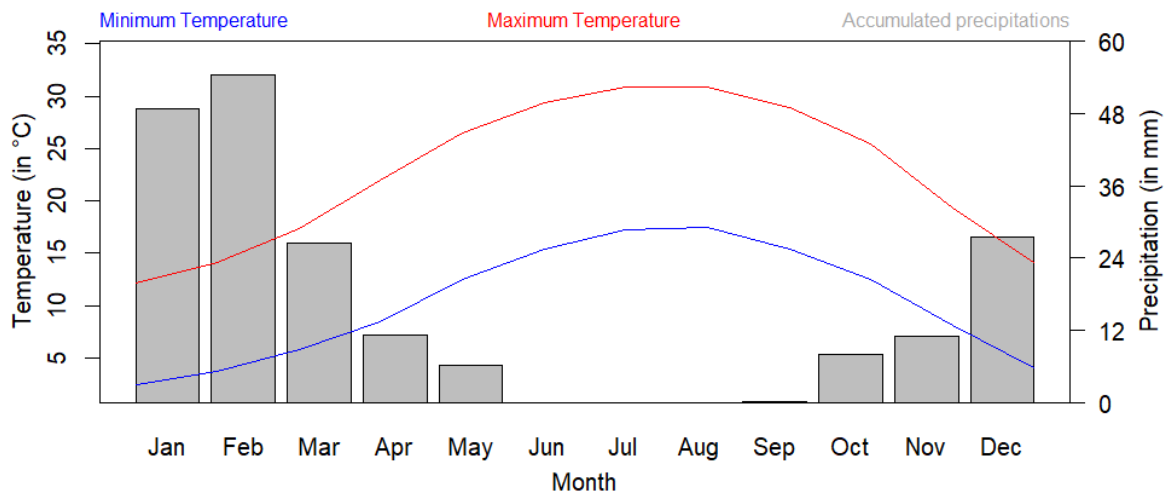


Appendix 2 of Annex 2
Analysis of Local climate data

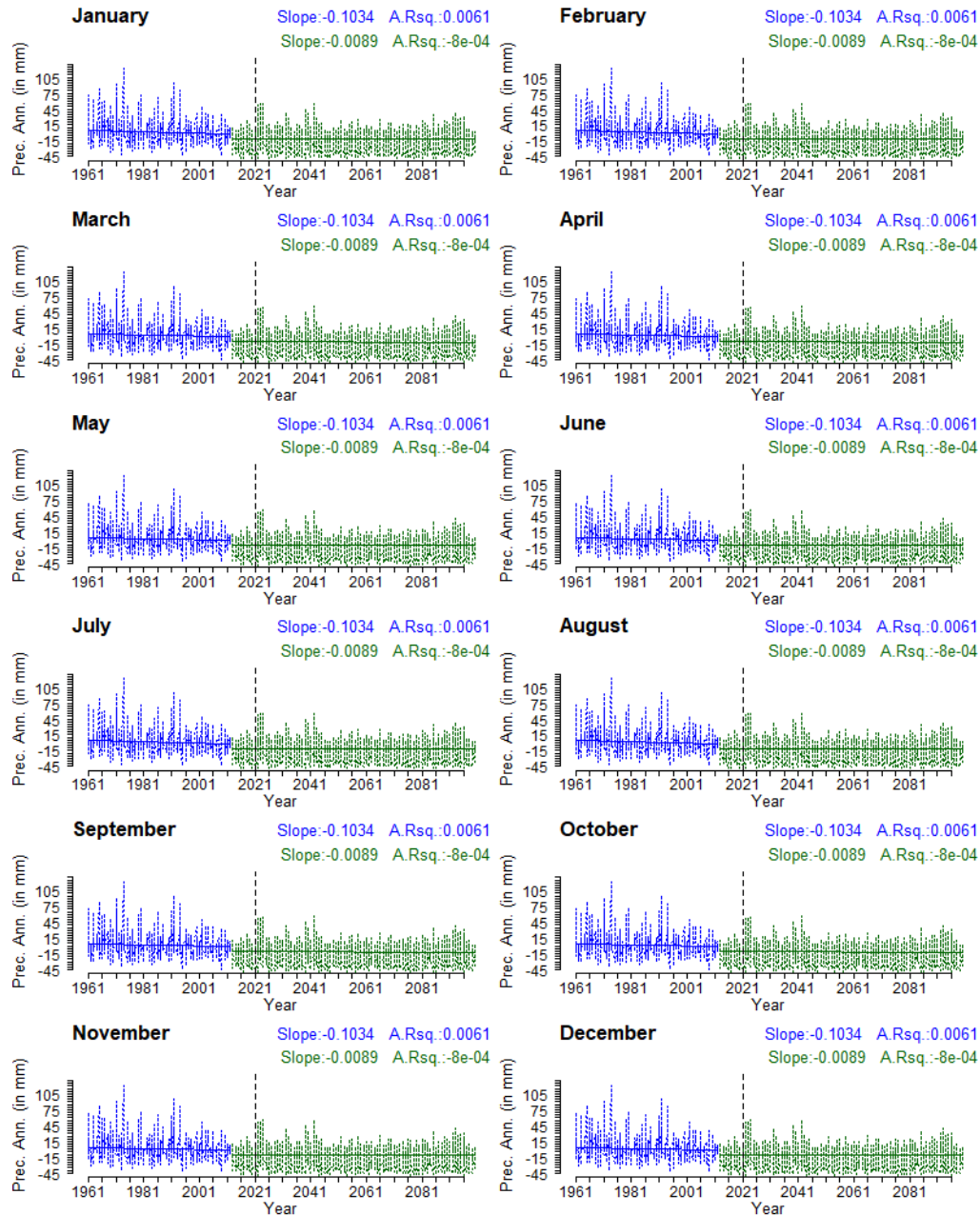
1. Analysis at the country level

1.1. Current Climatograph (2009-2019)



Data source: data from the Meteorological service of the Ministry of Transports covering the period 2009-2019.

