

Transport : Série de webinaires sur l'adaptation aux changements climatiques

Renforcer la résilience climatique des organisations de l'aviation par l'intermédiaire d'évaluations des risques climatiques et de mesures d'adaptation

Mardi 7 mars 2023, de 13 h à 14 h 30 (HE)

Présentatrices :



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Canada*



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*Spécialiste des affaires
étrangères, bureau des
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États-Unis*



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Renforcer la résilience climatique des organisations de l'aviation par l'intermédiaire d'évaluations des risques climatiques et de mesures d'adaptation

Rachel Burbidge et Andrea Deitz, responsables de tâche
du CAEP de l'OACI



- Travaux de l'OACI sur l'adaptation aux changements climatiques
- Élaboration de l'orientation sur l'évaluation de risques liés aux changements climatiques et la planification de l'adaptation pour les organisations d'aviation
- Aperçu de l'orientation :
 - Évaluation de risques liés aux changements climatiques et planification de l'adaptation pour les organisations d'aviation
 - Principales vulnérabilités
 - Aperçu du menu des options



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Travaux de l'OACI sur l'adaptation aux changements climatiques



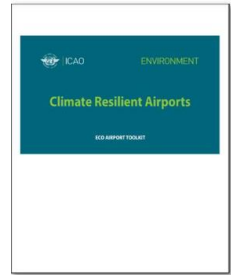
Comité de l'aide collective de l'OACI

Scoping Study On The Possible Effects Of Climate Change On Air Navigation Services Over The North Atlantic (2015) [en anglais seulement]

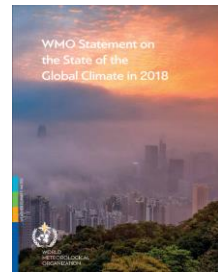
Airport Planning Manual (2018) [en anglais seulement]



Eco-Airport Toolkit e-publication on Climate Resilient Airports [en anglais seulement]



Déclaration de l'OMM sur l'état du climat mondial en 2018



Climate Risk Assessment, Adaptation and Resilience Report (2022) [en anglais seulement]



2013

2015

2016

2018

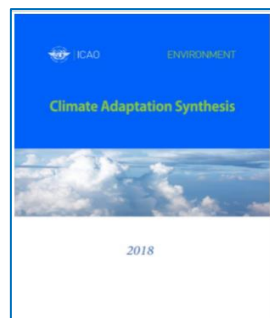
2019

2022

38^e session de l'Assemblée de l'OACI

39^e session de l'Assemblée de l'OACI

ICAO Climate Adaptation Synthesis Report (2018) [en anglais seulement]



40^e session de l'Assemblée de l'OACI

41^e session de l'Assemblée de l'OACI



2018 ICAO Climate Adaptation Synthesis [en anglais seulement]

- Le rapport fait la synthèse des renseignements existants sur l'éventail des répercussions climatiques prévues sur le secteur du transport aérien afin de mieux comprendre les risques pour
 - les aéroports, les fournisseurs de services de navigation aérienne, les lignes aériennes et les autres infrastructures de l'aviation.
- Les répercussions que la plupart des répondants prévoient comme étant les plus grands défis sont :
 - l'augmentation de l'intensité des tempêtes (42 répondants);
 - le changement des précipitations (38 répondants);
 - des températures moyennes et extrêmes plus élevées (35 répondants).

6. Analysis of Impacts Which Stakeholders Expect to be the Biggest Challenge

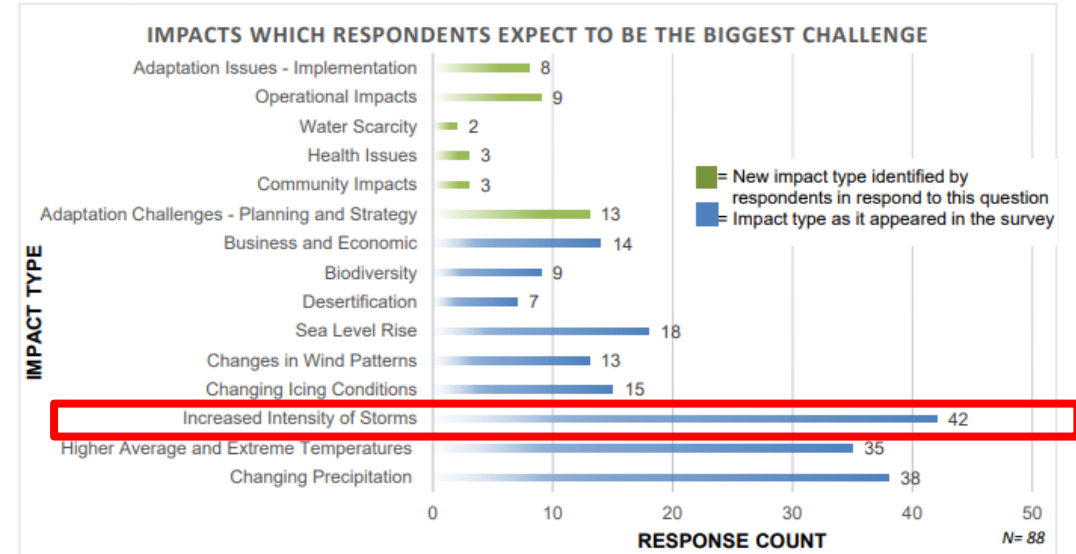


Figure 42: Impacts which respondents expect to be the biggest challenge

The impacts which most respondents expect to be the biggest challenges are increased intensity of storms (42 respondents), changing precipitation (38 respondents), and higher average and extreme temperatures (35 respondents).

This question was an open question and so respondents were able to list their individual top three challenges. Many impacts which respondents listed fit into the impact categories previously determined. However, others addressed different challenges. These were grouped according to the impact types in green in Figure 42. For example, "Adaptation challenges – planning and strategy" included responses such as increasing the level of knowledge regarding climate impacts on air navigation services, and identification of lack of finance, whilst "Operational Impacts" included responses such as operational disruption due to adverse weather and concerns about an increase in Clear Air Turbulence (CAT).



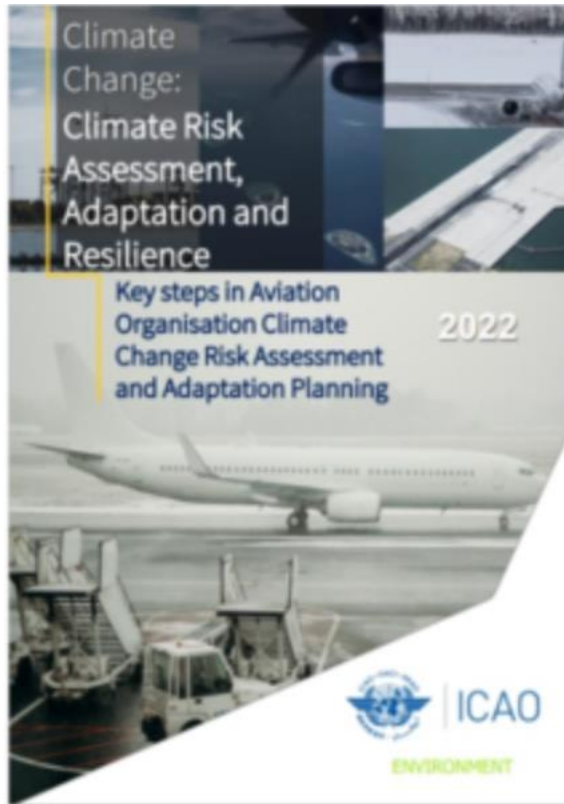
- Objectif : fournir un soutien aux États et aux organisations d'aviation pour s'adapter et renforcer la résilience aux risques liés aux changements climatiques.
- Élaborée sur une période de trois ans par le groupe de travail du CAEP de l'OACI sur les aéroports et les exploitations.
- Approuvée par le Conseil de l'OACI.
- Disponible sur le site Web de l'OACI <https://www.icao.int/environmental-protection/Pages/Climate-Change-Climate-Risk-Assessment,-Adaptation-and-Resilience.aspx>
- Fournit *des conseils généraux et non normatifs* sur :
 - Comment réaliser une évaluation de risques liés aux changements climatiques et élaborer et mettre en œuvre un plan d'adaptation aux changements climatiques.
 - Un aperçu des principales vulnérabilités aux changements climatiques à laquelle un État ou une organisation peut être exposé.
 - Un menu d'options d'adaptation potentielles à envisager par les États et les organisations.
- Destinée à être utilisée par les aéroports, les exploitants d'aéronefs et les fournisseurs de services de navigation aérienne dans l'ensemble du réseau mondial de l'aviation.
- Peut également être utilisée par les États pour l'évaluation de risques liés aux changements climatiques dans leur secteur de l'aviation.



