

Signs of Climate Change in the Mediterranean Area in South-Western France between Cap Leucate and Cap Béar

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Table of Contents

List of Figures.....	I
Abstract.....	1
1 Introduction.....	2
2 Climatological characteristics of the examined area	4
2.1 Climate in southern France	4
2.2 Climate change in southern France.....	5
2.3 Recent climate in Leucate and Cap Béar	8
3 Political measures on the drought in south-western France	17
4 Representation of the drought issue in French media	22
4.1 Media analysis	22
4.2 Methodology.....	26
4.3 Results	28
4.4 Analysis.....	40
5 Discussion.....	47
6 Conclusion	51
7 Bibliography.....	54

List of Figures

Figure 1	Location of Leucate and Cap Béar (Figure based on maps from Département Pyrénées-Orientales, 2024 and d-maps, 2024)	9
Figure 2	Annual mean temperatures in Leucate from 2002-2023	13
Figure 3	Annual mean temperatures at Cap Béar from 2002-2023	13
Figure 4	Annual precipitation in Leucate from 2005-2023.....	14
Figure 5	Annual precipitation at Cap Béar from 2002-2023.....	14
Figure 6	Monthly mean temperatures in Leucate from 2002-2021 and 2022-2024	15
Figure 7	Monthly mean temperatures at Cap Béar from 2002-2021 and 2022-2024	15
Figure 8	Mean monthly and cumulated precipitation in Leucate from 2005-2021 and 2022-2024.....	16
Figure 9	Mean monthly and cumulated precipitation at Cap Béar from 2002-2021 and 2022-2024.....	16
Figure 10	Parameters of analysis of newspaper articles, mainly based on Ahchong & Dodds (2012).....	28
Figure 11	Published articles over the course of the examined period	31
Figure 12	Reference to climate change in the articles.....	32
Figure 13	Thematic frames used in the articles	33
Figure 14	Perspectives in the articles	34
Figure 15	Problem assessment in the articles.....	35
Figure 16	Non-governmental actors in the articles	36
Figure 17	Governmental actors in the articles.....	36
Figure 18	Source of scientific information in the articles	37
Figure 19	Approaches to solutions in the articles.....	38
Figure 20	Responsible parties in the articles	39
Figure 21	Source of information in the articles	40

Abstract

The Pyrénées-Orientales region in south-western France has recently experienced a climate characterised by high temperatures and low rainfall, resulting in drought conditions. This study conducts a site analysis to examine how a region likely impacted by climate change is managed across different levels. Given the increasing frequency of regional climate impacts expected in the future, the understanding of responses to such challenges is essential. The site analysis focuses on three main aspects. First, an overview of climatic conditions over the past two decades is provided using data from two climate stations, Leucate and Cap Béar. The findings show trends of rising temperatures and decreasing precipitation. Second, governmental responses to the drought are analysed, particularly the implementation of water-use restrictions depending on the severity of drought impacts in individual municipalities. These restrictions targeted both individual and agricultural water use. Third, a media analysis investigates the representation of the drought in two French newspapers, *Le Monde* and *Le Figaro*. Results reveal that media coverage primarily focused on governmental measures, emphasising consequences and adaptation strategies. The government emerged as a central actor and main source of information. Differences between the newspapers were observed. *Le Monde* focused more on meteorological aspects and ecological actors than *Le Figaro*, while *Le Figaro* published a higher number of shorter articles compared to fewer but longer articles in *Le Monde*. Future research could extend the scope of this work by analysing representations of the drought in other French media outlets and by comparing responses to regional climate phenomena in different countries.

1 Introduction

Climate change is often associated with global developments like rising temperatures, melting ice caps and rising sea levels. However, changing climate can also be observed on a much smaller regional scale. What does climate change mean for an individual living in Europe? As a likely consequence of climate change, individuals in Europe have experienced floodings in Germany (World Weather Attribution, 2021), droughts in France (Neff, 2024) and heat deaths in Europe in general (Ballester et al., 2023; Roucaute, 2024; Santé publique France, 2023). Climate change has seemingly arrived in Europe. Blaming climate change for those events and catastrophes might be an obvious explanation. However, attributing single events or catastrophes directly to it remains challenging. At the scientific level, the Intergovernmental Panel on Climate Change (IPCC) provides exhaustive reports connected to climate change, while the media frequently covers events such as heatwaves, wildfires, and floods.

In April 2024 the French newspaper *Le Monde* published the article “Visualisez la sécheresse historique qui frappe les Pyrénées-Orientales depuis deux ans” (engl.: Visualise the historic drought that has hit the Pyrénées-Orientales for the past two years; Dagorn et al., 2024), addressing a climatic development that can be observed in south-western France. Such reports are complemented by individual firsthand accounts, as in the case of the drought in the Pyrénées-Orientales region, where geographer Neff has documented dry riverbeds and drought conditions over the past two years (Neff, 2024). The drought has even drawn attention in German media, which reported that in the summer of 2022, around 500 municipalities had to rely on tank trucks for their water supply, while some local providers rationed water by shutting off supply during nighttime hours (Joeres, 2023). This study takes these observations as a starting point, aiming to examine both the general climatic conditions in the Pyrénées-Orientales region and how they have shifted over recent decades. Additionally, it investigates the responses of local authorities to these evolving climatic conditions and explores how French media represent and cover the issue. Thus, this work offers a case study of an area potentially directly impacted by climate change and assesses the responses to the challenges faced across different levels. This approach provides a foundation for a closer examination of climate change impacts at a local level and corresponding

responses. Given that the mentioned newspaper articles focused on the Pyrénées-Orientales department, and that Neff's observations referenced the drought around Leucate, this study will concentrate on the Pyrénées-Orientales area, extending northward to the commune of Leucate in the Aude department. When discussing connections to climate change, it is important to recognise the challenges in attributing specific events directly to it. In 2014, climate scientists Friederike Otto and Geert Jan van Oldenborgh founded the *World Weather Attribution* to investigate the extent to which climate change influences the intensity and likelihood of extreme weather events. Studies conducted by the *World Weather Attribution* can, therefore, identify links between climate change and specific weather events (World Weather Attribution, 2024). Since this study lacks the resources for such detailed analysis, it can only consider probable connections between climate change and climatic phenomena based on prior research.

In the following, the climate of Mediterranean south-western France and its recent changes will be examined. Using data from two climate stations, the temperature and precipitation trends over the past two decades will be analysed to assess how the drought reported in the media is reflected in the data. Next, the government's response to the drought in the form of various measures will be presented. This theoretical overview is followed by a media analysis of the drought's coverage. After providing a brief background on previous studies on media coverage of climate change, the methodology for this analysis will be outlined. Subsequently, the results of the media analysis will be presented and discussed, along with the limitations of the analysis. A discussion will follow regarding potential relationships among the climate data, governmental measures, and media representation of the issue, along with suggestions for future research.

2 Climatological characteristics of the examined area

2.1 Climate in southern France

Southern France has a Mediterranean climate with dry and hot summers and mild and humid winters (Chaouche et al., 2010). Precipitation maxima occur in autumn and spring. Since 1970 there is a tendency to higher temperatures which cause higher levels of evaporation (Wagner, 2011). Another climate element relevant in the region of the Pyrénées-Orientales is the local tramontane winds coming from the Pyrenees mountains (Feess et al., 1997). According to Köppens and Geigers climate classification the coastal area of the Pyrénées-Orientales is a Csa climate. This climate classification is described as having a warm temperate climate, being summer dry in terms of precipitation and having hot summers (Kottek et al., 2006). A climate diagram of Perpignan in the Pyrénées-Orientales with data from 1961 to 1990 shows a semi-humid climate with three arid months and nine humid months. October is by far the wettest month (90 mm), a second precipitation maximum is in April (56 mm). The driest month is July with a precipitation of 17 mm. The temperature amplitude is 15.7 °C (January 7.9 °C, July 23.6 °C). The annual mean temperature is 15.1 °C and the annual rainfall 573 mm (Sträßer, 1998).

In 2022, several extreme weather events were recorded across France, including the Pyrénées-Orientales region. With an average temperature of 14.5 °C across mainland France, 2022 was the hottest year since recordings in 1900. This figure is 1.5 °C higher than the 1991 to 2020 average and 0.4 °C above the temperature recorded in 2020. Additionally, France experienced a 25 % rainfall deficit in 2022 (Sorel et al., 2023). These extreme conditions contributed to the country experiencing a drought that year. During the spring of 2022, temperatures were 1.1 °C above the 1991 to 2020 average. However, during this period, the Pyrénées-Orientales region had not yet experienced a precipitation deficit. The south-western region was affected by drought later in the year (Mittelberger et al., 2024). The summer of 2022 was the second hottest in France since 1900, with a mean temperature 2.3 °C higher than the 1991 to 2020 average and 33 heatwave days, which was the highest number since 1947. The 2022

agricultural season, which begins in March and ends in October, was the least rainy one since 1959 and the hottest since 1900 (Mittelberger et al., 2024).

2.2 Climate change in southern France

The extremes observed in 2022 go in hand with observations and predictions regarding the change of the climate in the Mediterranean area. In the following a deeper look into climatic developments in the region of interest will be provided. Where possible, studies on the Pyrénées-Orientales region will be considered. However, since observations and predictions often cover larger regions, in some cases there is only information for a broader area available.

The region examined in this work is covered in IPCC reports as part of the broader Mediterranean region. The fourth assessment report in 2007 already assessed the Mediterranean climate regions as among the most significantly affected by climate change (IPCC, 2007). The most recent and sixth IPCC report describes the Mediterranean region to experience an increase in hot extremes, including heatwaves, and an increase in agricultural and ecological droughts since the 1950s (IPCC, 2023c). With high confidence, it is predicted that aridification in the Mediterranean region will significantly surpass the extent of change observed in the last millennium. There is also high confidence for a warming in summer that exceeds the global average (IPCC, 2023c). Further observations of the IPCC indicate that in the Mediterranean region the mean air temperature in general has been rising in the past and that it will increase in the future with high confidence. Occurrences of extreme heat have been rising in the past and researchers show high confidence that they will increase in the future, just as for aridity. For mean precipitation there is high confidence of a decrease in the future. Hydrological droughts as well as agricultural and ecological droughts have been rising in the past. As with most of the other factors mentioned, there is high confidence that occurrences will increase in the future (IPCC, 2023c). Moreover, the IPCC describes observed impacts of climate change on human systems and projections for the future. In the Mediterranean region water scarcity and heat are two of the observed impacts. For the former, the report states that with high or very high confidence it can be attributed to climate change. Increasing adverse impacts are described for this

parameter. For the latter, it is also with high or very high confidence that its impacts can be attributed to climate change and that adverse impacts are increasing. In the projections researchers describe that at a warming of 2 °C, more than a third of the population will experience water scarcity in southern Europe and the frequency of extreme agricultural droughts in the majority of the Mediterranean region is projected to be 150 % to 200 % more likely. The risk for water scarcity is expected to double at a 3 °C warming and the probability of droughts is over 200 % more likely at 4 °C. Researchers express medium confidence for these projections (IPCC, 2023b).

This aligns with the presumption that the French Mediterranean region is more vulnerable to climate change due to its geographical characteristics. The region's susceptibility is attributed to its location in a transitional zone, where the hot, dry climate of Africa meets the cold, humid air masses from northern Europe (Chaouche et al., 2010). Further, researchers presume that in southern France the overall warming trend has been significantly intensified by shifts in atmospheric circulation patterns, marked by the northward expansion of the subtropical high-pressure system during spring and summer (Lespinas et al., 2010).

Referring to Gibelin and Déqué (2003), Norrant and Douguédroit (2005), Christensen et al. (2007) and Giorgi and Lionello (2007), Lespinas et al. (2010) note that both climate observations and modelling studies indicate a general trend toward increasingly dry and warm conditions in the Mediterranean region over recent decades and in the future. Mean temperatures in south-western France are described to have strongly increased since the late 1970s (Lespinas et al., 2010). When comparing the average decadal temperature increases, it becomes clear that the rise in south-western France is exceptionally high. Between 1979 and 2005, the average global continental decadal temperature increase was 0.27 °C, while for the Northern Hemisphere it was 0.33 °C. However, for south-western France researchers determined a value of 0.49 °C from 1979 to 2004 (Brohan et al., 2006; Lespinas et al., 2010).

In addition to rising temperatures, the frequency of heatwaves is projected to increase. Regardless of the climate scenario used for prediction, researchers conclude that heatwaves in France will become more frequent, last longer on average, and have greater intensity. Furthermore, the period during summer when they are likely to

occur is expected to expand (Ouzeau et al., 2016). In the final 30 years of the 21st century, typical heat waves are projected to last longer and be more intense than the 2003 summer heatwave, which resulted in 15.000 deaths over two weeks in August. These extreme temperatures were accompanied by severe soil and hydrological droughts, impacting numerous economic sectors, including crop yields in agriculture and the occurrence of forest fires (Bador et al., 2016; Ouzeau et al., 2016).

The intensity of the heatwaves during the 2022 summer were classified as not exceptional for the current climate. Whilst the persistence of the heat throughout the summer was categorised as a 200-year event, human influence was estimated to have increased its likelihood by a factor of 500 and contributed to a temperature rise of 1.5 °C. In the Northern Hemisphere, with a focus on Europe, human influence has increased the probability of drought events like that of 2022 by a factor of three to six. If a strong global warming scenario is used as reference, the level of drought observed could become the new normal by the end of the 21st century (Mittelberger et al., 2024).

Focussing on the precipitation, temperature and evapotranspiration of the Pyrénées-Orientales and Aude region, Chaouche et al. (2010) observed a warming of 1.1 to 1.5 °C in annual temperatures between 1970 and 2006. This aligns with the 1.4 °C increase from 1965 to 2004 observed in the Languedoc-Roussillon region (Lepinas, 2008). The results of a study indicate a marked seasonality for the changes observed in Pyrénées-Orientales and Aude. Monthly temperature increases in Pyrénées-Orientales and Aude were especially noted in April, August and October. An increase in potential evapotranspiration and temperature, coupled with a decline in rainfall, was observed particularly in May and June. A decrease in precipitation was prominent in autumn. These conditions contribute to soil drying, which may have adverse effects on groundwater resources (Chaouche et al., 2010).

