Total vegetation cover soil protection Region:LGA Menzies (S) WA

This report describes vegetation protecting the soil surface from erosion during a chosen month compared to previous years. This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool https://map.geo-rapp.org/#australia. The report is based on 500 metre pixel data on monthly time steps.

Land use forest cover:

Date: December 2023

Results can be shown for the whole region (polygon), and separated by land use and forest cover classes which are likely to show different cover patterns and targets. Land use is divided into four broad classes: Conservation and natural environments, Agriculture, production native forests and plantation forests (no report), and other (no report). Agriculture is divided into grazing, crops and horticulture which are sub-divided into non-irrigated and irrigated. If forest is present land use is further divided into: non-forest, woodland forest and non-woodland forest. The area of each land use and forest class are shown as a map and chart. The report content is repeated for each land use and forest cover class that covers at least 1% of the area of the chosen region.

The total vegetation cover indicates where soil is likely to be protected from wind and or water hillslope erosion. Total vegetation cover for this month is shown on a map and chart classified into 4 classes.

- 71-100% High cover protected from wind and usually water erosion (high rainfall, steep slopes, and erodible soils may need greater than 80, 90, 95 and up to 100% cover)
 - 51-70% Moderate cover protected from wind erosion
 - 31-50% Low cover not protected
 - 0-30% Very Low cover not protected

Erosion protection: Wind erosion 50% total vegetation cover

The vegetation cover threshold required to prevent soil erosion is usually 50% to reduce wind erosion, 70% or 80% to reduce water (hillslope) erosion depending on the steepness and rainfall. Areas protected from erosion for the month:

- Map: water erosion protection (>70% cover) percentage area and hectares.
- Map: wind erosion protection (>50% cover) percentage area and hectares.

Comparison with previous years:

Total vegetation Cover:

- Map: anomaly comparing this month to the average cover from the same month in previous years.
- Map: deciles rank of month against the same month in previous years.

Anomalies and deciles until September 2019 are calculated comparing to the same months 2001 to 2019. Extra monthly data will be used to calculate anomalies and deciles post September 2019 as they become available. Time series monthly from January 2001 to current:

Erosion protection

- Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month (orange lines). Horizontal lines are 10th (cover target) and 50th percentiles.
- Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month (blue line). Horizontal lines are 10th (cover target) and 50th percentiles.

Rainfall

• Millimetres rainfall each month (black line).

Each time series is also stacked by year. The black line shows the current year of data.

Water erosion protection for higher rainfall and steeper slopes:

Water erosion protection on higher slopes. As slope increases, more cover is required to control water erosion. The thresholds reported are:

- the percentage area with pixels greater than 80% total cover.
- the percentage area with pixels greater than 90% total cover.
- the percentage area with pixels greater than 95% total cover.

Acknowledgment of data:

- 1. http://www.agriculture.gov.au/abares/aclump/land-use/alum-classification
- 2. http://www.agriculture.gov.au/abares/forestsaustralia/sofr/sofr-2018
- 3. https://www.dpi.nsw.gov.au/agriculture/pastures-and-rangelands/establishment-mgmt/production-management2/groundcover
- 4. MODIS Fractional cover algorithm:

https://doi.org/10.4225/08/5848a3f19a7b3



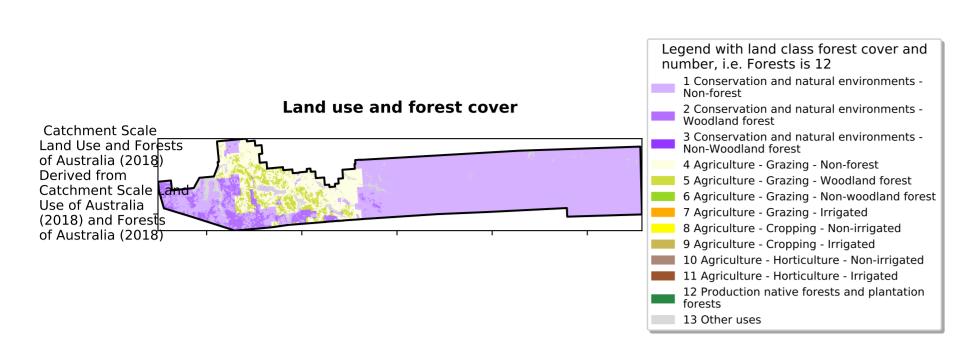


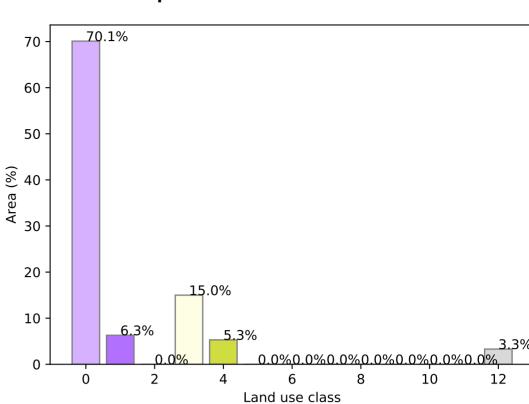




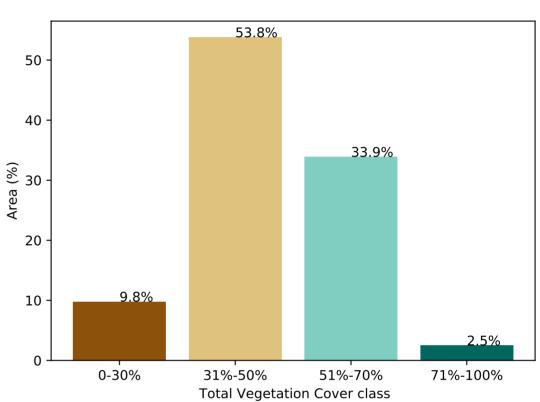
Vegetation Cover Dec 2023

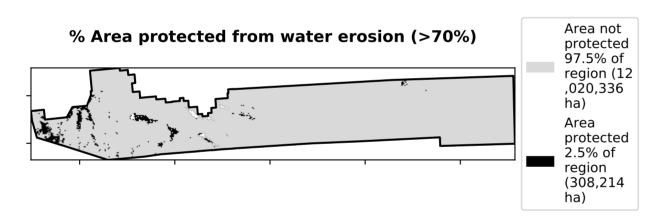
Proportion of each land class in area

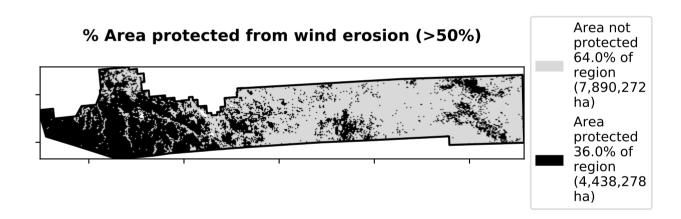


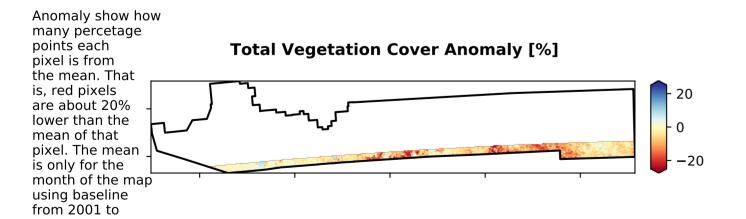


Proportion of vegetation cover class in area

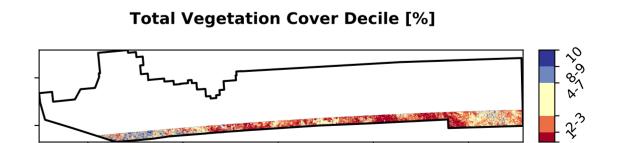








2019.

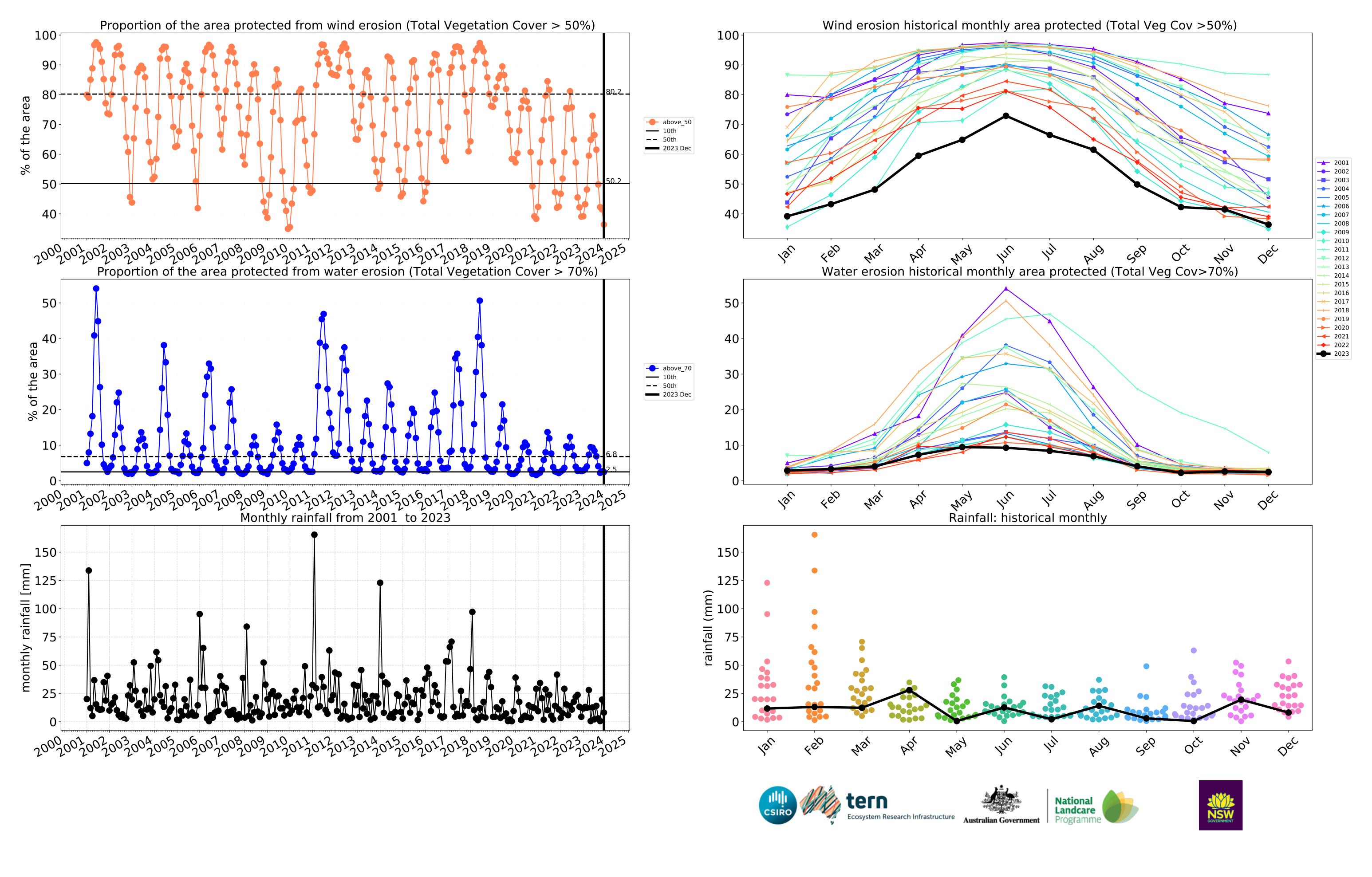






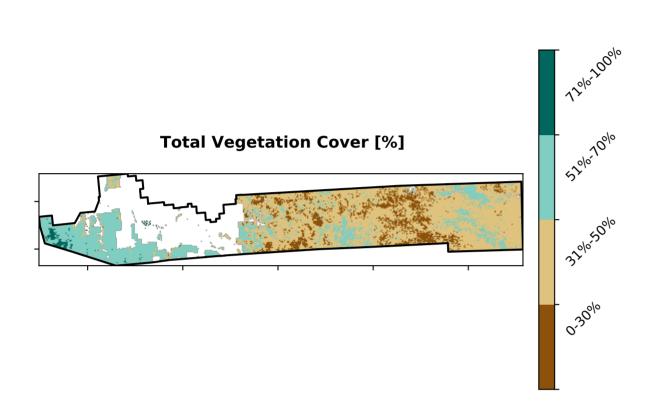


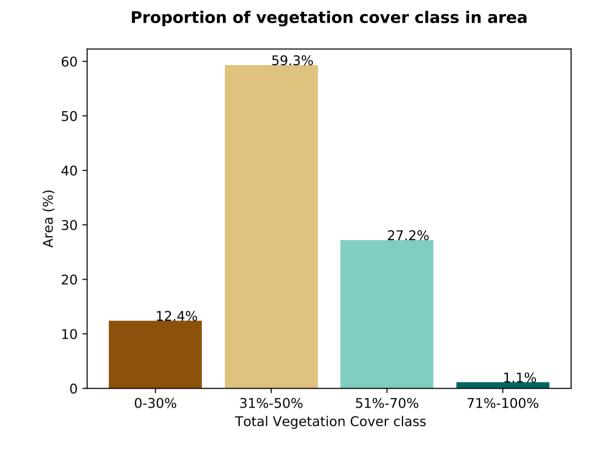




Conservation and natural environments

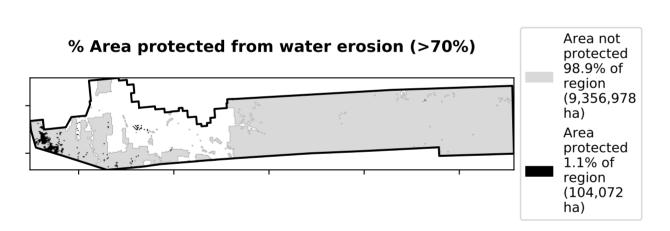
91.8% Land use and forest cover Catchment Scale 60 Land Use and Forests of Australia (2018) 1 Conservation and natural environments - Nonforest Derived from 2 Conservation and natural environments - Woodland forest Catchment Scale Lanc Use of Australia (2018) and Forests of Australia (2018) 20 8.2% 0.25 0.50 0.75 -0.250.00 1.00 1.25

