

ATV-Vest: Jord og Grundvand

LAR og konsekvenser for grundvandet

Gå-hjem-møde

Torsdag den 27. september 2018, kl. 17.00 – 19.30

VandCenterSyd

Skt. Jørgens Gade 213
5000 Odense C

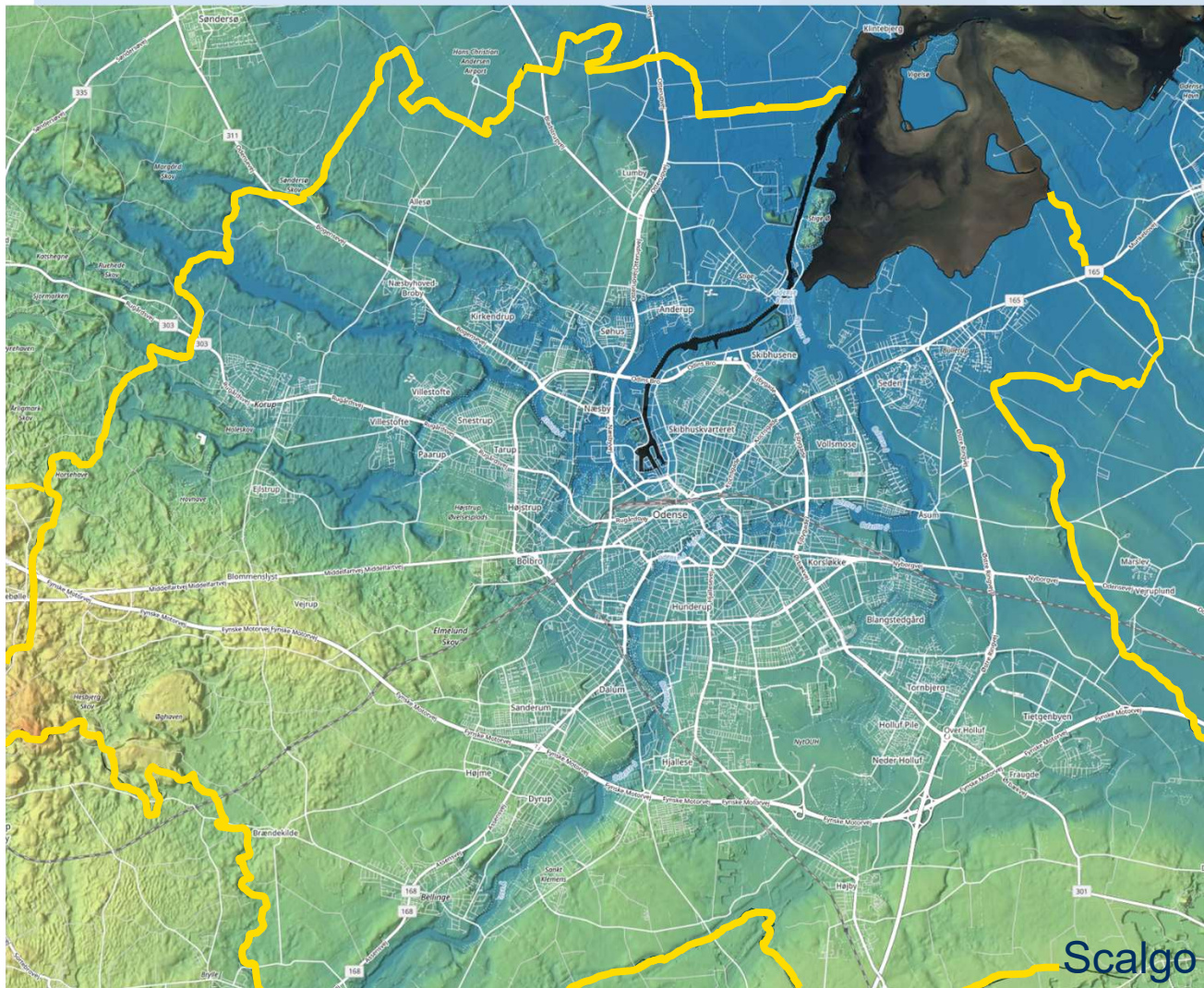
Det kommunale
perspektiv...

Gert Laursen
Klimamedarbejder, miljøvagt, slotsgeolog og hydrogeneralist



Nogle af udfordringerne

- "Optimale" placering....
- Havniveau, nedbør, grundvand...
- Koblede hændelser...
- Byvækst, udvikling/kultivering ...



LAR

Lokal
afledning eller anvendelse
af
regnvand
(så det ikke ender i kloakken)



Set med myndigheds-briller:

Kvantitativt: (udledning, nedsivning....)

Kvalitativt: (Diverse beskyttelseszoner, fredningsbælter, indvindingsoplande, og er det fra hustage, P-pladser, veje...)

Økonomisk: (hel/delvis afkobling, betalingsvedtægter, tilslutningsbidrag...)

Hydrogeologi, topografi og klima: (egnethed, geologiske forhold.....)

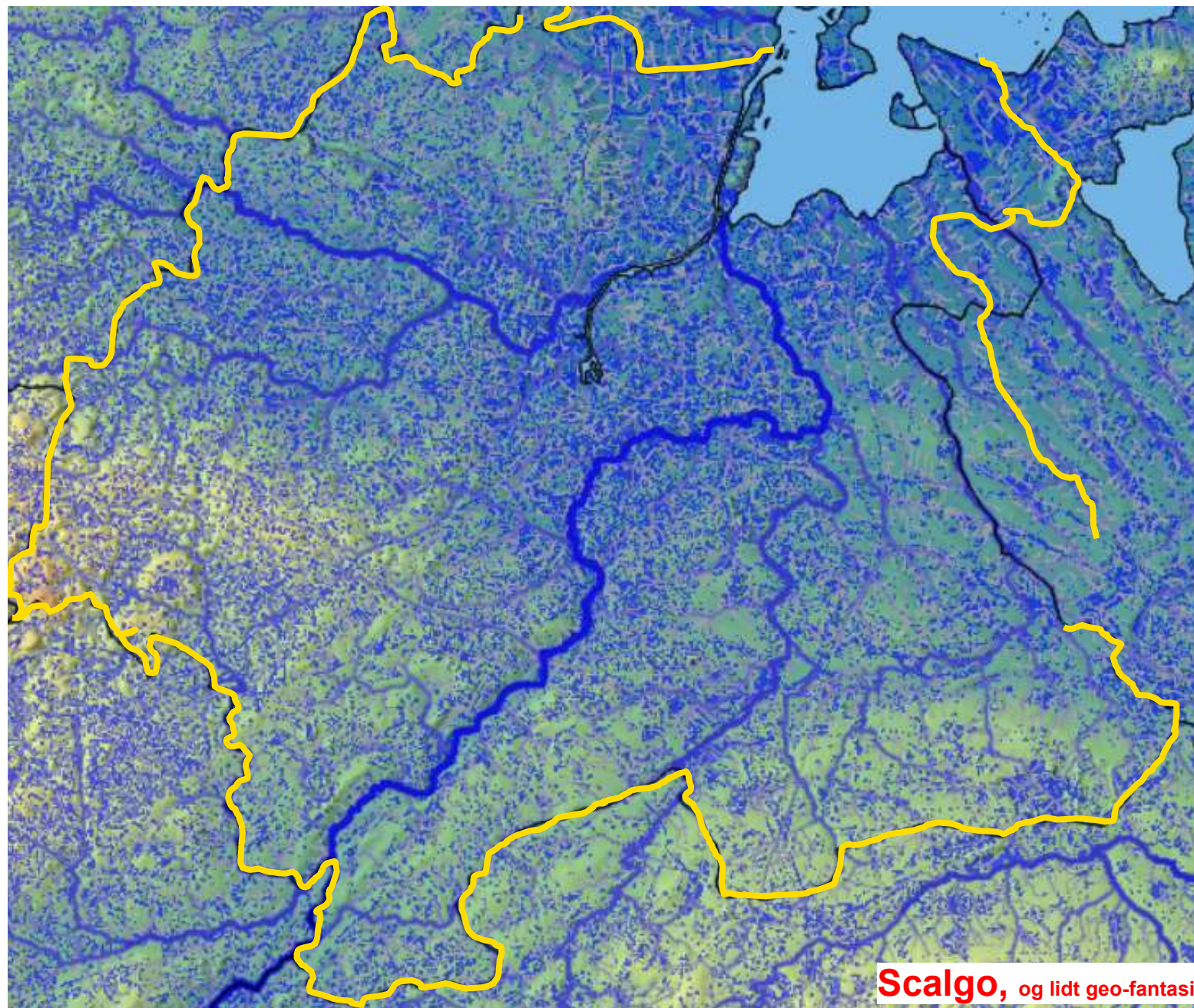
Byvækst: (paradigme-skifte)

PARADIGME-SKIFTET...



- Vi skal acceptere, at indgreb i vandets kredsløb har konsekvenser... Hvis ikke vi lykkes med det, vil de fleste forsøg på "klimatilpasning" eller vandhåndtering (for)blive lappeløsninger.....
- Vi skal have (gen)opfundet vores vandløb. Uden dem kan vi ikke håndtere det terrænnære grundvand – og hvis ikke det terrænnære grundvand indgår i vandhåndteringen, vil det aldrig blive rigtig godt...
- Vi (VCS og OK) skal ha "vand-ejerskabet" op til revision.... Traditionelle drænlaug du'r ikke i denne sammenhæng, det er alt for sent at spille dem på banen.... VCS skal måske til at håndtere terrænnært grundvand – også !!!!