Water resources are already a significant concern in the Pyrénées-Orientales and Aude departments (Chaouche et al., 2010). The consequences of changing climate conditions, such as increasing temperatures and decreasing precipitation, are, for example, evident in vegetation or agriculture. A study indicated a rising altitude trend for alpine and subalpine vegetation, which indicates the loss of suitable habitats. Predictions for 2080 estimate an average loss in potential ranges of 92 % to 100 % for

alpine grasslands, 77 % to 98 % for (sub)alpine scrublands, and 69 % to 96 % for sub-alpine forest (Pérez-García et al., 2013).

In south-western France, agricultural production as in grapevine yield is threatened by water scarcity resulting from increasing dryness (Fernandez-Mena et al., 2023 referring to Fraga et al., 2016 and Quénot et al., 2017). A study examining the grapevine yield gap in the Languedoc-Roussillon region identified several factors influencing annual grapevine yield, including soil available water capacity, the climate dryness index, and the number of very hot days (Fernandez-Mena et al., 2023). Another study found that 28 % of the winegrowers in their sample had to irrigate their vines already, due to the lack of precipitation. Many additional winegrowers indicated that they would likely need to irrigate their vines as climate changes continue. Interestingly, farmers' perceptions of water scarcity appear to be a stronger motivator for future irrigation projects than actual water scarcity itself (Graveline & Grémont, 2021). This underscores the importance of media representations of the issue, as they likely shape the perceptions of many individuals regarding local climate issues (cf. Mahl & Guenther, 2023; Taddicken & Wicke, 2019).

2.3 Recent climate in Leucate and Cap Béar

According to the formerly mentioned newspaper articles the region mainly impacted by the drought in south-western France since 2022 is the department Pyrénées-Orientales. This is why this work will focus on this area taking Leucate and Cap Béar, Port-Vendres as two geographical points to frame the region of interest. Figure 1 shows the location of Leucate and Cap Béar, Port-Vendres. In order to verify the climatic conditions mentioned above that have been reported in French media, this chapter will consider the climatic phenomenon from a meteorological point of view. Port-Vendres is situated in the south of the department Pyrénées-Orientales close to the Spanish border, the climate station in this municipality can be found at Cap Béar. Leucate is located at the northern border of Pyrénées-Orientales in the department Aude. The air-line distance between the two locations is 45 km. Both locations have climate stations whose data is accessible through the association *Infoclimat* and its website “infoclimat.fr”. As precipitation and temperature are two core elements determining droughts,

these elements will be examined for the two weather stations in Leucate and at Cap Béar. The meteorological station in Leucate is located at an elevation of 42 meters and its coordinates are 42.92 ° north and 3.06 ° east. According to *Infoclimat* the archives for this station start in April 2000. Since the temperature data is only fully complete since 2002 and the precipitation data since 2005, the data before these years will not be considered in the following. The meteorological station at Cap Béar is situated at a height of 82 meters above sea level. Its coordinates are 42.52 ° north and 3.13 ° east. The archives of this station start in March 1973. Temperature and precipitation data are available continuously starting in 1983. Data from these two stations were taken to get a picture of the meteorological situation in the area of Pyrénées-Orientales during the past two decades. In the following these data will be presented and discussed.

Figure 1

Location of Leucate and Cap Béar (Figure based on maps from Département Pyrénées-Orientales, 2024 and d-maps, 2024)

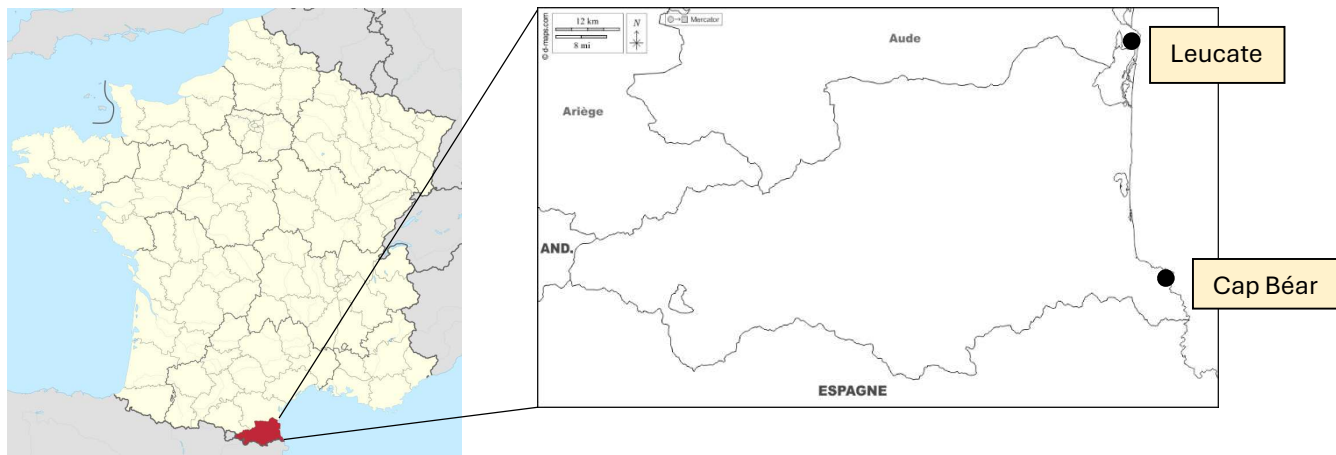


Figure 2 (page 13) shows the annual mean temperatures in Leucate between 2002 and 2023. The lowest values occurred in 2010 with 15 °C and in 2005 with 15.2 °C. The highest mean temperatures within this 22-year time span were measured in 2022 with a mean temperature of 17.4 °C and in 2023 with 17 °C. The annual mean temperatures of Cap Béar (figure 3, page 13) are very similar to the ones of Leucate. The lowest mean values were measured in 2010 and 2013 with 15.2 °C. In the warmest year 2022 the mean temperature was 17.9 °C and in 2023 it was 17.5 °C. Even though there is data available from 1983 onwards for the station of Cap Béar, only the data from 2002 onwards are shown in the diagram so that the diagrams of Leucate and Cap Béar can

be compared more easily. Both diagrams show that despite fluctuations on average the mean temperatures have been rising within the last two decades with the years 2022 and 2023 being the warmest years by far.

Figures 4 and 5 (page 14) show the annual precipitation values for Leucate and Cap Béar respectively. For Leucate there is only continuous data available from 2005 onwards, but for better comparability in both diagrams the scales start in 2002. The precipitation values at the two locations differ considerably more than the temperature values. The annual precipitation in the considered period of time in Leucate ranged from 204 mm in 2012 to 724 mm in 2018. The mean value from 2005 to 2023 is 368 mm. At Cap Béar however, the annual precipitation was between 294 mm in 2023 and 883 mm in 2011. The average for the years 2002 to 2023 is 563 mm, which is almost 200 mm more than in Leucate. Whilst the trend for Cap Béar is clearly towards lower precipitation values, in Leucate there seems to be an opposing trend. But since the covered time span is limited and the precipitation between 2018 and 2021 have been surpassing the average by far, these values might lead to a false impression regarding the actual development of precipitation values. In Leucate and at Cap Béar the annual precipitation in 2022 and 2023 was amongst the lowest values within the past two decades.

Since the focus of this work is on the drought starting in 2022, the available values were averaged for the time spans from 2002 to 2021 and from 2022 to 2024 in order to compare the recent values to a long-term average. Given this work is written in 2024, comprehensive data for this year was not yet fully available. Nevertheless, the data already accessible for 2024 has been included to ensure the broadest possible data basis. Figures 6 and 7 (page 15) show the monthly mean temperatures of the two different time spans for Leucate and Cap Béar respectively. As could be seen in the annual mean temperatures already, the temperature values of the two stations show similar trends. The mean monthly temperature curves for 2022 to 2024 are entirely above the ones for 2002 to 2021. This underscores the impression that the years from 2022 onwards were warmer than the ones before which figures 2 and 3 (page 13) already indicated. Temperature peaks from 2022 to 2024 which deviate from the curve progression of the 2002 to 2021 mean were in August and in October. On average, August emerged

as the warmest month during the 2022 to 2024 period. From 2002 to 2021 the warmest month on average was July. In Leucate, the average monthly temperature deviation from 2022 to 2024 compared to 2002 to 2021 was + 1.1 °C, while for Cap Béar the deviation was + 1.4 °C.

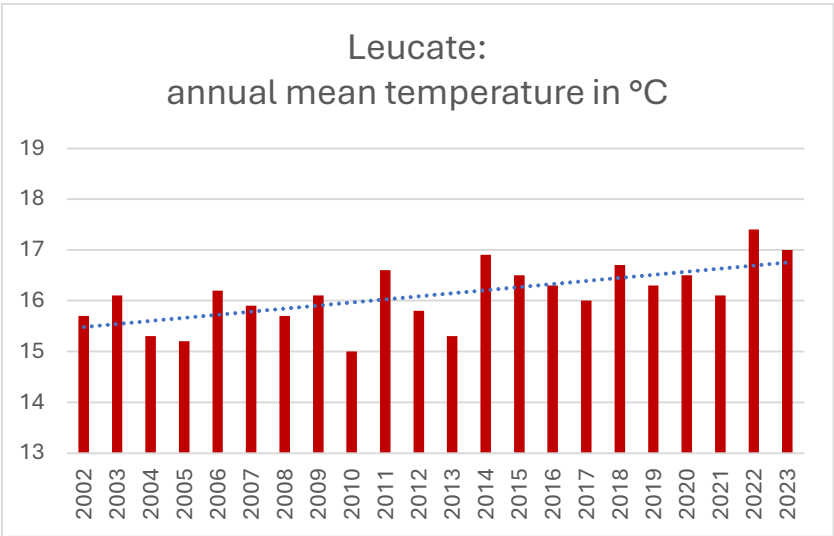
The monthly precipitation values for the two stations show similar patterns when comparing the 2002/2005 to 2021 means and those of 2022 to 2024, as can be seen in figures 8 and 9 (page 16). The months with the largest difference between the two periods of time are October and November, showing a large decrease in precipitation in 2022 to 2024 compared to the preceding two decades. The typical autumn precipitation maximum characteristic of the Mediterranean climate in southern France falls short at both locations during the most recent period. For the vast majority of the other months the mean precipitation was lower for the years 2022 to 2024. One striking exception is the month of March in which the precipitation was higher in the latter time span. When looking into the individual values it becomes clear that this peak has been caused by an exceptionally high value of precipitation in March 2022. Apart from this the cumulated precipitation values from 2022 to 2024 at Cap Béar seem to fall below the former average to a greater extent than the ones in Leucate. In Leucate, the average monthly precipitation deviation from 2022 to 2024 compared to 2002 to 2021 was – 11 mm, while for Cap Béar the deviation was – 21 mm.

Taking all these meteorological values into consideration it can be noted that in the investigated area the years 2022 to 2024 have been warmer compared to the two preceding decades. In terms of precipitation the deviations are not as clear as with temperature. Although monthly variations are notable throughout the year, it is evident that the average precipitation values for 2022 to 2024 fall below the mean levels of the preceding two decades. The French newspaper *Le Monde* reported that since 2022 there has been a severe drought in the Pyrénées-Orientales region (Dagorn et al., 2024). The IPCC (2023a) defines drought as an unusually severe period of water scarcity impacting ecosystems and human populations, typically resulting from low rainfall, elevated temperatures, and/or strong winds. The IPCC distinguishes among different types of droughts: hydrological droughts, which are periods marked by substantial declines in runoff and water levels in rivers, lakes, and reservoirs; agricultural and

ecological droughts, which involve unusual soil moisture deficits caused by a combination of low precipitation and high evapotranspiration rates; and meteorological droughts, characterised by unusually low precipitation. In light of these different drought definitions and the climate data from the two stations, it appears reasonable to support prior reports of a drought in the Pyrénées-Orientales region beginning in 2022 (cf. Dagorn et al., 2024; Valo, 2024). The precipitation values suggest the presence of a meteorological drought, and the combination of limited rainfall and higher temperatures which cause higher levels of evaporation, likely contributed to a period of agricultural and ecological drought in recent years in this region.

