

**The Warming of
the Global Oceans
Are Manmade
Greenhouse
Gases
Important
Or
IMPOTENT?**

The Warming of the Global Oceans – Are Manmade Greenhouse Gases Important or Impotent?

Global sea surface temperatures have warmed over the past 30 years, but there is no evidence the warming was caused by anthropogenic greenhouse gases. No evidence at all.

This post was written for persons who have seen my posts around the blogosphere for the past three and a half years, or have seen other bloggers discussing them, and have wondered what I was yakking on and on about—with the El Niño this and La Niña that. This post is a basic, down-to-Earth discussion of the causes of the warming of global sea surface temperatures over the past 30 years. It's how data, not models, account for the warming. I've tried to make it as non-technical as possible.

In its draft form, this post was titled *Why Do Proponents of Manmade Global Warming Continue to Misinform the Public about the Roles El Niño and La Niña Play in the Warming of the Global Oceans?* The answer's pretty obvious once you understand the roles El Niño and La Niña play.

OVERVIEW

Many of you have your doubts about manmade carbon dioxide-fueled global warming. Occasionally, you might even wonder what it would be like if those myths about CO₂ slowly vanished from our collective consciousness: Fewer and fewer persons would care about carbon dioxide emissions. The guilt some people feel about their carbon footprints would fade away and end with an unheard *blip*. SUVs with the monster V8s would start to look appealing to some people again—those who can afford the price of gasoline. Governments around the world would have to be honest with their citizens and say they want to reduce their countries' dependences on foreign oil. The non-stop marketing of green products would cease and we could return to primary colors—like blue as in deep blue sea. Instead of feeling responsible for the melting of glaciers, for sea level rise, for the loss of seasonal sea ice in the Arctic Ocean, etc., we'd experience child-like awe of Mother Nature's capacity to alter the configuration of the globe around us. That admiration, that wonder, we used to feel about weather-related events such as flooding, drought, blizzards, heat waves, cold snaps, would return. Alarmist climate scientists, who have tried with limited success to convince the masses that we now control those weather events, would be stripped of their rock-star images, and they'd wither into obscurity like Milli Vanilli, leaving more research funds available for those climate scientists who want to study the genuine causes and effects of global warming. Wishful thinking.

Since we live on land, we often think of manmade global warming as a land surface air temperature concern. But...

The oceans cover about 70% of the surface of the Earth. The surface air temperatures of the smaller land portion imitate and amplify the warming or cooling of the oceans. The hypothesis of greenhouse gas-dominated manmade global warming has one fundamental requirement.

Greenhouse gases **MUST** warm the surface and subsurface temperatures of the global oceans. If they don't—that is, if the recent warming of the oceans can be shown to be natural—then carbon dioxide and other manmade greenhouse gases lose their importance. Those anthropogenic greenhouse gases then become second or third tier causes of the warming of land surface air temperatures. Instead of being important, manmade greenhouse gases then become impotent.

In order to shift the cause of global warming from natural to manmade factors, proponents of anthropogenic global warming have misinformed, and continue to misinform, the public about the roles El Niño and La Niña events play in the warming of global sea surface temperatures. Those proponents want to keep the myth of CO₂-driven global warming alive and in the forefront of imaginations of a gullible public, so they have to turn Mother Nature's glorious children, La Niña and her big brother El Niño, into nonfactors.

I used the word "misinformed" in the preceding paragraph. A synonym of the verb "misinform" is "lie to". Take your pick. I'll use misinform and other synonyms in a number of forms throughout the rest of this post, but you know what I mean.

This post provides a simple overview of how the instrument temperature record confirms that El Niño and La Niña events, not manmade greenhouse gases, are the primary causes of the warming of global sea surface temperatures we've experienced over the past 30 years. It provides a slightly different and simpler perspective of the data-based arguments I've discussed and illustrated in past posts here at [Climate Observations](#), many of which have been cross-posted at the internet's most-viewed website on global warming and climate change [WattsUpWithThat](#). This is the same tack—make it easy to understand—I took when preparing my popular e-book [Who Turned on the Heat? – The Unsuspected Global Warming Culprit, El Niño-Southern Oscillation](#).

INTRODUCTION

Proponents of manmade greenhouse gas-driven global warming (scientists and bloggers) have created a number of untruths about El Niño and La Niña, which are also known in scientific jargon as El Niño-Southern Oscillation (ENSO). The fabrications are intended to redirect the cause of the warming of global sea surface temperatures from the true cause, ENSO, to an imaginary cause, anthropogenic greenhouse gases, primarily carbon dioxide. Manmade greenhouse gases have no measurable effect on global sea surface temperatures. Most of the misinformation relies on the public's limited understanding of the natural processes that drive El Niño and La Niña events.

What's the most-often-presented falsehood they've manufactured about El Niño and La Niña?

The primary myth about ENSO is the La Niña phase of ENSO is the opposite of El Niño. It sounds like it might be true, but it's nonsense. There is nothing in the instrument temperature record

that supports it. I'll show you how the differences present themselves in the data later in the post.

The processes of El Niño and La Niña themselves are not opposites. La Niña is simply an exaggeration of the "normal" state of the tropical Pacific—that is, La Niñas are the normal state with some oomph. On the other hand, an El Niño takes naturally created warm water from below the surface of the western tropical Pacific and relocates it the surface. When it's below the surface, the warm water is not included in the surface temperature record, but during and after the El Niño, the warm water is included in the surface temperature record. That warm water makes a short appearance in the eastern tropical Pacific—where scientists measure sea surface temperatures so that we know an El Niño is taking place—before the warm water is distributed around the global oceans, causing the long-term natural warming of sea surface and land surface air temperatures.

Further, at the end of the El Niño, sea surface temperatures in the eastern tropical Pacific cool and return to normal levels. They might even cool to temperatures below normal if a La Niña follows the El Niño. That typically happens after a very strong El Niño—that is, La Niñas typically follow strong El Niños.

Now here's where the proponents of manmade global warming get goofy. In very basic terms: some climate scientists point to the cooling temperature in the eastern tropical Pacific and say global surface temperatures should also cool because the El Niño is done where they have their El Niño-measuring thermometers. Those scientists know there's a huge amount of warm water left over after a strong El Niño; they know the leftover warm water has been redistributed to other parts of the global oceans away from their El Niño-measuring thermometers; yet they have the gall of conmen when they to point to those El Niño-measuring thermometers in the eastern tropical Pacific and tell us the effects of the El Niño are done. They then heap it on thicker when they say, since surface temperatures have warmed away from their El Niño-measuring thermometers, the warming elsewhere must be caused by manmade greenhouse gases. They have presented that absurd argument in a good number of scientific papers. They know it makes no sense, I know it and now you know it.

The next question you may have: The El Niño released lots of warm water from below the surface of the western tropical Pacific, but how was that warm water created?

It was created during a La Niña that came before the El Niño. This happens because La Niña events reduce cloud cover and allow more sunlight than normal to penetrate and warm the tropical Pacific. It's all so simple, and it's all supported by data, not by incorrect assumptions implanted while programming climate models.

There are variations of the myth that "La Niña is the opposite of El Niño". One variation: the response of global surface temperatures to a La Niña is similar to an El Niño but of the opposite sign. That's just as wrong as the original. The differences in the aftereffects of El Niño and La Niña are very obvious—you can't miss them—especially after the strong El Niño events that

took place during satellite era of sea surface temperature records. That's the 30-year period we'll discuss in this post.

Another variation to the fairy tale: ENSO is simply noise or an exogenous factor in the global surface temperature record. The fancy-schmancy word exogenous was recently and incorrectly used to describe ENSO in the 2011 Foster and Rahmstorf paper [Global Temperature Evolution 1979–2010](#). Exogenous, according to Webster, means:

...caused by factors (as food or a traumatic factor) or an agent (as a disease-producing organism) from outside the organism or system.

Actually, ENSO is an integral part of the sea surface temperature record. As such, the effects of ENSO cannot be removed from the surface temperature record. ENSO represents a natural coupled ocean-atmosphere process, not some outside factor. The events that initiate an El Niño are weather related, making El Niño basically random events, but they're still part of normal and natural global climate. By labeling ENSO as noise or an exogenous factor, the scientists and statisticians are attempting to conceal its long-term effects—just another way to misinform the public.

