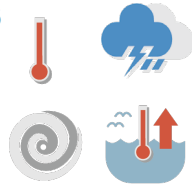


# Accommodation and food services

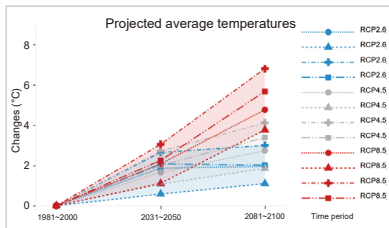
## Major Factors of Impacts

Rising average temperatures, increased number of summer days, increased heavy rainfall and large typhoons, rising sea levels and storm surges

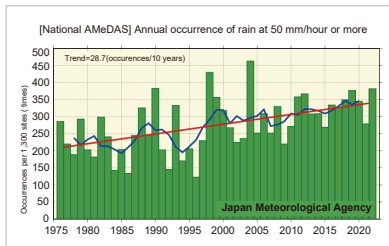


## Current Situation and Future Projections

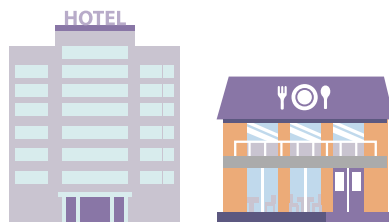
Average temperatures in Japan are increasing at a rate of 1.24°C/100 years. Heavy rainfall is also on the increase, and with changes in the amount and patterns of rainfall, heavy rains and large typhoons are expected to increase further. Sea water temperatures are also expected to rise. In accommodation and food service industry, there will be an increase in the impact on tourism resources, procurement risks of raw material, and risks of customers being affected by disasters and heat stroke, etc.



Projected average temperatures (annual average temperature projections based on emission scenarios and climate models (difference from standard period))Source: A-PLAT



Changes in the annual occurrence of precipitation of 50 mm/hour or more in Japan Source: Japan Meteorological Agency website (translated by NIES)



## Adaptation

In addition to direct disaster management, the industry must also respond to alternative procurement, secure its supply chain, and prepare in advance to respond to customers in the event of a disaster.

Factors	Rising temperatures, heavy rain, typhoons, storm surge, snowfall			
	Core business	Market/Consumers	Adaptation business	Adaptation business
Management resources				
Impacts	<b>Increased risk related to services</b> <ul style="list-style-type: none"> <li>Impact on tourism resources (increased disasters, reduced sandy beaches, reduced snowfall, etc.)</li> <li>Decreased number of visitors</li> </ul>	<b>Increased procurement risk</b> <ul style="list-style-type: none"> <li>Rising raw material prices</li> <li>Disruption of supply chain</li> </ul>	<b>Increased disaster and health risks for customers</b> <ul style="list-style-type: none"> <li>Increased risk of damage to customers due to disasters</li> <li>Increased health risk such as heat stroke among customers</li> </ul>	<b>Providing new services</b> <ul style="list-style-type: none"> <li>Provide day use plans to support remote work to prevent infections</li> <li>Provide facilities to accept evacuees in the event of a disaster or warning</li> </ul>
	Adaptation measures	<ul style="list-style-type: none"> <li>Formulate and implement BCP                              </li> <li>Install snowfall machines at ski resorts</li> <li>Discover new tourism resources</li> </ul>	<ul style="list-style-type: none"> <li>Purchase through alternative sourcing</li> <li>Decentralize supply chains and strengthen resilience of procurement regions</li> </ul>	<ul style="list-style-type: none"> <li>Develop emergency response manuals</li> <li>Provide support for customers to stay in shops or return home</li> <li>Prepare amenities for heat control</li> </ul>



# Accommodation and food services

Accommodation business refers to establishments that provides accommodation to the general public, specific members of the public, or others. Food services refer to establishments that serve food and beverages prepared upon the order of customers and served at the location, and establishments that serve food and beverages prepared upon the order of customers and delivered to the location requested by the customer, and establishments that serve cooked food and beverages at the location requested by the customer.