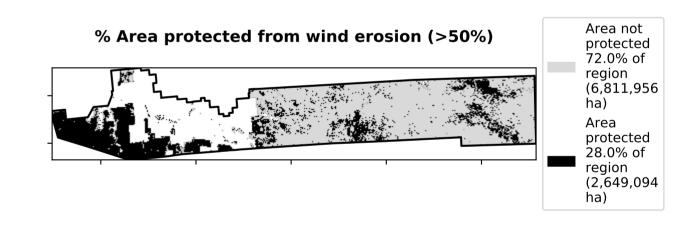


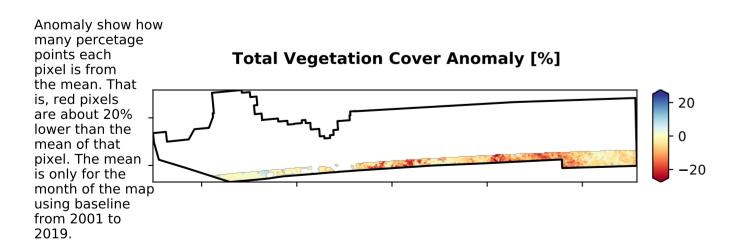


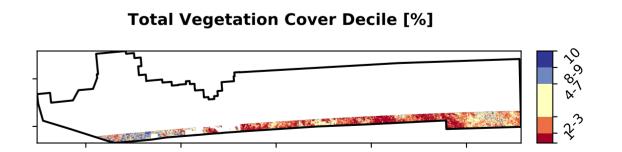
Land use class

Proportion of each land class in area









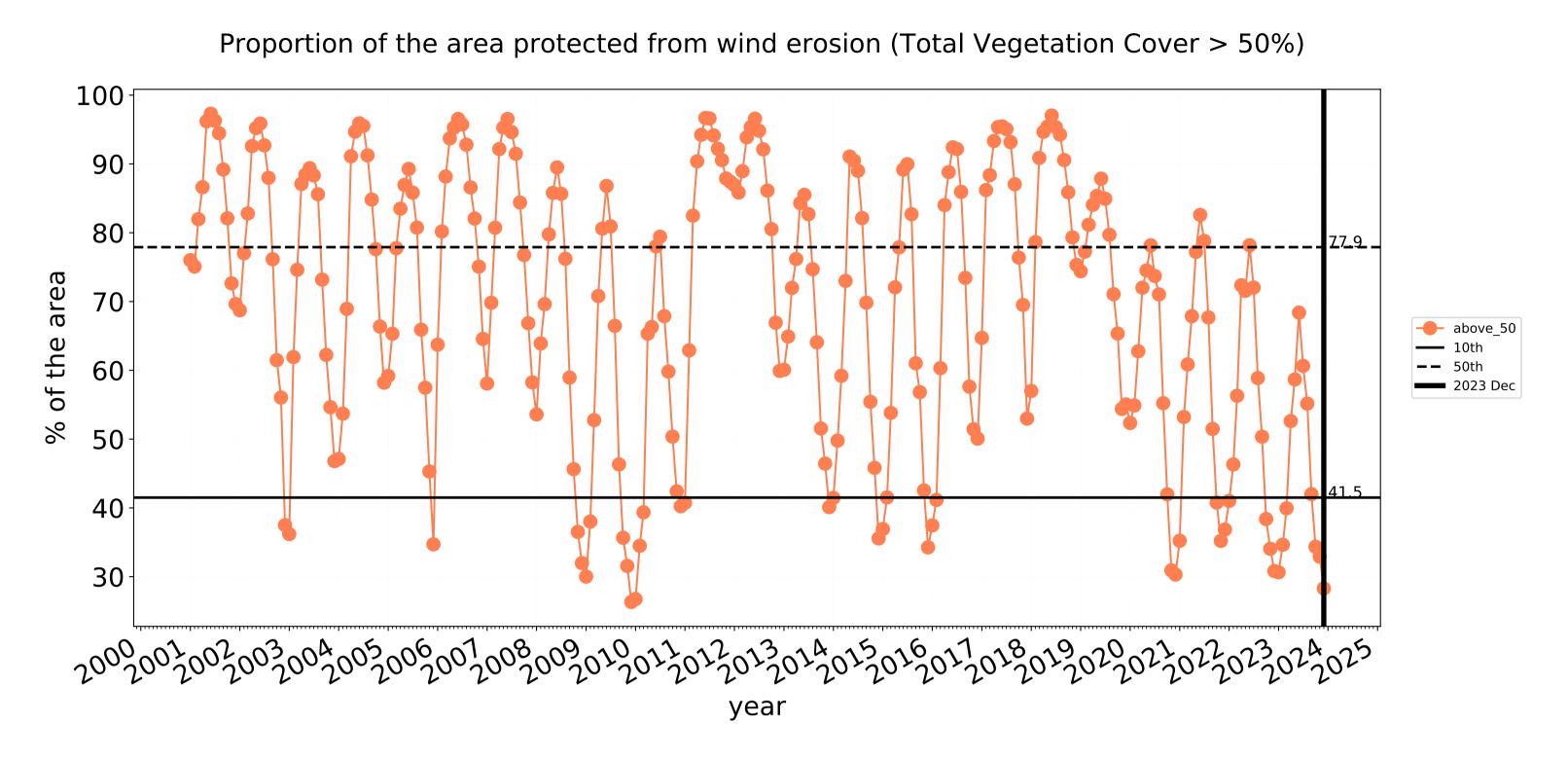


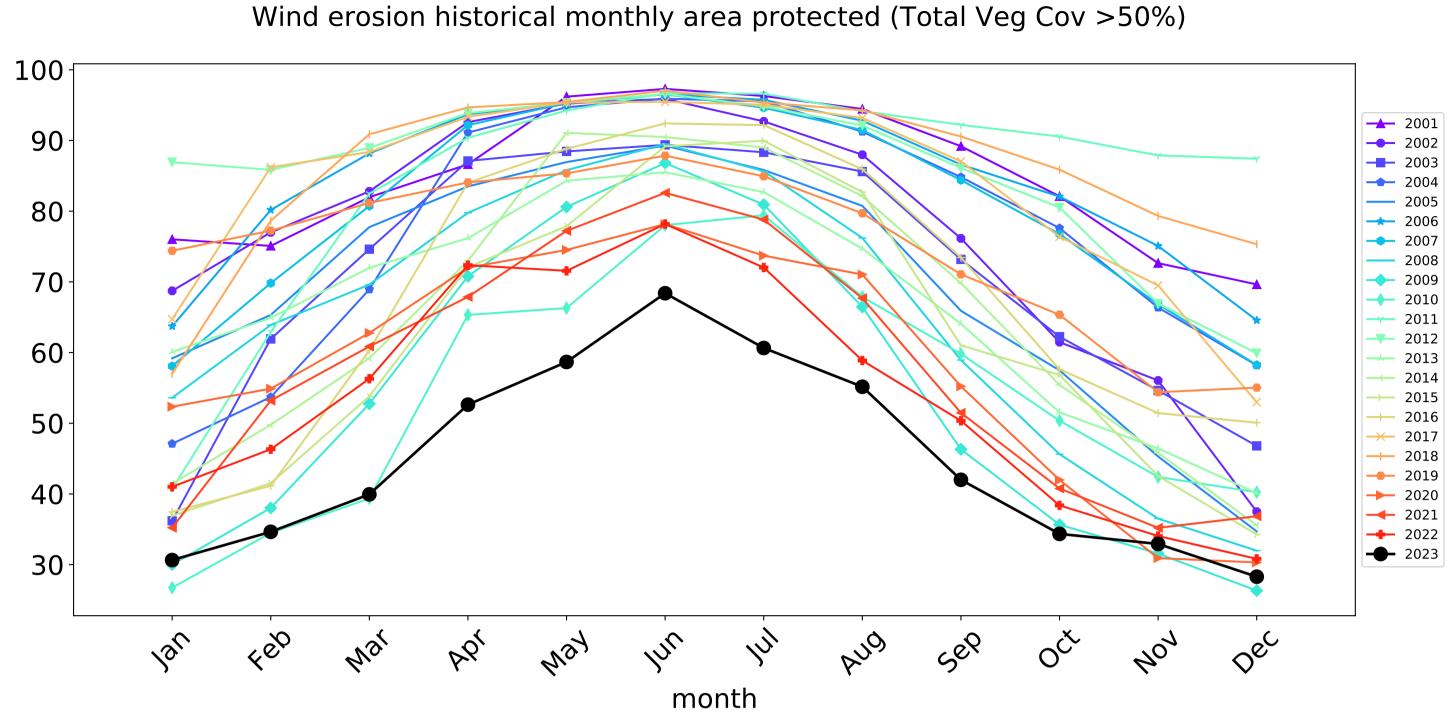


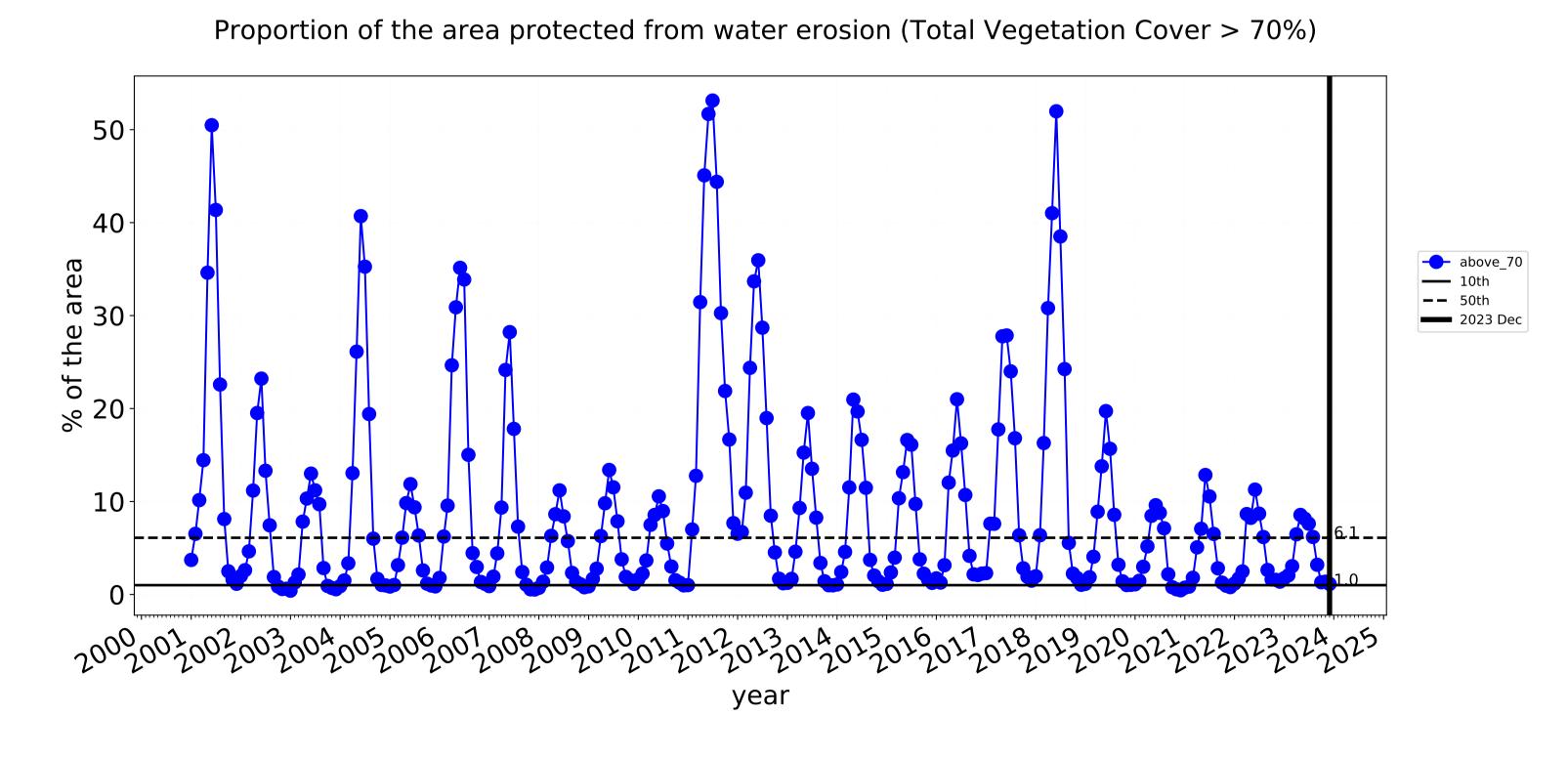


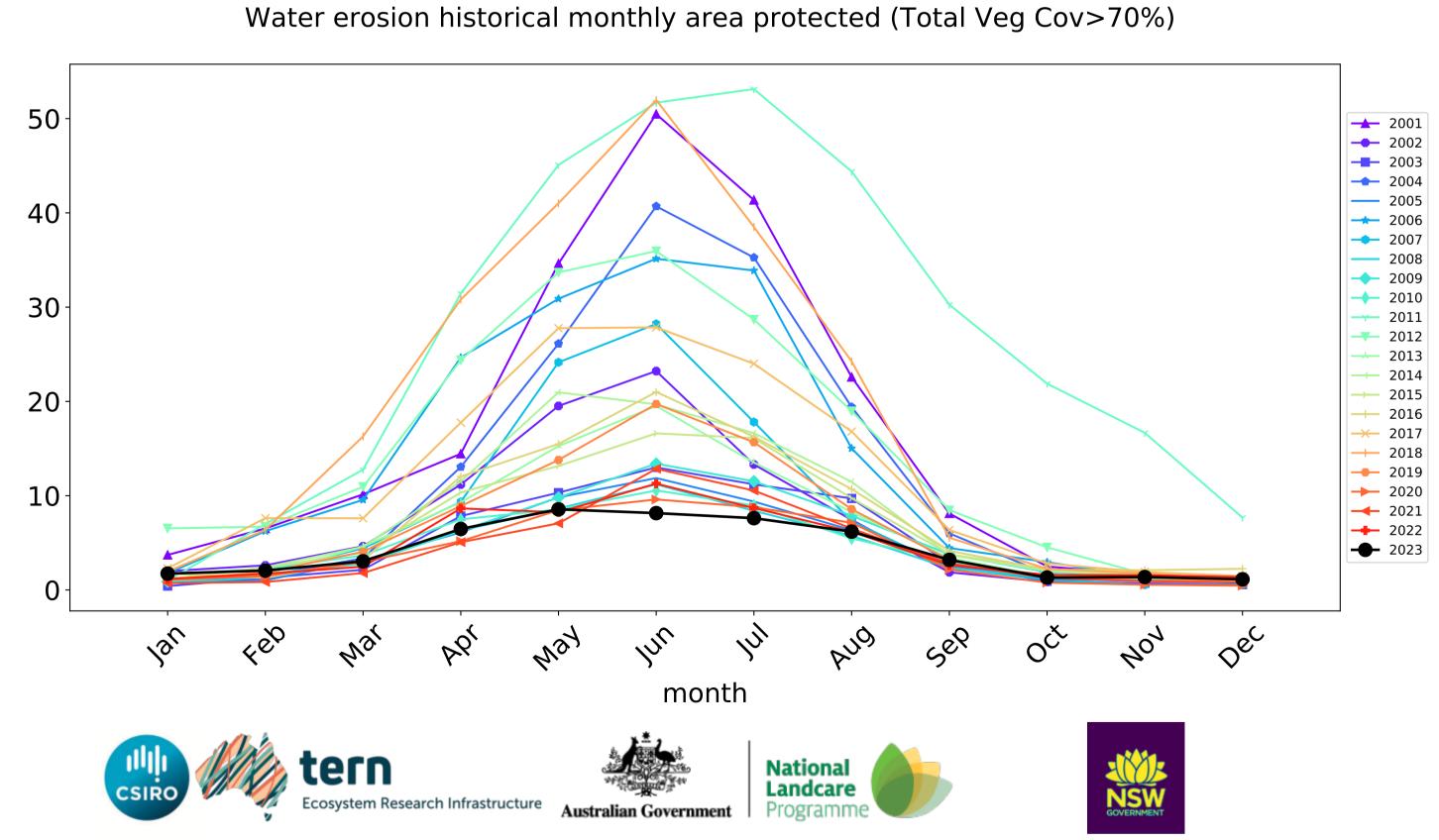


Conservation and natural environments timeseries



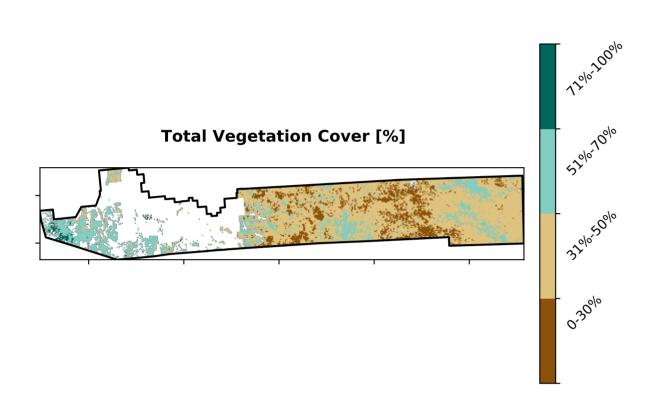




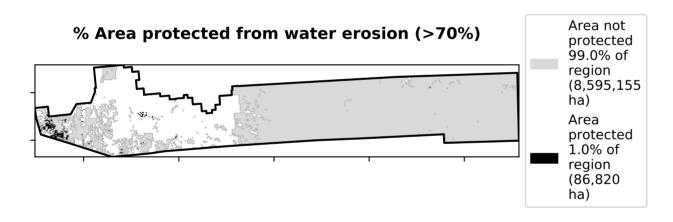


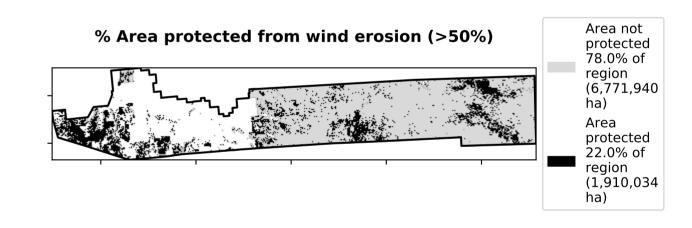
Conservation and natural environments non forest

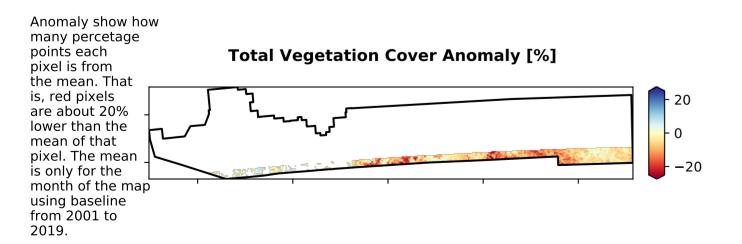
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Use of Australia (2018) and Forests of Australia (2018)

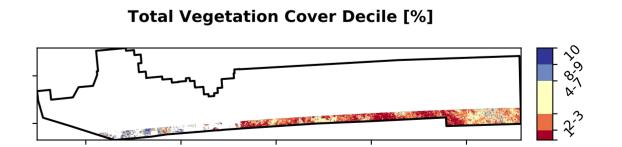


Proportion of vegetation cover class in area 60 - 64.5% 50 - 40 - 20 - 21.0% 10 - 13.5% 10 - 0-30% 31%-50% Total Vegetation Cover class









