



## Indian Weather Time Scales

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**Abstract:** *I have conducted many extensive researches on the astronomical forces and its effects on the earth climate particularly on various regions of the India. The variations in the solar cycle affect and stimulate the earth climate. The moon affects and stimulates the ocean tides and atmosphere too. The movement of axis of the earth inclined at  $23\frac{1}{2}$  degrees from vertical to its path around the sun affects and stimulate the earth weather and leads to formation of monsoons and seasons etc. So the astronomical forces affect and stimulate the earth climate it may be more or less but it is true. These scales may be taken as a part of scientific study of astronomical forces & its effects on the earth climate.*

In the time and scale of the universe some things from astronomy to atom including living beings have been repeating once in every certain time or period. For example, the south and north magnetic poles have been shifting in every certain period. The sun spots have been repeating once in every eleven years. The lunar and solar eclipses have also been occurring once in every 18.6 years. The seasons such as winter, autumn etc. also have been repeating once in every year in the same month of the year. The periodical menses in the females repeating once in every month.

On the basis of the said universal facts, I have prepared a time scale with 21 blocks, each block containing certain prescribed cycle of years in which similar calendar years repeating one after another that leads similar weather conditions of those previous years to future years likely repeating every year approximately. The rainfall of the years, have been entering in the scale in percentages or as it is pertaining to month, season, annual wise of the each and every year. If we managing the scale in this manner continuously, we may

assuming the weather conditions of the anterior years on the basis of the posteriors years weather. On the basis of the principle, we can assume that a considerable, of course it may be little chance of predication for an ensuing years by study the data of earlier years.

I have prepared a model Indian weather time scale along with hundreds of additional scales (1617 scales, 12 months, 4 seasons, 50 regions & 150 above years were studied) in which all weather conditions such as rainfall, temperature, cyclones, river water etc of all homogeneous regions sub-divisions of India were studied and analyzed elaborately.

### Studies carried out:

Firstly, see the Indian weather forecasting study model time scale. In this scale, the June, July, August and September months of the summer monsoon season were taken in a table in which the each month is also divided into three parts the Telangana, Rayalaseema and Coastal Andhra regions. The monthly wise rainfall data of the months of the regions from 1870 to till available



years are taken in the form of percentages or as it is and entering in the scale pertaining to the region wise of the each and every year. If we managing the scale in this manner continuously, we may assuming the weather conditions of the anterior years on the basis of the posterior years weather.

Example for assuming the dry season or suppose to predict the rainfall situation in the summer season of the ensuing year 2019: study the 7<sup>th</sup> cycle in which wet conditions in 10 years and dry conditions in 14 years were occurred in the month of June : wet conditions in 2 years and dry conditions in 22 years were occurred in the month of July : wet conditions in 4 years and dry conditions in 20 years were occurred in the month of August and wet conditions in 8 years and dry conditions in 16 years were occurred in the month of September. On the whole, wet conditions in 24 times and dry conditions in 72 times repeated in the summer monsoon season of the 7<sup>th</sup> cycle (As a result, there were dry conditions occurred in the 2002 year also). Therefore it is a considerable chance to predict that a dry season will be repeated in the ensuing year of 2019.

Example for assuming the wet season or suppose to predict the rainfall

situation in the summer season of the ensuing year 2022: study the 10<sup>th</sup> cycle in which wet conditions in 13 years and dry conditions in 8 years were occurred in the month of June: wet conditions in 13 years and dry conditions in 8 years were occurred in the month of July: wet conditions in 9 years and dry conditions in 12 years were occurred in the month of August and wet conditions in 19 years and dry conditions in 2 years were occurred in the month of September. On the whole, wet conditions in 54 times and dry conditions 30 times were repeated in the summer monsoon season of the 10<sup>th</sup> cycle. As a result, there were wet conditions occurred in the 2005 years also. Therefore, it is a considerable chance to predict that a wet season will be occurred in the ensuing year of 2022.

In the same manner, we can study the remaining all Indian weather time scales of all Indian Homogeneous regions and subdivisions, states and districts of India.

