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Analysis of Future Jersey indicators that are at high risk from climate change

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Introduction

This document provides further analysis of the risks that climate change poses to the outcomes identified by the Future Jersey indicators. Climate change risk was analysed in the context of the risks identified in the UK Climate Change Risk Assessment:

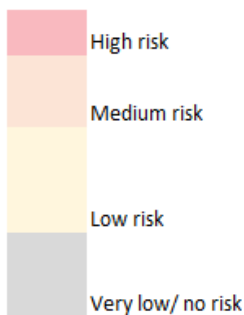
- **Flooding:** Flooding and coastal change risks to communities, businesses and infrastructure
- **Temperature:** Risks to health, well-being and productivity from high temperatures
- **Water supply:** Risk of shortages in the public water supply, and for agriculture, energy generation and industry
- **Nature:** Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity
- **Food scarcity/security:** Risks to domestic and international food production and trade
- **Pests and diseases:** New and emerging pests and diseases, and invasive non-native species affecting people, plants and animals

Each indicator was assigned a risk status (high, medium, low, very low/none) for each of the risks above. The full matrix can be found in Appendix 1. 20 indicators were identified as being at particularly high risk from at least one of the above recognised risks. These 20 indicators have been analysed in this document, with the high and medium (where significant and appropriate) risks being explained further.

Table 1 – Risk matrix for the 20 priority indicators

	Flooding	Temperature	Water supply	Nature	Food scarcity/security	Pests/diseases
% of Islanders who say their neighbourhood is 'very safe'	High	Medium	Medium	Low	High	High
Number of fires per 1,000 population	Low	High	Low	Low	Low	Low
% of Islanders who score their life satisfaction from 7-10 on a scale of 0-10	High	Medium	Low	High	Low	Low
Healthy life expectancy in years	Low	High	High	Low	High	High
Mental wellbeing derived from average score on the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) of adults aged 16+ years	High	Low	Low	High	High	Low
% of St Helier residents who are 'very satisfied' with Town as a place to live	High	Low	Low	Low	Medium	Medium
% of Islanders who are 'very satisfied' with their local neighbourhood as a place to live	High	Low	Low	Low	Medium	Medium

	Flooding	Temperature	Water supply	Nature	Food scarcity/ security	Pests/ diseases
N3 Satisfaction with housing	High risk	Medium risk	Medium risk	Low risk	Very low/ no risk	Very low/ no risk
% of Jersey’s surface area that consists of land classified as ‘green space’ (natural environment or land under cultivation).	High risk	Low risk	Low risk	Low risk	Medium risk	Low risk
Extent of protected natural areas on land (hectares)	High risk	Low risk	Low risk	High risk	Low risk	Medium risk
Abundance index of 24 common butterfly species	Low risk	Medium risk	Very low/ no risk	High risk	Very low/ no risk	Medium risk
Average number of breeding birds counted per 1,000 metres across habitat types	Low risk	High risk	Low risk	High risk	Low risk	Medium risk
% of Jersey beaches achieving European Bathing Water Directive Guide Standard	High risk	Low risk	High risk	Very low/ no risk	Very low/ no risk	Low risk
N13 Status of Ramsar sites	Low risk	High risk	High risk	High risk	Low risk	Medium risk
Water consumption per capita (1,000 litres)	Medium risk	Medium risk	High risk	Low risk	Low risk	High risk
% of Jersey’s inland Water Management Areas achieving good status for ground and surface water quality	High risk	Low risk	High risk	Medium risk	Very low/ no risk	Medium risk
% of households who report finding it ‘quite’ or ‘very difficult’ to cope financially	High risk	Low risk	Very low/ no risk	Very low/ no risk	High risk	Very low/ no risk
GVA per capita	High risk	High risk	Very low/ no risk	Very low/ no risk	High risk	Very low/ no risk
GVA per full-time equivalent employee	High risk	High risk	Very low/ no risk	Very low/ no risk	High risk	Very low/ no risk
Index of real term average earnings	High risk	High risk	Very low/ no risk	Very low/ no risk	High risk	Very low/ no risk



1 Percent of Islanders who say their neighbourhood is 'very safe'

Flooding - Flooding causes damage to properties, buildings and infrastructure as well as endangering people's lives. This danger comes from increased severity and frequency of flooding but also from the potential impacts on marine and land habitats that act as natural flood defences, such as wetlands.

