Implementation of the HydroNET Water Control Room for all CMA's

Michelle Hartslief

South African Weather Service
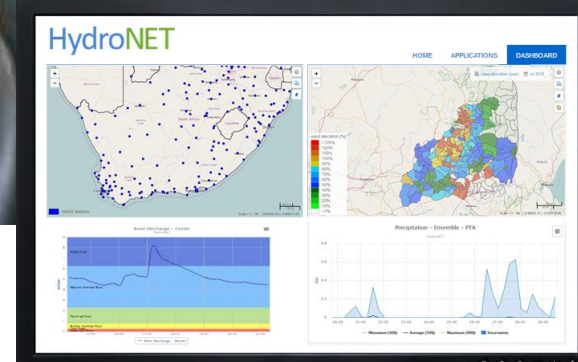
HydroNET

Content of presentation

- Background
  - Introduction of HydroNET
  - Demonstration at IUCMA
- Roll-out to all CMA's: implementation plan
- Tasks and responsibilities per partner
- Activity plan for the coming months
- Any other business

Drought & over allocation

Floods

Pollution & eco system losses

Towards climate resilience:
- Operational decision support tools for the sustainable management of water resources
- Reporting tools to inform internal/external stakeholders

Data → Information → Knowledge → Wisdom

Web-based operational decision support system that transfers weather & water data into sophisticated dashboards and reports
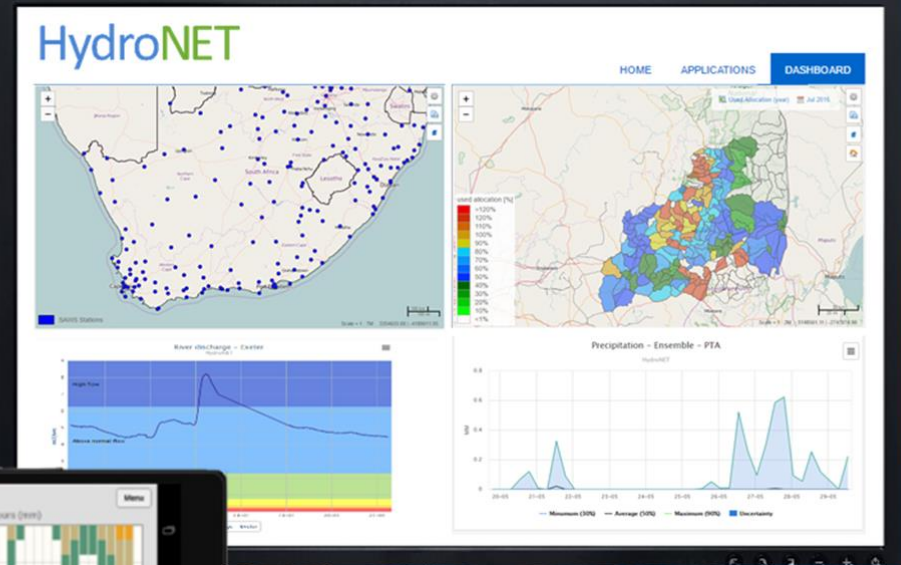
HydroNET

3166 users
12 countries

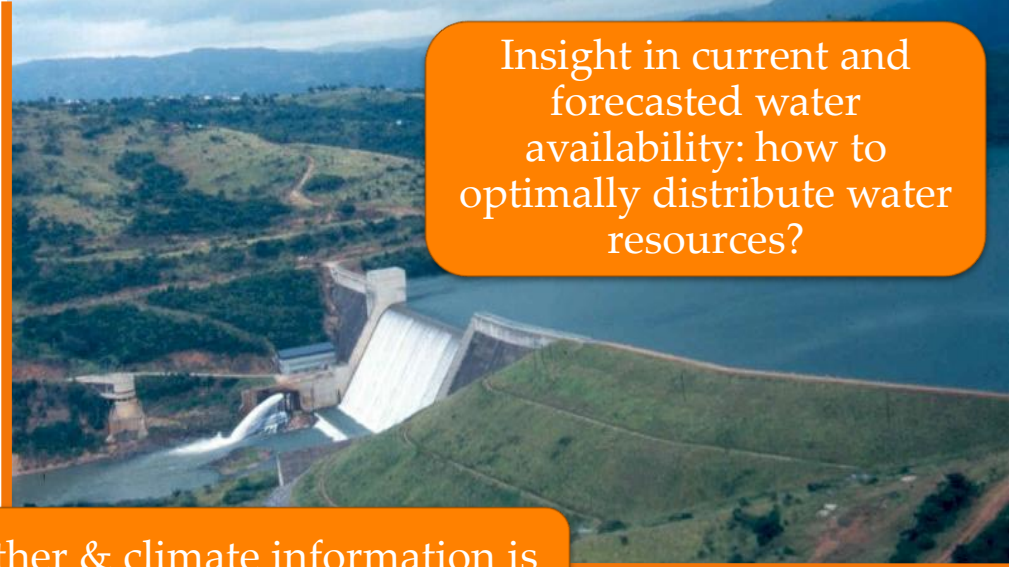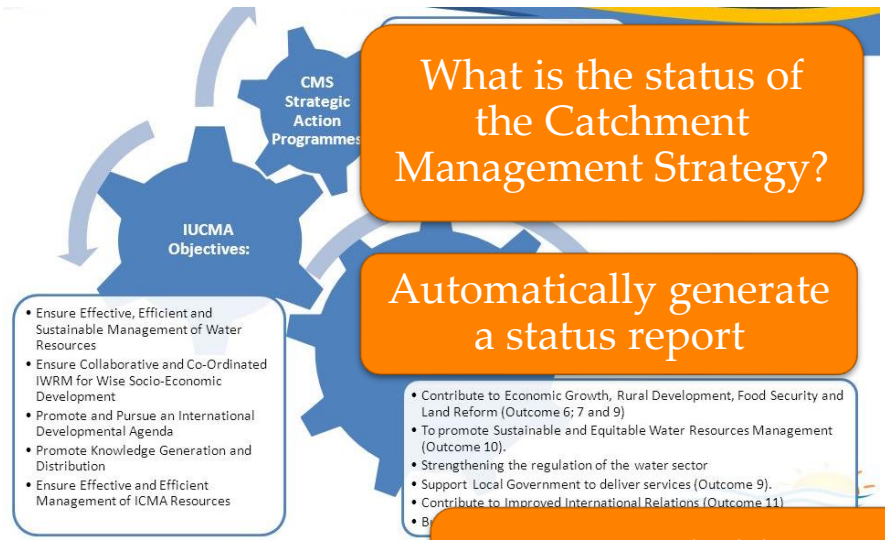2013: Demonstration of the HydroNET Water Control Room for IUCMA

HydroNET

User requirement workshops

CMS Strategic Action Programmes

IUCMA Objectives:

- Ensure Effective, Efficient and Sustainable Management of Water Resources
- Ensure Collaborative and Co-Ordinated IWRM for Wise Socio-Economic Development
- Promote and Pursue an International Developmental Agenda
- Promote Knowledge Generation and Distribution
- Ensure Effective and Efficient Management of ICMA Resources

- Contribute to Economic Growth, Rural Development, Food Security and Land Reform (Outcome 6; 7 and 9)
- To promote Sustainable and Equitable Water Resources Management (Outcome 10).
- Strengthening the regulation of the water sector
- Support Local Government to deliver services (Outcome 9).
- Contribute to Improved International Relations (Outcome 11)
- Be

What is the status of the Catchment Management Strategy?