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L'orientation sur l'évaluation de risques liés aux changements climatiques et la planification de l'adaptation de l'OACI





Key Steps for Aviation Organisation Climate Change Risk Assessment and Adaptation Planning

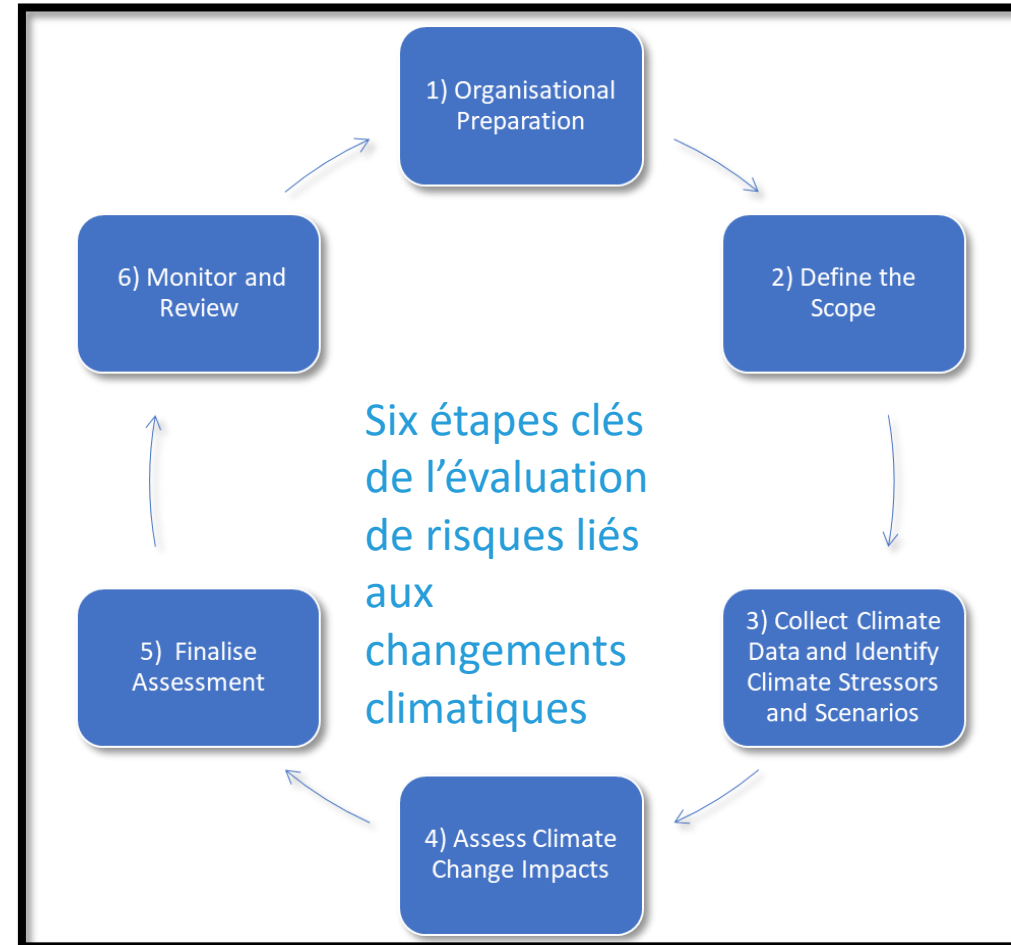


This document sets out a step-by-step process divided into two stages, "Risk Assessment" and "Adaptation Planning", to carry out a climate change risk assessment and develop and implement a climate change adaptation plan. This process can be scaled and utilized by States and organisations of any size or structure.



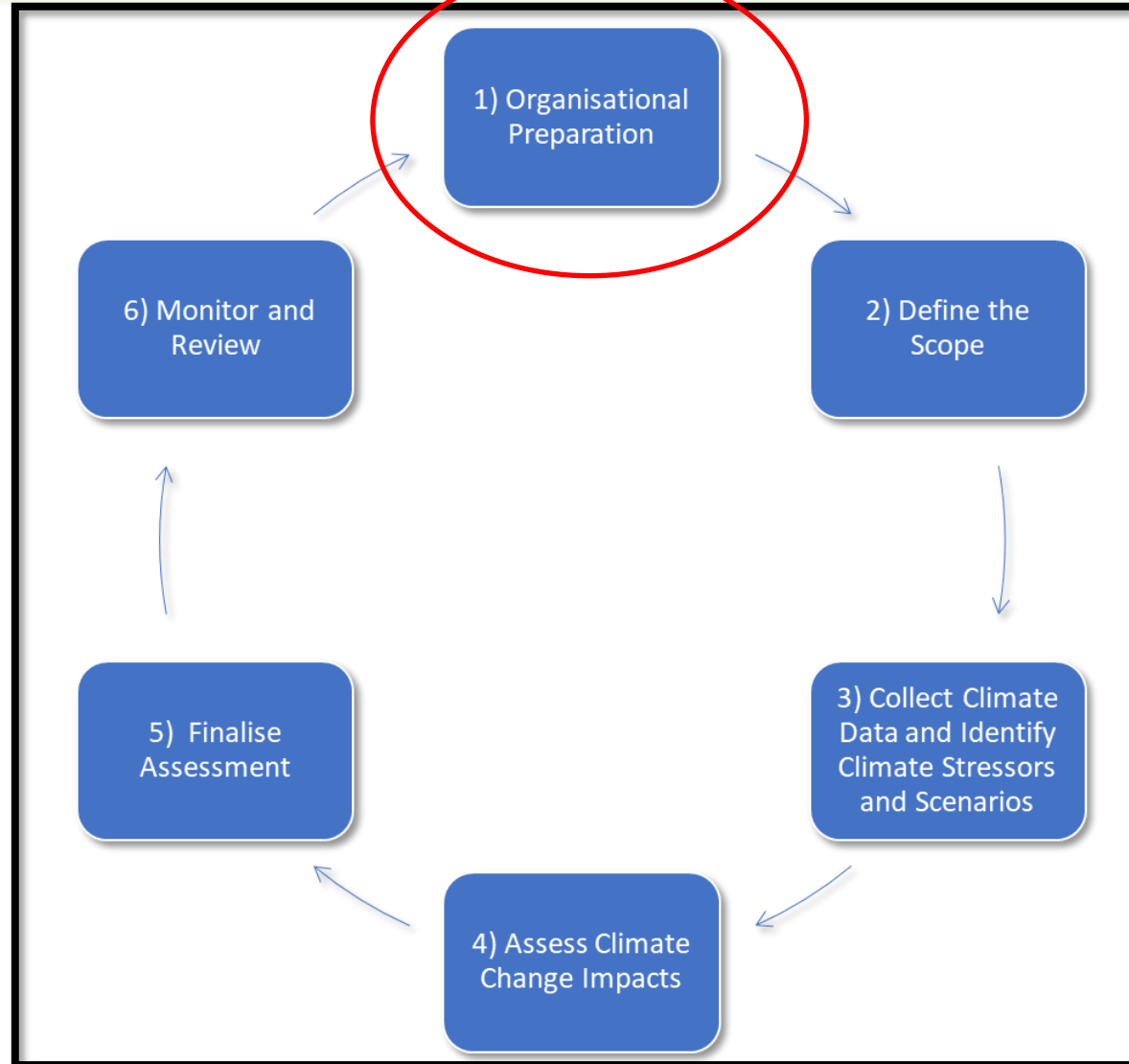
Étapes clés pour l'évaluation de risques liés aux changements climatiques et la planification de l'adaptation des organisations de l'aviation

