

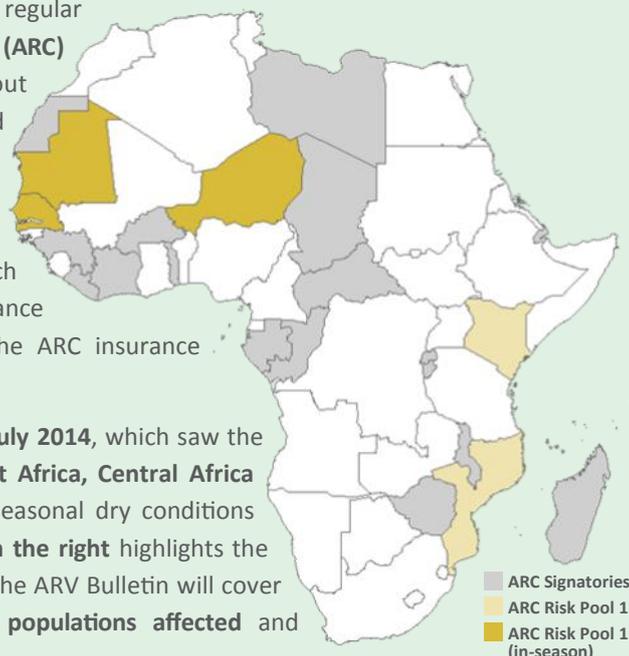
Highlights:

- **Rainfall:**
 - Below normal rains in most of **West Africa** during the month of July 2014
 - Higher than normal precipitations in parts of **East Africa** (Sudan, Ethiopia and Eritrea)
- **Drought:**
 - ARV estimates that planting has not been possible in large parts of central and western **Senegal** due to poor rains
 - In **Niger**, sowing has started across all agricultural areas, but late with below average rains in some areas
 - Planting conditions have already been reached in some parts of **Mauritania**, while the sowing window extends until mid-August
- **Potentially Affected People:**
 - Over **600,000 people** are highly likely to be affected by drought in **Senegal** by the end of the current season, according to ARV's estimates
- **Insurance:**
 - Kenya, Mauritania, Mozambique, Niger and Senegal form the **first continental risk pool**
 - **Three ongoing seasons** (Senegal, Niger and Mauritania) are **currently insured**

INTRODUCTION

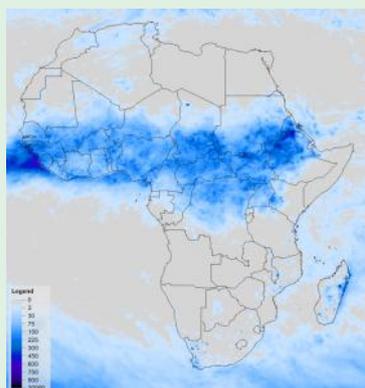
The *Africa RiskView (ARV) Bulletin* is a regular publication of the *African Risk Capacity (ARC) Agency*. It provides information about current **rainfall developments** as detected by ARV, and their potential **impact on vulnerable populations**. It also provides updates on **estimated response costs** to assist potentially affected people, which are the underlying basis of the insurance policies for countries participating in the ARC insurance pool.

This month's issue covers the month of **July 2014**, which saw the continuation of the rainy season in **West Africa, Central Africa** and the northern parts of **East Africa**. Seasonal dry conditions persisted in **Southern Africa**. The **map on the right** highlights the countries on which this issue will focus. The ARV Bulletin will cover the following topics: **rainfall, drought, populations affected** and update estimates on **response costs**.

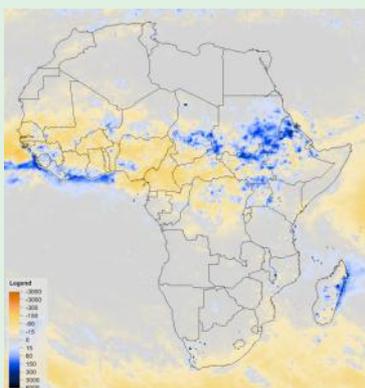


RAINFALL

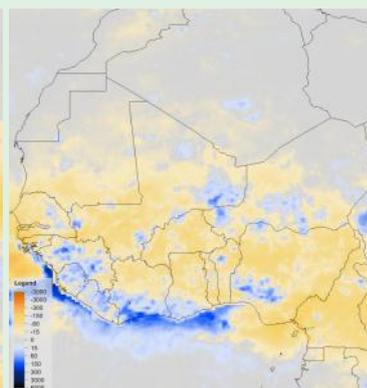
During the reporting month, most countries in **West** and **Central Africa** experienced significant rainfall, as indicated by the cumulative rainfall map below. In **East Africa**, Uganda, South Sudan, Sudan and northern Ethiopia are currently in their main rainy season, while the rest of the continent remained mostly dry in line with seasonal patterns (see Map 2).



