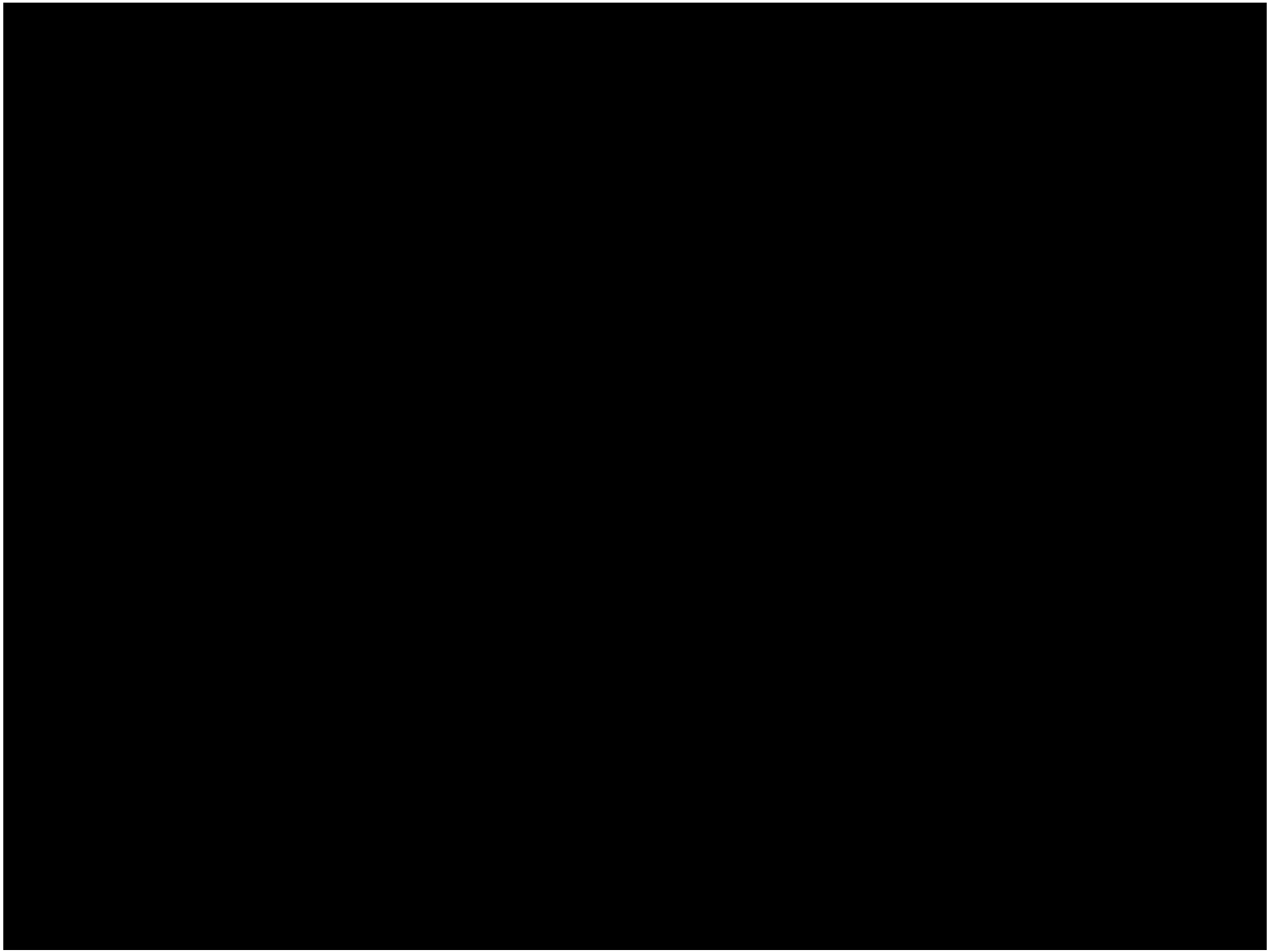
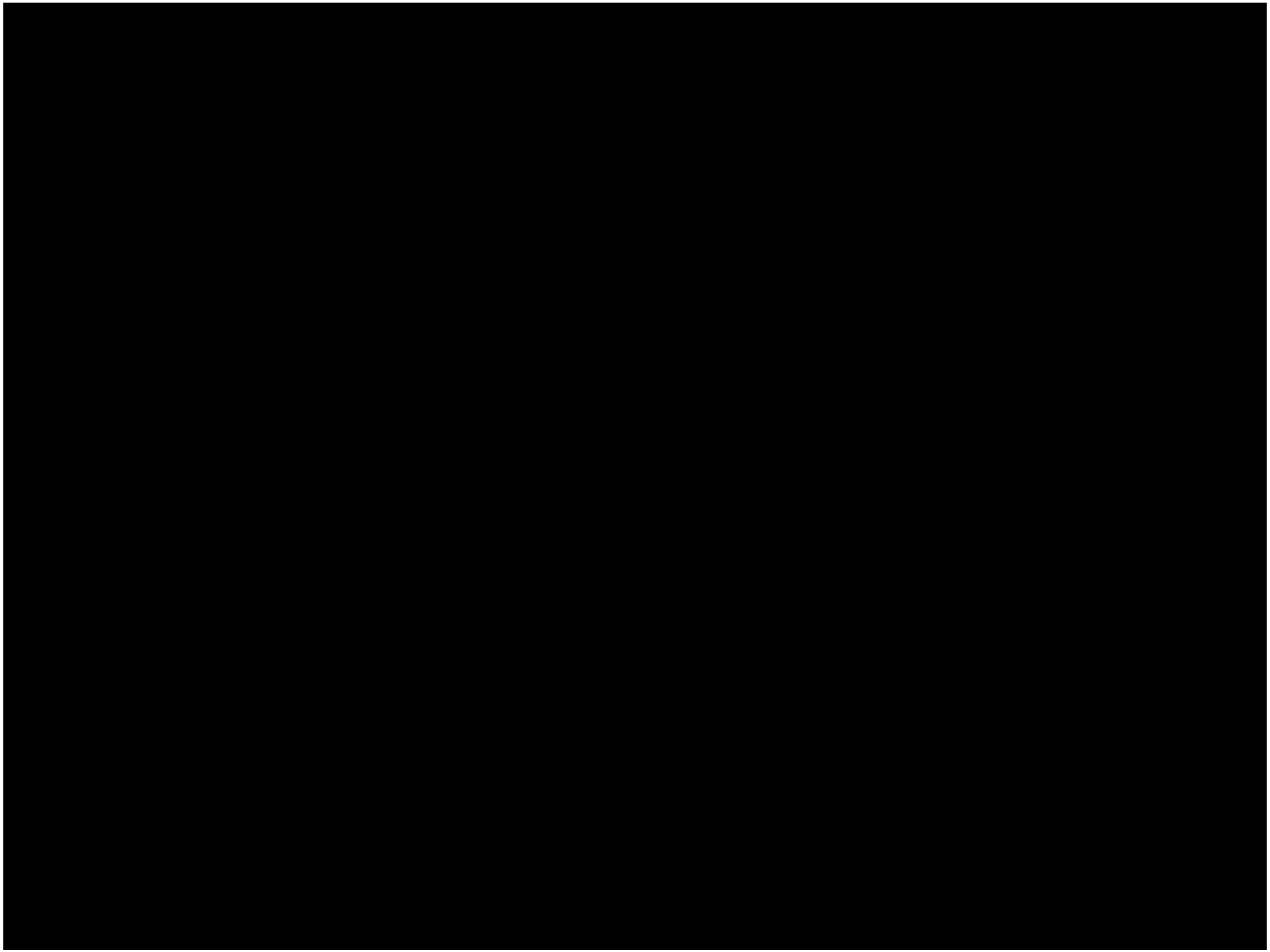

