

Problem Statement No.: 672

Update to Report 147: Climate Change Adaptation Planning, Risk Assessments for Airports

Recommended Allocation: \$250,000

Tags: airport-planning, environment, operations, sustainability

Related Emerging Issues/Themes: None

Research Roadmaps: N/A

Staff Comments: ACRP undertook a systematic review of its suite of environmental products to identify those in need of updating, and Problem Statements 672, 674, 676, and 678 each address the update of a product identified by that effort. The four problem statements could be combined into one project, allowing a panel to consider how to achieve the most efficient manner for updating the products. If combined, an allocation of \$750,000 is recommended (versus a total of \$800,000 for four individual projects).

Average Airport Employee Review Rating: 3.57

ACRP Oversight Committee (AOC) Disposition: Problem statements 672, 674, 676, and 678 were combined into ACRP Project 02-97 and funded at \$650,000.

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Summary

Update to Report 147. The climate data in the ACROS tool is outdated and requires update. The original publication is based on data from prior to 2013; weather and climate data has been continually updated since the original publication was released (which affects the likelihood and severity of various risks in the assessment tool). Additionally, there are more recent examples of airport case studies and best practices. This research update idea was developed as part of project ACRP 11-02/39, Environmental Products Update and is one of the priorities identified by the research team and through industry outreach.

Background

The original report provides guidance for practitioners to understand the specific impacts climate change may have on their airports. The guidebook enables practitioners to develop adaptation actions and incorporate those actions into the airport's planning processes. An electronic assessment tool called Airport Climate Risk Operational Screening (ACROS) accompanies the guidebook as a CD-ROM. The tool computes an estimated level of risk for airport assets and operations. The tool ranks airport-specific risks to provide an enterprise-level estimate of relative risk posed to each asset/ operation.

This project has been very useful to airports but the climate data in the ACROS tool is outdated and requires update. The original publication is based on data from prior to 2013; weather and climate data has been continually updated since the original publication was released (which affects the likelihood and severity of various risks in the assessment tool). Additionally, there are more recent examples of airport case studies and best practices. Comparable tools and guidance have been developed for other industries that should be reviewed and referenced, including the Task Force on Climate-Related Financial Disclosures. Resiliency, climate change adaptation planning, and climate risk assessments are of significant interest to airports nationwide. Although climate change impacts vary by region, the topic is broadly applicable to airports regardless of size or geographic location. The tool is very useful as a high-level screening tool and to initiate the risk assessment process, but improved differentiation between airport operational and infrastructure vulnerabilities would improve usability and practicality for airport practitioners.

Objective

Provide airports with the latest information to conduct climate risk assessment planning by aligning the guidebook and tool with the latest climate risk data and best practices, including consideration of external drivers. The update should provide increased detail in tool outputs and improve differentiation between operational and infrastructure vulnerabilities, and direct versus indirect risks to clarify results. This update should also examine the feasibility of hosting the ACROS tool as a web-based tool given ACRP's expanding digital products rather than as a CD-ROM or Excel-based tool. The AOC should consider combining this update with the Report 160 recommended update.

Research Approach

N/A

Cost Estimate and Backup

Moderate updates to the guidance, particularly appendices D-F, and the data in the ACROS tool are needed. If the ACROS tool is redesigned for the web or if the project is combined with updates to Report 160, content updates will be more significant.

- Original project cost: \$491,000 (\$564,000 in today's dollars adjusting for inflation)
- Estimated cost range to update : \$200,000 - \$250,000 (more if the tool is web-based)

Related Research

- ACRP Report 199: Climate Resilience and Benefit–Cost Analysis: A Handbook for Airports (2019)
- Task Force on Climate-Related Financial Disclosures 2020 Guidance on Scenario Analysis for Non-Financial Companies and 2020 Guidance on Risk Management Integration and Disclosure
- Several Intergovernmental Panel on Climate Change (IPCC) reports and updated climate models

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HMMH

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Airport Employee Comments

Bond rating agencies have begun to look more heavily at the potential risks of climate change on airports. May be worth getting ahead of future concerns with this update.
Concerned on cost needed. Interested to know if there is a way to update the information in a more efficient/cost effective way that will help for future updates as well.
Even though climate change is the global issue, the airport contribution to climate change is limited. And, this is same till today. So, the previous report would be good enough for airports to make their plans.
Good topic just concerned on cost. Is there a way to update/improve the report that allows for more efficient/cost effective ways to update in the future?
Updating the ACROS tool and finding more ways for airports to adapt to climate change are always good ideas. The object is clear but the research approach needs more work.

TRB Committee Comments

Reviewing Committee(s)	Committee Comments
AV030	ENVIRONMENTAL ISSUES IN AVIATION: Recommended (with Comments): Commenters agreed that problem statement 672 and 676 are both critical in terms of importance and to give Airports up to date tools to use in the face of climate change. Resilience will be needed for all our airports, and the tools in the previous ACRP reports (AWARE and ACROS) are out of date. Commenters tended toward a combination and revision of these problem statements to create one comprehensive easy to use guide and tool(s). Special attention should be paid to the modeling that could or should be integrated to prevent having tools that are always out of date, but rather giving a guide for how to use changing models within the context of resilience planning. Is there an option of merging 672 and 676 into one problem statement with a higher budget and build upon the functionality and data sources existing in the AWARE and ACROS tools?

IdeaHub Votes and Comments

Idea Number: **672**

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The votes and comments below were provided by the **IdeaHub** community prior to the idea's submission as a problem statement.

Idea Link: <http://ideascale.com/t/UKsrZBoAx>

Tags: airport-planning, environment, operations, sustainability

Votes:

Votes	
Up	8
Down	0
Total	8

Comments:

N/A