

**HUMANITIES** 

Paper 2 Geography

**INSERT** 

2260/02

22 August 2024

1 hour 45 min

#### **READ THESE INSTRUCTIONS FIRST**

The Insert contains Fig. 1.3 for Question 1(c), Fig. 3.1 for Question 3(a), Fig. 3.2 for Question 3(b) and Fig. 3.3 for Question 3(c).

This document consists of 5 printed pages.

N

Number of extreme weather and climate-related disasters

# Disasters caused by weather and climate

Meteorological events (Storms) Hydrological events (Floods, landslides and avalanches) Climatological events (Extreme temperatures, droughts, forest fires)

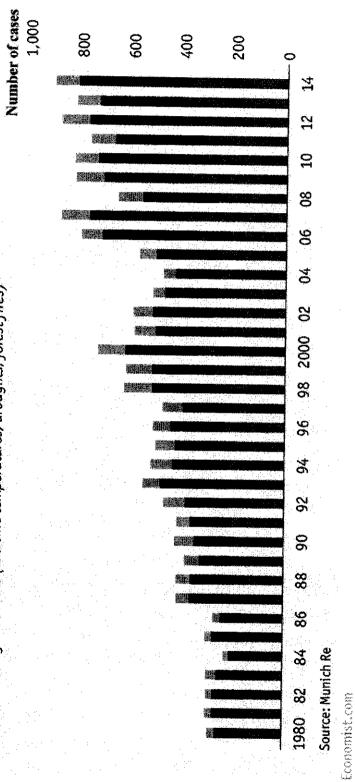


Fig. 3.1

### Average daily relative humidity across the Indian subcontinent

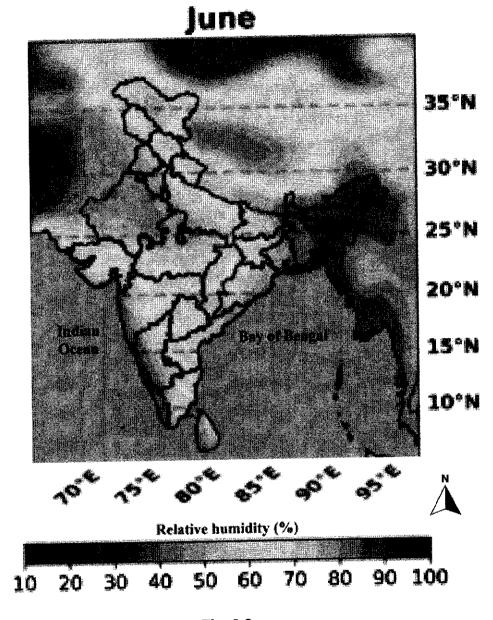
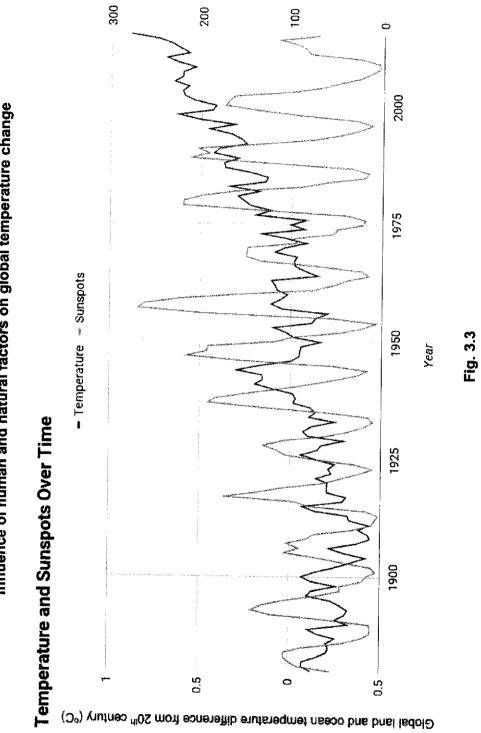


Fig. 3.2

Influence of human and natural factors on global temperature change



Average Number of Sunspots per Year



# CHIJ ST. THERESA'S CONVENT PRELIMINARY EXAMINATION 2024 SECONDARY 4 EXPRESS

<b>CANDIDAT</b>	Ε
NAME	

CLASS

INDEX NUMBER	

**HUMANITIES** 

2260/02

Paper 2 Geography

22 August 2024

Additional Materials: 1 Insert

1 hour 45 mins

#### **READ THESE INSTRUCTIONS FIRST**

Write your name, class and index number on all the work you hand in.

