Total vegetation cover soil protection Region:LGA Ipswich_(C) QLD

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 2024

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. Total vegetation Cover:

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:

- 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



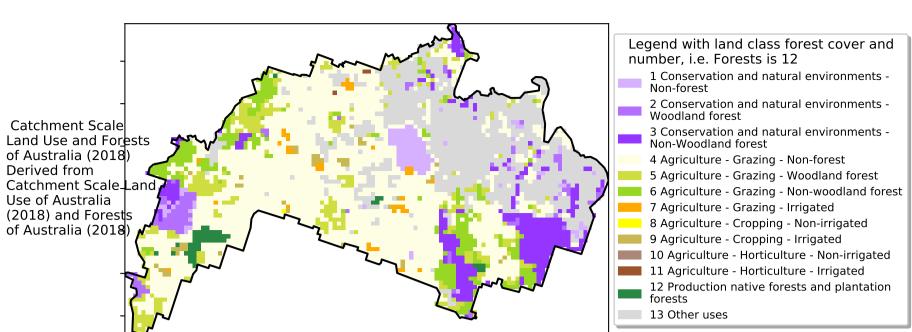




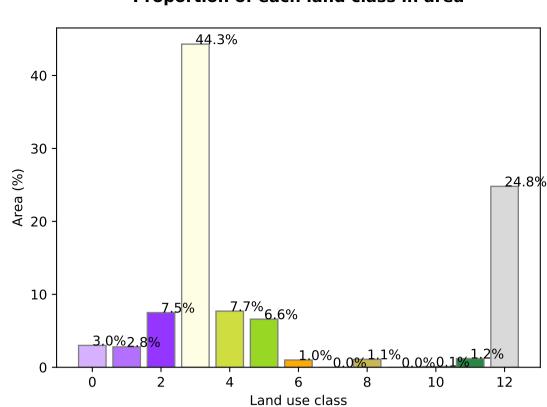


Vegetation Cover Dec 2024

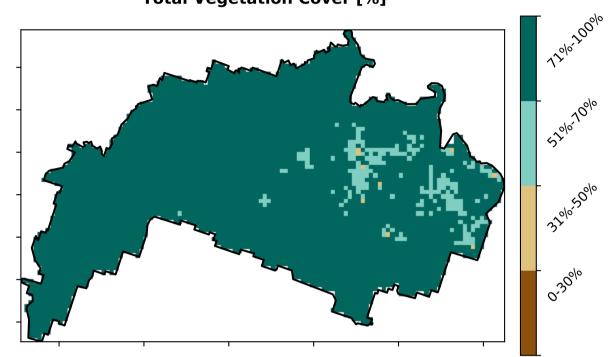
Land use and forest cover



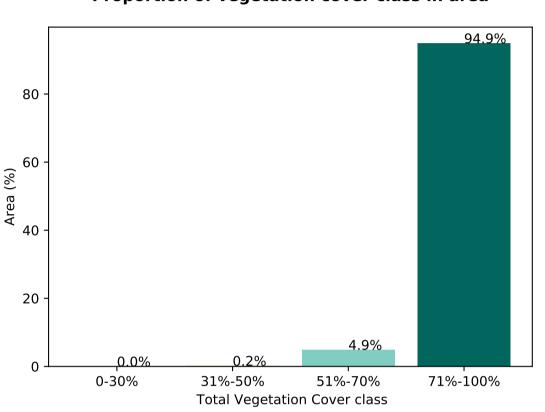
Proportion of each land class in area



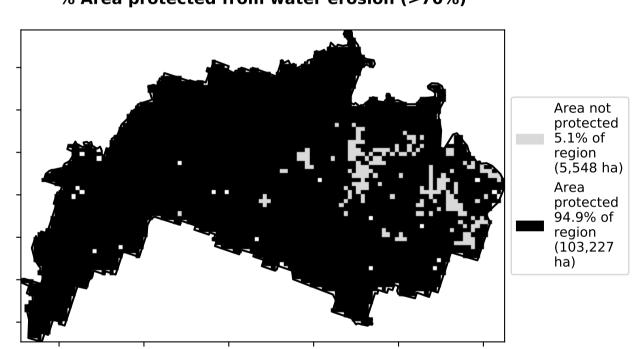
Total Vegetation Cover [%]