Figure 2

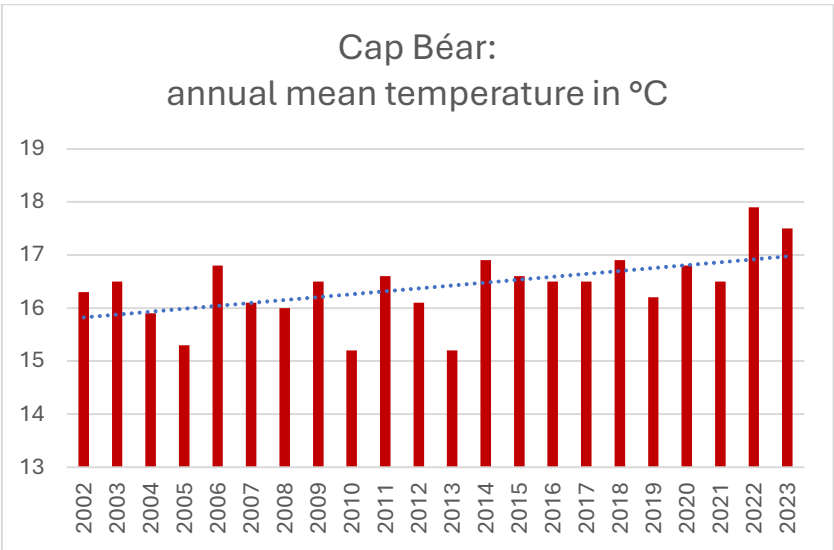
Annual mean temperatures in Leucate from 2002-2023



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 3

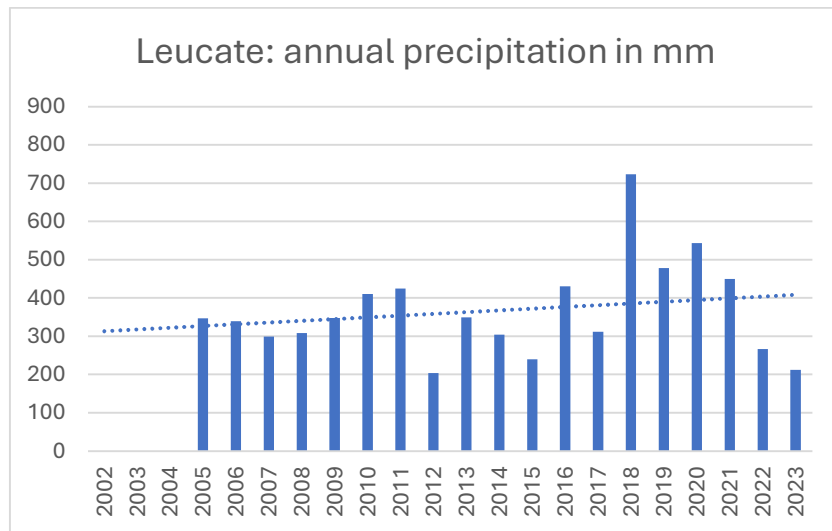
Annual mean temperatures at Cap Béar from 2002-2023



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 4

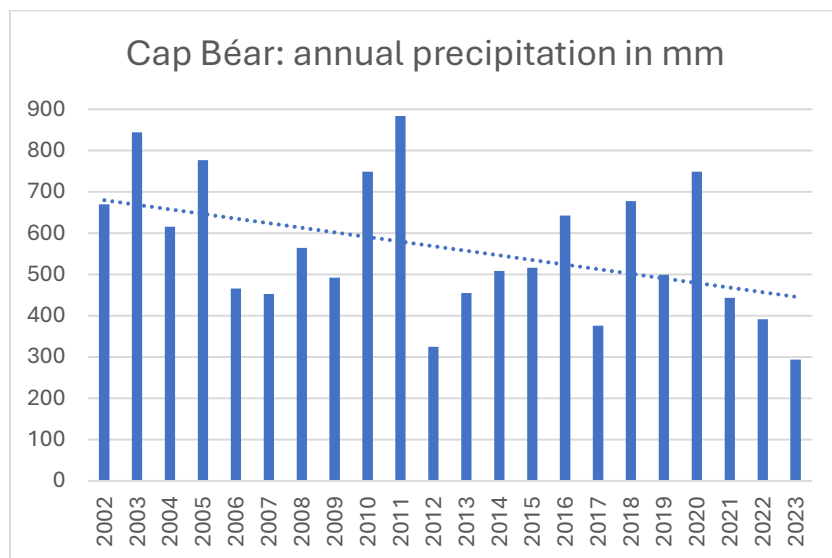
Annual precipitation in Leucate from 2005-2023



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 5

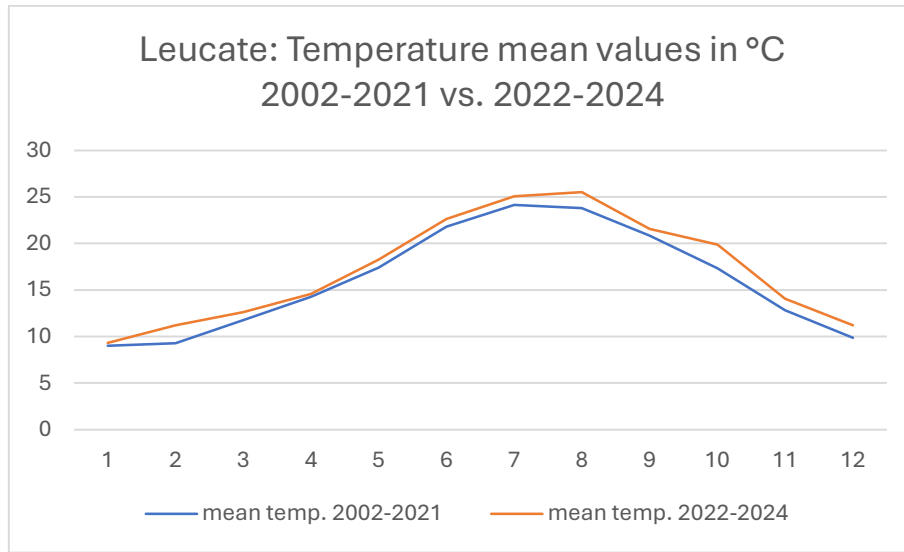
Annual precipitation at Cap Béar from 2002-2023



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 6

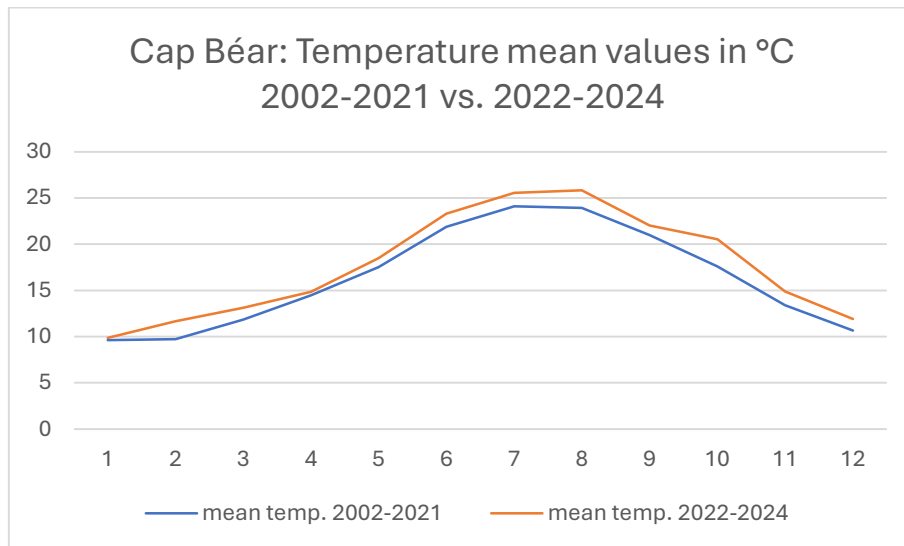
Monthly mean temperatures in Leucate from 2002-2021 and 2022-2024



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 7

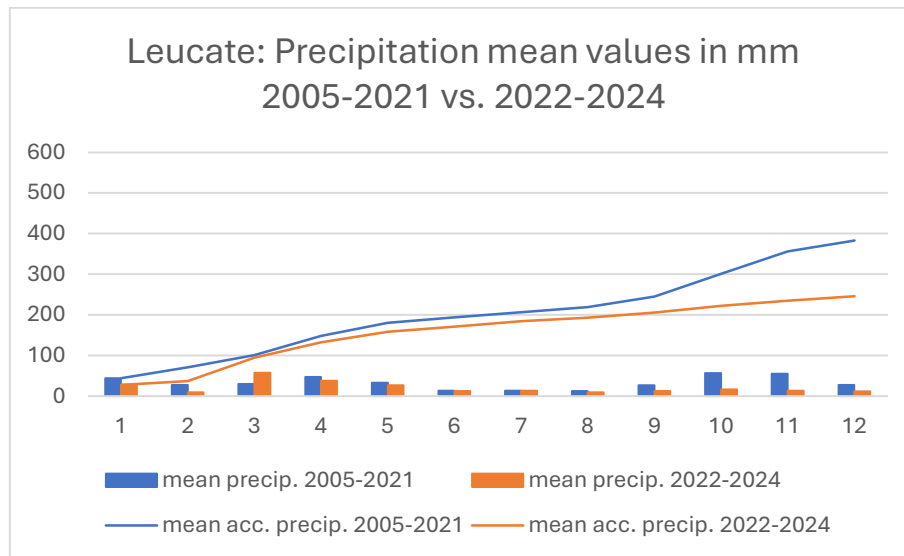
Monthly mean temperatures at Cap Béar from 2002-2021 and 2022-2024



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 8

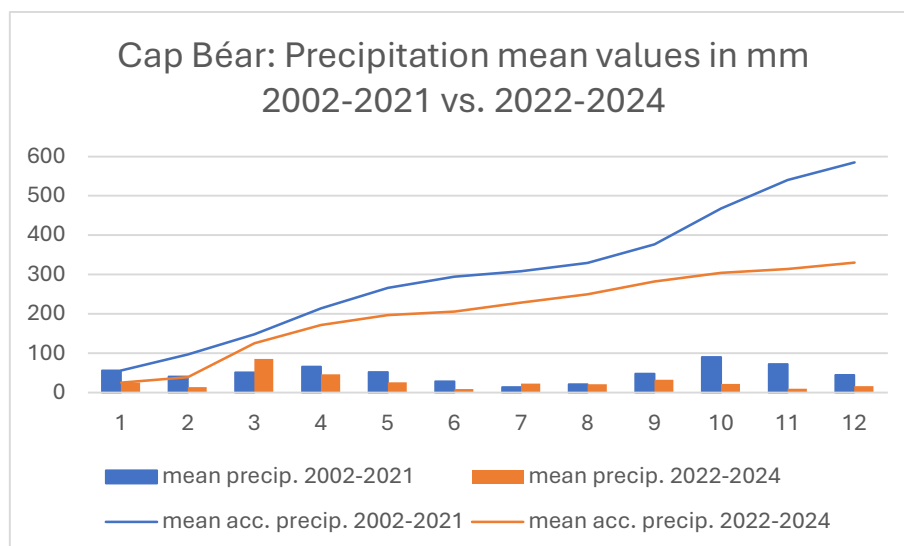
Mean monthly and cumulated precipitation in Leucate from 2005-2021 and 2022-2024



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

Figure 9

Mean monthly and cumulated precipitation at Cap Béar from 2002-2021 and 2022-2024



Note. Data from Infoclimat (Association Infoclimat, 2024). Figure created by the author.

3 Political measures on the drought in south-western France

In order to manage and ensure the water supply in France and as a reaction to drought conditions, the government uses a system with different alert levels to limit water use where necessary. This management system is used nationwide, but it is coordinated on a departmental level for the individual municipalities. In the following, this system will be looked at in more detail with a focus on the department Pyrénées-Orientales. Independent of this water management system, on 30 March 2023 the French president Emmanuel Macron presented the “Plan eau” which is a strategic action plan developed by the government to promote measures aimed at improving water management and protecting water resources. The plan contained 53 measures targeting 13 objectives. On a short-term basis, the plan sought to prepare for the following summer and avoid shortage of drinking water. A long-term objective was to save ten percent water in all sectors by 2030 (Le ministère du Partenariat avec les territoires et de la Décentralisation, 2024; Présidence de la République, 2023).

The alert level management system to limit water use is regulated at the departmental level with the prefects, who represent the state within the departments and are subordinate to the Ministry of the Interior, classifying the municipalities in their department into four different levels of alert. These levels are called vigilance, alert, reinforced alert and crisis and describe an increasing state of crisis in this sequence. Depending on the level that municipalities are assigned to, there are different restrictions regarding the use of water in general and for agricultural and industrial use. The three levels alert, reinforced alert and crisis have the additional note that the use of rainwater, seawater and water resulting from the manual recycling of domestic water is not subject to the restriction measures. An advice people are given within all of the four levels is to limit individual water consumption and adopt eco-friendly practices (Préfet des Pyrénées-Orientales, 2024b-e).

Regarding the main measures in general, it can be noted that on the vigilance level people are mostly urged to limit their use of water, while on the following levels, these measures turn into prohibitions and more rigorous restrictions. The administrative prefecture publishes information sheets that summarise the main measures

according to the levels for the public. The information sheet for the vigilance level in August 2024 encouraged people to optimise their consumption of water and prevent the waste of water concerning lawns, flowerbeds, green spaces, roundabouts, vegetable gardens, sports fields, and golf courses. The prefecture further advised to limit the cleaning of terraces, facades and roadways with an exception for automatic sweeping machines. It was prohibited to discharge wash water into public spaces and to wash boats outside of designated maintenance areas. For agricultural uses, water consumption was to be limited to the strict necessities. The operation of open-circuit fountains had to be limited. The public was urged to avoid the refilling, topping off and draining of pools and water bodies in general (Préfet des Pyrénées-Orientales, 2024e).

For the three higher levels of alert, measures were similar, but limitations were mostly turned into prohibitive measures. Consequently, if a municipality was assigned the second level of alert, it was prohibited to water lawns, roundabouts, planters, vegetable gardens, flowerbeds, and sports fields during the day. However, this prohibition was exempted from eight o'clock in the evening until nine o'clock in the morning. It was also prohibited to water golf courses unless water sourced from a reuse process was used. Measures concerning the cleaning of terraces, facades and roadways were also intensified by prohibiting high-volume cleaning in these areas, except in cases of construction work. In comparison to the vigilance level, water extraction volumes for agricultural use had to be reduced by up to 25 % at the alert level. Further, it was prohibited to fill or drain pools and water bodies, whilst topping off was still permitted. Measures that were newly added in the alert level were the prohibition to wash vehicles except at car washes with a water recycling system, the prohibition to wash vessels except for sanitary imperatives and in accordance with the port management charter and the prohibition to create or deepen a well except for those intended for drinking water (Préfet des Pyrénées-Orientales, 2024b).

The measures at the reinforced alert level mainly corresponded to those of the alert level. However, there were a few adjustments that strengthened the measures. Regarding the prohibition on watering lawns, roundabouts, planters and flower beds, the prefecture limited the exception to the mayor having the authority to permit watering of planted trees and shrubs from eight o'clock in the evening until two o'clock in the

morning, provided that a layer of mulch was applied. The exception to the prohibition on watering sports fields was limited to a watering permit for two nights per week. Golf courses could only be watered with water from a reuse process from eight o'clock in the evening until two o'clock in the morning. Lastly, water extraction volumes for agricultural use had to be reduced by up to 50 % at the reinforced alert level, compared to a 25 % reduction at the alert level (Préfet des Pyrénées-Orientales, 2024c).

