



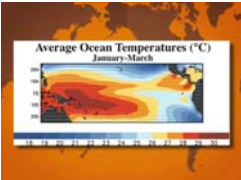










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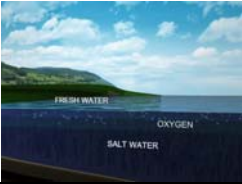



El Nino

		Animated Open	
1.	Antonio on camera 	Antonio Neves Hi, I'm Antonio Neves for the Dot News. I'm here at the Rhode River just outside of Annapolis, Maryland. Now the health of this river, and the fish and oysters, and crabs that live in it is connected to something going on thousands of miles away in the Pacific Ocean.	00:10
2.	Image of ocean waves 	VOICE OVER: IT STARTED LAST SUMMER WHEN THE WATER TEMPERATURE IN THE EASTERN PACIFIC OCEAN ROSE. THE WARMING TREND IS CALLED EL NINO.	00:25
3.	Mike Halpert on camera	Mike Halpert El Nino is a part of the regular cycle of ocean temperatures across the Pacific Ocean.	00:34
4.	Antonio and Mike walking through his office	VOICE OVER: MIKE HALPERT TRACKS EL NINO FOR THE US CLIMATE PREDICTION CENTER IN SUITLAND, MARYLAND.	00:40
5.	Mike Halpert on camera 	Mike Halpert It's not something that we have done to the atmosphere or to the ocean system itself through things such as climate change, it's a regular part of the ocean.	00:45

6.	<p>Peruvian fisherman</p> 	<p>VOICE OVER: EL NINO MEANS “THE CHILD” IN SPANISH. IT WAS NAMED BY PERUVIAN FISHERMAN WHO FIRST NOTICED THE WATER OFF THEIR COAST GETTING WARMER AROUND CHRISTMAS TIME. NOW DAYS FORECASTERS LIKE MIKE HALPERT USE SATELLITES TO TRACK THE CHANGE IN THE WATER TEMPERATURE AND THE RAINFALL IT CAUSES.</p>	00:54
7.	<p>Graphic of ocean temperature</p> 	<p>Mike Halpert During the El Nino case the tropical rainfall follows the warmest water and shifts into the central and into the eastern part of the basin. This shift in rainfall can be thought of as shifting the heating of the atmosphere from the western basin, or the western pacific and to the central and eastern pacific.</p>	01:13
8.	<p>Zeng at his desk.</p> 	<p>VOICE OVER: NING ZENG IS TRACKING THIS YEAR’S EL NINO FROM HIS OFFICE AT THE UNIVERSITY OF MARYLAND. HE FOCUSES ON EXTREME WEATHER CHANGES NEAR THE EQUATOR.</p>	01:32
9.	<p>Maps of Indonesia, Borneo, Papua New Guinea</p> 	<p>Ning Zeng So the western pacific region for example, Indonesia, Borneo, and Papa New Guinea, these regions will get a drought. The eastern coast of Australia, that’s where most of the population live, is actually highly sensitive to this ocean temperature movement. So basically you will get dryer climate in much of Australia during El Nino. Very near the coast like Peru, which is desert, the warmness brings a lot of rainfall. So normally, it is very dry and then the storms will come in and dump a lot of rainfall into the desert, actually cause flood. Part of Africa like Zimbabwe actually gets higher rainfall during El Nino However, if you go further south to southern Africa you get drought.</p>	01:41

10	<p>Forest fires in Indonesia.</p>	<p>VOICE OVER: DURING THE LAST STRONG EL NINO IN 1997 AND 1998 DRY CONDITIONS IN INDONESIA CAUSED HUGE FOREST FIRES, WHILE FLOODING IN AFRICA RESULTED IN MORE MOSQUITOES, WHICH IN TURN LED TO AN OUTBREAK OF MALARIA.</p>	02:33
11	<p>Irrigation watering crops.</p> 	<p>VOICE OVER: FORECASTERS ARE NOW ABLE TO GIVE ADVANCED WARNING OF AN NINO. THAT ALLOWS GOVERNMENTS TO PREPARE THEIR CITIZENS. FARMERS, FOR EXAMPLE, CAN PLANT CROPS THAT ARE MORE DROUGHT RESISTANT.</p>	02:48
12	<p>Zeng On Camera</p>	<p>Ning Zeng The kind of work we do is to try to predict them, to try to understand how big the impact will be so in collaboration with scientists in other field, agriculture, forestry, economics, so we can devise strategies that will minimize the negative impact and maximize potential good impact.</p>	03:00
13	<p>Map of United States.</p> 	<p>VOICE OVER: IN THE UNITED STATES, THE MAIN IMPACT IS FELT IN THE SOUTHEAST AND SOUTHWEST. THIS YEAR EL NINO IS LIKELY TO BRING MORE RAIN TO CENTRAL AND SOUTHERN CALIFORNIA AND TO THE STATES ALONG THE GULF OF MEXICO. THE MIDDLE OF THE COUNTRY IS USUALLY DRYER DURING AN EL NINO, WITH WINTER TEMPERATURES GENERALLY Milder IN THE NORTHWEST, CENTRAL, AND NORTEASTERN PARTS OF THE COUNTRY.</p>	03:29
14	<p>Halpert on camera</p> 	<p>Mike Halpert If you live in North Dakota a milder winter doesn't mean you're not going to see winter, its likely to still be pretty cold there but every little bit helps when you are dealing with winter time across the northern plains.</p>	03:52

