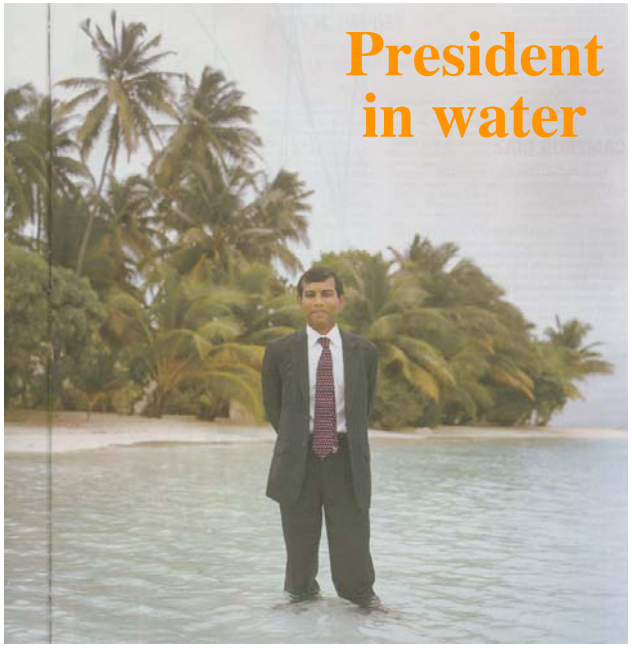
Maximum future change may be a return to a pre-1970 level

R6

The Viligili marker-tree indicating no sea level rise since the late 1940s

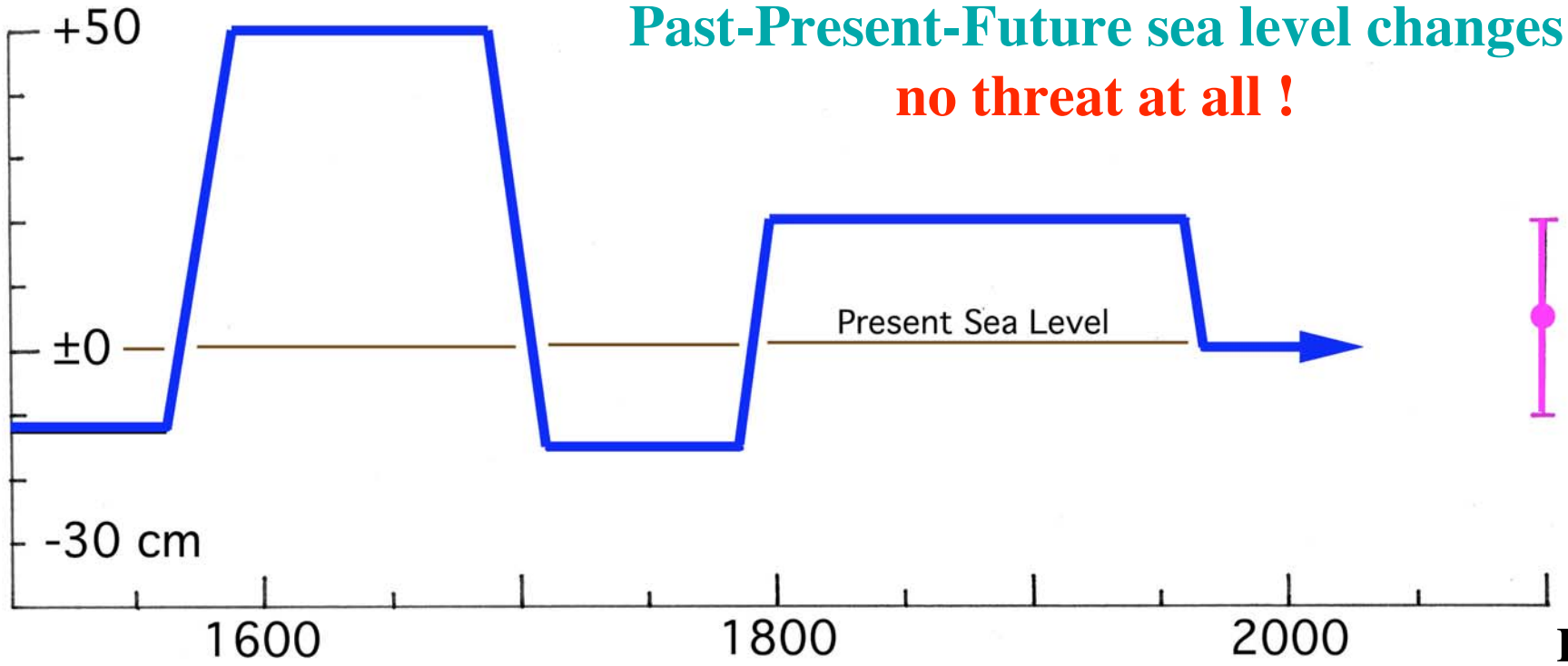
Vandalized in 2003 by *"Australian scientists"*

R2,8



Past-Present-Future sea level changes

no threat at all !



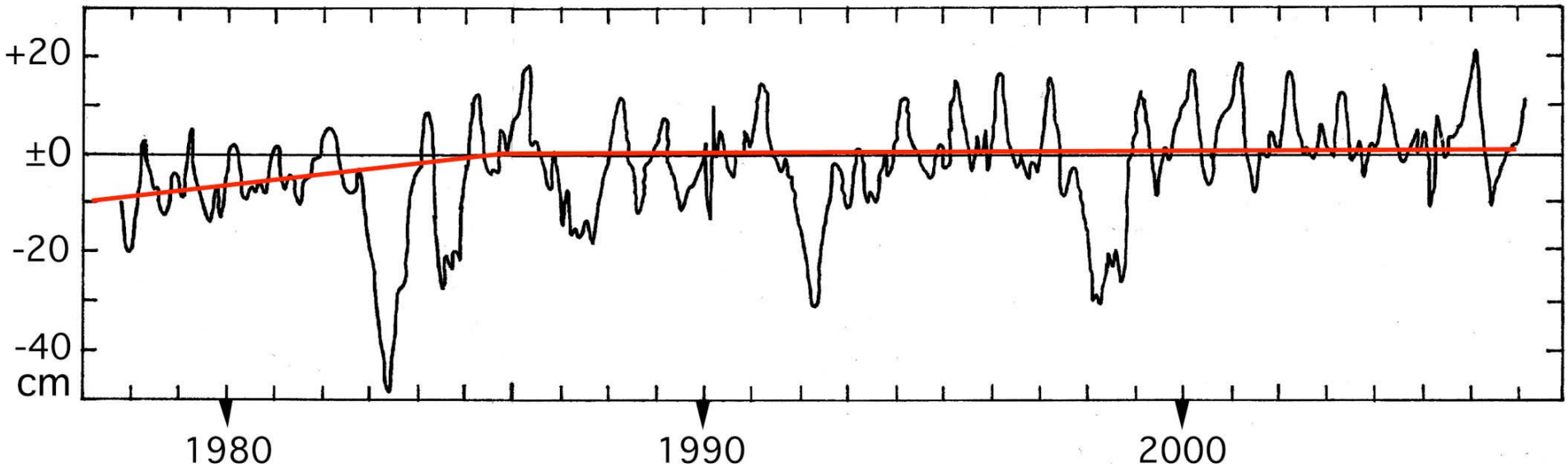
R6

3.

