



Flanders
State of
the Art

How to manage drought: case of the “Flemish Drought Commission”

Joris Bouve

Crisis Center of the Government of Flanders



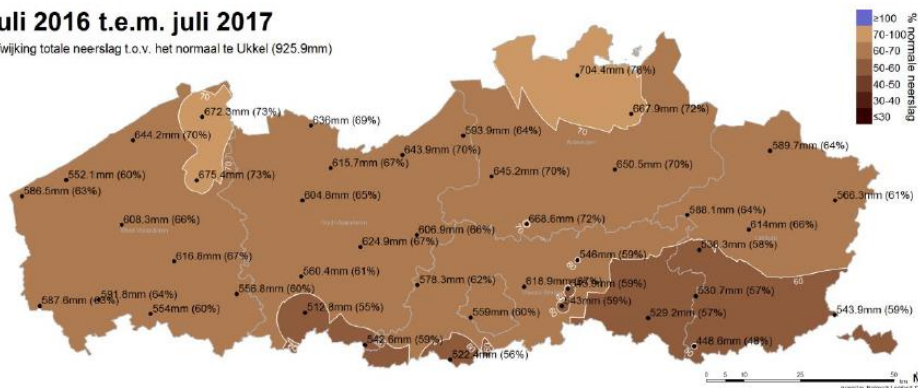


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Drought in Flanders: rainfall deficit 2016 - 2017

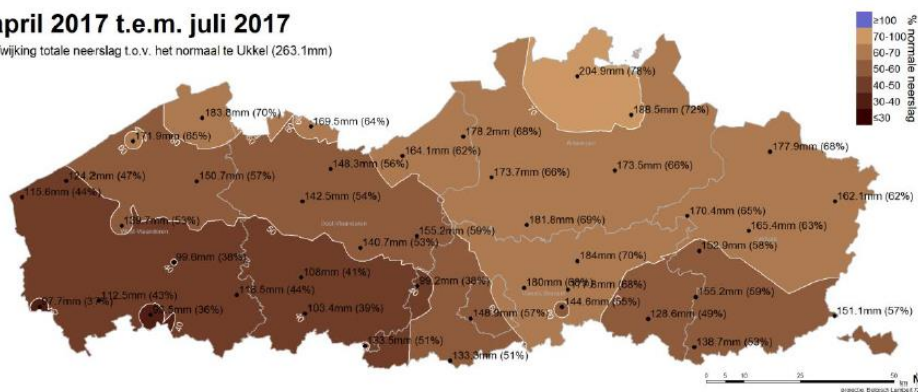
juli 2016 t.e.m. juli 2017

afwijking totale neerslag t.o.v. het normaal te Ukkel (925.9mm)