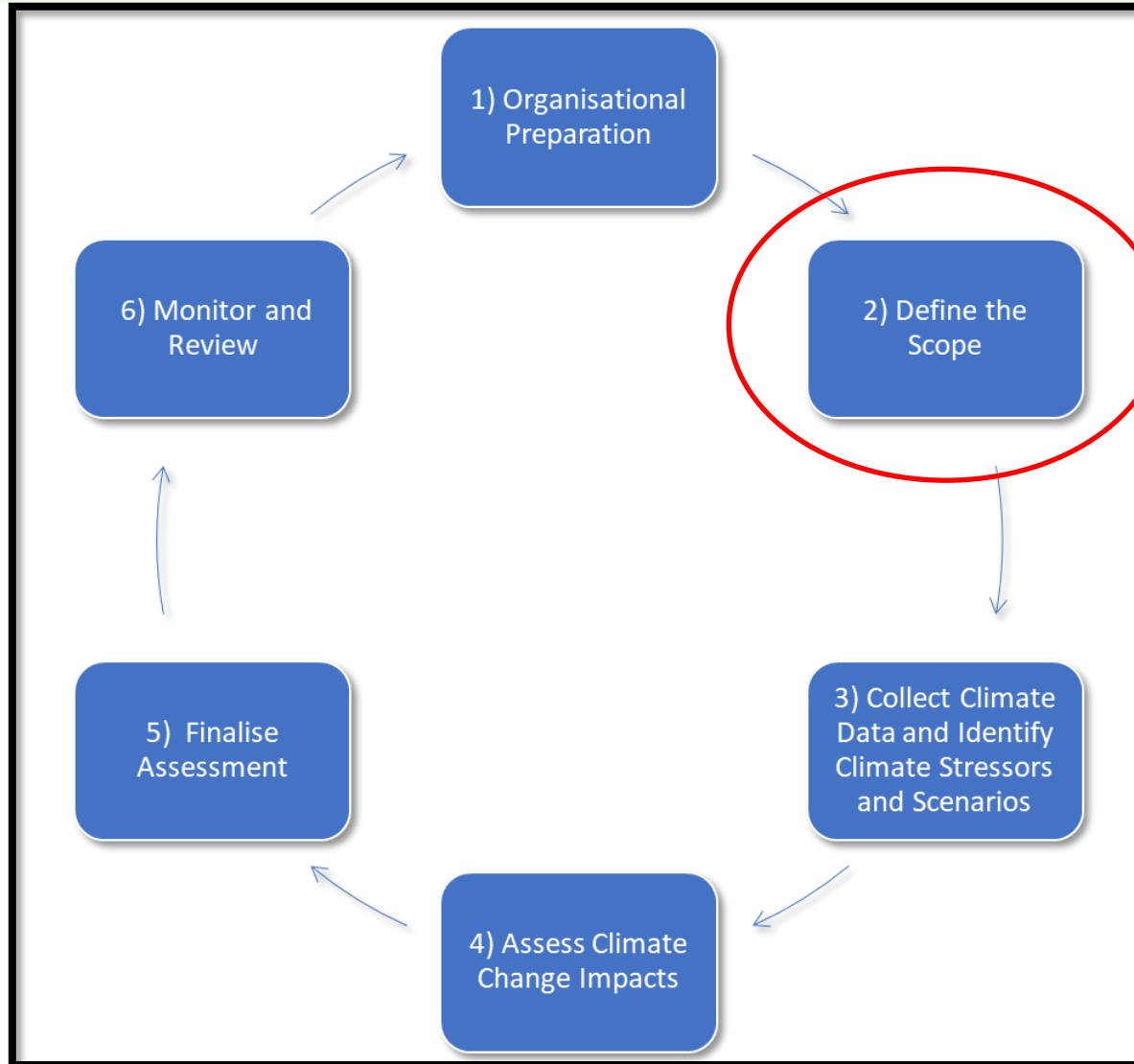
- Processus progressif en deux étapes, « évaluation de risques » et « planification de l'adaptation », pour effectuer une évaluation de risques liés aux changements climatiques et élaborer et mettre en œuvre un plan d'adaptation aux changements climatiques.
- Ce processus peut être adapté et utilisé par les États et les organisations de toute taille ou structure.





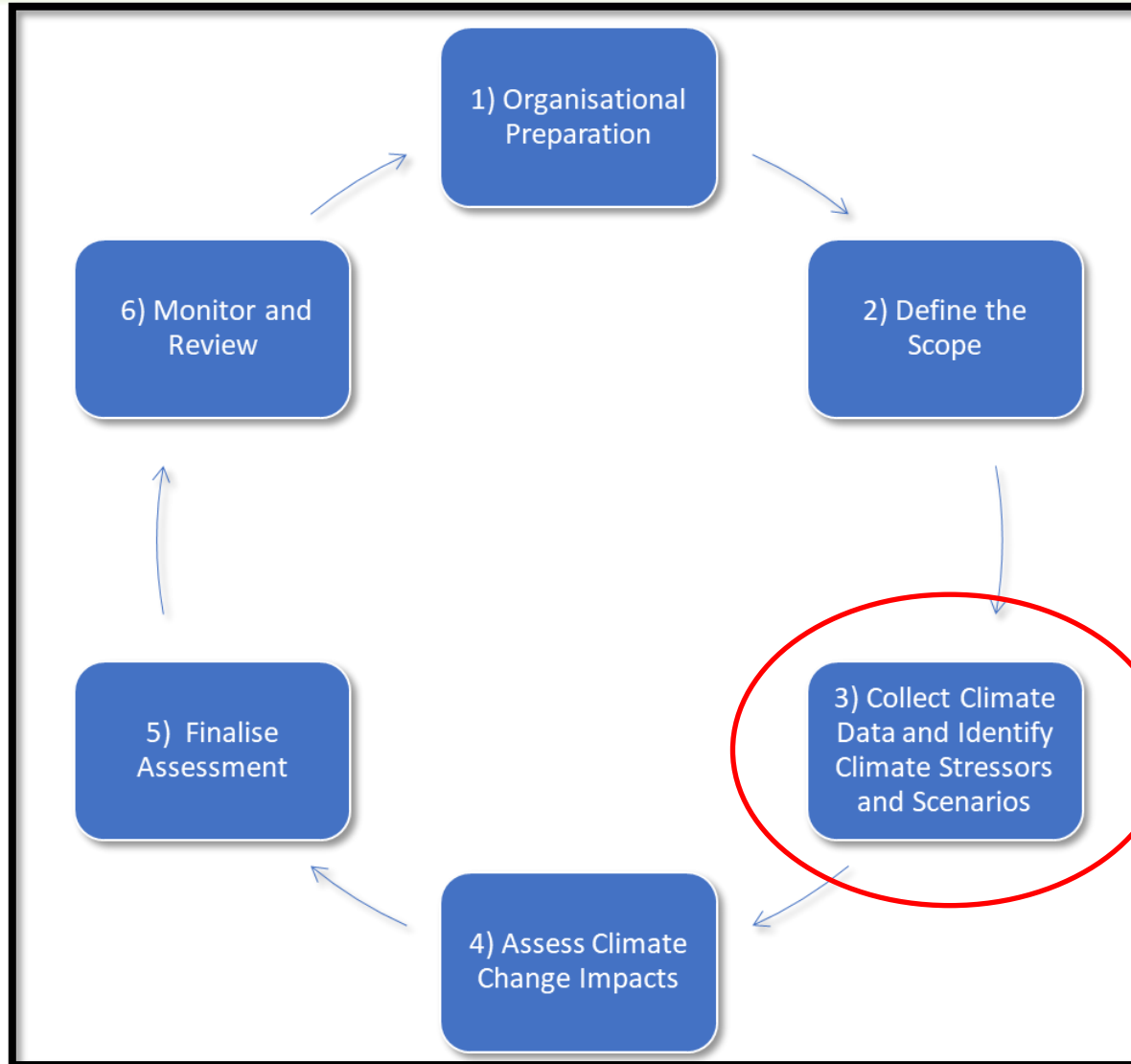
Étape clé 1 : Préparer l'organisation à l'évaluation





