

Impacts of Nitrogen-fixing invasive plants on nutrient cycling and outflow in a tropical montane forest-grassland mosaic in the Nilgiris Biosphere Reserve, India

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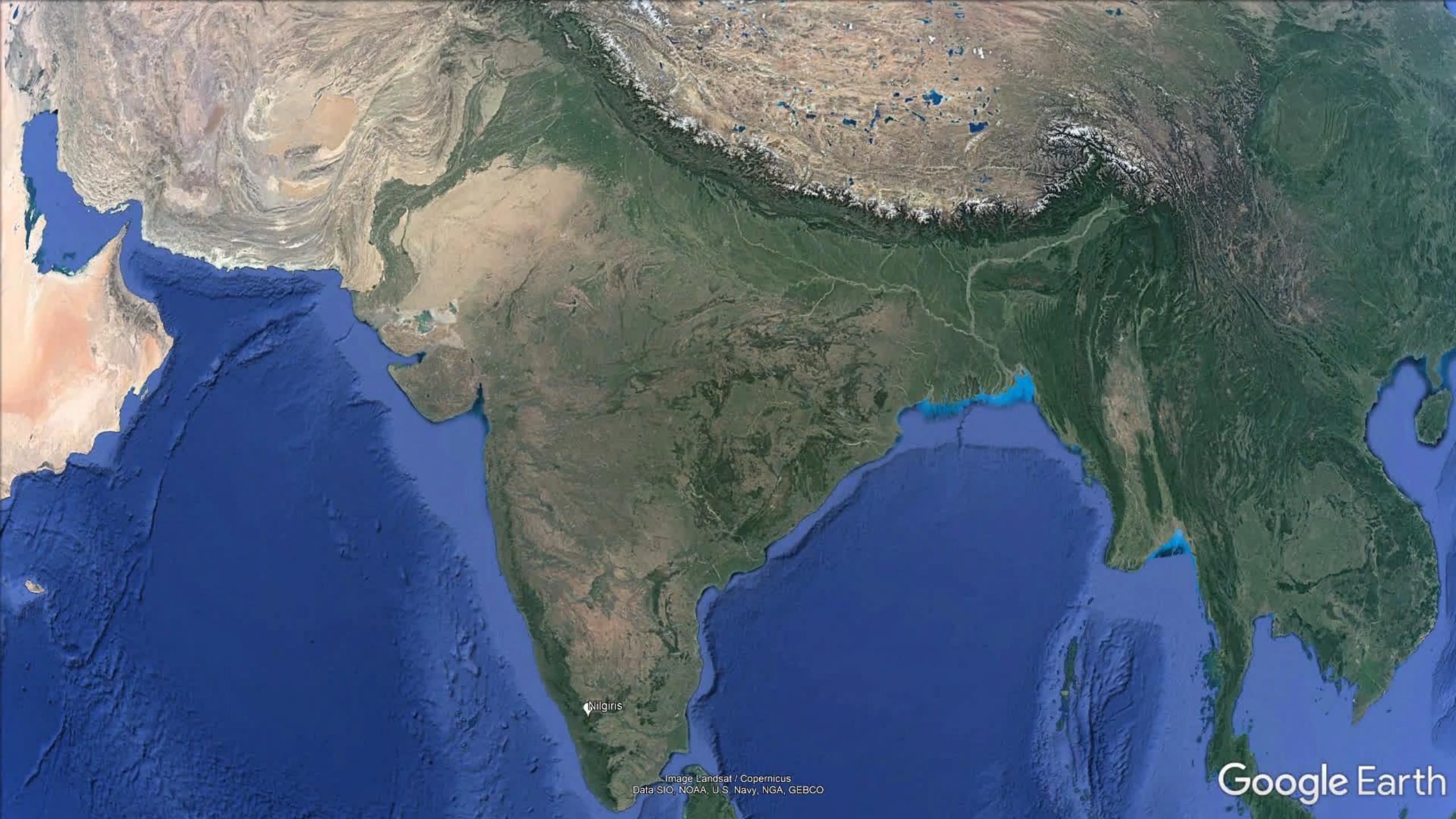


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Nilgiris

Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google Earth



Cytisus scoparius
(Scotch broom)



Acacia mearnsii
(Black wattle)

Ulex europaeus
(Gorse)

