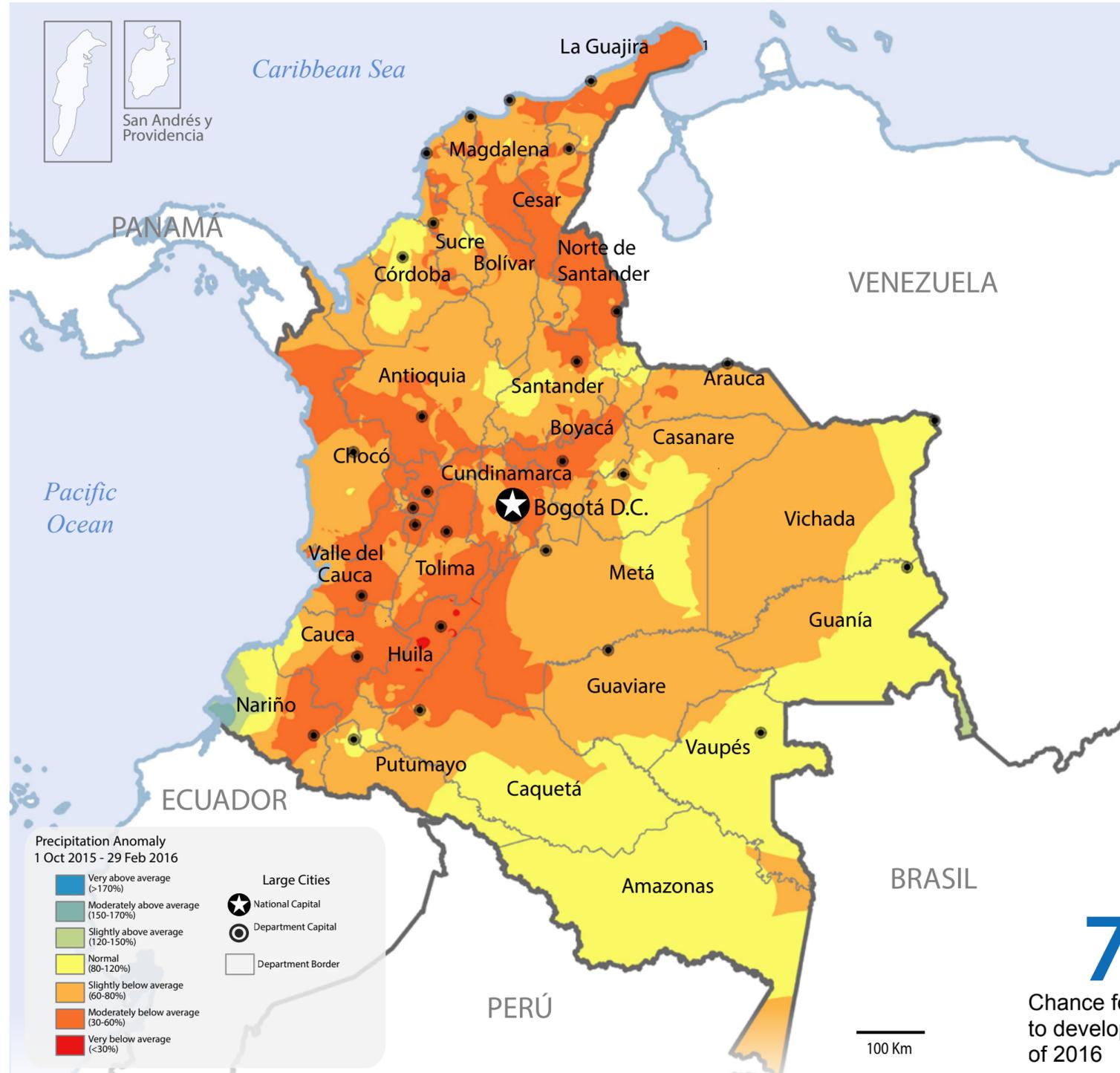El Niño in early 2016 continued to severely affect the North Andes region of South America. Based on IDEAM data, UNITAR-UNOSAT[1] identified rainfall anomalies for the period between October 2015 and March 2016, which are well below average precipitation for the Caribbean region of Colombia (See central map).