KRÜGER VEOLIA
Hvordan matematikken skaber værdi i vandets verden
Morten Grum
Innovation Manager, Krüger
WATER TECHNOLOGIES

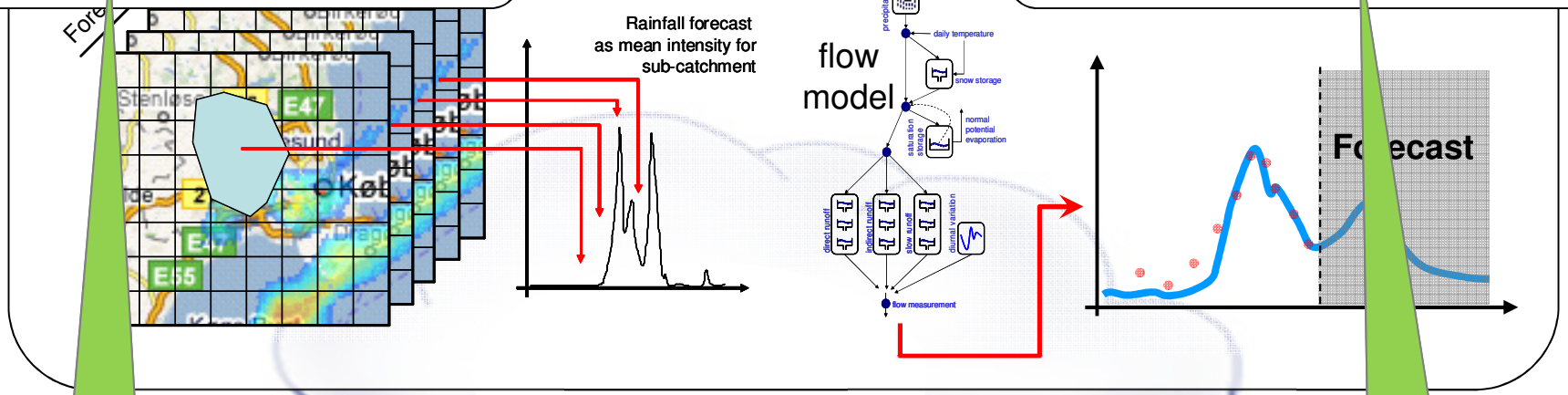



DANISCO
DYKNING UNDER BROEN FORBUDT



Nedbørsprognoser

Flowprognose



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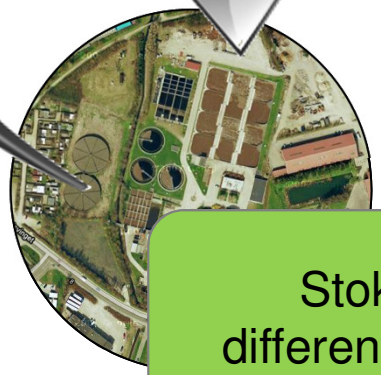
Regnmåler
data

