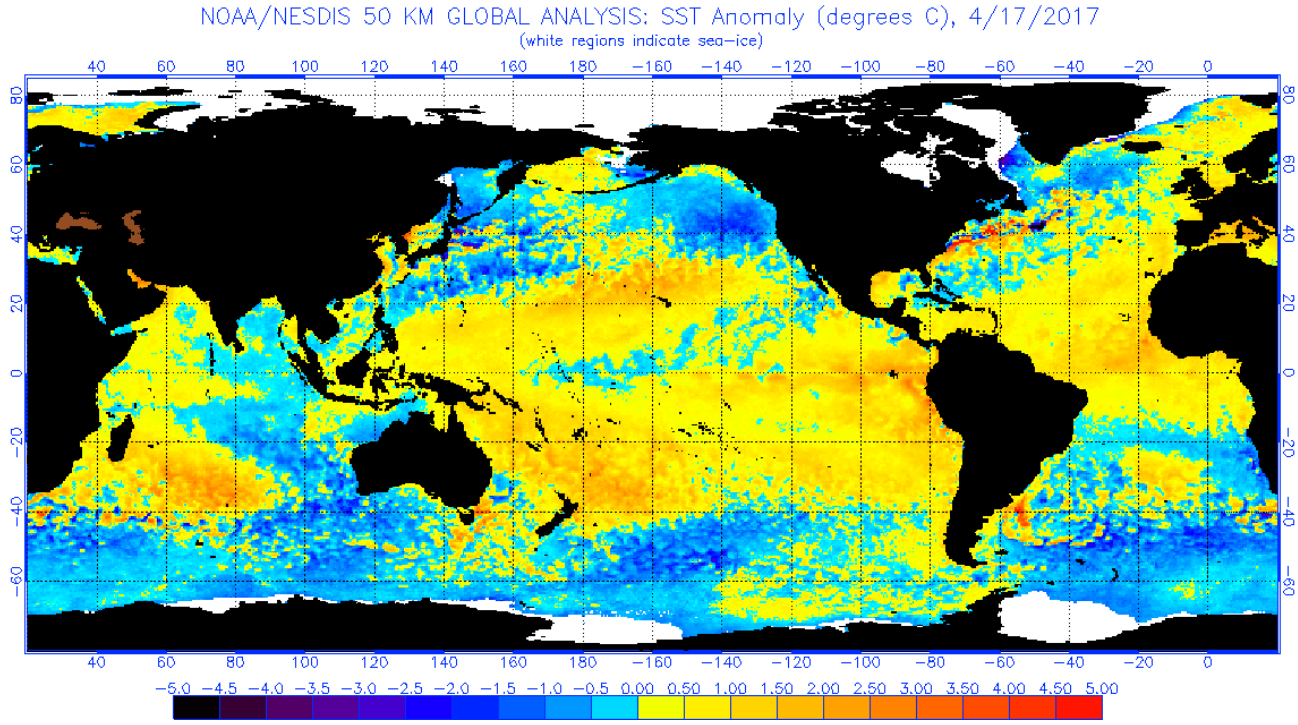
Hospitals & Asylums

Global Response to Oceanic Warming HA-19-4-17

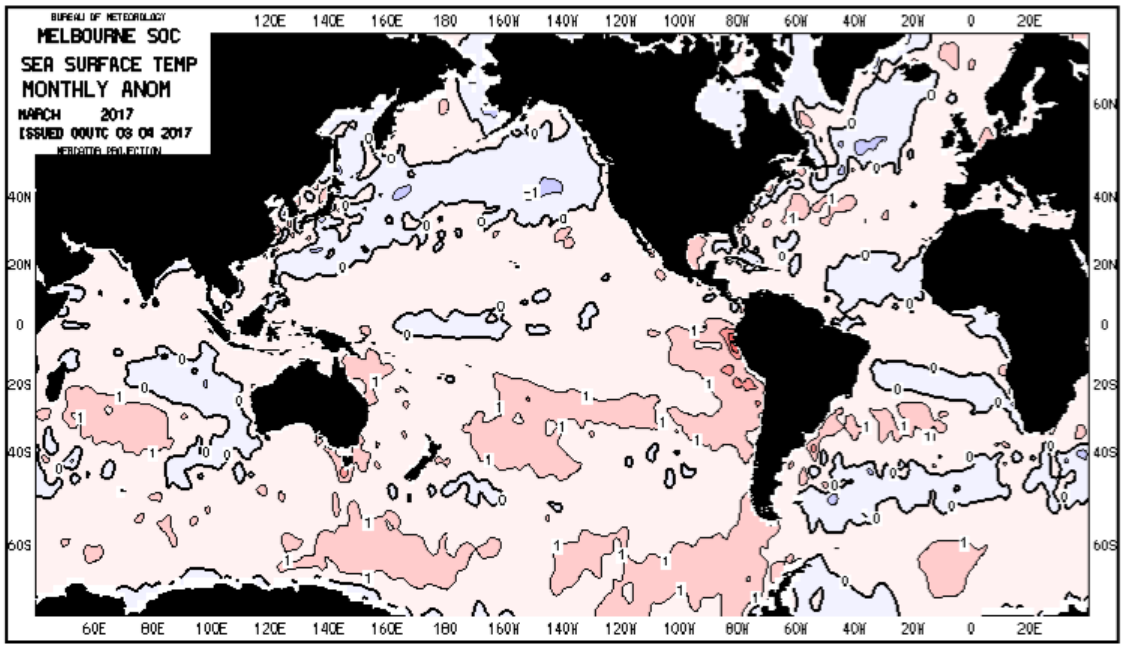