We can make many more modifications thus bringing many more developments in the Indian weather time scale and its all additional Indian weather time scale.



		June			July			August			SEPTEMBER			OVERALL SEASON			REMARKS	
		T	R	C	T	R	C	T	R	C	T	R	C	T	R	C		
1	2020																	
	1992	77.18	-9.5	-54.0	-39.2	+5	-15.8	+4.70	-11.2	-10.8	-35.2	-19.1	-26	-1	-12	-6		
	1964	-31.6	+21.3	-15.0	-36.6	+108	-13.4	799.5	-17.8	-11.8	+1503	+139	+95.4	+17	+16	+44		
	1936	+31.7	-9.16	-13.0	-14.1	-35.3	-7.00	-12.5	-65.7	-32.3	+7.82	+21.2	-39.2	-3	-29	-5		
	1908	-32.3	-62.9	+69.9	+5.8	-29.4	-50.9	-9.13	-57.2	25.2	+10.0	+84.9	+40.4	+38	-9	-2		
	1880	+21.5	+15.2	-99	-24.0	-50.2	-46	-60.7	+2.63	-99.4	+56.2	+19.7	-51	-11	-18	-30		
2	2017																	
	1995	-1.01	-11.5	-36.2	-13.6	+6.5	-20.9	-46.7	-20	-23.0	-71.7	-17.3	-49.3	-33.5	-27.1	-16.3		
	1978	-78.2	-7.7	+26.2	-1.17	+57.5	+6.9	+47.0	-13.1	+31.7	+169.0	+100	+8.0	+50	+37	+55		
	1961	+34.0	+27.8	+70.9	-37.9	+32.9	-24.3	-8.35	-4.9	+13.3	+20.0	-49.6	-5.1	+12	+1	+30		
	1939	-38.0	-20.5	-36.2	-44.6	-34.6	-42.3	-27.5	+13.9	7398	-3.95	+81.7	-13.5	-28	-12	-23		
	1922	-12.3	-50.4	-90.2	-27.6	-51.6	-31	-36.8	-30.3	-42.0	+22.6	-1.2	-48.3	-18	-29	-15		
	1905	-17.6	+8.61	-29.3	-64.4	-62.2	-72.7	+16.8	+103	-10.5	734.8	-58.1	-6.5	-5	-4	-18		
	1883	+60	+23.3	-25.1	-6.24	-23.5	-55.1	+32.2	+36.4	-10.6	+65.1	-32.1	-56.6	+31	-4	-21		
3	2024																	
	1996	+13.5	+29.4	+13.7	-32.4	-21.4	-17.3	+21.1	+56.6	-9.8	-4.49	+51.2	+19.3	-3.8	+63.1	+46		
	1968	-330	-28.3	-38.7	-28.0	-39.4	-38.4	-82.5	-34.2	-89.4	+1.007	+53.6	-26.6	-20	-18	-39		
	1940	-19.8	+24.3	-2.0	+9.24	-159	-34.0	-89.9	-33.9	-18.4	-26.2	+35.0	-21.5	-5	-5	-3		
	1912	-61.1	-53.3	-74.3	+12.5	-20	-5.6	-11.8	+20.0	+15.3	-12.1	+41.4	70.3	-15	+1	+10		
	1884	-38.8	-53.7	-69.4	+40.7	-43.1	-23.1	-25.0	-15.3	+65.6	-30.9	+8.1	+12	-48	-1			
4	1999	-24.2	-25.8	-13.9	-23.5	-30.1	-48.8	-2.28	+7.8	-40.9	+25.8	-24.0	-18.4	-9.1	-20	-15.9		
	1982	+5.15	+59.3	-34.4	+27.6	+0.5	-24.1	-28.6	-66.3	-40.9	+12.4	+17.0	-27.0	+1	-5	+13		
	1965	-51.1	+40.2	-36.6	+44.5	-23.3	-24.2	-27.0	+2.08	-9.7	+60.8	-7.04	72.0	+10	+3	+3		
	1943	+13.5	-54.8	-20.8	-31.4	-30.9	-35.8	-50.5	-9.5	+27.8	+99.1	+1.76	-14.9	-5	-20	-20		