Tuvalu and Vanuatu

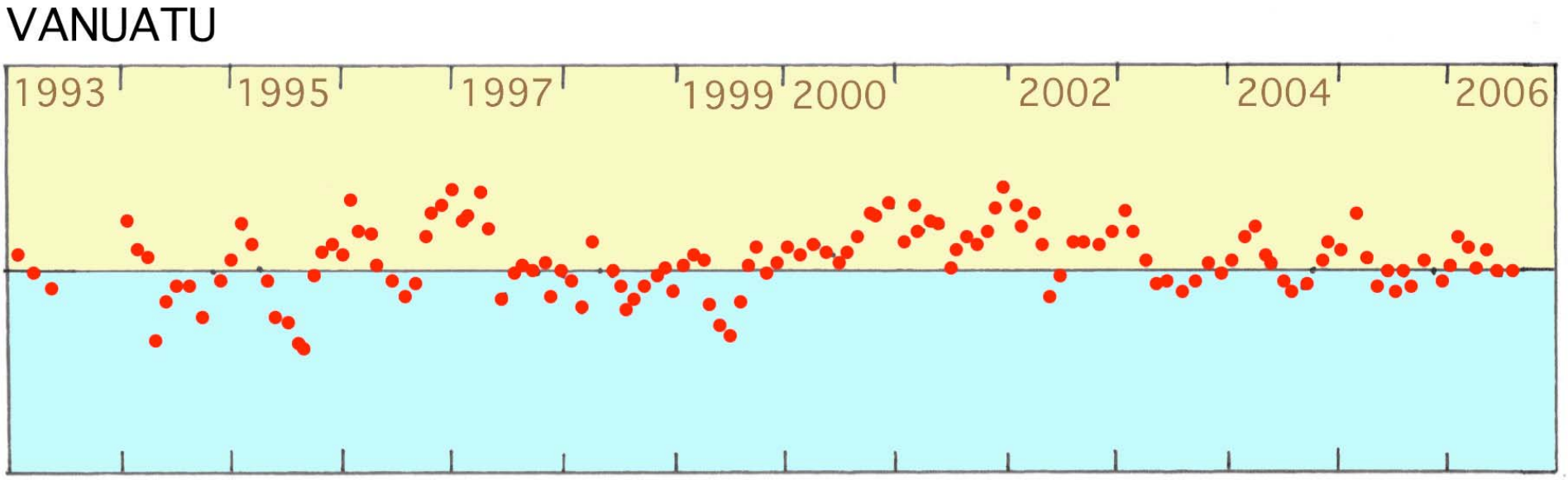
Both island-groups claimed already to be in the process of becoming flooded

Tuvalu – tide gauge record



8 years of slow rise (instalation subsidence?) is followed by 22 years of stability; i.e. no sea level rise
the 3 low levels represent ENSO-events

The Vanuatu News Port Vila Press Online, December 2005 declaired that
”a small community living on Vanuatu has had to be formally moved out of harms”
as an effect of the proposed sea level rise and flooding concept.



Vanuatu, another notorious site of ”flooding”,
shows, in fact, no sign of any ongoing sea level rise