By Anthony J. Sanders

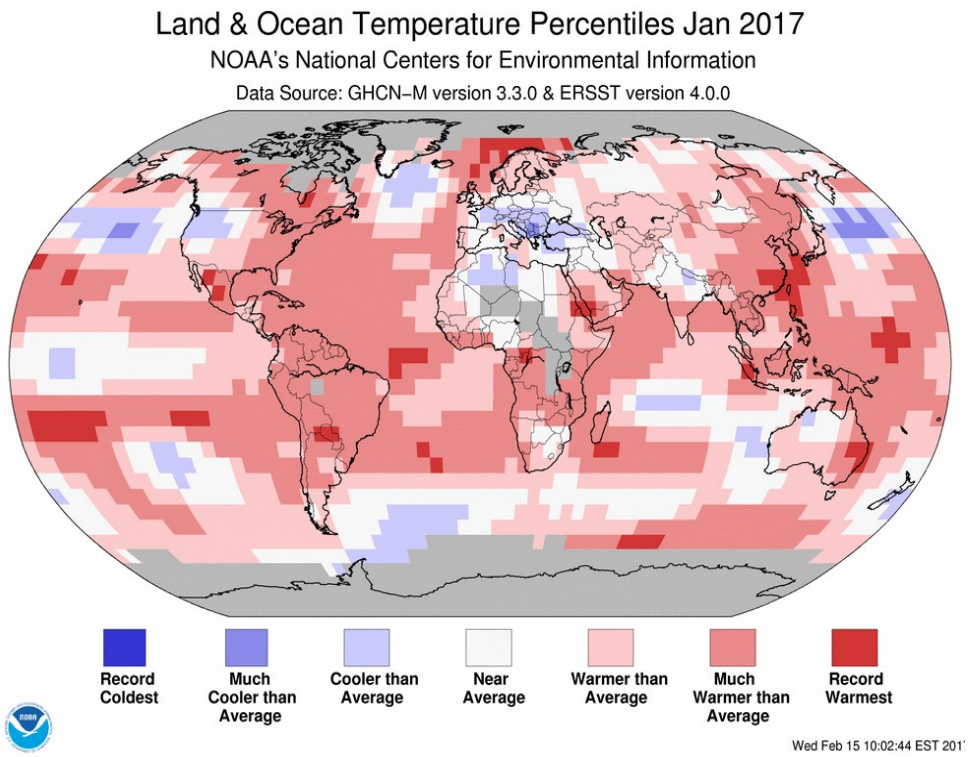
Dear Styrene Information and Research Center (SIRC):

