

## **Global Temperature Anomaly of 2016 the Possible Cause.** 2016/10/26,27.

2016 Global monthly Temperature records anomalous high as over 1.5 or near 2.0°C. This is almost **the Paris target value**, then someone become desperate on pursuing efforts?!

Recent authors survey on the temperature fluctuation found that the anomalous higher temperature at 2016 may be **a temporal fluctuation due to higher solar phase in the cycle**.

Temperature fluctuation **Effectiveness** for causing disaster may depend on **the duration time**. For ocean heating, fluctuation could not be effective by short peak times. Tropical zone may be insensitive by higher temperature fluctuation, while northern hemisphere may be sensitive. In few years, warmer heat in tropical ocean is to reach northern hemisphere.

Causing Effective climate disaster takes rather long duration for ocean heating.

(1) **Pursuing efforts?** . OCTOBER 17, 2016

<http://arctic-news.blogspot.jp/2016/10/pursuing-efforts.html>

*Late last year at the Paris Agreement, nations pledged to hold the global average temperature rise to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature rise to 1.5 °C above pre-industrial levels. On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved. The Paris Agreement will formally enter into force on 4 November 2016.*

*\*see 2016 monthly Temperature Graph.*

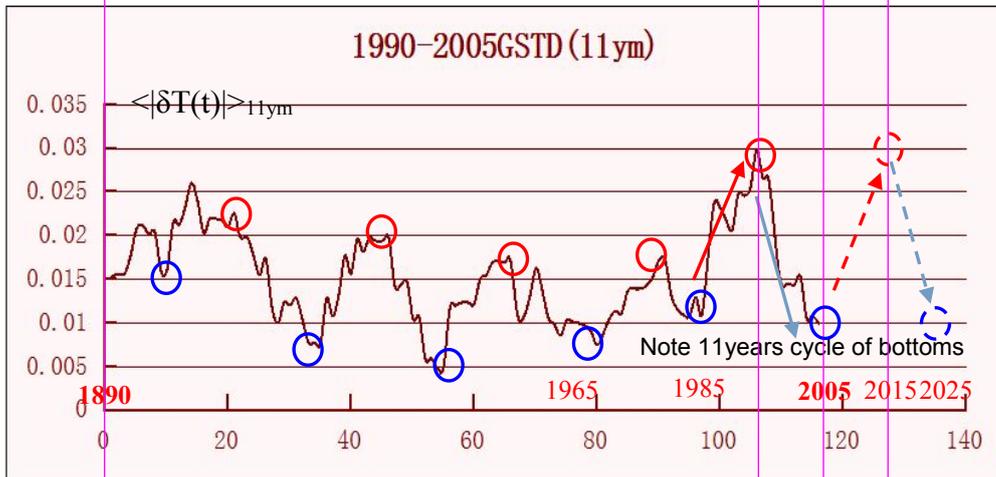
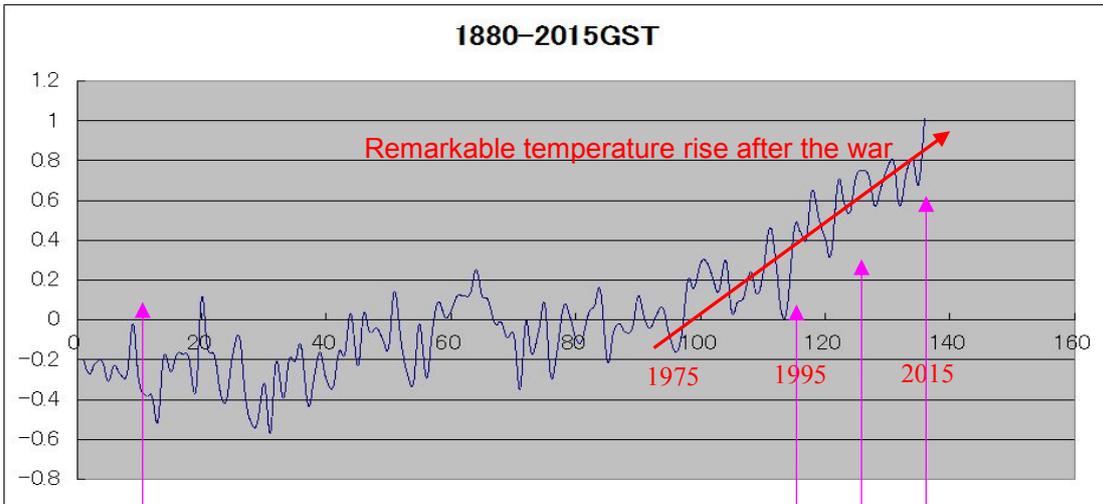
*Meanwhile, as illustrated by above image, temperatures have been more than 1.5 °C above pre-industrial levels for nine out of the past twelve months. For the months February and March 2016, the anomaly was actually quite close to the 2 °C guardrail, while for station-only measurements, warming for February and March 2016 was well over the 2 °C guardrail from pre-industrial levels.*