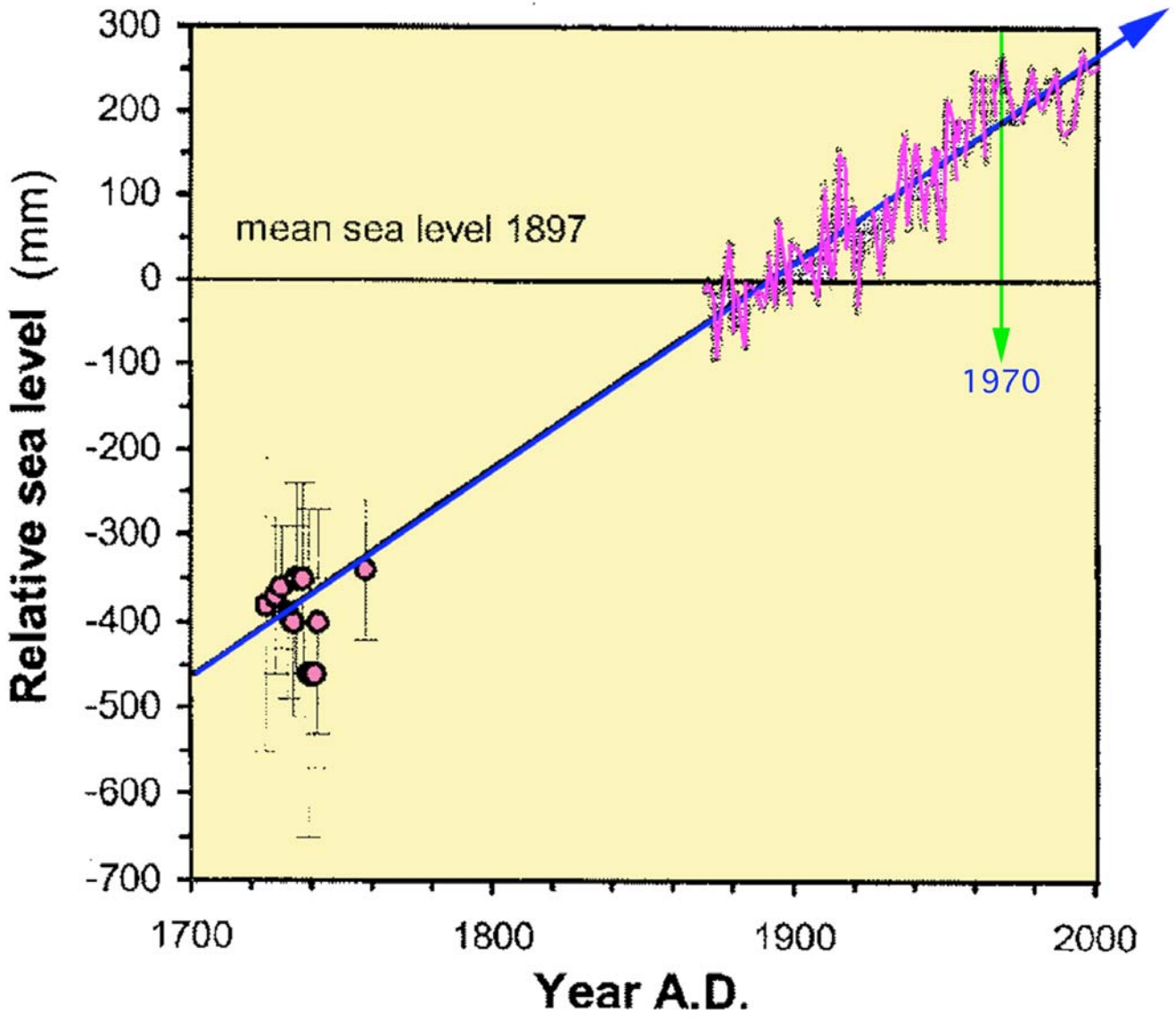
R2,8

4.

Venice - a good test site

Located in the slovley subsiding Po delta
any sea level rise or acceleration
would be easily detected

Venice, built on delta deposits, experiences a long-term subsidence (blue line).
Sea level (pink) fluctuated around this line from 1870 to 1970.
No eustatic sea level rise is seen,
and from 1970 there even is a sea level lowering recorded



R2,7,8

5.

Bangladesh

an area cursed by repeated flooding
and doomed to experience
terrible flooding disasters
in the near future

Coastal Erosion !

Sea is Rising !

The IPCCers say

Coastal Erosion – yes

But – No Rise in Sea Level

As clearly indicated by the root system spreading horizontally at just the same level as in the forest behind


EROSION but NO SEA LEVEL RISE
original mud cover
before the erosion

More on the Bangladesh New Sea Level Story

3 pictures are here omitted

because

a research paper has just been submitted

Sea level changes in Bangladesh.
New observational facts

(text & 13 figures; now under peer reviewing)

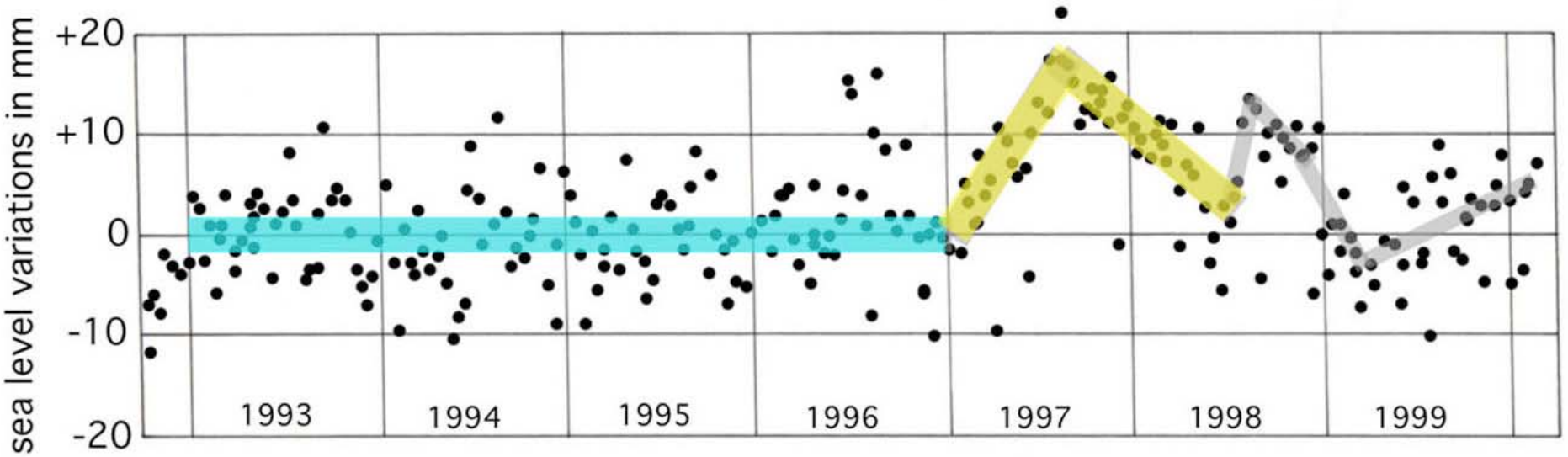
Nils-Axel Mörner (2010)

6.

Satellite Altimetry

A wonderful new tool to measure
the ocean level
but from where does the tilt come?