Food scarcity/security - Changing weather patterns and increased frequency and severity of extreme weather events pose a risk to food availability due to:

- Potential loss of crops during extreme weather events,
- Existing crops become harder to grow in a changing climate e.g. crops that are less resistant to temperature extremes
- There is an increased number occasions when imports cannot reach the island because of dangerous conditions e.g. during storm surges.

Pests and Diseases – Changing weather patterns and climate could allow new pests and diseases, or those that previously posed less of a threat, to thrive. This is a risk to public health and to the health of native species and ecosystems.

2 Number of fires per 1,000 population

Temperature - Increasing extreme temperatures, especially more severe and prolonged heat waves, increases the risk of fires. Warmer and drier conditions during heat waves can cause more frequent wildfires, not only posing a risk to the safety of people but also endangering native species and ecosystems and placing additional burden on the emergency services.

Water supply - This risk is exacerbated by detrimental impacts of climate change on water supply as it reduces the ability to fight fires effectively.

3 % of Islanders who score their life satisfaction from 7-10 on a scale of 0-10

Flooding - Flooding causes damage to properties, buildings and infrastructure as well as endangering people's lives. This can result in impacts on property values, business revenues and the viability of communities. Islanders impacted by floods and concerned over the potential risk could have their life satisfaction negatively impacted. Both environmental (including a person's surroundings) and psychological aspects of life satisfaction could be influenced.

There could also be impacts from flooding due to topography of the island. Being on a slope, intense rainfall events can wash soil and nutrients off the land. This can result in leaching of nitrates and loss of nutrients with further possible impacts on water quality.

Nature - Climate change can result in detrimental landscape change with these aspects all potentially impacted:

- soils and vegetation,
- farming and forestry;
- rivers and coasts;
- hills and lowlands.

Here, environmental aspects of life satisfaction and in turn psychological aspects could be negatively impacted.

4 Healthy life expectancy in years

Temperatures - Higher temperatures can result in increased risk to human health through overheating and higher rates of mortality related to cardiovascular and respiratory conditions. Older people and young children are particularly vulnerable. For example, as bodies age it becomes more difficult to regulate the internal temperature and it can be difficult for children and toddlers to tell people they are too hot.

Water supply - Climate change can potentially impact water supply through a number of means including increased levels of evaporation and the impact of rising sea levels on fresh water aquifers. Poor or limited access to water supply has potential significant consequences on public health. These may be exacerbated given that increased temperatures can also result in increased need for drinking water.

Nature - Detrimental changes to biodiversity and landscape changes could, through having negative impacts on the local environment, affect people's mental health and in turn their broader well-being.

Food scarcity/security - Food scarcity particularly within the context of limited availability and higher cost of fresh and local food could, through negative effects on diet, influence islander's overall health and in turn life expectancy. Worries over whether food imports will be able to reach the islands could have negative impacts on people's mental health.

Pests/disease - There are risks to public health through increased levels of pests and disease. Whilst further research is required to fully understand the impacts of climate change on infectious diseases, the expansion of leishmaniasis (a parasitic disease) into Europe and increased intensity of cholera outbreaks have been directly linked to climate change.

5 Mental wellbeing derived from average score on the Warwick-Edinburgh Mental Well-being Scale of adults aged 16+ years

Flooding - The impacts of flooding and fears about potential future flooding could impact on mental well-being. Key negative impacts relate to:

- ▶ dislocation from home and in turn a persons' sense of place;
- ▶ disrupted futures;
- ▶ lack of agency (sense of control) over the situation.

The extent of impact will depend the flood duration and the economic and social consequences of flood recovery. Concerns over future flood events can relate to feeling anxiety when it rains and the need to check river levels.

Nature - The importance of nature to a persons' mental well-being is well recognised. Contact with green space and natural environments can reduce symptoms of poor mental health and stress and improve mental well-being across all age groups. Disruptions to the natural environment could therefore impact negatively on mental health and well-being.

Food scarcity/security - The benefits of eating healthy food in terms of mental well-being are well recognised. Food scarcity is a risk, particularly if it relates to a more limited availability of fresh, high quality produce.