	1926	-69.7	+32.3	+298.6	-10.8	-33.5	+1.8	-19.4	-31.4	-36.5	-18.6	-36.7	-5.3	-25	-2	-1		
	1909	-6.87	-45.4	-32.6	+0.71	-45.4	-22.4	-35.9	+2.06	-4.5	+1.24	+26	+4.3	-12	+44	+7		
	1887	+20.1	+165	+2.4	-23.5	+5.41	-32.6	783.3	+133.1	+506	+148.0	+16	+31.9	+49	+62	+40		
	1870		+11.5	-64.1		-89.5	-42.4		+50.6	-22.8		-58.1	+25.5	-29	+25	-7		
5	2000	+56.9	+75.4	+47.8	-22.9	-7.8	-34.8	+66.5	+145	764.9	-57.0	-25.1	-57.9	+11	+39	+23		
	1972	70.93	+39.5	-77.6	-42.6	-67.6	-49.6	-58.4	-85.1	+29.9	-37.2	+39.9	+446.6	-1	-24	-34		
	1944	-17.7	+99.9	-0.2	-1.96	+5.6	-17.4	-310	+33.6	-35.4	+74.8	-1.92	-10.9	-39	+15	-2		
	1916	+42.2	-36.5	-2.4	+9.79	+12	+36	-24.3	+17.9	-11.5	+92.0	+54.0	-38.4	+19	+45	+18		
	1888	-18.3	-55.3	-56.2	-4.76	-53.2	-32.5	-43.6	-42.2	-57.4	-49.3	+72	-57.6	-28	-14	-39		
6	2018																	
	2001	714.4	-61.8	-13.4	-6.5	-44.4	-52.0	-53.8	-22.4	-94.3	-28.4	+10.9	+15.1	-25.1	+2.1	-1.2		
	1979	-18.7	-26.9	-23.0	-530	-40.4	-60.9	-50.4	-578	-64.2	+99.3	+37.8	+12.1	-8	-20	-21		
	1962	-48.5	+54.0	-36.1	-24.9	-47.1	+2.5	-27.6	+6.1	-10.5	+103	+4.4	+58.9	+14	-11	+30		
	1945	+17.1	-58.3	-67.7	+14.2	+11.2	-6.7	-2.23	+17.7	-26.6	+18.9	-15.6	+6.3	+8	+15	-1		
	1923	-80.1	-11.2	-75.5	+3.97	-53.4	-57.5	-54.2	-80.7	-99.4	+73.8	+33.5	-99.3	-17	-29	-13		
	1906	+95.6	+57.6	+180.6	-10.7	+18.0	-34.9	-3.33	+13.8	+10.9	+34.8	+47.4	-45.6	+10	+29	+18		
	1889	-16.6	-25.8	+50.1	+2.55	+43.6	-27.4	+24.0	+28.8	-33.2	+76.8	+17.8	+45.2	+18	-34	+23		
7	2019																	
	2002	-23.0	+16.5	+478	-70.2	-50.1	-69.6	+5.43	-44.2	+64.9	-58.4	-23.4	57.9	-37.1	-31.5	-35.1		
	1985	+19.3	-21.8	-4.6	-15.4	-85.6	-6.8	-44.5	-18.3	-24.8	-39.2	-62.0	-44.1	-23	-20	-4		
	1963	-24.0	-7.7	-36.3	-43.0	+4.5	-22.2	-25.0	+60.6	-7.2	-27.1	-35.4	-4.3	+11	+2	-3		
	1946	+270	-31.6	-22.0	+5.69	-39.7	-9.8	-18.3	-16.6	-30.5	-47.4	+6.4	-16.1	-8	-20	-15		
	1929	-31.6	-20.2	+46.2	-56.6	-44.5	-65.4	-39.9	-69.5	-22.5	+79.3	+58.1	-4.1	-18	-12	-3		
	1907	722	-19.7	+48.8	-42.6	-19.7	-35.1	?	-74.6	-53.6	-18.4	-1.2	-84.4	-8	-28	-19		
	1890	+1.86	+84.1	+2.3	-7.57	-11.6	-39.7	-25.0	+9.21	-50.7	+78.5	+38.5	-30.7	+10	+22	-15		
	1873	-13.5	-47.7	-48.2	-64.5	-53.2	-39.4	-31.5	-24.7	-16.7	+39.8	+25.6	-39.9	-27	-19	-20		