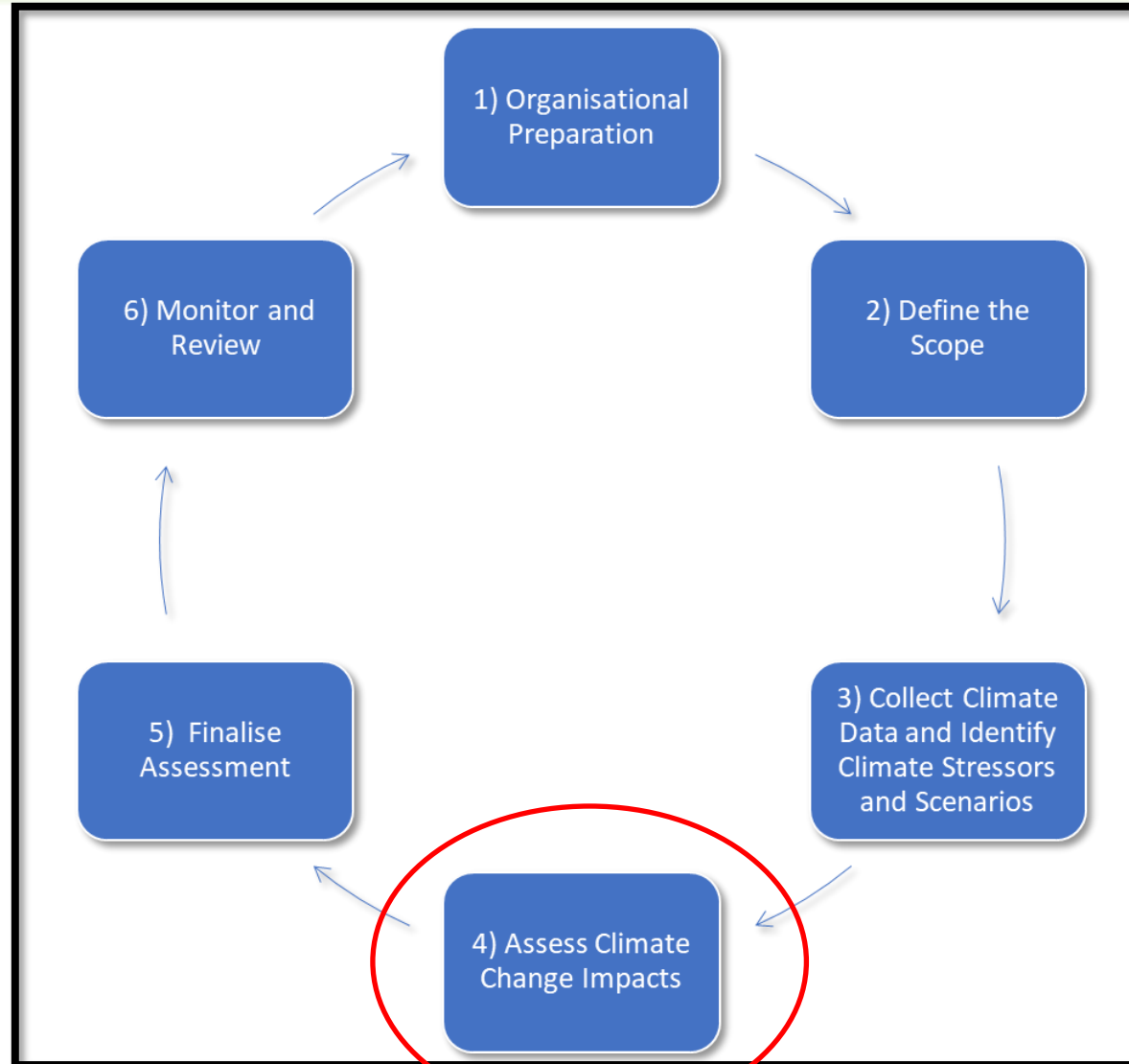


Étape clé 3 : Recueillir les données climatiques, définir les facteurs de stress climatique et les scénarios





Étape clé 4 : Évaluer les répercussions des changements climatiques (1/3)





Étape clé 4 : Évaluer les répercussions des changements climatiques (2/3)



Organisation Type	Climate stressor	Potential effect
Airport	Sea level rise	Permanent or temporary inundation
ANSP	Increased intensity of storms	Impacts on capacity and flow management
Aircraft Operator	Higher temperatures	A reduction in payload due to reduced climb performance

Table 1: Examples of potential effects of specific climate stressors on aviation organisations



Étape clé 4 : Évaluer les répercussions des changements climatiques (3/3)

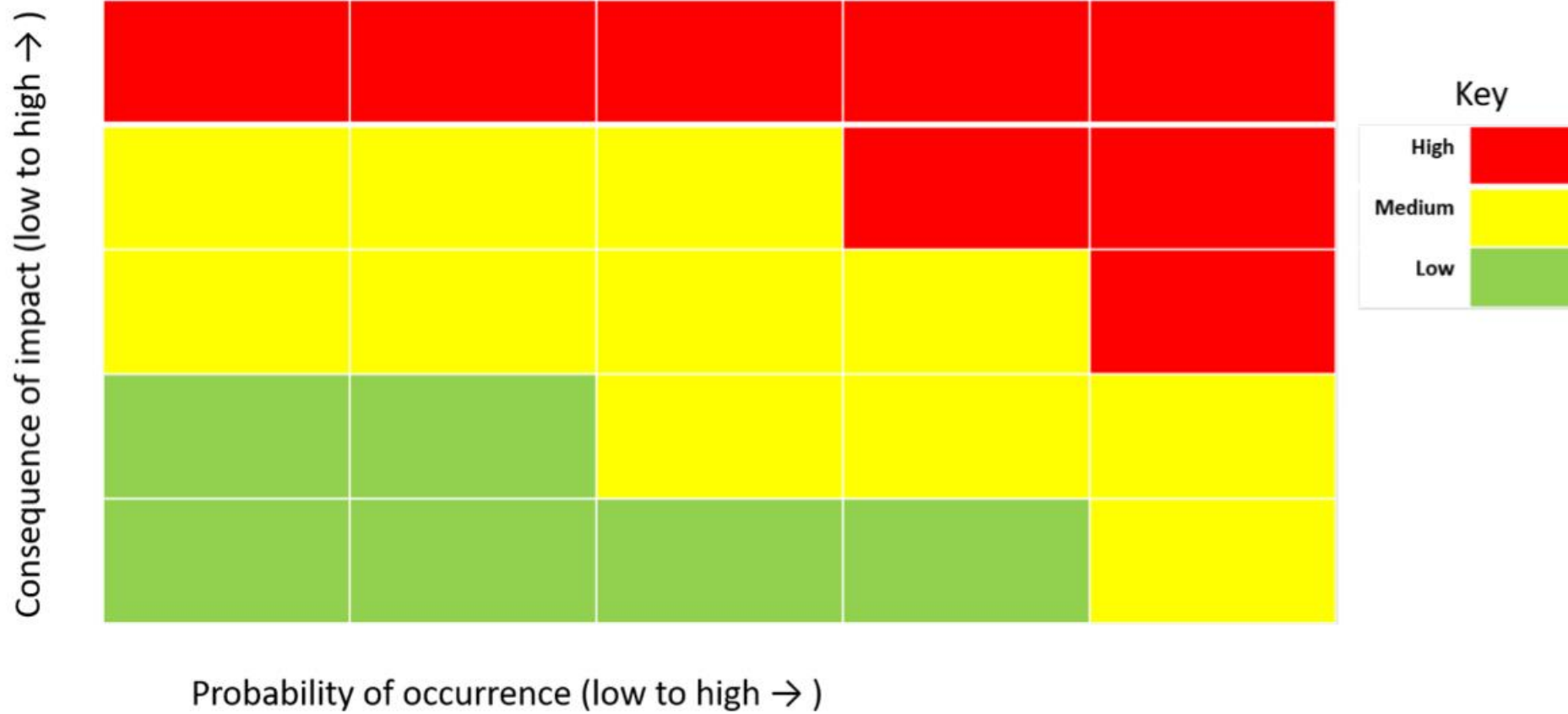
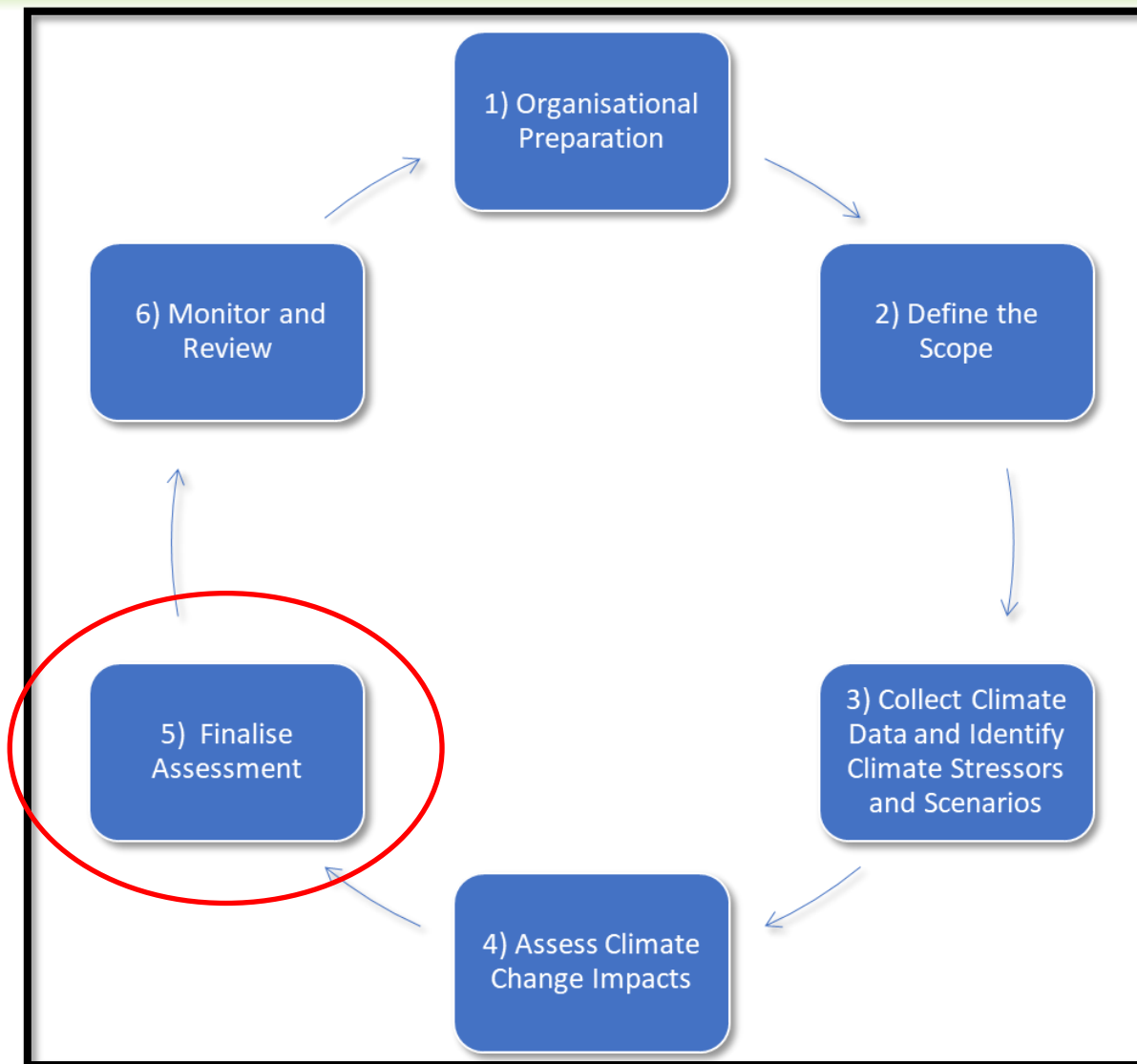


