Landscape Surveillance - AusPlots: Data Applications & References

APPLICATIONS

Here are some potential uses of AusPlots data and samples:

- Isotopic or genetic analysis of soil and plant samples
- Classification of vegetation types
- Validation of remotely sensed ground cover data (e.g. fractional cover)
- Species presence/absence for training or validation of species distribution models
- Patterns (spatial, across gradients) in: fractional cover (e.g. proportion of green cover), growth form, and community structure composition.
- Time series analysis (increasingly possible, currently > 100 sites with revisits) to assess seasonal differences and trends and/or compare to time series remote sensing imagery
- Development of ecological indicators for disturbance

REFERENCES

Below are some papers that used or are about Ausplots data (list is not comprehensive):

Based on Ausplots or Ausplots data

Baruch, Z., Caddy-Retalic, S., Guerin, G. R., Sparrow, B., Leitch, E., Tokmakoff, A., & Lowe, A. J. (2018). Floristic and structural assessment of Australian rangeland vegetation with standardized plot-based surveys. *PloS one*, *13*(9), e0202073.

Guerin, G. R., Sparrow, B., Tokmakoff, A., Smyth, A., Leitch, E., Baruch, Z., & Lowe, A. J. (2017). Opportunities for integrated ecological analysis across inland Australia with standardised data from Ausplots Rangelands. *PloS one*, *12*(1), e0170137.

Tokmakoff, A., Sparrow, B., Turner, D., & Lowe, A. (2016). AusPlots Rangelands field data collection and publication: Infrastructure for ecological monitoring. *Future Generation Computer Systems*, *56*, 537-549.

Based on Ausplots samples

Howard, S., McInerney, F. A., Caddy-Retalic, S., Hall, P. A., & Andrae, J. W. (2018). Modelling leaf wax n-alkane inputs to soils along a latitudinal transect across Australia. *Organic Geochemistry*, *121*, 126-137.

Lemetre, C., Maniko, J., Charlop-Powers, Z., Sparrow, B., Lowe, A. J., & Brady, S. F. (2017). Bacterial natural product biosynthetic domain composition in soil correlates with changes in latitude on a continent-wide scale. *Proceedings of the National Academy of Sciences*, 201710262.

Dong, N., Colin Prentice, I., Evans, B., Caddy-Retalic, S., Lowe, A., & Wright, I. (2017). Leaf nitrogen from first principles: field evidence for adaptive variation with climate.

Validated by Ausplots

Bastin, J. F., Berrahmouni, N., Grainger, A., Maniatis, D., Mollicone, D., Moore, R., ... & Aloui, K. (2017). The extent of forest in dryland biomes. *Science*, *356*(6338), 635-638.

Supplemented by Ausplots data

Guerin, G. R., O'Connor, P. J., Sparrow, B., & Lowe, A. J. (2018). An ecological climate change classification for South Australia. *Transactions of the Royal Society of South Australia*, *142*(1), 70-85.

Guerin, G. R., Biffin, E., Baruch, Z., & Lowe, A. J. (2016). Identifying centres of plant biodiversity in South Australia. *PloS one*, *11*(1), e0144779.