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JRC TECHNICAL REPORT

Weekly analysis of wildfires in the Amazon region: August 3 - August 9, 2020

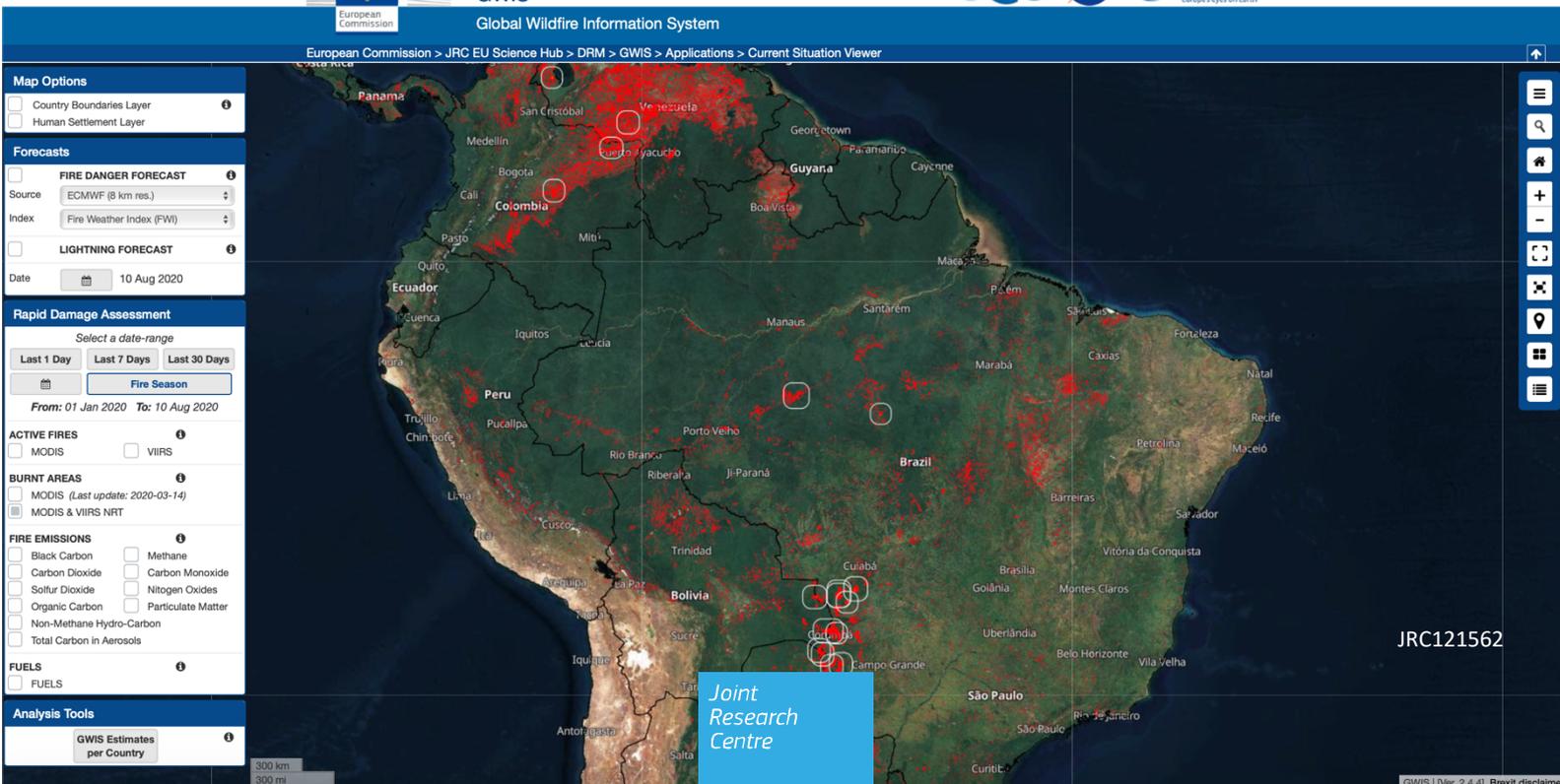


GWIS

Global Wildfire Information System



2020



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Contents

Scope of this report and executive summary1

1 Wildfires in the Brazilian Legal Amazon Region.....2

2 Wildfires in Brazil3

3 Wildfires in Bolivia4

4 Wildfires in Colombia5

5 Wildfires in Paraguay6

6 Wildfires in Peru7

7 Wildfires in Venezuela8

8 Fire danger and fire weather forecast in the Amazon region.....9

Scope of this report and executive summary

This report describes the trends of wildfires in the Amazon in 2020 through the comparison with the fire activity in the region in previous fire seasons. The report has been produced by the European Commission's Joint Research Centre (JRC) within its activities on the development of a Global Wildfire Information System (GWIS)¹. Most of the Amazon region is in Brazil, specifically in the Brazilian Legal Amazon (BLA)², and in other neighbor countries. Paraguay has been included in this report due to the high fire activity observed this year, although it is not part of the Amazon region. Figure 1 shows the geographical extent of the countries analyzed in this report.

