

# OCTOBER 2012

## *Monthly Climatic Summary and Impact Statement or Latest Available Data*

Current Value refers to last day of the month of Oct unless indicated otherwise.

Monthly Range refers to the month of Oct. unless indicated otherwise.

Average Value refers to the month of Oct. unless indicated otherwise.

### **Conversions:**

1sq. km = .39 sq. miles

1km/sec = 0.62 miles per sec

Celsius Temperature = Kelvin Temperature minus 273.15

1 Degree Celsius Equates to 1.8 Degrees Fahrenheit

1 Meter=3.28ft

1 meter per second= 2.237 miles per hour.

1 meter= 1000000 microns

1 meter= 1000 millimeters

1 km = .62 miles

1 mile= 5280 ft

### ***Category 1- Atmospheric Teleconnection Indices***

<b>Indices</b>	<b>Current Value</b>	<b>Monthly Range</b>	<b>Average Value</b>
AO	- 2.3 std	-3.1 std to +.8 std	-1.40 std
NAO	-2.0 std	-2.2 std to +.2 std	-0.99 std
PNA	-0.4 std	-1.7 std to -1.0 std	-0.78 std
AAO	-0.4 std	-1.7 std to +1.1 std	-0.37 std

<b>Number of days</b>	<b>+2.0 std or higher</b>	<b>-2.0 std or lower</b>
AO	0	7
NAO	0	3
PNA	0	0
AAO	0	0

### **Commentary**

- QBO - easterly component,combined with low solar activity favors a negative AO based solely on these two factors.
- This works best during the winter season.

- Std current values are departures from neutral.
- Southwest Weather Inc., is of the opinion that the AO, on balance will be mostly negative for the rest of this decade.
- This translates into a continuation in the persistence of weather patterns, as this decade proceeds.

*NOTE: More information will be forth coming on the AO/NAO in our Monthly Climate Summary and Impact Statement for the month of Nov., under this category.*

## **Category 2- Southern Oscillation**

<b>Index</b>	<b>Current Value</b>	<b>30 Day Average</b>	<b>90 Day Average</b>
SOI	+2.64	+2.85	+0.52

### **Commentary**

- The SOI index is negative when the pressure at Darwin, Australia is higher then the pressure over Tahiti.
- The SOI index is positive when the pressure at Darwin, Australia is lower then the pressure over Tahiti.

Indication of El Nino formation, occurs when the SOI index is negative.  
 Indication of La Nina formation ,occurs when the SOI index is positive.

*NOTE: -8 or greater is strong indication of El Nino.*

Indications as of now are for an extremely weak El Nino (west based) or no El Nino, this winter.