Write in dark blue or black ink.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

Answer three questions in total:

Section A

Answer two questions.

Section B

Answer one question.

Answer all questions on the lines provided.

Candidates are encouraged to support their answers with the use of relevant examples. Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

Calculators are allowed.

The Insert contains additional resources referred to in the questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of 13 printed pages and 1 Insert.

Setter: Mr Chua Qiyou, Mr Lua Jiong How

## Section A Answer Questions 1 and 2.

Cluster 1: Geography in Everyday Life

1	(a)	neigh popu	oup of Singaporean students wanted to find out if there are enough facilities in the abourhood of Telok Blangah Crescent (Fig. 1.1) to support the ageing resident alation.
		They facili	r created a closed-ended questionnaire to test their hypothesis "There are sufficient ties in Telok Blangah Crescent to support the ageing resident population."
			Option Substitution of the Control o
_		(i)	Fig. 1.1  With reference to information from Fig. 1.1, describe how the students could collect
			data for their investigation.
			[3]

	Facilities Food	esponses after e of the elder	Is Radin Mas Contact a morning of head to seemed to see to complete in Dissatisfied	hard work. Wi struggle with	hile some resi	nondents were
	Healthcare Recreation	3	2	5 7	2	0
	Retail	0	2	8 <b>ole 1</b>	2	0
	ected.					
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					••••••	[3]
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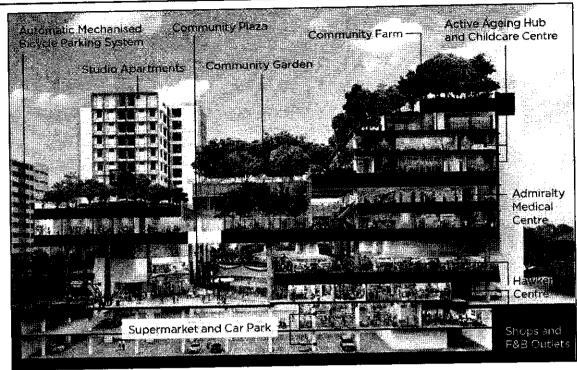


Fig. 1.2

Using Fig.1.2, environmenta	describe the	e ways in ty.	which	Kampung	Admiralty	ensures	economic	and
								· · · · · · ·
,,,	,		• • • • • • • • • • • • • • • • • • • •					
								.[2]

(c) Study Fig. 1.3 (Insert), which shows information on wildfire risk across areas in the United States.

1	1	
		With reference to Fig. 1.3 (Insert), describe the level of risk of wildfires across areas in the United States.
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
L	<u> </u>	[3]
	(d )	Explain how community resilience can be developed in residential neighborhoods.
		•••••••••••••••••••••••••••••••
		[3]

#### **Cluster 2: Tourism**

Study Fig. 2.1 below, which shows several types of tourism activities that encourage (a) people to travel. Tourist flight to Space Hop On / Hop Off London Sightseeing Bus BASE Guided walking tour at heritage sites Base jumping course Fig. 2.1 With reference to Fig. 2.1, explain how the different activities appeal to tourists of different personality characteristics.

Γ	Ch	
	(b	Describe how globalisation affects trends in international tourism.
	'	
		1
	╄	[2]
	(c)	With the use of a relevant case study, explain why tourist destinations may face decline as a stage of tourism development.
		***************************************
	ĺ	
		[4]
	i	
	(d )	"The economic benefits from tourism outweigh the negative social impacts of tourism."
	,	To what extent do you agree with this statement? Explain your answer.

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		***************************************
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	t	

		Using Fig. 3.1 (Insert), compare the changes in the number of extreme weather and climate-related disasters between 1980 and 2014.
3		Study Fig. 3.1 (Insert), which shows the number of extreme weather and climate-related disasters between 1980 and 2014.
	C	uster 3: Climate
		Section B Answer Question 3.
	<u> </u>	[9]
		•••••••••••••••••••••••••••••••••••••••
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[4]
Study Fig. 3.2 (Insert) which shows how relative humidity varies across the Indian subcontinent in June.
(i) Using Fig. 3.2 (Insert), describe how relative humidity varies across the Indian subcontinent in June.