MAP 2: CUMULATIVE RAINFALL (JULY 2014)



MAP 3: RAINFALL COMPARED TO NORMAL (JULY 2014)



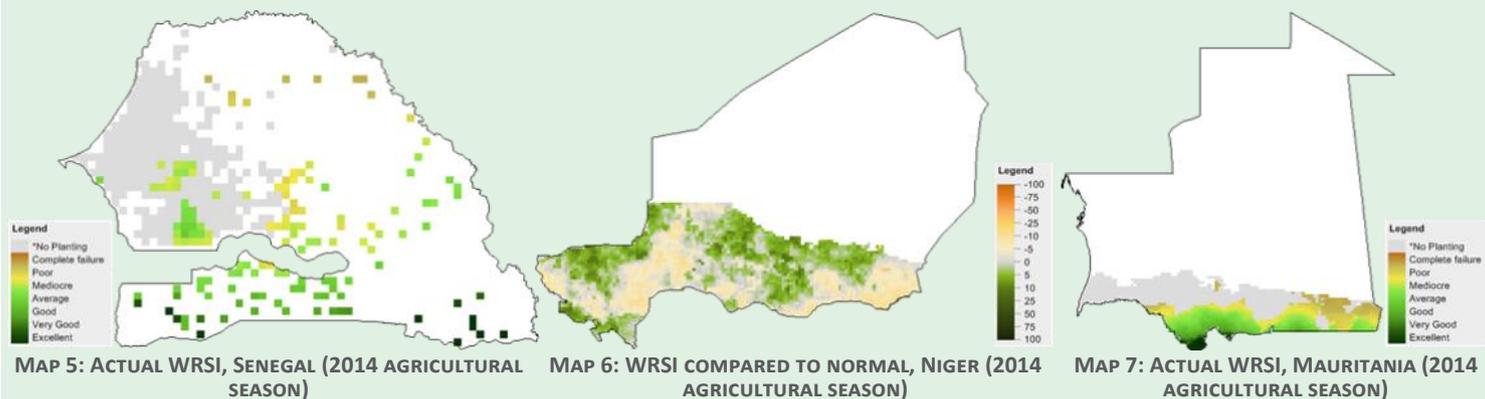
MAP 4: RAINFALL COMPARED TO NORMAL, WEST AFRICA (JULY 2014)

Compared to the long-term average, the July rains were above normal in East Africa, particularly in parts of South Sudan, eastern Sudan, northern Ethiopia and Eritrea. Parts of central Chad also received higher than normal rainfall (see Map 3). Rains along the coast of Guinea, Sierra Leone, Liberia and Cote d'Ivoire in **West Africa** were also above normal. However, most of the Sahel experienced poor rains, especially Mali, Burkina Faso and Senegal (Map 4). While the first two had experienced good rains in June (covered in the previous issue of the ARV Bulletin), Senegal has experienced its second consecutive month of well below average rains.

DROUGHT

ARV uses the **Water Requirements Satisfaction Index (WRSI)** as an **indicator for drought**. The WRSI is an index developed by the *Food and Agriculture Organisation of the United Nations (FAO)*, which, based on satellite rainfall estimates, calculates whether a particular crop is getting the amount of water it needs at different stages of its development. To maximise the accuracy of ARV, **countries intending to take out insurance customise the software's parameters** to reflect the realities on the ground. This issue of the ARV Bulletin will discuss insured countries that are currently in season.

Ongoing seasons:



Senegal (2014 agricultural season): The agricultural season in Senegal spans from mid-May to mid-December. The period between May and July marks the sowing window, when farmers usually sow seeds for the reference crop (in the case of Senegal groundnut). Due to below normal rainfall during this season however the **conditions for the start of sowing activities were not reached in most of central and western Senegal**, as the grey areas on the map above highlight (see Map 5). This indicates **drought conditions similar to 2002, 2004 and 2011**. The situation is currently being verified on the ground, however it is in line with recent agro-meteorological reports from national institutions. In localised areas of central and western Senegal, as well as in the southern and eastern parts of the country, ARV estimates that the rains received during the sowing window were sufficient to allow for planting activities to start normally. Compared to the previous month, planting started only in a few localised areas in south-western and central Senegal (Kolda and Kaolack regions).

