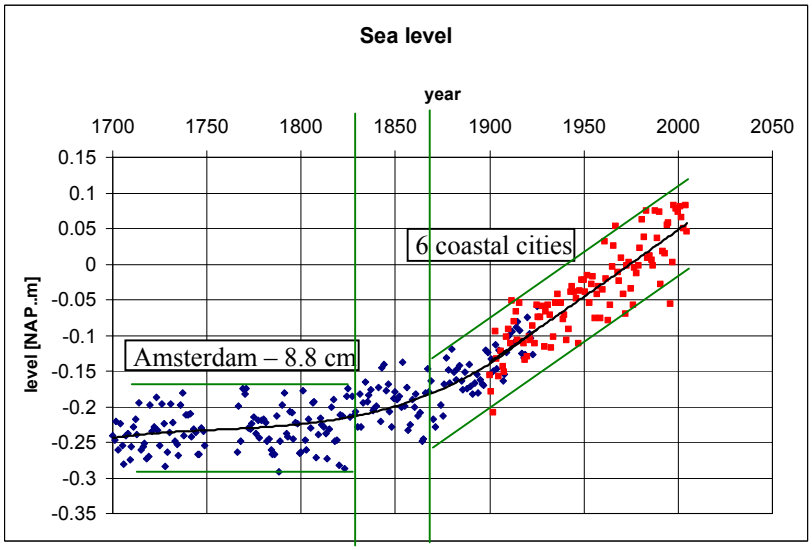
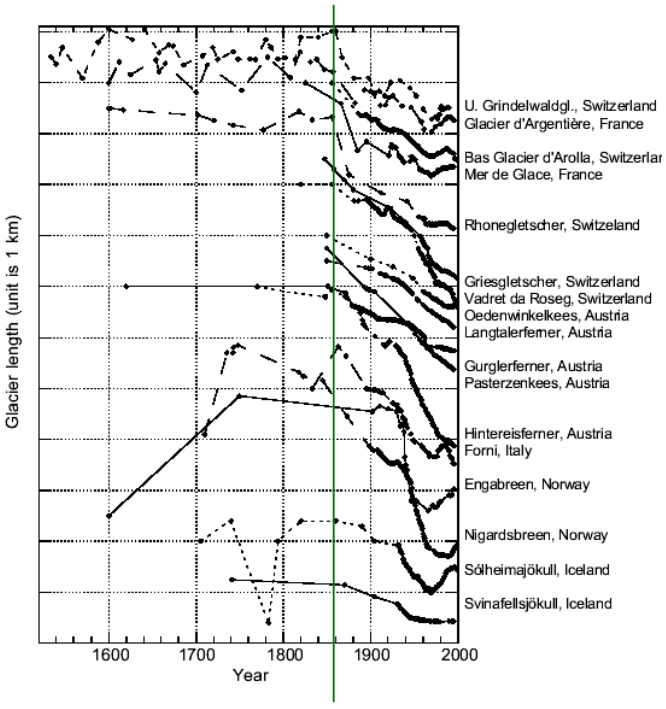
Sea level rise of the Netherlands



From 1700 up to 1925 the water level of Amsterdam has been measured and from 1900 up to now the average water level of six coastal cities (Vlissingen, Hoek van Holland, IJmuiden, Den Helder, Harlingen and Delfzijl). The 25 years overlap shows a difference of 8,8 cm, which is corrected for Amsterdam. This difference is partly due to the fact that the common western wind creates a wind set up at the coast, so a higher water level. For Amsterdam, connected with the, in those days, open Southern Sea applies the opposite (from 1932 closed off as IJssel Lake by a dam).
The first figure shows the sea level rise over the last 300 years. Up to 1830 the sea level was rather constant, there was hardly any rise (about 1,5 cm per century). Since 1870 there is a very constant rise of about 17 cm per century. Why the rise is so constant is not clear. If there would be a climate change, a more exponential behaviour is expected.

