



# Land Use / Land Cover classification with the Planetary Computer

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Microsoft AI For Earth

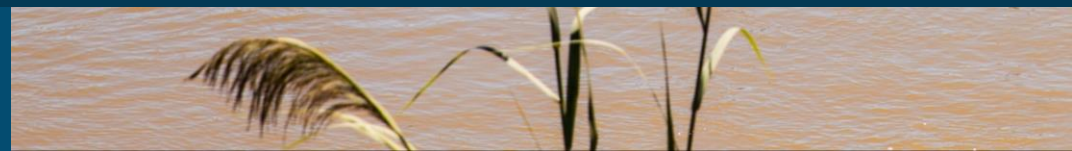


April 2020:

# Announced goals to protect our ecosystems

Building, deploying, and accelerating a **Planetary Computer** through our **AI for Earth** program that uses big data and technology to monitor, model, and manage the natural world.

We're taking responsibility for our ecosystem impact by **committing to protect more land than we use by 2025**.



# Planetary Computer Components



Geospatial **data** (~12PB by end of 2021)

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Data querying and processing **APIs**  
(Metadata based on STAC)

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**Compute environment** for scientific workflows

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(Partner) **applications** that put all of the above to work for sustainability

A photograph of a wind farm with several white wind turbines standing in a green field. The sky is filled with dark, dramatic clouds, and the overall lighting is somewhat dim, suggesting dusk or dawn. The turbines are arranged in a line, with some in the foreground and others further back, creating a sense of depth.

# Demo

# Wrapup

- Used the Planetary Computer's Data, APIs, and Compute
- STAC to find and query data
- xarray to preprocess
- PyTorch model for classification
- Dask + GPUs for scaling everything



[aka.ms/gtc-landcover](https://aka.ms/gtc-landcover)

[planetarycomputer.microsoft.com](https://planetarycomputer.microsoft.com)