Central United States Interactive Effects of Solar Radiation Related to: the Earth's Magnetic Field, the Storage System of the Earth's Atmosphere, Surface Temperatures, and Tornado's

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Thanks to:

NOAA NCDC F6 Data

Jan Alvestad, Solen Info

SOHO

Weather Underground

Biographical data as it pertains to the 2011 High Planes Conference in Wichita, Kansas

- Taught electronics theory, flight, manufacturing, and physics in the College of Science at MSU for 30 years.
- Taught beginning, advanced, and graduate statistics, in the College of Business at MSU for 5 years.
- Have worked with solar cycles through all bands of amateur radio since 1955.
- Licensed pilot and taught weather elements for pilots for 30 years.
- Was a full time broadcaster for 15 years and Chief Engineer with a First Class Commercial FCC license. Built radio and television stations.
- Disk Jockey for Top Forty radio show for 10 years, which included news and weather.

Philosophy of Research

A good researcher strives for truth. Scientists do not skew data toward their wishes. Don't take sides. Don't place issues on your shoulders. Place them on a table where other researchers can study. Be respectful of other scientist research. (Relate to the story of the fighter pilot versus the heavy aircraft lifter.) You need to question your own work. Ask your self, "is this answer about right." If there is a mistake, the results will probably be way of target. Should you feel like a failure when making a mistake? No. You have just found out something that does not work and   Penicillin was discovered by a mistake.

Weather Review 101

Where does our weather come from? There is no practical heat from the earth's molten core. All earth's energy comes from the sun. In general, it's solar energy and how the earth's atmosphere processes and stores this energy with protection via the earth's magnetic field. Since the magnetic field is fairly constant the two basic concepts are:

1. the varying solar energy.
2. the storage and delay characteristics of the earth's atmosphere.

Additional items include:

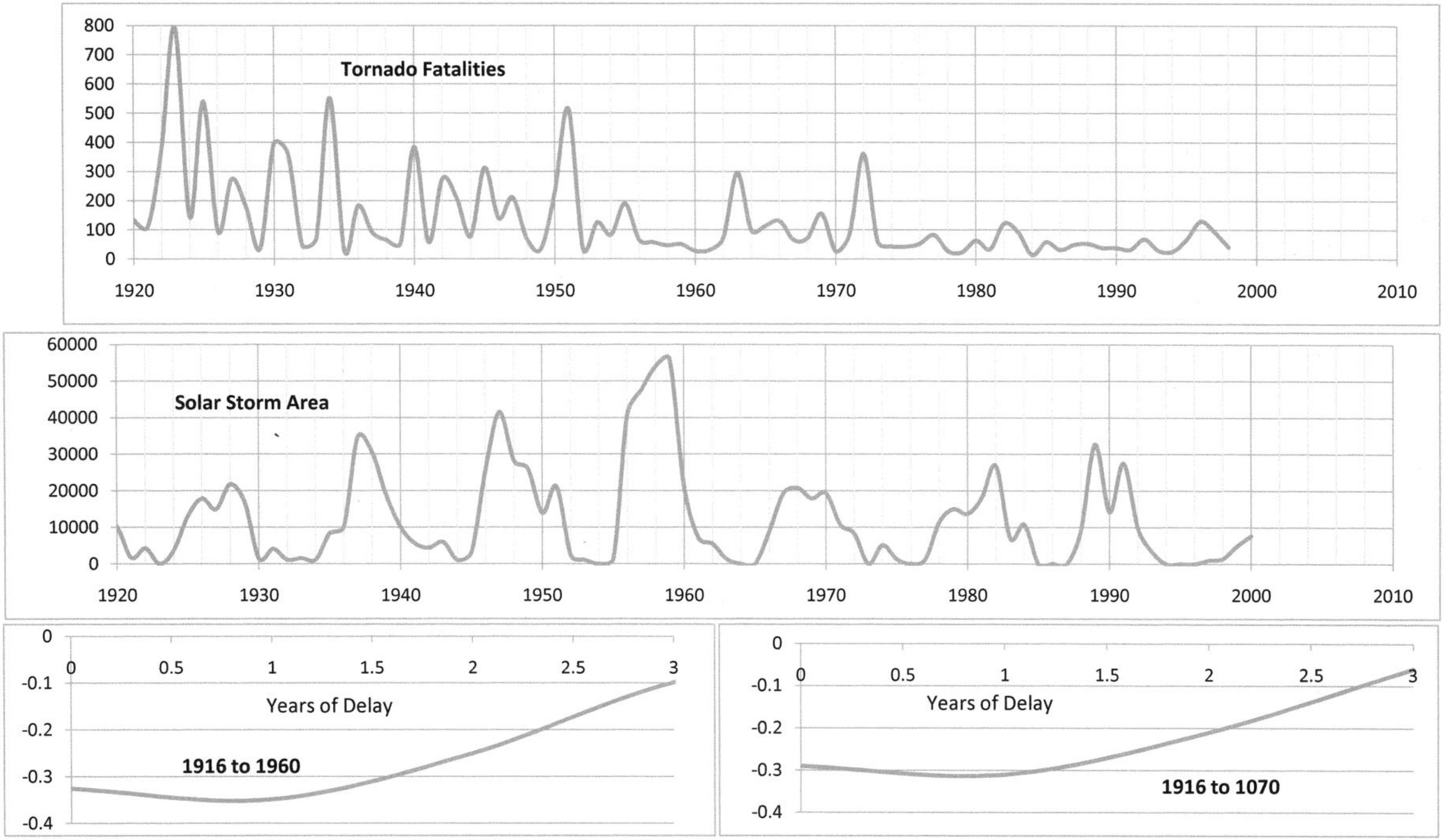
- the earth’s rotation
-the 23 ½ degree tilt of the earth’s axis
-Hadley cells and the creation of the three major wind belts
-Rossby waves
-distortions or kinks that develop in Rossby waves

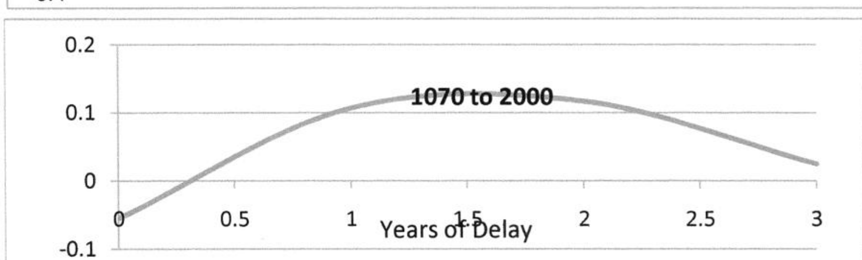
Rossby waves of the earth are not a perfect circle like in your coffee cup. The kinks are the beginning of a low pressure area and mass or frontal systems. The other two methods of developing warm most air up lift are orographic and convectional. Ninety degree wind shifts from high pressure to low is caused by pressure gradient, frictional effects, and the coriolis force. Attention should also be made to specific humidity rather than relative humidity. Since our star’s output is not constant and the direct rays on the earth vary because of our 23 ½ degree tilt, neither is our weather stable on planet earth. The variations of the sun’s output is basically in the form of solar storms which is often commonly called sunspots. However, many researchers use the intensity or area that a solar storm covers. Two major methods of forecasting weather is looking at weather patterns using historical data, the other is trying to understand how the weather machine of the earth works.

Tornado Observations

Figure 1, is a plot of fatalities and solar activity. Notice that when solar activity is greater, the number of fatalities are down. When solar activity is less, fatalities are on the rise. Notice the delay of about a year or a year and half. Notice there were far more fatalities in the early part of the 20th century when the population was much less than the present. Notice also of the dwindling fatalities from about 1975 to 2000. If the question is ask, “What causes Tornado’s,” Where do you start to answer such a question? If you ask what makes a country strong and two answers are a strong military and a good economy, then how do you get a strong military and a good economy. It must be traced back to how much success a country has competing in the global market place. Where do you trace the earth’s weather system back to? Not the jet stream, not the El’ Nino, not how the Rossby system and kinks develop, but when solar energy hits the atmosphere of the earth.

Solar Storm Areas Coorelated with Tornado Fatalities Related to Years.





Vertical Axis is Coorelation Coefficient

After 1970 any effects between solar storms and tornado fatalities does not appear to be significant.

This data may reveal some small evidence of a atmospheric delay.

Figure 1.

Temperature Effects of Solar Radiation

The popular press, government, and many scientist have been warning us of our part in atmospheric change. Half of our atmosphere in weight is less than 18,000 feet. That's 3.409 miles straight up. The earth has a diameter of 7926.28 miles, so we should be concerned about our very thin atmosphere. However, Dr. Roy Spencer and Dr. John Christy of NASA and the University of Alabama once stated that earthlings are contributing about 2 or 3 percent of change in our atmospheric characteristics. A Nobel Prize might be earned by the study that could prove exactly how much different the atmosphere would be if humans where not present on the planet earth. The North Magnetic pole, which is really the south magnetic pole, is beginning to shift faster than it has in the last 100 years. In the last 300 years the earth has lost 10 percent of it's magnetic field. The earth's magnetic field is a strong player in our weather system because without it, we would lose our life support system. We are assuming when Mars lost it's magnetic field, it lost it's water.

Since the time of Galileo we have observed the 11 year solar cycle. Starting in about 2008, we have experienced a significant change in this 11 years cycle. Figure 2, reveals a startling decline in sunspot magnetic field strength. The cycle stayed low with little activity until near 2010.

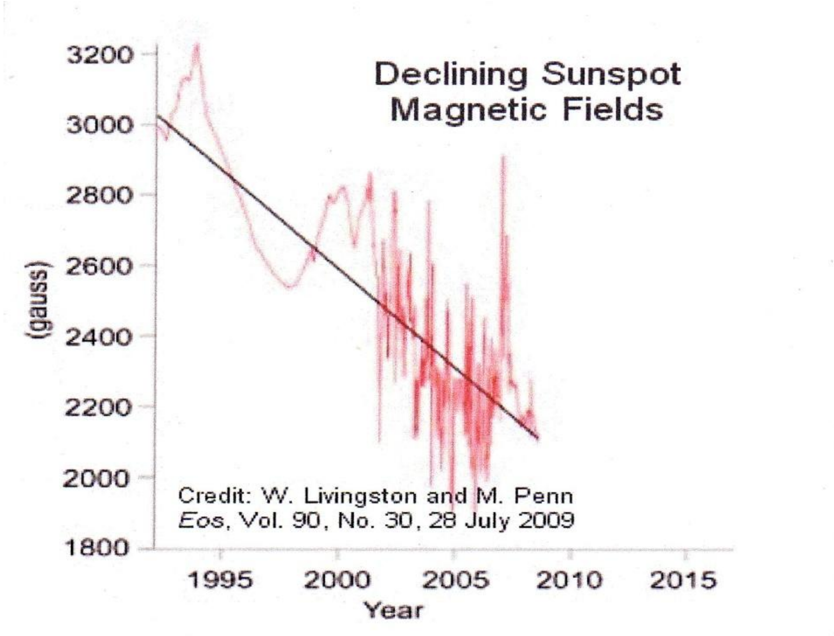


Figure 2.

The next peak was forecast for 2011 and 2012. This is not happening. Figure 3, shows the old and new forecasts.

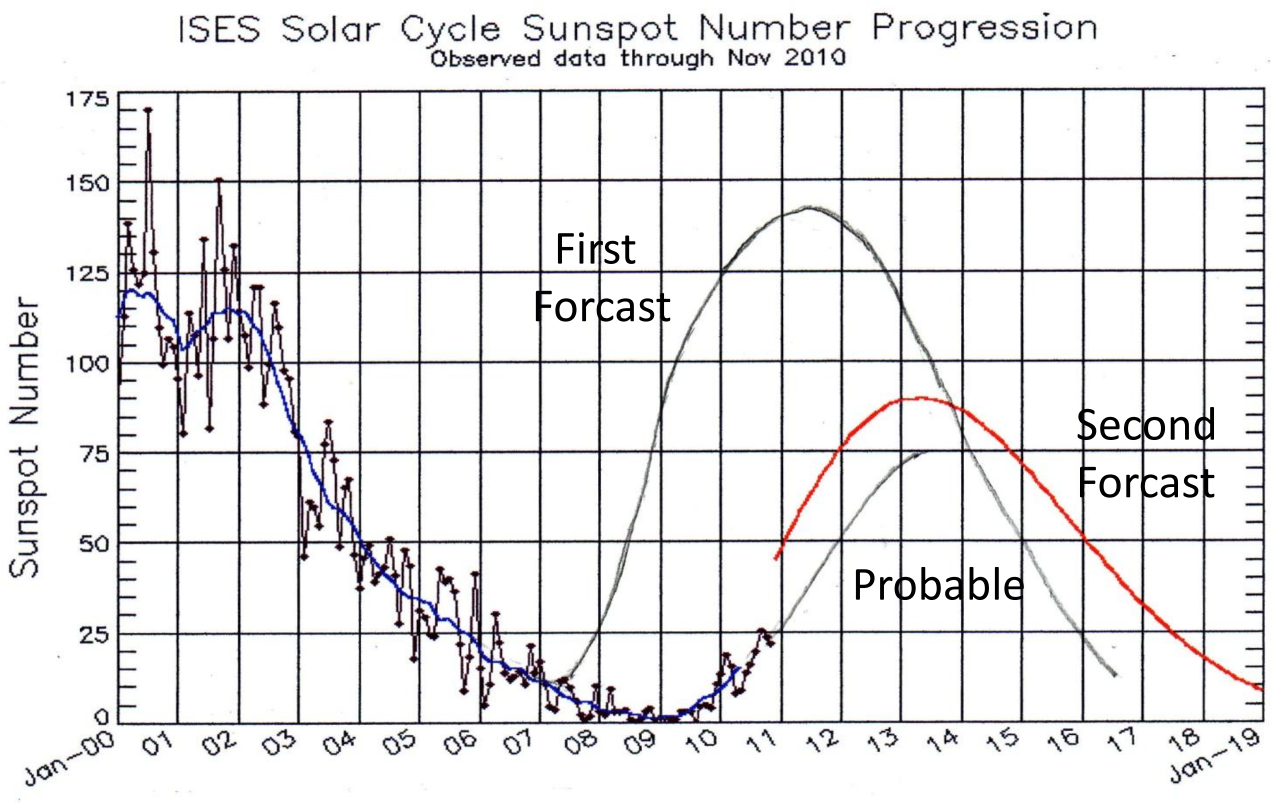


Figure 3.

Let us not forget the almost perfect correlation between sunspots and cosmic ray count in Figure 4.

