Meteorologisk institutt

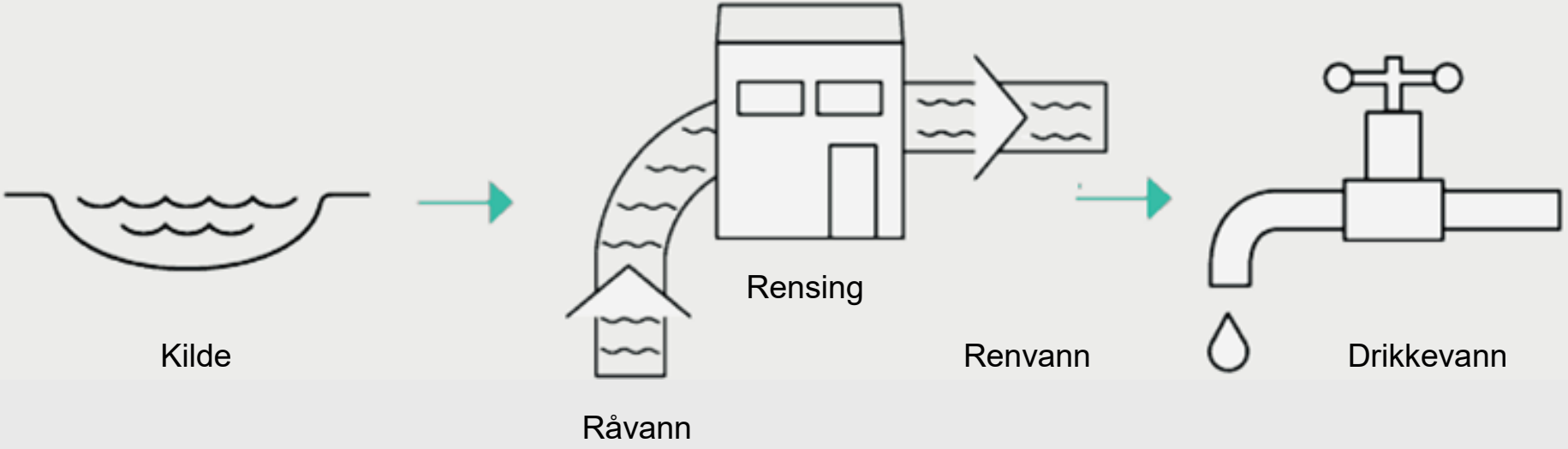
Klimaendringene påvirker drikkevannet

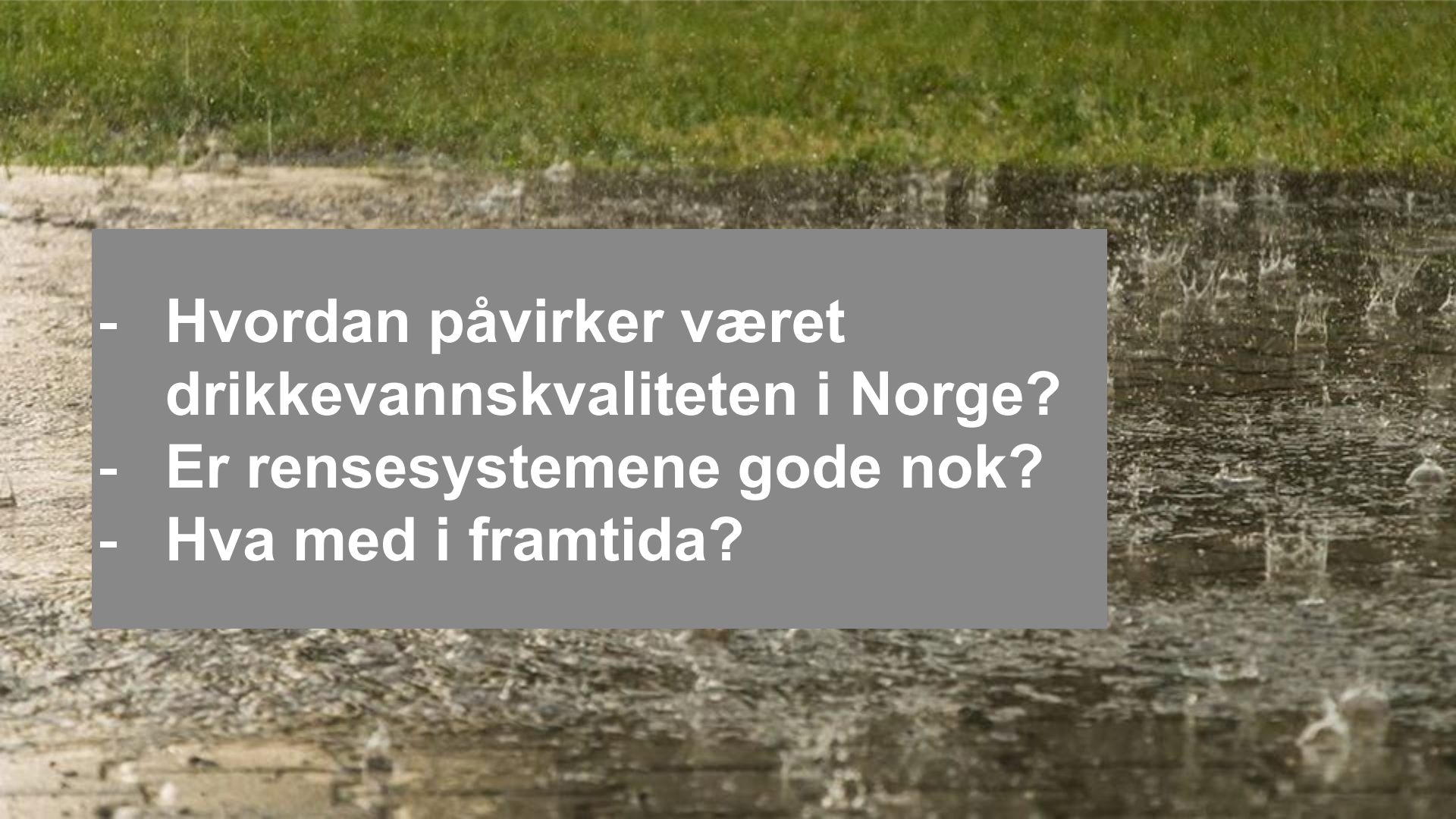
Kan vi drikke vannet i springen i framtida?

Reidun Gangstø Skaland, klimaforsker

