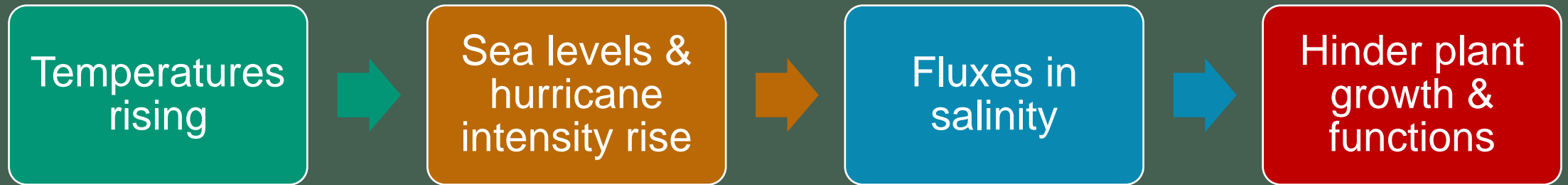




Effects of sea level rise on the root chemistry of *Chamaecrista lineata* var. *Keyensis*

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Purpose



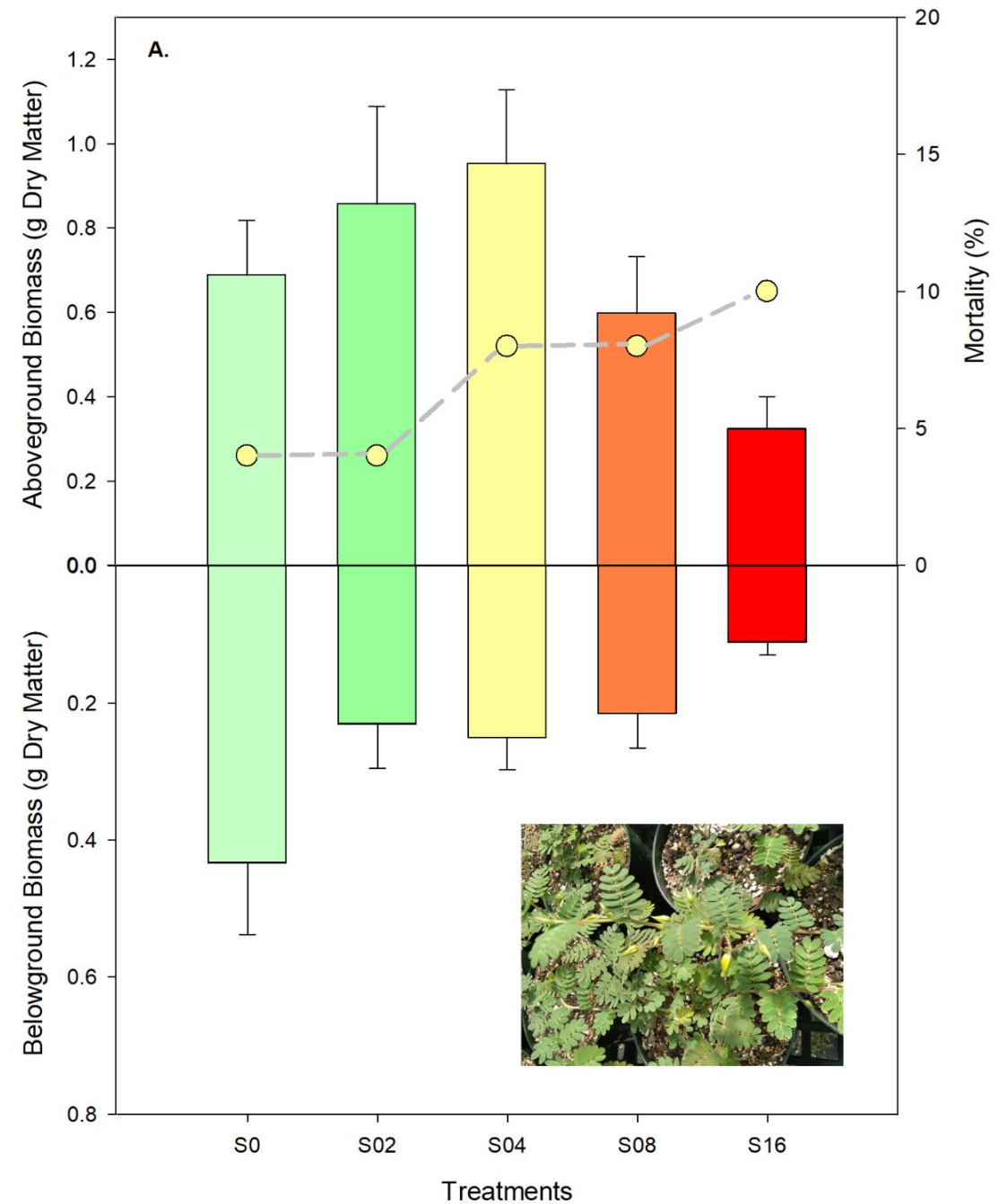
Methods

- 250 germinated seed plants of *Chamaecrista lineata* var. *Keyensis*
- 5 large flooding trays with 5 different salinity levels
