



Parcours
ADAPTATION
aux changements
climatiques
en **tourisme**



Identifying priority climate change adaptation issues for your tourism association

WORKSHOP 2: June 1, 2023 from 10 a.m. to 12 p.m. (virtual)

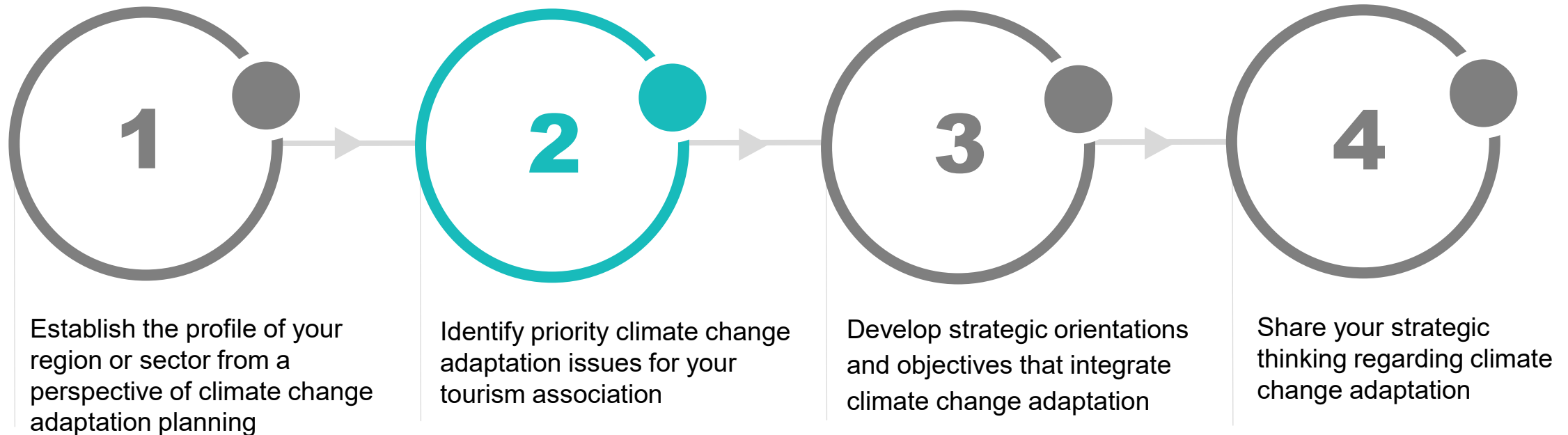
Plan for a
Green
Economy



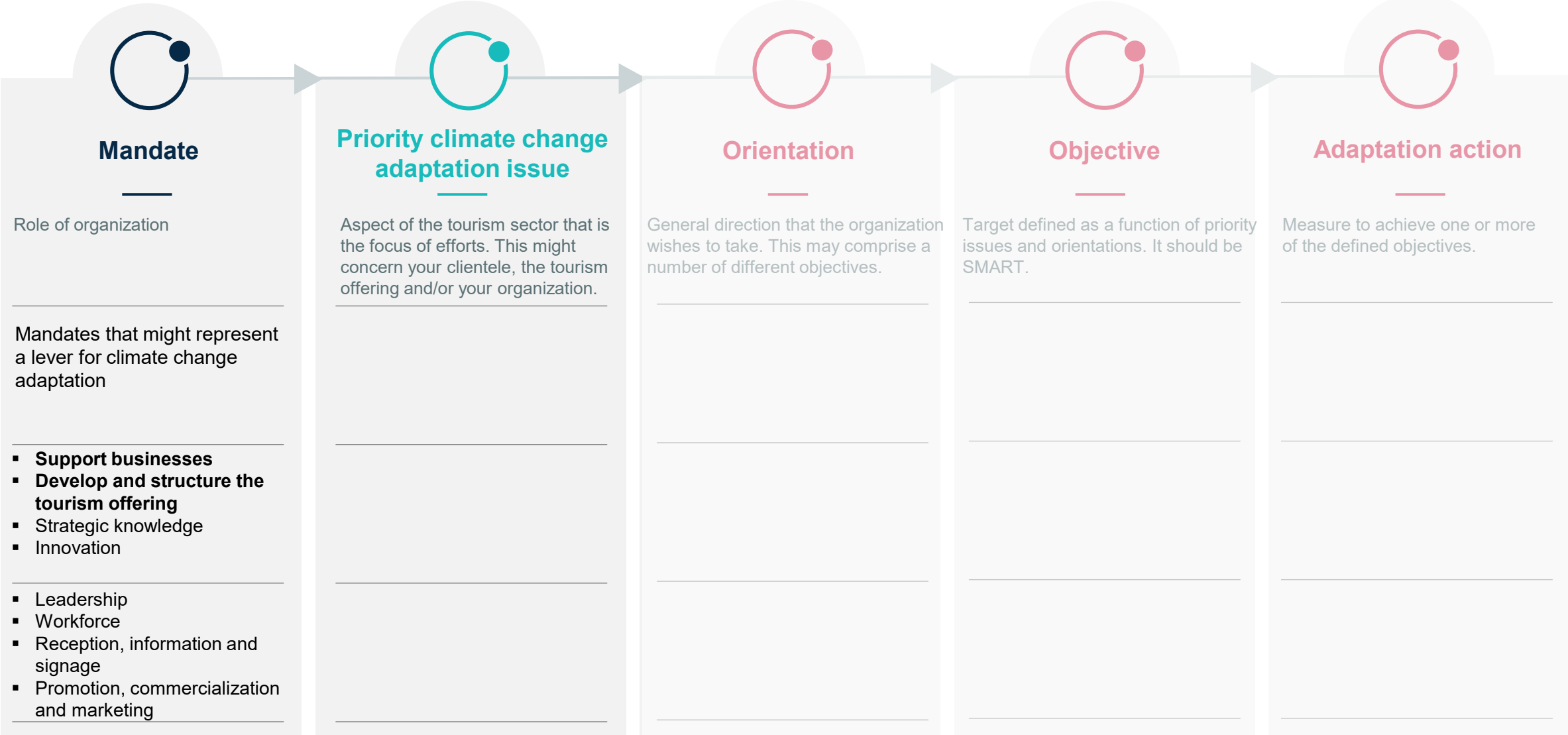
Québec 

 **Ouranos**

→ Approach developed to support and advise you as you brainstorm and develop your orientations and objectives for climate change adaptation with a view to integrating them into your strategic planning.



