EL NIÑO AND HEALTH

Global Overview - January 2016

This Global Overview provides an analysis of the current and expected evolution of El Niño conditions and their impacts on health. This Overview updates and expands on the WHO Status Report: Health Preparedness for El Niño (30 October 2015). It aims to give a consolidated outlook of the health situation and actions taken by Ministries of Health, WHO and partners. This report highlights affected regions and countries where health actions are needed urgently to increase preparedness and scale up response to the El Niño in 2016.

SUMMARY

The El Niño phenomenon affects rainfall patterns and temperatures in many parts of the globe, most intensely in the tropics with significant impacts on human health. El Niño 2015-2016 is currently affecting the health of millions of vulnerable people in the Horn of Africa, southern and eastern Africa, South Pacific, Central America and South Asia. Adverse climate conditions are expected to peak in January 2016 but the health consequences will likely worsen as the full effects of El Niño are felt throughout 2016:

- Extreme drought and acute water shortages affecting millions of people in the south western Pacific (4.7 million), Central America (4.2 million) and southern Africa (30 million) will extend in the first half of 2016 leading to increased malnutrition, diarrhoeal diseases and an additional burden on already constrained health services.
- In the Horn of Africa, the devastating drought which has affected 22 million people has been followed by unusual heavy rains causing a high risk of vector-borne disease and communicable disease outbreaks, especially among displaced populations and those with high levels of malnutrition.
- El Niño is causing heavy rains and flooding in eastern Africa with a risk that the ongoing cholera epidemic in Tanzania will spread, and other countries may experience cholera outbreaks. There is also a risk of resurgence of Rift Valley Fever.
- Following the severe flooding in Paraguay in December which led to evacuations of more than 100 000 people, wetter conditions are expected to cause more flooding in South America, particularly in Peru, Ecuador and Bolivia, with increased risk of vector-borne diseases, respiratory infections and damage to health facilities.

Urgent action is needed to address the health effects of El Niño until the end of 2016

El Niño 2015-2016 is one of the most severe in recent decades. It is comparable to El Niño 1997-1998 which led to widespread drought-related famines and malnutrition in the Horn of Africa and Asia-Pacific, a significant increase in vector-borne diseases including malaria epidemics in Ethiopia and dengue fever outbreaks in Indonesia and the Pacific Islands. Intense flooding occurred in Central and South America and East Africa that led to an increase in vector- and water-borne diseases. Nearly 90 000 people were infected with Rift Valley Fever in Kenya, Somalia and Tanzania. There were cholera outbreaks in Tanzania, Kenya, Chad, Somalia, Nicaragua, Honduras and Peru. Major damage and loss of health infrastructure in Peru and Ecuador had long-term impacts on the availability of health services.

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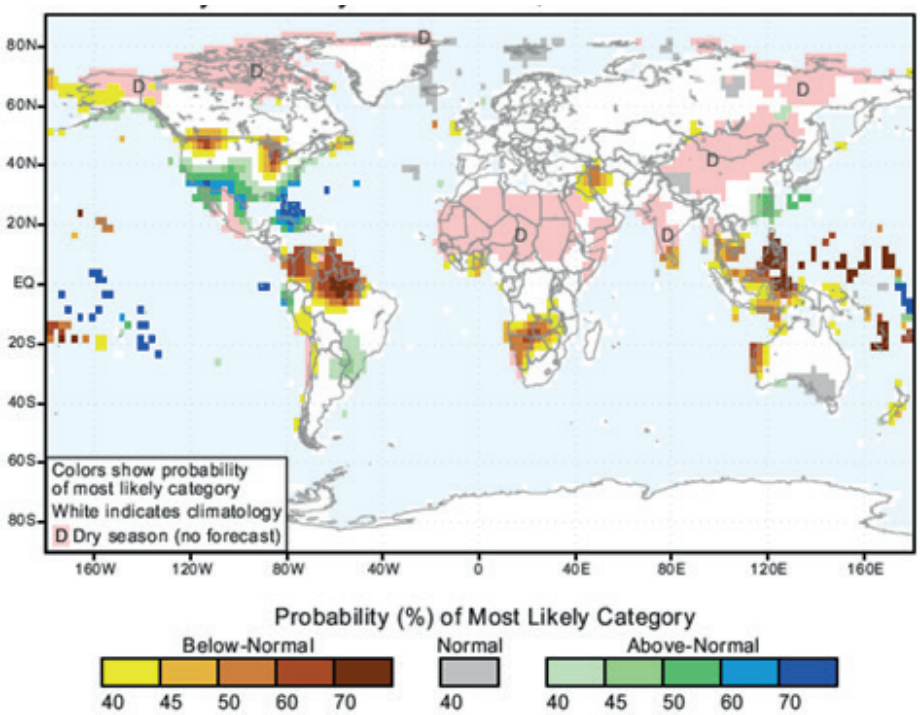
2016 EL NIÑO CLIMATE CONDITIONS

IRI Multi-model probability forecast for precipitation for January - March 2016



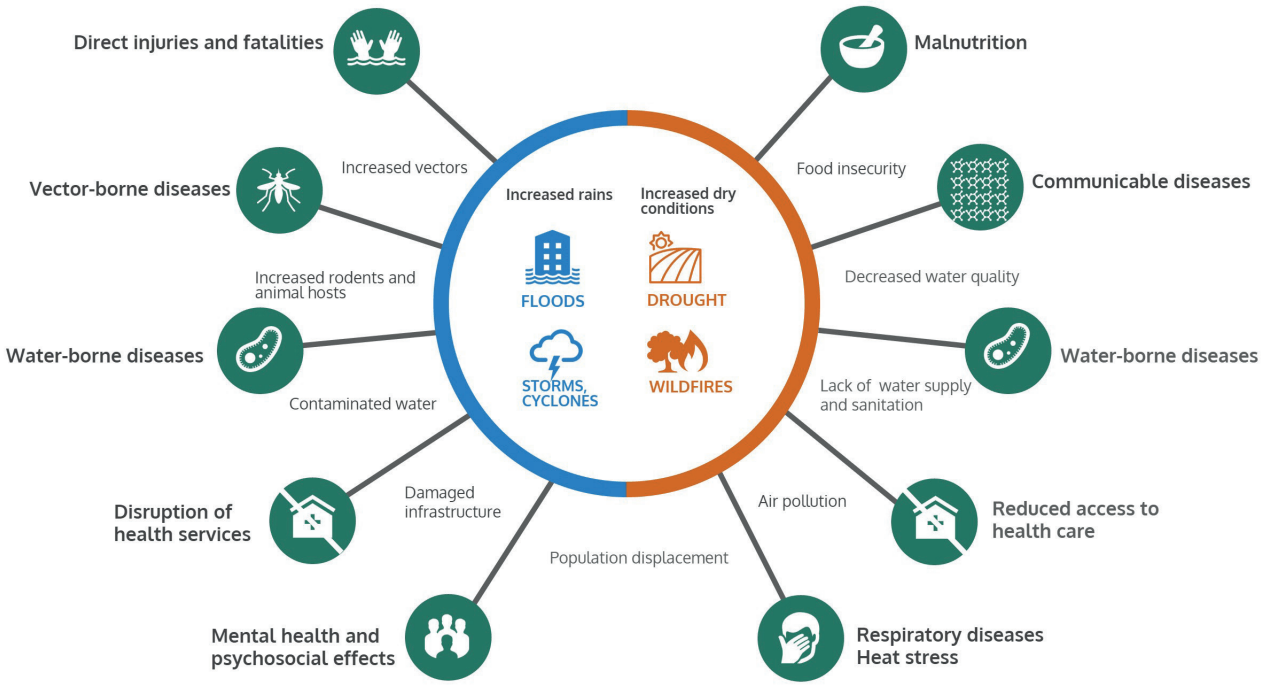
Source: International Research Institute for Climate and Society (IRI)
http://iri.columbia.edu/our-expertise/climate/forecasts/seasonal-climate-forecasts/

	AMERICAS	AFRICA	ASIA-PACIFIC
LAST QUARTER 2015	Drier conditions in Central America and the Caribbean, northern part of South America and central parts of the Andean region (with continued effects expected in the first quarter 2016).	Drier conditions in the Horn of Africa, southern Africa and some areas in the Sahel. Heavy rains during October-December in the southern Horn and eastern equatorial Africa (with continued effects expected in the first quarter 2016).	Drier conditions across South-East Asia and Pacific Islands region (with continued effects expected in the first quarter 2016).
FIRST QUARTER 2016	Drought conditions persist in Central America, the Caribbean and parts of South America. Wetter conditions in Peru, Ecuador, Paraguay, and southern Brazil.	Drought conditions persist in southern Africa. Extended wet conditions in the southern Horn and eastern equatorial Africa.	Drought conditions persist in Western Pacific, Indonesia and Philippines. Wetter conditions in eastern China and Central Pacific.

