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Black Sea as A New Maritime Tourism Destination

Yeni Deniz Turizmi Destinasyonu Olarak Karadeniz

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Abstract: This study examined how the effects of climate change may shape coastal and maritime tourism in the Black Sea region through a systematic literature review method. The research findings show that climate change will significantly affect the Black Sea's essential environmental variables, such as sea level, temperature, humidity, precipitation, and wind. In particular, the annual average sea level increase of 2.5 mm and the expected total rise of 40-60 cm by the end of the century are expected to increase the risk of beach erosion on the Black Sea coast. It was evaluated that the increase in seawater temperature and air temperatures in the region may contribute to the extension of the tourism season; however, the decreasing precipitation and increasing humidity rates may negatively affect the comfort perception of tourists.

Keywords: Black Sea, Climate Change, Coastal Tourism, Maritime Tourism.

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Öz: Bu çalışma, sistematik bir literatür tarama yöntemiyle Karadeniz bölgesinde kıyı ve deniz turizminin iklim değişikliğinin etkileriyle nasıl şekillenebileceğini incelemiştir. Araştırma bulguları, iklim değişikliğinin Karadeniz'in deniz seviyesi, sıcaklık, nem, yağış ve rüzgâr gibi temel çevresel değişkenlerini önemli ölçüde etkileyeceğini göstermektedir. Özellikle, yıllık ortalama deniz seviyesindeki 2.5 mm'lik artış ve yüzyılın sonuna kadar beklenen toplam 40-60 cm'lik yükselmenin, Karadeniz kıyılarında kıyı erozyonu riskini artırması beklenmektedir. Bölgedeki deniz suyu sıcaklığı ve hava sıcaklıklarındaki artışın turizm sezonunun uzamasına katkı sağlayabileceği değerlendirilmiştir; ancak azalan yağış miktarları ve artan nem oranlarının, turistlerin konfor algısını olumsuz etkileyebileceği belirtilmiştir.

Anahtar Kelimeler: Karadeniz, İklim Değişikliği, Kıyı Turizmi, Deniz Turizmi.

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1. Introduction

Maritime and coastal tourism is the sum of every beach and water-oriented tourist and recreational activity (Linette et al., 2018). While coastal tourism is about land-based recreational activities such as swimming, Maritime activities are marine-based recreational activities such as leisure yachts and cruises (Ecorys, 2016). Due to its nature, maritime tourism mainly depends on coastal zones (Hall, 2001). It is accepted that maritime and coastal tourism significantly impacts economic opportunities for countries (Orams, 2002:57). Since Coastal and maritime tourism is related to environmental and climatic conditions, climate change affects both phenomena (Moreno and Amelung, 2009).

Coastal environments within their landscapes and cultural heritage have always been attractive places for tourists (Ghosh, 2011; Ounanian et al., 2021). It is sensitive to climate change (Scott and Lemieux, 2010; Allenbach et al., 2015; Huynh and Piracha, 2019) as it requires acceptable climatic and environmental conditions (Perry, 2005; Filho, 2022; Scott, 2018). Quality of water, litter, the beauty of the landscape, humidity, safety, and facilities of beaches impact beach-related recreation (Matzarakis, 2006; Williams and Micallef, 2009; Morgan, 1999). Changes in sea level, sea temperature, wind and waves, rainfall patterns, and air temperatures also impact the yachting and marina industry (Buckley et al., 2014). Additionally, a destination's cultural and natural features impact the cruise experience (Bekci, 2022). Among impactors, quality of water, humidity, change in sea level, sea temperature, wind, waves, rainfall patterns, and air temperatures directly relate to climate change.

The worldwide impact of climate change is thought to have a negative impact on coasts (Tonazzini et al., 2019; Nicholls, 2014), especially on small islands (Cevik and Ghazanchyan, 2020). However, it is predicted that it will affect only some destinations similarly (Moreno and Amelung, 2009). For example, while tourist demand is expected to decrease during high seasons in the Mediterranean (Amelung et al., 2007), North Europe is thought to have benefited from warming regarding tourist attractions (Nicholls, 2014). In the literature, no study has been found that evaluates the future of Black Sea tourism, taking into account the variation of 8 different impactors affected by climate change, affecting maritime and coastal tourism. This study aims to fill this gap. The innovative aspect of this study is comprehensively evaluating the impacts of climate change in the Black Sea by considering a more significant number of impactors (8 impactors). Therefore, a more accurate picture can be achieved, and more accurate strategies can be implemented.

2. Literature Review

2.1. Climatic Conditions for Coastal and Maritime Tourism

The most significant component of the tourism-based economy is held on coastal destinations (Honey and Krantz, 2007). Thermal impacts, which are psychological and physical, have a role in tourist behaviors, attitudes, and preferences (de Freitas, 2003; Williams and Micallef, 2009). In particular, climatic conditions are significant for areas visited on a seasonal basis (Hadwen, 2011). Tourists tend to experience sunny and warm weather rather than windy and rainy weather (Martinez Ibarra, 2011; Moreno et al., 2009). An increase in sunny times during the day and season allows tourists to stay in the destination longer (Fitchett and Hoogendoorn, 2018).

Acceptable temperatures vary depending on the origin of tourists. While European beachgoers find up to 32 degrees an acceptable temperature (Georgopoulou, 2019; Rutty, M. and Scott, 2010), it is 28 for Americans, and it is 30 degrees for Canadians (Rutty and Scott, 2015; Atzori et al., 2018). For swimming, 21-29-degree water temperatures are considered comfortable (National Centers for Environmental Information, 2023). FINA has determined that the comfortable water temperature is 25-28 degrees (FINA, 2020).

A study that included people from different geographies among its participants showed that the preferred air temperature for coastal users is 27 degrees (Scott et al., 2007), and acceptable humidity in humidex is between 29 and 45 (Orosa et al., 2014). Precipitation is also an undesirable impactor for beach-related summer activities (de Freitas, 2001). Precipitation lasting less than 15 minutes daily is ideal (Rutty et al., 2020). Wind is another element that affects beach users' perception (Mieczkowski, 1985). For beach users, 11.3889 m/s is the unacceptable wind speed limit, while 0.27 m/s is ideal (Rutty et al., 2020).