My strategic thinking ●●●●





2

Identify priority climate change adaptation issues for your tourism association



MAIN THRUST

- Identify hazards that affect your region or sector
- Associate threats and opportunities
- Identify priority issues for climate change adaptation



Basic concepts CLIMATE INFORMATION



Climate data that describe meteorological conditions:

- of the past (observed changes, e.g. from weather stations)
- of the future (projected changes from climate model outputs).

Example

Climate portraits can be used to visualize observed and projected changes in Quebec.

région sur la carte ou sélectionner toute la province

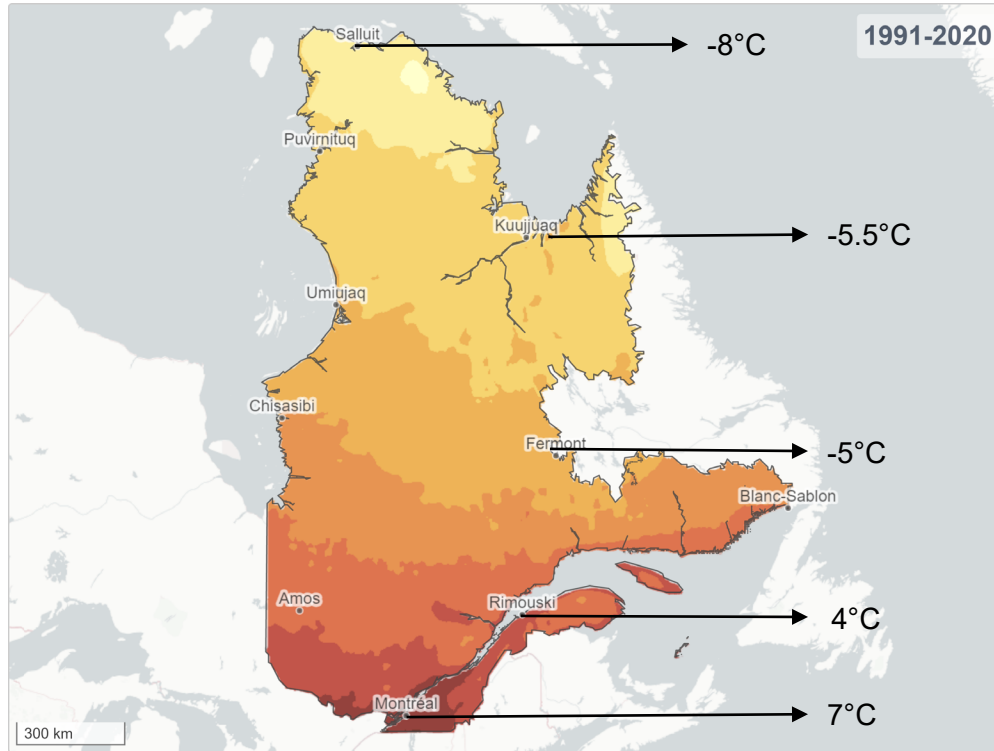




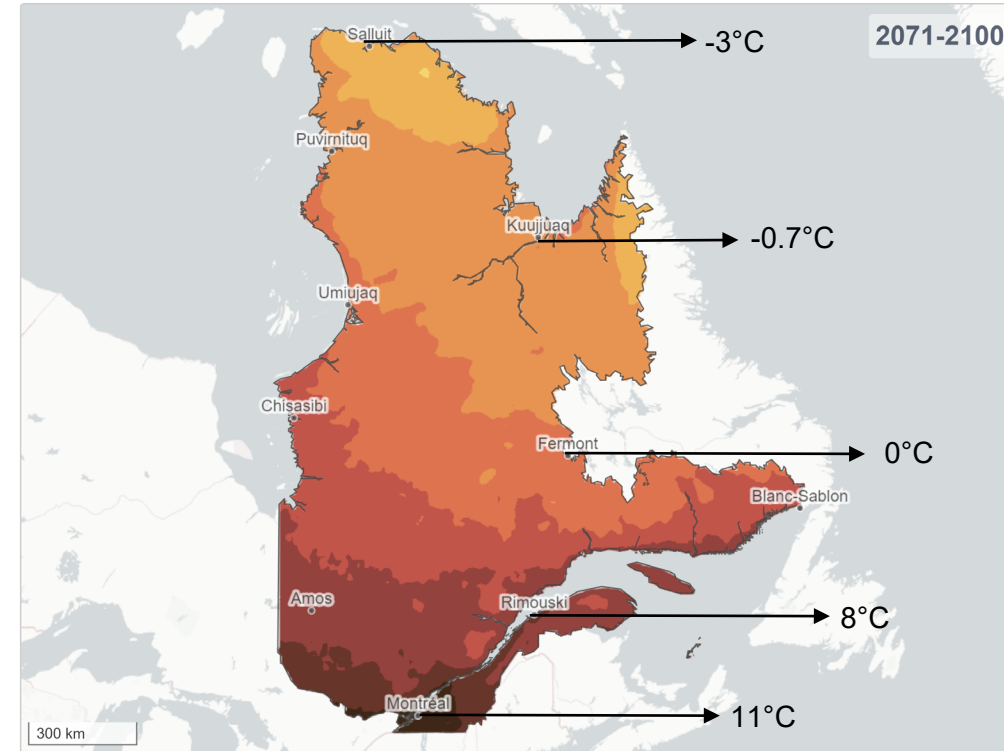
Basic concepts

TEMPERATURE

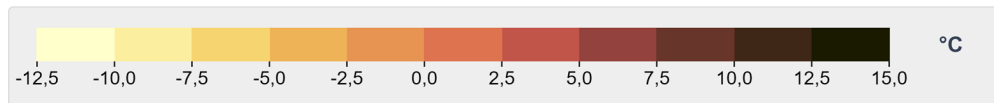
Observed changes



Projected changes



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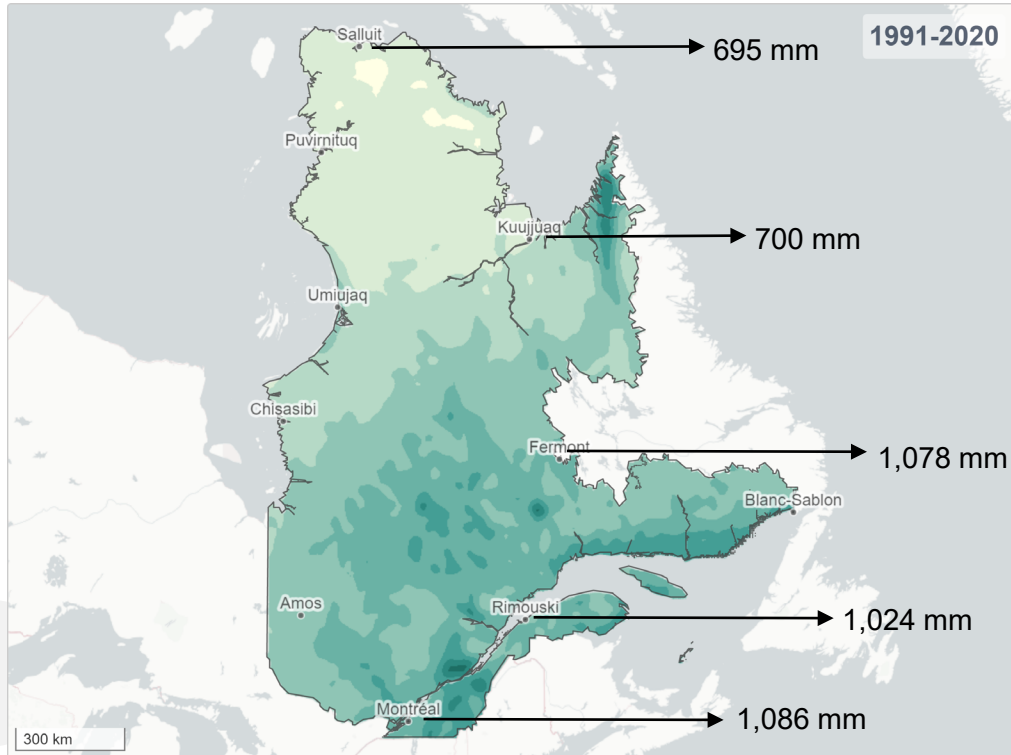
Average annual temperatures in Quebec: observed changes (1991-2020) and projected changes (2071-2100) according to high-emissions scenario (SSP3-70), 50th percentile, CMIP6



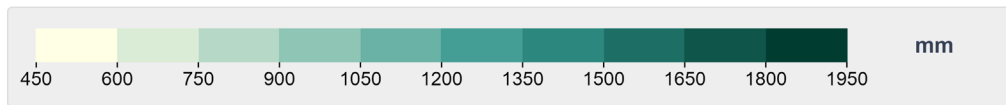
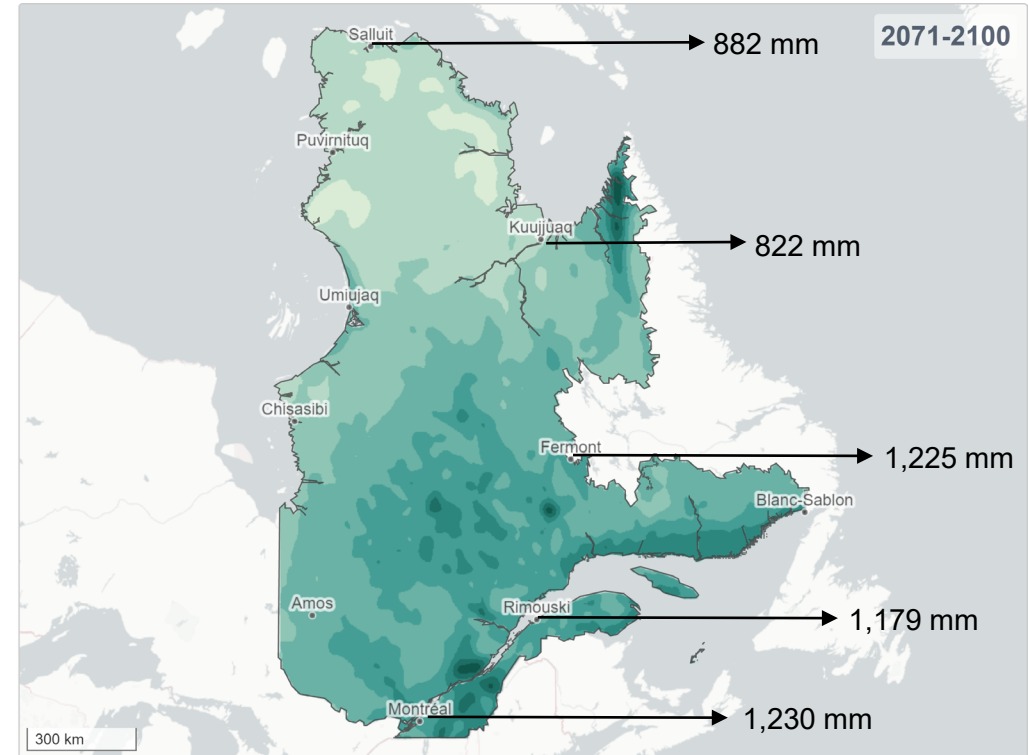
Basic concepts