This post will clearly show that global sea surface temperatures do not respond to all La Niña events as they do to the El Niño events that came before them. There's also a major portion (33% of the surface area) of the global oceans that have defied greenhouse gases. The sea surface temperatures there have NOT warmed in three decades. That's tough to explain in a world where greenhouse gases are supposed to be warming the oceans.

HOW THE BASIC ANTHROPOGENIC GLOBAL WARMING MYTH IS PORTRAYED

Proponents of anthropogenic global warming, including bloggers and climate scientists, have done a wonderful job of convincing the public that there are three basic components to the warming of global sea surface temperatures. They include:

- (1.) An anthropogenic global warming component that is supposed to explain the warming trend of the global sea surface temperatures. That's the part they portray as evil, but it doesn't exist so there's nothing sinister behind the warming of the global oceans. Then there are the two natural factors;
- (2.) A sun-blocking volcanic aerosols component to explain the sudden but temporary cooling of global sea surface temperatures that are caused by catastrophic volcanic eruptions; and,
- (3.) An El Niño- and La Niña-related component to explain the year-to-year wiggles above and beyond the anthropogenic global warming component (1.).

Those three components are shown in Figure 1.

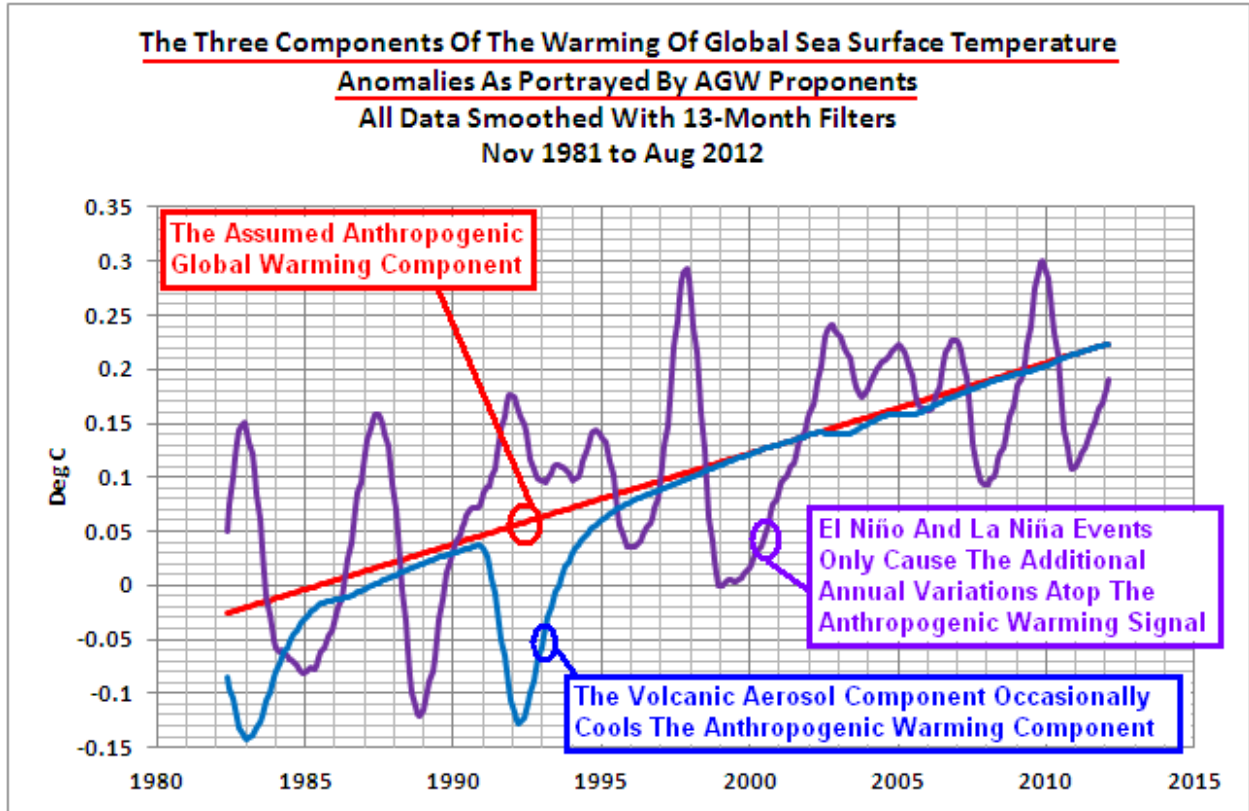
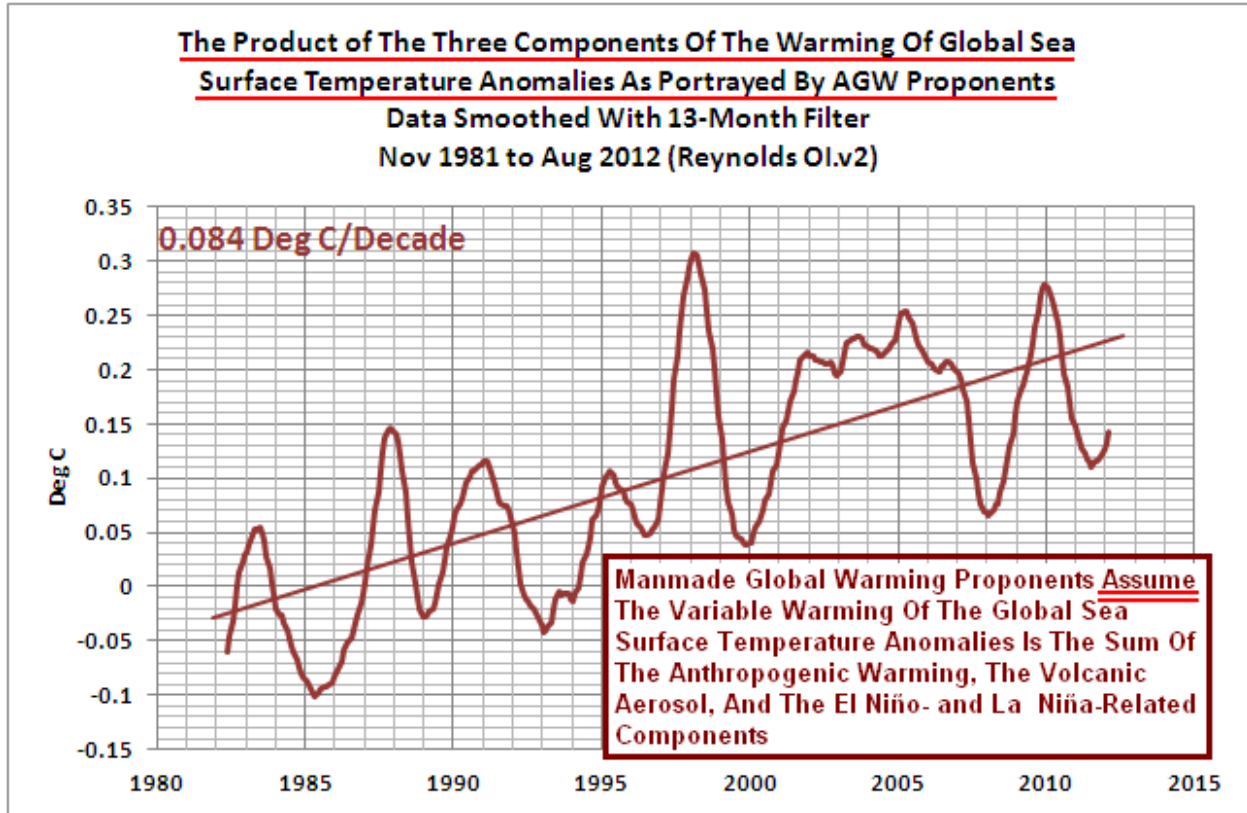


Figure 1

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According to the supposition of anthropogenic global warming, the end result of those three components is the warming of the global sea surface temperature anomalies over the past 30 years with all of its yearly variations. See Figure 2. It assumes there is an anthropogenic component that's responsible for all of the long-term warming, and it assumes there is a volcanic aerosols component to explain the dips and rebounds caused by of the eruptions of El Chichon in 1982 and Mount Pinatubo in 1991. It also assumes that the global sea surface temperatures respond proportionally to El Niño and La Niña events, which explain the large year-to-year variations above and beyond the long-term warming trend caused by manmade greenhouse gases. That is, it assumes global sea surface temperatures will cool in response to La Niña events and warm in response to El Niño events and do so proportionally.



