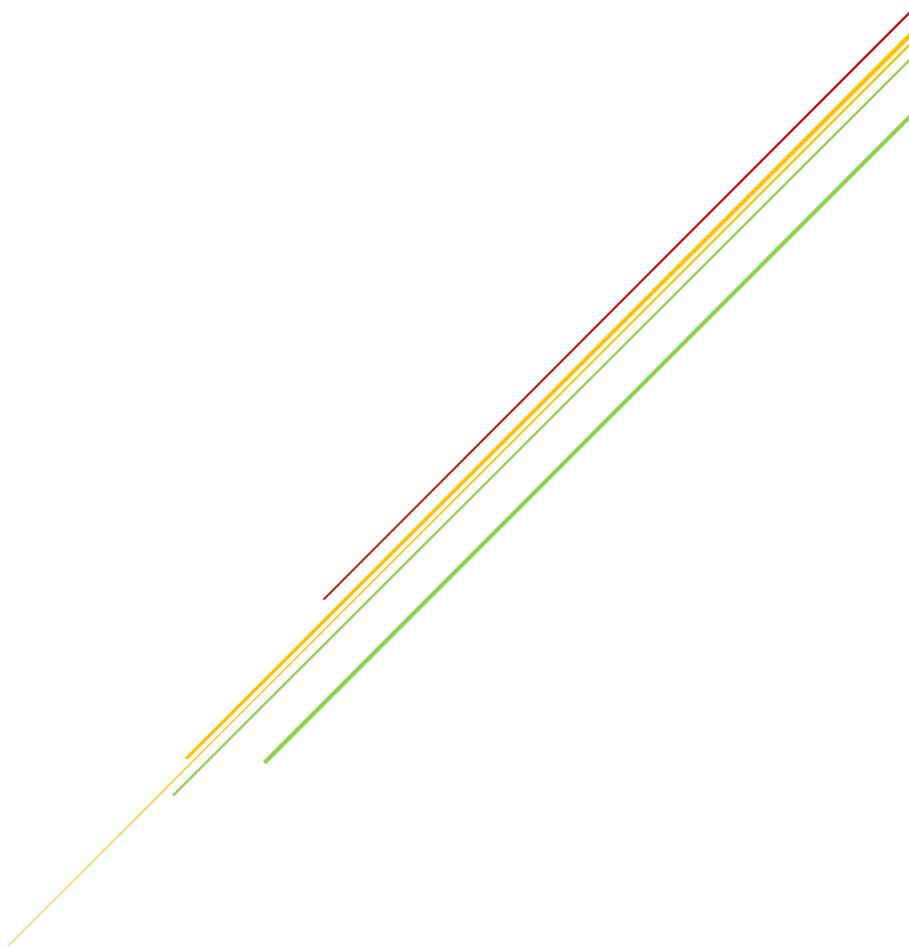


## Summary Information

The Eastern Nile Flood Forecast and Early Warning (EN-FFEW) project, since its establishment, is one of important component of ENTRO's activities that continuously has been conducted since 2010 in every flood season (June-September). The FFEW activities strengthened regional collaboration and in overall reduced the risks of flood devastation for 2.2 million people in the region to present, despite preserving its environmental benefits. Many flood prone areas in the EN river systems are significantly affected by both recurrent riverine floods and flash floods.

The 2020 flood season, flood forecasting and monitoring activities, are carried out for Lake Tana, Baro-Akobo-Sobat, Blue Nile, Tekeze-Setit-Atbara basins. The forecast uses the WRF forecast (the GFS forecast is used, otherwise) to estimate the peak floodwater levels and peak runoff. The MIKE Operation uses GUI to visualize the forecast information and analyze forecast products generated by the hydrological and hydraulic models.



