

# **SCENARIOS FOR TOURISM**

## **WHAT ARE THE POSSIBLE FUTURES?**

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**GEO80818 Bsc Tourism Thesis**

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**June 2019**





“What will the future look like?”, is a question many people ask themselves, out of curiosity and uncertainty. This is also true for researchers wanting to assess what the effects of any current practices can have on the future. Spaces that show intense and diverse use or even exploitation are especially interesting for analyzing their possible future. Therefore, this thesis attempts to create narratives to show what the Mediterranean could look like by 2100 under several scenarios that are influenced by current tourism practices, trends and other socio-economic factors, combined with frameworks that have been previously used for climate scenarios. The narratives will then be able to be used for further research involving the interplay between climate and tourism. The SSP (Shared Socioeconomic Pathways) framework is used to assess the possible impacts of tourism trends on the Mediterranean. This research attempts to show the polarizing possibilities for the area and the sector, by basing the narratives for SSP1 (Climate Changed) and SSP5 (S.O.S) on the SSP's that were created for Europe in an earlier research. Sustainability and conscious behavior in SSP1 is strongly opposed to destructive and consumptive actions displayed in SSP5. This large gap in possible futures stresses the unpredictability and vulnerability of tourism in the Mediterranean.

### Authorship Statement

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I hereby declare that this thesis is wholly the work of Tiger-Lily Ketellapper. Any other contributors have either been referenced in the prescribed manner or are listed in the acknowledgements together with the nature and the scope of their contribution.

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### Acknowledgement

I would like to take this opportunity to first thank my mother for helping me mentally through my Bachelor study. During the process of writing my thesis, my housemates from “de Boerderie” provided me with warm meals and great company after a long day at the library. My friends from the athletics association “Tartlétos” helped me release my energy through sports and fun, which I am very thankful for.

I also want to thank my supervisor Bas Amelung and Kasper Kok for great support and help when needed.

I am grateful for my closest friends Erik, Caitlin, Evan, Tim, Hidde and Anna.

Thanks to my father I was helped with recognizing language and grammar mistakes in my thesis.

I thank the Grand Café and Thuisbezorgd for nervous support whenever needed.

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The impacts of tourism are a well-known topic that is dealt with by many scholars, whereas both negative and positive effects on the destination or the sector itself are obtained. Mediterranean tourism is no exception to this. Being one of the most important tourism destinations globally, it faces a future that is unknown (Amelung & Viner, 2006). With skyrocketing arrivals, the Mediterranean is hitting the ceiling regarding visitor capacity, social capacity and resources (Urtasun & Gutiérrez, 2006). Additionally, from the destructive use of ecosystems to global warming, the Mediterranean area is suffering from the effects of mass tourism (Estrela et al, 2012). Climate consciousness has not reached as much success as desired, meaning that there are still gaps in the population that do not believe in or not aware of the effects of climate change (Gomez-Martin et al, 2016). This leads to irresponsible behavior, especially at the travel destination (Jacobsen et al, 2015).

Much scientific research has been done attempting to assess what the future of (Mediterranean) tourism beholds, based on the current practices at the destination. It is being increasingly discussed that the only way to achieve a successful future for tourism is the fast implementation of sustainability into the sector (Gössling et al, 2010). With help of making scenarios, many papers have attempted to exemplify the implications current practices and trends could have on the future, trying to visualise uncertainties and consequently being able to take them into account.

Generally, scenarios are a method to make projections based on issues that are of current concern (Bunn & Salo, 1993). This is a rather dated definition, however, as scenarios are increasingly made to use one's imagination with a basis of real data. Like this, plausible futures can be explored. There is a diversion on thoughts on the usefulness of scenarios, showing that some researchers see it more as a creative form of predicting the future, whereas others claim that scenarios should portray a scientific method (Moriarty, 2012).

Using scientific methods for the assessment of uncertainties has been popularised in 1990's, where the Intergovernmental Panel on Climate Change (IPCC) was established by environmental stakeholders (World Meteorological Organization (WMO) & United Nations Environmental Programme) (Griggs & Noguer, 2002; Houghton et al, 2001). The IPCC was motivated by the uncertainties about the impacts of climate change, using climatic and socio-economic information, attempting to mitigate or adapt to global warming. By doing so, the Special Report on Emissions Scenarios (SRES) were constructed, displaying four narratives showing the different directions that current greenhouse gas emissions could take in the future (Nakicenovic et al, 2001).

As this framework got dated, an updated version of scenario frameworks was developed, namely RCP's (Representative Concentration Pathways) and SSP's (Shared Socioeconomic Pathways), which separately address the emissive and socio-economic factors affecting the environment (Van Vuuren et al, 2014). These frameworks also incorporate narratives in a similar manner as the SRES. The SSP framework has been identified as being a broad and general starting point for many purposes, as SSP's leave much room for specification. With the interest in assessing the uncertainties and its possible effects of tourism in the Mediterranean, **the objective of this research is to develop scenarios for Mediterranean tourism that are consistent with the climate oriented SSPs**, which will then be applicable for other research related to tourism and climate.

SSP's have not been widely utilised in the field of tourism yet, however this scientific method of assessing uncertainties is helpful, especially because there are many different possibilities on the development of the area and the sector. One article has very recently made SSP's and RCP's for tourism in the Mediterranean, focusing more on quantitative data to assess the effect a 2 degree increase in temperature due to climate change would have on the destination and the sector in general (Koutroulis et al, 2018). The same article also mentions that the lack of research on the implications of climate change on tourism should be strong motivator to give this field more attention. Using socio-economic factors has been shown to be a very crucial factor in assessing futures. Though climate does have impacts on tourism and vice versa, this paper will also highlight other factors that have implications on the sector.

This thesis will attempt to obtain a broad range of trends, which will then hint at the diverse range of events possible under the narratives made with the SSP framework. The added value of making SSP's for tourism is the general usability for stakeholders and researchers. The exemplification of the effects that current practices have on the future should, depending on the outcomes, be encouraging or alarming and ultimately lead to a sustainable and promising future. Especially the Mediterranean is fitting to apply the scenarios to, as this area is a very important and competitive tourism destination that relies on a sustainable development to stay strong within the industry. The IPCC has even declared the Mediterranean as a "climate change hot spot" (Loizidou et al, 2016). Combining this statement with the destination being strained by socioeconomic factors, thesis-specific research questions will be formulated to assess the interplay between these factors.



## Research questions

With the research objective in mind, the following research questions have been designed to guide the construction of making Mediterranean specific SSP's. This research will merely focus on the Mediterranean countries located in Europe.

CRQ: What futures for Mediterranean beach tourism are possible under the framework of SSP's?

**RQ 1: How can the SSP' framework be translated into area specific tourism scenarios?**

**RQ 2: What trends can be identified for the development of tourism in the Mediterranean?**

**RQ 3: Which SSP's are most suitable to specify for the Mediterranean?**

**RQ 4: How do the current tourism trends fit into the scenarios?**

**RQ 5: How do the trends translate into narratives?**

With the research questions now introduced, the thesis will continue with an explanation of the conceptual framework, leading toward the methods that will be used to construct the SSP's. The Mediterranean SSP's will be backed up with an extensive literature analysis, supporting the narratives that were made. During the discussion, the scenarios will be critically reflected upon and compared, following with concluding remarks on the findings that were obtained.

**Existing scenarios for tourism**

Much research has already been undertaken with the making of scenarios for tourism. Common topics for tourism scenarios include sustainability and climate change, but also for planning the development of tourism as a sector (Gössling & Scott, 2012). A general set of scenarios was made by Postma et al (2017), who constructed four scenarios for sustainable tourism by 2040. This was motivated by stressing the urge to change current tourism practices, with sustainability as the only way to have a safe future for tourism. The article laid its focus on city tourism, as this sector especially faces many issues regarding sustainability and conflict with the locals, which is often caused by the congestion caused by the travelers.