(b)

	[5]
(ii)	Suggest reasons to account for the variation of relative humidity across the Indian subcontinent in June.
	***************************************

	······································
	[6]
(c)	Study Fig. 3.3 (Insert), which shows how land and ocean temperatures have varied with number of sunspots.
	Using Fig. 3.3 (Insert), assess the influence of sunspots on land and ocean temperatures.

******	
******	
******	
******	[3]
	END OF PAPER
Source A	cknowledgements
Fig. 1.1	https://www.openstreetmap.org/way/744684350#map=17/1.27859/103.81878
Fig. 1.2	https://knowledge.csc.gov.sg/ethos-issue-19/the-future-of-heartland-living/
Fig. 1.3	https://hazards.fema.gov/nri/wildfire
Fig. 2.1	https://www.nhb.gov.sg/what-we-do/our-work/preserve-our-stories-treasures-and-places/national-monuments-and-marked-historic-sites/preservation-of-sites-and-monuments/participate/tours/ https://www.klook.com/activity/66403-city-sightseeing-london-hop-on-off-pass/https://cynthiacurrie.com/basejumphttps://www.virgingalactic.com/
Fig 3.1	https://x.com/TheEconomist/status/616254884640346112
Fig 3.2	https://link.springer.com/article/10.1007/s00024-022-03205-7
Fig. 3.3	https://www.lab-aids.com/global-warming-interactive-temperature-and-sunspots

## Secondary 4 Express Prelims 2024 Elective Geography

#### Cluster 1: Geography in Everyday Life

A group of Singaporean students wanted to find out if there are enough facilities (a) in the neighborhood of Telok Blangah Crescent (Fig. 1.1) to support the ageing resident population. They created a closed-ended questionnaire to test their hypothesis "There are sufficient facilities in Telok Blangah Crescent to support the ageing resident population." Fig. 1.1 With reference to information from Fig. 1.1, describe how the students (i) could collect data for their investigation. [3 Students should divide themselves to work in pairs. Each pair can locate themselves at the various locations around the housing estate where there is consistent human traffic e.g. bus stops along main roads (e.g. Telok Blangah Way), near eateries, parks (e.g. Mt Faber Green) and exercise stations where they can approach elderly residents who pass by. Students must first determine a reasonable timeframe (e.g. 1 hour, 3 times a day) for the sampling process to be realistic and feasible. Students can use systematic sampling, for instance, approaching every fifth elderly person who passes by to complete their questionnaire.

## Secondary 4 Express Prelims 2024 Elective Geography

			-					
		<ul> <li>Students will first need to ascertain if the elderly is a resident before administering the survey.</li> <li>Students will also need to obtain a sufficiently large sample size (e.g. &gt;30) to ensure that they get a large enough variety of answers to represent the views of the elderly.</li> </ul>						
	(ii )	technique as the question how they ma	es struggled is many of the naire. When anaged to cor Table 1 below	e elderly they questioned nplete their f	approach by their t	ied declined teacher, the	to answer   y explained	
		We resorted to approaching any elderly that we come across at the coffeeshops, exercise corners, as well as Radin Mas Community Club. In total, we acquired a total of 12 responses after a morning of hard work. While some respondents were helpful, some of the elderly seemed to struggle with the language used in the survey and took a long time to complete it.						
1		Facilities Very Dissatisfied Neutral Satisfied		Very satisfied				
		Food	2	3	4	3	0	
		Healthcare	3	2	5	2	0	
		Recreation	1	1	7	2	1	
		Retail	0	2	8	2	0	
			<u> </u>	Table	1			
	Comment on the reliability and validity of the data collected.							
		<ul> <li>The data collected is not reliable. This is because the sample size of 12 is too small, hence the data collected may not be representative of the views of all the elderly living in Telok Blangah Crescent.</li> <li>This data collected is also not reliable because the sampling method used here is convenience sampling, which results in a biased selection.</li> </ul>				֖֖֓֞֝֝֝֞֞֝֞֝֞֟֝֞֝֞֟֝֞֟֟		
		The data collected is not valid because the respondents had to struggle with the language used in the survey and took a long time to complete it. It is likely that they do not really					1	

- understand the survey and may have filled it up without understanding it as intended.
- The data collected is also not valid because too many responses were neutral. In the categories of recreation and retail, 7/12 or 8/12 of the respondents were not able to take a stand, thus, the data is not meaningful for interpreting.
- **(b)** Study Fig. 1.2 below, which shows Kampung Admiralty, an integrated development that is designed to cater to a range of diverse needs for its residents.