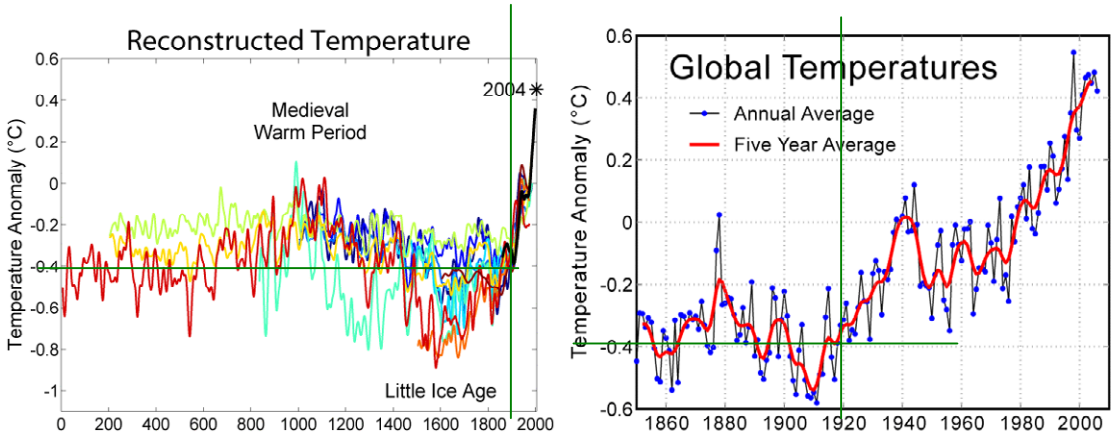
Glaciers

We can compare the graph of the sea level rise with other possible related events, like the glacier melting in Europe. The glaciers were in 1860 at their biggest length and decreased in length from this moment on.



The Little Ice Age and air temperature

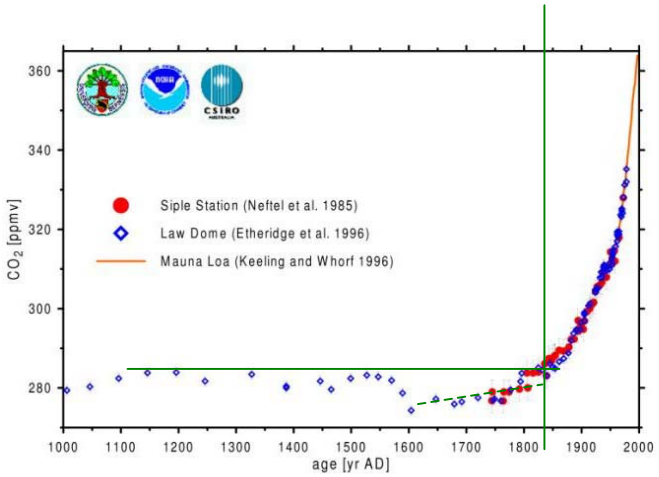
We can expect a correlation with the end of the Little Ice Age. This end is officially in 1860, which is a little later then the start of the sea level rise in 1830.



The Little Ice Age had only an anomaly of about -0.4 degree Celsius. Although the official end was in 1860, first in 1920 the global air temperature started to be clearly higher then this anomaly. Since it is strange for the sea level to increase earlier then the rise in global air temperature, the increase in sea level rise of 1830 is not correlated to the global air temperature.

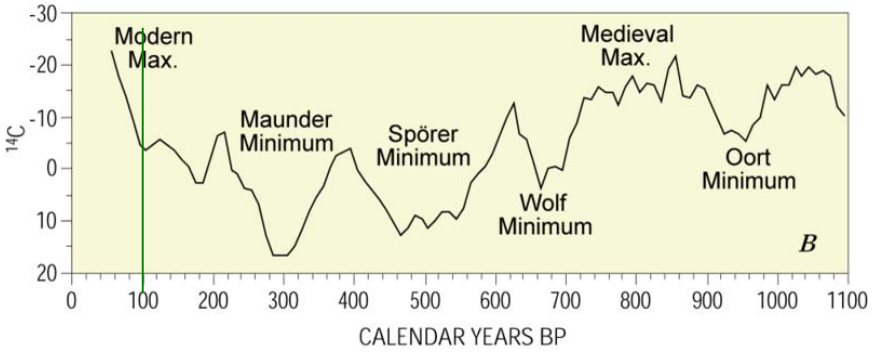
Carbon dioxide

Many people expect a correlation between the increase in sea level rise an the CO2 increase. Both increased more or less a the same moment, but it is very strange that the sea level responds immediately to the CO2, even before the temperature is doing. Besides the continuous increasing CO2 does not lead to a faster increasing sea level. Therefore, the increase in sea level rise of 1830 is not correlated to the CO2 increase.



Solar activity

If we look to the solar activity (based on the C14 method), then we see a minimum at 300 years before present, which is right in the middle of the Little Ice Age (Maunder Minimum).
A strong increase started 100 years ago, so in 1806. This means that solar activity could be correlated to the sea level rise, because it heats up the oceans (and glaciers) in a direct way.



Earth magnetic field

Since 150 years the earth magnetic field is loosing its strength rapidly. The decline over this time is about 10% to 15%, which is ten times faster then the 20% to 25% reduction in the 2000 years before. This means that also the earth magnetic field can be correlated to the sea level rise. The magnetosphere shields the surface of the Earth from the charged particles of the solar wind. It is compressed on the day (Sun) side due to the force of the arriving particles, and extended on the night side. A decrease of the earth magnetic field can cause an increase of charged particles reaching the earth and the oceans. This can cause heating up of the oceans (and glaciers).

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