Et bud på hydrologien i Odense - anno 1517



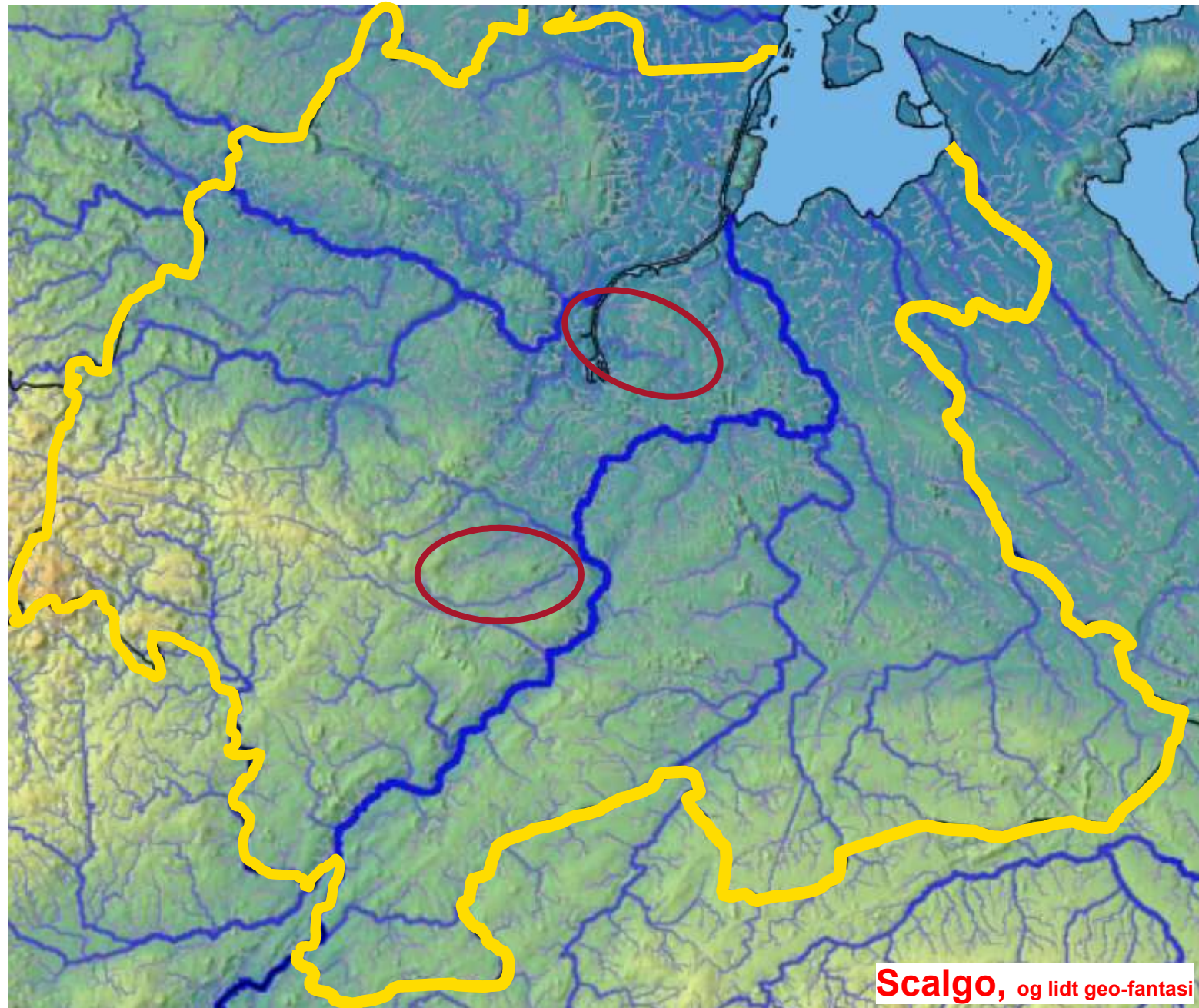
GML1



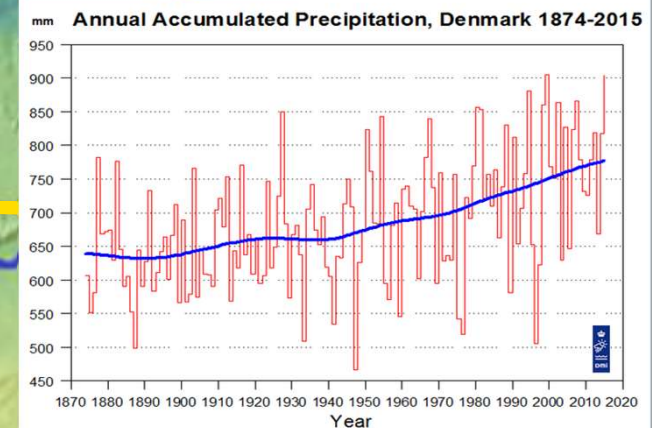
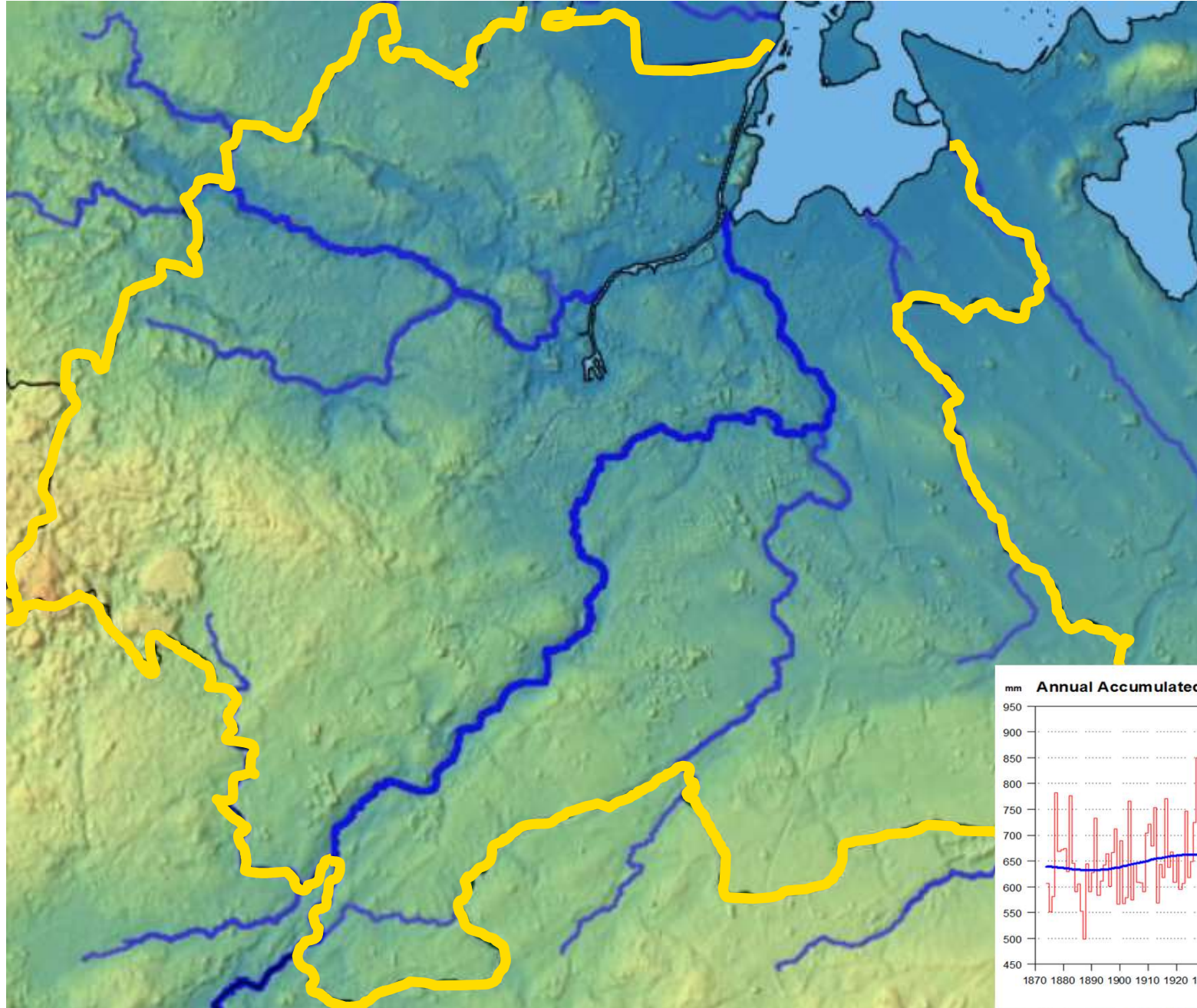
ODENSE
KOMMUNE

