

## GISS/NASA MANIPULATION OF TEMPERATURE DATA

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### Data access procedures

For a number of years data on average temperatures from GISS/NASA could be downloaded with a simple procedure. Data of a particular station could be obtained either by stating the name of the station or by marking a point on a displayed global map. In the latter case, a list of stations was shown, that were close to the marked point. By marking one name on the list, a graph appeared with the annual average temperatures of that station. By making another choice, a list of monthly average temperatures appeared.

This system was closed in the winter 2012/2013. The previous principle of easily accessible data appears to have been

abandoned with no advance information. To some extent the “old” data series, here called “2012”, have been replaced with new data series, here called “2013”. These new data series ([http://data.giss.nasa.gov/gistemp/station\\_data/](http://data.giss.nasa.gov/gistemp/station_data/)) are said to be adjusted in order to better represent actual conditions.

Some of the old data are still available ([http://data.giss.nasa.gov/gistemp/station\\_data\\_v2/](http://data.giss.nasa.gov/gistemp/station_data_v2/)), but procedures are changed, so stations are hard to find. If station names are used, data are rarely obtained. Marking a point on the map results in data for stations in quite a different region than the one desired.

### Reasons for adjustments are not found

The differences between the two sets of data series are too great to be motivated by correction typos, etc. However, reasons for made adjustments and specification of computations to arrive at the results have not been found. It is impossible to determine whether the one or the other set gives a

truer picture of real temperature changes. For a limited number of data series the old and the new versions could be compared. As a rule the new version shows a steeper increase of temperatures in the last years. For some series the difference is quite considerable.

### Protests against changes

It should be noted that Icelandic meteorologists protested against these changes of data (Fig. 1). *Homewood, the Icelandic Saga Continues, January 18, 2012.* A significant change in the new Icelandic

data series is that the markedly warm period in the 30ties and 40ties has disappeared. (The high temperatures in the 30ties still are found for Greenland, the Scandinavian countries and other areas.)

Table 1. Examples of stations studied. For both data series the trend, degrees per annum, has been calculated for the same period. Because the 2013 series is shorter than the 2012 series in some cases, the trend of the latter has been calculated both for a time span equal to that of the 2013 series and for the whole span of the 2012 series. Comments are noted below.

STATION		PERIOD	TREND	NOTE NR
Akureyri	65.7 N 18.1 W	1884 - 2011	0.0103	1
<i>2013 data</i>		<i>1884 - 2011</i>	<i>0.0103</i>	
Prince Albert	53.2 N 105.7 W	1885 - 2011	0.0089	2
<i>2013 data</i>		<i>1885 - 2011</i>	<i>0.0173</i>	
Seychelles	4.7 S 55.5 E	1894 - 2011	0.0083	3
<i>2013 data</i>		<i>1894 - 2011</i>	<i>0,0089</i>	
Alice Springs	23.8 S 133.9 E	1881 - 2009	0.0029	4
<i>2013 data</i>		<i>1881 - 2009</i>	<i>0,0152</i>	
Norfolk Island	29.0 S 167.9E	1915 - 2005	-0.0029	5
<i>2013 data</i>		<i>1915 - 2005</i>	<i>0.0179</i>	
Pudahuel	33.4 S 70.8 W	1881 - 2011	0.005	6
Short series		1933 - 2010	-0.0054	
<i>2013 data</i>		<i>1933 - 2010</i>	<i>0.0162</i>	
Port Elizabet	34.0 S 25.6 E	1885 - 2011	0.0008	7
Short series		1952 - 2011	0.0142	
<i>2013 data</i>		<i>1952 - 2011</i>	<i>0.0278</i>	
Christchurch	43.5 S 172.5 E	1905 - 2010	0.0035	8
<i>2013 data</i>		<i>1905 - 2010</i>	<i>0.0121</i>	
Punta Arena	53.0 S 70.8 W	1893 - 1999	-0.0065	9
<i>2013 data</i>		<i>1893 - 1999</i>	<i>0.0028</i>	

## Notes

Below the 2013 versions are compared to the 2012 versions:

- 1) The high temperatures of Akureyri in the 30ties are reduced, but both versions show the same overall trend, (Fig. 1).
- 2) Temperatures of Prince Albert are more than 0.5 degrees C lower between 1895 and 1940. Thereafter they are 0.5 degrees higher. For the last few years the adjustments are sometimes even greater, (Fig. 2).
- 3) Apart from some minor changes the temperatures of the Seychelles have been reduced with 0.4 degrees between 1905 and 1970. This has made the recent trend somewhat steeper. Note that there was no warm period in the 30ties.
- 4) The temperatures of Alice Springs have been reduced by about 2 degrees between 1880 and 1920. Towards the end they do not quite reach the level of the 2012 version (Fig. 3).
- 5) For Norfolk Island temperatures are reduced by about 2 degrees up to 1930 and by about 1.5 degrees up to 1970. For the last years the 2013 series is approaching the 2012 series.

- 6) There are data for Pudahuel (Chile) from 1881. However, only the period from 1933 to 2010 can be compared. The 2012 data shows a negative trend, whilst the 2013 trend is positive.
- 7) The 2012 series for Port Elizabeth shows almost no trend, 0.0008, for the period 1885 – 2011. For the

period 1952 – 2011 it shows a trend of 0.0142, which the 2013 data increases to 0.0278 (Fig. 4).

- 8) Christchurch temperatures are about 0.6 degrees lower in the beginning. The trend of the 2013 series has increased.
- 9) For Punta Arena the negative trend has been changed to positive.

### Summary of changes

Generally the 2013 set shows higher temperatures during the later years. A few of the found series show insignificant deviations from the 2012 series, but most of them show a markedly steeper trend towards warmer climate.