Precipitation Anomalies

EL NIÑO: GLOBAL IMPACT

The 2015-16 El Niño event passed its peak strength, but remains strong and continues to influence global climate patterns. It is expected to continue to weaken over the coming months, with models indicating a return to ENSO-neutral during the second quarter of 2016. At the end of the first quarter of 2016, El Niño continued to impact the weather conditions in Latin America and the Caribbean, with persistent drought in Central America, parts of South America.

IMPACT IN COLOMBIA

According to the Colombian Ombudsman's Office[2] 558,000 people were affected by El Niño in just the Caribbean and Andean regions; along with 397,000 hectares and 225,000 livestock (sources of food and livelihoods for communities in the region). Also 313 people were displaced from a rural area of Bolivar department. The displacement occurred after a prolonged drought that created humanitarian needs in food security, nutrition, water, basic sanitation and hygiene. The community fled to the municipal seat and was in temporary shelters.

Map labels: San Andrés y Providencia; Caribbean Sea; La Guajira; Magdalena; Cesar; Sucre; Bolívar; Norte de Santander; Córdoba; PANAMA; VENEZUELA; Antioquia; Santander; Arauca; Boyacá; Casanare; Chocó; Cundinamarca; Bogotá D.C.; Vichada; Valle del Cauca; Tolima; Metá; Pacific Ocean; Cauca; Huila; Guanía; Nariño; Guaviare; Vaupés; Putumayo; Caquetá; ECUADOR; Amazonas; BRASIL; PERÚ; 100 Km

Precipitation Anomaly 1 Oct 2015 - 29 Feb 2016
- Very above average (>170%)
- Moderately above average (150-170%)
- Slightly above average (120-150%)
- Normal (80-120%)
- Slightly below average (60-80%)
- Moderately below average (30-60%)
- Very below average (<30%)

Large Cities
- National Capital
- Department Capital
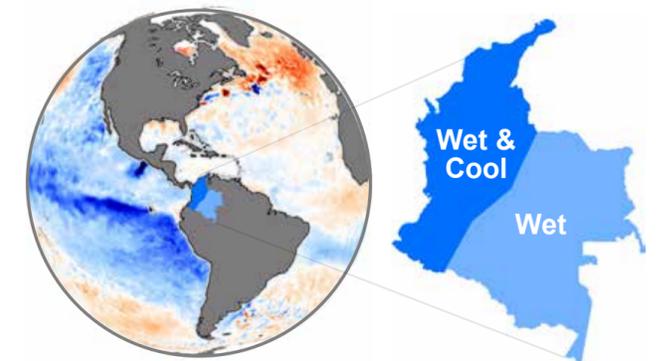- Department Border

SECTORAL IMPACTS

The El Niño event had a significant impact on agricultural production, rural employment, household income and food access, affecting vulnerable populations.

Additionally, this event caused water shortages for human consumption and for hygiene practices, affecting living conditions from the communities located principally in rural areas. The level of rivers such as Cauca and Magdalena also experienced a decrease.

5.5 million[3]
People are currently affected by dry conditions or drought.

FORECAST FOR LA NIÑA

There is historical tendency for La Niña event to follow strong El Niño events. The current conditions are favorable for a La Niña event to emerge by September coinciding with the rainy season. In heat content in the central Pacific dropped below average in March for the first time in a year

Wet & Cool
Wet

70%
Chance for La Niña conditions to develop by the last quarter of 2016

The map shows typical conditions of La Niña for Colombia and the Pacific Ocean. Map based on La Niña events of 2007 and 2010.

1. UNITAR-UNOSAT has helped OCHA country office in Colombia with relevant data on the impact of El Niño event in the country.
2. Defensoria del Pueblo (Febrero 22, 2016). Defensoría registra inusual desplazamiento masivo por Fenómeno de El Niño - http://goo.gl/rMdfGE.
3. Data calculated based on the comparison between temperature anomalies terrain and population.