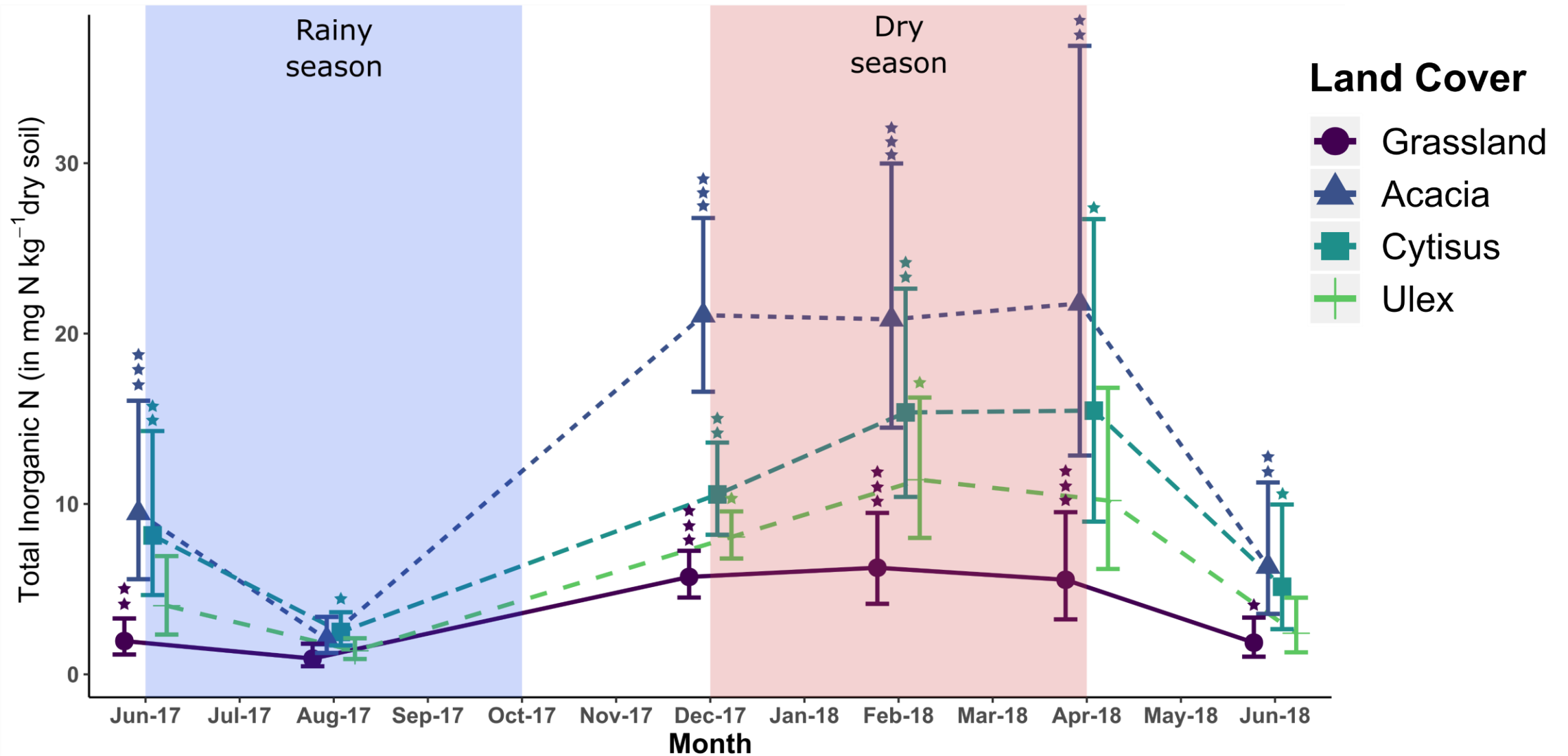


Global invasive species database

