

American Airlines is using AI to reduce global warming from airline contrails.

American Airlines — Challenge

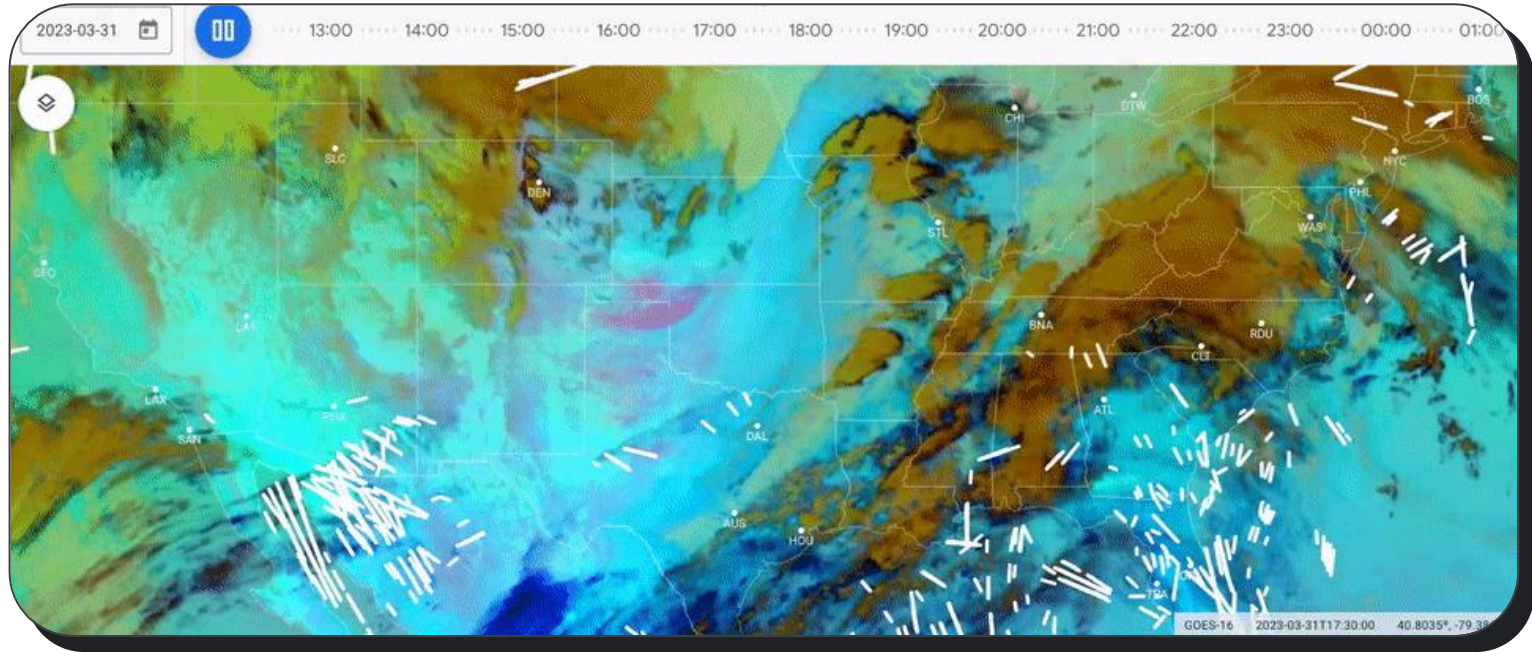
55.9%
CO2 emissions



35.3%
contrails

8.8%
NOx

American Airlines — Challenge



American Airlines flew **70 demonstration flights** which used **Google's AI predictions** to avoid creating contrails.

54%

reduction in
contrails across the
American Airlines
demonstration flights.

\$5-25

per ton/CO2 equivalent
to avoid contrails at
scale, suggested
from live flights.

+0.3%

fuel usage predicted
across an airline fleet
that avoids contrails.