Figure 4 - Example risk matrix (note: this will vary according to the specific risks and consequences an organisation faces.)

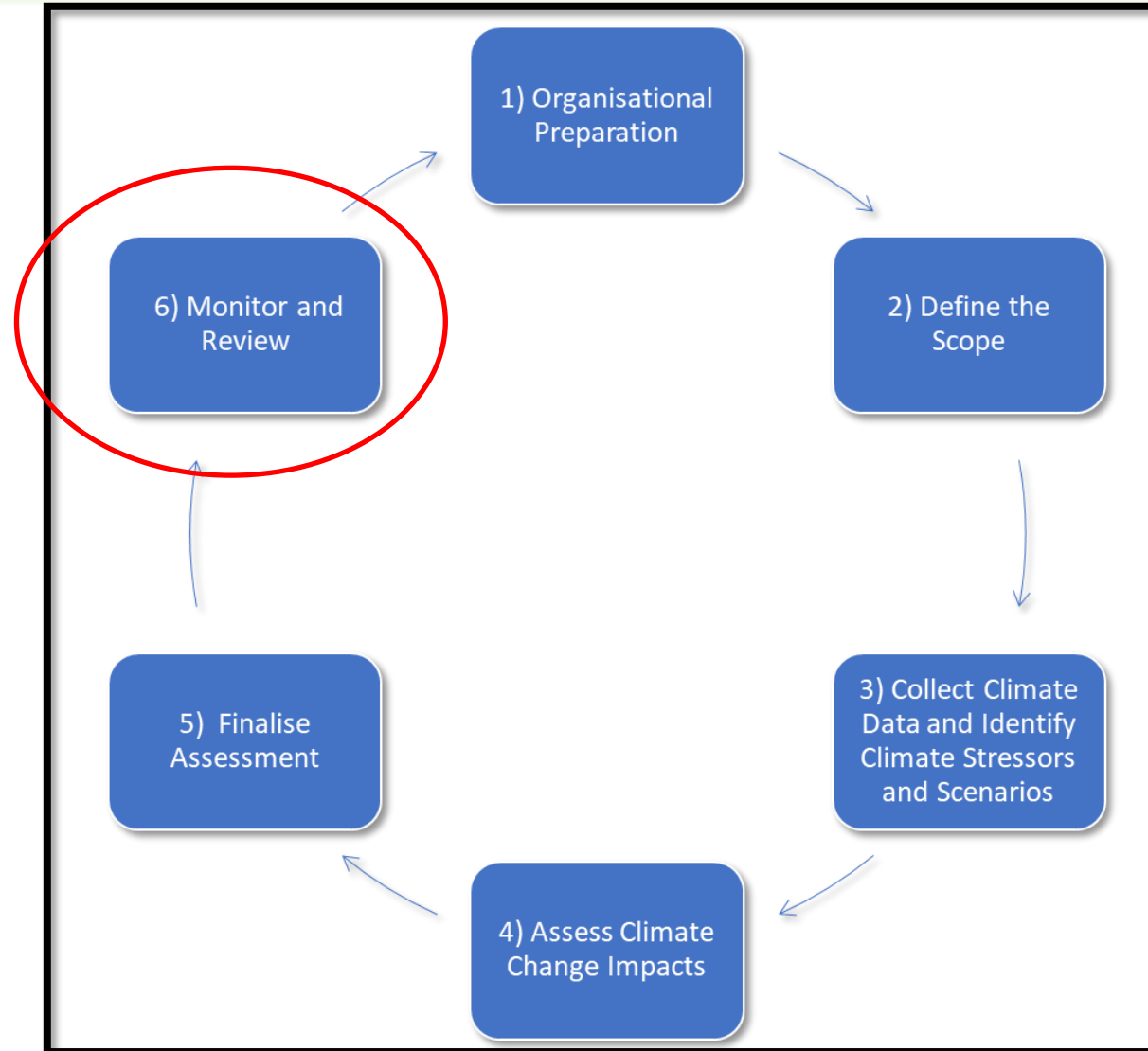


Étape clé 5 : Terminer l'évaluation en vue de la planification de l'adaptation



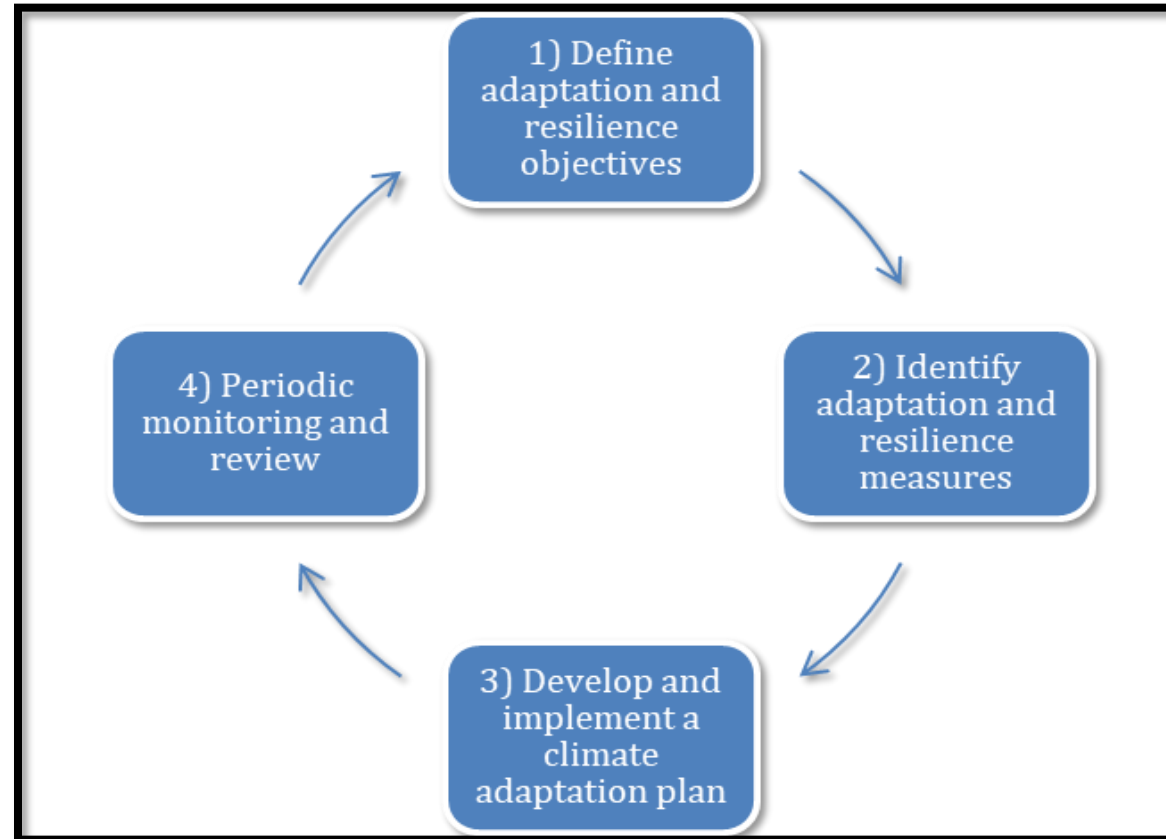


Étape clé 6 : Surveiller et réviser l'évaluation



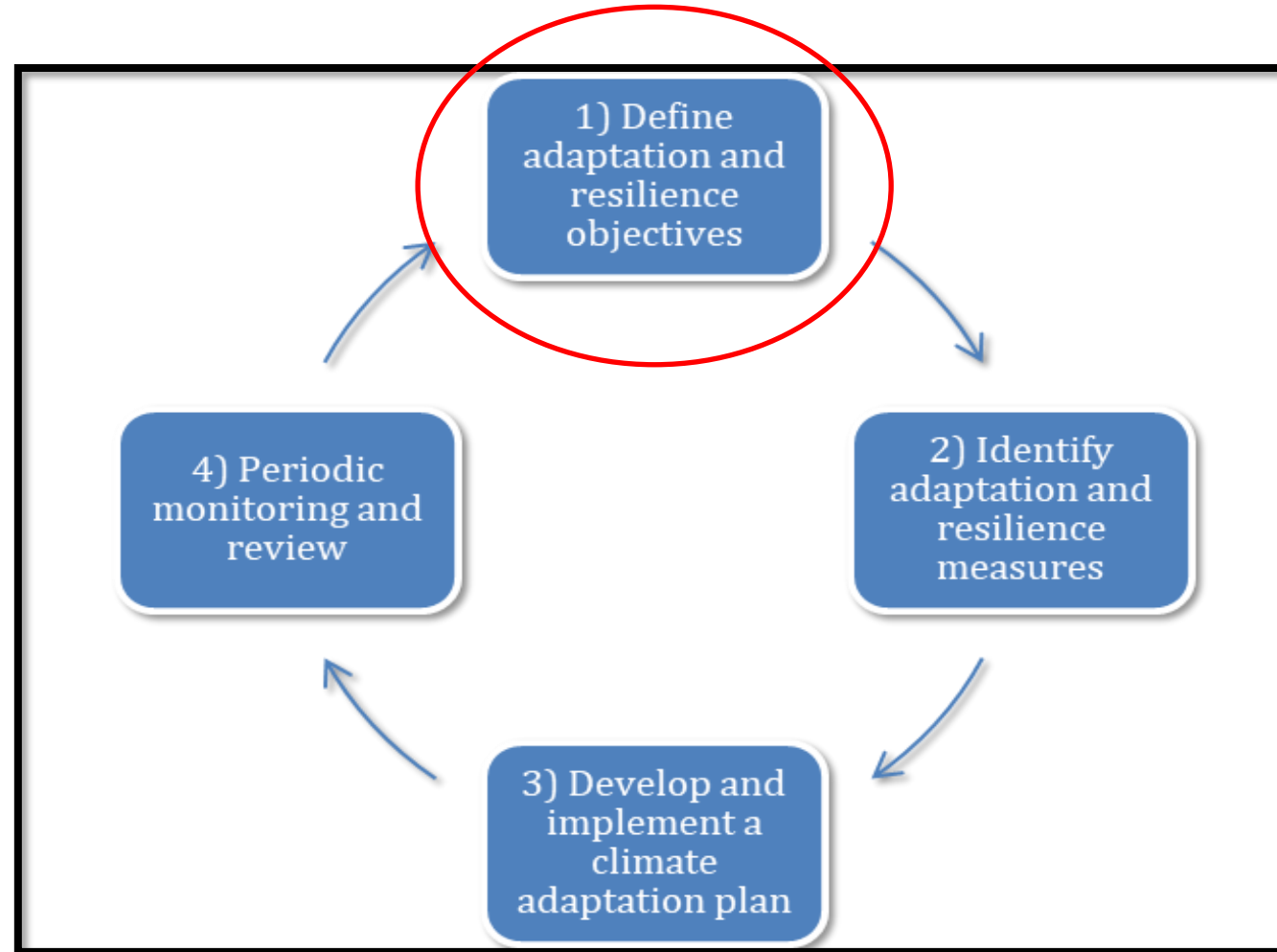


Étape 2 : Étapes clés pour la planification de l'adaptation aux changements climatiques des organisations de l'aviation



