

The banner features a green and blue background with stylized hills, a sun, and an airplane flying over a globe. The text is in white and blue.

ICAO Symposium on Non-CO₂ Aviation Emissions

16 — 18 September 2024
Montréal, Canada

Alejandro Block Novelo

Manager, New Technologies

International Air Transport Association - IATA



Speaker

Day 2 - Setting the Scene *by the Industry*

Contrails:

How can airlines help tackle uncertainties and enable mitigation solutions?

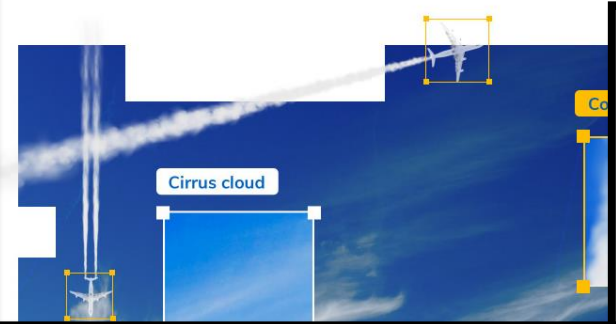


Boeing 737-10 EcoDemonstrator Tackles SAF Contrail Study

Guy Norris October 12, 2023



AI Is Helping Mitigate Aviation's Climate Impact



Etihad Airways performs 42 EcoFlights including 22 contrail flights over five days

06 May 2022, 01:00 PM

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OCTOBER 10, 2022

Delta to work with MIT to study impact of airplane contrails on climate

by Kelly Yamanouchi

Reducing the impact of non-CO₂ climate impact: EUROCONTROL MUAC and DLR partnering on contrail prevention

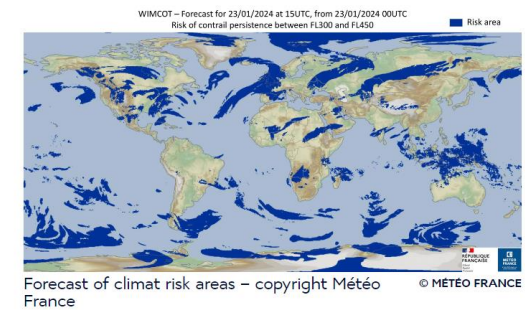
18 May 2021

THIS COVERS AVIATION SUSTAINABILITY

Collaboration with Météo France: A more reliable prediction of persistent contrail-prone areas

Current weather forecasts do not allow for anticipating with sufficient precision the areas where persistent contrails will form along a flight path. Since 2021, Air France has been working with Météo France to improve the prediction of these risk areas.

Within this framework, Air France has launched COOP, a Contrail Observation Program to





Accurate temperature & humidity data:
Key to predict ISSR

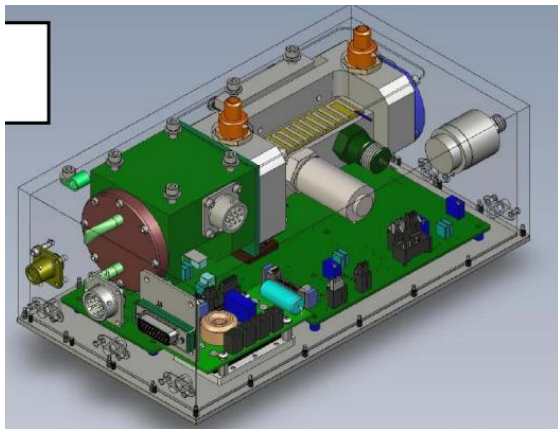
Today: Very scattered and insufficient data

Could we use commercial aircraft to
improve this?

Do aircraft measure humidity?

Let's look for sensors!

Who helped us?