## **Category 3- Sea Surface Temperature Data**

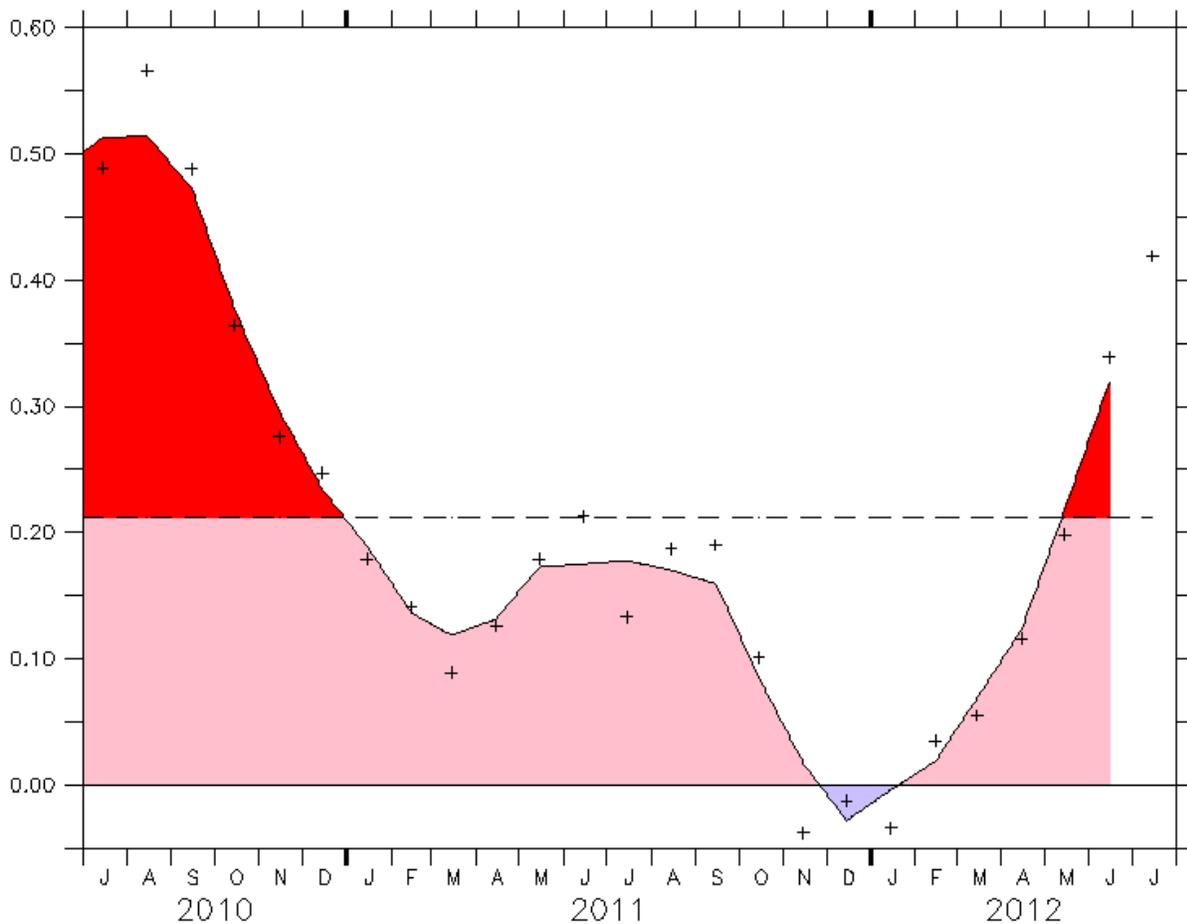
<b>Location</b>	<b>Current Value</b>	<b>Monthly Range</b>
Pacific Nino 1 +2	+ .18c	-.67c to +.28c Oct 03-Oct 31
Pacific Nino 3	+ .15c	-.27c to +.19c Oct.03-Oct 31
Pacific Nino 3.4	+ .32c	+.04c to +.45c Oct.03-Oct 31
Atlantic TNA	+ .90c	+.40c to +.90c Oct.03-Oct 31
Atlantic TSA	-.36c	-.31c to -.47c Oct.03-Oct 31
Atlantic NAT	+ .85c	+.35c to +.85c Oct.03-Oct.31
Atlantic SAT	-.51c	-.44c to -.69c Oct.03-Oct.31
Indian WTIO	+ .40c	+.29c to +.53c Oct.03-Oct.31
Indian SETIO	+ .14c	-.30c to +.14c Oct.03-Oct.31
Indian SWIO	+ .23c	-.03c to +.96c Oct.03-Oct.31
	<b>Current Value</b>	<b>Previous Month Or Period</b>
-PDO	-2.21 std Sep.15	- 1.93 std Aug.15
AMO	+ .49 std Sep.15	+ .47 std Aug.15
MEI	+ .10 std Oct	+ .27 std Sep

