

Crop diversification is intended to give a wider choice in the production of a variety of crops in a given area so as to expand production related activities on various crops and lessn risk.

- United Nations' Food and Agriculture Organization

Rice, Corn, Coconut, Sugarcane, and Banana are the country's top produce

Crop	Area ('000 ha)	Volume ('000 mt)	Value (million US\$)
Rice	3,651.5	10,538.1	2,321.7
Corn	3,005.8	4,519.3	841.7
Coconut	3,066.7	11,254.3	856.3
Sugarcane	395.7	23,615.7	652.6
Banana	330.0	3,202.1	466.7
Pineapple	68.9	1,324.7	224.6
Coffee	141.1	125.2	193.8
Mango	58.0	349.5	233.4
Tobacco	48.2	41.5	36.3
Abaca	107.1	55.5	61.8
Rubber	85.6	176.7	56.0
Cacao	17.0	7.9	11.4
Cassava	211.3	1,843.4	114.4
Sweet potato	145.5	685.9	89.6
Peanut	47.9	36.3	17.9
Mung bean	34.1	24.1	17.7
Onion	7.7	74.1	42.3
Garlic	5.6	16.1	34.2
Tomato	17.3	153.7	41.7
Eggplant	19.3	123.6	36.4
Cabbage	7.8	86.5	18.7
Citrus	29.2	145.1	62.0
Other fibercrops	34.0	56.5	19.3
Other rootcrops	109.0	132.0	23.5
Tubers	133.0	213.0	22.7
Spices	37.0	28.0	63.8
Fruit bearing vegetables	315.0	3,005.3	344.5
Leafy/stem vegetables	174.0	1,148.4	137.8
Other legumes	360.0	35.9	13.2
Other fruits	339.0	3,920.8	558.5
Others	85.0	522.3	163.9
Total	13,087.3	67,461.5	7,775.5