Ministries of Health, WHO and health sector partners will continue to monitor the health risks associated with El Niño climate conditions throughout 2016 based on information provided by the World Meteorological Organization, IRI and national meteorological and hydrological services.

More resources:
IRI- WHO/PAHO Collaborating Centre on Early Warning Systems for Malaria & other Climate Sensitive Diseases
ENSO resources http://iri.columbia.edu/our-expertise/climate/enso/
Public health resources http://iri.columbia.edu/our-expertise/public-health/

HEIGHTENED EL NIÑO-RELATED HEALTH RISKS



El Niño conditions increase the probability of extreme weather in certain regions in certain seasons that exacerbate and trigger a range of health risks. It also increases the predictability of these events. The magnitude of health impacts associated with El Niño will vary depending on how intensely El Niño influences the local climate of an area as well as local health vulnerabilities, levels of preparedness and response capacities. Health consequences associated with extreme weather conditions include:

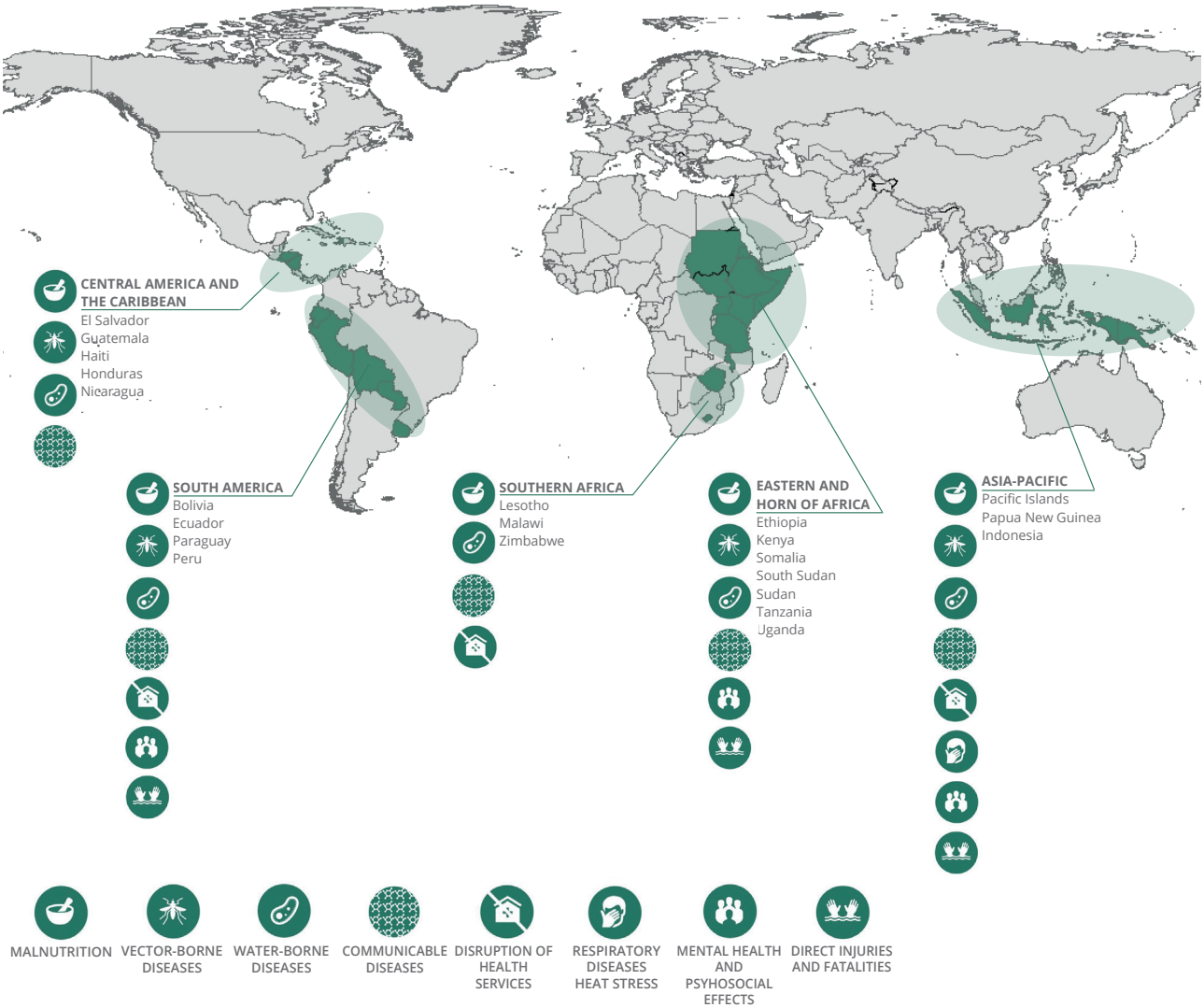
- Both droughts and flooding may trigger food insecurity, increase malnutrition and thus enhance vulnerability to infectious diseases;
- Droughts, flooding and intense rainfall (including cyclones) may cause loss of life, significant population displacement, water and vector-borne disease outbreaks and may damage or close health facilities, thus reducing regular health service delivery and restricting access to healthcare during the emergency and well beyond the event;
- El Niño-related warmer temperatures may result in vector-borne disease epidemics in highland areas, which are too cold for vector survival and disease transmission at other times;
- Damaged or flooded sanitation infrastructure may lead to water-borne diseases;
- Extremely hot and dry conditions may lead to heat waves, wildfires, increased smoke and deteriorated air quality, causing or exacerbating respiratory diseases and heat stress;
- Populations already affected by a humanitarian situation (e.g. in internally displaced persons and refugee camps) face heightened risk of suffering health consequences of either wet or dry conditions.

For more information on El Niño-related health risks:
http://www.who.int/globalchange/publications/factsheets/el-nino-and-health/en/

RECENT AND ONGOING ACTIONS BY HEALTH SECTOR AND WHO FOR EL NIÑO PREPAREDNESS AND RESPONSE

1. Increased assistance to and advocacy with Ministries of Health and partners to enhance preparedness measures, including development of national health contingency plans and set-up of disease surveillance for El Niño-related health risks.
2. Deployment of specialised health emergency and technical personnel to support national emergency preparedness and response (e.g. Ethiopia, Somalia, Tanzania, Indonesia, Papua New Guinea, Pacific Islands).
3. Health sector inputs to Government and UN interagency planning and coordination for El Niño at national level (e.g. Somalia, Malawi Uganda, Kenya, Sudan, Papua New Guinea, Ecuador, Haiti), regional and global levels, including Member State briefings in Geneva and New York.
4. Management of information, including health risk assessments (e.g. Ethiopia, Papua New Guinea and Pacific Island countries), climate outlooks and reporting of El Niño-related actions taken by Ministries of Health, WHO and partners in nearly thirty countries.
5. Coordination of El Niño preparedness and response with Global and Country Health Cluster Partners (e.g. Ethiopia, Somalia) and strengthened Inter-Cluster collaboration with Nutrition, WASH and Food Security.
6. Engagement with national meteorological and hydrological services for detailed updates on rainfall observed as well as more localised predictions to assist preparedness and response.

Regional and country overviews see annex pages 6-33.



RECOMMENDED GENERAL PREPAREDNESS AND RESPONSE ACTIONS

1 Assess and monitor how El Niño can alter health risks in your area

- Establish and maintain dialogue with national meteorological and hydrological services (NMHS) and other key actors, such as the national disaster management agency.
- Monitor seasonal forecasts, real-time conditions, local rainfall and temperature forecasts.
- Monitor incidence of infectious diseases and other potential health effects.
- Conduct a health risk assessment in potentially affected areas.

2 Develop strategies and activate emergency preparedness and response measures

- Review and develop plans for preparedness and response for the health sector, taking into account direct consequences of climate-related hazards on health, including in on-going emergencies (e.g. displacement and refugee situations).
- In line with the plan for preparedness and response, put in place adequate operational capacities, including human resources, supplies (e.g. replenishment and pre-positioning of insecticide-treated bed-nets, essential drugs and medical supplies, etc.), and communications equipment.

3 Develop effective communication strategies with NMHS and other partners

- Establish clear and consistent messages to keep the public and health sector response agencies informed about climate hazards and their health risks.
- Strengthen knowledge and information management mechanisms to account for El Niño health consequences.
- Raise awareness and advocate to partners, relevant Ministries and donors, to mobilise necessary resources, as needed.