## Commentary

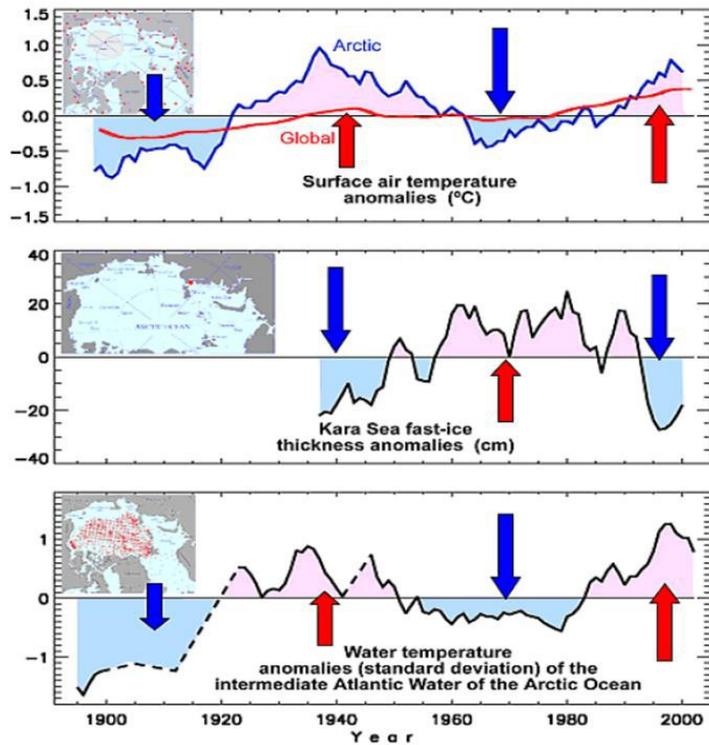
- The major reason for the drought which is covering the Western Half of the United States, to the vicinity of the Mississippi River , Northward to the Great Lakes region, is due to the AMO, being in it's warm phase. Southwest Weather Inc., thinks there is a chance that the Eastern most parts of this drought will subside during this winter.
- The drought has nothing to do with global man made warming, in our opinion.

AMO CHART- +.49 AMO is major positive territory. Look at graph.

PDO CHART- -2.21 PDO is in major negative territory.



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**Commentary**

- Temperature current values are departures from normal.
- Std current values are departures from neutral.

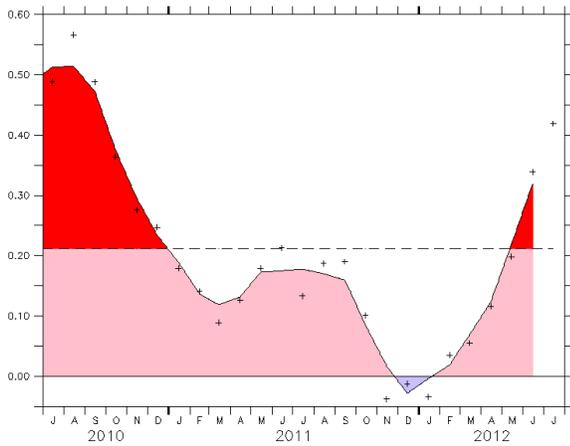
**Category 4 - Sea Ice Data**

Location	Current Value	Departure from Normal
Arctic	6.189 million sq. km	- 1.902 million sq. km.
Antarctica	14.007million sq. km	+0.046 million sq. km.

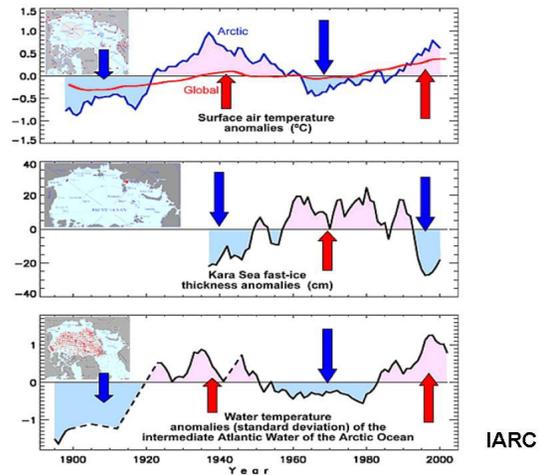
**Commentary**

- Data from Oct.17 - Arctic Sea Ice -2.673 million sq. km. departure from normal.
- Data from Oct.17- Antarctic Sea Ice +0.237 million sq. km. departure from normal.

