



Data Seeder: Spatial Science for the Field

**Data Seeder presents: NASA
Farm Navigators**

Using NASA Data Exploration for Sustainable Precision Agriculture

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The Problem: The Knowledge Gap



Agriculture vs. Climate Crisis

The agricultural sector faces growing challenges: water scarcity, degraded soils, and the unpredictable impacts of climate change, demanding more sustainable and efficient practices.



Inaccessible Data

NASA and other agencies generate vast satellite datasets that are crucial (humidity, vegetation), but their complexity and GIS format limit their use by the average farmer.



Need for Translation

An intuitive tool that translates spatial science into practical, actionable agronomic decisions on the ground is urgently needed.

Our Solution: An Educational Simulation Video Game

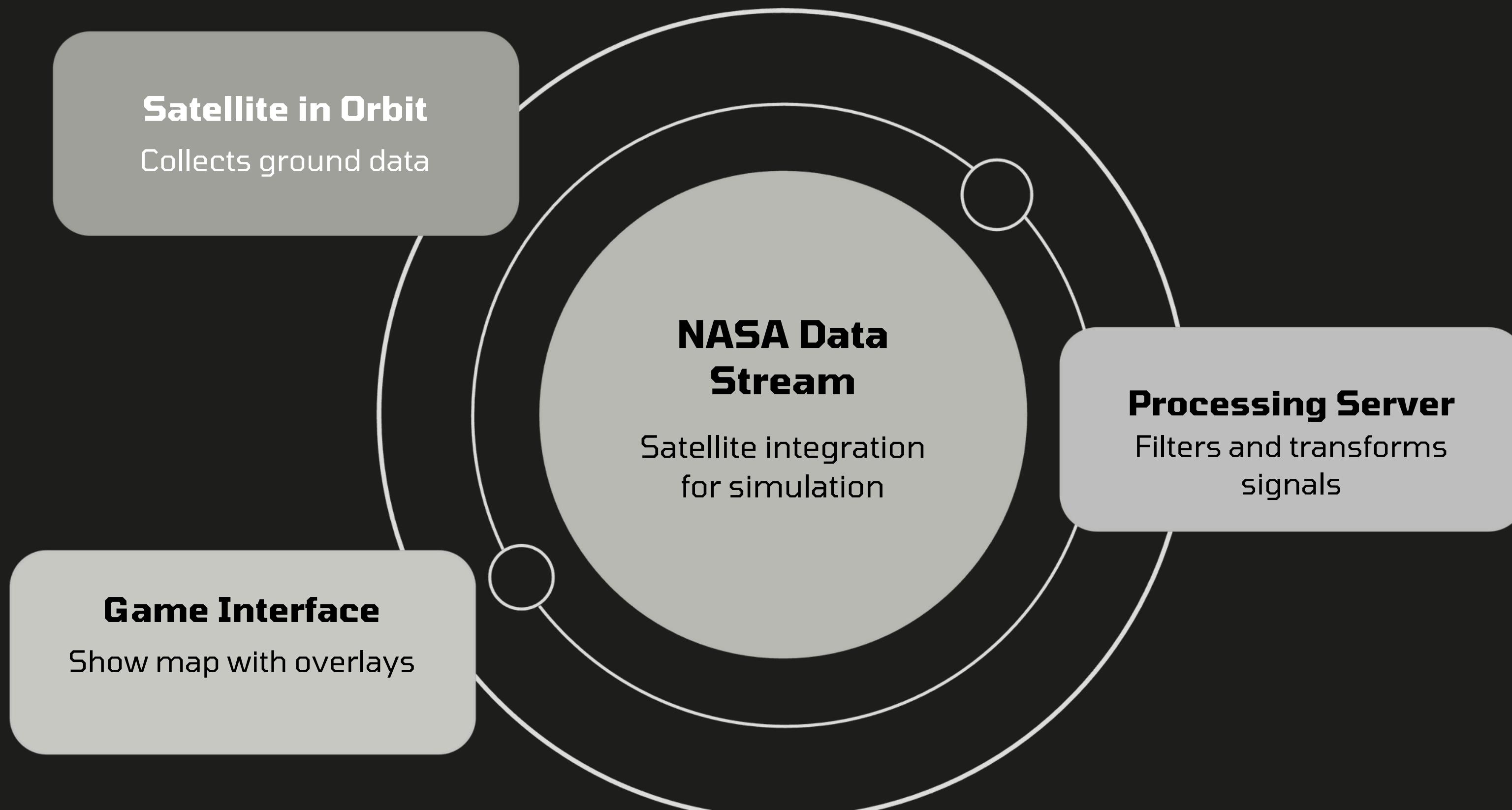
NASA Farm Navigators: Learning Through Simulation

Our simulator transforms complex NASA datasets into an intuitive and engaging gaming experience. Players manage their virtual farm, facing real-world climate challenges.

- Land management model with dynamic variables.
- Central objective: Promote Data-Driven Decision Making (DDBM).
- Rewards water efficiency and soil sustainability.



NASA Technology: The Backbone of Simulation



The Gameplay: The Data-Driven Decision Cycle

The core of the game is designed to teach the methodology of precision agriculture through a continuous learning loop.

