

# BROWNING

©Evelyn Browning Garriss

NEWSLETTER

A FRASER MANAGEMENT PUBLICATION

Vol. 36, No. 5

## La Niña's Angry Goodbye

### IN THIS ISSUE

- The retreating La Niña is still shaping colder weather in Northwestern North America, severe drought in Texas and the Southwest and huge storms and tornadoes where the two meet the warm moist Gulf and Atlantic air masses.
- The La Niña is expected to be neutral by May or June and the tropical Pacific should remain neutral for the rest of the year. If this timing is right, the US should be able to produce a near average crop. Drought concerns for some areas, like Texas, until August.
- The hurricane outlook includes 3 hits in Gulf platform areas with at least 2 making a US landfall.
- The retreat of La Niña by June should help Asian crop yields. Meanwhile the Pacific Decadal Oscillation has strengthened the long-term outlook for monsoons in North and Central China and India while weakening them in Southern China and Pakistan.
- Southeast Asia will be a relatively stable area which is good for rice exports.

### SUMMARY

As La Niña fades in the Tropical Pacific, its impact continues to be felt in North America. It is still flooding the North and Western continent with cold, baking the South and causing fierce stormy weather where the two air masses meet.

Chicago had record breaking April snow. Texas is baking in drought, with wildfires from border to border. Record breaking numbers of tornadoes are savaging the countryside from Texas to Minnesota to North Carolina. Rains and

floods are halting planting in the Midwest and threatening to break levees.

What in the world is happening to the weather? The answer is La Niña. It may be weakening, but it is not mellowing out. It is creating a fierce and deadly spring.

It is important to remember that the event is not the only natural factor shaping the season. However, when combined with several other factors, particularly with the warm air from the Atlantic and Gulf of Mexico, it is triggering several very expensive and deadly weather patterns. Let's examine the parting gifts of the fading event.

### 1 La Niña's Angry Goodbye

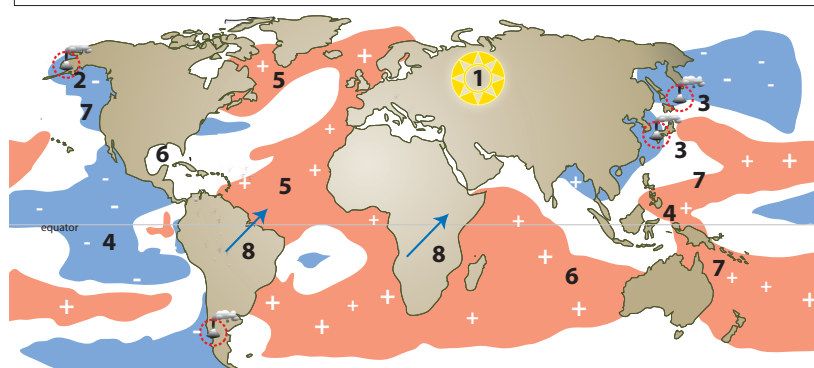
– La Niña may be fading in the Tropical Pacific, but it is shaping tornadoes, drought and wild, wild weather. Will it have any impact on the hurricane season?

### 5 The Climate Outlook – Asia

The short-term outlook for Asia is good – a return to more normal weather and a good growing season. In the long-term – what will be the impact of the negative Pacific Decadal Oscillation on Asia and its traditional farmers?

### 8 NEWS NOTES

### Natural Factors Shaping Spring's Weather



- 1 The sun is beginning a new solar cycle.
- 2 Large volcanic eruptions put climate changing debris in the stratosphere in 2009 and 2010.
- 3 Several volcanoes continue to have small and medium-sized eruptions.
- 4 The La Niña is fading.
- 5 Most of the Atlantic is unusually warm (a positive AMO).
- 6 The Indian Ocean Dipole is neutral but may turn neutral by late 2011.
- 7 The waters off of East Asia and Australia are warming (a cool PDO/IPO).
- 8 The high altitude Quasi Biannual Oscillation (QBO) winds are westerly.

FIG. 1

©Browning Newsletter

This newsletter contains articles, observations and facts to support our contention that man is significantly influenced by the climate in which he exists. Our calculations show the climate, over the next term, will cause dramatic changes in our social and economic patterns.

We feel that the reader, attuned to the changes that are occurring, may develop a competitive edge; and, by understanding his now and future environment, can use the momentum of change to his advantage.

# Tornadoes

The deadliest result of the La Niña is the current vicious cycle of tornadoes.

La Niñas make the jet stream volatile. This allowed cold air to plunge deep into the South, where it crashed into the warm moist air from the Gulf of Mexico and the Atlantic. The Gulf is warmer than it usually is, this time of year, so the atmosphere is unusually moist. The strong La Niña pattern means a tremendous contrast in air masses, with cool and dry air to the north and warm and steamy air to the south and east. When the two collide, the result is explosive, generating deadly tornadoes from Oklahoma through North Carolina and as far north as New York.

Initially La Niña cold suppressed tornado activity, making the winter weather too chill for the normal number of storms to generate in the South during January and February. Once spring warming began, however, the dramatically cold air hitting the unusually warm Gulf air masses has been record breaking.

It will take a few weeks to verify the exact number of storms, since many tornado reports are duplicated accounts of the same activity seen from different locations. So far, there have been 835 different reports, compared to the highest number of confirmed tornadoes, 267, which occurred back in 1974, another La Niña year.