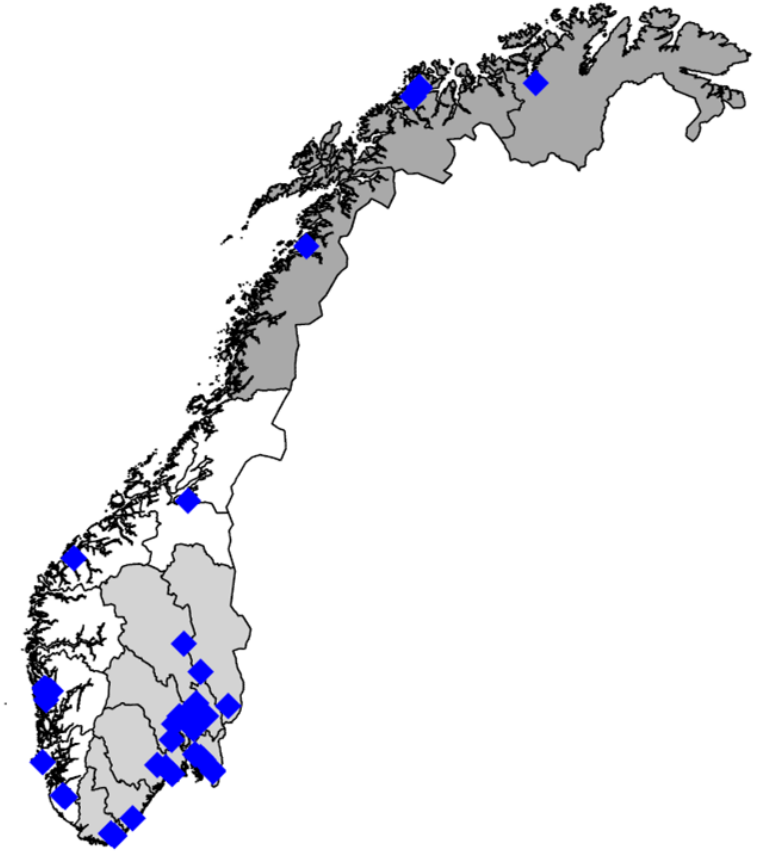
Bakgrunn

Drikkevann - fra kilde til kran



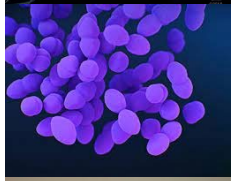

- Hvordan påvirker været drikkevannskvaliteten i Norge?
- Er rensesystemene gode nok?
- Hva med i framtida?