1.2. Monthly precipitation anomalies trends



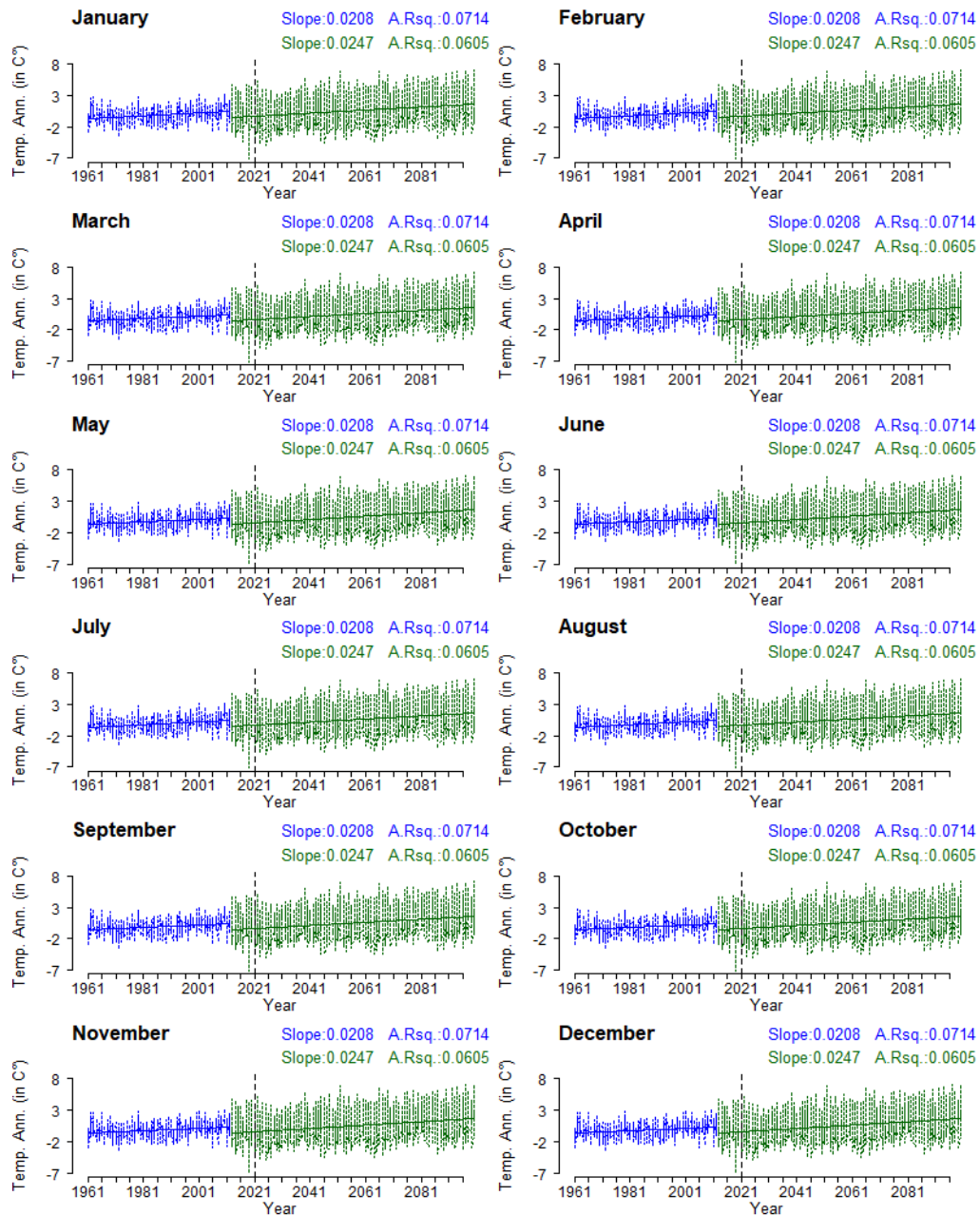
Monthly accumulated precipitation anomaly: variation of the accumulated precipitation of the considered month, from the mean accumulated precipitation considered of the month averaged during the base period (here the base period is 1982-2012).

Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here.

- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (24 weather stations). It is an extension (1963-1980) of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication.

1.3. Monthly Minimum Temperature anomalies trends

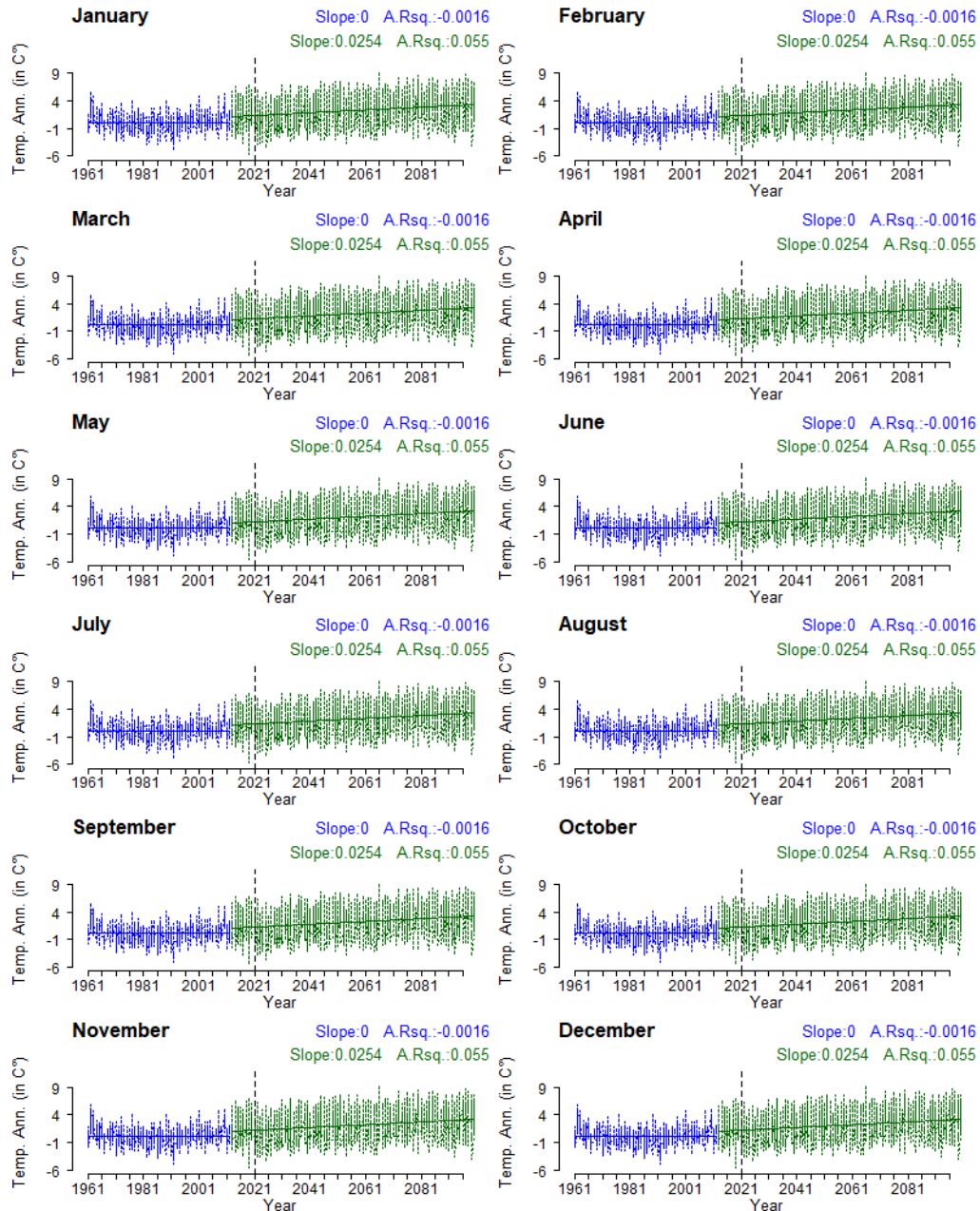


Monthly minimum temperature anomaly: variation of the minimum temperature of the considered month, from the mean minimum temperature considered of the month averaged during the base period (here the base period is 1982-2012).

Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here.
- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (24 weather stations). It is an extension (1963-1980) of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication.

1.4. Monthly Maximum Temperature anomalies trends



Monthly maximum temperature anomaly: variation of the maximum temperature of the considered month, from the mean maximum temperature considered of the month averaged during the base period (here the base period is 1982-2012).

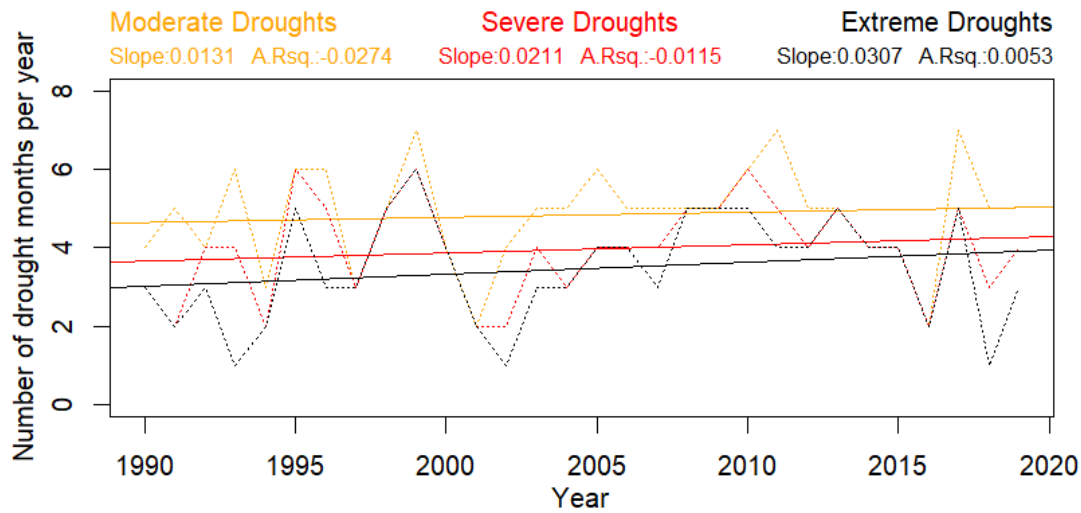
Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here.
- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (24 weather stations). It is an extension

(1963-1980) of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication.

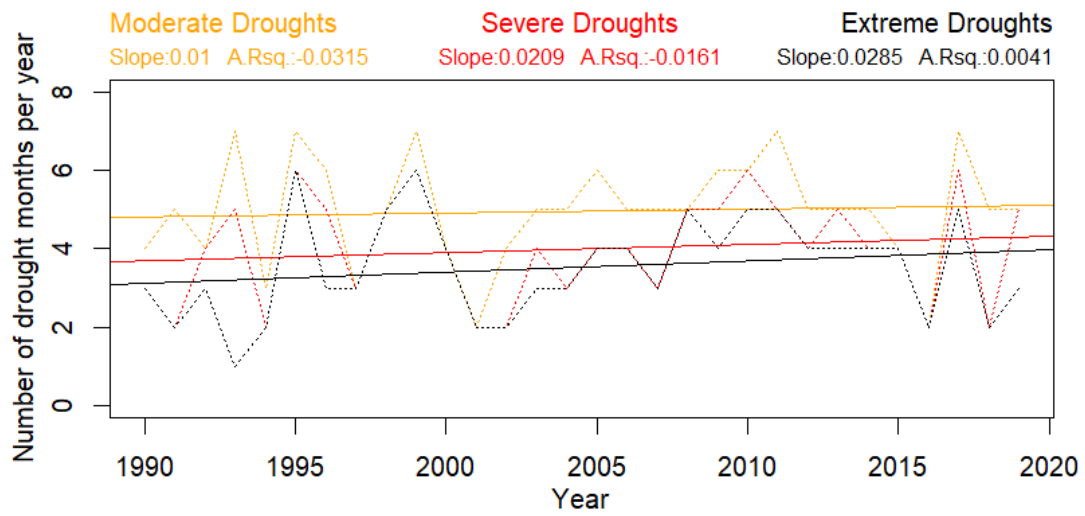
1.5. Annual meteorological droughts months occurrences

Meteorological droughts months (in the sense of Rajsekhar & Gorelick 2017) .