Please inform the public how to safely turn-off or extinguish railcar or other hydrocarbon heat pumps and cable them out of the ocean under the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques of 1977 and Law of the Sea of 1982. The only peaceful purpose of oceanic heating pumps is to generate high pressure winds blowing in the direction of the low-pressure created by oceanic cooling pumps closer to the coast, making clouds to be seeded for rainmaking efforts (Jones '66: US Patent No. 3,429,507)(AS Trust & Holdings '12: US Patent R441A by the American Society of Heating, Refrigerating and Air-Conditioning Engineers). Oceanic cooling pumps can also prevent hurricanes by reducing water temperature below 80º F, 26.6º C (Uram '02: US Patent No. 2002 0008155)(Kithil '08: US Patent No. 20080175728 A1). The first response of SIRC and NOAA seem to have produced oceanic cooling pumps to protect the west coast from the Santa Anna wind's Hawaiian vacation and east Atlantic from the thermal effluence from the Potomac that is self-inflicting a drought upon the Great Plains. After the news about the bleaching of the Great Barrier Reef the current operational NOAA SST Anomaly map is an accurate expression of both northern and southern hemispheres, provided the public is not being misled about costly cooling efforts when the west coast cooling in fact came from SIRC extinguishing the Hawaiian heating pumps.



Because of liability for flooding, rain theft and exposure to experimental chemicals rainmaking and oceanic heating and cooling pumps should only be used to extinguish forest fires and in response to severe prolonged drought and should not be used all the time and be turned off when not in use. Heating and cooling pumps left-on, off the west and north-west coast of Australia are stealing rain from East Africa to make rain in Australia. Cooling pumps are needed off the southeast coast of Madagascar to neutralize the effect of the oceanic wind and cloud generating heating and cooling pumps in the Indian Ocean, for which Australia is liable for stealing rain. Cooling pumps are also needed to protect the Great Barrier Reef from the dissipation of natural and artificial oceanic warming from last year's El Niño. Other oceanic warming is off the coast of Columbia and Peru, by Rio de Janeiro and west coast of western Africa. California Governor Brown's slash and burn forest labor is prohibited under the Antarctic Conservation Act of 1974 and abolished under the Slavery Convention of 1926 to keep local temperatures down and protect Antarctic sea ice from the oceanic warming off the coast of Rio de Janeiro (Sanders '17). Severe prolonged drought is currently affecting 17 East African nations, which the United Nations has recently warned that 14 million people are at risk of starvation across the region as it continues to face widespread water shortages as well as reduced crop and livestock production. Much of southern Africa is now in planting season and experiencing drought relief as the weather pattern has shifted to a La Niña cycle, which helps to bring in more rain across some regions. The long-term forecast suggests that in 2017 much of the region will regain most of its lost grain crop, but it will take another two or more years of nicely times rain in October to December to return livestock production to normal levels. Extreme weather conditions such as El Niño are forecast to intensify until global warming is solved (Corriveau '17). The heat from the dissipation of natural and artificial warming associated with last year's El Niño is bleaching the Great Barrier Reef. Australia appears to be liable for the rain theft that is causing the prolonged severe drought in East Africa.