8	JUNE			JULY			AUGUST			SEPTEMBER			Revised		REMARKS
	T	R	C	T	R	C	T	R	C	T	R	C	T	R	
2003	+11.3	-14.8	-21.6	-7.57	+22.3	-0.9	77.85	-6.2	-28.8	-1.86	-20.1	-13.2	-8.2	8	+3.2
1986	79.92	+5.6	-19.6	-21.4	-28.4	+52.9	+47.3	-54.8	+31.1	34.3	+20.3	-43.6	-1	-5	-3
1969	+6.09	+11.3	-37.4	77.99	+11.0	-5.0	-26.4	+53.5	-57.1	-78.9	-73.9	-20.6	+9	+44	-22
1947	-56.9	-16	-46.5	-29.3	+25.6	-3.5	-25.0	+85.6	-7.2	764.9	70.8	+28.8	+35	-3	+19
1930	740.5	+42.7	+39.8	-46.6	-61.0	-44.1	-41.8	-62.7	-48.7	+41.0	+35.1	-17.6	-17	-39	-6
1913	-32.1	-66.5	-13.3	+25.3	-18.9	-9.7	-48.6	-69.7	-63.8	-3.9	-3.52	-33	-18	+74	-17
1874	-45.9	+39.5	+7.3	+4.1	+50.6	-13.4	-43.8	-58.1	-59.8	+15	+252.0	+32.3	-2	-12	+14
9	2004														
1976	-30.7	-2.6	-63.3	+77.3	-23.9	+24.8	+2.73	+83.1	+17.4	20	-54.4	-52.3	+18	2	+7
1948	-69.0	-48.1	-61.5	-45.8	-35.6	-26.6	-58.7	-15.6	-48.9	+66.3	-19.3	-8.1	-10	-30	-19
1920	-39.6	-39.5	-42.8	-40.6	-71.8	-99.4	+55.5	-36.6	-47.4	-22.7	+24.3	-35.6	66	-30	-38
1892	+20.1	+16.5	+2.4	-23.5	+5.41	-32.6	783.3	+133.1	+50.6	+148.0	+16	+31.9	+49	+62	+40
10	2005														
1983	+7.42	+17.6	+19.8	+2.92	-88.9	+7.0	+85.1	+77.8	+22.4	+127	+160	+39.6	+51	+65	+50
1960	-29.2	+5.97	-12.1	-39.3	+23.1	-17.2	-67.6	-88.5	-59.9	7105.2	+167	+60.4	-9	-29	+12
1949	-26.3	+51.6	-8.4	-24.4	+13.7	+3.1	-11.9	+29.5	+8.5	+1106.1	+109.0	+61.1	+5	-50	+47
1927	+55.6	+25.9	+34.2	+4.10	+26.3	-23.5	-35.7	+46.0	-9.3	+7.67	+94.1	+16.4	+1	+24	+23
1910	+81.6	-22.2	+20	-35.6	+76.6	+2.1	-34.1	+62.9	-17.8	+78.6	+55.2	+4.8	+10	+45	+22
1893	+42.3	+53.4	-13.4	+10.5	+98.2	-55.1	+67.8	-35	-10.6	+15.0	-6.96	-56.6	+45	+16	+19
1871	-41.2	-59.5	+399.6	-44.5	+31.0	+85.6	-77.6	+6200	99.9	+65.4	+26.6	+714	-36	-7	-18
11	2006														
1989	+71.8	-47.9	-20.3	+72.1	+26.5	+80.2	+2.64	79.6	-10.5	753.3	+59.8	-99.3	+43	+49	+42
1967	+17.4	-25.4	-1.7	+51.5	+6.11	0.4	-26.2	72.2	-55	+28.3	+6	-16.7	+19	-10	+2