Google is **partnering
with Eurocontrol**
to provide aircraft flying
through **European airspace**
with information about how
to avoid contrails.



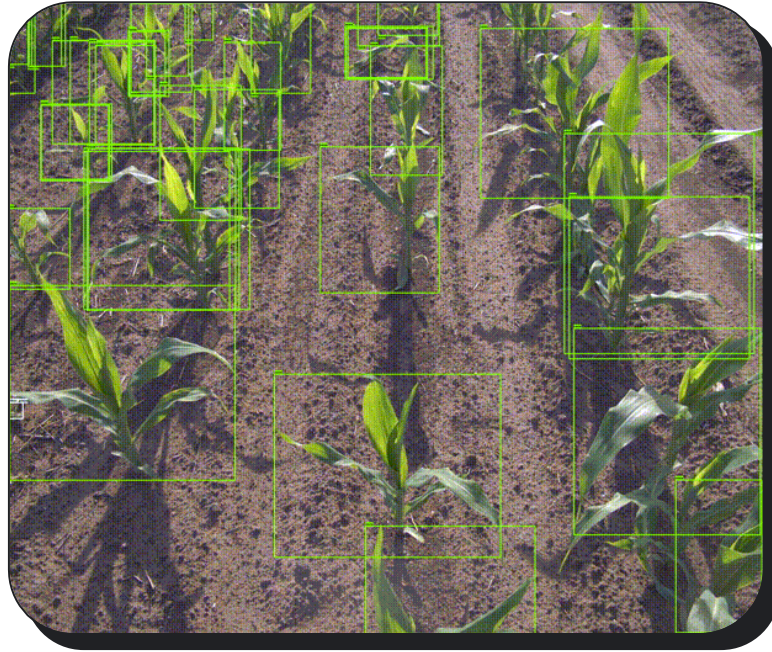




Mineral is unlocking sustainable ways to feed the world's population with AI.

In order to feed the world's **growing population**, the global agricultural sector will need to produce **more food in the next 50 years** than it has in the previous 10,000.





Mineral is using AI to gain a deeper understanding of plant and crop physiology, then using these insights to build a more **sustainable food production** system.

800M

plant images
gathered and organised.

120+

plant characteristics
modelled.

10%

of global farmland
analysed by Mineral.





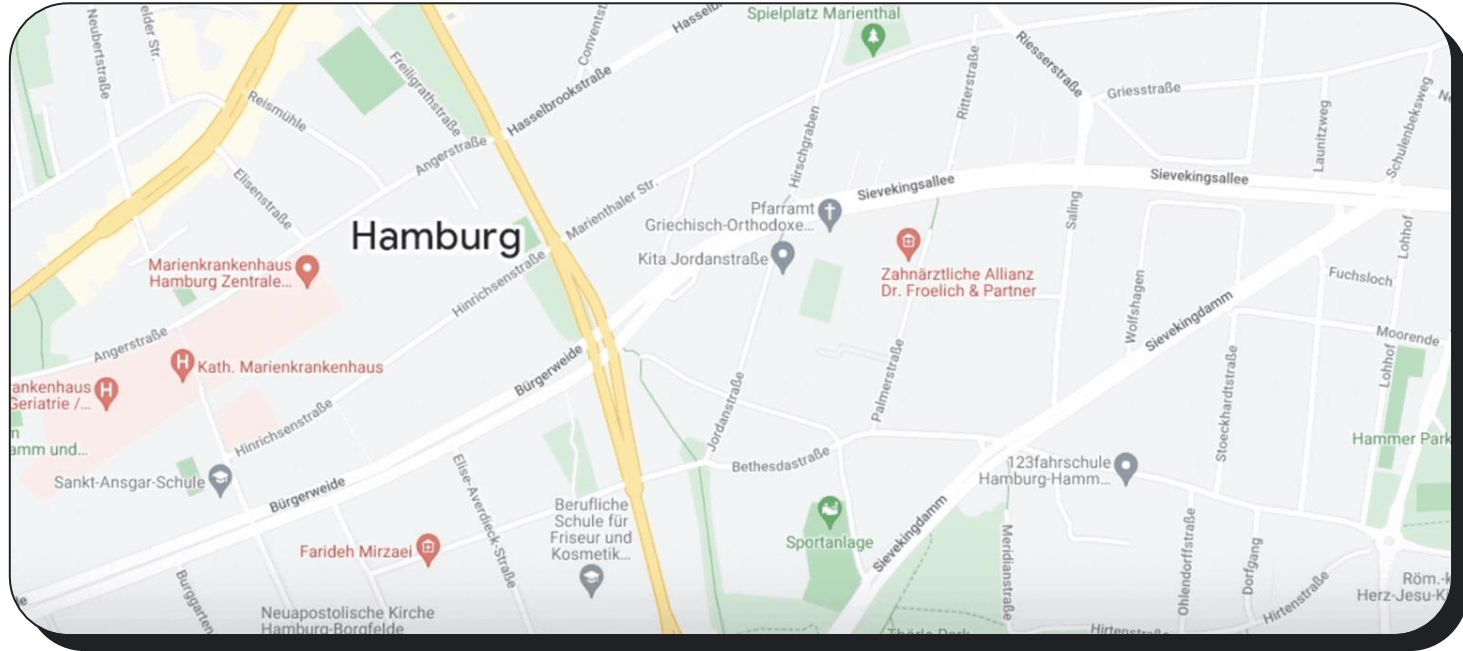
Project Green Light is using AI to reduce stop-and-go traffic and cut emissions in cities.