REALITY IS DIFFERENT THAN THE HYPOTHESES/SUPPOSITIONS/ASSUMPTIONS

One of the components discussed above is presented correctly: the volcanic aerosols component. After the two major explosive volcanic eruptions, global sea surface temperatures did cool and then warm back up gradually over a few years. Those dips and rebounds are tough to find in some parts of the global oceans, but in others you can't miss the effects of those volcanos. Additionally, the way the El Niño-La Niña component is portrayed is partly correct. Global sea surface temperatures do warm in response to El Niño events...

If you're waiting for me to say global sea surface temperatures cool during all La Niña events, you'll be waiting a long time, because the sea surface temperature records don't show they cool during all La Niñas. Let me clarify that: the sea surface temperatures for a portion of the global oceans do respond proportionally to El Niño and La Niña events, but in a much larger area, they do not.

Also, as a result, there is no evidence in the satellite-era of sea surface temperature records that manmade greenhouse gases are responsible for any portion of the warming of the global oceans.

WHY IS THAT IMPORTANT?

If a hypothesis does not agree with the data that's used to support it, then the hypothesis is flawed. According to the climate models used as marketing tools by the Intergovernmental Panel on Climate Change (IPCC), only greenhouse gases can explain the warming over the past 30 years. If the IPCC had evaluated sea surface temperature data for that time period by breaking the data into logical subsets, they'd have discovered the warming can be explained naturally. Maybe some contributing authors/scientists/computer modelers do understand and they have elected not to express it.

Consider this: Most of us live on land. The vast majority of the warming of land surface air temperatures is caused by the warming of the surface temperatures of the oceans. How vast a majority? About 85%—give or take—of the warming of land surface air temperatures is in response to warming of the global sea surface temperatures. This can be shown through data analysis and with climate model outputs available on the web. Refer to Compo and Sardeshmukh (2009): [Oceanic influences on recent continental warming](#). Compo and Sardeshmukh didn't identify how much of the warming of land surface air temperatures could be attributed to the warming of the sea surface temperatures, but I did in Chapter 8.11 of my book *Who Turned on the Heat?* Figure 3 is from that chapter. The data presented in it is from the NASA Goddard Institute for Space Studies (GISS) [ModelE Climate Simulations - Climate Simulations for 1880-2003](#) webpage, specifically [Table 3](#). Those outputs are based on the GISS Model-E coupled general circulation model. They were presented in the Hansen et al (2007) paper [Climate simulations for 1880-2003 with GISS modelE](#).

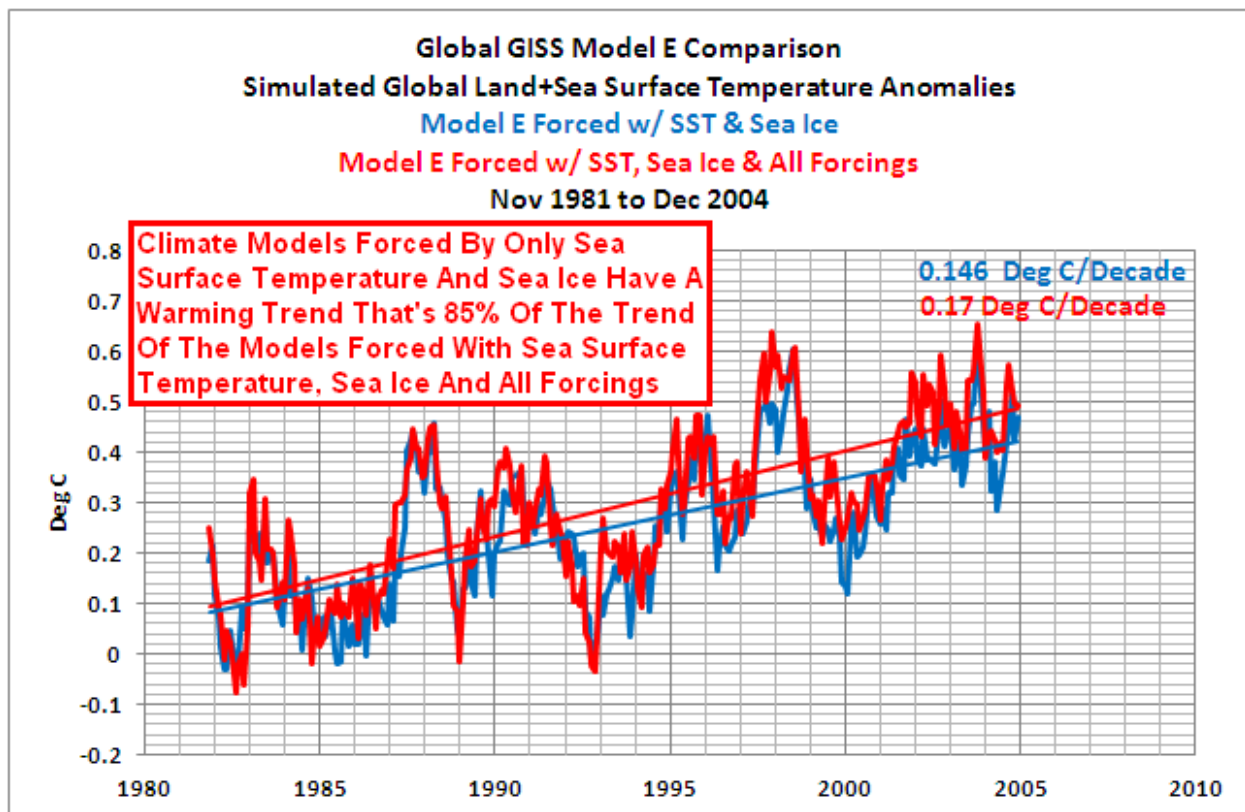


Figure 3

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The additional warming of land surface air temperatures **could** be caused by anthropogenic greenhouse gases, but it is just as likely the warming was caused by other factors such as land-use changes, urban heat island effect, black soot on snow, overly aggressive corrections (modifications) to the land surface air temperature records, problems associated the locations of the temperature measuring surface stations, etc.

Let me rephrase that. These additional factors—land use changes, urban heat island effect, etc.—do not impact the surface temperatures of the oceans in the real world or in climate models. Therefore, because the oceans cover 70% of the planet, the entire warming of the oceans in the climate models is assumed to be caused by manmade greenhouse gases and by changes in aerosols. That’s why carbon dioxide is considered to be so important by climate scientists. However, because the warming of the global oceans can be shown to be natural, then greenhouse gases, including the well-marketed carbon dioxide, become also-rans, with carbon dioxide vying for a place with the other land-only factors.

THE USE OF GLOBAL DATA AS A METRIC FOR GLOBAL WARMING CAN BE DECEIVING

I know the heading sounds odd, but it’s true. If we look at data on a global basis, we can only see that the global dataset has warmed—we can’t see if there are obvious reasons for the warming. To eliminate that problem, we’ll simply divide the data into two portions. We’ll call these regions the East Pacific (90S-90N, 180-80W) and the Rest of the World (90S-90N, 80W-180) to simplify the discussion. These areas are shown in Figure 4. They stretch from the Southern Ocean surrounding Antarctica to the Arctic Ocean surrounding the North Pole.