Forecast Date

September 15, 2020

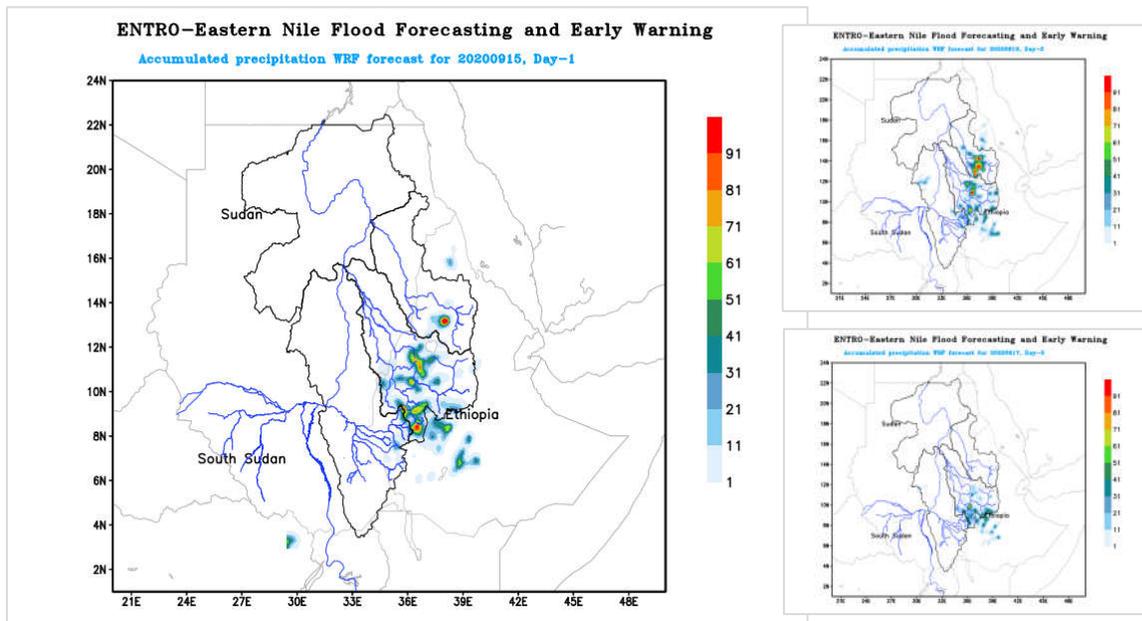


Eastern Nile **Forecasts** and **Links** with the current forecast Information

I. Summary of **Rainfall Forecasts**, please refer the table and spatial maps below.

Days	Flood prone areas	Rainfall forecast (mm), WRF model	
		Peak rainfall expected	Locations where heavy rainfall is expected
<b>Day-1</b> 15-SEP	EN	80+	In upper BN and TSA sub-catchments
	Lake Tana, LT	20+	In upper and lower Tana sub-catchments
	Blue Nile, BN	80+	In upper sub-catchments of Ethiopian highlands
	BAS	30+	In upper highlands and sub-catchments
	TSA	80+	In some part of upper sub-catchments
<b>Day-2</b> 16-SEP	Lake Tana, LT	10+	In Tana sub-catchments
	Blue Nile, BN	80+	In upper BN sub-catchments
	BAS	30+	In upper and lower sub-catchments
	TSA	80+	In upper sub-catchments
<b>Day-3</b> 17-SEP	EN	80+	In upper BN sub-catchments

The rainfall forecast made on 15<sup>th</sup> of September, 2020 for the Easter Nile region indicates light to moderate to heavy rainfall events in many areas for the coming three days. On the forecast day, the rainfall forecast shows light to heavy rainfall events in upper BN and TSA sub-catchments with expected amounts of rainfall of 80mm and above. On September 16, the rainfall intensity relatively increased its strength with extended spatial distribution in upper TSA sub-catchments with the expected amount of 80mm and above. On the 17<sup>th</sup> of September, the rainfall strength and spatial coverage in EN basin relatively decreased and concentrate in upper BN sub-catchments in the Ethiopian high land areas. Based on the heavy rainfall incidences in many parts of the region, there may be expected flooding events triggered in some pocket flood prone areas, and may impact localities and infrastructures.