At the crisis level, the prefecture implemented a suspension of agricultural water extraction, except for the preservation of production tools under specific conditions outlined in a prefectural decree. Furthermore, it was prohibited to fill and top off private pools, unless required for safety imperatives. In addition, the decrees that specify the temporary duration of the enacted measures also provided information regarding the permissions for agricultural irrigation within the municipalities. For this purpose, the municipalities were categorised into two groups. On a daily basis, the decrees outlined whether each group was granted irrigation authorisation (Préfet des Pyrénées-Orientales, 2024d).

A framework decree specified the trigger conditions that were considered when determining the level of alert that was ascribed to a municipality. These conditions were for example flow thresholds, piezometric levels, dry riverbed observation data, reference stations and nodal points and reserve stocks for low-water support (Préfet des Pyrénées-Orientales, 2024a). The website *VigiEau* (vigieau.gouv.fr) published by the national Ministry for Ecological Transition provides information on the levels of alert that are ascribed to the municipalities. Apart from the current restrictive decree the website of the state services of the Pyrénées-Orientales allows to view past enacted measures dating back to July 2016. 22 decrees have been enacted between the beginning of 2022 and September 2024. The decrees' regulations outline penalties for the non-compliance with the enacted measures. Since February 2023 continuously imposed measures have been in place until the end of October 2024. In accordance with the currently enacted decree there are maps available for the general usage of water and for the agricultural and industrial usage. The map for general usage illustrates the classification of municipalities according to the alert levels, employing a colour-coding system. The map for agricultural and industrial usage is based on the general map.

Additionally, areas where groundwater restrictions are in place are highlighted. For this purpose, the two alert levels “reinforced alert” and “crisis” are applied.

The website *VigiEau* also allows to view applicable regulations based on a specific location. It allows to differentiate between various water sources, since depending on the sources there can be different measures enacted. Further, it provides a tool designed to raise awareness of individuals’ personal water consumption and gives tips for saving water. The website seems primarily designed to provide private individuals and households with information about the measures currently implemented.

It appears that the enacted measures mainly address the symptoms of the drought. They respond, for instance, to water scarcity by imposing restrictions on public usage. However, it would be worthwhile to explore the extent to which these measures are also designed as preventive strategies to ensure that water resources do not become scarce in the first place. Given the probable connection between drought and climate change, it would be pertinent to investigate how the drought has prompted additional efforts in climate policy to mitigate the occurrence of such climatic phenomena in the future.

In an interview in July 2023, political scientist and climate expert François Gemenne commented on the political responses to France’s water shortage through various measures. He argued that the restrictions only had a minimal impact on the water balance and questioned the usefulness of such authoritative measures, even in the short term, as they may be discouraging for individual action in the long run. He challenged the effectiveness of small-scale restrictions by giving the example of paddling pools that, just before being prohibited, were heavily promoted and sold at low prices in hardware stores. This restriction was also criticised since filling permanent pools remained permitted. Another regulation that Gemenne criticised was the ban on individuals watering their gardens and lawns, which, he argued, had minimal impact on water conservation yet could negatively affect insects and biodiversity in residential areas. In addition, he described such restrictions as both challenging to enforce and potentially intrusive. Instead, Gemenne suggested that more substantial water consumers, such as nuclear power plants, industry and agriculture should be targeted for structural changes. At this point, however, it should be noted that the previously

mentioned “Plan eau” targeted all major water consumers, including agriculture, nuclear power plants and private households, with the goal of reducing water usage by ten percent by 2030 (Le ministère du Partenariat avec les territoires et de la Décentralisation, 2024; Présidence de la République, 2023). Gemenne further suggested the use of greywater, which is lightly contaminated water from showers, sinks or washing machines, suitable for irrigation of gardens and fields. Regarding agriculture, he questioned the appropriateness of cultivating water-intense crops like corn and engaging in livestock farming, which also strains water resources (Joeres, 2023).

In summary, the “Plan eau” represents the government’s strategic framework for addressing dry conditions broadly. The system with four levels of alert, tailored to local conditions in individual municipalities, imposes restrictions on water usage by the public, private individuals, and agricultural sectors, serving as a more specific response to observed climatic conditions. The measures implemented in some municipalities have faced criticism for targeting the wrong levers of action, potentially undermining public support for future initiatives.

4 Representation of the drought issue in French media

4.1 Media analysis

Different studies have examined the role of media with regard to people's perception, knowledge and awareness of climate change. To begin with, they seem to agree that mass media are an important source of information on climate change. Not only is it stated to be a reliable source (Schäfer & Bonfadelli, 2017), but it is also ascribed the role of serving as a foundation for decision-making on the issue (Taddicken & Wicke, 2019). Further, Mahl and Guenther (2023) describe how media provide access to the knowledge on risks and possible solutions but also on political and societal debates regarding climate change.

Several works emphasise that, in addition to providing information, the media play a role in raising the audience's awareness (Brüggemann et al., 2018; Hmielorz & Löser, 2007; Mahl & Guenther, 2023; Taddicken & Wicke, 2019). According to Hmielorz and Löser (2007), regional examples are particularly effective in fostering this awareness by provoking a sense of concern. This process is said to enhance public acceptance of measures aimed at reduction or adaptation of the issue. In line with this, a further study (McManus, 2000) suggests that fewer associations with the audience's everyday lives in the media may lead to a feeling of disconnection, possibly resulting in inaction. Brüggemann et al. (2018) refer to a study from the United States (Brulle et al., 2012) pointing out that the coverage of politicians' statements reported in media is a predictor of influence on climate awareness. At the same time, the number of scientific publications such as those in journals did not impact the awareness. Researchers thus concluded that the activities of climate science alone, without their media representation, have no effect on broad public climate awareness. Extreme weather events had a negligible influence. Whilst catastrophic scenarios are said to lead to the perception of climate change as an important issue, they also intensified feelings of helplessness regarding the ability to address the issue through personal action (Brüggemann et al., 2018).

Taddicken and Wicke (2019) stress that not only individuals' awareness but also their knowledge and attitudes regarding climate change correlate with media

consumption. The authors further draw to media being the predominant source of the public's knowledge about climate science and policy. Apart from serving as a source of information and a driver of awareness, media coverage is said to be decisive for people's perception of the issue (cf. Mahl & Guenther, 2023; Taddicken & Wicke, 2019). Beyond perception, it is presumed that individual and social negotiations are influenced. In this context, media coverage is believed to serve as a crucial resource in the processes of meaning attribution and appropriation (cf. Taddicken & Wicke, 2019). Mass media are claimed to be forums of public communication enabling a broad audience to participate at least passively in communication processes (Brüggemann et al., 2018 referring to Ferree et al., 2002 and Neidhardt, 1994). In terms of shaping opinions, the debates represented in the media are considered to provide citizens and political elites with guidance (Brulle et al., 2012).

Brüggemann et al. (2018) emphasise that the debates on climate change in media influence how individuals in their roles as consumers, political and economic decision-makers respond to climate change individually but also through climate policies. Consequences of (neglected) adaptation and mitigation measures which may result from these responses could ultimately feed back into the climate system (Brüggemann et al., 2018). However, Schäfer and Bonfadelli (2017) state that in the context of climate change the effects of media on the behaviour of audiences are not clear. In summary, it can be asserted that media and their representations of climate change are believed to function as source of information and knowledge and to have an influence on their audience's awareness, perception, opinion and participation regarding the issue.

In light of the insight regarding the role of the media in relation to climate change, it seems evident that the representation of climate change in the media can be attributed significant relevance. Several studies focussed on the representation of climate change in the media and more specifically in newspapers. For instance, it could be shown that in the United Kingdom and in the United States the representation of climate change matters would differ within one type of media like TV or newspapers (Brüggemann et al., 2018). Hmielörz and Löser (2006) observed that news coverage was seasonally changing, with heat being more prominent in summer whilst flooding

and its prevention dominating during the other seasons. A similar finding showed that the media coverage of climate change was highly event-driven (cf. Schäfer & Bonfadelli, 2017). This is supported by a study on Canadian news coverage on climate change. The researchers identified national and international political events as the primary drivers of peaks as opposed to ecological or meteorological events (Stoddart et al., 2016).

It was noticeable in past studies how political actors and the government played an important role in media coverage. Horta et al. (2017) noted that political topics were dominating the media discourse on climate change and that in the Portuguese press political actors had the largest number of mentions. From this they concluded that government sources seemed to be the primary basis for news production on climate change. Similar patterns could be observed in Canada (Stoddart et al., 2016) and in South Korea (Yun et al., 2012). However, Horta et al. (2017) point out that in Greece, governmental actors were not the prevailing voices represented in the news (Gkiouze-pas & Botetzagias, 2017).

Whilst this work is not about climate change in general but focusses on the drought in the region around Pyrénées-Orientales, it is still connected to the issue of climate change. Considering the role of media's representation of climate change, it can be assumed that the representation of the drought in the region of the Pyrénées-Orientales department in the media may have a similar impact. This is why the representation of the local issue will be investigated in French media, using newspapers as a case study. In the context of analysing newspaper articles Yun et al. (2012) pointed out that the focus of media analysis is not on the story of an article but rather on how it is narrated and the way it is influenced by "human, systematic and technological networks". Building on the research approaches of previous studies (Ahchong & Dodds, 2012; Hmielorz & Löser, 2006; Hmielorz & Löser, 2007; Horta et al., 2017; Stoddart et al., 2016; Yun et al., 2012), the following analysis examines the representation of the drought in the region of the Pyrénées-Orientales since 2022 in two French newspapers.

Previous studies have employed various theoretical frameworks as foundation for their media analyses, using both quantitative and qualitative methodologies (McKay, 2006). Boykoff (2008) applied critical discourse analysis for his newspaper

analysis, which combines the examination of social constructions of reality with the analysis of language and its social, political and cultural contexts. Ahchong and Dodds (2012) referred to their methodology as content analysis. Yun et al. (2012) discussed media analysis in broader terms, describing it as a framework for exploring narrative processes and the influence of diverse networks on these processes. The present work concentrates on a specific part of the discourse surrounding the issue at hand, with the qualitative content of the articles, beyond ensuring their relevance to the drought in south-western France, being of secondary importance. Consequently, the more general term media analysis will be used to refer to the methodological approach used in this research.

The discourse on the drought in south-western France within French media will be analysed to determine how the climatic phenomenon of the drought possibly related to climate change is presented to the public. To examine the representation, online articles from the two largest French newspapers will serve as the data source. These newspapers, *Le Monde* and *Le Figaro*, are both daily publications based in Paris. *Le Monde*, founded in 1944, launched its first online edition in 1995 and is generally regarded to be centre to centre-left on the political spectrum. *Le Figaro*, established in 1826, founded its online newspaper in 1999 and is considered to be centre-right. The French alliance for press and media figures (in French *L'Alliance pour les Chiffres de la Presse et des Médias*, ACPM) releases different rankings for the reach of newspapers. In a ranking of the national daily press circulation in 2023/2024 *Le Monde* took the first place with 501.884 copies of which 420.806 were online. *Le Figaro* took the second place with 356.698 copies of which 266.431 were online. Another ranking focused on the national daily press audience for the first half of 2024. *Le Monde* took the first place again with 2.596.000 readers aged 15 and older, while *Le Figaro* ranked fourth with 1.643.000 readers in the same age group (ACPM, 2024).

In the following, the methodology for the media analysis concerning articles from the two newspapers, based on the previously mentioned studies, will be outlined. The results will then be presented, followed by an analysis and interpretation of the data.

4.2 Methodology

The source of data for the media analysis consists of online articles from the two French newspapers, *Le Monde* and *Le Figaro*, published between January 2022 and June 2024, focusing on the drought in the region of Pyrénées-Orientales. Since the printed versions of the newspapers for this period were not fully accessible, only the articles published on the newspapers' online platforms were used. Some of the online articles were freely accessible, while others were behind a paywall. Therefore, paid online subscriptions to both newspapers were obtained to access all articles. Using the search function on the newspapers' online platforms, the relevant articles were filtered. In addition to restricting the search period to January 2022 to June 2024, a set of search terms was employed to identify articles of interest. These search terms were "sécheresse Pyrénées-Orientales", "sécheresse Languedoc-Roussillon", "sécheresse Occitanie", "sécheresse Leucate" and "sécheresse Cap Béar". For *Le Monde*, this initial selection process yielded 105 articles, whilst the search results for *Le Figaro* consisted of 249 articles.