Back

Factors	Rising temperatures, heavy rain, typhoons, storm surge, snowfall			
Management resources	Core business		Market/Consumers	Adaptation business
Impacts	Increased risk related to services	Increased procurement risk	Increased disaster and health risks for customers	Providing new services
Adaptation measures	<p><b>Impact on tourism resources</b></p> <ul style="list-style-type: none"> <li>Impacts on natural resources, such as increased disasters due to heavy rainfall, reduced sandy beaches due to rising sea levels, and decreased snowfall impacting ski resorts</li> </ul> <p><b>Decreased number of visitors</b></p> <ul style="list-style-type: none"> <li>Decreased summer visitors due to lower tourist comfort level caused by high summer temperatures</li> <li>Decreased visitors due to frequent heavy rains</li> <li>Increased risk of business shutdowns and other disruptions to facilities</li> <li>Damage to customers, such as flooding of facilities</li> </ul>	<p><b>Rising raw material prices</b></p> <ul style="list-style-type: none"> <li>Poor harvests and price hikes of raw materials for food and beverages due to extreme weather conditions within and outside of Japan</li> <li>Changes in fish species due to rising sea water temperatures, difficulties in procurement and price hikes due to impact on the aquaculture industry</li> </ul> <p><b>Disruption of supply chain</b></p> <ul style="list-style-type: none"> <li>Delays in securing raw materials for food and beverage due to logistical disruptions</li> </ul>	<p><b>Increased risk of damage to customers due to disasters</b></p> <ul style="list-style-type: none"> <li>Increased risk of damage to customers due to occurrence of disasters such as heavy rain, typhoons, and storm surges</li> </ul> <p><b>Increased health risks such as heat stroke among customers</b></p> <ul style="list-style-type: none"> <li>Increased health risk such as heat stroke among customers due to high summer temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Provide day use plans to support remote work to prevent infections</li> <li>Provide facilities to accept evacuees in the event of a disaster or warning</li> <li>Provide facilities as stations to help people return home in the event of a disaster (fast food restaurants, family restaurants, etc.)</li> <li>Provide food to prevent heat stroke</li> <li>Offer facilities as cooling shelters during high summer temperatures</li> </ul>
	<ul style="list-style-type: none"> <li>Formulate and implement BCP (at operating facilities)</li> <li>Strengthen disaster response: check hazard maps, create disaster prevention plans, conduct evacuation drills, and ensure stocks of water, food, toilets, etc.</li> <li>Reinforce flood prevention measures: install watertight panels on openings, waterproof exterior walls, raise height of the site, and use stilts</li> <li>Place critical equipment in safe locations: place emergency generators, medical equipment, outdoor units of air-conditioning equipment in safe locations</li> <li>Relocate facilities: if risk of damage is still high even after implementing measures above, relocate to a safer location</li> </ul>	<ul style="list-style-type: none"> <li>Install snowfall machines at ski resorts</li> <li>Discover new tourism resources</li> <li>Introduce a visitor forecasting system using weather data</li> <li>Provide on-line party services</li> <li>Introduce dynamic pricing</li> <li>Adopt subscription system</li> <li>Introduce on-line order and take-out services</li> <li>Implement measures to improve quality of customer service</li> <li>Take out damage insurance</li> </ul>	<ul style="list-style-type: none"> <li>Purchase through alternative sourcing</li> <li>Decentralize supply chains and strengthen resilience of procurement regions</li> <li>Establish emergency system through prior consultation with logistics providers</li> <li>Identify alternative logistics centers in remote areas</li> <li>Use unutilized fish species and develop new menus</li> <li>Adopt subscription system</li> <li>Launch on-line order and take-out services</li> <li>Implement measures to improve quality of customer service</li> </ul>	<ul style="list-style-type: none"> <li>Develop emergency response manuals</li> <li>Provide support for customers to stay in shops or return home</li> <li>Prepare amenities for heat control</li> <li>Disseminate heat index of Ministry of the Environment through facility's SNS</li> </ul>
Effect	Medium ~ High	Medium ~ High	Medium ~ High	Medium ~ High
Cost	Medium ~ High	Low	Low	Medium
Time span	Medium (within 5 years) ~ Long (over 5 years)	Medium (within 5 years)	Short (within 1 year)	Medium (within 5 years)

**How to proceed with adaptation measures**

**【Current approach】** Although impacts of climate change are currently limited, it is necessary to analyze climate change impacts on each company and take appropriate measures to prepare for future expansion of the impacts.

**【Climate change-aware approach】** In addition to countermeasures for buildings and equipment, it is necessary to organize climate change impacts from multiple perspectives, including conservation of tourism resources, procurement of raw materials, and safety measures for customers when providing services in facilities. There is also potential to discover new tourism resources, expand new services and adaptation businesses that take climate change impacts into account.

[References] Japan Meteorological Agency "National AMeDAS Annual occurrence of rain at 50 mm/hour or more" [https://www.data.jma.go.jp/cpdinfo/extreme/extreme\\_p.html](https://www.data.jma.go.jp/cpdinfo/extreme/extreme_p.html), Ministry of the Environment (2022) "Climate Change Adaptation Guide for Private Sector - Preparing for Climate Risk and Surviving." [https://adaptation-platform.nies.go.jp/private\\_sector/guide/index.html](https://adaptation-platform.nies.go.jp/private_sector/guide/index.html), Ministry of the Environment (2019) "Climate Change Adaptation Guide for Private Sector (Reference Materials)" [https://adaptation-platform.nies.go.jp/private\\_sector/guide/pdf/minkan\\_tekiou\\_guide\\_sankoshiryou.pdf](https://adaptation-platform.nies.go.jp/private_sector/guide/pdf/minkan_tekiou_guide_sankoshiryou.pdf), Ministry of the Environment (2020) "Assessment Report on Climate Change Impacts in Japan (Detailed)" <https://www.env.go.jp/press/files/jp/115262.pdf>