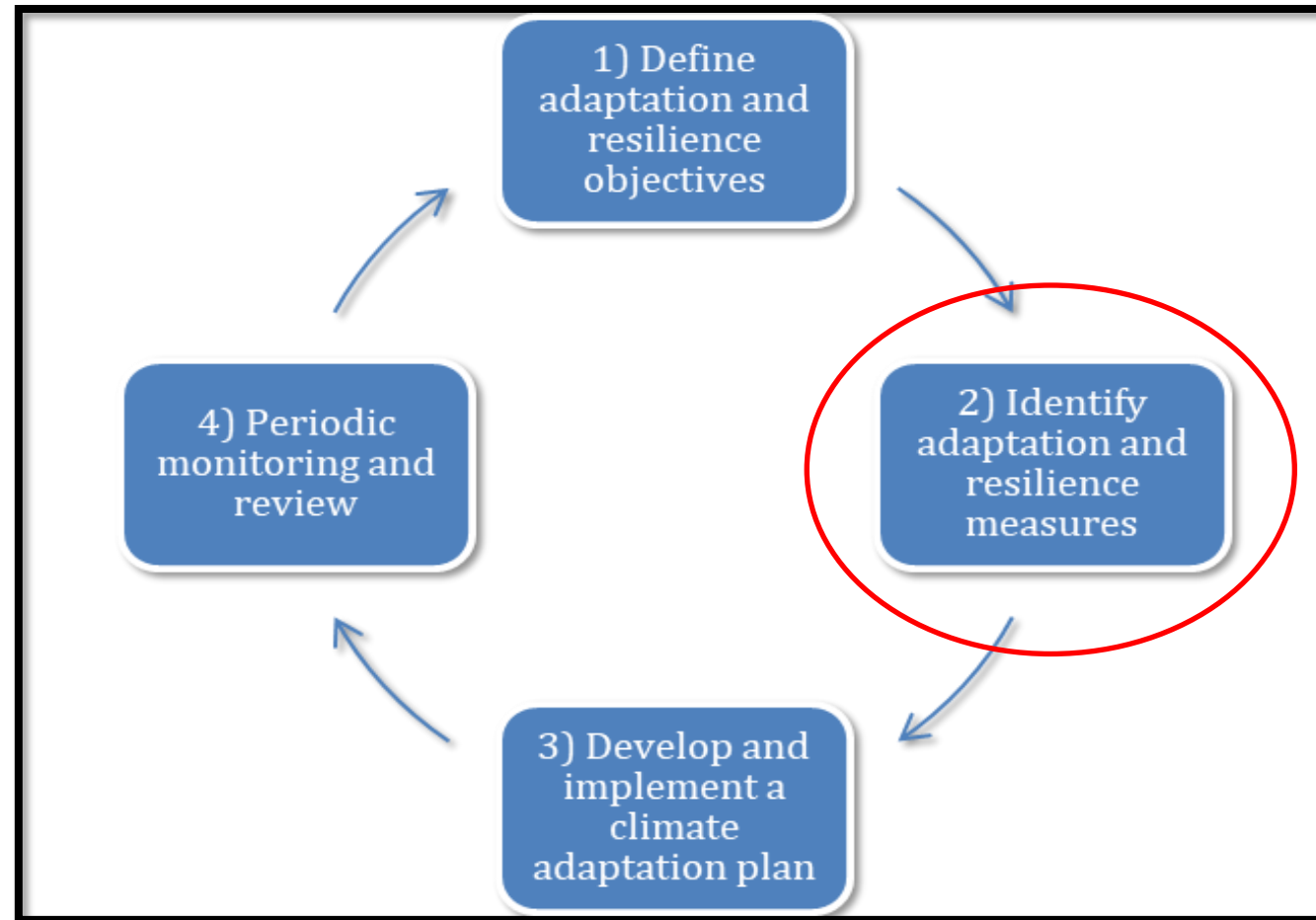


Étape clé 1 : Définir les objectifs d'adaptation et de résilience

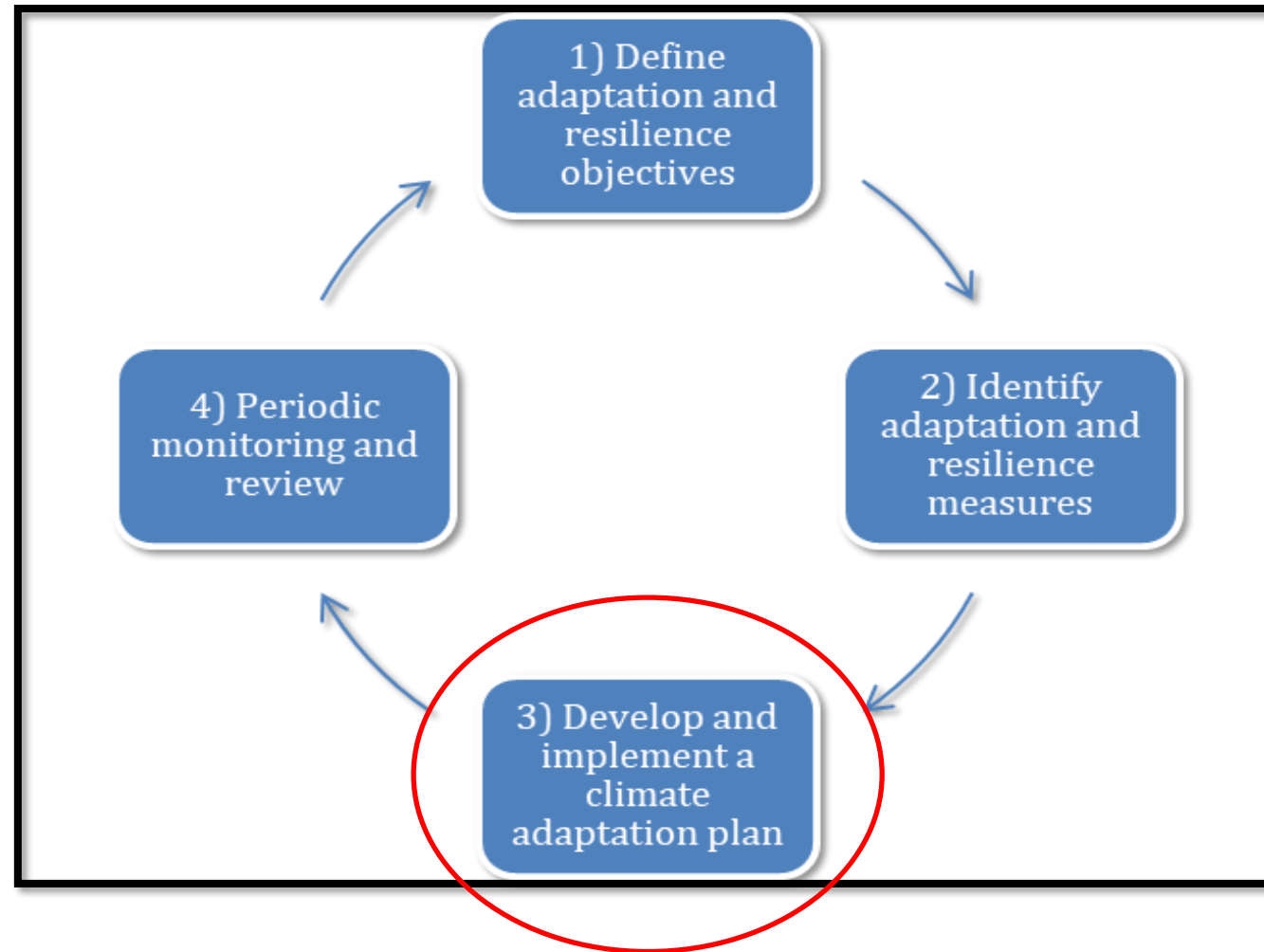




Étape clé 2 : Définir les mesures d'adaptation et de résilience pour traiter les vulnérabilités prioritaires

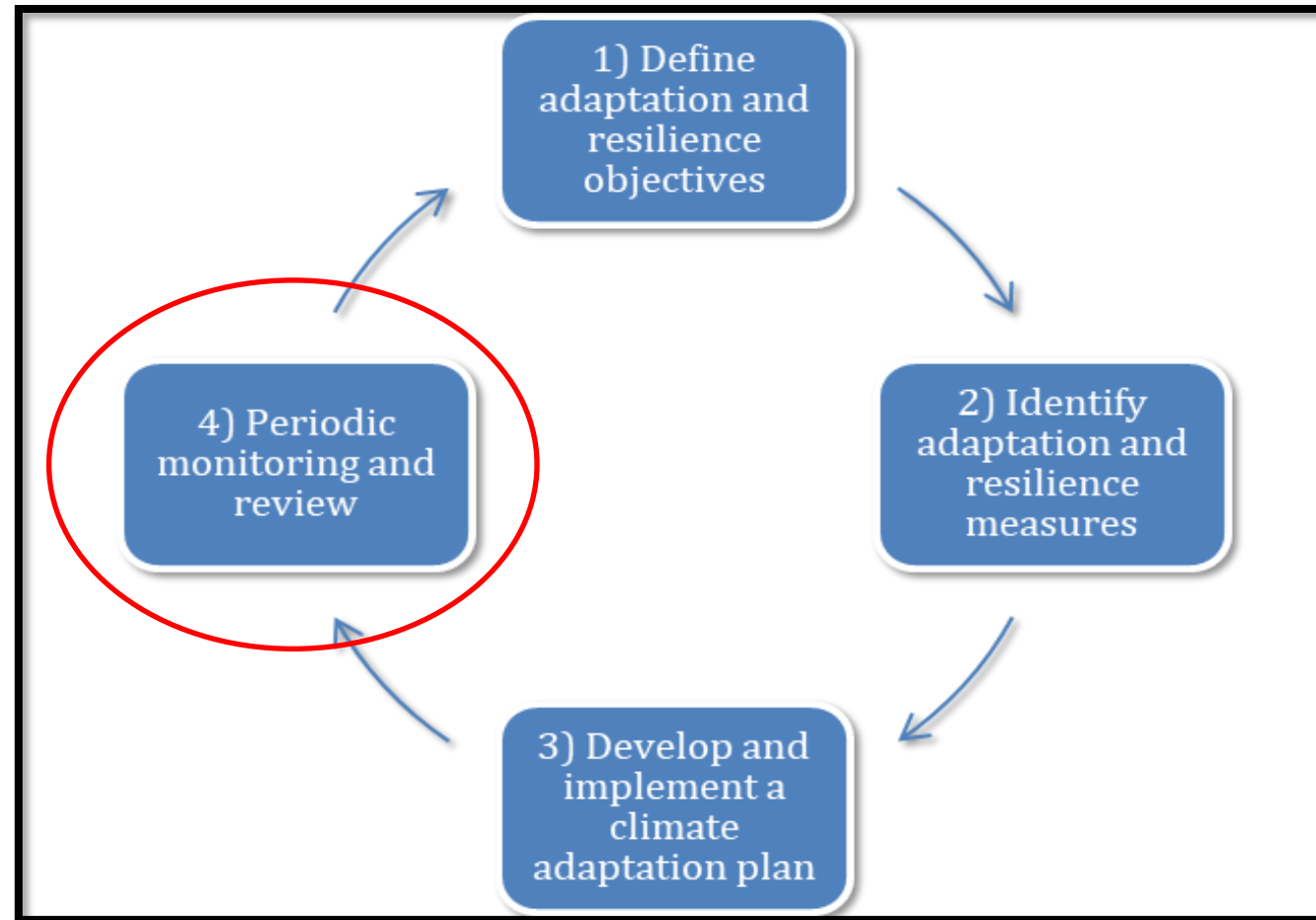


Étape clé 3 : Élaborer et mettre en œuvre un plan d'adaptation au climat





Étape clé 4 : Surveiller et réviser périodiquement





Key Climate Change Vulnerabilities for Aviation Organisations



This document provides an overview Key Climate Change Vulnerabilities for Aviation Organisations for the four climate change impacts categories which respondents to the [2018 ICAO Climate Adaptation Synthesis Report](#) stakeholder survey identified as the climate impacts categories they expect to be most affected by. These are: Higher Average and Extreme Temperatures, Changing Precipitation, Increased Intensity of Storms, and Sea Level Rise. For each organisation type (airports, air navigation service providers (ANSPs), aircraft operators), the document presents a breakdown of potential effects by impact category.



CAEP WG2 CLIMATE RISK ASSESSMENT, ADAPTATION AND RESILIENCE:
KEY CLIMATE CHANGE VULNERABILITIES FOR AVIATION ORGANISATIONS

Potential effects from four main climate impacts to aviation risk categories¹

Airports		
Climate Impact	Risk Category	Potential Effect