- The Brazil Legal Amazon shows a similar trend as those in previous years, with 0.8 Million ha burned in the last week, a value that is about half of the figure in 2019 for that week; 2170 fires were recorded in the week, which is a slightly higher value than that of 2019. About 5.32 Million ha burnt so far in the region in 2020. This value is about 12% lower than that of 2019.
- The 2020 wildfire season in Brazil is similar to those of past years. However, the number of fires was higher in July compared with the previous two years. More than 1 Mha burned last week in Brazil, where 3499 new fires occurred. About 1.2 Mha and 3.3 Mha of burnt areas were mapped in the country in June and July 2020, respectively. These values are above the values of 2019. Overall, 8.1 Mha of burnt areas were mapped in GWIS until August 9, 2020, which 10% less than the value in 2019. The overall numbers of thermal anomalies in June and July were higher than those in 2019, with about 17.02% more detections in July 2020 as compared to 2019.
- A total of 1553550 ha burnt in Bolivia since January 1 until August 9, 2020, with 178565 ha burnt in the last week. The total burnt area in 2020 is notably below the values of 2019, about 40% of the values of the previous year.
- In Colombia, the current fire season has been more severe than the last two years, 2018 and 2019, with larger burnt areas and a higher number of fires from January to April. Nearly 3 Mha burnt in the country until August 9, 2020, which about 28% higher than that of 2019. The trends of number of fires and burnt areas in the last week resemble those of the previous years.
- Paraguay, with 2.8 Mha burnt until August 9, 2020, shows higher fire activity than in 2018 and 2019, and an increase of burnt areas between March and June, reaching values more than 2 times those of the past years.
- Peru shows slightly above average fire activity, with about 677624 ha of burnt areas mapped until August 9, 2020, which is approximately 20% above the values of 2019. The number of fires mapped in GWIS is nearly double of that of 2019.
- Venezuela, with about 6.8 Mha burnt in the country until now, is above the values of the previous two years. However, the fire activity in the last weeks is comparable to those in 2018 and 2019.
- This week, fire danger conditions are expected to be high to extreme in central and eastern Brazil, and high to very high in north Paraguay and eastern Bolivia, with above average temperatures in the north and south of Brazil and Bolivia.



Figure 1. Areas analyzed in this report: Brazil Legal Amazon, Brazil, Bolivia, Colombia, Paraguay, Peru and Venezuela

¹ <https://gwis.jrc.ec.europa.eu>

² The Brazilian Legal Amazon is a geopolitical region in Brazil, established in the article 2 of the complementary law 124, of 2007, that includes 772 municipalities over 9 states. It comprises approximately five million square kilometres, which correspond to 59% of the Brazilian territory ([IBGE, 2019](#))

1 Wildfires in the Brazilian Legal Amazon Region

Figure 2 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. A total of 5329205 ha burnt in the BLA since January 1 until August 9, 2020, with 794397 ha burnt in the last week. The total number of burnt areas is about 12% lower than that of 2019.

The number of fires recorded in GWIS in the last week was 2170, which is a higher number than the value in 2019 in that week. The total number of fires in 2020 is slightly above the figures in 2018 and 2019. The analysis of thermal anomalies from VIIRS in the BLA for this week will be included in the report of the week August 10 to August 16th.

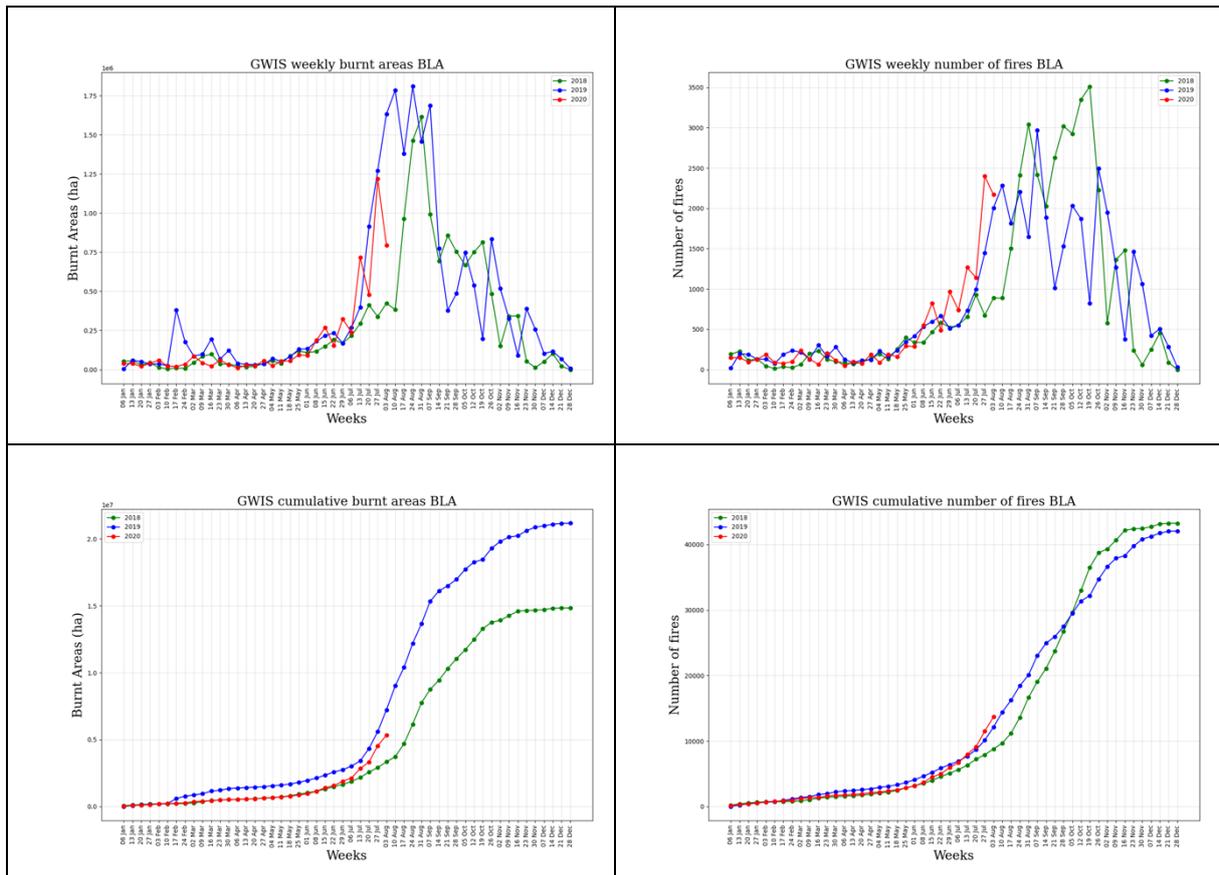


Figure 2. Trend of burnt areas and number of fires as compared to data in the last two years.