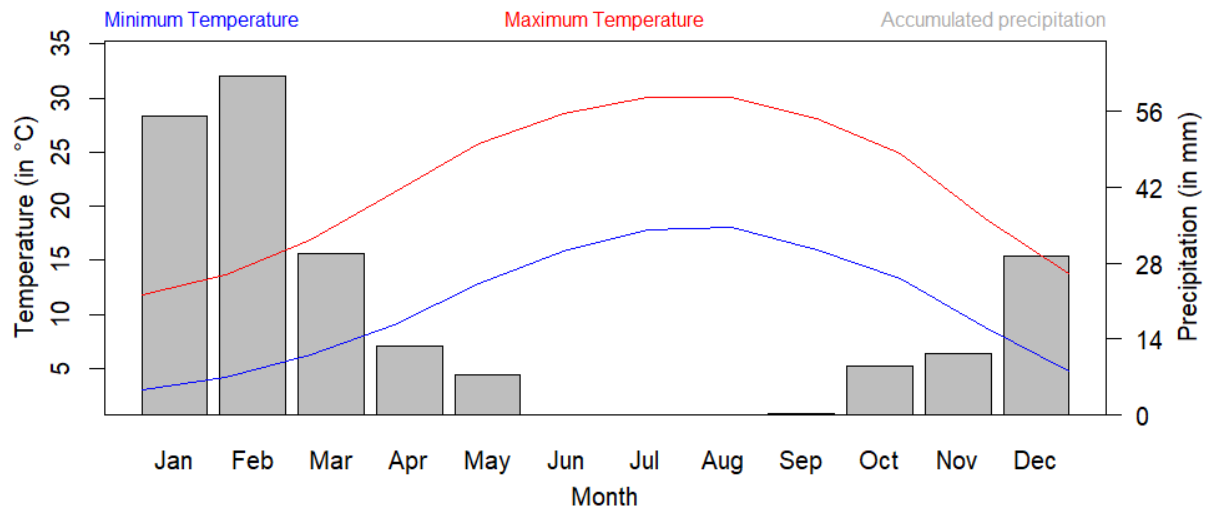
Meteorological droughts months occurrences are increasing at the country level since 1990 at a pace of 0.13 months per 10 years for Moderate Droughts, 0.21 months per 10 years for Severe Droughts, and 0.30 months per years for Extreme Droughts.

If we focus on data from the governorates of Karak, Tafileh, Ma'an and Madaba, this increase is confirmed with slightly less steep increases : 0.10 month per 10 years for Moderate Droughts, 0.21 months per 10 years for Severe Droughts and 0.28 months per year per Extreme Droughts.