Regarding water-based recreations in maritime environments, when wind force begins to be between 15-20 knots, some of the navigators cancel the voyage due to guests' comfort (WMO, 2018). Those values approximately correspond to the "Fresh Breeze" category in the Beaufort Wind Scale (National Weather Service, n.d). This category can be understood by observing that the small trees with leaves begin to sway, and 2.0-2.5-meter waves start to occur on the sea (Royal Meteorological Service, n.d). A distance below 2 meters for cruise ships is not a problem (WMO, 2018).

Coastal areas are sensitive to climate change (IPCC, 2007). Sea level rise will cause coastal countries to lose GDP, which is gained from tourism (Bigano, 2008). Erosion and narrowing beaches are also results of climate change (IPCC, 2007). For instance, only beach erosion will decrease 47% of tourism income in the Caribbean (Spencer, 2022).

2.2. Black Sea and Tourism

The Black Sea is a water body that lies between the east of Romania and Bulgaria to the West of Georgia and between the South of Russia and Ukraine to the North of Turkey (Fomin et al., 2023). The Black Sea is a stratified, gradually warming body of water connected to the outer seas only through the Turkish Straits (Oguz, 2019). The Black Sea hosts various ecosystems, biodiversity, and rich commercial resources (NATO and CCMS, 2000). Tourism is one of the primary income resources in the Black Sea (ESPON, 2013).

Tourism is a developing phenomenon in the Black Sea, and there are opportunities along with the tourist supply there (BSC, 2019). Black Sea attracts 6 percent of total tourists in the world per year, and it can be evaluated as a low rate (Dimada and Chantzi, 2014). %43 of the Black Sea's coasts consist of beaches, and half have no facilities (Görmüş et al., 2019). Odesa, Yalta, Sevastopol, Kerch, Sochi, Batumi (BSC, 2019), Dobruja region, Constanta (Ionel, 2020), Burgas, Varna (Mooser et al., 2022), Sinop, Amasya, Istanbul, Krasnodar region (Minenkova et al., 2016) are main destinations which offer diverse natural and cultural touristic entities.

In the Black Sea, there is a 3-6-month period in which the sea can be used as an attraction point (Tzenkova et al., 2007; Guclu, 2011). The western coasts of the Black Sea offer famous scenic cliffs and beautiful scenic beaches to tourists (Mooser et al., 2022; Slavov and Palupi, 2019; Popescu et al., 2020). Within the 2800 km coast, Ukraine's coasts of the Black Sea have great opportunities for maritime and coastal tourism (Panchenko, 2019; Kiptenko et al., 2017). Ukraine hosted 81367 cruise passengers in 2013 (Stryzhak, 2020) before the war. During the Soviet period, Crimea hosted many recreational ships (Kazak et al., 2020). Constanta, Burgas, Varna, Odessa, and Trabzon are the ports where the cruise activities are located (Anton, 2019). Black Sea coasts of Russia are the main attraction point in terms of coastal tourism in Russia (Kostianaia and Kostianoy, 2021). Novorossiysk, West Caucasus, Krasnodar region has great touristic and recreational potential and opportunities (Minenkova et al., 2016). Maritime tourism infrastructures are developing on the Black Sea coasts of Turkey (Sariisik et al., 2011).

2.3. Climate Change and Black Sea

Coastal and maritime tourism require particular environmental and climatic conditions that affect climate change (Moreno and Amelung, 2009). Black Sea's coasts are one place with tourist and recreational

attractions affected by climate change (Allenbach et al., 2015). Quality of water, beauty of the landscape, change in sea level, sea temperature, wind and waves, rainfall patterns, and air temperatures are phenomena that have an impact on coastal and maritime tourism (Williams and Micallef, 2009; Morgan, 1999) and are affected by climate change. This part of this study presents information from the literature on the changes in those phenomena in the Black Sea.

Cases in South Africa and the Caribbean show that changes in sea level are of great importance for coastal and marine tourism (Dube et al., 2021; Spencer, 2022). The same importance exists for the Black Sea. The water level in the Black Sea has increased by 2.5 mm every year for the last 80 years (Tsimplis et al., 2004). It is thought to have risen 12 cm in total in the last century (OECD, 2013). According to recent data, the Black Sea's average sea level increases by 2.5 (± 0.5) per year, and in the eastern parts (as per Batumi calculation), the increase acceleration is greater (Avsar and Kutoglu, 2020; Avsar et al., 2015). IPCC estimates that the Black Sea will have risen 40-60 cm by 2100 (Besel and Kayıkcı, 2020). The most likely impacts on coasts are coastal erosion and saltwater inlets (Avsar et al., 2015). This puts the beaches in danger in the Black Sea (Allenbach et al., 2015).

Climate change affects the average sea surface and air temperatures (Allen et al., 2018). However, regions on Earth do not vary in the same amount (NASA Earth Observatory, 2023). In the summer season, the sea surface temperature of the Black Sea varies between 23 degrees and 26 degrees (Fomin et al., 2023). From 1980 to 2020, the surface air temperature of the Black Sea increased by 2.12 degrees, and the sea surface temperature of the Black Sea increased by 1.97 degrees between 1982 and 2020 (Ginzburg et al., 2021). Numerical models that predict future changes in the Black Sea convey an increasing trend in air temperatures (Efimov et al., 2015). Until 2050, air temperature is expected to increase by 1-2,4 degrees (Freund et al., 2017). Until 2100, the average air temperature is expected to increase between 2 and 4 degrees, and the seawater temperature is expected to increase by 2 degrees (Sezgin et al., 2010).

A warmer planet affects patterns of winds and waves in oceans (Morim et al., 2019). Analysis based on 31 years of data has shown that in the Black Sea, winter average wavelength and average wind speed start from the maximum value of 1.6m and 8m/s in the west and decrease towards the east, while the maximum averages of these values in the summer season are 1m and 6m/s (Akpınar et al., 2016). Additionally, 38 years of measurements show that the change in wavelengths does not exceed 20 cm (Onea and Rusu, 2017). Data demonstrate that there has been no significant impact of climate change on wind patterns of the Black Sea (Davy et al., 2018). Future simulations demonstrate that there will be a ten percent reduction in wind speed and wavelength in the Black Sea (Cakmak, 2022).