2 Wildfires in Brazil

Figure 3 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 8108690 ha burnt in Brazil since January 1 until August 9, 2020, with 1166604 ha burnt in the last week. The total number of burnt areas is currently 10% lower than that of 2019.

The number of fires recorded in GWIS in the last week was 3499, which shows an increasing trend higher than the previous years. The number of fires in 2020 up to August 9 is higher than that of 2019. The number of thermal anomalies until August 9, 2020 (276402) shows a typical trend in the region as compared to the trends in 2018 and 2019, with an increase of fire activity in the last week (54764), with respect to the previous ones.

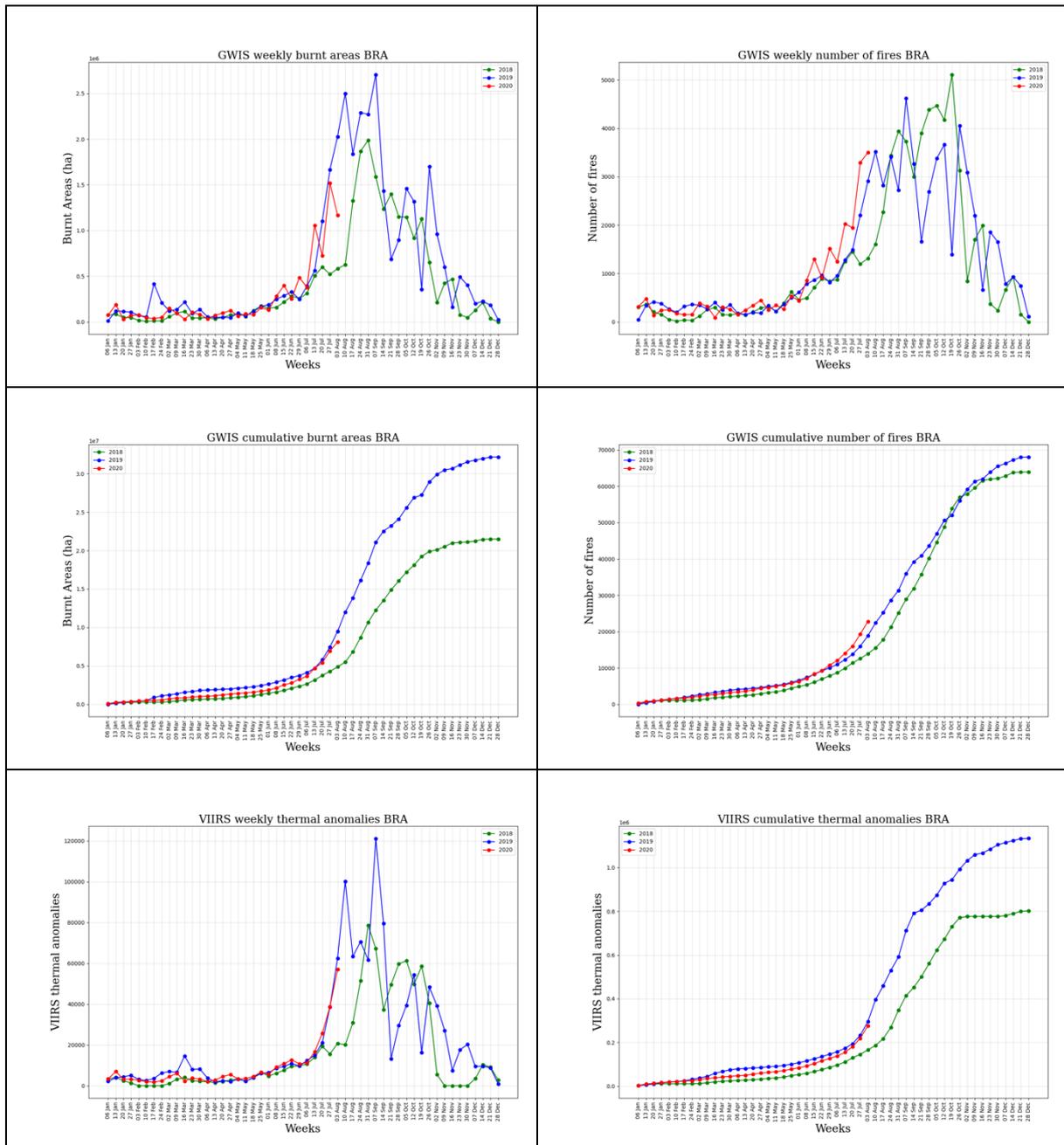


Figure 3. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

3 Wildfires in Bolivia

Figure 4 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 1553550 ha burnt in Bolivia since January 1 until August 9, 2020, with 178565 ha burnt in the last week. The total burnt area in 2020 is currently about 40% of the value of 2019.

The number of fires recorded in GWIS in the last week was 618, slightly lower than the number of fires in the same week in 2019. The trend of 2020 in number of fires resembles that of 2019. The number of thermal anomalies until August 9, 2020 (51747) shows a typical trend in the region as compared to the trends in 2018 and 2019, with 7678 thermal anomalies detected by VIIRS in the last week.

