Welcome! We will begin shortly…

MiN presents VanderSat…
High-resolution soil moisture data: a new pathway to affordable index insurance

Tuesday, 12 May - 2pm CEST
✓ Today’s Expert Forum is scheduled to last 1 hour including Q&A

✓ To ensure the highest quality of experience participants will be muted

✓ QUESTIONS can be submitted via the Q & A feature => selection chosen

✓ Raise Hand icon to speak
✓ Lower Hand and mute after

✓ Slides and a recording of this presentation will be circulated later
We will also aim to address any questions left unanswered via email

✓ Message the MiN Executive Team via CHAT for any issues
MiN presents VanderSat…

Speakers

Lexy Ratering Arntz
Head of Impact Strategy
VanderSat
Netherlands

Berend de Jong
CCO
VanderSat
Netherlands

Moderator:
Katharine Pulvermacher
Executive Director
Microinsurance Network
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www.microinsurancenetwork.org
Satellite Observed Water data.
Globally. Daily.

Webinar
High-resolution soil moisture data
May 12, 2020
“At VanderSat we believe satellites can contribute in solving the world’s water and food crisis”
“Soil moisture in an important variable in understanding and making drought risk insurable”
We quantify drought in the topsoil of the earth on any location in the world - Case Drought Europe 2019

“Drought in France: One third of the country is now in a "crisis situation”
The Local - 29 August 2019

“Climate change threatens the Ukrainian breadbasket”
Atlantic Council – 30 January 2020

“Italy sees a huge drop in olive harvest as a result of extreme weather events”
VOA News - 27 September 2019

“Oxygen-starved fish dying in drought-hit lake”
PHYS.ORG - 19 September 2019

Source: VanderSat droughtmonitor anomalies August based on L-Band
We provide actionable high resolution soil moisture data

VanderSat Soil Moisture® image 100m * 100m

We have patented our high-resolution downscaling method

Regular satellite image 25km * 25 km

Source: VanderSat Soil Moisture 100m x 100m *
Source: https://www.esa-soilmoisture-cci.org
“Can satellites see what is happening on the ground?

Case study of a catchment in Australia
Van der Schalie et al., 2015: RSE
VanderSat provides data at field level with a long historical record, enabling the development of scalable index-insurance products.
We are scientists who believe satellites can contribute in achieving global water and food security.

Over 20 years of scientific research

- Richard de Jeu
- Benjamin Aouizerats
- Robin van der Schalie
- Anne de Nijs
- Thijs van Leeuwen
- Jaap Schellekens
- Nadja den Besten
- Mendy van der Vliet

Publications in leading journals

- Our founder among the top 1% most cited researchers
- >20,000 citations in google scholar
- 20% of our employees hold a PhD
- Official ties with:

Input for the IPCC report

Development for ESA CCI

STATE OF THE CLIMATE IN 2018
Our current clients

a selection of our current partners, funders and clients
**VanderSat services**

*VanderSat provides five operational satellite services*

<table>
<thead>
<tr>
<th>Our Services</th>
<th>Customer segments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precision farming advice</strong></td>
<td>Farmers, input-suppliers, Food industry, Digital farming platforms</td>
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<tr>
<td>Irrigation module / Pesticide application</td>
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<tr>
<td><strong>Crop yield prediction improvement</strong></td>
<td>Agri-commodity industry</td>
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<td><strong>Index insurance independent calculation agent</strong></td>
<td>(Re-)insurance firms, brokers, banks</td>
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<td>Drought index / Moisture excess index</td>
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<td><strong>Credit risk score improvement for loans</strong></td>
<td>Credit score providers, banks</td>
</tr>
<tr>
<td><strong>Water &amp; Fire management</strong></td>
<td>NGO’s, water management, governments</td>
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</tbody>
</table>
VanderSat now has operational index insurance services in 11 countries. We are working on adding 6 new countries

Currently VanderSat has operational services for index insurance ‘live’ in:
1. Kenya
2. Latvia
3. Lithuania
4. Kazakhstan
5. Ukraine
6. Russia
7. Bulgaria
8. Cambodia
9. France
10. Serbia
11. Slovenia

Working on index insurance project for:
1. Australia
2. Brazil
3. India
4. Netherlands
5. Mexico
6. Estonia
Ukraine: 2 operational insurance services for 2 clients

Example Parametric Drought Insurance

Correlation analysis for VanderSat soil moisture

72%
Correlation with yield

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

**Issues with conventional index insurance**

- Rainfall is indirect measurement of plant available water
- Coarse spatial resolution available rainfall (>10 km) & soil moisture (>25km) data
- Vegetation indices hindered by cloudy conditions and saturation of signal
- No consistent historical records for index development

**Solutions VanderSat**

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

VanderSat provides an independent, scalable data service
Kenya: Soil Moisture Index insurance for smallholder maize farmers

“How can we improve financial resilience for smallholder farmers?”

- Developed product underwritten by Kenyan Insurer & Reinsurer
- 4,500 policies written in 2019 short rain season, scaling to 10,000 in 2020 short rain season
- Effective distribution through ACRE’s champion farmer model
- Expand to cover more crops and perils
Kenya: Soil Moisture Index insurance for smallholder maize farmers

“How can we bring down distribution costs further?”

Insurance

Micro level insurance

Meso level insurance

Bundling options

Distribution Model

Insuranc Index & training

Tailored to

Maize value chain

Gender

Advisories

Certified inputs

Credits

Nutritious value chain

Non-agricultural insurance
Contact us

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Connect. Participate. Influence

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Over 60 institutional members in more than 50 countries

www.microinsurancenetwork.org

Thank you for your participation

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