 - 0, 2, 4, 8, and 16 ppt of salt
- Random samples taken every week in all treatments to analyze:
 - above and below ground biomass
 - total phenolic content
 - total flavonoid content
 - total saponin content



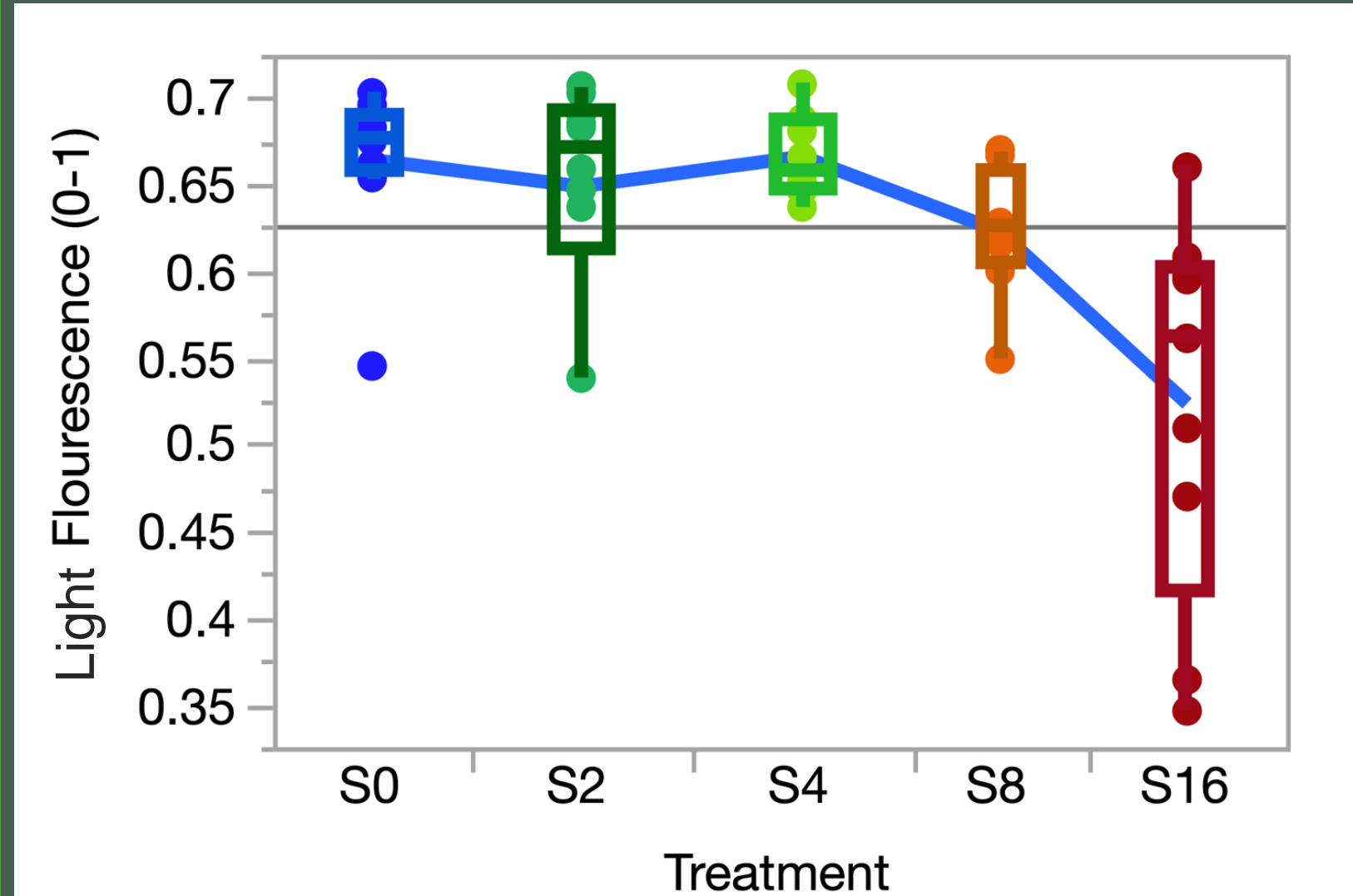
Results: Effects of salinity on biomass

Plants in the 0 and 2 ppt treatment outperform all other treatments.