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http://www.who.int/hac/crises/el-nino

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Annex: Regional and country overviews

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EL NIÑO OUTLOOK AND SPECIFIC HEALTH CONCERNS

HORN OF AFRICA

Drier-than-normal conditions across north-eastern Ethiopia, Eritrea, Somalia, Djibouti, Sudan, and South Sudan have resulted in a serious increase in the number of food insecure people and high levels of malnutrition which are expected to continue during the next months. Up to 22 million people could be affected by food insecurity and associated malnutrition in 2016. Ethiopia is facing the worst drought in 30 years. Water-borne and other communicable diseases such as cholera, measles, scabies and meningitis could rise due to shortage of water and poor sanitation and hygiene conditions combined with malnutrition and population displacement.

SOUTHERN HORN AND EASTERN AFRICA

By early 2016, between 2.7 million and 3.5 million people could be affected by floods across southern Ethiopia, south central Somalia, South Sudan, Kenya and Uganda. Wetter conditions and excessive rainfall are expected to continue in equatorial East Africa through January 2016 with strong signals for above-average rainfall to occur over the Juba, Shebelle and Rift Valleys. Affected areas might be subject to increased incidence of water- and vector-borne diseases including malaria, dengue, cholera and typhoid. Extreme conditions could exacerbate cholera outbreaks which are the worst since 1997-1998 in Tanzania, Kenya and Ethiopia. In Somalia, Kenya and Tanzania there is a specific concern on the possible resurgence of the Rift Valley Fever. Displacement and crowding due to floods could also lead to increased transmission of other communicable diseases such as measles and meningitis, especially in the meningitis belt zone. Flooding can also cause significant damage to health infrastructure, therefore reducing access to health services for populations living in affected areas.

SOUTHERN AFRICA

More than 5 million people are expected to experience food insecurity during 2016 in central Mozambique, southern Malawi, southern Madagascar, south-eastern Zambia, Zimbabwe, Swaziland, Botswana, Lesotho and South Africa. Below-average rainfall is forecast during the main growing season (December-April) with a risk for those countries of facing two consecutive bad growing seasons.
Most at threat from immediate food insecurity and associated malnutrition are Malawi (close to 3 million people), Zimbabwe (1.5 million), Lesotho and Madagascar.

As a result of the 1997-1998 El Niño, Eastern Africa experienced extensive flooding that led to food insecurity as well significant destruction of health infrastructure throughout the region.

In Djibouti, Kenya, Mozambique, Somalia, Uganda and Tanzania unusually high rainfall triggered major outbreaks of cholera, with over 40 000 cases in Tanzania. Unprecedented outbreaks of Rift Valley Fever (RVF) occurred in Kenya, Somalia and Tanzania, with nearly 90 000 people infected and 500 deaths.

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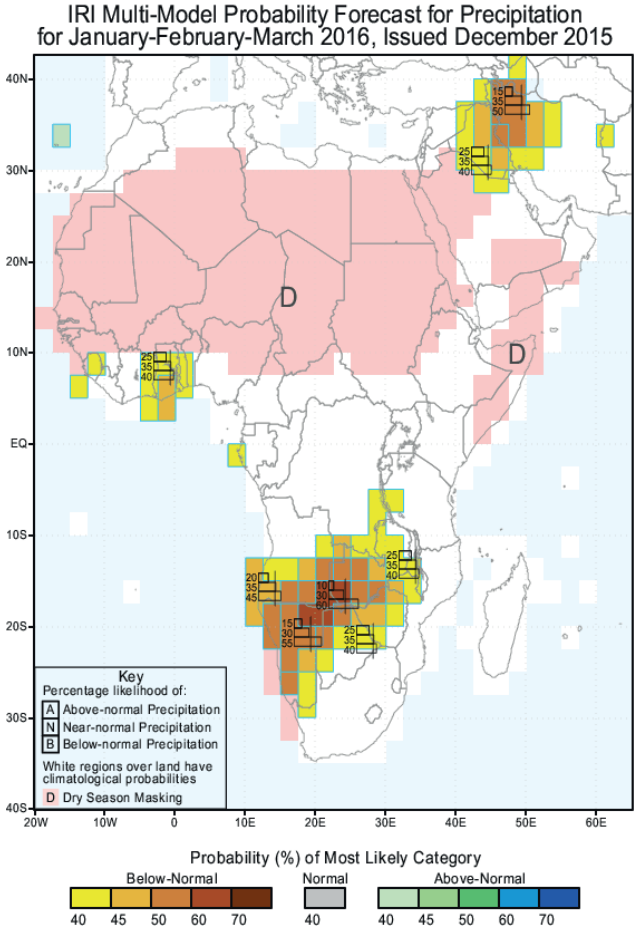
WHO PREPAREDNESS AND RESPONSE ACTIONS IN AFRICA

As a direct response, WHO is embarking on a twin track approach:

1. Deploying staff to respond to the ongoing outbreaks of cholera in East Africa and the food security emergency in Ethiopia, and providing additional capacity to other high risk countries in the region to support the strengthening of preparedness, coordination and disease surveillance activities in collaboration with partners.
2. In line with WHO's convening role, and in order to have a consolidated approach to the management of El Niño-related events across the countries of Eastern and Southern Africa, WHO Africa and Eastern Mediterranean regional offices are planning to bring together representatives of the Ministries of higher risk countries with UN agencies and partners to discuss the El Niño-related issues affecting their respective countries and the region as a whole, and to develop a region-wide strategy and action plan.

Summary of preparedness and response actions taken:

- WHO Regional Office for Africa and Headquarters have deployed specialised health emergency and technical personnel from both regional and global levels to support national emergency preparedness and response in Ethiopia and other affected countries.
- WHO Country Offices have assisted Ministries of Health in Ethiopia, Uganda, and Kenya for the development of health sector El Niño contingency and response plans as part of the national intersectoral plans.
- WHO Regional Office for Africa supported by WHO Headquarters and the WHO-WMO Health and Climate Office is drafting a regional operational plan to provide support to WHO Country Offices and Ministries of Health.
- WHO, FAO and OIE have developed a joint WHO/FAO/OIE awareness message for Rift Valley Fever and are planning joint actions to support and assess human health and animal health preparedness.
- WHO Regional Office for Africa has issued a WHO regional briefing note on global climate anomalies and potential disease risks (2015-2016) to 47 African countries on 25 September 2015.



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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Drier conditions are expected to continue in the northern part of the country (very severe inNorthern Pastoral Zone, severe in Eastern Highlands Agricultural Zone) resulting in two consecutive poor crop and pasture seasons. The number of affected people in need of food assistance is expected to increase from 10.2 million currently to 18 million until the end of 2016. More than 2 million people have no access to safe water.
- Wetter conditions are expected to impact river systems in the south of the country (Omo, Shabelle and Awash rivers) with flooding in the last quarter of 2015 and potential humanitarian consequences that could last until mid-2016.
- 180 000 people are already displaced due to drought and floods.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Close to 400 000 children are suffering from severe acute malnutrition and require therapeutic feeding in Afar and Sitti, eastern and central Oromia, eastern and northern Amhara, and eastern and central Tigray states. This number has continued to increase on a monthly basis without the normal seasonal decreases in caseloads and is expected to rise with potentially 100 000 new cases. It is estimated that 20% of the severely malnourished children (80 000) will develop medical complications such as diarrhoea and respiratory infections, and will be more susceptible to die from measles.
- Water- and vector-borne diseases including cholera, dengue fever and malaria could increase due to flooding and poor water, sanitation and hygiene conditions. More than 200 cases of cholera have been reported in Moyale, in Oromia and Somali regions of Ethiopia at the border of Kenya, and the outbreak has already disseminated into Kenya. There are concerns on possible dissemination into Sudan and Somalia. Close to 1500 cases of dengue fever, very sensitive to increased temperatures, have been reported in Dire Dawa.
- Communicable diseases such as measles, scabies, and acute respiratory infections could rise due to shortage of water and poor water, sanitation and hygiene conditions combined with malnutrition and population displacement. Thirteen districts of Ethiopia (nine in Oromia) are affected by measles with 258 outbreaks and 31 000 cases reported. A scabies outbreak with more than 300 000 reported cases is ongoing in Amhara and Tigray regions. A local outbreak of meningitis C is on-going in Kule refugee camp in Gambella.
- Floods could reduce access to health services for populations in affected areas. Critical public health, medical, nutrition and water services are currently overstretched.
- Increasing psychosocial and mental health effects are often associated with stressful conditions and displacement.

*INFORM (Index for Risk Management) is a global risk assessment index for humanitarian crises and disasters: http://www.inform-index.org/

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HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In July 2015, WHO assisted the Ethiopia Ministry of Health in the development of the El Niño Health and Nutrition sector contingency plan which includes:
  - Surveillance, outbreak investigation and response;
  - Measles preparedness;
  - Case management and treatment protocols;
  - Community mobilization, training and orientations;
  - Advocacy and resource mobilization;
  - Logistics and supply chain management and monitoring and evaluation.