One reason for the lack of Arctic Ice is the Atlantic Multidecadal Oscillation has been in a persistent positive phase(warm phase), and since the Atlantic Ocean, has much contact with the Arctic Ocean, it causes Arctic Sea Ice to melt when the AMO, is in a prolong warm phase. Look at the latest reading for the AMO,under climate category 3.



AMO CHART



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The NAO ,has been mostly in a negative phase since 2006, while the AMO,has been in strong positive territory. Southwest Weather Inc., is of the opinion going forward that the NAO, will remain mostly in a negative phase,while the AMO, will become less positive as this decade proceeds, which should aid in the recovery of Arctic Sea Ice, later this decade.

*NOTE: A Negative Arctic Oscillation will tend to keep older thicker ice in the middle of the Arctic, making it less prone to melt after the winter season.*

More on the NAO/AO/AMO, will be appearing on our Dec., Monthly Climate Summary and Impact Statement.

**Category 5- Geological Activity Earthquakes 6.0 magnitude or greater Volcano Eruptions Explosive Index 3 or higher.**

Date/Time & Type of Geologic Activity	Strength	Location
Oct.08 06z Earthquake	6.0 magn	25 N LATITUDE/110 W LONGITUDE
Oct.08 12z Earthquake	6.3 magn	05 S LATITUDE/103 E LONGITUDE
Oct.09 13z Earthquake	6.4 magn	60 S LATITUDE/150 E LONGITUDE
Oct.12 00z Earthquake	6.7 magn	05 S LATITUDE/135 E LONGITUDE
Oct. 17 05z Earthquake	6.0 magn	05 N LATITUDE/125 E LONGITUDE
Oct. 20 23z Earthquake	6.2 magn	15 S LATITUDE/165 E LONGITUDE
Oct.22 09z Earthquake	6.0 magn	20 S LATITUDE/ 170 E LONGITUDE
Oct.24 01z Earthquake	6.5 magn	10 N LATITUDE/ 85 W/ LONGITUDE
Oct.28 03z Earthquake	7.7 magn	52 N LATITUDE/130W/ LONGITUDE

## Commentary:

- Fuego Volcano, Guatemala- showing unrest. Oct.05.
- Popocatepetl Volcano, Mexico -showing unrest. Oct.05
- Cumbal Volcano, Columbia -showing unrest. Oct.05
- Galeras Volcano, Columbia -showing unrest. Oct.05
- Manam Volcano, Papua New Guinea -showing unrest. Oct.5
- Bromo Volcano, Indonesia -showing unrest Oct.08
- Lokin Volcano,Indonesia -showing unrest Oct.08
- Kilauea Volcano,Hawaii-1200 tonnes of so2 emissions per day of late. Oct.
- Earthquake swarm in Iceland. Oct.
- Earthquake Oct.05 -Three earthquakes magn. 5.5 occurred at the North Atlantic Ridge. 15n/45w
- Earthquake Oct.08 06z was in Gulf of California. Depth 9.9 km.
- Earthquake Oct.08 12z was in the Banda Sea. Depth 34.7 km.
- Earthquake Oct.09 12z was in the Balleny Islands Region. Depth 10.2 km.
- Earthquake Oct.12 00z was in Papua ,Indonesia.Depth 24.7 km.
- Earthquake Oct.17 05z was in Celebes Region. Depth 337.4 km.
- Earthquake Oct.20 23z was in Vanuatu. Depth 16.8 km.
- Earthquake Oct.22 09z was in the Loyalty Islands. Depth 127.0 km.
- Earthquake Oct.24 01z was in Costa Rica. Depth 20.1 km.
- Earthquake Oct.28 03z was in Queen Charlotte Island Region. Depth 17 km. 6.3 and 6.2 magn aftershocks.

