



## **GLOBE El Niño Web Chat**

**20 November 1997**

**[Ann/GLOBE]**

Good Morning GLOBE Chatters. Welcome to the El Nino Chat. Our experts this morning are from the Climate Prediction Center. They will be online shortly to answer your questions.

**[paul/cpc]**

I am Paul Sabol, a meteorologist at the Climate Operations Branch at the Climate Prediction Center (NCEP, NWS, NOAA). I have more than 30 years of service with the United States Government. I will be on line from 8 AM to 10 AM Eastern and from 12 Noon to 2 PM Eastern (1300 to 1500 and 1700 to 1900 Universal Time, which is 5 hours ahead of Eastern Standard Time.

**[Christos/GLOBE]**

Good morning everyone.

**[GymnaziumTrinec]**

What is the hydrological princip of El Nino?

**[GLOBEWorkshop]**

Hi, we are in Miami at a GLOBE Training workshop. We would like to know what the predicted effects for El Nino are on Southern African countries.

**[John/CPC]**

RE: [GymnaziumTrinec] What is the hydrological princip of El Nino?

The precipitation patterns shift in reponse to changes in the ocean sea surface temperatures

**[GymnaziumTrinec]**

Why is El Nino in the Indian Ocean and influences the climate of East Africa?

**[John/CPC]**

RE: [GLOBEWorkshop] Hi, we are in Miami at a GLOBE Training workshop. We would like to know what the predicted effects for El Nino are on Southern African countries.

Hi. We expect drier than normal conditions over most of southern Africa through early 1998.

**[SARAH]**

What type of winter should we expect in the Northeastern part of the States? Are we in for a bad, snowy winter or a mild, dry winter?

**[ElsaReyes]**

you said we had El nino two to seven years. HOW DO YOU KNOW EXACTLY WHICH YEAR WILL BE AN EL NINO YEAR.

**[GymnaziumTrinec]**

What is the course of El Nino and what is its speed?

**[Khulood]**

Greeting from Jordanian GLOBE trainer. How will El Nino affect Jordan?

**[John/CPC]**

RE: [GymnaziumTrinec] Why is El Nino in the Indian Ocean and influences the climate of East Africa? As the warm sea surface temperature (SST) "moves" eastward in the tropical Pacific, it disrupts the normal tropical convection (thunderstorm activity). Enhanced easterly flow over the Indian Ocean can impact the weather there, as witnessed by the recent flooding in Somalia.

**[Paul/CPC]**

RE: [ElsaReyes] you said we had El nino two to seven years. HOW DO YOU KNOW EXACTLY WHICH YEAR WILL BE AN EL NINO YEAR.

Meteorologists at the Climate Prediction Cnter monitor sea surface temperatures throughout the Equatorial Pacific. When sea surface temperatures are above normal we examine the size and strength of the anomalies, and then we decide the El Nino conditions exist. Please keep in mind that the El Nino is a rather long-term phenomenon, evolving over a period of months. Lately, the use of numerical models has enabled meteorologists to forecast the El Nino well in advance. Refernece: Special Climate Summary 97/3 issued by the Climate Prediction Center

**[John/CPC]**

RE: [SARAH] What type of winter should we expect in the Northeastern part of the States? Are we in for a bad, snowy winter or a mild, dry winter?

We expect the northeastern U.S. to experience about normal precipitation and near-normal to slightly above temperatures

**[Chuck/HyltonHSVA]**

The northeast is expected to receive above average snowfall! Good for the little kids wanting to play in the snow and a day off school!

**[Mike/CPC]**

RE: [ElsaReyes] you said we had El nino two to seven years. HOW DO YOU KNOW EXACTLY WHICH YEAR WILL BE AN EL NINO YEAR.

We don't really know in advance if a year will have an El Nino. However, new models give us some predictive ability 3-6 months in advance. The 2-7 year number comes from the historical record.

**[Chuck/HyltonHSVA]**

Good morning Ann and Chris. Speaking of the weather, how is it down there?

**[GymnaziumTrinec]**

What is the size of the area which is effected by El Nino?

**[John/CPC]**

RE: [GymnaziumTrinec] What is the course of El Nino and what is its speed?

El Nino is not an entity or storm. It's a background condition that mmodifies the weather over much of the world.

**[Paul/CPC]**

RE: [Khulood] Greeting from Jordanian GLOBE trainer. How will El Nino affect Jordan?  
Conditions in Jordan do not appear to be significantly affected by El Nino conditons.

**[Christos/GLOB]**

RE: [Chuck/HyltonHSVA] Good morning Ann and Chris. Speaking of the weather, how is it down there?  
Hi Chuck. Here in DC it's sunny and cool (5-7 degrees C). I can't speak for Ann, since she is joining us from Florida.

**[Chuck/HyltonHSVA]**

A question to Paul: we at Hylton are conducting an experiment to see what affect El Nino has this years average temperature and rainfall vs that of the last 30 years. Does this have worth and how can we expand or improve it?

**[Paul/CPC]**

RE: [Chuck/HyltonHSVA] Good morning Ann and Chris. Speaking of the weather, how is it down there?  
Weather in Washington, DC vicinity. A frosty late-autumn morning with temperatures around 30F to 36F (-1C to 2C) and fair with a high thin overcast.

**[John/CPC]**

RE: [GymnaziumTrinec] What is the size of the area which is effected by El Nino?  
The area of warmer than normal SST is more that 1/4 of the distance around the globe (in the Tropics)

**[mikeWaynesboroPA]**

How will El Nino effect animal life in the Pacific Ocean ?

**[Oeystein]**

Will El Nino have any effect on the Gulf Current in the Atlantic, which in turn could have an influence on the climate in Norway.