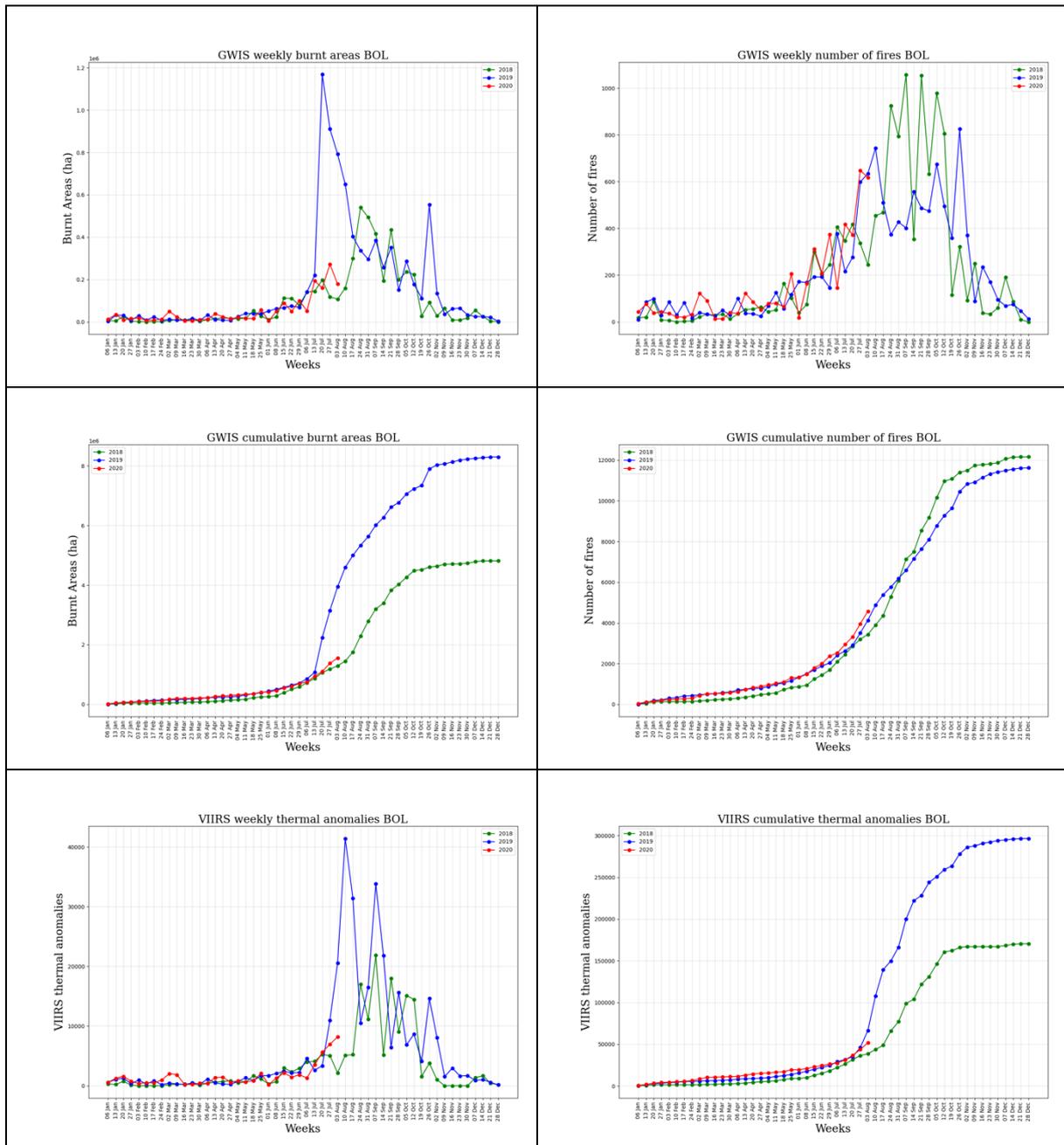


Figure 4. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

4 Wildfires in Colombia

Figure 5 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 2982058 ha burnt in Colombia since January 1 until August 9, 2020, with 22349 ha burnt in the last week. The total burnt area in the country remains approximately 28% above the values of 2019, due to the intensive fire activity from January to April 2020.

The number of fires recorded in GWIS in the last week was 106, which shows a stable trend in the last weeks, as compared to 2018 and 2019. The number of fires is approximately 28% higher than that of last year. The number of thermal anomalies until August 9, 2020 (105819) shows a typical trend in the region as compared to the trends in 2018 and 2019, with values approximately 28% higher than those in 2019. 706 thermal anomalies were detected by VIIRS during the last week, slightly below the values in the same week in 2018 and 2019.