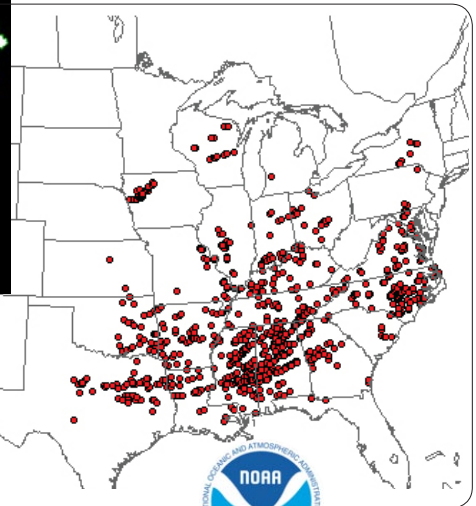
Of course, storm numbers don't tell the whole story. At least 340 people were killed in the last week of April, when fierce storms swept through six states in the South. At least two thousand more are injured. Three nuclear generators were shut down. A million homes and business are without power. In Alabama alone, insurance claims are expected to grow to a billion dollars. It was the deadliest outbreak since the 1930s.



FIG. 3-4

## Tornado Alley (above) April Tornado Reports

top: [www.nssl.noaa.gov/primer/tornado/tor\\_climatology.html](http://www.nssl.noaa.gov/primer/tornado/tor_climatology.html)  
right: [www.spc.noaa.gov/climo/online/monthly/1104\\_summary.html](http://www.spc.noaa.gov/climo/online/monthly/1104_summary.html)



Ironically, even though some of the greatest tornado outbreaks have been during La Niña years, scientists cannot definitely say that La Niñas cause busier years. The statistical month to month sample is too small to draw any iron-clad conclusions. There has, however, been a noted tendency for tornadoes to form further east than normal. El Niño years tend to produce the greatest number of tornadoes in the Southern Plains while La Niña years produce more in the South and the Ohio Valley. We certainly saw this during the deadly April 27 – 29 outbreak

And it is still early in the year. The Gulf will continue to grow warmer. The La Niña and its impact on the jet stream will linger for another month. And May, not April, is the busiest month for tornadoes. The good news for the South is that typically southern activity fades out in late spring and the Gulf warmth surges further north. The bad news for the Central and Southern Plains as well as the Midwest is that typically, they are next in line.

Ironically what may ultimately protect Texas and Oklahoma from a fierce tornado season is the current, equally fierce, drought.

## Floods and Drought

This year's La Niña has been an unusually severe event. It has warped

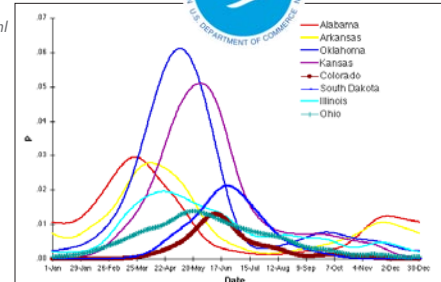


FIG. 5

## Significant tornado days, by state

[www.nssl.noaa.gov/users/brooks/public\\_html/tornado/#state](http://www.nssl.noaa.gov/users/brooks/public_html/tornado/#state)

normal weather patterns and cooled temperatures. For Canada it means shivering in the cold. For the US, with clashing masses of unusually warm and cold weather, it means springtime drought and floods.

La Niña shifts cooler water up along the west coast of the Americas. This sounds harmless but its impact is profound. Cool water chills the air above it. Cold air holds less moisture. The prevailing westerly winds blow the cooler, drier air inland. In Canada, this brings colder temperatures.

In the US the situation is more complex. The volatile jet stream is moving north and south along the coast. By spring, the winds are frequently flowing southwest to northeast, through desert Northern Mexico. The deserts warm the air, but they don't add any moisture. From Southern California to Texas and the Southern Plains, warm arid winds bake southern states.

Normally California would be parched, but this year a series of small-to-medium Russian volcanic eruptions dumped ash into the Pacific atmosphere. This ash absorbed moisture as it drifted over the Pacific, then

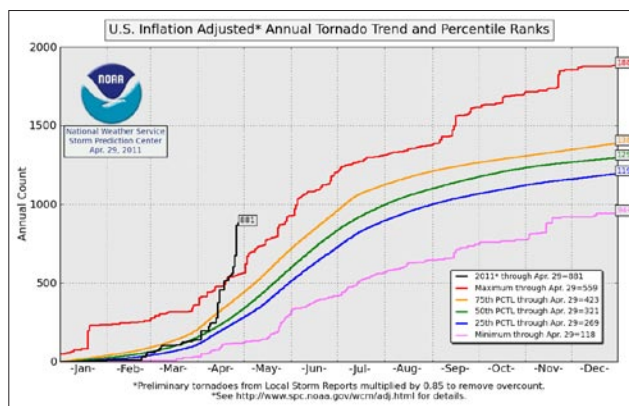


FIG. 2

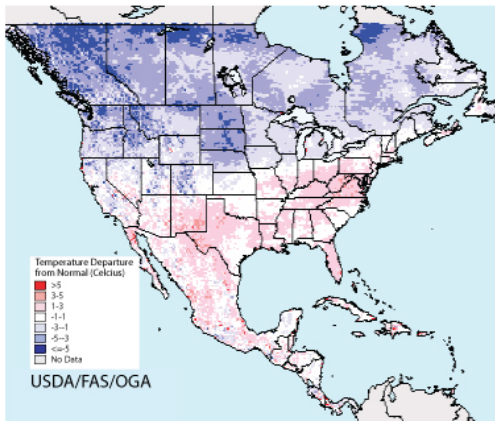


FIG. 6 North American Temperature Anomalies: April 11-20

[www.pecad.fas.usda.gov/cropexplorer/continentView.cfm?ftypeid=24&fattrib uteid=1&stypeid=24&sattributeid=3&regionid=america&startdate=04%2F1 1%2F11&imenddate=04%2F20%2F11](http://www.pecad.fas.usda.gov/cropexplorer/continentView.cfm?ftypeid=24&fattrib uteid=1&stypeid=24&sattributeid=3&regionid=america&startdate=04%2F1 1%2F11&imenddate=04%2F20%2F11)