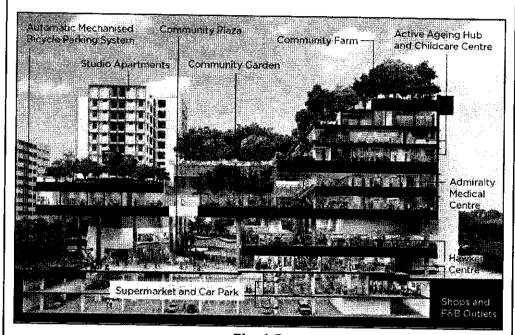


Fig. 1.2

Using Fig.1.2, describe the ways in which Kampung Admiralty ensures economic and environmental sustainability.

## Reserve 1 mark for economic and environmental sustainability respectively.

- The community gardens serve as habitats for wildlife, providing protection and food for them. This ensures that biodiversity is maximised in an urban setting.
- The buildings are also constructed with green facades and roof gardens. These help to reduce the amount of solar energy that the buildings absorb. Hence, the need to rely on cooling appliance is reduced.
- The vegetation also helps to remove heat from the atmosphere during evapotranspiration. Hence, the use of cooling appliance is reduced, lowering the consumption of electricity.

[2

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		<ul> <li>Kampung Admiralty can ensure economic sustainability because the nearby studio apartments in high rise buildings mean that there is high enough population density to support local businesses.</li> <li>Local businesses are near the residential areas, and this can keep transport and infrastructure costs low. This also helps in eliminating the need for extra infrastructures e.g. bridges or roads to connect them.</li> </ul>	
	(c)	Study Fig. 1.3 (Insert), which shows information on wildfire risk across areas in the United States.	
		With reference to Fig. 1.3 (Insert), describe the level of risk of wildfires across areas in the United States.	[3 ]
		<ul> <li>Generally, the risk of wildfires is the highest in the west coast of the United States, especially in Los Angeles. The surrounding coastal regions in the west coast such as San Francisco and Los Angeles have a relatively high risk of wildfires.</li> <li>This relatively high risk extends north to certain parts of Seattle, and towards areas further away in the southeast at Miami.</li> <li>Further inland from the west coast, more areas experience relatively moderate risk of wildfires, such as Dallas, or areas south of Seattle. This also applies to some parts of the southern coast such as Houston.</li> <li>Coastal areas such as New York, Philadelphia, and Washington form a narrow coastal belt along the east coast of the United States, experiencing relatively moderate risk of wildfires, but the risk is very low slightly further inland.</li> <li>Most inland areas in the continental interior such as St Louis and Chicago are experiencing relatively low or low risk of wildfires.</li> </ul>	
	(d)	Explain how community resilience can be developed in residential neighborhoods.	[3
e de la companya de l		Community resilience can be developed by strengthening relationships among residents. This may be achieved through activities that encourage residents to get to 'know their neighbours', developing better neighbourly relations. When neighbours get to know one another better, they can care for and depend on one another during times of emergency. This will also enable more effective neighborhood management plans to be put in place, which will gain more widespread support and long-term participation from the residents.  Building knowledge	
		Community resilience can be developed by raising their awareness of potential hazards. Community centers may organize educational	