Many cities rely on **expensive sensors** or time-consuming **manual vehicle counts** to get the data traffic engineers need to optimise traffic lights.

29X

**higher emissions
at city intersections
than on open roads.**

Project Green Light — Solution



Green Light, a Google Research initiative, uses AI and Google Maps driving trends to **model traffic patterns**, helping reduce stop-and-go traffic and **improve traffic flow** in cities.

70

intersections in
14 cities globally trialling
Project Green Light.

Up to

10%

reduction in emissions
and 30% reduction in
stops at intersections*.

Up to

30M

car rides monthly
saving fuel and lowering
emissions at intersections.





Flood Hub uses AI to predict flooding and help keep people safe.

250M

people globally
are affected by
flooding each year.

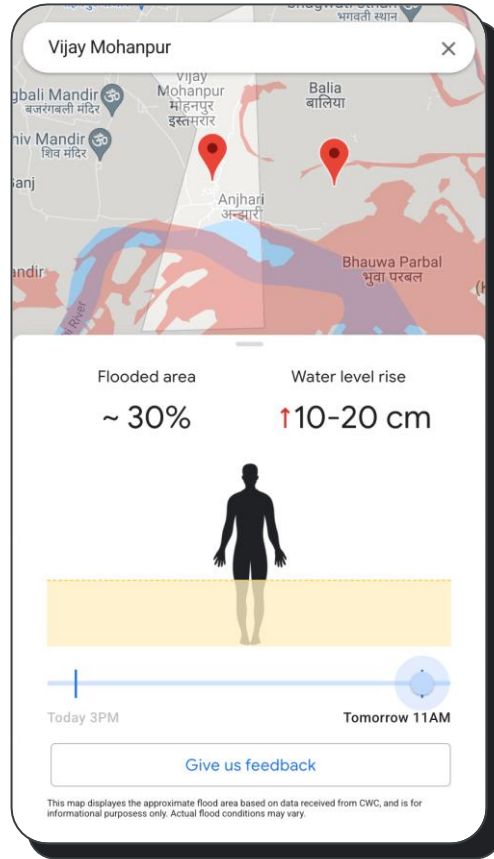
\$10B

economic damage
caused annually
by flooding.

