VanderSat

www.vandersat.com

Satellite Observed
Water data.

Globally.
Daily.

NpM
platform for inclusive finance

Satellite-based soil moisture records
for increased access to financial
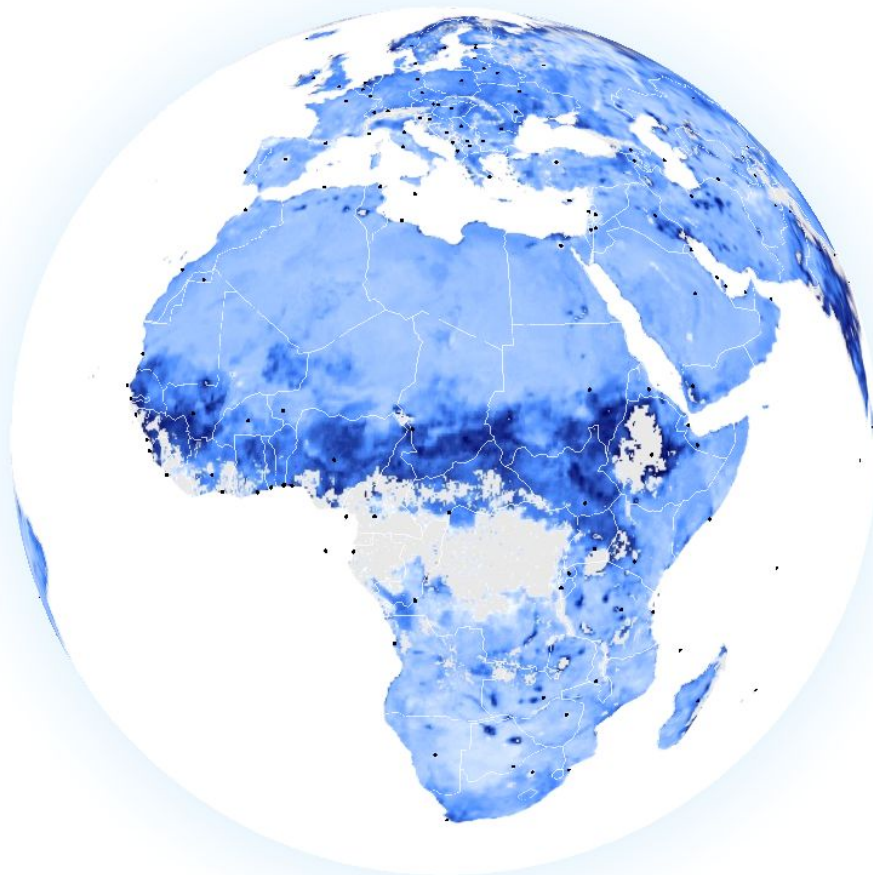services

Sep 17, 2020

"Soil moisture in an important variable in understanding agricultural risks"
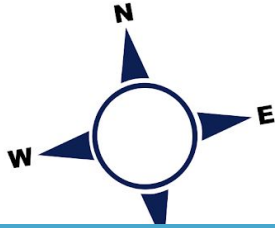
VanderSat

Soil Moisture

Daily Observations //
Global coverage // 100x100m
resolution // 18-year archive //
No cloud and darkness
interference //
backup signal //
Near Real Time via API //

○ VanderSat Soil Moisture
○ VanderSat VOD
○ VanderSat Temperature

Low   High

We provide actionable high resolution soil moisture data

VanderSat Soil Moisture® image
100m * 100m

We have patented our high-resolution downscaling method

Extensive validation studies performed

Regular satellite image 25km * 25 km

Source: VanderSat Soil Moisture 100m x 100m ®

Source: https://www.esa-soilmoisture-cci.org

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VanderSat services

VanderSat provides five operational satellite services

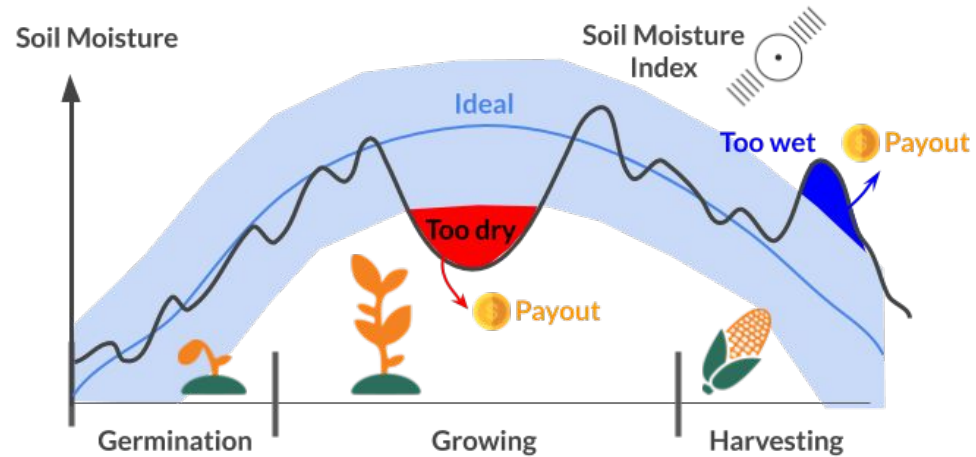| Our Services	Customer segments
Precision farming advice Irrigation module / Pesticide application	Farmers, input-suppliers, Food industry, Digital farming platforms
Crop yield prediction improvement	Agri-commodity industry
Index insurance independent calculation agent Drought index / Moisture excess index	(Re-)insurance firms, brokers, banks
Credit risk score improvement for loans	Credit score providers, banks
Water & Fire management	NGO's, water management, governments

