Does *Sibbaldia procumbens* have a future?

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Climate changes, the end of Alpine plants?

The climate is changing, and the future of alpine plants are unsure. *Sibbaldia procumbens* is an normal alpine specie that also is a snow-bed specialist.

Our goal is to find out how the future changes will affect the *Sibbaldia* when it comes to drought with use of different water potentials (WP).

Photo Credit: Siri Lie Olsen (left) and Ragnhild Gya (right)

Germination percentage decreases with drought

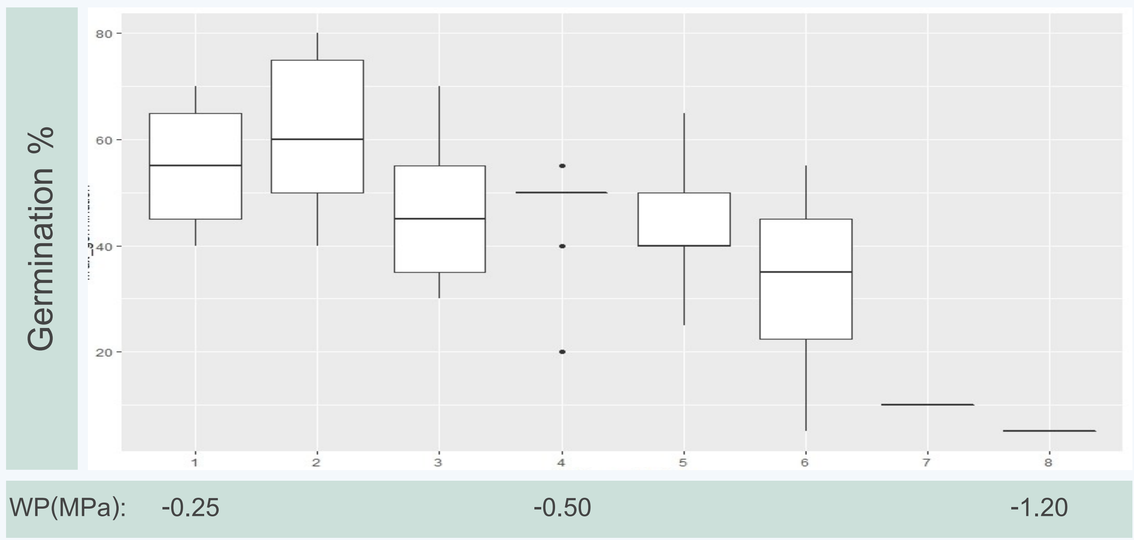


Figure 1:The germination percentage of the seedlings on the y axis decreases when its exposed for higher water potential (WP)

Artificial preparation of drought

- The seeds where harvested at four different locations but today only the result from Låvisdalen is represented.
- Scoring was conducted 5 times a week and the seedling traits was taken after harvest.

WP Level:	1	2	3	4	5	6	7	8	9	10
Water used liters:	1	1	1	1	1	1	1	1	1	1
Used PEG:	0	75	150	250	300	400	475	550	625	700
(MPa):	-0.25	-0.33	-0.42	-0.50	-0.57	-0.70	-0.95	-1.20	-1.45	-1.70

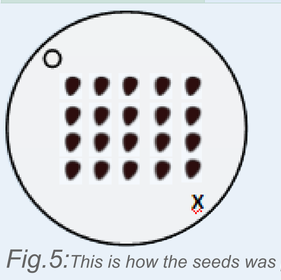


Fig.5:This is how the seeds was planted in the petri-dish .

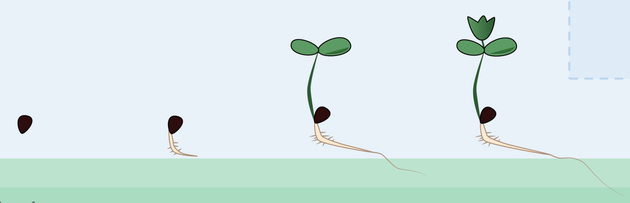


Fig.4:The different stages of seedling. The seeds was harvested at stage 4.