## Category 6- Upper Atmosphere Temperature Data

Level	Current Value
400 mb	-20.1 C
600 mb	-35.7 C

### Commentary

- 600 mb approximately 14000 ft
- 400 mb approximately 25000 ft

The 600 mb. temperatures are running slightly warmer then recent years.  
The 400 mb. temperatures are running slightly warmer then recent years.

## Category 7- Solar Activity

Type	Current Value	Monthly Average	Previous Monthly Average
Solar Flux	103	123.3	123.2
AP index	5.1	9.9	8.1
Solar Wind	338	x	
Layman Sunspot Count	25	34.7	33.4

The AP index average for the day was 5 or lower on 17 days for the month of Oct.  
The Solar Wind was 400 km per second or lower 68.5 % of the time for the month of Oct.  
The Solar Wind fell below 300km/sec. during some part of the day 13 times in Oct.  
Number of days solar wind below 300 km/sec for entire day - 1

Number of days AP Index hit 29 or higher was 5 for Oct.  
Geomagnetic storm, equates to an AP Index reading of 29 or higher.

## **Commentary**

➤ Solar Flux has ONLY been in the 90-150 range (moderate range) ,while Ultra Violet Light emissions are running closer to solar cycle 22 and 23 minimum values,despite solar cycle 24 at or near it's maximum phase for this cycle. Very significant in the long range impacts to our climate going forward, if this trend continues,going forward. Southwest Weather Inc., feels this trend will continue going forward.

AP Index - A measure of geomagnetic activity on earth. 5-8 quiet. Less then 5 significantly quiet.  
Solar Flux- A measure of magnetic activity on the Sun. 72-90 quiet. Less then 72 significantly quiet.  
Solar Wind - A stream of charged particles ejected from the upper atmosphere of the sun.  
Wind Speeds of 400 km/sec. or less being considered weak. 300 km/sec or less extremely weak.

Southwest Weather Inc., is of the strong opinion that an AP index average of 5 or less over a period of time is very significant.

Rule of Thumb - Low solar activity will cause more turmoil on earth geologically, colder climate.  
High solar activity will cause less turmoil on earth geologically ,warmer climate.

*NOTE 1- In regards to low solar activity Southwest Weather Inc., means a solar flux reading of 72 or lower 98% of the time. However, spikes in solar activity within the prolong solar minimum are needed occasionally in order to promote greater geological activity on earth ,in our opinion.*

*In addition an extreme spike in solar activity resulting in a very major geomagnetic storm (greater then severe on the scale ,AP index in excess of 300) would result in destroying the electrical grid.. However Southwest Weather Inc., is of the opinion that the greater threat going forward is an increase in geological activity as a result of a mostly quiet sun with spikes, but not to the level needed to generate a very major geomagnetic storm .*

*Nevertheless, it is possible both scenarios could play out.*

*NOTE: 2- AP index 5-8 and solar flux readings 72-90 are transitions into very quiet geomagnetic and solar conditions in our opinion,when these readings are on their way down.*

## Category 8- Snow Coverage

### Current Value

2.31 million sq. km. aug  
4.33 million sq. km. sep  
19.87 million sq. km. oct

### Departure from Normal

- 970,000 million sq. km. aug  
-1,100,000 million sq. km. sep  
+2,620,000 million sq. km. oct

### Commentary

- Snow coverage has taken a dramatic jump during the month of Oct. This could have significant impacts for the upcoming winter.