precipitated out over along the California coast and in the state's mountains. When combined with the remnants of December's "Pineapple Express" tropical rain, parts of California's Sierra Nevada Mountains got as much as 600 inches (50 feet/20 meters) of snow this winter. Jerry Brown, the state's new governor, got the pleasant task of officially terminating California's three year drought.

The rest of the Southwest has not been as fortunate. The South has large areas of drought and the Southwest is parched. The Southern Plains, including Oklahoma, Kansas and eastern Colorado are seeing almost Dust Bowl conditions. But the most devastated area is Texas, which is suffering its worst drought in 44 years. The entire state is officially in drought conditions and over 70% is at category D3 (extreme) or D4 (exceptional, which normally only happens every 50 – 100 years) levels.

Texas has wildfires from border to border. Over half of its fields and pastures have been ranked as being in poor to very poor condition. However, when Texas hurts, the rest of the nation feels the pain. The state is America's largest cattle raiser and the second largest winter wheat producer. Farmers, in general, are trying to hold on, but a number of the ranchers are beginning to sell their cattle off to feedlots early. Even if the region gets some rain, there is so little subsurface moisture, due to the dry winter, that the state is very susceptible to drought this summer.

The bad news is there is actually little relief in sight, and what relief there will be will be in the form of heavy storms. And the lightning from thunderstorms can ignite new fires. Once La Niña is over, there will be some rainfall, but typically these types of drought linger into August. In the past, the state has frequently had to wait until the tropical storm season hits before they get relief from La Niña droughts.

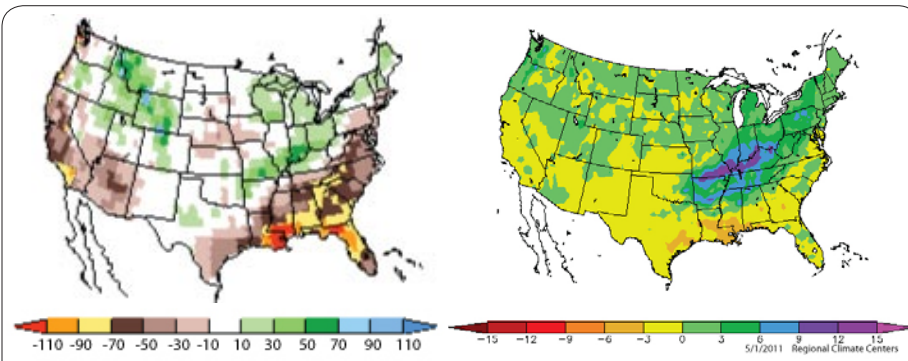
But droughts are only half of the picture. Just as the prevailing wind pattern of the La Niña block rainfall in some areas, they encourage rainfall in others. As the warm air from La Niña wind systems move east, they absorb moisture from the Gulf. When the unusually warm moist air then collides with cooler northern air, it rains out in explosive storms – as this month's outbreaks have shown. The soils are already saturated, so the rain waters are flowing into the creeks and waterways. The result – floods – particularly in parts of the Mississippi, Ohio and Red River Valleys. Like the drought, the risk of Midwestern storms and flooding will continue as La Niña fades.

## From Spring to Summer

La Niña continues to weaken as the tropical Pacific warms. Most national and international models indicate that it will end (i.e. be less than 0.5°C or 0.9°F below normal) sometime in May. As a pleasant switch from last February's position, most expect the Tropical Pacific to remain neutral for the rest of the year.

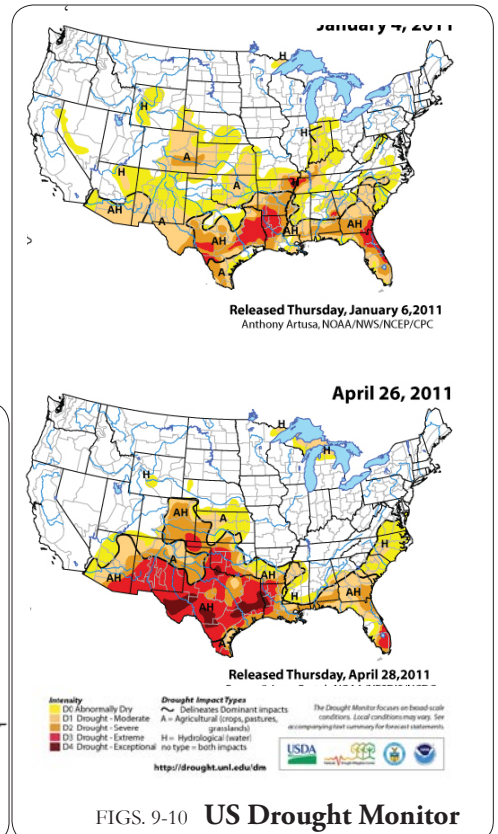
When this is combined with a continuing warmer than usual Gulf and less volcanic activity cooling northern cold fronts, the following weather looks most likely:

**LATE SPRING** – If this year resembles the five years with the most similar natural factors shaping the weather, springtime will continue to be stormy. Typically Canada's Western Provinces and the Northwest, Northern Rockies and Northern Plains are colder than normal while the more southern states should enjoy "average to warm temperatures." The Southwest, Gulf Coast and Southern Plains are usually dry and have severe wildfires and dust storms. Further north,



FIGS. 7-8 Expected La Niña precipitation anomalies 15 cases, left and Actual precipitation anomalies April 1-30, right

left <http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/composites/lanina.fma.precip.gif>  
right <http://www.hprcc.unl.edu/products/maps/acis/MonthPDeptUS.png>



FIGS. 9-10 US Drought Monitor

<http://droughtmonitor.unl.edu/dm>

regions where the warm-to-hot marine air collides with the retreating Arctic cold have heavy precipitation and storms. The Central Plains, Midwest, Great Lakes, Northeast, Southern Quebec and the Atlantic Provinces have been extremely wet and stormy in 80% of similar years. Between the snow melt from a snowy winter and the heavy rains, Midwestern flooding is common. This has frequently led to delayed plantings for corn and soybeans, which will have an impact on biofuels. Further north, Canada also has delayed plantings and slow growth.

**OVERALL** – most of the years with similar factors had a worrisome planting season. In more recent decades, these concerns were reflected in continuing high food prices.

**SUMMER** – In 60% of similar years, the summertime has heat waves on the coasts and great growing conditions throughout the central portions of the continent. The longer the La Niña lingers, the greater the

risk of crop damaging heat waves in July. If, however, the La Niña retreats and is gone by June, as expected, the US corn crop will be average to above average. California typically has drought during these types of years, but the state's reservoirs are in good condition. Much of the Great Plains should have cooler weather, which will be great for the crops. In 60% of similar years cooler weather delayed crop maturation in Canada's Prairie Provinces, causing some real concerns.

In the South, drought should continue to be a concern in the Southern Plains and the Appalachians but be alleviated along the Gulf. The last time the South faced these conditions, there was a legal water war involving Georgia, Alabama and Florida. In 80% of similar years Texas and the Central Plains remain hot and dry through July, but get rainfall in August. Expect all of these regions to have reduced hydroelectricity production and increased cooling demands.

The Russian volcanoes remain the wildcard in this scenario. If the Pacific Northwest volcanoes continue their current flurry, conditions could change. Moderate eruptions would bring more rainfall to the West Coast and slightly cooler, wetter conditions to the Midwest.

June is the beginning of the hurricane season and next month's Newsletter will examine the season's outlook in more detail. At this point, however, it looks like a busy season with 3 hits in the Gulf oil patch, at least two on American shores. In similar years, there were a minimum of 4 US landfalls.

In short, La Niña may be fading, but its impact will shape a spring and summer of extremes before it is completely gone.



Late Spring\*



Early Summer\*



Mid-Summer

<b>Cool</b> 2°C or more lower than normal temps.	<b>Hot</b> 5°C or more higher than normal temps.	<b>Warm</b> 2-4°C or more higher than normal temps.	<b>Dry</b> 75% or less of normal moisture	<b>Wet</b> 125% or more of normal moisture
-----------------------------------------------------	-----------------------------------------------------	--------------------------------------------------------	----------------------------------------------	-----------------------------------------------

FIGS. 13-15  
\* Moderate eruptions in the Pacific Northwest will bring more moisture to the west.  
© Browning maps

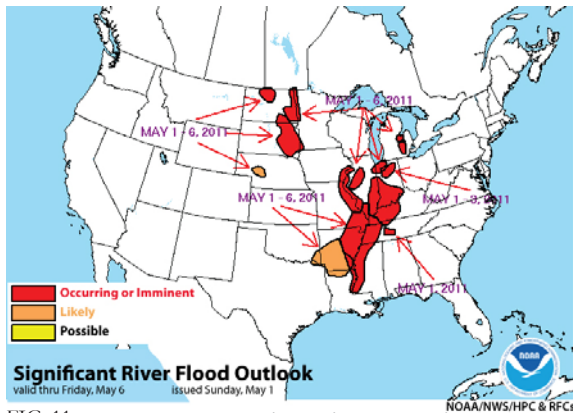


FIG. 11 www.cpc.ncep.noaa.gov/products/analysis\_monitoring/lanina/enso\_evolution-status-fcsts-web.pdf

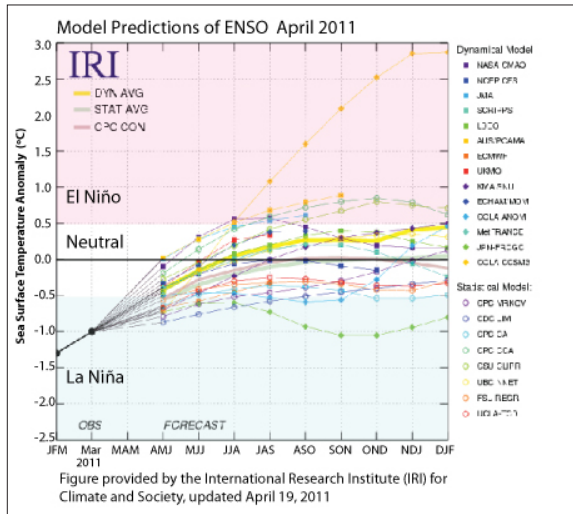


FIG.12 www.cpc.ncep.noaa.gov/products/analysis\_monitoring/lanina/enso\_evolution-status-fcsts-web.pdf

# The Climate Outlook - Asia

## SUMMARY

The short-term outlook for Asia is good – a return to more normal weather and a good growing season. In the long-term – the Pacific Decadal Oscillation will have its most profound impact on the continent of Asia – shifting temperatures and precipitation in a continent that depends on traditional agriculture.