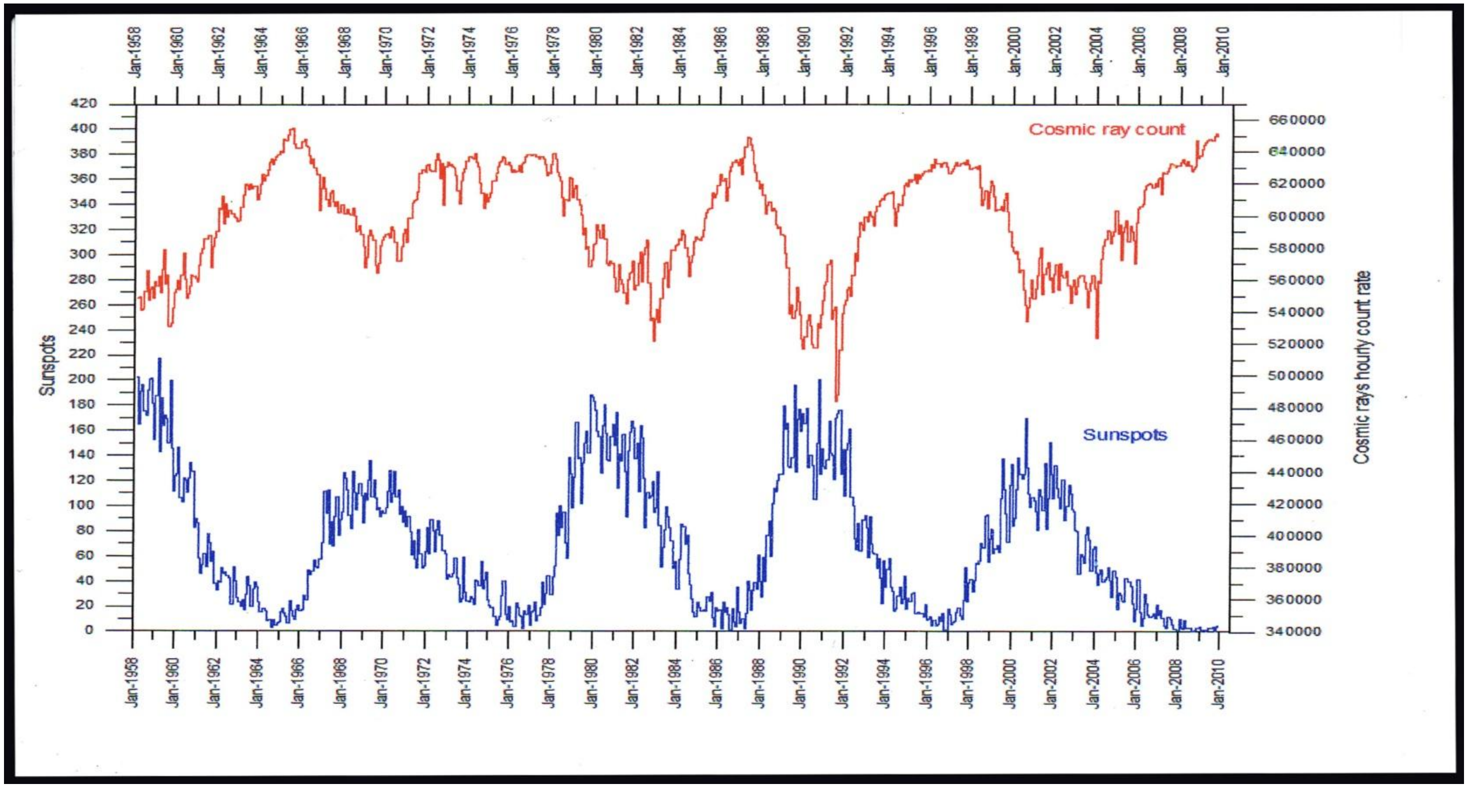


Figure 4.

With respect to temperatures, the following Figures are samples of recent temperatures during this abnormal solar cycle 24. Although the annual average may not change much the, ***winters and summers are showing extremes. Colder in the winter, warmer in the summers.***

Amundsen Scott AntarcticaTemperatures F

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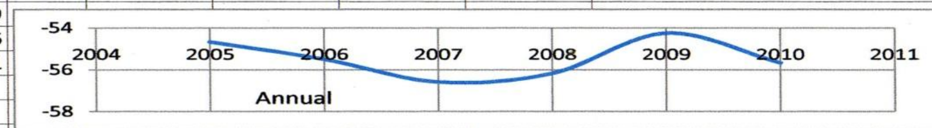
Year	2005	2006	2007	2008	2009	2010	2011
January	-15	-18	-16	-21	-16	-14	-14
February	-38	-38	-43	-42	-42	-35	-34
March	-60	-79	-70	-64	-59	-58	-69
April	-67	-68	-78	-65	-74	-81	-76
May	-74	-57	-68	-74	-61	-65	-81
June	-74	-72	-61	-80	-67	-77	
July	-82	-80	-73	-71	-73	-75	
August	-77	-50	-76	-76	-78	-72	
September	-63	-76	-78	-65	-69	-80	
October	-56	-70	-59	-61	-60	-58	
November	-39	-36	-38	-38	-35	-37	
December	-11	-22	-19	-17	-17	-16	
	2005	2006	2007	2008	2009	2010	
Mean	-54.667	-55.5	-56.583	-56.167	-54.25	-55.667	

Winters of 2005/2006 to Winter 2009/2011

November	-39	-36	-38	-38	-35	-37
December	-11	-22	-19	-17	-17	-16
January	-18	-16	-21	-16	-47	-14
February	-38	-43	-42	-42	-35	-34
March	-79	-70	-64	-59	-58	-69
April	-68	-78	-65	-74	-81	-76
	Win 06	Win 07	Win 08	Win 09	Win 10	Win 11
Mean	-42.167	-44.167	-41.5	-41	-45.5	-41

Summers of 2005 to 2010

May	-74	-57	-68	-74	-61	-65
June	-74	-72	-61	-80	-67	-77
July	-82	-80	-73	-71	-73	-75
August	-77	-50	-76	-76	-78	-72
September	-63	-76	-78	-65	-69	-80
October	-56	-70	-59	-61	-60	-58
	2005	2006	2007	2008	2009	2010
Mean	-71	-67.5	-69.167	-71.167	-68	-71.167



The 32 year average for South Pole, Antarctica before 2001 was -55 F.
The average Amundsen Scott, from 2005 to 2010 was -55.472 F.
On the average 2005 to 2010 revealed no significant difference in Temp than previous decades.

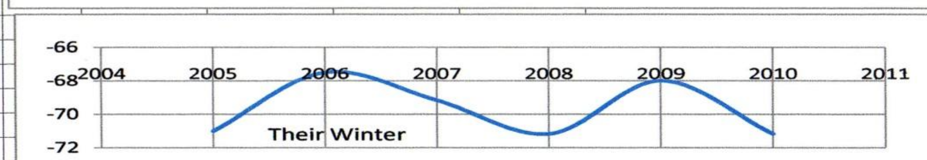


Figure 5.

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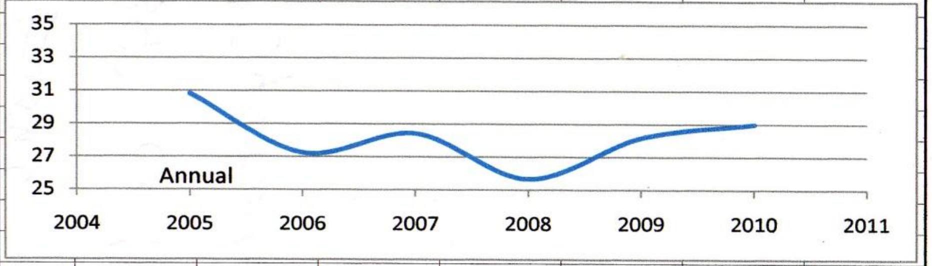
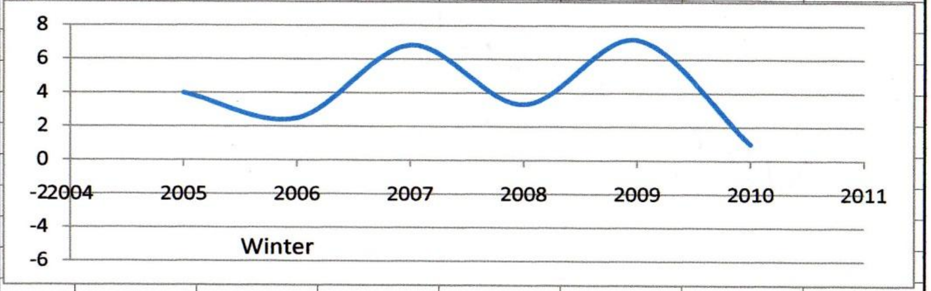
PAFB, AK Temperatures F

Year	2005	2006	2007	2008	2009	2010
January	-10	-23	-6	-9	-11	-10
February	-1	5	-3	-3	0	6
March	21	6	-7	16	7	12
April	35	32	39	29	31	37
May	56	50	52	49	50	56
June	64	62	63	59	61	61
July	65	63	65	59	69	63
August	60	56	60	54	55	59
September	47	52	48	47	48	47
October	29	32	22	14	30	29
November	-2	-8	12	0	0	10
December	6	0	-4	-7	-2	-22
	2005	2006	2007	2008	2009	2010
Mean	30.8333	27.25	28.4167	25.6667	28.1667	29

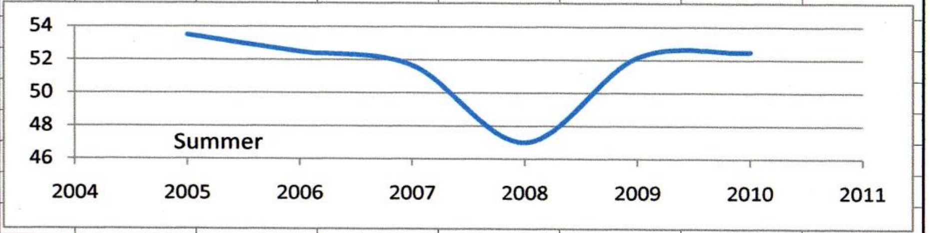


The average PAFB, AK temperature ending in 1997 was 35.1 F.
The average PAFB, AK from 2005 to 2010 was 28.222 F.

November	-2	-8	12	0	0	10
December	6	0	-4	-7	-2	-22
January	-23	-6	-9	-11	-10	-5
February	5	-3	-3	0	6	-2
March	6	-7	16	7	12	9
April	32	39	29	31	37	16
	2005	2006	2007	2008	2009	2010
Mean	4	2.5	6.83333	3.33333	7.16667	1



May	56	50	52	49	50	56
June	64	62	63	59	61	61
July	65	63	65	59	69	63
August	60	56	60	54	55	59
September	47	52	48	47	48	47
October	29	32	22	14	30	29
	2005	2006	2007	2008	2009	2010
Mean	53.5	52.5	51.6667	47	52.1667	52.5



The year 2005 marked the 11 year solar minimum of activity.

Figure 6.

Fairbanks Eiels, AK Temperatures F

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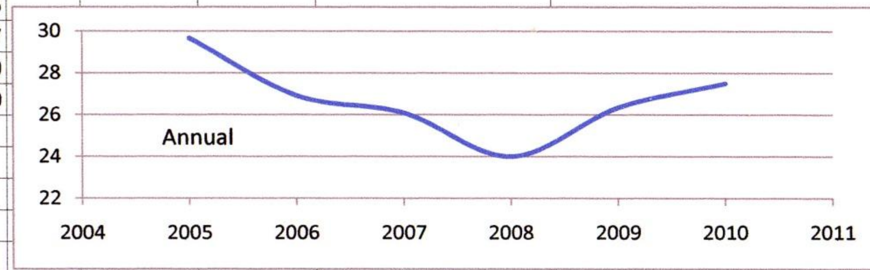
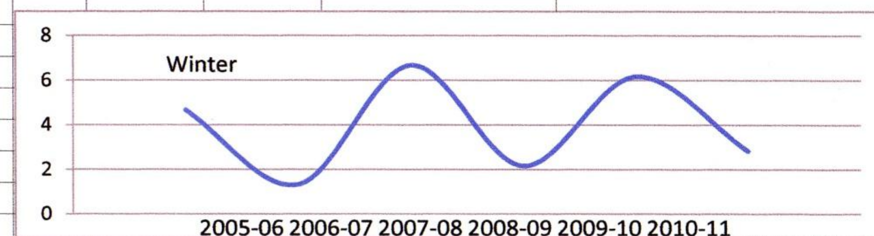
Year	2005	2006	2007	2008	2009	2010	2011
January	-9	-20	-5	-10	-12	-13	-7
February	-2	11	-5	-5	-1	4	-6
March	22	7	-6	16	6	12	7
April	34	31	37	29	31	37	30
May	55	51	37	47	48	52	50
June	62	59	60	57	57	57	
July	62	62	62	57	64	60	
August	58	55	58	52	52	57	
September	47	49	46	44	45	44	
October	28	31	19	12	29	27	
November	-5	-11	13	-1	-1	12	
December	4	-2	-3	-10	-2	-19	
	2005	2006	2007	2008	2009	2010	
Mean	29.6667	26.9167	26.0833	24	26.3333	27.5	

November	-5	-11	13	-1	-1	12
December	4	-2	-3	-10	-2	-19
January	-20	-5	-10	-12	-13	-7
February	11	-5	-5	-1	4	-6
March	7	-6	16	6	12	7
April	31	37	29	31	37	30
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Mean	4.66667	1.33333	6.66667	2.16667	6.16667	2.83333

May	55	51	37	47	48	52
June	62	59	60	57	57	57
July	62	62	62	57	64	60
August	58	55	58	52	52	57
September	47	49	46	44	45	44
October	28	31	19	12	29	27
	2005	2006	2007	2008	2009	2010
Mean	52	51.1667	47	44.8333	49.1667	49.5



The average Eiels, AK temperature from 1990 to 2004 was 31.25 F.
The average Eiels, AK from 2005 to 2010 was 26.75 F. 4.5 F colder.



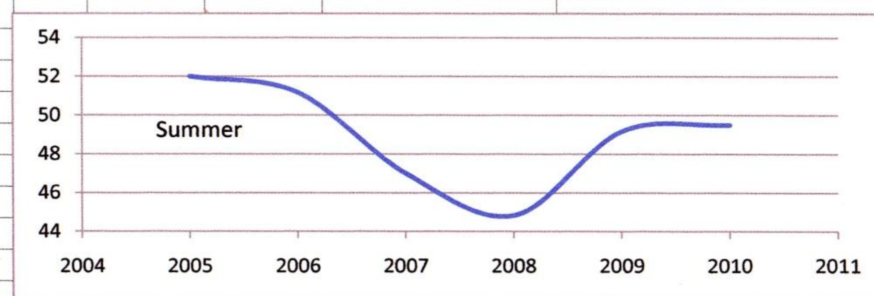


Figure 7.

Wichita, Kansas Temperatures F from 2005 to 2011

Generally - Colder in winter than average and warmer in summer than average.
Weather extremes have occurred since cycle 24 remained low.
Annual temperature and solar cycle correlation is r = 0.58
between 2006 and through May of 2011.