- In 2015 the Roll Back Malaria Partnership supported the development of climate information services for malaria at the Ethiopian National Meteorological Agency (NMA) through the development of online "Maprooms" providing information on the historical, current and potential future climate http://www.ethiomet-maprooms.gov.et:8082/maproom/.

- In November 2015, Ethiopia HCT prepared a disaster appeal, including USD 33 million for the health sector to provide health assistance to 3.6 million people in the first quarter of 2016, with the following priorities:
  - Provide life-saving health services to highly food insecure and displaced people in emergency affected areas;
  - Prepare, detect and respond to epidemic disease outbreaks in high risk areas.

- The Ministry of Health and humanitarian partners issued a National Floods Contingency Plan requiring 7.5M Birr (USD 355 000) for health sector preparedness.

- WHO currently requires USD 9.5 million for strengthening health response operations, with four objectives as outlined in the WHO response plan (December 2015):
  - Ensure that all people in acute need, particularly those who are highly food insecure and displaced population in priority Woredas have access to quality essential and lifesaving health services;
  - Strengthen health sector preparedness for the early detection, control and response to the current and increasing risks of epidemic-prone disease outbreaks, including cholera;
  - Improve public health emergency risk management and preparedness and inter-sector coordination at national and subnational levels;
  - In high-risk zones participate in the direct efforts to address the current food insecurity and subsequent nutritional emergency by supporting Ministry of Health and partners in the rapid detection, referral of malnourished men, women and children and the provision of quality specialized treatment of severely malnourished children with medical complications in health facilities.

- WHO deployed expert surge capacity to assist the Ethiopia Country Office and Ministry of Health in scaling-up immediate health assistance.

- WHO is deploying 20 Early Warning and Response System (EWARS) in a Box kits which provide durable, field-ready equipment needed to establish and manage disease and nutrition surveillance, alert and response activities for roughly 1000 health centres and serving as many as 10 million people.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Somalia faces a protracted crisis that increases the impact of the El Niño climatic conditions. The effects of drought in north western Somalia could extend several months into 2016.
  2.3 million people - more than two-thirds being internally displaced people - are in food-stressed situations and the number of people in severe food insecurity may increase by over 400 000.
- Since the rainy season began in October, floods have affected an estimated 145 000 people - including more than 60 000 displaced people. Potential massive flooding can still be expected in early 2016 in the southern and central parts of the country, and could affect between 500 000 and 900 000 people along the Juba and Shabelle river basins. Up to 200 000 people could be affected by flash floods in low lying areas in Galgaduud, Mudug and Nugaal regions.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Nearly 215 000 children under the age five are acutely malnourished, of whom almost 40 000 are severely malnourished and face a high risk of disease and death. In settlements for internally displaced people, global acute malnutrition rates were found to be consistently above the emergency threshold of 15%. Floods could cause loss destroy crops due for harvesting and household food storage. The affected households could then be food insecure for a long period of time as they wait for the 2016 Gu harvests.
- There are heightened risks of possible outbreaks of water-borne diseases and a lack of clean water, shallow wells in which people depend for clean water being destroyed or contaminated by the floods. About 4 000 cases of acute watery diarrhoea (AWD) and cholera were recorded with 85% of the cases being children under five years of age.
- Malaria outbreaks could increase due to stagnant waters that are conducive for vector multiplication. There is also the possibility of a resurgence of Rift Valley Fever in humans due to an associated increased risk of Rift Valley Fever in animals.
- Around 3 300 suspected measles cases have been reported so far. No new polio cases were reported in 2015, however, this does not rule out the re-importation of polio. Vaccinations to curb the current measles outbreak and to eradicate polio will need to be sustained to increase the extremely low vaccination coverage of only 30%.
- Medical care will also be in critical need as many health facilities will either be inundated or washed away.

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CURRENT AND PROJECTED HEALTH CONDITIONS

- In September 2015, the El Niño Inter-agency Contingency Plan identified a funding need of USD 6 million for the health sector (Health Cluster): USD 3 million for immediate response and USD 3 million for preparedness to assist up to 500 000 people with the following priorities:
  - Support for functioning health sector coordinating mechanisms;
  - Continued access to health services;
  - Increased surveillance and control of communicable diseases and vectors.

- WHO has been working with the Ministry of Health to implement the following actions through Health Cluster coordination:
  - Mapping of health partners presence and response capacity in flood prone areas;
  - Stock prepositioning, mapping of partner's available stock of medical supplies and distribution of emergency medical kits to identified health facilities and hospitals across Somalia;
  - Strengthening health partner's capacity for effective and coordinated response, including training of health workers in sentinel sites on case management of common endemic diseases, including Acute Watery Diarrhoea/ Cholera to facilitate detection and reporting and timely response in flood affected areas;
  - Mobilization of communities living in flood prone areas to improve awareness and preparedness planning for the impact of El Niño;
  - Collection/dissemination of flood information to health partners in collaboration with WASH and Food Security Clusters;
  - Puntland zonal Health Cluster was re-activated, with International Organization for Migration as the focal point;
  - Health Cluster Regional Focal Points tasks have been re-defined to address El Niño effects, including mobilisation of available resources, coordination of partner's interventions, and conducting needs assessments.

WHO/Pieter Desloovere

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MALNUTRITION

VECTOR-BORNE DISEASES

WATER-BORNE DISEASES

COMMUNICABLE DISEASES

DISRUPTION OF HEALTH SERVICES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Drier-than-normal conditions are expected to continue to affect the vast majority of the central and eastern parts of the country. A further deterioration of the already very high food insecurity levels is expected, with 7.5 million people in need of relief assistance.
- The southern part of the country is expected to experience above-average cumulative rainfall until January 2016.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Existing conditions may lead to a famine, with related acute malnutrition that could increase to dramatic levels in the first half of 2016.
- Heavy rainfall may create conditions conducive to flooding, and related water-borne animal and human diseases, with a special concern for cholera, as the country has already faced several outbreaks during the first half of 2015.
- Across South Sudan, measles has been the fourth most common cause of morbidity in 2015 to date; most confirmed cases were from Central Equatoria (35%) and Unity (35%) states, while the rest were spread across the Jonglei, Lakes, Upper Nile, Western Bahr El Ghazal and Western Equatoria states. Augmented malnutrition may cause increased incidence of measles, especially within already existing humanitarian situations (e.g. internally displaced persons camps).

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- WHO has deployed technical surge capacities to the South Sudan Country Office to support immediate response assistance.
- WHO has deployed new Early Warning and Response System (EWARS) in a Box kits to establish and manage disease and nutrition surveillance, alert and response activities.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Due to the drier-than-normal conditions in the southern part of the country, deterioration of the already unstable food security situation is expected that could affect up to 4.2 million people in the coming months.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Due to drought, a significant fall in food availability and rise in food insecurity and malnutrition is expected for vulnerable populations, especially among small-scale farmers and pastoralists, who comprise the bulk of Sudan's rural poor. An increase in acutely malnourished children is reported.
- Sudan is particularly vulnerable to disease outbreaks and is currently undergoing prolonged measles and dengue outbreaks. It is likely that decreased water quantity and quality due to drought will lead to an increased incidence of water-borne diseases such as cholera and other diarrhoeal diseases.
- Prolonged drought is likely to lead to population displacement, closure of clinics and lack of access to health care.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- Under WHO leadership, the health sector is coordinating with the Ministry of Health and health partners, and working closely with other sectors to develop a multi-sectoral El Niño Preparedness and Response Plan.
- WHO current priority actions are:
  - Assessment and monitoring of the impact of the El Niño on health;
  - Deployment of expert epidemiologists and laboratory specialists from headquarters, regional offices, and Sudan Country Office to support the response to the ongoing dengue fever outbreak and strengthen the country capacity for laboratory based surveillance and epidemiological analysis;
  - Strengthening of entomological surveillance and timely reporting;
  - Provision of reagents necessary for in country laboratory confirmation;
  - Control of dengue fever outbreaks;
  - Strengthening the Early Warning and Response System along with community based surveillance focusing on states affected by the humanitarian crisis;
  - Support of the on-going countrywide measles vaccination campaign, and securing resources for a follow-up vaccination campaign against measles in 2016.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- El Niño is likely to result in above-average rainfall persisting up to February 2016. Kasese and Mt. Elgon are expected to be most affected. It is estimated that 800 000 people will be at risk of landslides and floods with humanitarian consequences that could last until mid-2016.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Wet conditions may increase the incidence of infectious diseases such as malaria, cholera and dysentery. Acute respiratory infections may rise to outbreak levels in 30 of 112 districts. These districts will need additional support to mitigate El Niño effects.
- Some of the effects of the floods may result in damage to health facilities, flooding of latrines and destruction of crops in the affected districts.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In October 2015, the Ministry of Health in Uganda, supported by WHO and partners produced a National Health Sector Contingency Plan (that was integrated into the National El Niño Preparedness and Contingency Plan coordinated by the Office of the Prime Minister and the Department of Relief, Disaster Preparedness and Management) that costs USD 938 333.
  –
  Main activities are:
  - Coordination of partners/stakeholders;
  - Monitoring of the health response;
  - Uninterrupted provision of essential drugs and medical supplies to affected population;
  - Health education and community mobilization;
  - Epidemic preparedness and response.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Above-normal rainfall is expected in Tanzania until January 2016 that may lead to flooding and humanitarian consequences which could last to mid-2016.