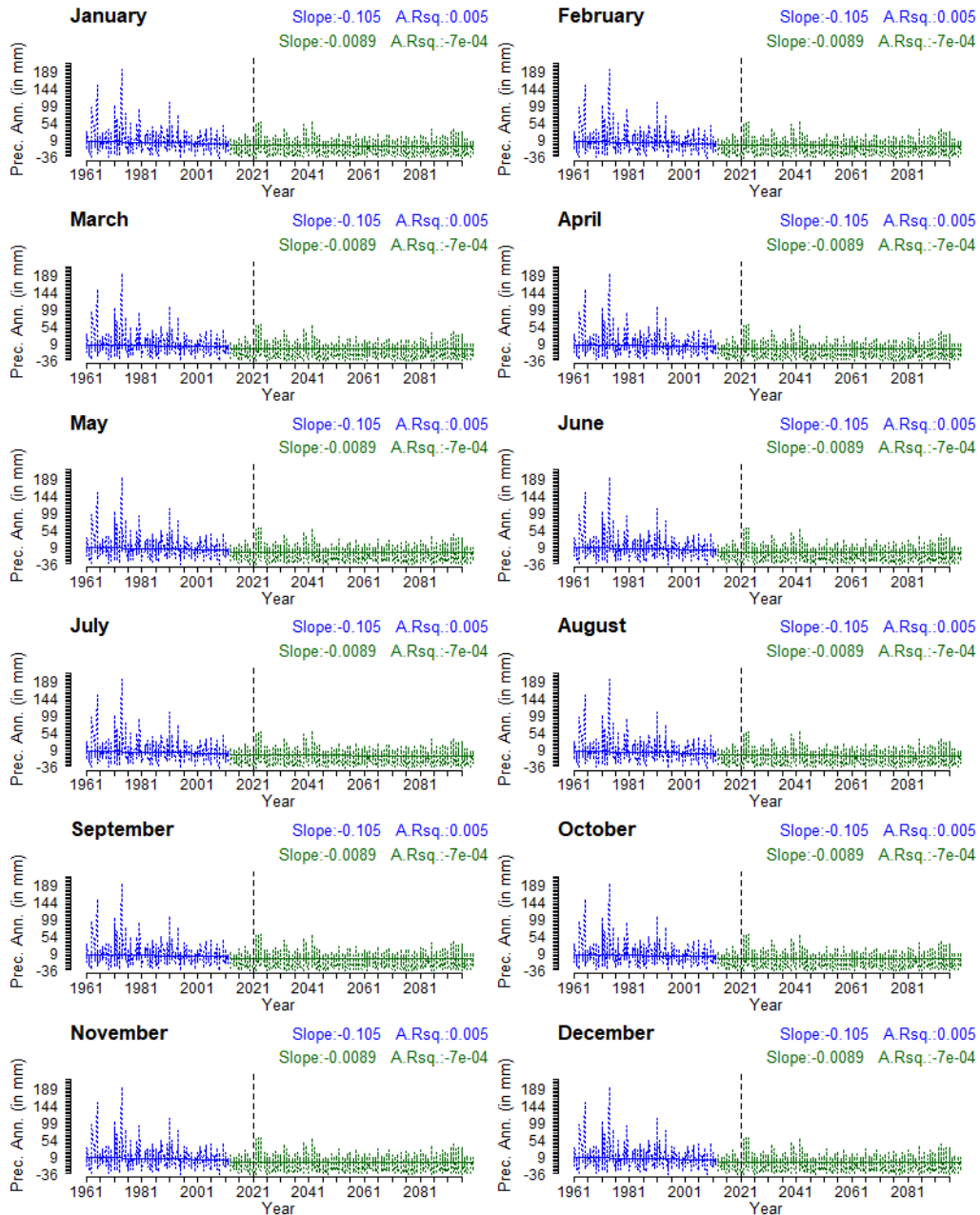
2. Analysis at the target governorates level

2.1. Current Climatograph (2009-2019)



Data source: data from the Meteorological service of the Ministry of Transports covering the period 2009-2019.