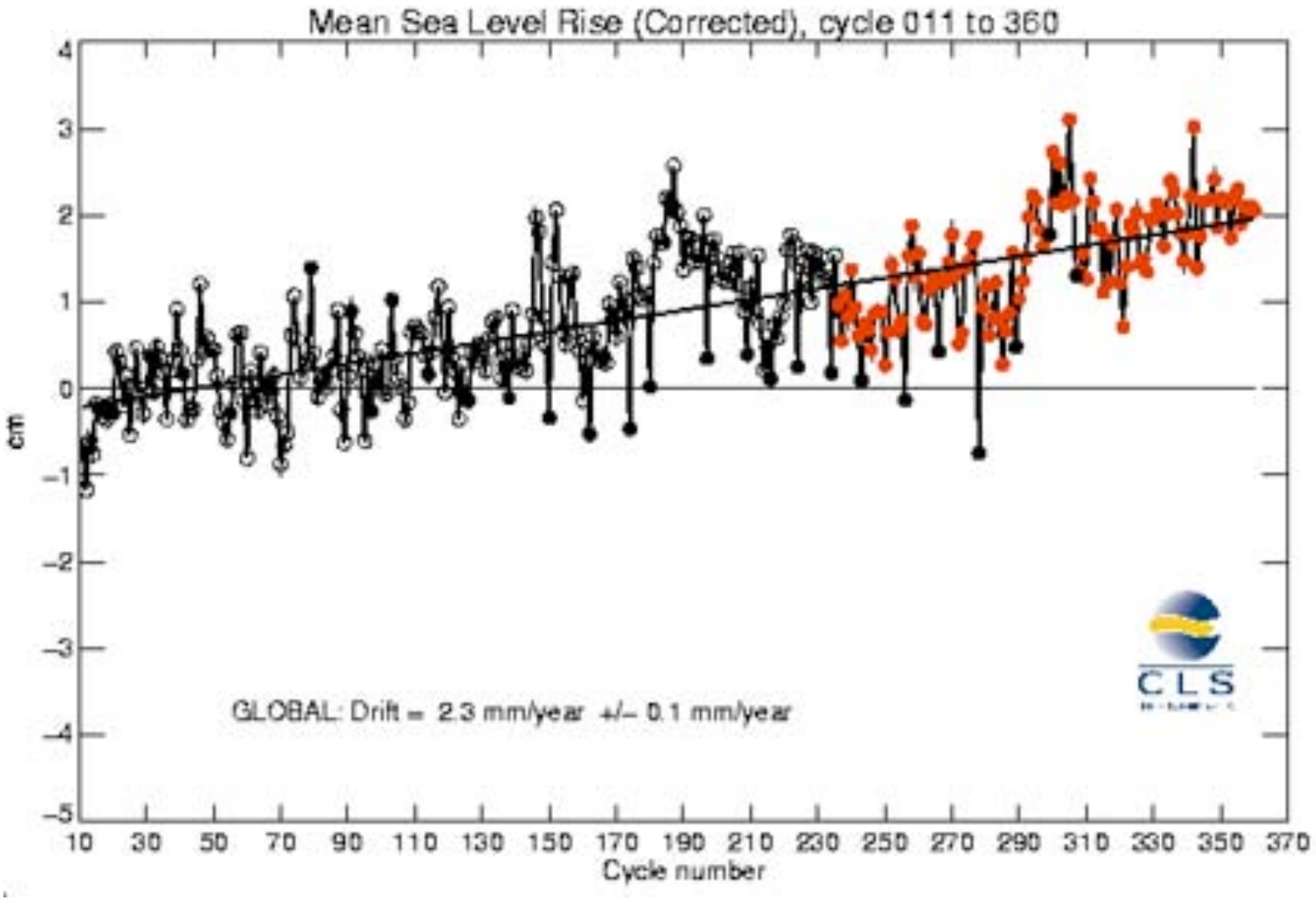
Satellite altimetry is a new and important means of recording sea level.
The 1993-1999 record show **NO** rising trend.
Just a variability around a zero level (blue) + a major ENSO event (yellow).



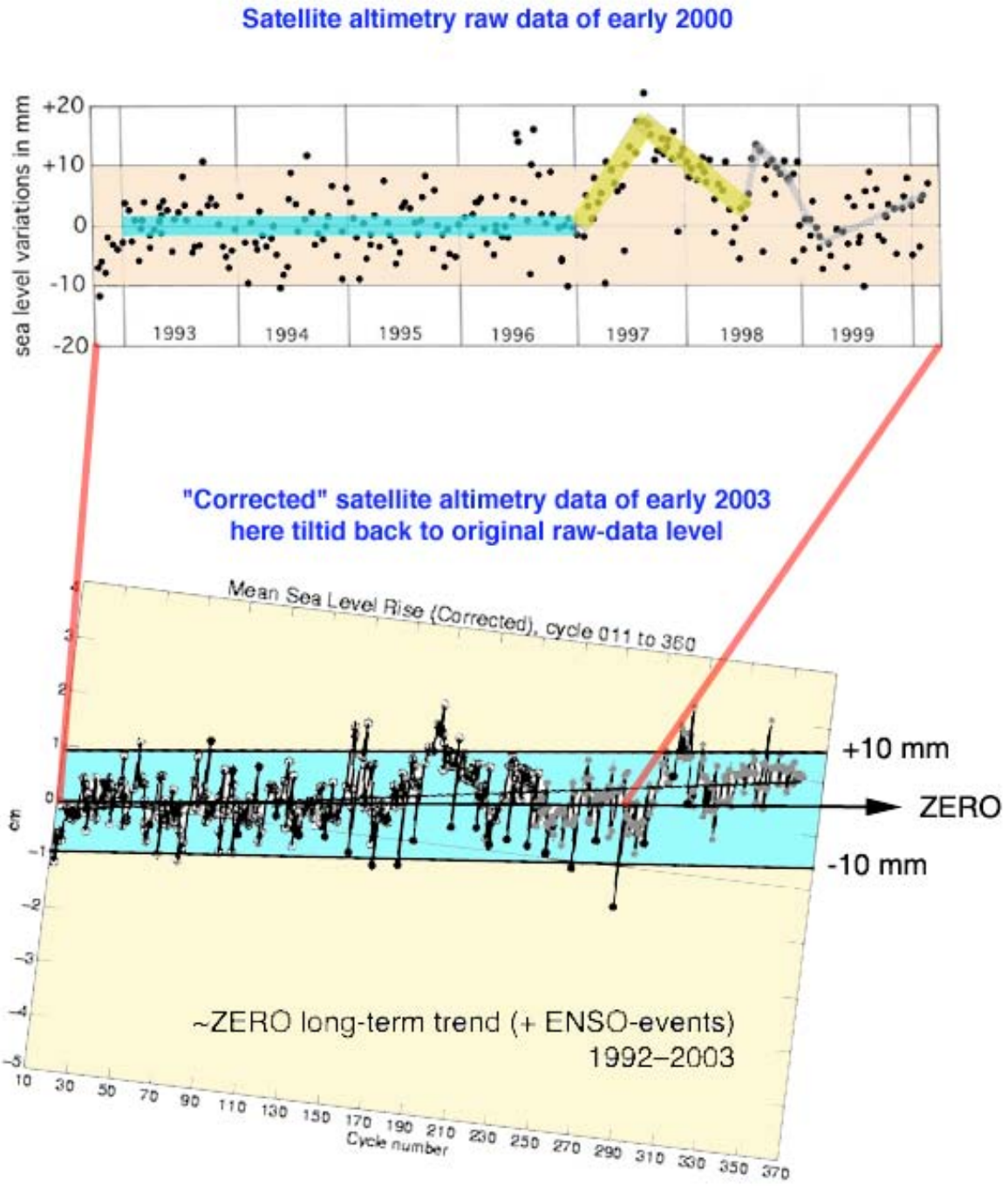
This data set was presented on the TOPEX/POSEIDON web-page, in their publications, and used by me in my paper in *Global and Planetary Changes*, vol. 40, 2004, p. 49-54