flow
målinger

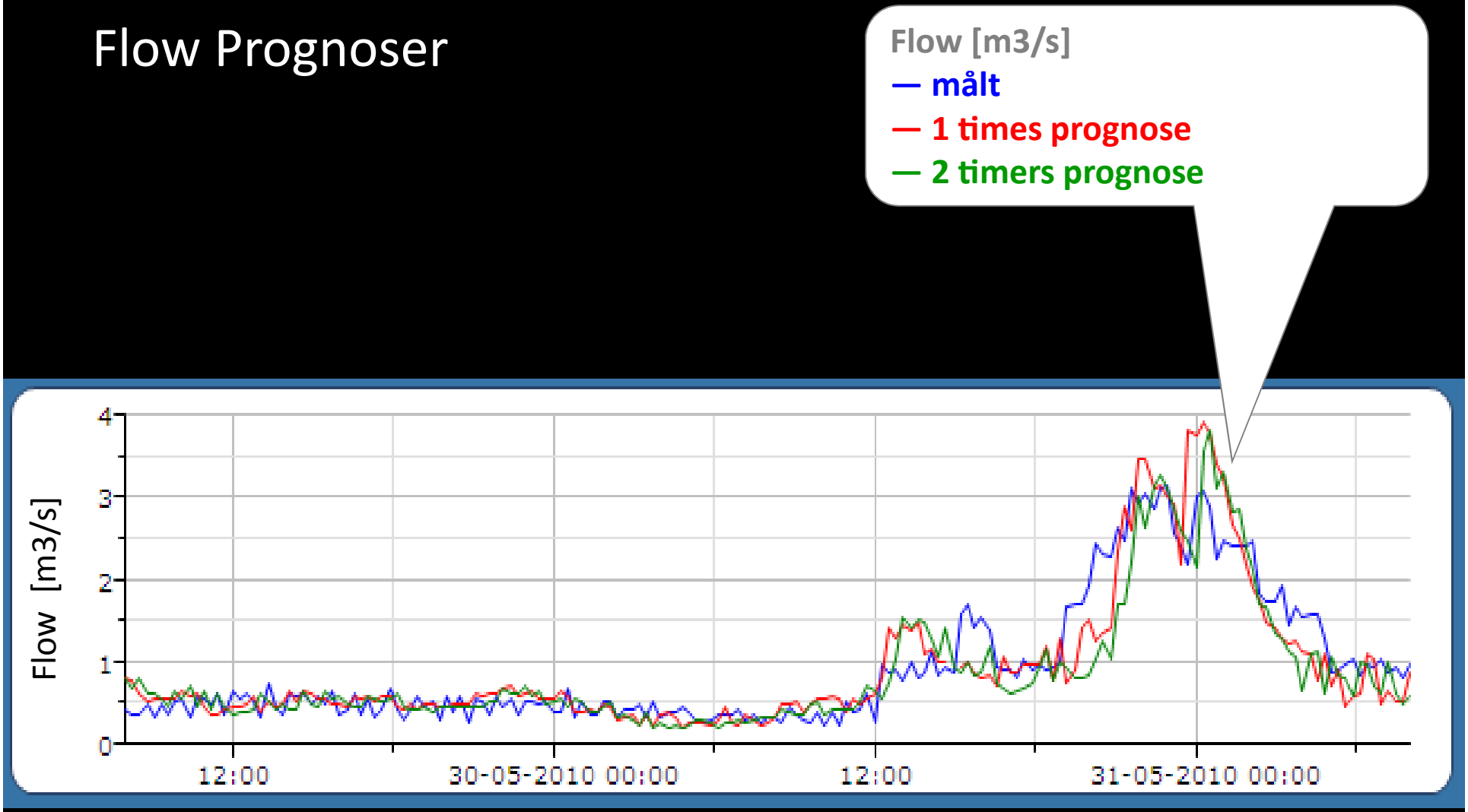
flow
prognose

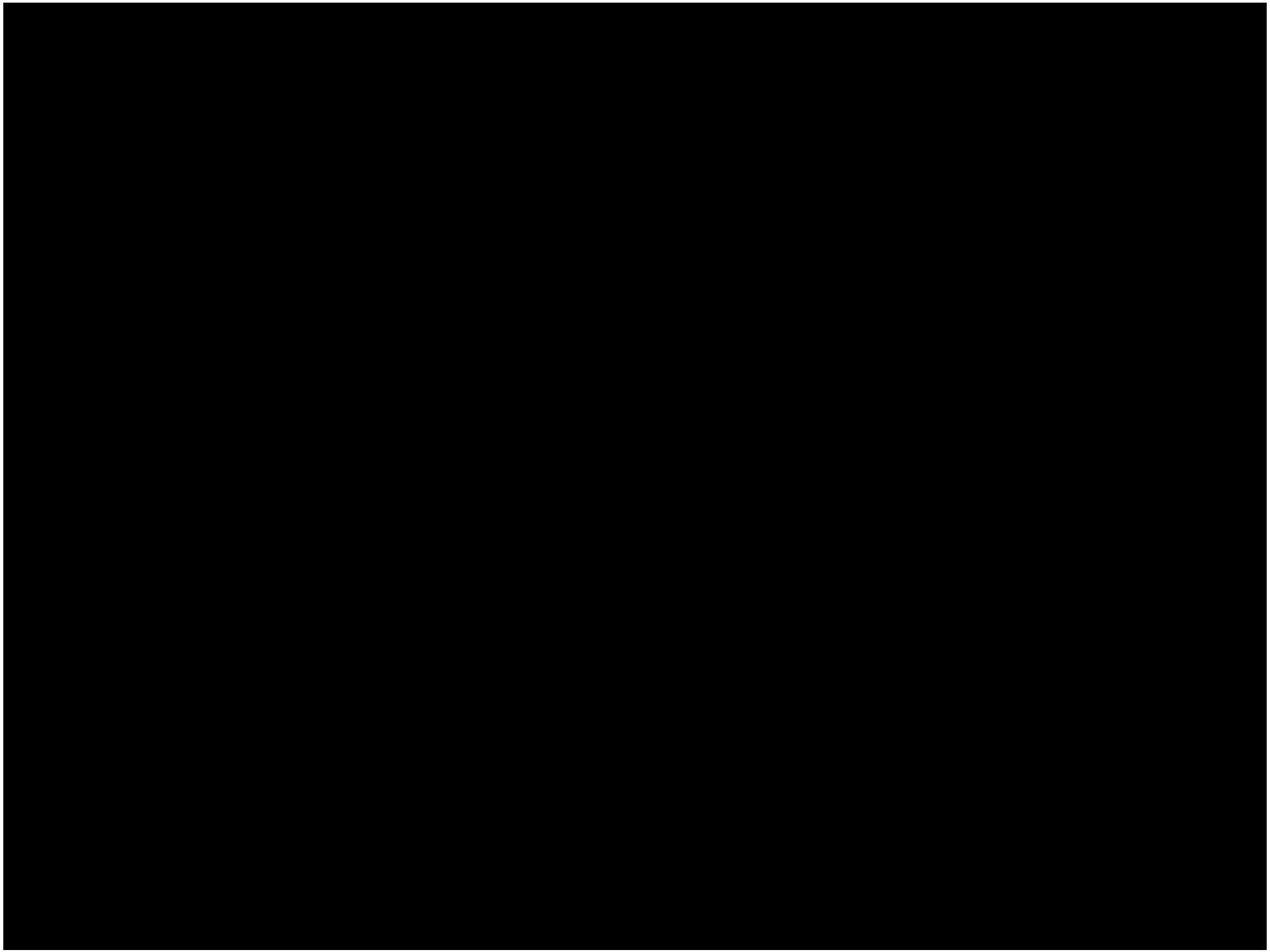


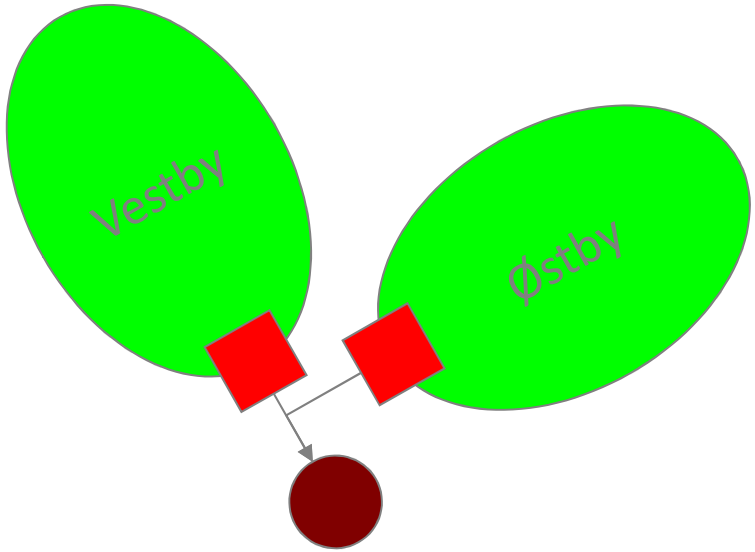
Statistik i justering
og prognose

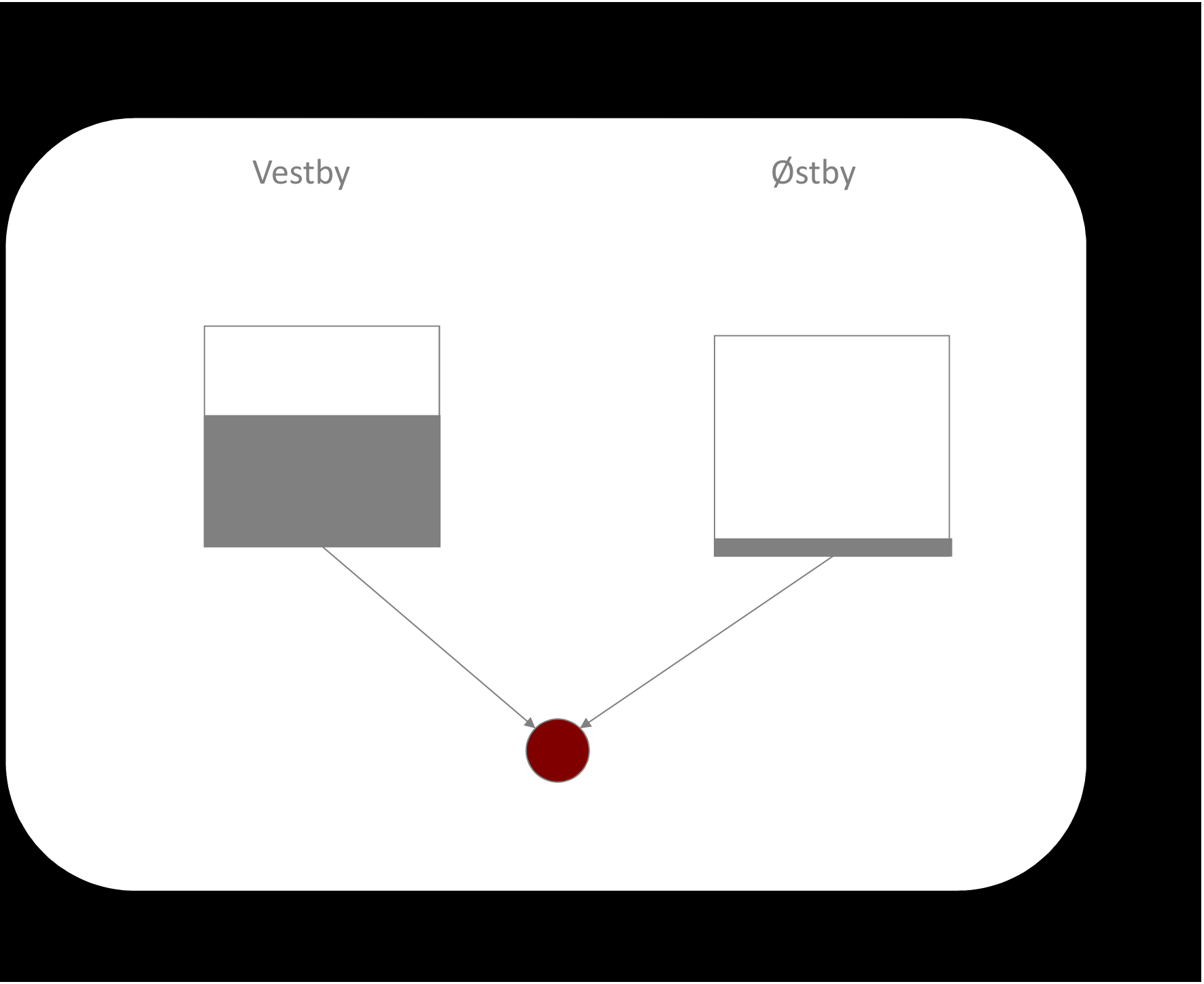