As a next step, these initial sets of articles were sorted for relevance. Whilst the Pyrénées-Orientales region is the primary area of interest, articles referencing the Aude department were also included, as Leucate is located within this area. Two sets of keywords were created to assess the articles' relevance. The first set addressed thematic relevance, while the second set served to limit by geographical scope. For inclusion in the analysis, an article's headline or introductory abstract beneath it had to contain at least one keyword from each set. If there was no abstract, the first paragraph was searched for keywords instead. An exception to these criteria was made when an article's headline, abstract or first paragraph clearly indicated a coverage of the drought in the area of interest, even if keywords were absent. In such cases, the article was still included in the analysis. The first set of keywords included the terms "sécheresse", "température", "précipitation", "canicule", "chaleur", "changement climatique", "réchauffement climatique" and "dérèglement climatique". The second set contained "Pyrénées-Orientales", "Aude", "Occitanie", "Languedoc", "Roussillon", "Languedoc-Roussillon" and any city located within the Pyrénées-Orientales or Aude departments. After applying these filtering criteria to the articles and after removing duplicates, a

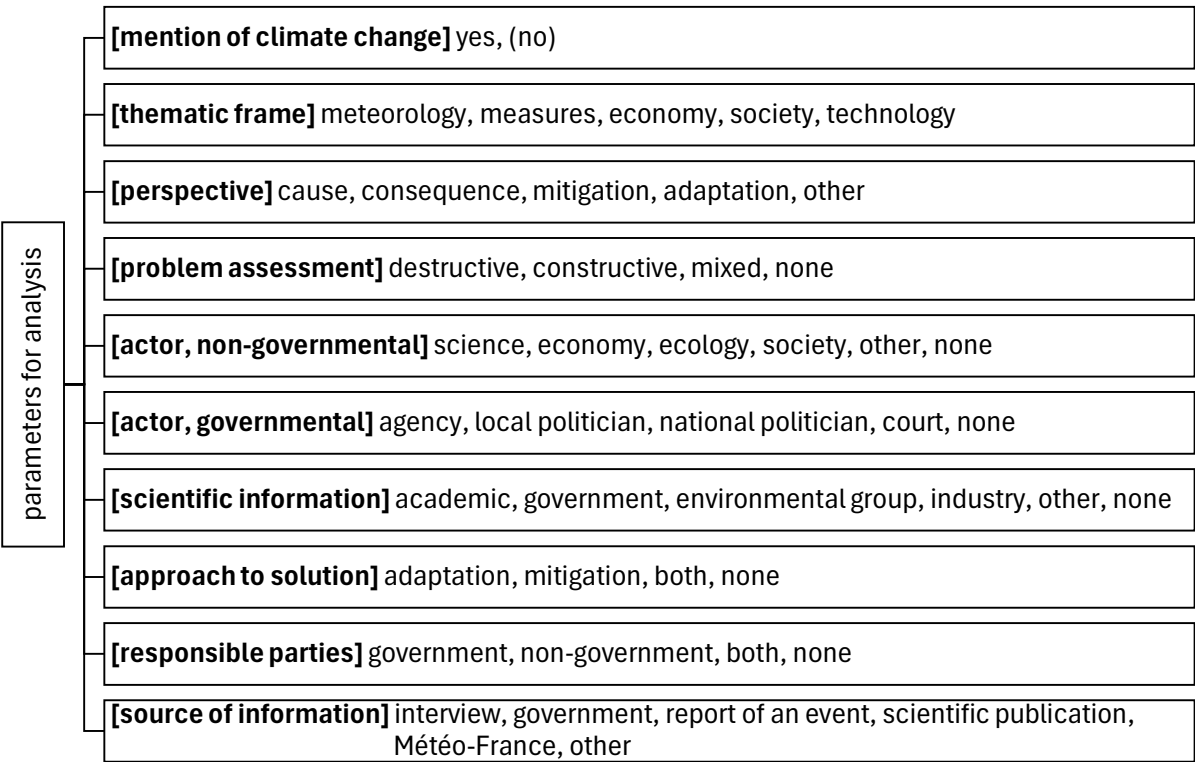
total of 63 articles remained, comprising 26 articles from *Le Monde* and 37 articles from *Le Figaro*.

In order to analyse the articles, different parameters were defined mostly based on those used by studies that examined newspapers' coverage of climate change (Ahchong & Dodds, 2012; Stoddart et al., 2016; Yun et al., 2012). For every article the year and month of publication as well as the word count were noted. Further, ten parameters were defined for classifying the articles. An overview of the parameters including their categories used for examination are depicted in figure 10. Four of these parameters allowed single categorisation only (mention of climate change, problem assessment, approach to solution, responsible parties), while for six parameters multiple categorisations were possible (thematic frame, perspective, actor non-governmental, actor governmental, scientific information, source of information). The first parameter with single categorisation examined whether the articles mentioned climate change with regard to the drought. The second one, "problem assessment", focused on how the drought issue was evaluated in the articles. A distinction was made between a rather destructive approach, which presented the issue in an alarmist manner by emphasising the problem and negative consequences, and a more constructive approach, which took an optimistic focus, for instance by mentioning potential coping strategies. The third single categorisation parameter examined approaches to solutions, more specifically, whether the articles rather mentioned adaptation or mitigation strategies for the drought issue and its consequences. The last of the parameters with single categorisation investigated whether it was rather governmental or non-governmental parties that were mentioned with regard to the drought. All other parameters permitted multiple categorisations. With five thematic frames, the general focus of the articles was classified. The parameter "perspective" examined the lens through which the issue of drought was addressed, distinguishing between causes, consequences, mitigation and adaptation. Additionally, it was an aim to find out which actors were referenced in the context of the issue. One parameter focussed on non-governmental actors, while another concentrated on governmental actors. The final two parameters targeted sources of information. One specifically analysed sources of scientific

information regarding the drought issue, while the other assessed the general sources of information of the articles.

To categorise the articles, during the process of reading them, Excel was used to record which categories applied to each article. If a category was relevant to an article, it was assigned a value of 1, if not, it was assigned a value of 0. This enabled the determination of the frequency of each category. Using these baseline values, it was then possible to assess how often the categories appeared either in relation to the number of all articles or to the articles from one of the two newspapers. The results of this categorisation process will be presented in the following subchapter.

Figure 10
Parameters of analysis of newspaper articles, mainly based on Ahchong & Dodds (2012)



4.3 Results

Altogether 63 articles met the criteria for selection for the time span of interest. Of those, 26 articles were published on the website of *Le Monde* and 37 articles on the one of *Le Figaro*. On average the articles had 769 words and a median of 654 words.

The articles of *Le Monde* were mostly longer than those of *Le Figaro*. The shortest article of *Le Monde* counted 231 words, the longest 2903 words. The 26 articles had a mean word count of 1021 words and a median of 885 words. *Le Figaro* published articles with 592 words on average and a median of 507 words. The smallest word count for an article was 197 words and the largest was 1342 words. In the following the results of the media analysis will be examined in detail. To uncover possible differences in the coverage of the two newspapers, the results will be analysed for all articles together and for each newspaper individually. Table 1 gives an overview of the results for all articles combined and for the sets of articles of the two newspapers individually. All values, except for the numbers for word count, refer to shares of the articles in relation to the respective categories.

Table 1

Results of the analysis of the newspaper articles

		All articles	<i>Le Monde</i>	<i>Le Figaro</i>
Word count mean / median		769 / 654	1021 / 885	592 / 507
Mention of climate change		0.33	0.42	0.27
Thematic frame	Meteorological	0.32	0.46	0.22
	Measures	0.44	0.31	0.54
	Economy	0.30	0.31	0.30
	Society	0.16	0.15	0.16
	Technology	0.03	0.08	0
Perspective	Cause	0.03	0.08	0
	Consequence	0.52	0.73	0.38
	Adaptation	0.49	0.42	0.54
	Mitigation	0	0	0
	Other	0.1	0.04	0.14
Problem assessment	Destructive	0.56	0.54	0.57
	Constructive	0.24	0.19	0.27
	Mixed	0.14	0.27	0.05
	None	0.06	0	0.11

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Table 1 continued

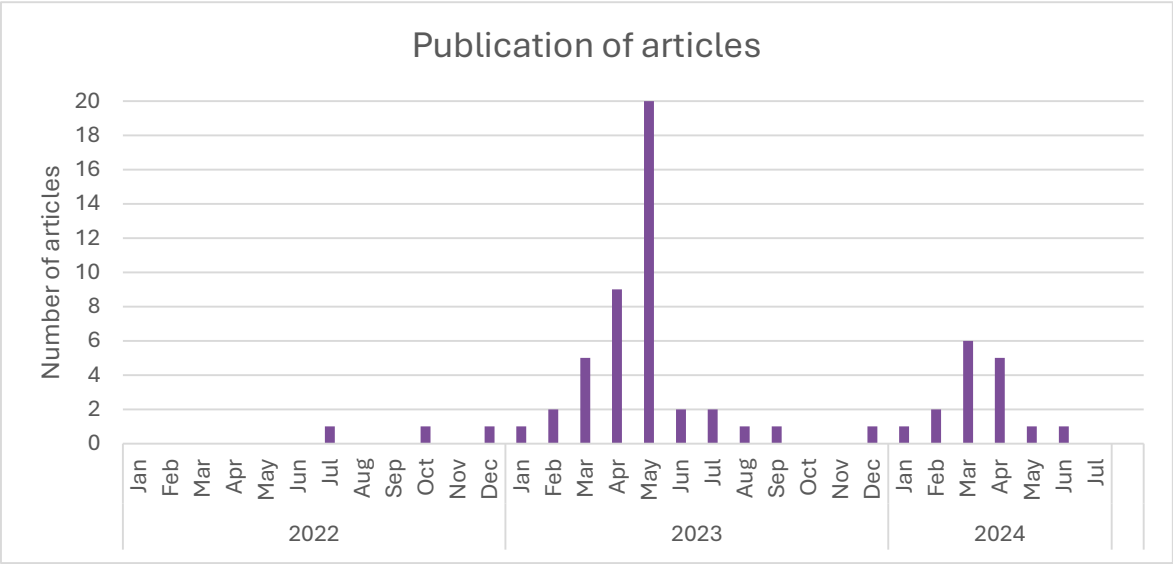
		All articles	Le Monde	Le Figaro
Actor non-governmental	Scientific	0.11	0.15	0.08
	Economic	0.56	0.5	0.59
	Ecological	0.1	0.19	0.03
	Society	0.1	0.08	0.11
	Other	0.08	0.08	0.08
	None	0.27	0.35	0.22
Actor governmental	Agency	0.35	0.5	0.24
	Local politician	0.48	0.42	0.51
	National politician	0.3	0.27	0.32
	Court	0.05	0.04	0.05
	None	0.24	0.19	0.27
Scientific information	Academic	0.08	0.12	0.05
	Government	0.14	0.15	0.14
	<i>Météo-France</i>	0.21	0.35	0.11
	Environmental group	0	0	0
	Industry	0	0	0
	Other	0.11	0	0.19
	None	0.57	0.54	0.59
Approach to solution	Adaptation	0.63	0.58	0.68
	Mitigation	0	0	0
	Both	0	0	0
	None	0.37	0.42	0.32
Responsible parties	Government	0.35	0.38	0.32
	Non-government	0.17	0.12	0.22
	Both	0.41	0.42	0.41
	None	0.06	0.08	0.05
Source of information	Interview	0.43	0.42	0.43
	Government	0.54	0.46	0.59
	Report of an event	0.13	0.12	0.14
	Scientific publication	0.02	0	0.03
	<i>Météo-France</i>	0.16	0.19	0.14
	Other	0.25	0.12	0.35

Note. Values refer to percentage of all articles of Le Monde for "Le Monde" (n = 26), all articles of Le Figaro for "Le Figaro" (n = 37) and all articles of Le Monde and Le Figaro for "all" (n = 63).

An examination of the publication dates reveals that articles were not published consistently over the two-and-a-half-year period. Instead, similar patterns emerged in the second and third years. In 2022, very few articles addressed the drought. A notable peak occurred in May 2023, accounting for nearly a third of all articles published. Overall, coverage of the drought issue was concentrated in March, April and May, with a marked decline during the autumn and winter months. Figure 11 illustrates the publication pattern within the timeframe of interest.

Figure 11

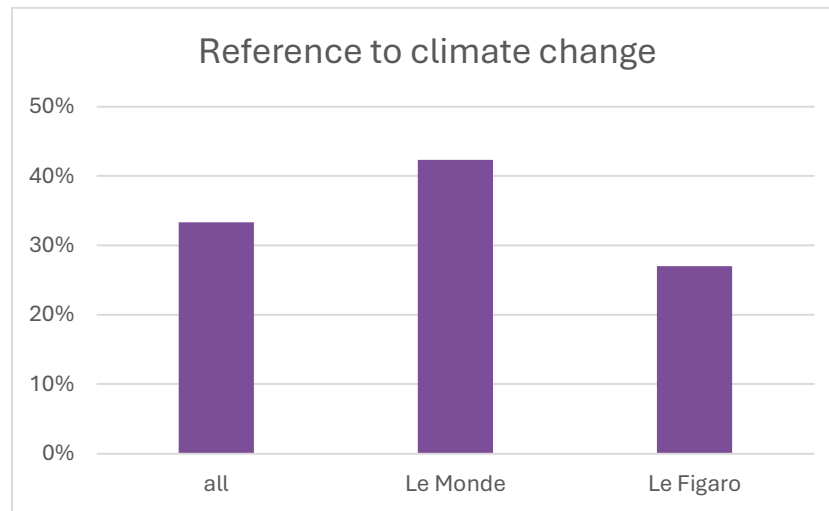
Published articles over the course of the examined period



The first parameter investigated was the articles’ reference to climate change in the context of the drought. There was no difference made regarding the extent of elaboration on the relation of climate change and the drought, but it was only examined if the articles mentioned climate change in relation to the matter. A third of all articles (33 %) referred to climate change in the context of the drought. The results show that in the *Le Monde* articles climate change was mentioned more often than in the *Le Figaro* articles. Whilst 42 % of all articles of *Le Monde* referred to climate change it was 27 % of the *Le Figaro* articles. The results for the reference to climate change are depicted in figure 12.

Figure 12

Reference to climate change in the articles

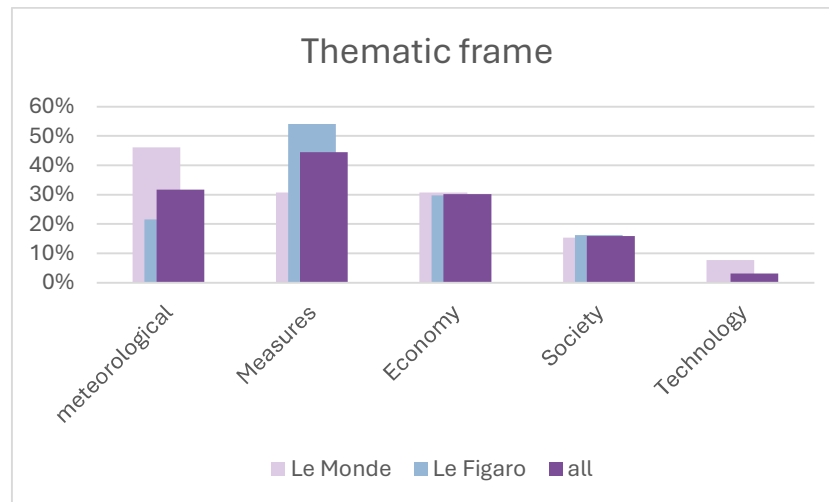


Note. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26), all articles of Le Figaro for "Le Figaro" (n = 37) and all articles of Le Monde and Le Figaro for "all" (n = 63).