1. Data Analysis

The player accesses a thematic map (e.g., an NDVI map) that shows variations within the virtual field.



2. Strategic Decision

Based on the map, the player chooses actions, such as adjusting irrigation or fertilizer doses to specific zones.

4. Outcome and Evaluation

The player observes the impact of their decision on crop growth, soil health, and costs (input savings).

3. Virtual Implementation

The game simulates the application of the decision on the ground using virtual machinery.

The UX/UI interface is optimized to prevent data overload, presenting satellite information in a visually clear and actionable way.

Transformative Impact and Educational Value



Deep Knowledge Transfer

The game not only dictates the action ("apply X fertilizer"), but also explains the scientific why behind it, based on variations in the reflectance index (NDVI).



Direct Beneficiaries

Designed to be a low-cost training tool for small farmers and an educational resource for agronomy students.



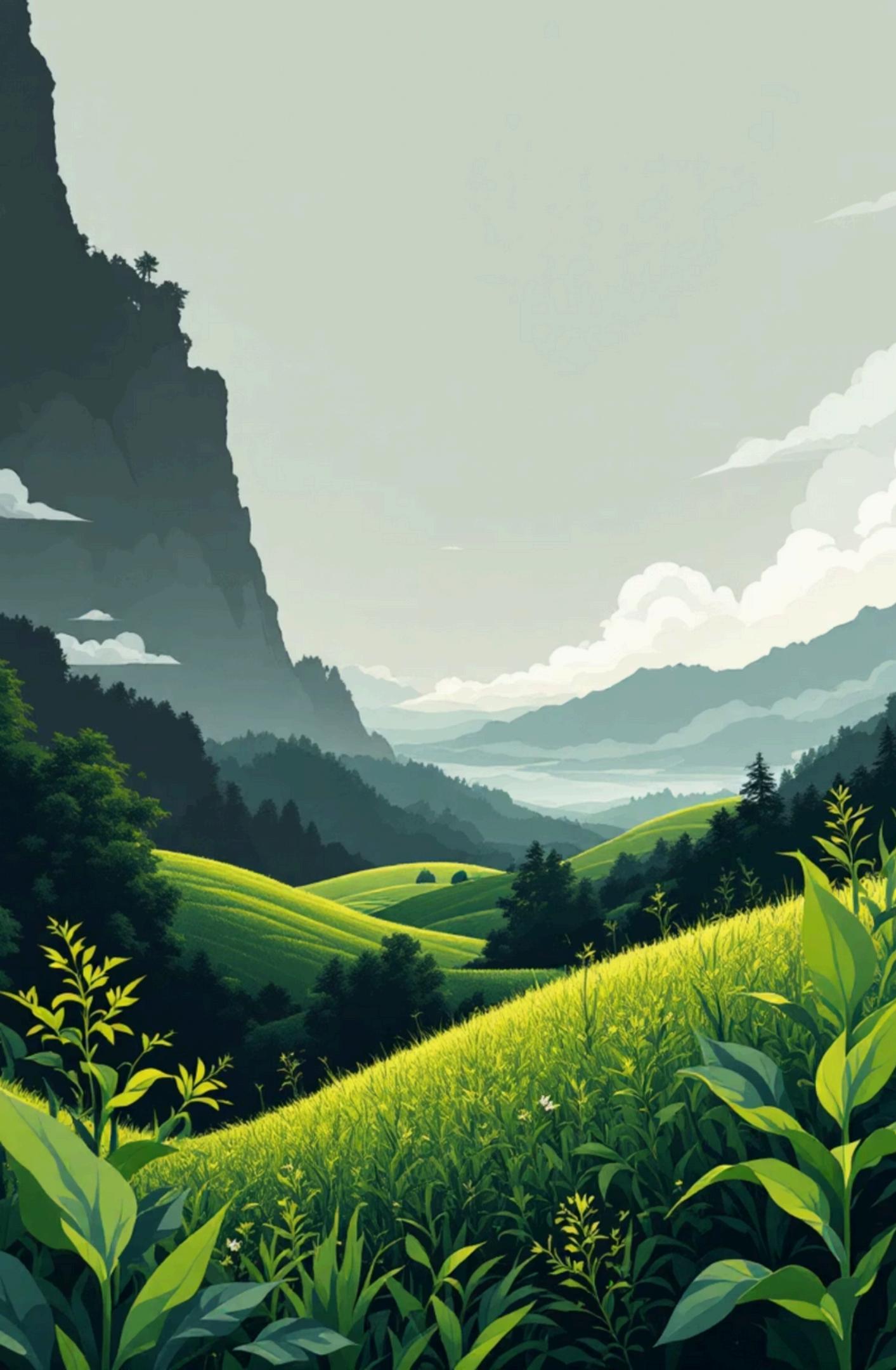
Increase in Sustainability

The direct result is increased awareness and the effective implementation of practices that reduce input use and preserve natural resources.



- Simulation-based learning has been shown to be 40% more effective in retaining complex skills than traditional theoretical methods.





Bringing Science to the Field

NASA Farm Navigators is the most engaging and accurate way to bring NASA space science to bear on a sustainable and resilient food future.

Thank you for your time!

We're ready to grow the future of agriculture.

Watch the game demo