**[GymnaziumTrinec]**

Is there any possibility that it can effect Europe?

**[Paul/CPC]**

RE: [Chuck/HyltonHSVA] A question to Paul: we at Hylton are conducting an experiment to see what affect El Nino has this years average temperature and rainfall vs that of the last 30 years. Does this have worth and how can we expand or improve it?  
Please give me your location (state or country) and indicate distance from nearest major city. Thank you.!

**[Evert]**

I am from Namibia. I accept that El Nino affects the Americas to the east. But surely the droughts in Southern Africa are due to the Atlantic Ocean conditions to its west.

**[Chuck/HyltonHSVA]**

From talking to a teacher friend in Lima, Peru they experinced a very mild early winter which for us was late spring. Does anyone know about the countries fish catch this year?

**[John/CPC]**

RE: [Oeystein] Will El Nino have any effect on the Gulf Current in the Atlantic, which in turn could have an influence on the climate in Norway.

There isn't any evidence of El Nino affecting the Gulf Stream. Effects on Norway's weather by El Nino (if any) will probably be indirect, caused by changes in jet streams in the Pacific that are affected by El Nino.

**[Paul/CPC]**

RE: [mikeWaynesboroPA] How will El Nino effect animal life in the Pacific Ocean ?

Certain species of fish require cooler waters to obtain the nutrients they need, so they will migrate to cooler waters, thus adversely affecting the fishing industry, particularly in South America. Meanwhile, warm water fish tend to migrate to these warmer waters. basically animals are mobile so they go with the flow.

**[Chuck/HyltonHSVA]**

Paul: Hylton HS is located in Virginia, 25 miles due east of Washington DC.

**[GymnaziumTrinec]**

Has El Nino any consequences with floods in Central Europe?

**[Paul/CPC]**

RE: [GymnaziumTrinec] Is there any possibility that it can effect Europe?

Because of its distance from the Pacific, and the long stretch of Atlantic waters traversed by the Gulf Stream, no detectable effects of El Nino have been noted in Europe

**[Christos/GLOBE]**

RE: [mikeWaynesboroPA] How will El Nino effect animal life in the Pacific Ocean ?

Marine life in the Pacific can be affected by different El Nino related phenomena. For example, the increase in Sea Surface Temperature (SST for short) may affect these organism that prefer cooler water. In addition, El Nino stops the rising of deep, cool, and nutrient rich water off the coasts of Central and South America. This can affect both plant and animal life in the ocean.

**[John/CPC]**

RE: [Chuck/HyltonHSVA] From talking to a teacher friend in Lima, Peru they experinced a very mild early winter which for us was late spring. Does anyone know about the countries fish catch this year?

Sea life move to where the food & temperature/salinity conditions suit them best, but I am unaware of the fishing yields near the Peruvian area.

**[Ann/GLOBE]**

Greetings to Hylton High School. We are at Miami at a GLOBE International Training Workshop. There are 22 GLOBE Countries here! The workshop participants measured 23 degrees centrigade. It is sunny and warm!!

**[Chuck/HyltonHSVA]**

Our project will include 4 other sites two of which are on the Pacific coast. One is in Brazil and the other in France. We can change the sites. Would you suggest others?

**[Paul/CPC]**

RE: [Chuck/HyltonHSVA] Paul: Hylton HS is located in Virginia, 25 miles due east of Washington DC. Work by my colleague, Rich Tinker, suggests that subnormal rainfall is more likely to occur during the months of September through November.

**[John/CPC]**

RE: [GymnaziumTrinec] Has El Nino any consequences with floods in Central Europe?  
No. El Nino is only one part of the climate system - there's also natural variability in the climate.

**[Todd/WaynesboroPA]**

How will this current El Nino compare to past El Nino events?

**[GymnaziumTrinec]**

Why is it named El Nino?

**[Paul/CPC]**

RE: [Chuck/HyltonHSVA] Our project will include 4 other sites two of which are on the Pacific coast. One is in Brazil and the other in France. We can change the sites. Would you suggest others?  
Suggest you consider Indonesia (e.g. Jakarta) and Peru (along the coast) for capturing the strongest El Nino signal.

**[Christos/GLOBE]**

RE: [Chuck/HyltonHSVA] From talking to a teacher friend in Lima, Peru they experienced a very mild early winter which for us was late spring. Does anyone know about the countries fish catch this year?  
I have not heard any specifics, but El Nino years almost always result in significant reductions in fish catches.

**[GymnaziumTrinec]**

Has El Nino any consequences with the greenhouse effect?

**[John/CPC]**

RE: [Todd/WaynesboroPA] How will this current El Nino compare to past El Nino events?  
The current El Nino is as strong as any in the past 120 years or so. We do not have reliable data to infer the strength of El Ninos prior to about 1870.

**[Chuck/HyltonHSVA]**

HI ANN: Sarah Marr sends her best. She is in route to see President Clinton. A group of SCA students from area schools are meeting with the president. She plans to ask president about globe.

**[Paul/CPC]**

RE: [GymnaziumTrinec] Why is it named El Nino?  
El Nino refers to an abnormal warming of sea surface temperatures. On the coast of Peru (a Spanish-speaking country), the warm waters were most notable around Christmas, so they used the Spanish for "the boy," which is el nino. The capital letters make it refer to Christ, which is consistent with Peru being a Christian country.

**[felix/peru]**

Is it possible that EL Nino will also affect the weather/climate during 1998?

**[John/CPC]**

RE: [GymnaziumTrinec] Has El Nino any consequences with the greenhouse effect?  
Some scientists have suggested an association between the frequency/strength of El Nino and global warming, but we think that it's too early to tell.