Data og metode: vannkvalitet



Coliform-bakterier

E. coli

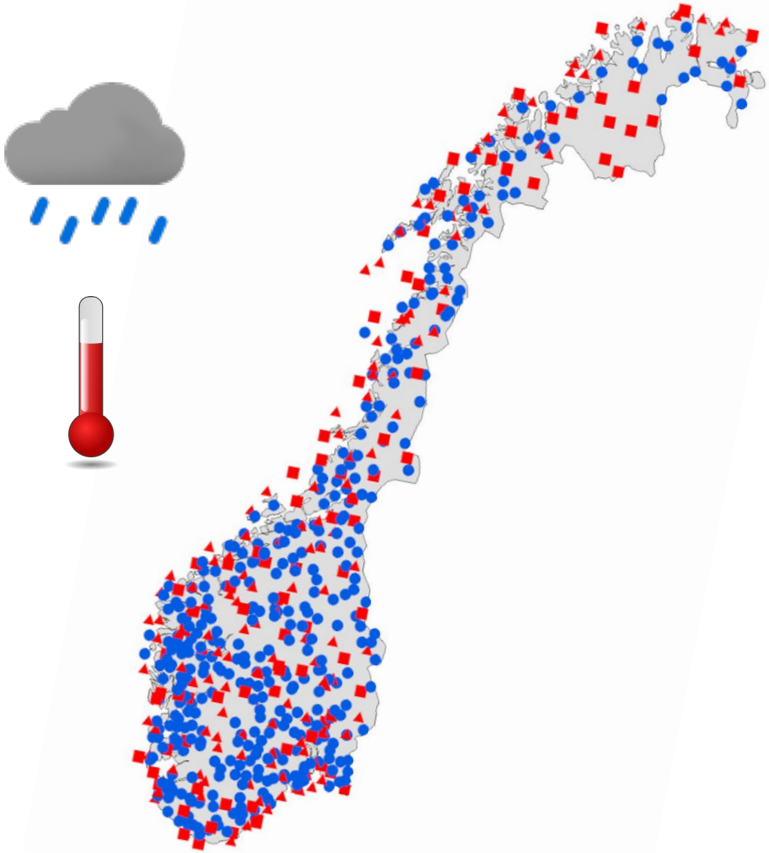


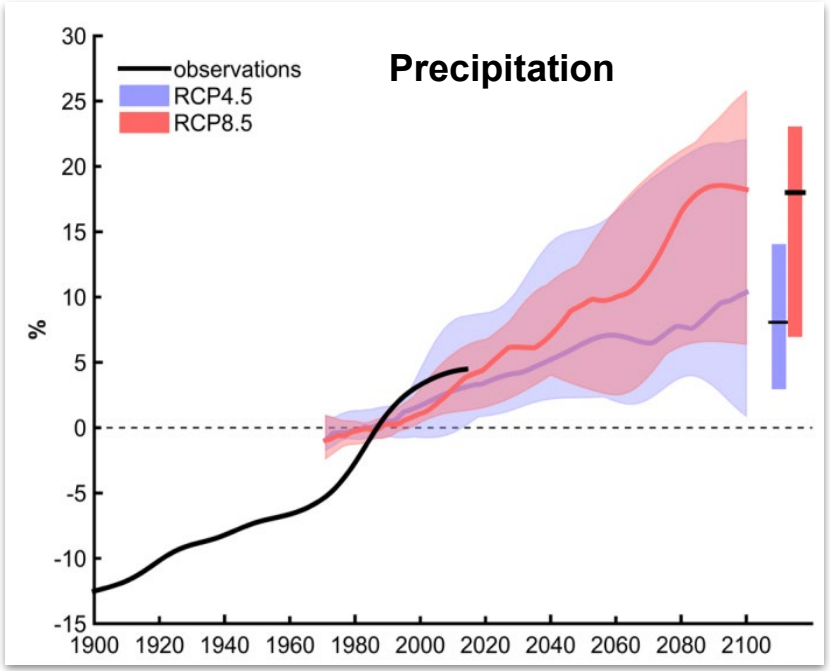
Intestinal Enterococci

Farge

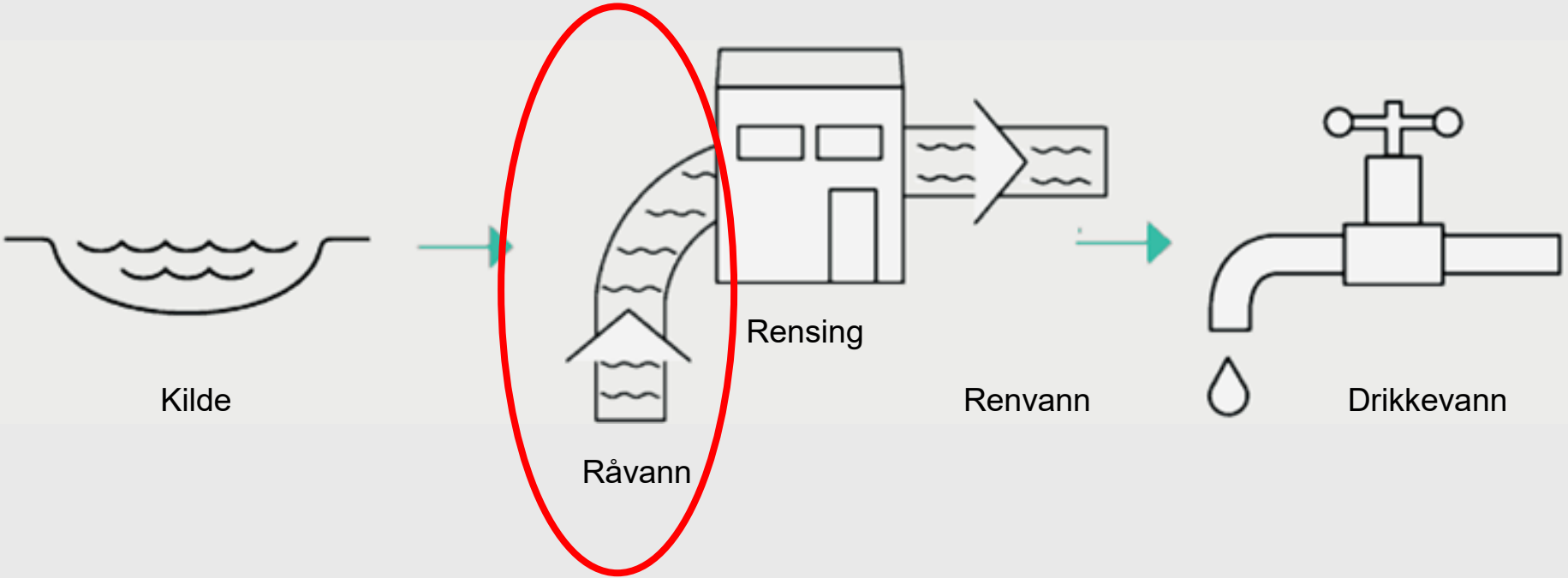
Turbiditet

Data og metode: vær og klimaendringer

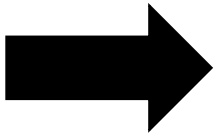




1. Resultater for råvann