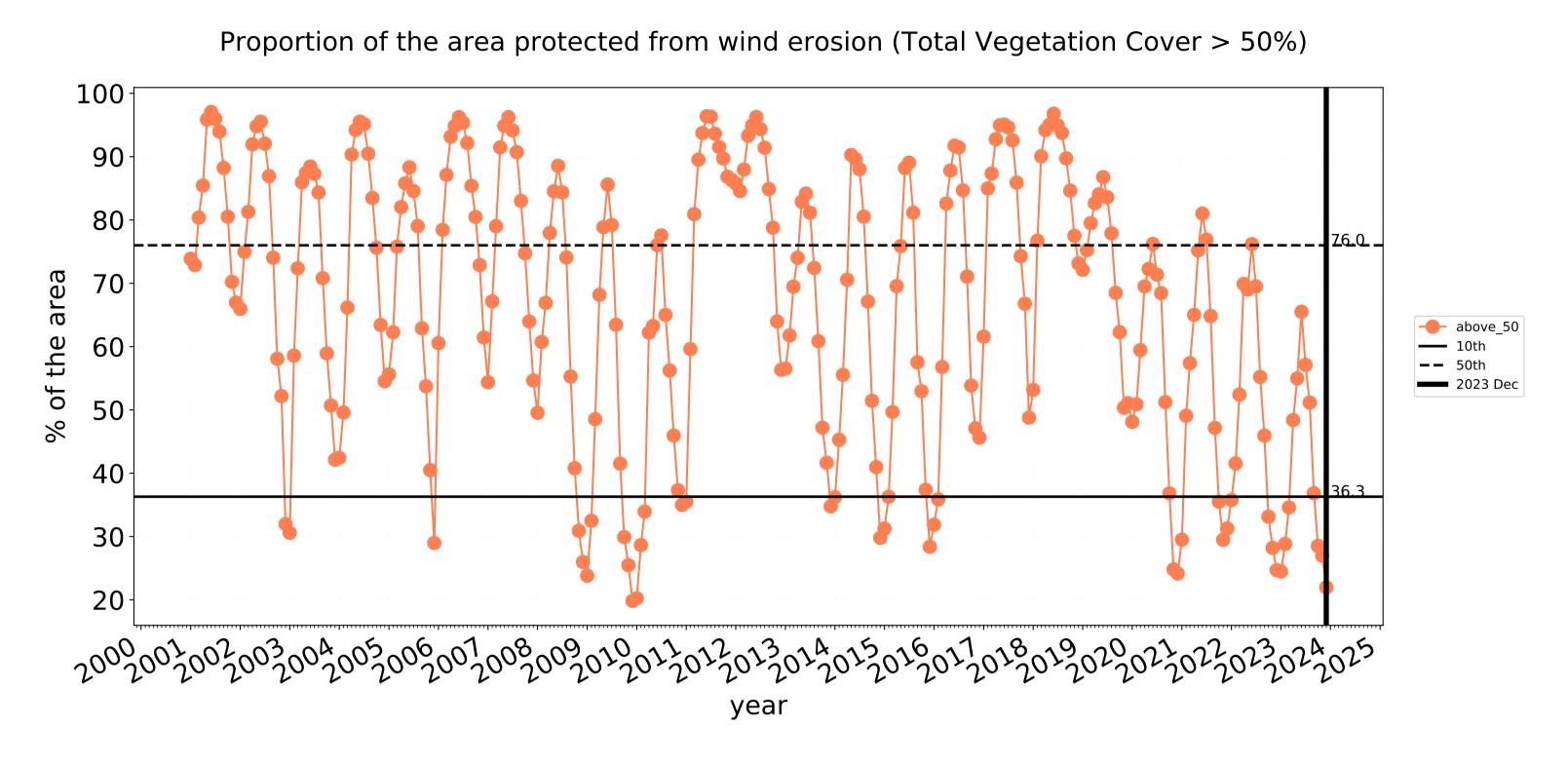


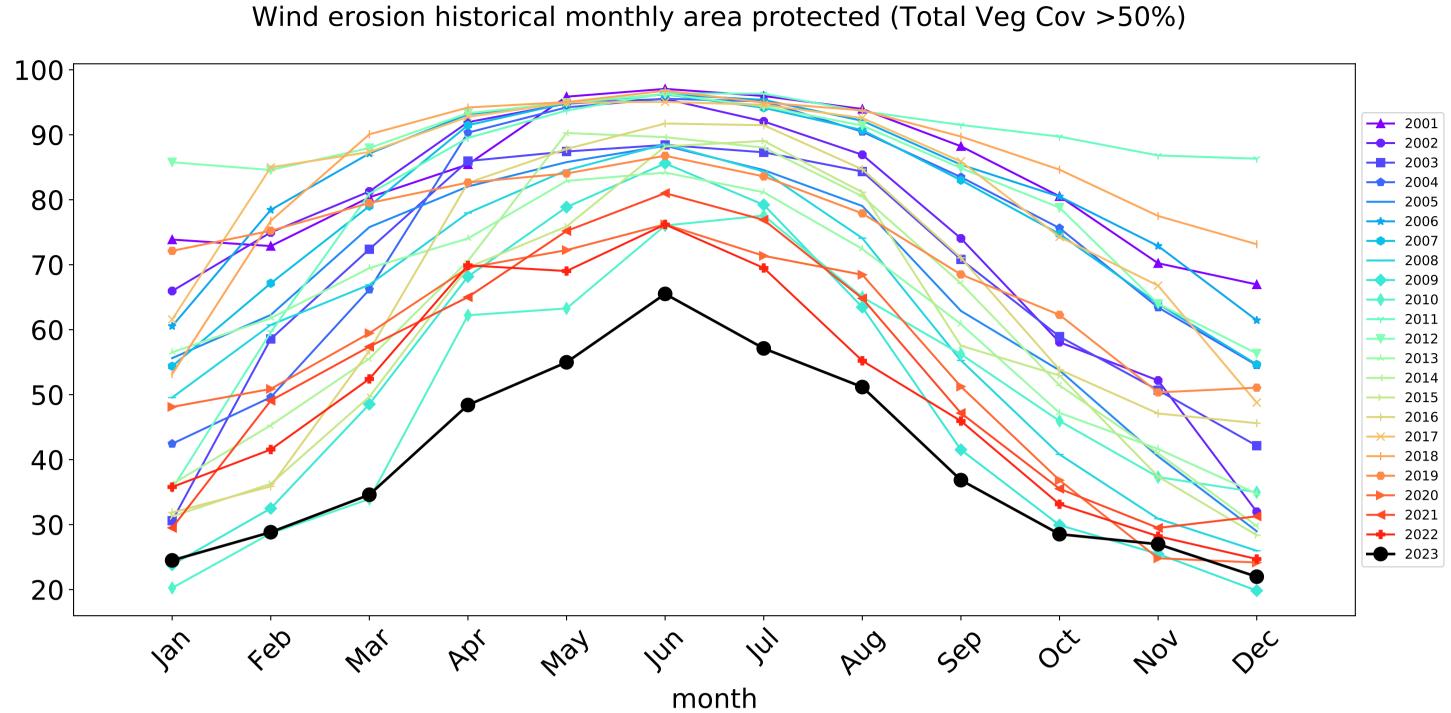


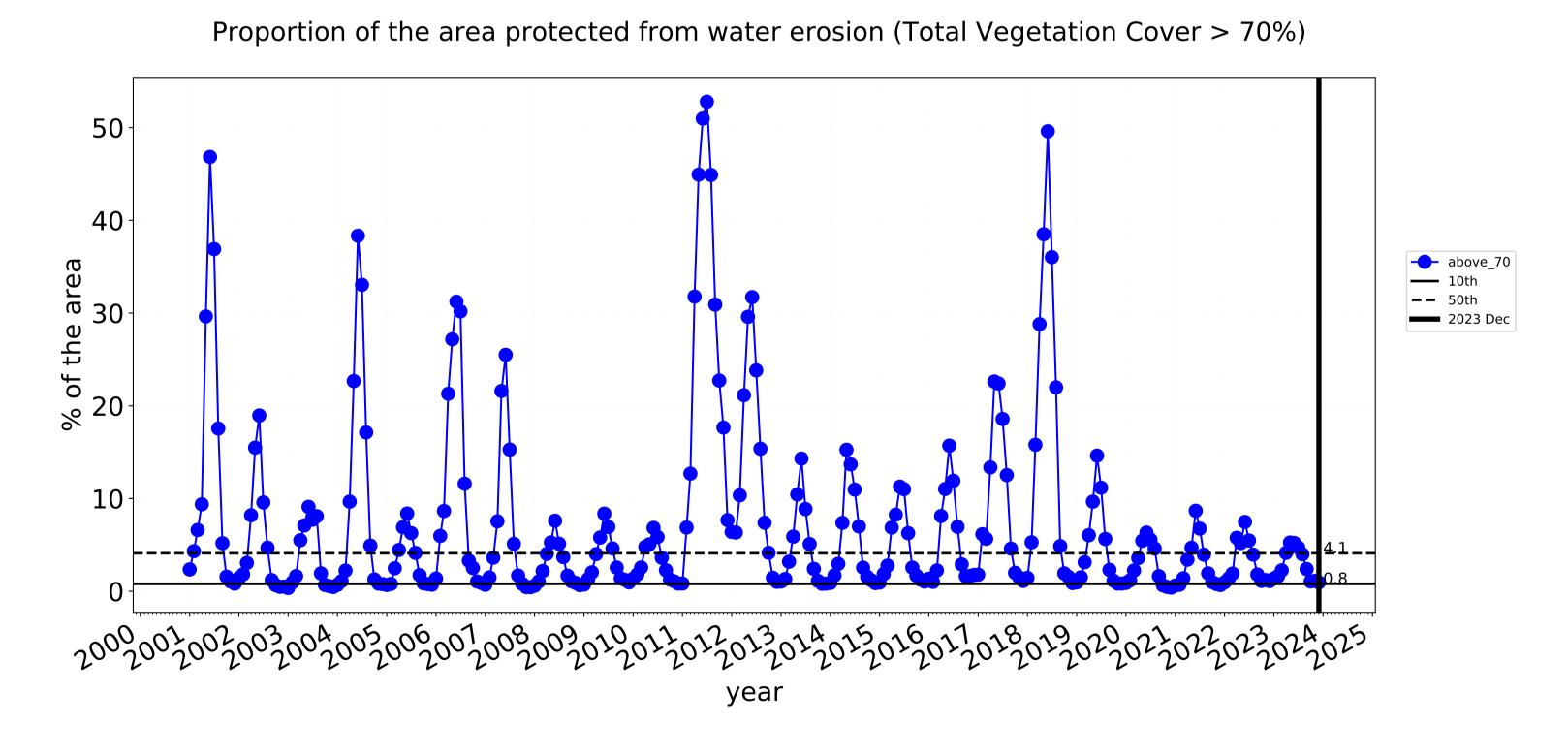


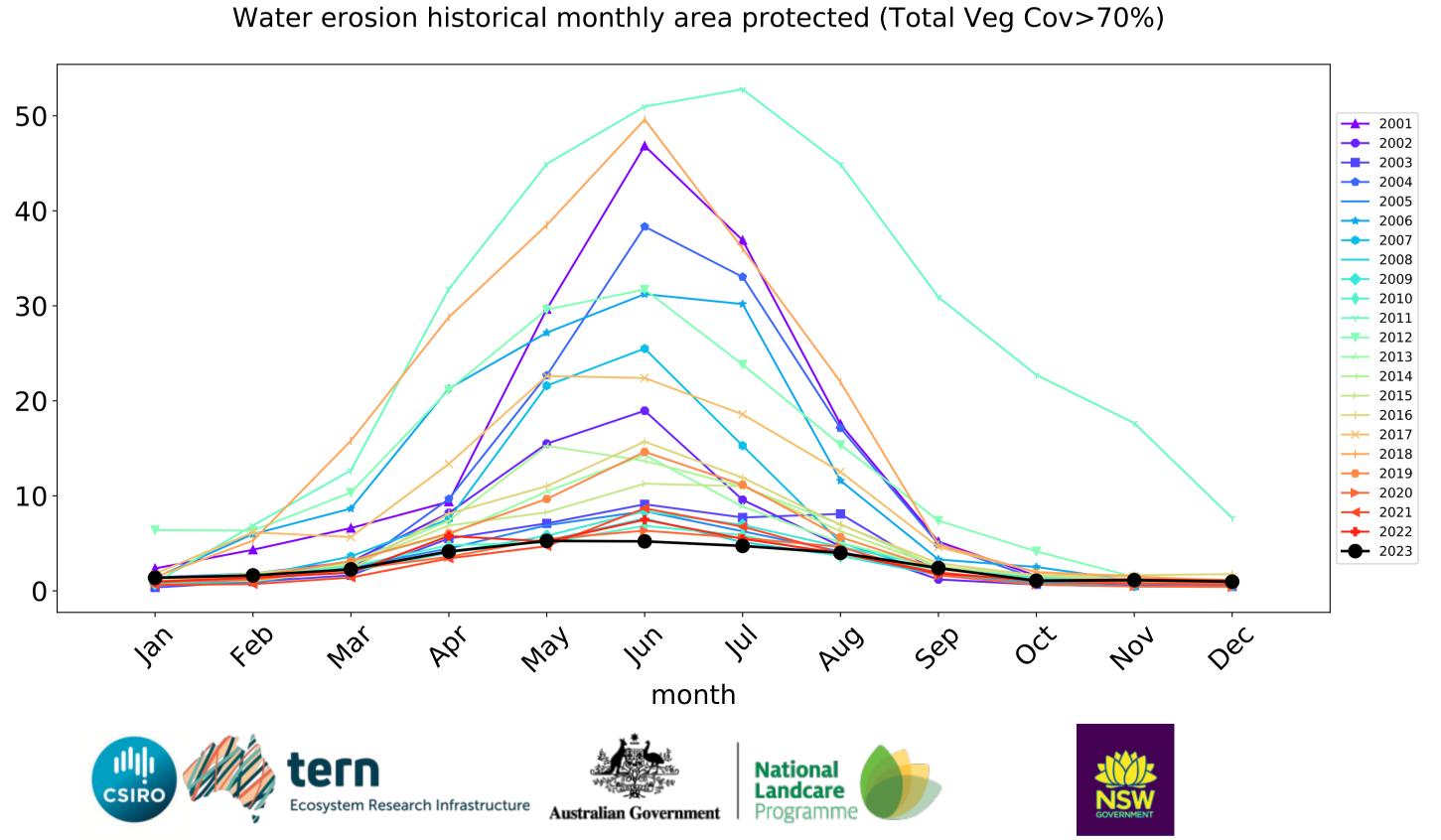


Conservation and natural environments non forest timeseries



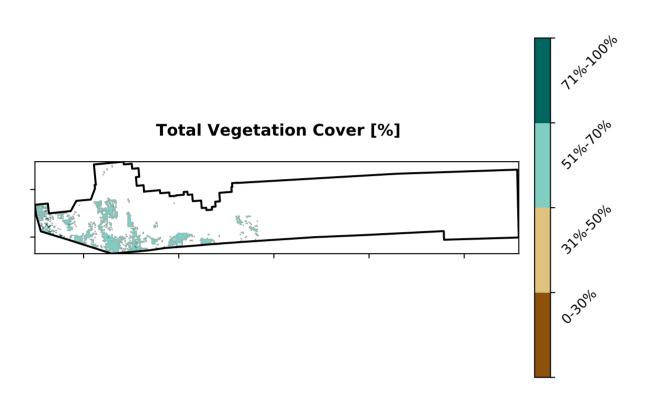




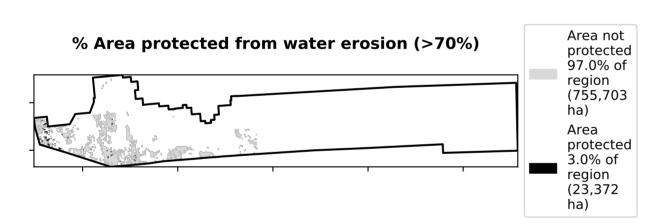


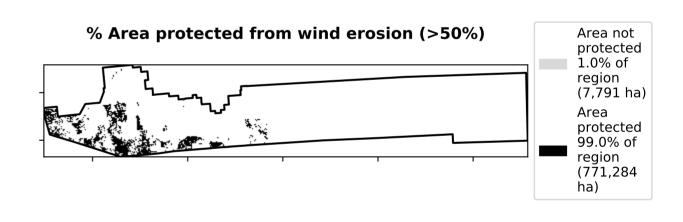
Conservation and natural environments Woodland forest

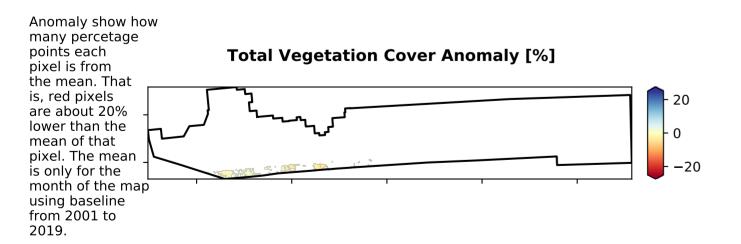
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Use of Australia (2018) and Forests of Australia (2018)

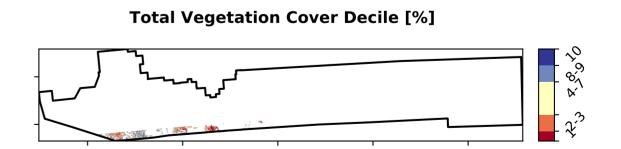


Proportion of vegetation cover class in area 100 95.6% 80 60 40 20 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class









