

Grain production and climate change in south-eastern Norway

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The Norwegian Meteorological Institute (MET Norway)

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2017
2018

Grain production in “Vestfold og Telemark”

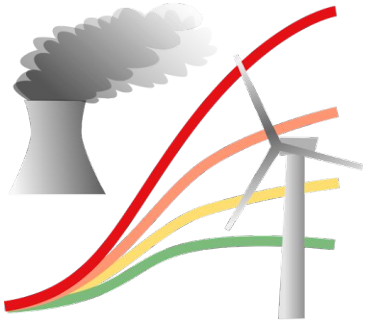




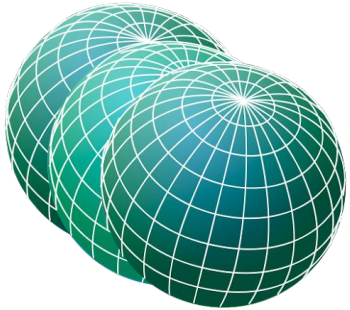
Telemarksforsking

Norwegian Meteorological Institute

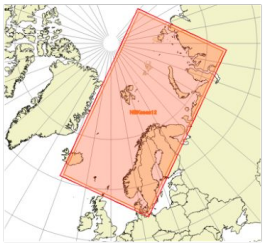
Climate data for Norway



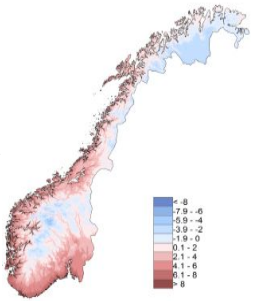
1. Future scenario



2. Global climate models



3. Regional climate models



4. Bias adj. 1 x 1 km

impact modellers
climate services
stakeholders
policymakers
...