The chemical structure of the Black Sea is similar to oceans (Fomin et al., 2023). Salinity has a crucial role in the dynamics of the Black Sea (Maldinova et al., 2016). The Black Sea's connection with warm waters only with a shallow region, combined with the rivers with abundant fresh water supply, make the Black Sea a low salty sea (Tezcan et al., 2017). Therefore, the salinity corresponds to half of the oceans (Fomin et al., 2023). Salinity observations demonstrate that the average salinity rate is decreasing on the the Black Sea surface (Knysh, 2011).

Due to human activities that put pressure on climate change (Zhang,2007), increasing extreme conditions is a trend seen in most of the world (Groisman et al., 2005). Precipitation in the Black Sea is expected to decrease (Efimov et al., 2015). It is thought to reach % a 4-10% decrease in the future (Freund et al., 2017).

Increasing evaporation with stable precipitation is a known phenomenon in the Black Sea (Romanou et al., 2010; Aleshina et al., 2018). From May to the end of August, the humidity in the Black Sea is between 27 and 40 degrees (Worlddata, n.d). Due to convection, which is caused by increasing evaporation and stable precipitation, an increasing humidity is expected in the Black Sea (Aleshina et al., 2018; Efimov et al., 2015).

3. Methodology

Systematic Literature Review (SLR) is a method of analysing, synthesizing, and reporting information in a particular order that can contribute to overcoming a determined research problem from existing scientific studies (Denyer and Tranfield, 2009). SLR differs from other review types because it uses a methodological protocol (Liberati et al., 2009; Tranfield et al., 2003). When the framework of a subject becomes clear and narrow, SLR guides future work, and it is effective as a method in this sense (Pettricrew and Roberts, 2006:21). SLR is being utilized in tourism studies as a methodology (Pahlivan-Sharif et al., 2019). Since each discipline has different sensitivity (idiosyncratic characteristic) to facts (Denyer and Tranfield, 2009), There is not a standard practice in SLR (Okoli and Schabram, 2010). However, A SLR study should be clear, transparent, comprehended, purpose-fit, reproducible, accessible, and integrated (Pittway, 2008; Okoli and Schabram, 2010).

A typical SLR study consists of steps, which are researching the problem, selecting relevant studies as per inclusion criteria, evaluating biases of studies, extracting evidence, and synthesizing them (Khan, 2023). This study's research question is how the Black Sea's climate change will affect maritime and coastal tourism in the future. Inclusion criteria have been formed based on the impacts of climate change on maritime and coastal tourism. Quality of water, humidity, changes in sea level, sea temperature, wind, waves, rainfall patterns, and air temperatures are climate change's impactors on coastal and maritime tourism (Buckley et al., 2014; Matzarakis, 2006; Morgan, 1999; Williams and Micallef, 2009). Therefore, inclusion criteria have been determined as the intersection of those impactors and the Black Sea.

To prevent biases, empirical studies showing the changes of each impactor in the Black Sea were used to evaluate the literature's heterogeneity. The studies in the literature pointed to the same changes in the Black Sea, although they used different models and obtained data at different times. Studies that passed this bias check are tabulated with their associated inclusion criteria in Table 1 below.

Table 1: Literature Review About Changes In Black Sea And The Indicators

	INCLUSION CRITERIA									
Related Study	**Quality Of Water**	**Humidity**	**Change Of Sea Level**	**Sea Temperature**	**Wind**	**Waves**	**Rainfall Patterns**	**Air Temperatures**	**Sea Level**	**REMARKS**
Tsimplis et al, 2004			X						X	*"For the last 80 years, the Black Sea increased by 2.5 mm every year.* *Over the past 80 years, the Black Sea has risen by an average of 2.5 mm per year."*
Sezgin et al, 2010				X				X		*"Air temperatures are thought to increased 2-4 degrees in the Black Sea.* *Sea temperatures are thought to increase by 2 degrees in the Black Sea."*
Knysh, 2011	X									*"Salinity is thought to decrease in the Black Sea."*
OECD, 2013			X						X	*"The Black Sea raised a totally of 12cm in the last century.*

										In the last century, the Black Sea has risen by 12 cm."
Avsar et al, 2015; Avsar and Kutoglu, 2020			X						X	*"It is rising approximately 2.5 mm every year.* *The Black Sea is increasing."*
Related Study	**Quality Of Water**	**Humidity**	**Change Of Sea Level**	**Sea Temperature**	**Wind**	**Waves**	**Rainfall Patterns**	**Air Temperatures**	**Sea Level**	**REMARKS**
Efimov et al, 2015		X					X	X		*"Variation in humidity is expected in the Black Sea.* *Precipitation will decrease in the Black Sea in the 21st century.* *Air temperatures will increase in the Black Sea in the 21st century."*
Akpınar et al, 2016					X	X				*"The average wavelength in the Black Sea is 1.6 m in the west and 1m in the east.* *The average Wind speed in the Black Sea is 8m/s in the west and 6 m/s in the east."*
Maldinova, 2016	X									*"Salinity is decreasing in the Black Sea."*
Freund et al, 2017							X			*"Precipitation will decrease between %4-10 until 2050."*
Onea and Rusu, 2017						X				*"For 20 years, Wavelength variated not more than 0,2m in the Black Sea."*
Tezcan et al, 2017	X									*"The Black Sea is supplied by freshwater resources."*
Aleshina et al, 2018		X								*"Humidity is increasing in the Black Sea."*
Davy et al, 2018					X					*"Wind patterns are stable in the Black Sea."*
Besel and Kayıkcı, 2020			X						X	*"Intergovernmental Panel on Climate Change (IPCC) estimates that the Black Sea will rise between 40 and 60 cm by the end of the 21st century."*
Ginzburg et al, 2021				X				X		*"The upper layer of the Black Sea 's temperature increased by 1.97 degree since 1980.* *Air temperatures increased by 2.12 degrees since 1980."*
Cakmak, 2022					X	X				*"Future simulations convey a %10 reduction in winds and wavelength in the Black Sea."*

Fomin et al, 2023	X			X						*"In summer, sea temperatures generally are between 23-26 degrees.* *Chemical property of the Black Sea similar to oceans.* *Salinity is low in the Black Sea."*
Worlddata, n.d		X								*"In the Black Sea, Humidex values vary between 27 to 40 in summer."*

Source: This table is prepared by the author.