R1-2

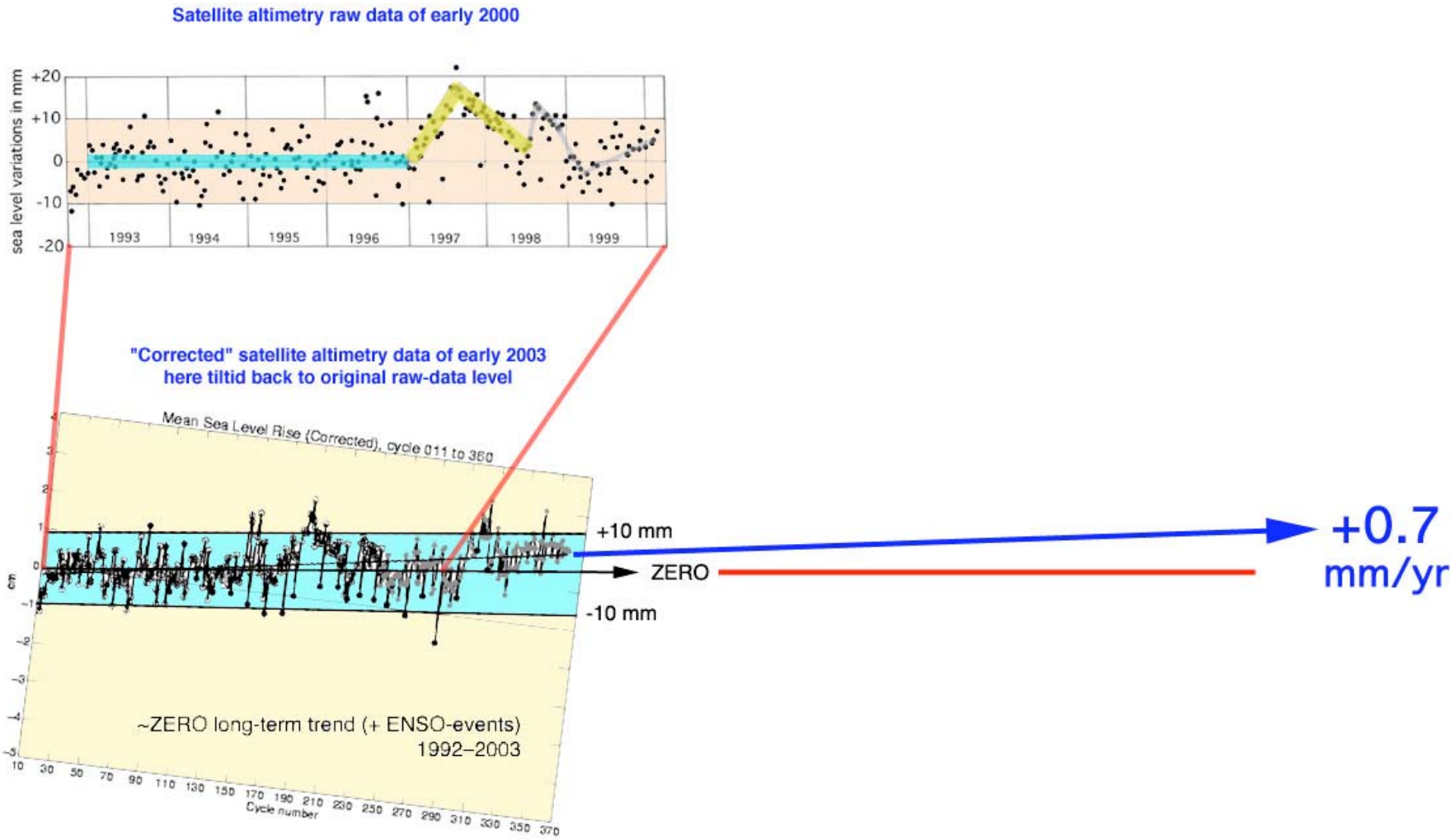
In 2003, a totally new record appeared on the web-page
Now there was a trend of 2.3 mm/year.
This trend, however, comes from selected tide gauge records
not satellite altimetry measurements