In order to examine the thematic focus of the articles, they were categorised by five thematic frames. Since some of the articles covered several fields of content, multiple categorisations within the thematic frames were possible. The thematic field that was covered most by all articles was measures regarding the drought with coverage in 44 % of the articles. The thematic frame that had the second most coverage was the meteorological frame with 32 % of the articles relating to it. For these two frames a large difference can be observed for the results of *Le Monde* and *Le Figaro*. More than half of the articles, namely 54 %, of *Le Figaro* mainly addressed measures regarding the drought. This was the case for 31 % of the *Le Monde* articles. At the same time 46 % of the articles of *Le Monde* covered the meteorological frame which was true for 22 % of the *Le Figaro* articles. At this point it is important to mention that the frames were assigned to an article if a considerable share of it covered a topic. If an article mentioned a field only marginally, for instance with one or two sentences, a frame would not be ascribed to it. The results for the addressing of the thematic frames are shown in figure 13.

Figure 13

Thematic frames used in the articles

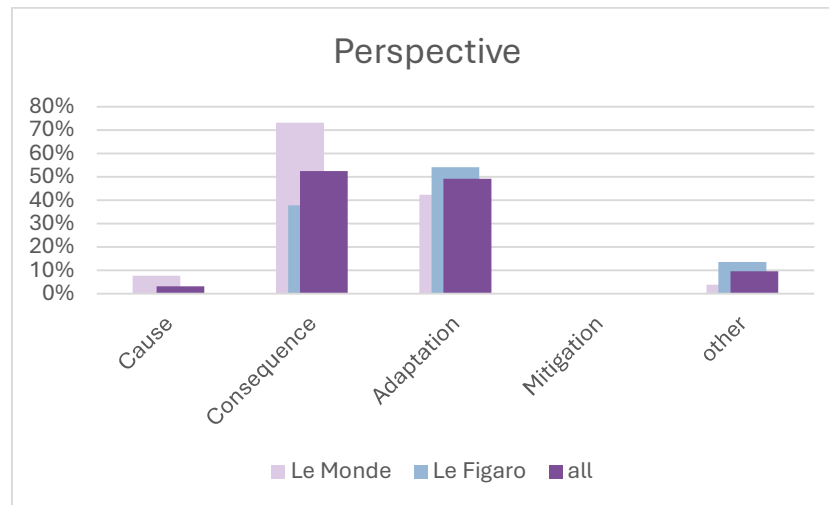


Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 34), all articles of Le Figaro for "Le Figaro" (n = 37, N = 45) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 79).

Apart from the topic of the articles, the perspective which they took regarding the climatic conditions was examined as well. As with the former parameter, if an article took more than one perspective, it could be ascribed to multiple categories. More than half of the articles, namely 52 %, focused on consequences which were provoked by the drought. With 49 % almost as many articles approached the matter by referring to ways of adapting to the conditions. The majority, which was almost three quarters (73 %) of the *Le Monde* articles referred to consequences. For the *Le Figaro* articles the perspective taken the most (54 %) was a focus on ways of adapting to the drought. None of the articles addressed possibilities for mitigating the issue. The findings on the perspectives taken in the articles are illustrated in figure 14.

Figure 14

Perspectives in the articles

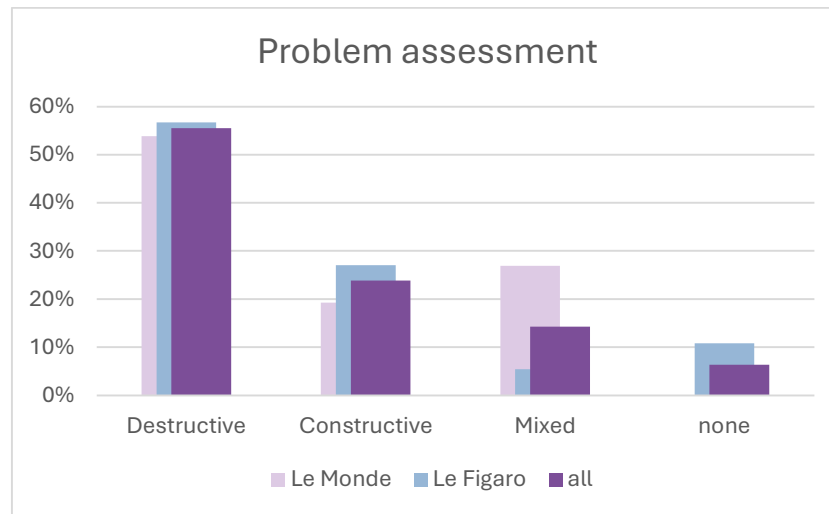


Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 33), all articles of Le Figaro for "Le Figaro" (n = 37, N = 39) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 72).

It was further investigated how the problem of the climatic conditions was assessed directly or indirectly. For this parameter one article could only be ascribed to one of the four categories. The majority which was 56 % of all articles depicted the problem destructively, meaning that they covered it in an alarmist way for instance by showing negative consequences without any possible solution. A quarter of the articles (24 %) assessed the issue in a constructive and optimistic manner. This manifested for example in talking about solutions or showing promising ways of coping with the climatic conditions. A substantial difference can be observed in the values for a mixed problem assessment, in which the articles had destructive as well as constructive parts. Whilst 27 % of the *Le Monde* articles took such a mixed approach, it was just 5 % of the *Le Figaro* articles. These results are shown in figure 15.

Figure 15

Problem assessment in the articles

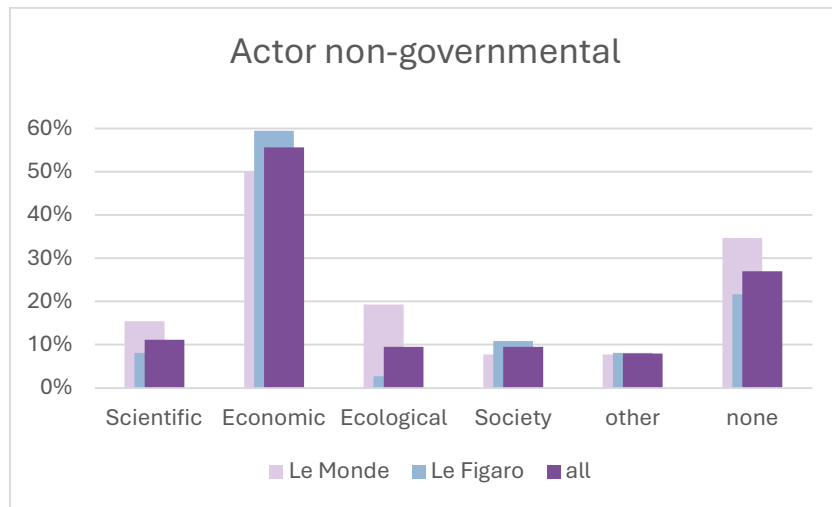


Note. Single categorisation only. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26), all articles of Le Figaro for "Le Figaro" (n = 37) and all articles of Le Monde and Le Figaro for "all" (n = 63).

Two parameters examined the actors that were represented in the articles. On the one hand it was differentiated between different non-governmental actors and on the other hand between governmental actors. For both parameters multiple categorisations were possible. The non-governmental actors most prominently represented in the articles, by far, were economic. They were referred to in 56 % of all articles, in 50 % of the *Le Monde* articles and in 59 % of the *Le Figaro* articles. Both scientific and societal actors were mentioned in around 10 % of the articles. The value for ecological actors is similar with regard to all articles. However, when looking at the individual results for the two newspapers it stands out that 19 % of the *Le Monde* articles but only 3 % of the *Le Figaro* articles covered ecological actors. For governmental actors those mentioned the most in all articles were local politicians (48 %). Agencies are referred to as second most with 35 %. It is noteworthy that agencies are referenced twice as often in *Le Monde* articles (50 %) compared to *Le Figaro* articles (24 %). With 30 %, national politicians were mentioned in around a third of all articles. The results for the actors represented in the articles are depicted in figure 16 for non-governmental actors and in figure 17 for governmental actors.

Figure 16

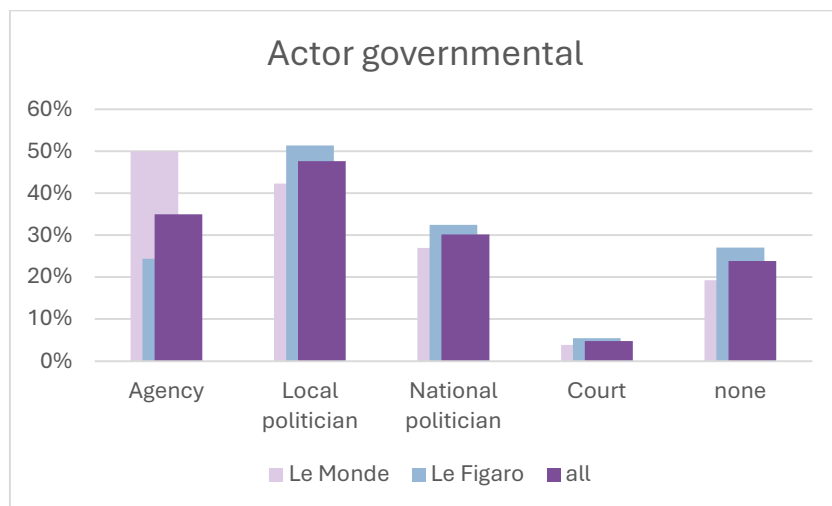
Non-governmental actors in the articles



Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 35), all articles of Le Figaro for "Le Figaro" (n = 37, N = 41) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 76).

Figure 17

Governmental actors in the articles

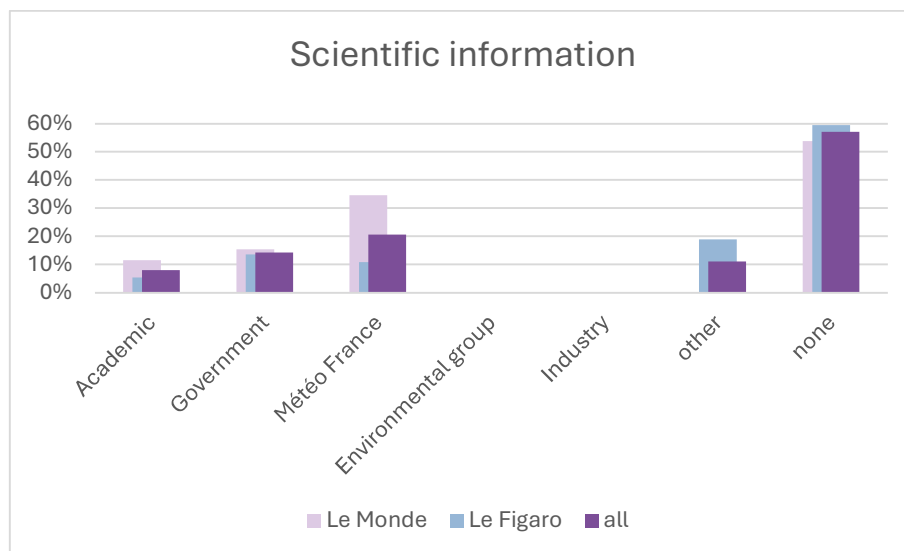


Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 37), all articles of Le Figaro for "Le Figaro" (n = 37, N = 52) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 89).

For the next parameter multiple categorisations were possible as well. When looking at the source of scientific information in the newspaper articles it becomes clear that with 57 % the vast majority of the articles did not contain any scientific information. For the rest the most prominent source was *Météo-France* (21 %), being more important within the *Le Monde* articles with 35 % than for the *Le Figaro* articles which used the French meteorological administration as a source in 11 % of its articles. Other relevant sources were the government (14 %) and academic ones (8 %). The latter was referred to more often in *Le Monde* articles (12 %) than in *Le Figaro* articles (5 %). The findings concerning the source of scientific information are illustrated in figure 18.

Figure 18

Source of scientific information in the articles



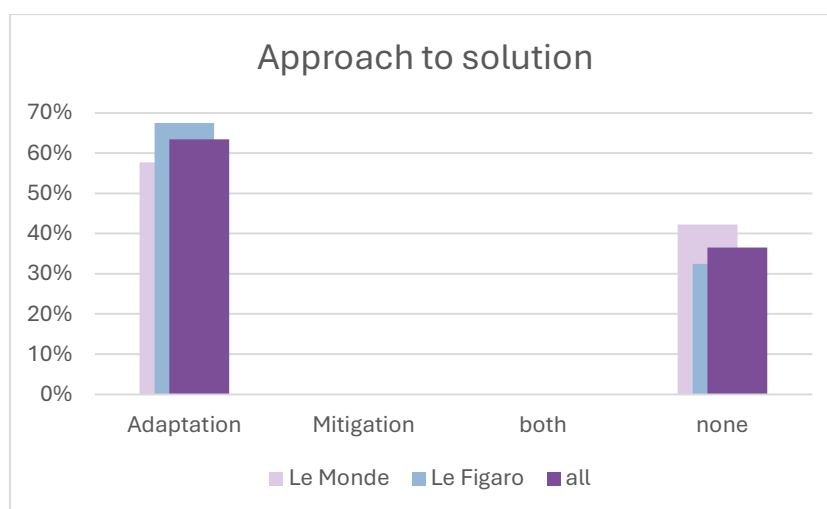
Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 30), all articles of Le Figaro for "Le Figaro" (n = 37, N = 40) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 70).

The following parameter examined the approach to possible solutions for the issue, differentiating between adaptation and mitigation. Whilst these categories were already part of the perspective parameter determining the focus of the articles, the solution parameter solely concentrated on whether and how the articles addressed approaches to solutions. For the latter, each article was only ascribed to one of the

categories. If approaches were addressed in the articles, they were exclusively adaptive in nature. This was the case for 63 % of all articles, even more so in *Le Figaro* articles with 68 % than in *Le Monde* articles with 58 %. Not a single article addressed possibilities for mitigating the issue. Correspondingly, 37 % of all articles did not refer to any approach to solutions. These findings are depicted in figure 19.

