

Boeing is supporting the commercial aviation industry's net zero by 2050 goal through strategies to reduce CO2 emissions through fleet renewal, operational efficiency, renewable energy transition and advanced technologies.

Boeing is also focused on fully understanding and mitigating negative impacts of climate change from non-CO2 aircraft engine combustion emissions and effects, including contrails and aviation induced cloudiness, which are produced by aircraft and can contribute to both warming and cooling effects.

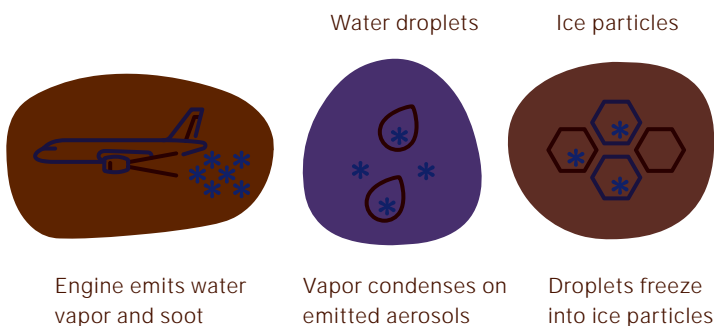
What are Contrails?

Contrails are a type of cloud that forms in the wake of an aircraft at high cruise altitudes under specific temperature and humidity conditions when water vapor condenses onto emitted aerosols and then freezes to form ice particles.

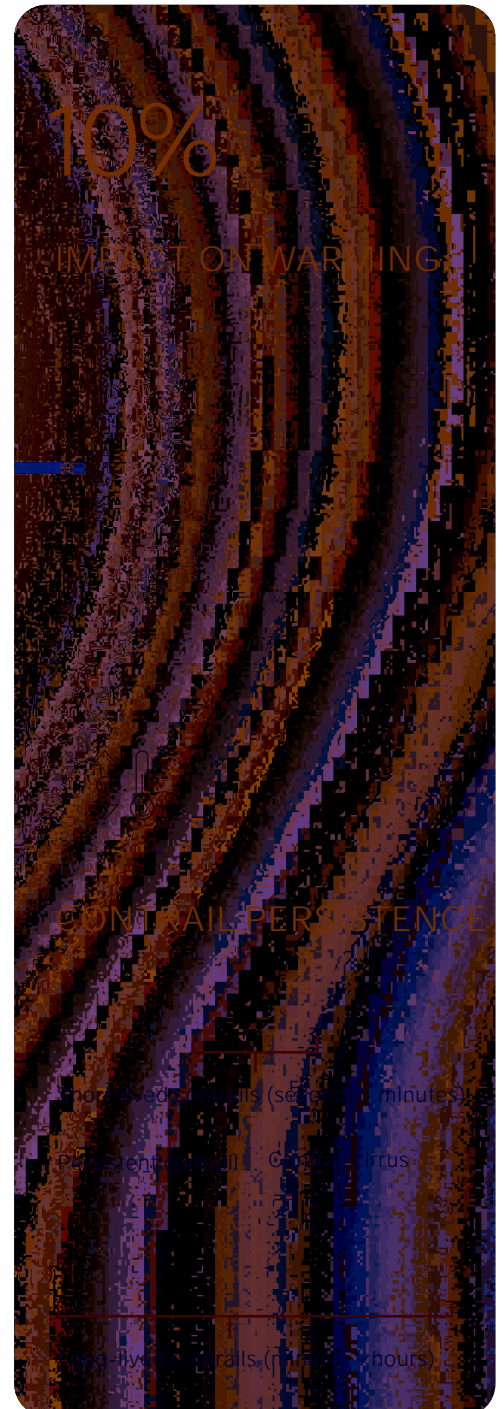
Some contrails dissipate quickly and have a negligible climate impact, but those that persist may contribute to either a warming or cooling climate impact, depending on ambient conditions and the timing of formation.

Scientists have estimated that the warming effect from contrails are greater than the cooling effect. Unlike CO₂ that can stay in the atmosphere for centuries, contrails are much shorter lived so their warming impacts occur on much shorter timescales. However, there remains high uncertainty on contrail impacts and more research is needed.

Boeing is a leader in leading research and technology development critical to understanding the impact of contrails and avoiding their contribution to climate change.



Under specific temperature and humidity conditions





ENVO

Fact Sheet
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