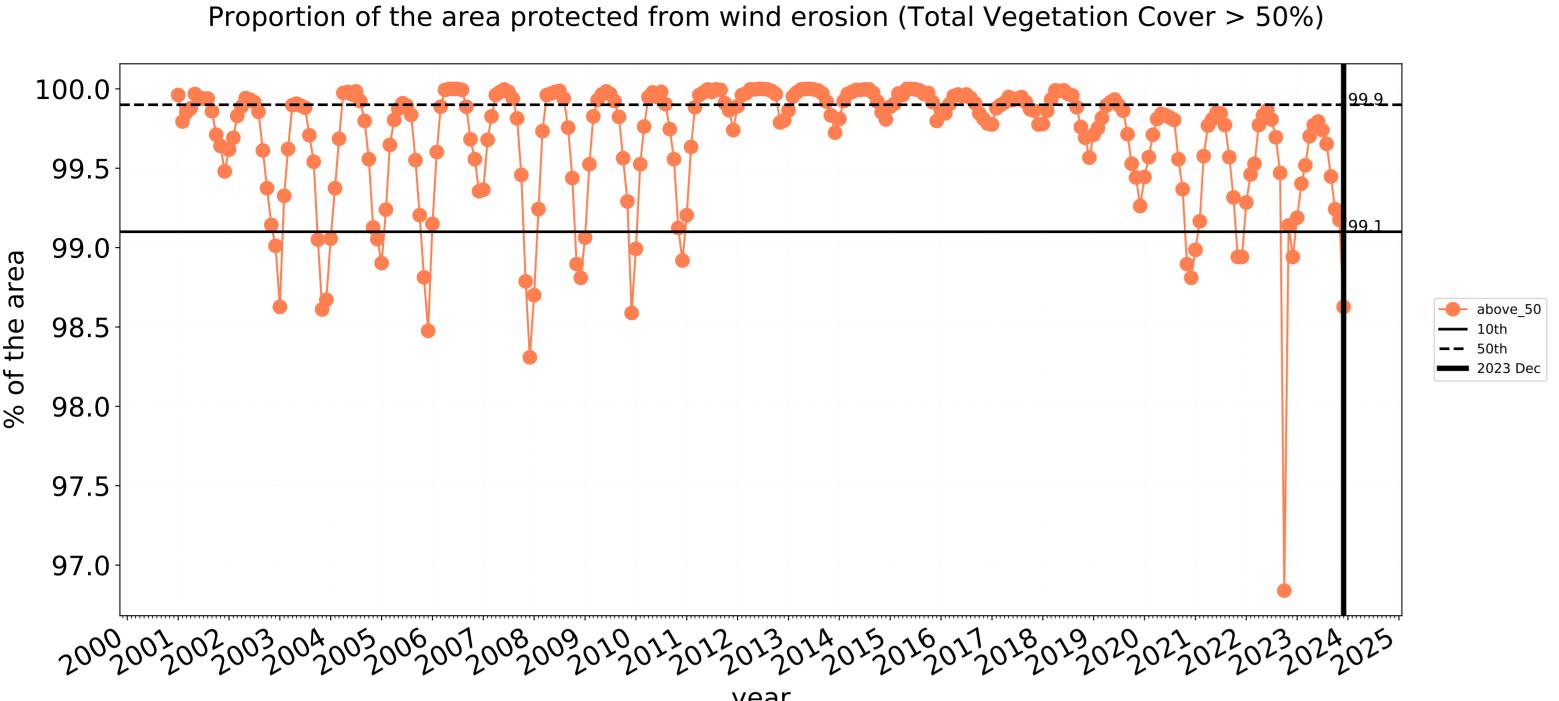


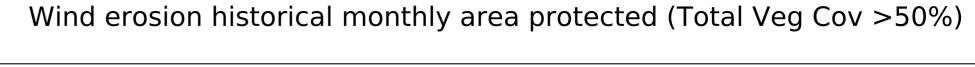


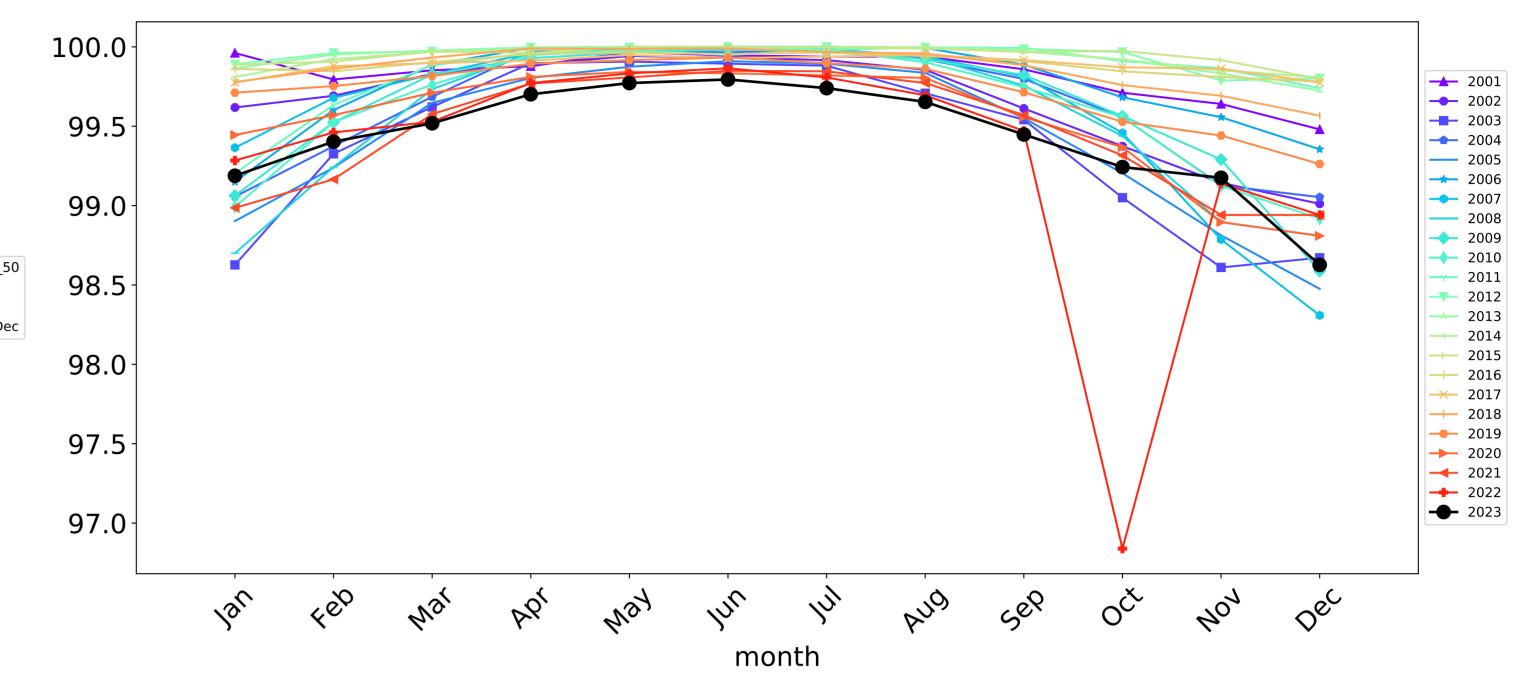


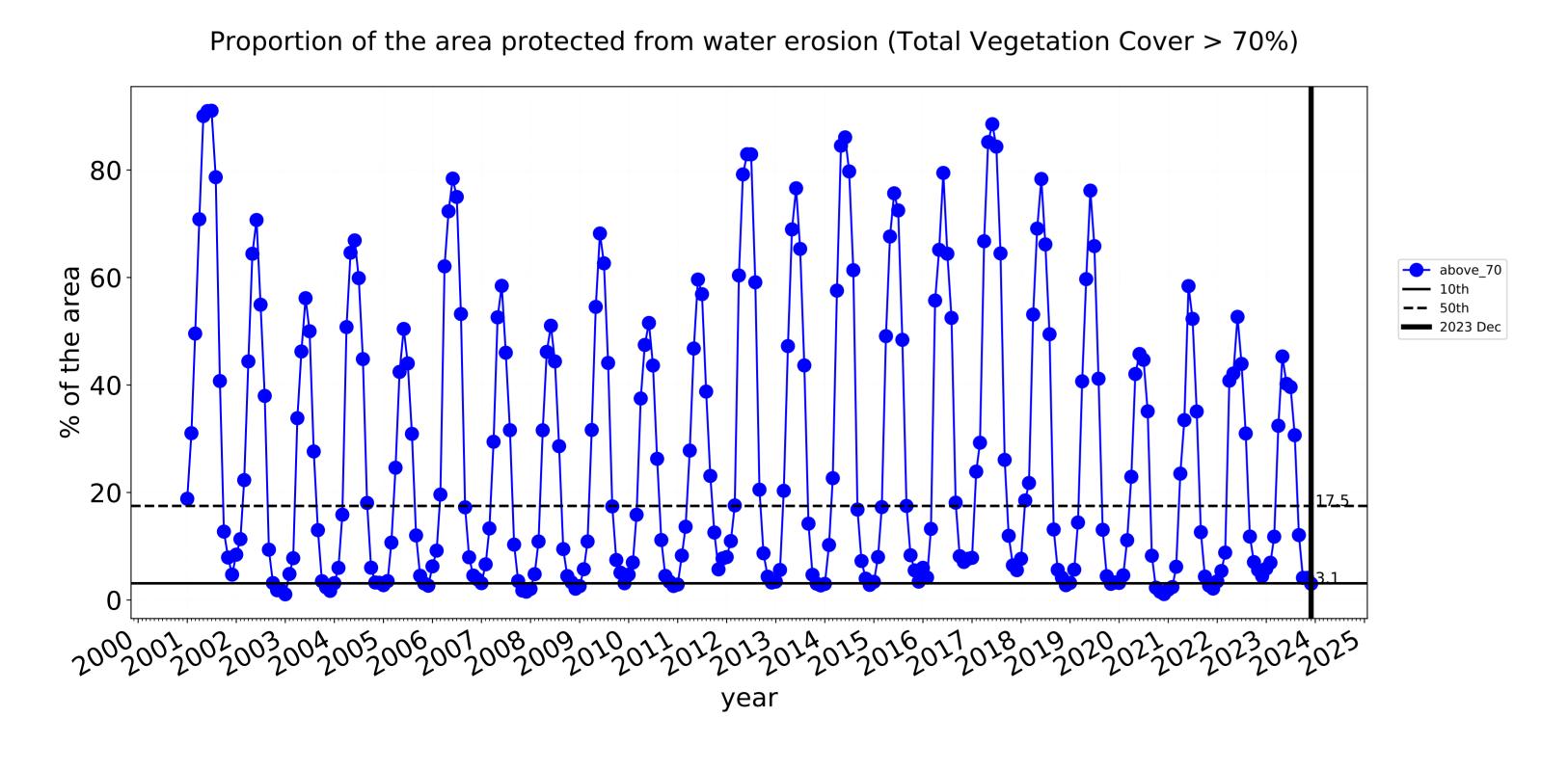


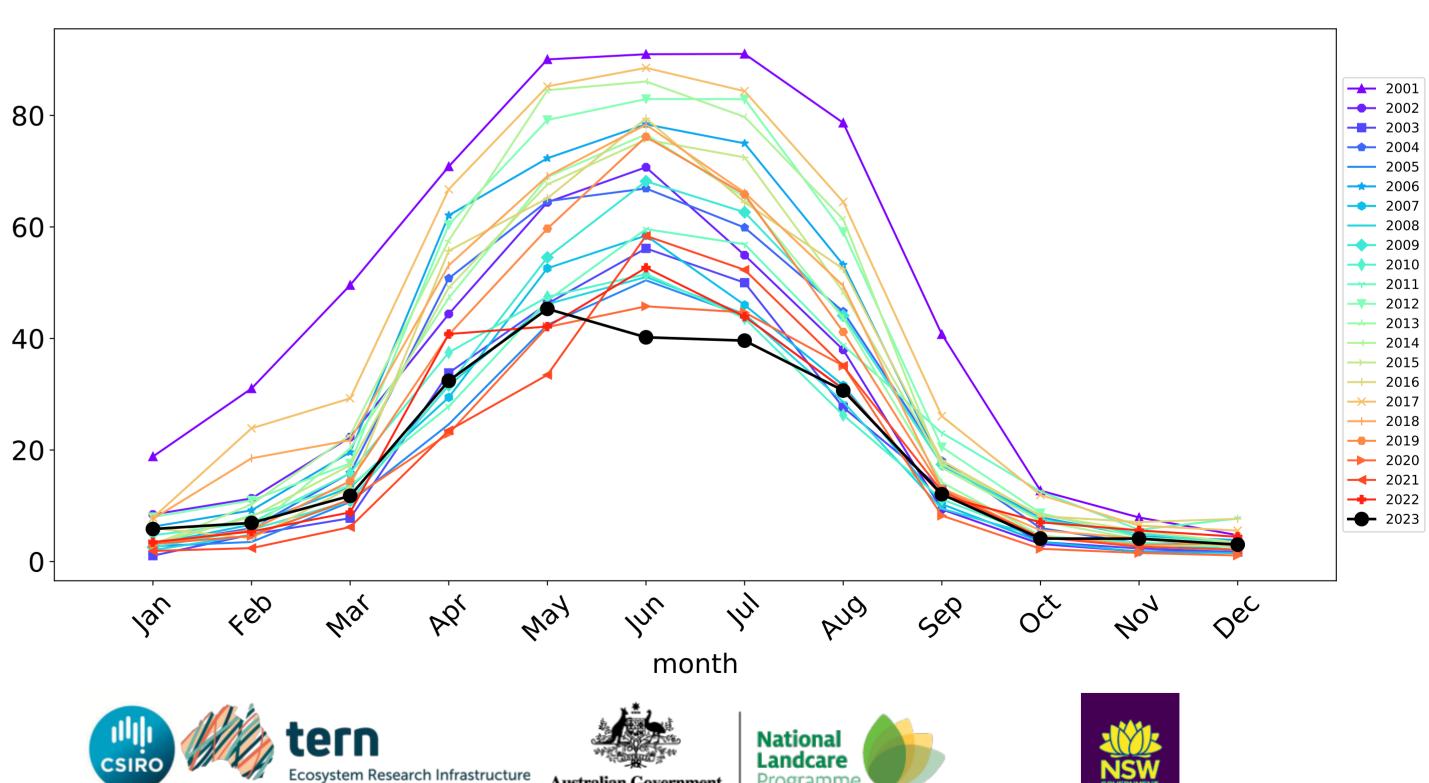
Conservation and natural environments Woodland forest timeseries











Water erosion historical monthly area protected (Total Veg Cov>70%)

Agriculture

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Use of Australia 2 Agriculture - Grazing - Woodland forest Use of Australia

70 - 73.9% 60 - 50 - (%) # 40 - 30 - 26.1% 20 - 10 -

0.00

-0.25

0.25

0.50

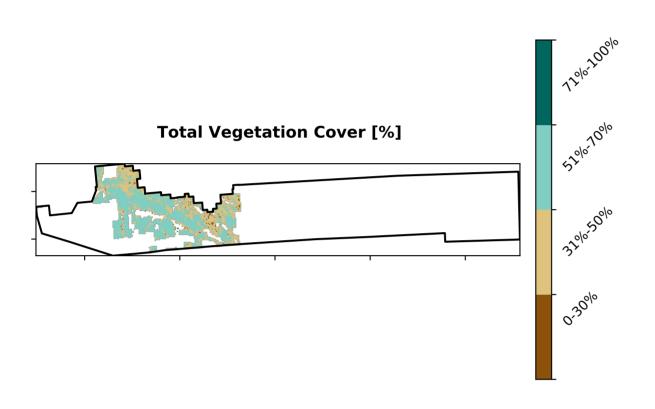
Land use class

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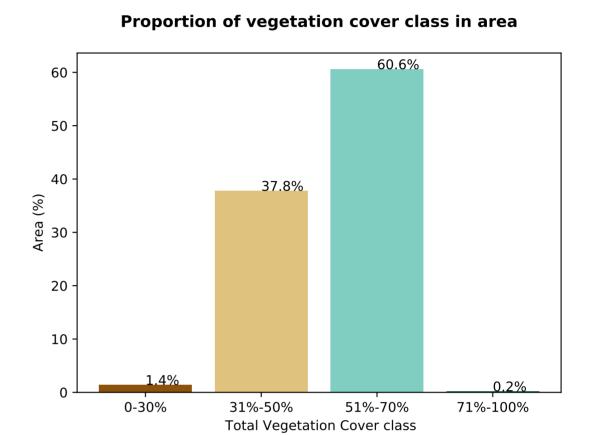
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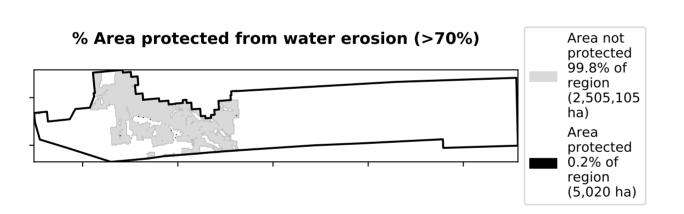
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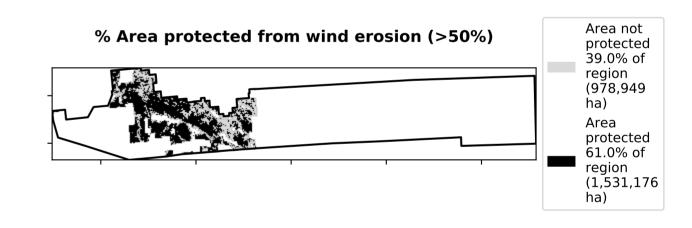
Proportion of each land class in area

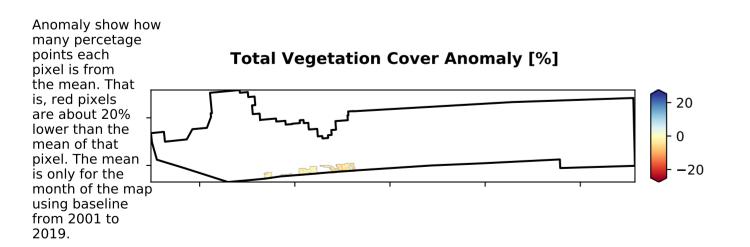


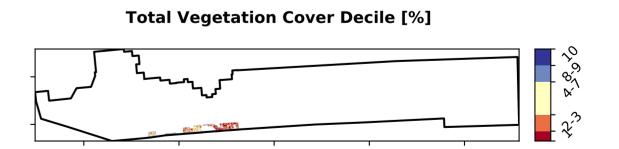
Use of Australia (2018) and Foresis of Australia (2018)