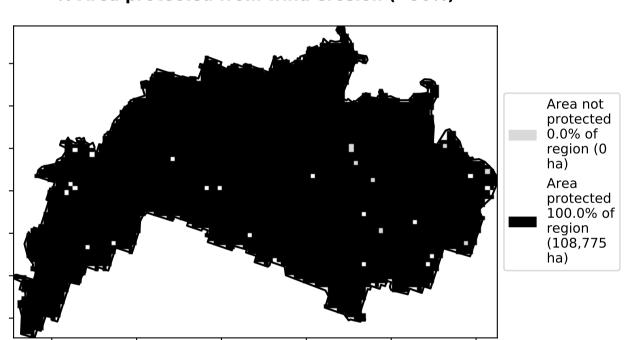
Proportion of vegetation cover class in area



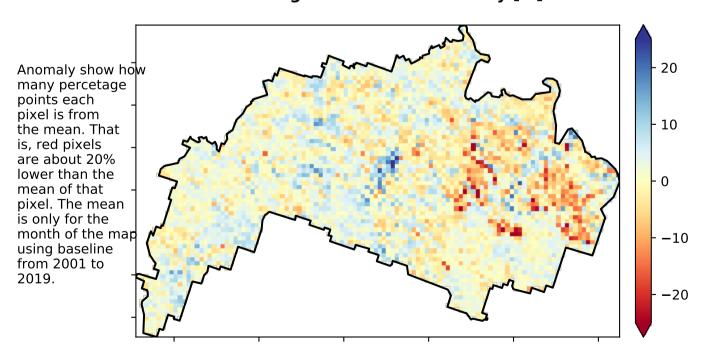
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

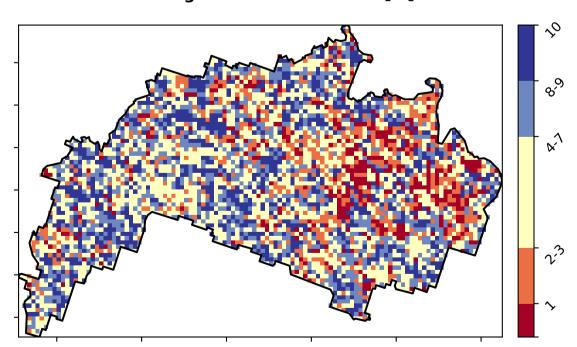


Total Vegetation Cover Anomaly [%]



Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Total Vegetation Cover Decile [%]