In the period between the 1January 2015 and 16 May 2016 the Unidad Nacional para la Gestión del Riesgo de Desastres - UNGRD [4] reported 779,922 people affected by natural disasters for the entire country.[5] This number does not make reference to people directly impacted by El Niño and includes people affected by natural disasters in general. UNITAR-UNOSAT analysis identified NDVI [6] anomalies, which indicates an alternative measure of the relative vegetation health as a proxy to detect potential drought. UNITAR-UNOSAT also identified significant values of active fires, showing intense fire activity in January 2016 throughout northeastern Colombia.

Vegetation indicators of drought

The maps below illustrate monthly vegetation conditions in Colombia by analysing the vegetation changes (NDVI anomaly) [7] for the period between October 2015 and February 2016.

Oct 2015   Nov 2015   Dec 2015   Jan 2016   Feb 2016
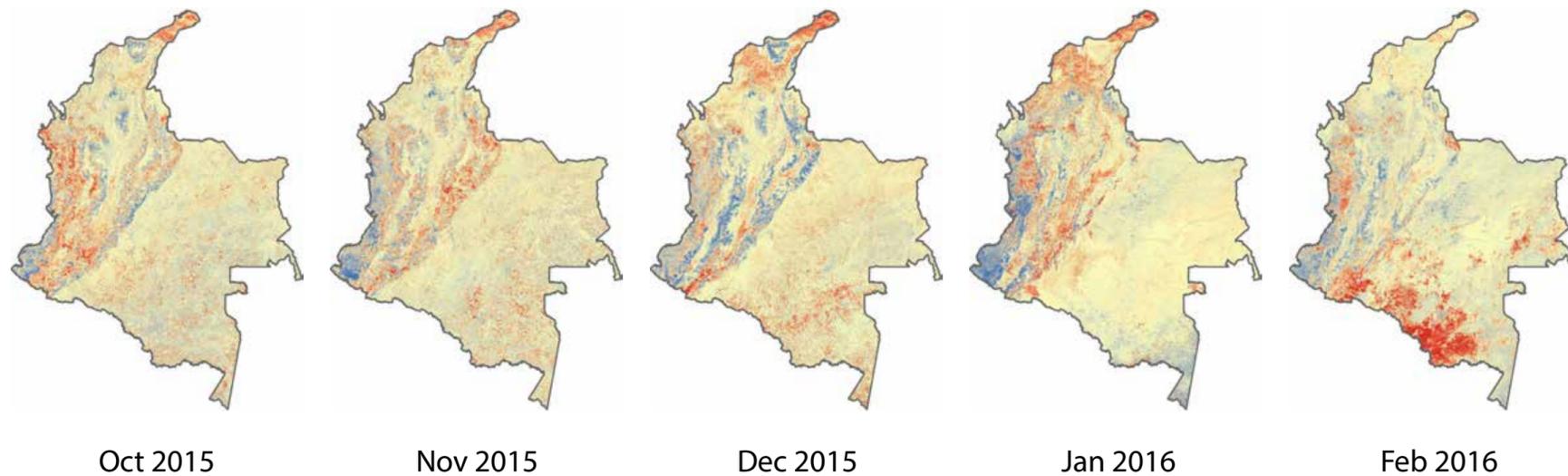
The NDVI anomalies identified by UNITAR-UNOSAT analysis, indicates significant drought related conditions throughout the Amazonia region in February 2016. This information was collected by NASA-MODIS (Moderate Resolution Imaging Spectroradiometer). This analysis estimates that potentially affected agricultural land in the country was ~100,000 km2 during the period between January and February 2016.

Vegetation Conditions

Better than normal

Normal

Worse than normal
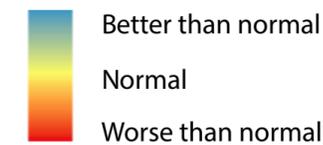
Departments affected by fires

The map below shows satellite-detected active fires, collected by the NASA Moderate Resolution Imaging Spectroradiometer. This analysis is based only on high-confidence data detected by MODIS.