R2

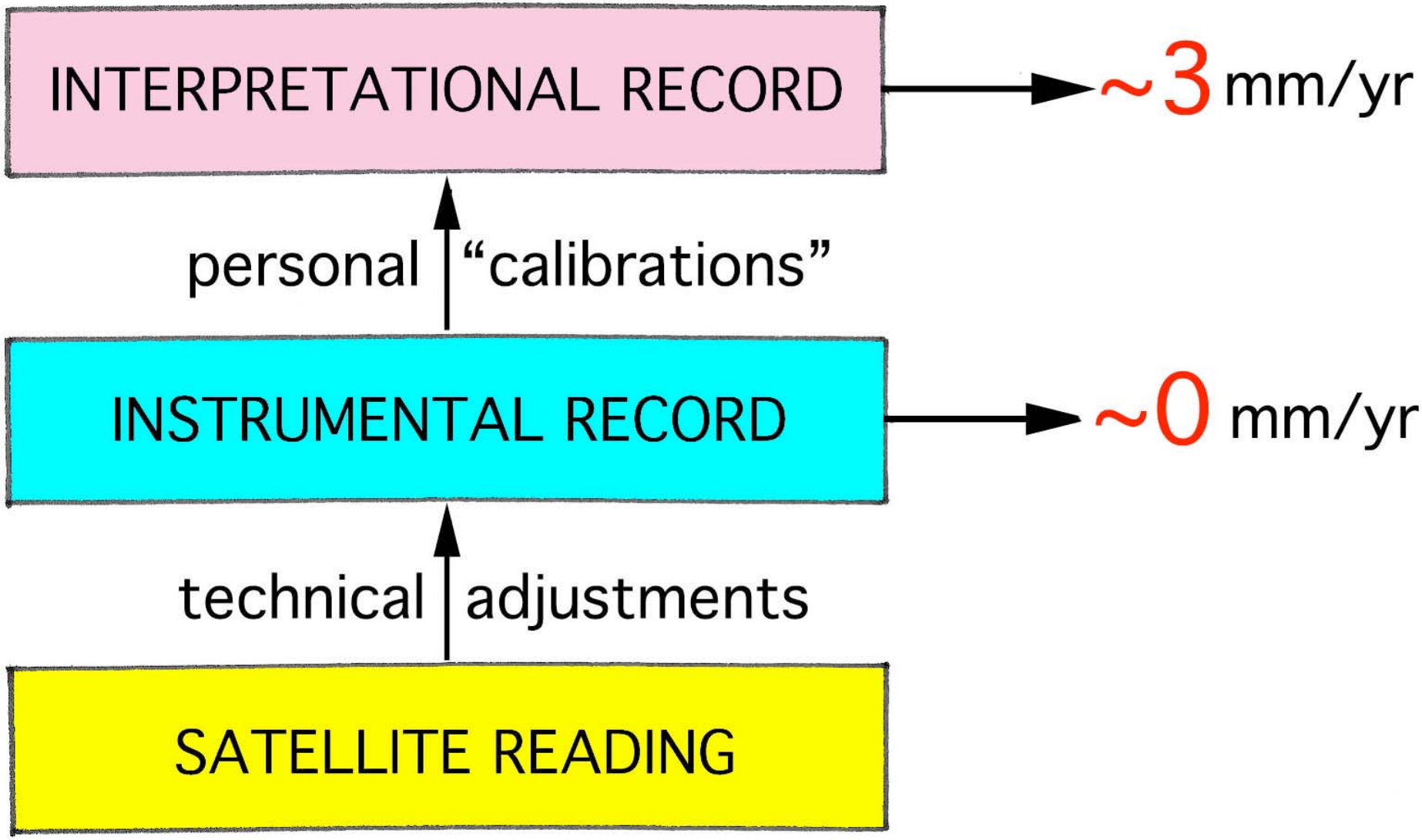

Satellite altimetry raw data of early 2000
sea level variations in mm
+20
+10
0
-10
-20
1993
1994
1995
1996
1997
1998
1999
"Corrected" satellite altimetry data of early 2003
here tiltid back to original raw-data level
Mean Sea Level Rise (Corrected), cycle 011 to 360
cm
+10 mm
ZERO
-10 mm
~ZERO long-term trend (+ ENSO-events)
1992–2003
Cycle number

R2,11

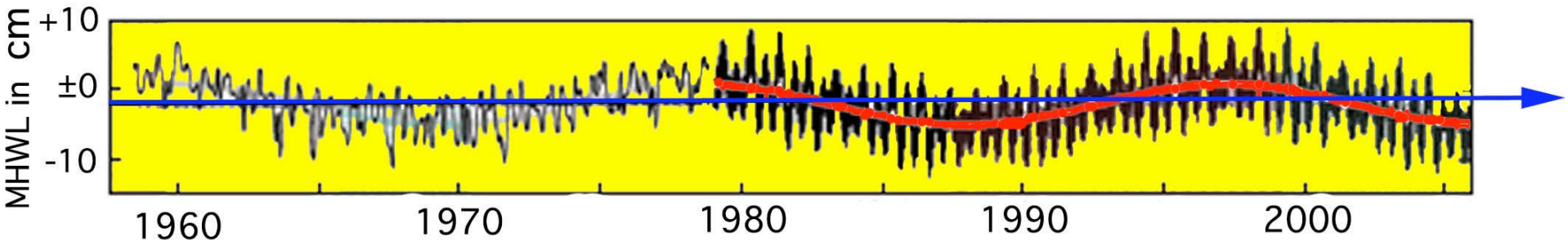

Satellite altimetry raw data of early 2000
sea level variations in mm
+20
+10
0
-10
-20
1993
1994
1995
1996
1997
1998
1999
"Corrected" satellite altimetry data of early 2003
here tiltid back to original raw-data level
Mean Sea Level Rise (Corrected), cycle 011 to 360
cm
+10 mm
ZERO
-10 mm
~ZERO long-term trend (+ ENSO-events)
1992–2003
Cycle number
+0.7
mm/yr

R2,10,11

Satellite Altimetry



50 years sea level record from French Guiana-Surinam



It exhibits a clear dominance of the 18.6 years tidal cycle around a stable zero-level

Satellite altimitry gives a rise of ~3 mm/yr in this area

there is a message in the difference

R7

CONCLUSIONS

No sea level rise recorded:

– in the Maldives

– in Tuvalu

– in Vanuatu

– in Venice

– in Bangladesh

Thermal expansion

– is small <10 cm

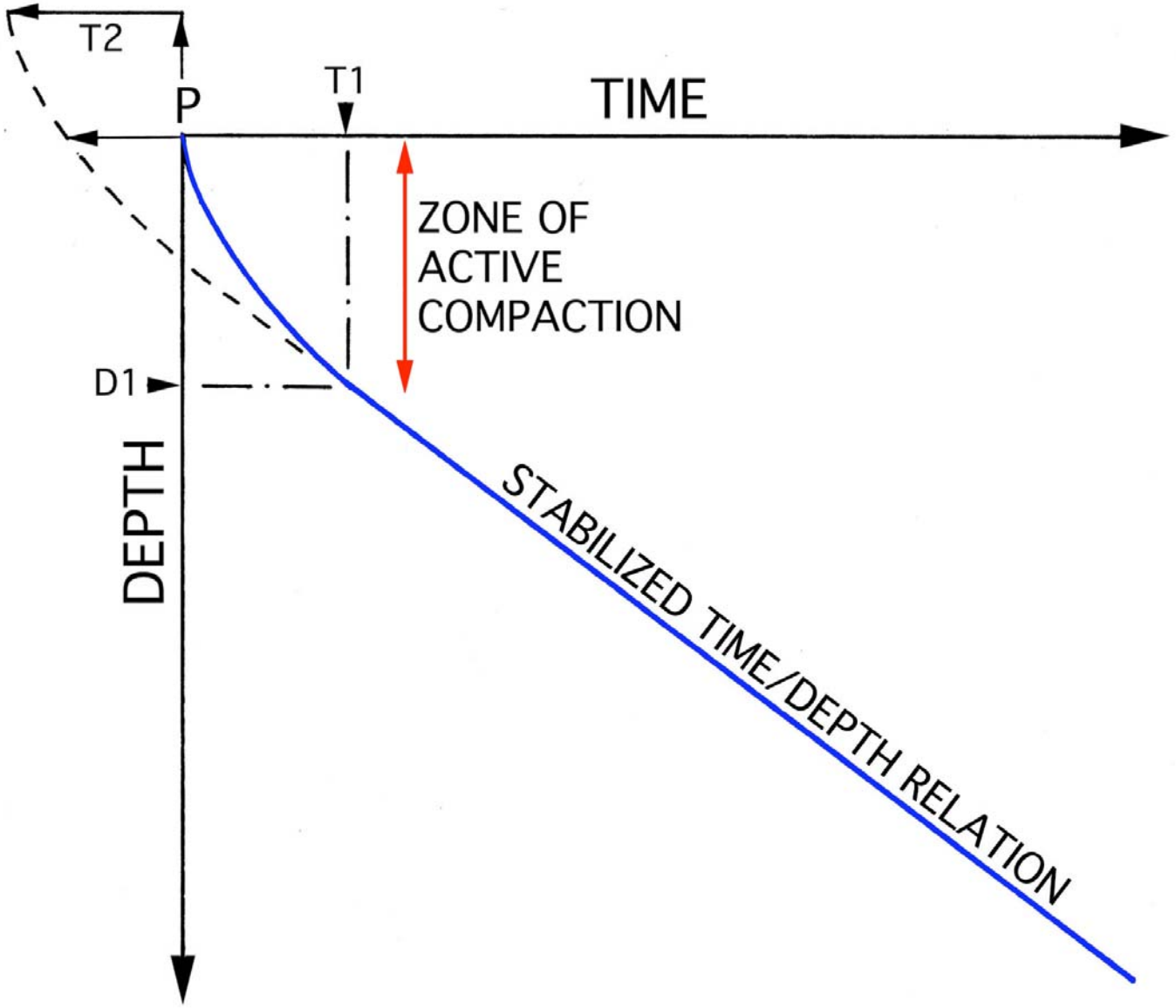
Satellite Altimetry

– records no or just a small rise

How to fabricate a sea level ”hockey-stick” ?