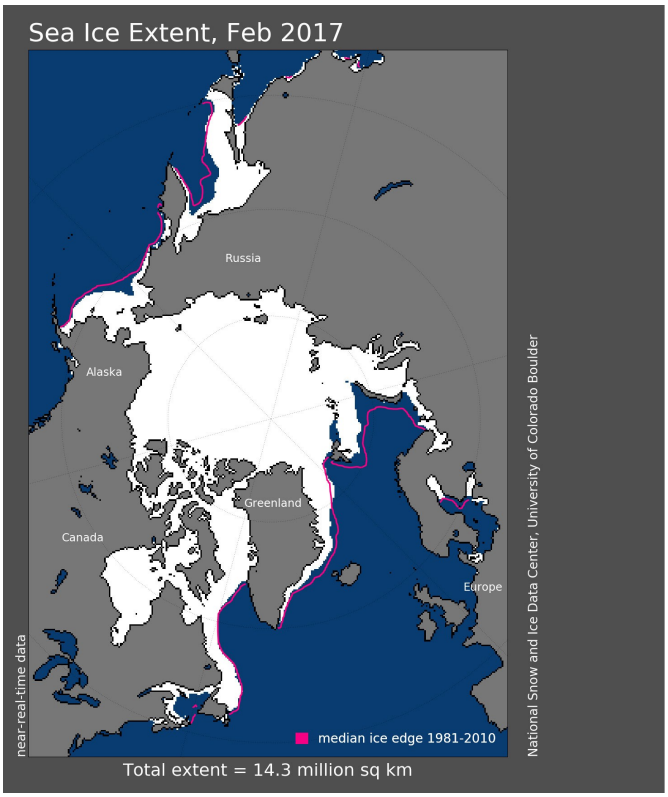


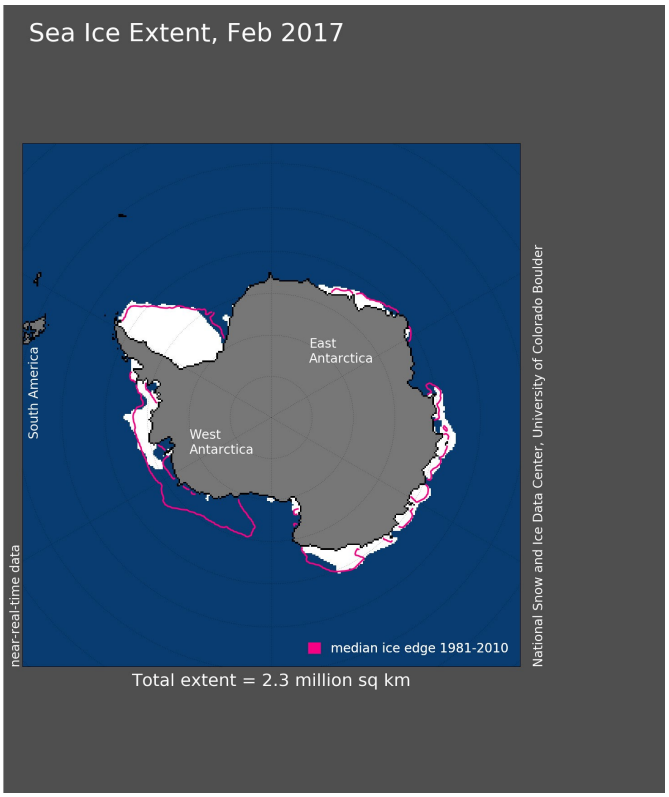


The globally averaged temperature over land and ocean surfaces for January 2017 was 0.88°C (1.58°F) above the 20th century average of 12.0°C (53.6°F). This was the third highest January temperature in the 1880–2017 record, behind 2016 (highest) and 2007 (second highest). Separately, the global land surface temperature was also third highest for the month of January at 1.54°C (2.77°F) above the 20th century average of 2.8°C (37.0°F). The first month of the year was characterized by warmer to much-warmer-than-average conditions across much of the world's land surface, with the largest positive temperature departures from average across the eastern half of the contiguous U.S., eastern Asia, and much of Canada where temperature departures were 3.0°C (5.4°F) or greater. Cooler-than-average conditions were observed across New Zealand, the western half of the contiguous U.S., central and western Australia, northern and southern parts of Africa, western and southern Asia, and much of Europe. The most notable below-average temperature departures from average were observed across the northwestern contiguous U.S. and central Europe (-3.0 °C [-5.4°F] or colder). According to NCEI's Regional analysis, three of the six continents had at least a top six warm January, with South America having its second warmest January since continental records began in 1910, behind 2016. Meanwhile, Europe had its coldest January since 2010. February 2017 sea ice extent was 24.4 percent below the 1981-2010 average – the smallest February sea ice extent on record. Arctic sea ice extent for February 2017 was 7.6% below the 1981-2010 average – the smallest February sea ice extent since satellite records began in 1979 (NOAA '17).

