



How to benefit from weather information when every raindrop counts

Michelle Hartslief

Content of the presentation

- Introduction
- Cooperation between SAWS & HydroNET
- HydroNET applications
- Future products





Introduction



HydroNET

Cooperation with SAWS



EOF THE FUTURE

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Why this cooperation?

- Large amounts of data available at SAWS
- However, data not easily accessible for stakeholders
- Limited revenue from data with high costs for maintenance and data processes
- Backend processes are not fully automated requiring additional time from SAWS staff
- Need for innovative solutions



Solution

Provide easy online access to the best available historical, actual (real-time) and forecasted weather information from SAWS

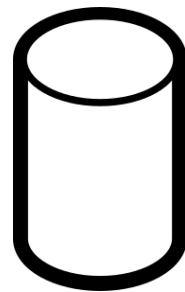
- Configured the HydroNET RainMap, Weather Station and Forecast applications with SAWS data with additional tools
- Implement SCOUT to improve data quality and to automate data processing
- Automate processes so that client facing staff can focus on value-added activities



- No data? No information...
- No information? No knowledge...
- No knowledge? No good decisions...

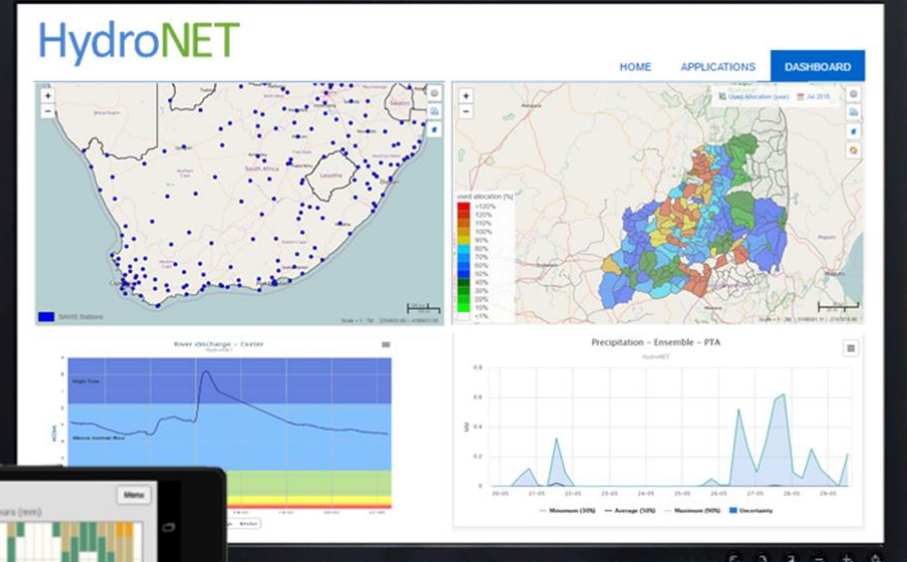
It all starts with data





HydroNET

Web-based operational decision support system that transfers weather data into actionable dashboards and reports



HydroNET community in South Africa

More than 500 users from:

- South African Weather Service
- ESKOM
- Department of Water and Sanitation
- 9 Catchment Management Agencies
- 15 wineries
- > 100 farmers
- Agricultural Research Council