CURRENT AND PROJECTED HEALTH CONDITIONS

- The country is currently experiencing a cholera outbreak with 12 000 reported cases. It is likely to worsen from January to April 2016 and it may spread to more locations if the previous El Niño/ cholera interaction patterns repeat (e.g. heavy rainfall in dry land areas and human contamination of water supplies). This is the largest outbreak since 1997-1998, which had over 40 000 reported cases, and depending on the response and the rain patterns, it is possible that the epidemic could reach similar levels in 2016.
- There is also the possibility of an elevated risk of Rift Valley Fever, malaria, dengue and Chikungunya, resulting from an increase of vectors from El Niño-related heavy rains.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In 2015, the Roll Back Malaria Partnership supported the development of climate information services for malaria at the Tanzanian Meteorological Agency (TMA) through the development of online "Maprooms," providing information on the historical, current and potential future climate: http://maproom.meteo.go.tz/maproom/
- WHO repurposed its office staff to prioritize support to the cholera response, including its five field offices, the WHO Regional Office and HQ. They have provided additional expertise to support the Ministry of Health task force subcommittees for coordination, surveillance, case management, social mobilization and water/ sanitation/hygiene efforts. A WHO cholera support response plan was developed and WHO supported the drafting of the national cholera response plan. Surged personnel have added up to 14 additional staff.
- An Emergency Operations Centre (EOC) was established to contribute to cholera control and provides a capability for addressing diseases and other health effects linked to the El Niño rains and other hazards. Currently, the EOC is attempting to integrate meteorological information and updated pluviometry to assess and monitor trends. Recent rains in affected locations are expected to result in an increase of cases, thus intensifying the need for case management.
- The current response budget of USD 3.5 million remains 75% underfunded.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Overall, an estimated 2.5 million people may be affected by El Niño.
- Drier conditions in coastal and north eastern regions have caused a deteriorated crop and pasture production that resulted in severe food insecurity affecting approximately 1.1 million people.
- Unusual heavy storms and flooding related to El Niño are likely to occur during the short rainy season in Kenya until January 2016 with health consequences that could last into mid-2016. This could cause the displacement of 800 000 people. In November 2015, 76 000 people have already been displaced due to flooding in Garissa and Tana River counties. Most parts of the country are expected to experience floods, especially within the low lying areas of the Nyando river basin, Western Kenya, Wajir, Garissa and Mandera, and the lower parts of Tana, Kilifi, Kwale and the coastal region. Urban centres of Nairobi, Mombasa, Nakuru, Kisumu and Narok may also be affected by heavy flooding.

CURRENT AND PROJECTED HEALTH CONDITIONS

Above-normal rainfall and floods may cause the following health consequences:

- The country is currently experiencing a cholera outbreak that is now affecting 21 counties and is expected to worsen and spread to more locations due to floods.
- There is increased potential for vector-borne diseases outbreaks such as malaria, dengue, Rift Valley Fever and water-borne diseases such as acute watery diarrhoea, typhoid and dysentery. In the past the country has experienced a surge of malaria and diarrhoeal diseases during prolonged rains. Measles outbreaks may occur especially among children less than five years of age.
- Floods may lead to further damage to roads and supply chain challenges for medical and non-medical commodities, constraints in emergency referral to health facilities, damage to health infrastructure and disruption of services.

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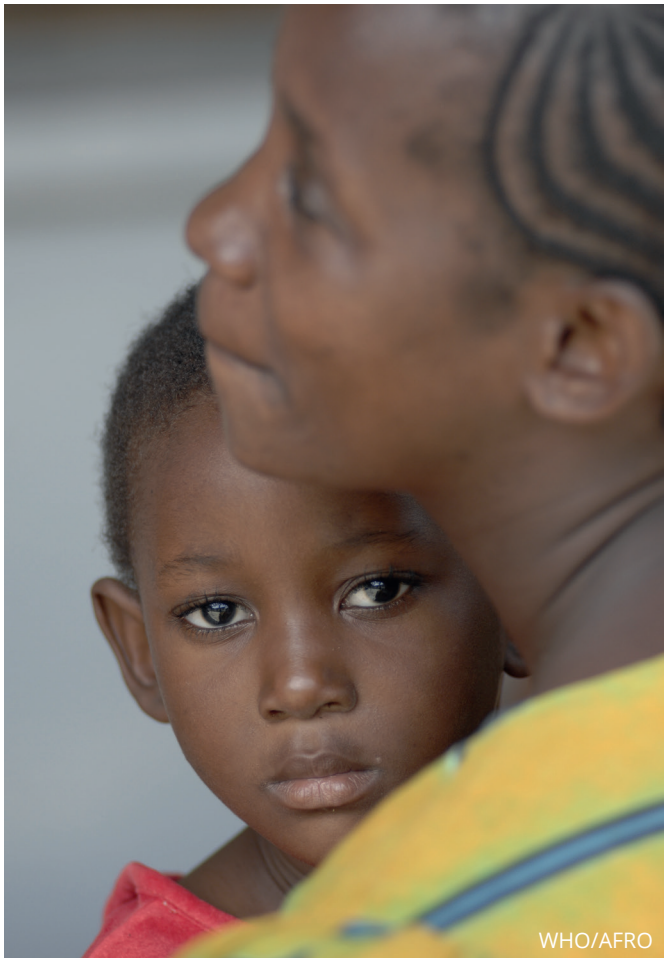
HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- The Government has taken the lead in El Niño contingency planning, with the Deputy President chairing the El Niño Task Force coordinated through the National Disaster Operations Centre. A national El Niño preparedness and response plan and county-level contingency plans budgeted at USD 157 million has been developed. Humanitarian partners are supporting preparedness and response efforts through the sector working groups. The Government informed United Nations partners and donors that the anticipated magnitude of the expected emergency is beyond its capacity to respond alone.
- In September 2015, the Ministry of Health in collaboration with WHO and partners has developed a national El Niño contingency plan for the health sector with a budget of 2.92 billion Kenya shillings (USD 28.5 million). The objectives are to:
  - Ensure preparedness of the health sector for upcoming floods;
  - Ensure the continuity of essential health and nutrition services before and after the El Niño rains.
- Main strategies are:
  - Multi-sector preparedness planning;
  - Technical assistance to the county health departments in flood prone counties;
  - Joint rapid assessments;
  - Optimal medical commodity management to minimize supply chain challenges during the rains;
  - Capacity building for county health management teams on disaster management and outbreak response;
  - Social mobilization, risk communication and health promotion activities;
  - Services for key special vulnerable groups;
  - Early warning system and surveillance systems for communicable diseases detection;
  - Mobilizing resources for logistical support in hardest hit areas.
- WHO has submitted a proposal to DFID, asking for GBP500 225 (USD 758 000) to support the implementation of the National Plan.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MALNUTRITION WATER-BORNE DISEASES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Drier-than-average conditions are expected to continue, increasing the possibility of reduced food production. The Zimbabwe Vulnerability Assessment Committee's 2015 evaluation indicates that nearly 1.5 million people will be food insecure during the peak hunger period of January to March 2016. The Government draft contingency plan notes that up to 5.4 million people could require food assistance, and 85 000 people potentially affected by floods later in the rainfall season.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Nutritional status of vulnerable groups in affected areas is particularly at risk. Chronic malnutrition and stunting rates are already high and are likely to rise with an increase in food insecurity.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In September 2015, the HCT released a humanitarian response plan requiring USD 132 million to respond to the food security crisis, including 4.5 million for the nutrition sector.
- In October 2015, WHO, together with FAO, UNICEF, and WFP announced a joint appeal to humanitarian and development partners for USD 86 million.
- A contingency plan is being finalised by the Government and HCT is currently developing an El Niño inter-agency contingency Plan aligned with the Government plan.
- The Scaling Up Nutrition (SUN) movement is working with partners in developing nutrition informational material to influence practices in regards to infant and young child feeding.

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MALNUTRITION WATER-BORNE DISEASES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Below-normal rainfall is expected in some areas until the end of February 2016, particularly in the Shire Valley, which will further exacerbate severe levels of vulnerability. Malawi is currently experiencing the worst food insecurity in over a decade with nearly 3 million people who will require food assistance up to March 2016.
- El Niño forecasts indicate that the country is likely to experience normal to above-normal rainfall until January 2016 that may lead to flooding in some areas. 192 000 people may be affected with humanitarian consequences that could last until mid-2016. The country is still recovering from floods that occurred earlier this year resulting in displacement of 230 000 people.