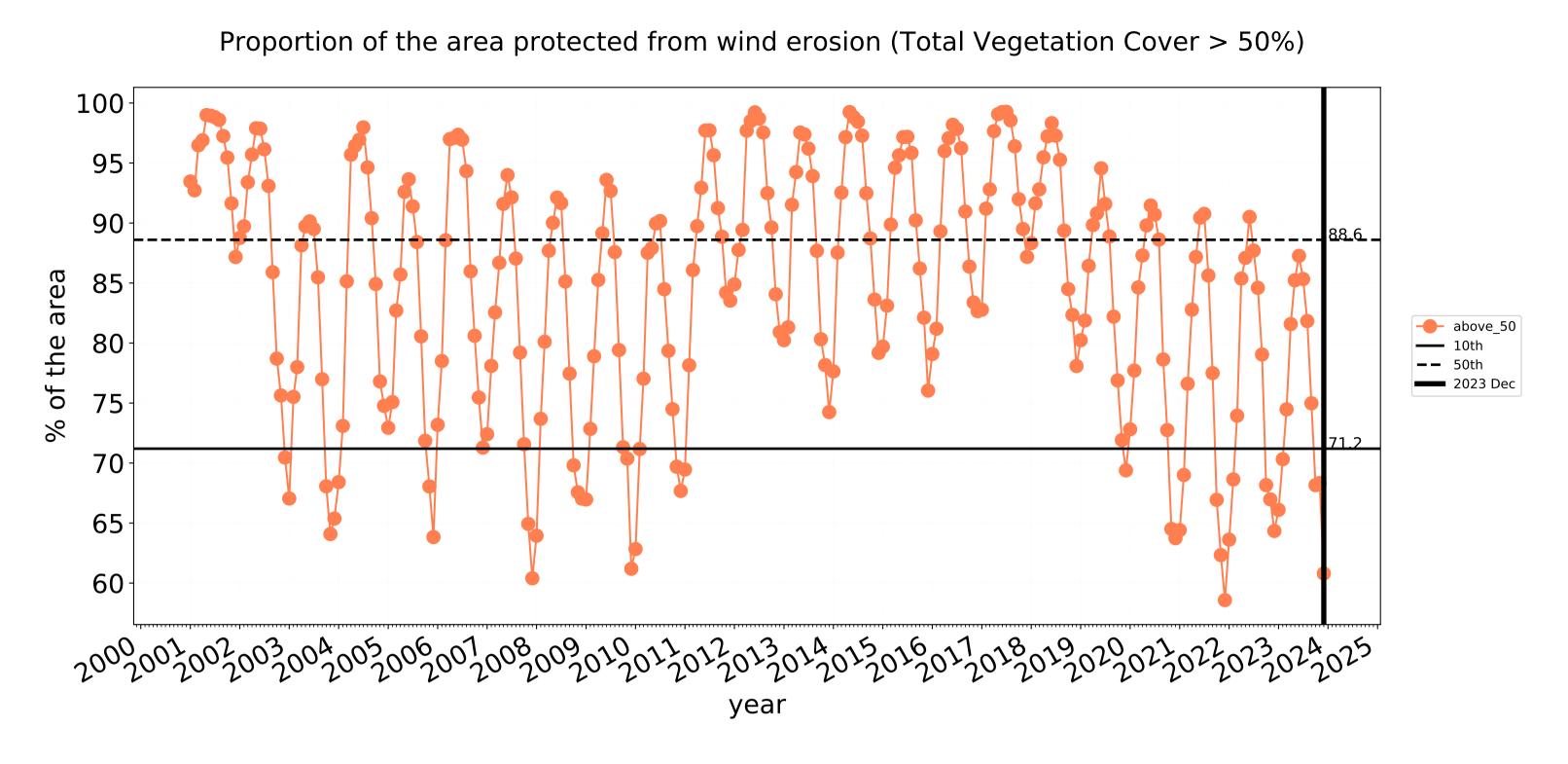


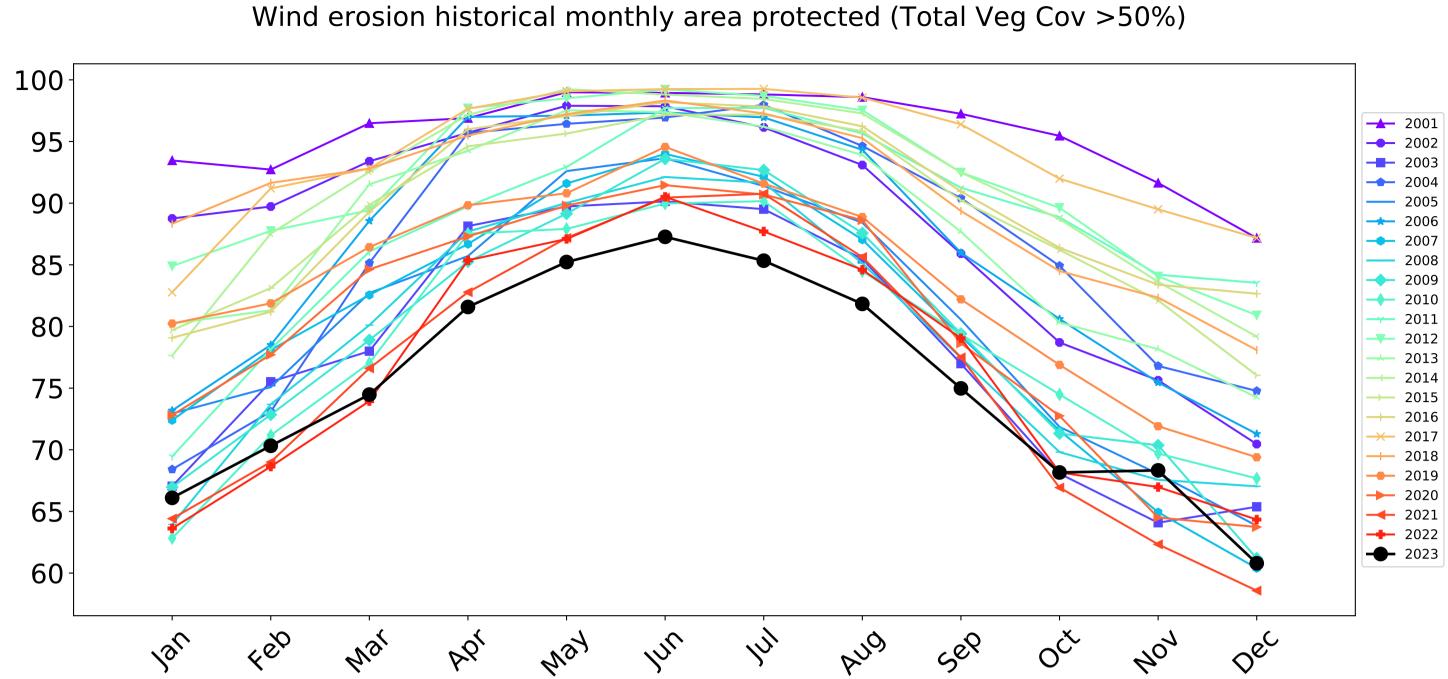




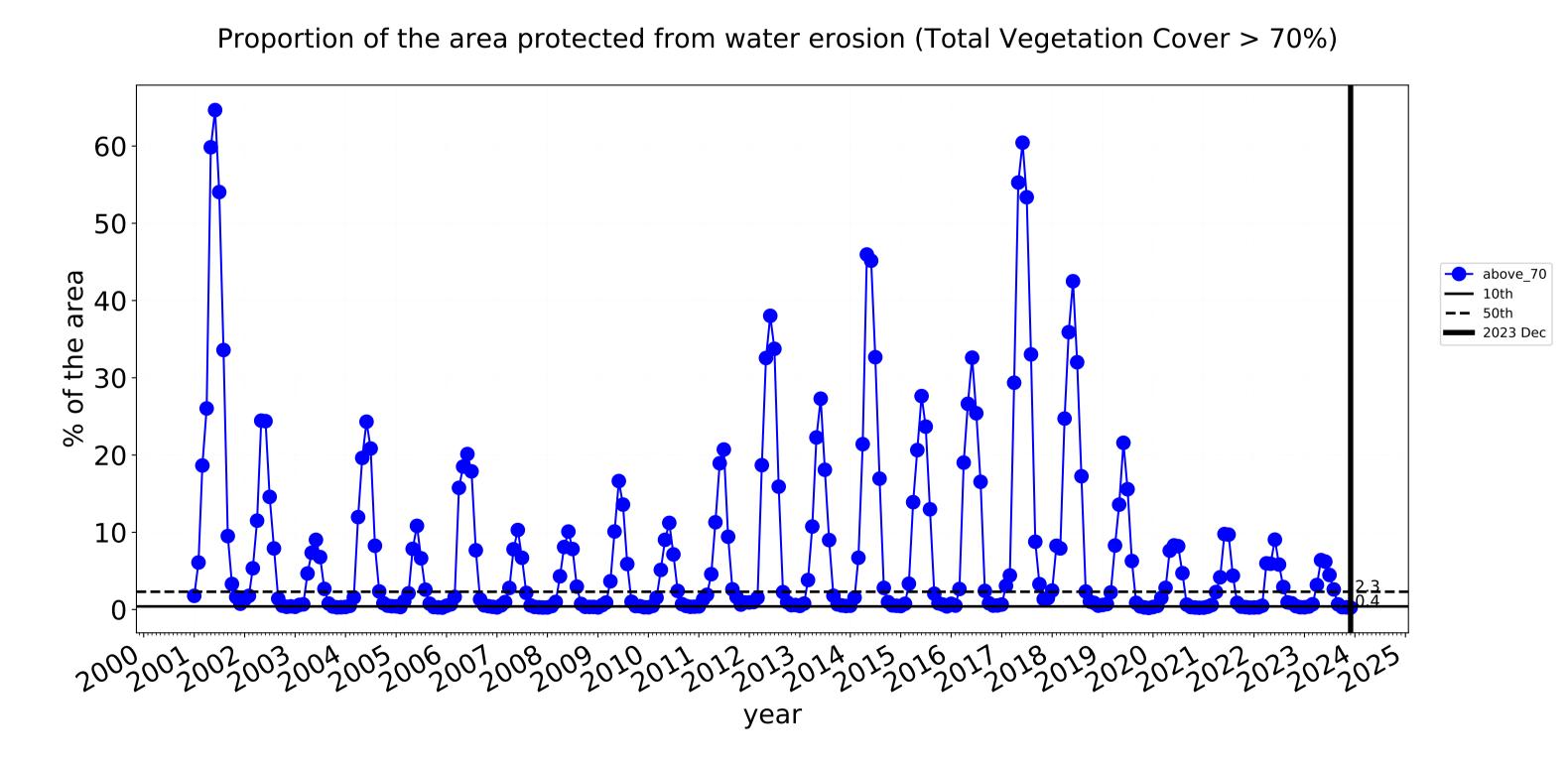


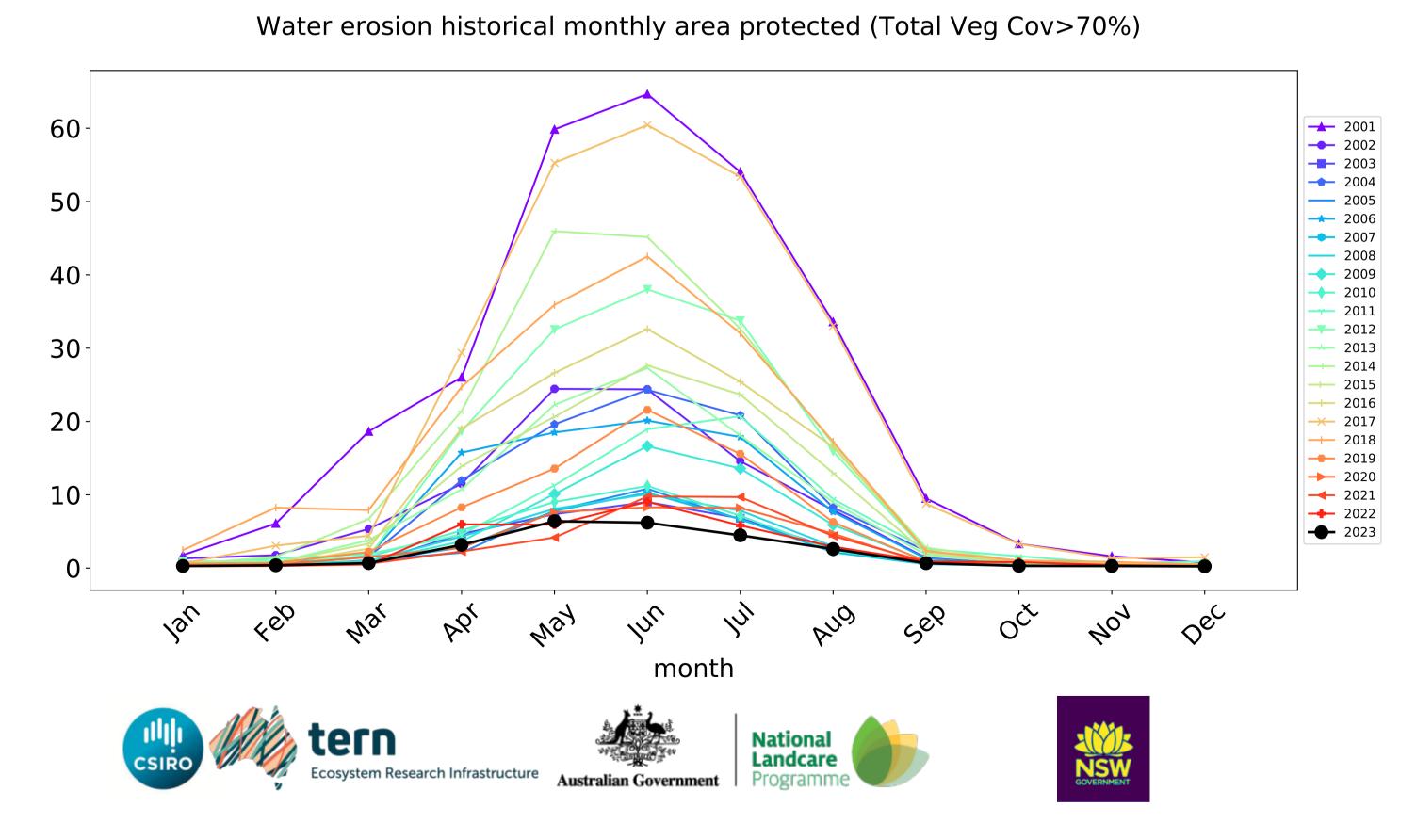
Agriculture timeseries





month





Grazing

Land use and forest cover 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest

73.9% 70 60 50 Area (%) 40 30 26.1% 20 10 0.00 0.25 0.50 0.75 1.25 -0.251.00

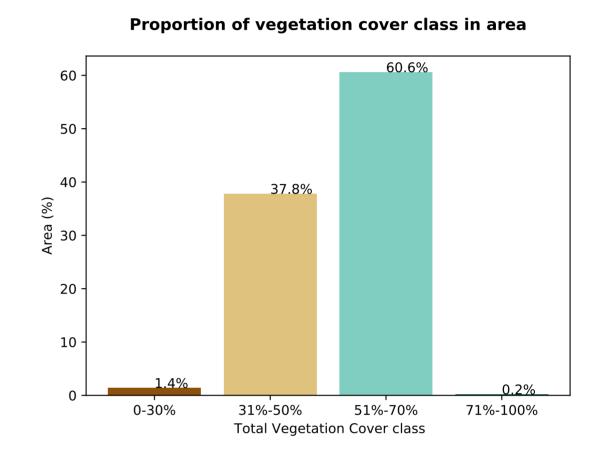
Land use class

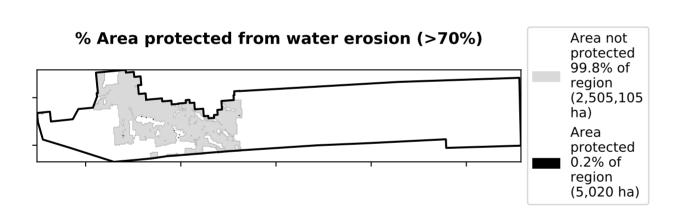
Proportion of each land class in area

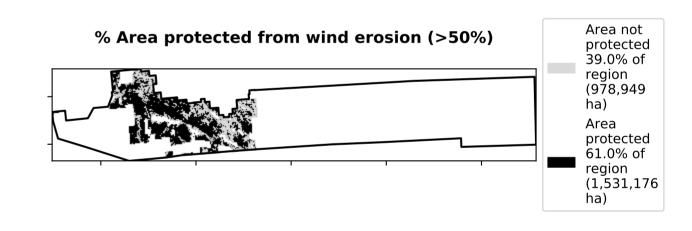
Catchment Scale Land Use and Forests of Australia (2018) Derived from