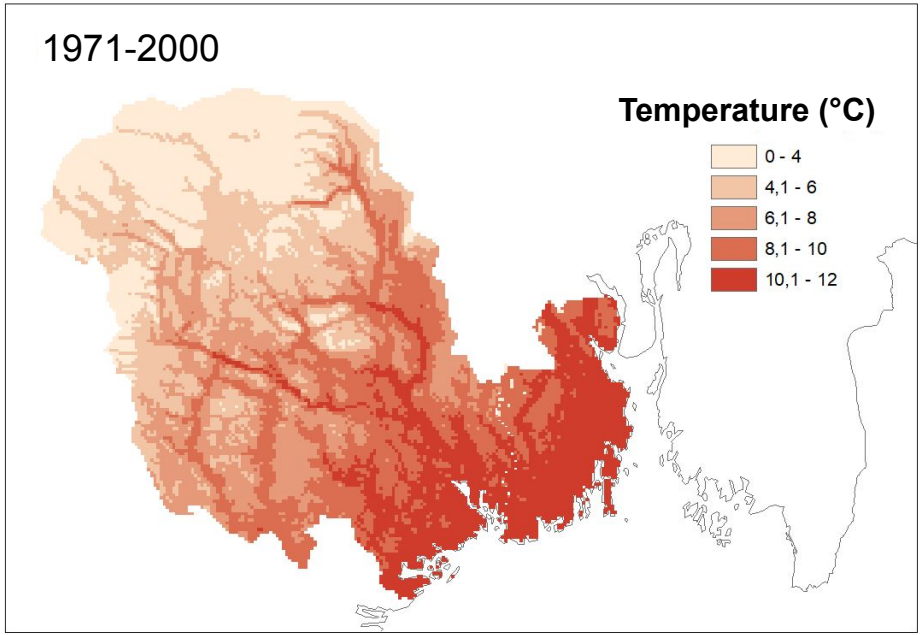
5. Users

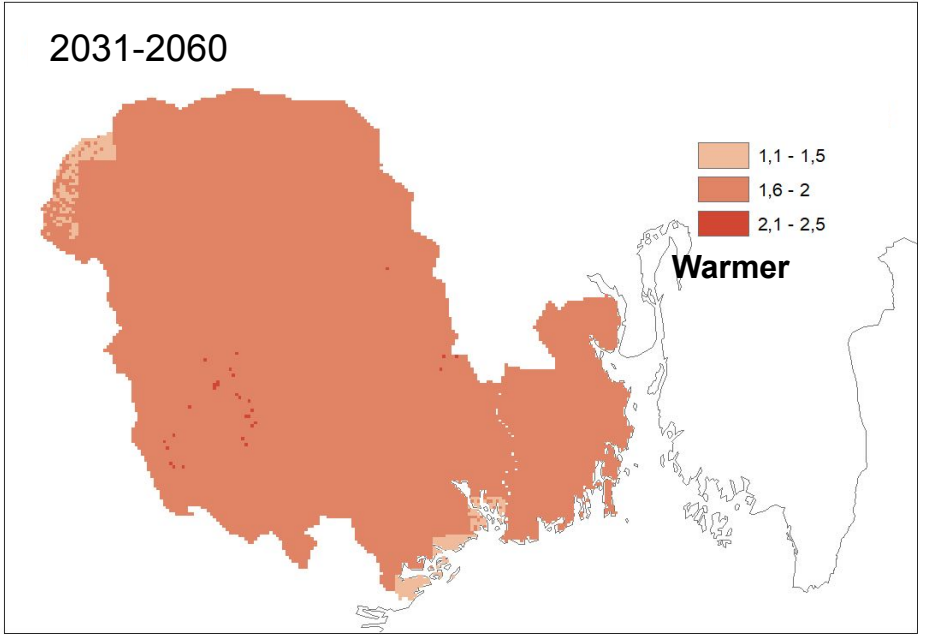
Fig: O. Landgren, A. Dyrrdal (MET)

April - September (spring-sown grain)