VanderSat is the *independent calculation agent* delivering unique satellite Index Insurance services to (re)insurance firms

- Monitoring with satellites is objective, cost-effective and reduces the need for loss adjustment in the field

- Soil moisture deficit directly linked to agricultural losses
- High Temporal (Daily) and Spatial Resolution (100m) without clouds
- Consistent historical record >18yrs for reliable index development

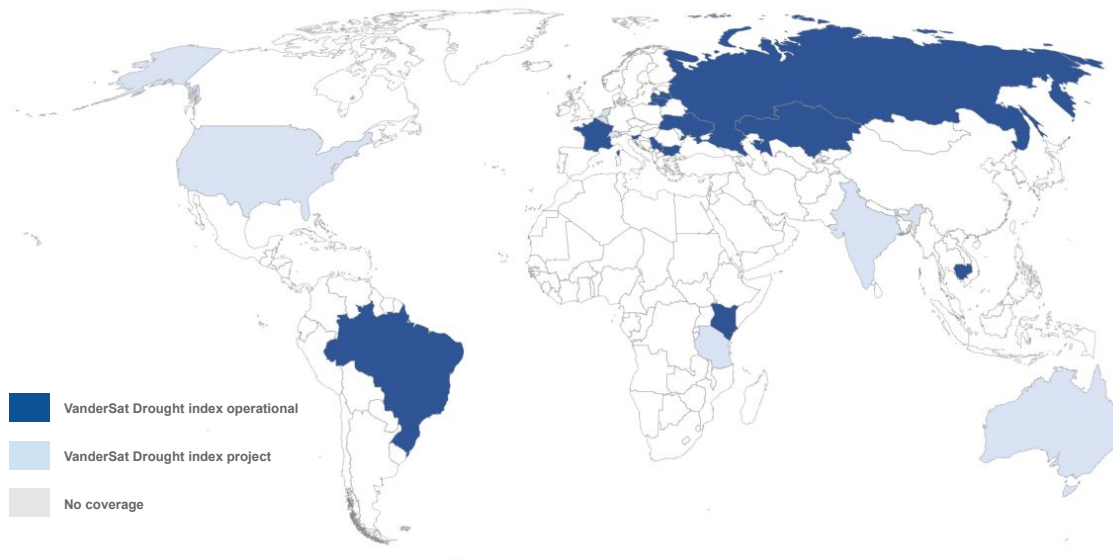- VanderSat provides an independent, scalable data service

Simplified Index insurance concept

VanderSat has provided operational index insurance services in 12 countries based on Soil Moisture Index. Adding 6 new countries in 2021

Index Insurance

VanderSat Index Insurance Coverage – status 28 August 2020

VanderSat Drought index operational

VanderSat Drought index project

No coverage

Currently VanderSat has provided operational services for index insurance in:
1. Kenya
2. Latvia
3. Lithuania
4. Kazakhstan
5. Ukraine
6. Russia
7. Bulgaria
8. Croatia
9. Serbia
10. Slovenia
11. France
12. Brazil
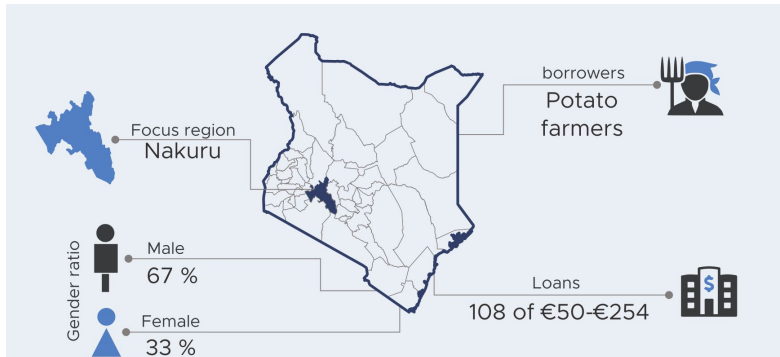
Working on index insurance project for:
1. Australia
2. Tanzania
3. Belgium
4. Netherlands
5. Switzerland
6. United States
7. Zimbabwe