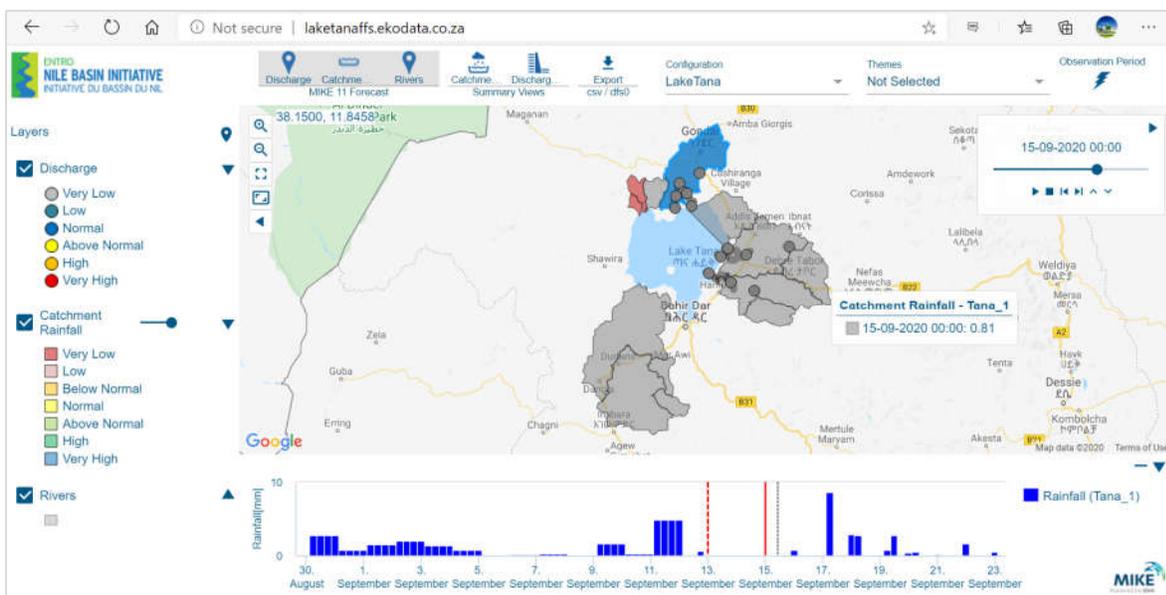


II. Summary of **Flood Forecast**, please refer maps below and each directive links where detail forecast information is available to each flood forecast areas.

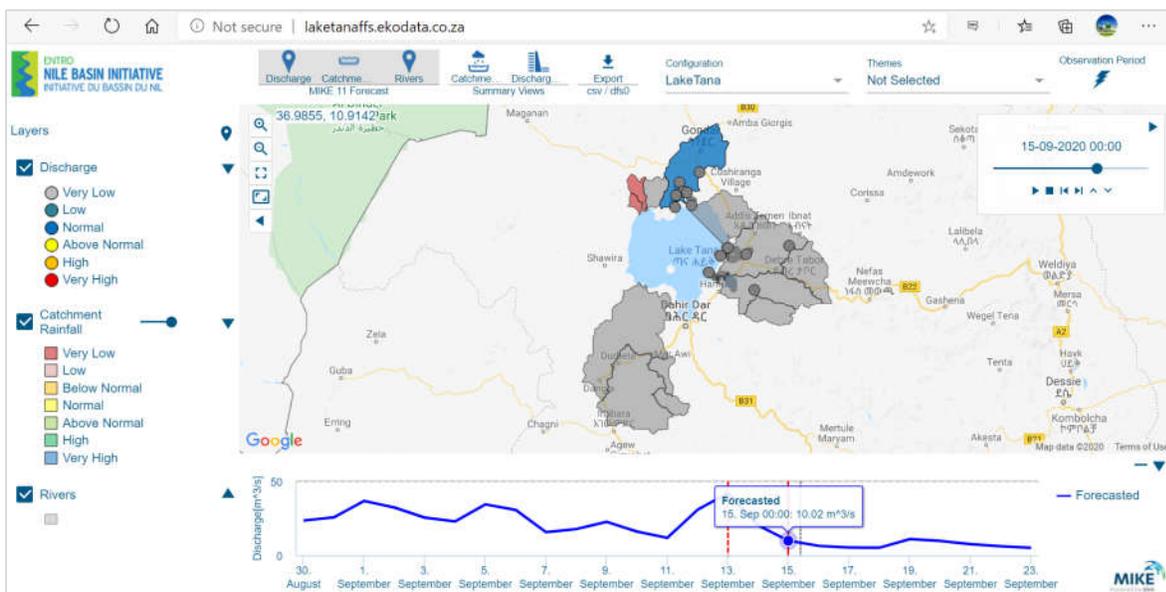
1. **Lake Tana**: the real-time forecast for Lake Tana is available at [Lake Tana](#), which redirects to the page where the forecast information is located.