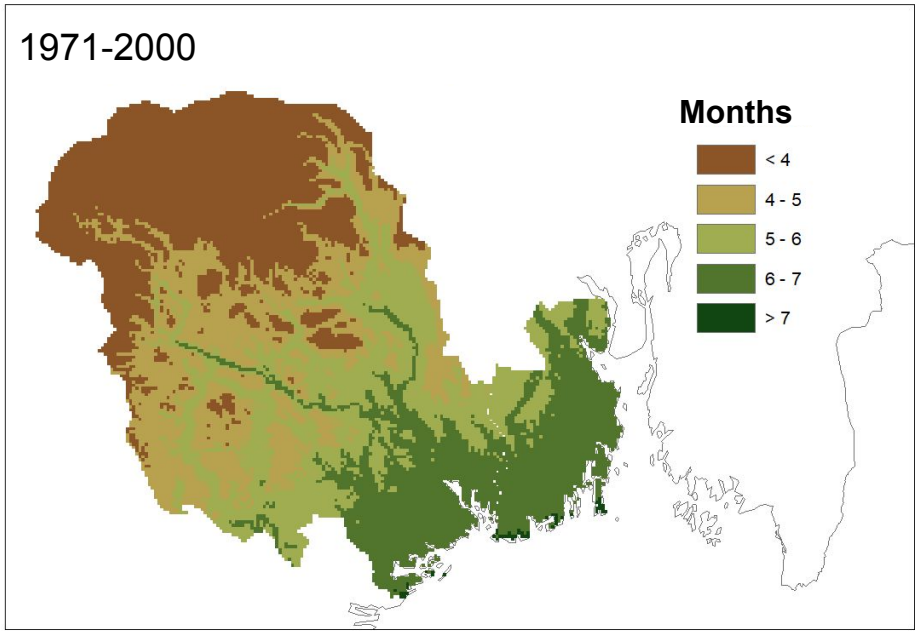
Mean temperature

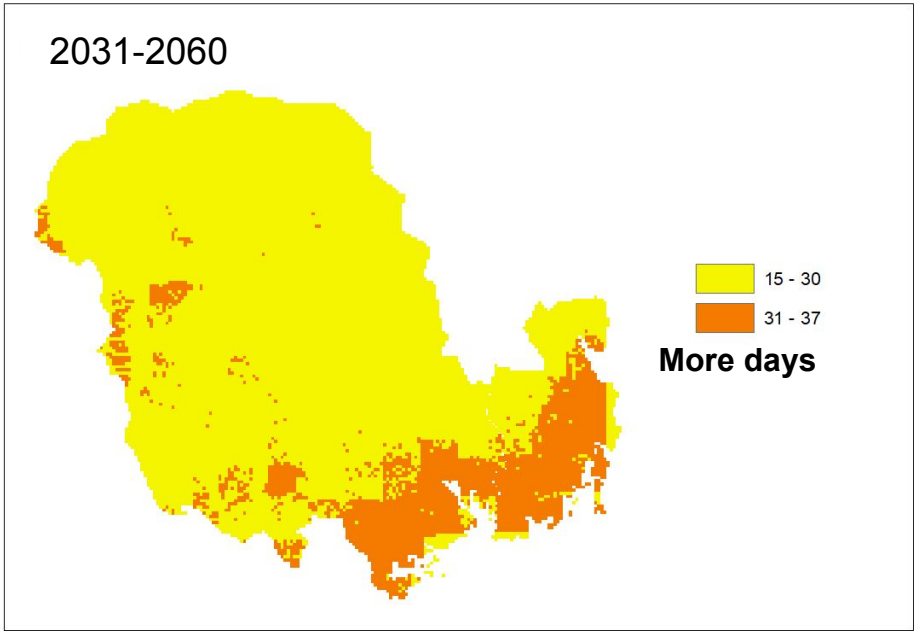




Compared to 1971-2000

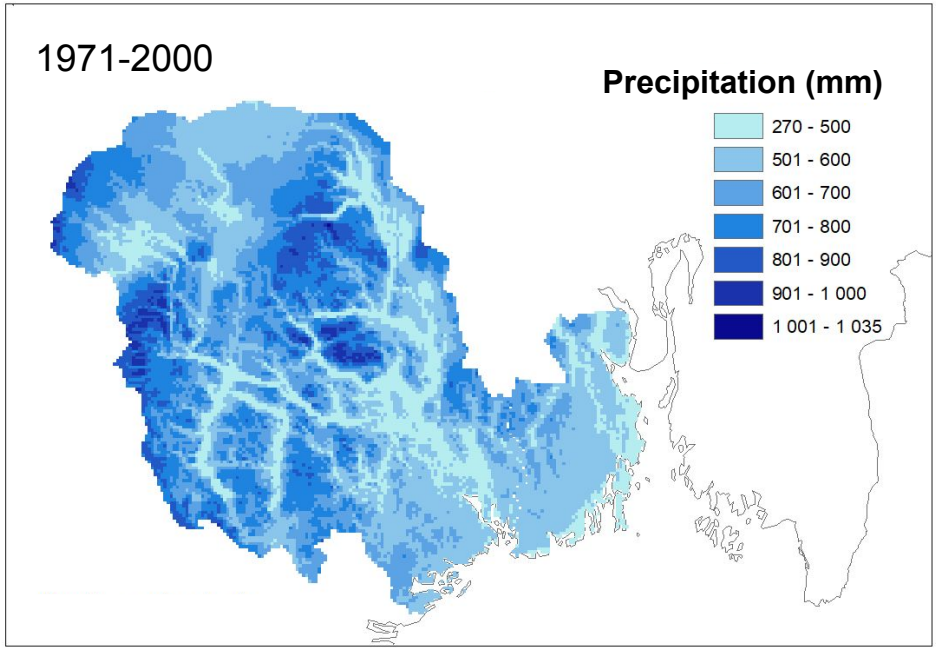