Stokastiske
differentialligninger

Flow Prognoser






Vestby
Østby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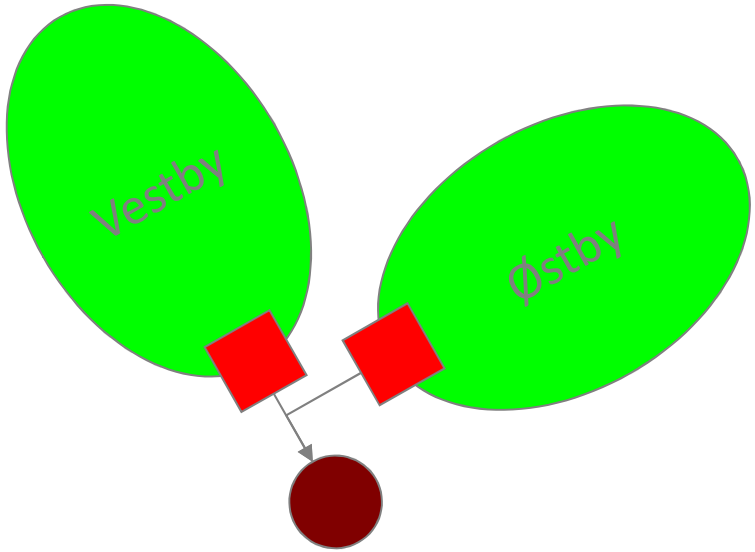
Østby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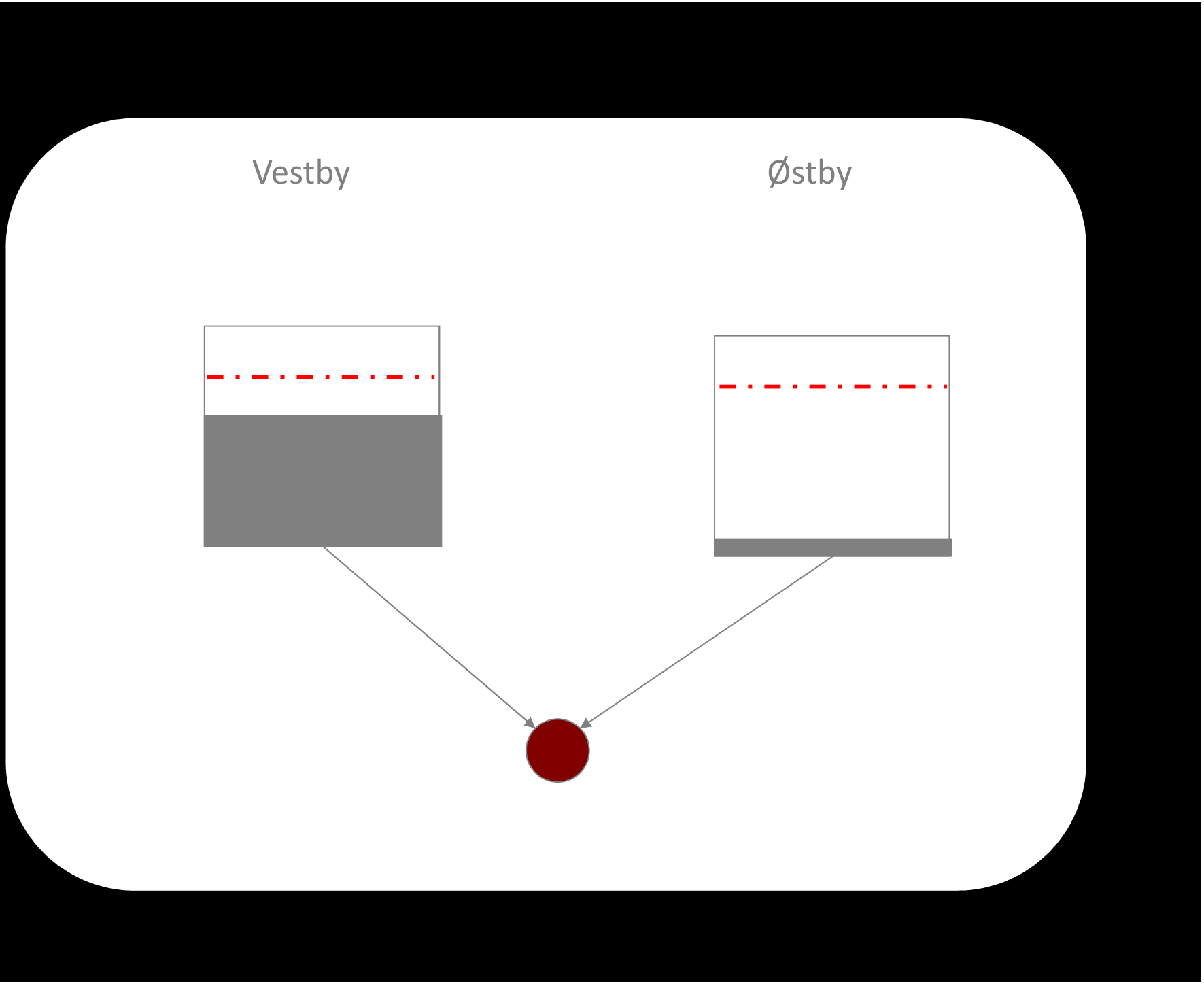