PRECIPITATION

Observed changes



Projected changes



Total annual precipitation in Quebec: observed changes (1991-2020) and projected changes (2071-2100) according to high-emissions scenario (SSP3-70), 50th percentile, CMIP6

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Basic concepts CLIMATE HAZARDS



Meteorological phenomenon likely to cause:

- Loss of human life or injury;
- Property damage;
- Social and economic disruption; or
- Environmental degradation.

Examples of hazards

- Heat waves
- Flooding
- Forest fires
- Thawing of permafrost
- Erosion and coastal flooding



Basic concepts SEASONAL VARIATIONS



Spring



Summer



Fall



Winter



↑ **Extreme heat**
(frequency, duration, intensity)

↑ **Duration of summer-like weather**

↑ **Freeze-thaw cycle**

↓ **Extreme cold**
(frequency, duration, intensity)



↑ **Total precipitation**
(less snow, more rain)

↑ **Extreme rain**
(frequency, intensity)

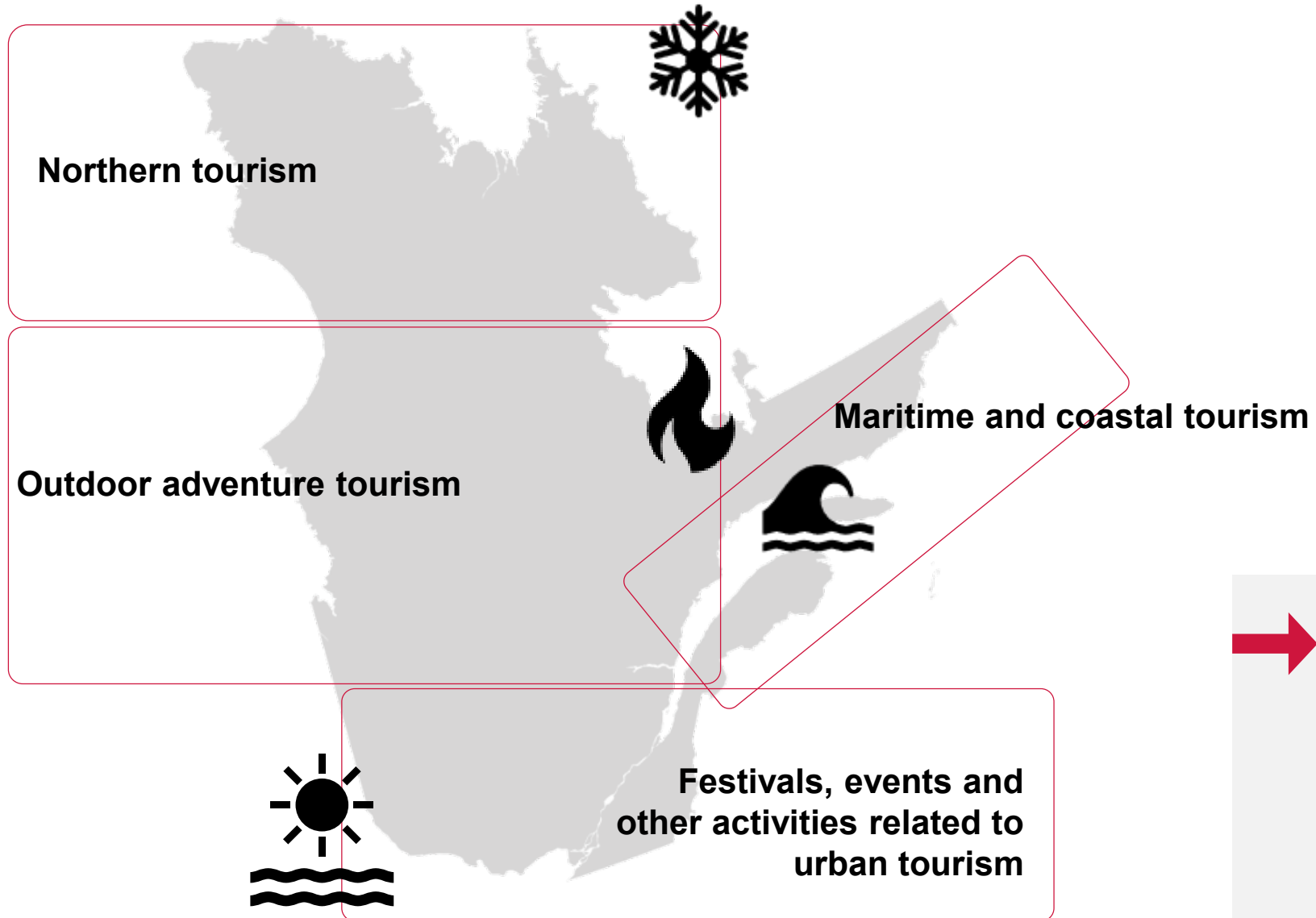
↑ **Extreme rain**
(frequency, intensity)

↓ **Snow cover along St. Lawrence**
(duration, quantity)

Anticipated changes throughout Quebec.