1950	-51.7	-12.2	-40.7	-39.7	-20.8	-9.4	-67.6	7.19	-59.9	+31.5	+11.3	+2.8	+1	-5	-9
1933	+87.3	-76.1	-52.5	+116	-18.9	-6.9	-22.9	+80.3	-29.6	749.7	-48.4	-32.1	+11	-11	-5
1911	+0.78	+3.47	-22.9	-36.6	-26.4	-22.2	-28.4	-59.8	-62.5	+1.00	-22	-13.5	-20	-32	-18
1894	+7.8	-45.4	-8.2	+25.4	+15.3	-51.4	+14.6	78.6	-31.4	+3.0	-17.3	-0.06	+19	+11	-7
1877	-43.2	+5.41	-70	-75.6	-65.4	-53.4	-58.5	-48.5	-58.3	+15.9	+7.20	+21.4	-39	-19	+21
12	2007														
1990	+48.6	-29.3	-9.3	-39.0	-45.2	-54.4	+49.2	-2.2	+6.1	+10	+32.3	-99.3	+11	+8	-2
1973	+0.31	+0.5	-33.6	-9.41	-29.8	-46.7	+42.2	+15.4	-19.9	+0.0	+10.1	31.5	+1	-8	-21
1951	-17.0	-15.9	+3.1	-5.77	-7.8	+28.6	+405	-62.2	-26.4	-0.3	-33.6	-31.4	-10	-33	+11
1934	-3.04	-25.6	-4.5	+22.8	+27.0	+5.9	+0.3	-68.0	-18.8	+11.5	-62.4	-40.4	+5	-30	-1
1917	+43.9	+36.3	+87.7	+7.94	-38.8	-38.4	-17.2	+52.1	+3.2	+11.3	+22.0	+80	+25	+17	+38
1895	-17.5	-44.5	-21.4	-7.9	+27.6	-17.4	-15.4	-27.6	-4.8	-60.3	+41.3	+25.5	+45	+2	+19
13	2008														
1980	+66.0	-17.6	+80	-34.3	-28.4	-11.6	-99.9	7017	-6.6	+2.48	-447	-37.1	+5	-25	+20
1952	-50	+34	-37.8	-59.7	-45.3	-45.0	-60.4	-42.1	-51.0	-40.1	-63.6	-53.2	-30	-41	-39
1924	-4.8.6	-58.8	-56.6	-36.1	-13.3	-45.2	-16.7	-38.6	-32.8	+105.9	+81.4	+7.4	-7	-3	+8
1896	-34.0	-32.3	-22.8	-18.7	-58.8	-29.3	+0.18	-21.8	-25.3	+08.2	-31.2	-16.5	-24	-32	6
14	2009														
1987	-31.1	-36.5	-53.8	-12.6	-5.2	-53.6	+0.63	+30	-20.9	-52.1	-18.0	-60.6	-18	-21	-39
1970	775.9	-5.1	+41.5	-39.9	-2.8	-39.7	+63.4	+77.2	+9.0	+36.3	+83.0	+477.5	+25	+39	-5
1953	-20.3	-26.5	+0.8	-56.1	+4.1	-40.1	-35.7	-48.4	-20.4	714.6	+54.8	-10.3	+25	+10	-3
1931	+50	-440	+768.9	+12.3	-2.70	-24.0	+38.0	-26.9	+39.2	+14.3	-33.2	+12.8	+18	-11	-12
1914	7159.0	-13.6	-7.9	+11.6	-23.1	-19.7	-8.43	+42.1	-31.3	+67.9	+60.8	+44	+27	+20	+18