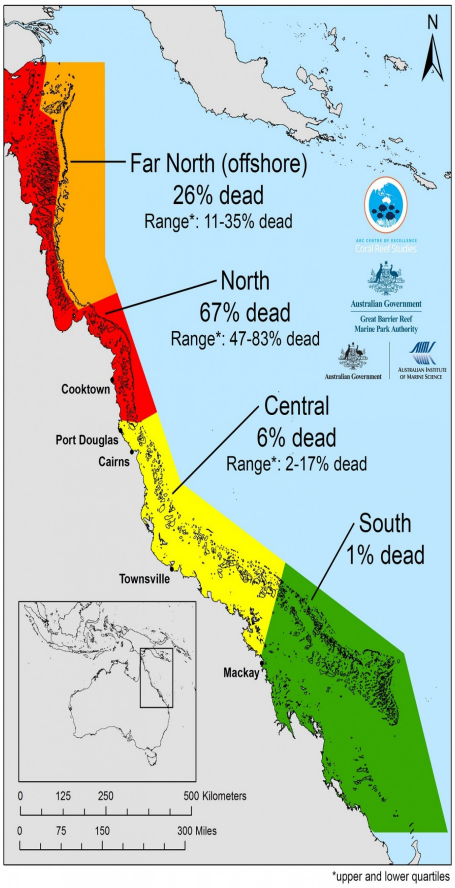
The Northern Hemisphere (Arctic) sea ice extent — which is measured from passive microwave instruments onboard NOAA satellites — averaged for January 2017 was 13.38 million square km (5.17 million square miles), 1.26 million square km (480,000 square miles), or 8.61 percent, below the 1981-2010 average. This was the smallest January Arctic sea ice extent on record, dipping below the previous record of 13.64 million square km (5.27 million square miles) set just last year in 2016. Sea ice extent expanded slowly in early January with ice growth nearly stopping for a week mid-month.

During the third week January ice expanded rapidly, but nearly stopped once again the last week January. Below-average sea ice extent was observed in the Barents Sea, Kara Sea, and Gulf of St. Lawrence on the Atlantic side and the Bering Sea on the Pacific side. Near-average sea ice extent was observed in Baffin Bay, Labrador Sea, and Hudson Bay. January Arctic ice extent is decreasing at an average rate of 3.2 percent per decade.