Undernote described instance forecast information as presented in the [link](#). The catchment average rainfall that trigger a peak runoff over Tana\_1 and Tana\_4 sub-catchments have significant contribution for Ribb river, Tana\_2 and Tana\_3 sub-catchments for Gumara river and have contributions of flooding over Fogera floodplain. Similarly, the runoff over Denbia floodplain from Megech (Tana\_5) and Dirma upland catchment have contributions over Denbia floodplain, see figures below.

The peak river flow at Gumara gauging station induced from some peak rainfall events from Tana\_1 sub-catchment. It may impact the local communities residing along the river courses, river banks and over the Fogera flood prone areas.



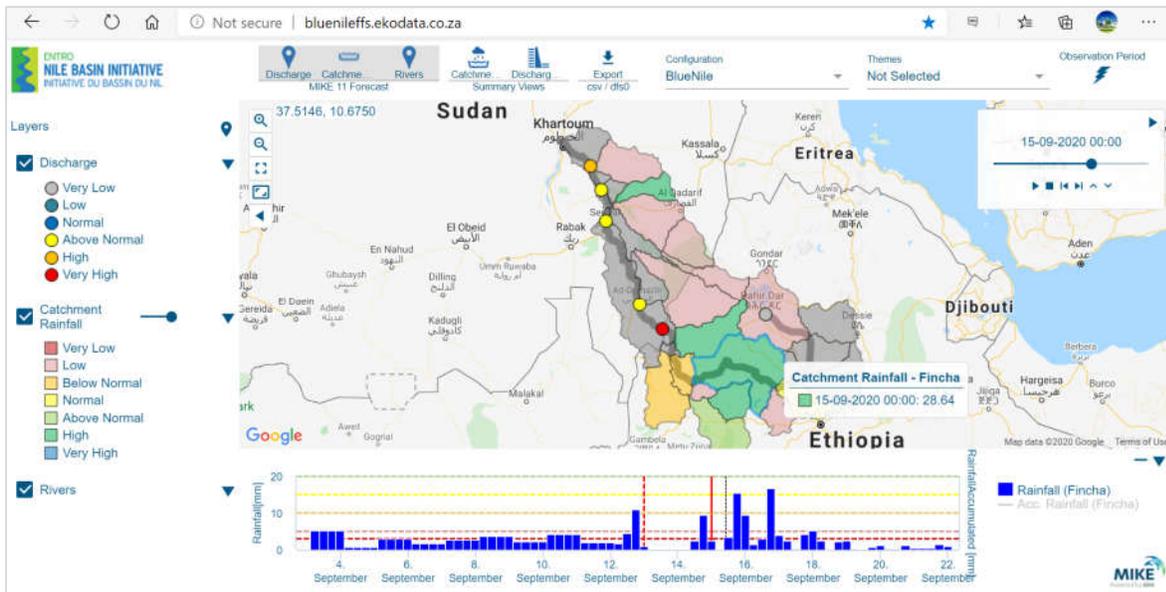
Rainfall forecast for lake Tana (Tana\_1)