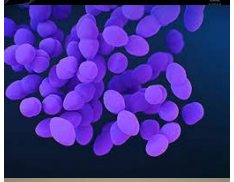


Klar sammenheng mellom regn og vannkvalitet



Coliform-
bakterier

E. coli

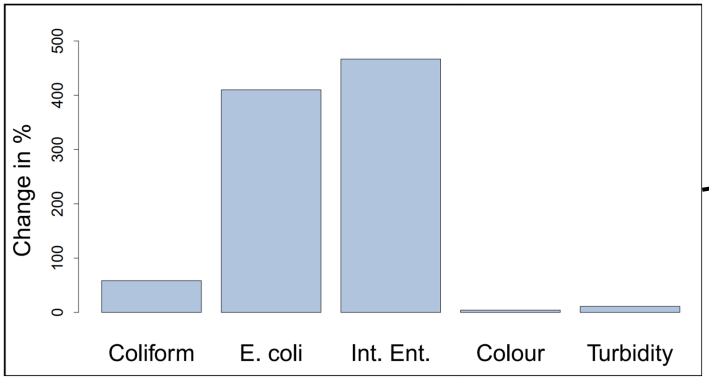


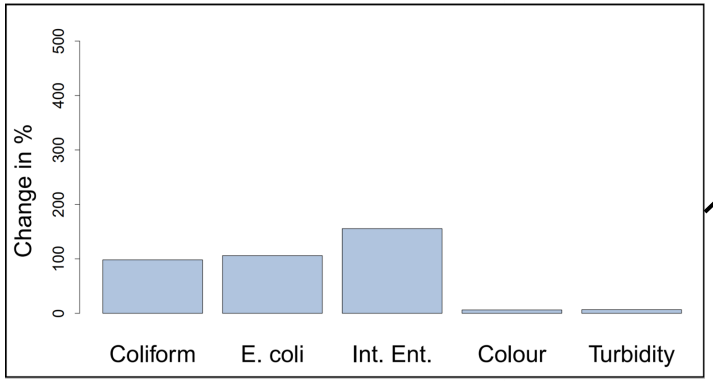
Intestinal
Enterococci

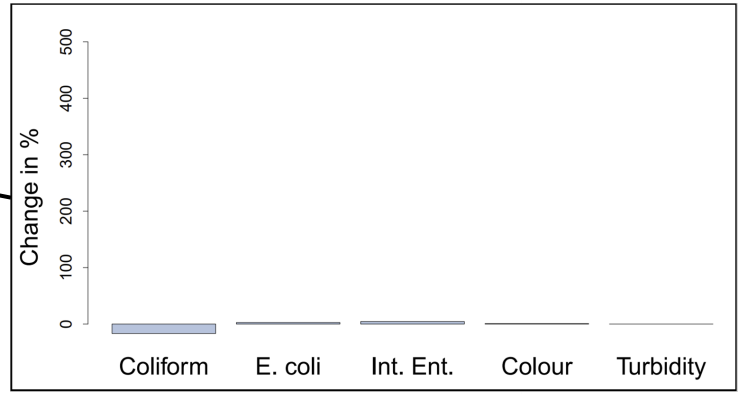
Farge

Turbiditet

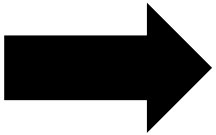
Dårligere vannkvalitet i framtida p.g.a. mer regn





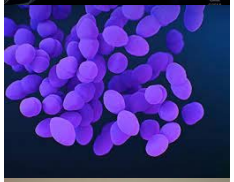


Ingen sammenheng mellom temperatur og vannkvalitet (hele året)



Coliform-bakterier ✗

E. coli ✗

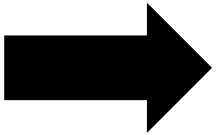


Intestinal Enterococci ✗

Farge ✗

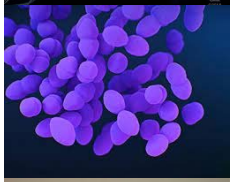
Turbiditet ✗

Klar sammenheng mellom temperatur og vannkvalitet (vinter)