To exemplify tourism scenarios more specifically, one article made scenarios for Scottish tourism with a projection of 10 years into the future, while basing the different scenarios off a list of opportunities and threats for Scotland. A matrix of 4 scenarios was made with 2 trends, economic environment and consumer propensity (Yeoman & Lederer 2005). The gist of this research was the assessment of current issues and opposing them to each other in a grid to show the different futures. Additionally, scenarios have been made for the potential future impacts of tourism on land use in Portugal, showing three different outcomes, ranging from land destruction to sustainable use and protection (Boavida-Portugal et al, 2016). Regarding demographic scenarios, it was discussed what possible impacts the ageing society could have on tourism in Austria (Steiger, 2012). The article showed that some advantages could arise from this demographic change, as this would mean more people with more free time after their retirement. However, in the long haul, it is unsure how the government will be able to continue with funding of the older generation that keeps increasing and having a longer life span. This in turn would mean less disposable income and a decrease in tourism demand. Although this research was based on skiing tourism in Austria, this socioeconomic variable should be considered for scenarios for the Mediterranean as well.

Also plenty of examples for scenarios for tourism under the influence of climate change have been made, especially for vulnerable areas like the Caribbean and other coastal areas (Scott et al, 2012). Especially sea level rise and its implications is used for making scenarios, which show severities such as the disappearance of beaches and therefore portray a destruction of an important asset for coastal destinations. One can identify that current climatic development is a problem but also an uncertainty to many stakeholders and destinations, which is the reason why scenarios are increasing in popularity (Weaver,

2011). Scenarios were also created for the study of ethical behavior of tour operators towards the local stakeholders, as this presents an issue for vulnerable areas like developing countries (Fennell & Malloy, 1999).

When zooming in from the before mentioned scenarios made for areas outside the area into the different scenarios that have been made into the Mediterranean area specifically, many similarities are identifiable. For instance, several sources link climate change to (tourism in) the Mediterranean. One article used a set of European scenarios and narrowed it down to the Mediterranean, while making scenarios based on the desertification of the landscape (Kok et al, 2005). Among others, determinants like tourism and travel, but also agriculture and destructive but innovative technology were named. Another paper researched possible scenarios based on the current land use in tourist dense areas around Spain (Garcia-Ayllon, 2018). Apart from the article that assessed the climatic impacts on the area that was mentioned in the introduction of this thesis (Koutroulis et al, 2018), another article had similar intention, solely focusing on the country of Spain (Cantos & Rebolo, 2016). This research was motivated by the high importance of Spain as a tourist destination on a global scale, showing similar conclusions as other papers, namely the high uncertainty, vulnerability and the urge to implement sustainability.

One research linked the climatic threats triggered by climate change to the general importance of temperature and climate as a determinant for tourism demand in the Mediterranean (Valls & Sarda, 2009). The article used literature in combination with expert interviews (Delphi method) to create visions for tourism in the future, showing the importance of the change in stakeholder behavior to create a durable future for the sector. The numerous scenarios that have been made are quite cohesive to the extent that they attempt to visualize and comprehend the potential effects of current determinants, issues or phenomena on the future. It has become evident that there is a lack in the assessment of more specific issues rather than merely climatic problems in combination with tourism in the Mediterranean, reinforcing the urge of this thesis to gain a different approach on the area.

Climatic research with help of scenarios is not a novelty, as SSP's are actually a modernized version of older socio-economic scenarios, which were called SRES (Special Report on Emissions Scenarios) (Parry et al, 2004). The formation of these frameworks was originated by IPCC, having large concerns about current SSP's show an improved version of the SRES by incorporating more recent demographic and socio-economic issues, but also putting more focus on climatic impacts (Ebi et al, 2014). That being said, the application of this framework on tourism has not been done frequently, yet. Shared socioeconomic pathways are a way of making a set of scenarios for the future that are helpful to make plans and projections (Kok et al, 2018). Therefore, when having made a set of SSP's, they can be used for other goals and applications to make more scenarios in different disciplines. SSP's can be made in two different manners; one using quantitative data of variables that are identified as relevant for the research, the other is writing narratives incorporating qualitative data. Primarily, SSP's are applied in the research of climate change, meaning that scenarios made with this framework show different futures for climatic impacts (Jiang & O'Neill, 2017). SSP's are a result of showing "challenges to adaptation and challenges to mitigation" (Kok et al, 2018).

The article by Jiang & O'Neill shows that SSP's incorporate socioeconomic development into the equation, to build a framework that shows human impact on the environment. SSP's are unique in that sense, as they make several alternatives for the future with a specified guideline what direction each future should take (Jiang & O'Neill, 2017). As there is a basic set of SSP's, it is possible to make an extended set to fit different regions and contexts (Van Ruijven et al, 2014). Socioeconomic factors that are used in SSP frameworks often include the following: Income distribution, Spatial population, Human health and governance (Van Ruijven et al, 2014). The usability of this selection of factors will also be assessed for the use of SSP's for tourism. The general amount of SSP's that are made for a research is 5, as in most research projects, this amount was adopted with contrasting but also nuancing futures. However, the amount of SSP's necessary is respective to the research that is done. Every one of the 5 SSP's show different levels of the influence of socioeconomic factors on the outcome (Hasegawa et al, 2015). For instance, the article by Hasegawa used socioeconomic factors to make scenarios concerning risk of hunger. Many applications have made using this framework, making it necessary to now move on to the specific framework that will be used for this research, the European SSP's.



A particularly important SSP framework is the Eur-SSP's, which is a set of European SSP's that was translated from a global set of SSP's (Kok et al, 2018). The article that constructed these continent specific SSP's combined the global SSP's with CLIMSAVE scenarios, which look at the impacts of climate change (Harrison et al, 2015).

The research paper by Kok et al has undertaken this translation and states that the global set of SSP's deals with "plausible future outlooks of a range of demographic, economic, technological, social, and environmental factors". It is also hinted at the negative impacts of climate change on people, which was already confirmed to be relevant earlier in the literature review when looking at the climate preferences by tourists when spending their vacation in the Mediterranean. The global SSP's consisted of 5 storylines on climate change (O'Neill et al, 2013), however the European scenarios are made up of four narratives (figure 1). SSP2 has been left out, as the researchers decided that this scenario is not relevant for Europe. Therefore, the research narrowed the scenarios down from to four, which could imply that for this research, less than 4 SSP's will be most suitable to make the most efficient scenarios. This choice is made as the more specified the SSP's are to an area, the less SSP's are constructed to stay as accurate and usefully argued as possible.

**Table 3** Key elements of the four European-shared socio-economic pathways (Eur-SSPs), representing the situation towards 2100

Key elements	Eur-SSP1 We are the World	Eur-SSP3 Icarus	Eur-SSP4 Riders on the Storm	Eur-SSP5 Fossil-fuelled Development
Decision-making level	International/EU leader	National/local widespread fragmentation	International / Europe leader on the global scale	International/EU not a leader on the global scale
International cooperation	Strong, EU important player	Weak	Strong, EU important player	Strong (trade)
Migration	Low immigration	Outmigration	Selected immigration	High to cities and from poorer countries
Economic development	Gradual (with hiccups at the beginning)	Low	High	High
Mobility	No barriers, but movements are limited	Low	High	High
Social cohesion	High	Low EU/higher within countries	Low	High
Technology development	High, but not pervasive	Low	High in some areas; low in labour intensive areas	Strong and crucial
Quality of Governance	High—focus on sustainability	Low and ineffective	High and effective	High with focus on businesses
Human health investments	High	Low	High for elites, medium for lower class	High
Education investments	High	Low	High for elites, medium for lower class	High
Environmental respect	High	Low	High in pockets	Low, with high 'not in my backyard'

figure 1

**Framework for this research**

The frameworks now explained, one can summarize the framework specifically fitting to this research, simultaneously addressing the first research question. The Eur-SSP's display a fitting boundary framework for the Mediterranean SSP's, however not all SSP's will be relevant. In order to tailor these concepts to a fitting framework for this research, a combination needs to be formed. Therefore, the Eur-SSP's will be used to make new qualitatively designed SSP's that have a future perspective until 2100. As the Eur-SSP's are already specified through the larger global SSP set, it seems fitting to use this framework for this research as well.