Year	2005	2006	2007	2008	2009	2010	2011
January	31	44	30	33	32	29	29
February	41	36	34	35	43	33	33
March	46	49	55	46	48	47	48
April	57	63	53	54	55	61	59
May	68	68	68	66	66	66	67
June	78	76	74	77	79	81	
July	80	83	80	80	78	83	
August	79	82	83	78	76	84	
September	75	68	74	68	69	74	
October	60	58	62	58	51	63	
November	48	48	46	46	51	47	
December	33	39	31	33	30	34	
	2005	2006	2007	2008	2009	2010	
Mean	58	59.5	57.5	56.16667	56.5	58.5	

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
November	48	48	46	46	51	47
December	33	39	31	33	51	34
January	44	30	33	32	29	29
February	36	34	35	43	33	33
March	49	55	46	48	47	48
April	63	53	54	55	61	59
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Mean	45.5	43.16667	40.83333	42.83333	45.33333	41.66667

May	68	68	68	66	66	66
June	78	76	74	77	79	81
July	80	83	80	80	78	83
August	79	82	83	78	76	84
September	75	68	74	68	69	74
October	60	58	62	58	51	63
	2005	2006	2007	2008	2009	2010
Mean	73.33333	72.5	73.5	71.16667	69.83333	75.16667

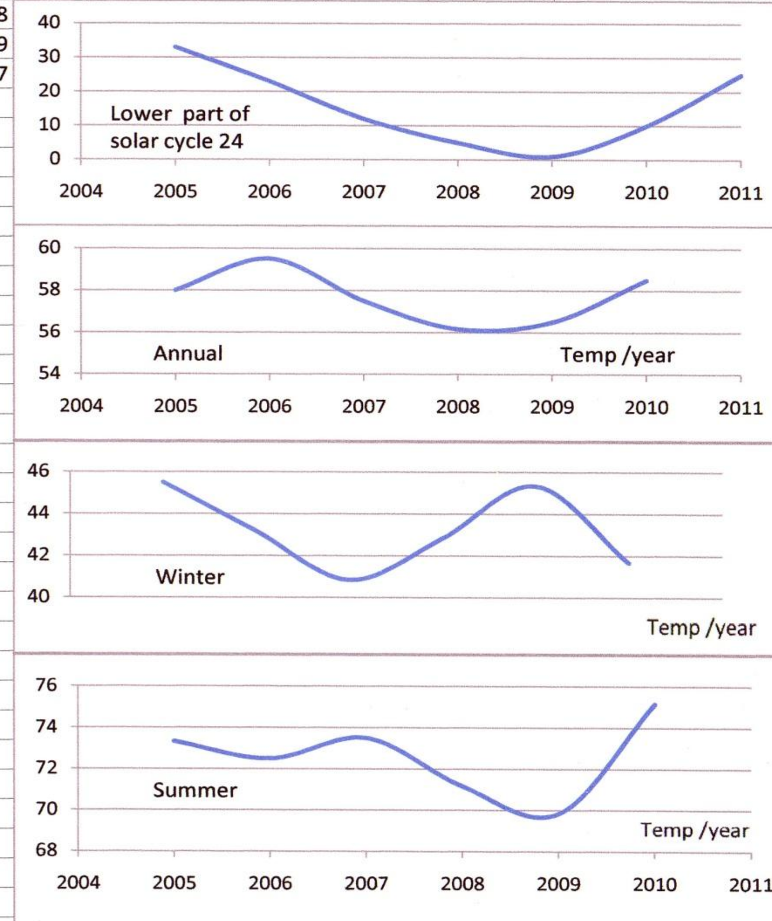


Figure 8.

Continued Work from Last Years 24th Annual High Plains Conference at Dodge City, Kansas.

Some of the following pages are from last years presentation relating to solar activity and how it effects the earth days to weeks later. Observe the outstandingly good correlation of over r = 0.9, on weekly forecast in Figures 9, and 10. Why is there a double peak? ***Why does the delay of solar activity to surface temperature vary from month to month or year to year?*** Why in some months there is little or no correlation? What does random numbers give us when interchanged with solar activity and surface temperatures ? Observe Figure 11.

Figures 12,13,14,15,16, and 17 shows random monthly studies of Wichita, Kansas relating to earth surface temperature affects and delays, of solar bombardment.

Month of **July, 2001** Correlations of Temperature and Solar Radiation

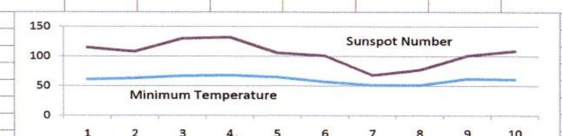
		Flux10.7cm	Max Temp	Avg Temp	Min Temp	Spot Num.	Spot Area
July	1	135	68	53	37	115	460
	2	134	75	64	53	108	480
	3	132	83	69	54	130	550
	4	127	75	62	48	132	540
	5	120	78	61	43	106	340
	6	116	86	73	59	101	260
	7	118	85	69	53	68	250
	8	126	90	73	56	77	270
	9	130	89	75	61	101	380
	10	130	80	67	54	109	120
	11	132	77	66	55	116	410
	12	134	83	70	56	115	510
	13	133	87	73	58	146	660
	14	141	85	66	76	161	720
	15	142	86	75	63	142	860
	16	150	83	77	70	179	1100
	17	146	88	76	63	191	1150
	18	143	90	76	61	193	1020
	19	142	87	75	63	180	650
	20	143	86	77	67	193	680
	21	139	85	77	68	153	670
	22	140	85	75	65	153	910
	23	143	82	70	57	143	660
	24	133	73	62	51	143	660
	25	133	78	65	51	96	540
	26	123	75	69	62	115	690
	27	121	69	65	61	96	460
	28	116	77	69	61	88	270
	29	117	78	69	59	59	190
	30	115	86	72	57	64	330
	31	117	74	71	67	85	450
August	1		78	69	60		
	2		82	69	56		
	3		92	79	65		
	4		93	84	75		
	5		95	83	70		
	6		93	79	64		
	7		94	80	66		
	8		89	76	63		
	9		71	61	51		
	10		74	61	48		
	11		82	69	55		
	12		71	61	51		
	13		78	63	47		
	14		89	73	57		
	15		74	65	55		
	16		77	65	52		
	17		80	68	56		
	18		71	62	53		
	19		80	65	49		
	20		83	71	58		
	21		83	73	62		
	22		85	73	61		
	23		86	72	58		
	24		86	74	62		
	25		85	72	58		
	26		85	70	54		
	27		82	66	50		
	28		84	67	49		
	29		85	72	58		
	30		71	59	46		
	31		69	55	40		

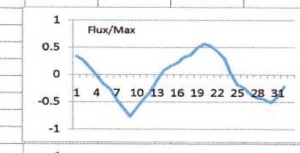
	Grand Forks, ND			Sunspot Number			Sunspot Area		
Delay	Flux/max	Flux/Avg	Flux/min	Spot/Max	Spot/Avg	Spot/min	Spot/Max	Spot/Avg	Spot/Min
	July	July	July	July	July	July	July	July	July
0 Day	0.341033	0.32205	0.32205	0.347023	0.386462	0.39727	0.281857	0.416434	0.444105
1 Day	0.260761	0.30093	0.30093	0.279904	0.301518	0.258702	0.199258	0.307255	0.308289
2 Day	0.120731	0.191243	0.191243	0.306201	0.402228	0.253213	0.137615	0.274289	0.233405
3 Day	-0.00524	0.081542	0.081542	0.124258	0.275639	0.244393	0.083851	0.267312	0.217396
4 Day	-0.16979	-0.06664	-0.06664	-0.10633	-0.01298	0.008955	-0.0128	0.245093	0.1275
5 Day	-0.2612	-0.19103	-0.19103	-0.38985	-0.30579	-0.21058	-0.26535	-0.06308	0.052036
6 Day	-0.46186	-0.35043	-0.35043	-0.55373	-0.4737	-0.42042	-0.41986	-0.34144	-0.3042
7 Day	-0.61347	-0.50914	-0.50914	-0.74243	-0.61228	-0.50936	-0.60319	-0.55687	-0.50788
8 Day	-0.76494	-0.63627	-0.63627	-0.74872	-0.64411	-0.43757	-0.614	-0.5582	-0.51611
9 Day	-0.60533	-0.50933	-0.50933	-0.62007	-0.51121	-0.33914	-0.62146	-0.47631	-0.32551
10 Day	-0.44897	-0.33185	-0.33185	-0.44933	-0.34021	-0.12253	-0.49802	-0.39097	-0.18784
11 Day	-0.31816	-0.16779	-0.16779	-0.33635	-0.17177	0.060092	-0.34971	-0.24245	-0.06657
12 Day	-0.09323	0.0648	0.0648	-0.11179	0.053655	0.147409	-0.07695	0.026269	0.082628
13 Day	0.076089	0.213322	0.213322	-0.00054	0.140904	0.217144	0.021379	0.166121	0.223828
14 Day	0.16152	0.2881	0.2881	0.146903	0.256131	0.321557	0.088327	0.199503	0.274704
15 Day	0.210716	0.330785	0.330785	0.285457	0.405916	0.463931	0.125922	0.199658	0.25144
16 Day	0.322987	0.400441	0.400441	0.439699	0.527221	0.530734	0.260934	0.276563	0.251964
17 Day	0.359986	0.446643	0.446643	0.527828	0.604522	0.579387	0.408132	0.408323	0.341305
18 Day	0.496746	0.541626	0.541626	0.608238	0.635932	0.558387	0.491518	0.481	0.388697
19 Day	0.570251	0.59545	0.59545	0.618915	0.558215	0.400179	0.594223	0.528835	0.368172
20 Day	0.531686	0.501182	0.501182	0.46101	0.376636	0.214576	0.562748	0.47971	0.294049
21 Day	0.426657	0.317445	0.317445	0.335347	0.236636	0.101957	0.539048	0.385353	0.148907
22 Day	0.303477	0.173062	0.173062	0.149212	0.066368	-0.02069	0.28807	0.175296	0.027411
23 Day	0.026223	-0.06132	-0.06132	-0.0999	-0.19638	-0.25352	0.002613	-0.1125	-0.19814
24 Day	-0.18531	-0.29298	-0.29298	-0.16248	-0.32245	-0.43336	-0.2526	-0.39847	-0.46818
25 Day	-0.23999	-0.37037	-0.37037	-0.22922	-0.35354	-0.42008	-0.37112	-0.53731	-0.61582
26 Day	-0.35775	-0.43001	-0.43001	-0.40855	-0.50999	-0.52296	-0.45833	-0.60247	-0.64248
27 Day	-0.42337	-0.44763	-0.44763	-0.53639	-0.58616	-0.53486	-0.53743	-0.61798	-0.58905
28 Day	-0.45034	-0.42936	-0.42936	-0.49719	-0.48446	-0.38744	-0.51111	-0.56053	-0.51306
29 Day	-0.51174	-0.46302	-0.46302	-0.52601	-0.45574	-0.29694	-0.44503	-0.43545	-0.35672
30 Day	-0.40492	-0.32971	-0.32971	-0.38814	-0.33973	-0.23487	-0.27488	-0.24588	-0.18559
31 Day	-0.21743	-0.12365	-0.12365	-0.11134	-0.04768	0.024661	-0.20275	-0.13282	-0.04615

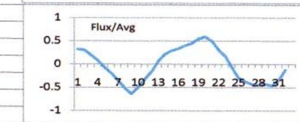
August data is shown because the 31 days of delay uses August numbers.
Flux - Solar Flux at Earth
Num - Number of Sun Spots
Spot - Area of Sun Spots

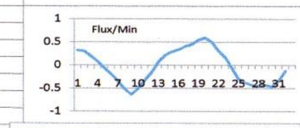
18 day delay correlation

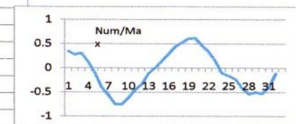
Min Temp	Spot Num.
61	115
63	108
67	130
68	132
65	106
57	101
51	68
51	77
62	101
61	109
r =	0.931978

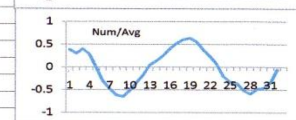


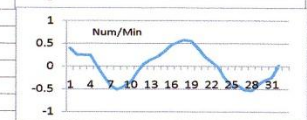


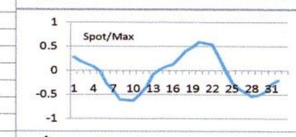


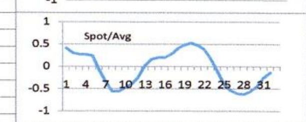


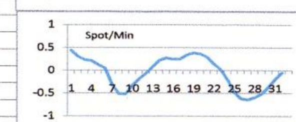












Sunspot graphs are off set by about 3 days to make up for the time the solar wind reaches earth.

Figure 9.

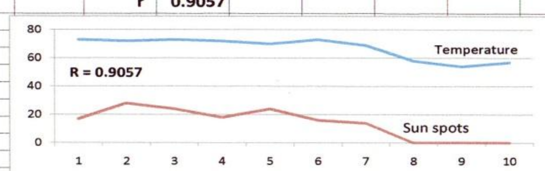
Month of ***July, 2009*** Correlations of Temperature and Solar Radiation — ***Springfield, Missouri***

		Flux	Max Temp	Avg Temp	Min Temp	Plantry A	sunspots	Delay	Flux/max	Flux/Avg	Flux/min	PaA/Max	PaA/Avg	PaA/min	Spot/Max	Spot/Avg	Spot/Min
									July	July	July	July	July	July	July	July	July
July	1	67.5	83	71	58	4.1	0	0 Day	-0.02511	0.040182	0.040182	-0.04421	0.038282	0.120266	0.032722	0.0678	0.090323
	2	66.5	85	73	60	3.3	0	1 Day	0.086025	0.096319	0.096319	0.20623	0.165575	0.056106	0.107098	0.138512	0.110966
	3	67.3	85	74	64	4.6	17	2 Day	0.394281	0.283375	0.283375	0.388039	0.30998	0.121908	0.350581	0.262166	0.082776
	4	71	83	78	73	3.3	28	3 Day	0.515891	0.484662	0.484662	-0.04616	0.088012	0.161652	0.460994	0.394178	0.180691
	5	71.6	75	71	67	5.6	24	4 Day	0.543301	0.592052	0.592052	0.02945	-0.02931	-0.09277	0.425215	0.452869	0.34336
	6	68.9	85	74	62	4.4	18	5 Day	0.267477	0.47952	0.47952	-0.06225	-0.02764	0.025979	0.370525	0.494068	0.498065
	7	71.3	85	73	60	4.8	24	6 Day	0.174513	0.390322	0.390322	-0.05579	-0.08725	-0.08147	0.306042	0.524826	0.622694
	8	70.8	88	76	63	5.5	16	7 Day	0.236583	0.410932	0.410932	-0.27447	-0.19098	-0.07274	0.246814	0.47242	0.602775
	9	69.1	93	80	67	5.6	14	8 Day	0.074894	0.215935	0.215935	-0.49599	-0.41446	-0.23399	0.056952	0.26512	0.432818
	10	67.6	89	81	73	7.3	0	9 Day	-0.07676	0.011116	0.011116	-0.32373	-0.42275	-0.43729	-0.11857	0.033171	0.196092
	11	68.2	92	82	72	3.5	0	10 Day	-0.07742	-0.07455	-0.07455	-0.21618	-0.29379	-0.30202	-0.1938	-0.12168	-0.00958
	12	68	87	80	73	4.9	0	11 Day	0.107643	-0.01554	-0.01554	-0.10696	-0.27437	-0.36149	-0.09061	-0.14145	-0.15331
	13	67.2	80	76	72	9.6	0	12 Day	-0.08156	-0.18939	-0.18939	0.242875	0.142516	-0.00615	-0.22781	-0.26687	-0.24463
	14	66.6	84	77	70	9.8	0	13 Day	-0.27946	-0.33982	-0.33982	0.308147	0.306542	0.22803	-0.4099	-0.46257	-0.431
	15	66.5	89	81	73	5.1	0	14 Day	-0.20767	-0.23935	-0.23935	0.283798	0.328772	0.327964	-0.51097	-0.55561	-0.50702
	16	66.7	89	79	69	3.6	0	15 Day	0.141818	0.045175	0.045175	0.150281	0.251097	0.283142	-0.32287	-0.40904	-0.43246
	17	66.2	77	68	58	2.1	0	16 Day	0.048818	0.112991	0.112991	0.120679	0.260123	0.319788	-0.29495	-0.2904	-0.24126
	18	67	79	67	54	3.1	0	17 Day	-0.1672	-0.02838	-0.02838	0.184902	0.232027	0.232754	-0.30723	-0.25544	-0.15858
	19	67.6	80	69	57	2.4	0	18 Day	-0.17263	-0.14107	-0.14107	0.102077	0.122482	0.102585	-0.29033	-0.25034	-0.15273
	20	68.2	85	73	60	5.8	0	19 Day	0.015565	-0.08648	-0.08648	-0.09915	-0.15893	-0.18173	-0.08684	-0.18864	-0.26681
	21	67.7	75	71	67	4.4	0	20 Day	-0.13972	-0.12412	-0.12412	-0.02648	-0.137	-0.20773	-0.02739	-0.08934	-0.16295
	22	67.8	81	72	63	24.4	0	21 Day	-0.41497	-0.34557	-0.34557	0.099779	-0.05792	-0.19854	-0.18679	-0.12562	-0.05529
	23	67.8	84	72	59	7.8	0	22 Day	-0.42332	-0.38794	-0.38794	0.102431	0.099412	0.111778	-0.24621	-0.17608	-0.09295
	24	68.3	89	76	62	6.3	0	23 Day	-0.40676	-0.40158	-0.40158	0.076839	0.033801	0.012709	-0.25757	-0.2021	-0.11596
	25	69.1	79	74	68	6.6	0	24 Day	-0.46732	-0.45476	-0.45476	0.210944	0.19903	0.170696	-0.2959	-0.27977	-0.21938
	26	67.6	85	74	62	3.1	0	25 Day	-0.54043	-0.49774	-0.49774	0.29656	0.423842	0.503922	-0.32741	-0.29234	-0.23329
	27	68.4	87	77	67	3.8	0	26 Day	-0.35417	-0.39938	-0.39938	0.29287	0.327962	0.303088	-0.26818	-0.25622	-0.23699
	28	68.7	85	75	65	4.4	0	27 Day	-0.0124	-0.05247	-0.05247	-0.03114	0.139326	0.253518	-0.0767	-0.1015	-0.1247
	29	68.3	83	74	64	2.3	0	28 Day	0.070237	0.040169	0.040169	-0.15327	-0.07093	0.005212	0.117917	0.058194	-0.0138
	30	68	76	70	63	3.3	0	29 Day	0.21436	0.144225	0.144225	-0.14824	-0.19043	-0.18388	0.300554	0.234578	0.126296
	31	68.7	79	69	58	5.4	0	30 Day	0.297072	0.303439	0.303439	-0.08996	-0.17352	-0.24239	0.531788	0.473967	0.334107
August	1	68.1	79	71	63	4	0	31 Day	0.299083	0.352957	0.352957	-0.12635	-0.22087	-0.26947	0.645019	0.653998	0.571206
	2	68.1	81	68	55	3	0										
	3	67.4	93	79	64	10	0										
	4	65.8	93	83	72	4	0										
	5	66.2	90	81	72	6	0										
	6	66.8	87	78	68	14	0										
	7	67.8	90	81	71	8	0										
	8	67	95	84	73	4	0										
	9	67.2	94	84	73	8	0										
	10	67.1	85	76	66	4	0										
	11	66.6	85	75	65	4	0										
	12	66.5	86	74	62	5	0										
	13	67.2	87	76	65	5	0										
	14	67.6	86	75	64	4	0										
	15	68.1	87	76	65	3	0										
	16	68.8	88	81	74	3	0										
	17	68.1	88	78	67	3	0										
	18	67.4	82	75	67	4	0										
	19	67.1	80	73	65	10	0										
	20	67.6	78	69	60	11	0										
	21	66.4	79	69	58	8	0										
	22	66.6	77	66	55	5	0										
	23	67.3	79	67	54	5	0										
	24	67.6	80	70	59	3	0										
	25	67.1	86	73	60	3	0										
	26	67.3	85	73	61	4	0										
	27	67.7	83	75	67	5	0										
	28	67.9	72	69	65	2	0										
	29	68	80	72	63	2	0										
	30	67.2	73	64	54	19	0										
	31	68.3	70	59	48	5	12										