6 % of St Helier residents who are 'very satisfied' with Town as a place to live

Flooding - Satisfaction with the town as a place to live will be impacted by flooding and after flooding effects. These effects may be especially relevant in St Helier because it is low-lying. Flooding damage to buildings, infrastructure and communications could all impact on residents' level of satisfaction with the town.

7 % of Islanders who are 'very satisfied' with their local neighbourhood as a place to live

Flooding - Satisfaction with a local neighbourhood as a place to live will be impacted by flooding and after flooding effects. These effects may be especially relevant in St Helier because it is low-lying however are also important for other communities. Flooding damage to buildings, infrastructure and communications could all impact on residents' level of satisfaction with the town.

8 Satisfaction with housing

Flooding - Flooding damage to residential buildings can include impacts on fixtures and fittings as well as the building itself. The extent and type of damage will depend on the depth and velocity of the water, the period of inundation and materials used. Damage to housing can impact on levels of satisfaction with housing.

Temperature – With increasing duration and severity of heat waves, residents could become more uncomfortable if building design and fabrics do not adequately consider increased temperatures.

9 % of Jersey's surface area that consists of land classified as 'green space' (natural environment or land under cultivation)

Flooding - Flooding damage could result in damage to land and to habitats. Historic flooding or concerns over potential future flooding could impact on the use of land for 'green space'. For example, limiting it for cultivation (agricultural or horticultural) purposes or improvements to the natural environment. Conversely if areas of land are allowed to revert to their natural state to act as flood barriers there could be an increase in the amount of green space.

10 Extent of protected natural areas on land (hectares)

Flooding - Flooding can damage habitats and associated land. Whilst this will not impact on the extent of the protected areas per se, it will impact on the area itself.

Nature – Inundation from flood water could have a negative impact on natural areas. For example, some habitats are not tolerant of salt environments therefore flooding

from storm surges could reduce the quality of these natural areas. It would not, however impact the extent of the area.

11 Abundance index of 24 common butterfly species

Nature - Butterflies in Jersey thrive in semi-natural environments and are therefore restricted mainly to coastal areas in the north and west. It is in these areas that butterfly numbers are increasing and they are decreasing elsewhere where urban, agricultural and woodland environments are present. Climate change is a high risk in coastal areas due to rising sea level and increasing frequency and severity of storm surges. This poses a risk to butterfly habitats which may be eroded and therefore reduced in size by extreme weather events. Similarly, butterflies are most resilient when colonies are interconnected. However, fragmentation of habitats decreases the ability of the species to respond to events such as flooding. Fragmentation can occur for many reasons including:

- Development of an area for agriculture or housing
- Extreme weather events such as flooding and storm surges
- Changing habitat type due to a changing climate, such as the impact of consistently higher temperatures

12 Average number of breeding birds counted per 1,000 metres across habitat types

Temperature - For some species that thrive in warmer conditions with milder winters, numbers may increase as they are able to expand their range. For other species already in decline, such as certain rare breeding birds, extinction is a severe risk as they are unable to adapt to a changing climate. A changing climate could also allow new species to colonise breeding bird habitats. This could increase biodiversity but could also lead to a decline in vulnerable native species due to additional competition for food and resources.

Nature - Habitat and extent could change due to climate change. The ability of a species to adapt to this change will determine whether the species can survive and whether it can colonise new areas.

13 % of Jersey beaches achieving European Bathing Water Directive Guide Standard

The EU has had rules in place about clean bathing waters in order to help safeguard public health since the 1970s. The revised Bathing Water Directive, 2006 updated and simplified these rules. The monitoring and assessing of bathing water for at least two parameters of bacteria (faecal). The public must also be informed about bathing water quality and beach management.

Flooding - Flooding can potentially result in contaminated water, for example if sewage waste treatment plants or associated pumping stations are damaged.

Water supply - Intense flooding events can lead to the pollution of water supplies as pollutants such as nutrients and sediment from agricultural land and heavy metals from roads are washed into water courses.

14 Status of Ramsar sites

The Ramsar Convention, is an intergovernmental treaty which provides a framework for the conservation and wise use of wetlands and their resources. Jersey has four designated areas:

- South east coast of Jersey
- Les Écréhous & Les Dirouilles
- Les Minquiers
- Les Pierres de Lecq (the Paternosters)

Temperature - Increased temperatures can impact on biodiversity and this can be particularly relevant to the fauna and flora captured in the wetlands. Many of the species that are based in the wetlands are heavily tied to water, and it, therefore, may be difficult for them to move easily due to changes in the climate. Wetlands can also potentially be affected by drought.