## Methods & Case

The research questions have been constructed to guide the thesis in a comprehensive manner and in a chronological order. For each research question to be answered, different methods will be needed. To find out which SSP's will be suitable for the Mediterranean, the general Eur-SSP's have been introduced, and later the trends that were found will be analyzed. Simultaneously, it becomes clearer how the trends fit into the scenarios, which will then be translated into the narratives. Not only trends will be needed to be identified, but also more detailed data on tourism behavior is needed, like numbers on arrivals. Based on the results that have been found, the narratives will be written in a similar style to the general Eur-SSP's. To round up this research, the narratives that have been written will be compared. To commence the research, one first needs to gain overview of how one constructs SSP's.

### Constructing SSP's

As the case has now been described, the method of making SSP's needs to be investigated. Several articles have stated the methods on how to make Socioeconomic pathways, however they differ from each other, as it depends on the field of application of the SSP's. An article by Riahi et al made a list of general steps to take to make SSP's, which goes as follows:

Step 1: writing of narratives

Step 2: utilizing data that has been collected to enrich the stories and make them relevant for your research

Step 3: Using quantitative data to further develop the SSP's

Step 4: Using baseline data as references for comparison

Step 5: Showing mitigation scenarios

(Riahi et al, 2017).

As SSP's have not yet been developed for tourism numerously, one can merely take inspiration from other examples, like SSP's for climate (O'Neill & Kriegler, 2014), land use (Riahi & Van Vuuren, 2017), health (Springmann & Mason-D'Croz, 2016) etc. The steps named before can be used as reference for this research, however due to the focus on more qualitative data collection, the feasibility of implementing Step 3 is impaired.

Universally, SSP's use five storylines that have been consistently found throughout the literature (Samir & Lutz, 2017). The same article mentions the population size as most important factor for future populations, which can hypothetically be also true for tourism, as this would also imply more travelers (Cervero, 2003). The starting point for the SSP's that will be made are the Eur-SSP's made by Kok et al. As these SSP's have been made very recently (2018), they are highly relevant and form a comprehensive overview on current European outlooks. Using a larger set of SSP's to specify them to a specific area has been done already and shows to provide a general base for more SSP's. As mentioned earlier, current trends will be utilized as frameworks for the SSP's. Every scenario will involve a narrative with a storyline that involves the findings within the literature review. For each storyline, a different trend or factor will be used (Absar & Preston, 2015). The outcome should be different scenarios that range from positive to negative futures. Every narrative will have a title, which will make the scenarios more comprehensive, especially when basing future research on these SSP's.

The methods of constructing SSP's for own research relies on the literature that has been reviewed to find out about important and relevant aspects that can influence the future in different ways (Merkens et al, 2016). Based on the findings in the literature, the most important features should be extracted and used as narratives for the SSP's. For the case of this research, it would be most fitting to look at the current tourism trends and use them as narratives. The article by Kok et al mentions several methods that are used to make SSP's by showing how one can nuance between scenarios:

- “(a) equivalent scenarios, where outcomes are directly transferred between scales;
  - (b) consistent scenarios, where higher scale scenarios provide strict boundary conditions and main scenario assumptions and drivers are set to be similar;
  - (c) coherent scenarios that follow the same paradigm and can be seen as a different representation of the same scenario archetype (see also Section ‘Challenges and risks when developing equivalent scenarios’);
  - (d) comparable scenarios, covering potentially very different aspects and connected mainly by shared concepts or general issues that are addressed; and
  - (e) complementary scenarios, when developed independently with differences in the logics and assumptions across scales, but with complementing information”
- (Kok et al, 2017)

For this research, point b) will be the best fitting method, as this means the use of a broader range of scenarios, in this case the Eur-SSP's and translating those storylines to a smaller set of scenarios, which will be the Mediterranean tourism scenarios. The scenarios that will be formulated will follow the assumptions of the Eur-SSP's. When making the choice of which SSP's to include in the research, one should consider the article by O'Neill,



stating two different methods on how to use the data, in this case the trends, and cluster them into the SSP's. Firstly, one could regard the factors that are collected and then develop the SSP's, being a "forward approach". Secondly, the inverse approach can be adopted, looking at the outcomes that are aspired to be displayed, then linking the factors that are found in the research (O'Neill et al, 2014). The forward approach will be utilized, being the more frequently used method, as the case of the Mediterranean shows very diverse issues and occurrences, making it hard to first make assumptions about outcomes before having undertaken extensive research on the trends.

### **The Case: Mediterranean Tourism**

The Mediterranean area is a well-established destination, which has been fully developed and adapted for (mass) tourism (Farsari & Prastacos, 2001). Especially for beach tourism, the Mediterranean area is one of the most important destinations worldwide (Nicholls, 2006). The area is also referred to as a "sea, sun and sand" region (Rosselló & Waqas, 2016). Mediterranean tourism has been a popular vacation destination ever since the mid 1900's, when mass tourism started to develop. For instance, Catalonia was one of the first Spanish areas to be affected by increasing travel (Garay & Cánoves, 2011). Apart from the mass tourism, residential tourism has also been developed very strongly in this area (Morote et al, 2017). This type of tourism entails the ownership of a (second) home for leisure purposes. According to the article by Morote, especially for travellers coming from northern Europe, residential tourism in this area is very popular. But, also in more recent years, the Mediterranean has been proven to be the most attractive and lucrative tourist destination, with over 267.4 million visitors in 2017 (UNWTO). However, climate change and its result of increasing temperatures could potentially make this area strongly vulnerable. One later research obtained the vast importance of weather to tourists, showing that high temperatures are desired, though "too high" temperatures are disliked (Moreno, 2010).

The paper stressed that the future under global warming could imply that people would consider staying at home instead of going to the Mediterranean as the weather and the temperature is already comparable to their otherwise vacation destination. Different research has obtained similar results, stating that Mediterranean summers are increasingly "too hot", which is especially unfortunate for this area in particular, since climate is seen as its most important characteristic (Rutty & Scott, 2010).

Since seasonality is an issue for the Mediterranean, the uncomfortably warm temperatures during summer could have strong impacts on the tourist arrivals and a shift to more tourism in other, otherwise cooler regions could be expected (Amelung & Viner, 2006).

As a serious rise in temperatures is expected to occur in the future, it will be very fitting to formulate and include a scenario with these characteristics for this research (Hall et al, 2015).

One of the largest target markets for Mediterranean tourism is Great Britain, which has developed to be a serious threat for the vacation area, as the travel expenses will increase significantly for British people if the Brexit will be implemented (Cirer-Costa, 2017). This article leaves the impression that the Mediterranean area is, like many other tourist destinations, vulnerable to political issues in the target countries. For the case of Spain, the number of beach tourists is stagnant, due to various reasons including a shift from mass tourism to alternative tourism (Christou, 2012). However, the same article states that countries like Greece, Slovenia and Croatia face a harder challenge with adapting to this shift as they have issues with spreading awareness about their cultural heritage, but also the renovation and conservation of these, and alternative activities that can be done within these countries. The case shows various points that need further investigation, being namely the climatic issues, the recent trends and potential political problems.

Although (mass) tourism is taking its toll on the Mediterranean area, there are also signs that there is positive development regarding a less damaging practice of tourism, which will become evident in the next paragraphs, identifying numerous tourism trends. A paper by Buckley et al (2014) gives a general overview of the so-called "mega trends". Among these are the effects of climate change, increasing prices for fuel, new technologies, the rise of the BRIC countries, political conflict between states and the relationship between conservation and tourism. These points are not applied to a specific area, which therefore may show contradictions with the Mediterranean-specific trends. However, this paper will serve as a general starting point.

Having the second research question in mind, a selection of the most important numbers and trends for the area will be identified, which will then be followed by a paragraph on related issues and climatic developments that the area and the tourism industry are facing. The trends were chosen based on examples that were given for them within the Mediterranean, but also more general trends were selected that were evaluated to be relevant for the area as well.