Figure 19

Approaches to solutions in the articles

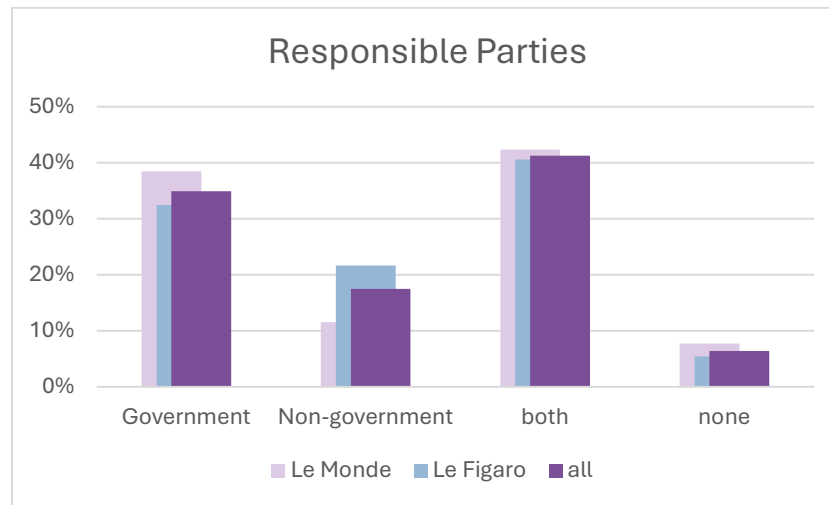


Note. Single categorisation only. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26), all articles of Le Figaro for "Le Figaro" (n = 37) and all articles of Le Monde and Le Figaro for "all" (n = 63).

It was also examined which responsible parties were referred to in the articles. For this parameter only a single categorisation was possible. In most cases, which means in 41 % of all articles, government as well as non-government were presented as responsible parties. If just one of them was referred to, it was more often the case for governmental actors (35 %) as for non-governmental ones (17 %). In these cases, *Le Monde* articles referred more often to the government (38 %) than *Le Figaro* articles (32 %). At the same time, *Le Figaro* articles mentioned non-governmental entities more often as responsible party (22 %) than *Le Monde* articles (12 %). These results are illustrated in figure 20.

Figure 20

Responsible parties in the articles

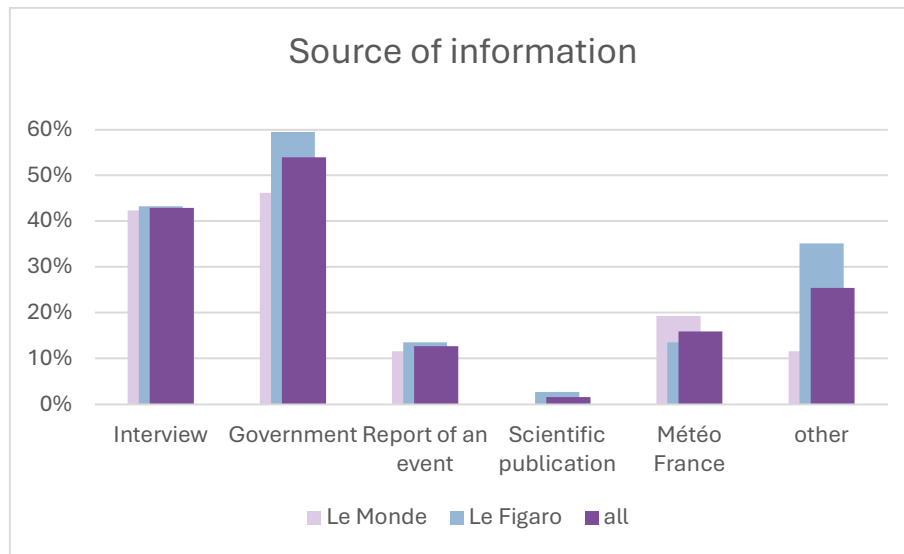


Note. Single categorisation only. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26), all articles of Le Figaro for "Le Figaro" (n = 37) and all articles of Le Monde and Le Figaro for "all" (n = 63).

The last parameter investigated the general source of information mentioned in the articles. Multiple categorisations were possible for this parameter. The government served as primary source of information with 54 % of all articles referencing information from it. *Le Figaro* used the government as a source in 59 % of all articles, *Le Monde* in 46 % of theirs. The second most frequently used source was interviews with various individuals and officials (43 %). It is notable that none of the *Le Monde* articles referenced scientific publications, while only 3 % of the *Le Figaro* articles did. The results for sources of information are shown in figure 21.

Figure 21

Source of information in the articles



Note. Multiple categorisation possible. Values relate to percentage of all articles of Le Monde for "Le Monde" (n = 26, N = 34), all articles of Le Figaro for "Le Figaro" (n = 37, N = 62) and all articles of Le Monde and Le Figaro for "all" (n = 63, N = 96).

4.4 Analysis

The aim of this discourse analysis is to find out how French media reported on the drought in the region of Pyrénées-Orientales. All online articles of the two newspapers *Le Monde* and *Le Figaro* that were published between January 2022 and June 2024 and that covered the drought issue were included in the analysis. To examine the articles, ten parameters were built based on former studies on newspaper coverage of climate change. In addition, baseline data of the articles like word count or date of publication were noted. The following analysis of the results aims to contribute to an understanding of media coverage, providing a basis for future evaluations of the potential impacts of such reporting. Research on climate change coverage has shown that even within a single type of media, such as newspapers, the representation of climate change can vary considerably (Brüggemann et al., 2018). Numerous studies have identified political actors and the government as prominent influences in media coverage of climate change (Horta et al., 2017; Stoddart et al., 2016; Yun et al. 2012). Additionally, national

and international events have been found to drive coverage peaks more strongly than ecological or meteorological events (Stoddart et al., 2010). Taking these findings as a foundation, the following analysis will examine whether similar patterns are evident in the media's representation of the drought.

The publication peak in April and May 2023 could possibly be due to the president of France adopting the "Plan eau" in late March. This may have heightened public attention and interest in the issue of the drought. When looking on the topics of the articles published in May 2023 it further strikes that many mention wildfires. Accordingly, the occurrence of wildfires during this period could also have contributed to the unusually high level of media coverage (cf. Joeres, 2023).

Regarding the length of the articles, it stands out that the *Le Monde* articles were considerably longer than the ones of *Le Figaro*. However, in *Le Figaro* there were more results for the search and also after applying the relevancy filters, there were more articles of *Le Figaro* (n = 37) than of *Le Monde* (n = 26). Without looking at the content of the articles in detail it is difficult to make a conclusion on the depth of the content. It might be that *Le Monde* articles go more into detail or cover more angles of a story than *Le Figaro*, but in turn have less space for a large quantity of articles on a topic. It might also be that *Le Figaro* articles have a rather informative character covering the main points whilst *Le Monde* articles additionally explain an issue rather than just mention facts on it. In order to draw a conclusion on differences between the two newspapers' reasons for the length of articles it would be necessary to conduct a content analysis and to consult the newspaper itself for their self-conception and their aspirational standards.

In general, every third article mentioned climate change in the context of the drought in south-western France. The articles did not necessarily attribute the drought to climate change, but they would mention the change of the climate in general or they would cite for example politicians pointing to climate change when also talking about the drought. The fact that every third article on the drought also mentioned climate change possibly contributed to creating awareness for it. Further, even though the drought cannot be directly connected to climate change, it was highlighted that climate change is a relevant factor for such a climatic phenomenon and that it is likely

connected to the occurrence of heat and little precipitation in the Pyrénées-Orientales region. Since climate change was mentioned more often in *Le Monde* articles than in *Le Figaro* ones, readers of the former newspaper might perceive climate change to be a bigger factor with regard to the drought than readers of *Le Figaro*. They further might perceive climate change to have a greater influence on their everyday lives due to *Le Monde* mentioning it more often in connection to the drought within their country. In this context, the question arises as to what extent awareness actually influences people's behaviour. Previous studies suggest that media can shape individuals' perceptions, knowledge and awareness (Brüggemann et al., 2018; Hmielorz & Löser, 2007; Mahl & Guenther, 2023; Taddicken & Wicke, 2019). Adding an examination of people's perceptions to the analysis of newspaper coverage would provide additional insights.

Regarding the thematic frames that were used in reference to the drought, measures were by far the most prominent one. This implies an informative character concerning consequences or practical impacts for agriculture or for people living in the Pyrénées-Orientales region. The climatic phenomenon appears to be most relevant to the newspapers in terms of political responses or reactions to it. Meteorological and economic frames were the second most prominent ones, whilst societal and technological frames were rarely addressed. *Le Figaro* had a stronger focus on measures as thematic frame whereas *Le Monde*'s most used frame was the meteorological one. Thus, for *Le Monde* readers, the meteorological aspects of the drought are likely more present, and they might get a broader or deeper understanding of them whilst for *Le Figaro* readers measures and economical aspects are the most present factors.

As for the perspective with which the issue was presented, it was primarily consequences and ways of adaptation that were covered in the newspaper articles. Neither was there a discourse on how the climatic conditions arose, nor on how they could be countered in the long term. This might give readers the feeling to be at the mercy of external factors without being able to actively counteract them. Reporting on the drought in such a way possibly created an image suggesting that people are, in a sense, constrained in their actions and subject to external influences, which the readers could only accept. Such a representation of the issue likely provokes a helpless and thus passive attitude towards the drought issue. If solutions were discussed, they were

exclusively related to adaptation. There was no instance in which approaches to mitigating the issue were mentioned. *Le Figaro* addressed adaptive aspects more extensively than *Le Monde*. However, given that none of the newspapers mentioned mitigation strategies, readers would likely have developed similar perceptions of the approaches to solutions, regardless of which newspaper's articles they consulted.

This goes in hand with the vast majority of the articles having implied a destructive assessment of the problem. Articles were categorised destructive if they had a rather alarmist manner of addressing the issue. This means that they did not cover any solution to the problem or talk about ways of coping but solely referred to the problems and difficulties that arose or would arise due to the drought. There were also articles with constructive and more optimistic approaches. However, the destructive assessments occurred approximately twice as often. Like the formerly discussed perspectives, mainly mentioning problems and not talking about solutions could lead to a perception of the issue marked by despair. When looking at shares of articles in which destructive as well as constructive problem assessments occur, it strikes that *Le Monde* articles showed this approach five times more often than the *Le Figaro* ones. It seems that *Le Figaro* articles tended to be less extensive in terms of problem assessment but rather focussed on a more unidirectional approach. Without evaluating the content, it appears that *Le Monde* articles more often took a balanced approach regarding the issue. However, for both newspapers the destructive problem assessments were by far the most prominent ones.

In the realm of non-governmental actors, economic actors, such as agricultural ones, were mentioned the most often by a significant margin. One reason for this might be that this group was directly affected by the drought. By giving them a platform, the newspapers likely contribute to the actors being perceived to be relevant concerning the issue. *Le Figaro* articles mentioned economic actors even more frequently than *Le Monde* ones. In turn, in *Le Monde* ecological actors were referred to at a higher rate than in *Le Figaro*. In fact, it was only one *Le Figaro* article that mentioned an ecological actor. Accordingly, their perspective did not take place in the picture that *Le Figaro* articles drew of the drought. Within the governmental actors, it was local politicians who were referred to predominantly. This is not surprising, as the drought issue can be

considered as a local problem. Regarding the representation of governmental actors, readers of the two newspapers would probably perceive their relevance to be similar, as the shares show the same order of occurrences. The only exception would be the reference to agencies, which were much more frequent in *Le Monde*. Considering the parameter regarding the responsible parties mentioned, it becomes clear that both governmental and non-governmental entities were frequently mentioned. However, governmental parties were cited considerably more often than non-governmental ones. This suggests that the government was primarily viewed as responsible for the issue. Given that governmental actors possess decision-making authority regarding measures and are responsible for managing the issue, it is not surprising that newspapers reference them more frequently. As previously noted, the content of the articles was not analysed in detail. Nevertheless, the high frequency of mentions likely leads readers to attribute greater relevance and responsibility to these parties. *Le Monde* gave a platform to governmental parties more often, and *Le Figaro* focussed more on non-governmental actors than *Le Monde*. Thus, readers of *Le Monde* possibly perceived governmental actors to be even more relevant than readers of *Le Figaro*. Both newspapers referred to non-governmental actors far less, but *Le Figaro* readers might have perceived them as more relevant than *Le Monde* readers.

The vast majority of articles did not include any scientific information. When scientific information was present, it predominantly originated from *Météo-France* or governmental sources. Both newspapers appear to have placed relatively little emphasis on or attention to scientific information. A reason for this may be that the drought was a recent issue for which no scientific studies were available at the time. Furthermore, the observed focus on measures and political actors suggests that the primary interest was not in providing a scientific analysis of the drought issue. *Météo-France* was most frequently referenced for meteorological information. Regarding sources of information in general, the government served as the most frequent source, followed by interviews with individuals. This underscores the prominence of governmental actors and the high coverage of (political) measures. It should be noted that the difference in the use of *Météo-France* as source for scientific information between *Le Monde* and *Le Figaro* is not a result of *Le Monde* including more meteorological

information overall. In addition to *Météo-France*, *Le Figaro* articles primarily used the private weather information provider *La Chaîne Météo*, owned by the Figaro group, for meteorological references. In this analysis, *Météo-France* was designated its own category as it is the national weather service of France. This categorisation explains why *Le Monde* articles had a considerably higher share in the “*Météo-France*” category, whereas *Le Figaro* had a much higher share in the “other” category. Whilst *Le Monde* preferred to reference the public resource *Météo-France*, *Le Figaro* frequently chose their private option.