Water supply - Wetlands can play an important role in helping regulate water supply and improve water quality. Protection of wetlands can therefore help address related issues in the climate change context.

Nature - The Ramsar sites have a particularly rich biodiversity reflecting the bio-geographical position of Jersey and the nature of the bays - large and shallow. Temperature impacts may therefore be keenly felt.

15 Water consumption per capita (1,000s litres)

Water supply - Intense flooding events can lead to the pollution of water supplies as pollutants such as nutrients and sediment from agricultural land and heavy metals from roads are washed into water courses. With severe weather events becoming more extreme and more frequent, episodes of water supply pollution could also increase in frequency. This reduces the availability of clean, useable water.

Water supply - Extended and more frequent heat waves threaten the availability of water. As temperatures rise, the demand for water increases, combined with evaporation for reservoirs and rivers. Rain is more likely to fall in heavy bursts which runs off the land quickly into rivers and the sea, instead of slowly infiltrating and replenishing groundwater aquifers. This leads to a risk of water shortages with implications for human and environmental health (e.g. an increased risk of overheating).

Temperature - Increased temperatures can result in the need for increased levels of water consumption. For example, due to increased needs:

- for drinking water
- irrigation

Pests and diseases - The risks mentioned above have possible negative impacts on human health. The pollution of water supplies could lead to increased incidence of disease. It is possible that certain types of disease will thrive in a warmer climate. Water shortages can lead to health problems through overheating.

16 % of Jersey's inland Water Management Areas achieving good status for ground and surface water quality

Flooding - Flooding can potentially impact on the resources which help ensure clean water and supplies. For example, if Jersey's water treatment works were to be impacted. In turn this could impact on water quality.

Water supply - Contamination of water supply can occur due to increased levels of surface runoff. For example, in rural areas, runoff can pick up animal wastes, pesticides and fertilizers. Increased levels of water demand could also impact on recharge rates. Freshwater resources near the coast can also face risks from sea level rise, since as the sea rises, saltwater moves into freshwater areas.

17 % of households who report finding it 'quite' or 'very difficult' to cope financially

Increasing variable weather can make crops more difficult to grow and make food more expensive

Flooding - Flooding that is increasing in frequency and severity can be a barrier to the availability and affordability of insurance. Combined with sea level rise, many areas could become uninsurable or face high insurance costs due to the high risk of damage. The damage caused by flooding will put an increasing economic strain on home owners as a greater proportion of their income will be spent on repairs and possibly on flood defences.

Food scarcity/security - Changing weather patterns and increased frequency and severity of extreme weather events poses a risk to food availability due to:

- ▶ Potential loss of crops during extreme weather events,
- ▶ Existing crops become harder to grow in a changing climate e.g. crops that are less resistant to temperature extremes
- ▶ There are an increased number occasions when imports cannot reach the island because of dangerous conditions e.g. during storm surges.

As food availability declines, it becomes more expensive placing an economic burden on low income households. This could have associated health impacts if fresh, healthy food becomes more scarce and expensive, leading people to buy more unhealthy food.

18 GVA per capita

Flooding - Flooding that is increasing in frequency and severity can be a barrier to the availability and affordability of insurance. Combined with sea level rise, many areas become uninsurable or face high insurance costs due to the high risk of damage. The increased frequency and severity of extreme weather events such as flooding will cause increasing amounts of damage to infrastructure and resources. This equates to rising costs of repairing damage and restoring economic activity, an economic burden. This could discourage investment in Jersey.

Temperature - The exposure to higher temperatures and prolonged heat waves at home and in the workplace poses a risk to employee health. Employees who experience ill health are likely to be less productive, take more time off or become unemployed.

Food scarcity/security - The availability of fresh, healthy food may become limited or unaffordable due to climate change as:

- Some crops become harder to grow - current crops may not be well suited to extreme temperatures of weather events. If crops are harder to grow, they are likely to become more expensive and exports may fall. Farmers may be required to grow different crops more suited to the changing climate. If a similar impact occurs in countries where food is imported from, food prices could increase and imports could decrease.
- Unfavourable transport conditions could limit import and export capacity - Severe storms and storm surges limit the ability of ships to enter and leave a port. As these extreme weather events increase in severity and frequency, this could negatively impact export and import activities with increasing unpredictability.