april 2017 t.e.m. juli 2017

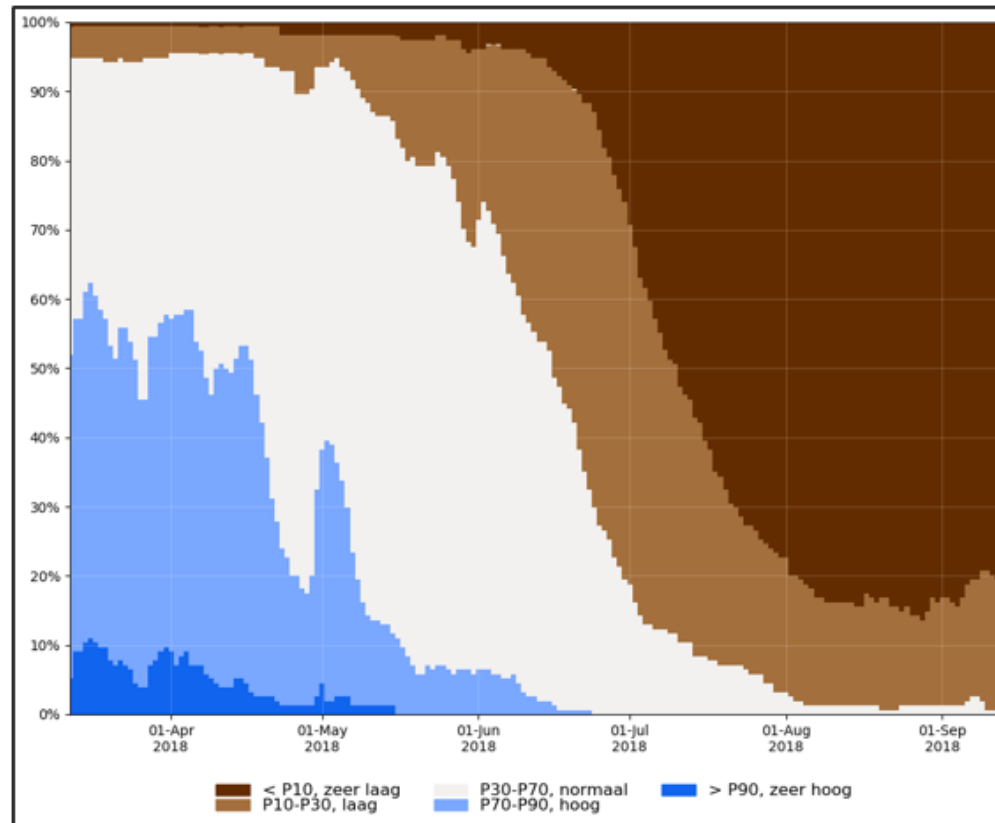
afwijking totale neerslag t.o.v. het normaal te Ukkel (263.1mm)



Drought in Flanders: rainfall deficit summer 2018



Drought in Flanders: evolution groundwater level 2018



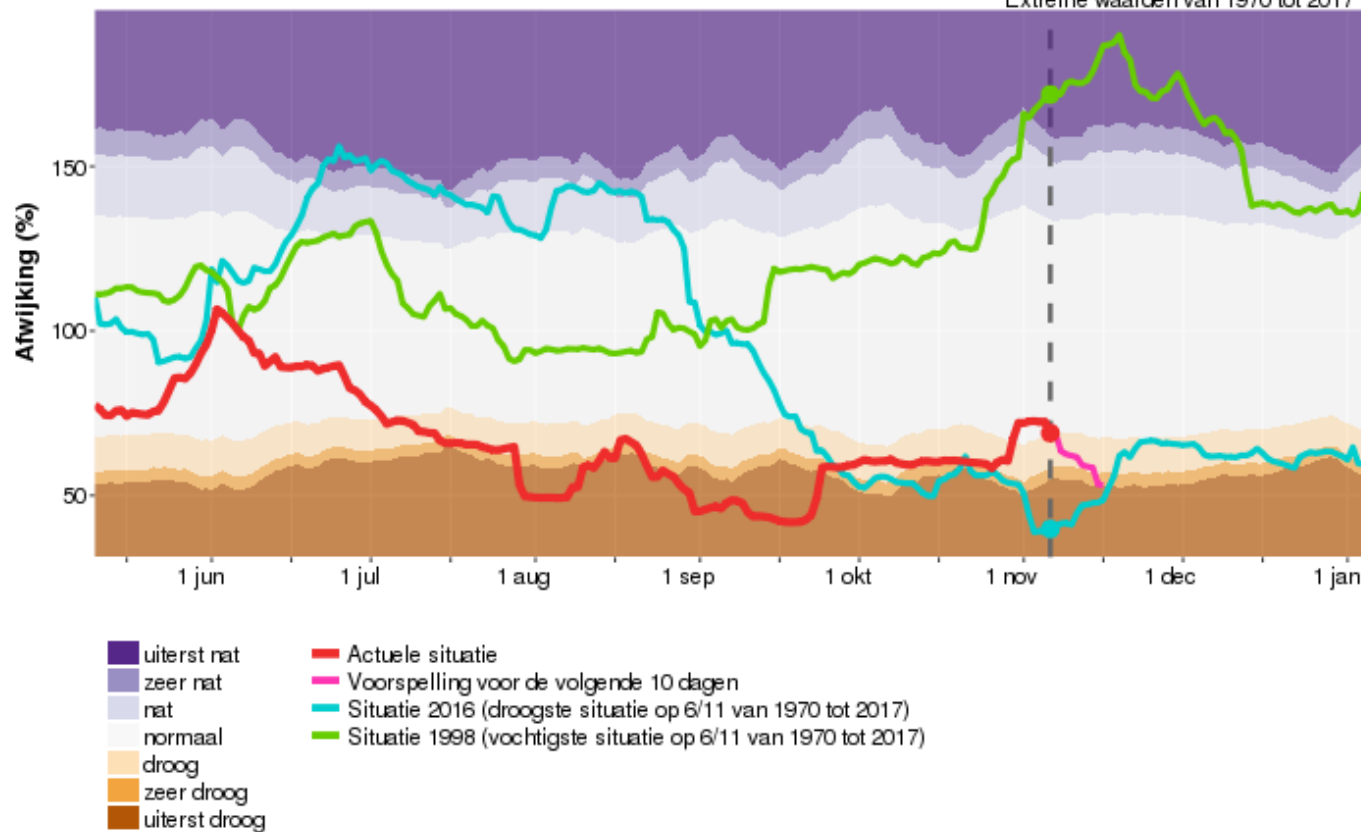
Still very dry...