High predictive skill of climate indicators was found for explaining non-payment in Kenya

Satellite data provides insights into the production risks faced by smallholder farmers with rain-fed farming systems.
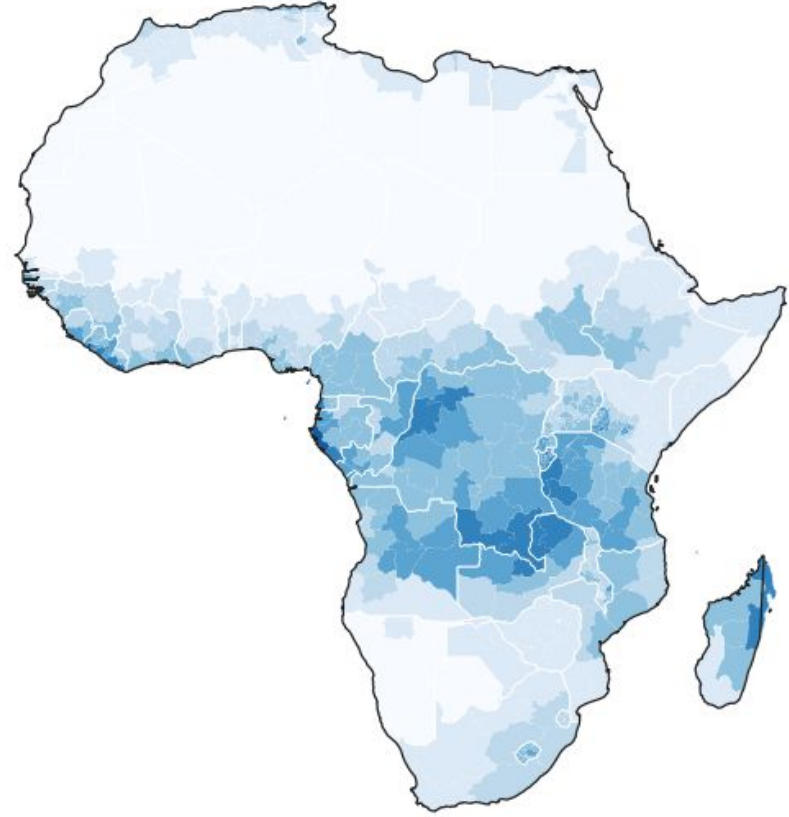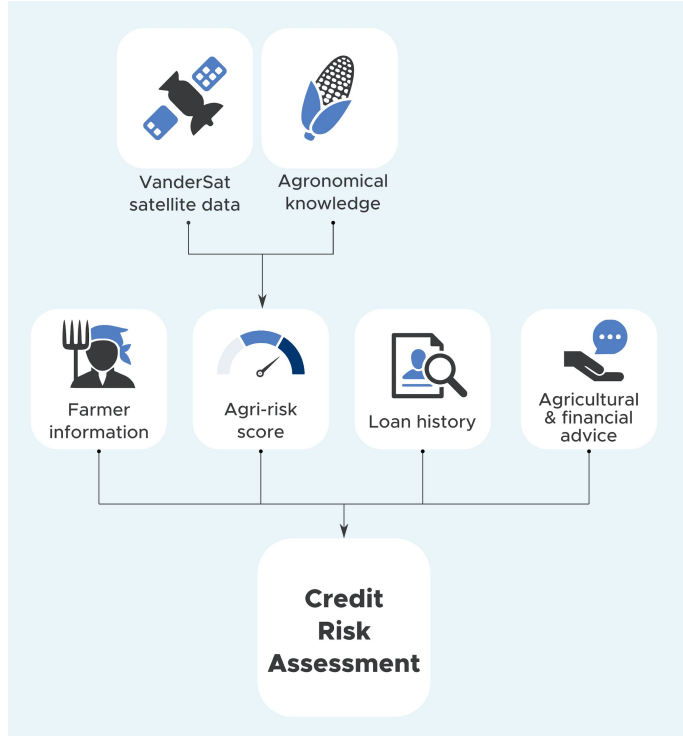

Outcomes of lending test case analysis:

- **5 climate risk indicators with high predictive power** were identified (IV > 0.23)
  - based on **Intensity, variability and timing of water conditions** derived from VanderSat's satellite observations.

- Non-payment prediction model based solely on the VanderSat indicators had an accuracy of **88% on the prediction** of non-payment among +800 farmers in Kenya.

High predictive skill of climate indicators was found for explaining non-payment in Kenya

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