Basic concepts REGIONAL VARIATIONS



Tourism regions and activity sectors will be affected differently depending on:

- Living environments
- Regional realities (climate and environmental)



Basic concepts

PRIORITY ISSUES FOR CLIMATE CHANGE ADAPTATION



Aspect of the tourism sector on which you wish to focus your efforts. This might concern your clientele, the tourism offering and/or your organization.



Clientele

Visitors, tourists



Tourism offering

Attractions, activities and services



Organization

Labour force, management



Priority issues for climate change adaptation

CLIENTELE



FINDINGS

- Behavioural change
- New clientele



Threats

- More pronounced extreme conditions on health and safety of clientele (e.g. heat waves, storms)
- Additional pressure on natural environments already being affected by climate change as well as on natural resources (e.g. water quality and abundance)



Opportunities

- Educate visitors on the risks of extreme conditions with regard to health and safety, natural resources and vulnerable natural environments
- Develop new markets by increasing the number of visitors and through changes in behaviour



Priority issues for climate change adaptation TOURISM OFFERING



FINDINGS – NATURAL ENVIRONMENTS

Degradation of sites due to:

- Natural disturbance
- Human disturbance



Threats

- Decline and/or loss of appeal of attractions and activities due to the degradation of natural attractions
- Proliferation of harmful species and virus vectors (e.g. giant hogweed, Lyme disease)
- Loss of attractions and activities due to changes in ecosystem dynamics (e.g. shifting ranges of animal species)



Opportunities

- Develop tourism offering in accordance with biodiversity and the benefits offered by ecosystems
- Inform visitors about the proliferation of harmful species and virus vectors
- Develop new markets (e.g. new species for observation activities, hunting, fishing)



Priority issues for climate change adaptation

TOURISM OFFERING



FINDINGS – BUILT ENVIRONMENT AND ACTIVITIES

Visitor facilities and service infrastructure as well as activities are affected by natural disturbances



Threats

- Higher risks in terms of facility and infrastructure security
- Shorter life expectancy of facilities and infrastructure (e.g. premature deterioration)
- Activities rendered impracticable



Opportunities

- Increase the resiliency of facilities and infrastructure
- Upgrade or refurbish facilities and infrastructure in anticipation of breakages and service interruptions
- Adapt activity programming as a function of the changing climate



Priority issues for climate change adaptation

THE ORGANIZATION



FINDINGS

- Difficulties in recruiting and retaining staff
- Lack of expertise
- Inventory management



Threats

- Increased health and safety risks for a workforce exposed to challenging meteorological conditions
- Lower-quality tourism offering
- Increased risks with regard to supply chain security (e.g. disruption, interruption)



Opportunities

- Share best health and safety practices for a workforce exposed to challenging meteorological conditions
- Boost the workforce's capacity to adapt through education and training
- Raise awareness of risks to the supply chain (e.g. risk analysis)





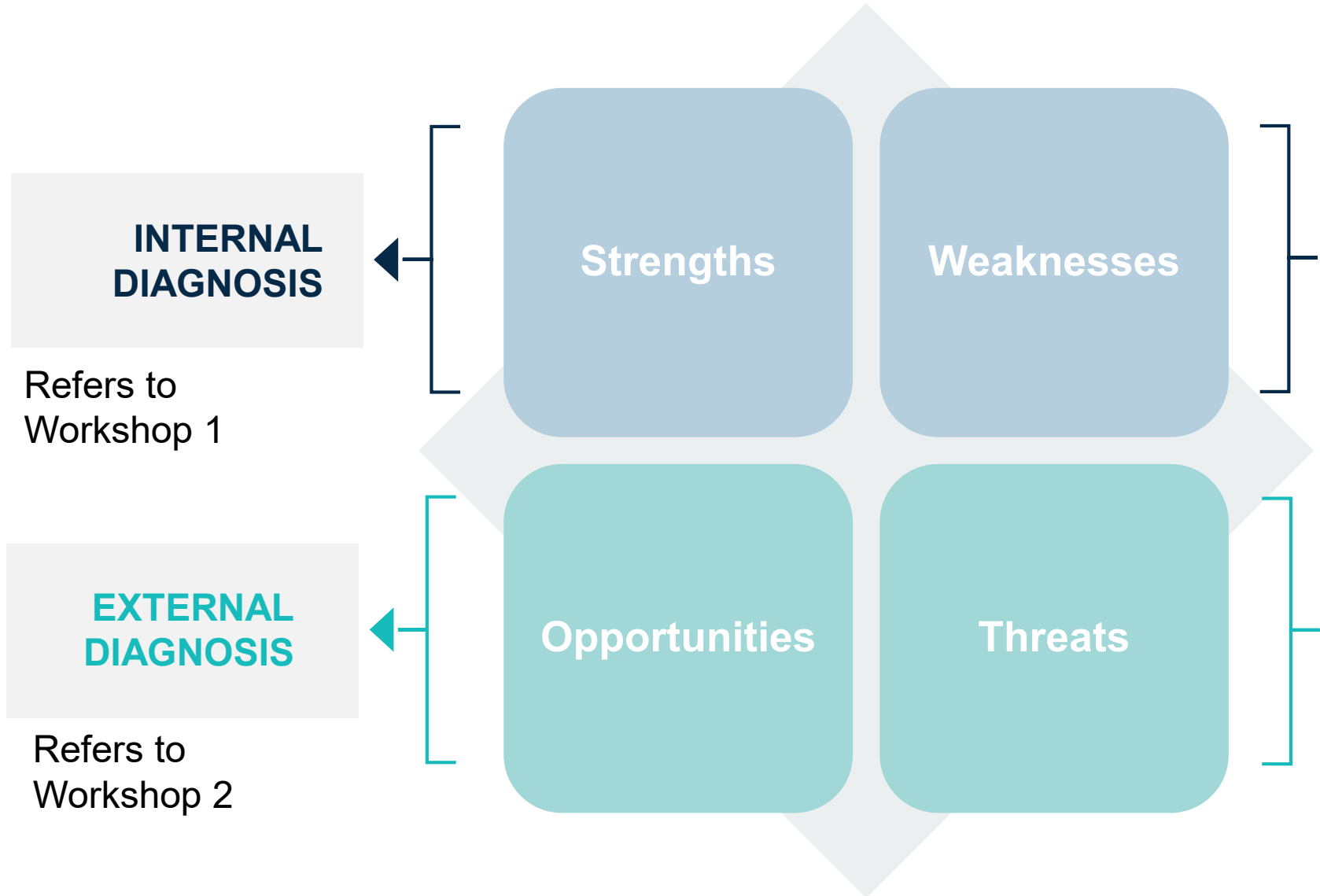
Experience sharing Risk and opportunity assessment