**[Chuck/HyltonHSVA]**

Paul: Jakarta is a great idea. I know of a school there.

**[Christos/GLOBE]**

RE: [Chuck/HyltonHSVA] HI ANN: Sarah Marr sends her best. She is in route to see President Clinton. A group of SCA students from area schools are meeting with the president. She plans to ask president about globe.

Chuck, we are very happy that your school is participating in the GLOBE El Nino experiment. What data did you use to come up with your hypothesis?

**[John/CPC]**

RE: [felix/peru] Is it possible that EL Nino will also affect the weather/climate during 1998?  
Yes. We expect this El Nino to affect weather into the 1st half, or so, of 1998.

**[imran/pakistan]**

please explain the alnino phenomenon and whether it will have any effect on pakistan.What type of winter do you predict in Pakistan?

**[Paul/CPC]**

RE: [Chuck/HyltonHSVA] Paul: Jakarta is a great idea. I know of a school there.  
Chuck. More information. We have been following abnormally dry conditions in Indonesia for the past six months. They have had problems with fire and smog during that time.

**[Chuck/HyltonHSVA]**

Felix: Does your site record daily average temperature and rainfall? If so, could we use that for our experiment?

**[TAKEISHAWILLIAMS]**

How is this El Nino expected to effect us here in Miami FL.?

**[Paul/CPC]**

RE: [imran/pakistan] please explain the alnino phenomenon and whether it will have any effect on pakistan.What type of winter do you predict in Pakistan?  
El Nino refers to abnormally high sea surface temperatures in the eastern and central Equatorial Pacific. No significant effect on the 1997 Indian Summer monsoon was noted. We are, however, watching a small wet anomaly in Pakistan near the Afghanistan border, which is NOT related to El Nino.

**[Jessicaokemosmi]**

Is there any link between Global Warming, and El Nino?

**[Jessicaokemosmi]**

Is there any link between Global Warming, and El Nino?

**[Chuck/HyltonHSVA]**

Chris: I use the data from the Climate Summary CD-ROM published by the NAVY. The CD came from project JEDI. It is a wonderful database on every area of the world. Daily, monthly yearly any and all types of information is on the CD for last 30 years.

**[John/CPC]**

RE: [TAKEISHAWILLIAMS] How is this El Nino expected to effect us here in Miami FL.? In Florida and much of the Gulf Coast states we expect higher than normal rainfall and cooler than normal temperatures.

**[Paul/CPC]**

RE: [imran/pakistan] please explain the alnino phenomenon and whether it will have any effect on pakistan.What type of winter do you predict in Pakistan?  
To my knowledge, the Cllimate Prediction Center does not issue winter outlooks for Pakistan.

**[Marina/Russia]**

Hi, I am the new country coordinator from Russia, learning to use WWW chat. Do you think that El Nino may affect Russia in any way?

**[John/CPC]**

RE: [Jessicaokemosmi] Is there any link between Global Warming, and El Nino?  
El Nino is not new - it's part of the natural climate system. Some scientists have suggested that global warming may increase the frequency and strength of El Ninos but, in my opinion, it's much too early to say that.

**[Paul/CPC]**

RE: [Jessicaokemosmi] Is there any link between Global Warming, and El Nino?  
In my professional opinion, NO! The El Nino event evolves over a period of months, and eventually sea surface temperatures decrease. Global warming refers to a longer-term trend -- decades abnd beyond. I do not think we have accurate enough measurements to detect global warming because the instrument error is about the same size as the effect (global warming) that we are trying to measure. Nevertheless, research on this subject should continue.

**[Christos/GLOBE]**

RE: [Chuck/HyltonHSVA] Chris: I use the data from the Climate Summary CD-ROM published by the NAVY. The CD came from project JEDI. It is a wonderful database on every area of the world. Daily, monthly yearly any and all types of information is on the CD for last 30 years.  
I would like very much to learn more your experiment. Do you have an outline you could send me?

**[Chuck/HyltonVA]**

Chris have you heard or seen the database?

**[GymnaziumTrinec]**

When did El Nino appeare for the first time ?

**[RAOUFDABBAS/JORDAN]**

I AM VERY PLEASED TO BE PARTICIPATING IN THIS VERY ADVANCED TECCHNOLOGY . OUR STUDENTS IN JORDAN WILOL SOON BE SENDING YOU SOME QUESTINOS. BUT I WOULD ALSO LIKE TO ASK A SMALL

QUESTION. JORDAN HAS BEEN EXPERIENCING A BIG CHANGE IN CLIMATIC CONDITIONS. THE AMOUNT OF RAIN HAS DRASTICLY DECREASED. THE AMOUNT OF SNOW HAS ALSO REDUCED, WE PRACTICALLY DON'T HAVE ANY TO TALK ABOUT ANY MORE. THE TEMPERATURE IS NO LONGER PREDICTABLE. I MEAN IN WINTER THE TEMP. IS NOT PREDICTABLE IN SUMMER IT COOLER THAN NORMAL. SO I WOULD LIKE TO KNOW IF THERE ARE OTHER NATURAL PHENOMENA THAT ARE AFFECTING OUR PART OF THE WORLD, IF INDEED IT IS NOT THE EL NIÑO?????

**[John/CPC]**

RE: [GymnaziumTrinec] When did El Niño appear for the first time ?

El Niño is a natural part of the Earth's climate system and has probably been occurring as long as the planet had an atmosphere and ocean.

**[felix/peru]**

Chuck. We are just starting the program. But in the future, there will be no problem to share data. Get in contact with me: bram@chavin.rcp.net.pe

**[David]**

Is there a cold El Niño?