CURRENT AND PROJECTED HEALTH CONDITIONS

- There are concerns of possible increased malnutrition rates, with 47% of children already undernourished.
- There is also an increased likelihood of water-borne diseases, particularly cholera, linked to flooding.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- A National Food Insecurity Response Plan is already implemented requiring USD 80 million to cover needs up to March 2016, and the Department of Disaster Management Affairs is currently preparing a national multi-sectoral Contingency Plan including floods, dry spells and disease outbreaks (mainly cholera).
- Currently, the National Nutrition Response Plan is 48% funded. However, there is a funding gap for a preventive Supplementary Feeding Program (SFP) which could result in up to 60% of the targeted vulnerable women and children not receiving SFP support.
- WHO Regional Office for Africa has conducted disaster risk management training for key staff from the WHO Country Office and the Ministry of Health in Malawi both at central and districts levels in September 2015.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- El Niño-related drought conditions, expected to be the worse in the last 44 years is forecast to last until March 2016. All districts are affected with Leribe, Butha-Buthe, Mokhotlong and Thaba-Tseka being the worst affected. The predicted weather outlook is expected to result in further water scarcity, crop failure, pest infestation, water-borne diseases such as cholera and dysentery, animal diseases and malnutrition.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Close to 300 000 people in 276 communities (15% of the total population) are experiencing acute shortages of water. Outbreaks of acute watery diarrhoea diseases and dysentery are already observed and will likely increase in the coming months.
- People living with HIV and AIDS are at high risk of these illnesses. About 90% of children under the age of five are vulnerable to diarrhoea and pneumonia.
- It is estimated that up to 500 000 people will become food insecure in 2016 (33% of the total population) with associated increased malnutrition.
- There is a specific concern on the closing of health facilities or suspension of certain critical services in health facilities e.g. admission of patients in hospitals, suspension of delivery services due to lack of water.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In December 2015 the Lesotho Disaster Management Authority issued a Drought Response and Mitigation Plan. It includes a Health and Nutrition Response Plan costed USD 4 million with a current funding shortfall of USD 3.2 million.
- Its implementation will be led by the Ministry of Health and the Food & Nutrition Coordinating Office with the support of WHO and other partners. Priorities for 2016 are:
  1. To strengthen management of malnutrition;
  2. To increase access to other critical health and nutrition services;
  3. To provide drugs and medical supplies for treatment of drought-induced illnesses;
  4. To conduct Health, Nutrition and WASH education to the general public;
  5. To systematically monitor response actions and track impact of the interventions;
  6. To improve partners coordination in the response to avoid duplication and loss of efforts and resources.
- WHO will support the Ministry of Health in:
  1. Coordination of the partners health response efforts;
  2. Management of medical consequences of malnutrition;
  3. Supporting the health systems to ensuring continued access to quality health services;
  4. Disease surveillance and outbreak response;
  5. Water quality surveillance.
- WHO is supporting the Ministry of Health to conduct rapid assessments including assessment of medical supplies stocks to better determine response needs in affected communities.

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EL NIÑO OUTLOOK AND SPECIFIC HEALTH CONCERNS

SOUTH-EAST ASIA AND SOUTH WEST PACIFIC

Below-average rainfall is expected to endure until March 2016 in Indonesia, the Philippines, Papua New Guinea (PNG), Fiji, Vanuatu, Tonga and Niue. If no wet season arrives in the Pacific over the coming months, many countries' water supplies will not be replenished until the following wet season at the end of 2016 or beginning of 2017. The drought situation is heavily affecting Papua New Guinea and Vanuatu where water and food shortages are starting to impact on nutritional and health status. This will create an additional burden on already constrained health services. Indonesia declared a state of emergency in September 2015 in several regions due to water shortages and forest fires that caused a dramatic increase in respiratory and cardiovascular diseases.

EASTERN PACIFIC

Higher-than-usual precipitation is foreseen during the main growing months in 2016. Extended rainfall and floods may destroy roads, hospitals and clinics, restricting access to healthcare. Damaged water and sanitation infrastructure can lead to contaminated drinking water, and the proliferation of water-borne diseases such as diarrhoea and other enteric disease outbreaks. These disasters can displace populations, leading to overcrowding and psychosocial impacts.

PACIFIC CYCLONE SEASON

Even though drier-than-normal conditions are projected, above-normal risk of typhoons is anticipated during the December 2015 -May 2016 Pacific cyclone season and may extend beyond this during an El Niño year. Eleven to thirteen tropical cyclones are expected to occur compared to a usual average of ten to twelve (three to seven of these are expected to reach category 4 or 5) that could damage health infrastructure and lead to increased water- and vector-borne diseases and further impact on food availability and nutrition. The tropical cyclone risk is highly elevated for the Solomon Islands, Wallis & Futuna, Tokelau, Samoa, northern Cook Islands and French Polynesia; and it is elevated for Vanuatu, Fiji, Niue and the southern Cook Islands.

As a result of the 1997-1998 El Niño conditions the Pacific Islands region was hit by a drought so severe that 50% of Fiji's population required government water delivery, and the sugarcane harvest was slashed by 50% with widespread economic impacts.

WHO PREPAREDNESS AND RESPONSE ACTIONS IN ASIA

- Summary of preparedness and response actions taken by the WHO Office in the South Pacific and in Papua New Guinea:
- Coordinating advocacy and sensitization with Member States;
- Assisting Ministries of Health with El Niño preparedness and response planning;
- Deploying human resources to facilitate public health risk assessments in Fiji, PNG, Solomon Islands, Tonga, Vanuatu and Western Samoa;
- Undertaking malnutrition screening in Vanuatu;
- Prepositioning water purifying tablets and emergency health kits in Suva for possible deployment to affected countries;
- Supporting Ministries of Health with water storage efforts in Tonga;
- Scaling-up preparedness for the upcoming cyclone season in coordination with Health and Nutrition Clusters;
- Assisting Ministries of Health with resource mobilization.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Drought conditions related to El Niño are expected to last in the first quarter 2016 with at least 2.4 million people (one third of the country total population) immediately affected.
- The economic, agricultural, education and health sectors will probably be impacted the most. The drought is also starting to limit electricity generation and supply in affected areas.
- Concurrent severe frosts have also affected domestic gardens and crop yields this planting season, with associated food insecurity and malnutrition consequences.

CURRENT AND PROJECTED HEALTH CONDITIONS

- It is anticipated that the current situation will become devastating as the drought is expected to continue. Major immediate public health threats include the interruption of critical infrastructure, water and food-borne diseases, vector-borne diseases, measles, malnutrition and food security, declining maternal and neonatal conditions and violence relating to distribution of drought relief supplies. Some deaths attributable to the drought have been already reported.
- Key needs include the provision of safe drinking water. Access to effective health care, hand in hand with access to clean water, adequate food intake and environmental sanitation and hygiene will be the primary determinants of health and survival in this crisis.
- Health care facilities require safe and accessible water supplies in order to be open and functional. Health care services were facing challenges prior to the onset of El Niño, affecting their outreach and functions and are now further weakened by the crisis. Lack of water could lead to the closing of health facilities with further reduction of access to health services. This is a special concern in the most affected areas, some of which have an immunization coverage as low as 29%.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- Based on preliminary health and other risk assessments, Papua New Guinea has identified actions to strengthen health preparedness and response. Measures include:
  - Establishing El Niño response task forces or committees;
  - Drafting drought management plans;
  - Mapping water points and vulnerable agricultural areas.
- An El Niño Health Cluster response strategy has been developed, indicating the provision of water to health facilities as one priority.
- In November 2015, WHO developed an El Niño Health response plan 2015-2016 that costs USD 840 000, with the following objectives:
  - Monitor events that can have an immediate impact on the people's health;
  - Provide prompt and effective responses to meet populations' health needs;
  - Build synergies with the work of the other sectors that are responding to the crisis.
- WHO produced a public health risk assessment highlighting the associated health risks with the

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El Niño conditions, and highlighted the priority interventions:

- Essential health services
- Water and sanitation
- Management of malnutrition
- Food and safe food preparation
- Early warning and response
- Vector control and personal protection
- Risk communication.

- WHO is scaling-up surge capacity to provide technical support to the Papua New Guinea Country Office by working on a standard approach for critical items to be provided to improve environmental health facilities and by providing support in malnutrition screening. There is also an identified urgent need to scale-up the guidance in handling malnutrition cases in emergency.