North America is not the only continent that has had a spectacular winter and spring this year. The consequences of the giant volcano eruptions in the North Pacific shook weather conditions throughout the Northern Hemisphere. The weakened Arctic Oscillation winds allowed icy polar air to slam Asia as well as North America and Europe.

In January frozen air surged through Asia. Northern India was blasted by temperatures as low as  $-10.5^{\circ}\text{F}$  ( $-23.6^{\circ}\text{C}$ ). The cold was deadly in a land where many people do not have viable heating sources in their homes. Crops died as far east as Bangladesh, producing even higher prices for food throughout South Asia.

As the cold spread east, temperatures in China tumbled. When combined with the worst drought in 60 years, China's entire winter wheat crop was threatened. Chinese officials claim that massive government action preserved most of the wheat, but some early estimates claimed as much as 10 – 15% of the crop was killed or damaged.

Further east, North Korea was below freezing for over 40 days in a row, the coldest winter in 66 years. Crops were devastated and further south, South Korea saw energy prices surge.

As winter turned to spring warming, vegetable prices in parts of China grew by double digits. Rising fuel prices increased food production prices. When vegetable prices began to decline at the farm level in April, many farmers had to dump and destroy their crops as they realized that their sales would be unable to meet their fuel and labor production costs. When this is combined with a continuation of abnormally dry weather through much of Asia, many leaders fear continuing high inflation.

Given higher demand and higher energy prices, these fears are realistic. The good news, however, is that when one examines the factors shaping the current Asian climate, the outlook for this year's crop production looks very good.

## Asia's Climate – The Basics

There are two key facts to understand about Asian climate:

- Most of Asia's population and food production is in monsoon lands.
- The productivity of these lands is dominated by two oceans and the Arctic Oscillation.

**THE MONSOONS** – Winds blow from high pressure areas to low. Hot air rises, creating a low pressure area and cooler air rushes in to take its place. This is the key for understanding monsoons. In summertime, land heats up quicker than the nearby ocean. The monsoon winds blow from the sea to the land, carrying in the marine moisture and producing the “wet season”. In wintertime, the winds blow from land to water. In tropical lands, these winter winds merely produce a “dry season”. In sub-tropical lands like Northern and Central China, the dry season winds originate in Siberia and bring bitter cold. Typically the winds during the “dry season” are not as constant, allowing some moisture from other sources. This year, however, they were unusually strong, bringing bitter, crop-killing cold weather that penetrated down into Northern India and Central China.

Asian weather is dominated by three monsoons systems:

**THE INDIAN MONSOON** – This is the strongest monsoon, which dominates South Asia from Pakistan to Myanmar, Sri Lanka to Nepal.

**THE SOUTHEAST ASIA MONSOON** (Sometimes called the South China Sea Monsoon) – This controls the weather of Southeast Asia, Southern China and the Philippines. It has the strongest winter phase of the monsoon.

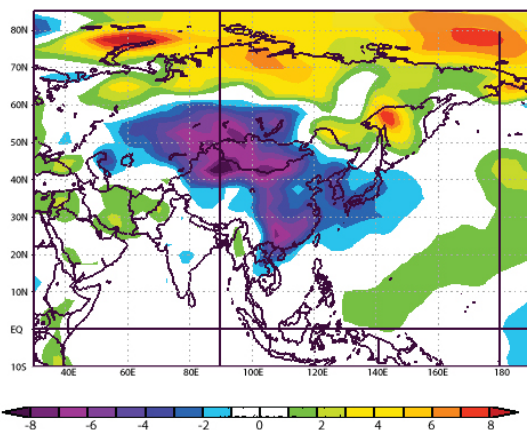


FIG. 16 **The stronger winter monsoon meant more cold dry air from Siberia. Parts of Asia and China had record cold.**

[www1.ncdc.noaa.gov/pub/data/cmb/hazards/2011/01/korea\\_cold.gif](http://www1.ncdc.noaa.gov/pub/data/cmb/hazards/2011/01/korea_cold.gif)