19 GVA per full-time equivalent employee

Flooding - Flooding that is increasing in frequency and severity can be a barrier to the availability and affordability of insurance. Combined with sea level rise, many areas become uninsurable or face high insurance costs due to the high risk of damage. The increased frequency and severity of extreme weather events such as flooding will cause increasing amounts of damage to infrastructure and resources. This equates to rising costs of repairing damage and restoring economic activity, an economic burden. This could discourage investment in Jersey.

Temperature - Employees who experience ill health are likely to be less productive, take more time off or become unemployed. The exposure to higher temperatures and prolonged heat waves at home and in the workplace poses a risk to employee health. Risks to food availability from the impact of a changing climate on food production can also have negative impacts on employee health as access to fresh, healthy food fall.

Food scarcity/security - The availability of fresh, healthy food may become limited or unaffordable due to climate change as:

- Some crops become harder to grow - current crops may not be well suited to extreme temperatures of weather events. If crops are harder to grow, they are likely to become more expensive and exports may fall. Farmers may be required to grow different crops more suited to the changing climate. If a similar impact occurs in countries where food is imported from, food prices could increase and imports could decrease.
- Unfavourable transport conditions could limit import and export capacity - Severe storms and storm surges limit the ability of ships to enter and leave a port. As these extreme weather events increase in severity and frequency, this could negatively impact export and import activities with increasing unpredictability.

20 Index of real term average earnings

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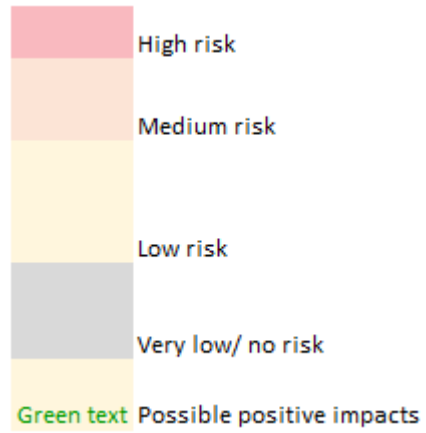
Temperature - Employees who experience ill health are likely to be less productive, take more time off or become unemployed. The exposure to higher temperatures and prolonged heat waves at home and in the workplace poses a risk to employee health. Risks to food availability from the impact of a changing climate on food production can also have negative impacts on employee health as access to fresh, healthy food fall.

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- Unfavourable transport conditions could limit import and export capacity - Severe storms and storm surges limit the ability of ships to enter and leave a port. As these extreme weather events increase in severity and frequency, this could negatively impact export and import activities with increasing unpredictability.

Appendix 1 - Risk matrix

Legend



Future Jersey			UK Climate Change Risk Assessment risks/concerns					
Theme	Future Jersey Outcome	Future Jersey Indicator	Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Community	Safety and Security	Number of crimes recorded by the Police per 1,000 population in Jersey		Links between high temperature and civil unrest	Risk to water supply		Risk to food availability	
Community	Safety and Security	% of Islanders who say their neighbourhood is 'very safe'	Damage to people and infrastructure			Marine and land habitat change, loss of natural flood defences	Risk to food availability	Risk to public health from pests and diseases
Community	Safety and Security	Number of fires per 1,000 population		Increased risk of fire	Reduced ability to fight fires			
Community	Safety and Security	Number of fatal or serious injury road traffic collisions per 1,000 population						
Community	Safety and Security	Claims for Short Term Incapacity Allowance due to work-related incidents per 1,000 population						
Community	Learn and Grow	% of babies born at healthy birth weight		Extreme temperatures can have adverse impacts on birth weight				
Community	Learn and Grow	% of mothers breastfeeding (either fully or partially) at 6-8 weeks						Risks to public health from pests and diseases
Community	Learn and Grow	School readiness	Perception of loss of safety at home and work	Living and learning environments in danger			Risk to food availability	Risks to public health from pests and diseases
Community	Learn and Grow	% of potential Key Stage 5 cohort entering at least one substantial level 3 qualification	Perception of loss of safety at home and work	Living and learning environments in danger				Living and learning environments in danger
Community	Learn and Grow	Average attainment in Level 3 qualifications (A level and equivalent)	Perception of loss of safety at home and work	Living and learning environments in danger				Living and learning environments in danger
Community	Learn and Grow	School leaver destinations (under development)						