### General data

The WTO offers much current data, repetitively numeric trends, on development of tourism, however it is mostly quantitative data concerning the activity of tourists. For instance, the WTO showed that international arrivals grew by 6% in 2018, with an average growth of 4.2% in the past 10 years (global). Europe showed a growth of international arrivals of 5.7% in 2018 and accounted for more than half of worldwide arrivals (UNWTO World Tourism Barometer, Vol 17 Issue 1). Especially Western Balkan countries and countries in Eastern Europe showed high growth, as opposed to countries that have been the most popular vacation countries located in the Mediterranean like Spain and Italy. This data shows that the area of concern for this research is rather stagnant compared to other more trending destinations. One more contradicting statistic is provided by Rico et al (2019), stating that Barcelona (Spain) has experienced an increase in arrivals by 25% between 2008-2015. The reasons for growth, stagnation or decline in arrivals is mostly reasoned by weather, politics (e.g Brexit) and special events (e.g UEFA World Cup 2018). One article mentions that experts forecast that international arrivals will total 500 million by 2030, with an annual increase rate of 2.6% (Drius et al, 2019). The same article continues with stating that Spain, France and Italy account for 60% of all arrivals in the area.

## **Cruise tourism**

The Mediterranean scores as second biggest cruise region worldwide and it is still expanding (Pallis et al, 2018). Generally, marine tourism is the fastest growing segment of the tourism industry, meaning that vacations on cruise ships are trending amongst vacationists (Kizielewicz, 2013). The same article also mentions that the inactive vacation mostly involving lying at the beach is not preferred anymore. Potentially, this could be a problem for Mediterranean, however this area is also a very favorable sport for cruise tourism and is not as vulnerable to the masses of cruise tourists compressed in space and time as opposed to other vacation spots like the Caribbean (Brida & Aguirre, 2008). The shift to a more active vacation should not be a threat to the area, much more be favorable as it could lead to a spatial distribution of tourists.

Regarding cruise tourism in Spain, one article mentions that Malaga has a very developed cruise port, whereas the city of Seville has only started to develop as a cruise destination (Castillo-Manzano et al, 2015). The article by Castillo-Manzano also researched that cruise tourists tend to spend more than people on a Low-Cost vacation, showing a tendency towards the favorability of cruise tourism from an economic perspective. However, there is also a flip side to cruise tourism, as it is highly unsustainable regarding pollution and waste (Lamers et al, 2015). To be more precise, cruise ships are compared with cities when with respect to the amount of waste they produce, especially gray water and GHG emissions (Copeland, 2008). Many articles stress the high amounts of air pollution that cruise ships emit (Maragkogianni & Papaefthimiou, 2015; Dragovic et al, 2018). Highly contrasting to the negative effects of cruise tourism, other research showed the favorability of having private yachts and boats, which was not directly linked to the Mediterranean, but should be considered for this area as well. The accumulation of these boats lead to polluted and congested marinas, hindering natural water flow that is responsible for clean harbors (Davenport & Davenport, 2006). When looking past the economic advantages cruise tourism bring to a destination, one should consider the toll it takes on the climate, the high seasonality, and the congestion it can create during high season.



As a response to mass tourism, the concept of cultural tourism gained awareness and popularity since the 1990's (Jovicic, 2016). Cultural tourists have the characteristic of wanting to travel to come across new cultures and gain new knowledge about unfamiliar matters. Especially the search for authenticity is another point of motivation for cultural tourists (May, 1996). A niche that can be linked to this is pilgrimage tourism, which has been a recent development, now co-existing with mass tourism. It has been gaining more attention in recent years, as it shows the mix between pilgrims and tourists, merging both travel intentions into one trip (Collins-Kreiner, 2018). The article stresses the development of pilgrimage becoming increasingly linked to the more consumption oriented regular tourism, making it more mainstream. This trend could also be applicable to the Mediterranean, as places like Rome, the Way of St James in France and Spain and the Madonna del Ghisallo in Italy are popular pilgrimage spots and routes (Martin, 2011; Melczer, 1993).

Another current trend was identified by Richards, showing that not only foreign cultures are sought after to be explored, but also finding out about local cultures is increasing in popularity (Richards, 2007). Locals exploring their own country is the effect of this newer movement, being simultaneously sustainable regarding fewer emissions when travelling to the destination, as well as creating a positive impact on their destination, showing interest in the culture. One could argue whether one can use cultural tourism as a synonym for educational tourism, as both have the characteristic of wanting to learn more. Educational tourism is expected to rise in the future, due to the expanding older demographic that are willing and able to spend time and money on exploring new cultures while getting more educated (McGladdery & Lubbe, 2017). However, one could suggest that the growing older demographic can also cause more tourists in less sustainable sectors like cruise tourism. A more dated research mentioned that it is expected for seniors to experience countries like Spain and Italy as most favorable by 2050 (Schröder & Widmann, 2007). However, this research is based on expectations for German citizens. The article shows split argumentations for seniors wanting a more active or a more secure vacation in the future.

A link between cultural tourism and sustainability was identified, as the awareness and increased consciousness of one's surroundings can have a positive effect especially on the locals (Artal-Tur, 2018). Another advantage the demand for culture brings is the elevated focus on conservation and renovation of heritage, making the destinations more attractive (Zeayter & Mansour, 2018). The Mediterranean is especially very attractive for cultural tourism, as the countries within the area are very diverse and heterogenic (Lazzeretti et al, 2016). Though this has lead to complications in the past. Popular cities that have extensive cultural heritage like Barcelona or Rome, to name a few, face a tourist influx that is too

high, leading to “tourismphobia” from the side of the locals (García-Hernández et al, 2017; Zerva et al, 2018). This shows that culture and sustainability does not necessarily go hand in hand in already crowded and popular areas, proposing that changes in this niche need to be made in the future in order to better the effects culture has on the destination.

Signs of recognition that changed need to be made are found, as for instance the article by Jovicic which was initially mentioned in this paragraph discusses that cultural tourism is fueled by modern technology. Novel electric appliances provide extensive amount of information about (foreign) cultures, which raises more awareness and curiosity. This phenomenon shows several opportunities and threats, and may be linked to another trend that is talked about in scientific research, namely Smart tourism.

### **Smart tourism**

Smart tourism shows the transition from conventional tourism to a more conscious and resourceful way of traveling (Gretzel et al, 2015). The incorporation of modern technology is what makes smart tourism safer and plannable compared to the absence of ICT (Fernandez-Anez et al, 2018). It is also regarded as a reaction to the global awareness of destinations that are increasingly wanted to be visited by more and more people. A general definition of the essence of smart tourism is found within the literature, which goes as follows:

“Simply taking a holistic, longer term and sustainable approach to planning, developing, operating and marketing tourism products and businesses” – (Phillips, 2000) on smart tourism (retrieved from Li et al, 2017)

The article by Gretzel et al shows that with help of internet-based provisioning of information for the supply side and the tourists, traveling should be perceived of higher quality for all stakeholders involved. The focus of making destinations and traveling more sustainable is one goal of smart tourism, making infrastructures as transparent as possible. Additionally, the facilitation of phone chargers, WIFI and apps is another point of action for smart tourism. Smart tourism is especially an improvement for very busy tourism destinations, meaning mainly urban areas are considered for modern implementations like the examples named before (Buhalis & Amaranggana, 2013). The city of Barcelona was also mentioned by the article as one of the cities in the Mediterranean area that is already aware of the usefulness of ICT to make tourism more sustainable. Not only specific cities should make use of smart tourism, but general agglomerations are in need of more sustainability with use of modern technology, which means the entire Mediterranean is addressed with this statement.

One interesting part of smart tourism is the use of Virtual Reality (VR) or Augmented Reality (AR) (Hunter et al, 2015). However, when thinking about the easy access people could have to this experience, one could discuss whether the demand for tourism would decrease because people are already satisfied with the VR experience that they get in their home area. On the other hand, one could suggest VR as an advanced marketing tool that could promote destinations even more vividly than through other media, meaning an increase in demand. This dilemma is also dealt with in one article, which also added the sustainability factor the possibility of experiencing tourism in VR gives (Tussyadiah, 2018). Smart tourism displays efforts that are made to create a better future for the tourism sector as an entity. Contrary to this positive development, other novel technologies are also increasing in popularity, including social media channels.