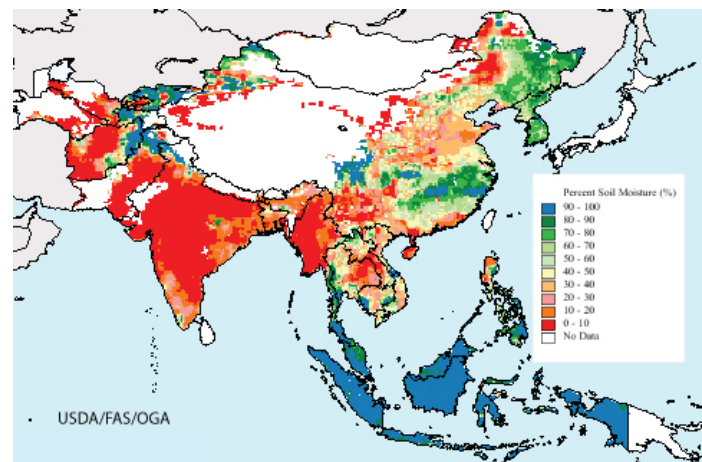


FIG. 17 **Asian Soil Moisture Percentages April 11-20**

[www.pecad.fas.usda.gov/cropexplorer/continentView.cfm?ftypeid=25&fattributeid=98&stypeid=&sattributeid=&startdate=2011-04-11%2000%3A00%3A00&imenddate=2011-04-20%2000%3A00%3A00&regionid=asia](http://www.pecad.fas.usda.gov/cropexplorer/continentView.cfm?ftypeid=25&fattributeid=98&stypeid=&sattributeid=&startdate=2011-04-11%2000%3A00%3A00&imenddate=2011-04-20%2000%3A00%3A00&regionid=asia)

**THE PACIFIC NORTHWEST MONSOON** – This monsoon flows through Northern China, Japan, Korea and Manchuria.

These three monsoons are part of a complex system of weather patterns that also include the Australian and Madagascar Monsoon. They interact and all are dominated by changes in the Indian and Pacific Oceans.

The dominance of monsoon weather makes Asia extremely sensitive to changes in ocean temperatures. Small changes in water temperatures can change the wind flow, strengthening or weakening winter cold spells and summer rains.

**THE INDIAN OCEAN** – The Asia’s monsoons has been strengthened by the overall warming of the Indian Ocean. Since the 1960s, the ocean’s surface waters, particularly those north of the equator have heated between 0.5 – 1.0°C (0.9 – 1.8°F).

Within this long-term warming trend has been a shorter event – the Indian Ocean Dipole(IOD). This climate pattern oscillates the strength of the monsoons from one side of the Indian Ocean to the other. In a positive IOD, the monsoons are heaviest in Africa and India. When the Dipole is negative, Australia, Southeast Asia and Eastern Asia have heavier monsoons and parts of Africa endure drought.

**THE PACIFIC OCEAN** – When the Tropical Pacific experiences an El Niño, the Asian monsoons, particularly the Indian Monsoon, are suppressed. If instead, the

Pacific is experiencing a La Niña, the monsoons are heavy.

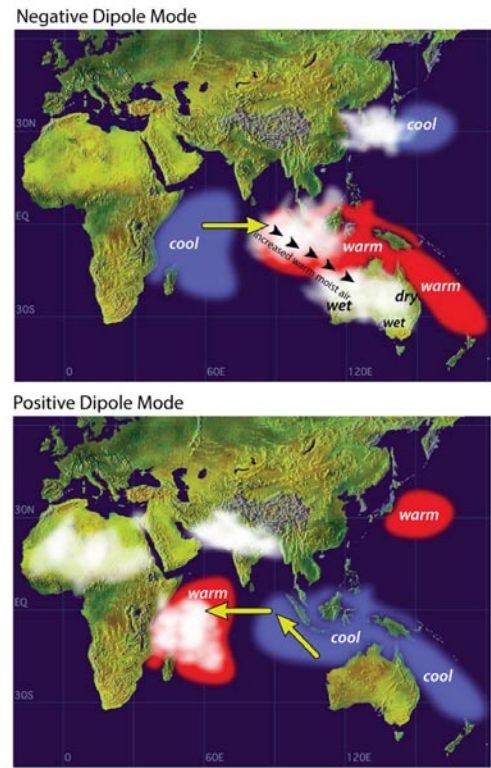
We saw the impact recently. 2009 had an early El Niño and India’s monsoon was a disaster. There was a 25% drop in precipitation nationwide and an 80% drop in the three districts of Chitrakoot, Etah, and Rampur 11. During the following year, 2010, a La Niña dominated the Pacific and the Indian monsoon was heavy and swept Pakistan with a mammoth flood.

As severe as the impact of El Niños and La Niñas are, they are dwarfed by the giant Pacific Decadal Oscillation (PDO) or as some papers call it – the Pacific Decadal Variation. The PDO is a long and complex shift of high and low pressure areas in the Pacific with accompanying changes in wind speeds and ocean currents.

Basically, it is a shift of warm and cool waters in the Pacific. In the warm phase, the tropics and eastern Pacific waters are warm and the polar and western waters are cooler than normal. In the cool phase, the reverse is true. The complete cycle lasts 50 – 70 years and dominates the entire ocean. From 1976 to 1998, the PDO was in its warm phase. As overall global temperatures rose, the Pacific distributed more of this warming in tropical waters and along the western coastlines of the Americas.

Then, in 1999, the PDO changed. The tropical ocean currents and waters off the western coasts of the Americas became cooler. The Western Pacific and the polar waters warmed. The Pacific remained this way for a few years, and then switched back. In 2006 it switched back again. Now scientists are claiming that the PDO is in its cool phase. It will stay this way (with occasional exceptions during El Niños) for the next 20 to 30 years.

**THE INDO-PACIFIC WARM POOL** –This is not good news for Asian temperatures. When the PDO is in its cool phase, the water temperatures around Asia and in



**FIG. 19 The Indian Ocean Dipole affects Asian, Australian and East African Monsoons**  
[w.jamstec.go.jp/ftrsgc/research/d1/iod/](http://w.jamstec.go.jp/ftrsgc/research/d1/iod/)

the Indian Ocean go up. In particular, the increased heat is felt in a region known as the Indo-Pacific Warm Pool, the warmest waters on Earth.