Scalgo, og lidt geo-fantasi

Odense's hydrologi: anno 1800



Odense's hydrologi: anno 2017

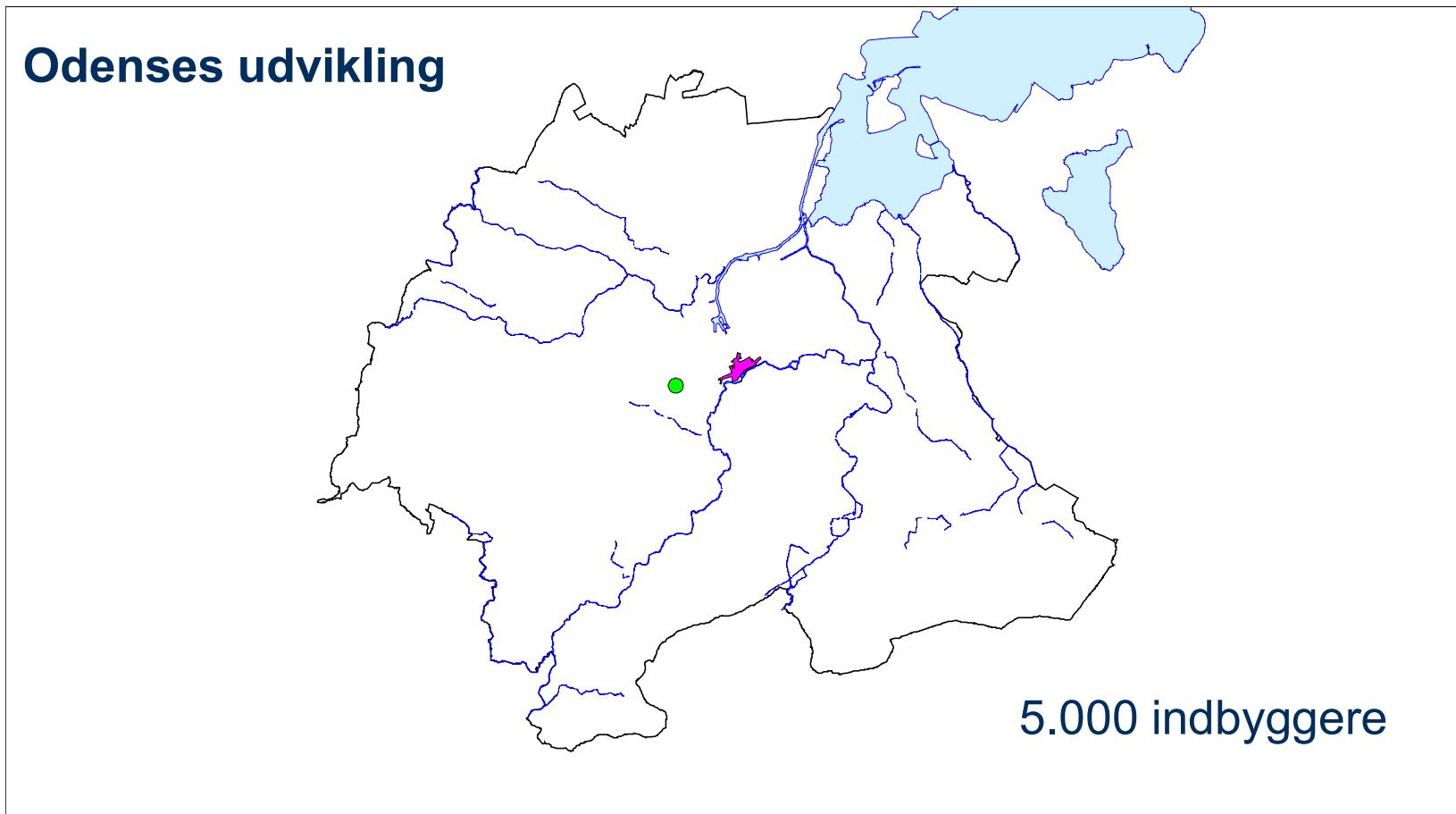


ODENSE 1580



● Well field or Water Work

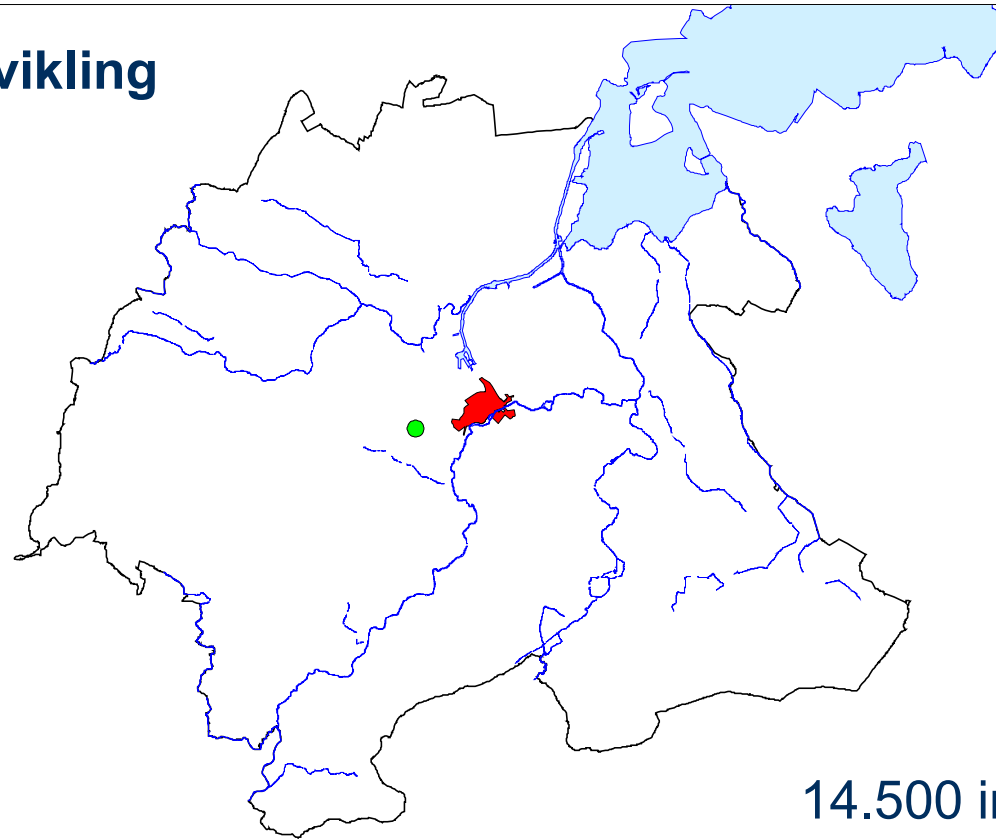
ODENSE 1720



● Well field or Water Work

ODENSE 1853

Odenses udvikling

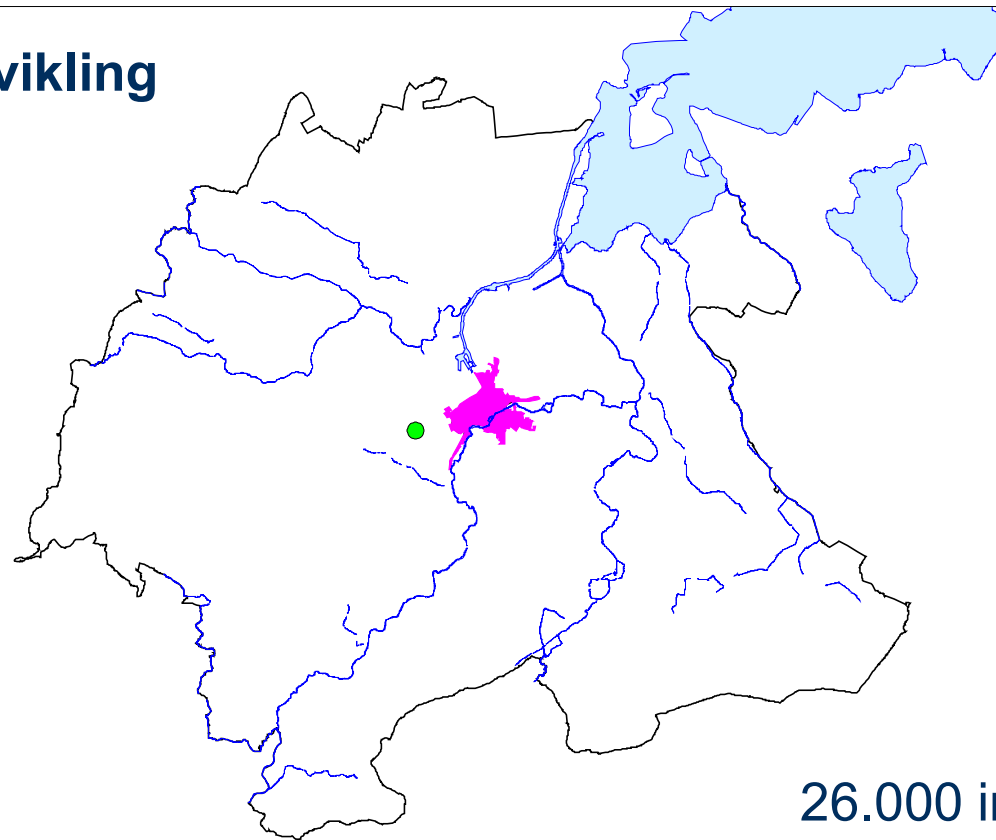


14.500 indbyggere

● Well field or Water Work

ODENSE 1892

Odenses udvikling

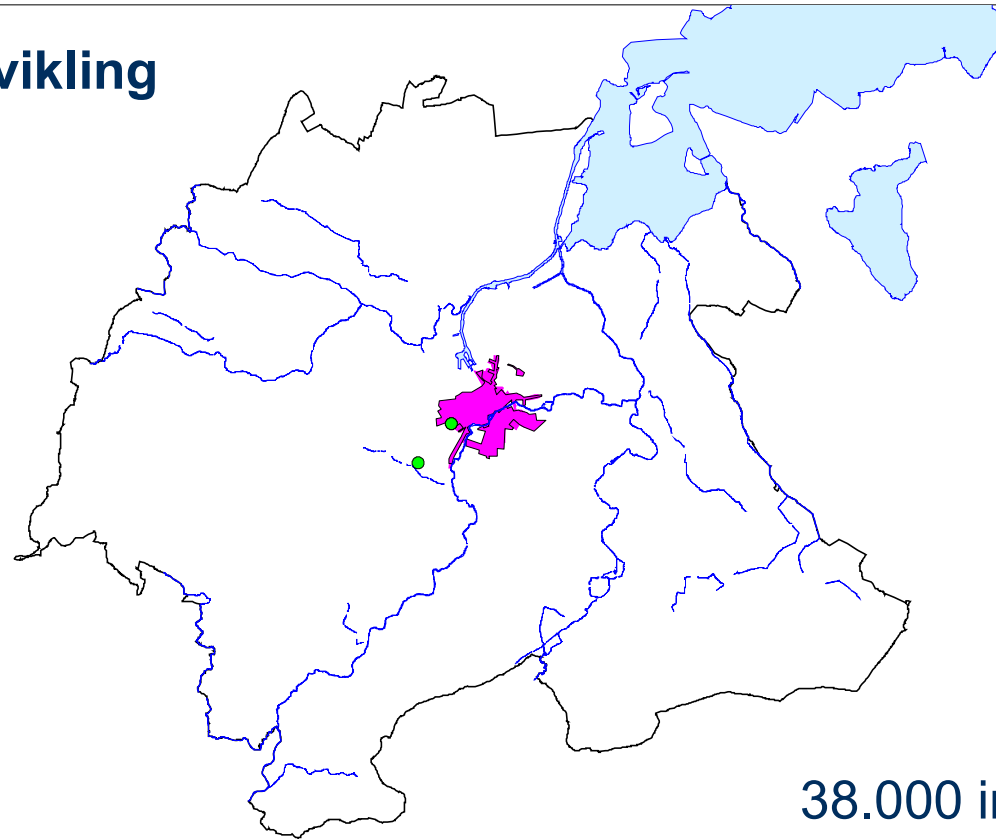


26.000 indbyggere

● Well field or Water Work

ODENSE 1900

Odenses udvikling