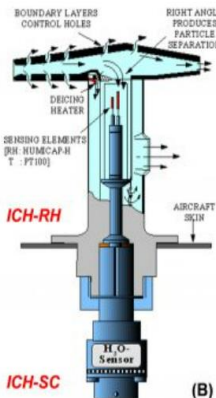
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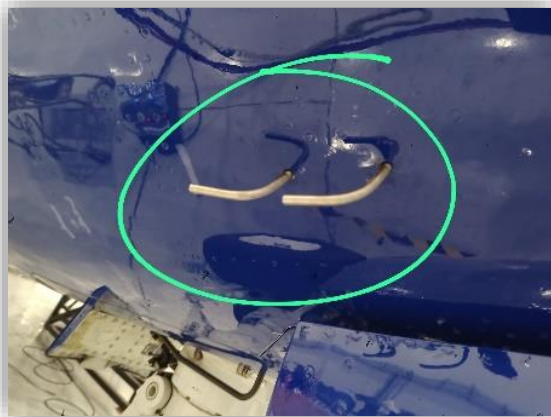
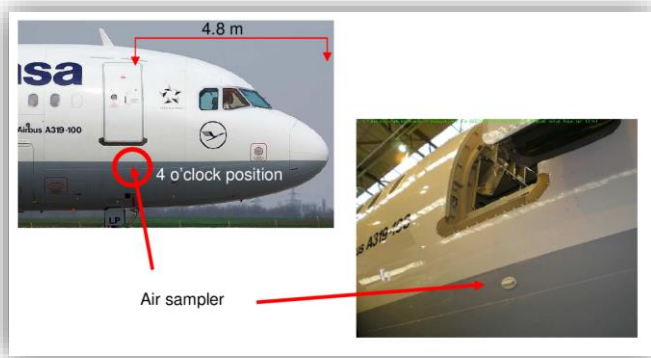


How can they be installed?

How much would it cost?

Performance penalties? ...

Who helped us? 6



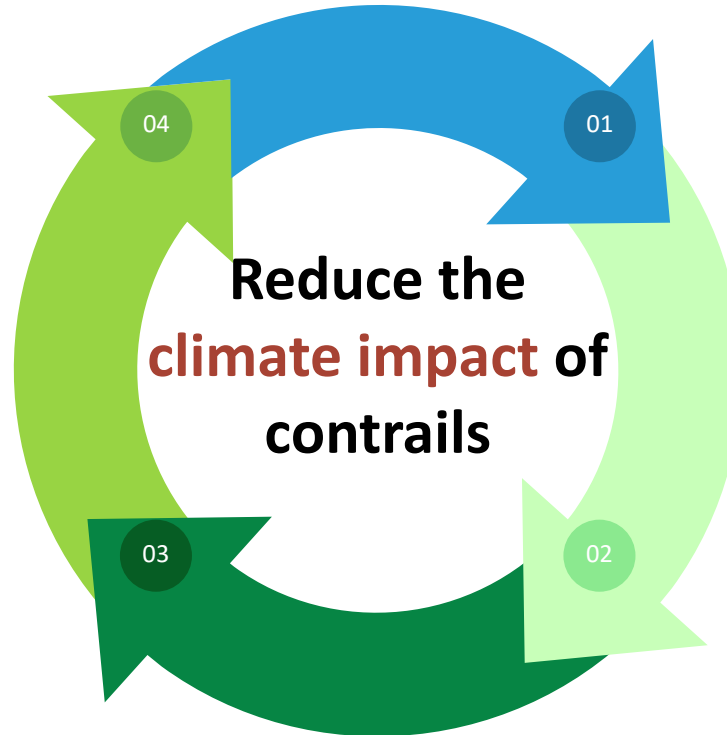
AIRBORNE LABORATORY



Could accurate temperature and humidity data be used for something else?

What does the **atmosphere** around it look like

Where contrails form



What **climate impact** they might have

If they **persist**

Who helped us?