4. Findings

In Table 1 above, the data collected through a systematic literature review are tabulated. If this table needs to be interpreted;

- Air temperature tends to rise in the Black Sea and is expected to increase by an average of 2 to 4 degrees towards the end of this century. Today's value is between 23-26 Celsius (Fomin et al., 2023) and
- Average precipitation in the Black Sea is expected to decrease.
- The average wavelength in the Black Sea is expected not to change much but to decrease by 10 percent.
- The wind in the Black Sea is expected not to change much but to decrease by 10 percent.
- The sea surface temperature is expected to rise and increase by another 2 degrees.
- It is predicted that the humidity in the Black Sea will increase.
- The Black Sea is expected to become a less salty sea.
- The Black Sea's sea level has been rising for a long time and is expected to rise another 40 to 60 cm by the end of the 21st century.

5. Conclusion and Discussion

In this study, how marine and coastal tourism in the Black Sea region may be shaped by the effects of climate change was examined through a systematic literature review method. The findings of this study include some similarities and differences when compared to previous studies on how climate change will shape marine and coastal tourism in the Black Sea region. For example, while the studies conducted by Allenbach et al. (2015) provided findings that sea level rise and coastal erosion will increase in the Black Sea, this study similarly predicted that the sea level will increase by 2.5 mm per year on average and will rise by 40-60 cm by the end of the century. This situation will pressure infrastructure and natural resources in terms of coastal tourism.

In contrast, Moreno and Amelung (2009) suggested that increasing temperatures on the Northern European coasts could have a positive effect by extending the tourist season, while a similar finding was obtained in this study. It is estimated that the average air temperatures in the Black Sea will increase, and seawater temperatures will rise by 2°C. This may contribute to the extension of the tourist season in the region. However, as Fitchett and Hoogendoorn (2018) emphasize, temperature increases may not always be advantageous regarding tourist attractiveness, as extreme temperatures can negatively affect tourist comfort. Therefore, the extension of the tourist season in the Black Sea is not limited to the region becoming more attractive climatically but also requires consideration of the comfort levels of tourists due to extreme temperatures and humidity.

Previous studies, particularly Bigano et al. (2008), have indicated that sea level rise and coastal erosion could negatively affect tourism revenues. This study similarly suggests that rising sea levels in the Black Sea could reduce tourist beach areas by narrowing the coastline. The Caribbean example, particularly by Spencer et al.

(2022), suggests that such erosion could lead to losses of up to 47% in tourism revenues. This study for the Black Sea also predicts a similar risk; therefore, coastal protection and sustainable tourism planning are vital.

However, the findings of this study are consistent with the findings of Davy et al. (2018) that the wind patterns in the Black Sea will remain stable. Future projections suggest that a decrease in wind speed of up to 10% can be expected, but this change may not significantly impact tourism. However, while decreasing wind speeds may provide some advantages for marine activities, they may have negative consequences for sailing and other wind-based sports.

Finally, this study predicts that precipitation in the Black Sea will decrease by 4-10% and humidity will increase. This situation parallels the studies of Freund et al. (2017) examining the effects of climate change on regional humidity and precipitation patterns. Increasing humidity, especially in the summer, may negatively affect tourists' perception of comfort and change tourist demand.

The contribution of this study is to provide a more comprehensive and multidimensional perspective on how marine and coastal tourism in the Black Sea will be shaped under future climate change scenarios. Compared to other studies, this study provided more specific regional predictions using a wider range of climatic variables. It contributed to developing strategies on how tourism policies can adapt to these changes. Future studies can provide concrete suggestions for climate change resilient tourism planning using more detailed field data specific to the region.

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References

Akpınar, A., Bingölbali, B. and Van Vledder, G. (2016). Wind And Wave Characteristics in The Black Sea Based on The SWAN Wave Model Forced with The CFSR Winds, *Ocean Engineering, 126 (*2016), p.276–298.

Aleshina, M. A., Toropov, P. A., and Semenov, V. A. (2018). Temperature And Humidity Regime Changes on The Black Sea Coast In 1982-2014. *Russian Meteorology and Hydrology*, *43*(4), p.235–244. Doi:10.3103/S1068373918040040.

Allen, M.R., O.P. Dube, W. Solecki, F. Aragón-Durand, W. Cramer, S. Humphreys, M. Kainuma, J. Kala, N. Mahowald, Y. Mulugetta, R. Perez, M. Wairiu, And K. Zickfeld (2018). Framing And Context. In Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (Eds.), *Global Warming Of 1.5°C. An IPCC Special Report on The Impacts of Global Warming Of 1.5°C Above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, In the Context of Strengthening the Global Response To The Threat Of Climate Change, Sustainable Development, And Efforts To Eradicate Poverty.* Cambridge University Press, Cambridge, UK And New York, NY, USA, p. 49-92, Doi:10.1017/9781009157940.003.

Allenbach, K., Garonna, I., Herold, C., Monioudi, I., Giuliani, G., Lehmann, A., and Velegrakis, A. F. (2015). Black Sea Beaches Vulnerability to Sea Level Rise. *Environmental Science & Policy,* 46, p.95–109. Doi:10.1016/J.Envsci.2014.07.014.

Amelung, B., Nicholls, S., And Viner, D. (2007). Implications Of Global Climate Change for Tourism Flows and Seasonality. *Journal Of Travel Research*, *45(*3), p.285–296. Doi:10.1177/0047287506295937.

Anton, E. (2019). Cruise Industry in Romania – An Emerging Market. *Proceedings Of The 13th International Conference on Business Excellence*, p.528-536. https://Doi.Org/10.2478/Picbe-2019-0046.

Atzori, R., Fyall, A. and Miller, G. (2018). Tourist Responses to Climate Change: Potential Impacts and Adaptation in Florida's Coastal Destinations. *Tourism Management, 69 (*2018), p.12-22.

Avşar, B., Kutoğlu, H., Erol, B., and Jin, S. (2015). Coastal Risk Analysis of The Black Sea Under the Sea Level Rise. *FIG Working Week 2015 Proceedings*, 17-21 May, Sofia, Bulgaria.