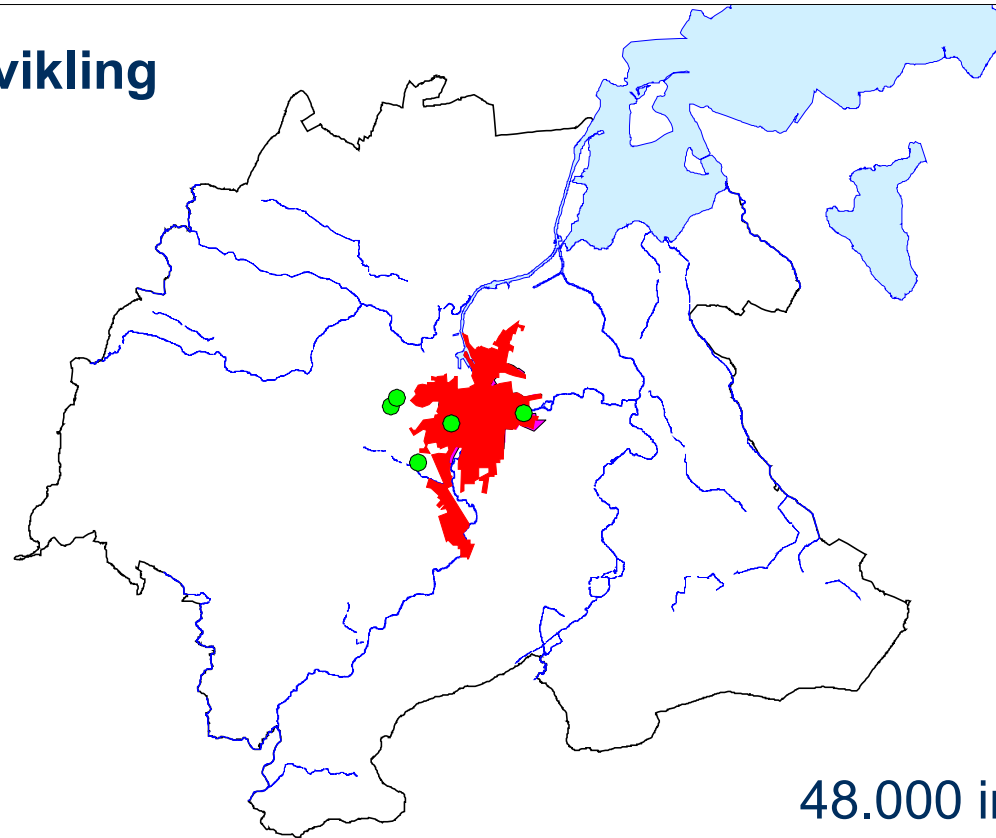


38.000 indbyggere

● Well field or Water Work

ODENSE 1920

Odenses udvikling

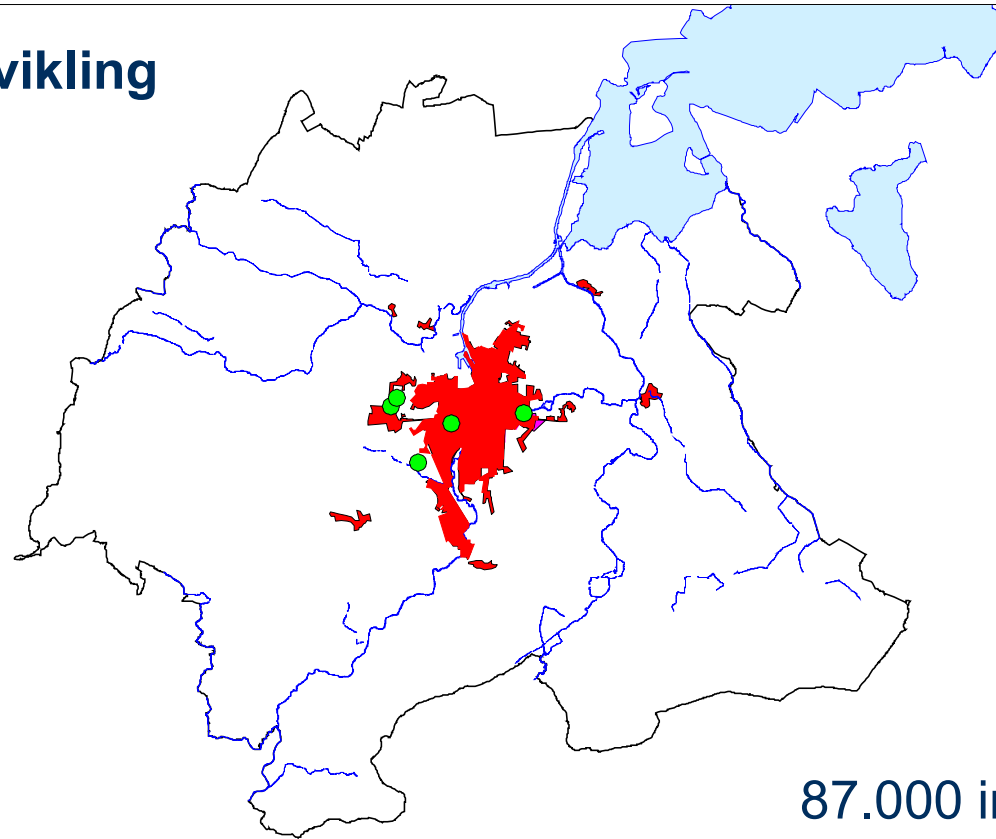


48.000 indbyggere

● Well field or Water Work

ODENSE 1940

Odenses udvikling

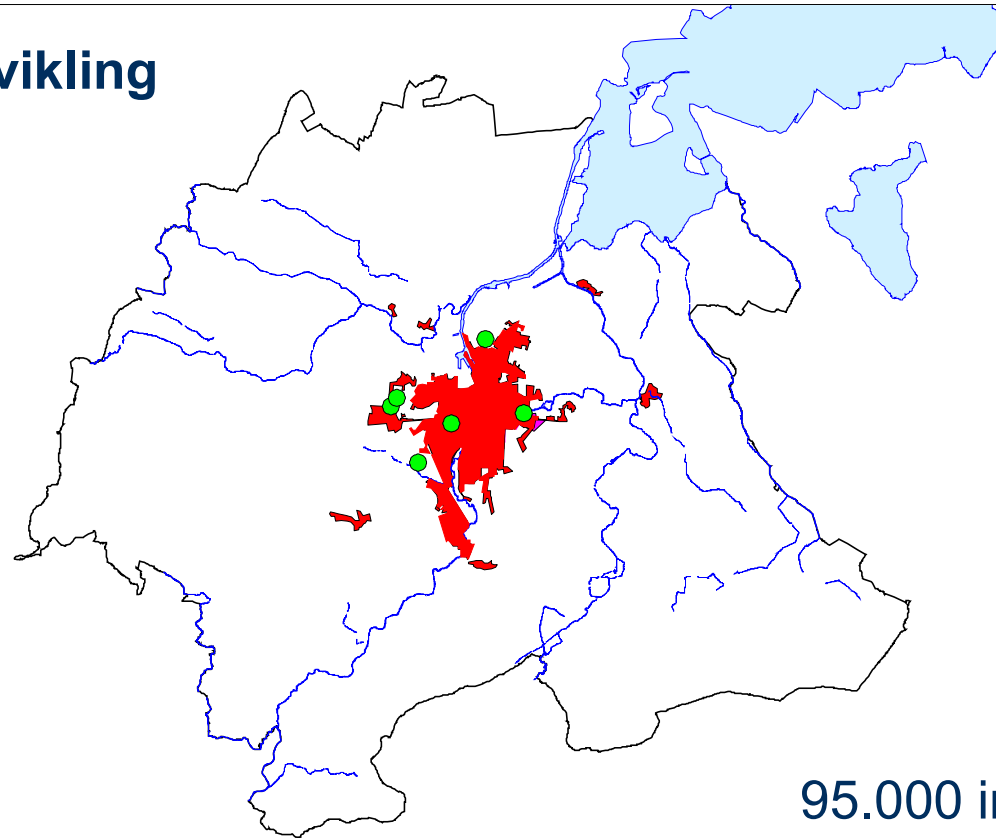


87.000 indbyggere

● Well field or Water Work

ODENSE 1950

Odenses udvikling

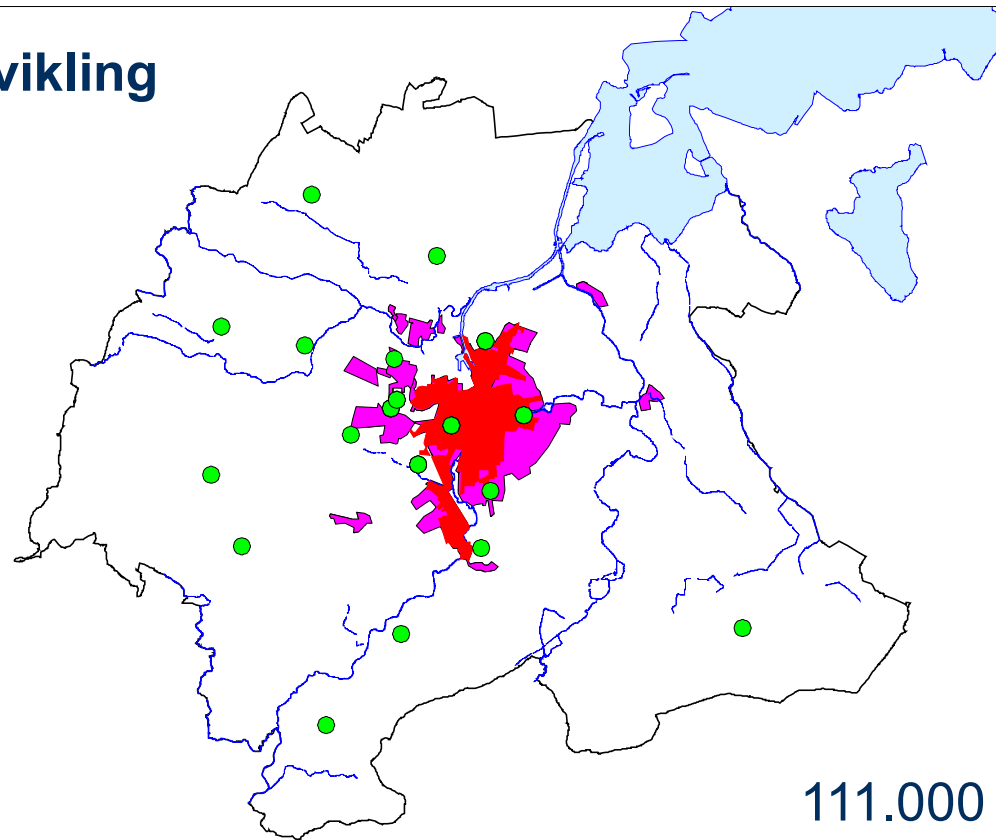


95.000 indbyggere

● Well field or Water Work

ODENSE 1960

Odenses udvikling

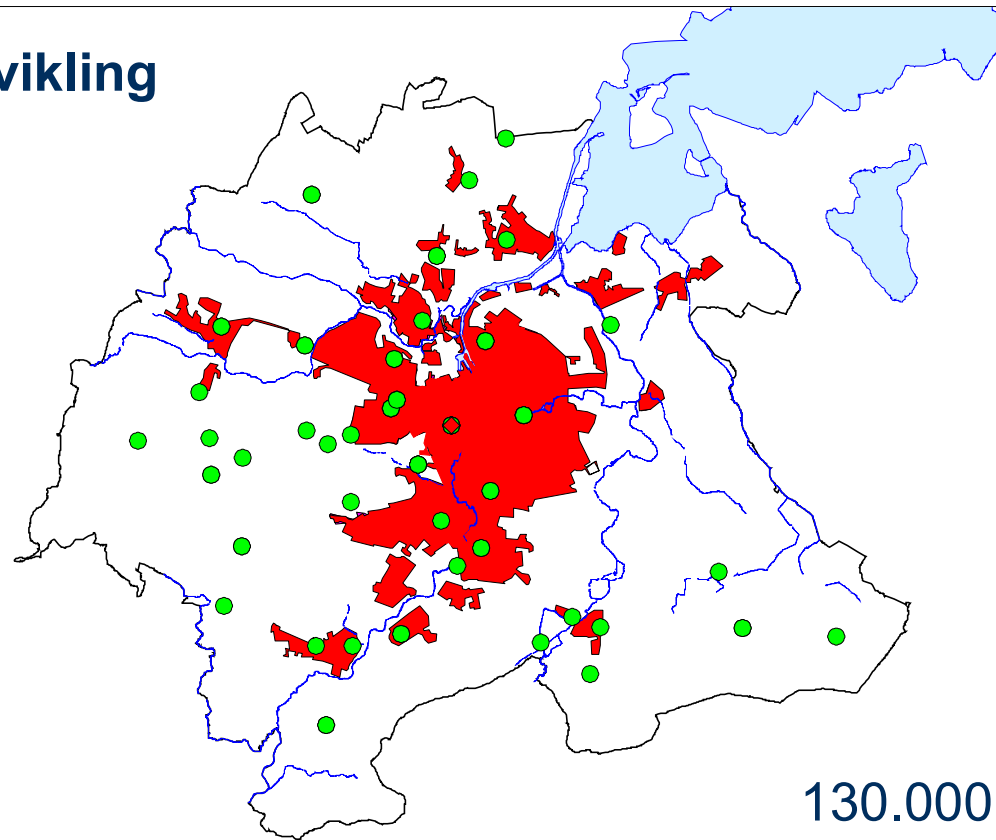