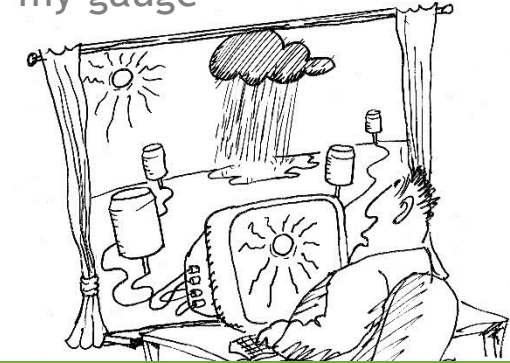
RainWatch

- Three applications:
- Weather Stations
 - RainMap
 - Weather Forecast

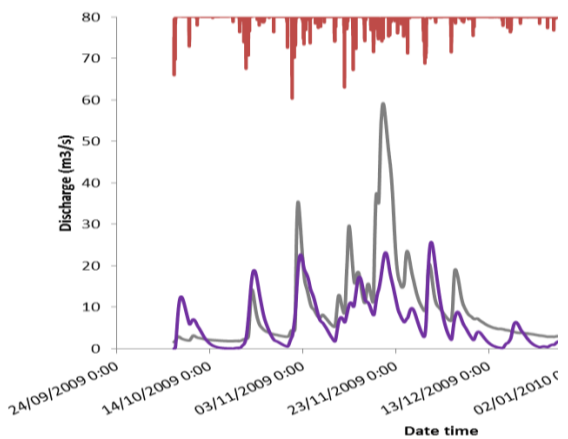
Properly install and maintain rain gauges is expensive



Rainfall still misses my gauge



Model calibration results are poor



Many people, many needs



Information from free websites is often too general for weather sensitive industries

South Africa
Thursday 16th August 2018
14:00

THURSDAY 02h 08h 14h 20h | FRIDAY 02h 08h 14h 20h | SATURDAY 02h 08h 14h 20h

WARNINGS
SOUTH AFRICA
Thursday 16th August 2018
weather

Forecast for City of Tshwane 5 represented by Pretoria

| Today | Fri | Sat | Sun | Mon | Tue | Wed |
|----------------------------|------------------------|-----------------------|--------------------------------|----------------------------------|-----------|-----------|
| 29° / 13° | 29° / 13° | 21° / 10° | 23° / 8° | 27° / 11° | 28° / 12° | 27° / 12° |
| Rainfall Probability (%) 0 | Rainfall Amount (mm) 0 | Apparent Temp (C) 21° | Sunrise / Sunset 06:36 / 17:46 | Moonrise / Moonset 10:14 / 23:07 | | |

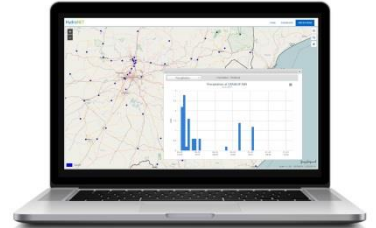
.... or complex













| Name | Size | Date Modified |
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| [parent directory] | | |
| IDW71000_WA_T_SFC.grb | 12.3 MB | 10/26/15, 12:00:00 AM |
| IDW71000_WA_T_SFC.nc.gz | 13.7 MB | 10/26/15, 12:00:00 AM |
| IDW71001_WA_Td_SFC.grb | 10.2 MB | 10/26/15, 12:00:00 AM |
| IDW71001_WA_Td_SFC.nc.gz | 11.3 MB | 10/26/15, 12:00:00 AM |
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| IDW71013_WA_PoP_SFC.grb | 1.5 MB | 10/26/15, 12:00:00 AM |
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Why RainWatch?

RainWatch provides the information you need

- Easy online access to:
 - SAWS weather forecasts
 - SAWS weather stations
 - SAWS radar data
- Tools to empower weather sensitive industries
 - Use the numbers behind the pictures
 - Export data to model input files
 - Upload shape files for area averages
 - Share information with your colleagues
 - Generate rainfall reports
 - Download long time series
 - Make personalised dashboards















| | | | | | | | | | | |
|--|---|---|--|---|---|---|--|---|--|---|
|  Download |  Forecast |  HydroDoc |  HydroView |  HydroWatch |  HydroWatch 2.0 |  Layer Configurator |  Legend Configurator |  Photo Report |  RainMap |  Stations |
|  Upload | | | | | | | | | | |