### **The digital Age**

Social media is an ever-present tool that is used by many millions of people every day (Boulianne, 2015, Sobaih et al, 2016). Not only every meal one consumes is frequently posted on these channels, but more importantly the places one visits when on vacation. One has not been anywhere unless it is shared online. This phenomenon is often referred to as “fear of missing out (FOMO)” (Blackwell et al, 2017). Sharing one’s lives has become a competition, feeling the need to show every nice part one experience, one being vacations. FOMO leads to engaging in popular activities based on the fear of others enjoying life without you (Przybylski et al, 2013). One article states that the use of one’s electronic devices on vacation negatively impacts the by Urry and Larsen coined term the tourist gaze (Urry & Larsen, 2011; Ayeh, 2018). The tourist gaze mainly stresses that everything the tourist experiences has an impact on their view on the destination. Therefore, the tourist gaze is impacted and compromised by the constant use of smart devices (Ayeh, 2018).

Social media is not only used to share one’s touristic experiences, but also to search for potential vacation destinations by browsing through other people’s accounts (Fatanti & Suyadnya, 2015). According to this article, this is especially true for Instagram. Social media is increasingly used for primary information on a destination, rather than official travel guides. This means that information is provided better, cheaper and easier than ever before, raising more awareness and ultimately, curiosity and desire for the destination.

The obsessive use of social media and smartphones is one trend that has been identified by many articles, however a development in the opposite direction was also found, which was coined as “digital detox” (e.g Hicks, 2019). Digital detox is often named in conjunction with tourism, as many people are found stressed out by work related use of mobile technology, needing a break to reload during their time off. Enjoying one’s vacation

without digital appliances is also referred to as “digital-free tourism (DFT)” (Li et al, 2018). If one would link this trend to the theory of the tourist gaze, this would be very beneficial for the tourist’s experience during their vacation. Looking past the devices tourists use when on vacation or when at home, it is important to assess which destinations are on trend to visit and which niches are currently growing.

### **Urban tourism**

Next to cruise tourism, city/urban tourism is also one of the fastest growing markets worldwide (Bock, 2015). It additionally mentioned that cities can be a larger economic driver than a country as an entity (Postma et al, 2017). It has been identified that the Mediterranean needs additional attention when addressing urban tourism, as many cities are located on the coast, categorizing these places under “urban coastal tourism” (Bellini & Pasquinelli, 2017). Apart from the typical “sea, sun and sand” vacations, coastal cities additionally provide for cultural, culinary and many more interests and travel intentions, so Bellini and Pasquinelli. Therefore, these places are at an even higher risk of unsustainable practices, including congestion, extensive water use and waste production. Efforts are already being made to encourage local stakeholders to implement more sustainable aspects. What also needs to be mentioned when addressing urban tourism especially, is that plane trips provide for 70% of all damaging emissions within the tourism industry (Rico et al, 2019). Especially the trend of taking week-end trips is a large contributor to high levels of pollution (Rico, 2019). These types of trips are especially harmful for the environment, considering the emissions coming from the plane trips taken, compared to the short amount of time spent away.

Additionally, tourists that stay for a short time spend less at their destination and don’t impact the destination as much as a tourist that stays for longer (Rodriguez et al, 2018). Even though the price for fossil fuel has been rising and consequently the prices for plane tickets are increasing, European tourists are not showing any relevant reaction to this change, remaining curious and motivated to visit new places for a couple of days. Cities located in the Mediterranean like Barcelona and Venice heavily suffer from the city-trip trend, whereas one study showed that a place that is not crowded is a less relevant factor for tourists. This study was undertaken in Barcelona, one of the busiest tourism destinations worldwide (Garín-Muñoz, 2017). Factors like value for money and restaurants were of highest importance to tourists. The extensive amount of diverse cultures and attractions found in cities is a very attractive selling point for tourists, especially since urban areas are very dense and countless attractions are fast to reach (Bock, 2015). Cities are shown to be vulnerable due to its high demand and dense attractions that cover countless



interests. Parallel to the urban tourism trend, the literature shows several niche markets as well, that will be addressed in the next paragraphs.

### **Sustainable tourism**

Many niches, like cultural tourism and tourism that has implemented ICT, can indirectly fall into the category of sustainable tourism, though it should also be addressed as a separate trend, as more tourists consciously want to spend their holidays in a sustainable way (Mihalic, 2016). However, also the supply side of the tourism sector is showing efforts to create sustainable places to visit. Trying to combat the overuse of main land ecosystem services, large areas have been transformed into protected areas (Palomo et al, 2014). The advantage of making landscapes protected is the regulation of tourism, and with that increasing the sustainability of the leisure practices undertaken within the areas. Not only sustainability towards the climate but also the human resources are getting more awareness, as not only in developing countries, but also in Spain signs of community-based tourism are identified and being further developed (Ruiz-Ballesteros et al, 2016).

One more recent trend that is indirectly related to tourism is the inclusion of climate change adaptation in policy making agendas, with the goal of educating about climate change implications and potentially finding solutions (Harrison et al, 2013). This means that the increasing awareness of climate change could trigger a shift in travel behavior towards a more sustainable vacation, including the preference to not take the plane and rather stay closer to home, which in return would have an impact on many destinations including the Mediterranean. This shows also the demand side is encouraged to think about the environment and the implications the aspired trip could have on climate change.

This shift can be interpreted as a response to mass tourism, as when researching tourism trends, many case studies state that there is a shift from mass tourism to more diverse travel itineraries with an expansion of many niche markets (Dinis & Krakover, 2016).

Basic trips that merely incorporate going to the beach are declining and tourists start showing more interest in rural trips, activities and cultural tourism. Especially the latter has been repeatedly mentioned as a growing industry, with more tourists showing interest in learning about new cultures and their history. The trends that were discovered are also in favor of the Mediterranean, as the area has much to offer with regard of the new trends (Christou, 2012), including local foods, products and cultural heritage. Fortunately, sustainability is tackled separately, but is also recognizable in several niches, one of which, apart from the ones mentioned earlier, is rural tourism.

## Rural tourism

As a result of increasing awareness of the need to be sustainable, rural tourism has also gained in popularity. Rural tourism is leading to a decrease in seasonality, and often obtains tourists with higher spending power compared to beach tourists (Hernandez et al, 2016). One example is given in Montenegro, showing that rural tourism is very beneficial for the rural development (Čurović et al, 2019). This is caused by the spending power of tourists that does not stay within heavily visited places anymore. However, its neighboring country Serbia is said to not being able to profit from this trend, yet (Đenadić, 2016). Reason for this issue is the lacking financial and managerial resources to improve and promote the already existing natural prerequisites.

Not only in Serbia, but also other areas are at risk of abandonment due to, amongst other factors, the absence of tourism. One example is displayed by a rural area in northern Spain, showing the decrease in population due to unemployment (Vila Subirós et al, 2016). According to the article, this also has the effect of cultural heritage being lost due to neglect and deterioration. These examples show the mismatch between demand and potential supply, as this niche could be much more catered towards, granted better management and other resources.

Rural tourists like to experience unique landscapes, preferably different to their usual surroundings. Therefore, olive trees are one of the many assets of the Mediterranean landscape that attracts rural tourists. In fact, locally produced olive oil is a very valuable product that is commonly sold to rural tourists, which is also due to the increasing interest in high quality (Mediterranean) foods and delicacies (Hachem et al, 2016). Another article gives this phenomenon the name "olive oil tourism" (Arjona-Fuentes & Amador-Hidalgo, 2017), which shows that rural tourism goes hand in hand with gastronomic tourism. One interesting niche trend that is linked to this is the newly coined trend "mycotourism" (Büntgen et al, 2017). Mycotourism is defined by the practice of tourists travelling, in this case to Spain, to harvest mushrooms. This niche has the effect of giving attention to rural areas, giving them economic benefits, by also sustainably incorporating locals into the practice. Large potentials are identifiable within the area, though the demand cannot consistently be provided for due to various reasons, often being financial and managerial reasons.

Moving away from trends that are directly related to tourism, it is important to mention negative stressors on the industry. Terrorism is perceived as a highly significant threat to tourists (Walters & al, 2019). Safety is one of the determinants of selecting a vacation destination. Recent terrorist threats in Northern Africa lead to more people travelling to the Mediterranean instead, enforcing congestion and the before-mentioned tourism phobia (Coldwell, 2017). However, terrorist attacks have also occurred in Barcelona, which had, according to one research, high implications on the tourism sector (Coca-Stefaniak, 2018). Many articles contradict each other, as one research obtained that there was indeed a decrease in arrivals after a terrorist attack, however the industry did recover from that in a short period of time (Corbet et al, 2019). As terrorist attacks are as unpredictable as the reaction of tourists to it, it is difficult to conceptualize how the future of these destinations look like based on this phenomenon. Not only terrorism can have implications on tourism, but also the (perceived) quality of the destination's natural assets.