Coliform-bakterier

E. coli

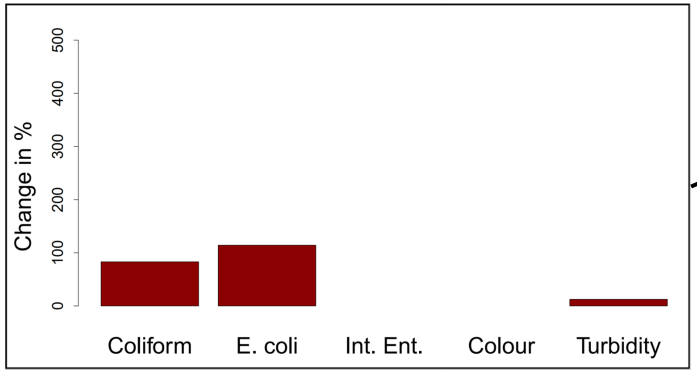


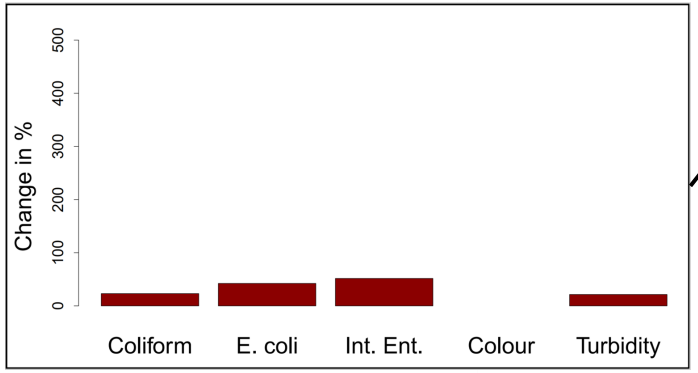
Intestinal Enterococci

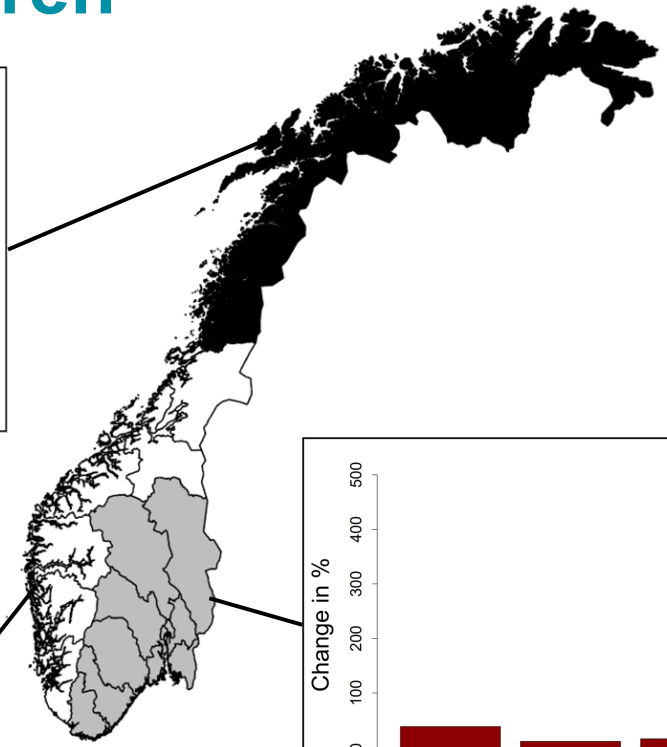
Farge

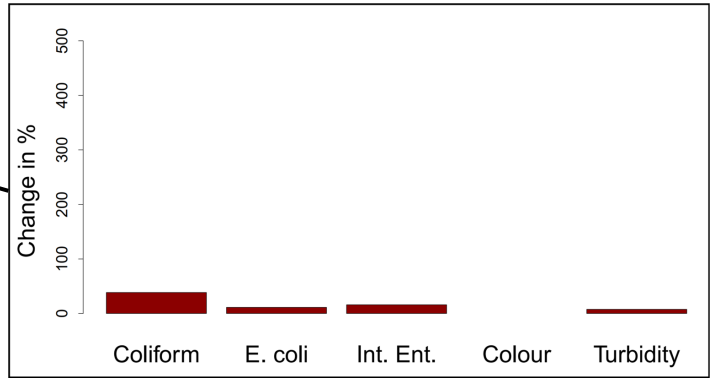
Turbiditet

Dårligere vannkvalitet i framtida p.g.a. økt temperatur om vinteren

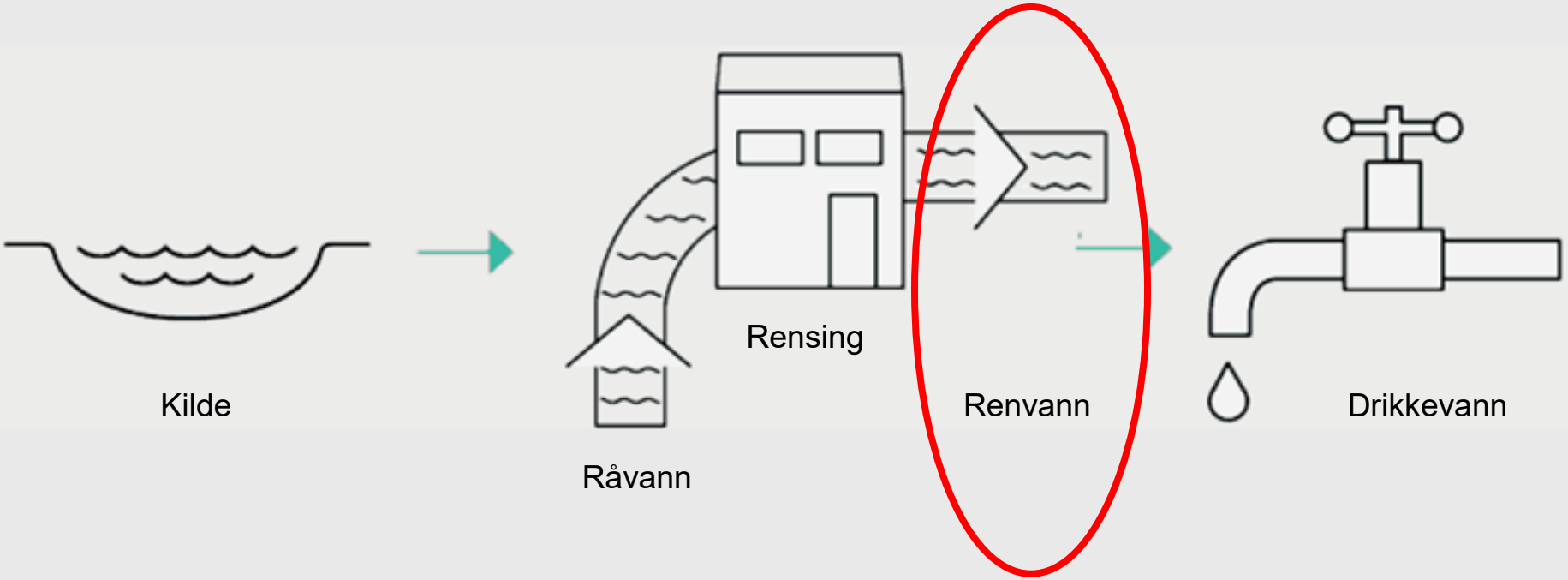




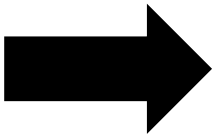




2. Resultater for renvann

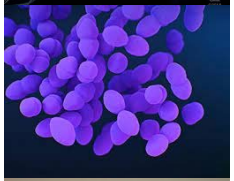


Liten sammenheng mellom regn og vannkvalitet



Coliform-bakterier ✗

E. coli ✗

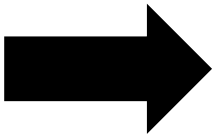


Intestinal Enterococci ✗

Farge ↑

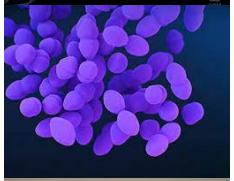
Turbiditet ✗

Ingen sammenheng mellom temperatur og vannkvalitet



Coliform-bakterier

E. coli



Intestinal Enterococci

Farge

Turbiditet

Konklusjoner - råvann

Mer regn:

➔ flere sykdomsbakterier, brunere og skitnere vann

➔ klar forverring av vannkvaliteten i framtida i vest og i nord

Økt temperatur:

➔ dårligere vannkvalitet på vinteren, på grunn av mindre is

➔ klar forverring av vannkvaliteten i framtida om vinteren

Konklusjoner - renvann

- Liten sammenheng mellom vær og vannkvalitet
- Vannverkene i studien klarer å rense vannet bra i dag
- Kun store vannverk inkludert i studien

  - mindre og private vannverk er mer sårbare for forurensing
- Gode og tilpassede rensesystemer er viktig i framtida
- Rørsystemene som frakter renvannet ut må også fungere

Meteorologisk institutt

Takk for meg!

Mer informasjon:

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Heavy weather events, water quality and gastroenteritis in Norway

Bernardo Guzman Herrador [a], Vidar Lund [a], Wenche Fonahn [a], Hege Hisdal [c], Hans Olav Hygen [b], Susanne Hyllestad [a], Zuzana Nordeng [a,*], Reidun Gangstø Skaland [b], Linda Selje Sunde [a], Line Vold [a], Richard White [a], Wai Kwok Wong [c], Karin Nygård [a]

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Impacts of climate change on drinking water quality in Norway

R. G. Skaland [a,*], B. G. Herrador[b], H. Hisdal [c], H. O. Hygen [a], S. Hyllestad[b], V. Lund[b], R. White [b], W. K. Wong [c] and K. Nygård[b]