Simple! – just ignore the compaction effect

The top zone has not completed the compaction



R7

There are a lot of lies and exaggerations
linked to "Global Warming"

People may behave so

but trees don't lie !


The Maldives


Bangladesh

The Maldives

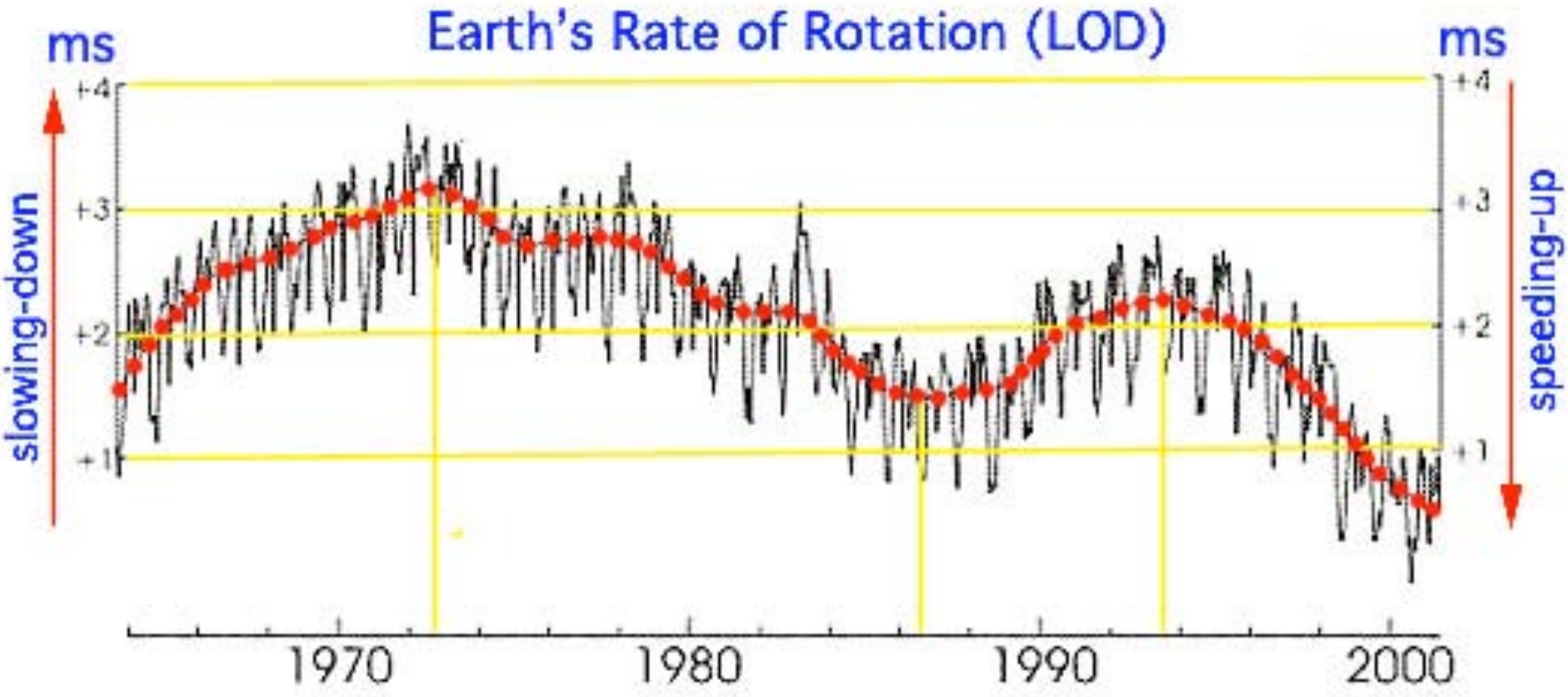
the tree has a delicate position
(at least since the 1940s)
the slightest sea level rise
would have destroyed it.
This indicates:
No Sea Level Rise in 50 years

Bangladesh

The tree trunks indicate
a significant coastal erosion
The horizontal roots indicate
the same growth level
as in the forest behind
This indicates:
No Sea Level Rise !