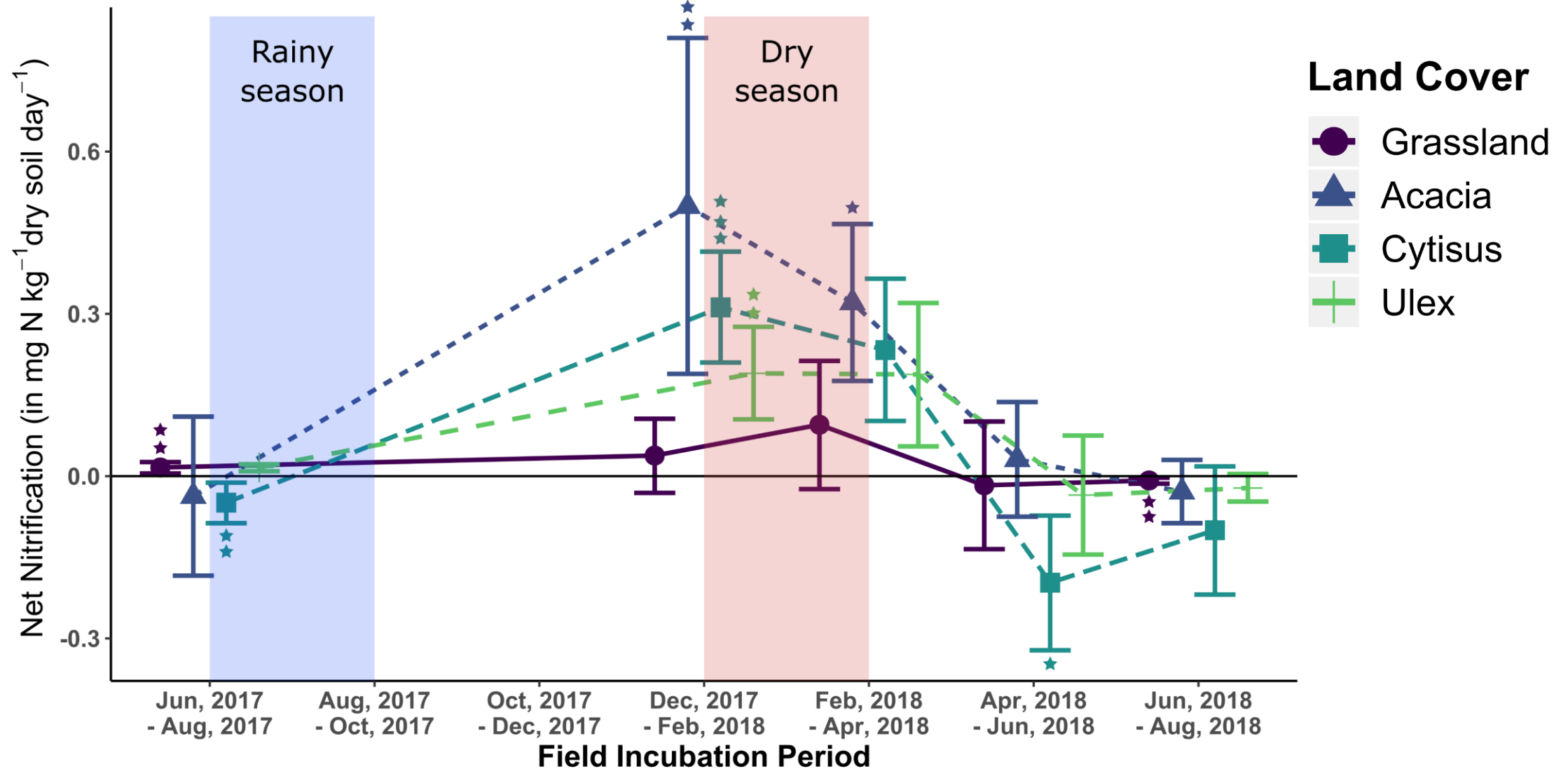


How do invasives impact Nitrogen availability and cycling?