At this point, a brief interim conclusion on the findings can be summarised. In short, articles were predominantly published during the spring season. The coverage focused primarily on government measures, though meteorological and economic aspects were also frequently mentioned. The articles emphasised consequences and adaptation strategies, with no discussion of possible mitigation strategies. The problem assessment was largely alarmist and destructive, though not exclusively. Among non-governmental actors, economic ones were the most frequently mentioned, while for governmental actors, local politicians were the most prominent. Governmental actors appeared more frequently compared to non-governmental ones. Scientific information was relatively scarce, with the primary general information sources being the government or interviews with various individuals. Differences between the two newspapers were observed in article length and frequency. *Le Monde* published fewer but longer articles, mentioned climate change more often, focused more on meteorological aspects over government measures, and referenced scientific and ecological actors more frequently than *Le Figaro*. In *Le Figaro*, meteorological aspects were less prominent than discussions of measures and the economy, and economic actors were mentioned more frequently than in *Le Monde*. For *Le Monde*, the primary source of scientific information was the national weather service, *Météo-France*, whereas *Le Figaro* often used the private provider *La Chaîne Météo*. Non-governmental actors appeared more frequently in *Le Figaro*'s coverage.

The present study has several limitations and weaknesses. First it has to be mentioned that just one person worked on the categorisation of the articles. Thus, the results are likely influenced by subjective perceptions and judgements. Several

researchers categorising the same articles to ensure objectivity would have made the results more robust. It can be questioned whether the parameters used for the examination were appropriate for the subject of investigation. The parameters used were primarily based on studies focussing on media's coverage and representation of climate change issues. Climate change is a much more general concept than the drought in south-western France which was investigated in this work. For such a specific climatic phenomenon other parameters might be more appropriate than those for a general, more abstract and comprehensive concept like climate change. For instance, climate change is rather a long-term issue and not exclusively recent. Thus, the inclusion of scientific sources would be easier for climate change coverage since sciences have had time to do studies and to get results. For the recent drought issue in south-western France, there would be considerably less studies and insights available. Moreover, the analysis only included two national newspapers which only covers a small part of the French media landscape. On the one hand, more newspapers could have been included, such as local newspapers, which may have a larger and more detailed coverage of a local issue. On the other hand, other forms of media, like news broadcasts, could have been added to get an insight on how the coverage of different media might differ. Potentially, an analysis of news broadcasts would, however, be considerably more complex and it may prove challenging to access comprehensive data. For future research, in addition to simply investigating newspapers' representations of the issue it would be highly interesting to also include an investigation on how specific news actually influence individuals' behaviour, for instance in the realm of politics.

5 Discussion

This work's aim was to conduct a site analysis regarding the management of potential climate change impacts at different levels. The geographic area of interest was the region of Pyrénées-Orientales in south-western France, which has been experiencing drought conditions since 2022. To understand the climatic conditions in this area, data from two climatic stations over the past two decades was analysed. Additionally, the political measures that have been adopted were examined. One main interest of this work was to investigate the coverage of two newspapers of the drought issue in the examined area. Former analyses concluded that media's representation can impact people's perceptions of an issue on different levels, such as knowledge or awareness (Brüggemann et al., 2018; Hmielorz & Löser, 2007; Mahl & Guenther, 2023; Taddicken & Wicke, 2019). Thus, the analysis of the newspapers' coverage of the drought issue could provide insights into how the topic was presented to readers and the image conveyed to them as a result. This allows for inferences about how the issue is perceived and what thoughts and actions may arise from this perception.

First, the relation between climate data and the implemented measures will be addressed. In summary, the analysed climate data from Leucate and Cap Béar indicate that 2022 and 2023 were exceptionally warm and dry compared to the 2002 to 2021 averages. Comparing this data with recordings from Perpignan from 1961 to 1990, which is situated between Leucate and Cap Béar but slightly inland, reveals much higher average annual temperatures from 2022 to 2024. The annual average temperature in Perpignan from 1961 to 1990 was 15.1 °C. In comparison, from 2022 to 2024, the average was 2.1 °C higher in Leucate, where data indicate an annual average of 17.2 °C, and even 2.6 °C higher at Cap Béar, with an annual average of 17.7 °C. In terms of precipitation, Leucate consistently recorded considerably lower levels between 2002 and 2023. While Cap Béar's precipitation from 2002 to 2021 was similar to Perpignan's earlier averages, levels dropped considerably in 2022 and 2023. The annual average precipitation in Perpignan from 1961 to 1990 was 573 mm. From 2022 to 2024, the average at Cap Béar was 331 mm, while the average in Leucate was 239 mm. The substantial difference in precipitation values between Cap Béar and Leucate suggests that the precipitation values may not be comparable. Thus, temperatures appear to

have risen considerably, and precipitation might have decreased, compared to the Perpignan averages from 1961 to 1990. The persistent nature of the drought starting in 2022 is evident in the continuous adoption of measures from June 2022 through the end of that year and from February 2023 until late October 2024. Also, the future-oriented “Plan eau” underscores the government’s recognition that such droughts or water shortages are likely to be persistent and long-term challenges that will have to be addressed in the future. The government further uses four alert levels to restrict water usage in response to the drought. Each level corresponds to specific measures for individuals and agriculture. Whilst these measures were implemented almost continuously during the period examined, they appear more responsive to short-term drought symptoms, as their enactment at the municipal levels depends on flow thresholds, piezometric levels, dry riverbed observation data, reference stations and nodal points and reserve stocks for low-water support (Préfet des Pyrénées-Orientales, 2024a). This indicates a strong reliance of these measures on specific climatic indicators, though not limited to straightforward climate data like temperature or precipitation values considered in this study.

Examining a potential correlation between climate data and drought-related media coverage allows for an assessment of whether peaks in published articles align with periods of climatic anomalies. Articles were particularly concentrated in March, April and May. The climate data analysed in the second chapter of this work reflects multi-year or annual averages, within which no specific anomalies for March, April or May are discernible. However, especially in May 2023, the month with by far the highest number of published articles, many focussed on wildfires that occurred during this period. Even though the climate data cannot be used as an indicator for wildfires, climatic conditions of low precipitation and high temperatures increase the likelihood of wildfire occurrences. Data from April and May 2023, the two months with the highest number of published articles, indicate that monthly average temperature in Leucate and at Cap Béar were up to 1 °C above 2002 to 2021 average. Maximum temperatures in these months were up to 1.4 °C higher than the 2002 to 2021 average. Notably, April 2023 had exceptionally low precipitation levels (0.2 mm in Leucate, 14 mm at Cap Béar; 2002-2021 mean: 47 mm in Leucate, 66 mm at Cap Béar), whilst May recorded higher rainfall

values (49 mm in Leucate, 34 mm at Cap Béar; 2002-2021 mean: 33 mm in Leucate, 54 mm at Cap Béar). The particularly dry and warm conditions in April may have contributed to the wildfires that received coverage in the newspapers (cf. Joeres, 2023). However, these conditions did not only occur in April or May. When examining the temperature and precipitation data from 2022 to 2024 in figures 6 – 9, March, April and May do not appear prominent in terms of climatic anomalies compared to other months of the year. There were no exceptionally high temperatures or particularly low precipitation values during these months that would explain the observed peaks of publication.

When assessing political measures and media coverage, it becomes clear that the most frequently used thematic frame in the articles is focussed on drought-related measures. This suggests that newspapers have prioritised informing readers about policy responses to the drought. Nevertheless, the topic coverage remains balanced, as meteorological and economic aspects are also frequently addressed. In contrast, societal frames are much less extensively covered. Overall, political measures related to the drought are well represented in the analysed media in terms of quantity. For further studies, it would be valuable to analyse the content of these articles to determine whether specific measures are disproportionately covered in the media. The emphasis on political measures is further supported by the fact that local politicians were the most frequently represented actors in the articles. Additionally, the government served as the primary source of information. Water usage restrictions in Pyrénées-Orientales were implemented almost continuously from June 2022 to October 2024, with only a short break in January and February 2023. Therefore, these measures alone do not seem to account for the notable coverage peaks in March, April and May of 2023 and 2024. However, the French president introduced the "Plan eau" at the end of March 2023, which likely drew increased media attention to drought-related issues in the weeks that followed. This may have contributed to the notable peaks in coverage observed in April and May 2023. Prior research supports this noticeable influence and the prominence of political actors and the government in newspapers' climate change coverage. In relation to potential solutions for the drought issue or ways to overcome it, readers might have experienced feelings of helplessness and a sense of being at the mercy of circumstances. The perspective presented on this issue was predominantly

one-sided, with significant emphasis on the consequences and adaptation strategies. There was little to no coverage of the underlying causes or mitigation strategies. In general, the assessment of the problem appeared largely destructive and alarmist. Given that public perceptions of an issue are likely shaped by media representation, the portrayal of the drought issue in south-western France by the newspapers could lead individuals to view it as an unsolvable problem. At the same time, people may associate the drought issue with climate change, as the articles reference climate change quite frequently.

Further, it was examined whether the two newspapers under investigation exhibited different coverage patterns. It could be observed that, although minor, differences were indeed present. For instance, articles from *Le Monde* were considerably longer than those from *Le Figaro*. Additionally, articles from *Le Monde* referenced climate change more frequently and employed a meteorological thematic framework more often. The government was represented as an actor in relation to the issue more frequently in *Le Monde* than in *Le Figaro*. Readers of *Le Figaro* had access to a greater number of articles on the topic. These articles placed a stronger emphasis on measures and economic aspects. Non-governmental actors were represented more often than in *Le Monde* articles.

All of these results regarding the climate data, measures and media coverage examined, are solely descriptive and do not allow for generalisations. In reference to the aims of this work described in the introduction, it can be observed that the climate in the Pyrénées-Orientales region has been warmer and drier since 2022, prompting the government to impose restrictions on individual and agricultural water usage, based on various indicators. The newspapers analysed focused primarily on governmental measures in their reporting of the drought issue, with little emphasis on scientific findings. Prior research has suggested that media coverage can influence public awareness, knowledge, perceptions and opinions regarding climate change. With this in mind, it may be inferred that those areas most frequently covered in the articles in this study are also those likely to be perceived as most relevant to the drought issue by the public.

6 Conclusion

Rising temperatures and declining precipitation in the Mediterranean area have increasingly occurred in recent years and are expected to become more frequent due to climate change (IPCC, 2023b&c). The drought affecting the Pyrénées-Orientales region since 2022 exemplifies a climatic event with increased likelihood linked to climate change. As such events become more common, it becomes crucial to address them constructively, helping society to manage these crises with minimal harm. This raises the question of what a constructive approach to such challenges might look like. Prior research has shown that media, such as newspapers, can influence individuals' perceptions, knowledge or awareness of a certain topic like climate change (Brüggemann et al., 2018; Hmielorz & Löser, 2007; Mahl & Guenther, 2023; Taddicken & Wicke, 2019). To evaluate governmental and media responses to these phenomena, an assessment of the current situation is essential. This work seeks to contribute to the assessment of this issue's current status, along with political and media responses. This research used a case study approach focussing on the Pyrénées-Orientales region in southwestern France, where a drought has been observed since 2022, likely in connection with climate change. To establish a meteorological basis for examining responses to the climate phenomenon, local temperature and precipitation data were analysed to identify climatic changes. The next step involved examining governmental responses in the form of drought-related measures and analysing media coverage of the issue. Using articles from two national newspapers, *Le Monde* and *Le Figaro*, the representation of the drought was assessed, followed by an exploration of potential correlations between the various aspects studied.

The annual average temperatures at the two climate stations examined have been extraordinarily high between 2022 and 2024 compared to the two preceding decades. In Leucate the annual average was 1.1 °C warmer on average compared to the 2002 to 2021 baseline. At Cap Béar it was 1.4 °C warmer. Compared to the Perpignan annual average temperature from 1961 to 1990, the annual averages at the two stations were between 2.1 and 2.6 °C higher 2022 and 2024. Annual average precipitation values have been lower compared to the previous decades. These data align with the drought reported in the media (cf. Dagorn et al., 2024; Valo, 2024). In response, the

French government implemented a four-level alert system to classify municipalities based on the degree of impact and to determine appropriate measures. These measures, decided at the prefectural level, mainly regulate individual water usage, including restrictions on washing vehicles, watering plants and filling pools, with agricultural irrigation also limited. The extent of restrictions depended on the alert level assigned to each area. Regarding media coverage, climate change was mentioned frequently in the context of the drought. The evaluation of the two newspapers suggests a strong focus on governmental measures, aligning with findings from earlier research on climate change coverage (Stoddart et al., 2016). Additionally, the coverage emphasised consequences and adaptation strategies, with no references to mitigation measures. The framing of the problem in the newspapers tended to be rather alarmist, with considerable representation of the government as a primary actor and information source. This aligns with findings from studies on climate change reporting (Horta et al., 2017; Stoddart et al., 2016; Yun et al., 2012). Information was often sourced from the national weather service, *Météo-France*. Overall, little scientific information was used in the articles. Notable differences emerged between the two newspapers with regard to article number and length. *Le Monde* published fewer but longer articles, referenced climate change more frequently, and covered meteorological details more extensively than *Le Figaro*, which placed greater emphasis on measures. *Le Monde* also cited ecological actors more often than *Le Figaro*.

In summary, newspaper coverage of the drought appears to have been more strongly shaped by governmental actions than by meteorological developments. However, it is important to recognise that coverage was prompted by the climatic phenomenon itself in the first place and that governmental measures are also reactions to these conditions. The results of this study offer a foundation for evaluating responses to a climate-related event likely connected to climate change, and they provide insights into media's potential influence on public perceptions of such issues. These findings may inform future policy and communication strategies in the realm of local climate-change-related phenomena or challenging climatic conditions more broadly. To further investigate potential correlations between newspaper coverage of the drought issue and its influence on readers, research into the public's actual

perceptions of the drought would be beneficial. Insights from such research could provide a basis for evaluating the management approach to the drought and identifying possible improvements for the future. Future research could also benefit from examining how other forms of media in France have represented this issue. Moreover, it would be valuable to investigate responses to similar climatic events in other countries, comparing the effects of these reactions with those observed in the Pyrénées-Orientales region.

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