Higher Average and Extreme Temperatures	Operations	Runway length: <ul style="list-style-type: none">• Limits to operations due to reduced climb performance: higher temperatures reduce thrust and lift of aircraft during take-off, reducing take-off performance and requiring more fuel, or a reduction in overall weight.• Reduced ability of certain airports to take certain aircraft due to runway length limitations and reduced climb performance.



Menu of Adaptation Options



The document provides a menu of possible adaptation options which States and organisations can consider and select from to adapt to and build resilience against identified vulnerabilities. Small Island Developing States (SIDS) can face specific climate change vulnerabilities, especially due to storms and sea level rise, which makes adaptation measures particularly important. In the Menu adaptation options which may be critical for SIDS are indicated with a “**SIDS**” marker



CAEP WG2 CLIMATE RISK ASSESSMENT, ADAPTATION AND RESILIENCE:
MENU OF ADAPTATION OPTIONS

Adapting Airports

Higher Average and Extreme Temperatures

Operations

- Increase cooling capability in buildings
- Increase external air conditioning to match demand (e.g., air conditioning pumping cold air outdoors, or supply of pre-conditioned air to aircraft)
- Implement program to promote safety in the heat for ground staff – potentially extending to aircraft operator and ground handling staff
- Implement or update wildlife management plans to account for changes in wildlife impacts

Adelaide Airport in Australia is in a trial of irrigating the airport buffer, which may result in lowering airport surface temperatures and improving human thermal comfort.