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WeatherSmart Forecasts

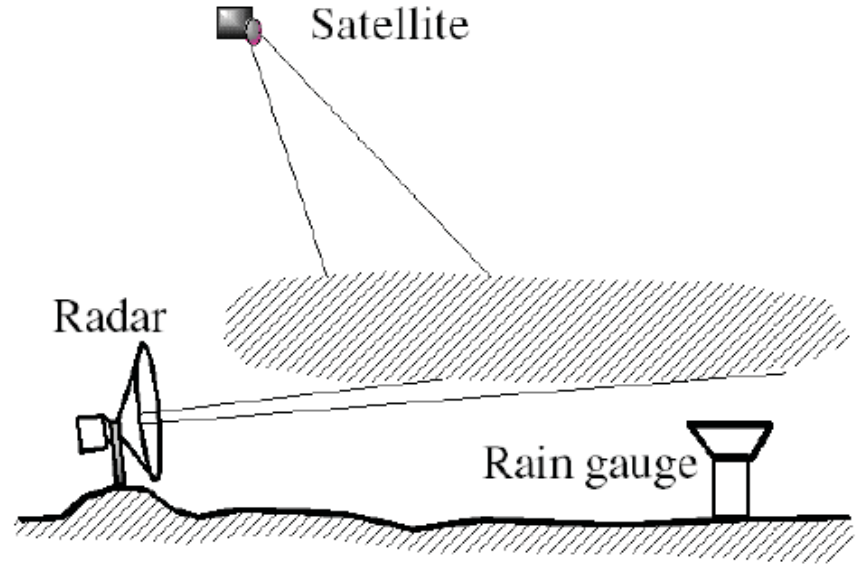
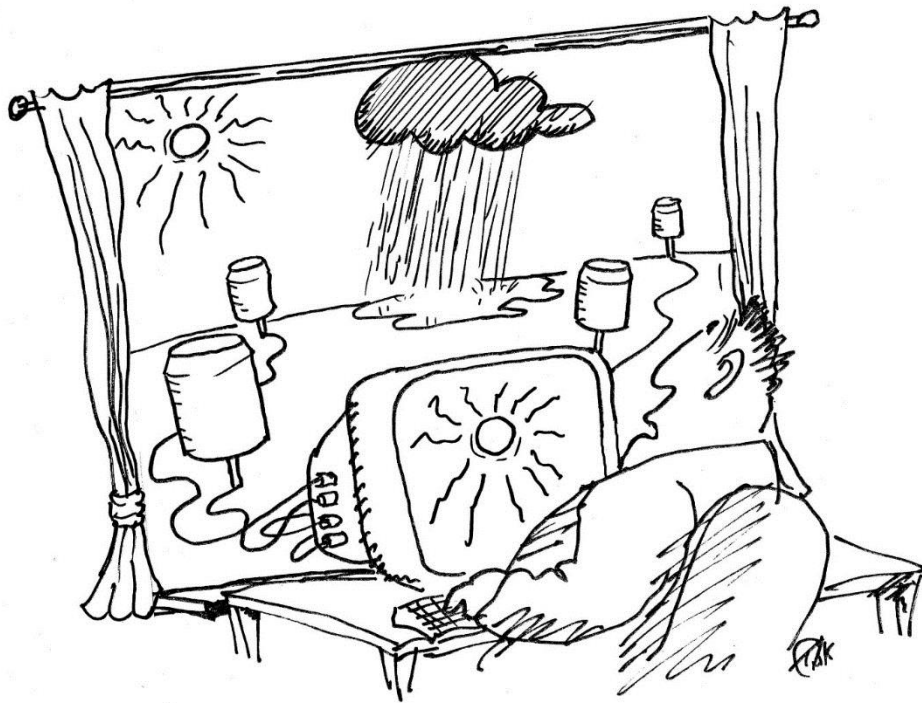


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|--|---|---|--|---|---|---|--|---|--|---|
|  Download |  Forecast |  HydroDoc |  HydroView |  HydroWatch |  HydroWatch 2.0 |  Layer Configurator |  Legend Configurator |  Photo Report |  RainMap |  Stations |
|  Upload | | | | | | | | | | |