Automatically generate a status report

Insight in current and forecasted water availability: how to optimally distribute water resources?

Access to reliable weather & climate information is of key importance

Reduce water use: empower the water users

Water quality: who are the main polluters?

HydroNET Water Control Room tailored for CMA's
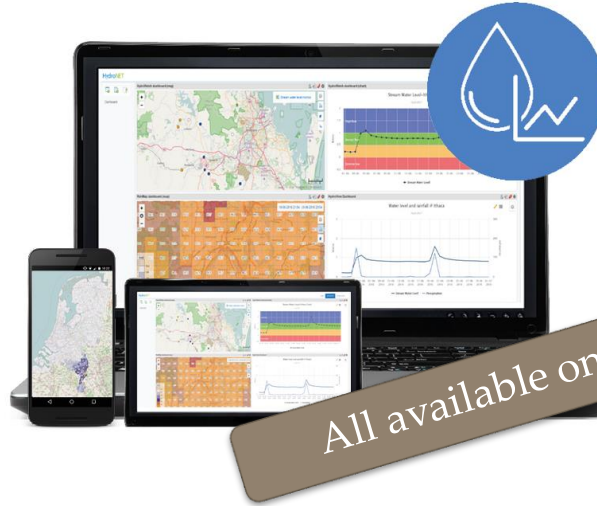
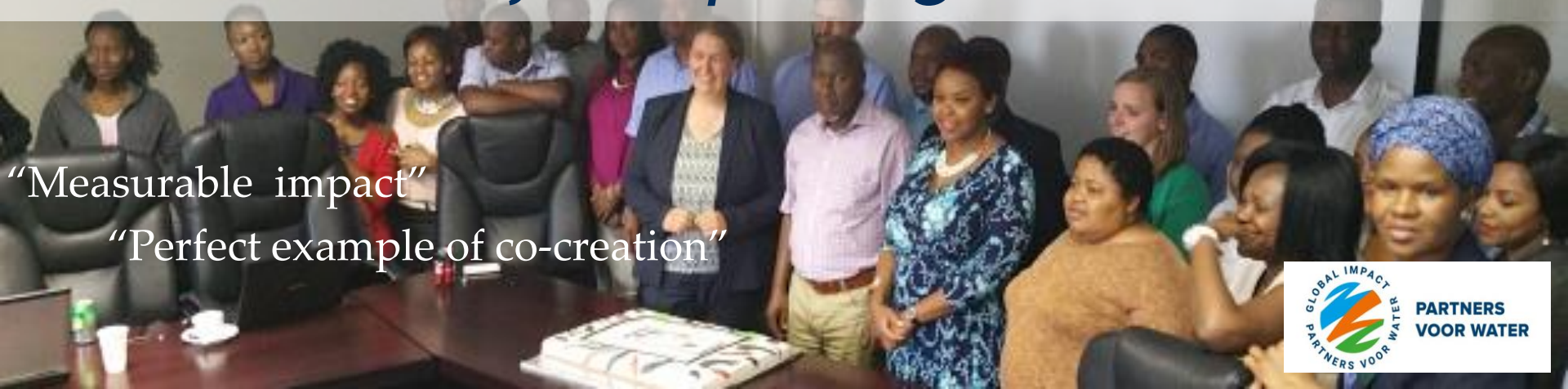# Training and capacity building IUCMA
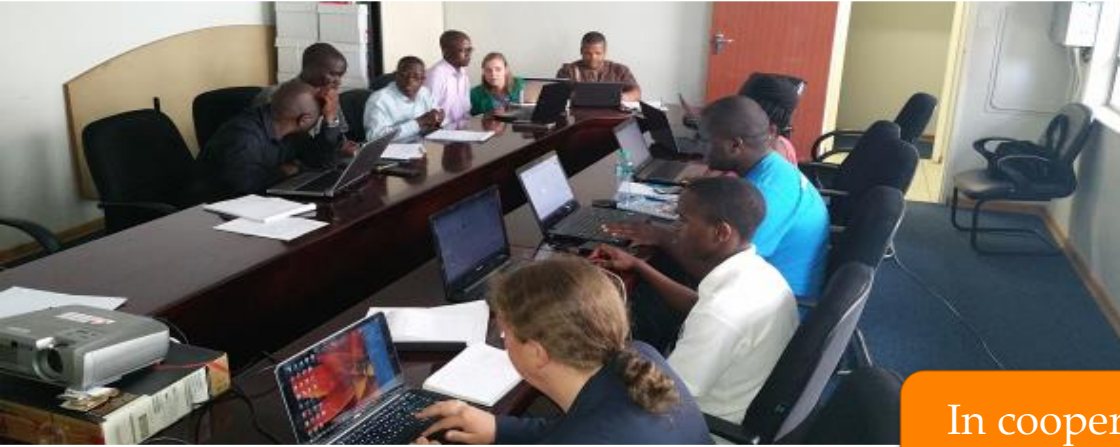
In cooperation with Kingfisher partners

Winners of the prestigious PVW award

"Measurable impact"

"Perfect example of co-creation"

TOTAL DATA SIZE
SOUTH AFRICA
4,3TB

Conclusions

- HydroNET Water Control Room tailored to the needs of South African CMA's

- Successfully operational for IUCMA, PUCMA and other SA clients

- All Accessible via web:
  - No software or hardware required
  - Free automatic upgrades paid by the HydroNET community
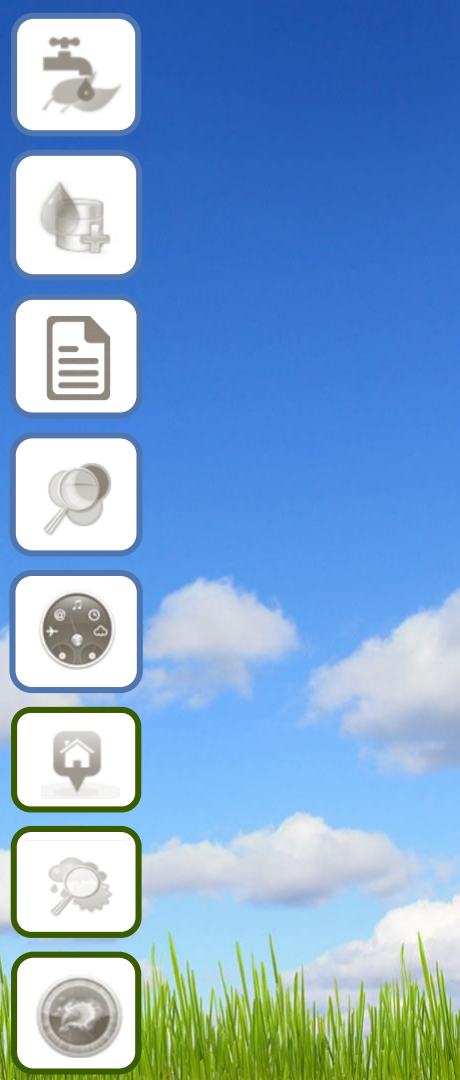
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Roll out HydroNET Water Control Room to all WMA's