Infrastructure

- Extend runway length
- Move obstacles at the end of the runway (to adjust for reduced take-off performance due to reduced thrust and lift)



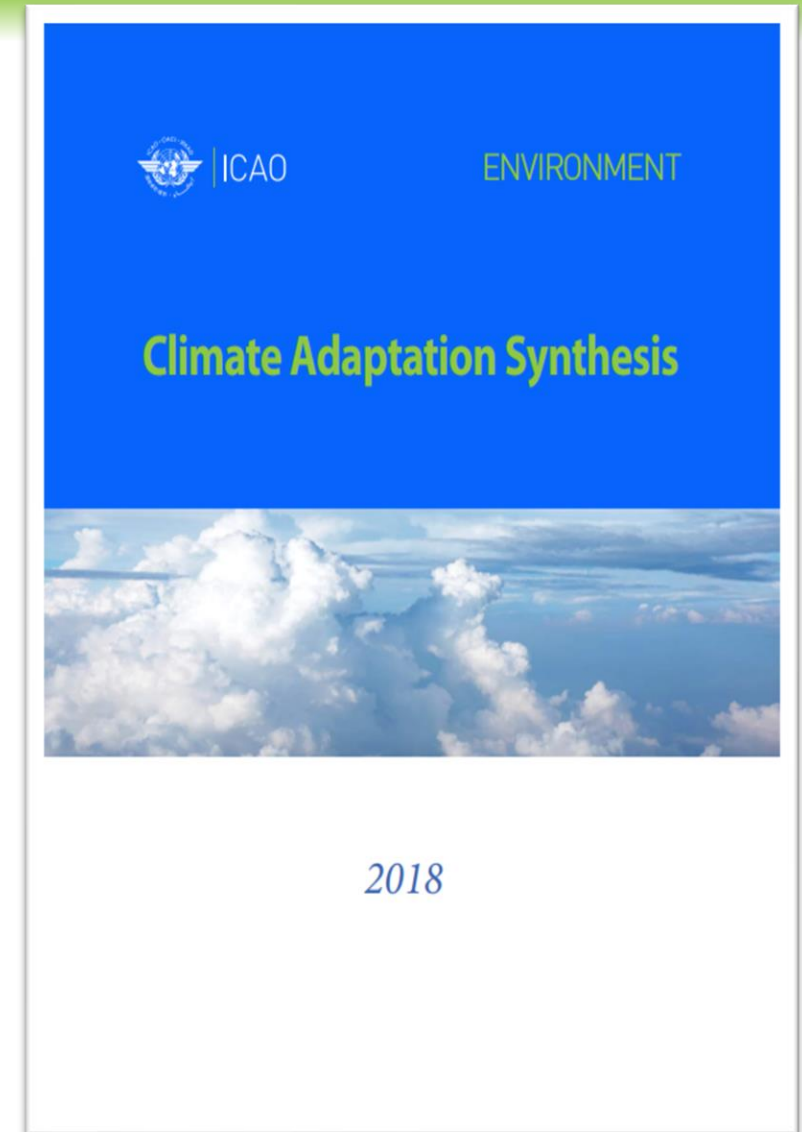
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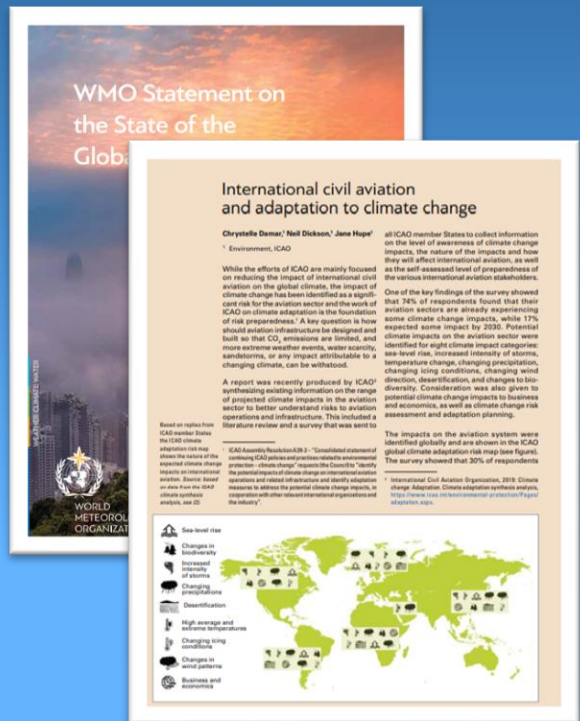
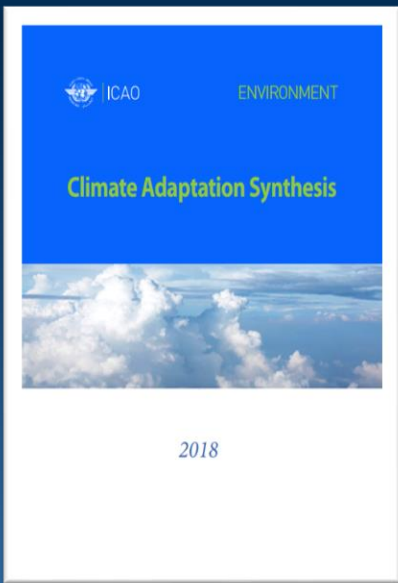
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Les prochaines étapes à l'OACI



- Examen du *Climate Adaptation Synthesis*
- Mise à jour du sondage auprès des parties intéressées





International civil aviation and adaptation to climate change

Christelle Demar¹, Neil Dickson², Jane Hope³
¹ Environment, ICAO

While the efforts of ICAO are mainly focused on reducing the impact of international civil aviation on the global climate, the impact of climate change has been identified as a significant risk for the aviation sector and the work of ICAO on climate adaptation is the foundation of risk preparedness. A key question is how should aviation infrastructure be designed and built so that CO₂ emissions are limited, and more extreme weather events, water scarcity, sandstorms, or any impact attributable to a changing climate, can be withstood.

A report was recently produced by ICAO synthesizing existing information on the range of projected climate impacts in the aviation sector to better understand risks to aviation operations and infrastructure. This included a literature review and a survey that was sent to all ICAO member States to collect information on the level of awareness of climate change impacts, the nature of the impacts and how they will affect international aviation, as well as the self-assessed level of preparedness of the various international aviation stakeholders.

One of the key findings of the survey showed that 78% of respondents found that their aviation sectors are already experiencing some climate change impacts, while 17% expected some impact by 2030. Potential climate impacts on the aviation sector were identified for eight climate impact categories: sea-level rise, increased intensity of storms, temperature change, changing precipitation, changing icing conditions, changing wind direction, desertification, and changes to biodiversity. Consideration was also given to potential climate change impacts to business and economics, as well as climate change risk assessment and adaptation planning.

The impacts on the aviation system were identified globally and are shown in the ICAO global climate adaptation risk map (see figure). The survey showed that 30% of respondents identified globally and are shown in the ICAO global climate adaptation risk map (see figure). The survey showed that 30% of respondents identified globally and are shown in the ICAO global climate adaptation risk map (see figure).

International Civil Aviation Organization, 2018. Climate Change Adaptation. Climate adaptation synthesis analysis, <https://www.icao.int/environmental-protection/Pages/adaptation.aspx>.

ICAO Assembly Resolution 20-2: "Considered statement of confidence (CO) status of aviation which is necessary to ensure the continued safety and security of international civil aviation. States should ensure that they have in place the necessary measures to address the potential climate change impacts, in cooperation with other relevant international organizations and the industry."

Based on replies from ICAO member States to the ICAO climate adaptation risk map survey, the results of the international climate change impacts on international aviation. Source: Based on Annex 19 to ICAO Annex 19, ICAO climate change synthesis analysis, see 20.

Sea level rise
 Changes in biodiversity
 Increased intensity of storms
 Changing precipitation
 Desertification
 High average and extreme temperatures
 Changing icing
 Changes in wind patterns
 Business and economics



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Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU



QUESTIONS ET RÉPONSES

Veillez poser vos questions au moyen de la boîte de questions et réponses.



Merci à tous ceux qui se sont joints à nous aujourd'hui!

Prochain webinaire :

Comprendre et utiliser les données climatiques les plus récentes pour renforcer la résilience dans le secteur des transports

Mardi 14 mars 2023, de 13 h à 14 h 30 (HE)

Inscription!

Laura Zimmermann

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