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WeatherSmart Stations





Unified model

SAWS Satellite

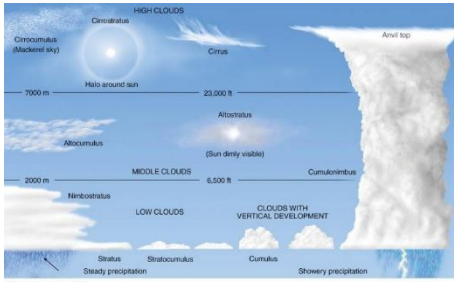
SAWS Radar

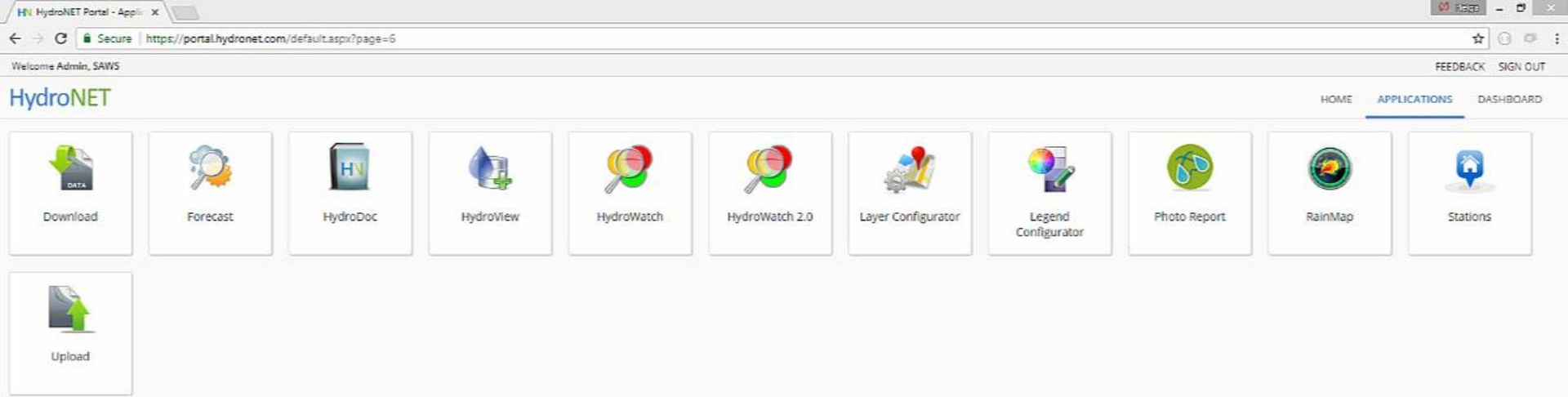
Raw precipitation product

SAWS Automatic Stations

SAWS Manual Stations

Calibrated precipitation product