☞; Also in the past long years in any regions, there were frequent temperature **over 2°C** in days, months. Thereby a temporal is not so worrisome, while **chronic(the average value)** is serious. The average value is determined by CO2 concentration, thereby pursuing the effort is righteous deed.

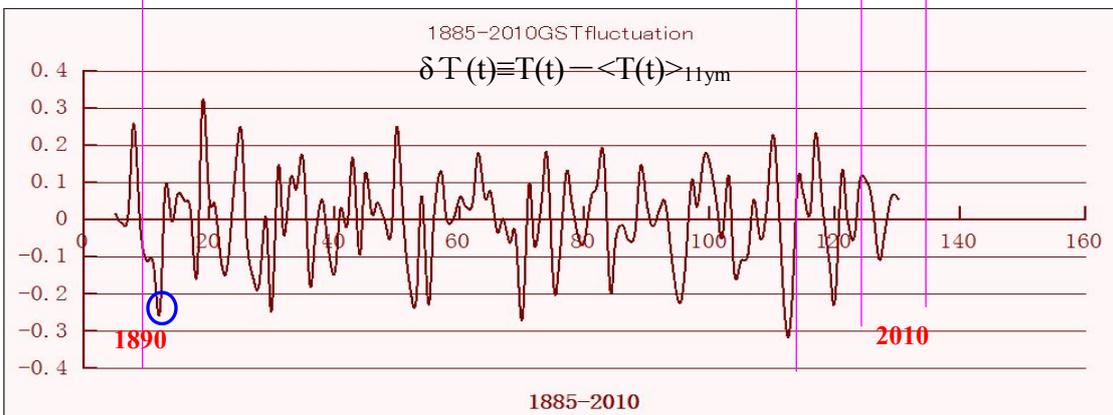
(2) **Fluctuation due to the 22 years solar cycle.**

[http://www.777true.net/Global-Surface-Temperature\\_GST\\_Fluctuation-Analysis.pdf](http://www.777true.net/Global-Surface-Temperature_GST_Fluctuation-Analysis.pdf)

As is seen following page, temperature fluctuation has a component of **22years cycle of solar fluctuation**, which now(2015,16,17,?) determine highest temperature. Before not so long, the fluctuation must become downward toward ~2025 bottom. However the average rising trend by strong CO2 concentration one is TERRIBLY serious, we could not be so easy.



**It's remarkable cyclic swing by 22years cycle.** Thereby 1995+22=2016,17,18 are highest temperature, of which cause is **+hot fluctuation**, then about at 2027,28,29 would be lowest, then would turn toward higher. Then why 22years, but not 11years of solar cycle ???.



(3) **Effectiveness for causing climate disaster by fluctuation over 1.5 or near 2.0°C.**

☞; **A statistical fluctuation could be noisy, but no influence to substantial averaging trend !!!.**

**Following are not authorized explanations, but authors view.** Once insolation =  $I_0(t)$ , or albedo =  $a(t)$ , permeability of GHG =  $@(t)$  is varied, where become sensitive ??.