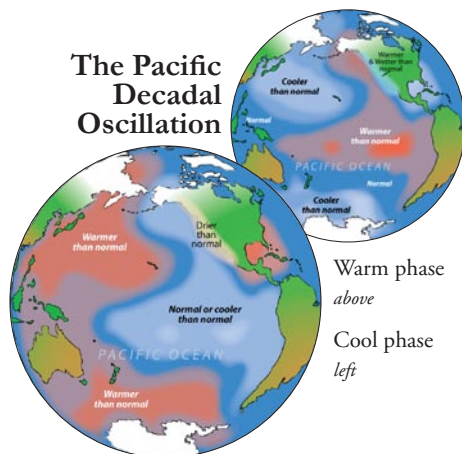
This region, over a million square miles in area is four times the area of the United States. Centered around Indonesia and stretching across both the Indian and Pacific Oceans, this region guarantees that when the world goes through global warming, the most dramatic heating is concentrated in Asia.

Scientists, including NASA’s Vikram Mehta, have been trying to unravel some of the questions surrounding the warm pool, but it remains poorly understood. It appears to go through warm and cold pulses over a twenty year period and interacts with El Niños and La Niñas. It is currently in a warm phase.



**FIG. 18 The Asian-Australian Monsoons**  
 ©Browning Maps

## The Pacific Decadal Oscillation



FIGS.12-13

The Pacific has been in a cool phase since 2006

© Browning maps

## The Outlook for Future Asian Climate

The Pacific and Indian Oceans combined with a strong negative Arctic Oscillation (AO) to shape last winter and they will shape the upcoming summer.

- The Arctic Oscillation was strongly negative in December and January, allowing the polar air to dip south. This seems to have been largely triggered by the debris from several North Pacific volcanoes interfering with Arctic weather patterns. By February the circumpolar winds strengthened and the cold air retreated north. There has been a recent weakening of these winds following another few eruptions in Kamchatka in mid-to-late April.
- The Indian Ocean Dipole was negative through early winter and is now neutral. It is expected to remain neutral through summer. There seems to be

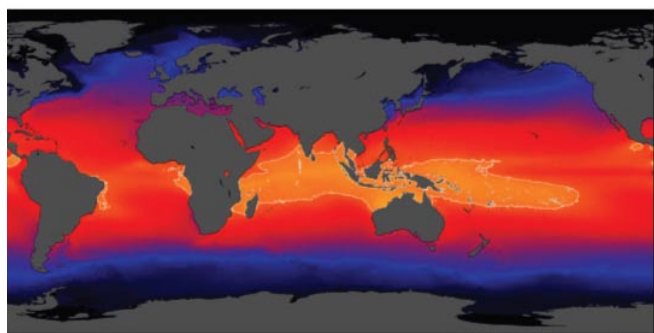


FIG. 21 **The Indo-Pacific Warm Pool**

<http://earthobservatory.nasa.gov/Features/WarmPool/>

a 60% probability that it will become negative again next winter.

- The La Niña peaked last January and is retreating. It is expected to be gone by late May or June and most national weather agencies expect the Pacific to remain neutral for the rest of the year.
- The impact of the PDO will linger for decades.

The combinations of these factors created a very extreme winter in Asia, with a Pacific Northwest Monsoon chilling northern latitudes (causing much of the cold and snow that hit post-earthquake Japan) and a weak Indian and Southeast Asian Monsoons allowing cooler and wetter conditions in much of tropical Asia. Now, as the IOD and the La Niña retreat, Asia's weather is becoming less extreme. South Asia has had a near normal spring, while East and Southeast Asia are beginning to experience warming temperatures. Parts of central China are receiving enough rain to raise hopes for the upcoming growing season.

By summer, the only major weather factor distorting Asia's climate will be the negative PDO. This large scale climate factor tends to create more bountiful rainfall for India and North and Central China. It also tends to create slightly drier conditions for Pakistan, parts of Southeast Asia and Southern China. Without the extra weather distortion of the La Niña, however, these regions have historically been able to have near-normal harvests. In 80% of similar years, both India and China have had mild increases in wheat production and 5%+ increases in coarse grains when compared to the previous year. Of course, this scenario could be severely changed with a large volcano eruption, or a moderate-sized explosion in the Philippines.

There is a 60% probability that the IOD may switch back to negative again next winter. If there was no La Niña for the event to interact with, it would mean a wetter winter in East Asia and colder weather in China, the Koreas and Japan.

When one looks further, the outlook is shaped by the warming Indian Ocean and the twenty to thirty year trend of the PDO shifting warmer water towards Asia. Historically, tree ring data tends to show that this shift increases some monsoons and weakens other. Typically the Indian and the Pacific Northwest monsoons are stronger while the Southeast Asia monsoon is weaker.

This means India, North and Central China, and Japan have more rainfall for agriculture in summer, but will have harsher dry seasons, particularly when the Negative PDO is enhanced by a La Niña.

On the other hand, as the rain patterns shift, Pakistan, Southern China and North Korea typically have less rainfall. This is



FIG. 22 **The ten year outlook for Asia**

© Browning Newsletter

worrisome since both Pakistan and North Korea are volatile societies with a long history of population movement and aggression against their neighbors. In southern China, by contrast, the biggest concern is that there has been tremendous investment in hydroelectricity and during this phase of the Pacific, particularly during La Niñas, the electrical supplies are much less reliable.