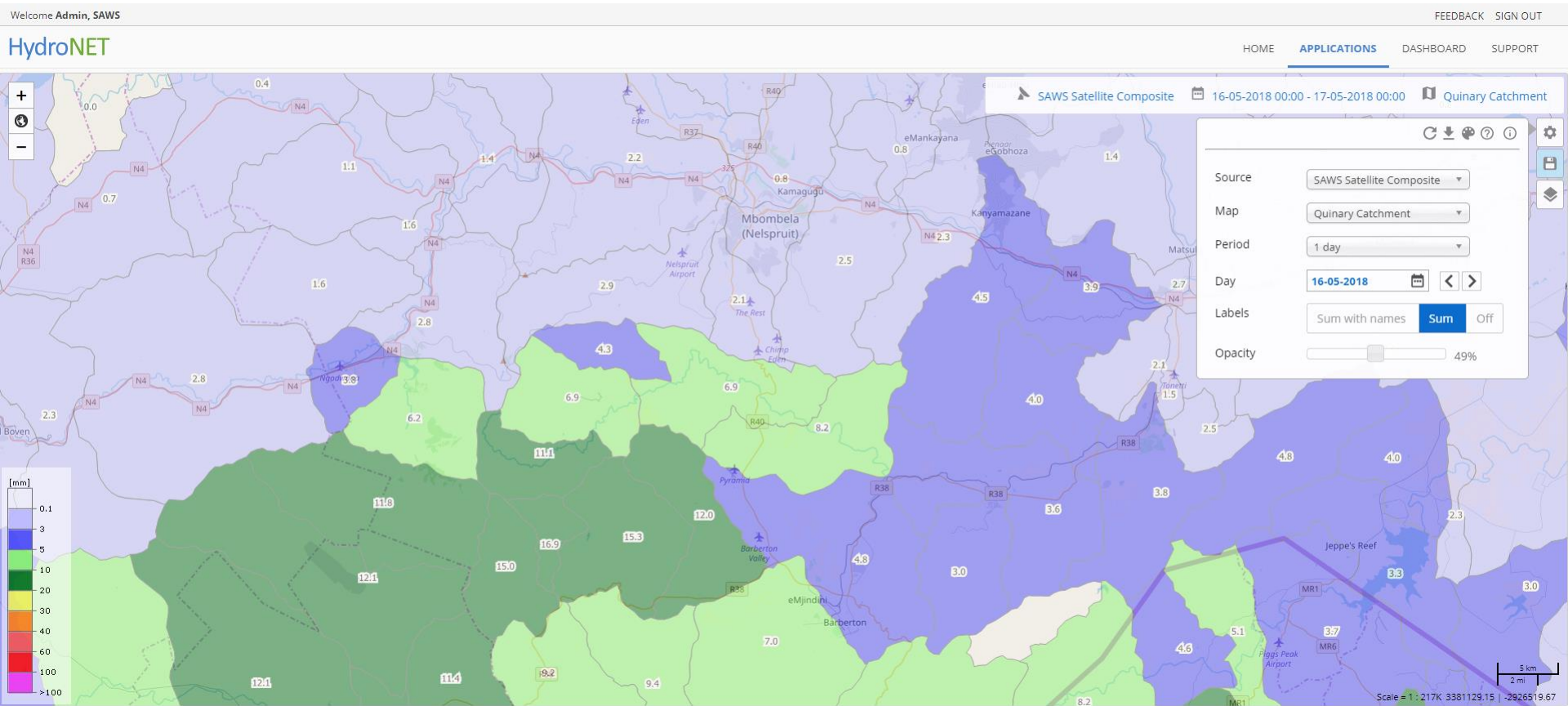


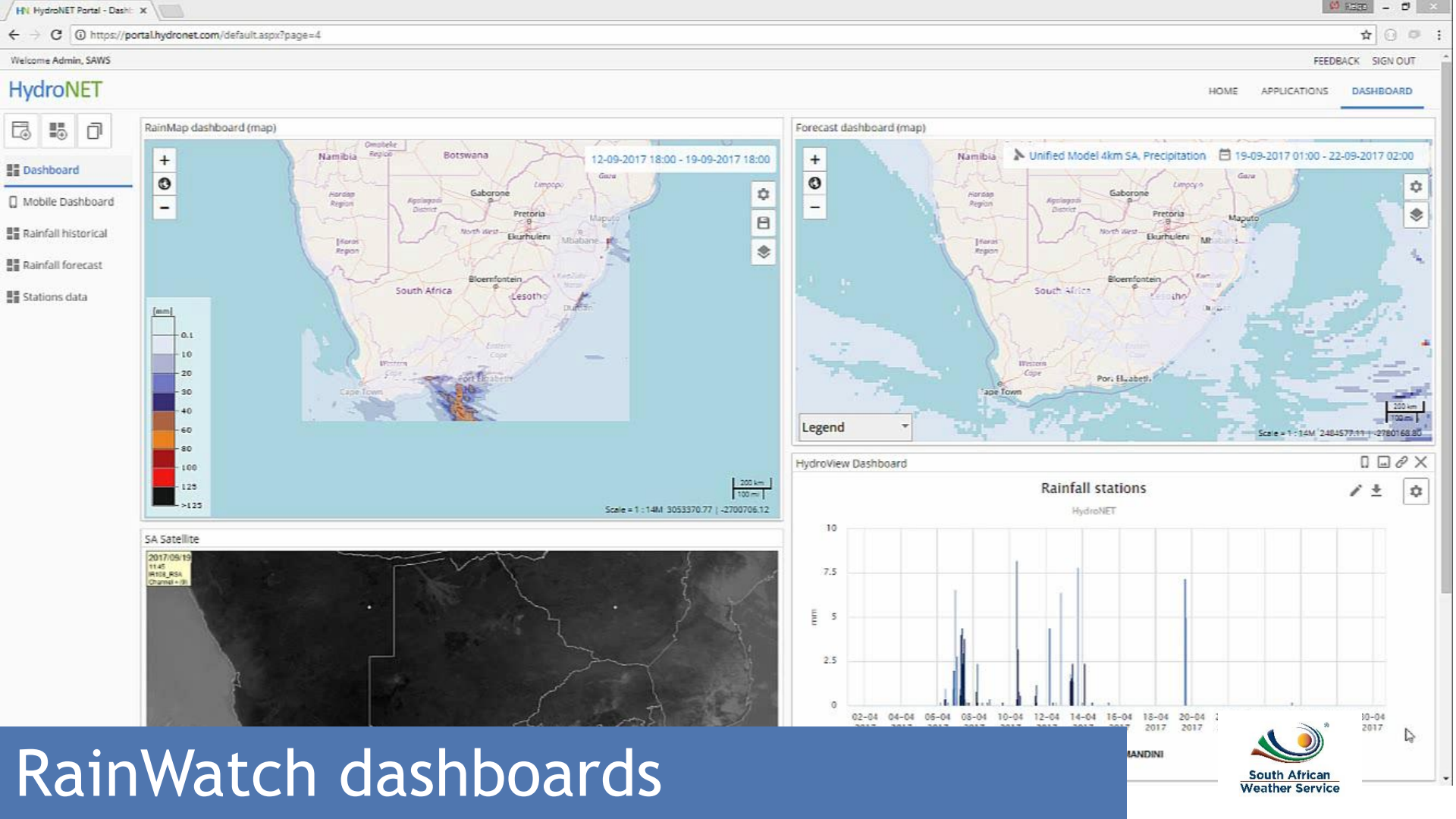
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WeatherSmart RainMap