Neerslagtotaal van de laatste 90 dagen gemiddeld voor gans België, situatie op 6 november 2018

Afwijkingen in vergelijking met de normalen van 1981 tot 2010

Extreme waarden van 1970 tot 2017

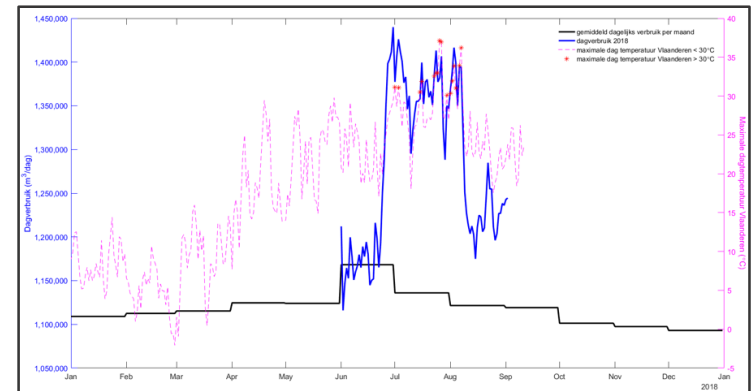


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Consequences

- ▶ Drop in availability of surface water / groundwater
- ▶ Increase use drinking water

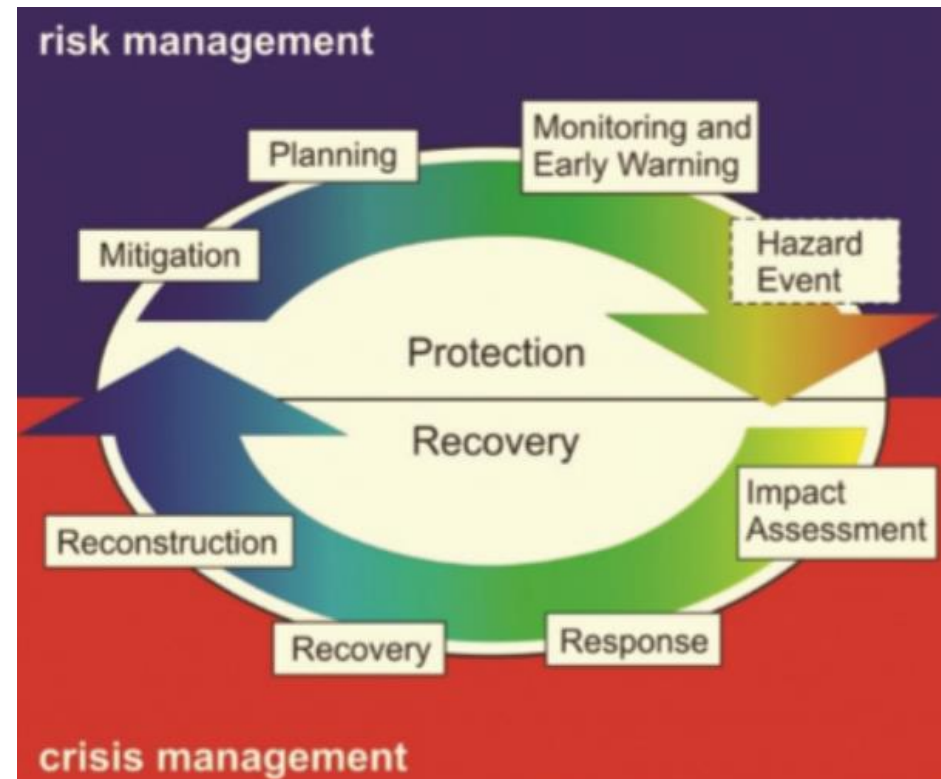
- ▶ Economic losses
 - Agriculture
 - Particular industries
 - Waterborne transport: grouped lockings
 - ...
- ▶ Ecological deterioration
- ▶ ...