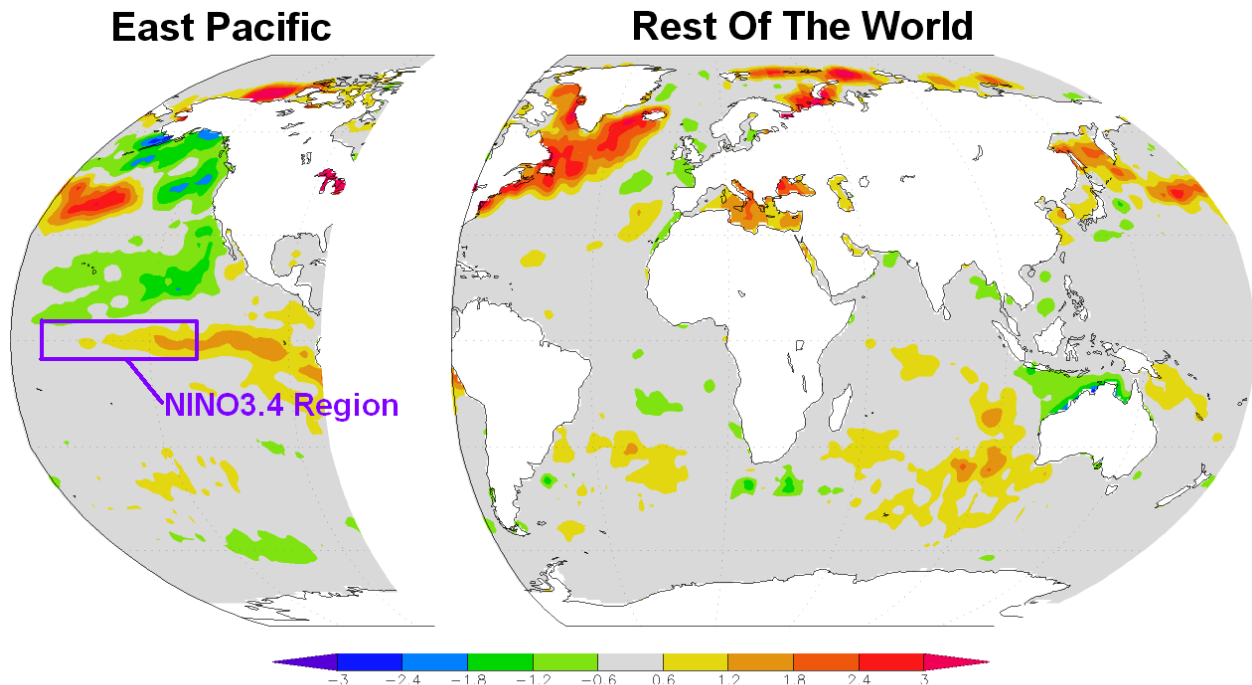


Figure 4

The East Pacific sea surface temperature data represents about 33% of the surface area of the global oceans—that's a chunk of water—while the Rest-of-the-World data makes up the other 67%.

I've also highlighted an area in the eastern equatorial Pacific called the NINO3.4 region. Recall our earlier very basic discussion about an El Niño and the thermometers the scientists use to tell us when an El Niño is taking place. That's the area. Please don't think there's only one thermometer bobbing around on wine bottle cork. There are weather station-like buoys measuring atmospheric and oceanic (surface and subsurface) conditions across the entire tropical Pacific. Those NOAA Tropical Ocean-Atmosphere (TAO) Project buoys are linked to satellites, which relay the data back to climate monitoring centers. The NOAA PMEL website includes an [animated slide show](#) that provides a simple, easy-to-understand overview of the TOA project.

There are other satellites that measure the skin temperatures of the global oceans twice daily, and they've been doing so since late in 1981. There are also ships and other buoys measuring sea surface temperatures around the global oceans.

A PRELIMINARY NOTE ABOUT OUR ENSO INDEX

As noted above, the sea surface temperature anomalies of a region of the eastern equatorial Pacific are commonly used as an indicator of El Niño and La Niña events—aka an ENSO Index. That region with the coordinates of 5S-5N, 170W-120W is called NINO3.4. We'll use the sea surface temperatures of the NINO3.4 region as a reference in the following graphs for how often El Niño and La Niña events occur, how strong they are and how long they persist. Keep in mind, though, while the NINO3.4 sea surface temperatures indicate an ENSO event is taking place in the eastern equatorial Pacific, it is only measuring the effects of the El Niño or La Niña on the surface temperatures in that region. That may seem obvious, but people lose track of that fact and forget to account for the effects an El Niño is having outside of that region on temperatures and other variables.

The sea surface temperatures in that NINO3.4 region warm and cool directly in response to the El Niño and La Niña events, so the swings in temperature there are quite large, much greater than the variations in the other datasets we'll illustrate. To accommodate the differences, the monthly values of the NINO3.4 data are multiplied by a common factor to reduce the variations. That simple process is called scaling. I've also shifted the NINO3.4 data back in time in one graph to better align the wiggles in the two variables. That was done to account for the time lag between the changes in temperature in the NINO3.4 region and the responses of the Rest-of-the-World sea surface temperatures. The scaled NINO3.4 sea surface temperatures are the purple curves in the following graphs.

THE EAST PACIFIC SEA SURFACE TEMPERATURE DATA DOES NOT AGREE WITH THE ASSUMPTION OF GREENHOUSE GAS-DRIVEN GLOBAL WARMING

With that in mind, let's compare the scaled NINO3.4 data to the sea surface temperature anomalies for the East Pacific. Refer to Figure 5. One of the components that are used to explain the variations in sea surface temperature is obviously there. The East Pacific sea surface temperature anomalies (pink curve) warm in response to El Niño events shown as the large upward spikes in the scaled NINO3.4 data (purple curve) and cool in response to La Niña events as shown with downward dips in the NINO3.4 data. During an El Niño event, warm water that had been below the surface of the western tropical Pacific sloshes into the East Pacific Ocean on the surface, impacting the sea surface temperatures of the East Pacific and the NINO3.4 region directly. When the El Niño is done, the leftover warm water sloshes back out of the East Pacific. Comparing the two curves, the East Pacific sea surface temperature anomalies diverge from the scaled NINO3.4 data at times, but in general, the East Pacific sea surface temperatures mimic the ENSO index. The volcanic aerosol component also seems to be missing. It's a tough call since the two datasets don't follow one another perfectly.

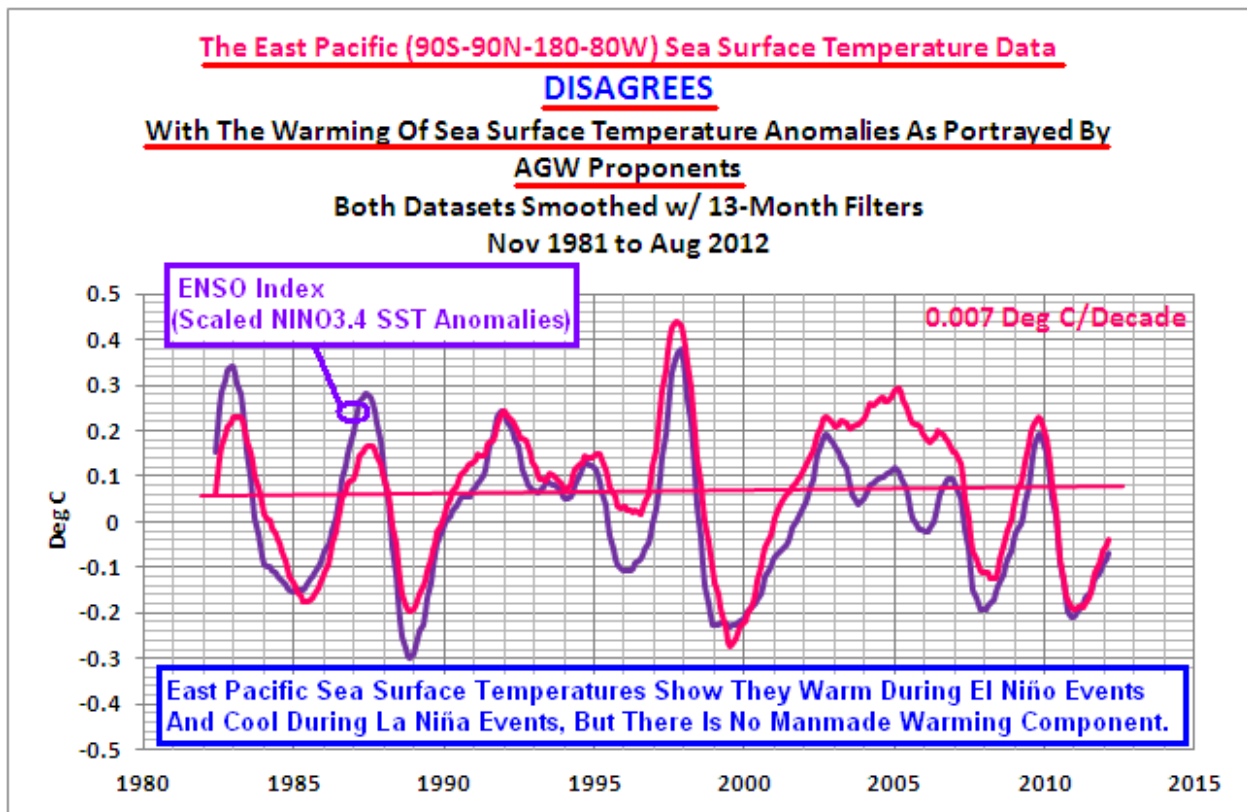


Figure 5

Bob Tisdale

Regardless, the component that's very obviously missing is the anthropogenic global warming component. Sea surface temperature anomalies for the East Pacific haven't warmed in 30 years. A trend of 0.007 deg C per decade is basically flat. That's 7 one-thousandths of a deg C per decade, or based on the linear trend, they've warmed 2.1 one-hundredths of a deg C over

the past 30 years. It's foolish to think in terms that small when dealing with a body of water that's about 120 million square kilometers or about 46 million square miles. It's better simply to say the data shows no evidence of warming.