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns						
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease	
Community	Learn and Grow	% of working age adults who feel they spend too much time at work							
Community	Vibrant and Inclusive	% of Islanders who score their life satisfaction from 7-10 on a scale of 0-10	Damage to infrastructure and resources				Detrimental landscape change	Risk to food availability	
Community	Vibrant and Inclusive	% of adults who have done some volunteering in the previous 12 months							
Community	Vibrant and Inclusive	% of Islanders who 'rarely' or 'never' socialise with people outside their household							
Community	Vibrant and Inclusive	% of adults reporting at least one occasion of discrimination in the previous 12 months							
Community	Vibrant and Inclusive	% of adults who rated the range of sporting activities and events in Jersey as 'good' or 'very good'	Damage to infrastructure and resources				Detrimental landscape change		
Community	Vibrant and Inclusive	% of adults who rated the range of cultural activities and events in Jersey as 'good' or 'very good'	Damage to infrastructure and resources				Detrimental landscape change		
Community	Vibrant and Inclusive	Average life satisfaction score of Islanders living with a disability/long-term condition on a scale of 0-10	Damage to infrastructure and resources				Damage to infrastructure and resources	Risk to food availability	
Community	Health and Wellbeing	Healthy life expectancy in years	Potential loss of life	Risk to human health from overheating	Risk to public health from poor water supply		Negative impacts on mental health and wellbeing	Risk to food availability	Risk to public health from pests and diseases
Community	Health and Wellbeing	% of adult Islanders who are obese or overweight						Risk to availability of fresh, healthy food	
Community	Health and Wellbeing	Consumption of pure alcohol per adult							
Community	Health and Wellbeing	% of adults who smoke either daily or occasionally							
Community	Health and Wellbeing	Mental wellbeing derived from average score on the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) of adults aged 16+ years	Mental health impacts from fear of flooding	Mental health impacts of heat stress			Negative impacts on mental health and wellbeing	Risk to food availability	

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns					
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Environment	Built and Historic	% of St Helier residents who are 'very satisfied' with Town as a place to live	Damage to St Helier as it is low lying	Risk to human health from overheating	Risk to public health from poor water supply	Detrimental landscape change		
Environment	Built and Historic	% of Islanders who are 'very satisfied' with their local neighbourhood as a place to live	Damage to housing and infrastructure	Risk to human health from overheating	Risk to public health from poor water supply	Detrimental landscape change		
Environment	Built and Historic	N3 Satisfaction with housing	Damage to housing and infrastructure	Risk to human health from overheating	Risk to public health from poor water supply			
Environment	Built and Historic	Total additions to the supply of housing	Restricted areas to build on due to flood risk and disruption to building work					
Environment	Built and Historic	Aggregate traffic flow towards St Helier on 9 main routes (7am – 9am)						
Environment	Built and Historic	% of journeys to work made by walking, cycling or public transport						
Environment	Built and Historic	N7 Listed buildings and places	Key sites at risk from flooding			Detrimental landscape change		
Environment	Natural Environment	% of Jersey's surface area that consists of land classified as 'green space' (natural environment or land under cultivation).	Damage to habitats and land from flooding				Biodiversity and habitat loss, risks to food availability however there could be a positive impact if new agricultural opportunities arise or the types of crops grown changes	
Environment	Natural Environment	Extent of protected natural areas on land (hectares)	Damage to habitats and land from flooding			Marine and land habitat biodiversity change		Native species loss and disease threat