2.2. Monthly precipitation anomalies trends

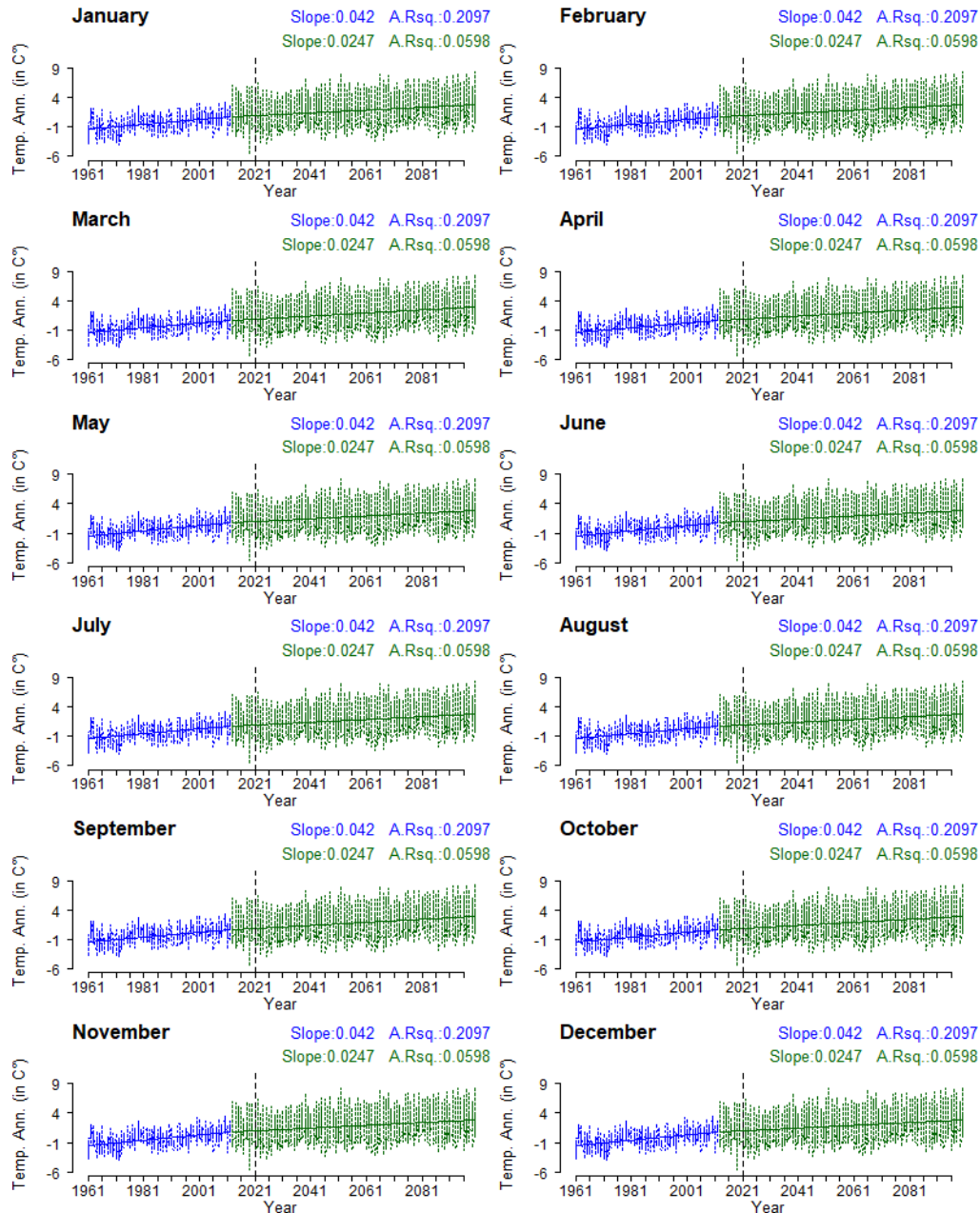


Monthly accumulated precipitation anomaly: variation of the accumulated precipitation of the considered month, from the mean accumulated precipitation considered of the month averaged during the base period (here the base period is 1982-2012).

Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here. Not that these data are aggregated at the country level, as predictions at the governorate level was not available.
- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (8 stations). It is an extension (1963-1980) of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication. These data are aggregated over the target governorates.

2.3. Monthly Minimum Temperature anomalies trends



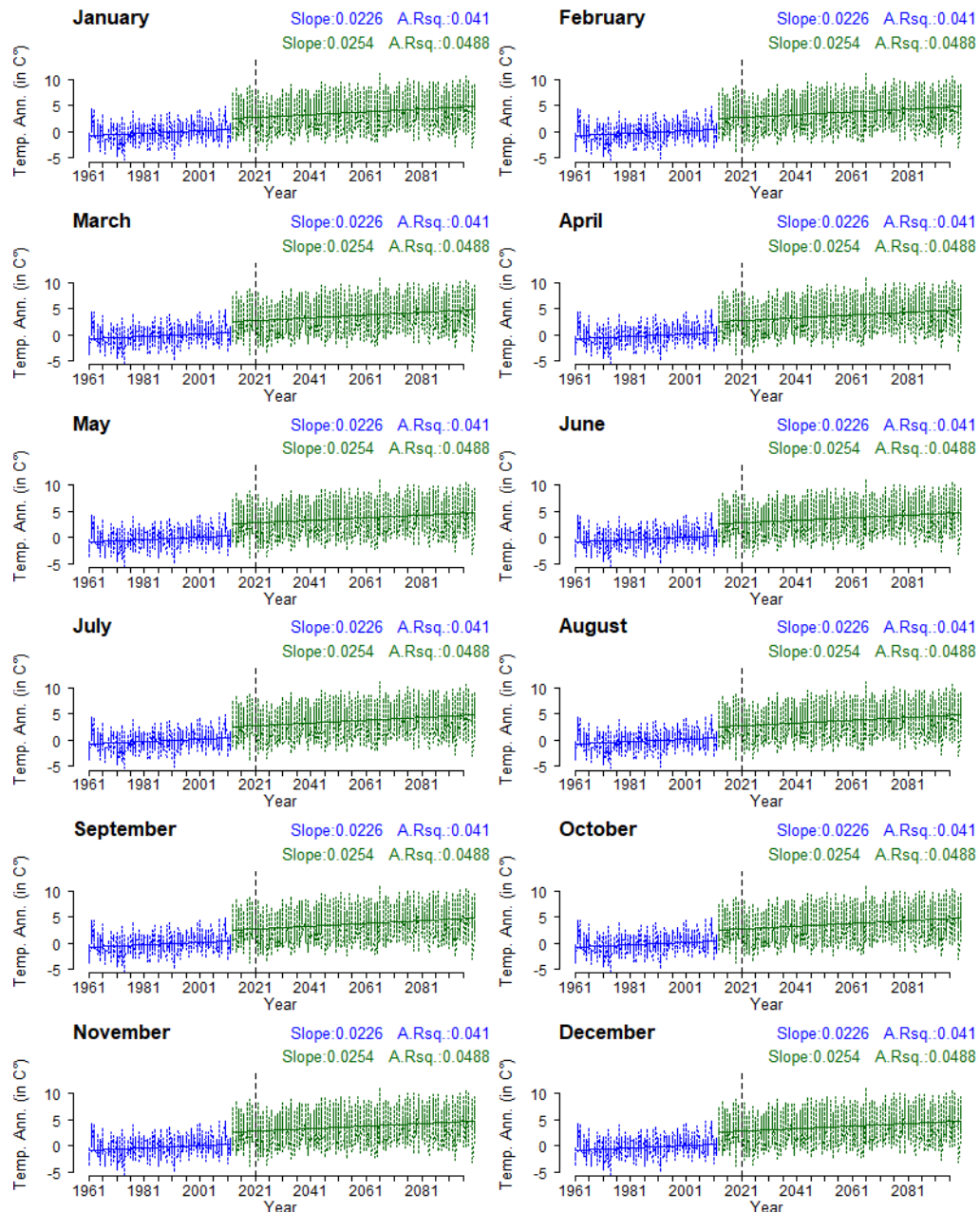
Monthly minimum temperature anomaly: variation of the minimum temperature of the considered month, from the mean minimum temperature considered of the month averaged during the base period (here the base period is 1982-2012).

Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here. Not that these data are aggregated at the country level, as predictions at the governorate level was not available.
- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (8 stations). It is an extension (1963-1980)

of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication. These data are aggregated over the target governorates.

2.4. Monthly Maximum Temperature anomalies trends



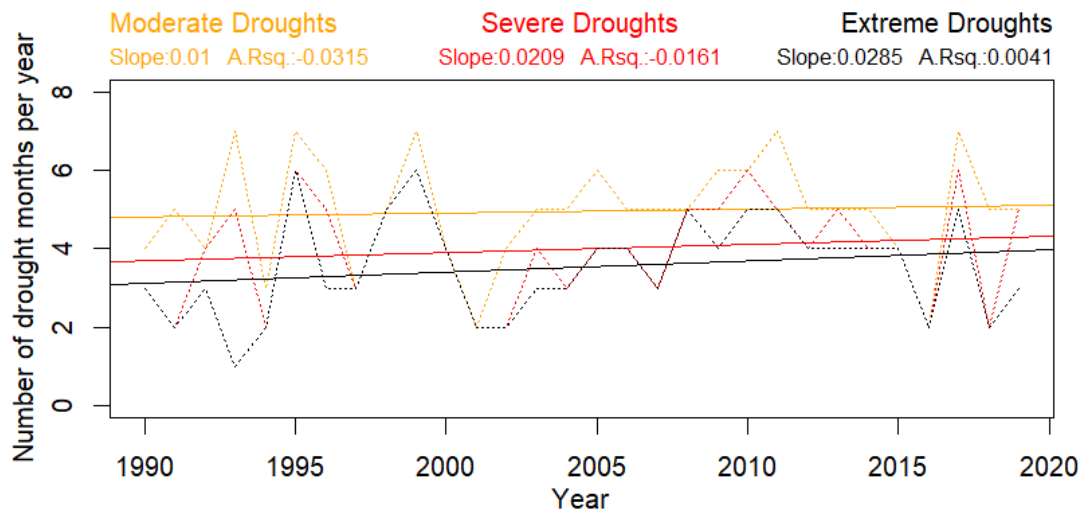
Monthly maximum temperature anomaly: variation of the maximum temperature of the considered month, from the mean maximum temperature considered of the month averaged during the base period (here the base period is 1982-2012).

Data sources:

- **For predicted data (in green):** Reference model (MHI – NCC-NorESM-LR) for the third national communication of Jordan). Only the RCP4.5 scenario is considered here. Not that these data are aggregated at the country level, as predictions at the governorate level was not available.
- **For observed data (in blue):** weather station data provided by the Meteorological service of the Ministry of Transports covering the period 1961-2010 (8 stations). It is an extension (1963-1980) of the data used by the national communications (1980-2013). This extension has not yet been officially analyzed and results peer reviewed as it is for the third national communication. These data are aggregated over the target governorates.

2.1. Annual meteorological droughts months occurrences

Meteorological droughts months (in the sense of Rajsekhar & Gorelick 2017), only considering data from weather stations in the focus governorates (governorates of Karak, Tafileh, Ma'an and Madaba).



In the focus governorates, the increase in meteorological droughts occurrences is maintained : 0.10 month per 10 years for Moderate Droughts, 0.21 months per 10 years for Severe Droughts and 0.28 months per year per Extreme Droughts.