## Category 9- Arctic Temperature Data North of 80 Degrees North Latitude

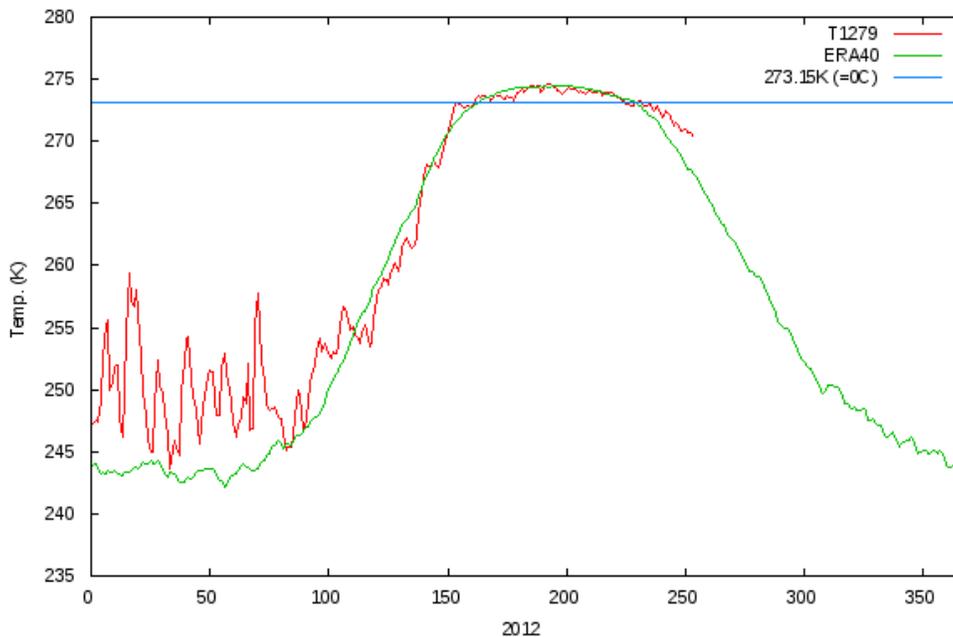
### Commentary

- Arctic Temperatures North of 80 Degrees North Latitude was -254k /Oct.31, which is +3k departure from normal.

Southwest Weather Inc., is of the strong opinion that the number of days the High Arctic is below the freezing level is more important than the actual temperatures, when it comes to climate change.

For the month of Oct. temperatures in the High Arctic have been above normal, many times as much as 5k above normal.

### ARCTIC MEAN TEMPERATURE



Sun Sep 9 19:00:23 UTC 2012

## **Category 10- Qbo Data**

Index Value	Current Value
	-27.94 m/s aug
	-26.61 m/s sep
	-24.51 m/s oct

### **Commentary**

- This value represents a strong easterly direction, which is negative.
- Look at category 1 for the possible significance of this.

## **Category 11- Global Average Temperatures**

LOCATION VALUE	VALUE
GLOBE	+.330c FOR OCT
N.H.	+.302c FOR OCT
S.H.	+.361c FOR OCT

### **Commentary**

- Temperatures steady. The temperature trend should begin to subside into a decline going forward, due to ocean heat content (the lag), weak maximum of solar cycle 24, and the limited years of sub-solar activity, becoming less and less of a factor as we proceed deeper into this decade.

## **Category 12- Global Cloud Coverage**

### **Commentary**

- The average global cloud coverage was x for month of Oct.

Southwest Weather Inc., is trying to obtain data.

Southwest Weather Inc., is of the strong opinion that an increase in global cloud coverage will result in lower temperatures. In contrast to global warming models that suggest an increase in cloud cover will promote warming, or that warming will promote an increase in cloud cover.

