«*Veronica alpina*»
Local adaptations to drought

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- **Does *Veronica alpina* vary in its seed germination response to moisture availability?**
- **Does this relate to their habitat niche requirements at a percipitation gradient?**

What you need to know

- Seeds gathered from 4 different locations in south-western part of Norway.
- Given 10 different treatments with differencing water potentials (WP). Higher WP = higher access to water for the seedlings.

Preparation of artificial drought

- 10 different water potentials (WP) (-0.25 to -1.7MPa).
- 9 replicates each WP at each location with 20 seeds in each petri dish.
- 1% agar with 30mL PEG introduced.
- Incubated at 25/10°C.
- Petri dishes systematically rotated.

Results indicate that *Veronica alpina* has different local adaptations to drought suited to their niche requirements

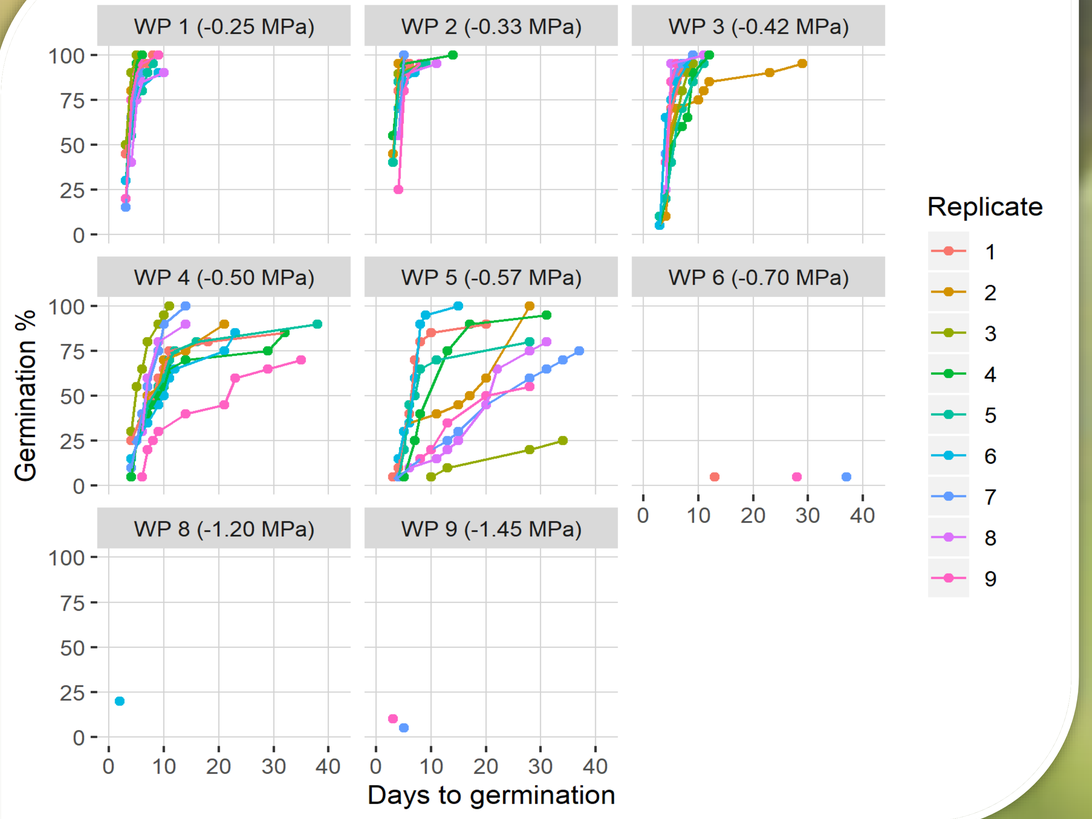

Figure 1: The percentage of seeds germinating on the y-axis and the amount of days it took for each seed to germinate their cotelydon on the x-axis. Each replicate on each water potential (WP) represented with their individual colour.