Airlines providing met data? Nothing new! 😊



Figure 11 IAGOS data coverage map from: [21]

→ High-altitude data from ~10 aircraft

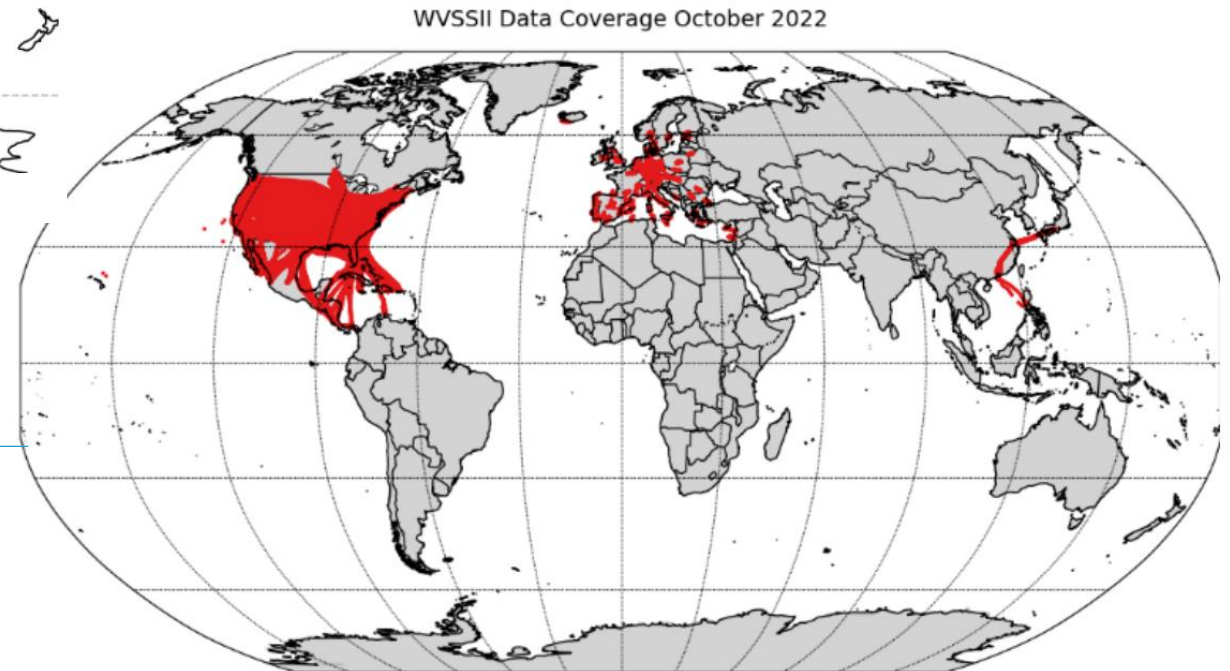


Figure 12 WVSS II Data coverage map, WMO [21]

Low altitude data from ~130 aircraft ←

Aviation contrails and their climate effect

Tackling uncertainties and enabling solutions

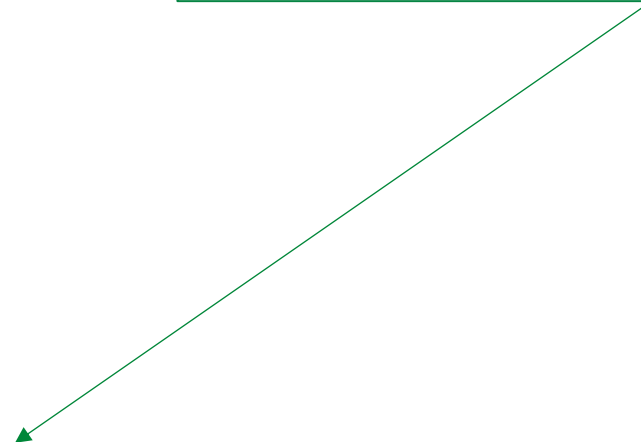
30 April 2024

The aviation community, formed by industry, governments, universities, and research institutions are actively researching ways to minimize the warming impacts of contrails. This report addresses the urgent need to further understand and mitigate the formation of persistent warming contrails.

This report was developed with the following organizations and companies:



To our collaborators: THANK YOU!
By the way... they are here too!



Thank You