... or area averages

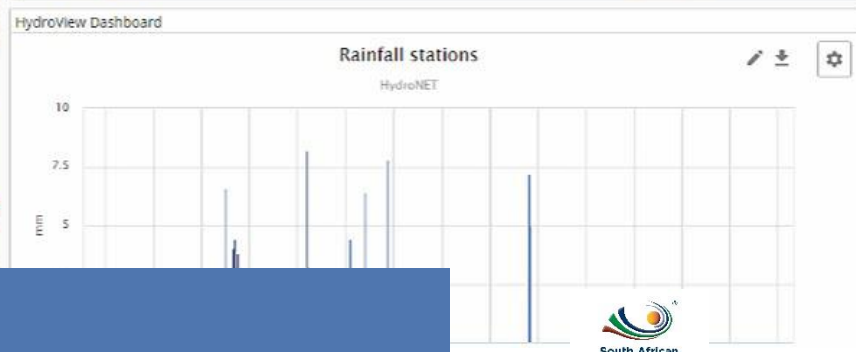
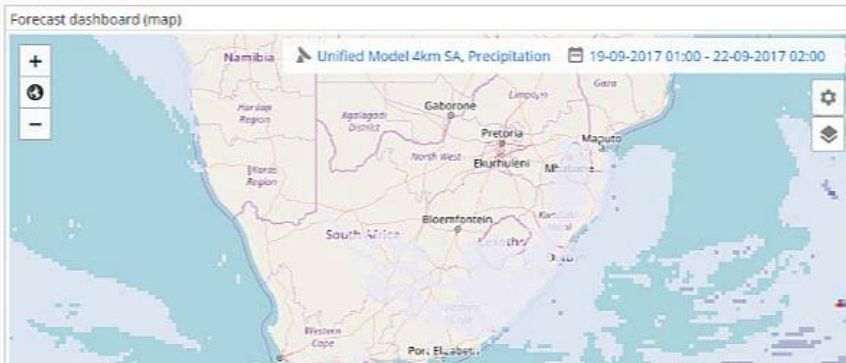
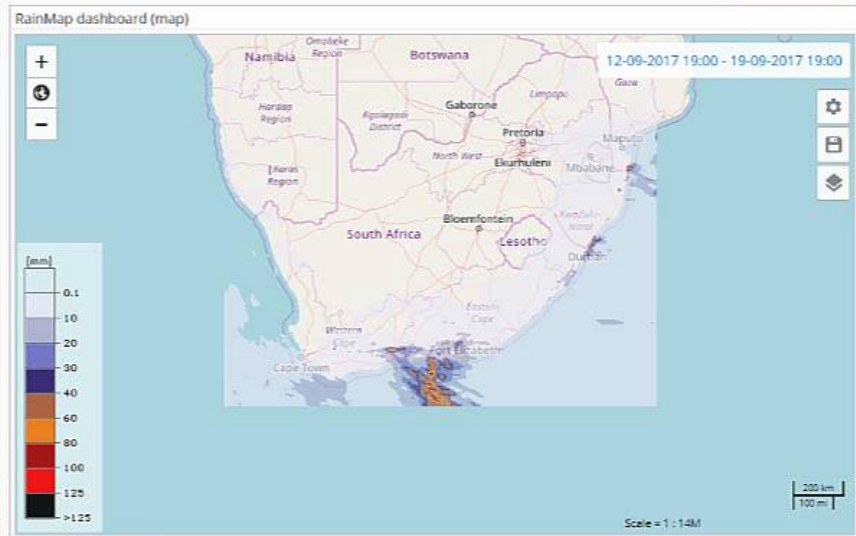
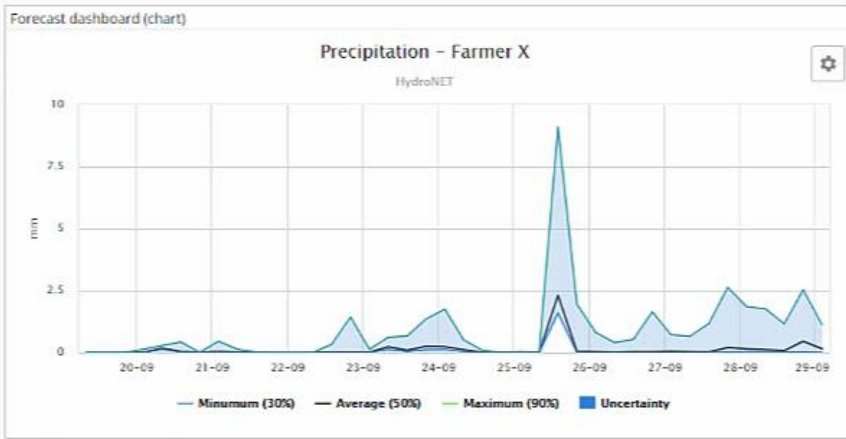