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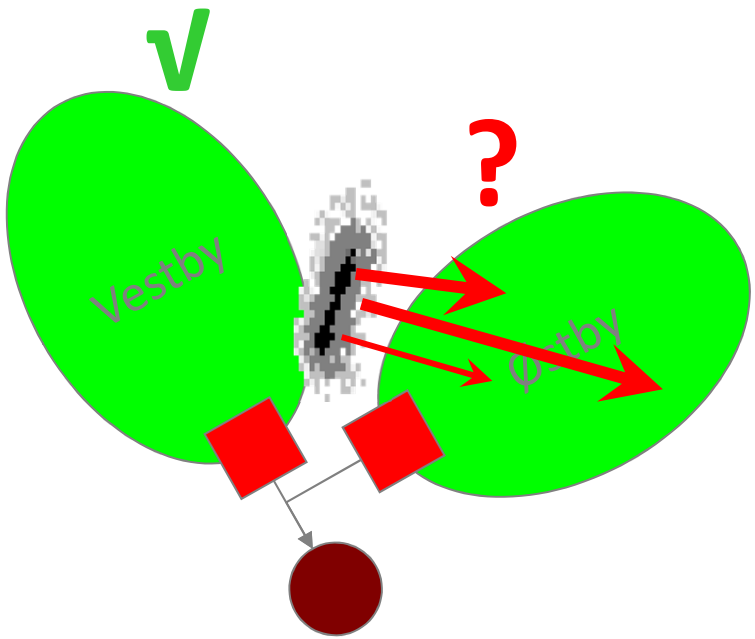
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Vestby
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