August data is shown because the 31 days of delay uses August numbers.
Flux - Solar Flux at Earth
PaA - Planetary A Index
Spot - Sunspot number by Star

Seven day delay correlation

	Min Temp	Sun spots
	73	17
	72	28
	73	24
	72	18
	70	24
	73	16
	69	14
	58	0
	54	0
	57	0
	r	**0.9057**



Sunspot graphs are off set by about 3 days to make up for the time the solar wind reaches earth.

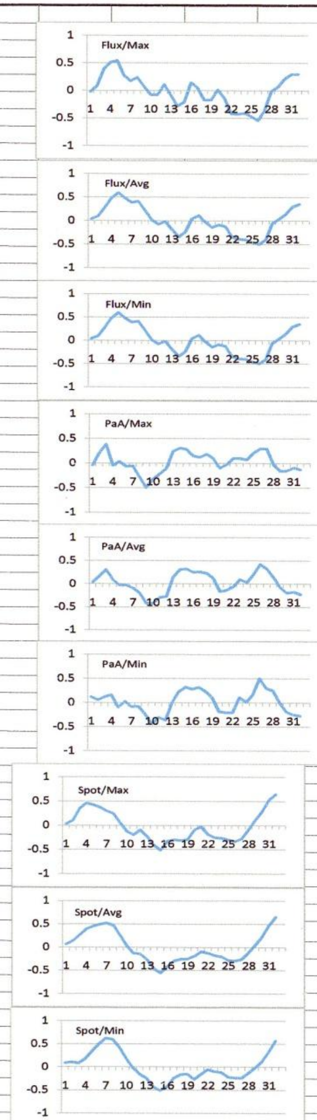


Figure 10.

Month of December, 2007 Correlations of Temperature and Solar Radiation

Springfield, Missouri

		Flux	Max Temp	Avg Temp	Min Temp	Plantry A	Sunsports	Delay	Flux/Max	Flux/avg	Flux/min	PaA/Max	PaA/avg	PaA/min	Spot/Max	Spot/Avg	Spot/Min
Dec	1	71.9	61	53	44	2.4	13	0 Day	-0.412163	-0.276108	0.0626643	0.3375362	0.2800111	-0.005177	-0.290857	-0.158629	0.1184987
	2	73	69	48	26	1.9	26	1 Day	-0.384123	-0.290505	0.0175585	0.3272657	0.3125215	0.1549579	-0.230961	-0.160053	0.0173566
	3	72.6	45	33	20	0.9	13	2 Day	-0.160707	-0.128419	-0.07229	0.3284207	0.2066266	-0.024629	-0.028581	0.0887805	0.1765523
	4	73.6	57	45	32	1.5	13	3 Day	-0.012116	-0.024523	-0.081064	0.3412752	0.2450745	0.0292082	0.0381023	0.1361369	0.1787139
	5	75.3	46	38	29	2.5	13	4 Day	0.1426172	0.0890689	-0.073732	0.3241345	0.185694	-0.095899	0.0737027	0.129936	0.1079097
	6	78.2	31	29	26	1.3	29	5 Day	0.2585996	0.1619876	-0.059041	0.0288589	-0.10725	-0.265198	0.1165084	0.0979883	0.0046359
	7	82.2	38	33	27	0.9	24	6 Day	0.277018	0.143694	-0.074688	-0.074922	-0.149298	-0.21983	0.0840787	-0.001111	-0.130473
	8	86.9	44	40	36	0.3	36	7 Day	0.2521087	0.0834292	-0.127991	0.0470853	-0.011877	-0.074698	0.0558993	-0.086167	-0.251438
	9	88.9	36	31	26	2.1	42	8 Day	0.2358936	0.0432235	-0.195274	0.0213918	0.0130974	0.0173517	0.0882621	-0.074076	-0.262824
	10	86.9	42	34	26	7.6	43	9 Day	0.2042423	0.0224315	-0.191523	-0.083524	-0.019931	0.0749976	0.1387404	-0.011592	-0.190334
	11	93.4	58	46	33	11.8	44	10 Day	0.1765639	0.0075169	-0.178008	-0.171387	-0.111892	-0.016355	0.0778326	-0.049476	-0.17843
	12	93.9	33	32	31	7.3	39	11 Day	0.1512978	0.0129629	-0.128636	-0.267425	-0.287513	-0.245768	0.0439795	-0.056561	-0.165398
	13	93.8	33	30	26	4.1	39	12 Day	0.0409712	-0.028467	-0.082373	-0.338134	-0.400417	-0.391617	-0.015624	-0.072981	-0.115067
	14	91.9	43	35	26	2.5	35	13 Day	-0.082226	-0.097591	-0.085598	-0.269881	-0.303258	-0.284228	-0.090839	-0.14673	-0.177008
	15	88.9	33	28	22	1.1	39	14 Day	-0.222399	-0.19813	-0.129171	-0.229579	-0.204236	-0.141321	-0.169312	-0.206138	-0.203208
	16	81.7	36	25	14	1.6	28	15 Day	-0.36424	-0.297341	-0.1724	-0.229018	-0.132295	-0.007089	-0.248496	-0.246313	-0.214648
	17	79.5	49	34	13	17.4	14	16 Day	-0.448323	-0.374553	-0.227957	-0.083802	0.0143171	0.1198141	-0.369181	-0.337454	-0.248775
	18	76.8	51	42	33	18.5	14	17 Day	-0.477954	-0.406101	-0.278968	0.1825324	0.2498398	0.2872751	-0.444904	-0.402155	-0.301325
	19	74.5	56	39	22	8.5	0	18 Day	-0.496011	-0.395315	-0.242645	0.4376294	0.5025603	0.5086533	-0.42472	-0.362855	-0.248478
	20	72.6	55	43	31	12	0	19 Day	-0.385471	-0.308138	-0.193286	0.5736638	0.612946	0.6025635	-0.228273	-0.196341	-0.140535
	21	71	60	45	29	11.3	0	20 Day	-0.259297	-0.198279	-0.113085	0.477138	0.5536061	0.5828809	-0.09003	-0.049165	0.0012103
	22	71.5	55	39	22	7.3	0	21 Day	-0.038857	-0.008424	0.0283787	0.2163916	0.2421899	0.2496171	0.0534719	0.0891415	0.1247994
	23	71.4	39	29	19	6.5	0	22 Day	0.2093061	0.210879	0.1998791	0.0189245	-0.028622	-0.076648	0.2232909	0.2420887	0.2498848
	24	71.4	47	34	21	1.6	0	23 Day	0.4009496	0.3984643	0.3694843	-0.03719	-0.054402	-0.079058	0.3436271	0.3600112	0.3553866
	25	72	52	39	25	1.8	0	24 Day	0.5216696	0.5169977	0.4818802	0.179487	0.1622877	0.1311061	0.4523439	0.4525763	0.4330609
	26	72.6	41	35	29	1.8	0	25 Day	0.6286737	0.6099909	0.5569228	0.3847612	0.3485102	0.2884828	0.5612417	0.5710999	0.5472238
	27	72.1	38	36	33	4.4	0	26 Day	0.6664409	0.6561655	0.606967	0.339077	0.3733679	0.3787576	0.5879153	0.617761	0.6120639
	28	71.8	37	32	27	2.1	0	27 Day	0.6460463	0.6692592	0.6425101	0.1251262	0.1973377	0.2505752	0.5738317	0.6449868	0.6714557
	29	72.1	39	30	21	1.6	0	28 Day	0.5614787	0.6001562	0.6005053	0.0091224	-0.030745	-0.065362	0.5104097	0.5763833	0.6098435
	30	75	47	36	25	2.4	0	29 Day	0.4197966	0.5127915	0.5554769	-0.100295	-0.131477	-0.141045	0.3685559	0.5047822	0.5945526
	31	76.7	42	34	25	2.4	0	30 Day	0.2934496	0.3921252	0.4523611	-0.242898	-0.221006	-0.173888	0.2805304	0.410988	0.5016365
Jan	1		31	24	17												
	2		25	17	9												
	3		37	24	11												
	4		50	38	25												
	5		67	57	46												
	6		71	64	56												
	7		68	62	55												
	8		59	46	33												
	9		49	37	24												
	10		46	39	31												
	11		48	36	24												
	12		47	38	28												
	13		33	29	24												
	14		40	32	23												
	15		47	32	17												
	16		50	41	32												
	17		38	27	15												
	18		42	29	16												
	19		21	14	7												
	20		32	21	10												
	21		35	28	20												
	22		32	22	12												
	23		37	24	10												
	24		24	15	5												
	25		32	23	14												
	26		50	37	24												
	27		60	40	19												
	28		65	54	42												
	29		66	41	16												
	30		43	27	11												

Flux - Solar Flux at Earth
PaA - Planetary A Index
Spot - Sunspot number by Star

January temperatures are shown because of the 31 days of delay uses January numbers.

Sunspot graphs are off set by about 3 days to make up for the time the solar wind reached earth.

by Dr. Cliff L. House, Emertius Faculty Missouri State University

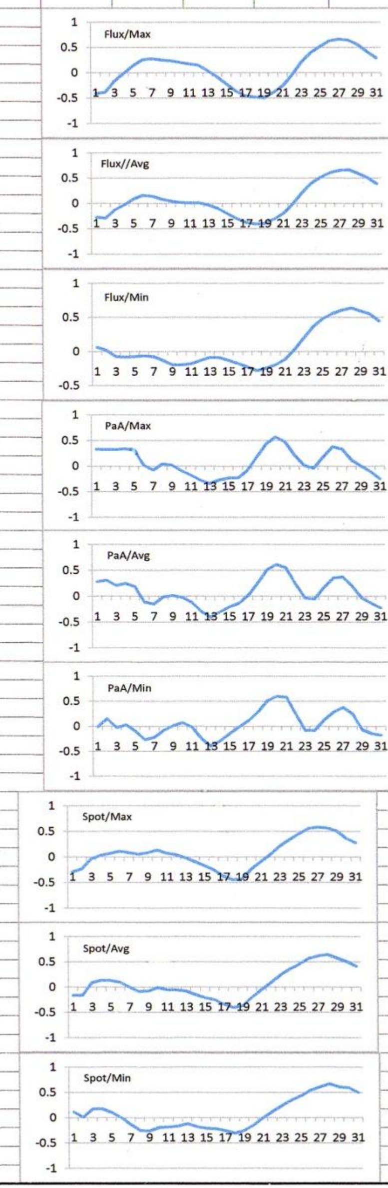


Figure 11.