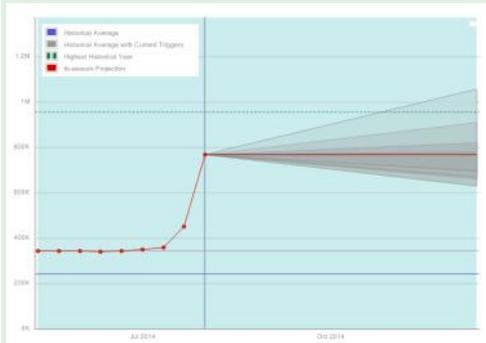
Niger (2014 agricultural season): While Niger experienced mixed rainfall during the first three months of its agricultural season (May to July), ARV estimates that **the rains were sufficient to allow for sowing activities to start throughout all agricultural areas** in the country. However planting rains were only received in the last dekad of July in some northern and eastern parts of the country, two dekads later than average. The WRSI shows mixed trends and is slightly below normal in some areas (see Map 6). However, it is **too early to predict the performance of this year's harvest**, which will be determined by the progression of the seasonal rains over the coming dekads.

Mauritania (2014 agricultural season): The agricultural season in Mauritania started in July and extends until late November. So far, **sowing activities have started in the south-eastern parts of the country** (see Map 7). In areas where sowing has not occurred yet farmers still have enough time to plant if the rains arrive by the end of the sowing window in mid-August. Nonetheless, the situation needs to be monitored closely, particularly in the western parts of the country, given the poor rains that Mauritania and neighbouring Senegal have experienced so far.

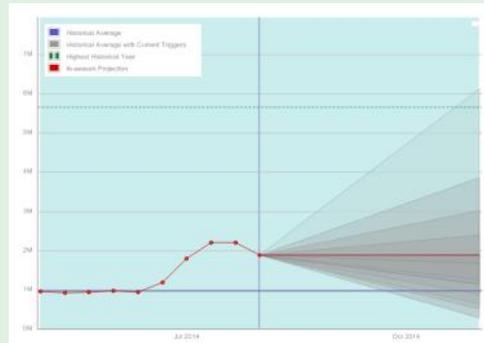
AFFECTED POPULATIONS

Based on the WRSI calculations discussed in the previous section of this bulletin, ARV estimates the **number of people potentially affected by drought** for each country participating in the insurance pool. As part of the in-country customisation process, **vulnerability profiles** are developed at sub-national levels for each country, which define the potential impact of a drought on the population living in a specific area. It is important to note that not all those affected by a drought might be in need of humanitarian assistance. Moreover, humanitarian needs are often driven by a variety of factors including but not limited to the weather. This bulletin reviews the affected population estimates and projections for countries insured and in-season.

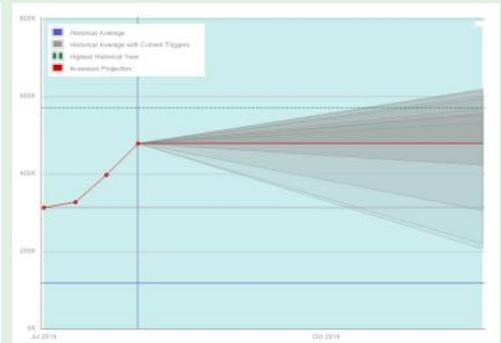
Ongoing seasons:



GRAPH 1: IN-SEASON ESTIMATED POPULATION AFFECTED, SENEGAL (2014 AGRICULTURAL SEASON)



GRAPH 2¹⁾: IN-SEASON ESTIMATED POPULATION AFFECTED, NIGER (2014 AGRICULTURAL SEASON)



GRAPH 3: IN-SEASON ESTIMATED POPULATION AFFECTED, MAURITANIA (2014 AGRICULTURAL SEASON)

Senegal (2014 agricultural season): As discussed above, the rainfall threshold for the start of sowing activities was not attained in large parts of Senegal. As a result, the number of people potentially affected by drought has experienced a sharp increase during the last dekad of July (21–31 July 2014), as the graph above illustrates (see Graph 1). ARV estimates that currently **nearly 770,000 people are affected by no planting or below normal crop development**. Depending on the rainfall during the remainder of the season in those areas where planting was possible, this figure is likely to **develop within a range from 630,000 people** (if the rains perform as well as in 2003 or 2009) **to over 1 million people**, if the rains perform as poorly as they did in 2001 or 2002. In relative terms, this means that Senegal might experience **one of its worst seasons since 2001**.