**[Christos/GLOBE]**

RE: [Chuck/HyltonVA] Chris have you heard or seen the database?

Chuck, I have heard of the Climate Summary CD-ROM but I have not used it myself.

**[LindaMercadoPeru]**

Did you make any prediction on the effects of El Niño in the Southern area of Peru?

**[devorah]**

Hi! We are trainers from Israel. In mid October there were an unusual floods in the southern part of Israel—a desert. In Beer-sheva hail in the size of an egg fell, it created a lot of damage. Was this related to the El Niño phenomenon?

**[Paul/CPC]**

RE: [Marina/Russia] Hi, I am the new country coordinator from Russia, learning to use WWW chat. Do you think that El Niño may affect Russia in any way?

Russia is a huge country, covering 2 continents and at least 14 time zones. In addition, Russia, and the huge expanse of Siberia, experiences tremendous variability. More appropriately, the large continental landmass of Russia serves as a source of cold air during the winter months. So what happens in Russia in turn affects the rest of the northern hemisphere!

**[JoeyWirtzVA]**

What makes El Niño?

**[GymnaziumTrinec]**

How long do you watch El Niño ?

**[John/CPC]**

RE: [David] Is there a cold El Niño?



A phenomena that we call "La Nina" occurs with colder than normal sea surface temperatures in nearly the same areas in the tropical Pacific that are warm during El Nino. The last large La Nina occurred during late 1988 to mid-1989, although a smaller one occurred during 1995-96.

**[kirsten/denmark]**

Do you expect that El Nino will influence the weather in northern and western parts of Australia this winter?

**[Paul/CPC]**

RE: [RAOUFDABBAS/JORDAN] I AM VERY PLEASED TO BE PARTICIPATING IN THIS VERY ADVANCED TECHNOLOGY . OUR STUDENTS IN JORDAN WOULD SOON BE SENDING YOU SOME QUESTIONS. BUT I WOULD ALSO LIKE TO ASK A SMALL QUESTION. JORDAN HAS BEEN EXPERIENCING A BIG CHANGE IN CLIMATIC CONDITIONS. THE AMOUNT OF RAIN HAS DRASTICLY DECREASED. THE AMOUNT OF SNOW HAS ALSO REDUCED , WE PRACTICALLY DON'T HAVE ANY TO TALK ABOUT ANY MORE. THE TEMPERATURE IS NO LONGER PREDICTABLE. I MEAN IN WINTER THE TEMP. IS NOT PREDICTABLE IN SUMMER IT COOLER THAN NORMAL. SO I WOULD LIKE TO KNOW IF THERE ARE OTHER NATURAL PHENOMENA THAT ARE AFFECTING OUR PART OF THE WORLD, IF INDEED IT IS NOT THE EL NINO??????

My guess, and it is only a guess, is that Jordan is experiencing natural variability in their climate.

**[Paul/CPC]**

RE: [devorah] Hi' we are trainers from Israel. In mid October there were an unusual floods in the southern part of Israel-a desert. In Beer-shiba hail in the size of an egg fell, and created a lot of damage. Was this related to the El-Nino phenomenon?

Because of the episodic nature of hail, I would be inclined to say that it is not due to El Nino. El Nino affects the large scale atmospheric circulation.

**[Latisha]**

Is it possible for the El Nino and the La Nina to collide and cause any kind of disturbance?

**[ShellyWirtzVA]**

What kind of winter are we going to have in southwestern VA?

**[KHALIL/TUNISIA]**

Does El Nino affect the Mediterranean sea region

**[John/CPC]**

RE: [LindaMercadoPeru] Did you make any prediction on the effects of El Niño in the Southern area of Peru?

Our forecast responsibility only covers the U.S., but we have observed very heavy rainfall over coastal Peru during February - May in past El Niños, particularly during early 1983.

**[ErikaWirtzVA]**

Which way does the El Nino move?

**[Paul/CPC]**

RE: [JoeyWirtzVA] What makes El Nino?

The cause of El Nino remains unknown at this time. Some of my colleagues as well as those at other major research centers are trying to solve this puzzle. On the other hand, we know enough about the life cycle of El Nino to be able to confidently predict its evolution.

**[John/CPC]**

RE: [kirsten/denmark] Do you expect that El Nino will influence the weather in northern and western parts of Australia this winter?

Not in the western portions, but in the eastern and northeastern sections (particularly Queensland), we expect dry, possibly severely dry weather.

**[Mike/cpc]**

RE: [GymnaziumTrinec] How long do you watch El Nino ?

Conditions in the tropical Pacific, where El Nino warm waters are found are monitored constantly. Of course, conditions are normal a fair amount of the time.

**[GymnaziumTrinec]**

How many scientists are studying El Nino? How is researching of El Nino organized ?

**[Paul/CPC]**

RE: [ShellyWirtzVA] What kind of winter are we going to have in southwestern VA?

Referring to the work of my colleague, Rich Tinker, southwestern Virginia is likely to occur a relatively warm autumn (Nov-Dec) followed by a relatively cold winter and early spring (Jan-Apr). Please keep in mind that southwestern Virginia is on the edge of the significant area.

**[Mike/cpc]**

RE: [Latisha] Is it possible for the El Nino and the La Nina to collide and cause any kind of disturbance? Since El Nino and La Nina are part of the same cycle, it would be impossible for them to occur at the same time and "collide".

**[Mike/cpc]**

RE: [KHALIL/TUNISIA] does el nino affect the mediterranean sea region

Research on the Mediterranean region was never statistically conclusive. There was some hint that conditions during the summer were somewhat wetter than normal.