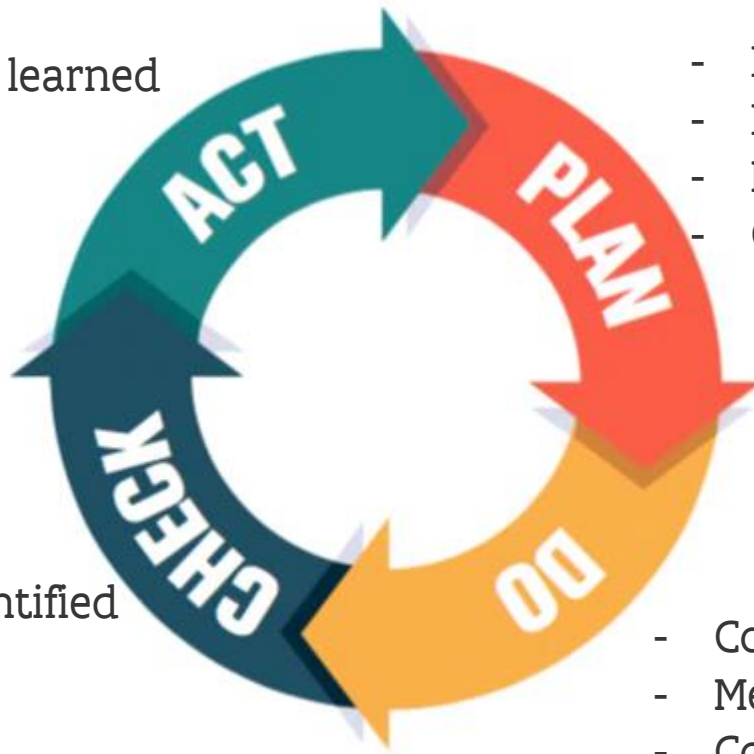
Time for action....

- ▶ Establishing “Flemish Drought Commission”
- ▶ Mainly based on crisis management, but ...

a paradigm shift



- Lessons learned
- Adapt



- Plans
- Policy documents
- Legal instruments
- Governance

- Evaluation
- Lessons identified

- Coordination
- Measures
- Communication



Policy & Plans

- ▶ Integral Water Policy Decree
→ Legal framework since 2004
- ▶ Climate adaptation plan 2014
- ▶ 3^d Water Policy Note (in preparation)



Governance

- ▶ Coordination Commission on Integral Water Policy (CIW)
 - × Established in 2004
 - × Members:
agencies responsible for water management at Flemish & local level, water supplying companies, 1 member of provinces
 - × Mission:
coordination & integration of water policy & water management in Flanders
 - × Since 2017 also responsible for managing drought in Flanders !