Month of January, 2009 Correlations of Temperature and Solar Radiation											*Wichita, kansas*						
		Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
January	1	69	49	38	26	0	0	0 Day	-0.13246	-0.15611	-0.16602	0.115418	0.099943	0.041285	0.137498	0.124258	0.076442
	2	70	53	38	22	0	0	1 Day	-0.0705	-0.06795	-0.03748	0.069595	0.038856	-0.02649	0.017064	-0.00728	-0.04777
	3	70	54	39	23	0	0	2 Day	0.04916	0.05025	0.048839	-0.03094	-0.11123	-0.23653	-0.01804	-0.1051	-0.2482
	4	69	30	24	17	0	0	3 Day	0.346791	0.330107	0.234814	-0.04466	-0.13151	-0.25824	-0.08021	-0.1703	-0.29481
	5	69	36	27	17	0	0	4 Day	0.324899	0.369302	0.38313	-0.34522	-0.39941	-0.4095	-0.2608	-0.33041	-0.39506
	6	69	39	29	19	0	0	5 Day	0.097234	0.151986	0.230836	-0.25527	-0.30379	-0.34172	-0.22808	-0.26751	-0.29023
	7	69	52	42	31	0	0	6 Day	-0.15994	-0.09882	0.023328	-0.06726	-0.08049	-0.10571	-0.14561	-0.11507	-0.05028
	8	69	50	37	23	0	0	7 Day	-0.30582	-0.25009	-0.11768	0.121291	0.163496	0.212362	0.011567	0.073841	0.173761
	9	70	61	43	25	20	14	8 Day	-0.31448	-0.28121	-0.19551	0.129135	0.176188	0.232958	0.059229	0.107456	0.174331
	10	71	35	27	18	30	17	9 Day	-0.39341	-0.34922	-0.22559	0.078459	0.117978	0.169951	0.136801	0.128044	0.106416
	11	70	53	37	20	50	20	10 Day	-0.49734	-0.47552	-0.37362	0.075881	0.076475	0.063798	0.057084	0.065278	0.068937
	12	69	52	36	20	10	12	11 Day	-0.26733	-0.31672	-0.33963	0.095847	0.060307	0.002389	0.035958	-0.00268	-0.05774
	13	71	37	24	11	10	11	12 Day	-0.15864	-0.18372	-0.19229	-0.02331	-0.04791	-0.08786	-0.03468	-0.06639	-0.1155
	14	71	45	30	15	0	0	13 Day	-0.12287	-0.19088	-0.25429	-0.31715	-0.29908	-0.23121	-0.35753	-0.31329	-0.2058
	15	71	15	11	7	0	0	14 Day	-0.03784	-0.11702	-0.21772	-0.51125	-0.44291	-0.28868	-0.58846	-0.52897	-0.37127
	16	71	38	25	11	0	0	15 Day	-0.0757	-0.12894	-0.17831	-0.66566	-0.58351	-0.37576	-0.7426	-0.68943	-0.50471
	17	72	58	40	21	0	0	16 Day	-0.12398	-0.16023	-0.18415	-0.68259	-0.6362	-0.46998	-0.67786	-0.67214	-0.56198
	18	71	62	48	34	0	0	17 Day	-0.13187	-0.21117	-0.29175	-0.37323	-0.47464	-0.54516	-0.34224	-0.44156	-0.51064
	19	71	54	42	30	10	13	18 Day	0.079701	-0.06409	-0.26363	-0.14104	-0.23804	-0.33732	-0.04791	-0.16545	-0.30725
	20	70	44	36	28	0	0	19 Day	0.227743	0.133212	-0.01135	0.091142	-0.03343	-0.19565	0.153225	0.026893	-0.1462
	21	69	59	41	22	0	0	20 Day	0.382457	0.367915	0.295536	0.227154	0.133787	-0.02116	0.208219	0.144355	0.033428
	22	69	60	43	26	0	0	21 Day	0.492227	0.507809	0.462177	0.143803	0.103824	0.038335	0.160836	0.12505	0.065612
	23	70	42	31	19	0	0	22 Day	0.506112	0.570968	0.580395	0.04529	-0.01413	-0.09317	0.082808	0.017382	-0.0791
	24	69	27	19	11	0	0	23 Day	0.448246	0.568545	0.668059	-0.1386	-0.16096	-0.16259	-0.0865	-0.11736	-0.14047
	25	70	24	22	19	0	0	24 Day	0.216168	0.320643	0.410828	-0.13062	-0.19367	-0.25795	-0.02214	-0.07909	-0.15044
	26	70	20	18	16	0	0	25 Day	0.114271	0.185938	0.245788	0.082528	0.005038	-0.09612	0.104144	0.049471	-0.02739
	27	70	17	13	9	0	0	26 Day	0.075482	0.164417	0.231484	0.262395	0.240544	0.172369	0.221607	0.214353	0.166239
	28	70	43	23	3	0	0	27 Day	0.031199	0.155696	0.267341	0.387422	0.415187	0.396609	0.376151	0.439332	0.457176
	29	69	46	33	20	0	0	28 Day	0.197803	0.259976	0.293806	0.389318	0.49376	0.557369	0.423941	0.532405	0.599305
	30	69	60	40	20	0	0	29 Day	0.105481	0.248482	0.396729	0.358339	0.516298	0.659321	0.438761	0.591642	0.716128
	31	69	71	49	26	0	0	30 Day	0.062431	0.146814	0.247212	0.321015	0.413114	0.473467	0.271394	0.399795	0.502882
February	1	70	52	40	28	0	0										
	2	69	48	33	18	0	0										
	3	69	38	28	18	0	0										
	4	70	43	28	12	0	0										
	5	70	69	48	27	0	0										
	6	70	74	58	41	0	0										
	7	71	70	55	40	0	0										
	8	71	69	58	46	0	0										
	9	71	67	58	49	0	0										
	10	68	72	55	37	0	0										
	11	70	53	44	34	10	11										
	12	70	56	45	33	10	11										
	13	70	56	42	28	10	11										
	14	70	44	33	21	0	0										
	15	70	43	33	23	0	0										
	16	70	51	38	25	0	0										
	17	71	74	59	44	0	0										
	18	70	53	40	26	0	0										
	19	69	53	36	19	0	0										
	20	69	64	45	26	0	0										
	21	71	42	32	21	0	0										
	22	70	51	36	20	0	0										
	23	71	58	45	31	0	0										
	24	71	61	50	39	20	12										
	25	71	76	56	36	10	14										
	26	70	69	49	29	10	12										
	27	69	39	29	19	0	0										
	28	71	31	21	11	0	0										
March	1	69	36	25	14	0	0										
	2	69	48	33	17	0	0										

Flux - Solar Flux at earth.
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number.

February data is shown because the 31 days of delay uses February dates.

U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

by Dr. Cliff L. House, Emeritus Faculty Missouri State University

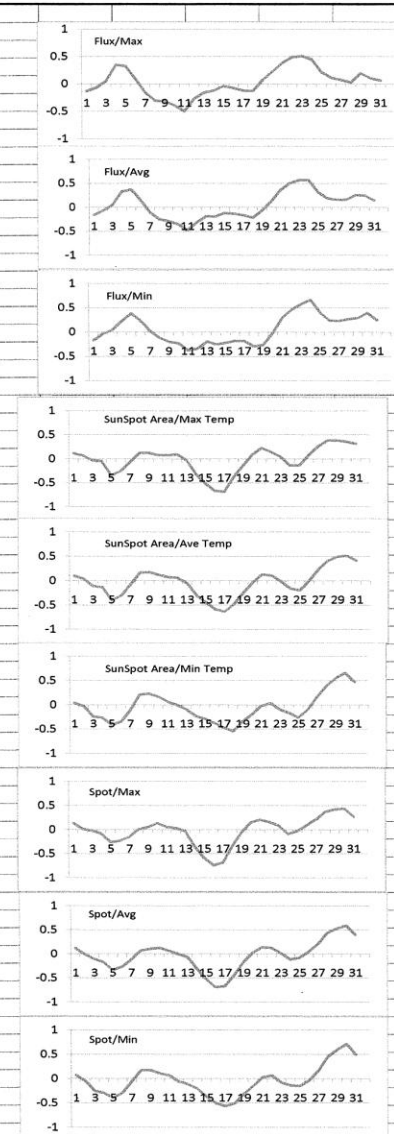


Figure 12.

Month of July, 2009 Correlations of Temperature and Solar Radiation

Wichita, kansas

		Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
July	1	68	90	79	68	0	0	0 Day	-0.38723	-0.18279	-0.13507	-0.10986	-0.10331	0.04774	-0.12955	0.03985	0.104175
	2	67	90	78	66	0	0	1 Day	-0.20751	-0.17089	-0.08524	0.101003	0.101304	0.250501	-0.07818	0.057676	0.145425
	3	67	96	84	72	60	17	2 Day	0.177267	-0.00296	0.130446	0.282502	0.263483	0.391466	0.111458	0.159494	0.233385
	4	71	89	80	71	100	24	3 Day	0.346252	0.267508	0.380607	0.506675	0.462204	0.568702	0.347293	0.270386	0.430532
	5	72	73	80	65	170	26	4 Day	0.474253	0.406735	0.584046	0.582096	0.560948	0.694979	0.544822	0.481567	0.643654
	6	70	86	75	63	160	23	5 Day	0.573809	0.538583	0.650013	0.762356	0.772203	0.761208	0.666661	0.629511	0.740758
	7	71	84	73	62	180	21	6 Day	0.533621	0.692677	0.642041	0.632041	0.690406	0.652419	0.710638	0.70676	0.72181
	8	71	88	79	70	190	18	7 Day	0.460406	0.565435	0.463078	0.467557	0.553018	0.486284	0.567327	0.6738	0.608
	9	69	96	73	70	230	15	8 Day	0.283031	0.310911	0.259576	0.195373	0.272339	0.254633	0.37785	0.449234	0.395915
	10	68	100	89	78	60	13	9 Day	0.12578	0.171566	0.20171	0.074605	0.078456	0.06293	0.246784	0.253582	0.204731
	11	68	98	87	76	0	0	10 Day	0.064635	0.065057	0.041415	-0.0617	-0.07726	-0.08988	0.085527	0.101117	0.098796
	12	68	103	89	74	0	0	11 Day	-0.06901	-0.08379	-0.09457	-0.14535	-0.165	-0.15597	-0.05979	-0.04986	-0.03688
	13	67	94	84	74	0	0	12 Day	-0.08997	-0.13637	-0.16229	-0.28337	-0.29617	-0.25477	-0.24886	-0.25833	-0.21953
	14	67	107	92	76	0	0	13 Day	-0.06129	-0.10591	-0.146	-0.25269	-0.31708	-0.3374	-0.25587	-0.30283	-0.29965
	15	67	89	80	70	0	0	14 Day	0.072421	-0.00446	-0.1118	-0.1472	-0.26554	-0.35087	-0.19427	-0.30158	-0.35286
	16	67	90	79	68	0	0	15 Day	0.226955	0.152589	-0.00173	-0.05386	-0.17816	-0.27423	-0.17425	-0.25327	-0.27642
	17	66	83	74	64	0	0	16 Day	0.095564	0.116253	0.094481	-0.13913	-0.15311	-0.13058	-0.12791	-0.20068	-0.24005
	18	67	85	74	63	0	0	17 Day	-0.09911	-0.05125	0.004944	-0.03791	-0.06884	-0.09938	-0.08647	-0.13206	-0.16483
	19	68	88	75	61	0	0	18 Day	-0.02636	-0.00895	-0.00106	0.002359	-0.01087	-0.04074	-0.07776	-0.12099	-0.15228
	20	68	87	76	65	0	0	19 Day	0.124753	0.086885	0.010296	-0.0923	-0.09063	-0.05899	-0.05653	-0.10531	-0.13471
	21	68	83	74	64	0	0	20 Day	-0.17195	-0.10848	0.019823	-0.22608	-0.17873	-0.0524	-0.12856	-0.11299	-0.04883
	22	68	87	74	60	0	0	21 Day	-0.44982	-0.35933	-0.13526	-0.31581	-0.25729	-0.10158	-0.21735	-0.17228	-0.06144
	23	68	90	77	63	0	0	22 Day	-0.35234	-0.37755	-0.31571	-0.34519	-0.31816	-0.20691	-0.32138	-0.24625	-0.09877
	24	68	94	79	64	0	0	23 Day	-0.47379	-0.50283	-0.4012	-0.39866	-0.41682	-0.32629	-0.31727	-0.33721	-0.274
	25	69	82	77	72	0	0	24 Day	-0.56985	-0.5861	-0.44704	-0.32997	-0.44658	-0.45657	-0.31648	-0.37613	-0.34635
	26	68	91	79	66	0	0	25 Day	-0.481	-0.52448	-0.4489	-0.16382	-0.30484	-0.39	-0.30376	-0.37844	-0.36793
	27	68	91	80	68	0	0	26 Day	-0.22811	-0.31224	-0.33837	0.043743	-0.12546	-0.27327	-0.15866	-0.27302	-0.33373
	28	69	81	73	65	0	0	27 Day	-0.03825	-0.13297	-0.21036	0.100168	0.014894	-0.08337	-0.06281	-0.16876	-0.24554
	29	68	81	72	63	0	0	28 Day	0.003442	-0.06472	-0.10559	0.102734	0.095624	0.067647	0.124532	0.020602	-0.09518
	30	68	80	72	64	0	0	29 Day	0.071438	0.068565	0.047796	0.34865	0.363315	0.29218	0.30499	0.25275	0.141622
	31	69	85	72	58	0	0	30 Day	0.225904	0.260764	0.247305	0.507489	0.556494	0.493604	0.487529	0.471728	0.364197
August	1	68	81	71	61	0	0										
	2	68	86	71	56	0	0										
	3	67	96	81	65	0	0										
	4	66	96	83	70	0	0										
	5	66	90	82	73	0	0										
	6	67	81	76	71	0	0										
	7	68	98	86	73	0	0										
	8	67	99	88	76	0	0										
	9	67	98	86	74	0	0										
	10	67	92	80	67	0	0										
	11	67	90	77	64	0	0										
	12	67	92	78	63	0	0										
	13	67	91	77	63	0	0										
	14	68	90	79	67	0	0										
	15	68	89	81	73	0	0										
	16	69	94	85	75	0	0										
	17	68	83	74	65	0	0										
	18	67	79	73	67	0	0										
	19	67	83	75	66	0	0										
	20	68	81	73	65	0	0										
	21	66	83	70	56	0	0										
	22	67	81	67	53	0	0										
	23	67	83	72	61	0	0										
	24	68	87	77	67	0	0										
	25	67	92	81	70	0	0										
	26	67	87	80	72	0	0										
	27	68	83	75	67	0	0										
	28	68	85	72	59	0	0										
	29	68	80	71	62	0	0										
	30	67	76	66	56	0	0										

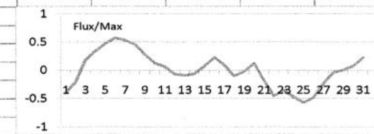
Flux - Solar Flux at earth.
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number.

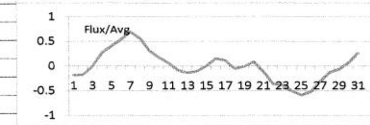
August data is shown because the 31 days of delay uses August dates.

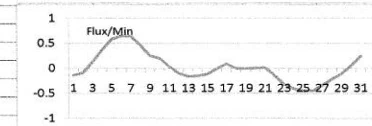
U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

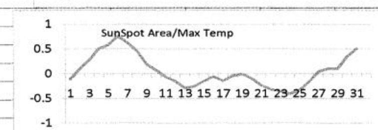
by Dr. Cliff L. House, Emeritus Faculty Missouri State University

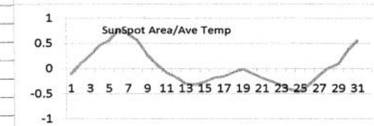
SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

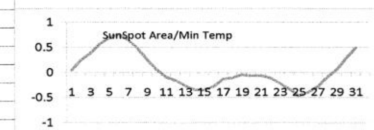


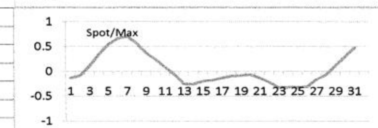


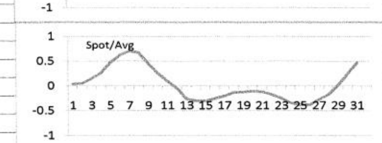












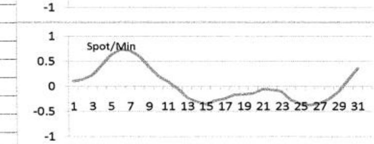


Figure 13.