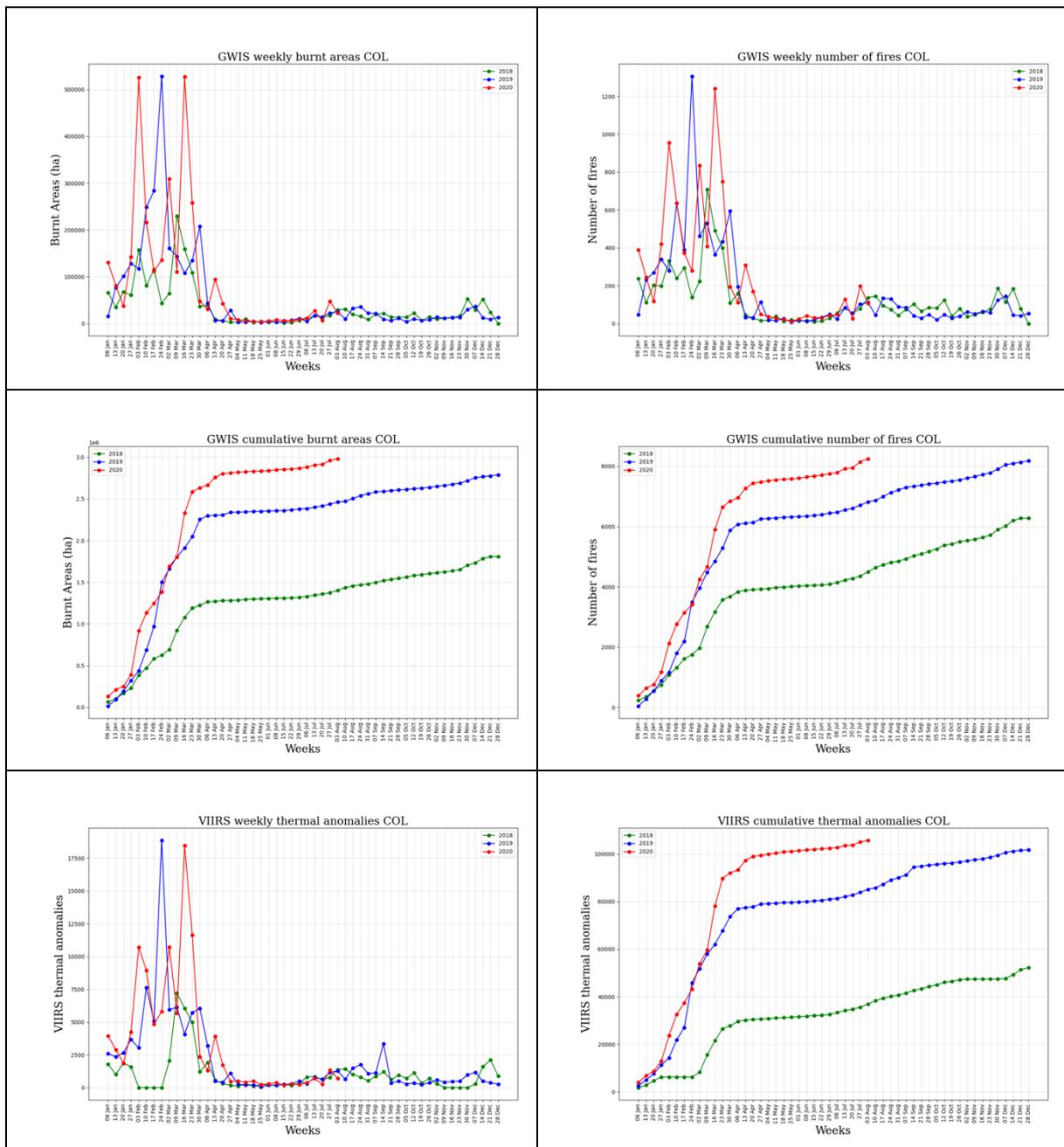


Figure 5. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

5 Wildfires in Paraguay

Figure 6 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 2822935 ha burnt in Paraguay since January 1 until August 9, 2020, which is more than double than the values in 2018 and 2019. Approximately 268840 ha burnt in the country the last week. As with the total burnt area in the country, this weekly value more is more than double of that in the previous two years.

The number of fires recorded in GWIS in the last week was 826, which is the double of the values of the last two years. The number of thermal anomalies until August 9, 2020 (88901) shows a typical trend in the region, but with much higher values, nearly double values, as compared to the trends in 2018 and 2019, with 10365 thermal anomalies detected by VIIRS last week.