Isabelle Charron
Head of Knowledge Transfer and Training
Ouranos

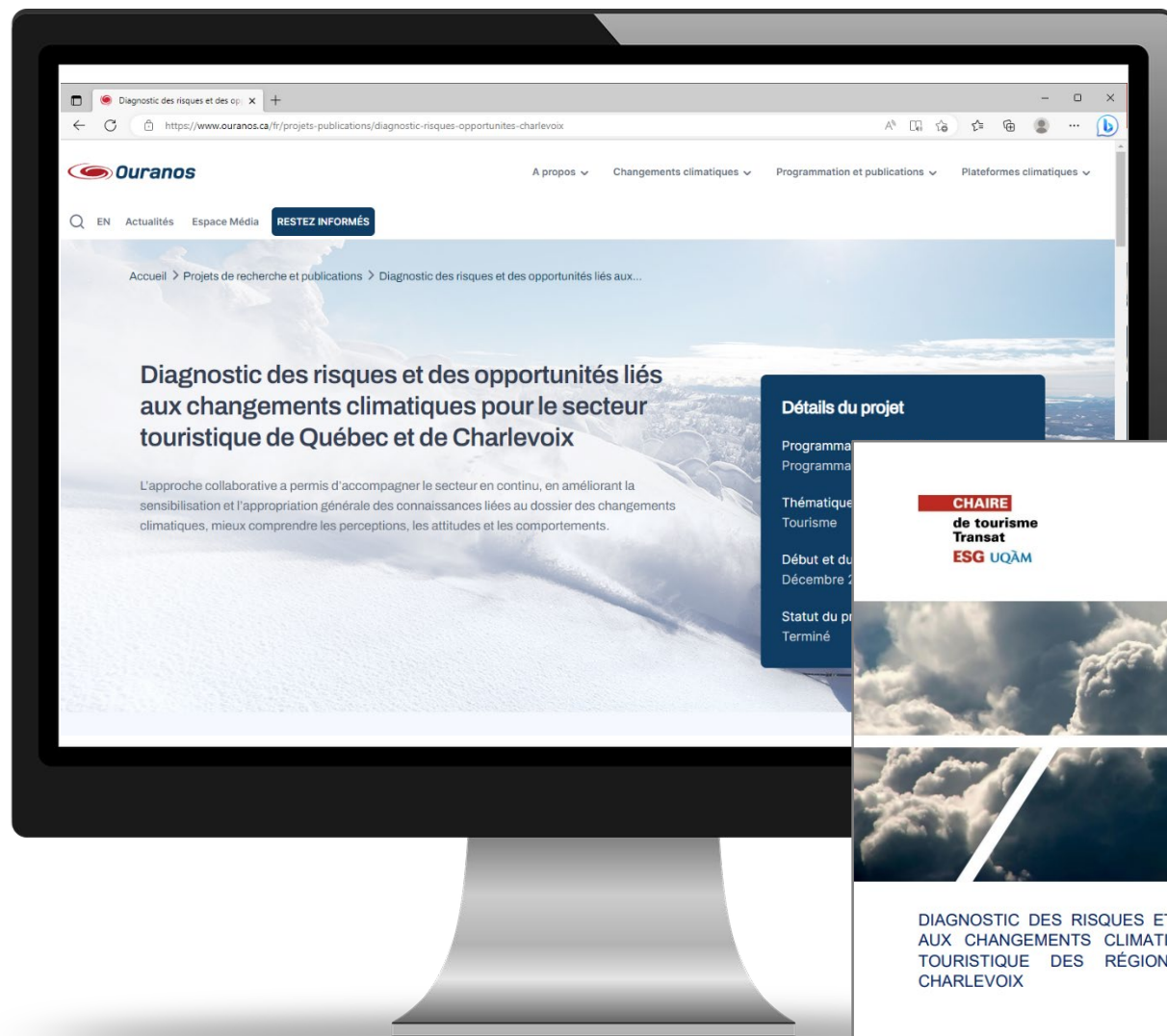


Experience sharing
DIAGNOSIS





Experience sharing CASE STUDY



Détails du projet

Programme
Programme

Thématique
Tourisme

Début et fin
Décembre 2017 -

Statut du projet
Terminé

CHAIRE
de tourisme
Transat
ESG UQÀM

DIAGNOSTIC DES RISQUES ET DES OPPORTUNITÉS LIÉS
AUX CHANGEMENTS CLIMATIQUES POUR LE SECTEUR
TOURISTIQUE DES RÉGIONS DE QUÉBEC ET DE
CHARLEVOIX