On the other hand, according to the climate models used by the IPCC, the East Pacific sea surface temperatures SHOULD HAVE warmed roughly 0.42 to 0.45 deg C over that period, IF they were warmed by anthropogenic greenhouse gases. Obviously, they haven't been warmed by greenhouse gases. Should've, would've, could've.

Yeah but...the proponents of anthropogenic global warming repeatedly say...Yeah but...

THE SEA SURFACE TEMPERATURES FOR THE REST OF THE WORLD HAVE WARMED

That's very obvious. We showed the sea surface temperatures for the global oceans have warmed in Figure 2. If the East Pacific data hasn't warmed in 30 years, then the warming has to have come from someplace and logically that's going to be in the sea surface temperature data for the area we're calling the Rest-of-the-World. We can see this in a graph that compares East Pacific and Rest-of-the-World sea surface temperature anomalies, Figure 6.

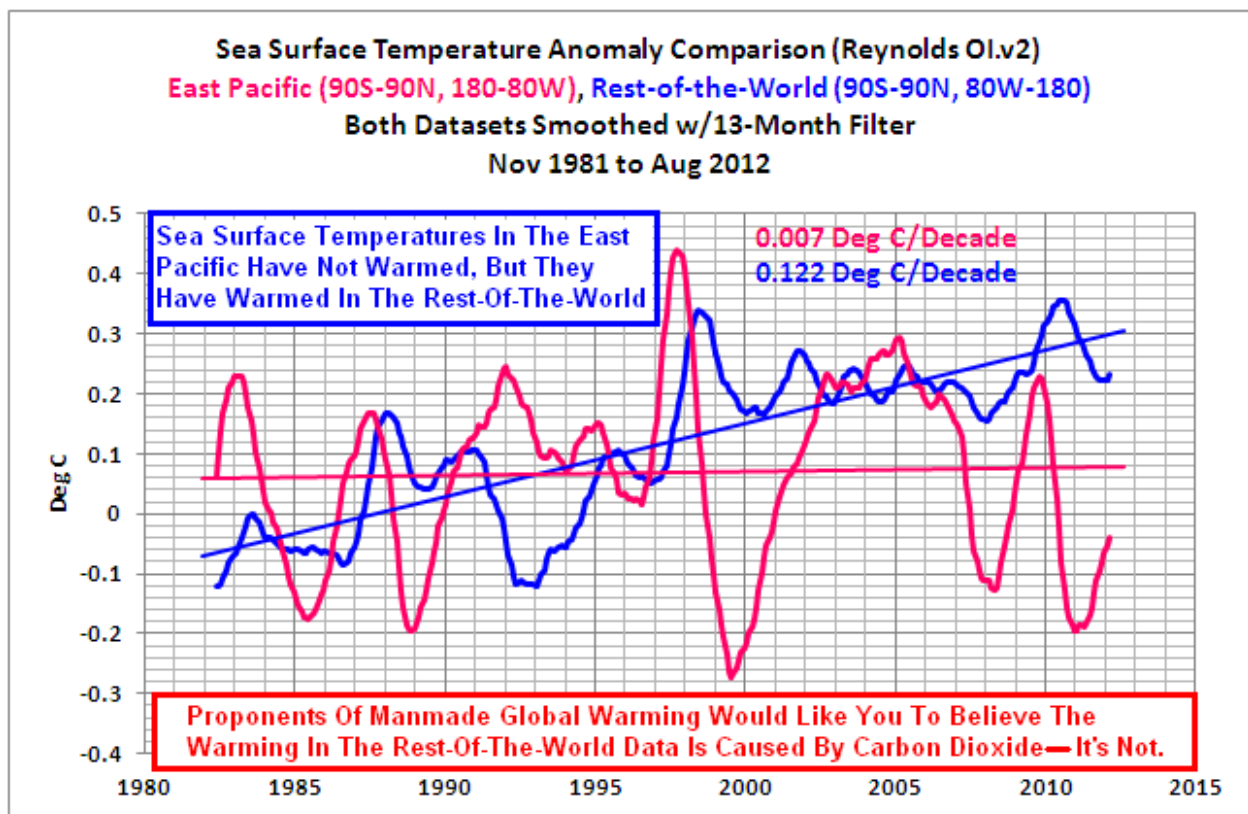


Figure 6

Bob Tisdale

The proponents of anthropogenic global warming will argue that they've never claimed the globe will warm uniformly; that is, some parts warm, while others don't. It's a convenient

excuse, one that they can't support with climate models because the climate models say the East Pacific should have warmed, so they fabricate another misleading statement. It's easy to do. They've got a long history of misinforming the public. It's a choice they've clearly made.

THE SEA SURFACE TEMPERATURE DATA FOR THE REST OF THE WORLD DOES NOT AGREE WITH THE ASSUMPTION OF GREENHOUSE GAS-DRIVEN GLOBAL WARMING

It was easy to compare the year-to-year warmings and coolings in the East Pacific data and our ENSO index because neither has warmed in 30 years. Let's make the Rest-of-the-World sea surface temperature anomalies just as easy to compare to our ENSO index by removing the trend in the Rest-of-the-World data. "Detrending" a dataset is simple. First, the monthly values of the trend line for the Rest-of-the-World data are determined. Second, the values of the trend line are subtracted from the Rest-of-the-World data. It's a quick and easy process with a spreadsheet. Figure 7 compares the Rest-of-the-World data to its detrended version.