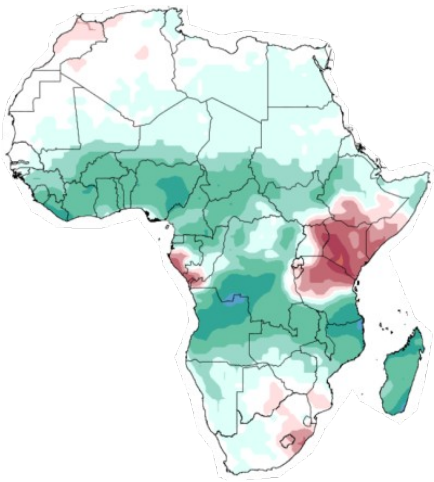




The January Southern Hemisphere sea ice extent was 4.04 million square km (1.56 million square miles), which was 1.19 million square km (460,000 square miles), or 22.8 percent, below the 1981-2010 average. This was the smallest Southern Hemisphere sea ice extent on record and 280,000 square km (110,000 square miles) smaller than the previous record set in 2006. The record low January Antarctic sea ice extent comes just two years after the largest January Antarctic sea ice extent on record was observed in 2015 at 7.59 million square km (2.93 million square km). Most of the Amundsen Sea off the west coast of Antarctica was ice free by early February with near-average ice across other regions. Southern Hemisphere sea ice extent is increasing at an average rate of 3 percent per decade, with substantial inter-annual variability. A “fast-moving” crack in the Larsen C ice shelf on Tuesday and warned that an iceberg larger than 5,000 square kilometers (1,930 square miles) — bigger than Rhode Island and roughly the size of Trinidad — is likely to break off. The reason for the weakening of the Antarctic ice seems be that the warming off the coast of Rio de Janeiro is exacerbated by heat released by California Governor Brown's slash and burn forest labor whose open burns are prohibited by Antarctic Conservation Act of 1978 16USC§2403(b)(1)(B)



Huge sections of the Great Barrier Reef, stretching across hundreds of miles of its most pristine northern sector, were recently found to be dead, killed last year by overheated seawater. More southerly sections around the middle of the reef that barely escaped then are bleaching now, a potential precursor to another die-off that could rob some of the reef's most visited areas of color and life. Globally, the ocean has warmed by about 1.5 degrees Fahrenheit since the late 19th century, by a conservative calculation, and a bit more in the tropics, home to many reefs. An additional kick was supplied by an El Niño weather pattern that peaked in 2016 and temporarily warmed much of the surface of the planet, causing the hottest year in a historical record dating to 1880. It was obvious last year that the corals on many reefs were likely to die, but now formal scientific assessments are coming in. The paper in Nature documents vast coral bleaching in 2016 along a 500-mile section of the reef north of Cairns, a city on Australia's eastern coast. Bleaching indicates that corals are under heat stress, but they do not always die and cooler water can help them recover. erial surveys, combined with underwater measurements, found that 67 percent of the corals had died in a long stretch north of Port Douglas, and in patches, the mortality reached 83 percent. By luck, a storm stirred the waters in the central and southern parts of the reef at a critical moment, cooling them, and mortality there was much lower — about 6 percent in a stretch off Townsville, and even lower in the southernmost part of the reef. Australia is the largest coal exporter in the world. Australia relies on the Great Barrier Reef for about 70,000 jobs and billions of dollars annually in tourism revenue, and it is not yet clear how that economy will be affected by the reef's deterioration. The global reef crisis does not necessarily mean extinction for coral species. Coral reefs are sensitive systems, built by unusual animals. The corals themselves are tiny polyps that act like farmers, capturing colorful single-celled plants called algae that convert sunlight into food. The coral polyps form colonies and build a limestone scaffolding on which to live — a reef (Cave & Gillis '17).



17 East African countries are struggling to come to terms with the impact of two consecutive years of drought, which has left more than 38 million people at risk in 2017. In the worst cases, where conflict has made farming impossible and reduced humanitarian access, there will be famine. That currently applies only to South Sudan, but could also include Somalia if the emergency response falters (Anyadike '17). The United Nations has recently warned that 14 million people are at risk of starvation across the region as it continues to face widespread water shortages as well as reduced crop and livestock production. Much of southern Africa is now in planting season and experiencing drought relief as the weather pattern has shifted to a La Nino cycle, which helps to bring in more rain across some regions. The long-term forecast suggests that in 2017 much of the region will

regain most of its lost grain crop, but it is expected to take another two or more years to return livestock production to normal levels. Extreme weather conditions such as El Nino are forecast to become more frequent as global warming is expected to intensify in the future. The UN says that Africa is the most vulnerable region to climate change and lacks proper early warning systems and contingency plans for such disasters (Corriveau '17). In 2011 drought plunged East Africa into the worst food security crisis Africa has faced in 20 years. More than 11.5 million people are currently in need of food aid in Djibouti, Kenya, Somalia, and Ethiopia (Allen et al '11).