111.000 indbyggere

● Well field or Water Work

ODENSE 1975

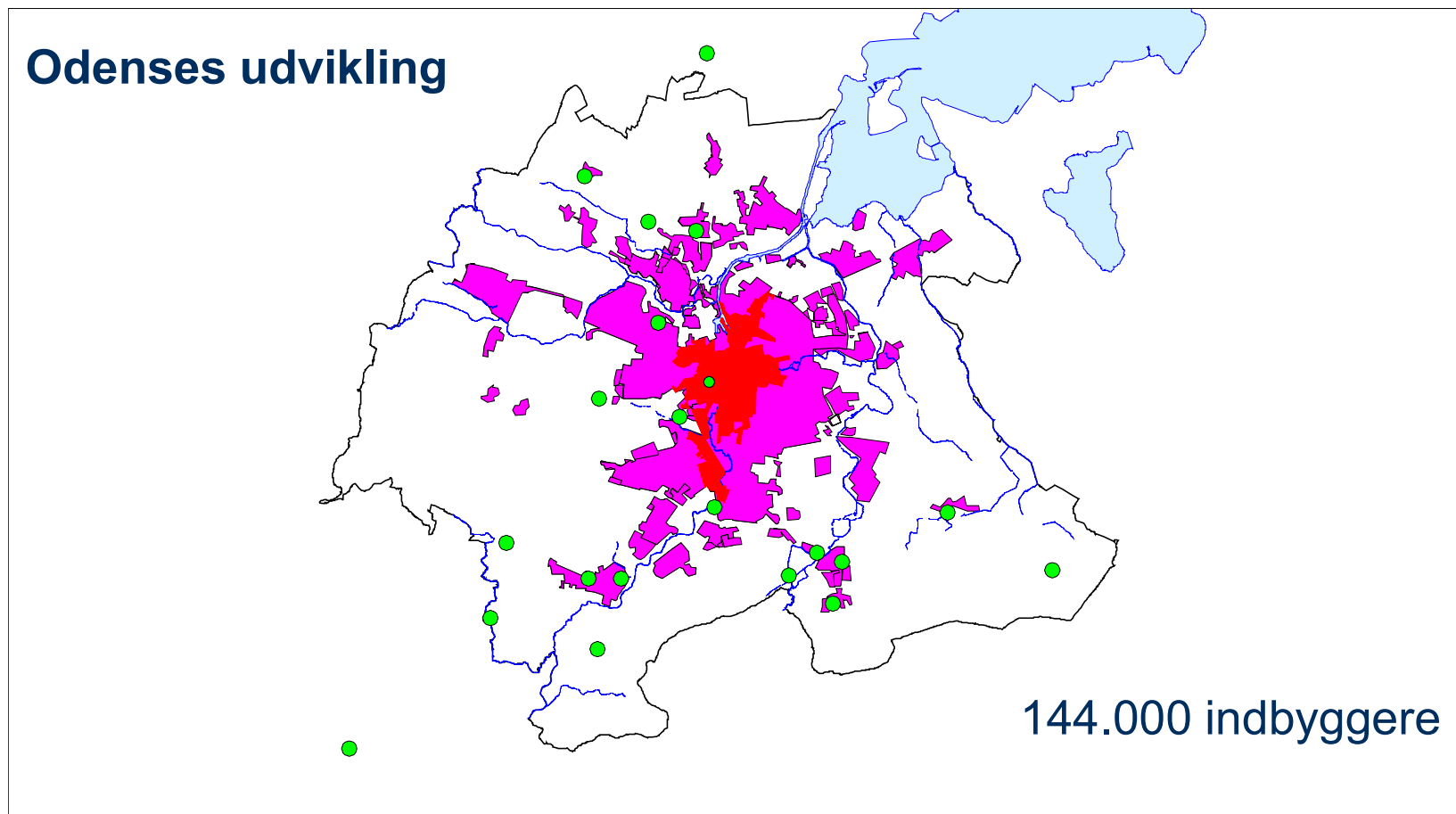
Odenses udvikling



130.000 indbyggere

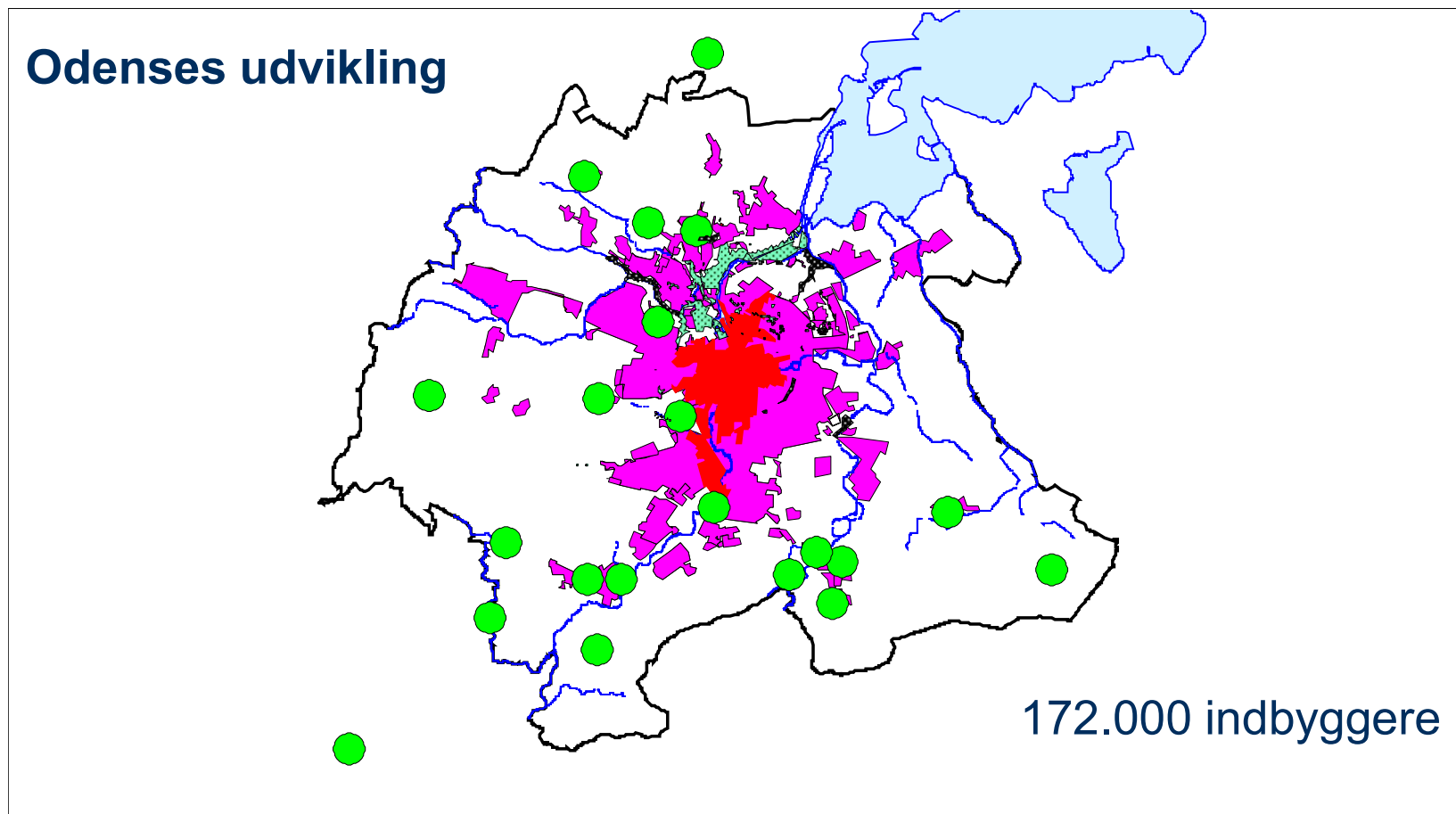
● Well field or Water Work

ODENSE 1990



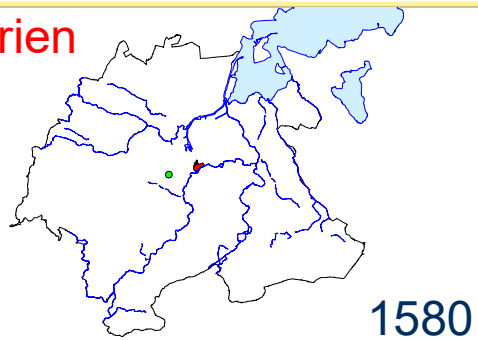
● Well field or Water Work

ODENSE 2016

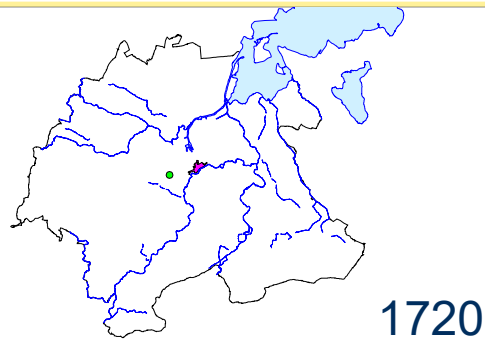


● Well field or Water Work

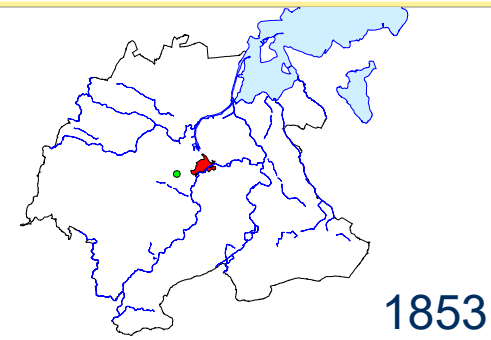
Historien



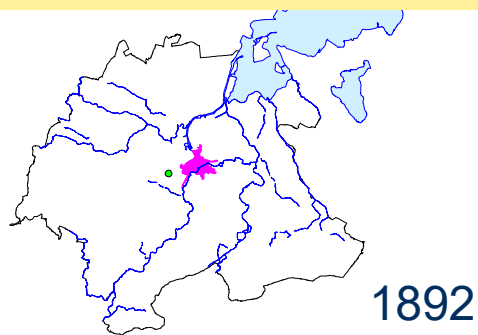
1580



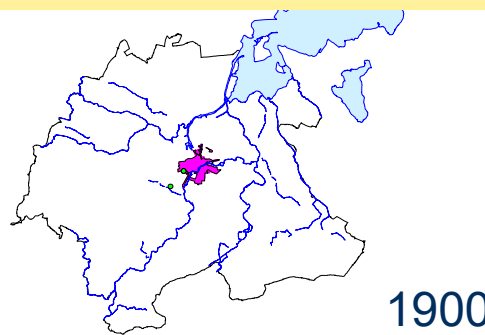
1720