**[raouf/jordan]**

thanks paul, is there any historical data that might explain the strange weather patterns we have been experiencing. do you have any prediction forecasts for our part of the world????

**[kirsten/denmark]**

Thank you for your answer it has been interesting joining the real time - chat.

**[SarahWIRTZVA]**

How long will EL NINO effect Southwestern Virginia?

**[Chuck/HyltonVA]**

Felix: Is your site active yet with Globe? If so, email us at CD Hylton using your globe account so we have you on our list. OK? My students are excited about our 9 month study regarding the averages.

**[Paul/CPC]**

RE: [GymnaziumTrinec] How many scientist are studying El Nino? How is researching of El Nino organized ?

Dozens of scientists are studying El Nino. With a strong public interest in El Nino, many scientists will file proposals and seek grants for research in this area. As for organization, the people who award the grants determine which projects are funded while most findings are published through professional societies at various scientific conferences.

**[Mike/cpc]**

RE: [ErikaWirtzVA] Which way does the El Nino move?

The increase in waters throughout the tropical Pacific during this episode moved eastward from the West coast of South America toward the central Pacific. However, during previous El Ninos, we have seen the increase in Sea surface temperatures move from the central Pacific eastward to the South American coast.

**[MrKnight]**

Thanks for allowing our classes from Stoneville Elementary School to participate in this online chat concerning El Nino. Mrs. Aldridges's and Mr. Knight's class are waiting for another time to chat.

**[Erika/WirtzVA]**

Can any animals at all live in the El Nino?

**[Paul/CPC]**

RE: [raouf/jordan] thanks paul, is ther any historical data that might explain the strange weather patternes we have been experiencing. do you have any prediction fortcasts for our part of the world????

My obvious choice for historical data would be either the Government of Jordan or the National Climatic Data Center in Asheville, NC, USA. In either case, I would expect a fee to be charged to cover basic expenses. To my knowledge, the eastern Mediterranean is not significantly affected by El Nino.

**[Paul/CPC]**

RE: [SarahWIRTZVA] How long will EL NINO effect Southwestern Virginia?

Citing Rich Tinker's work, I would expect southwestern Virginia to experience effects through April 1998.

**[Mike/cpc]**

RE: [Erika/WirtzVA] Can any animals at all live in the El Nino?

El Nino doesn't actually kill animals. In the Pacific, it drastically warms the ocean waters so that fish that are used to a particular temperature must migrate to find the proper temperature water. Birds that depend on the fish must them find other fish or other sources of food.

**[ShellyWirtzVA]**

What is the maximum amount of precipatation in a month of El Nino in Virginia?

**[Jose/Greg]**

Can you give us any information as to what kind of weather we might expect her in Northwestern North Carolina for this winter. Will we have snow for St. Nick?

**[Daniel]**

Is there anything for free on the Internet for those of us who are low on money

**[John/AthensGreece]**

Hello, we are from 3rd Lyceum Egaleo. We want to ask you some questions. First of all we 'd like you to tell us for how long does it usually cause changes on the climate of the world?

**[Chuck/HyltonVA]**

Chris: let's stay in contact via email to further discuss our project. The beauty is no one knows what will happen this winter and spring.

**[Mike/cpc]**

RE: [ShellyWirtzVA] What is the maximum amount of precipitation in a month of El Nino in Virginia? I am not sure what actual record precipitation amounts are like for Virginia, although I would guess that the records occurred not with El Nino, but with Hurricanes.

**[Paul/CPC]**

RE: [Jose/Greg] Can you give us any information as to what kind of weather we might expect here in Northwestern North Carolina for this winter. Will we have snow for St. Nick?

Northwestern North Carolina frequently experiences colder than normal conditions from January through April during El Nino events. North Carolina appears to be too far north to catch the increased precipitation often seen in the southeastern US during an El Nino. As for St. Nick, he should plan on alternative delivery systems to service North Carolina.

**[Mike/cpc]**

RE: [Daniel] Is there anything for free on the Internet for those of us who are low on money  
If you are referring to free information on El Nino, there are a multitude of sites that provide historical and current information. Being Biased, I believe that one of the best is the one maintained by the Climate Prediction Center at <http://nic.fb4.noaa.gov> and then click on the word El Nino.

**[Daniel]**

Oh yeah what do you think the weather gonna' be like up here in Delaware 'cause it's startin' to get cold and the normal is somethin' like 57 degrees and it's 53 or 52

**[Stephen/PA/11/20/97]**

Hello, My name is Stephen. When do you think the next El Nino will happen.

**[ShellyHWirtzVA]**

Does any severe weather occur in El Nino and if it does what weather is it?

**[John/AthensGreece]**

Does the cause of "El Nino" has any relation with the cause of the earthquakes that we have lately in our country.

**[KatieWestChesterPa]**

Do you think the El Nino will effect the whales?

**[Paul/CPC]**

RE: [John/AthensGreece] Hello, we are from 3rd lyceum Egaleo. We want to ask you some questions. First of all we 'd like you to tell us for how long does it usually cause changes on the climate of the world?

An El Nino will last approximately one year from first detection through final decline, but the lifetime is quite variable. Rather than affect the climate of the world as a whole, the El Nino causes significant anomalies in specific areas. Warm along the coast of western South America, wetness across the southern United States, very dry in Indonesia and parts of Australia, for example.

**[Mike/cpc]**

RE: [Stephen/PA/11/20/97] Hello, My name is Stephen. When do you think the next El Nino will happen. We're still trying to get through this one, which we don't expect to end before April or May 1998. Predictions are not made for more than one year in advance. Since El Nino normally occurs every 2-7 years, the models are not currently forecast the next El Nino. However, some models are forecast that by next winter we will be experiencing the opposite phase, or La Nina.