Oct 2015   Nov 2015   Dec 2015   Jan 2016   Feb 2016
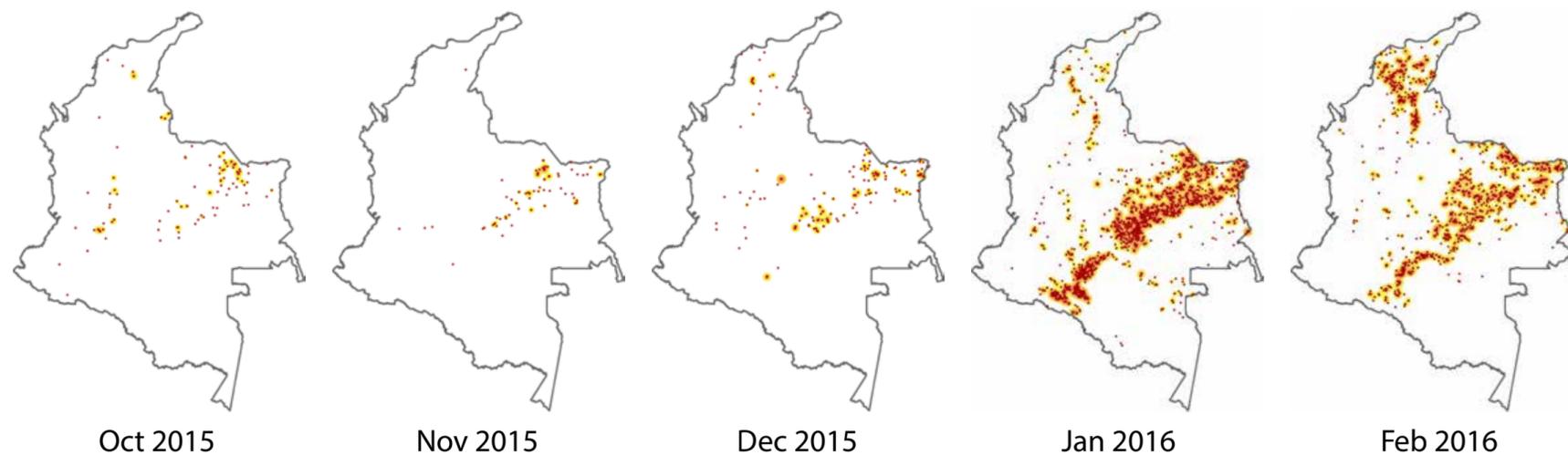
According to UNITAR-UNOSAT, significant values of satellite-detected active fires were detected by NASA-MODIS and show an intense fire activity in January 2016 throughout northeastern Colombia, the most affected departments were: Meta, Vichada, Caquetá and Casanare. Fire detections in these departments fell during February 2016, with a light increase registered in the northern part of the country, particularly for Bolívar, Arauca and Magdalena departments.

■ Fire Outbreak Detected

The boundaries and names shown and the designations used on all maps do not imply official endorsement or acceptance by the United Nations. The information on natural disasters presented here is taken from SIGPAD National Disaster Database. Creation date: March14 2016 Data Sources: 1.SIGOT-IGAC, 2.NOAA, 3.SIGPAD-UNGRD cut off: 31 dec 2015 (Including accidents and estructural fires) Feedback: contacto@umaic.org, http://www.salahumanitaria.co.

4. National Disaster Management Unit.
5. Taking the following categories of natural disasters : flood, torrential Avenue, sudden rising, sliding, erosion, hail, forest fire, flood, drought, lightning and windstorm.
6. The Normalized Difference Vegetation Index (NDVI) is a simple graphical indicator that can be used to analyze remote sensing measurements, typically but not necessarily from a space platform, and assess whether the target being observed contains live green vegetation or not.
7. ibid.