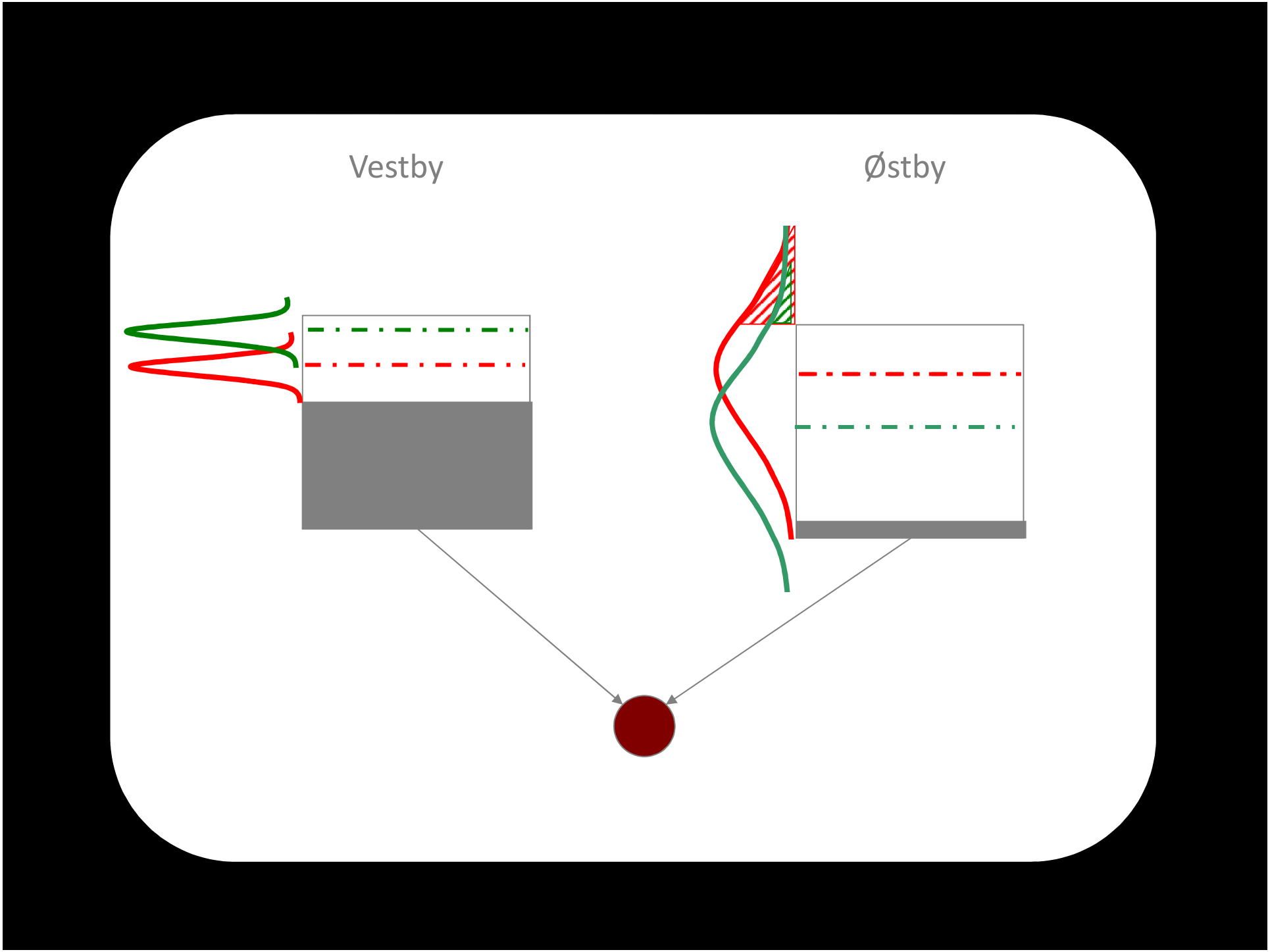
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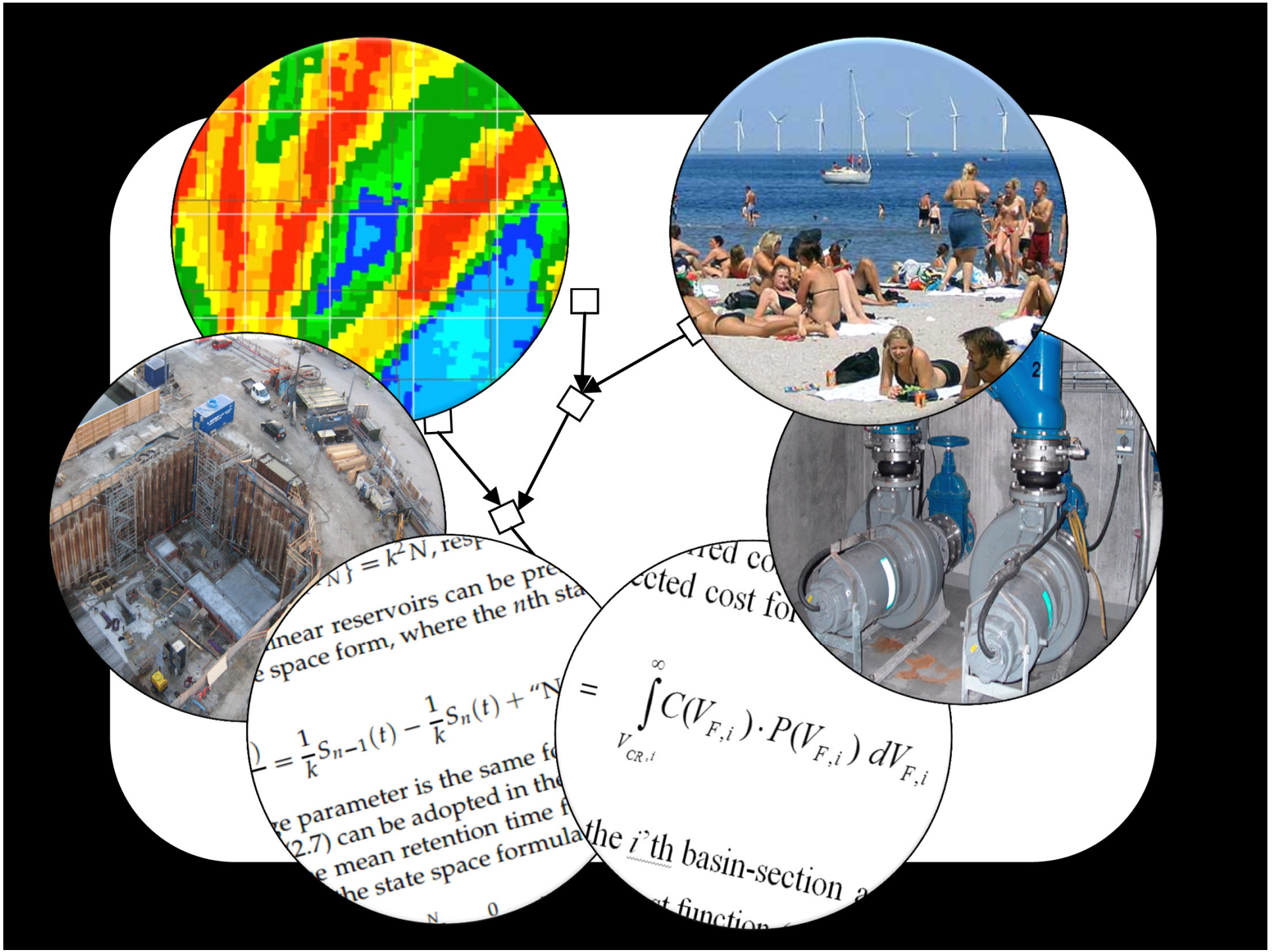
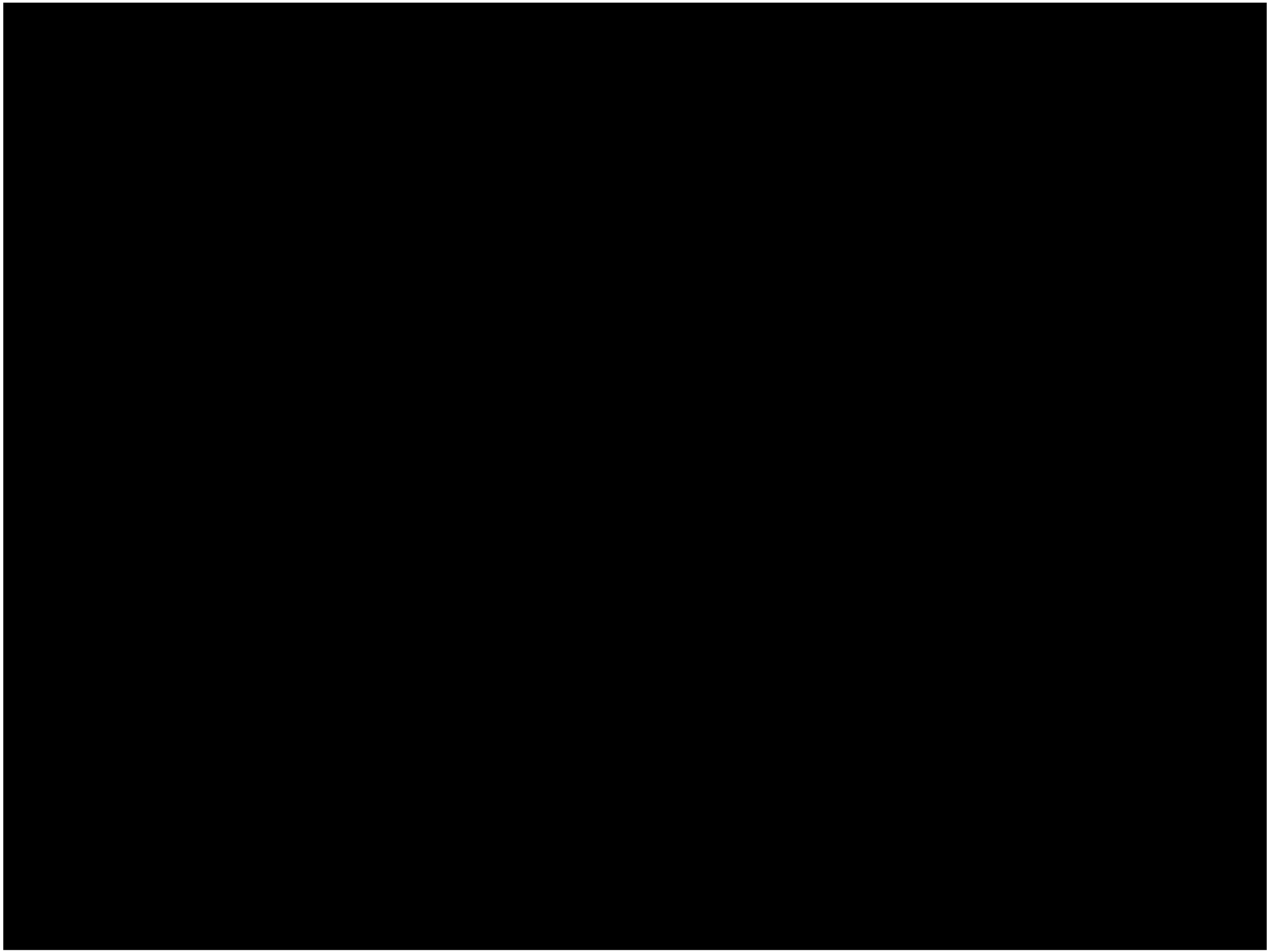
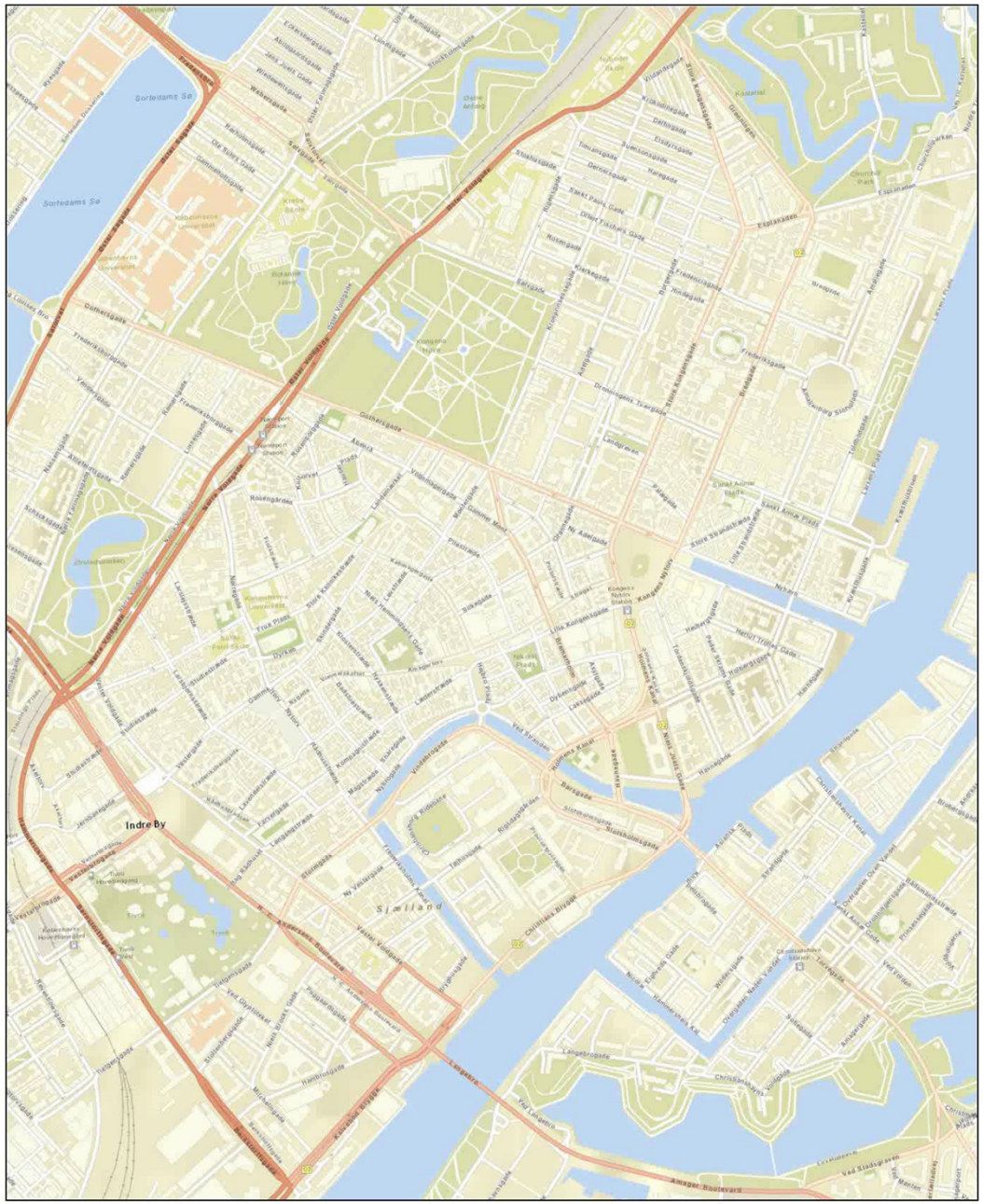