**[Paul/CPC]**

RE: [Daniel] Oh yeah what do you think the weather gonna' be like up here in Delaware 'cause it's startin' to get cold and the normal is somethin' like 57 degrees and it's 53 or 52  
The cold weather in the eastern US, including Delaware is not consistent with an El Nino, so something else is dominating for now.

**[Mike/cpc]**

RE: [John/AthensGreece] Does the cause of "El Nino" has any relation with the cause of the earthquakes that we have lately in our country.  
I don't believe that there are any relationships between El Nino and earthquakes.

**[ShellyWirtzVa]**

Can El Nino come into the Atlantic Ocean?

**[MsBozarthclass]**

Why does El Nino start in the ocean?

**[Paul/CPC]**

RE: [ShellyHWirtzVA] Does any severe weather occur in El Nino and if it does what weather is it?  
El Nino may cause an increase in tropical storm activity in the eastern Pacific (Pauline for example), and can cause increased precipitation in the southwestern US, particularly California. Keep in mind that El Nino is a longer-term phenomenon while severe weather tends to be episodic in nature.

**[RyanPennsylvania]**

Hi, I want to know what causes the Trade winds to stop or diminish..

**[Jessica/WirtzVA]**

How long have you been studying the El Nino?

**[Daniel/ClaymontDEUSA]**

Tell me again what's El Nino?

**[Paul/CPC]**

RE: [KatieWestChesterPa] Do you think the El Nino will effect the whales?

Whales, like other creatures of the sea, tend to migrate where their aquatic environment is most favorable. They seem quite adept at taking care of themselves!

**[Shane/Kentucky]**

How will El Nino affect the Southwest of the United States of America? [Kentucky]

**[Mike/cpc]**

RE: [ShellyWirtzVa] Can El Nino come into the Atlantic Ocean?

El Nino refers exclusively to a warming in the Pacific ocean. We have however, in the past seen warmings of the tropical Atlantic, although we are not sure how they are related to El Nino.

**[TakeishaTasheba]**

Does El Nino helps us an any way?

**[Paul/CPC]**

RE: [MsBozarthclass] Why does El Nino start in the ocean?

By defintion, El Nino is an increase in the sea surface temperatures of the central and eastern Equatorial Pacific. The effects of this abnormally warm mass of water intrigue scientists and concern policy makers.

**[SarahWIRTZVA]**

Will EL NINO effect coral reefs?

**[JerryJacksonMS]**

We are joining from the Mississippi School for the Deaf. We are pleased that deaf students can participate in the chat. We have not read all the previous messages, but plan to print and digest information later.

**[Mike/cpc]**

RE: [Jessica/WirtzVA] How long have you been studying the El Nino?

El Nino was first discovered by Gilber Walker in the part of the century. During the late 1950's Jakob Bjerknnes linked changes in the ocean to changes in the circulation over the Pacific. However, much of the current knowledge about El Nino has been learned in the past 20 years.

**[Paul/CPC]**

RE: [RyanPennsylvania] Hi, I want to know what causes the Trade winds to stop or diminish..

The trade winds are a major component of the atmospheric circulation. The large mass of warm water in the eastern Pacific contributes to convection or rising air over the warm waters. This affects the circulation of the atmosphere over the Pacific.

**[Paul/CPC]**

RE: [Daniel/ClaymontDEUSA] Tell me again what's El Nino?

El Nino is an abnormal increase in the sea surface temperatures in the central and eastern Equatorial Pacific.

**[RyanPennsylvania]**

Hi, I want to know what causes the Trade winds to stop or diminish..

**[TakeishaTasheba]**

How does El Nino effect humans and animals?

**[Shane/Kentucky]**

How will El Nino affect the Southeast of the United States? {Kentucky sorry}

**[ErikaJones/WirtzVA]**

How high has the water temperature ever gotten in the El Nino?

**[Mike/cpc]**

RE: [TakeishaTasheba] Does El Nino helps us an any way?

El Nino does provided benefits to certain regions. Probably the best benefit is the big reduction in hurricane activity in the north Atlantic. Increases in rainfall across Florida also significantly reduce forest fire activity and el Nino makes drought in the Southwest less likely.

**[Paul/CPC]**

RE: [Shane/Kentucky] How will El Nino affect the Southwest of the United States of America? [Kentucky] Cigtig Rich Tinker, relative warm weather occurs in November and December and drier than normal conditions prevail from January through March in Kentucky.

**[Mike/cpc]**

RE: [RyanPennsylvania] Hi, I want to know what causes the Trade winds to stop or diminish.. See previous response by Paul

**[SarahWIRTZVA]**

How old is EL NINO?

**[Jessica/WirtzVA]**

Has the ocean ever effected the El Nino?

**[Mike/cpc]**

RE: [Shane/Kentucky] How will El Nino affect the Southeast of the United States? {Kentucky sorry} The Southeast can expect wetter than normal conditions during the December-February time frame, although maybe not as far north as Kentucky. The best signal for Kentucky is for dryer than norma conditions during the Spring, although the best chance for dry is through Ohio and Indiana.

**[Paul/CPC]**

RE: [TakeishaTasheba] How does El Nino effect humans and animals?

Animals: Fish and other creatures of the sea migrate to more favorable waters. Humans: We adjust to weather conditions as they occur. By knowing the usual effects of an El Nino, we can act in advance of any adverse effects by being prepared for flood (southwestern US) or drought (Indonesia).

**[ErikaJones/WirtzVA]**

Does the El Nino effect the water level?

**[JerryJacksonMS]**

Re: Kentucky in the Southwest USA We wondered how Kentucky moved. We thought El Nino had effects we were not expecting!