Those are all due to insolation =  $I_0(t)$ , and **the most intense region** is equator (tropical zone). At that region is annually highest temperature and may be insensitive for higher temperature change. However the nothing effect could not be told, but rather small effects ?. The heat increase at that region is to be transported sensitive colder northern or southern oceans by the currents. **What author wish to tell you is as follows.**

In order to **warm up colder northern or southern oceans** to cause more climate disasters, **it takes 2,3,4? years by perpetual risen heat input !!!.**

While temporal temperature fluctuation could not be perpetual long as 2,3,4? years.

Thereby substantial climate disaster increasing could be evaded **by the fluctuation.**

Following down ward fluctuation is to cool? the colder northern or southern oceans.

As the consequence, average trend could be no influenced by the noisy fluctuation.

However to say so, nothing climate disaster could not be told.

In fact, 2016 is more climate disasterous years than any years.

Now we are looking a bit of era the strong and chronic disasters !!!.

**But the averaging trend could be too serious to cause strong and chronic disasters!!!.**

In other world, now era is **climate revelation one**, which must not be made vain !!!.

Thereby **pursuing efforts to cut CO2** is not vain, but we must be cautious for wrong desperat to cut off our efforts. **We must care too much also for Arctic Ice !!.**

**It is which that could destine our suviving.**

example calculation)

ocean current velocity

= 4Km/hour (maybe max value).

**Path Length** in a year

$L = 4\text{Km}/\text{hx}24\text{hx}365 = 35000\text{km}/\text{y}.$

**Earth Radius** = 6380Km.

The Circular Length = 40090Km.



**Acknowledgment:**

Author thanks to who indicate his faults by showing inconvenient realities.

## Reference.

### Speed of Ocean Currents :

The Physics Factbook™ : Edited by Glenn Elert , Fair Use website :

<http://hypertextbook.com/facts/2002/EugeneStatnikov.shtml>

### Oceanography » Ocean Currents

<https://cimss.ssec.wisc.edu/sage/oceanography/lesson3/concepts.html>

### Chapter 4: Global Energy Transfer, Atmosphere and Ocean Circulation, Climate

<http://www.indiana.edu/~geol105/1425chap4.htm>

### Appendix:Critical Temperature in Causing Cyclone due to Sea Surface Temperature.

The relation between sea surface temperature and development of tropical cyclones in the northwest pacific,by T.Fujii & Y.Mitsuta

<http://www.dpri.kyoto-u.ac.jp/nenpo/no36/36b1/a36b1p03.pdf>

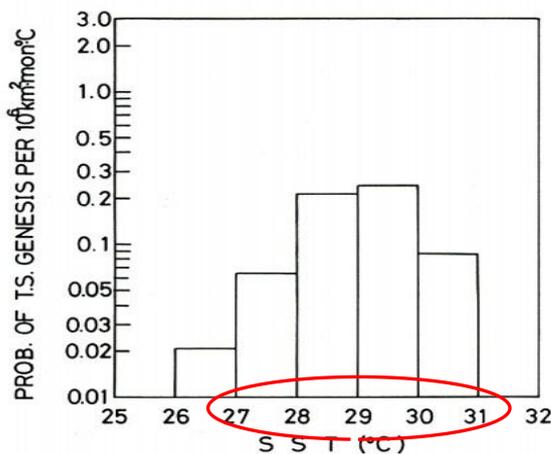


Fig. 2. Relation between monthly mean SST and probability of tropical storm genesis

As is shown in left fig,cyclone generation has **critical sea surface temperature(27 ~31°C)**.Thereby,If sea surface temperature came to near the critical one,**frequency of cyclone generation would soar**. This should be called **phase transition** where new type of climate dynamics begin.Now we are looking a bit of the entrance gate of phase transition.In 2016,a typhoon was generated at **north region** of very near Japan iland,which was rare in the past(south as Phillipine.offshore).

### Hurricane Genesis: Birth of a Hurricane

<http://www.hurricanescience.org/science/science/hurricanegenesis/>

### Convective Contribution to the Genesis of Hurricane Ophelia (2005)

[http://www.atmos.washington.edu/MG/PDFs/MWR09\\_Houzeetal\\_Ophelia.pdf](http://www.atmos.washington.edu/MG/PDFs/MWR09_Houzeetal_Ophelia.pdf)