Results: Effects of salinity on light fluorescence

Plants in the 16 ppt treatment showed the highest effect on the plants' photosynthetic system.

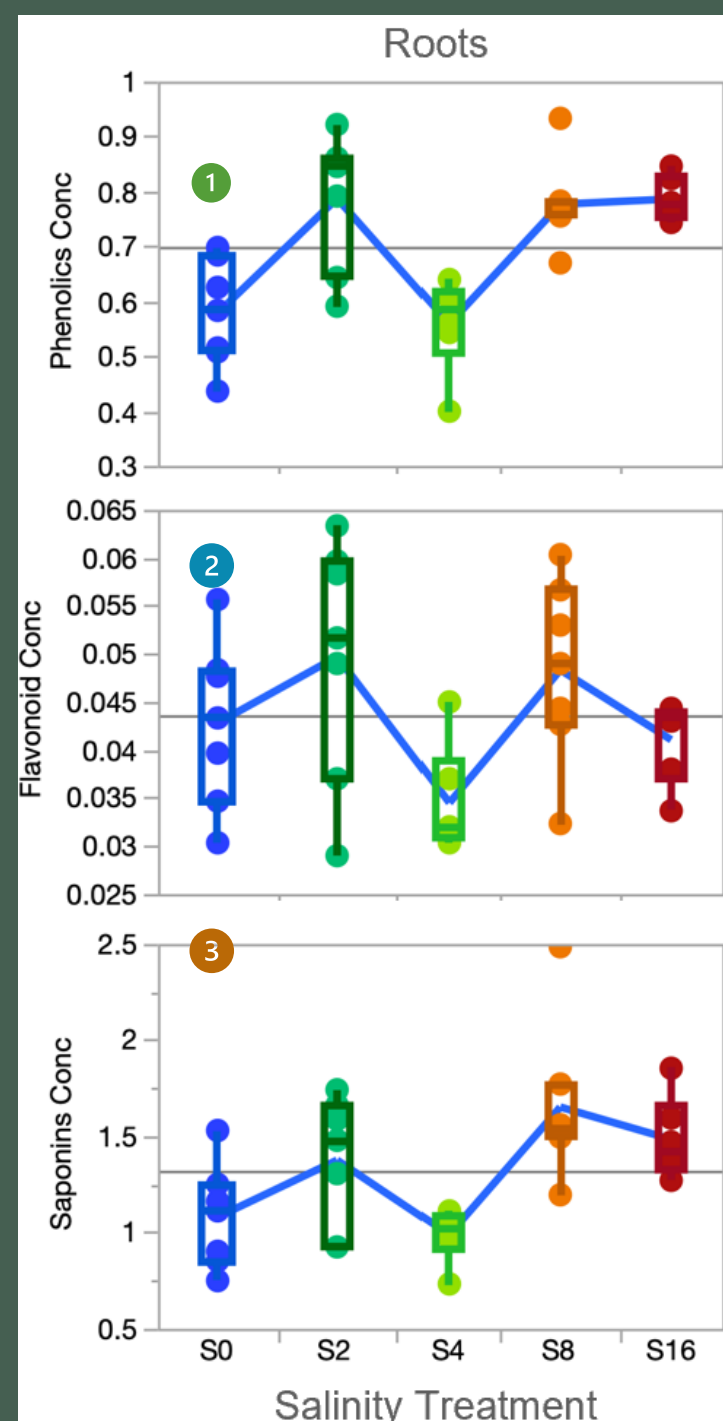


Results: Effects of salinity on presence of secondary compounds in roots

The highest concentration of defense chemical was found in low salinity treatments.

S4 treatment showed the lowest levels of defense chemistry.

Secondary metabolite concentration rise again in the higher salinity treatments.



Conclusion

Long-term success and persistence is likely to be affected by increasing sea-level rise and hurricane surge.

Salinity-induced mortality is not the primary threat that this species faces.

The negative impact of climatic change on this plant species is likely linked to reproductive depression at the population level.

Sea-level rise is likely to negatively affect local pollinator networks and other associated species.

Sponsors



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