Angola, at risk: 1.2 million - The southern regions of Cunene, Huila and Namibe have been hard hit. As granaries empty and people sell off livestock, there are concerns over their ability to bounce back this year. Food prices are high and government services are limited. Burundi, at risk: 3 million - Poor rains last year, a one-month delay in the harvest, above average food prices, and reduced income from agricultural labour is expected to hurt poor households. But food insecurity – affecting a quarter of the population – is also driven by the country's economic crisis as a result of ongoing political violence. Djibouti, at risk: 227,463 - Djibouti is one of the world's most arid countries. Some 227,463 people are threatened with food insecurity in the hardest-hit areas of Ali Sabieh, Obock and Dikhil. Eritrea, at risk: 450,000+ - humanitarian access is restricted, so the extent of the crisis is difficult to gauge. The government denies there is a problem. UNICEF has noted that malnutrition has increased over the past three years in four out of the country's six regions, where rates already exceeded emergency levels. UNICEF plans to reach 450,000 children this year with nutritional support. Ethiopia, at risk: 5.7 million - the strongest El Niño phenomenon on record led to an extreme drought in 2016, with 10.2 million in need of food aid. A new drought means 2017 could be just as dire, throwing an additional 5.7 million people into crisis. Farmers and herders found their resilience tested to the limit last year. They have very limited resources left to cope with the current crisis (Anyadike '17).

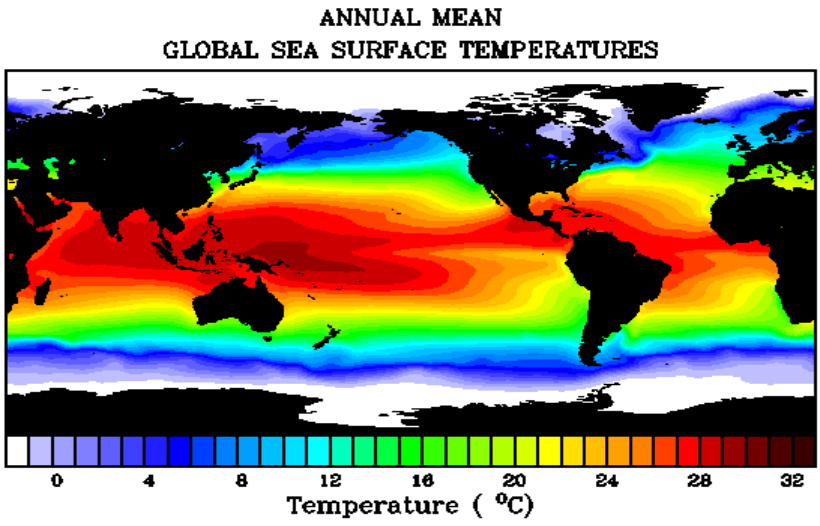
Kenya, at risk: 2.6 million - Widespread crop failure and falling terms of trade for pastoralists have affected farming and agro-pastoral communities in the northwest, northeastern and coastal strip of Kenya. The two main rainy seasons failed in 2006. There are growing reports of conflict as a result of displacement and water shortages. Four million people could be in need of aid by July if the long rains fail. Lesotho, at risk: 159,959. Ninety percent of people in need received in-kind and cash aid. Without the ongoing assistance, Lesotho would be in a food security crisis. With good rains this season, an average harvest is forecast. Madagascar, at risk: 978,000 - Maize, cassava and rice production dropped by as much as 95 percent in the south of the country last year. Some 845,000 people are in immediate need. Of those, 330,000 are facing emergency conditions. Countrywide, rice prices were up by 25 percent and maize prices had doubled by the end of January. Malawi, at risk: 6.7 million - Half of Malawi's rural population – 6.7 million people – are receiving food aid after two consecutive years of drought. In 2016, food prices were up 172 percent above the five-year average. The harvest this month should ease needs, and food prices are already falling as aid reduces pressure on the markets. But cash crop farmers are expected to see a fall in income this season after reducing the area they planted (Anyadike '17).