1897	-34	-42.6	-57.2	+47.5	-9.47	-48.1	-34.6	+32.1	-26.5	+42.4	+12.8	+39.4	-1	+35	-2
1875		+11.5	-64.1		-89.5	-47.4	+50.6	-22.8		+58.1	+25.5	-29	+25	-7	
15	2010														
1993	-37.1	-46.1	-58.6	-17.1	+19.3	-36.9	-27.9	+43.4	-40.1	-2.40	+9.9	-1.8	-17.5	-12.8	-6.3
1971	77.89	-31.3	-32.3	-61.3	-26.8	-57.4	-19.4	-25.4	-24.6	-14.3	-46.7	+5.1	-29	-35	-10
1954	-27.1	-54.6	-9.4	-30.0	+93.4	-4.8	-40.2	-17.3	-26.6	778.9	-52.8	739.9	+24	-10	+19
1937	-50.8	+15.9	-89.6	+10.9	-9.48	-35.2	+43.5	+63.1	-31.4	+11.3	+80.7	+444.0	-10	-11	-8
1915	+89.4	-39.0	+18.1	-15.2	+58.2	-24.4	-8.40	49.2	+24.4	-12.6	+58.3	-14.9	+10	+6	+21
1898	-20	-37.2	+5.3	+47.8	-30.2	-18.1	-34.6	-42.1	-51.4	+42.4	+106.4	-5.5	+18	+3	-3
1881	-18.9	+15.0	+41.2	-56.7	-78.3	-73.3	-34.2	+75.1	-123	+41.0	+12	+10.4	-36	+5	+4
16	2011														
1994	-29.0	-40	-55.7	-20.0	-98.9	-9.7	+6.71	-10.8	-37.2	-71.7	-71.3	-49.3	-23.5	-34.9	-21.4
1977	70.93	+39.5	-17.6	-42.6	-67.6	-49.6	-58.4	65.1	+22.9.9	-37.2	+39.9	+446.6	-39	-24	-34
1955	-49.8	-48.3	-37.6	-55.5	+17.2	-39.2	-16.5	+94.7	+3.2	+29.2	+10.6	+1.0	+35	+20	+3
1938	795.6	733.3	+25	715.8	-34.1	-36.1	+25.8	+13.9.8	77.7	+89.8	+81.7	782.2	+48	+58	-45
1921	+44.2	-4.16	-39.8	-660	+75.5	+2	-47.2	+45.7	-30.7	+50.6	-23.2	+2.5	-1	-5	+13
1899	-17.2	-85.4	-57.8	-74.7	-88.4	-68.4	-38.1	-37.7	-34.1	-10	+43.5	-22.9	-43	-38	-32
1882	+20.1	+165	+2.4	-28.5	+5.41	-32.6	783.3	+133.1	+50.6	+148.0	+16	+31.9	+49	+62	+40
17	2012														
1984	-34.8	-56.1	-37.4	+0.50	+49.4	-15.2	-58.5	-84.1	-71.6	+24.6	-22	-37.8	-20	-30	-23
1956	76.875	+21.8	+32.8	70.96	+809	+37.8	-30.7	-38.4	-14.3	+503.6	+38	+19.6	+24	+20	+40
1928	+37.3	+21.3	-56.2	-21.5	-34.5	-20.2	-27.5	-17.4	-29.7	+102	-3.44	+9.5	+9	-5	-2
1900	-10.9	-30.1	-47.8	+29.3	+18.5	-19.3	-38.7	-78.6	-63.6	+90.3	+53.8	+10.0	+10	-2	-12
1872	-44.5	-19.8	-0.2	-29.9	-17.7	-18.1	-45.0	99.1	9.49	+44.4	+54.3	+16	-25	+4	+18