**Tourism, the ecosystem and its services**

Before continuing to implement the trends into the construction of Mediterranean SSP's, it is interesting to mention the impacts the consumption intensive tourism practices have the ecosystem and the services that they provide in the area. The tourism and leisure activities that are enjoyed by tourists and society lead to an abundance of exploitation of the ecosystem and the services it provides, especially along the coast line of the Mediterranean (Drius et al, 2019). Ecosystems in the marine area were divided into 4 functions it has by one article, giving it, amongst others, the function of being a cultural service (Salomon & Dahms, retrieved from Gössling et al, 2018). This service includes being aesthetically pleasing and being an important aspect for tourism and recreation. A direct impact of overuse and neglect of assessing the effects on the ecosystem puts this cultural service at risk, leading to a potential decrease of interest and popularity. Other services that the marine and coastal environment provides is "Provisioning service" (fish, subsistence etc), "Regulating service" (Climatic regulations) and "Supporting service (Natural habitat) (Rodrigues et al, 2013).

Since there is awareness of the damaging effects that the sun can leave on humans, the use of sunscreen is especially high in the sunny Mediterranean area. Recent research has shown that some components in the sun blockers are very damaging to the sea and the organisms living in it, whereas traces of sunscreen were found in dolphins, mussels and other fish (Tovar-Sanchez et al, 2019). Especially because the Mediterranean basin only has a connection to the ocean via a small canal between Morocco and Spain, the pollution that is created is hard to get diluted.

A decreasing trend in the “natural capacity of the ecosystems to provide marine and coastal services” was identified by one research, that partially linked the deterioration to marine recreation (Liquete, 2016). It was stressed that especially the western part of the Mediterranean is affected by the exploitation of the ecosystem services, leaving the eastern part less damaged as of recent research. When regarding the fact that the western Mediterranean countries are most popular for tourism, one can discuss whether that is the link between the more serious deterioration in this area compared to the less visited eastern section.

One specific and important part of the ecosystem in the Mediterranean are coastal lagoons (Pérez-Ruzafa et al, 2011). They are a habitat for many organisms and species that cannot survive in other aquatic areas, which makes these areas especially vulnerable. These spots are in interest of many stakeholders, including tourists, anglers and stakeholders that want to build urban space around it. Lacking management is increasingly leading to over-exploitation of its ecosystem service, which is mostly due to tourism and fishing.

The globally increasing Co2 levels also show its effects in the Mediterranean basin. The pollution leads to ocean acidification, which has massive effects on the ecosystem, especially for the species living in it. (Rodrigues et al, 2013). This regulating service that the ecosystem provides is at risk of being severely damaged, creating strong impacts on the tourism sector. Due to ocean acidification, recreational swimming and diving may be compromised, as for example the coral reefs are more vulnerable and the water quality declines. One serious health threat that is caused by these changes within the marine ecosystem is the outbreak of jellyfish (Ghermandi, 2015). A link between ocean acidification, nitrogen pollution and other unnatural phenomena occurring in the water and the numerous jellyfish outbreaks was identified. For tourists, this can be a serious threat that is occurring along the entire Mediterranean coast.

One article showed the increased risk of flooding along the European shores (Vousdoukas et al, 2018). Due to the rapid sea level rise, the coastal areas of Europe are at risk of being flooded, especially because dikes cannot support the increasing amount of water. Though the article states the reason for this being climate change, tourism is not named as one of the causes. However, other sources claim to confirm that tourism is one of the main drivers of climate change (Becken, 2004).

Not only the aquatic ecosystems are being closely monitored due to increasing vulnerability, but also the main land causes concerns. As rural tourism is rising as well, the landscape aesthetics are of increasing importance (Palahi et al, 2008). However, the unsustainable use of this ecosystem service is highly questioned, as the disrespectful use

of the landscape is a common problem. Additionally, climate change increases the risk of forest fires and degradation, as well as deforestation undertaken by several stakeholders. Lastly, the air quality is scrutinized by many factors, some of which include emissions, pollution etc. In the Mediterranean, the intense build-up of ozone along the coast line leads to considerable amounts of smog, especially during the warmer months (Finardi et al, 2018). Many different ecosystems around the Mediterranean are vulnerable to the impacts of tourism, which has become evident based on the extensive research that has been done on this topic in a variety of different ecosystems. Managing the resilience of the ecosystems is of great concern for the areas to stay capable of providing any ecosystem service (Lacitignola, 2007).

When looking at the tourism trends that have been identified, one can attempt to address both the third and the fourth research question, by selecting the SSP's that will be used and then matching the trends to the scenarios. While obtaining an insight on the trends, it has become clear that some of the trends are very contradicting, showing very diverse developments in the industry. It has also become evident that one cannot generalize all trends into one direction, giving more reason and need to make different scenarios.

### Choice of SSP's

For the third research question, one can critically evaluate which SSP's are most suitable for the scenarios that will be made within this research. Since the trends are so diverse and polarizing, it would be best fitting to develop SSP's from "We are the world" and "Fossil-fueled development". Due to their high contrast in outcomes within their stories, the span of possible futures for the Mediterranean will become evident, especially when comparing the two SSP's later in the discussion. The following section will portray a short paraphrased description of the relevant Eur-SSP'S made by Kok et al.

#### Eur-SSP1 (We are the world)

The first narrative describes a future that due to economic and environmental issues a movement of sustainable solutions is introduced that also meets some efforts that the sustainable development goals (SDG) describe. Governments have a high stake in steering society in a green direction with policies that are favorable for everybody economically and socially. Essentially, economic growth is not the focus within this SSP, however a controlled and slow but sustainable growth is aspired with the welfare of the environment being in the forefront. Society is rather peaceful and political issues are not very common anymore.

#### Eur-SSP5 (Fossil-fueled development)

The storyline of SSP5 tells a story that is entirely opposite from the all positive SSP1. The most important aspect to society is the performance of the economy, whereas climate change is not cared about. Awareness about the impacts on of the destructive practices people make on the environment is not spread and education on it is not on the agenda either. The narrative also stresses the high level of innovation in the technology sector, however they are not used to increase sustainability. The main characteristic of this narrative is the environmental destruction that occurs at the expense of a growing and thriving economy.



One also needs to stress why the remaining SSP's are less suitable for this research. SSP3 can be argued as unsuitable as it stresses more the political imbalance and a breakdown of the EU into fragmented areas, which signs were not detected within the trends that were found. It does however mention failures of the ecosystem, which were also found in the results, however, according to SSP3, the origin of the failure is the recovery of the economy, whereas a dip in the economy would not be a logic assumption to make based on the trends that shows a rising economy without major complications or problems. SSP4 does not identify as suitable for the Mediterranean scenarios either, as this narrative deals with dispersed power to only a small group and large civilizations suffering from insufficient development. When one regards the fact that beach and cruise tourism has been popular for many decades, one could discuss the power distribution over the stakeholders of this sector, and the neglect of rural citizens, operators and niche markets. However, this SSP also stresses the combination of this phenomenon with the sustainable development of technology, which is a link that was not found within the trends, but only as separate factors. SSP4 also mentions decrease in fuel prices, which would not be a useful assumption to make, as some source state the opposite as of currently.

With the Eur-SSP's now explained more in detail, SSP1 & SSP5 will act as guideline for the storylines that will be written for the Mediterranean. They describe the possible situations of the Mediterranean area in the year 2100. The development of the trends that were identified will be shown combined with the impacts that they left behind in the area and the sector.

### **Matching the trends to the SSP's**

Based on the argumentation on the choice of which SSP's to utilize, one can link the trends to the SSP's, addressing the third research question. SSP 1 is characterized by displaying a purely positive future, with heavy stress on sustainability, purposeful use of technological innovation and less market oriented economic decisions (O'Neill, 2014). Having this in mind, all trends that were linked to conscious consumption can be linked to the first SSP, being the following trends: Sustainable tourism, Cultural tourism, Smart tourism & Rural tourism. These trends promise the ethical use of resources, being not only sustainable towards the environment, but also the locals living in the area of interest. They show large growth in popularity, and high potential on the supply side. The literature displayed the efforts that are made to implement modern technologies to alleviate tourism dense areas from the issues they bring, like congestion and pollution, making it an excellent trend to be used in SSP1.