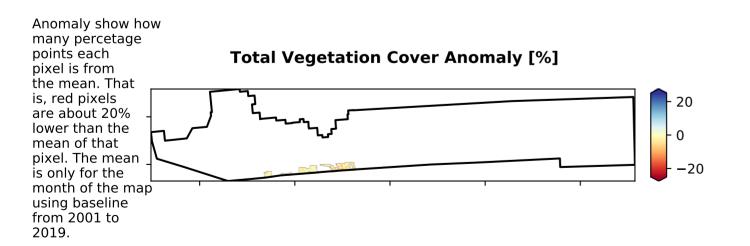
Catchment Scale Cand

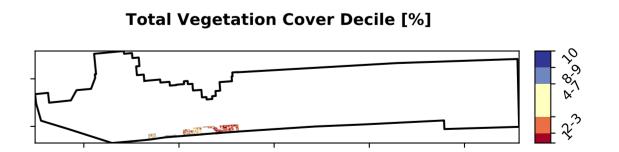
Use of Australia (2018) and Foresis of Australia (2018)











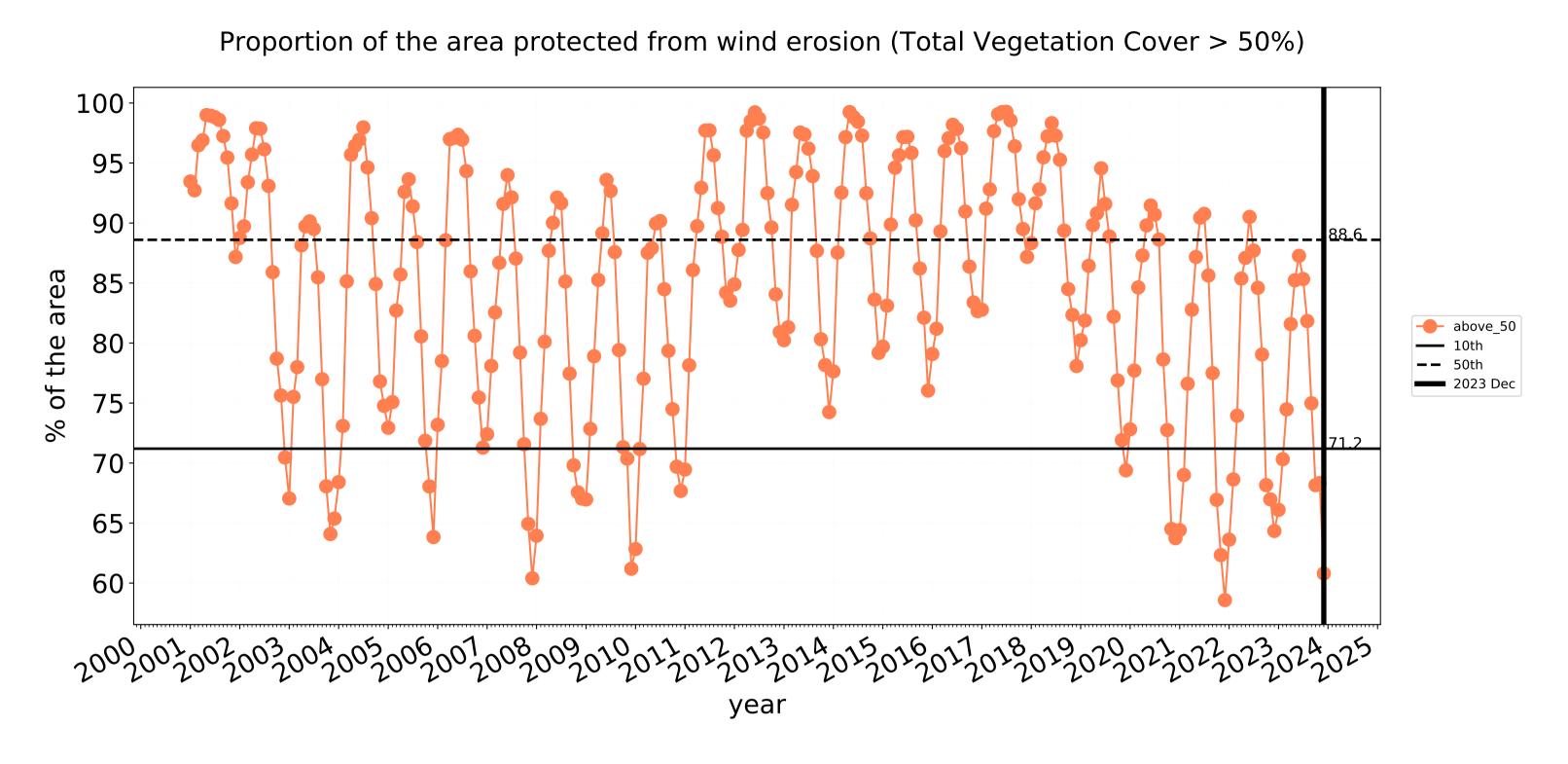


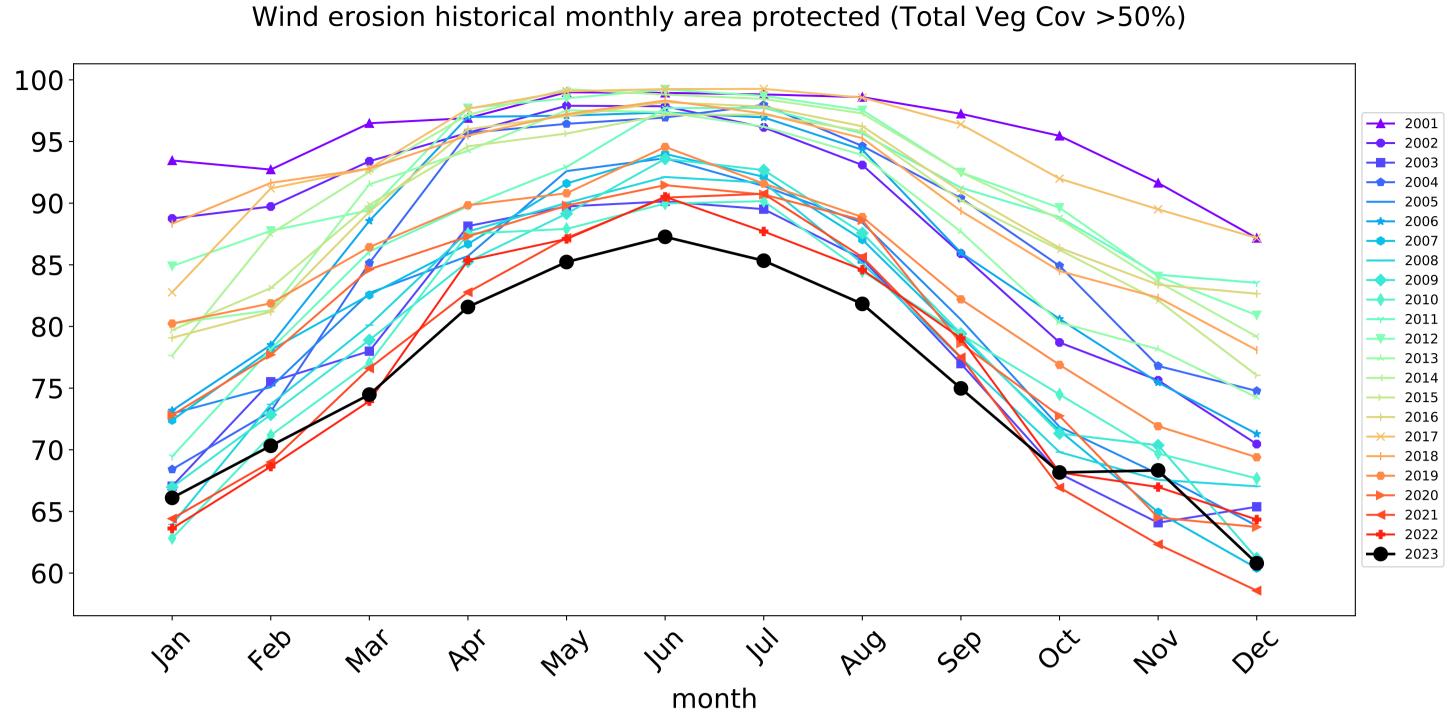


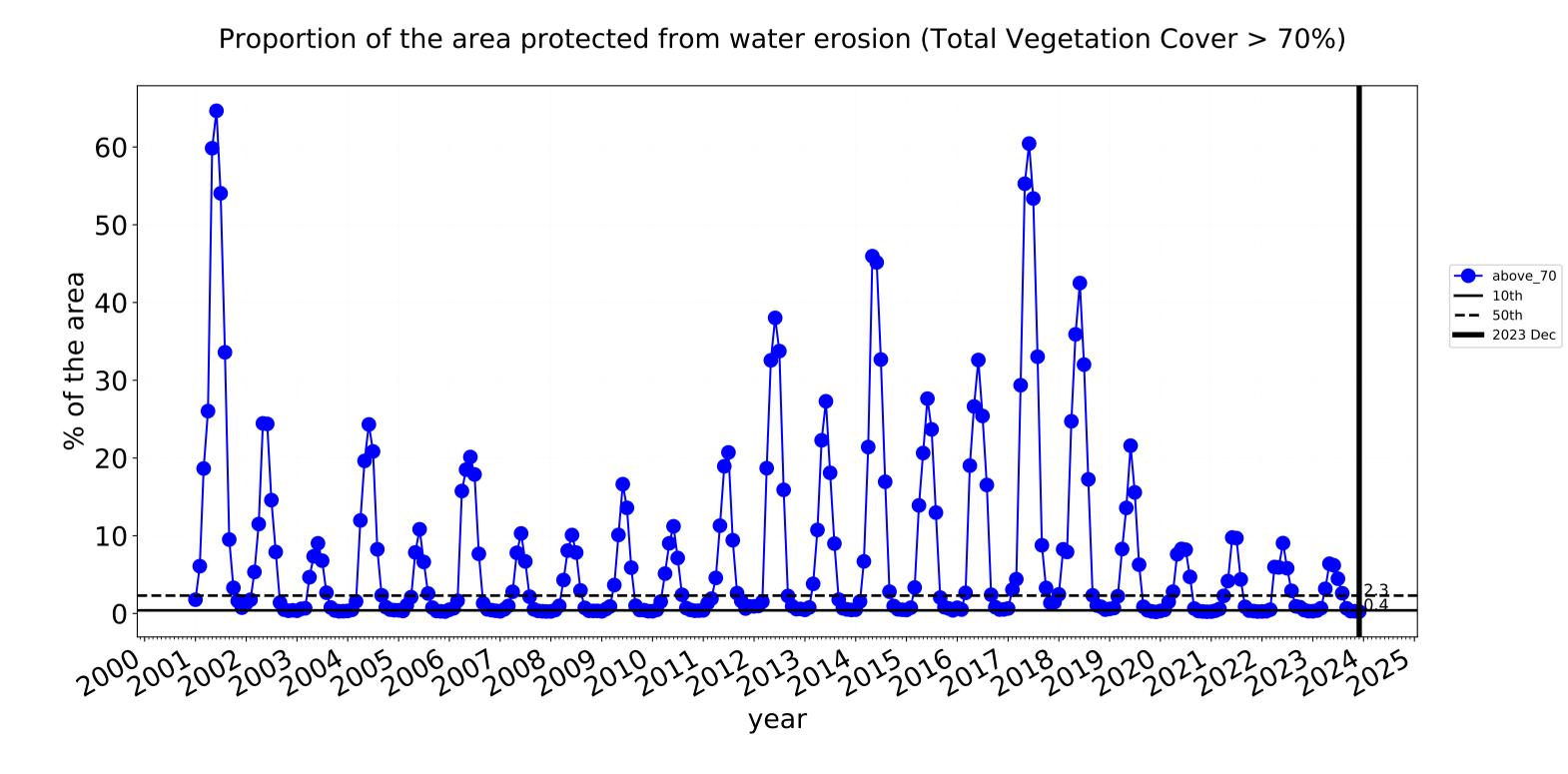


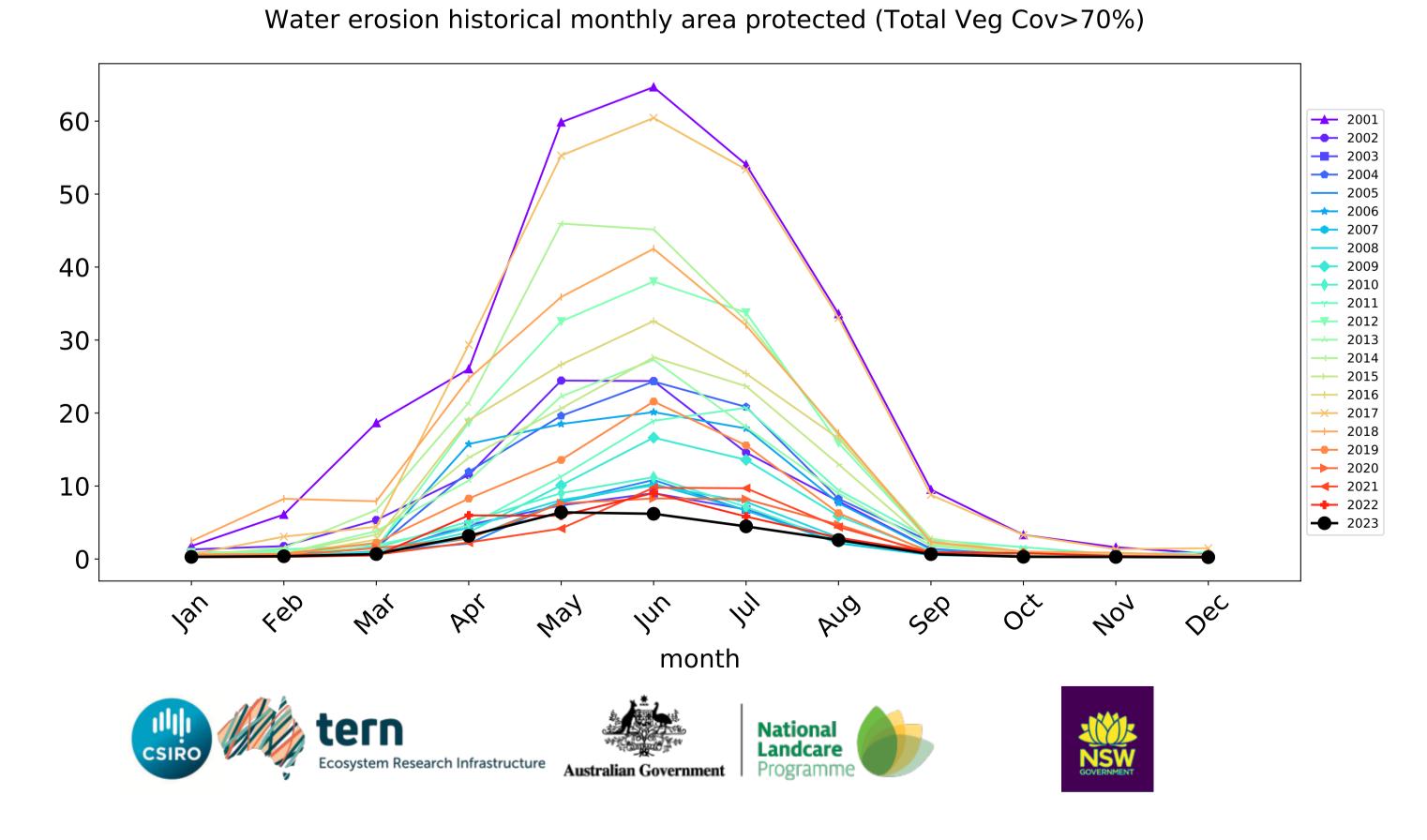


Grazing timeseries



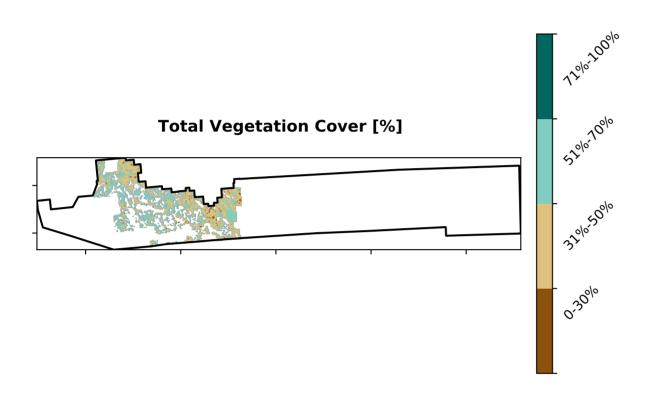




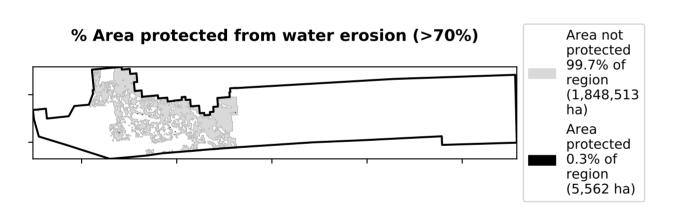


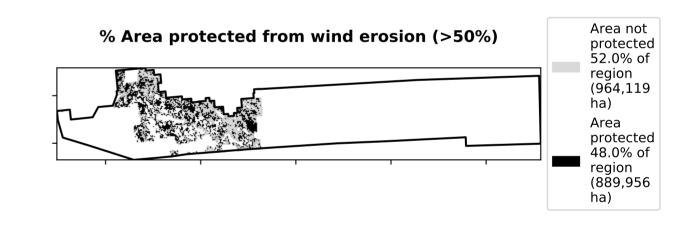
Grazing non forest

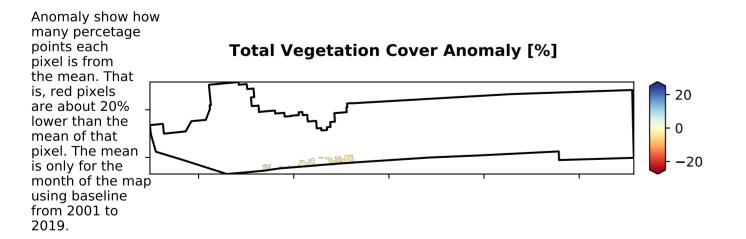
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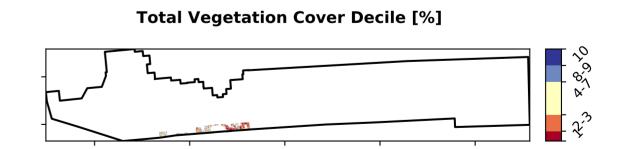