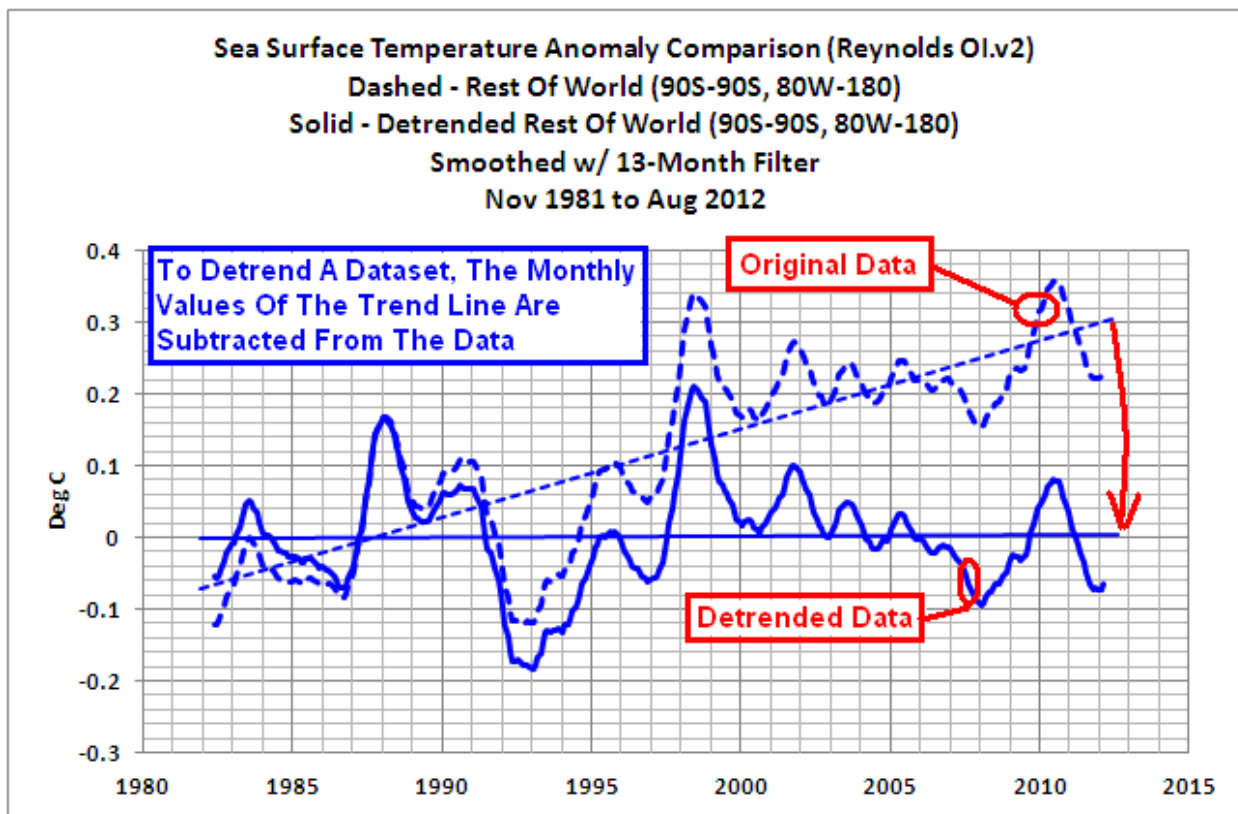


Figure 7

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With the trend removed from Rest-of-the-World sea surface temperatures, two things SHOULD appear when they are then compared to the NINO3.4 data. The Rest-of-the-World sea surface temperature anomalies should temporarily dip below the scaled NINO3.4 data starting in 1982 and in 1991 as the Rest-of-the-World data cools then rebounds in response to the volcanic aerosols. There's something else that SHOULD happen if the proponents of anthropogenic global warming have been truthful about El Niño and La Niña. Sea surface temperatures in the

Rest-of-the-World should warm in response to El Niños and they should cool proportionally to La Niñas, just as they had for the East Pacific data. Figure 8 compares the NINO3.4 and Rest-of-the-World sea surface temperature anomalies.

Looks like we've been misinformed once again.

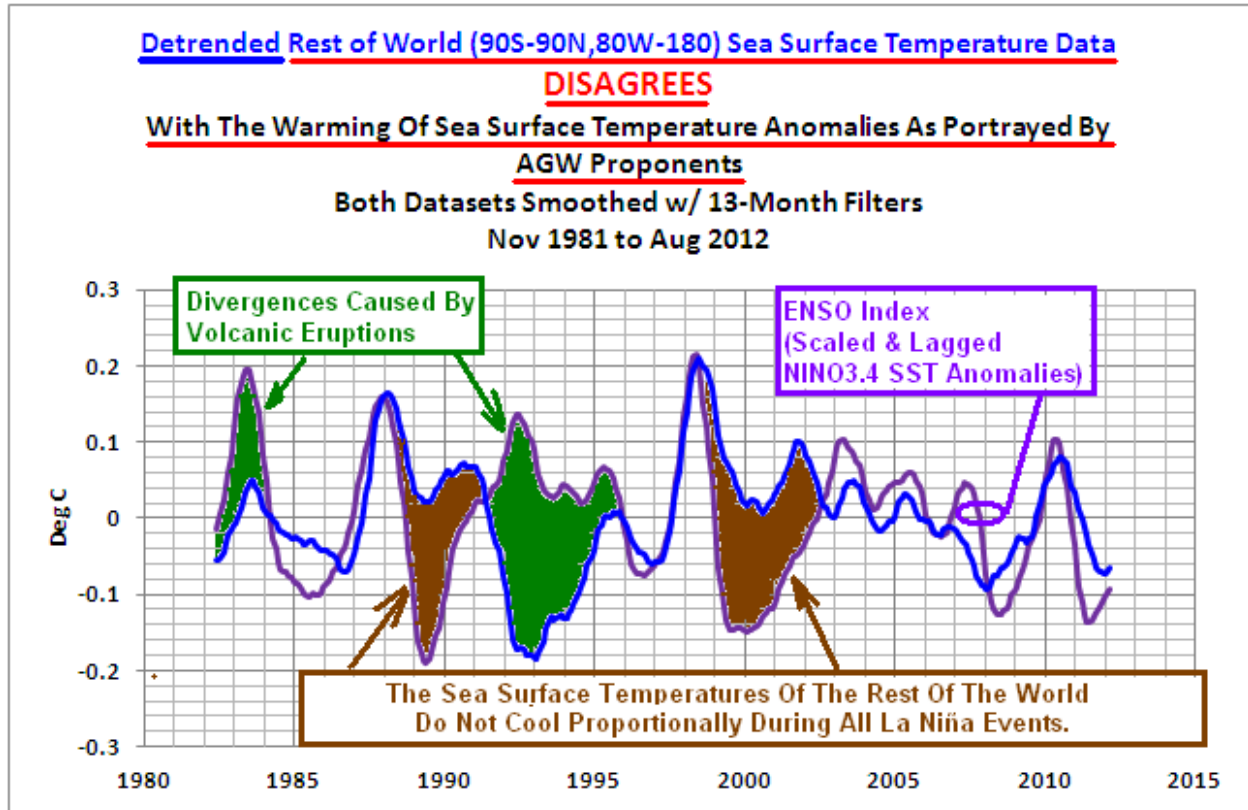


Figure 8

Bob Tisdale

The Rest-of-the-World data does diverge from the scaled NINO3.4 data as expected in response to the volcanic eruptions. I've highlighted those in green. The effects of the very strong 1982/83 El Niño were counteracted by the 1982 eruption of El Chichon and the impacts of the 1991/92 El Niño were overwhelmed by the 1991 eruption of Mount Pinatubo.

To contradict the myth about La Niña, the sea surface temperatures for the Rest-of-the-World do NOT cool proportionately during the two La Niña events that followed the two very strong El Niño events of 1986/87/88 and 1997/98. They warmed in response to those two El Niño events, but they failed to cool in response the La Niña events that followed. I've highlighted those divergences in brown. If they cooled proportionally during those two La Niña events, the dark blue line would follow the ENSO Index shown in purple. The detrended Rest-of-the-World data mimics the NINO3.4 data at other times, but not after the two major El Niño events.

Why?

1. The processes that drive La Niña events are not the opposite of El Niño events.
2. After a very strong El Niño event, there can be a huge amount of leftover warm water that remains on the surface. There is also a huge volume of leftover warm water that's below the surface, and it rises to the surface with time.

RECALL THE EARLIER DISCUSSIONS

In the introduction I wrote:

On the other hand, an El Niño takes naturally created warm water from below the surface of the western tropical Pacific and relocates it the surface. When it's below the surface, the warm water is not included in the surface temperature record, but during and after the El Niño, the warm water is included in the surface temperature record. That warm water makes a short appearance in the eastern tropical Pacific—where scientists measure sea surface temperatures so that we know an El Niño is taking place—before the warm water is distributed around the global oceans, causing the long-term natural warming of sea surface and land surface air temperatures.

Further, at the end of the El Niño, sea surface temperatures in the eastern tropical Pacific cool and return to normal levels. They might even cool to temperatures below normal if a La Niña follows the El Niño. That typically happens after a very strong El Niño—that is, La Niñas typically follow strong El Niños.

Now here's where the proponents of manmade global warming get goofy. In very basic terms: some climate scientists point to the cooling temperature in the eastern tropical Pacific and say global surface temperatures should also cool because the El Niño is done where they have their El Niño-measuring thermometers. Those scientists know there's a huge amount of warm water left over after a strong El Niño; they know the leftover warm water has been redistributed to other parts of the global oceans away from their El Niño-measuring thermometers; yet they have the gall of conmen when they to point to those El Niño-measuring thermometers in the eastern tropical Pacific and tell us the effects of the El Niño are done. They then heap it on thicker when they say, since surface temperatures have warmed away from their El Niño-measuring thermometers, the warming elsewhere must be caused by manmade greenhouse gases. They have presented that absurd argument in a good number of scientific papers. They know it makes no sense, I know it and now you know it.