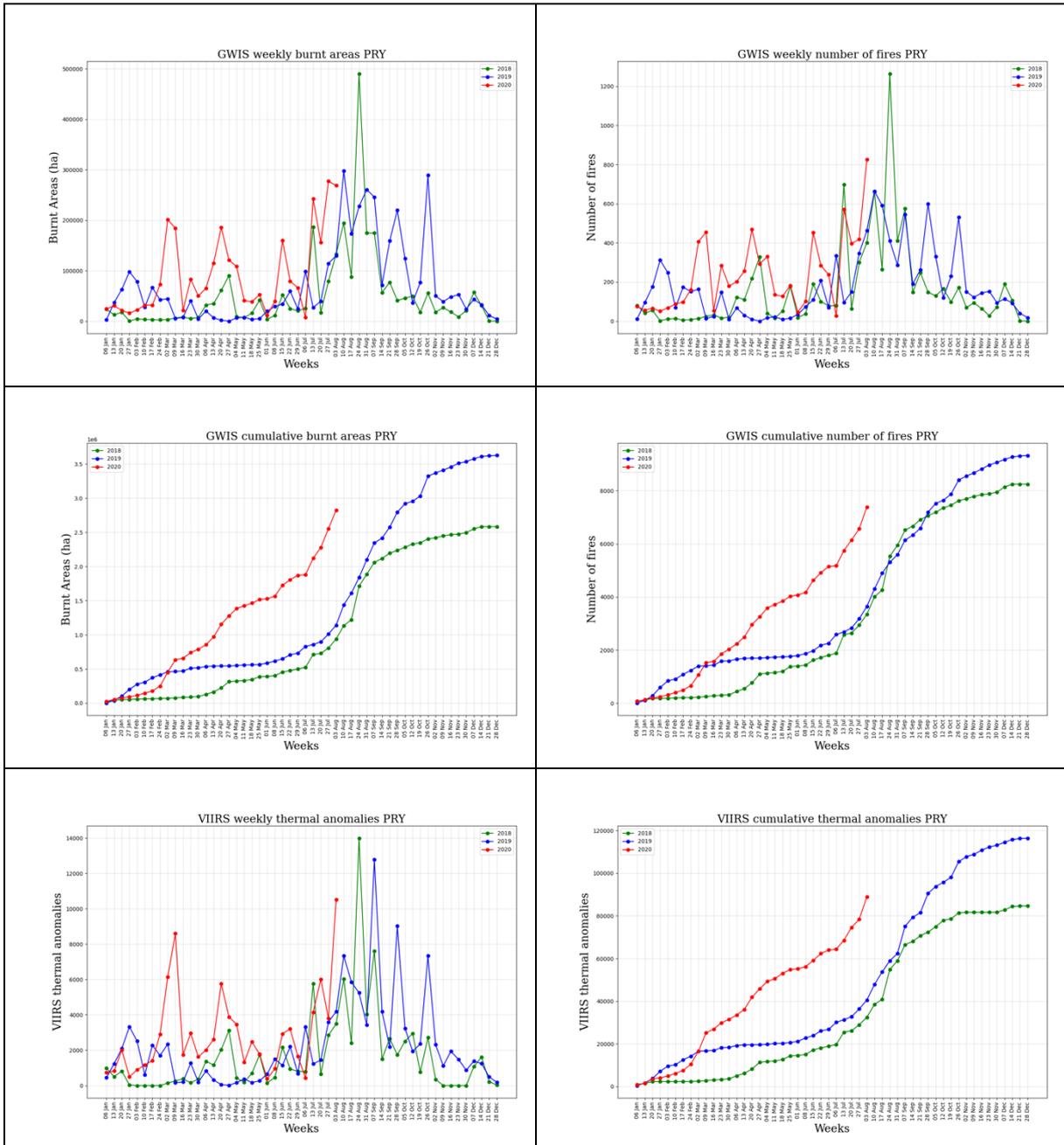


Figure 6. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

6 Wildfires in Peru

Figure 7 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 677624 ha burnt in Peru since January 1 until August 9, 2020. This value is approximately 20% higher than that of 2019. Approximately 251613 ha burnt in the last week.

The number of fires recorded in GWIS in the last week was 1058, which is much higher than the number of fires recorded that week in the previous two year. The total number of fires since the beginning of the year, 2800, is about 2 times higher than that of 2019. The number of thermal anomalies until August 9, 2020 (25443) shows a typical trend in the region, with higher values as compared to the trends in 2018 and 2019. 6967 thermal anomalies registered last week.