Made Ragnhild Gya

Biomass allocations in response to drought

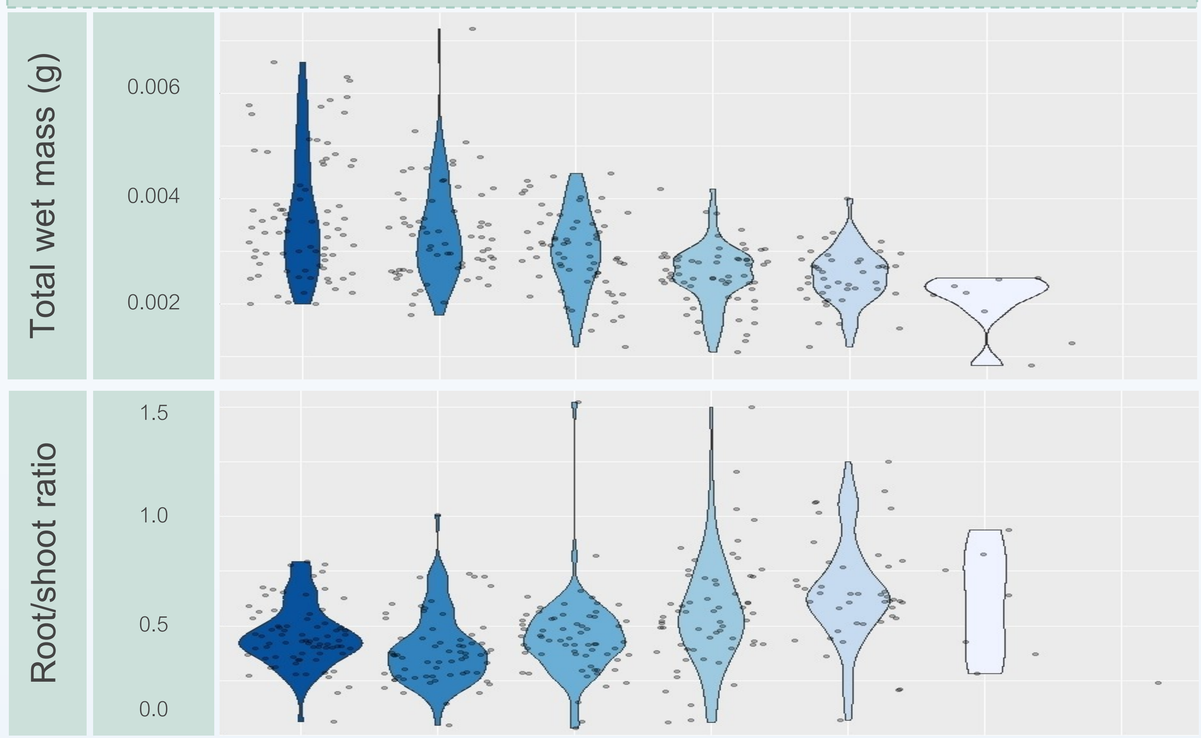
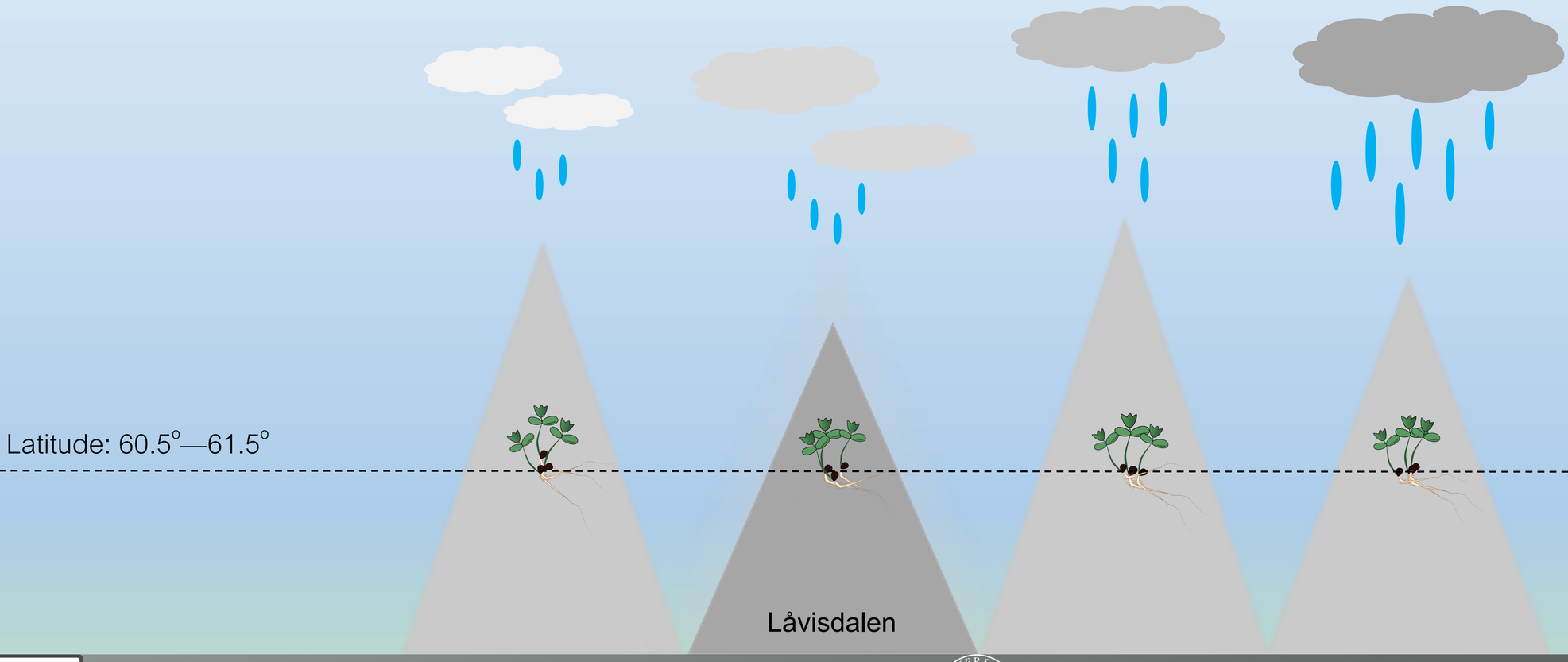


Fig 2a & 2b:The total wet mass decreases with higher water potential (fig.2a). The root/shoot ratio increases towards higher water potential (fFg.2b).

Decrease in number of sprouted seeds

The germination % is decreasing when the seeds are exposed for a tougher drought-stress. The seeds that was planted in WP 7 and over almost didn't or did not germinate at all.

This result indicates that *Sibbaldia procumbens* future could be in danger if the predictions about an increase in temperature occurs.



SCAN ME

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