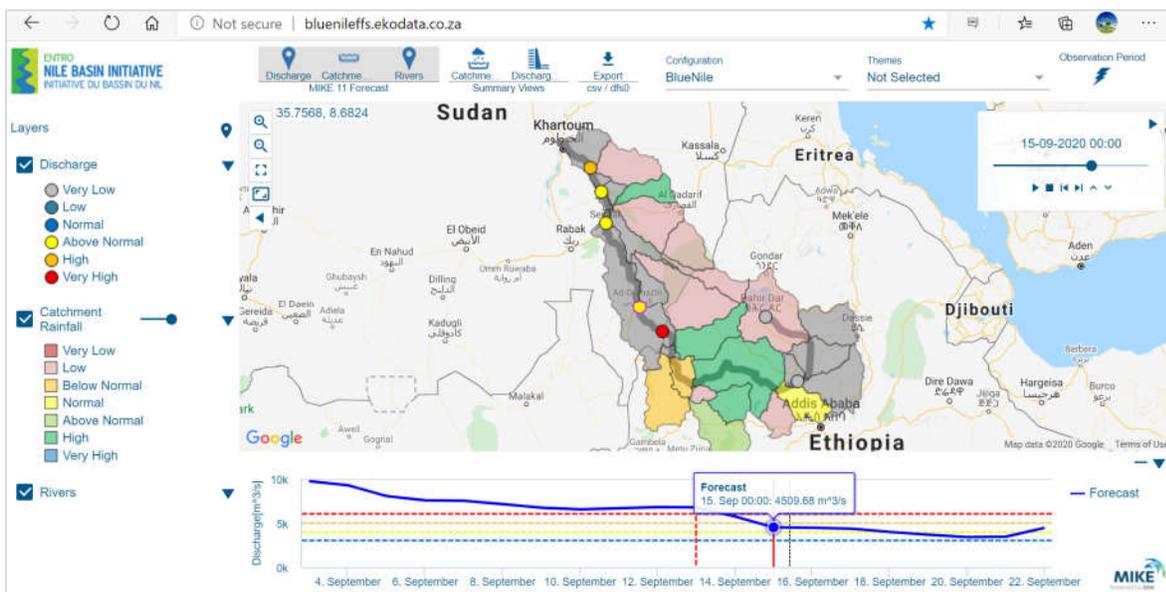
Runoff forecast for lake Tana (Gumara station)

2. **Blue Nile:** the flood forecast for Blue Nile is available at [Blue Nile](#), which redirects to the page where the forecast information is located.

Here is a screenshot which describes instance forecast information as presented in the [link](#). The average rainfall to trigger peak runoff from the upland sub-catchments in Ethiopia has significant flows contributions in the Blue Nile river system. In this forecast, the runoff at Roseries receives from upstream and routes downstream through Sennar, Madani and other downstream river gauging stations increases and may impact the local communities living along the river courses and river banks, and of course infrastructures over flood susceptible areas.



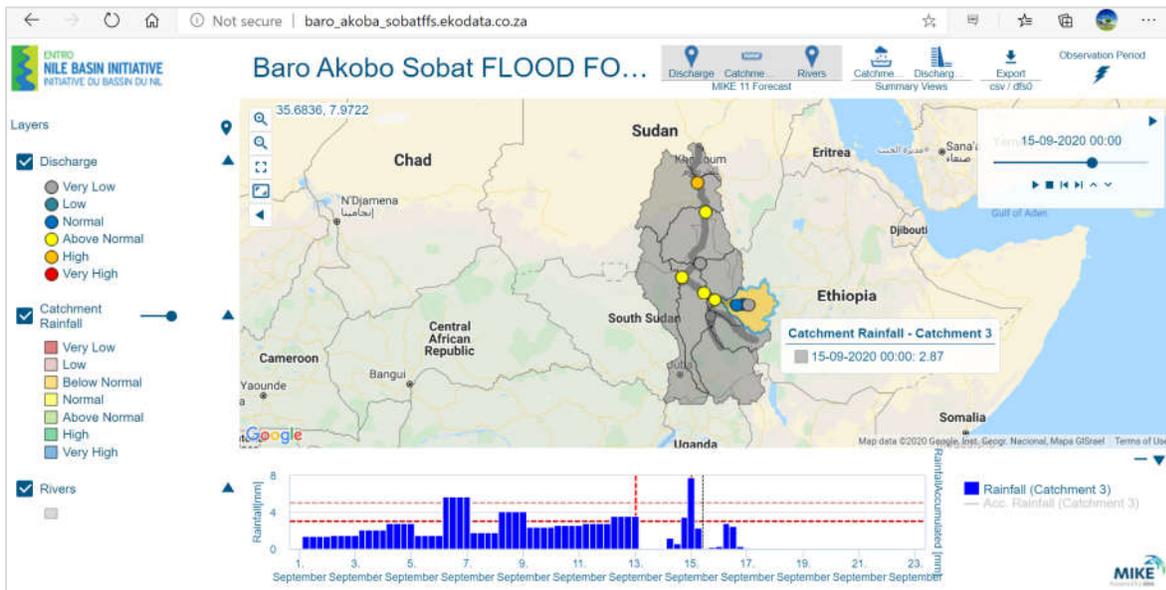
Rainfall forecast for BN (Fincha)