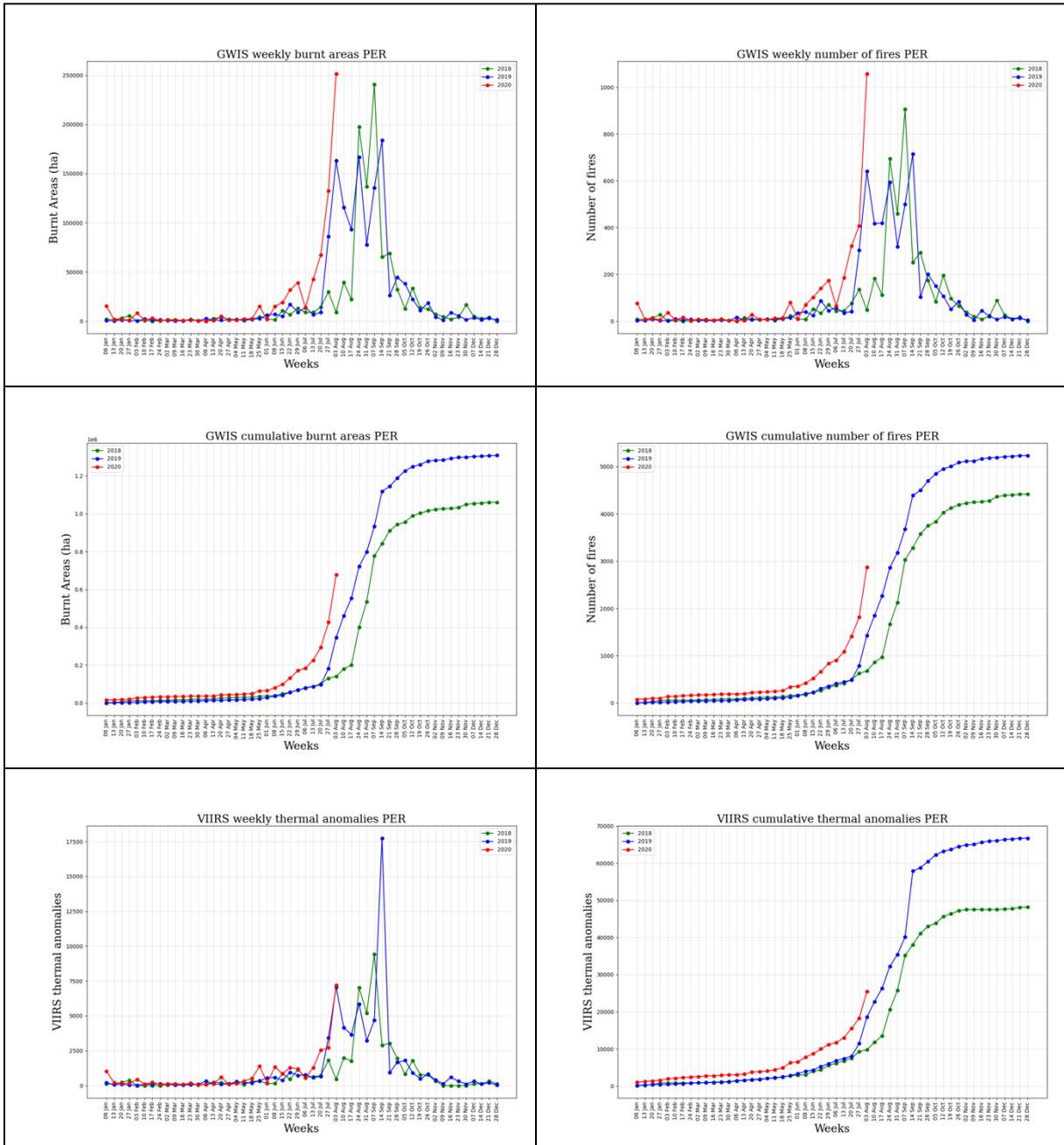


Figure 7. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

7 Wildfires in Venezuela

Figure 8 shows the trends on the extent of burnt areas and the number of fires since January 1, 2020 until the current date produced by the Near-Real Time (NRT) process in GWIS. The last row shows the evolution of active hot spots (thermal anomalies) detected by the satellite sensor VIIRS. A total of 6708211 ha burnt in Venezuela since January 1 until August 9, 2020, with 13800 ha burnt in the last week. The value of the total burnt area in the country is approximately 15% higher than that in 2019 due to the intensive fire activity in the country between January and April. The trend in the last week is comparable to that of 2018 and 2019.

The number of fires recorded in GWIS in the last week was 65, which shows a stable trend comparable to those of the previous two years, although the total number of fires remains approximately 15% higher than in 2019. The number of thermal anomalies until August 9, 2020 (260626) shows a typical trend in the region as compared to the trends in 2018 and 2019, but with approximately 15% higher value than the previous years. 564 thermal anomalies were recorded by VIIRS during the last week, a value that is similar to those recorded in that week the previous two years.

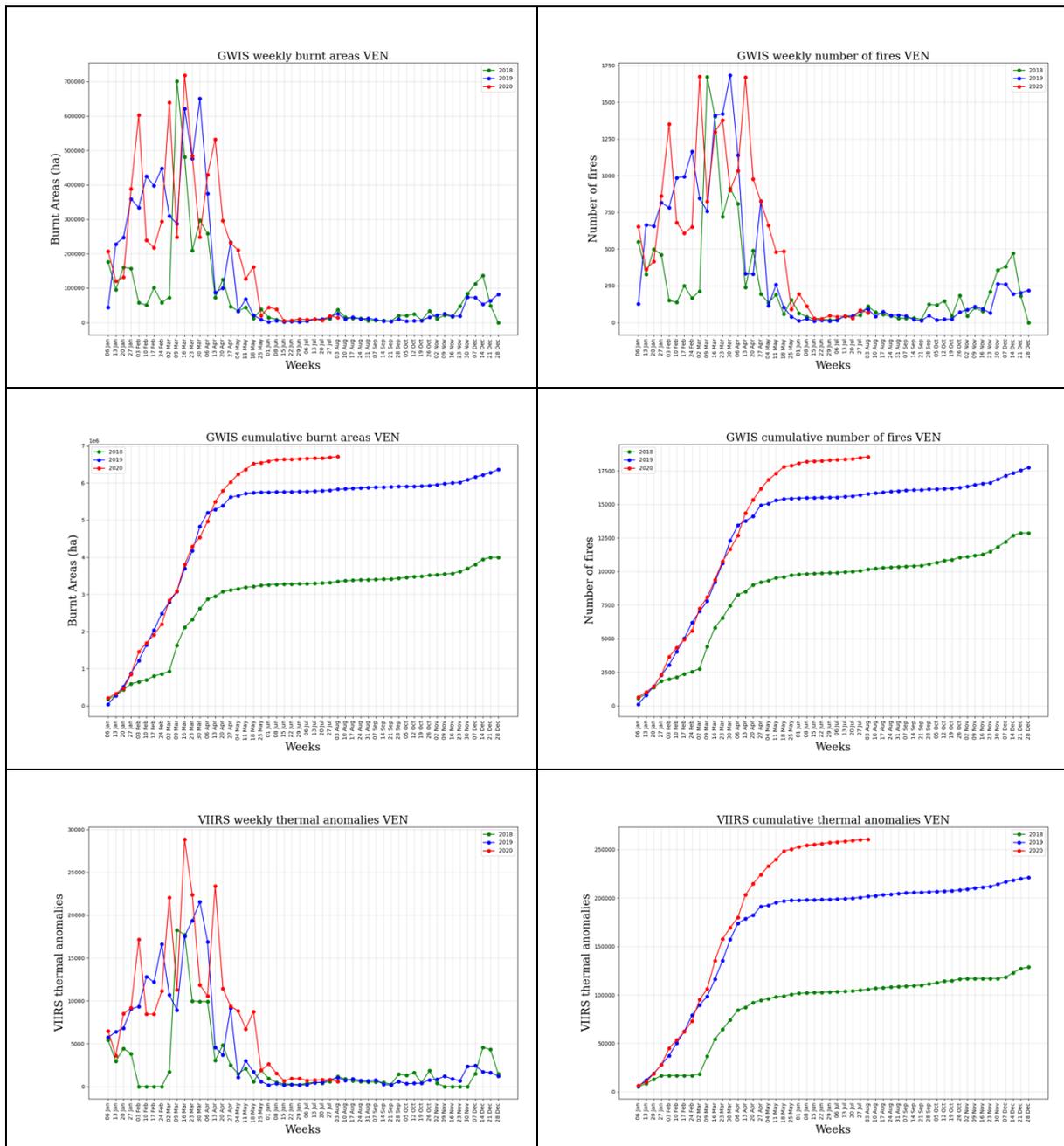


Figure 8. Trend of burnt areas, number of fires and thermal anomalies as compared to data in the last two years.