The divergences shown in brown in Figure 8 are caused when sea surface temperatures of the Rest-of-the-World fail to cool in response to the La Niña. Basically, they don't cool because of the warm water that's left over after the El Niño.

Recall the discussion of the East Pacific response to El Niño events.

During an El Niño event, warm water that had been below the surface of the western tropical Pacific sloshes into the East Pacific Ocean on the surface, impacting the sea surface temperatures of the East Pacific and the NINO3.4 region directly. When the El Niño is done, the leftover warm water sloshes back out of the East Pacific.

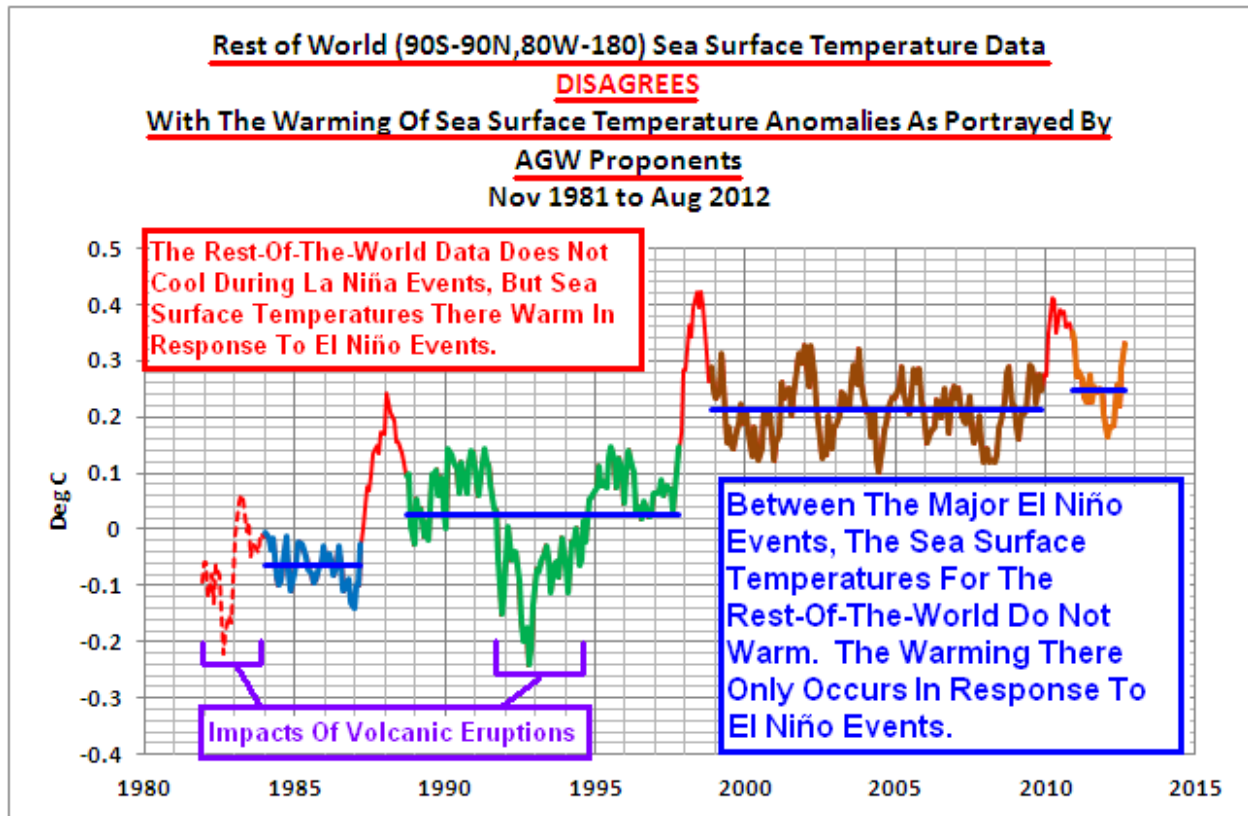
After the El Niño, the warm leaves the East Pacific and it winds up—you guessed it—in the area we've been calling the Rest-of-the-World. And through phenomena called teleconnections, that leftover warm water causes the warming of land surface temperatures and the temperatures of other ocean basins, like the North Atlantic, that are not directly and immediately impacted by the leftover warm water. In simple terms, the leftover warm water counteracts the effect of the La Niña on temperatures outside of the tropical Pacific.

I'll now show you the effects of that left-over warm water Rest-of-the-World sea surface temperature anomalies. It's what those proponents of manmade global warming are trying to hide.

WHAT DO YOU SUPPOSE HAPPENS WHEN SEA SURFACE TEMPERATURES WARM IN RESPONSE TO STRONG EL NIÑO EVENTS BUT DON'T COOL IN RESPONSE TO THE LA NIÑA EVENTS THAT FOLLOW THEM?

Under this heading, we're back to discussing the Rest-of-the-World sea surface temperature data with its trend intact. A preliminary note: It is not by coincidence that global sea surface temperatures warm in response to an El Niño. The coupled ocean-atmosphere processes that cause this have been known for decades.

If the sea surface temperatures for the Rest-of-the-World warm in response to major El Niño events but do not cool proportionally in response to the trailing La Niña events, there has to be an ENSO-caused long-term warming of the sea surface temperature anomalies for that region. That's precisely what's shown by the sea surface temperature data for the Rest-of-the-World. See Figure 9. In it, I've isolate the months during which the major El Niño events occurred and colored them in red. The Rest-of-the-World sea surface temperature anomalies between the major El Niño events are shown in different colors. The time periods of the light blue curve before the 1986/87/88 El Niño and the orangey curve after the 2009/10 El Niño are too short to really show what's happening during them. They've been provided as references. The longer 9- and 11-year periods clearly show sea surface temperatures for the Rest-of-the-World haven't warmed very much during them—if they've warmed at all. The dark blue flat lines represent the average sea surface temperatures for the periods between or after the major El Niño events. They've been provided to show the upward warming steps caused by the strong El Niño events, and caused by the failure of the Rest-of-the-World sea surface temperature to cool proportionally during the La Niña events that followed them.



ENSO IS A NATURAL PROCESS AND THAT MEANS...

I have shown in numerous blog posts how the instrument temperature records indicate that El Niño and La Niña events are natural processes. I’ve also discussed that topic in great detail my book **Who Turned on the Heat?** Some people simply won’t accept what the data tells them. Will they accept the opinions of anthropogenic global warming scientists from the blog RealClimate? Will they accept the findings of a well-known ENSO expert and climate alarmist, Kevin Trenberth?

In the recent blog post [Climate indices to watch](#) at [RealClimate](#), contributor [Rasmus Benestad](#) writes (my boldface):

ENSO is a natural phenomenon, but may change under a changing climate and is interesting to watch over the long term.

The “yeah but” statement after the boldfaced portion is, of course, speculation.

Alarmist climate scientist and distinguished ENSO expert Kevin Trenberth admits ENSO is natural. Most recently he did so in the abstract of the (2012) Trenberth and Fasullo paper [Climate extremes and climate change: The Russian Heat Wave and other Climate Extremes of](#)

2010. I'll be discussing that paper in an upcoming post, but the abstract reads in part (my boldface):

*A global perspective is developed on a number of high impact climate extremes in 2010 through diagnostic studies of the anomalies, diabatic heating, and global energy and water cycles that demonstrate relationships among variables and across events. **Natural variability, especially ENSO**, and global warming from human influences together resulted in very high sea surface temperatures (SSTs) in several places that played a vital role in subsequent developments.*

As we've shown, the "global warming from human influences" does not exist in sea surface temperature records for the past 30 years, so the rest of the sentence is alarmist drivel. It undermines what might have been an important paper.

BOTTOM LINE ON THE WARMING OF THE REST-OF-THE-WORLD SEA SURFACE TEMPERATURES

Let's clarify what's been presented during the discussion of the Rest-of-the-World sea surface temperature data:

Over the past 30 years, the sea surface temperatures of the Rest-of-the-World warmed during the major El Niño events but did not warm before them, between them or after them. Therefore, the long-term warming of the Rest-of-the-World sea surface temperatures occurred during and was caused by the strong ENSO events. Further, because ENSO is a natural process, and because the long-term warming of the Rest-of-the-World sea surface temperatures was caused by ENSO, then the long-term warming of the Rest-of-the-World sea surface temperatures is natural, too. In no way is that a stretch of the imagination.