Rapport final
Mai 2018



Learn more about the study



Simplified methodological approach to diagnosing vulnerabilities

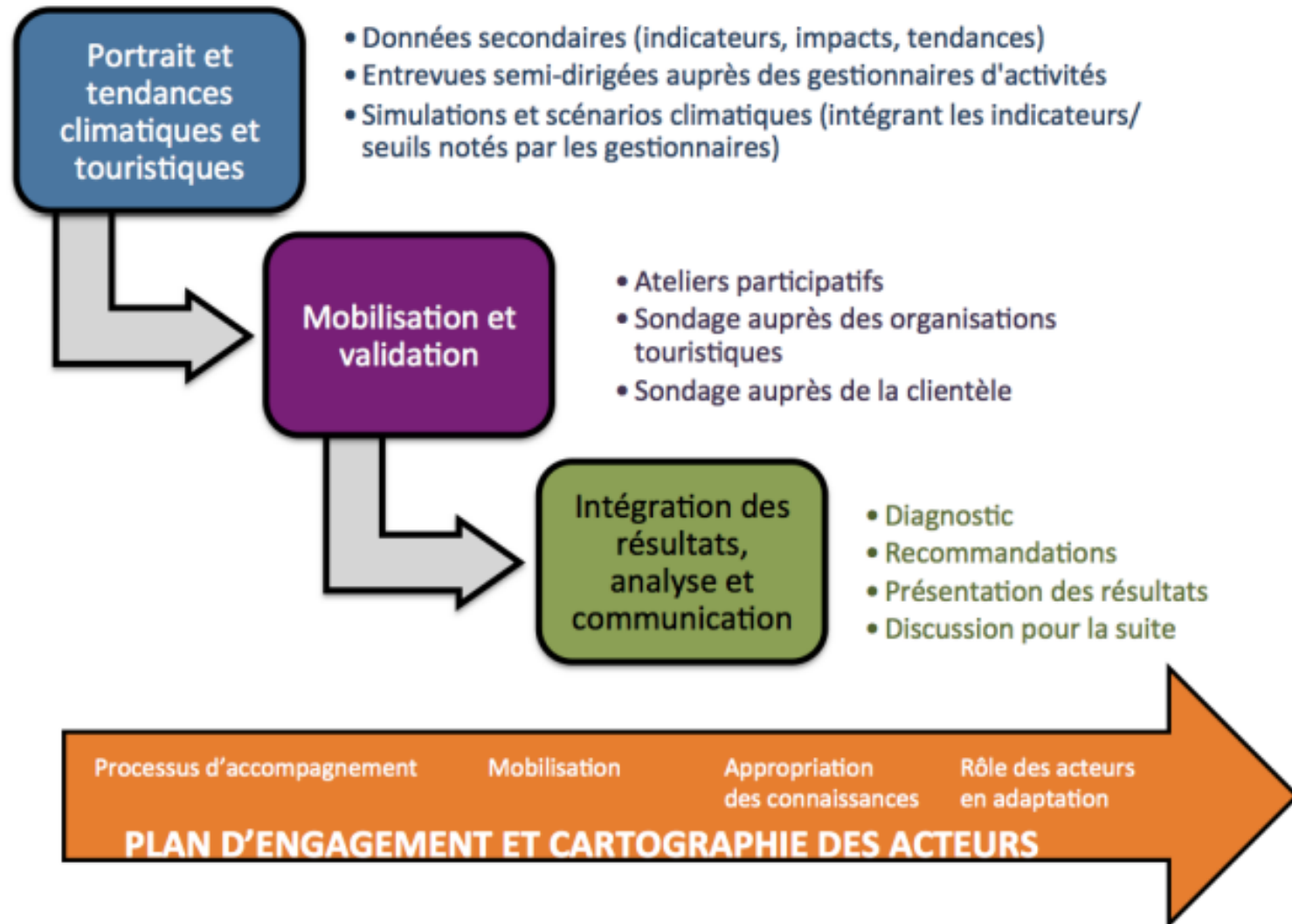




Tableau 16 — Tendances climatiques futures dans les régions de Québec et Charlevoix

TENDANCES CLIMATIQUES FUTURES		
SAISON	QUÉBEC	CHARLEVOIX
HIVER	<ul style="list-style-type: none"> ↗ températures (accentuées en hiver) ↗ redoux surtout en mars et novembre ↘ précipitations sous forme de neige + de pluie possible lors des périodes de transition entre les saisons chaudes et froides ↘ nombre jours avec des températures maximales inférieures à -5 °C ↘ froids intenses surtout en janvier et février 	<ul style="list-style-type: none"> ↗ températures (accentuées en hiver) ↗ redoux surtout en mars et novembre ↘ précipitations sous forme de neige dans les basses altitudes + de pluie possible lors des périodes de transition entre les saisons chaudes et froides ↗ précipitations sous forme de neige dans la sous-région Parcs-réserve faunique (haute altitude et éloignée du fleuve) ↘ nombre jours avec des températures maximales inférieures à -5 °C ↘ froids intenses surtout en janvier et février
PRINTEMPS	<ul style="list-style-type: none"> ↗ températures moyennes ↗ durée de la saison chaude ↗ nombre de jours avec des températures entre 20 et 25 °C en mai ↗ précipitations totales aux intersaisons 	
ÉTÉ	<ul style="list-style-type: none"> ↗ températures Juillet + chaud à Québec ↗ durée des canicules surtout à Québec dès maintenant Précipitations totales stables 	<ul style="list-style-type: none"> ↗ températures ↗ durée des canicules surtout à partir de 2060 Précipitations totales stables
AUTOMNE	<ul style="list-style-type: none"> ↗ températures Prolongement de la saison chaude qui s'amplifie après 2040 ↗ nombre de jours avec des températures entre 20 et 25 °C en septembre Précipitations totales stables, mais augmentation entre mi-novembre et début décembre 	