8 Fire danger and fire weather forecast in the Amazon region

This section provides information on the fire danger forecast in the Amazon region for the current week. High levels of fire danger facilitate fire ignitions and the propagation of ongoing fires. Figure 9 provides the average fire danger for the week of August 9 to August 16, 2020. This information is based on the daily fire danger forecast that is provided online in GWIS³. According to this forecast it is expected that fire danger conditions will be extreme in central and eastern Brazil, while they will remain of high or very high in astern Bolivia and northern Paraguay.

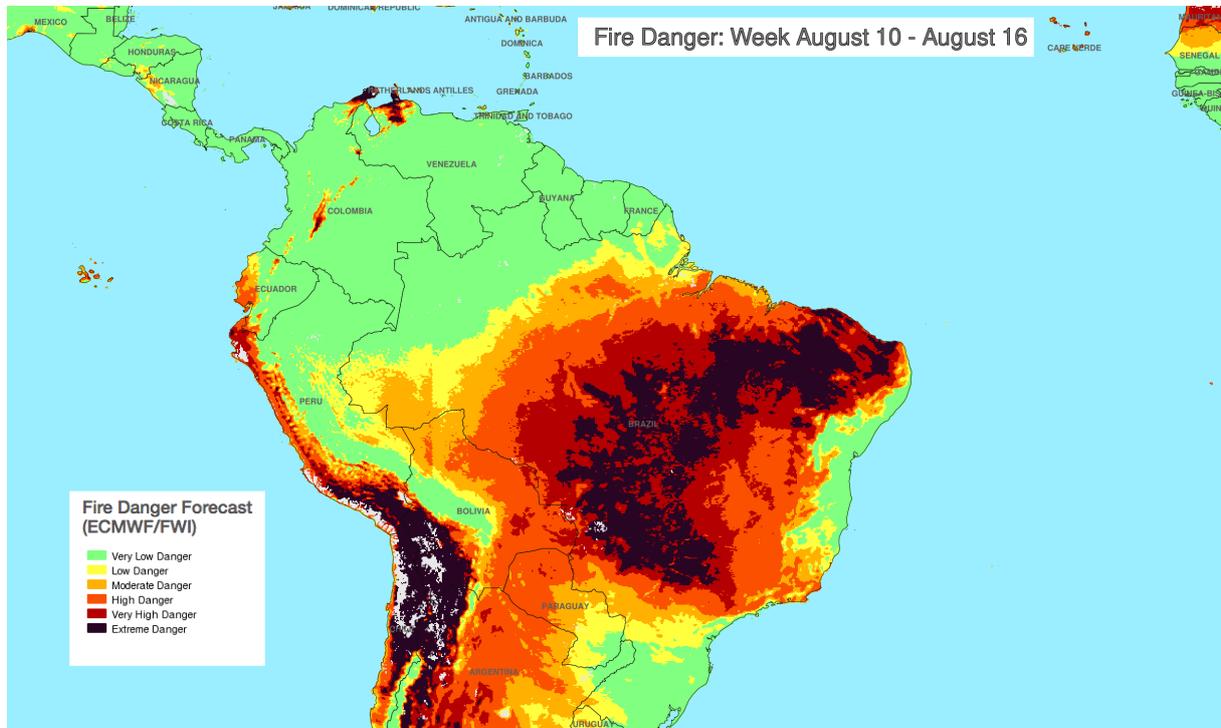


Figure 9. Average Fire danger forecast. Week, August 9-August 16, 2020.

The weekly fire weather forecast of temperature and precipitation anomalies for this week is presented in Figure 10. The overall trend is of above average temperatures in the whole Amazon region, especially in the north and south of Brazil and Bolivia.

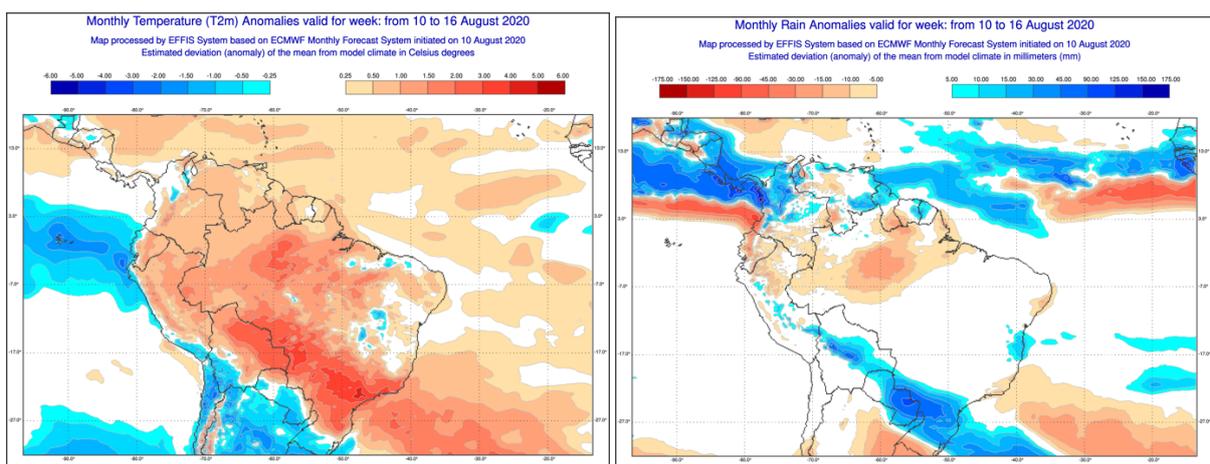


Figure 10. Fire weather anomalies of the current week, August 9-August 16, 2020.

³ https://gwis.jrc.ec.europa.eu/static/gwis_current_situation/public/index.html

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