Month of January, 2010 Correlations of Temperature and Solar Radiation

Wichita, kansas

		Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
January	1	75	31	22	13	120	16	0 Day	0.670326	0.576379	0.457221	0.557835	0.472319	0.422481	0.48567	0.364747	0.251348
	2	78	19	14	9	190	22	1 Day	0.693761	0.650506	0.554446	0.500281	0.50978	0.485081	0.398898	0.416247	0.347967
	3	76	19	17	14	220	20	2 Day	0.631983	0.650976	0.617659	0.443348	0.437458	0.454338	0.329443	0.430173	0.408504
	4	73	24	18	12	150	15	3 Day	0.54384	0.636711	0.609078	0.166788	0.348473	0.391046	0.147538	0.288517	0.32832
	5	77	26	23	20	90	13	4 Day	0.468957	0.567728	0.540622	0.011074	0.215313	0.238759	-0.08646	0.127694	0.189937
	6	77	32	23	13	0	0	5 Day	0.34604	0.430602	0.449961	-0.1286	0.004449	0.083347	-0.2105	-0.0335	0.085125
	7	78	15	11	6	80	15	6 Day	0.271855	0.366615	0.381053	-0.06324	-0.02823	-0.01506	-0.08813	-0.06267	0.006941
	8	77	18	10	1	40	14	7 Day	0.18768	0.274596	0.292418	0.041227	-0.06009	-0.08658	-0.0964	-0.05607	0.016138
	9	82	21	11	0	70	20	8 Day	0.20422	0.339236	0.339197	0.140635	0.011876	0.005951	0.148786	-0.00641	0.024399
	10	84	41	22	2	130	25	9 Day	0.168213	0.320878	0.364114	0.260096	0.235756	0.14291	0.250473	0.225884	0.194268
	11	91	47	33	18	300	35	10 Day	0.202485	0.327648	0.352505	0.338629	0.342653	0.267605	0.351698	0.377375	0.369387
	12	93	33	28	22	300	35	11 Day	0.227472	0.312664	0.295765	0.250982	0.388025	0.363372	0.30622	0.3972	0.403929
	13	91	56	41	26	380	41	12 Day	-0.02924	0.12858	0.203425	0.030496	0.277123	0.33197	0.192138	0.361144	0.447729
	14	90	44	38	32	290	34	13 Day	-0.24907	-0.04488	0.010064	-0.20738	-0.05692	0.019502	-0.05574	0.088606	0.116948
	15	85	42	37	32	350	26	14 Day	-0.42058	-0.21608	-0.1602	-0.45509	-0.20004	-0.07765	-0.29367	-0.11887	-0.10309
	16	84	48	38	27	290	24	15 Day	-0.63974	-0.41862	-0.34649	-0.53913	-0.43724	-0.38455	-0.52874	-0.4435	-0.41183
	17	83	49	38	26	160	16	16 Day	-0.68707	-0.51135	-0.4525	-0.6399	-0.52819	-0.47239	-0.70592	-0.64314	-0.63005
	18	82	42	37	32	140	14	17 Day	-0.66439	-0.62496	-0.54667	-0.56688	-0.63509	-0.5936	-0.62976	-0.71124	-0.72869
	19	84	47	42	36	0	0	18 Day	-0.67199	-0.64502	-0.52646	-0.39436	-0.50359	-0.4813	-0.4342	-0.57097	-0.62161
	20	82	49	42	34	60	16	19 Day	-0.54625	-0.60214	-0.4831	-0.14947	-0.22487	-0.17204	-0.15386	-0.29463	-0.35012
	21	83	39	37	34	190	17	20 Day	-0.34544	-0.40934	-0.3585	0.140658	0.136201	0.158727	0.027857	0.000995	0.017982
	22	82	59	47	34	240	30	21 Day	-0.19219	-0.23046	-0.16572	0.242519	0.223712	0.315791	0.179562	0.055471	0.143681
	23	85	56	49	41	380	40	22 Day	-0.02024	-0.06515	-0.02873	0.214248	0.25645	0.327889	0.206502	0.231714	0.317064
	24	85	46	38	30	330	32	23 Day	0.21807	0.145191	0.224277	0.149596	0.214276	0.255765	0.300209	0.284254	0.280805
	25	81	42	35	28	100	34	24 Day	0.279759	0.277421	0.336882	0.008468	0.130019	0.177773	0.300527	0.383559	0.399352
	26	80	41	31	21	150	28	25 Day	0.288201	0.315662	0.343795	0.033811	0.06452	0.059835	0.163645	0.251423	0.292215
	27	78	23	42	30	40	15	26 Day	0.165378	0.095648	0.218159	0.101762	-0.0194	-0.07151	0.200126	0.129397	0.139786
	28	76	30	25	20	30	13	27 Day	-0.0421	-0.05874	-0.00377	-0.08638	-0.13055	-0.1008	-0.05536	-0.00809	0.04596
	29	73	21	19	17	20	12	28 Day	-0.14519	-0.23753	-0.21833	-0.2048	-0.27019	-0.23893	-0.21034	-0.24137	-0.19855
	30	75	28	19	9	50	25	29 Day	-0.20547	-0.30525	-0.29619	-0.36078	-0.35066	-0.22752	-0.317	-0.35137	-0.29532
	31	75	26	19	11	60	14	30 Day	-0.09187	-0.23271	-0.31786	-0.36575	-0.42253	-0.35174	-0.28655	-0.40234	-0.42498
February	1	75	32	29	25	70	16										
	2	75	41	33	22	50	11										
	3	74	39	32	25	50	11										
	4	74	37	35	33	20	11										
	5	78	39	36	32	30	22										
	6	88	41	37	32	310	30										
	7	90	36	34	32	360	51										
	8	94	34	24	13	460	71										
	9	91	31	23	14	320	63										
	10	91	28	18	7	380	55										
	11	94	39	33	26	340	64										
	12	96	46	35	24	220	38										
	13	94	55	42	28	140	37										
	14	89	34	29	24	80	28										
	15	88	37	30	22	50	27										
	16	87	35	29	23	50	28										
	17	87	46	32	18	80	49										
	18	85	57	43	28	60	17										
	19	84	49	41	32	60	23										
	20	84	35	33	31	60	19										
	21	84	33	30	27	50	17										
	22	84	31	27	22	20	14										
	23	84	37	27	16	30	31										
	24	83	39	27	14	120	40										
	25	83	47	36	25	30	30										
	26	81	52	47	29	70	26										
	27	79	49	39	28	30	26										
	28	78	50	40	29	10	13										
March	1	78	44	37	30	50	36										
	2	79	49	39	29	60	39										

Flux - Solar Flux at earth.
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number.

February data is shown because the 31 days of delay uses February dates.

U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

by Dr. Cliff L. House, Emeritus Faculty Missouri State University

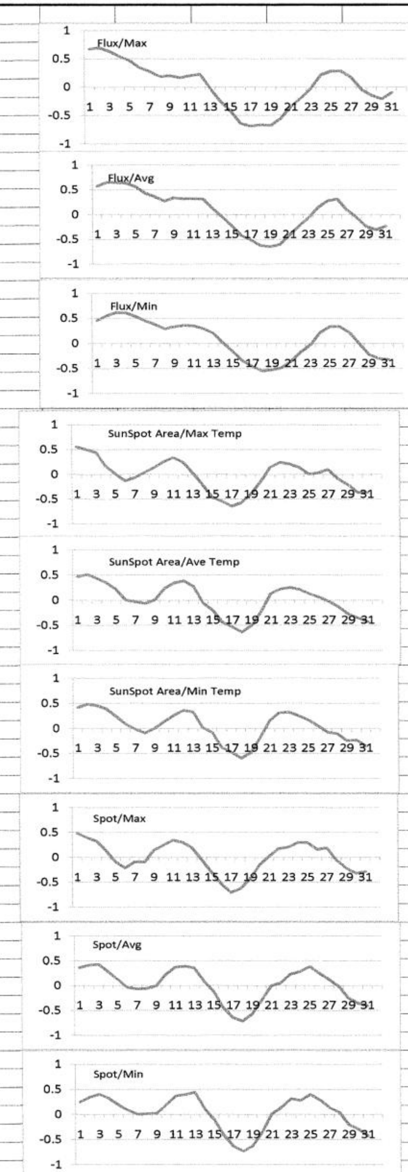


Figure 14.

Month of July, 2010 Correlations of Temperature and Solar Radiation — *Witchita, Kansas*

Month	Day	Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
July	1	73	90	79	68	110	11	0 Day	0.685727	0.694628	0.56028	0.281144	0.354973	0.424569	0.48908	0.473532	0.352974
	2	73	89	80	71	100	11	1 Day	0.701123	0.679614	0.521098	0.285502	0.338679	0.4037	0.424869	0.424692	0.369703
	3	72	80	77	73	150	11	2 Day	0.691725	0.679864	0.551581	0.317487	0.353777	0.386028	0.279118	0.269007	0.22227
	4	72	79	74	69	110	11	3 Day	0.61018	0.607014	0.529978	0.270406	0.248345	0.185665	0.184121	0.187275	0.203276
	5	73	82	75	68	110	23	4 Day	0.54602	0.506881	0.375501	0.180372	0.135906	0.060812	0.251295	0.194726	0.04769
	6	73	88	78	67	120	23	5 Day	0.492332	0.464729	0.341862	0.172132	0.086985	-0.08466	0.29503	0.212826	-0.00354
	7	74	84	78	71	110	22	6 Day	0.449751	0.442491	0.323538	-0.0061	-0.0476	-0.14019	0.278716	0.247738	0.107498
	8	76	81	76	71	50	11	7 Day	0.425612	0.440604	0.34945	-0.08757	-0.03512	0.035979	0.344214	0.381251	0.344819
	9	80	86	78	69	30	12	8 Day	0.429746	0.462264	0.383095	-0.01952	0.081438	0.195509	0.384271	0.440384	0.421424
	10	80	89	78	67	100	18	9 Day	0.482795	0.534611	0.464498	0.230226	0.282034	0.22985	0.462424	0.51918	0.502348
	11	83	94	84	73	120	25	10 Day	0.539391	0.608869	0.55957	0.493773	0.53982	0.476631	0.486262	0.518639	0.486712
	12	80	92	81	70	130	22	11 Day	0.546683	0.621898	0.584281	0.613927	0.617468	0.489332	0.49132	0.507741	0.41715
	13	79	97	84	71	80	28	12 Day	0.499635	0.54369	0.482093	0.575071	0.578132	0.404886	0.25984	0.277833	0.225706
	14	78	98	88	78	100	16	13 Day	0.466113	0.44579	0.303748	0.460422	0.397601	0.19051	0.202873	0.167025	0.050817
	15	76	91	82	73	60	15	14 Day	0.307882	0.301837	0.220291	0.278221	0.198177	-0.02136	0.156066	0.176281	0.147626
	16	77	95	84	73	50	17	15 Day	0.049937	0.051622	0.040044	-0.04492	-0.0461	-0.05179	0.116571	0.182648	0.236439
	17	79	99	86	72	20	13	16 Day	-0.06382	-0.07329	-0.09124	-0.17394	-0.16174	-0.14394	0.030165	0.106596	0.229431
	18	77	100	86	72	10	12	17 Day	-0.05255	-0.08934	-0.20555	-0.37081	-0.36887	-0.36105	0.174104	0.170792	0.06925
	19	80	101	89	76	140	25	18 Day	-0.02696	-0.06954	-0.19494	-0.26959	-0.30513	-0.39106	0.176536	0.163325	0.061531
	20	87	99	88	76	160	32	19 Day	0.048156	0.004371	-0.12624	-0.18908	-0.22585	-0.27757	0.270752	0.218891	0.068848
	21	89	98	87	76	320	38	20 Day	0.065687	0.0276	-0.09633	-0.03946	-0.06549	-0.08444	0.150904	0.081963	-0.08026
	22	88	99	88	77	240	39	21 Day	0.117223	0.057017	-0.10084	0.115513	0.008145	-0.18719	0.188207	0.092536	-0.12127
	23	86	100	89	78	200	45	22 Day	0.13404	0.074848	-0.06247	0.099025	0.036477	-0.08476	-0.07643	-0.14692	-0.26141
	24	85	102	88	74	160	41	23 Day	0.037231	-0.00973	-0.1046	-0.01516	-0.04435	-0.08926	-0.26262	-0.28728	-0.30637
	25	85	92	81	70	150	39	24 Day	-0.14608	-0.18934	-0.24982	-0.36619	-0.39084	-0.41763	-0.34286	-0.39662	-0.46178
	26	84	95	83	71	100	39	25 Day	-0.39179	-0.42585	-0.42349	-0.62242	-0.62115	-0.54631	-0.46757	-0.42006	-0.2883
	27	83	93	83	73	70	15	26 Day	-0.5745	-0.58106	-0.52562	-0.75049	-0.75805	-0.68338	-0.43172	-0.42412	-0.34805
	28	85	95	84	72	270	31	27 Day	-0.63085	-0.62077	-0.52992	-0.77004	-0.80736	-0.76264	-0.4062	-0.39496	-0.32785
	29	85	93	83	73	350	31	28 Day	-0.55444	-0.57195	-0.52056	-0.45616	-0.56014	-0.62052	-0.20333	-0.21551	-0.19048
	30	83	101	88	74	210	29	29 Day	-0.46483	-0.50224	-0.49696	-0.25414	-0.339	-0.40982	-0.24516	-0.25434	-0.22898
	31	82	100	89	77	230	12	30 Day	-0.34231	-0.39865	-0.4381	-0.0514	-0.10836	-0.1822	-0.25366	-0.28458	-0.29398
August	1	80	100	88	76	290	13										
	2	79	108	93	78	280	17										
	3	81	109	92	75	190	13										
	4	81	100	88	76	280	27										
	5	83	94	85	76	430	54										
	6	82	94	84	73	430	49										
	7	91	97	86	74	300	47										
	8	83	105	91	77	340	46										
	9	84	103	90	76	380	53										
	10	84	103	91	78	210	56										
	11	86	105	90	75	200	66										
	12	84	106	91	75	290	50										
	13	84	109	94	79	120	51										
	14	85	103	88	73	150	31										
	15	86	87	78	68	130	33										
	16	85	90	79	67	100	39										
	17	81	77	72	67	20	26										
	18	81	89	79	69	20	23										
	19	78	94	80	66	0	11										
	20	77	99	88	77	0	11										
	21	76	97	85	72	0	0										
	22	75	95	85	74	0	0										
	23	75	97	85	73	0	0										
	24	74	83	75	66	30	11										
	25	74	83	70	57	100	23										
	26	73	83	71	58	100	23										
	27	73	87	73	58	100	11										
	28	72	90	75	59	130	11										
	29	74	92	81	69	170	25										
	30	75	92	83	73	180	28										

Flux - Solar Flux at earth.
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number.

February data is shown because the 31 days of delay uses June numbers.