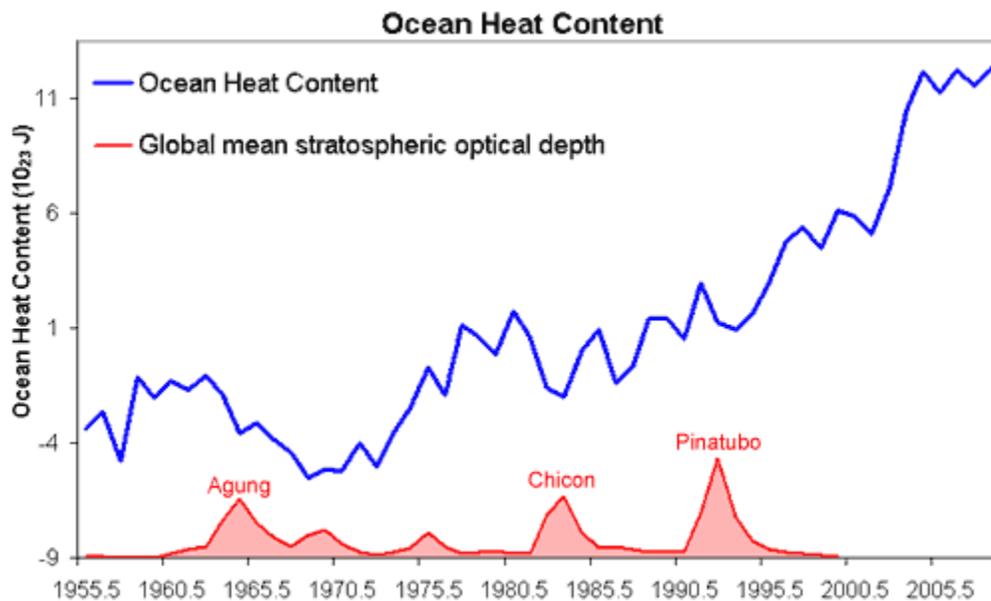
## Category 13- Thermohaline Circulation Strength and Ocean Heat Content Data

### Commentary

- Southwest Weather Inc., is of the opinion that the Thermohaline Circulation has not crossed any major thresholds for at least the last 100 years.

### Commentary

- Ocean Heat Content through a layer depth of 0-700 meters from the period 1955-2008, shows a steady increase from the late 1960's to year 2004, at which time it levels off through year 2008, the last reportable value for the data from attachment 1. The range in ocean heat content although steady from years 2004-2008 is near it's highest levels, since the start of this particular data going back to year 1955.
- Another graph showing later data on OHC, going out to year 2011 (starting with year 2003), continues to show OHC levels essentially unchanged from 2004-2011.
- This in contrast to model projections, which are forecasting OHC levels to continue to rise up to year 2011 and beyond, at an alarming rate.



NOTE: Magnetic Flux from the Sun rose by a factor of 2.3 from 1901-2000, and stayed strong until year 2005. From year 2005-present the magnetic flux has fallen off sharply, as shown by the Ap index. Southwest Weather Inc., is of the opinion that a connection can be made between magnetic flux levels from the Sun and OHC, as well as solar irradiance changes, both which effect incoming short wave solar radiation (visible light with a wavelength of .5 microns), reaching the surface of the earth. Incoming short wave solar radiation playing a big role in OHC. Lag times have to be taken into account.

The Ap index is a measure of geomagnetic activity on earth. Based on 11 Northern Hemisphere locations, and two Southern Hemisphere locations. These stations located between geomagnetic latitudes 46 and 63 degrees. Look at Category 7.

More information on OHC ,will be appearing in our Nov., Monthly Climate Summary and Impact Statement, as well as under this category.

## MONTHLY CLIMATE SUMMARY AND IMPACT STATEMENT

Next month look for Category 14 - Earth's Magnetic Field  
Category 15 - Out Going Longwave Radiation

NOTE: Southwest Weather Inc., will be updating the data for the Monthly Climate Summary and Impact Statement on a monthly basis. Commentary will undergo minor changes month to month, with major changes occurring once on the order of every 2 or 3 months ,unless some vital developments should come about.