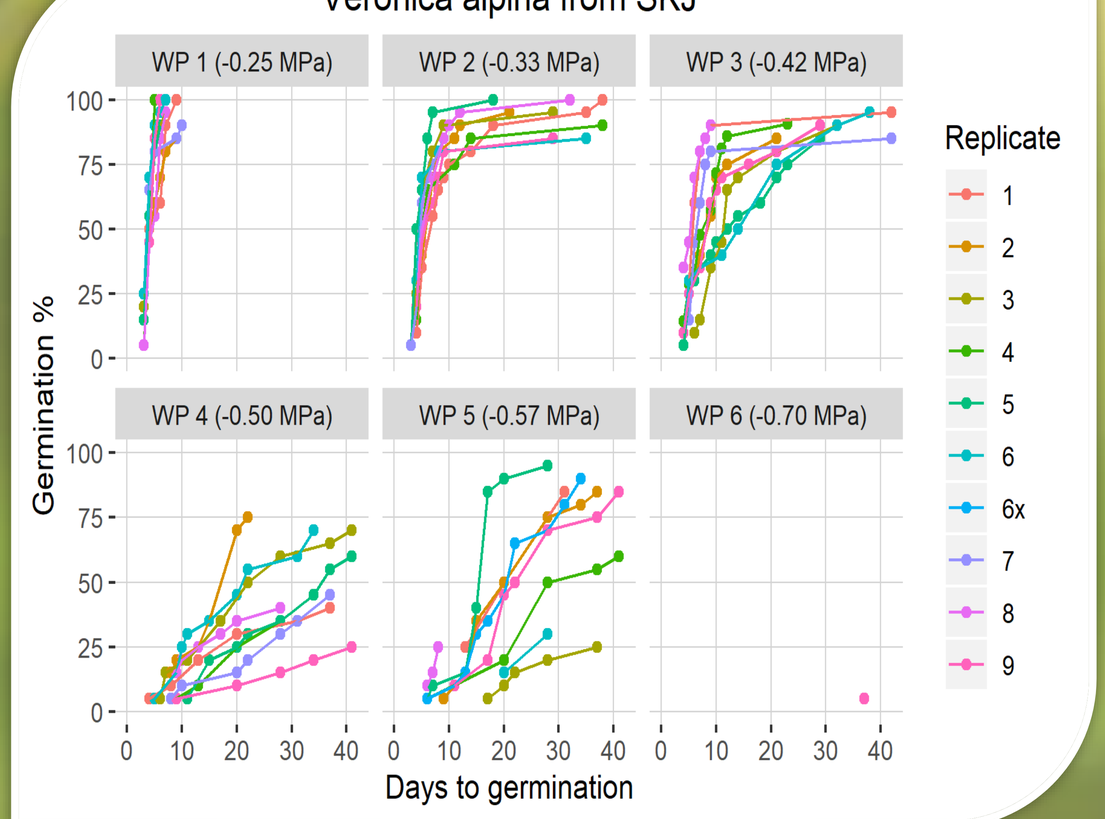

Figure 2: The percentage of seeds germinating on the y-axis and the amount of days it took for each seed to germinate their cotelydon on the x-axis. Each replicate on each water potential (WP) represented with their individual colour.

❖ Annual precipitation (mm)

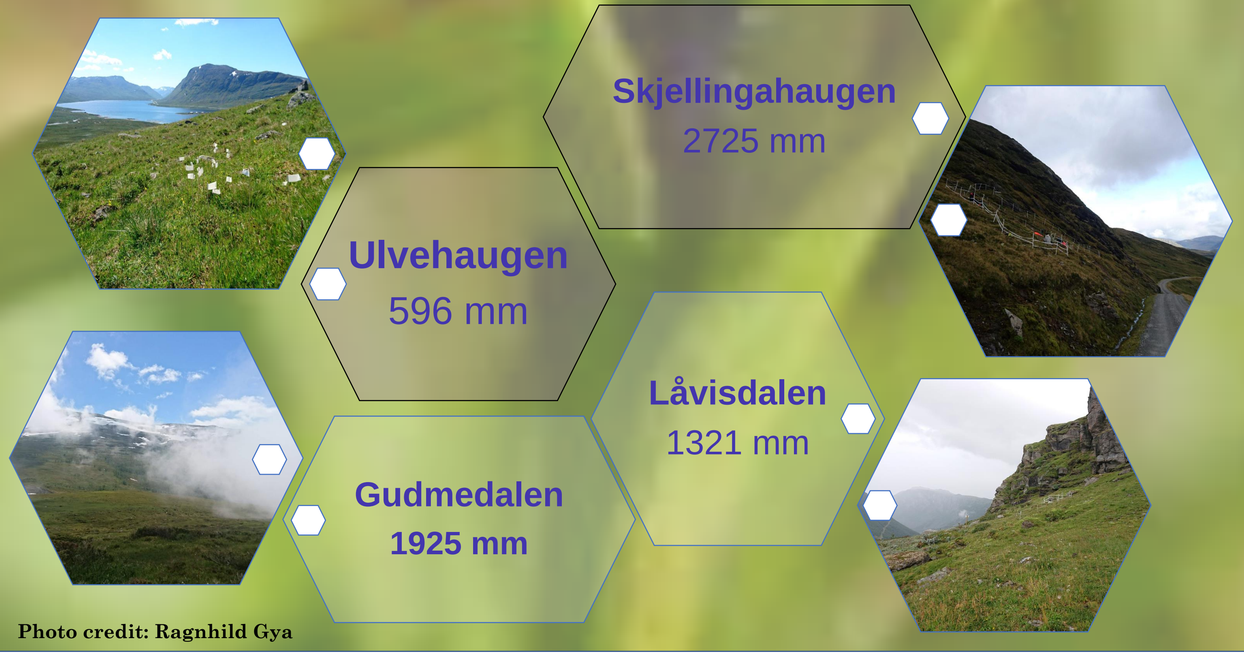

Photo credit: Ragnhild Gya

Did anything come from this?

- **Timing**: Later germination with more drought
- **Synchrony**: With more drought seeds germinate at different times
- **Germination %**: less seeds germinate with more drought
- Seeds from **drier habitats** germinate quicker and with higher germination %

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