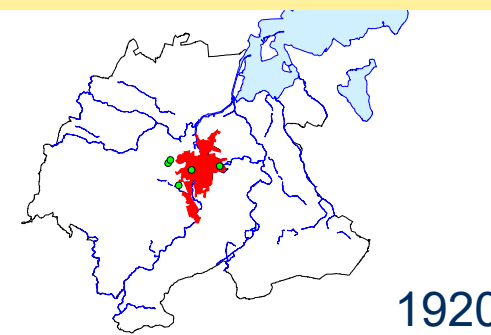
1853



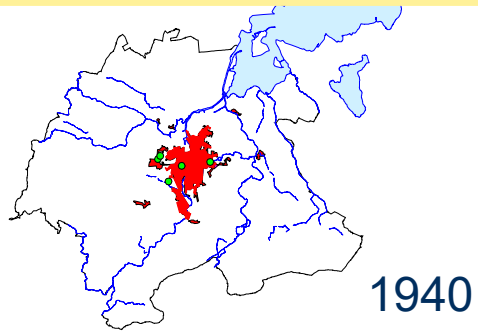
1892



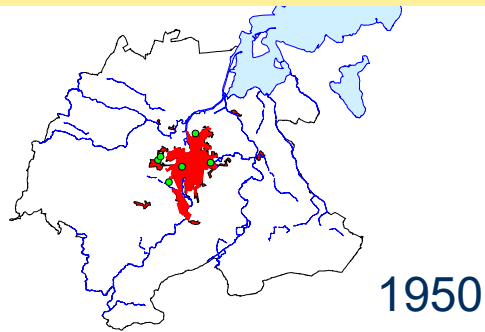
1900



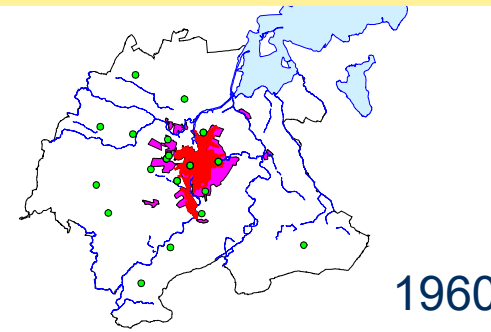
1920



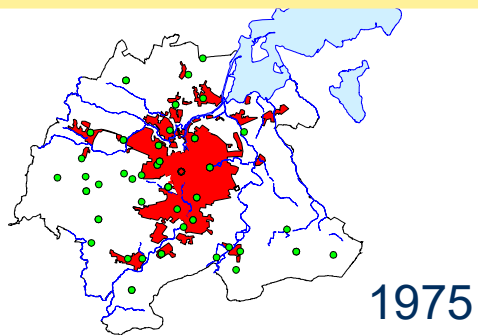
1940



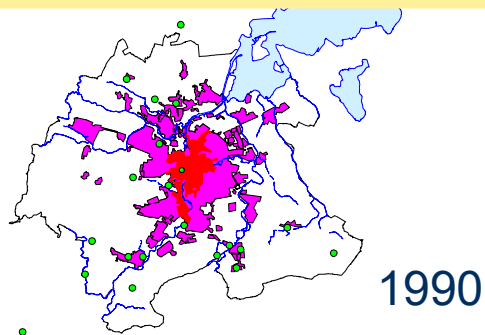
1950



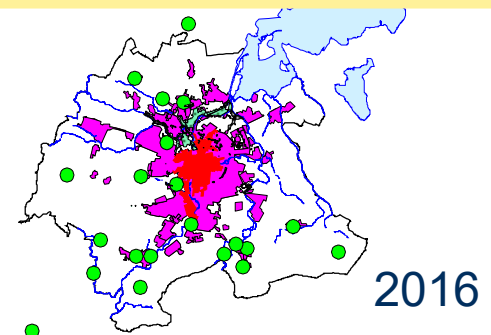
1960



1975

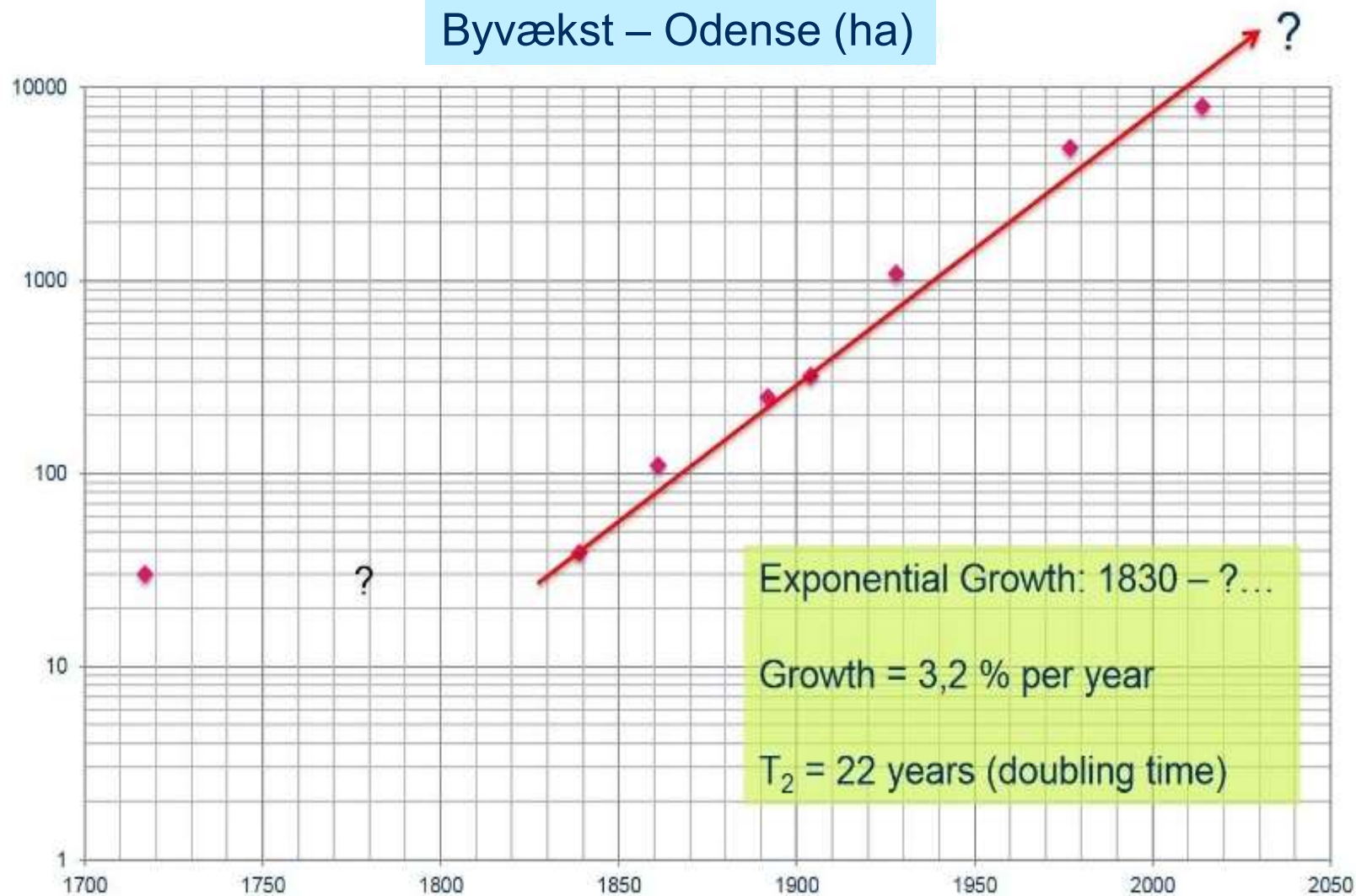


1990

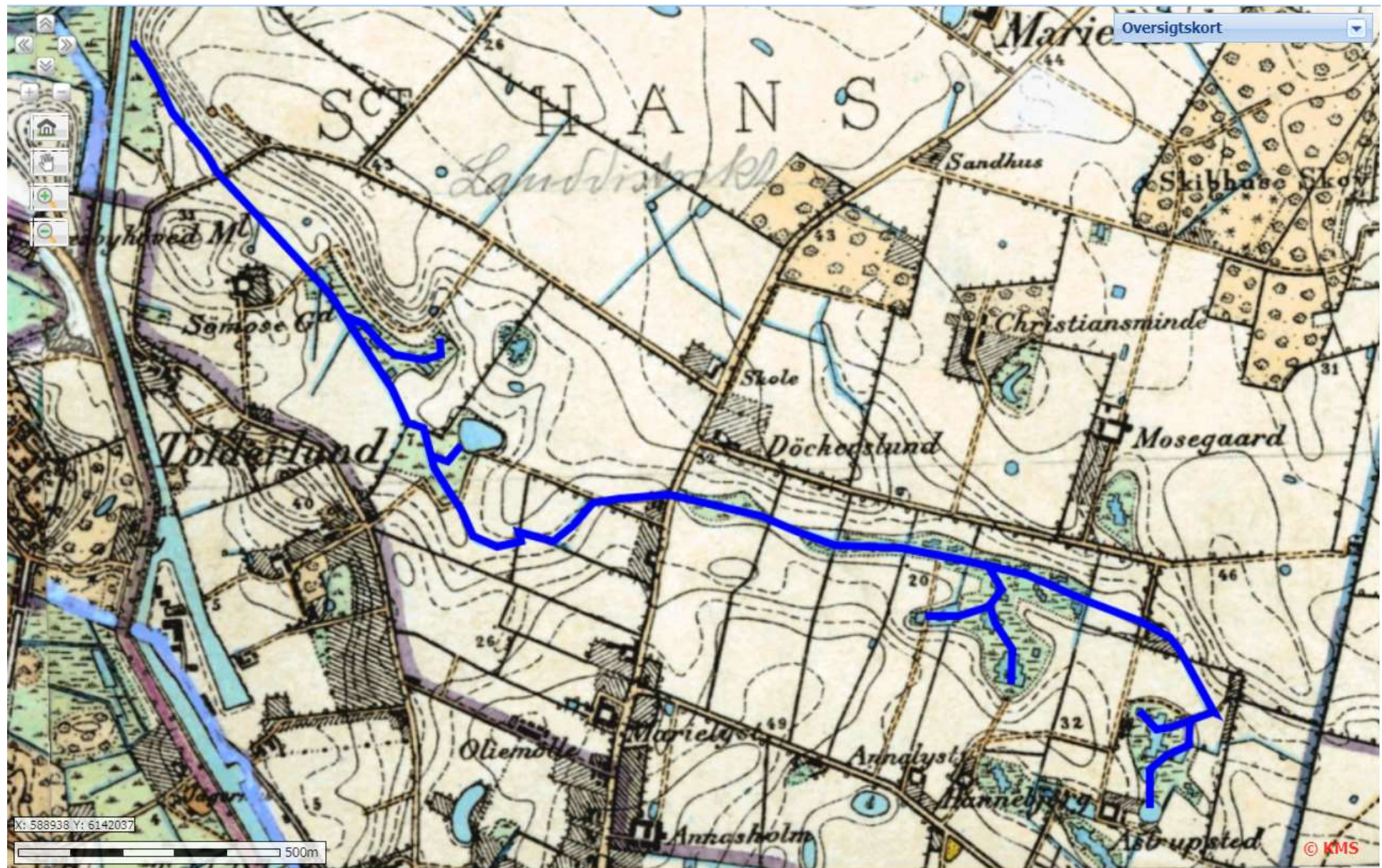


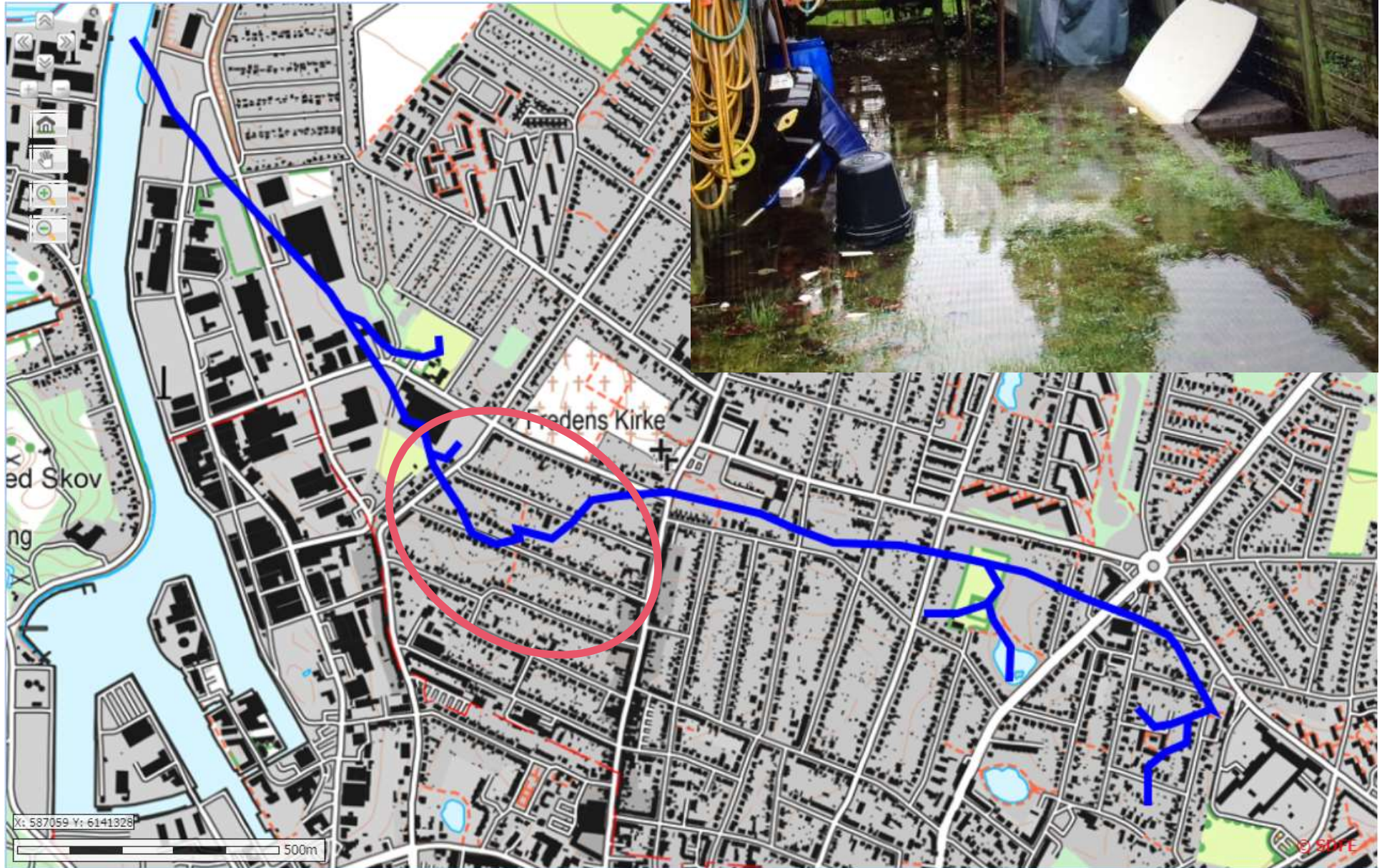
2016

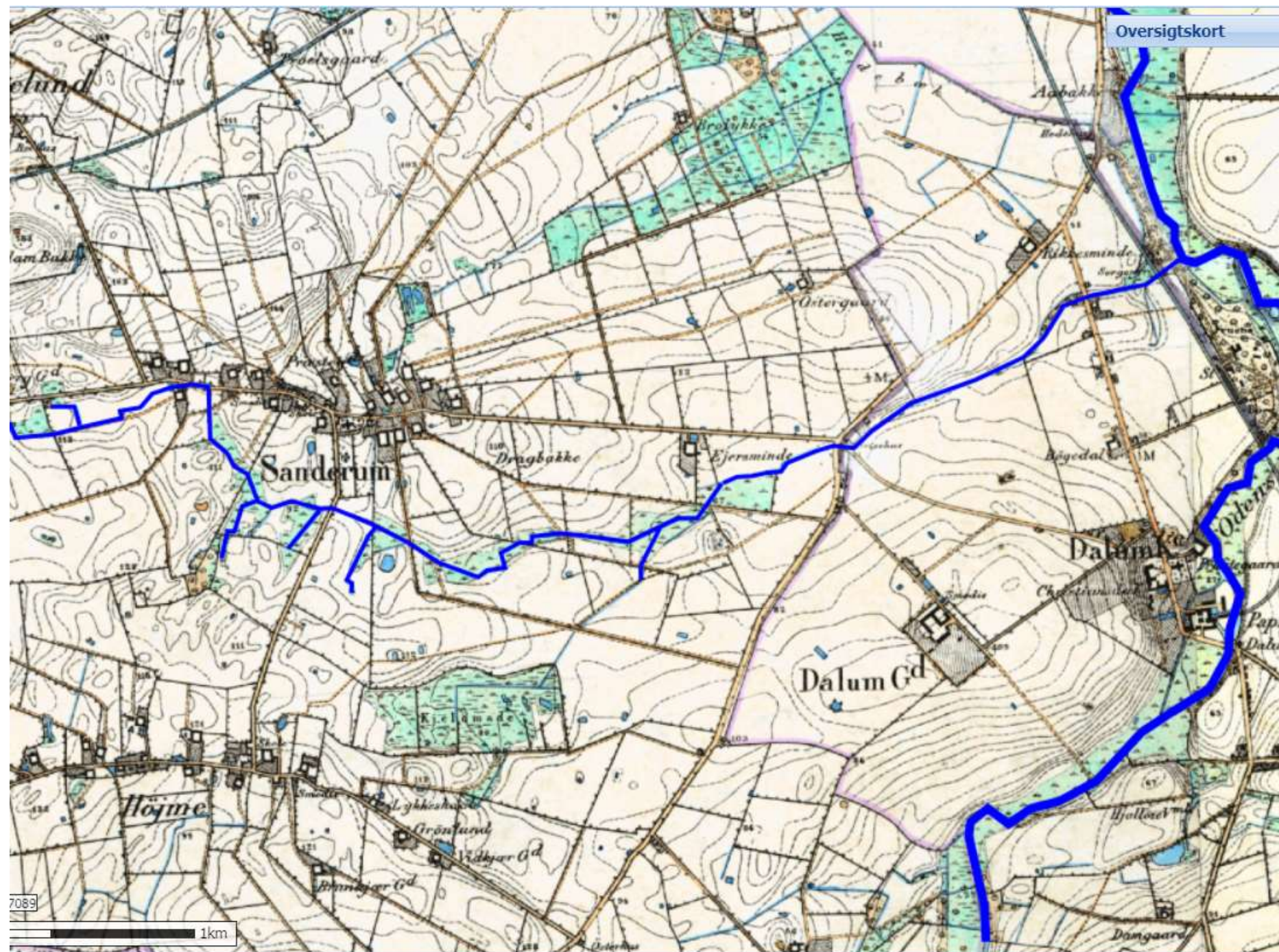
Byvækst – Odense (ha)