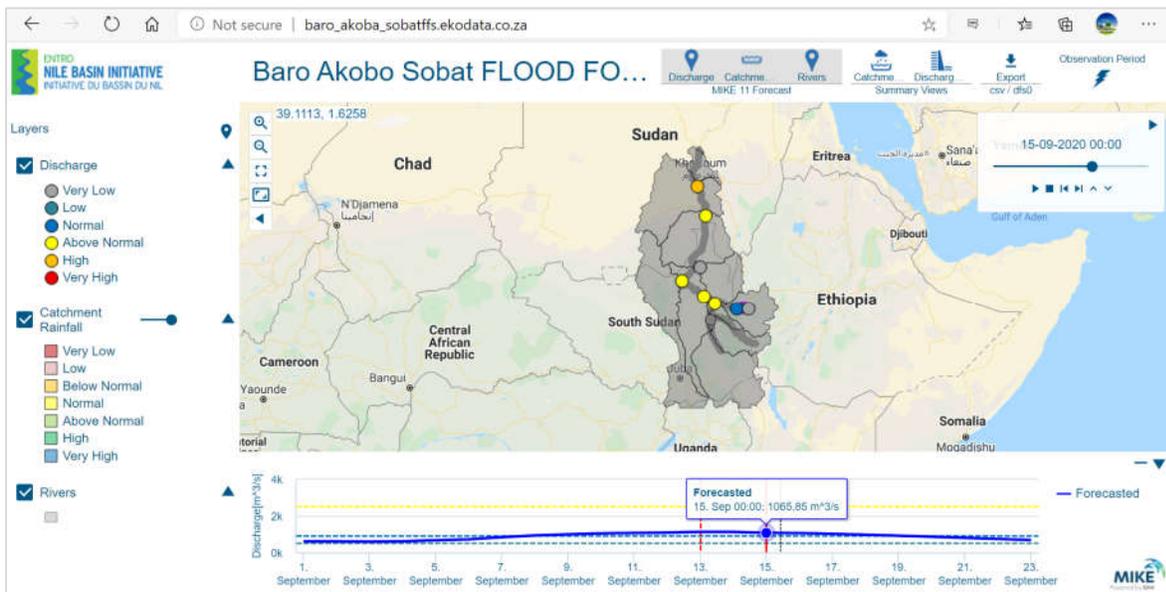
Runoff forecast for BN (Roseries)

3. **BAS**: the flood forecast information for Baro-Akobo-Sobat is available at [BAS](#), which redirects to the page where the forecast information is located.

The undernote describes instance forecast information for BAS as presented in the [link](#). The average catchment rainfall from the upland sub-catchments has significant runoff contributions at the catchment outlet points in the downstream. The average rainfall induced from Catchment 3 triggers to get moderate runoff in the Baro river at Gambella and routed to downstream Itang, and Sobat after joining the Akobo river, see figures below. This may have less impact on the local communities living along the river courses and river banks and the flood prone areas. Please also aware that the heavy rainfall is expected in the White Nile and may affect people in the area.