3 Implementation stages
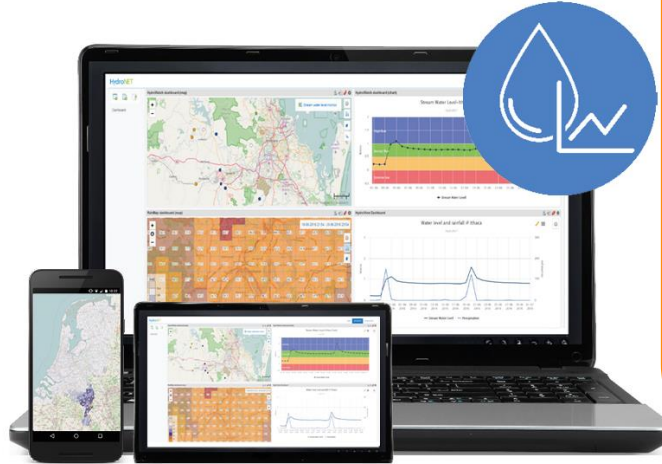
Configuration stage 1: 3 months Weather & Climate applications

- Information and report requirement workshop

- Configuration of Weather Applications
  - Stations Application
  - Weather Forecast Application
  - RainMap Application
  - Weather Control Room
  - Weather Reports

- Training Weather applications

Configuration
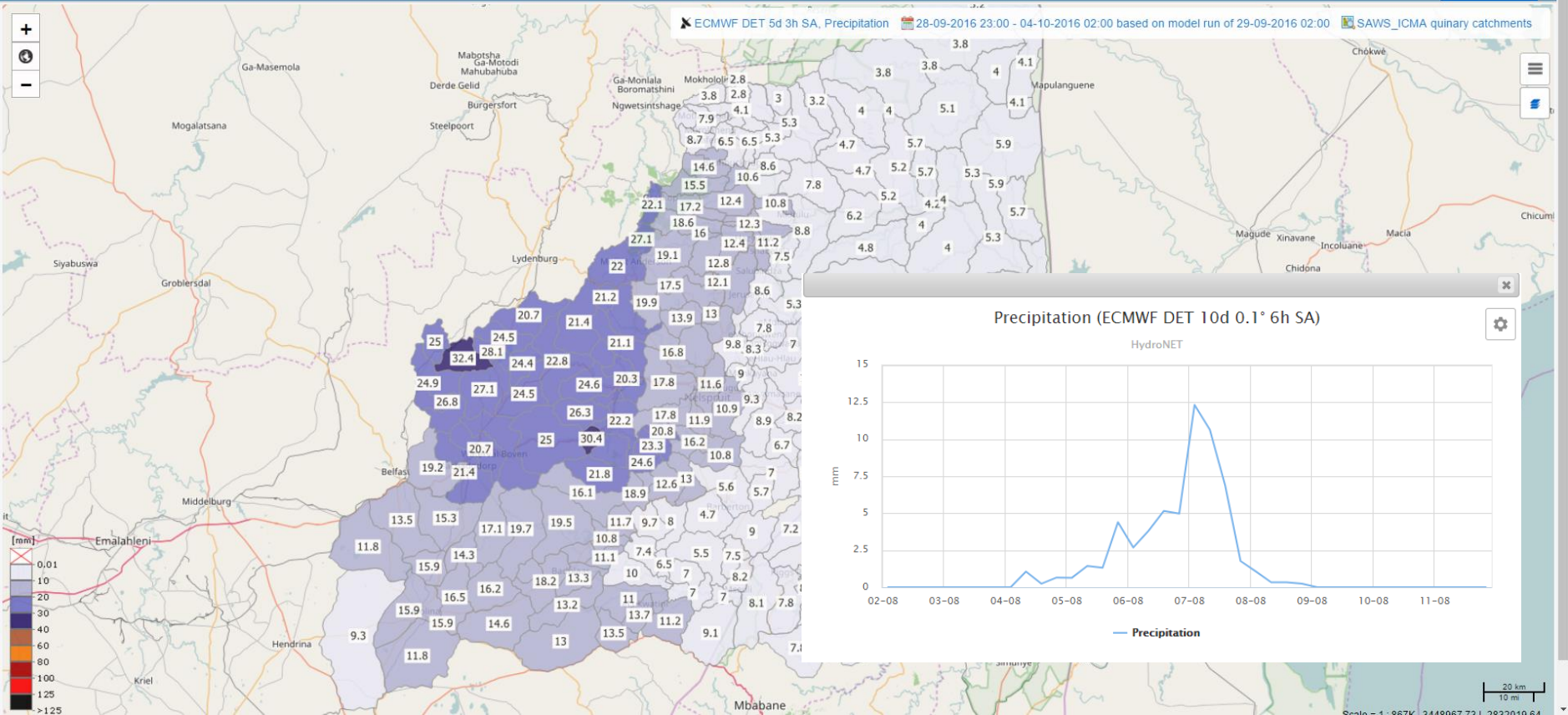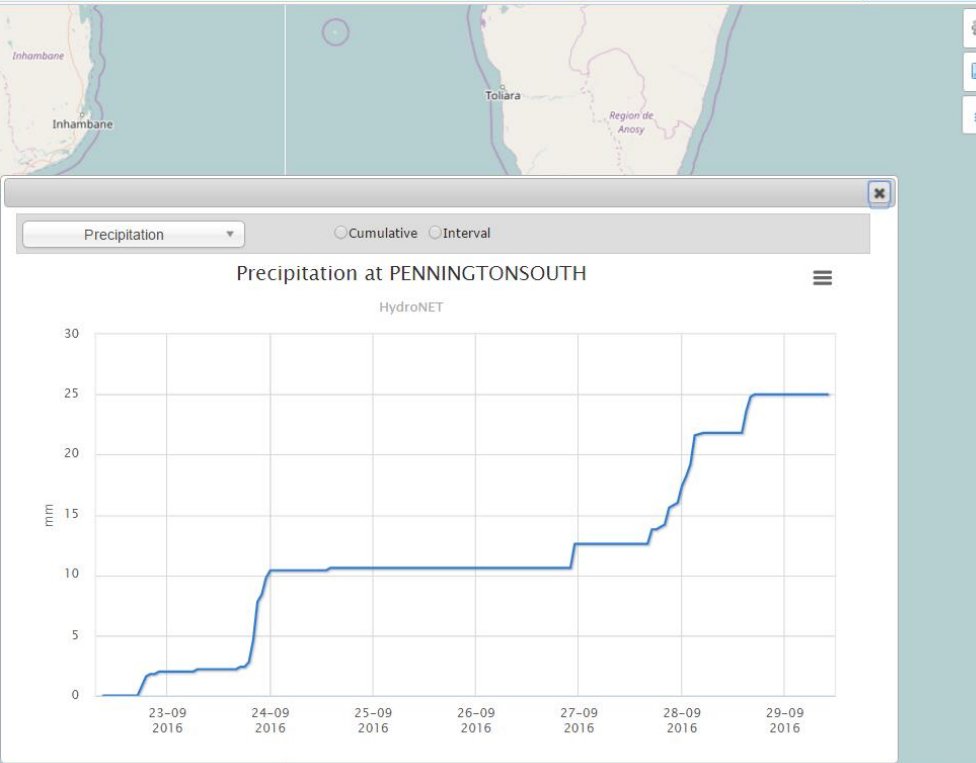
Subscription