$= \frac{1}{k} S_{n-1}(t) - \frac{1}{k} S_n(t) +$
$= \int_{V_{CR,i}}^{\infty} C(V_{F,i}) \cdot P(V_{F,i})\, dV_{F,i}$
the i"th basin-section

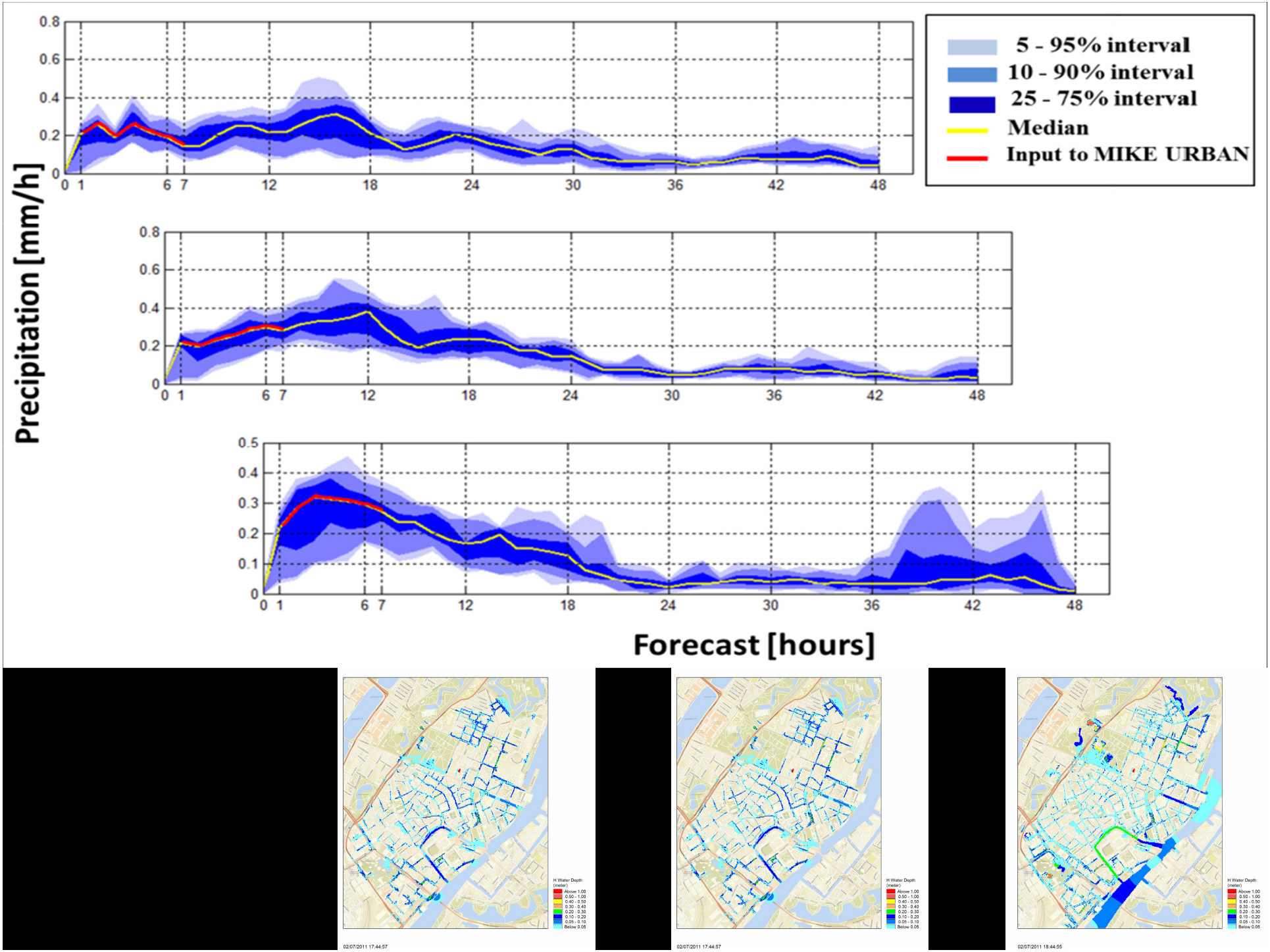


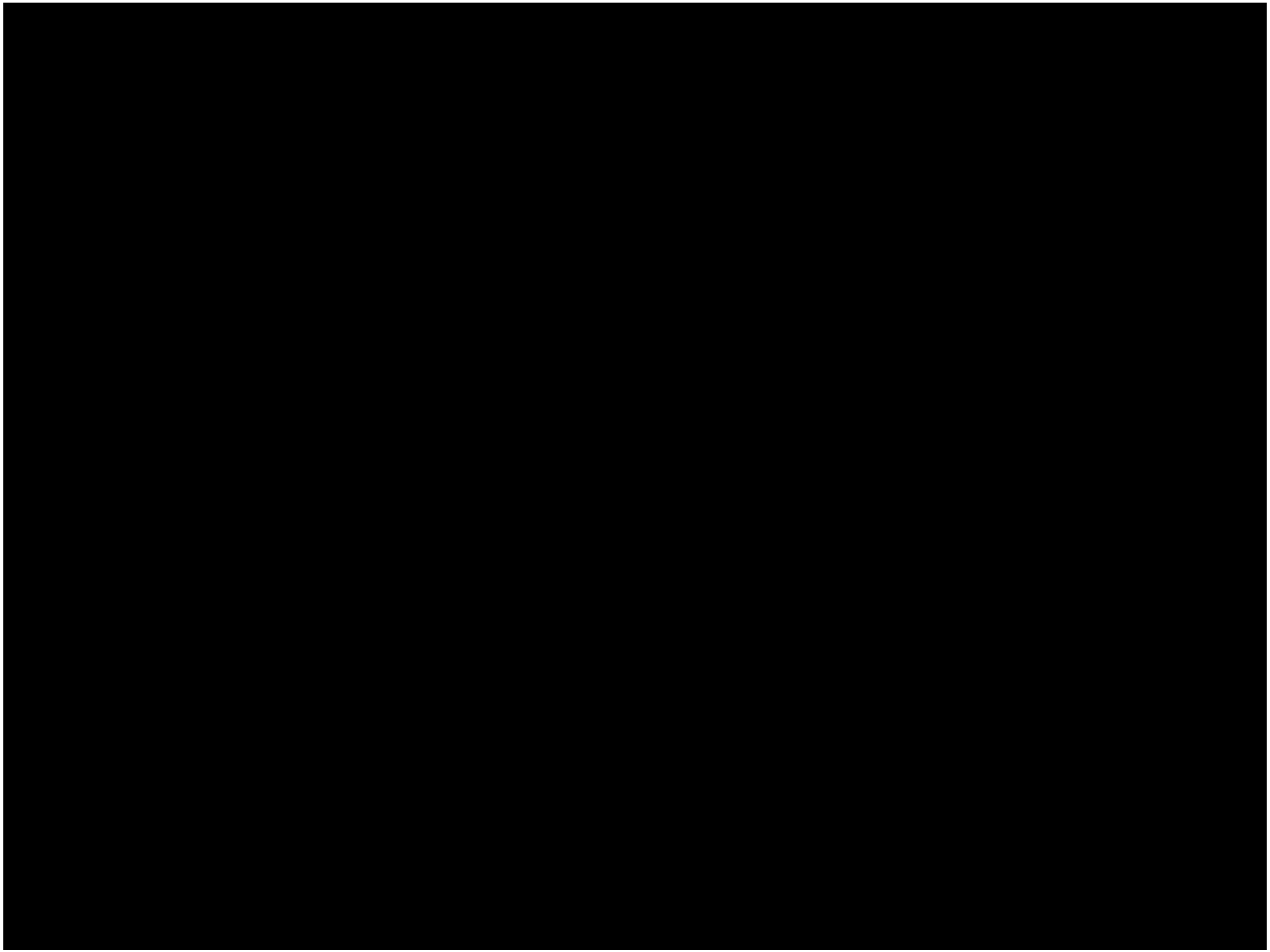


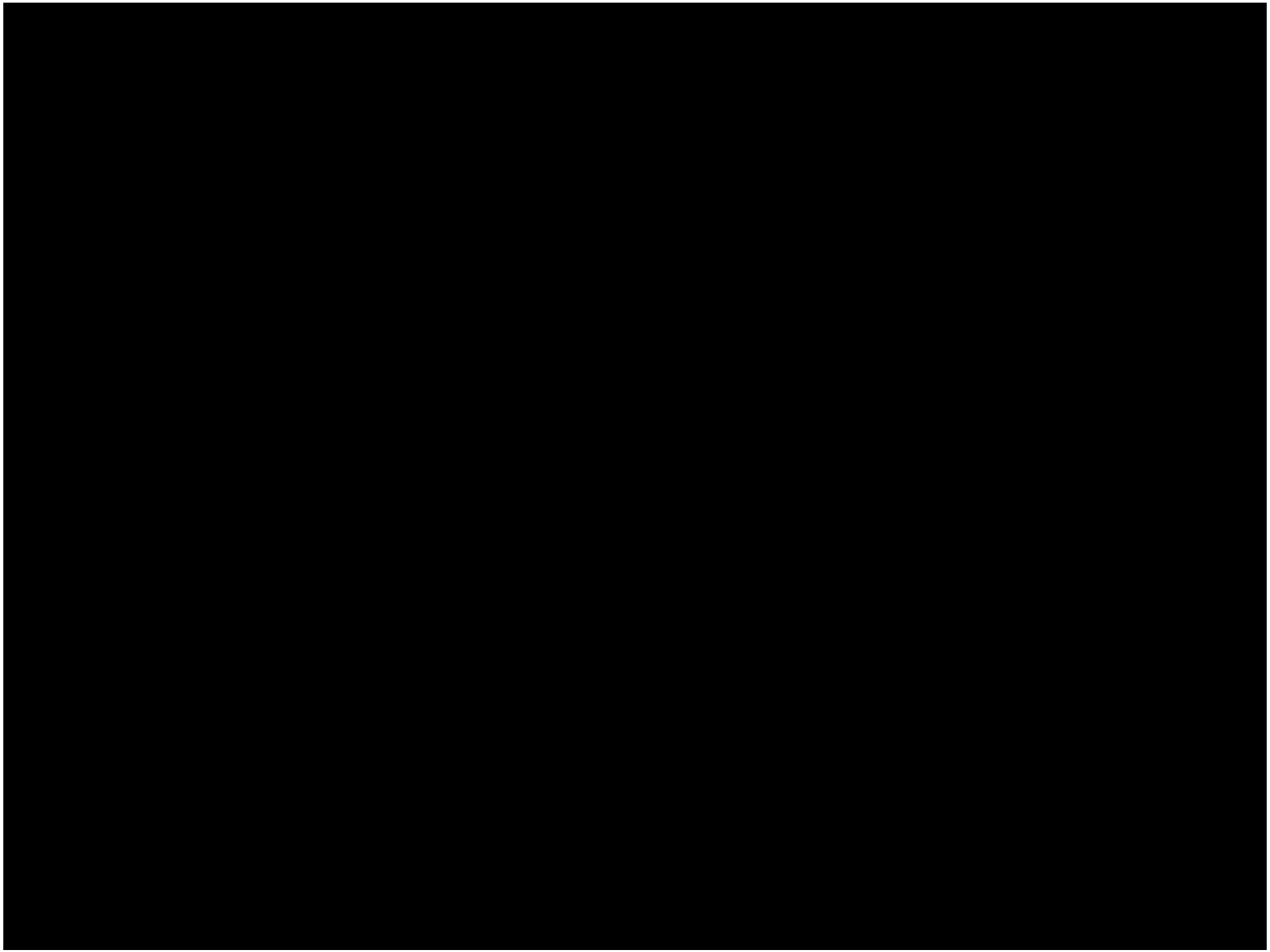
H Water Depth (meter)

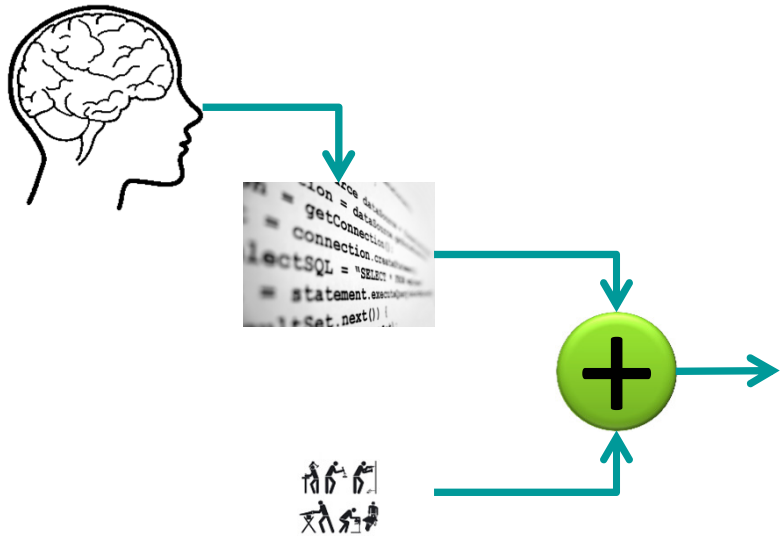
- Above 1.00
- 0.50 - 1.00
- 0.40 - 0.50
- 0.30 - 0.40
- 0.20 - 0.30
- 0.10 - 0.20
- 0.05 - 0.10
- Below 0.05

02/07/2011 16:15:00


5 - 95% interval
10 - 90% interval
25 - 75% interval
Median
Input to MIKE URBAN
Precipitation [mm/h]
Forecast [hours]
0.8
0.6
0.4
0.2
0
0.5
0.4
0.3
0.2
0.1
0 1 6 7 12 18 24 30 36 42 48
02/07/2011 17:44:57
02/07/2011 17:44:57
02/07/2011 18:44:55







Flere kunder
mere værdi

Know-how + matematik = differentiering på det internationalt

DTU

BIOFOS

HOFOR

aarhusvand

DHI

AALBORG UNIVERSITY
DENMARK

KRÜGER

KRÜGER VEOLIA

WATER TECHNOLOGIES