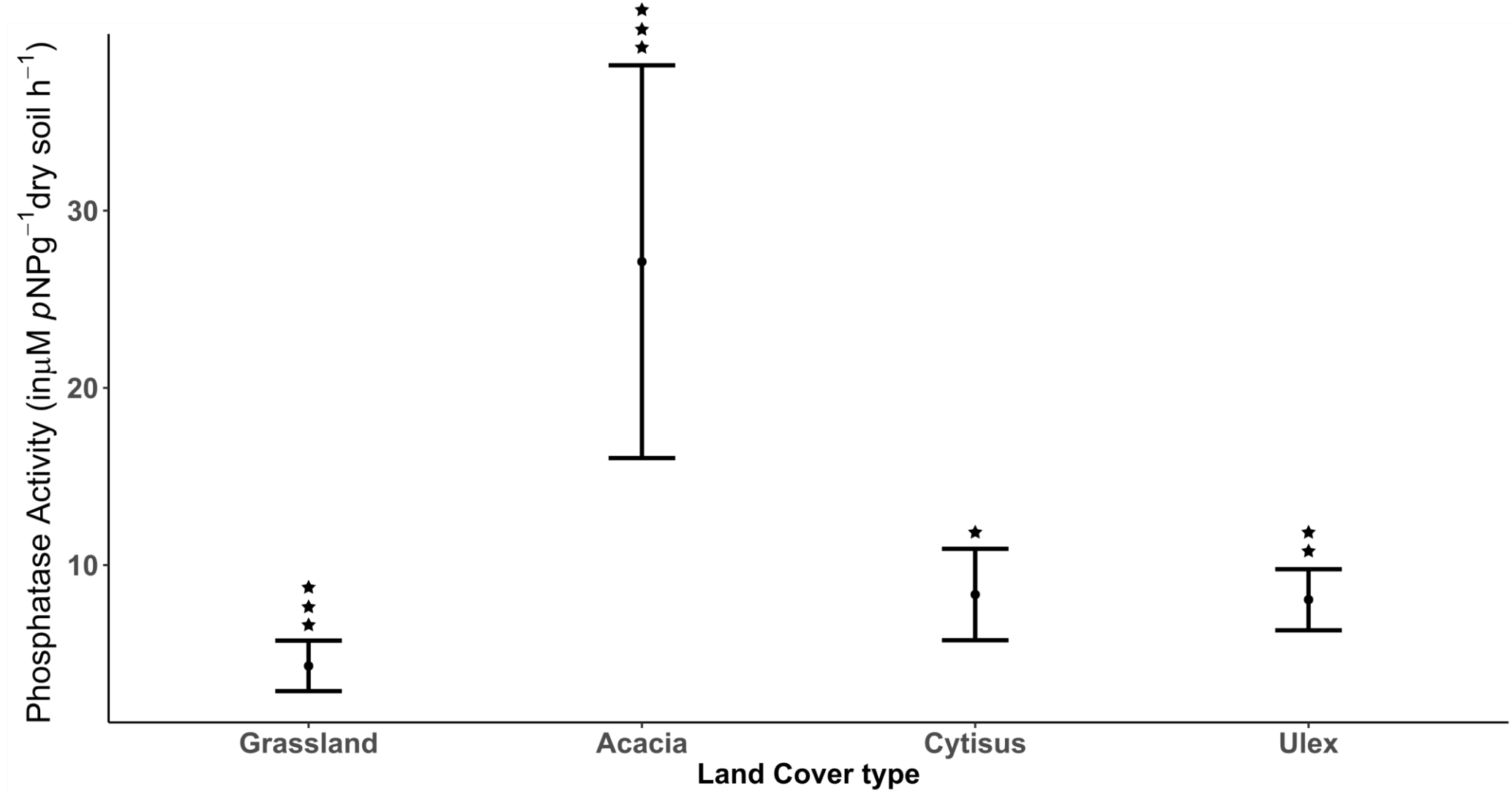
Invasion \uparrow [Total Inorganic Nitrogen] in the dry season