U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

by Dr. Cliff L. House, Emeritus Faculty Missouri State University

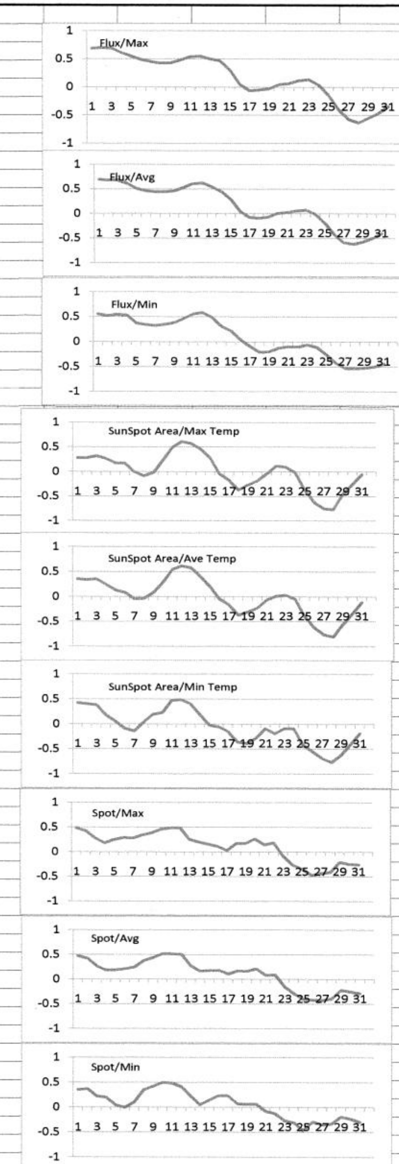


Figure 15

Month of August, 2010 Correlations of Temperature and Solar Radiation — ***Witchita, Kansas***

		Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
August	1	80	100	88	76	290	13	0 Day	0.437498	0.498903	0.522629	0.433124	0.467082	0.442249	0.317324	0.361026	0.36452
	2	79	108	93	78	280	17	1 Day	0.40958	0.454972	0.472682	0.495132	0.538121	0.508234	0.366335	0.379538	0.338467
	3	81	109	92	75	190	13	2 Day	0.396832	0.449983	0.4719	0.583366	0.577944	0.488686	0.476033	0.466108	0.386549
	4	81	100	88	76	280	27	3 Day	0.42841	0.456723	0.455831	0.534469	0.521401	0.444159	0.551532	0.48881	0.3679
	5	83	94	85	76	430	54	4 Day	0.44154	0.468584	0.467758	0.579917	0.544999	0.447348	0.389179	0.397826	0.369619
	6	82	94	84	73	430	49	5 Day	0.427466	0.491706	0.512405	0.542932	0.516281	0.436941	0.301352	0.353816	0.379901
	7	91	97	86	74	300	47	6 Day	0.350989	0.454062	0.521545	0.542814	0.524694	0.455769	0.178204	0.260641	0.338351
	8	83	105	91	77	340	46	7 Day	0.301873	0.395592	0.460306	0.517074	0.502246	0.434686	0.138026	0.217535	0.299227
	9	84	103	90	76	380	53	8 Day	0.150728	0.267055	0.360443	0.374366	0.437432	0.463375	0.015226	0.089249	0.181166
	10	84	103	91	78	210	56	9 Day	0.130124	0.204438	0.256732	0.216415	0.305572	0.374346	-0.07874	-0.01514	0.079985
	11	86	105	90	75	200	66	10 Day	-0.01913	0.055855	0.133621	0.161423	0.24684	0.313867	-0.09446	-0.02535	0.067727
	12	84	106	91	75	290	50	11 Day	0.086042	0.117288	0.128693	0.181662	0.28677	0.368332	0.004174	0.099715	0.189957
	13	84	109	94	79	120	51	12 Day	0.137761	0.140783	0.11726	0.153686	0.272853	0.355335	0.038455	0.147294	0.23488
	14	85	103	88	73	150	31	13 Day	0.211871	0.235064	0.203054	0.165044	0.256801	0.301387	0.053032	0.172027	0.242115
	15	86	87	78	68	130	33	14 Day	0.209656	0.214759	0.167294	0.243641	0.329765	0.342235	0.127546	0.179868	0.181892
	16	85	90	79	67	100	39	15 Day	0.169663	0.205319	0.18208	0.236536	0.342283	0.361479	0.148633	0.176535	0.149572
	17	81	77	72	67	20	26	16 Day	0.212694	0.189302	0.121478	0.114612	0.221723	0.269366	0.132767	0.092883	0.008159
	18	81	89	79	69	20	23	17 Day	0.055467	0.033256	-0.00019	0.167386	0.193514	0.172289	0.024031	-0.06755	-0.15676
	19	78	94	80	66	0	11	18 Day	-0.00288	-0.10884	-0.17393	0.092088	0.107379	0.09277	-0.03493	-0.11462	-0.1781
	20	77	99	88	77	0	11	19 Day	-0.03084	-0.11369	-0.16183	0.065321	0.024084	-0.02226	-0.01996	-0.09237	-0.14563
	21	76	97	85	72	0	0	20 Day	-0.0206	-0.13767	-0.2015	0.034764	-0.01675	-0.06892	0.073435	-0.01714	-0.09833
	22	75	95	85	74	0	0	21 Day	0.007974	-0.11124	-0.17538	0.109915	0.02644	-0.05874	0.02763	-0.02591	-0.07047
	23	75	97	85	73	0	0	22 Day	-0.00361	-0.05984	-0.09588	0.070081	0.02178	-0.03035	-0.05072	-0.10003	-0.12556
	24	74	83	75	66	30	11	23 Day	-0.02584	-0.05006	-0.06233	0.034262	-0.00386	-0.0358	0.029484	-0.06908	-0.12651
	25	74	83	70	57	100	23	24 Day	0.021505	-0.00862	-0.03774	0.057712	0.001222	-0.04695	0.124227	0.017966	-0.06182
	26	73	83	71	58	100	23	25 Day	0.070662	0.040404	-0.00528	0.068588	0.026911	-0.01789	0.123176	0.023761	-0.05518
	27	73	87	73	58	100	11	26 Day	0.200269	0.122617	0.013323	-0.0286	-0.07729	-0.10953	0.081946	0.023365	-0.02809
	28	72	90	75	59	130	11	27 Day	0.157413	0.108222	0.030576	-0.02694	-0.12973	-0.19318	-0.0938	-0.09182	-0.0652
	29	74	92	81	69	170	25	28 Day	0.264756	0.188893	0.080738	-0.03129	-0.12227	-0.17993	-0.08788	-0.11084	-0.09658
	30	75	92	83	73	180	28	29 Day	0.340459	0.31931	0.230881	0.000543	-0.09169	-0.15049	-0.09097	-0.09323	-0.07487
	31	75	97	87	76	220	27	30 Day	0.501821	0.513066	0.420597	0.045082	-0.03931	-0.10437	0.104784	0.053261	-0.00425
September	1		91	82	72												
	2		90	75	59												
	3		81	68	54												
	4		85	68	51												
	5		94	76	58												
	6		97	84	71												
	7		84	76	67												
	8		81	74	67												
	9		83	76	68												
	10		95	84	73												
	11		87	75	62												
	12		88	73	57												
	13		91	80	68												
	14		90	80	69												
	15		97	83	68												
	16		74	69	63												
	17		90	76	61												
	18		94	82	69												
	19		93	76	59												
	20		92	81	69												
	21		89	81	72												
	22		89	80	73												
	23		83	74	65												
	24		82	72	61												
	25		82	69	55												
	26		70	61	51												
	27		73	59	45												
	28		79	67	55												
	29		86	68	50												
	30		78	66	53												

Flux - Solar Flux at earth.
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number.

September data is shown because the 31 days of delay uses September numbers.

U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

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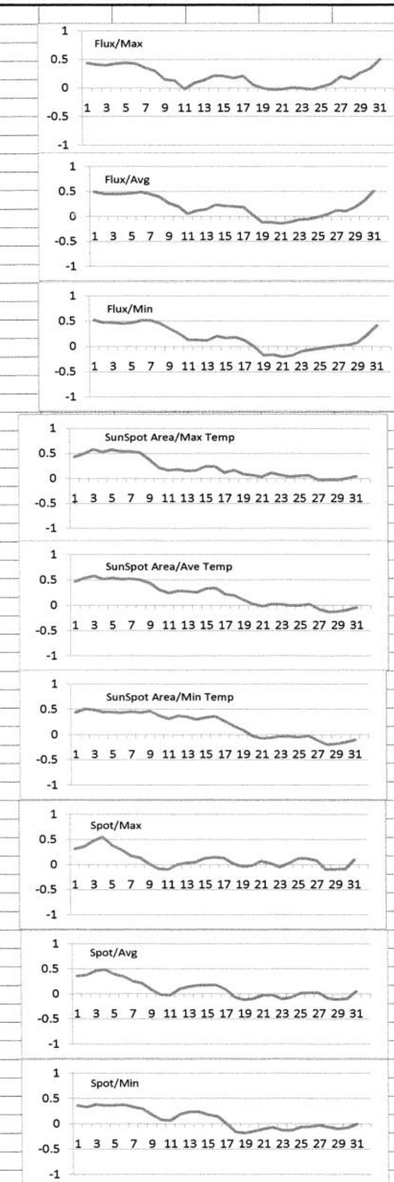


Figure 16.

Month of November, 2010 Correlations of Temperature and Solar Radiation											*Wichita, Kansas*						
		Flux	Max Temp	Avg Temp	Min Temp	Spot Area	Sunspots	Delay	Flux/Max	Flux/Avg	Flux/Min	Area/Max	Area/Avg	Area/Min	Spot/Max	Spot/Avg	Spot/Min
November	1	79	55	50	44	300	30	0 Day	-0.14724	0.024196	0.121539	-0.35416	-0.24258	-0.05626	-0.1048	0.007062	0.205019
	2	79	67	53	39	80	17	1 Day	-0.09063	0.072964	0.228212	-0.23116	-0.20654	-0.04753	-0.17388	-0.01797	0.205007
	3	79	72	54	39	80	18	2 Day	0.057634	0.189146	0.352674	-0.00112	-0.00572	0.059617	-0.08669	0.072093	0.253049
	4	79	60	48	36	20	34	3 Day	0.20373	0.30437	0.487759	0.02955	-0.01061	0.108821	-0.08608	0.047959	0.320241
	5	83	58	44	30	80	29	4 Day	0.165695	0.229945	0.432198	0.103642	-0.0143	0.078883	-0.00047	0.05991	0.230741
	6	89	68	49	30	90	43	5 Day	0.017008	0.066479	0.252424	0.20456	0.033584	-0.01898	0.013675	0.051366	0.194064
	7	85	75	60	44	100	34	6 Day	0.016469	-0.04522	0.065768	0.154401	0.029364	0.004852	0.07368	0.019805	0.143617
	8	84	74	61	48	80	36	7 Day	0.05478	-0.06599	0.011435	0.164834	-0.00898	-0.09806	0.220435	0.131995	0.189945
	9	84	73	64	54	70	35	8 Day	0.145963	-0.02494	-0.00305	0.232523	0.096831	-0.03027	0.178748	0.126294	0.142807
	10	86	63	52	41	70	55	9 Day	0.231001	0.142189	0.12998	0.143853	0.032355	-0.03304	0.26936	0.216576	0.174189
	11	85	58	49	40	110	48	10 Day	0.214843	0.186712	0.170006	0.125696	-0.00621	-0.10768	0.299825	0.204889	0.131983
	12	85	59	48	36	100	68	11 Day	0.211596	0.262394	0.183762	0.068698	0.078191	-0.1014	0.333792	0.320556	0.194743
	13	85	53	44	35	190	63	12 Day	0.120972	0.230432	0.144643	-0.06787	-0.02318	-0.03475	0.279311	0.262602	0.110205
	14	86	53	43	33	150	69	13 Day	0.115474	0.284774	0.161804	-0.05162	0.084194	-0.04702	0.125014	0.222089	0.058659
	15	91	52	43	34	330	62	14 Day	0.142162	0.313462	0.180255	-0.1018	0.093901	-0.05294	0.181739	0.225992	0.048973
	16	92	55	45	34	470	55	15 Day	0.199831	0.337985	0.18117	-0.05834	0.064485	-0.03851	0.193461	0.282942	0.087373
	17	91	47	39	31	400	61	16 Day	0.242117	0.282433	0.133972	0.038555	-0.0182	-0.06827	0.122223	0.25591	0.066068
	18	87	46	36	25	250	40	17 Day	0.129777	0.137698	0.002168	-0.02605	-0.05962	-0.11726	0.087195	0.159939	-0.04926
	19	84	61	49	36	330	37	18 Day	0.043256	0.035189	-0.08362	-0.0555	-0.09357	-0.08694	0.030027	0.130497	-0.07292
	20	80	57	47	39	120	24	19 Day	-0.00156	-0.04742	-0.19174	-0.09219	-0.12782	-0.14091	-0.0077	-0.03984	-0.19999
	21	78	73	57	41	80	25	20 Day	0.109931	0.063158	-0.13788	0.109672	0.010994	-0.01275	0.054327	0.040921	-0.1773
	22	75	58	47	35	90	23	21 Day	0.306329	0.206819	-0.05654	0.161089	-0.00949	-0.07949	0.133017	0.003401	-0.19246
	23	75	53	41	28	60	12	22 Day	0.235576	0.202733	0.037415	0.059693	-0.084	-0.11744	0.191605	0.105081	-0.05532
	24	76	63	45	26	50	11	23 Day	0.072153	0.032121	-0.12822	0.055641	-0.07403	-0.11689	0.141227	0.009862	-0.17539
	25	78	40	31	22	50	22	24 Day	-0.08399	-0.08202	-0.28079	-0.13062	-0.26373	-0.21491	0.049143	-0.06557	-0.30025
	26	76	54	37	19	40	23	25 Day	-0.13797	-0.28041	-0.40971	-0.1463	-0.3577	-0.42736	-0.01516	-0.20035	-0.3672
	27	77	59	42	24	45	22	26 Day	-0.08524	-0.328	-0.4782	-0.15879	-0.34031	-0.33759	-0.03088	-0.21801	-0.42396
	28	80	58	48	38	90	34	27 Day	-0.04747	-0.28218	-0.43622	-0.07832	-0.17853	-0.17087	0.022723	-0.19455	-0.27429
	29	83	54	42	29	90	31	28 Day	-0.04444	-0.24219	-0.3575	-0.10578	-0.06142	0.037696	0.01701	-0.20082	-0.27429
	30	86	32	43	20	190	27	29 Day	0.044507	-0.05965	-0.07189	-0.16439	0.089366	0.103559	-0.08393	-0.16732	-0.19135
December	1	87	42	31	19	250	25	30 Day	0.126739	0.084682	-0.01895	0.002451	-0.01281	-0.00877	-0.15088	-0.19502	-0.22655
	2	87	60	42	24	480	32										
	3	87	62	46	29	540	27										
	4	87	47	37	26	560	48										
	5	88	34	27	20	490	47										
	6	89	45	30	15	580	35										
	7	87	45	34	22	630	34										
	8	87	49	33	16	450	22										
	9	87	55	43	31	400	22										
	10	88	55	41	27	410	33										
	11	87	45	34	22	410	25										
	12	89	31	23	14	380	23										
	13	88	34	25	16	370	46										
	14	90	41	31	21	320	33										
	15	87	40	34	28	50	11										
	16	84	49	38	26	80	23										
	17	82	37	32	24	0	11										
	18	81	37	32	27	0	0										
	19	81	51	38	24	0	0										
	20	78	62	50	37	0	0										
	21	78	49	40	31	0	0										
	22	78	35	29	22	0	0										
	23	80	33	27	20	0	0										
	24	79	35	33	31	0	0										
	25	79	31	28	25	30	28										
	26	81	31	25	19	20	28										
	27	80	44	32	19	50	14										
	28	81	43	31	18	70	31										
	29	83	57	48	38	60	37										
	30	83	68	50	32	20	24										
	31	91	32	23	13	190	23										

Flux - Solar Flux at earth
Spot Area - Sunspot area 10E-6 Hemis.
Spot - Sunspot number

December data is shown because the 31 days of delay uses December numbers.

U.S. Dept. of Commerce, NOAA, Space Weather Prediction center

SunSpot area and number are off set by about 3 days to make up for the time the solar wind reaches earth

by Dr. Cliff L. House, Emeritus Faculty Missouri State University

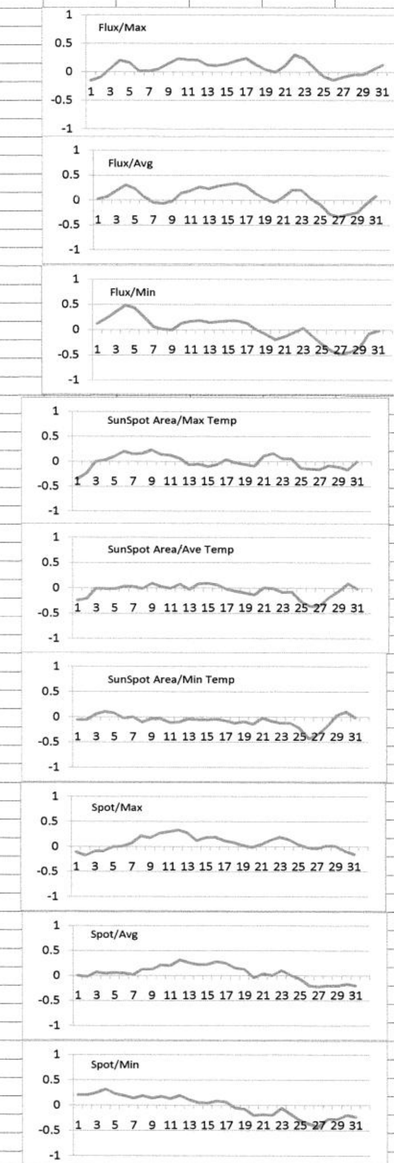


Figure 17.