Proportion of vegetation cover class in area 50 40 40 20 10 0-30% 31%-50% Total Vegetation Cover class









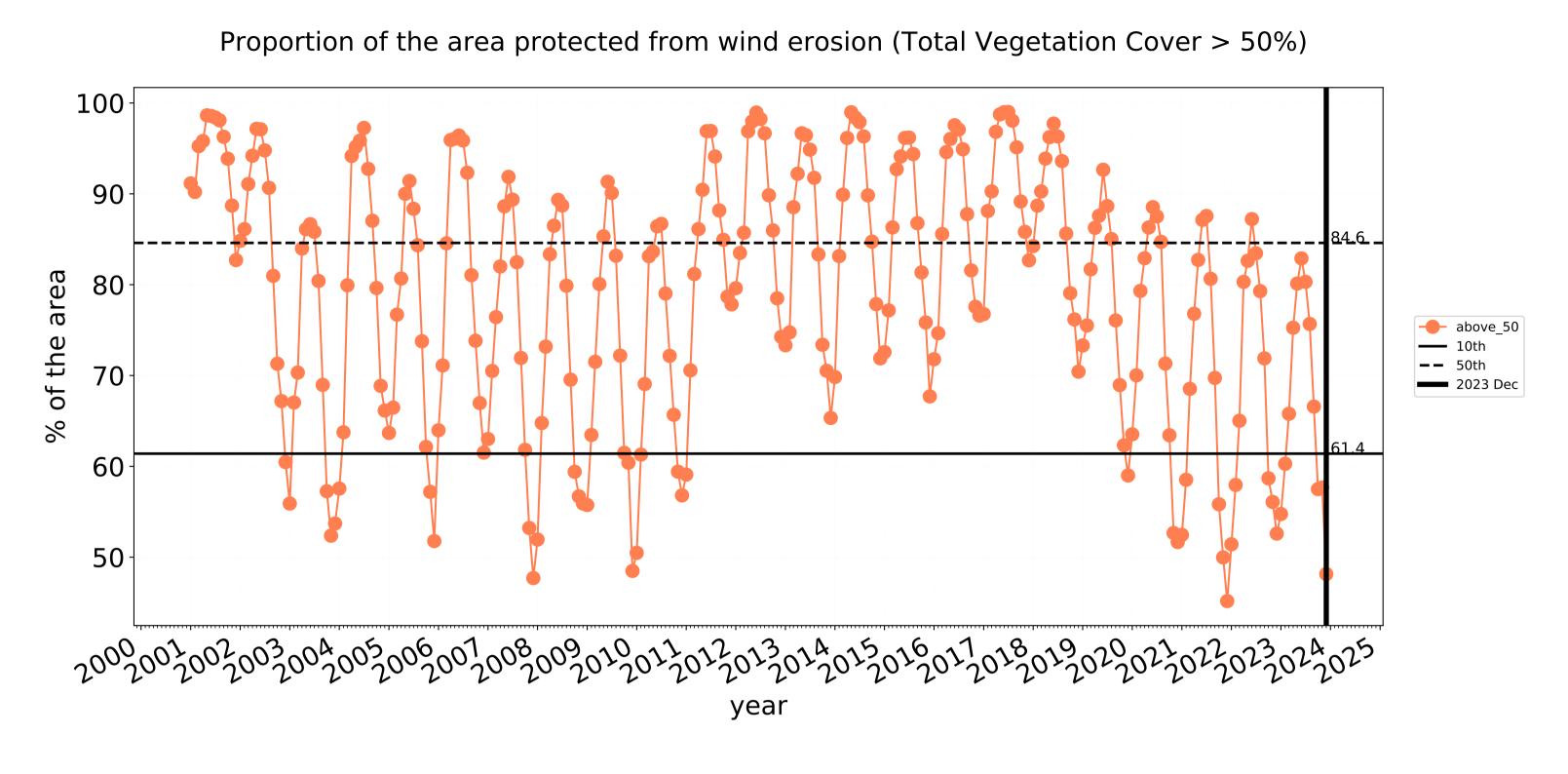


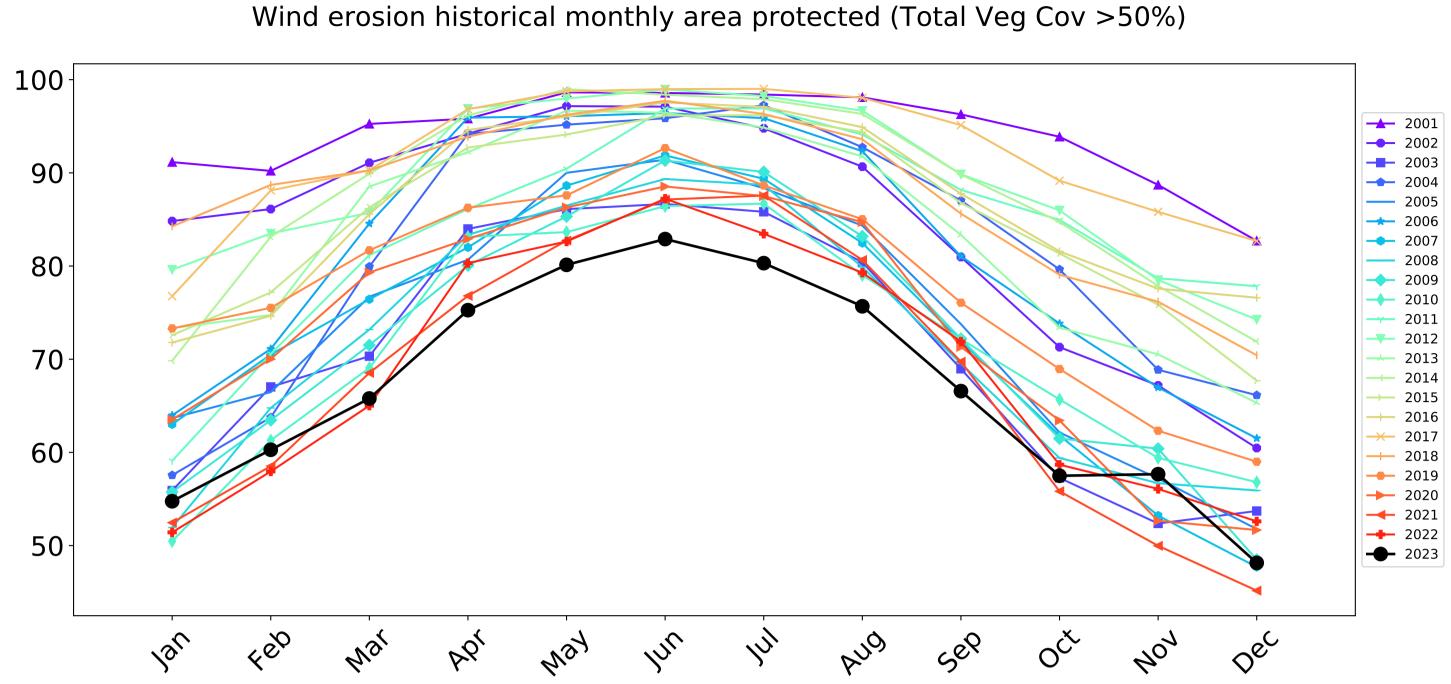




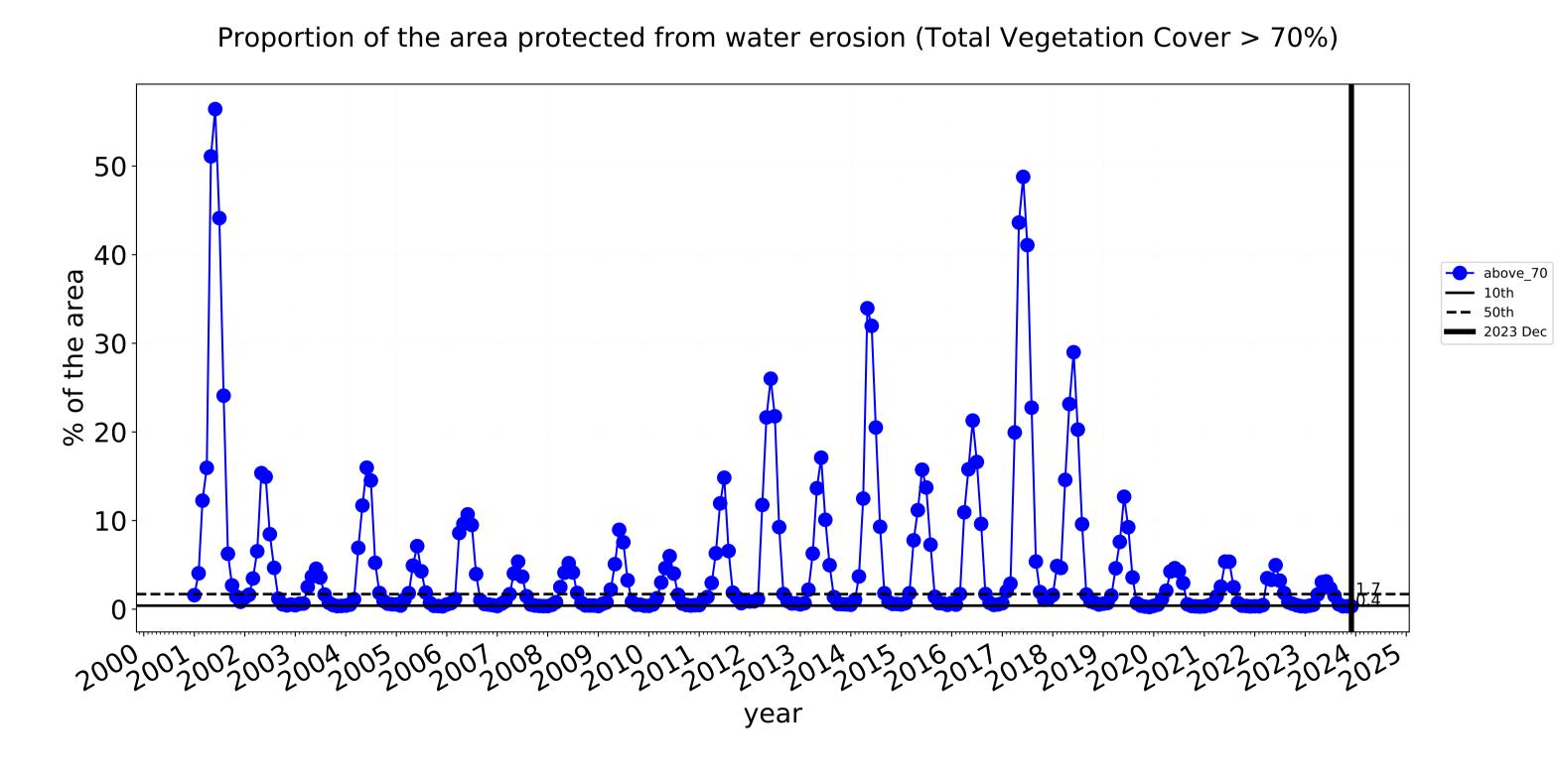


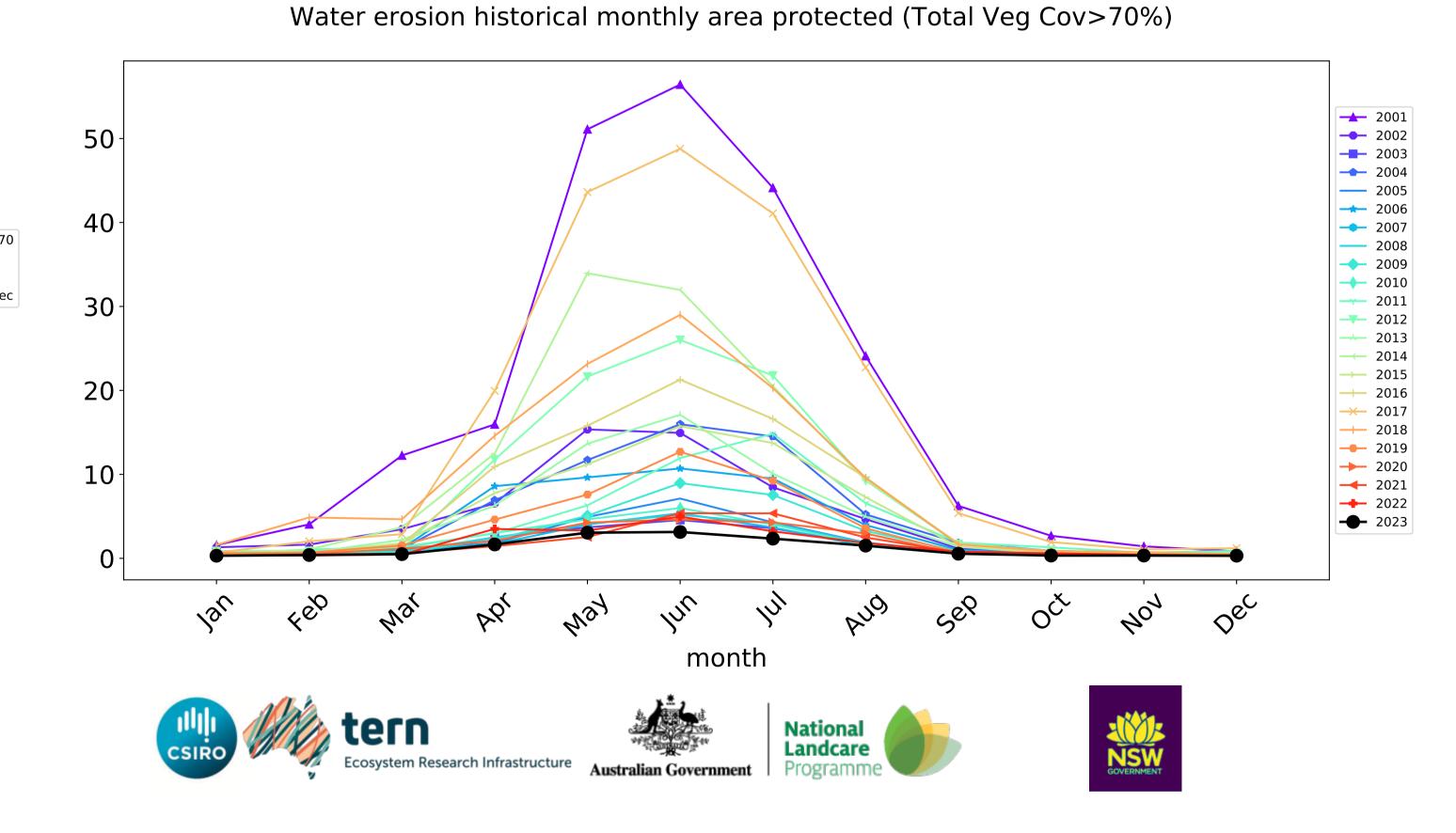
Grazing non forest timeseries





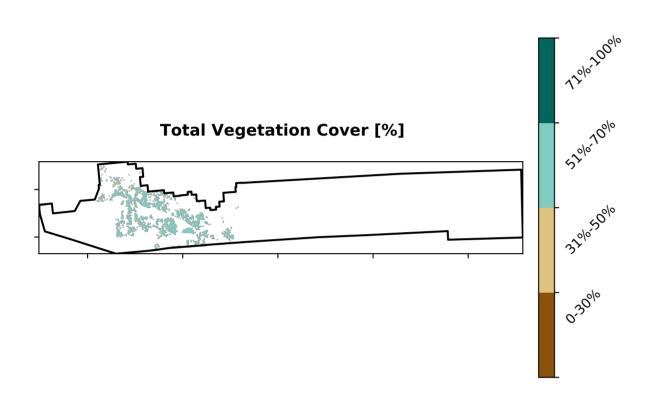
month



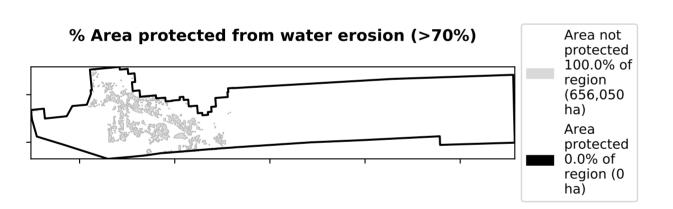


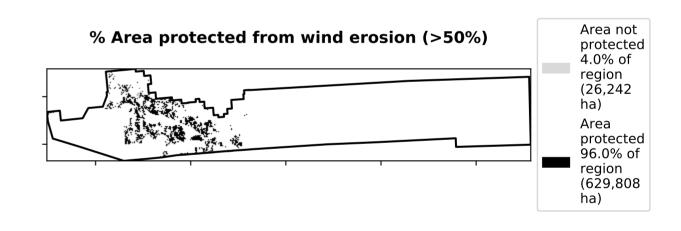
Grazing Woodland forest

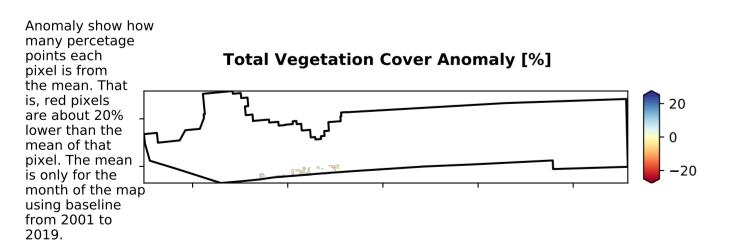
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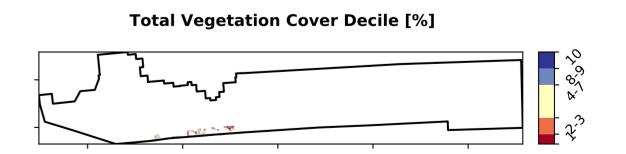