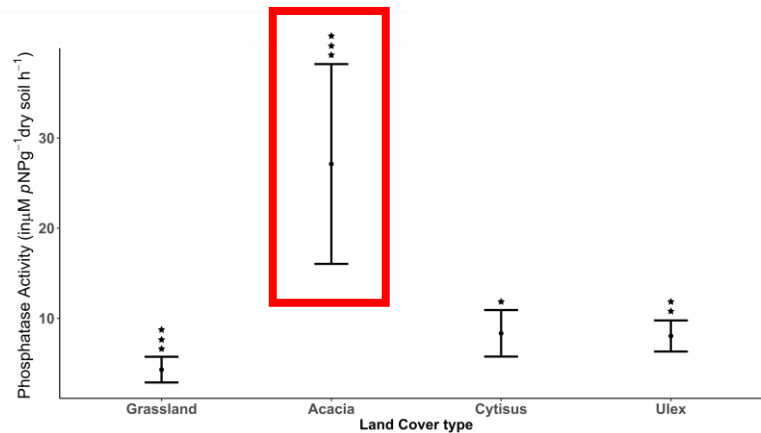
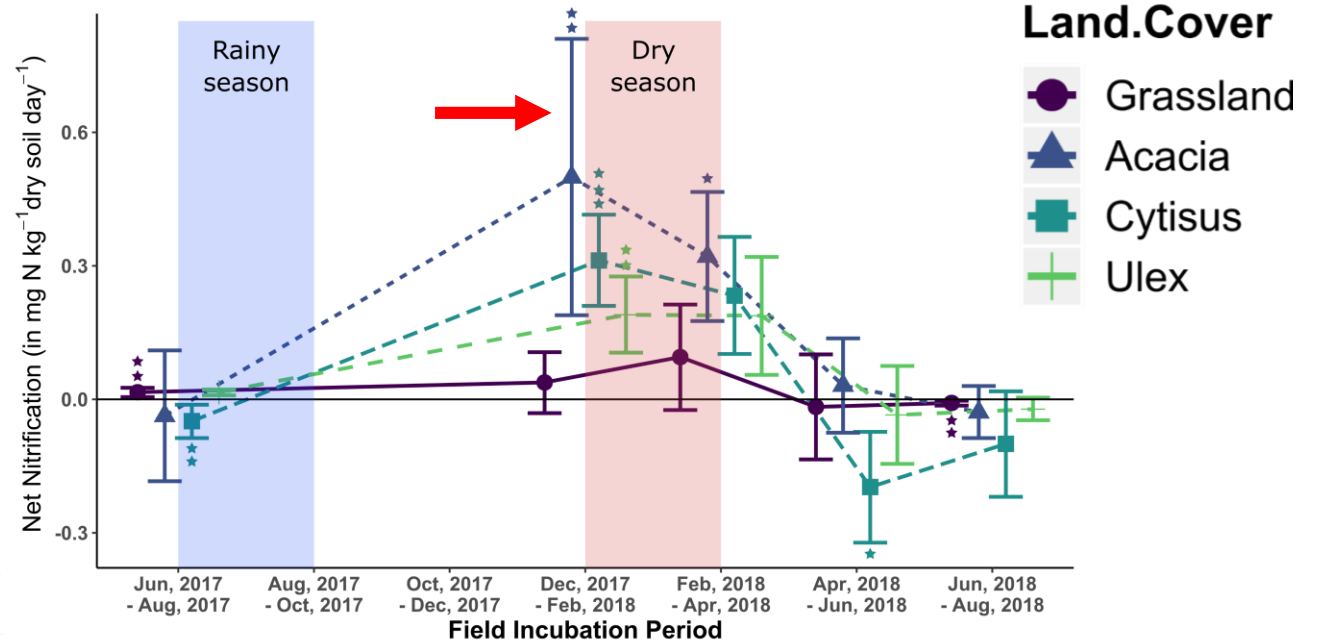
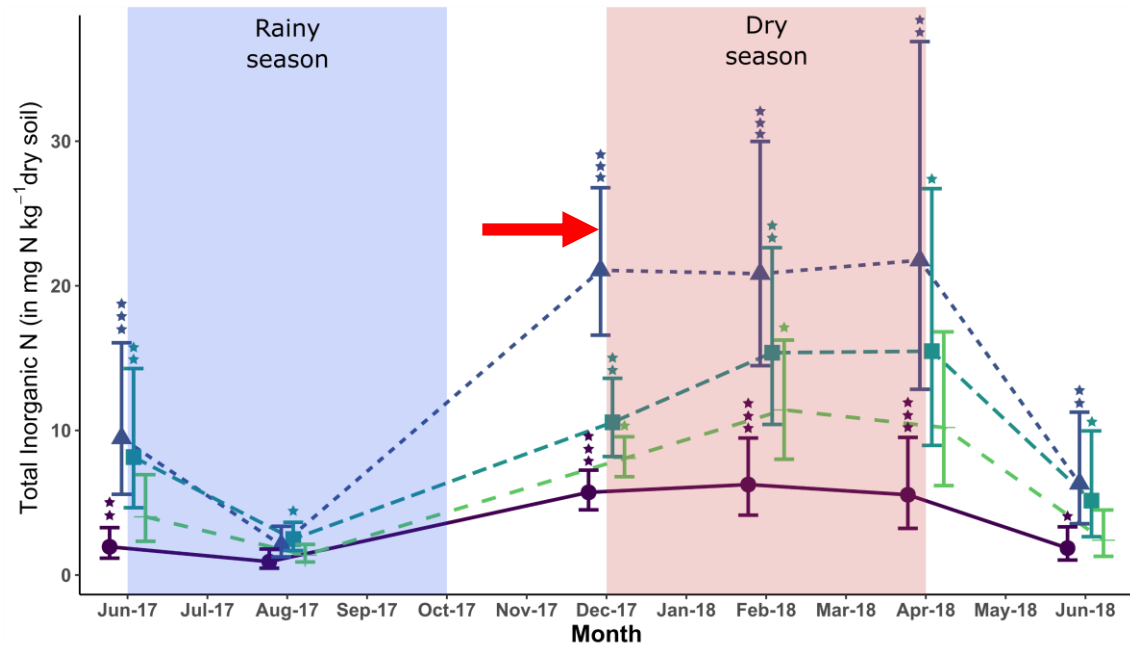
Invasion \uparrow nitrification rates in the dry season