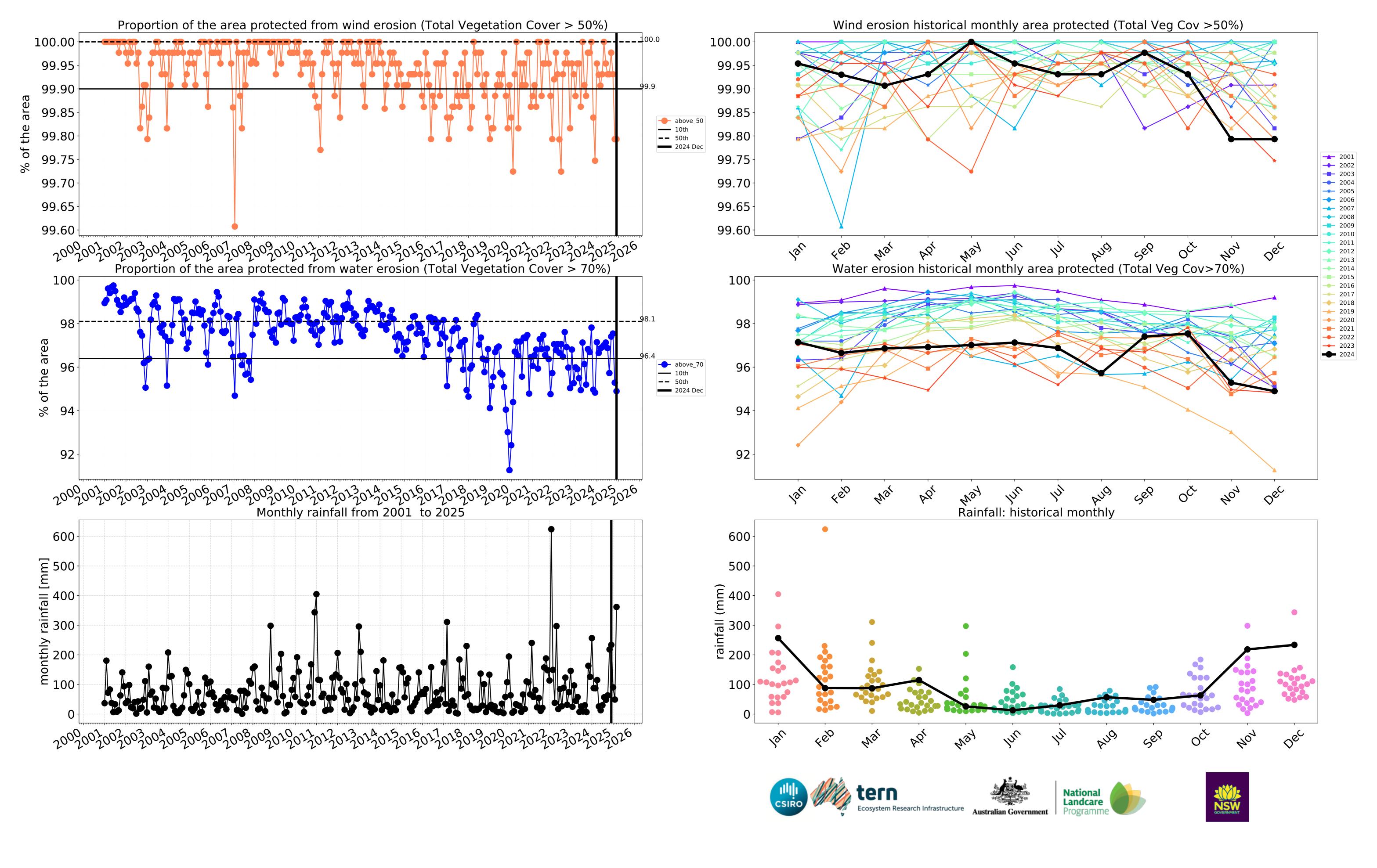


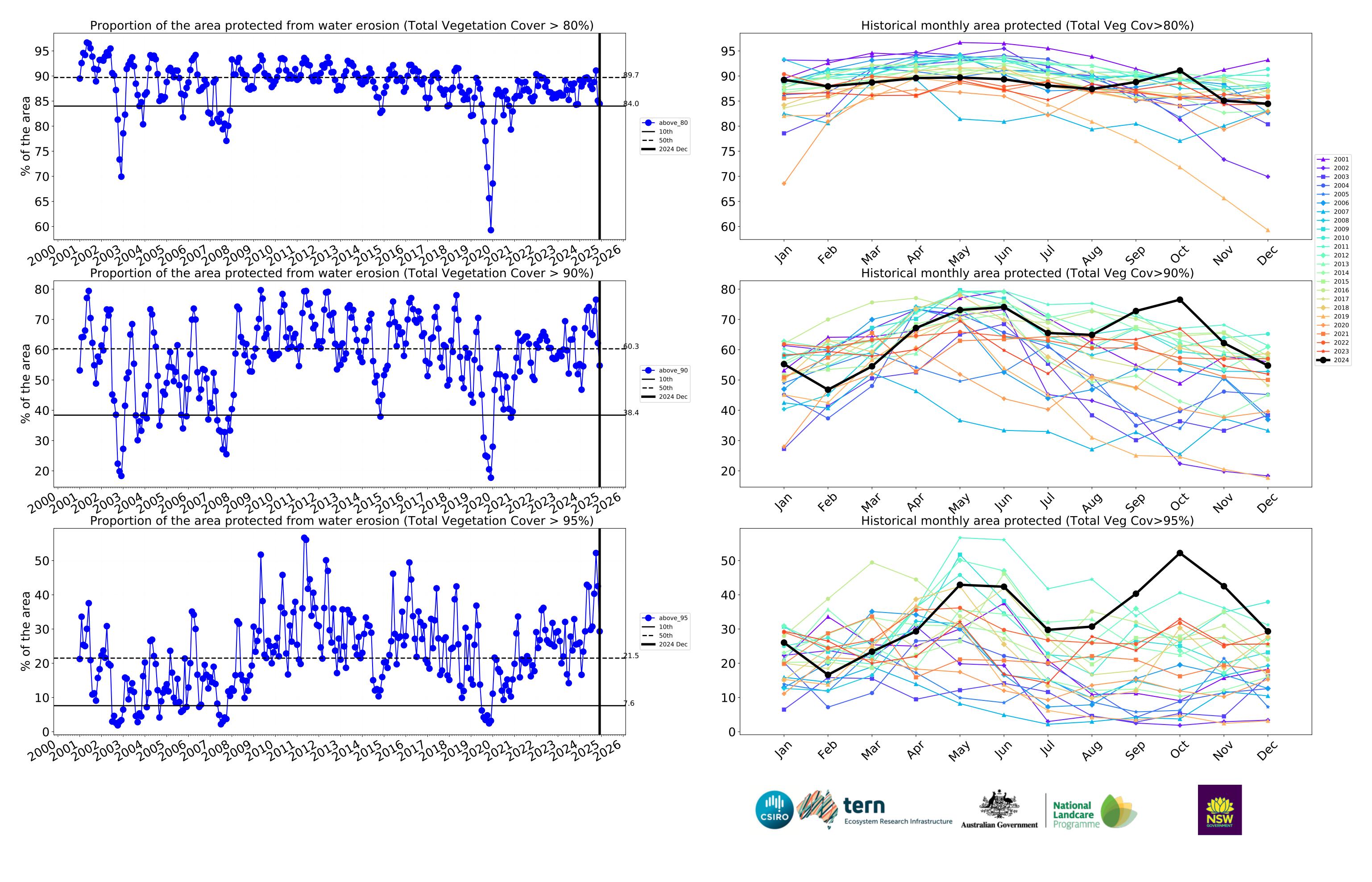




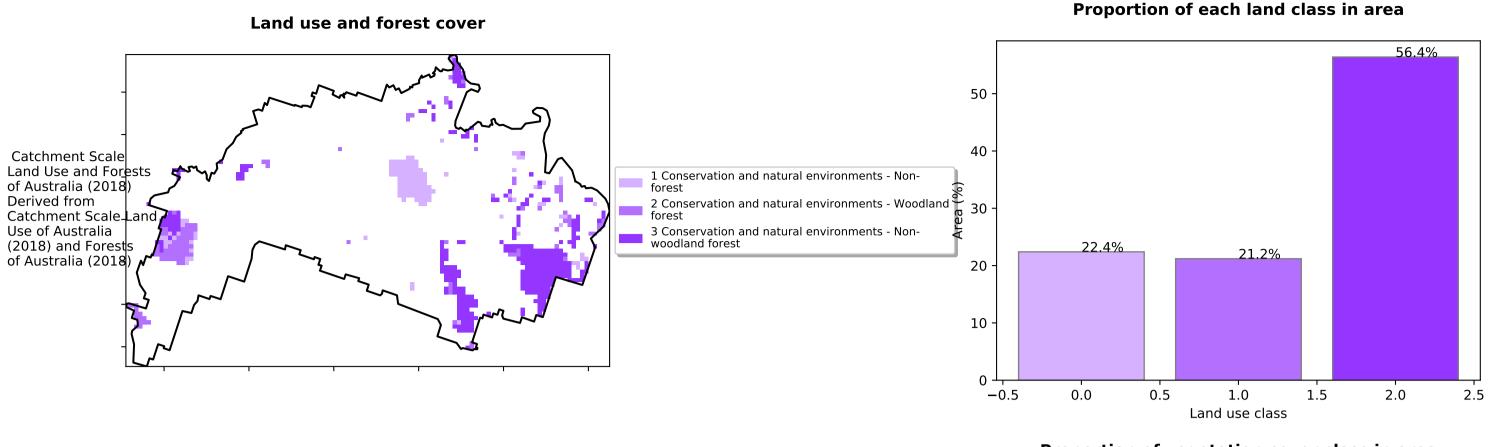