Weather forecast application

Weather Stations Application
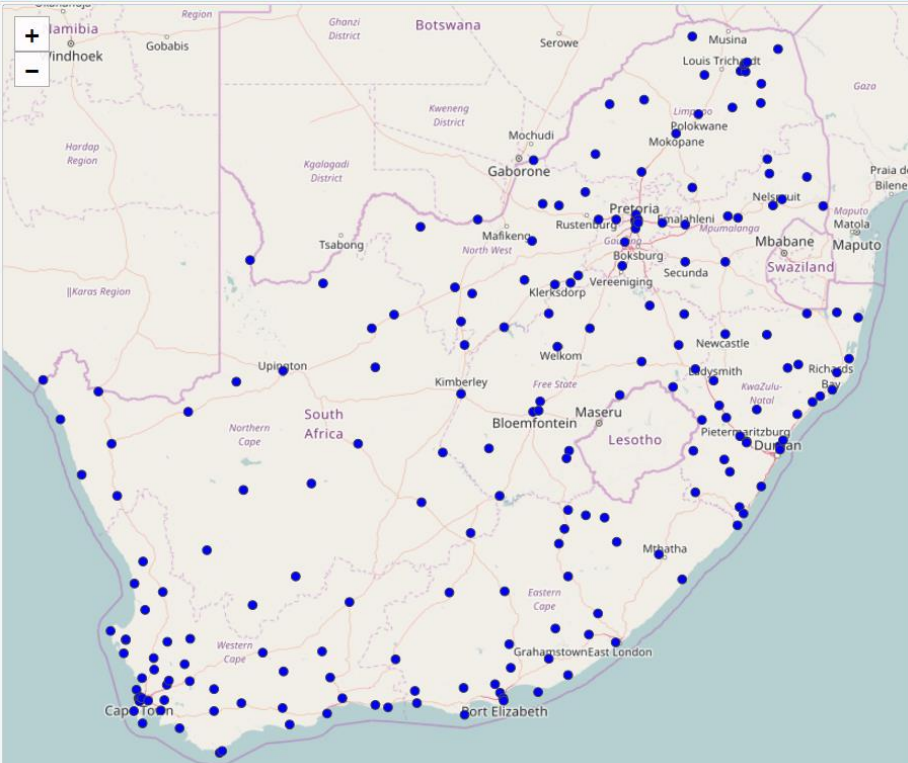
RainMap application
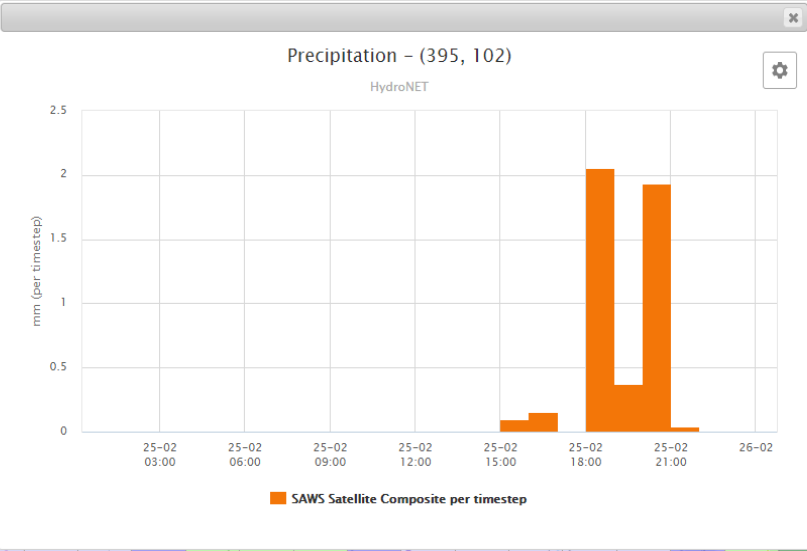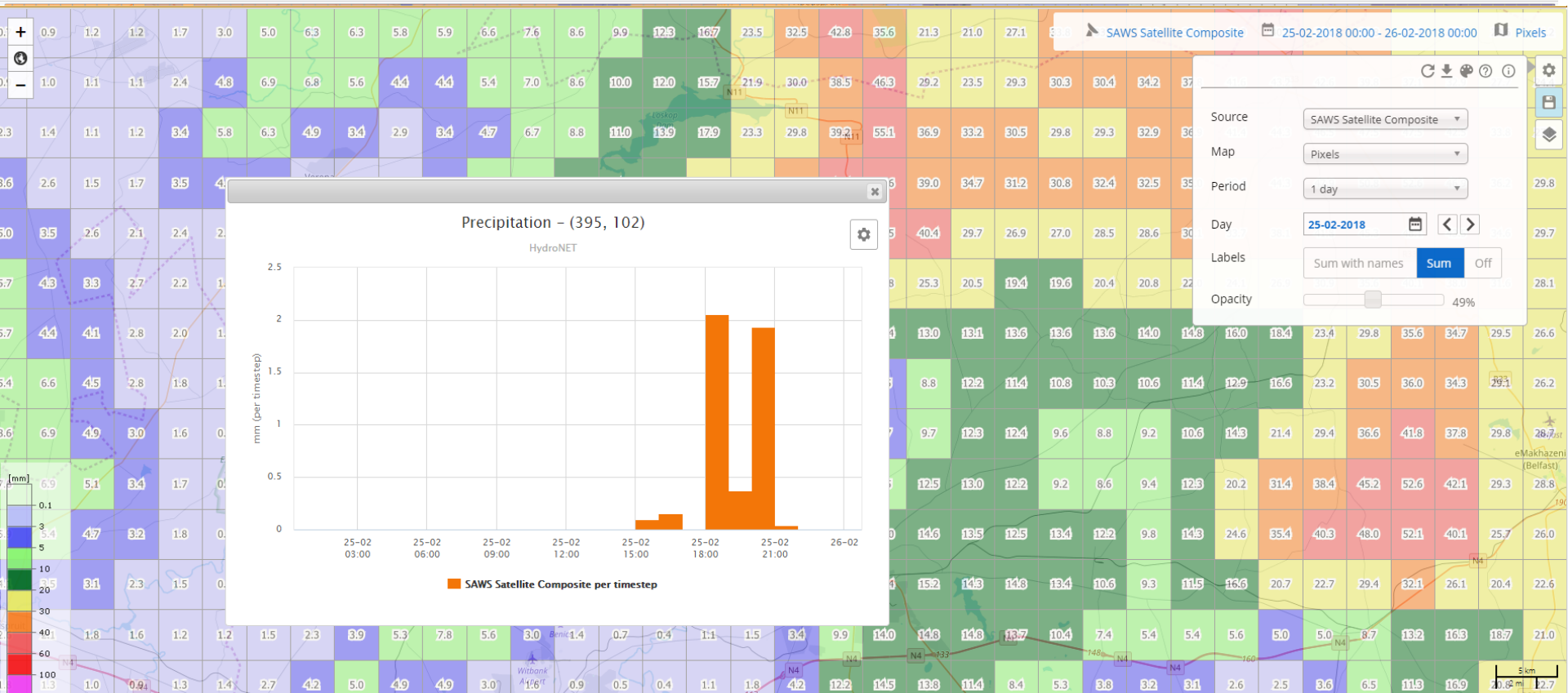
Configuration stage 2: 3 months Water Auditing application