4 in 10

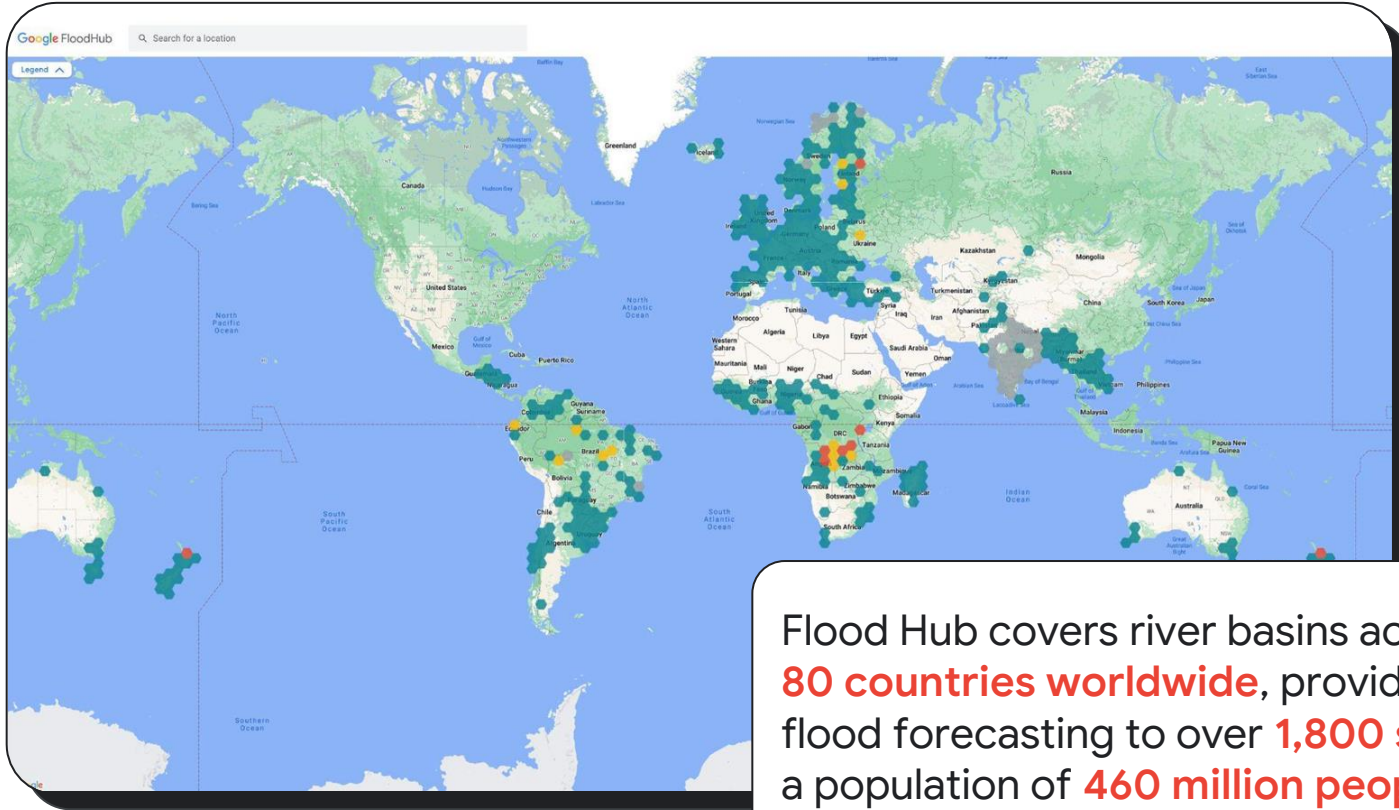
people exposed
to flooding are living
in poverty globally.

Flood Hub — Solution



Flood Hub uses two combined AI models to provide **exceptional forecasting accuracy**.

Flood Hub — Impact



Flood Hub's technology is scalable. Our goal is to **cover all areas affected by floods globally.**