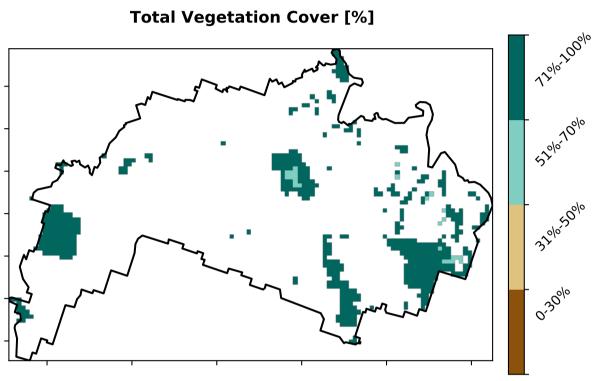


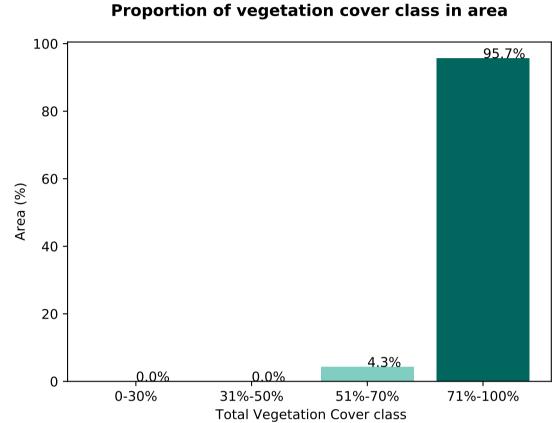


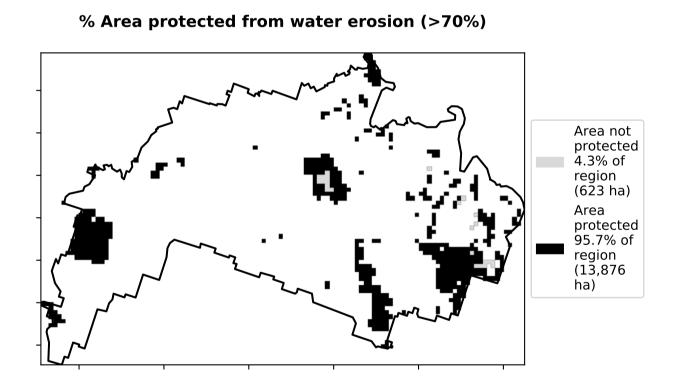