- Establish connection with eLEAF data

- Configuration of allocation per farm and per quinary

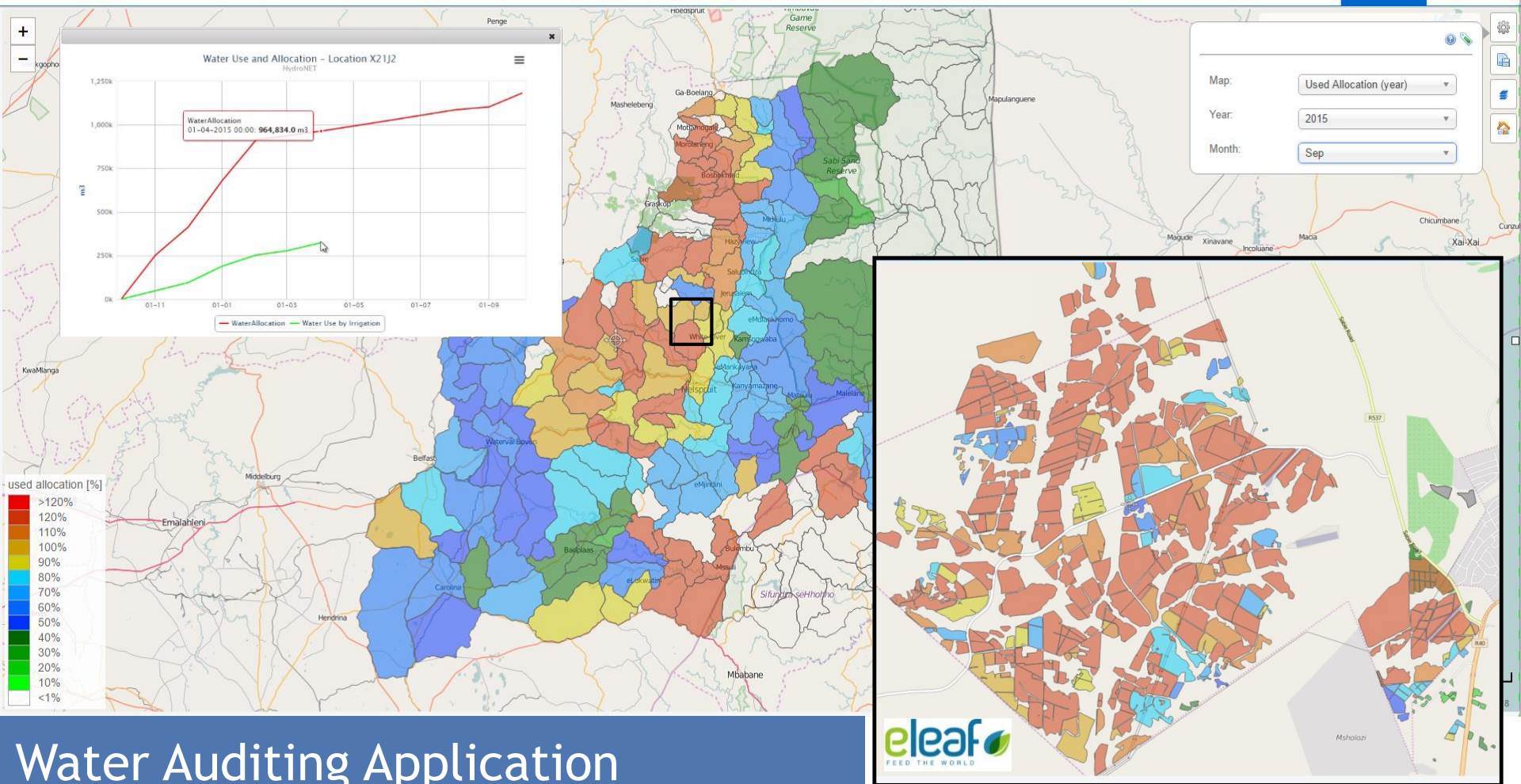- Configuration of Water Auditing application

- Training Water Auditing application

Configuration

Subscription

Water Auditing Application

Configuration stage 3: 6 months
Water Management applications

- Establishment of data connection with relevant DWS databases
  - WMS, WARMS, NGM, Hydstra

- Configuration of Water applications
  - HydroView, HydroWatch, HydroReport
  - Water Control Room
  - Water Management reports

- Training Water applications
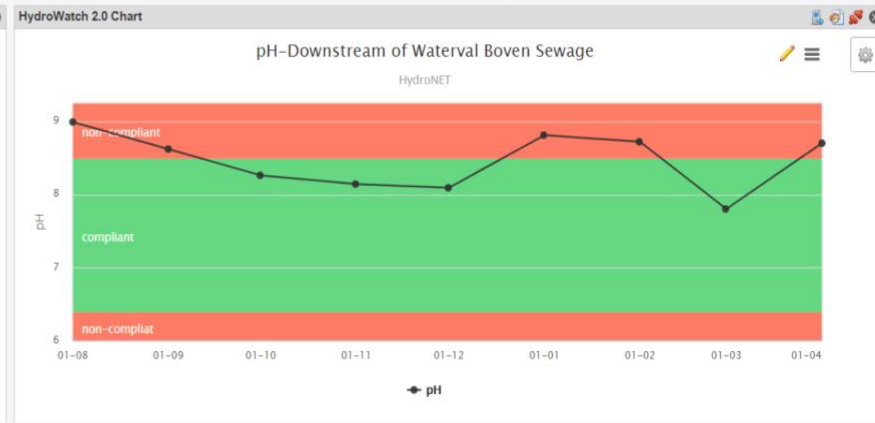
Configuration

Subscription

From data to information: set thresholds

Variables/Parameters	Resource Quality Objectives (RQOs)	
	EWR-S6	EWR-S7
E. coli (CFU/100ml)	130	130
Electrical Conductivity (mS/m)	55	42
Ortho-Phosphate (mg/l)	0.125	0.125