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns					
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Environment	Natural Environment	Abundance index of 24 common butterfly species		Temperature change impacts on biodiversity		Marine and land habitat biodiversity change		Native species loss and disease threat however biodiversity could increase if new species can now thrive alongside native species
Environment	Natural Environment	Average number of breeding birds counted per 1,000 metres across habitat types		Temperature change impacts on biodiversity		Marine and land habitat biodiversity change		Native species loss and disease threat however biodiversity could increase if new species can now thrive alongside native species
Environment	Natural Environment	% of Jersey beaches achieving European Bathing Water Directive Guide Standard	Pollution of water due to runoff from flooding		Pollution of water resources			
Environment	Natural Environment	N13 Status of Ramsar sites	Wetlands act as a valuable natural flood defence and must be protected. Risk of flooding should wetlands deteriorate	Temperature change impacts on biodiversity	Pollution of water resources	Marine and land habitat biodiversity change		Native species loss and disease threat
Environment	Sustainable resources	Total occurrences of monthly nitrogen dioxide (NO2) concentrations exceeding European Directive Limit					Farming practices intensify due to risk of food availability	
Environment	Sustainable resources	Water consumption per capita (1,000 litres)	Pollution of water due and damage to infrastructure	Risk to human health from overheating	Pollution of water supply and impact on freshwater recharge rate			Risk to public health from pests and diseases

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns					
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Environment	Sustainable resources	% of Jersey's inland Water Management Areas achieving good status for ground and surface water quality	Damage to resources		Pollution of water supply and impact on freshwater recharge rate	Marine and land habitat and biodiversity change		Native species loss and disease threat
Environment	Sustainable resources	Greenhouse gas emissions		Potentially for increased emissions due to increased use of air conditioning however there could also be reduced emissions from heating			Biodiversity and habitat loss, risks to food availability	
Environment	Sustainable resources	Energy use per capita	Damage to infrastructure and resources	Potentially for increased energy use due to the need for air conditioning however there could also be a reduced cost of heating				
Environment	Sustainable resources	Tonnes of non-inert waste generated per capita						
Economy	Affordable Living	Median average equivalised income before housing costs (real term)	Damage to housing and infrastructure.	Risk to human health from overheating	Risk to public health from poor water supply	Negative impacts on mental health and wellbeing	Risk to food availability	Risks to public health from pests and diseases
Economy	Affordable Living	% of individuals living in households living in 'relative low income'	Increased insurance costs				Risk to food availability	
Economy	Affordable Living	% of households who report finding it 'quite' or 'very difficult' to cope financially	Increased insurance costs				Risk to food availability	
Economy	Affordable Living	% of a mortgage on a median-priced dwelling in Jersey that a household with an average income would be able to service 'affordably'.	Increased insurance costs					

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns					
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Economy	Affordable Living	% of low income households that spend more than 30% of their gross income on private sector rental housing	Increased insurance costs					
Economy	Affordable Living	Price level for consumer goods and services in Jersey compared to the UK average					Risk to food availability	
Economy	Attractive Business Environment	% of Jersey's workforce who hold a post-secondary educational qualification						
Economy	Attractive Business Environment	% of Jersey properties covered by fibre optic infrastructure	Damage to infrastructure					
Economy	Attractive Business Environment	% of Jersey's working age population that are economically active.		Possible positive impacts as warmer temperatures could extend tourism season and activities				
Economy	Attractive Business Environment	Annual difference between migration into and out of Jersey	Increased insurance costs, resource and infrastructure damage, perception of reduced safety of investment	Possible positive impacts as warmer temperatures could extend tourism season and activities			Perception of reduced safety of investment	
Economy	Attractive Business Environment	Business start ups	Increased insurance costs, resource and infrastructure damage, perception of reduced safety of investment	Possible positive impacts as warmer temperatures could extend tourism season and activities			Perception of reduced safety of investment	
Economy	Jobs and Growth	GVA per capita	Increased insurance costs and damage to infrastructure and resources	Risk to health of employees from overheating			Risk to levels of food exports and health of working population	

Future Jersey Theme	Future Jersey Outcome	Future Jersey Indicator	UK Climate Change Risk Assessment risks/concerns					
			Flood	Temperatures	Water Supply	Nature	Food scarcity/security	Pests/disease
Economy	Jobs and Growth	GVA per full-time equivalent employee	Increased insurance costs and damage to infrastructure and resources	Risk to health of employees from overheating			Risk to levels of food exports and health of working population	
Economy	Jobs and Growth	Unemployment: Number of unemployed plus those not registered but still seeking work as a % of the entire work force.						
Economy	Jobs and Growth	Index of real term average earnings	Increased insurance costs and damage to infrastructure and resources	Risk to health of employees from overheating			Risk to levels of food exports and health of working population	



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