SSP5 defines a consumption intensive outlook, showing no sustainable improvements at all. Some scenarios also incorporate political conflicts, which will be considered for these scenarios as well. The trends of cruise tourism and the non-purposeful use of modern technologies are fitting into this SSP, as they exemplify high consumption levels with only low levels of positive impacts on the local communities and the environment. Terrorist threats may be used as well, though their long-term impacts are uncertain and may not be significant on the long run. The general trends of increasing arrivals will be fitting for this scenario, as well as the deterioration of the ecosystems due to climate change, which is in turn fueled by tourism. Terrorism and urban tourism will play a role in this scenario as well, as terrorist threats in areas outside the Mediterranean may lead to a higher tourist influx within the area. All trends show flip sides to them, meaning that they can have diverse outcomes on the future, and their probability of growth is not necessarily certain. Table 2 summarises the trends and how they were matched to the SSP's.

SSP1	SSP5
Sustainable tourism	Cruise tourism
Cultural tourism	Political conflicts
Smart tourism	Irresponsible use of technology
Rural tourism	Beach & City tourism
	Neglect of the ecosystem

table 2

With both the third and fourth research question now addressed, one can continue with writing the narratives for tourism in the Mediterranean.

Regarding the fifth research question, one can now write the narratives, using the trends that were matched to the relevant SSP's.

### **Mediterranean-SSP1: Climate Changed**

By 2100, tourism arrivals will be stagnant, with a decreasing trend. This is due to the awareness of the impacts travelling has on the environment, combined with the increasing popularity of other destinations. The eastern Mediterranean areas will be fashionable, having successfully alleviated the congested western Mediterranean areas, including Spain, Italy and southern France. Sustainable tourism has become mainstream, leaving mass tourism and the problems it gave in the past. Countries have invested in the education of the citizens about the impacts of climate change, leading to an overall awareness and policies steering towards green behavior.

Cities and other hotspots will have implemented technologies that monitor the use of infrastructure. Services like artificial intelligence are used to guide people through their destination, and it simultaneously decreases the risk of congestion. Therefore, modern technologies will tackle heavily visited areas and alleviate them from tourist masses. This will lead to more satisfaction of the tourist experience, but also make the habitat of the locals a comfortable living space again. Alternatives like VR-experiences will give potential travelers a more sustainable and affordable option to see new places. These experiences will be highly advanced by 2070, giving an incredibly realistic feeling.

Another effect that this transition will bring is cities losing their reputation of being too popular and full. When regarding places like Barcelona or Venice, they will no longer strike the front-page of newspapers with locals demonstrating against the massive tourist influxes, which were especially caused by cruise ships and week-end travelers.

More attention has been brought to areas outside the usual hotspots in the area, leading to an even distribution of tourists over the entire Mediterranean. The sustainable and conscious use of (social) media is reason for spreading the trend of wanting to explore beyond the beaten path, gaining new knowledge during your trip. The problem of seasonality will be largely alleviated by people not valuing the favorable temperature for lying at the beach as much anymore. The ageing population has its effects on the area as well. Though this demographic is growing largely, their travel intentions are sustainable and focused on moderate activity, gaining knowledge with an intermediate price tag. Overall, their travel and spending behavior is sustainable and impactful for people and culture.

Due to increasing awareness of the harmful effects of the sun on the body, beach vacations are less desirable and more active holidays are preferred, which ties in with the popularity of unconventional destinations within and outside the Mediterranean. This transition also affects cultural tourism, with more sustainable spending on locally produced products, souvenirs and services that locals directly profit from. Cultural activities will include discovering local food, drinks and delicacies, next to the discovery of natural assets that have been protected by transforming them into National parks. The cultural assets of the Mediterranean will catch more interest, which will lead to investment in restoration of cultural heritage sites. People are in more need than ever to be disconnected from the internet for a while, leaving them more aware of their surroundings and appreciative of the landscape. This former niche is now more in the spotlight and is high on people's travel itinerary. Therefore, pilgrimage is also an increasing focus of tourist's travel intentions, giving them the feeling of relaxation, empowerment and presence. Spots like Santiago de Compostela will not only see foreign faces, but also (Spanish) residents will visit these places, as staying close to one's home is an increasingly popular way of spending time off. Locals spending time close to their habitat does of course not only have an effect on pilgrimage tourism, but also urban and cultural tourism.

This development overall will be a high contrast to the former spending behavior, which used to be characterized by expenditures that were mostly profited from by foreign owned tour operators and stakeholders. Since climate change is in the process of being successfully tackled, the weather conditions stay desirable for spending the leisure time at the Mediterranean. The trend of weather globally getting too hot is not of concern anymore. Reasons for the management of climate change include the stricter policies for transportation, leading to more conscious use of infrastructure on land as well as in the air. The oil prices that have increased are handled by tourists being more careful about their travel decisions, leaving the airline industry more sustainable and less damaging to the climate. Big changes have been made when comparing the situation of 2100 with now, showing the potential the current trends can have on the future.

## Mediterranean-SSP5: S.O.S

When looking at the Mediterranean in 2100, the coasts are filled with cruise ships, private yachts and boats, with sea water being irreversibly harmed by pollution coming from the ships. The growing older demographic is invading the area in the way that they lazily relax on the cruise decks, beaches or water-intensive pool sides. Due to the excessive CO<sub>2</sub> emissions, overfishing and water not being able to move freely anymore, the sea is far from being a healthy living space for marine species. The loss of species leads to the ecosystem losing many of its services. Floods are more common than ever, being a reaction of global warming, compromising the safety of being on the beach. The sea water is not enjoyable to tourists, as the water is highly littered and assets such as coral reefs have become extinct. A stop or an intervention to these phenomena is not in sight, as these areas are still the most popular to tourists and therefore most profitable for stakeholders. Hence, the summers are still left with packed beaches with people that can hardly enjoy the place due to lack of personal space. Jellyfish plagues are very present, but does not stop tourists from overthinking their itineraries and still go to the beach. Natural resources are exploited, and water provisioning is scarce.

Rural areas are empty, and locals living at the countryside suffer from low employment. As more job offers are at the tourist hotspots, many locals migrate away from the countryside, leading to a massive gap in welfare and living quality between urban/ beach areas and the rural spaces. Also, due to high seasonality of beach and cruise tourism, all workers in these industries suffer from low employment in the colder seasons. Favorable political conditions in target and destination countries lead to boundary-less travelling. Terrorist threats are still existent, though they do not lead to long term damage of demand for the area. Not only the shores, but also the cities still experience extreme tourist influxes, and crowding is unbearable for locals and tourists. Taking short trips during weekends remains highly popular, with an advanced airline infrastructure, having every city on the map for people to travel to, from every low-cost airport directly. The urban areas profit economically from this situation, though the money is not spent on restauration or maintenance of cultural assets, but is kept in the hotspots, to fulfill the wants and needs of the consumptive tourist type that is visiting

The low-cost airlines are ruling the aviation sector with the effect of skyrocketing the CO<sub>2</sub> emissions, fueling climate change. People do not care about their unconscious travel behavior and like to spend their disposable income on filling their passport, for reasons of personal development and status. The desire of sharing activities online has the effect that tourists live through their phone and not in the moment. People are constantly sharing

their activities on platforms like Instagram or another platform that will be popular in the future, to stay relevant among their friends, family and acquaintances online. New technologies are not used for productive and impactful reasons, but only to satisfy one's own desires and urges. Virtual reality modules have the effect of being a much too well performing marketing tool for destinations, curbing demand even further. The tourist's destination is not genuinely enjoyed and appreciated, leaving only traces of consumption behind without any positive contribution. The sky is heavily polluted, ruining the aesthetic of people's Instagram pictures. The spirit of the area has been destroyed, existing only for profit and consumption. The impacts of many of the current trends can have this highly destructive effect on humans, animals, the ecosystem and the climate. The big issue is that everybody has entertainment at their fingertips, which is caused by the maximization of globalization, lacking education on climate change and using technology for less necessary reasons.