Water Quality Status for IUCMA
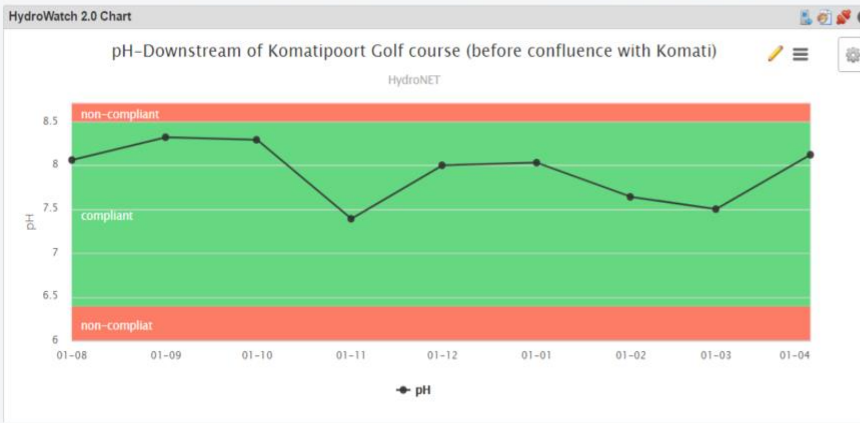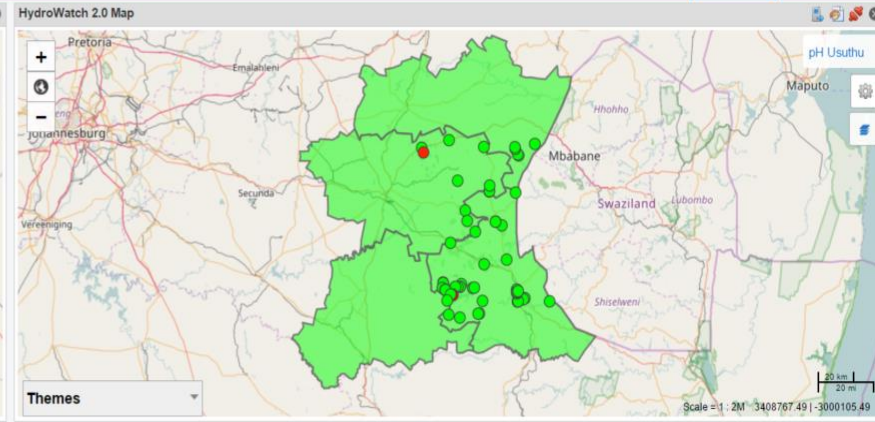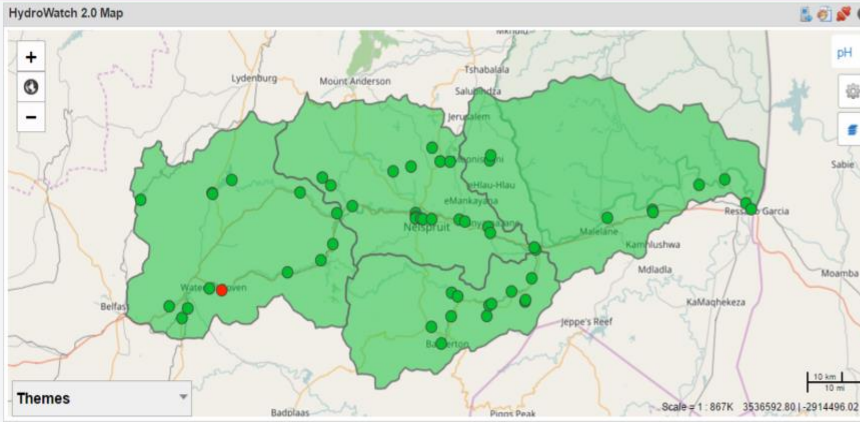
Water Quantity : rainfall vs flows
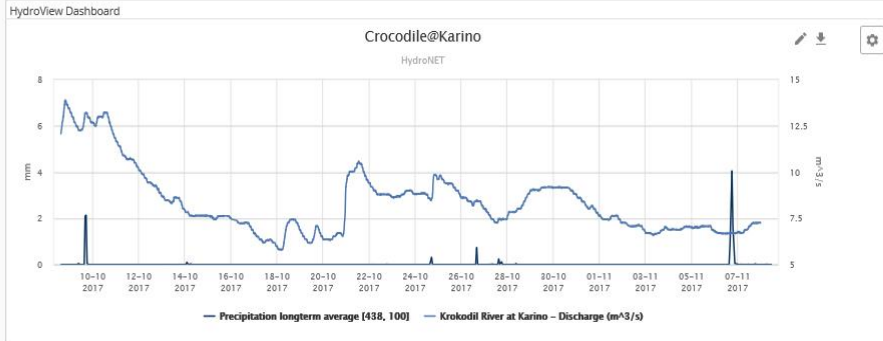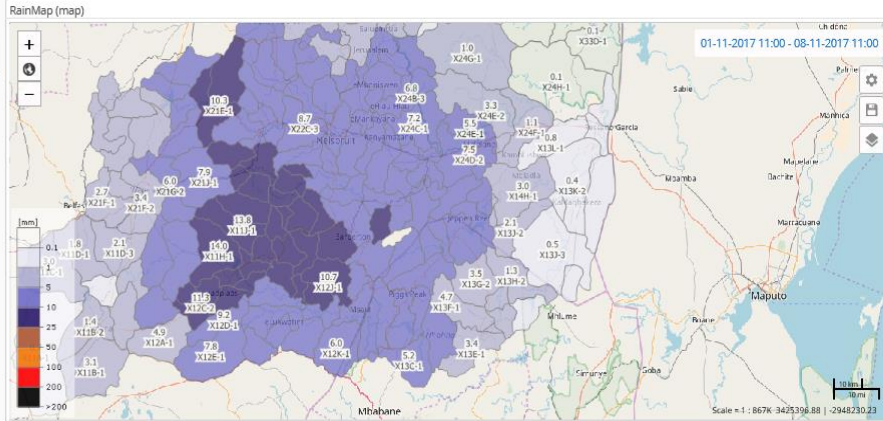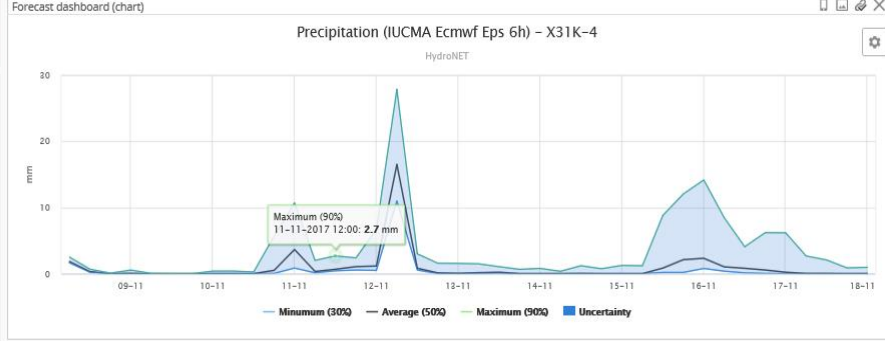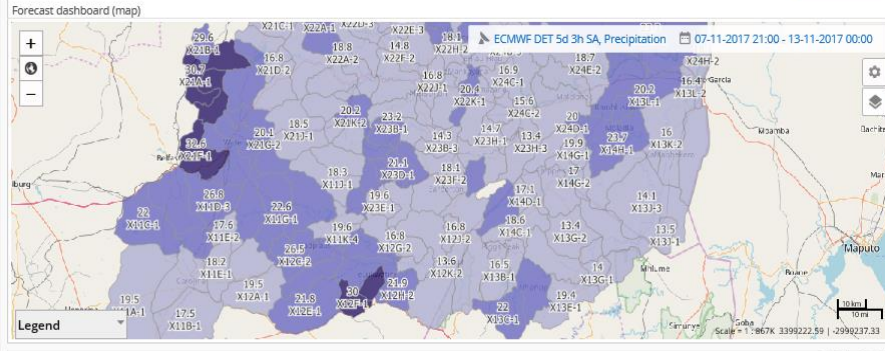
Subscription stage: month 4 - month 24