OPPORTUNITIES



THREATS

WINTER	<p>↘ Intense cold snaps</p> <p>→ Potential increase in demand for winter activities</p>	<p>Later onset of cold weather in December and shorter winters</p> <p>→ This can make the winter holiday season more difficult, which is a critical period for a number of tourism sectors</p>
SPRING	<p>Variable depending on elevation: earlier spring at lower elevations and later at higher elevations</p>	<p>Variable depending on elevation: earlier spring at lower elevations and later at higher elevations</p>
SUMMER	<p>Longer summers, with ideal climate conditions in May and September</p> <p>→ Opportunities to develop activities</p>	
FALL	<p>Summer-like weather extends into fall</p> <p>→ Opportunity to prolong tourism activities</p>	<p>Summer-like weather extends into fall</p> <p>→ Workforce challenges for maintaining tourism activities</p>



Experience sharing
SUCCESS FACTORS



Strategic
knowledge



Sharing
of expertise



Collaboration and
shared responsibilities

2

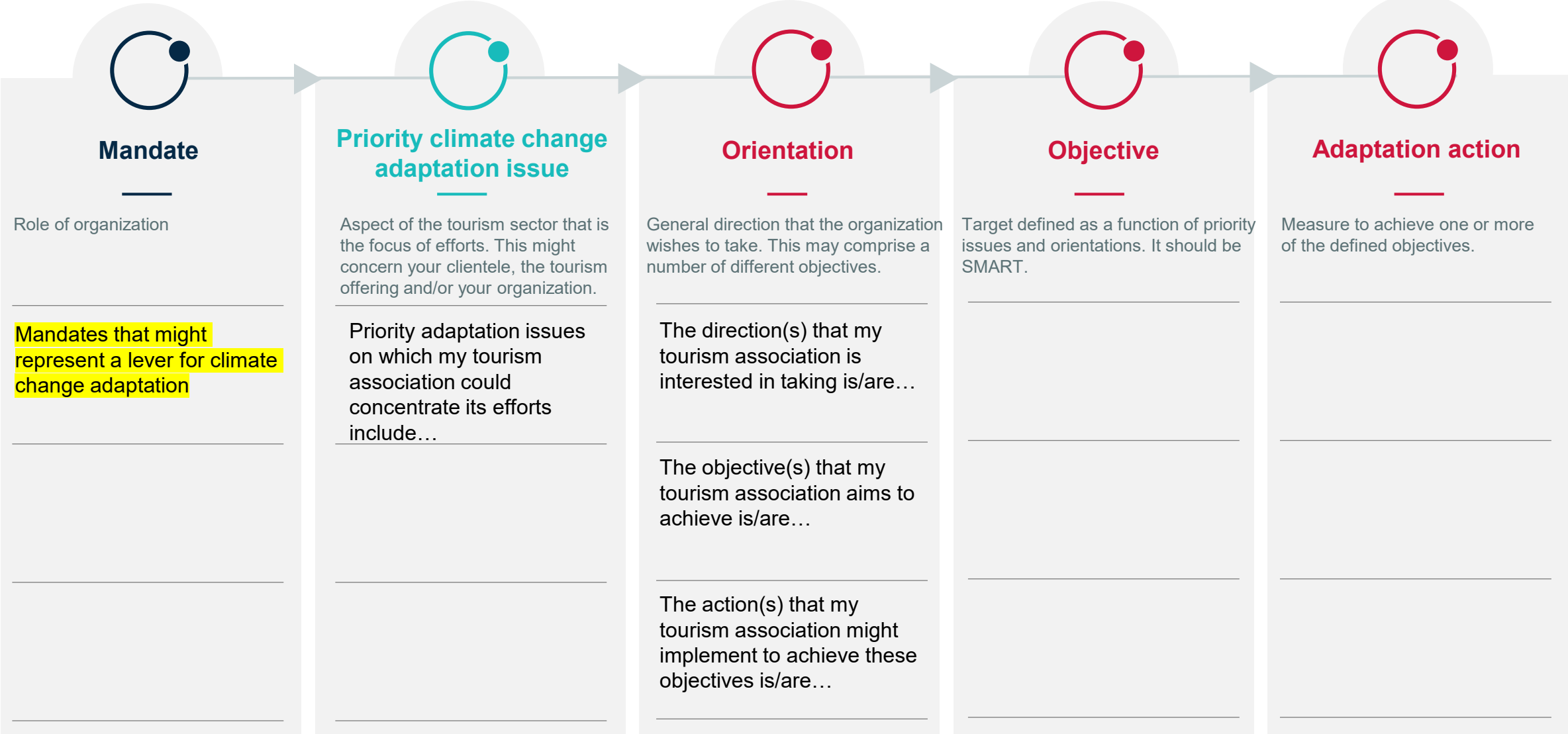
Reflection activities



MY THOUGHTS

- Hazards that affect my region or sector
- Threats and opportunities affecting my region or sector
- Priority adaptation issues on which my tourism association could concentrate its efforts

My strategic thinking ●●●●





Thank you for participating!

- Next workshop: Thursday, June 15
- Thoughts about the next workshop
- Online appreciation survey



Contact us



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Coordinator in Adaptation

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