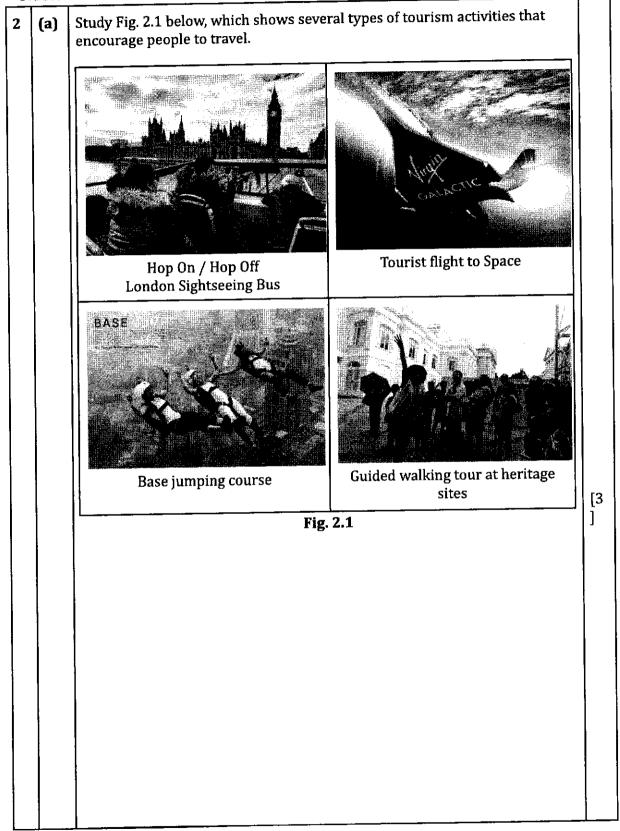
workshops on topics such as on common urban fire and electrical hazards. This will improve the knowledge of residents, who can better prevent such hazards and avoid unnecessary hazards.

#### Building ability to resist, adapt and recover

• Community resilience can be developed by improving residents' ability to organize themselves and equip themselves with resources to resist, adapt and recover from a disaster. Residents may take up emergency preparedness courses to learn basic first aid and lifesaving skills such as CPR and how to use an AED. This will allow them to render assistance to neighbours in need most efficiently as a first responder, allowing residents to better take care of people living in their community.

## Secondary 4 Express Prelims 2024 Elective Geography

#### **Cluster 2: Tourism**



- 1		
	With reference to Fig. 2.1, explain how the different activities appeal to tourists of different personality characteristics.	
	<ul> <li>[Stating which activities will attract the venturers]</li> <li>Tourism activities such as such as base jumping and flights to space appeal more to the Venturers tourist profile, who are keen to reach out and explore the world.</li> </ul>	
	<ul> <li>out and explore the world.</li> <li>[Explaining why these activities will attract the venturers]</li> <li>These tourists have a pro-exploration mindset, and they are keen to visit unique places where they can participate in new experiences and activities, even if it is less convenient. As these tourists are more spontaneous and open to a wider diversity of activities, including those that carry some risk, they may be drawn to more adventurous activities like base jumping and space exploration.</li> </ul>	
	<ul> <li>[Stating which activities will attract the dependables]</li> <li>Tourism activities such as guided walking tours and sightseeing buses may appeal more to the Dependables tourist profile.</li> </ul>	
	<ul> <li>[Explaining why these activities will attract the dependables]</li> <li>The dependables are tourists who try to make much of their travelling predictable.</li> </ul>	
(b)	<ul> <li>Globalisation affects international tourism because tourist generating, and destination regions are becoming more diverse. More tourists are starting to discover developing countries in the Asia Pacific region as destinations, while increasing numbers of tourists are coming from rapidly developing countries in Asia Pacific and South America.</li> <li>(Motivation) As people gain access to new ideas of tourism destinations and experiences, especially through new online media, tourists gain more motivation to travel beyond their own country.</li> <li>(Ability) People also have improved ability to search for and buy tourism-related services from anywhere, resulting in greater competition among businesses. This creates greater incentive for businesses to offer more value-for-money travel experiences that encourage more people to travel.</li> <li>(Mobility) As places become more connected via different transport modes, traveling has become more convenient, increasing tourists' mobility in travel especially with direct fights between the course.</li> </ul>	[2]
(c)	mobility in travel, especially with direct flights between countries.  With the use of a relevant case study, explain why tourist destinations may face decline as a stage of tourism development.	[4
		]