Occasional series seem to have obtained a more or less linearly addition, but for the majority no obvious model of modification can be discovered. Data of 2013 from GISS/NASA show significantly more warming than the previous versions.

### Conclusion

Adjustments of data that are several decades old may be justified in some specific cases. However, this would require very strong indications that they are necessary, which then, of course, must be carefully spelled out. The number of stations found with data from both 2012 and 2013 is small, but the extent of changes to their data is startling. As the two sets of data series differ significantly, none of them can

be accepted as the real temperature for calculation of a global mean.

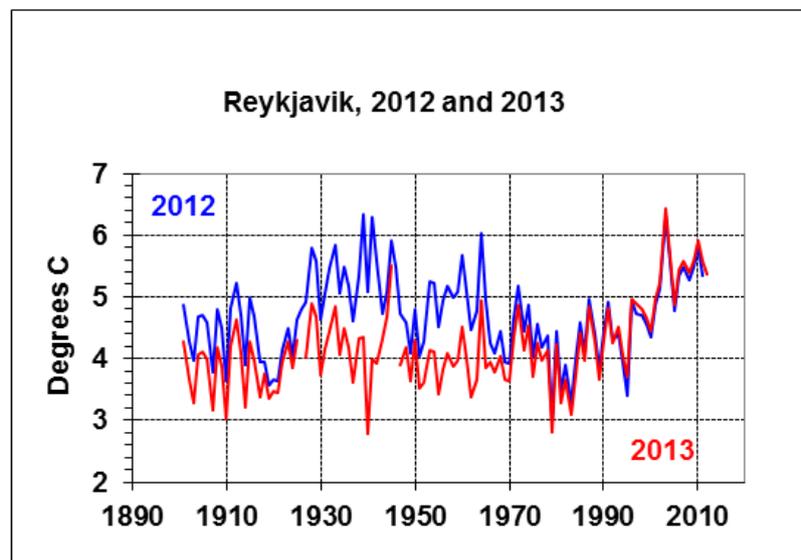
As changes of data and procedures appear to have been simultaneous, suspicions of conspiracy cannot easily be avoided. This is frightening, because these series of data are the basis of the view that all of the world has of the climate with consequent exhaustive policies.

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Fig. 1. Reykjavik annual average temperature before “adjustments”, blue, and after, red. (Data from



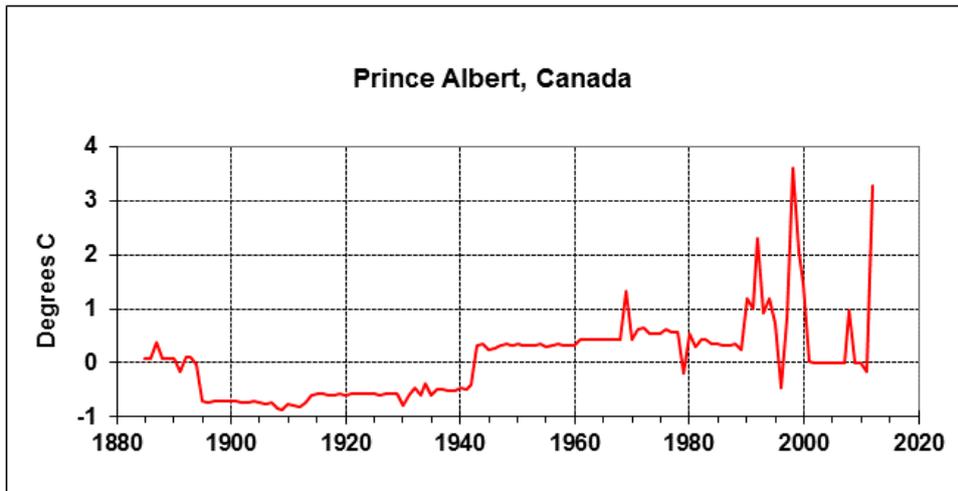


Fig. 2. Adjustments of data for the station Prince Albert. Temperatures between 1895 and 1940 have been reduced with almost 1 degree C, whilst they have been increased between 1940 and 1990. Thereafter the adjustments vary within wide limits.

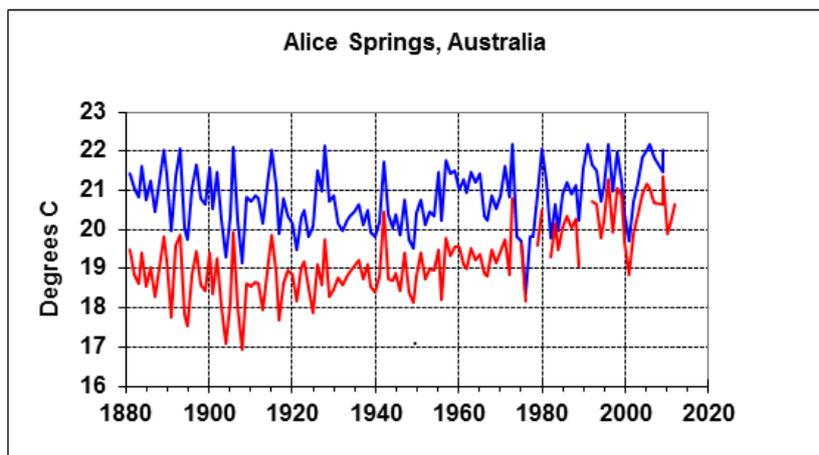


Fig. 3. Alice Springs temperatures are reduced by about 2 degrees up to 1970 and thereafter by about 1 degree. This changes the trend significantly.

Fig. 4. The trend of the station Port Elizabet is insignificant for the period 1885 – 2011. However, it is great for the 2013 series that only comprises 1952 – 2011.