15	Images of drought in California.	VOICE OVER: MORE RAINFALL HELPS AREAS EXPERIENCING DROUGHT SUCH AS CALIFORNIA AND TEXAS. AND HIGHER TEMPERATURES IN WINTER CAN LEAD TO LOWER HEATING BILLS.	04:06
16	Tom Jordan on camera 	Tom Jordan We've seen wet years and dry years and we've been able to observe the effects of these weather changes	04:15
17	The Chesapeake Bay. 	VOICE OVER: TOM JORDAN IS AN EXPERT ON WATER QUALITY. HE STUDIES THE EFFECT WEATHER PATTERNS HAVE ON THE CHESAPEAKE BAY, ALL THE WAY ACROSS THE NATION FROM THE PACIFIC OCEAN.	04:22
18	Tom Jordan on camera	Tom Jordan We analyze the plant nutrients, nitrogen and phosphorus, and also suspended sediments. And the plant nutrients are getting into the bay.	04:33
19	Graphic of farm 	VOICE OVER: THE NUTRIENTS MAINLY COME FROM FERTILIZER USED BY FARMERS AND HOMEOWNERS. THE INCREASED RAINFALL WHICH SOMETIMES ACCOMPANIES EL NINO WASHES THE NUTRIENTS INTO THE BAY. THAT LEADS TO AN EXPLOSION IN THE GROWTH OF PHOTO-PLANKTONS ...ALSO KNOWN AS ALGAE.	04:41
20	Tom Jordan on camera	Tom Jordan And this causes a whole bunch of problems in the bay. There are problems with the shading of the submerged vegetation and the consumption of oxygen as the excess photo-plankton die off and consume oxygen.	04:58
21	Dead zones in water	VOICE OVER: THE LOSS OF OXYGEN IN THE WATER CREATES DEAD ZONES WHERE PLANTS AND SEA LIFE. THE RAINFALL RUNOFF ALSO PRODUCES A HARMFUL LAYERING EFFECT.	05:14

21	<p>Graphic of salt water, fresh water, and oxygen</p> 	<p>Tom Jordan If you get a lot of fresh water, coming into the bay you get more layering of the bay, because the fresh water is less dense and it floats out on top on the salt water and it kind of closes off the deeper salt water from the oxygen in the atmosphere and that can make the problems of oxygen depletion worse.</p>	05:23
21	Denise and Antonio holding oysters	<p>VOICE OVER: IT AFFECTS SOME OF THE SMALLEST CREATURES IN THE BAY. DENISE BREITBURG WORRIES ABOUT THE HEALTH OF OYSTERS.</p>	05:45
24	<p>Denise Breitburg on camera</p> 	<p>Denise Breitburg A fish is not going to stay in the bottom of a deep channel in the Chesapeake Bay when oxygen concentrations get lethal and just die there. It's going to move up. But an oyster, if it has settled down and attached to a rock or to old oyster shells or something like that in an area and at the time it settles there conditions seem OK and so it lives through the winter. Next summer if the oxygen concentrations get too low there it's just going to die, it can't move.</p>	05:54
25	<p>A river with sailboats</p> 	<p>VOICE OVER: RUNOFF OF NUTRIENTS IS NOT JUST A PROBLEM FOR THE CHESAPEAKE BAY. THE CHAIN REACTION OF EVENTS THAT STARTS IN THE PACIFIC OCEAN CAN IMPACT RIVERS AND STREAMS AROUND THE WORLD</p>	06:27
26	<p>Antonio on camera</p> 	<p>Antonio Neves While scientists agree that this is an El Nino year, no one can predict how strong, or weak it will be. Reporting from the Rhode River, I'm Antonio Neves for the Dot News.</p>	06:39