Invasion \uparrow soil phosphatase activity

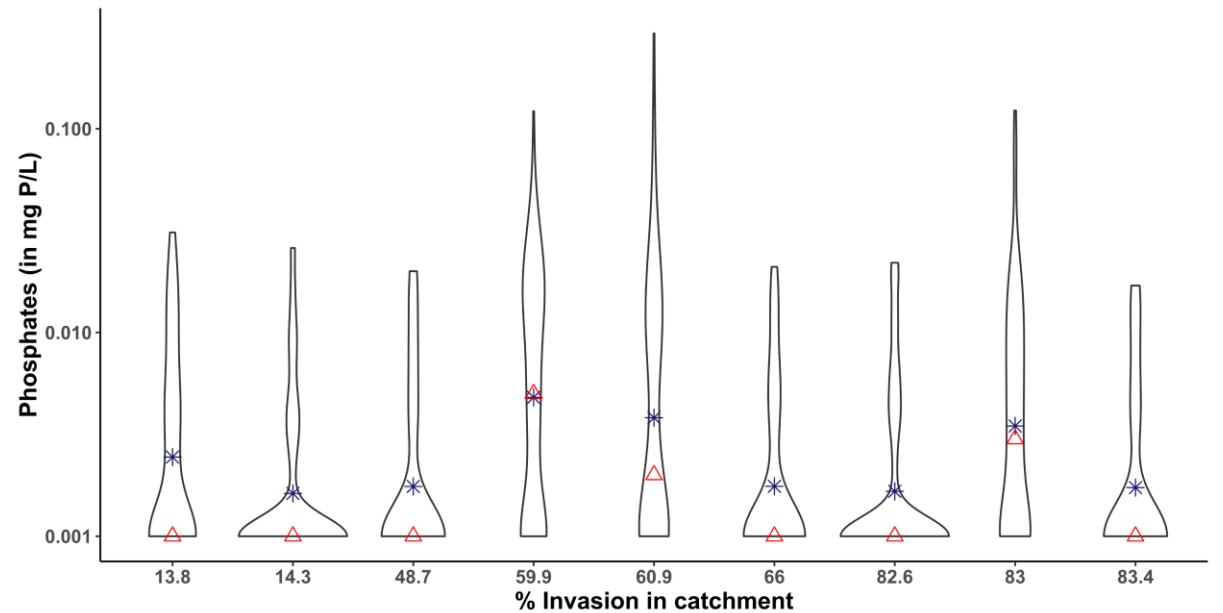
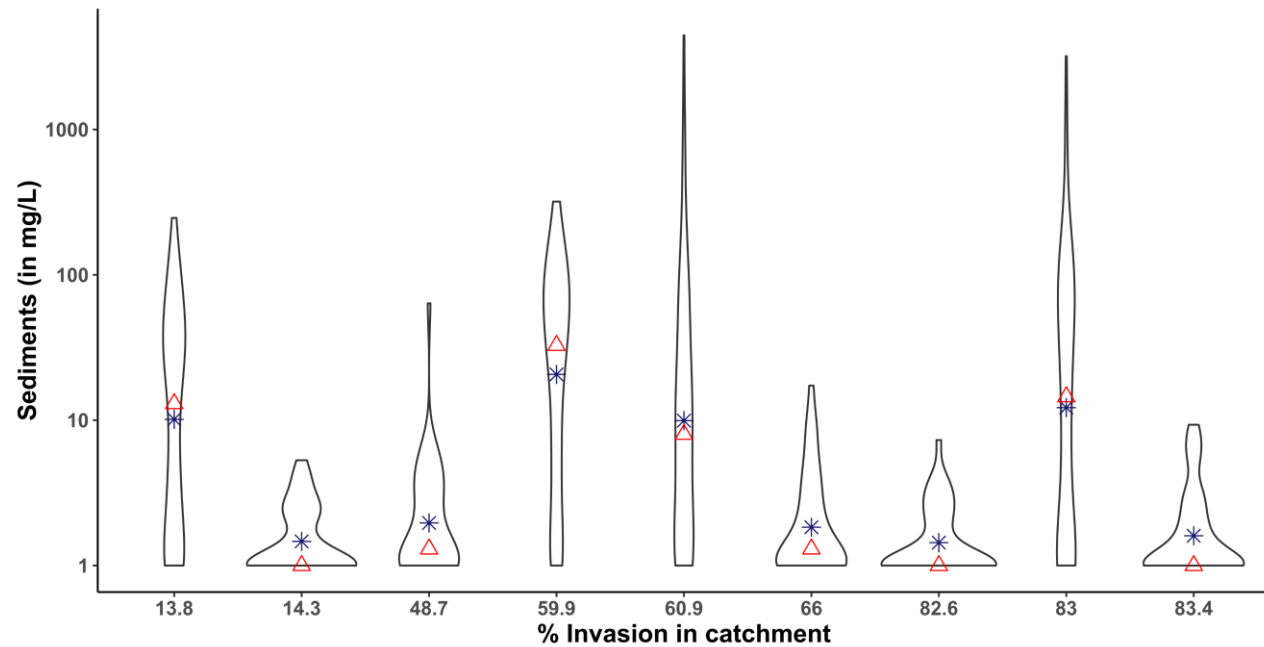
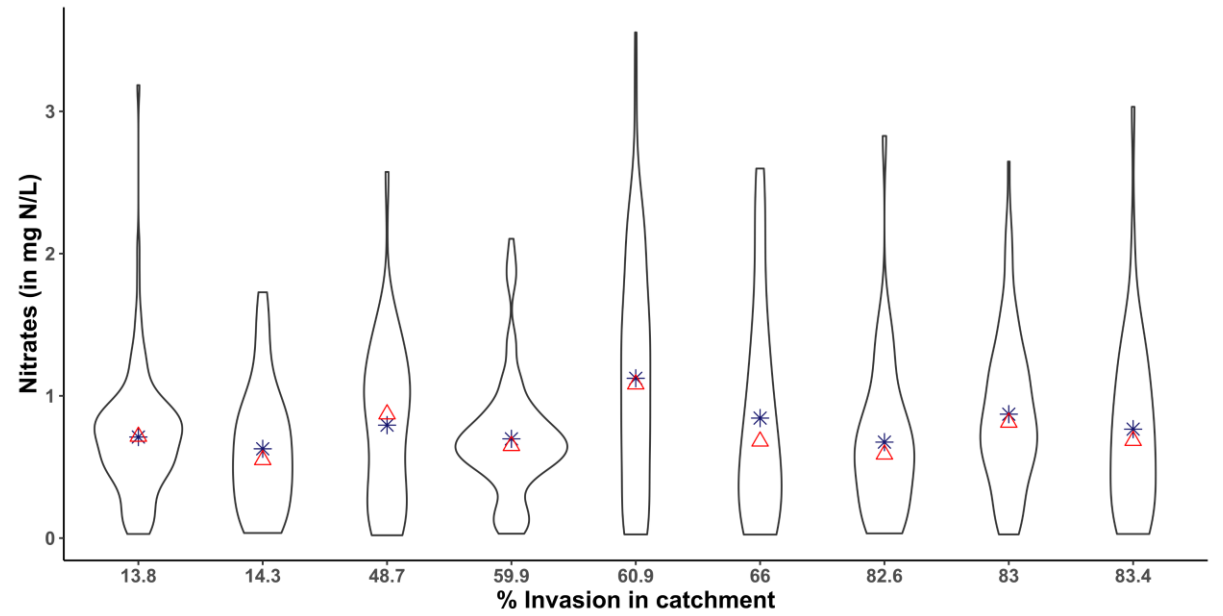


Impact of *Acacia mearnsii* invasion greatest



Does invasion impact nutrient and
sediment outflow?

No clear trends
Subset catchments



Invasion is significantly
transforming Nitrogen cycling in
the Nilgiri grasslands

RESTORATION IMPLICATIONS?

ACKNOWLEDGEMENTS

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Infosys
Foundation