A GLIMPSE AT A FURTHER BREAKDOWN

I've taken the discussion farther in the blog post [Supplement To "ENSO Indices Do Not Represent The Process Of ENSO Or Its Impact On Global Temperature"](#). There I divided the Rest-of-the-World data into two more subsets so that I could show the additional rate of warming and the other impacts of an addition mode of natural variability called the Atlantic Multidecadal Oscillation. It impacts the North Atlantic sea surface temperature data.

However, that post also illustrated a very important point: the sea surface temperatures for the larger portion—representing the South Atlantic, Indian and West Pacific Oceans or about 53% of the surface area of the global oceans—actually cooled between the major El Niño events. Refer to Figure 10. It's Figure 5-23 from my book *Who Turned on the Heat?* where this topic is also discussed in detail.

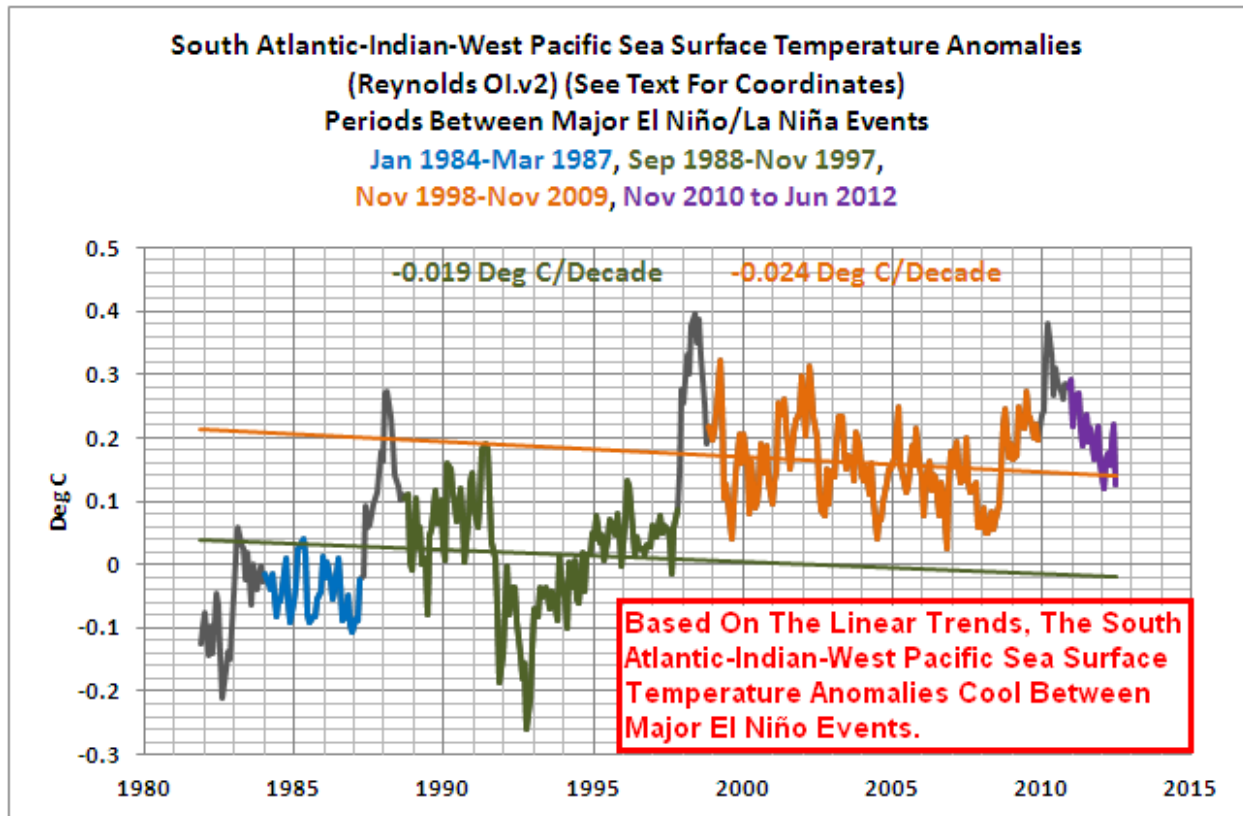


Figure 10

Bob Tisdale

Because the sea surface temperatures for that dataset cool during the 9- and 11-year periods between the major El Niño events, and because the sea surface temperatures there warm only during the major El Niño events, and because the long-term data shows a significant warming trend, then one might conclude the major El Niño events are responsible for all of the long-term warming of the South Atlantic, Indian and West Pacific Oceans. It's not an unreasonable conclusion. In fact, that's what the data shows.

INTERESTED IN LEARNING MORE ABOUT THE EL NIÑO AND LA NIÑA AND THEIR LONG-TERM EFFECTS ON GLOBAL SEA SURFACE TEMPERATURES?

This post provided an overview of how the sea surface temperature record indicates El Niño and La Niña events are responsible for the warming of global sea surface temperature anomalies over the past 30 years. I've investigated sea surface temperature records—sliced it and diced it, animated data-based maps to show the processes that cause the warming—for more than 4 years, and I can find no evidence of an anthropogenic greenhouse gas warming signal.

I recently published an e-book (pdf) about the phenomena called El Niño and La Niña. It's titled ***Who Turned on the Heat?*** with the subtitle ***The Unsuspected Global Warming Culprit, El Niño Southern Oscillation***. It is intended for persons (with or without technical backgrounds) interested in learning about El Niño and La Niña events and in understanding the natural causes

of the warming of our global oceans for the past 30 years. Because land surface air temperatures simply exaggerate the natural warming of the global oceans over annual and multidecadal time periods, the vast majority of the warming taking place on land is natural as well. The book is the product of years of research of the satellite-era sea surface temperature data that's available to the public via the internet. It presents how the data accounts for its warming—and, as I've said numerous times throughout this post, there are no indications the warming was caused by manmade greenhouse gases. None at all.

Who Turned on the Heat? was introduced in the blog post [Everything You Every Wanted to Know about El Niño and La Niña... ..Well Just about Everything](#). The [Updated Free Preview](#) includes the Table of Contents; the Introduction; the beginning of Section 1, with the cartoon-like illustrations; the discussion About the Cover; and the Closing.

[Please click here to buy a copy](#). (Paypal or Credit/Debit Card). It's only **US\$8.00**.

You're probably asking yourself why you should spend \$8.00 for a book written by an independent climate researcher. There aren't many independent researchers investigating El Niño-Southern Oscillation or its long-term impacts on global surface temperatures. In fact, if you were to perform a Google image search of NINO3.4 sea surface temperature anomalies, the vast majority of the graphs and images are from my blog posts or cross posts of them. Try it. Cut and paste **NINO3.4 sea surface temperature anomalies** into Google. Click over to images and start counting the number of times you see Bob Tisdale.

By independent I mean I am not employed in a research or academic position; I'm not obligated to publish results that encourage future funding for my research—that is, my research is not agenda-driven. I'm a retiree, a pensioner. The only funding I receive is from book sales and [donations](#) at my blog.

Also, I'm independent inasmuch as I'm not tied to consensus opinions so that my findings will pass through the gauntlet of peer-review gatekeepers. Truth be told, it's unlikely the results of my research would pass through that gauntlet because the satellite-era sea surface temperature data contradicts the dogmas of the consensus.

There are, of course, arguments against what has been presented in this post. Those failed arguments have been addressed and shown to be wrong, using data. I've done this repeatedly over the past three years. I've included them in Section 7 of my book. Refer to the [Updated Free Preview](#).

You may also have general questions about El Niño and La Niña and their long-term effects. They've likely been asked and answered previously. They too were included in the book, but feel free to ask questions on any thread at my blog [Climate Observations](#).

CLOSING

I opened the post with the statement: Global sea surface temperatures have warmed over the past 30 years, but there is no evidence the warming was caused by anthropogenic greenhouse gases. No evidence at all. I confirmed that statement within the body of the post, using data, not climate models.

Back to the title question: Are anthropogenic greenhouse gases important in the warming of the global oceans?

Nope. They're impotent!

SOURCE

The Reynolds OI.v2 sea surface temperature data presented in this post is available through the [NOAA NOMADS website](#), or through the [KNMI Climate Explorer](#).