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Reserve 2 marks for the use of a relevant case study Tourist destinations may face decline when facilities and attractions become old and run down, causing tourists to believe that the destination no longer has anything desirable to offer them, resulting in declining popularity and tourist arrivals. When local businesses and the economy suffer from declining tourist spending, there is less money available for the destination to invest in tourism development or maintain and improve existing facilities, resulting in further deterioration in destination's attractions, and amenities. This will further reduce the attractiveness of the destination, resulting in fewer tourists wanting to visit. One example is Blackpool in the UK, which was a popular coastal resort with beautiful beaches. Many tourists were attracted to its theme parks and light shows, which resulted in overcrowding. It also earned a reputation as a destination associated with noisy nightlife. Eventually, Blackpool struggled with the upkeep of its facilities due to high volume of tourists. Its attractions were also becoming dated and no longer appealed to young people. By the 1990s, Blackpool lost out in competition to as other attractive European coastal locations, because its old inns had deteriorated to bad conditions or had shut down. "The economic benefits from tourism outweigh the negative social impacts [9 (d) of tourism." To what extent do you agree with this statement? Explain your answer. Generic Level Descriptor for 9-mark AO3 Question Level Marks Develops arguments that support both sides of the 3 7-9 discussion clearly, using a range of points with good elaboration. Examples used demonstrate a comprehensive understanding of the issue or the phenomenon. Evaluation is derived from a well-reasoned consideration of the arguments. Develops arguments that support one side of the 2 4-6 discussion well, using one or two points with some demonstrate a good elaboration. Examples used understanding of the issue or the phenomenon. Evaluation is well supported by arguments Arguments are unclear with limited description or may be 1-3 1 listed. No examples provided or examples are generic, demonstrating a basic understanding of the issue or phenomenon. Evaluation is simple, missing or unclear.

ı		Γ -	
	0	0	Non creditworthy response.
1			

I disagree with this statement. Economic benefits of tourism do not outweigh the social impacts of tourism. This is because the negative social impacts of tourism may hurt the destination's reputation and the tourist experience, which may in turn discourage tourists from coming to visit a place. In turn, the economic benefits of tourism may not be enjoyed by the locals living and working in a tourist destination.

Tourism creates positive economic impacts through the creation of employment opportunities in formal and informal tourism sectors. This is because the tourism industry is labor intensive, hence creates a large number and wide range of employment opportunities. Tourists require services such as transport, accommodation and leisure activities, and the services that are catering to different aspects of one's tourism journey are potentially providing a source of employment for a wide range of people of varying skills and qualifications. In 2019, tourism accounted for 330 million jobs worldwide representing about 10% of the global workforce and between 2015 - 2019, about 25% of all new jobs were created by the tourism industry. These jobs include formal and informal forms of employment. Furthermore, destinations also benefit economically due to the income generation from tourists' spending on consumer goods and services. When tourists spend money on goods and services offered by locals, they can increase the incomes for these locals. Taxes on tourism spending can provide governments with considerable revenues. This can then be used to invest in improving infrastructure, pay for education and health services, which can also benefit local communities in future.

However, tourism also creates the risk of negative social impacts. In many tourist destinations, cultural clashes may occur because tourists can be insensitive to local norms, including religious customs and traditions, which can result in resentment among local people and antagonism towards tourists. Very often, tourists are in a position of power and privilege, and local communities find themselves having to accommodate and meet the needs of the tourists at their own expense. Local communities suffer from problems created by tourist insensitivity and they may develop a distaste towards tourists. This can lead to cultural clashes, and tourists may also find themselves being victims of crimes if the negative sentiments build up. For instance, in Hawaii, many locals have felt that tourists do not respect them, nor do they understand the complex Hawaiian culture of the indigenous people. Survey on locals' sentiments on Hawaii opening again to tourists during the COVID-19 pandemic found that most locals did not wish for tourists to be visiting Hawaii due to the lack of adherence to public safety guidelines, such as the lack of proper mask-wearing. Furthermore, tourist destinations may experience a rise in crime rates, such as pickpocketing, as tourists often carry large sums of money and other valuables, making them

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lucrative targets. Tourists are more likely to be relaxed and off guard, making them easier targets. Tourists may also find themselves being targeted if negative sentiments from some locals towards them continue to build up. For example, in 2017, a tourist bus in Barcelona, Spain was attacked by anti-tourist protestors who punctured the tyres and sprayed anti-tourism graffiti on the bus. The increased crime rates may make a destination and the locals feel less safe.

Economic benefits of tourism do not outweigh the negative social impacts of tourism. This is because the negative social impacts of tourism may hurt the destination's reputation and the tourist experience, which may in turn discourage tourists from coming to visit a place. In turn, the economic benefits of tourism may not be enjoyed by the locals living and working in a tourist destination. Therefore, the negative social impacts, such as increased crime rate and cultural clashes will outweigh the economic benefits that a destination and its locals may enjoy in the long term.