Avşar, N. B., and Kutoğlu, S. H. (2020). Recent Sea Level Change in The Black Sea from Satellite Altimetry and Tide Gauge Observations. *ISPRS International Journal of Geo-Information, 9*(3), p.185. Https://Doi.Org/10.3390/Ijgi9030185.

Basel, C. and Kayıkcı, E. T. (2020). Investigation Of Black Sea Mean Sea Level Variability by Singular Spectrum Analysis. *International Journal of Engineering and Geosciences (IJEG)*, *5(*1), p.33-41, DOI: 10.26833/Ijeg.580510.

Bekci, B. (2022). Cruise Tourism Directed to Natural and Cultural Landscape Areas in The Black Sea Basin, *Journal of Multidisciplinary Academic Tourism*, *7(*2), p.1-17.

Bigano, A., Bosello, F., Roson, R. and Tol, R.S.J. (2008). Economy-Wide Impacts of Climate Change: A Joint Analysis for Sea Level Rise and Tourism. *Mitigation And Adaptation Strategies for Global Change, 13*(8), p.765-791. https://Doi.Org/10.1007/S11027-007-9139-9.

BSC (Commission on the Protection of the Black Sea Against Pollution). (2019). *State Of the Environment of The Black Sea (2009-2014/5)* (A. Krutov, Ed.). Istanbul, Turkey: Publications of the Commission on the Protection of the Black Sea Against Pollution.

Buckley, P. J., Bayliss-Brown, G., Cox, M., Laffoley, D., Harvey, N. W., and Wright, J. P. (2014). Climate Change And The UK Marine Leisure Industry: Adapting To A Changing World, https://www.researchgate.net/publication/284176814_Climate_change_and_the_UK_marine_leisure_industry_adapting_to_a_changing_world (Retrieved at 08.03.2023).

Bulgarian Ministry of Tourism, (n.d), Bulgaria Black Sea Coast, https://bulgariatravel.org/wp-content/uploads/2020/04/black_sea_coast.pdf (Retrieved at 08.03.2024).

Cakmak, R. E., Calısır, E., Lemos, G., Akpınar, A., Semedo, A., Cardoso, R., and Soares, P. M. M. (2022). Regional Wave Climate Projections Forced by EURO-CORDEX Winds for The Black Sea and Sea of Azov Towards the End of the 21st Century. *Research Square*. https://doi.org/10.21203/rs.3.rs-2099208/v1.

Cevik, S. and Ghazanchyan, M. (2020). Perfect Storm: Climate Change and Tourism. *IMF Working Papers*, *2020(*243), p.1-17.

Davy, R., Gnatiuk, N., Pettersson, L., and Bobylev, L. (2018). Climate Change Impacts on Wind Energy Potential in The European Domain with A Focus on The Black Sea. *Renewable and Sustainable Energy Reviews, 81,* p.1652–1659. doi:10.1016/j.rser.2017.05.253 .

de Freitas, C. R. (2001). Theory, Concepts and Methods in Tourism Climate Research. In A. Matzarakis & C. R. de Freitas (Eds.), *Proceedings of the first international workshop on climate, tourism and recreation* (p. 3-21). Porto Carras, Neos Marmaras, Halkidiki, Greece.

de Freitas, C. R. (2003). Tourism Climatology: Evaluating Environmental Information for Decision Making and Business Planning in The Recreation and Tourism Sector. *International Journal of Biometeorology, 48*(1), p.45-54. https://doi.org/10.1007/s00484-003-0177-z.

Denyer, D., and Tranfield, D. (2009). Producing a Systematic Review. In D. A. Buchanan & A. Bryman (Eds.), *The Sage Handbook of Organizational Research Methods* (p. 671–689). Sage Publications Ltd.

Dimada, Z. and Chantzi, G. (2014). New Era for Tourism in The Black Sea Area. *International Journal of Cultural and Digital Tourism, 1(*2), p.23-29.

Dreizis, Y., and Potashova, I. (2018). Yachting and Coastal Marine Transport Development in The Black Sea Coast of Russia. *MATEC Web of Conferences, 170*, p.05007. https://doi.org/10.1051/matecconf/201817005007.

Dube, K., Nhamo, G., and Chikodzi, D. (2021). Rising Sea Level and Its Implications on Coastal Tourism Development in Cape Town, South Africa. *Journal of Outdoor Recreation and Tourism*, *33*, p.100346. doi:10.1016/j.jort.2020.100346.

Ecorys (2016). Study On Specific Challenges for A Sustainable Development of Coastal and Maritime Tourism in Europe. *European Commission*. https://cinea.ec.europa.eu/publications/study-specific-challenges-sustainable-development-coastal-and-maritime-tourism-europe_en (Retrieved at 09.01.2025).

Efimov, V. V., Volodin, E. M., Anisimov, A. E. and Barabanov, V. S. (2015). Regional Projections of Climate Change for The Black Sea–Caspian Sea Area in Late 21st Century. *PHYSICAL OCEANOGRAPHY*, *5 (*2015), DOI: 10.22449/1573-160X-2015-5-49-66.

European Commission (2016). Directorate-General for Maritime Affairs and Fisheries, *Study in Support of Policy Measures for Maritime and Coastal Tourism at EU Level: Final Report*, European Commission, **https://data.europa.eu/doi/10.2771/34405** (Retrieved at 26.11.2023).

European Commission (2019). *PESETA I Results—Impacts of Climate Change on Tourism*; European Commission: Brussels, Belgium.

European Observation Network Territorial Development and cohesion-ESPON (2013). European Seas and Territorial Development, Opportunities And Risks-Annex 5 To The Final Report: Black Sea Regional Profile, https://www.espon.eu/sites/default/files/attachments/ESaTDOR_FR_Annex_5_Black_Sea_Profile.pdf (Retrieved at 26.02.2024)

Filho, L. W. (2022). Will Climate Change Disrupt The Tourism Sector*?*, *International Journal of Climate Change Strategies and Management*, *14(*2), p.212-217. https://doi.org/10.1108/IJCCSM-08-2021-0088.

FINA (2020). Swimming Pool Certificate Fina For Olympic Games And World Championships February 2020, https://resources.fina.org/fina/document/2021/01/19/2602f09f-1363-4a38-bba0-eb9470687461/fina_swimming_pool_certificate_for_og_wc_february_2020_1.pdf (Retrieved at 16.06.2024).