	2013	June			July			August			SEPTEMBER			OVERALL SEASON			REMARKS
		T	R	C	T	R	C	T	R	C	T	R	C	T	R	C	
18	1991	+42.1	+17.7	+64.5	-11.9	-16.1	-30.2	-39.0	-17.8	-93.7	+1.31	-11.6	+32.7	-9.6	+14.7	+22.6	
	1974	-26.6	-5.5	-14.3	-46.9	-12.2	-99.9	-22.6	-20.7	-37.2	+17.6	+10.3	+33.6	-24	+19		
	1957	-16.9	+19.5	+45.3	-49.0	-12.9	-30.4	-1.91	-26.6	+21.3	+12.4	-22.4	-12.1		+8	+24	
	1935	-6.87	+43.4	-45.1	+11.5	+4.16	-30.6	-31.1	+138.8	+346.3	+51.0	-11.3	-21.8	+2	+35	-24	
	1918	-93.3	-45.9	-16.8	-46.1	-95.3	-62.1	-57.0	-36.2	-40.5	+1.00	+18.1	-13.2	-40	-29	-20	
	1901	-21.0	-6.25	-40.7	-11.5	-69.7	-43.8	-16.3	+10.4	-42.2	-44.0	+30.1	-28.9	-19	-29	-24	
	1879	-8.51	+18.8	+3.2	-27.8	+48.1	-116.5	+31.4	-10.4	-99.4	+56.7	+19.7	-51	-9	-6	-16	
19	2014																
	1997	-59.7	+7.9	-65.1	-40.2	-54.2	-37.2	-33.8	-40.7	-48.2	+10.6	+134	+109	-33.2	+14.1	+15	
	1975	-15.4	-4.9	+53.8	+7.44	+48.3	-16.3	-10.9	-14.9	-28.5	+149	+31.6	+7.2	+21	+11	+20	
	1958	-60.6	-19.5	-42.3	-10.1	-16.7	+22.7	-32.0	+105	-15.9	+13.0	-10.4	-12.7		+8	+10	
	1941	+18.0	-47.0	+82.5	-67.5	+578	-70.2	-33.4	-48.3	2269	+37.2	+53.6	+1.2	-32	+8	-5	
	1919	+26.6	+6.66	-20.1	-41.1	-57.3	-19.7	-55.7	-80.0	-49.2	+457	+10.7	-26	-32	+2	-15	
	1902	-36.6	-27.6	-47.8	-48.6	-13.6	-35.5	-12.1	-55.7	-99.4	+26.3	-13.2	+15.1	-19	-17	+4	
	1885	-20.7	+19.4	-4.2	-14.1	+11.8	-31.5	-47.8	-41.8	-67.3	+38.5	-25.4	+5.5	-18	-18	-10	
20	2015																
	1998	71.32	-529	-34.5	-21.5	-58.6	29.8	+15.4	+20.2	+5.1	+49.0	+70.6	+56	-50.9	+37	+25.3	
	1981	+36.3	-0.6	-26.9	+1.12	-5.9	+10.0	+7.12	-7.6	-28.9	+105.1	+61.2	+24.6	+28	+10	+25.3	
	1959	-4.76	+76.3	+18.3	-11.5	+9.27	+20.5	-34.2	-165	-30.9	-99.9	+136	-28.8	+40	-10	+12	
	1942	74.76	+42.7	-12.1	-7.78	-66.7	-47.9	+22.4	-13.1	-18.4	-44.5	-24.8	+34.2	-4	-20	-20	
	1925	0.29	-47.2	+1.0	+2.30	-9.2	-10	-4.93	+19.1	+2.4	-0.54	-18.4	+386	-2	-14	+4	
	1903	-25.7	-690	+22.6	+54.0	-46.8	+10.2	+34.8	+30.3	+8.0	+5304	+72	+7.0	+45	+39	+37	
	1885	+60.9	+3.88	+25.1	+26.6	+69.4	+4.2	+40.6	+40.1	+55.3	-39.9	+9.04	-99.3	+24	+21	+38	
21	2016																
	1988	-14.2	-57.0	-57.4	+10.7	+77.7	+33.6	-25.9	+12.7	+19.4	+136	+33.4	+37.4	+65	+50	+41	
	1966	-54.9	+67.3	-32.8	715.4	+14.3	+32.3	-7.57	+0.5	+6.1	+61.3	+14.8	-27.2	+3	-20	+9	
	1932	+13.2	-629	-13.1	7397	-24.1	-13.7	+20.1	+22.0	-36.2	+52.6	-20.32	-32.4	+1	-10	-18	
	1904	+15	-33.4	-42.5	-4.6	-22.1	-51.4	-69	-83.0	-38.0	+36.9	-39.6	-41.5	-24	-55	-30	
	1876	-42.2	-20.8	-33.3	-34.7	73.6	-52.1	-31.8	-42.4	-99.9	-40.6	-71.1	-50.4	-38	-53	-19	