3 (a) Study Fig. 3.1 (Insert), which shows the number of extreme weather and climate-related disasters between 1980 and 2014.

Using Fig. 3.1 (Insert), compare the changes in the number of extreme weather and climate-related disasters between 1980 and 2014. [4]

Award 1m for each point of description.

Maximum 2m for descriptions without support of data.

#### **Similarities**

- In general, number of meteorological, hydrological and climatological events have increased.
- Throughout the years, from 1980 to 2014, climatological events have always accounted for the lowest percentage of disasters caused by weather and climate, between 9.5% and 10.6%

#### **Differences**

- By absolute difference, number of hydrological events has increased the most, by a difference of 310 cases between 1980 and 2014, whereas number of meteorological events only increased by 220 cases and number of climatological events increased the least by only 80 cases.
- However, the percentage increase in climatological events was the highest at 400% while the percentage increase in hydrological and meteorological events were only 310% and 122% only.

(b)	Study Fig. 3.2 (Insert) which shows how relative humidity varies across the Ind subcontinent in June.					
_	(i)	Using Fig. 3.2 (Insert), describe how relative humidity varies across the Indian subcontinent in June. [5]				
		Award 1m for each point of description.  Maximum 2m for descriptions without support of data.				
		<ul> <li>In general, places of higher relative humidity were found along the coastal areas of the Indian Subcontinent. For instance, the Southwestern coast of India and the coastlines of countries such as Bangladesh and Myanmar experience relative humidity between 80% and 90%.</li> </ul>				
:		<ul> <li>However, the Southeastern coast of Indian facing the Bay of Bengal experiences lower relative humidity of 60% only.</li> <li>Places of higher relative humidity were also found in inland areas For instance, an area of high relative humidity (75%) between 75-95 °E and 27-37°N can be found.</li> </ul>				
		<ul> <li>Relative humidity started to decrease with increasing distance from the coast. For instance, the relative humidity in Central India between 75-80°E and 15-30°N experienced relative humidity of only 40-50%.</li> <li>Places with the lowest relative humidity were mostly found in continental interior areas, one such example being areas between 77-93°E and 37-40 °N. Relative humidity at these places were 25% or</li> </ul>				
		lower.  • Another area with low relative humidity between 10% and 25% is found in Pakistan, between 27°N and 34°N.				
	(ii)	Suggest reasons to account for the variation of relative humidity across the Indian subcontinent in June. [6]				
į		Award 1m for each point of explanation.				
		Attributing to distance from the sea				
		<ul> <li>Areas along the coast will experience higher relative humidity due to the evaporation of sea water. This adds water vapour to the air.</li> <li>As relative humidity is a ratio of the amount of water vapour in the air to the maximum amount of water vapour the air can hold, an increas in water vapour will lead to a decrease in relative humidity.</li> </ul>				
		Attributing to the Southwest monsoon				

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- Relative humidity is high along the Southwestern coast of India due to the occurrence of the Southwest monsoon. Moisture-laden winds from the Indian Ocean would bring rains to the area, causing relative humidity to become higher.
- As the dry monsoon winds continue eastwards to reach central India, the lack of rain causes relative humidity in these areas to decrease to 40-50%.
- These winds cross the Bay of Bengal and picks up moisture again, causing rains over Myanmar and Bangladesh. Hence relative humidity is high in these countries.

#### Attributing to the season

- In June, the Northern hemisphere experiences summer. As such, places located on the continental interior (77-93°E and 37-40 °N) will experience very high temperatures. With high temperatures, the air's capacity to hold moisture will increase, causing relative humidity at these areas to be the lowest.
- (c) Study Fig. 3.3 (Insert), which shows how land and ocean temperatures have varied with number of sunspots.

Using Fig. 3.3 (Insert), assess the influence of sunspots on land and ocean temperatures. [3]

#### Award 1m for each point of assessment.

- Generally, the number of sunspots has had very little influence on land and ocean temperatures.
- For instance, the number of sunspots continued to follow a cyclical pattern between 1975 to 2000, peaking about once every 11-12 years. However, temperature difference during that period continued to rise steadily from 0°C to 0.8°C.
- However, there were years where an increase in number of sunspots indeed correlated to increase in temperature. For instance, between years 1912-1916 where sunspots increased from 20 to 80, temperature difference also rose from -0.4°C to -0.1°C.