Growing season length

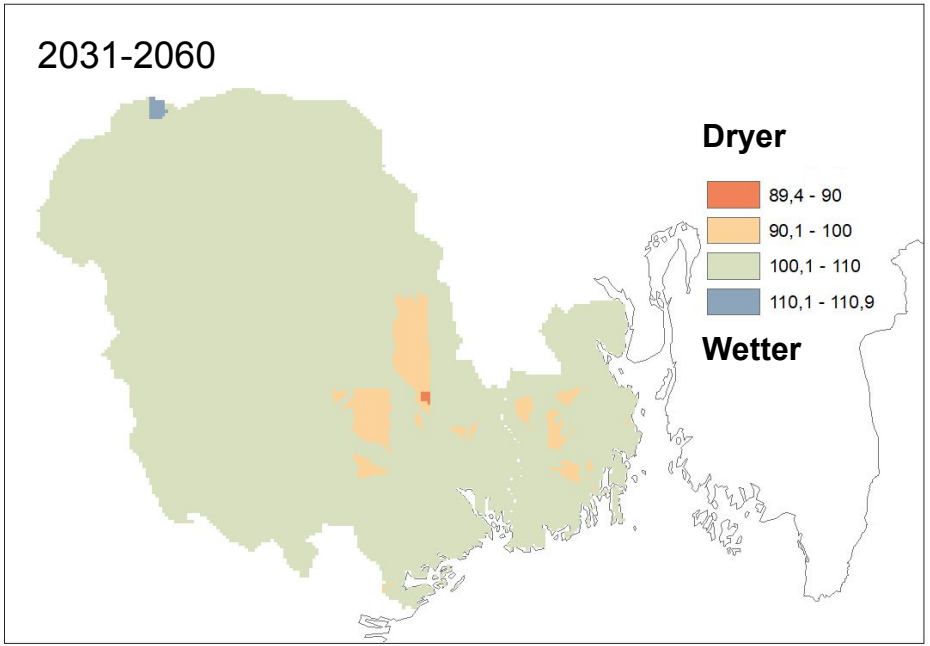




Compared to 1971-2000

Precipitation sum





Compared to 1971-2000

The farmers: dig deeper!