Vinkælder Renden anno 1850-1900



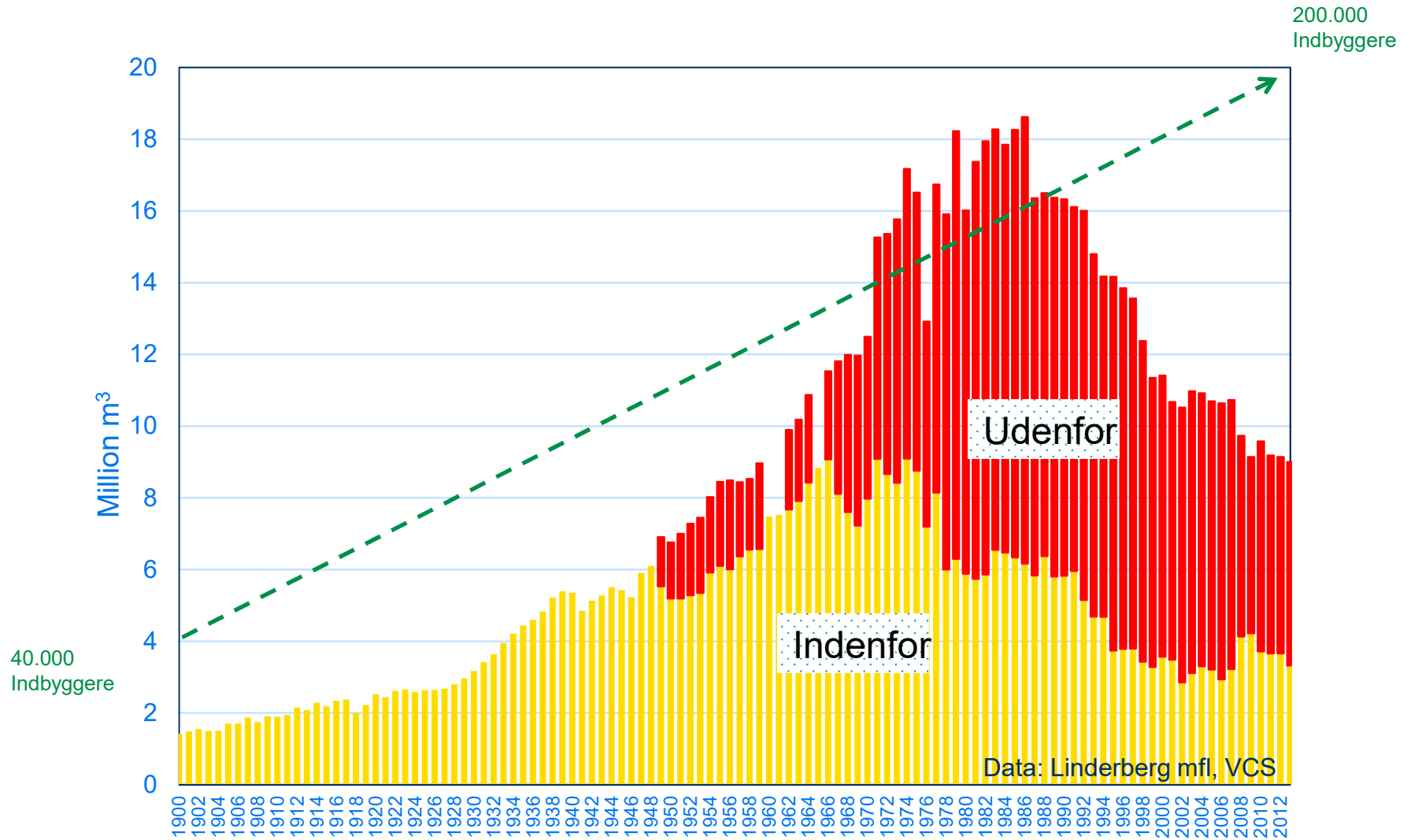


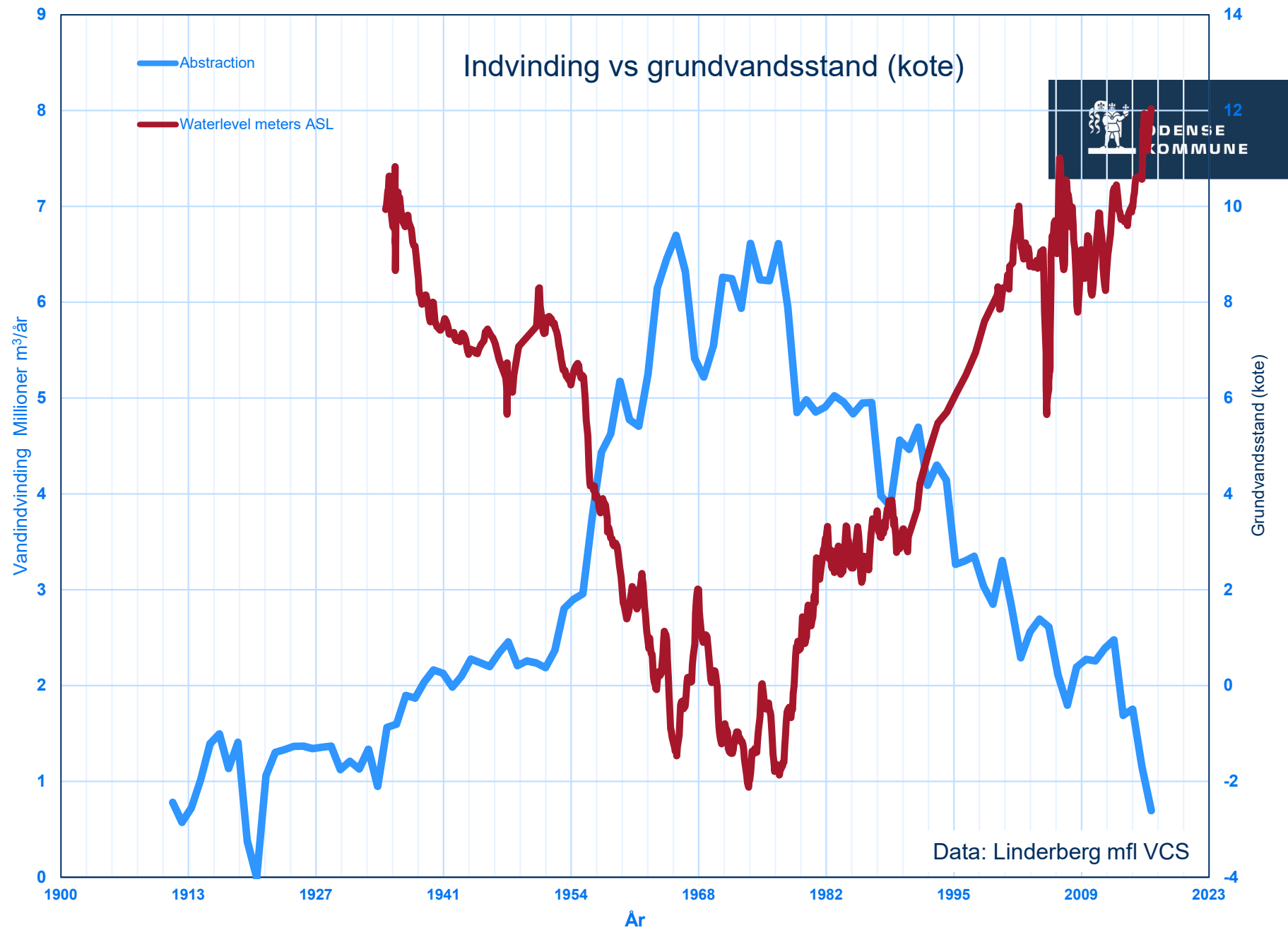




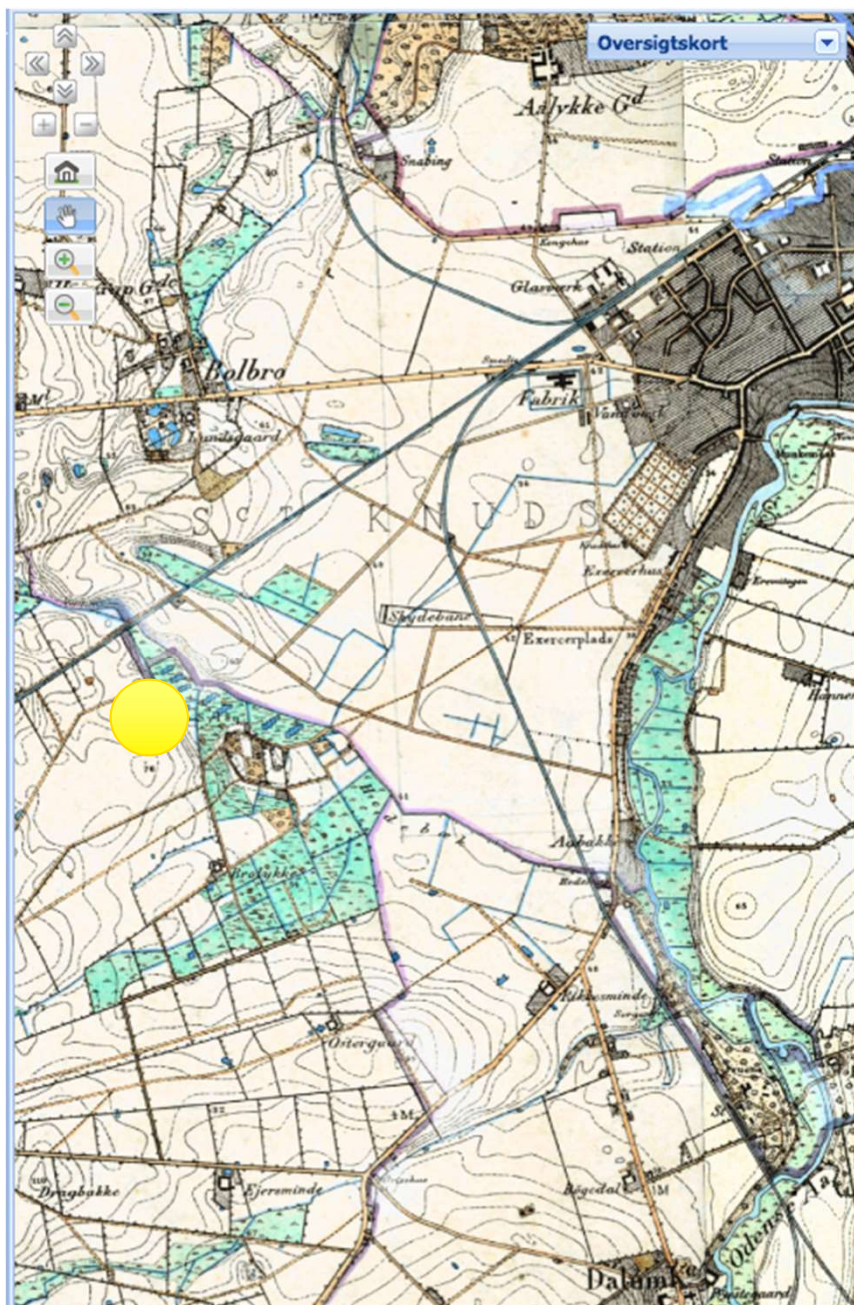
DRIKKEVANDS-PRODUKTION (OVS/VCS)