Why, Study These Patterns?

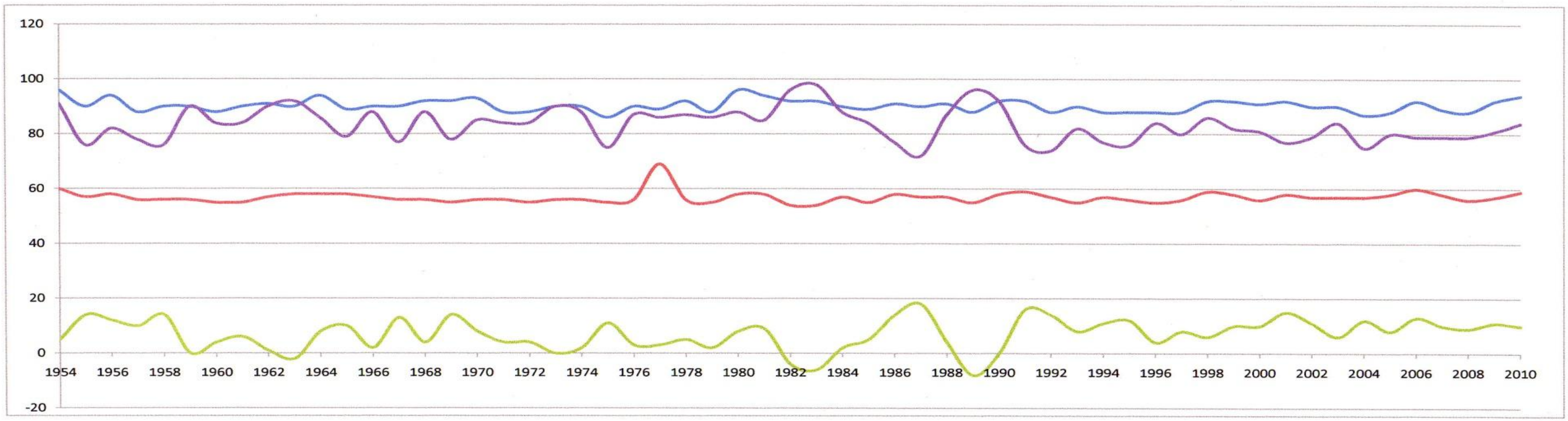
An example: After Katrina hit New Orleans, the general word on the popular press was that it was just the beginning of several years of really devastating hurricanes. It was a topic of discussion at Missouri State University. Studying cycles and cycles with in cycles the data suggested little Hurricane activity would be present for a number of years. Was this forecast bases on understanding the weather system of the earth, as it should have been. Unfortunately not, it was based on studying the heart beat or rhythm of hurricanes.

Patterns can be helpful or may lead to a better understanding of how our weather system works. There are so many factors that determine the earth's weather, none can be overlooked. Example: The movement of air is modified by the surface it is passing over, is a huge factor. There are so many factors to factor out it is difficult to identify just a small number. As a result, the understanding of weather and weather forecasting is difficult at best. Little by little we are gaining on the mystery. As break through's are made, it will still be difficult to alter, change, or modify the earth's weather.

Conclusion

The weather machine of the earth is perhaps one of the most difficult studies earthlings have encountered. It appears to have far more unknowns than the human body. Hopefully researchers will not give up on their quest to discover earlier warnings to hazardous weather situations. Altering the weather to fit a significant quality of life may not be a possibility for a long long time. From the press release July 26, 2011, Dr. Roy Spencer, research scientist, NASA, Earth System Science Center, University of Alabama, states the following: "Data from NASA's Terras satellite shows that when the climate warms, earth's atmosphere is apparently more efficient at releasing energy to space than models used to forecast climate change than has been programmed to believe. The result is climate forecasts that are warming substantially faster than the atmosphere."   This concept rides parallel with the weather extremes that we have experienced since solar cycle 24 has remained low in solar activity. The following are miscellaneous items that relate to this paper.

Annual Maximum, Average, and Minimum Temperatures for Wichita, Kansas.



Blue - Max   Purple - Average   Red - Minimum   Green - Difference between Max and Min

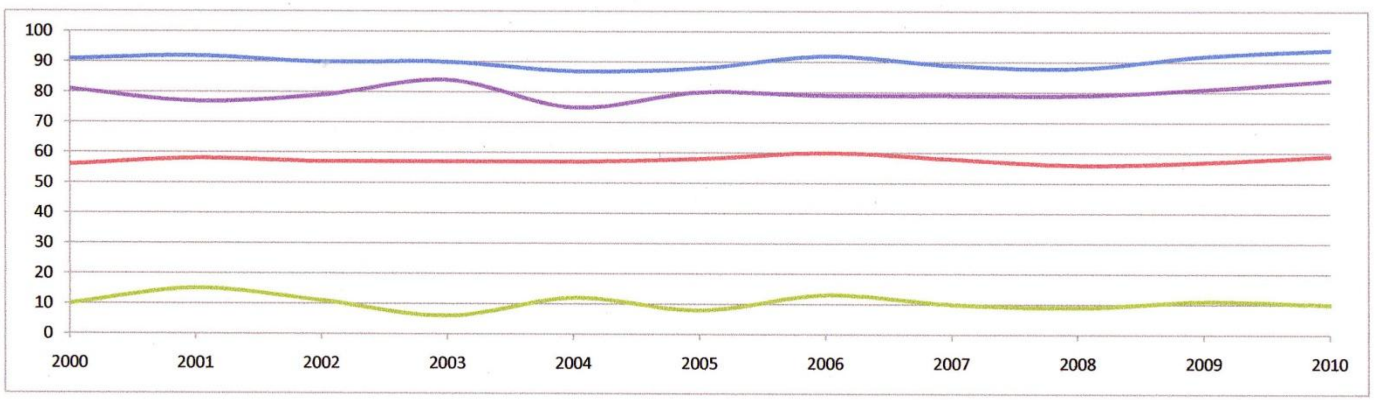
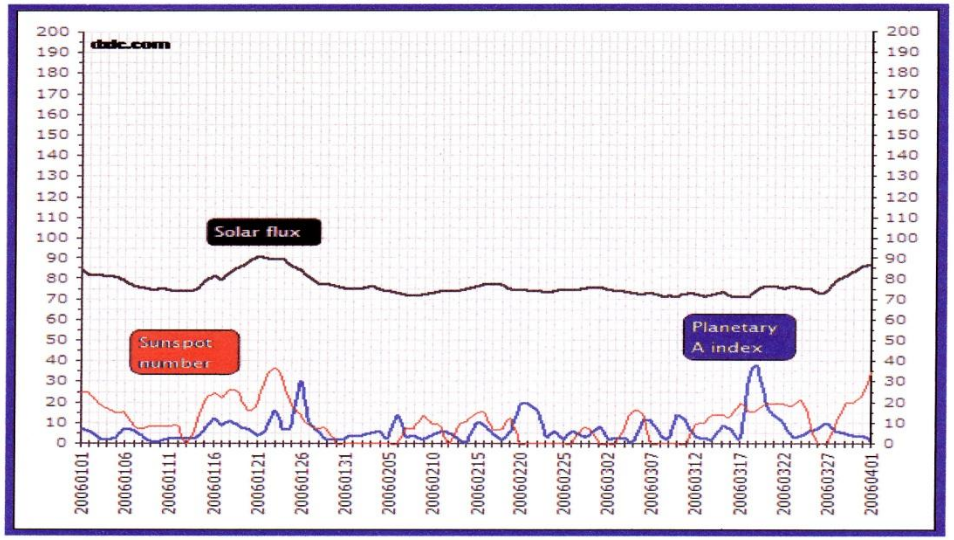
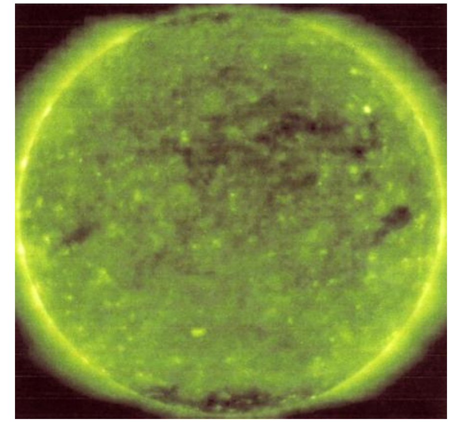
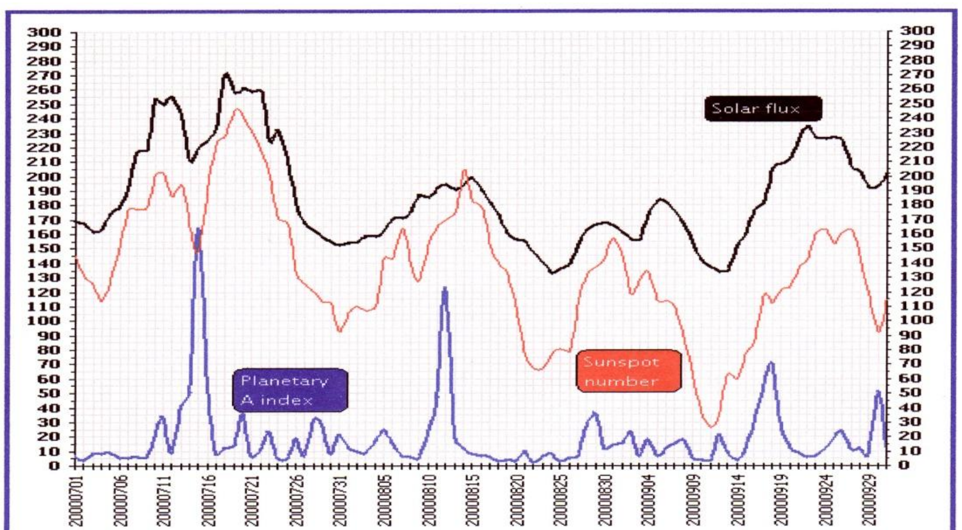


Figure 18

Solar Activity Minimum and Maximum







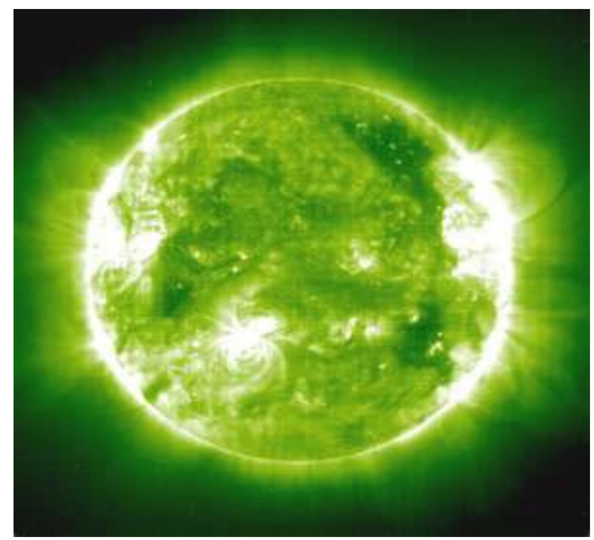
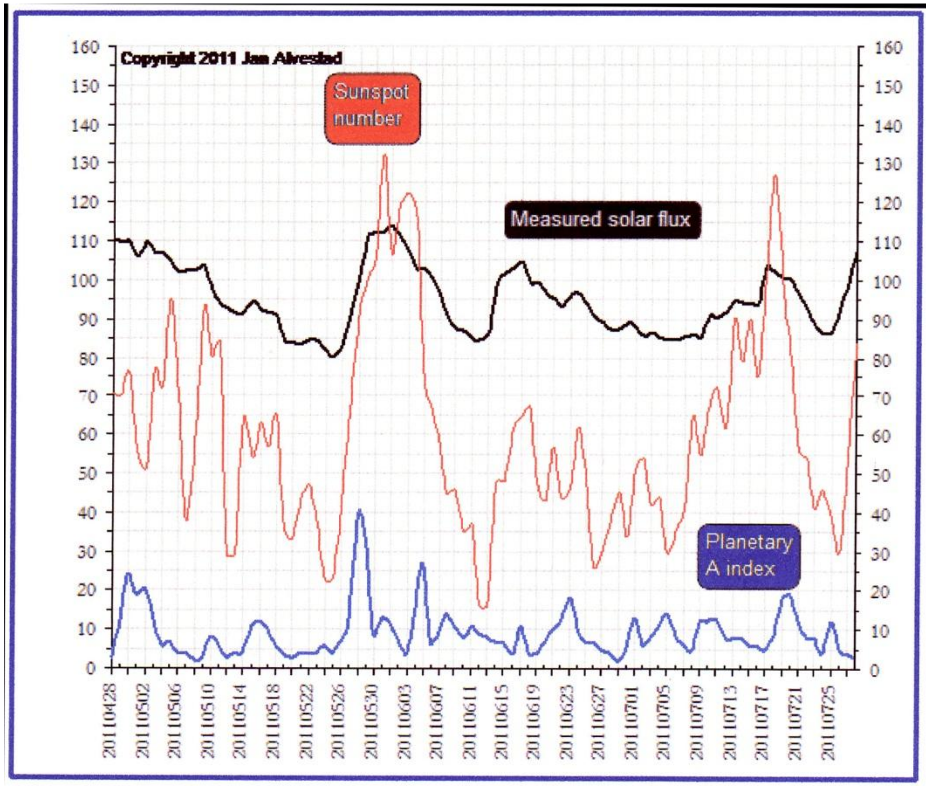
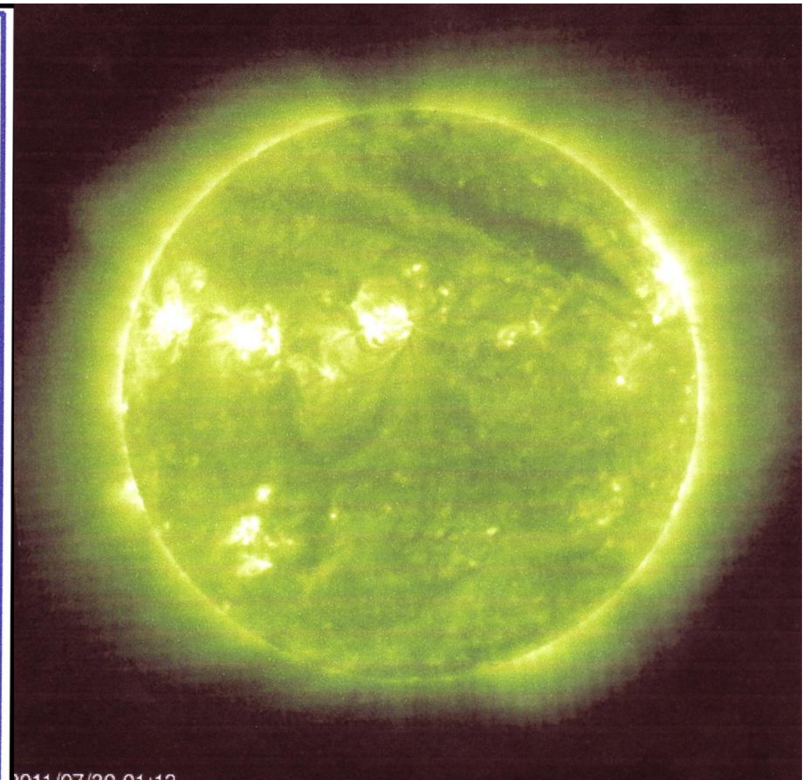


Figure 19.

Solar Activity May Through July 2011





The End