**[William/WirtzVa]**

How does El Nino affect the temperatures in southwest Va?

**[Miriam]**

do you think we will ever stop having EL nino

**[DavidPennsylvania]**

Hi, I'd like to know how the trade winds effect the ocean currents?

**[Mike/cpc]**

RE: [SarahWIRTZVA] How old is EL NINO?

Most likely, El Nino has existed for hundreds and hundreds of years. Observationally, the earliest recorded El Ninos were during the 1870s. I believe that tree ring research shows El Ninos back into the 1700s.

**[Paul/CPC]**

RE: [ErikaJones/WirtzVA] How high has the water temperature ever gotten in the El Nino?

The sea surface temperature exceeds 28C (82F). I think my colleague, Mike, can give you more information on this.

**[JerryJacksonMS]**

Re: Kentucky in the Southwest USA We were beginning to think El Nino was having effects we were not expecting! Thanks for the clarification!

**[SHELLYHWIRTZVA]**

What instruments do you use to track El Nino?

**[ShellyWirtzVA]**

Why does El Nino effect the world?

**[Mike/cpc]**

RE: [ErikaJones/WirtzVA] Does the El Nino effect the water level?

El nino increases the sea level in the central and eastern pacific and decreases it in the western Pacific. Currently, the sea level is more than 30 cm above normal in the east-central Pacific.

**[Paul/CPC]**

RE: [JerryJacksonMS] Re: Kentucky in the Southwest USA We wondered how Kentucky moved. We thought El Nino had effects we were not expecting!

Jerry. Mississippi usually experiences colder than normal conditions in January through April along with abnormally wet conditions across the Gulf Coast from January through March. The colder temperatures may be due to increased cloudiness.

**[LeeJeanLouise]**

Can El Nino be stopped?



**[ErikaJones/WirtzVA]**

What is the biggest El Nino yet?

**[Paul/CPC]**

RE: [Miriam] do you think we will ever stop having EL nino  
No. El Nino is a naturally occurring phenomenon.

**[Mike/cpc]**

RE: [William/WirtzVa] How does El Nino affect the temperatures in southwest Va?  
El Nino is not the only controlling factor for weather throughout the United States. Virginia temperatures are often controlled by a different phenomena over the North Atlantic.

**[Jessica/WirtzVA]**

What is the smallest El Nino yet?

**[Paul/CPC]**

RE: [ShellyWirtzVA] Why does El Nino effect the world?  
By affecting atmospheric circulation and sea life, we experince both good and bad effects from El Nino.

**[Mike/cpc]**

RE: [Paul/CPC] The sea surface temperature exceeds 28C (82F). I think my collegue, Mike, can give you more information on this.  
During the 1982/83 El Nino, Sea surface temperatures were more than 30C (86F) across parts of the central pacific. That is about as warm as ocean temperature can get.

**[John/AthensGreece]**

A lot of people afraid that "El Nino" will cause a lot of problems. Is it true that it is going to be destractive even though in Greece, where the climate is always constant?

**[Mike/cpc]**

RE: [LeeJeanLouise] Can El Nino be stopped?  
Since El Nino is part of the global climate, their is no way to stop it. The best we can do is prepare for the expected effects and to try to mitigate them.

**[WilliamWirtzVa]**

How long has the longest El Nino been.

**[Paul/CPC]**

RE: [ErikaJones/WirtzVA] What is the biggest El Nino yet?  
By biggest, I believe you nmean most intense. Based on the magnitude of sea surface temperature anomamlies, we may have the biggest yet, but we really won't know for sure until the current event completes its life cycle.

**[SARAHWIRTZVA]**

How did EL NINO start?

**[Mike/cpc]**

RE: [Jessica/WirtzVA] What is the smallest El Nino yet?

We don't characterize El Nino by the "size". A better Characterization is how warm the waters get. During some fo the weaker El Ninos, waters only warmed 1-2 Degrees C above normal. ANY less than 1 Degree, and it is not an El Nino, it is just a slight warming of the ocean waters.

**[Paul/CPC]**

RE: [John/AthensGreece] A lot of people afraid that "El Nino" will cause a lot of problems. Is it true that it is going to be destractive even though in Greece, where the climate is always constant? Greece and the remainder of the eastern Mediterranean are more affected by other meteorological and climatological factors.

**[ElizabethandTakeisha]**

How does the El Nino effect the atomsphere?

**[Mike/cpc]**

RE: [WilliamWirtzVa] How long has the longest El Nino been. During the early part of the 1990s, we experinced an El Nino that started during 1991 and didn;t end until 1995. Conditions during that extended period range from strong to weak, but El Nino conditions did persist for that whole time. We believe that during the period 1911-1915, El Nino conditions were also prevalent.

**[NealJacksonMS]**

Is the weather pattern now over the Northwest USA caused by El Nino?

**[ErikaJones/WirtzVA]**

What is the most damage an El Nino has ever done?

**[Paul/CPC]**

RE: [WilliamWirtzVa] How long has the longest El Nino been. Above-normal sea surface temperatures have persisted in the eastern Pacific for more than a year. I think my colleague, Mike, has more information.

**[BethWirtzVA]**

Does El Nino raise the temp. of South America?

**[Mike/cpc]**

RE: [SARAHWIRTZVA] How did EL NINO start? El Ninos begin when waters in the tropical Pacific warm abnormally. this results in shifts in tropical rainfall, which results in shifts in the low-level winds, which helps to further warm the ocean, etc.

**[Paul/CPC]**

RE: [ElizabethandTakeisha] How does the El Nino effect the atomsphere? El Nino affects the atmosphere by changing the large scale circulation over the Equatorial Pacific. This, in turn, changes the circulation patterns throughout the subtropics. Other phenomena take over as you approach high latitudes.