## Discussion

The SSP's that have been created show very different outcomes for the future of the Mediterranean area, reason being the very different developments that are occurring in the area of interest. Numerous trends have been identified within the literature, whereas many arguments for both scenarios were found. Many sources contradict each other, showing the parallel socio-economic developments that are occurring. In the beginning of the results paragraph, a short overview of general trends (Buckley et al, 2014) was mentioned. When comparing this overview with the self-identified trends, one can observe some similarities, but also some differences. These general trends (climate change, fuel prices, new tech, BRIC countries, political conflict, conservation & tourism) were found in this thesis to some extent, as sustainable tourism, new technologies, and climate change are all topics that were shown to be relevant for the Mediterranean. Political conflicts were touched upon as well within this thesis, though the incorporation of these into long term scenarios is difficult, due to their unpredictability (Bak, 2016). The increasing prices of fuel were identified as well, though the effects of this trend on tourism behavior is still to be determined. Lastly, the rise of the BRIC countries was not found to be of high importance for the area, though one could argue that these countries could become a target market in the future due to their increasing welfare, and with that increasing disposable income.

When investigating literature that has undertaken similar efforts by creating scenarios for tourism, one can identify that scenarios are made for very specific goals, including case studies in different tourism related settings. The article that had the most similar approach to this thesis concluded that climate change will have a long-term damaging effect on the attractiveness of the destinations (Koutroulis, 2018). Within this thesis, the way climate change is perceived becomes evident in SSP5, being that tourists still visit and overpopulate the area. However, Koutroulis also mentioned the high tolerance of warm temperatures that tourists tend to show, which is a statement that is fitting to SSP5. The uncertainty factor is the motivation of many papers on scenarios, and some findings made within this thesis cohere with other literature, like the misuse of modern technology and the vulnerability of the climate. What was also confirmed by this research is the need to implement sustainability into the tourism sector, as suggested by Gössling (2014). Overall, this study shows many similarities regarding the findings, however the way these are interpreted can differ.

One can now move on, comparing the two SSP's that have been created. The first SSP does not show any negative aspects for tourism in the Mediterranean. It assumes that tourists are evenly distributed among the entire space and that culture and sustainability are on top of tourists' and stakeholders' agendas. Modern technologies serve as a tool for



alleviating congestion and to create green cities. Contrary to that, personal technological devices will be less popular, especially regarding their use on days off. Tourists appreciate their surroundings and try to be as present in the moment as possible. The tourist gaze leaves a very positive impression on the travelers, leaving its full effect due to the undivided attention they give to their foreign environment. Economic stability has been achieved throughout rural and coastal areas. SSP1 shows that it is possible to achieve a positive future for tourism in the Mediterranean based on some of the current trends and practices that are being adopted. In the introduction of this thesis it was mentioned that implementation of sustainability would be the only way to create a positive future for tourism (Gössling, 2010). Aspects of SSP1 are clearly coherent with this statement, showing the positive impacts new technologies have on the sustainability of popular tourist areas. The narrative of SSP 5 is contradicting to SSP 1 in all respects. Modern technologies are only relevant for personal use, leading to a highly consumptive and unsustainable tourist destination. The profits that are made from the industry only stay at the tourist hotspots, being the beaches and the urban areas. Cultural heritage is neglected and not maintained, as tourists do not show any interest in it.

The SSP's show that if the negative trends occurring right now are not changed into a positive direction, a negative and destructive future for the Mediterranean is feasible, maybe even inevitable. The lacking management for attaining sustainable policies and practices show how the situation can go out of hand and make irreversible damage. The vulnerability of the area remains unrecognized.

Making scenarios is partially a personal reflection of how one evaluates trends and their possible implications. The incorporation of extensive amount of literature helps to substantiate one's assumptions, though it remains hypothetical. The formulation of the scenarios is subjective to how one interprets the trends found in the literature, meaning that it is difficult to make unbiased and strictly objective scenarios. Scenarios are solely useful for reference and visualization of possibilities for the future of tourism in the Mediterranean. Many trends are recognized that could steer the development into one direction or the other, however it is unknown whether these trends will live on in the near or distant future. The list of trends is not exhaustive, leaving the possibility of potentially important trends to be left out. The selection of trends within the research is based on personal evaluation of its importance.

It was decided to limit the amount of SSP's to merely two, which was done so due to the highly contradictory nature of the trends. However, this may portray a limitation to this research, as the feasibility of making more SSP's was not denied. Efforts have been made to use recent data, however this is not constantly feasible. The research that is being done on tourism is constant, with many different assumptions made. Therefore, the scenarios that were made within this research are a snapshot of current trends and thoughts on tourism. This is especially true for political concerns, as they often are unpredictable and sudden, which is one of the reasons why their relevance is unknown for the future.

The use of several general tourism trends obtains the limitation that these are not specific or not applicable to the Mediterranean. The year 2100 was adopted from the research on Eur-SSP's, though it is unclear if the identified trends have a lifespan that can reach that far into the future.

### **Suggestions for further research**

For further research, one can suggest using the SSP's that have been made for comparison, seeing if trends have changed or whether they have stayed similar with similar future directions. Using this thesis to compare other tourist destinations can help with assessing their futures as well. The area that was selected for this research is large, giving the suggestion that one can narrow these scenarios down to a smaller area or country. Many sources used Spain as a place that is especially uncertain and in need of better management and sustainability, which gives the opportunity to make SSP's specifically for Spain.

To make the scenarios more specific, one could monitor the trends for a longer period, to have a more in-depth analysis of their development. By doing so, one could identify more trends that could also fit in SSP's other than SSP1 or SSP5. Using the same objective one could also attempt using the quantitative approach and compare the outcomes and assess if they differ largely from each other. One could also attempt to use different methods on obtaining information on the tourism trends, like interviewing stakeholders within the area and tourists from the target countries.

## Conclusion

This thesis has attempted to assess different futures for tourism in the Mediterranean by constructing SSP narratives, using Eur-SSP's as the boundary framework. Many trends were found, giving much input to the narratives that were written, making them very expressive and imaginative. The research was faced with the difficulty of making assumptions for the future of tourism in the Mediterranean, reason being the unpredictability of the development of trends. Many socio-economic factors and trends play a role in travel decision and behavior, alongside the development of climate change, of which the level of impact is still not entirely certain. What has become clear is the fact that the future for the area can develop into two entirely different directions, depending on how the trends will further develop in the future. SSP1 shows that the future for tourism in the Mediterranean could develop into a green, sustainable and safe environment for nature, tourists and locals, with a positive attitude towards smart use of modern technology. SSP5 shows the entire opposite, with a future that could be irreversibly harmful for nature and the climate, irresponsible use of ecosystem services, and unequal distribution of capital earned from the tourism industry. The coexistence of diverse trends is especially evident within this thesis, showing the feasibility of developments going into highly contrasting and contradicting directions. Trends like cultural tourism, smart tourism, rural tourism and more show the initiative that sustainable tourism practices are possible. Though cruise tourism, extensive use of mobile devices, and the general degradation of the ecosystem linked to tourism also take place simultaneously.

This thesis lays bare the enormity of current harmful and irresponsible practices, and especially use SSP5 as an alarm sign. However, this research also underlines the positive actions that are developing, giving hope and motivation for people who may be in disbelief that a green future is possible or very difficult to obtain. The SSP framework has shown to be very adaptable to different fields of research, including tourism. The narratives that are written with the method of using SSP's provides a clear message and is

uncomplicated to understand, which makes the meaning of the possible diverse impacts for Mediterranean tourism even clearer.

As final remark, tourism is a sector which success and development depends on many factors, involving a broad spectrum of different stakeholders. The adequate and careful management of tourism is of high importance, which is a core message that this thesis has attempted to spread. The uncertainty of tourism is a topic that one needs to become more aware of, as travelling and being a tourist affects the vast majority of the world population. The results should be a motivation for people to believe in the possibility of achieving a sustainable future for tourism. It is possible if one keeps developing and practicing the positive trends.

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