## OCTOBER 2012 MONTHLY CLIMATE SUMMARY AND IMPACT STATEMENT

Southwest Weather Inc., feels an Arctic, displaying warmish conditions as shown by the average temperature of the Arctic North of 80 degrees latitude,as well as below normal sea ice amounts , and a sustained positive AMO, will lend some support to a more -AO/-NAO circulation. However, the two most important factors in the determination of a more -AO/-NAO in our opinion are prolong solar minimum activity and high latitude volcanic activity.

*NOTE: A strong solar proton event would result in a substantial loss of ozone , just like prolong solar minimum activity accomplishes, except it would be temporary. The strong proton event being a result of an intense burst of solar activity. Therefore Southwest Weather Inc., is of the opinion that it will be the prolong minimum solar activity which will be the main factor in low atmospheric ozone concentrations going forward, resulting in a more negative AO/NAO.*

*NOTE: A strong solar event (cme/geomagnetic storm) will result in a sudden decrease ,followed by a sudden increase in cosmic rays. A FORBUSH EVENT. Southwest Weather Inc., feels if the galactic cosmic ray density is high enough due to prolong solar minimum conditions ,that sudden rapid changes about a high cosmic ray density, is going to create the maximum opportunity for an increase in geological activity. In addition to the the rapid flux changes of all other high energy particles associated with a geomagnetic storm.*

Section 7 mentions this very fact, when it talks about spikes of solar activity ,within a prolong solar minimum period. Also more information about this subject can be found in our part two of our climate presentation.

This type of atmospheric circulation pattern if persistent enough ,will cause an overall Northern Hemisphere cooling,(even though above normal temperatures will persist in the Arctic,counter intuitive) due to an overall increase in cloud cover and snow cover over the Northern Hemisphere,as a result of this type of atmospheric circulation pattern. A negative AO/NAO atmospheric circulation pattern, results in a persistence of weather systems..

*NOTE: ARCTIC WE DEFINE AS 60 DEGREES N LATITUDE - 90 DEGREES NORTH LATITUDE  
Departure from Normal- Is how far below or above the data value is from the average value for that data. Departure from Neutral- Is how far above or below the data is from a zero deviation.*

## **TABLE FOR ABBREVIATIONS**

ao - arctic oscillation  
nao-north atlantic oscillation-  
pna -pacific north american oscillation  
aao-antarctic oscillation  
soi-southern oscillation index  
pdo-pacific decadal oscillation  
amo-atlantic multidecadal oscillation  
mei-multivariate ENSO index  
qbo- quasi biennial oscillation  
ohc-ocean heat content  
magn-magnitude  
std- standard deviation  
z time- zulu time or greenwich mean time (GMT)  
c-centigrade  
k-kelvin  
m/s - meters per second  
ap - average planetary  
km - kilometer

## **LOCATION HELP**

nino 1 and 2 located 0-10 s latitude and 80- 90 w longitude. Far Eastern Pacific  
nino 3 located 5n-5 s latitude and 150 w- 90 w longitude .Eastern Tropical Pacific  
nino 3.4 located 5n-5s latitude and 170w-120w. East Central Tropical Pacific  
atlantic tna- located 5.5n-23.5n and 15 w-57.5w. Tropical Northern Atlantic.  
atlantic tsa- located Eq-20s and 10e-30w longitude. Tropical Southern Atlantic  
atlantic nat- located 5n latitude and 40 w-20w longitude. North Equatorial  
atlantic sat- located Eq and 20 w-5e longitude. South Equatorial  
indian wtio-located Eq. and 65 e-75e longitude. Indian Western Equatorial  
indian swio-located 30s latitude and 60 e longitude. Indian South Western. Near Madagascar  
indian setio-located 5s latitude and 85 e -115e longitude. Indian South Eastern Equatorial. Near Sumatra.

*Submitted by The Climate Rebel-Southwest Weather Inc.*