**[Daniel/okemos/mi]**

What kind of effect do you think El nino would have if it did make it to the United States?

**[Mike/cpc]**

RE: [ErikaJones/WirtzVA] What is the most damage an El Nino has ever done?  
The 1982/83 El Nino has resulted in the most destruction and economic loss of any previous El Nino. Losses in the billions of dollars were the final economic totals.

**[Paul/CPC]**

RE: [NealJacksonMS] Is the weather pattern now over the Northwest USA caused by El Nino?  
El Nino affects the flow over the tropical and subtropical Pacific. It may also affect the circulation in the northern Pacific, but other factors probably play a more decisive role.

**[Karen/EastRochesterOH]**

We just joined, so I don't know if this question has been asked. How will El Nino affect the snow fall in the Midwest -especially in Ohio?

**[Mike/cpc]**

RE: [BethWirtzVA] Does El Nino raise the temp. of South America?  
Temperatures along the coast of Peru and Ecuador are higher than normal. Also, temperatures across northern Argentina and southern Brazil tend to be higher than normal.

**[John/AthensGreece]**

Paul, we'd like to tell us which meteorological and climatological factors affect our climate?

**[BethWirtzVA]**

Does El Nino effect the animals of South America?

**[SARAHWIRTZVA]**

Does the wind effect how EL NINO moves?

**[ShellyHWirtzVA]**

Was Virginia effected 100 years ago by an El Nino?

**[Mike/cpc]**

RE: [Karen/EastRochesterOH] We just joined, so I don't know if this question has been asked. How will El Nino affect the snow fall in the Midwest -especially in Ohio?  
There is no way to actually determine snowfall at these time ranges. However, across Ohio, temperatures are likely to be warmer than normal on average during the winter and conditions drier-than-normal. Therefore, one could infer that snowfall would be less than normal, but the cold and wet could come together and result in snow.

**[Ann/GLOBE]**

GLOBE chatters, we have another minute or two for questions, then we will take a two hour break and resume this chat at noon Eastern time.

**[Paul/CPC]**

RE: [Daniel/okemos/mi] What kind of effect do you think El Nino would have if it did make it to the United States?  
First, an El Nino can never make it to the US since it is an abnormally warming of the waters of the eastern Tropical Pacific. On the other hand, by changing atmospheric circulation, the United States can

experience significant effects, such as increased precipitation in California. El Nino is not some kind of moving storm.

**[RoryFryWI]**

Will El Nino affect the temp in Wisconsin?

**[Daniel/okemos/mi]**

one set of prediction showed very little effect on weather in the U.S. midwest. Does everyone agree on that?

**[Mike/cpc]**

RE: [SARAHWIRTZVA] Does the wind effect how EL NINO moves?

The low-level winds do affect the temperatures of the Pacific by decreasing the amount of upwelling that occurs there (upwelling is the process by which colder waters from below the surface rise up to the surface). Less upwelling results in warmer ocean temperatures. This occurred off the California coast during the summer.

**[SARAHWIRTZVA]**

How does EL NINO move?

**[Mike/cpc]**

RE: [RoryFryWI] Will El Nino affect the temp in Wisconsin?

Due to changes in circulation, we are expecting winter temperatures to average above-normal this year. However, this is a long-term average and there can be much variability throughout the winter.

**[John/AthensGreece]**

Does it affect all the places of the world? If not, which places won't be affected by "El Nino"?

**[ShellyHWirtzVA]**

How was the world affected 297 years ago?

**[Chuck/HyltonVA]**

Ann: Thank you very much. The contacts and ideas have been very helpful!

**[Mike/cpc]**

RE: [SARAHWIRTZVA] How does EL NINO move?

El Nino doesn't move. El nino is the change in the ocean temperatures in the Pacific. El Nino causes shifts in tropical rainfall that causes shifts in heating and the jetstream

**[nick]**

What are the miles covered by El Nino?

**[Mike/cpc]**

RE: [John/AthensGreece] Does it affect all the places of the world? If not, which places won't be affected by "El Nino"?

The one region of the world where we have yet to find good relationships with El Nino is across Europe. European weather is affected more by a different phenomenon known as the North Atlantic Oscillation across the Atlantic.

**[JuanitaLatoya]**

Can El Nino kill dolphins and whales

**[Chuck/HyltonVA]**

Chris: Yes. I can make you a copy of the Climate summary if you wish. Is that the disk you are talking about?

**[PETER]**

When El Nino comes, dose it kill some animals because of the weather changes?

**[Paul/CPC]**

RE: [John/AthensGreece] Paul, we'd like to tell us which meteorological and climatological factors affect our climate?

I believe that the large scale flow of the upper atmosphere plays a primary role in affecting Greece. The jet stream (basically, a strong upper-level wind) features troughs (unsettled weather) and ridges (fair weather). Meteorologists analyze these patterns and forecast weather based on how these patterns evolve with time. Other meteorologists will then translate highly technical information into a forecast that you can understand.

**[Mike/cpc]**

RE: [nick] What are the miles covered by El Nino?

The warm waters in the Pacific stretch more than a quarter of the way around the globe. I think the total area covered by abnormally warm water is something like 9.5 million square mile.

**[Ann/GLOBE]**

Thanks John, Mike and Paul at the Climate Prediction Center for trying to keep up with all our questions. We will return at noon to continue this discussion on El Nino. In a short while, you will be able to see the proceedings of this chat archived in the "GLOBE Students Track El Nino" web site and, in a day or so, it will be added to the GLOBE Resource Room.