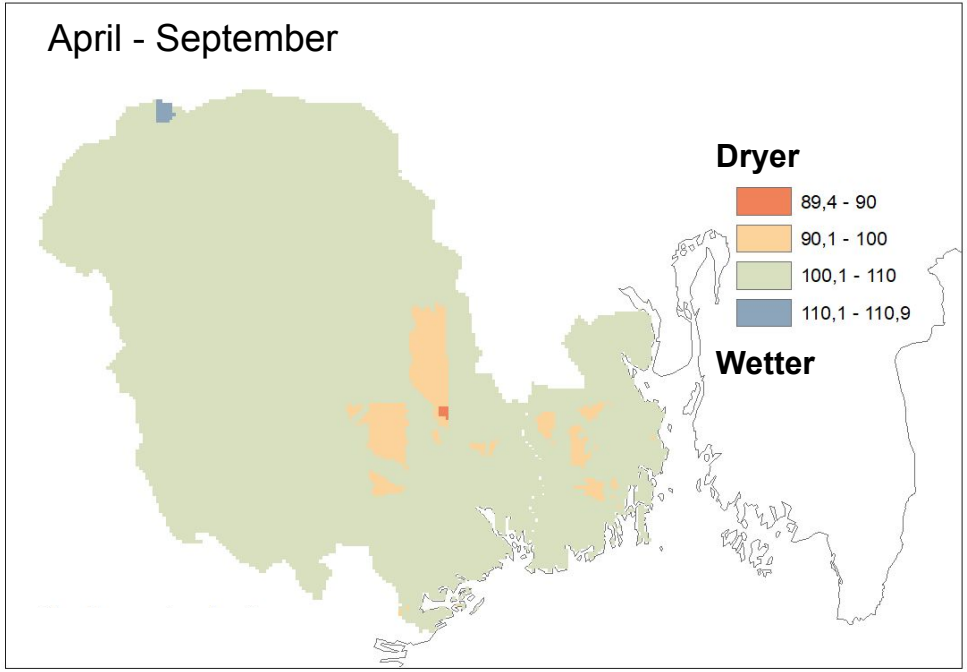


Photo: R. Skaland

The sowing and harvesting periods

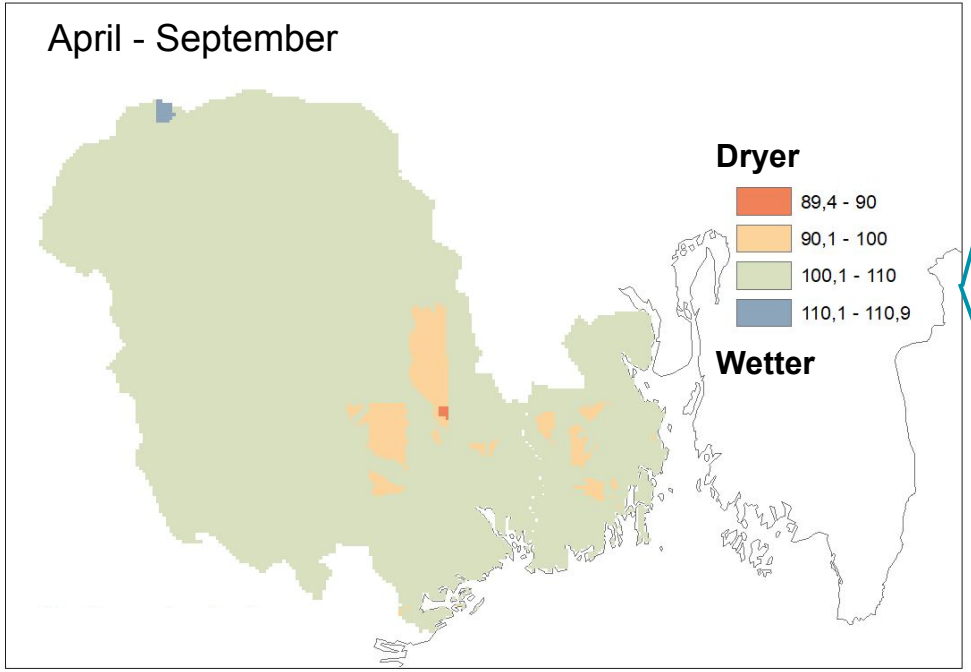


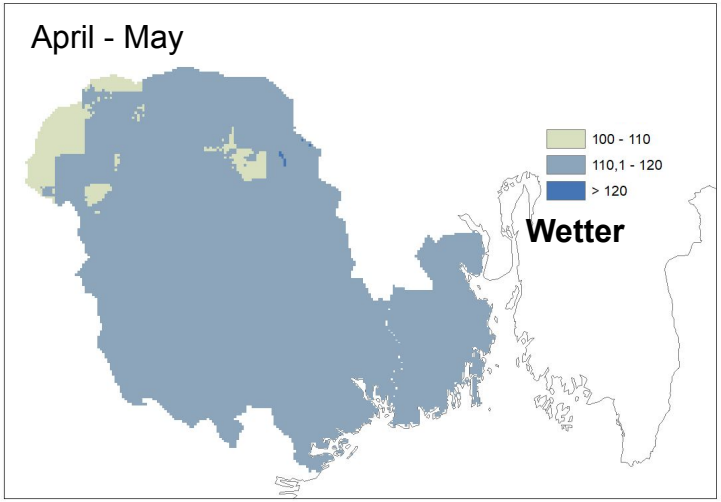
Precipitation sum - future changes for the start and end of the season