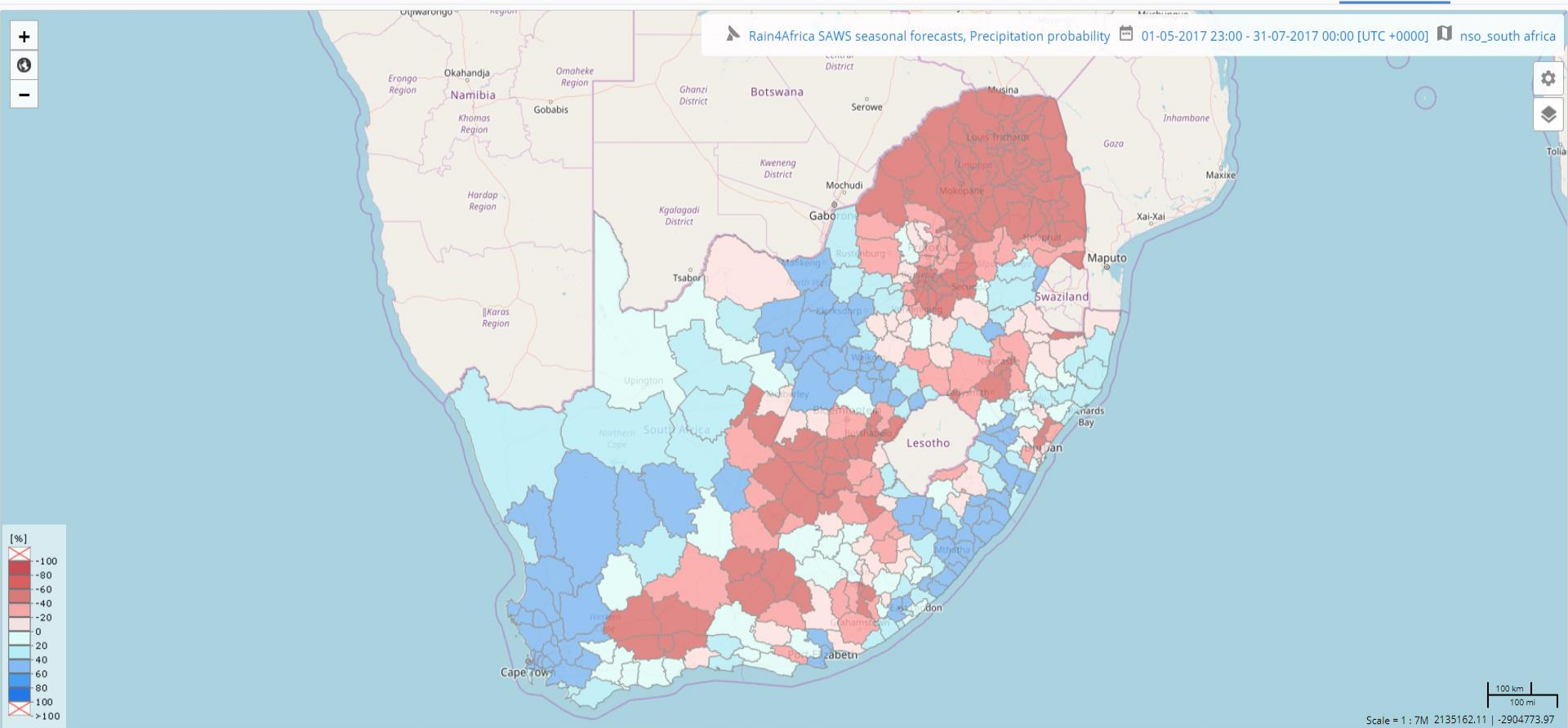


RainWatch dashboards



Dashboard Mobile Dashboard Rainfall historical Rainfall forecast Stations data



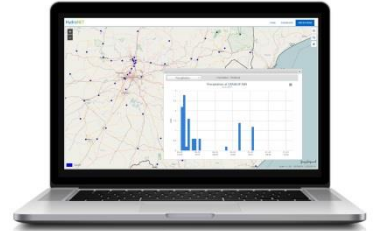


WeatherSmart Seasonal Forecast



RainWatch benefits

- Improved weather information; reduced costs
- Direct web access to the SAWS weather information
 - Historical, current and forecasts
 - Point, grids or polygons
- SaaS solution
 - 24/7 accessible
 - No software installation needed
 - Data stored in the cloud: no servers needed
 - Available anywhere, anytime
- Personalised
 - Set your own thresholds
 - Set up your own dashboards
- Smart tools to benefit more
 - Upload your own spatial information
 - Export to your models



Pricing

- Yearly subscription fee
- This fee includes:
 - Free yearly training at your office
 - 24/7 access to the web-portal
 - Access to live data and data archive
 - Free software updates
 - Free data upgrades (e.g. via R4A)
 - Helpdesk and support via SAWS
- New requirements? Share costs with the HydroNET community



Other products on request

- Hail forecast
- Lightning forecast
- Lightning historical
- Seasonal prediction
- Climate data (historical long data set)
- Climate projection
- Rapidly developing thunderstorms
- CAP warnings
- Lightning (Flash density; real-time)
- SAFFG and regional models





From data to profitable solutions

When every raindrop counts.....



**South African
Weather Service**