IRIN/David Swanson

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- El Niño-induced drought in the Pacific Islands is projected to extend in the first quarter of 2016, with continuing effects on food availability and water quantity and quality in Vanuatu, Fiji, Solomon Islands, Samoa, and Tonga until mid-2016. It is expected to affect 4.3 million people in 13 Pacific countries (including 2.4 million in PNG). Diarrhoeal diseases are likely to increase due to the scarcity of potable water compounded by poor water infrastructure.
- An above-normal Pacific cyclone season expected from November 2015 until April 2016, and heavy rains projected in the eastern Pacific are likely to cause flooding, related humanitarian consequences and destruction of health infrastructure.

CURRENT AND PROJECTED HEALTH CONDITIONS

- In Vanuatu, water shortage and lack of sanitation are creating alarming food, nutrition and health conditions especially in communities affected by cyclone Pam in 2015. An increase in the number of cases of diarrhoeal diseases has been recorded recently. In Fiji, 67 000 people are now reliant on water delivery. There are increasing concerns that consequences of the drought will also be felt in Tonga and Samoa. In Solomon Islands, more than 2000 cases of diarrhoea have been reported so far with the outbreak spreading from the capital to the provinces. An outbreak of rotavirus has claimed the lives of four children.
- Decreased water quantity and quality may also lead to an increased incidence of vector-borne diseases such as dengue and malaria. Fiji is particularly vulnerable to dengue outbreaks, especially in areas with poor water and sanitation infrastructure such as squatter settlements and poor neighbourhoods in and around Suva (which had previously experienced one of the largest outbreaks recorded in the Pacific in 2013-14). Tuvalu also faced a drought-induced outbreak of diarrhoeal disease in 2011.
- Projected cyclones and flooding may also destroy and damage health facilities, disrupt the provision of health services and create the conditions for epidemics of water-borne diseases such as diarrhoeal diseases and leptospirosis. For instance, in 2014, floods triggered an epidemic of diarrhoeal disease in the Solomon Islands. Disasters may also lead to population displacement and overcrowding, with a higher risk of transmissible disease outbreaks and create psychosocial impacts on affected populations.

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HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In Vanuatu and Fiji, National Disaster Management Offices are monitoring situations of drought in affected districts and provinces. WHO supports the Ministry of Health in planning the rapid assessments of healthcare facilities, to carry out malnutrition screenings in local villages and to conduct risk assessments. Based on preliminary health risk assessments, the Health Clusters in Fiji and Vanuatu are supporting health preparedness and response activities:
  - Establishing El Niño response task forces or committees;
  - Awareness raising and information sharing with partners and media;
  - Mapping water points and vulnerable agricultural areas;
  - Providing water storage support and prepositioning of emergency supplies;
  - Drafting drought management plans including emergency water carting.
- In the Solomon Islands, if recent rains have brought some relief, there remains food security concerns after crops failures as a result of cyclones, floods and drought conditions in 2015. The National Emergency Operations Centre has activated an internal mechanism to monitor the impacts of drought and is in contact with all the Provincial Health Authorities. The Ministry of Health is developing its key health messages on drought-related health effects. The WASH Cluster is leading the current response. A WHO epidemiologist is supporting investigations into a recent diarrhoea outbreak in Honiara and Guadalcanal Provinces.
- Samoa and Kiribati have drought-standing committees, which are assembling awareness plans and gathering data on drought progression. Palau is considering drafting a drought plan.
- In Tonga, the Government has developed a draft drought plan, and the Ministry of Health is installing 10 000 litre water storage tanks in selected hospitals with WHO support.
- The Pacific Humanitarian Team (PHT) Health and Nutrition Cluster is preparing a short survey about national health responses across the region on El Niño. It will ask whether Ministries of Health have put in place additional contingency plans, surveillance or supplies. The survey results will be published together with the public health risk assessment in February 2016.
- WHO has deployed technical surge capacities to support immediate response assistance and public health risk assessments in Fiji, Solomon Islands, Tonga and Vanuatu.
- WHO and UNICEF are coordinating PHT Health and Nutrition Cluster for preparedness action for the upcoming cyclone season.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Below-average rainfall is expected as a result of the El Niño, with reduced water supplies and risk of harvest failure.
- The drier conditions associated with the practice of forest clearance may cause continued forest fires, that have already heavily affected southern Kalimantan (Borneo) and western Sumatra.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Forest fires are likely to cause an increase in respiratory diseases. The Indonesian health ministry reported that from July to October 2015, nineteen people had died and that hospitals in the worst affected parts of the country had treated nearly 560 000 cases of people with smoke-related respiratory problems, which is three times the normal rate.
- Prolonged drought can cause food insecurity and malnutrition and an increased incidence of food and water-borne diseases.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- A UN Country Team Focus Group for El Niño, co-led by FAO and WFP, has been established to assess the impacts of El Niño and develop response plans.
- The Government has put in place drought mitigation measures such as irrigation channels, new reservoirs and wells, and water pumps for distribution. The Government has also allocated IDR 3.5 trillion (USD 258 million) to improve rice state reserves and stabilize the prices of staple foods.
- WHO has deployed technical surge capacities to Indonesia Country Office to support immediate response assistance.

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EL NIÑO OUTLOOK AND SPECIFIC HEALTH CONCERNS

CENTRAL AMERICA, THE CARIBBEAN AND CENTRAL SOUTH AMERICA

Drier conditions in Central America, the Caribbean and central parts of the Andean region are expected to persist until May 2016. 4.2 million people are currently affected by drought in Central America and 2.5 million require immediate food and nutrition assistance and may be victim of increased food and water-borne diseases. In the Caribbean, the impact of drought and possible health consequences including cholera in Haiti should be closely monitored. In South America, drier conditions contribute to conditions of increased acute respiratory infections. Water scarcity associated with poor sanitation, hygiene and food handling practices create conditions for increased incidence of diarrhoeal and skin diseases.

SOUTH AMERICA

Above-average rainfall is expected in parts of South America until May 2016 particularly in Ecuador, Peru, Paraguay, Uruguay, Brazil and Argentina that could cause floods and increases in the incidence of vector-borne diseases such as malaria, dengue, chikungunya, and zika; food intoxication; water-borne diarrhoeal diseases such as cholera, typhoid, salmonellosis; and acute respiratory infections in cold and humid areas. Health facilities could be damaged and restrict affected people's access to health services.

CYCLONE SEASON

The Pacific cyclone season (November to May 2016) is anticipated to be more active than normal, while the Atlantic cyclone season (June to October 2016) is expected to be less active than normal.

The 1997-1998 El Niño event affected an estimated of 27 million people and caused more than USD 18 billion damage in Latin America and the Caribbean. Peru and Ecuador experienced rainfall more than 10 times the usual levels, with consequential flooding and extensive landslides that resulted in widespread destruction of health infrastructure. In Peru 557 health centres and 91 in Ecuador were damaged. In Ecuador El Niño affected 7 million people (60% of the population) and malaria outbreaks increased 440%.

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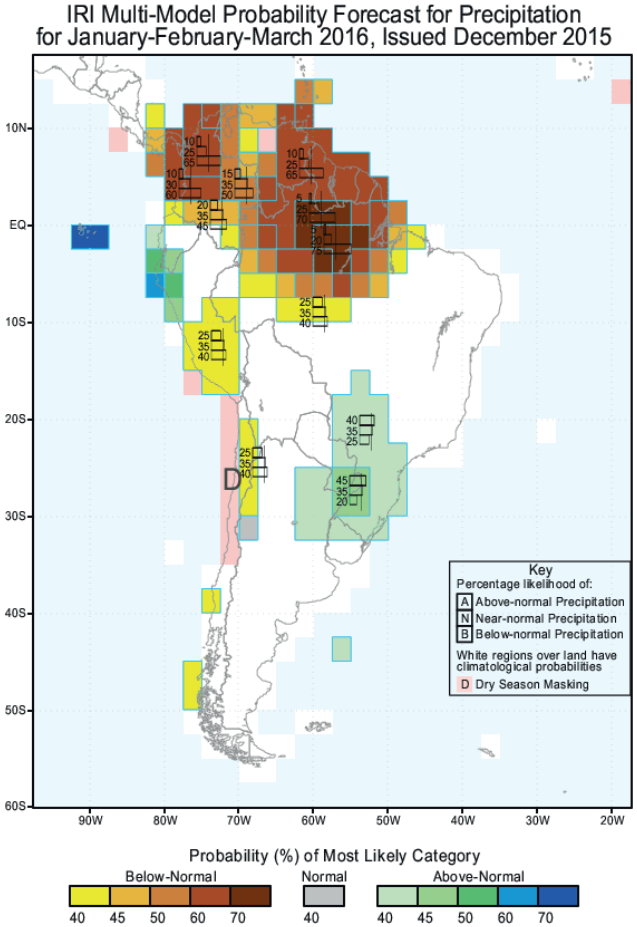
WHO PREPAREDNESS AND RESPONSE ACTIONS IN THE AMERICAS

Summary of preparedness actions taken:

- PAHO has conducted regular tele-, video- and web-conferences with Ministries of Health and Country Offices, with the participation of the Centre for the Study of the El Niño phenomenon (CIIFEN) in Ecuador.
- PAHO's Directing Council has approved a decision urging the countries to speed up mitigation and preparedness for El Niño and requesting the PAHO Secretariat to continue and strengthen its support to Member States.
- PAHO facilitated the development of the "WHO Action Plan to address adverse effects of the El Niño phenomenon" with the following priorities:
  - Preparedness: build country and WHO response capacities to address El Niño related disasters;
  - Rapid response and recovery: support efficient response in priority countries to reduce morbidity and mortality as a consequence of El Niño and provide access to health services;
  - Information management: establish a mechanism to assess the socioeconomic impact in the health sector and develop lessons learnt of the El Niño in the Americas, to share experiences between countries.