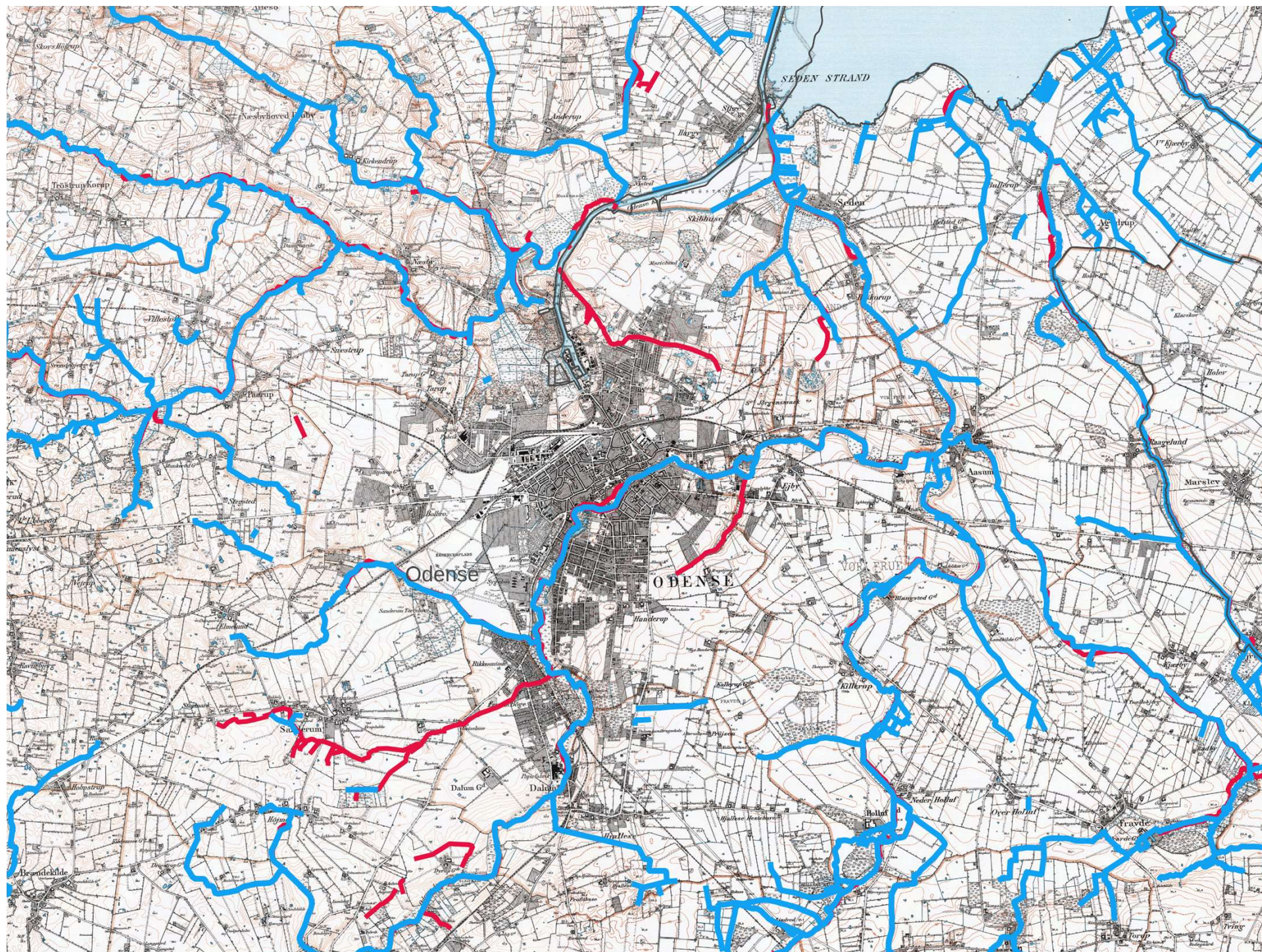
(INDVINDING – HENHOLDSVIS INDENFOR OG UDENFOR KOMMUNEN)





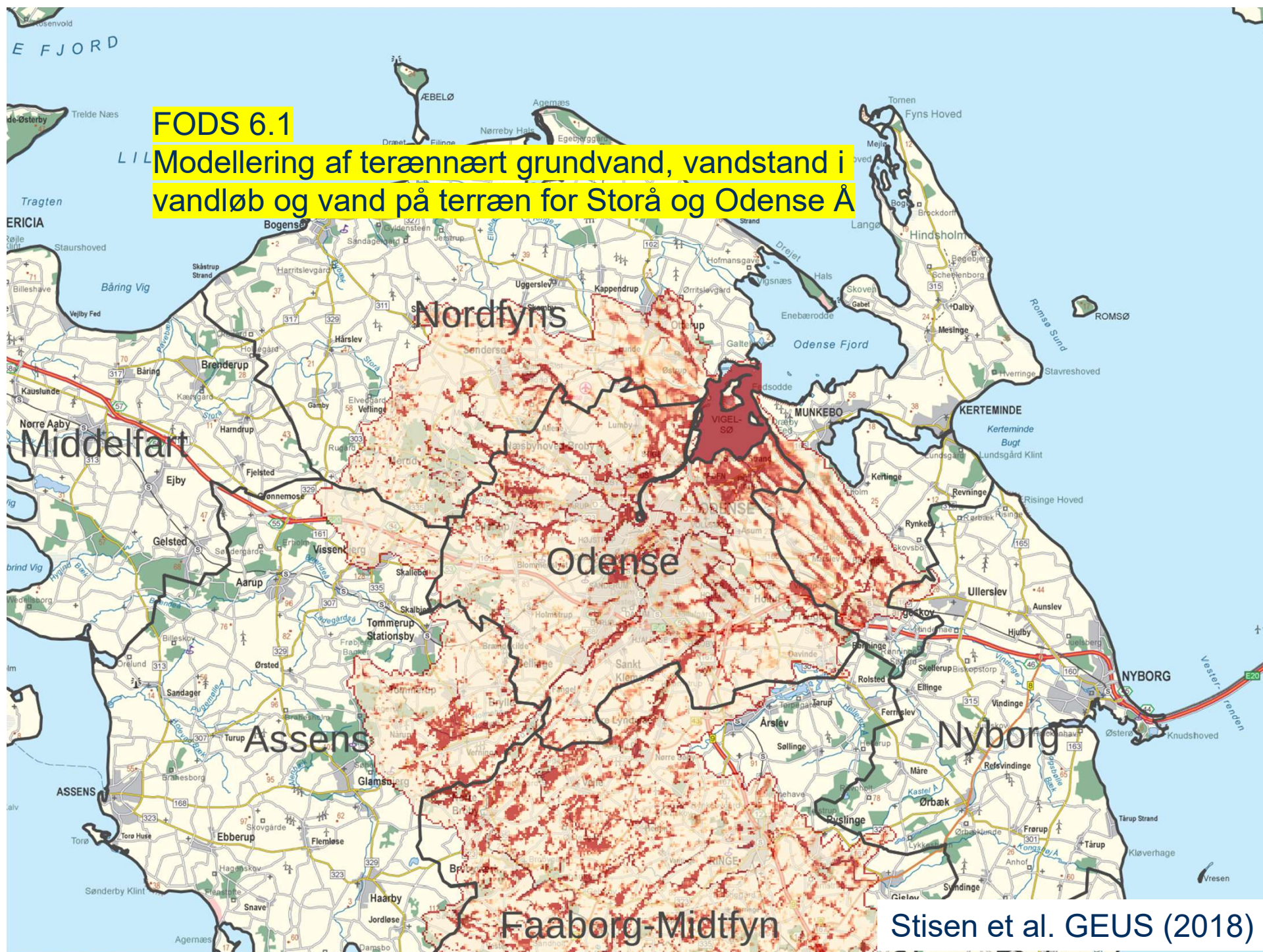
Odense V – år 1853 og idag...





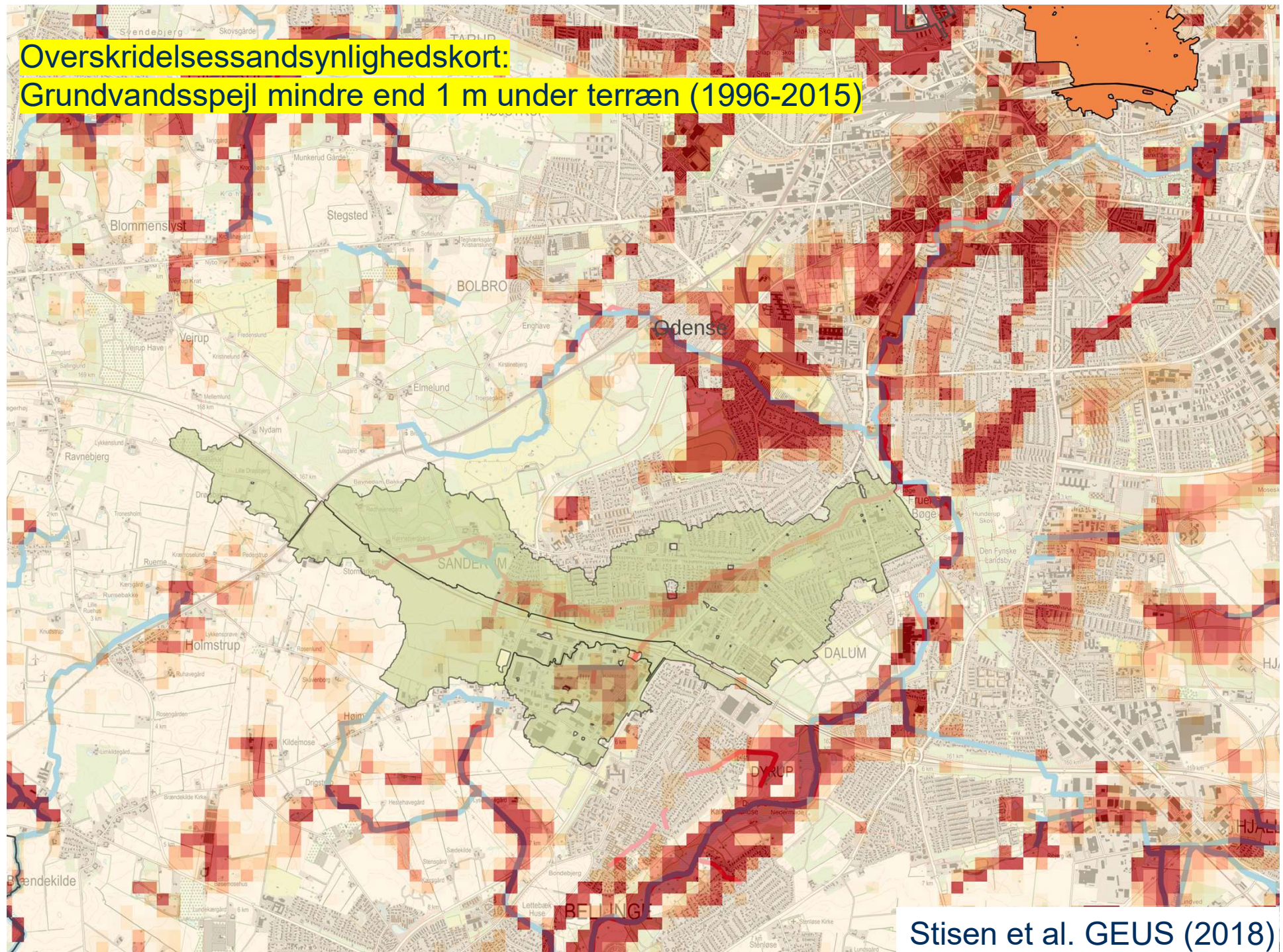
FODS 6.1

Modellering af terrænnært grundvand, vandstand i vandløb og vand på terrænen for Storå og Odense Å



Stisen et al. GEUS (2018)

**Overskridelsessandsynlighedskort:
Grundvandsspejl mindre end 1 m under terræn (1996-2015)**



Stisen et al. GEUS (2018)