- Maintenance of platform, applications and data connections
  - Monitoring, Security, Accessibility

- Monthly upgrades of the software (no additional costs)

- Helpdesk
  - Front office: SAWS
  - Back office: IUCMA or HydroLogic

- Yearly Training at WMA

- HydroNET user forums

Configuration

Subscription

HydroNET forum meeting

- Coordinated by IUCMA

- 2 meetings per year with specialists
  - Share lesson's learned & user experiences
  - Discuss advances and collective benefits for the water sector
  - Collect wish list for new functionality

- Benefit from the HydroNET community

Water Control Room Components	Jul - Oct	Nov - Jan	Feb - Apr	May - Jul	Aug - Aug
Weather Applications Configuration and Training	■				
Weather Applications Subscription		■	■	■	■
Water Auditing Configuration and Training		■			
Water Auditing Subscription			■	■	■
Connection with DWS Databases		■	■	■	
Water Applications Configuration and Training				■	
Water Applications Subscription				■	■

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Project team

Michelle Hartslief
Project leader

Tsholofelo Tsogo
Helpdesk

Leanne Reichard
Project leader HL

Helga van der Vegt
Account Manager +
trainer

Annemarleen Kersbergen
Advisor + trainer
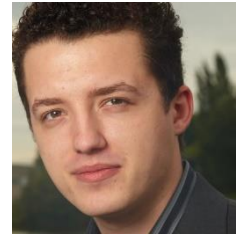
Sead Kolic
IT specialist
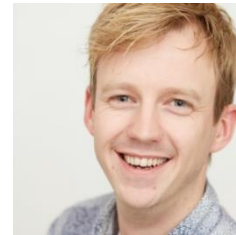
Erik Plaggenmars
IT specialist

Tendai Sawunyama
Trainer IUCMA

Marcus Selepe
Trainer IUCMA

Ruben Goudriaan
Trainer IUCMA

Tasks and responsibilities:

- Main contractor
  - Account management
  - Administration & Invoicing
- Present at steering committies
- First line helpdesk during office hours
  - Backend support from IUCMA/ HydroLogic
- Training of Weather applications to make WeatherSMART decisions
- Provision of Weather and Climate data (services)
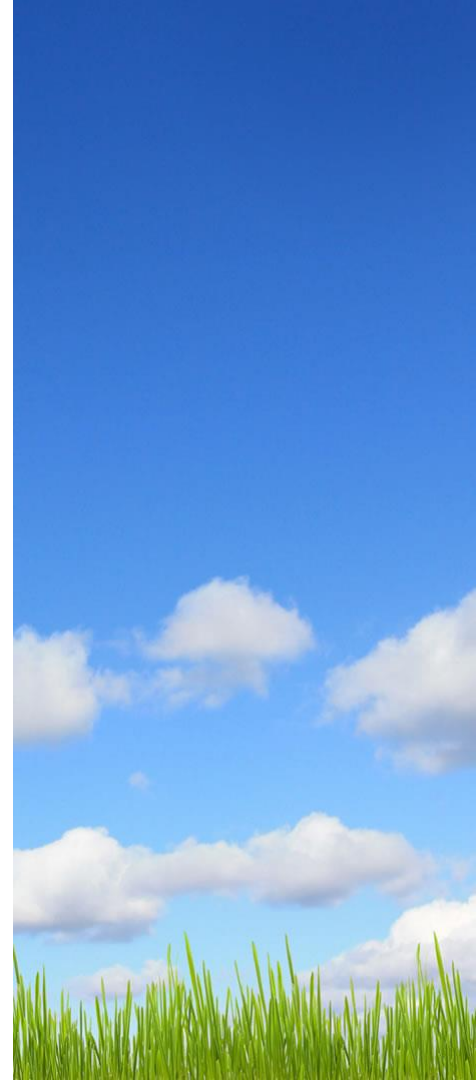
Tasks and responsibilities: HydroNET

- Provide 24/7 access to the platform and applications

- Automatic software updates

- Configuration of applications

- Technical helpdesk

- Establish and maintain data connections

- Training and user manuals

Tasks and responsibilities: CMA's

- Provide shapefiles
  - Areas (e.g. quinary catchments)
  - Irrigated farms
- Provide per farm: allocation and crop type
- Provide local knowledge
- Attendance at Workshop, Training and Forum meetings
- Hosting of trainings
- Provide user feedback and experiences

Tasks and responsibilities: others

- eLEAF
  - Provision of monthly irrigated water use
  - Training Water Auditing application

- IUCMA
  - Training and capacity building
  - Coordination of HydroNET user forums
  - Coordination of new user requirements

- Kingfisher partners
  - Participate in trainings to bring in experience on the use of HydroNET to support water management decisions

DWS & regional heads

- DWS
  - Contact persons
    - Project manager: first point of contact
    - IT first point of contact
    - Marketing first point of contact
  - Internal and external promotion

- Regional heads
  - Arrange training venues
  - Get the right CMA persons to attend the trainings

- IT requirements
  - Allow HydroNET to access the DWS databases

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Activities for the coming 3 months

Sep: Configuration of Weather Applications for all 7 CMA's

Oct: Training on making WeatherReady and ClimateSmart decisions at all CMA's

Oct: Launch of this project
- Launch plan
- 23rd of October (?)
- Venue (icw dutch embassy?)

Oct/Nov: Technical meeting on data connection

Training: making WeatherReady and ClimateSmart Decisions

- Experiences IUCMA and Kingfisher with weather & climate applications

- Training on weather and measurement methods by SAWS

- Training on usage of HydroNET Weather Applications

- Duration training: 2 days per CMA

- Planning: next slide

Proposed training plan

| Monday	Tuesday	Wednesday	Thursday	Friday
15-10	16-10	17-10	18-10	19-10
PUCMA day 1	PUCMA day 2		DWS day 1	DWS day 2
22-10	23-10	24-10	25-10	26-10
Vaal day 1	Launch	Vaal day 2	Limpopo + Olifants day 1	Limpopo + Olifants day 2
29-10	30-10	31-10	01-11	02-11
Orange day 1	Orange day 2		Breede-Gouritz day 1 (optional)	Breede-Gouritz day 2 (optional)
05-11	06-11	07-11	08-11	09-11
Berg-Olifants day 1	Berg-Olifants day 2		Tsitsikamma day 1	Tsitsikamma day 2
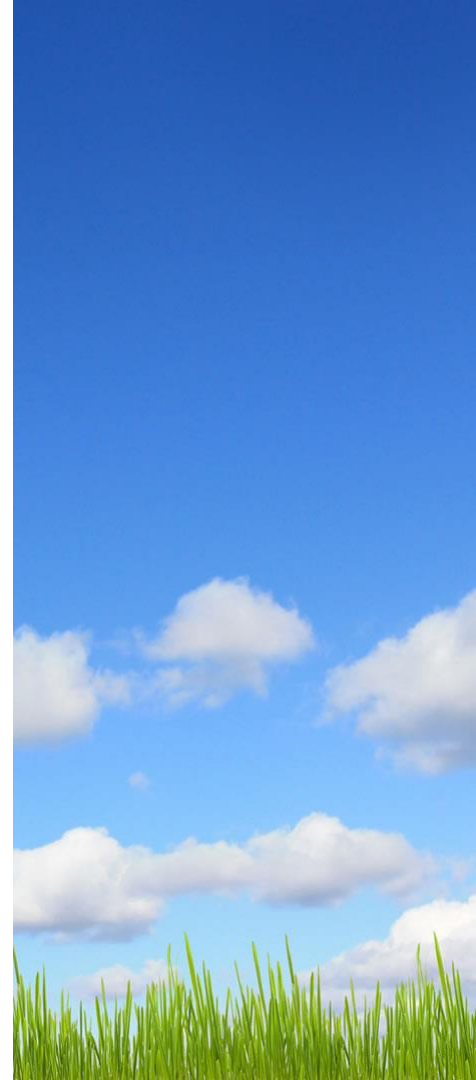
We need support from DWS!