Mozambique at risk: 2 million+ - The impact of last month's cyclone Dineo is expected to add an additional 300,000 to those in need. Drought has exhausted household food stocks, and aid is reaching only 45 percent the vulnerable. Dineo, which hit coastal Inhambane Province, affected nearly 551,000 people and destroyed 27,000 hectares of crops. Food aid and seeds are urgently needed. Rwanda, at risk: unknown - Rwanda did not escape last year's drought. Media reports said that between 50,000 and 100,000 families suffered severe crop losses, especially in eastern and southern districts. Somalia, at

risk: 6.2 million - Half of all Somalis are facing acute food insecurity. Of these, nearly three million need urgent life-saving aid. The worsening drought has led to widespread water and pasture shortages for livestock. Displacement, malnutrition and drought-related diseases are all on the rise, and famine could be declared in parts of the country. Access is complicated by the al-Shabab insurgency. Sudan, at risk: 4.6 million - Sudan experiences unpredictable rainfall and desertification. The 2015 El Niño event was particularly severe and continued to be felt in the east of the country in 2016. Food insecurity is also driven by conflict, particularly in Darfur, South Kordofan and Blue Nile.

Swaziland, at risk: 638,000 - The 2016 drought scorched Swaziland, leaving an estimated 638,251 people in need of aid. Basic food prices remain high at the peak of the lean season. The rainfall forecast is for average to above-normal rains, but household productivity is expected to be lower than normal. Tanzania, at risk: unknown - There have been media reports of failed harvests and livestock deaths. In response, a senior government official in the northern Manyara region released emergency food stocks onto the market. The government is resisting calls for a declaration of emergency. Uganda, at risk: 390,000+ - Food stocks are critically low in northeastern Karamoja. Between July and November last year, 390,000 people were at crisis/emergency levels. Of those, only 200,000 were receiving aid. Conditions are also bad around Arua in the northwest. Two consecutive seasons of poor rains have hit production across much of the country. Staple food prices are rising. Zimbabwe, at risk: 4.1 million - Consecutive El Nino-related droughts has left half the rural population in need of food aid until the end of the lean season in March. The crisis is compounded by low purchasing power, reduced remittances from South Africa and high food prices. There have been good rains over the past two months but there is a national shortage of fertilizer. There has also been an outbreak of the hard-to-control Armyworm pest throughout the country (Anyakike '17).

Short rains, in the right amount and at the right time – from October to December – allow the regeneration of pasture, improve crop conditions and boost casual agricultural labour opportunities for poor households. Too much – if the rains run into January and February – then animals that are already weak from the long dry season will succumb to exposure. Heavy rains can also trigger waterborne diseases like cholera and typhoid. Livestock become susceptible to Rift Valley Fever (RVF) – a viral mosquito-borne disease. Antarctic ice-melt and oceanic cooling pump countermeasures off the Coasts of Australia and South Africa coupled with the warming of the Indian Ocean are generating “highly enhanced rainfall”, according to the Kenya Metrological Department. The government’s contingency plan anticipated one million people at risk from flooding, less than the 14 million at risk from starvation and 36 million affected by the drought (Anyadike '17)(Corriveau '17).



Sea surface temperature (SST) and Anomaly is one of the most important indicators of climate variability and long-term climate change. The Australian Bureau of Meteorology publishes more accurate SST Anomaly maps for the southern hemisphere and the National Oceanic and Atmospheric Administration (NOAA) more accurate maps in the northern hemisphere for the detection of oceanic heating pumps. SSTs are used to monitor many modes of climate variability such as El Niño–Southern Oscillation (ENSO), the Pacific decadal oscillation (PDO), the Atlantic multi-decadal oscillation (AMO), and the Indian Ocean dipole (IOD). Heat loss estimates have been made for SST measurements from buckets that occur during the time between the hauling of buckets from the ocean surface and the reading of thermometers (Huang '16).

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