Fitchett, J. M., and Hoogendoorn, G. (2018). Exploring the Climate Sensitivity of Tourists to South Africa Through Tripadvisor Reviews. *South African Geographical Journal*, p.1–19. doi:10.1080/03736245.2018.1541022.

Fomin, L. M., Goncharov, V. P. and Kosarev, A. N. (2023). Black Sea. In *Encyclopedia Britannica*. https://www.britannica.com/place/Black-Sea (Retrieved at 12.03.2024).

Freund, E. R., Abbaspour, K. C. and Lehman, A. (2017). Water Resources of The Black Sea Catchment Under Future Climate and Landuse Change Projections. *Water 2017, 9(*8), p.598; https://doi.org/10.3390/w9080598.

Georgopoulou, E., Mirasgedis, S., Sarafidis, Y., Hontou, V., Gakis, N., and Lalas, D. P. (2019). Climatic Preferences for Beach Tourism: An Empirical Study on Greek Islands. *Theoretical and Applied Climatology, 137*(1-2), p.667-691. https://doi.org/10.1007/s00704-018-2634-7.

Ghosh, T. (2011). Coastal Tourism: Opportunity and Sustainability. *Journal of Sustainable Development*, *4*(6), p.67-71.

Ginzburg, A. I., Kostianoy, A. G., Serykh, I. V., and Lebedev, S. A. (2021). Climate Change in the Hydrometeorological Parameters of The Black and Azov Seas (1980–2020). *Okeanologiya, 61*(6), p.900-912. https://doi.org/10.1134/S0001437021060049.

Görmüş, T., Ayat, B., and Aydoğan, B. (2019). A Database of Black Sea Beaches, *EGU General Assembly 2020*, Online, 4–8 May 2020, EGU2020-579, https://doi.org/10.5194/egusphere-egu2020-579.

Groisman, P. Y., Knight, R. W., Easterling, D. R., Karl, T. R., Hegerl, G. C., and Razuvaev, V. N. (2005). Trends in Intense Precipitation in the Climate Record. *Journal of Climate, 18*(9), p.1326-1350. https://doi.org/10.1175/JCLI3339.1.

Guclu, Y. (2011). The Determination of Sea Tourism Season with Respect to Climatical Conditions on the Black Sea Region of Turkey. *Procedia Social and Behavioral Sciences, 19 (*2011), p.258–269.

Hadwen, W. L., Arthington, A. H., Boon, P. I., Taylor, B., & Fellows, C. S. (2011). Do Climatic or Institutional Factors Drive Seasonal Patterns of Tourism Visitation to Protected Areas Across Diverse Climate Zones in Eastern Australia? *Tourism Geographies, 13*(2), p.187-208. https://doi.org/10.1080/14616688.2010.529930.

Hall, C. M. (2001). Trends in Ocean and Coastal Tourism: The End of The Last Frontier? *Ocean & Coastal Management, 44(*9-10), p.601–618. doi:10.1016/s0964-5691(01)00071-0 .

Honey, M. and Krantz, D. (2007) Global Trends in Coastal Tourism. Center on Ecotourism and Sustainable Development: http://www.responsibletravel.org/resources/documents/reports/Global_Trends_in_Coastal_Tourism_by_CESD_Jan_08_LR.pdf (Retrived at 13.03.2024).

Huynh, V.D. and Piracha, A. (2019). An Evaluation on Climate Change Adaptation for Tourism Sector in the Mekong Delta of Vietnam. *Asia Pacific Journal of Tourism Research*, 24(9), p.894–911.

Ionel, M. (2020). Seaside Tourism in Romania, *"Ovidius" University Annals, Economic Sciences Series,* XX(1), p.395-401.

IPCC (2007). *Climate Change 2007: Synthesis Report.* Geneva: Intergovernmental Panel on Climate Change.

Kazak, A., Gorobets, D., and Samokhvalov, D. (2020). Application of Simulink and Simevents Tools in Modeling Marketing Activities in Tourism. In *Lecture Notes in Networks and Systems* (p. 1016-1025). Springer.

Khan, K. S., Kunz, R., Kleijnen, J., and Antes, G. (2003). Five Steps to Conducting a Systematic Review. *JRSM*, *96(*3), p.118–121. doi:10.1258/jrsm.96.3.118.

Kiptenko, V., Lyubitseva, O., Malska, M., Rutynskiy, M., Zan'ko, Y. and Zinko, J. (2017). Geography of Tourism of Ukraine. In: Widawski, K., Wyrzykowski, J. (eds) *The Geography of Tourism of Central and Eastern European Countries*. Springer, Cham. https://doi.org/10.1007/978-3-319-42205-3_13.

Knysh, G. K. Korotaev, V. A. Moiseenko, A. I. Kubryakov, V. N. Belokopytov, and N. V. Inyushina (2011). Seasonal and Interannual Variability of Black Sea Hydrophysical Fields Reconstructed from 1971–1993 Reanalysis Data, *Atmospheric and Oceanic Physics*, *47(*3), p.399–411.

Kostianaia, E.A. and Kostianoy, A.G. (2021). Regional Climate Change Impact on Coastal Tourism: A Case Study for the Black Sea Coast of Russia. *Hydrology*, *8(*3), p.133. https://doi.org/10.3390/hydrology8030133.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., … Moher, D. (2009). The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration. *PLoS Medicine, 6(*7), p.e1000100. doi:10.1371/journal.pmed.1000100.

Linette, S., Van der Haar, A., Ecorys, Bodil S. and Diletta Z., (2018). Coastal and Maritime Tourism. In *European MSP Platform*, https://maritime-spatial-planning.ec.europa.eu/sites/default/files/sector/pdf/mspforbluegrowth_sectorfiche_tourism.pdf (Retrieved at 19.06.2024).

Maldinova, S., Stips, A., Garcia-Gorriz, E. and Macias, M. D. (2016). Changes in the Black Sea Physical Properties and Their Effect on the Ecosystem, European Commision-JRC Technical Report, EUR 28060 EN, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC102514/lb-na-28060-en-n.pdf (Retrieved at 09.04.2023).