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MALNUTRITION WATER-BORNE DISEASES COMMUNICABLE DISEASES DISRUPTION OF HEALTH SERVICES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- El Niño has already created drought conditions that will last until March 2016. Widespread and prolonged drought will continue to create crop failures, especially in the "dry corridors" of Guatemala, Nicaragua, Honduras and El Salvador. 4.2 million people are currently affected in the sub-region. It is unlikely that households will be able to recover quickly from their current and future losses.

CURRENT AND PROJECTED HEALTH CONDITIONS

- The poorest households most affected by the drought are expected to be severely food insecure with increased acute and severe malnutrition, until the next harvest in August 2016.
- Water scarcity is also leading to deterioration of sanitary conditions and water quality with possible increases in skin diseases, and water-borne diseases such as acute watery diarrhoea.
- In Guatemala, 1.5 million people are affected by the drought and 500 000 are expected to face moderate-to-severe food insecurity.
- In Honduras, 1.3 million people are affected and 400 000 people are reported to be in immediate need of humanitarian assistance.
- In El Salvador 192 000 households are facing severe acute malnutrition.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- State of emergency has been declared in Guatemala and Honduras due to drought and food insecurity. Honduras and Nicaragua are implementing El Niño Drought Action Plans. Governments of Nicaragua, Honduras and El Salvador, are providing support to food production with seeds and water pumps distributions to farmers.
- PAHO/WHO is working with these countries by strengthening epidemiological surveillance, undertaking health promotion campaigns at the community level and providing essential medicines in affected areas.
- PAHO/WHO is also providing support to the Ministries of Health for 600 children with acute malnutrition and the prevention of malnutrition for approximately 10 000 people.
- A sub-regional Humanitarian Response Plan for USD 101.8 million will be launched for Guatemala and Honduras to ensure the delivery of coordinated and integrated life-saving assistance to drought-affected people.

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MALNUTRITION VECTOR-BORNE DISEASES WATER-BORNE DISEASES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Extremely warm and dry conditions are expected to continue until May 2016, and poor households in Sud, Sud-Est, Nord-Ouest, Nord-Est and Artibonite provinces are expected to be affected by food insecurity. 37 communes have been reported in severe food insecurity (IPC phase 3).

CURRENT AND PROJECTED HEALTH CONDITIONS

- Prolonged drought may cause increased food insecurity and malnutrition in many parts of the country.
- The return of thousands of Haitians from the Dominican Republic has increased pressure on scarce water and food supply along the border. Water scarcity and lack of sanitation may lead to renewed cholera outbreaks and other water-borne diseases.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- Early warning systems have been led by CNSA/ Ministry of Agriculture, FEWSNET and FAO/ GIEWS. Initiatives are in place for the reinforcement of monitoring and surveillance mechanisms and for the improvement of coordination among stakeholders.
- The humanitarian community, with the aid of technical agencies (national and departmental), has targeted rural communities and focused on food and water distribution, rehabilitation of water supply systems, and cash for work activities.
- PAHO/WHO, with UN agencies, is coordinating actions needed to manage the health effects of droughts and malnutrition, and the development of a proposal for the surveillance of quality water sources and aquifers.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Above-average rainfall is anticipated in northern Peru, possibly causing flooding and an upsurge in locusts. Extreme cold temperatures and snowfall have already created population displacement, caused loss of cattle and crops, and affected nearly 500 000 people in Puno and Pasco.
- Drought is likely to affect the southern part of Peru, reducing crop production and water availability.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Flooding may destroy crops and cause related food insecurity. It may also cause damage to health facilities and infrastructure (roads, bridges) thus reducing access to health services.
- Increased rainfall, flooding and cold temperatures may cause increased incidence of vector- and water-borne diseases and acute respiratory infections and skin lesions.
- Historically, El Niño event has been associated in Peru with an increased number of poisonous animals (snakes, spiders and scorpions).

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- The Government has deployed a response mechanism to assist affected populations. It has declared a sanitary emergency in 20 of its 24 regions in order to implement immediate protective measures in more than 700 hospitals and health centres, purchase and distribute medicines and critical supplies, and train its medical and public health response teams.
- PAHO/WHO is providing technical support and cooperation to the Ministry of Health for the development of contingency plans and risk assessments to prevent the physical and functional collapse of health facilities.
- PAHO/WHO is also supporting capacity development at the national and regional levels through training workshops on health services response, and response coordination in the water and sanitation sector in Peru's 14 regions.
- The Ministry of Health has already committed USD 5.8 million to El Niño prevention activities particularly targeting hospital maintenance at the level of its most vulnerable regions.

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VECTOR-BORNE DISEASES

WATER-BORNE DISEASES

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- Above-average rainfall is anticipated in south-west Ecuador and the border frontier with northern Peru throughout January–May 2016, which could cause flooding.

CURRENT AND PROJECTED HEALTH CONDITIONS

- Flood disasters can affect health facilities and reduce access to health services in the long term.
- Wetter conditions also create conditions for increased incidence of vector and water-borne diseases. For instance, in 1997-98 malaria outbreaks increased by 440%.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- PAHO/WHO is working with national institutions to support the review of the national contingency plan.
- The response capacity of the health sector has been strengthened through Rapid Response Teams training, and the delivery of several training workshops on SUMA/LSS, Mental Health in Disasters, Hospital Disaster Planning and Incident Command System for Hospitals. There has also been provisional support to the Ministry of Health in order to improve the management of its Situation Room.

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EL NIÑO FORECAST AND HUMANITARIAN CONSEQUENCES

- In Bolivia, below-average rainfall is predicted in the plains region, which could increase the number of already food insecure people.
- Above-average rainfall is anticipated in the Gran Chaco/Paraná region from November 2015 to May 2016. At least 170 000 people have already been displaced due to intense flooding. Conditions are expected to be worse in the coming months.
- In December 2015, the government of Paraguay declared an emergency situation due to floods. 90 000 people have been displaced in six of the 17 provinces as well as in its capital, Asuncion, where 26 000 families have been already affected. Almost 16 000 families have been displaced from low-lying areas in makeshift shelters without adequate infrastructure and services.
- In Southern Brazil, 12 cities have already been flooded and 8 000 people evacuated. At least 6 000 persons have been displaced in Uruguay and 20 000 people in Argentina.

CURRENT AND PROJECTED HEALTH CONDITIONS

- In Bolivia, food insecurity and nutrition conditions may worsen as a result of the El Niño-related drought that will peak in early 2016. This could be especially true for those who have been previously affected by floods earlier this year. In August 2015, the WFP assessment had indicated that 15 000 people were in need of food assistance in the five most affected municipalities.
- In Paraguay, in December 2015 five health centres of Asuncion were destroyed by the flooding. The emergency and disaster unit of the Ministry of Public Health (ASANED) is conducting an assessment of the conditions of health infrastructure in municipalities affected by floods.
- Generally in the Gran Chaco and Paraná region, wetter conditions lead to an increased incidence of vector and water-borne diseases, diarrhoea, dysentery and skin lesions.

HEALTH PREPAREDNESS AND RESPONSE ACTIONS

- In Bolivia, PAHO/WHO supported the Ministry of Health in the development of a training workshop on preparedness for El Niño in the country's nine Administrative Departments. The PAHO office is ready to facilitate emergency procedures if need be.
- In Paraguay, PAHO/WHO has supported the review of a contingency plan to address adverse effects caused by El Niño. Paraguay health sector response capacity has been strengthened through the provision of support to the Ministry of Public Health. Health emergencies rapid response teams have been deployed in order to improve the management of Situation Rooms in six provinces. Furthermore, PAHO/WHO is supporting the National Emergency Secretariat (SEN) and the Ministry of Public Health to strengthen its information system.
- By December 2015 the Government of Brazil had committed USD 1.8 million in aid for the affected areas.

*INFORM (Index for Risk Management) is a global risk assessment index for humanitarian crises and disasters: http://www.inform-index.org/