**Goal: Crop Diversification through
Precision Agriculture and Data Science
(PADS)**

REMOTE SENSING

COLLECTING SATELLITE DATA
AT POINTS OF INTEREST

Source: NASA Earth Data <https://earthdata.nasa.gov/>



Normalized
Difference
Vegetation Index



Normalized
Difference
Built-up Index



Surface
Temperature



Relative
Humidity



Normalized
Difference
Water Index



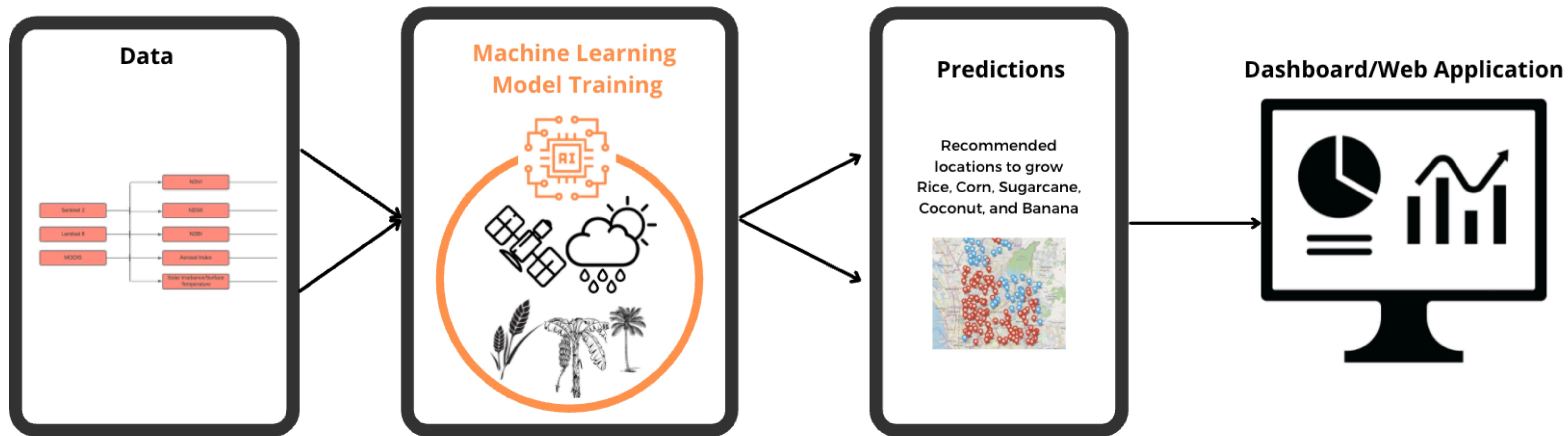
Aerosol Index for
Air Quality



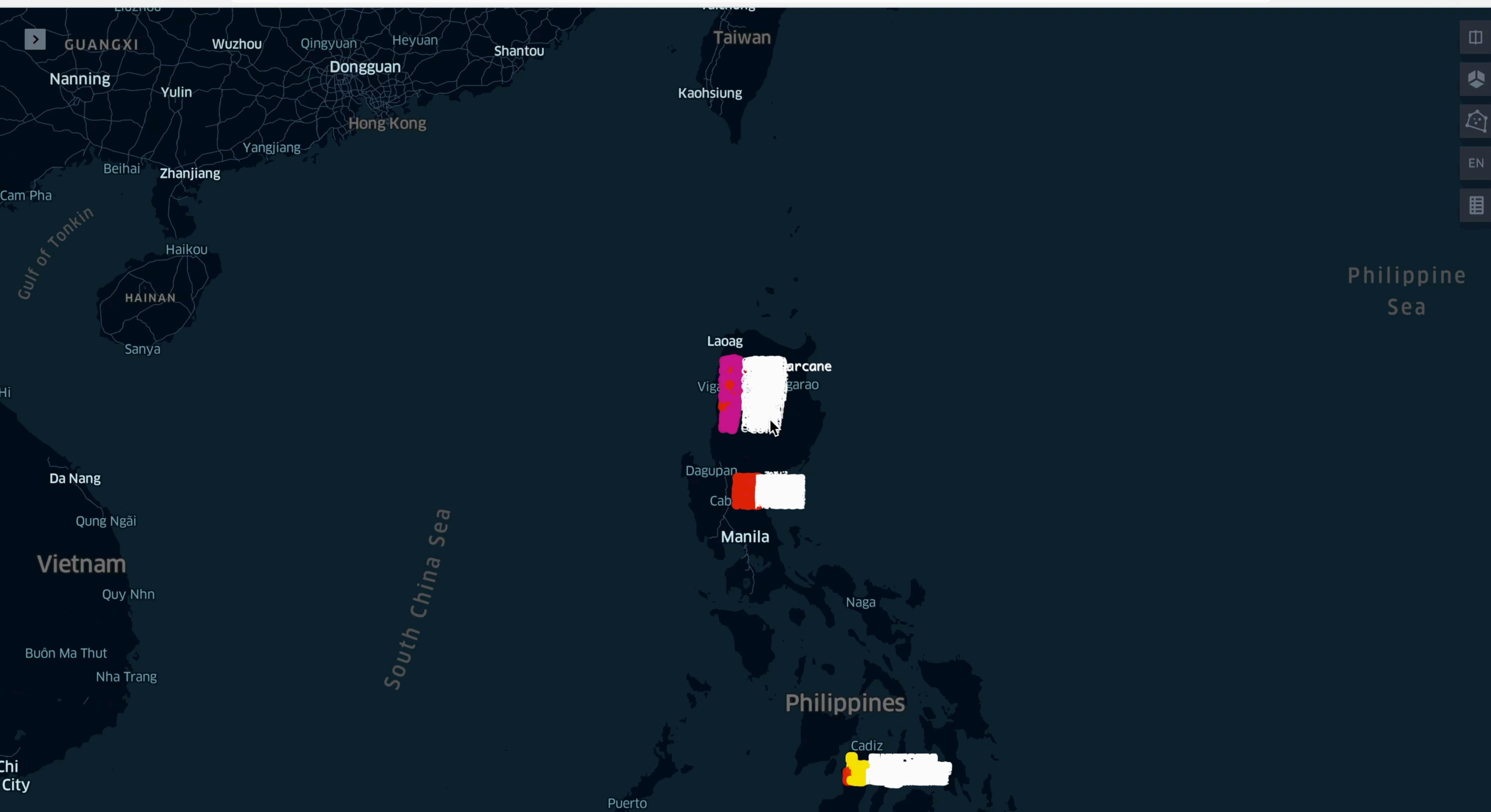
Rate of
Precipitation

ML Model

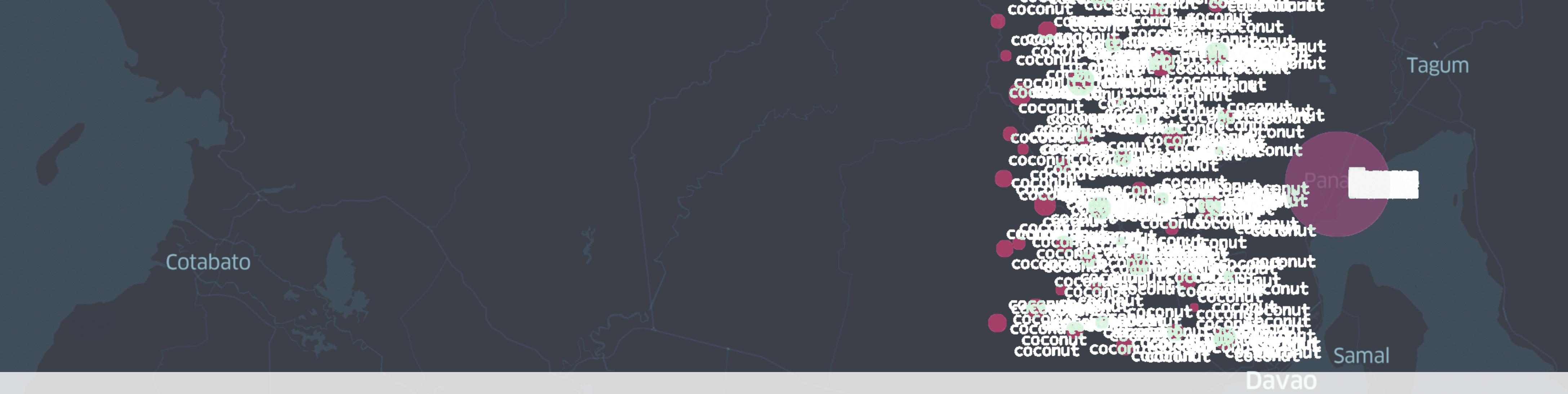
The satellite and weather per geolocation are feature-engineered and fed through to a machine learning model



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Online, Interactive Publicly Accessible Web Application for Precision Agriculture and Crop Diversification





Precision agriculture leads to crop diversity which leads to **food security**