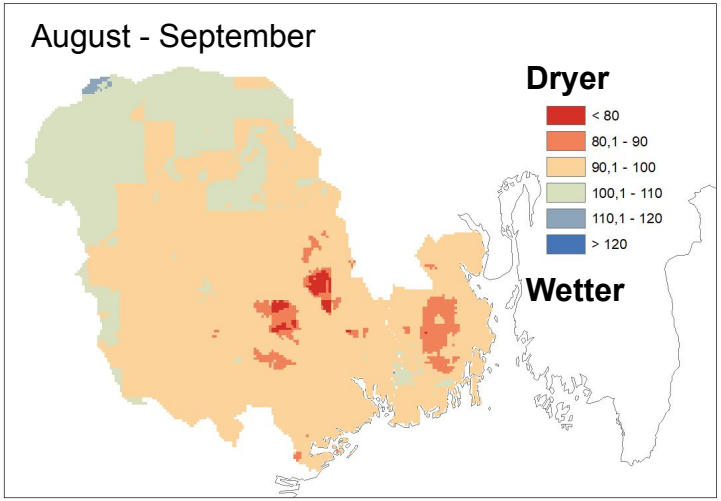


2031-2060 compared to 1971-2000

Precipitation sum - future changes for the start and end of the season

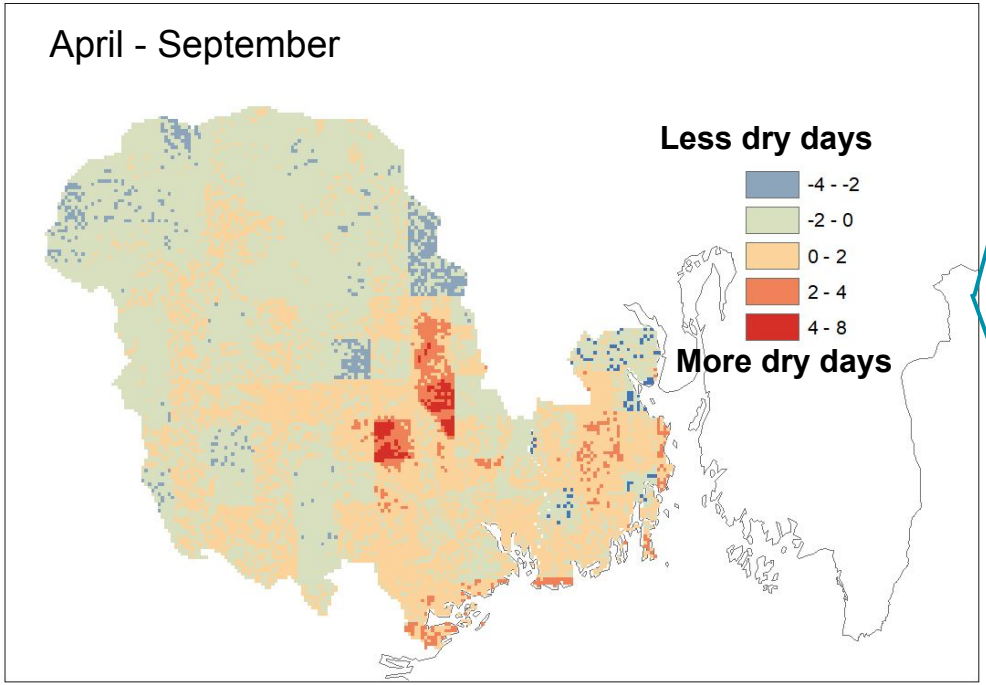


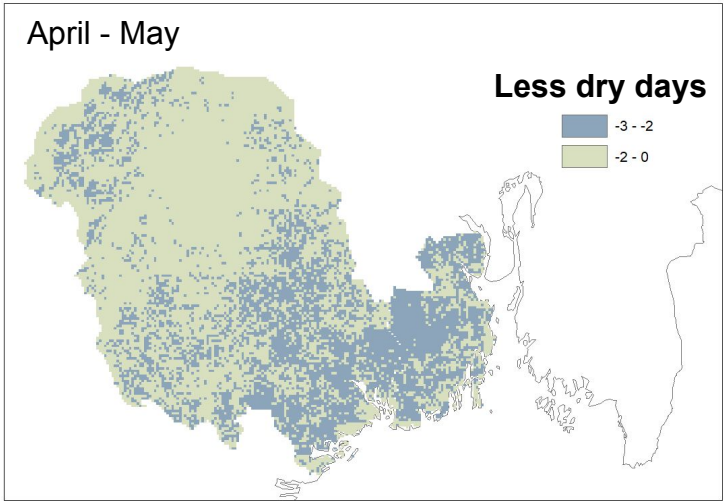


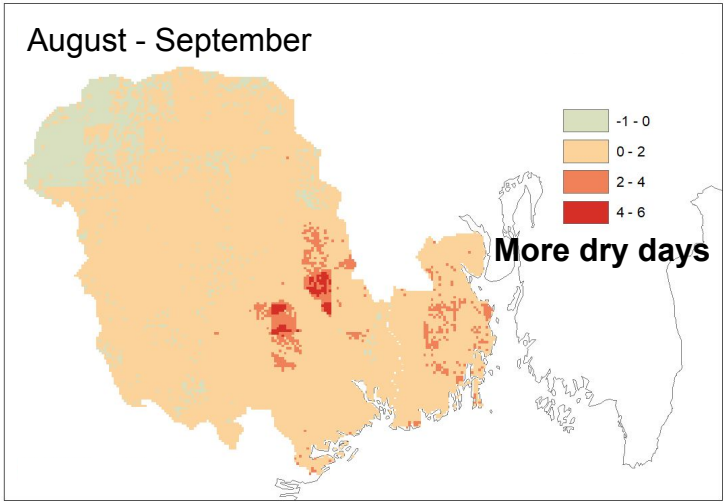


2031-2060 compared to 1971-2000

Number of dry days - future changes for the start and end of the season







2031-2060 compared to 1971-2000

Conclusions

April - September: warmer

- Almost **2 degrees** warmer by the mid-century
- Increased growing season by **one month**
- Small changes in precipitation and dry days

April - May: wetter

- Increased precipitation and fewer dry days

August - September: dryer

- Decreased precipitation and more dry days



Note: Increased drought risk also due to higher temperatures!


More digging is needed!
Norwegian Meteorological Institute

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Thank you!

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