Martinez Ibarra, E. (2011) The Use of Webcam Images to Determine Tourist–Climate Aptitude: Favourable Weather Types for Sun and Beach Tourism on The Alicante Coast (Spain). *International Journal of Biometeorology*, *55(*3), p.373-385. https://doi.org/10.1007/s00484-010-0348-5.

Matzarakis, A. (2006). Weather- and Climate-Related Information for Tourism. *Tourism and Hospitality Planning & Development*, 3(2), p.99–115. doi:10.1080/14790530600938279.

Mieczkowski, Z. (1985). The Tourism Climatic Index: A Method of Evaluating World Climates for Tourist. *The Canadian Geographer/Le Géographe Canadien*, *29(*3), p.220–233.

Minenkova, V., Volkova, T., Filobok, A., Mamonova, A., and Sharmatava, A. (2016). Current Tourism Trends on the Black Sea Coast. In *Proceedings of the EMECS11 – Sea Coasts XXVI Joint Conference*. https://www.emecs.or.jp/en/wp-content/uploads/2019/09/minenkova-vera.pdf (Retrieved at 06.03.2023).

Mooser, A., Anfuso, G., Stanchev, H., Stancheva, M., Williams, A. T., and Aucelli, P. P. C. (2022). Most Attractive Scenic Sites of The Bulgarian Black Sea Coast: Characterization and Sensitivity to Natural and Human Factors. *Land, 11*(1), p.70. https://doi.org/10.3390/land11010070.

Moreno, A., Amelung, B., and Santamarta, L. (2009). Linking Beach Recreation to Weather Conditions: A Case Study in Zandvoort, Netherlands. *Tourism in Marine Environments, 5*(2-3), p.111-119. https://doi.org/10.3727/154427309789871992.

Moreno, A., and Amelung, B. (2009). Climate Change and Coastal & Marine Tourism: Review and Analysis. *Journal of Coastal Research*, p.1140–1144.

Morgan, R. (1999). Preferences and Priorities of Recreational Beach Users in Wales, UK. *Journal of Coastal Research*, *15*(3), p.653–667.

Morim, J., Hemer, M., Wang, X.L…. Andutta, F. (2019). Robustness and Uncertainties in Global Multivariate Wind-Wave Climate Projections. *Nature Climate Change, 9(*9), p.711-718. https://doi.org/10.1038/s41558-019-0542-5.

NASA Earth Observatory (2023). *2022 Tied for Fifth Warmest Year on Record*. https://earthobservatory.nasa.gov/images/150828/2022-tied-for-fifth-warmest-year-on-record (Retrieved at 13.03.2023).

National Centers for Environmental Information (2023). Coastal Water Temperature Guide (CWTG), https://www.ncei.noaa.gov/products/coastal-water-temperature-guide#:~:text=There's%20no%20real%20optimal%20temperature,%C2%B0%20to%2078%C2%B0%20Fahrenheit (Retrieved at 13.08.2024).

National Weather Service (n.d). Beaufort Wind Scale, https://www.weather.gov/mfl/beaufort#:~:text=One%20of%20the%20first%20scales,to%20a%20force%20of%2012 (Retrieved at 30.04.2024).

NATO and CCMS (2000). Black Sea, https://www.nato.int/science/publication/publi/blacksea/blacksea-body.pdf (Retrieved at 12.03.2024).

Nicholls, M. (2014). Climate Change: Implications for Tourism, https://www.cisl.cam.ac.uk/system/files/documents/ipcc-ar5-implications-for-tourism-briefing-prin.pdf (Retrieved at 08.03.2023).

OECD (2013). *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters,* OECD Studies on Water, OECD Publishing. http://dx.doi.org/10.1787/9789264200449-en (Retrieved at 31.06.2024).

Oguz, T. (2019). Coastline Characteristics, Topography and Bathymetry, Geology of the Black Sea, in *BLACK SEA STATE OF ENVIRONMENT REPORT 2009-2014/5*, (p. 8-16). Publications of the Commission on the Protection of the Black Sea Against Pollution.

Okoli, C., and Schabram, K. (2010). A Guide to Conducting a Systematic Literature Review of Information Systems Research. *Sprouts: Working Papers on Information Systems, 10*(26).

Onea, F., and Rusu, L. (2017). A Long-Term Assessment of The Black Sea Wave Climate. *Sustainability, 9(*10), p.1875. doi:10.3390/su9101875.

Orams, M. (2002). *Marine Tourism: Development, Impacts and Management*. London and New York: Routledge.

Orosa, J. A., Costa, Á. M., Rodríguez-Fernández, Á. and Roshan, G. (2014). Effect of Climate Change on Outdoor Thermal Comfort in Humid Climates. *Journal of Environmental Health Science and Engineering, 12*, p.46. https://doi.org/10.1186/2052-336X-12-46.

Ounanian, K., van Tatenhove, J. P. M., Hansen, C. J., Delaney, A. E., Bohnstedt, H., Azzopardi, E., … Frangoudes, K. (2021). Conceptualizing Coastal and Maritime Cultural Heritage Through Communities of Meaning and Participation. *Ocean & Coastal Management, 212,* p.105806. doi:10.1016/j.ocecoaman.2021.105806.

Pahlevan-Sharif, S., Mura, P., and Wijesinghe, S. N. R. (2019). A Systematic Review of Systematic Reviews in Tourism. *Journal of Hospitality and Tourism Management*, *39,* p.158–165. doi:10.1016/j.jhtm.2019.04.001.

Panchenko, T. (2019). Territory Planning and Tourism Development in The Coastal Zone of Ukraine. *International Scientific Journal "Transfer of Innovative Technologies," 2*(1), p.15-25. https://doi.org/10.31493/tit1921.0101.

Perry, A. (2005). Tourism and Climate. In: Oliver, J.E. (eds) *Encyclopedia of World Climatology. Encyclopedia of Earth Sciences Series*. Springer, Dordrecht . https://doi.org/10.1007/1-4020-3266-8_209.

Petticrew, M., and Roberts, H. (2006). *Systematic Reviews in the Social Sciences: A Practical Guide*. Blackwell Publishing.