Proportion of vegetation cover class in area 100 96.5% 80 60 20 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class









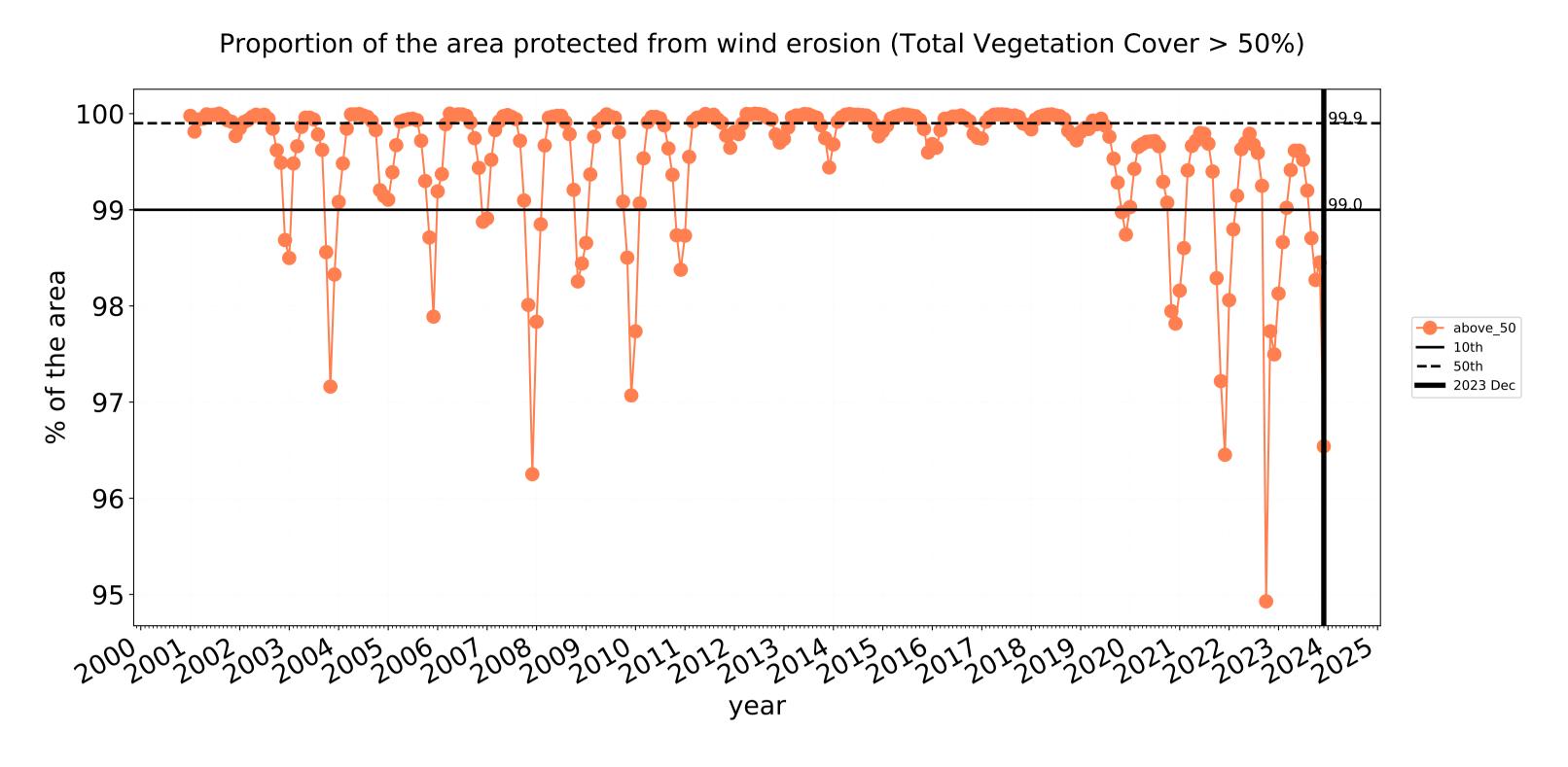


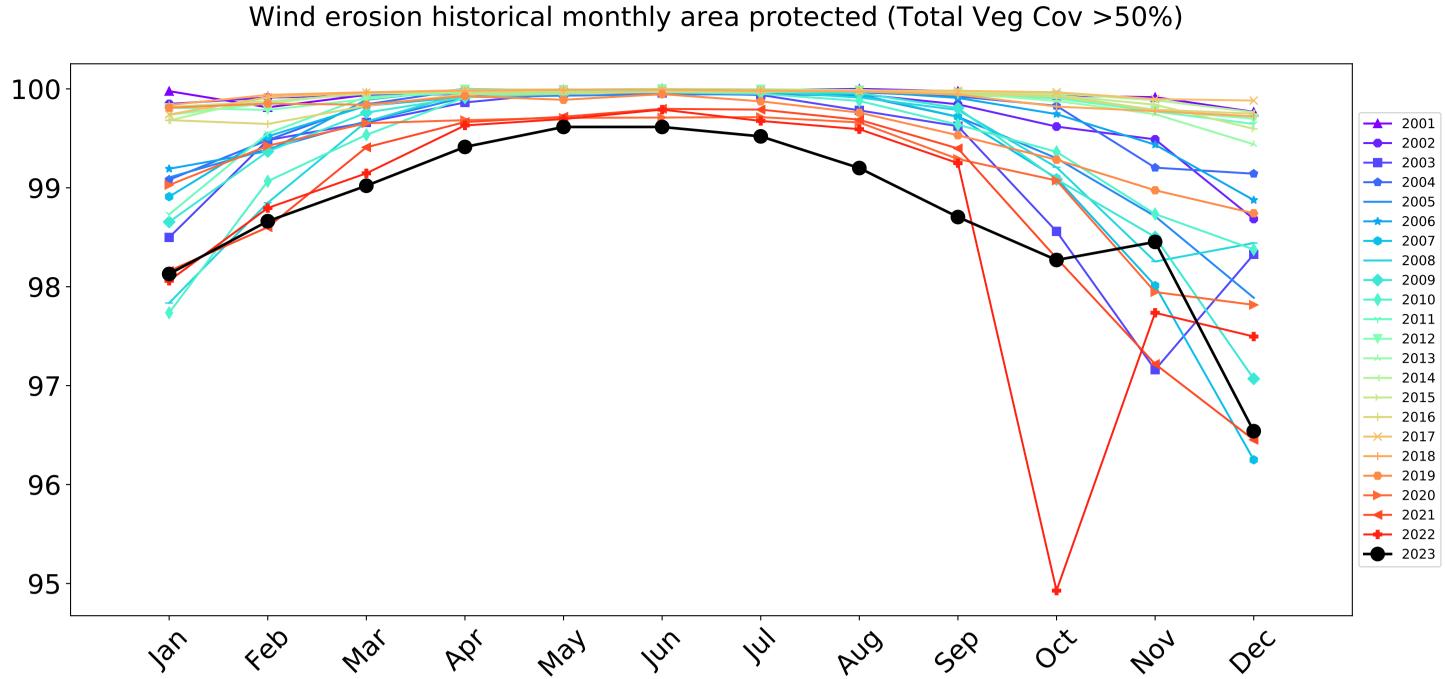




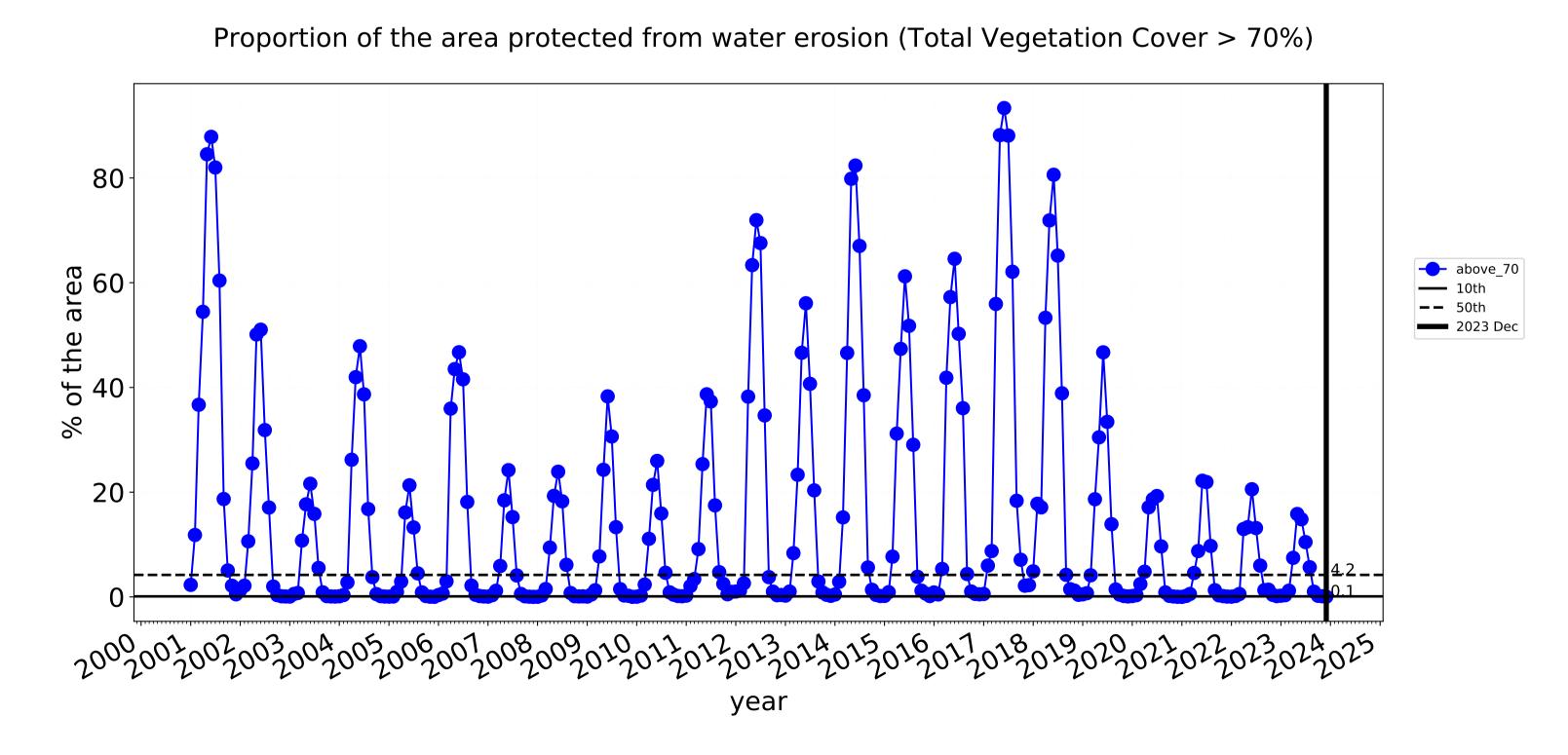


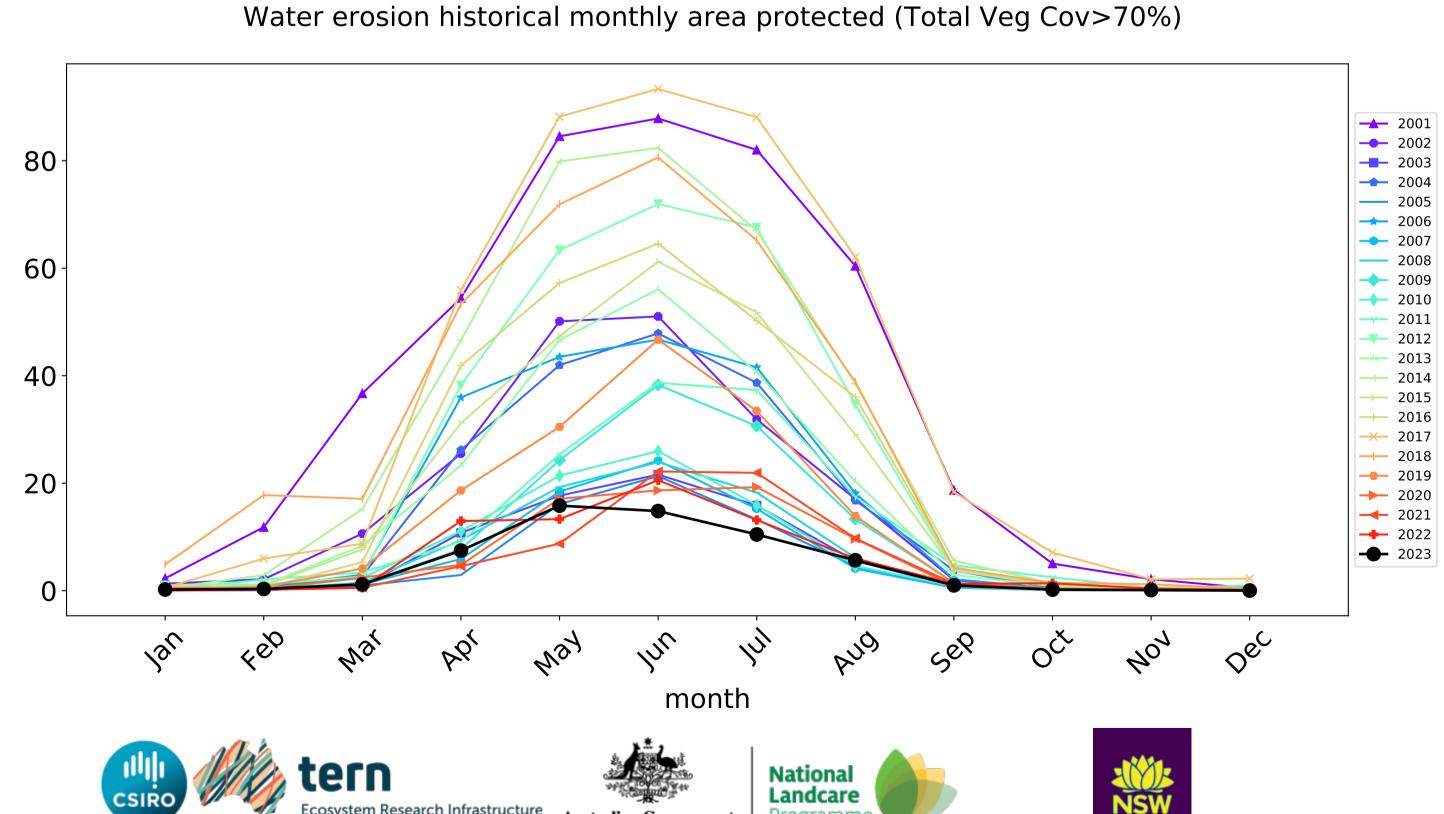
Grazing Woodland forest timeseries





month





Menzies_(S) (12,328,550 ha and no data 63,212 ha) Percentage area and hectares protected with TVC threshold 30,50,70,80,90 and 95%

Land use and forest cover Class	area(ha)	above_30	above_50	above_70	above_80	above_90	above_95
Entire region	12,328,550	90.1% 11,113,100	36.4% 4,486,225	2.5% 303,725	1.3% 163,800	1.0% 124,650	0.9% 105,675
Conservation and natural environments	9,461,050	87.6% 8,287,425	28.3% 2,676,900	1.1% 107,175	0.1% 11,300	0.1% 8,825	0.1% 8,200
Conservation and natural environments non forest	8,681,975	86.5% 7,508,350	22.0% 1,908,525	1.0% 83,575	0.1% 11,225	0.1% 8,825	0.1% 8,200
Conservation and natural environments Woodland forest	779,075	100.0% 779,075	98.6% 768,375	3.0% 23,600	0.0% 75	0.0% 0	0.0%
Agriculture	2,510,125	98.6% 2,474,800	60.8% 1,526,025	0.2% 6,125	0.1% 3,700	0.1% 2,800	0.1% 2,275
Grazing	2,510,125	98.6% 2,474,800	60.8% 1,526,025	0.2% 6,125	0.1% 3,700	0.1% 2,800	0.1% 2,275
Grazing non forest	1,854,075	98.1% 1,818,850	48.1% 892,675	0.3% 5,900	0.2% 3,700	0.2% 2,800	0.1% 2,275
Grazing Woodland forest	656,050	100.0% 655,950	96.5% 633,350	0.0% 225	0.0% 0	0.0% 0	0.0%