Southeast Asia typically has a weaker monsoon, but the cool Pacific also tempers the El Niño. It is the El Niño that typically causes the harshest droughts. With the PDO reducing the risk of a severe drought in Indonesia once every four years, the region has more stable weather and Indonesia will average more moisture despite the changed monsoon. Continental Southeast Asia may be slightly drier, but overall, as it did this last winter it will retain the ability to produce abundant rice.


The most worrisome concern is that some research shows that this phase of the PDO reduces glacier buildup in the Himalayas. These mountains are the source of the major rivers of Asia, from the Indus in Pakistan, to the Mekong in Southeast Asia to the Huang Ho in Northern China. However, the research in this region is limited and some is controver-


sial. It definitely needs to be pursued since it indicates a potential drop in river levels for one or two more decades.


It should be noted – Asia is a continent where the majority of farmers are traditional. It typically takes them a decade to adjust to changed growing conditions. It has been roughly 5 years since the PDO's tipping

point in 2006 and already there have been two times of soaring prices. Eventually the societies will adjust but until then, the continent's food supplies are very vulnerable to the weather disruptions caused by La Niñas and large volcano eruptions.

# News Notes


 Talk about wretched timing. Sheveluch volcano on Russia's Kamchatka Peninsula has spewed a new plume of ash 7.5 km (4.6 miles) high. The 143 km (89 miles) long cloud of debris headed west. This is not high enough to enter in the stratosphere and linger for years, but it is high enough to rain out in the Midwest – just during the spring flood season. Expect the dust to precipitate out during the first week of May. The rest of the world will not be affected, but Midwesterners might want to invest in water wings.

 The Texas drought is serious. What makes it even more troubling is a study by Nathan Bernier of Austin's KUT news on April 11, 2011. He looked at the US Drought Monitor's records since 2000 AD. He shows that for part of 6 years since then, 100% of Texas has had drought. These droughts tend to correlate with La Niñas and times when the Pacific Decadal Oscillation index is negative. This has serious implications for Texas now that the PDO has tipped and will trend towards being negative for another couple of decades. The good news is that back in the 1950s and 1960s, the last time the PDO was negative, Texas build a large number of lakes and reservoirs to store water during dry times. The problem is the population and the legal restrictions to the access to the stored waters have grown during the intervening years of a positive PDO and bountiful rains.

 The Gulf of Mexico is extremely warm compared to usual. This has serious implications for this year's summer temperature, drought and hurricane season. In some reports, this has led to them being reported as "among the highest in records," a rather alarming statement. Fortunately, as pointed out by Bob Tisdale, this does not appear to be true. The statements are based on a map source that does not include satellite

observation of sea surface temperatures. Satellite readings indicate the Gulf waters are almost 0.76°C (1.4°F) above average. That's warm, but not record setting. It may seem small, but when an extra one degree centigrade is like moving almost a thousand kilometers, (621 miles) south, it can make a big difference in how hot the South will get. Indeed, it should be noted that the waters were hot enough that weather experts found a tropical disturbance in April that showed a potential for developing into a tropical storm 2 months before the Atlantic hurricane season starts.

 When you are in Europe and ask what is cooking – the answer is England. This April has threatened to be the warmest on record – warmer than Los Angeles and drier than Madrid. Flowers are blooming an average of 2 weeks early. While conditions are lovely if you want a tan or a bit of a garden, it's a bit less favorable for crops. March was the driest it has been in 50 years and April the driest in 35. Hey mates, it stayed pretty and dry for the Royal Wedding. You can knock it off now and go back to the usual unpredictable intermittent rains.

 Watch out Australia. The recent heavy rains over the past few months across northern Australia have taken their toll on wildlife populations. The abnormal rainfall prompted a mass migration of – rats! The migrating vermin are moving from the Northern Territory and western Queensland into the interior desert of the continent. The rats were seen for the first time in over 25 years in the town of Alice Springs. Don't worry Alice – scientists say they are just moving through the region, looking for a home.

**The BROWNING NEWSLETTER**  
is published by  
**Fraser Management Associates**  
a Registered Investment Advisor.  
For more information or an informational brochure call 1-802-658-0322 or e-mail us at alex@fraser.com

**The opinions expressed are those of the writer,** and although they are based on extensive studies of physical data and phenomena, many statements published here are not entitled to be regarded as rigorously proved in a scientific sense. Some decades must pass before these issues are resolved.

Meanwhile, decisions must be based on the best available information and estimates.

- This newsletter will **not** contain:
- Analysis of, or recommendations concerning, any investment possibilities.
  - Recommendations on any particular course of action.

## VOLCANO UPDATES

*Evelyn Garriss now offers an e-mail update service to notify subscribers when eruptions happen, and how they are likely to affect the weather.*

For more details, price, and subscribing information: [www.BrowningNewsletter.com/contact.html](http://www.BrowningNewsletter.com/contact.html)

The BROWNING NEWSLETTER is published monthly at an annual subscription rate of \$250 for print OR email version, \$270 for both formats. Subscriptions should be directed to:

**The BROWNING NEWSLETTER**  
PO Box 1777  
Burlington, VT 05402

phone: 1-802-658-0322  
e-mail: [alex@fraser.com](mailto:alex@fraser.com)