Governance

Working
Group Water
Quantity

- experts of CIW
- monitor & interpret indicators

Flemish Drought
Commission *

- representatives of CIW
- representatives of “Ministers”
- Crisis Center of the Government of Flanders
- evaluate situation + propose measures

Provinces

- implement measures



Flanders
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* since May 22, 2018



Monitoring

- ▶ Working Group Water Quantity
- ▶ Set of indicators
 - Q
 - SPI & SPEI
 - Relative groundwater level
 - Dissolved O₂
 - Conductivity
 - Cumulative rainfall deficit



normal



alert (dry)



alarm (very dry)



crisis (extremely dry)



Flemish Drought Commission

- ▶ Coordinate
 - Different stakeholders
- ▶ Evaluate situation
 - Based on advice “Working Group Water Quantity “
- ▶ Propose measures to Provinces (summer 2018)
 - Prohibition
 - × captation surface water (agriculture)
 - × watering lawns,...
 - × recreation in some rivers / lakes due to cyanobacteria
- ▶ Coordination of communication (www.opdehoogtevandroogte.be)





Provinces

- ▶ Implementation of measures:
→ Local differentiation
- ▶ Communication to citizens
- ▶ Enforcement



Other sectors

- ▶ **Waterborne transport:** grouped locking, better water management, draft restrictions,...
- ▶ **Suppliers drinking water:** call for sustainable water use
- ▶ **Agriculture:** preventive measures, funding (VL + EU)
- ▶ **Nature:** preventive measures in nature reserves (water management, wildfires, ...)
- ▶ **Industry:** ad hoc measures
- ▶ **Recreation:** prohibition in some rivers / lakes





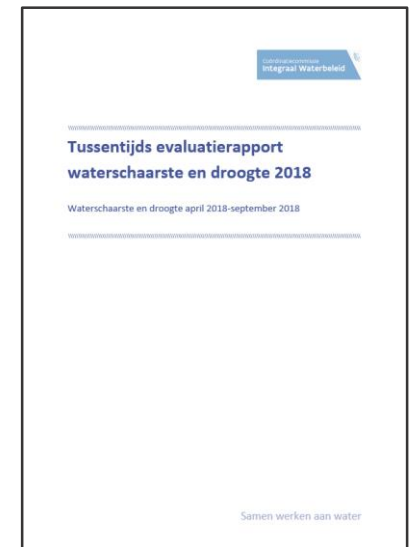
Lessons identified

- ▶ During summer 2018
 - Communicate: unique spokesman
 - Include health issues
 - Members: 5 provinces (instead of 1)



Lessons identified: Evaluation report

- ▶ Optimisation needed
 - Indicator set
 - Link indicators – measures
 - Argumentation proposed measures
- ▶ Flemish Drought Commission:
 - All Provinces
 - Crisis exercises
- ▶ Development framework priority water supply





Lessons identified: Evaluation report

- ▶ Communication:
 - Uniformisation
 - Different channels
 - Targeted: awareness different sectors

- ▶ Sustainable water use => Behavioral insights

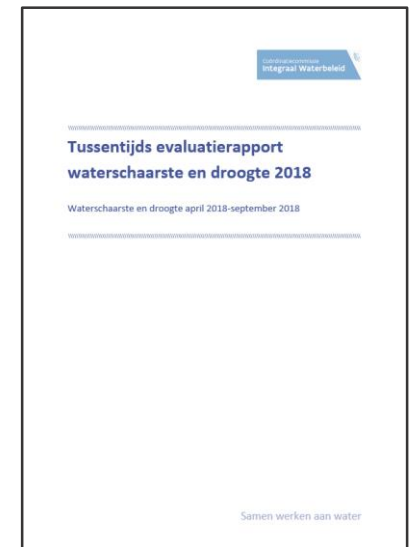
- ▶ Further research
 - Effectivity / efficiency measures
 - Use of alternative water resources
 - ...





Lessons identified: Evaluation report

- ▶ Optimisation monitoring water quality
- ▶ (Re)establishing water management agreements with NL, FR, Wallonia
- ▶ Identification & analysis sector specific water- / drought risks
- ▶ Local implementation of general frameworks
- ▶ Optimisation existing buffering capacity
- ▶ New legislation & (legal) instruments





Take aways

- ▶ Develop a **Policy**
- ▶ Have a **Plan**
- ▶ Set up a **Governance Structure**
- ▶ **Monitor**
- ▶ **Evaluate**
- ▶ **Research** (i.a. effectivity / efficiency measures)



Questions