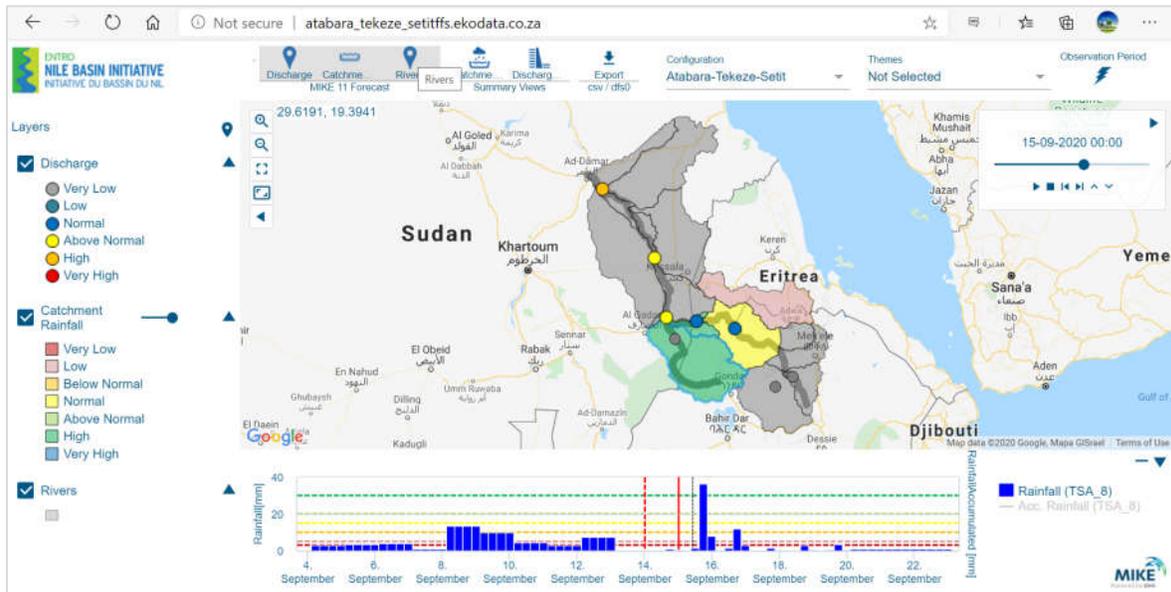
Rainfall forecast for BAS (Catchment 3)



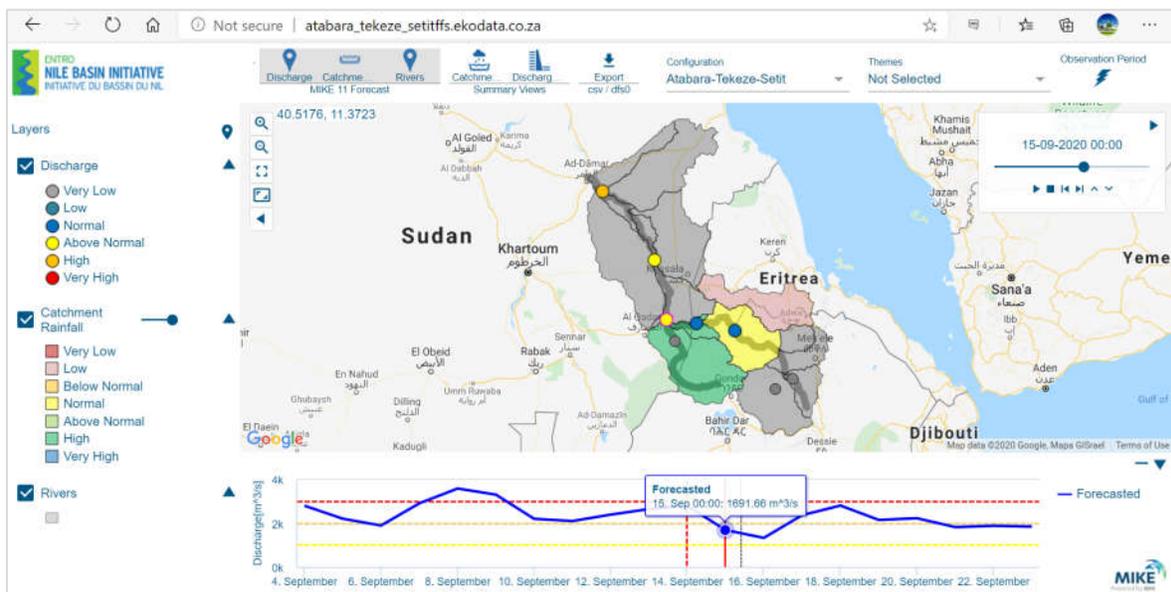
Runoff forecast for BAS (Gambella station)

- TSA:** the flood forecast for Tekeze-Setit-Atbara is available at [TSA](#), which redirects to the page where the forecast information is located.

In the figures undernote described instance forecast information for TSA and presented in the [link](#). The average rainfall that may trigger peak runoff from the upland sub-catchments has peak river flow contributions to Tekeze river at Dima and at Metema, and other downstream river gauging stations along with the river course before and after the junction at Showak, and it may impact the local communities living along the river course and river banks and infrastructures in the localities and downstream areas, see figures below and the rainfall distribution as well.



Rainfall forecast for TSA (TSA\_8)



Runoff forecast for TSA (Showak station)