Niger (2014 agricultural season): Given that planting did occur in most agricultural areas during the sowing window, with late rains received in the last dekad of July in some parts, the estimated population affected in Niger has declined slightly over the last dekad after experiencing an increase in early July (see Graph 2). Currently, it is **estimated that around 2.2 million people will be affected by drought** in the country by the end of the season, if normal rains are received. However, this figure could decrease to around 283,000 people in case of good rains such as in 2012, or increase to over 6.1 million if poor rains are received, as in 2004.

Mauritania (2014 agricultural season): Due to below normal rains in the first weeks of the rainy season, the affected population graph for Mauritania shows a slight upward trend since the start of the season (see Graph 3). It is however **too early to predict how the season will develop**, given that the country just entered its agricultural season and there is time for planting to start across all agricultural areas in the country. Historically, Mauritania has experienced two major droughts since 2001, in 2002 and 2011. In both years, around 570,000 people were directly affected according to ARV estimates.

RESPONSE COST ESTIMATION

In a fourth and final step, ARV converts the numbers of affected people into **response costs**. For countries participating in the insurance pool these national response costs are the **underlying basis of the insurance policies**. Pay-outs will be triggered from the ARC Insurance Company Limited to countries where the estimated response cost **at the end of the season** exceeds a pre-defined trigger specified in the insurance contracts. This bulletin will monitor the **progression of estimated response costs** for countries which are **in-season** and have **insured** their respective seasons. Currently, **five countries form the first ARC risk pool** (Kenya, Mauritania, Mozambique, Niger and Senegal). Three of these (Senegal, Niger and Mauritania) have active rainy seasons during the reporting month:

Senegal (2014 agricultural season): As mentioned above, Senegal is experiencing **drought conditions** during the ongoing season, given that planting was inhibited by below normal rains in some agricultural areas. In the ARV model, the end-of-season population affected estimate is converted into a modelled drought response cost at a fixed USD 102 per person response cost selected by the country. Historically, Senegal has experienced three bad seasons since 2001 (in 2001, 2002 and 2011), each of which would have triggered a pay-out by the ARC Insurance Company Ltd given the risk transfer parameters selected by the country. Taking into account

¹⁾ **Note on Niger in-season estimated population affected graph:** The graph above was calculated using rainfall data from 2001 onwards, while during the customisation process Niger selected the ARC2 rainfall dataset which starts in 1983. The in-season estimates and projections thus differ from the desktop version of ARV.

About ARC:

- The **African Risk Capacity (ARC)** is a specialised agency of the African Union designed to improve the capacity of AU Member States to manage natural disaster risk, adapt to climate change and protect food insecure populations.
- The **Africa RiskView (ARV)** software is the technical engine of ARC. It uses satellite-based rainfall information to estimate the cost of responding to a drought, which triggers a corresponding insurance pay-out.
- The **ARC Insurance Company Limited** is the commercial affiliate of the ARC Agency, which pools risk across the continent through issuing insurance policies to participating countries.

the poor performance of this year's season to date relative to these historical cases, a **pay-out is highly likely at the end of Senegal's insurance contract period**. The ARC Secretariat has thus started discussions with the Government of Senegal regarding a potential pay-out.

Niger and Mauritania (2014 agricultural season): Given that in the case of Niger, planting opportunities have now occurred in all agricultural zones, it is still **too early to forecast the outcome of the season** in terms of the number of affected people and consequently on the estimated response cost. Given the mixed performance of the rains received to date, the next month will be critical for the country. The same applies to Mauritania, where planting is currently underway. Historically, Niger has experienced one severe and several milder drought events since 2001, of which the poor performance of the 2004 season would have led to a pay-out if the current selection of risk transfer parameters is applied. In Mauritania, the two severe droughts in 2002 and 2011 would have led to a pay-out given the current risk transfer parameters the country has chosen in the context of its participation in ARC. Both countries will be monitored closely over the next few dekads.

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