Pittaway, L. (2008). Systematic Literature Reviews. In R. Thorpe & R. Holt (Eds.), *The SAGE dictionary of qualitative management research* (p. 217-218). SAGE Publications. https://doi.org/10.4135/9780857020109.

Popescu, A., Marcuta, A., Marcuta, L., Tindeche, C., Hontus, A., and Plesoianu, D. (2020). Romania's Tourism Trends and Characteristics on The Seaside Resorts of The Black Sea in The Period 2010-2019. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, 20*(4), p.417-430.

Romanou, A., Tselioudis, G., Zerefos, C. S., Clayson, C.-A., Curry, J. A., and Andersson, A. (2010). Evaporation-Precipitation Variability Over the Mediterranean and the Black Seas From Satellite and Reanalysis Estimates. *Journal of Climate, 23*(20), p.5268-5287. https://doi.org/10.1175/2010JCLI3525.1.

Royal Meteorological Service (n.d). *The Beaufort Wind Scale*, https://www.rmets.org/metmatters/beaufort-wind-scale (Retrieved on 28.05.2024).

Rutty, M., and Scott, D. (2015). Bioclimatic Comfort and the Thermal Perceptions and Preferences of Beach Tourists. *International Journal of Biometeorology, 59*(1), p.37-45. https://doi.org/10.1007/s00484-014-0820-x.

Rutty, M., Scott, D., Matthews, L., Burrowes, R., Trotman, A., Mahon, R., and Charles, A. (2020). An Inter-Comparison of the Holiday Climate Index (HCI) and the Tourism Climate Index (TCI) to Explain Canadian Tourism Arrivals to the Caribbean. *Atmosphere, 11*(4), p.412. https://doi.org/10.3390/atmos11040412.

Rutty, M., & Scott, D. (2010). Will the Mediterranean Become "Too Hot" for Tourism? A Reassessment. *Tourism and Hospitality Planning & Development, 7*(3), p.267-281. https://doi.org/10.1080/1479053X.2010.502386.

Sarıışık, M., Türkay, O., & Akova, O. (2011). How to Manage Yacht Tourism in Turkey: A SWOT Analysis and Related Strategies. *Procedia - Social and Behavioral Sciences, 24*, p.1014-1025. https://doi.org/10.1016/j.sbspro.2011.09.113.

Scott, D., and Gössling, S. (2018). *Tourism and Climate Change Mitigation: Embracing the Paris Agreement - Pathways to Decarbonisation*. European Travel Commission. Brussels, Belgium.

Scott, D. And Lemieux, C. (2010). Weather and Climate Information for Tourism. *Procedia Environmental Sciences, 1*, p.146-183. https://doi.org/10.1016/j.proenv.2010.09.011.

Scott, D., Gössling, S. and de Freitas, C. R. (2007). Climate Preferences for Tourism:an Exploratory Trination Comparison, *Developments in Tourism Climatology*, p.18-23.

Sezgin, M., Bat, L., Katagan, T. and Ates, A. S. (2010). Likely Effects of Global Climate Change on The Black Sea Benthic Ecosystem. *Journal of Environmental Protection and Ecology, 11(*1), p.238-246.

Slavov, M. and Palupi, R. (2019). Over-Tourism: The Untold Story of the Rise of Sunny Beach Bulgaria, *International Journal of Applied Sciences in Tourism and Events*, *3*(2), p.142-157.

Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. *Journal of Business Research*, *104*, p.333–339. doi:10.1016/j.jbusres.2019.07.039.

Spencer, N., Strobl, E. and Campbell, A. (2022). Sea Level Rise Under Climate Change: Implications for Beach Tourism in the Caribbean, *Ocean & Coastal Management, 225*, p.106207.

Stryzhak, O., Akhmedova, O., and Aldoshyna, M. (2020). The Prospects of the Marine and Coastal Tourism Development in Ukraine. *E3S Web of Conferences, 153*, p.03009. doi:10.1051/e3sconf/202015303009.

Tezcan, D., Yücel, M., and Çifçi, G. (2017). Geology and Geophysics of the Southern Shelf of the Black Sea. In M. Sezgin, L. Bat, D. Ürkmez, & B. Öztürk (Eds.), *Black Sea marine environment: The Turkish shelf* (p. 32-51). Turkish Marine Research Foundation (TUDAV), Publication No: 46.

Tonazzini, D., Fosse, J., Morales, E., Gonzalez, A., Klarwein, S., Moukaddem, K., and Louveau, O. (2019). *Blue Tourism: Towards a Sustainable Coastal and Maritime Tourism in World Marine Regions*. eco-union, Barcelona.

Tranfield, D., Denyer, D., and Smart, P. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. *British Journal of Management*, *14*, p.207–222.

Tsimplis, M., Michel, R., Josey, S. and Stanev, E. V. (2004). On the Forcing of Sea Level in the Black Sea, *Journal Of Geophysical Research, 109*, p.C08015, doi:10.1029/2003JC002185.

Tzenkova, A., Ivancheva, J., Koleva, E., and Videnov, P. (2007). The Human Comfort Conditions at Bulgarian Black Sea Side. In A. Matzarakis, C. R. de Freitas, & D. Scott (Eds.), *Developments in tourism climatology* (p.150-157).

UNWTO (2022). Impact of the Russian Offensive in Ukraine on International Tourism, In *UNWTO Tourism Market Intelligence and Competitiveness Department Issue 4*, https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2022-05/16-05-22-impact-russia-ukraine.pdf?q7kCpUZsLi4Su_Zlo1d2b08bH0_L0Pln= (Retrieved at 06.03.2023).

Williams, A.T. and Micallef, A. (2009). *Beach Management: Principles and Practices*. London, UK: Earthscan.

World Meteorological Organization (WMO). (2018). *Guide to Marine Meteorological Services* (WMO-No. 471). World Meteorological Organization.

Worlddata, (n.d). Climate in Black Sea Region, https://www.worlddata.info/asia/turkey/climate-black-sea-region.php (Retrieved at 16.08.2024).

Zhang, X., Zwiers, F. W., Hegerl, G. C., Lambert, F. H., Gillett, N. P., Solomon, S., Stott, P. A., and Nozawa, T. (2007). Detection of Human Influence on Twentieth-Century Precipitation Trends. *Nature, 448*(7152), p.461-465. https://doi.org/10.1038/nature06025.