- Facilitate venue per CMA

- Provide list with participants per CMA

- Provide shape files of different catchment levels
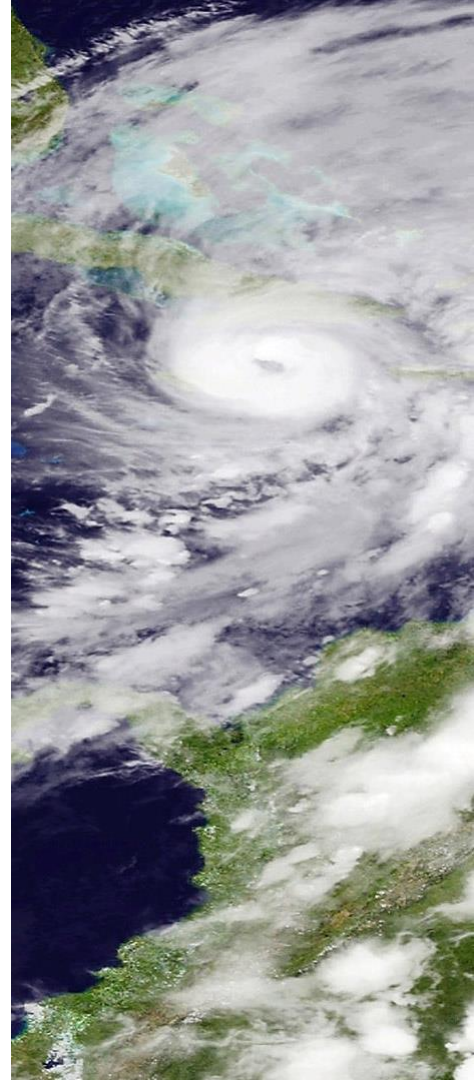
Launch plan

Plan for Data connection
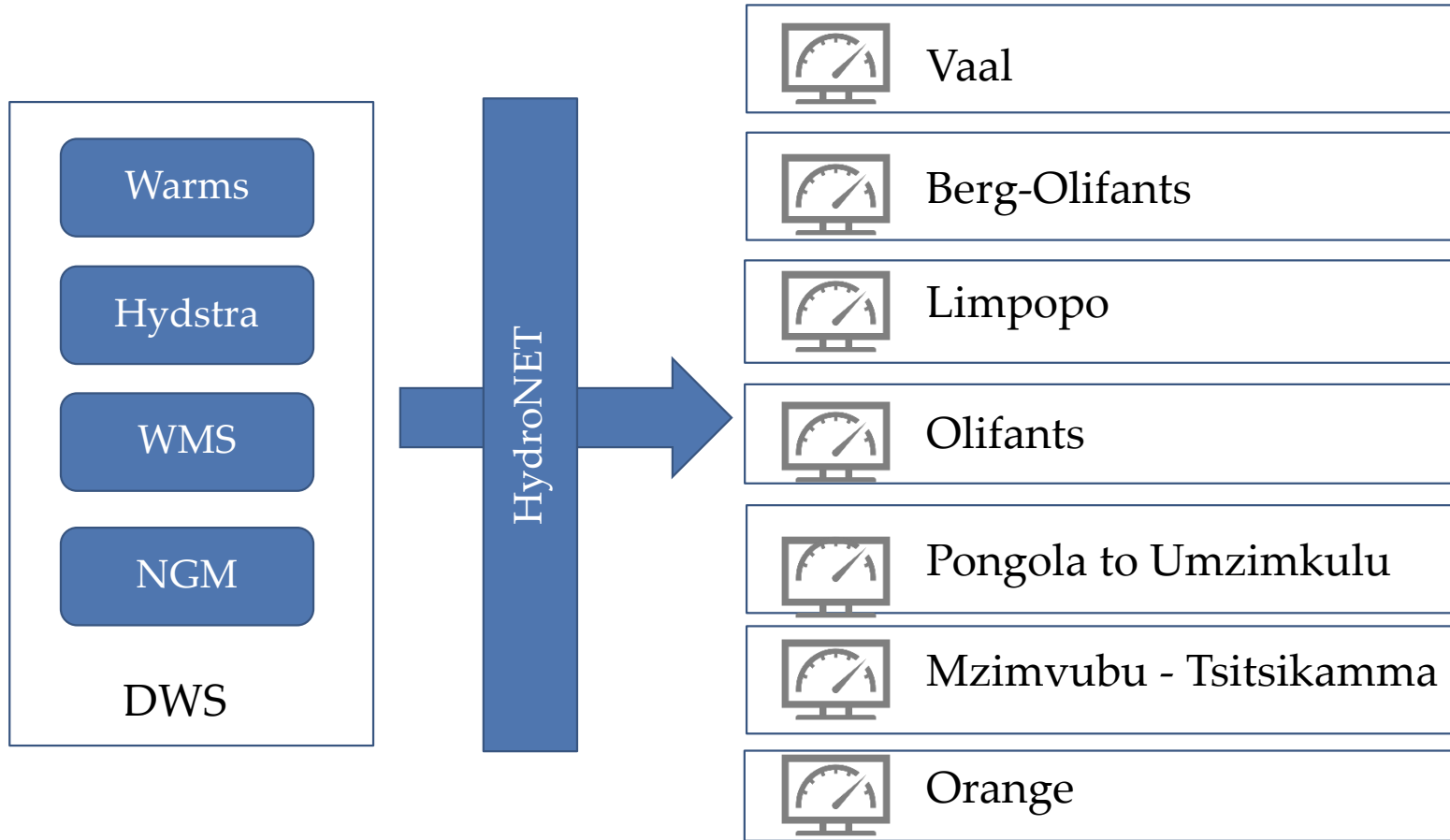
Payment Schedule

Water Control Room Components	Jul - Oct	Nov - Jan	Feb - Apr	May - Jul	Aug - Aug
Weather Applications Configuration and Training	■	● Invoice 1			
Weather Applications Subscription		■	■	■	■
Water Auditing Configuration and Training		■	● Invoice 2		
Water Auditing Subscription			■	■	■
Connection with DWS Databases		■	■	■	
Water Applications Configuration and Training				Invoice 3 ●	
Water Applications Subscription				■ Invoice 4	■ ●

Thank you!

South African Weather Service

HydroNET