nor do we lie

sniffing, observing, recording



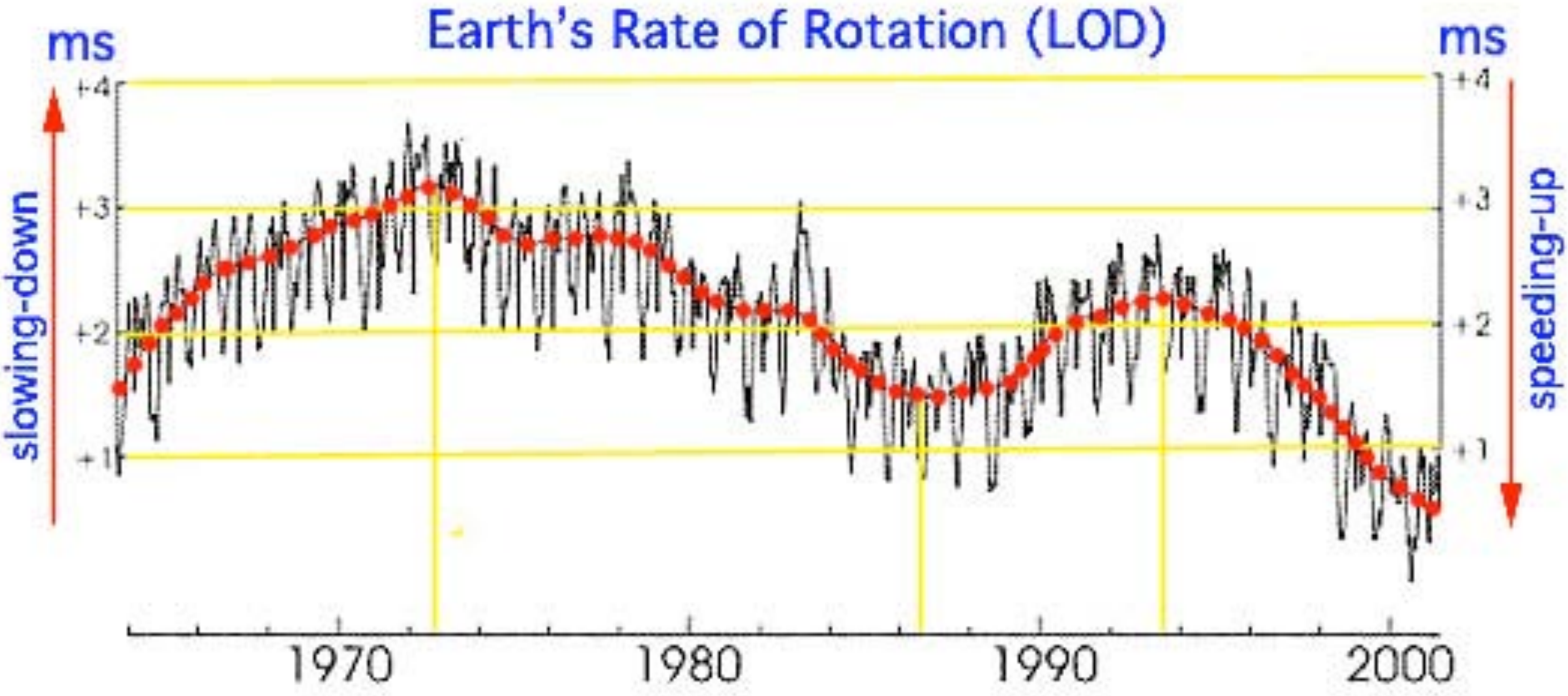
If sea level would be rapidly rising

– following the law of angular momentum –

the Earth should experience a deceleration.

This is NOT the case – Why is this?

(R4)



If sea level would be rapidly rising – following the law of angular momentum – the Earth should experience a deceleration.

This is NOT the case – Why is this?

because Sea is Not Rising – of course

without a flooding concept

there is not much of a threat left in IPCC

the tiger has lost its teeth

maybe it was not even a real tiger

just a blown-up balloon-dummy

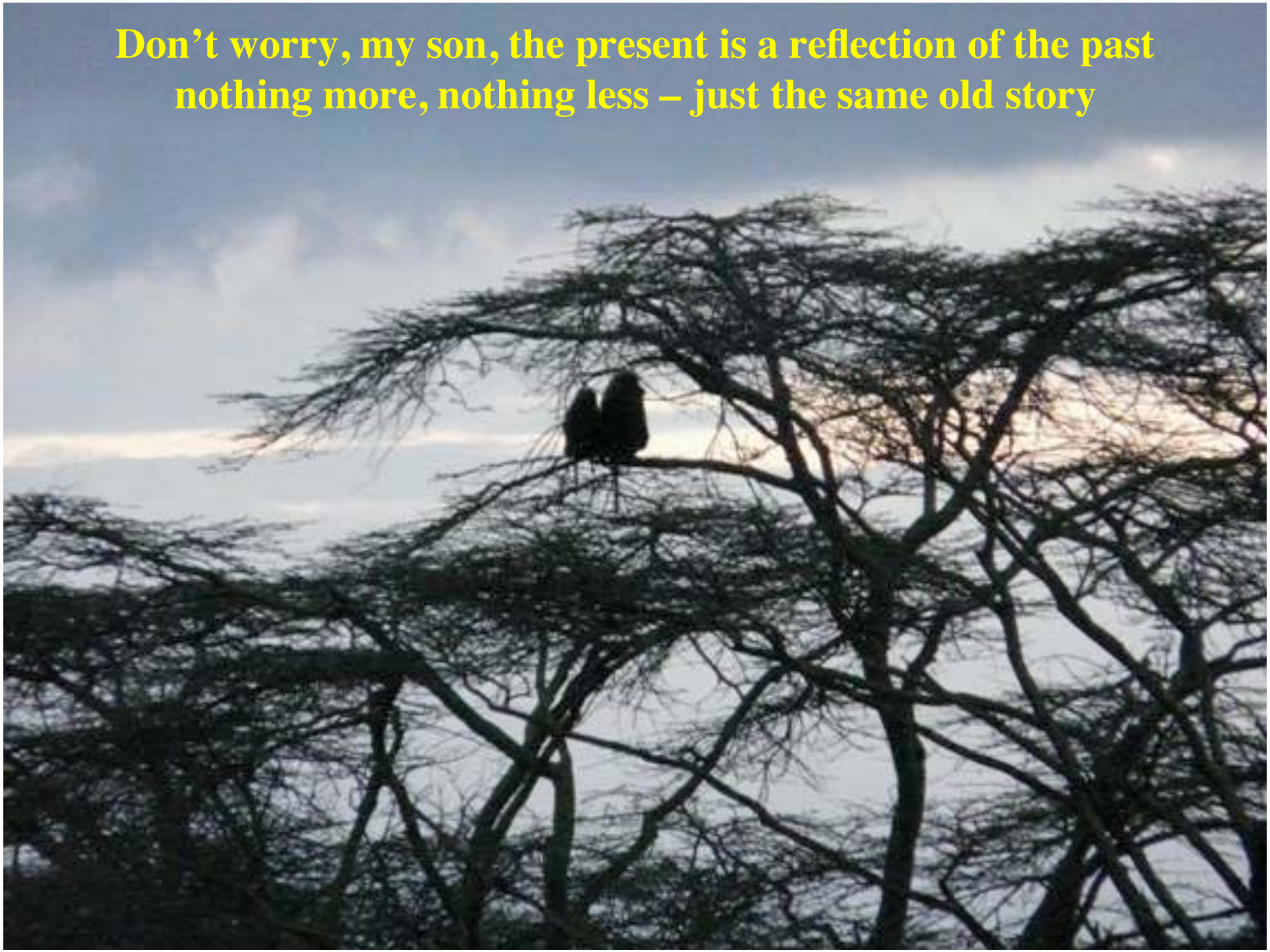
190 peer-reviewed papers on Sea Level & Climate – out of 530 papers totally

Mörner, N.-A., 2007

The Greatest Lie Ever Told.

1st ed, 2007, 2nd ed. 2009, 20 pp.

sold today for 10 Euro
or 80 DKr


Don’t worry, my son, the present is a reflection of the past
nothing more, nothing less – just the same old story