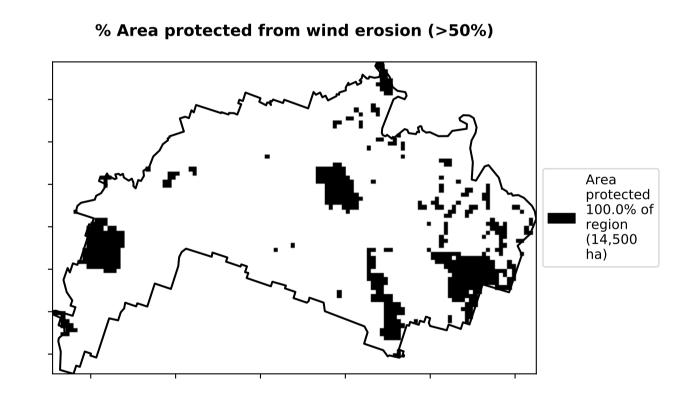
Conservation and natural environments

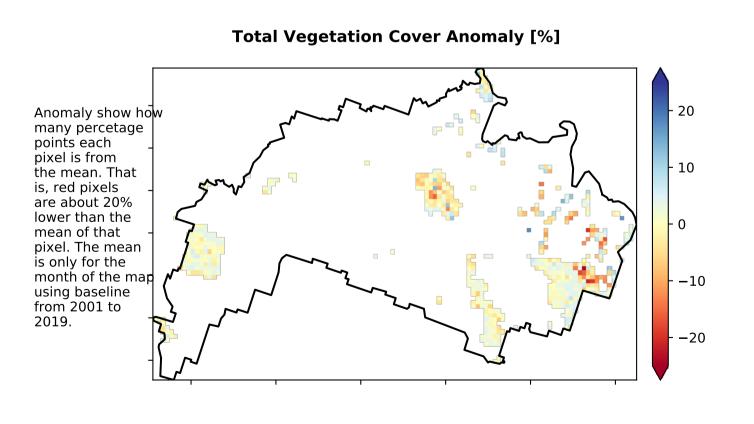


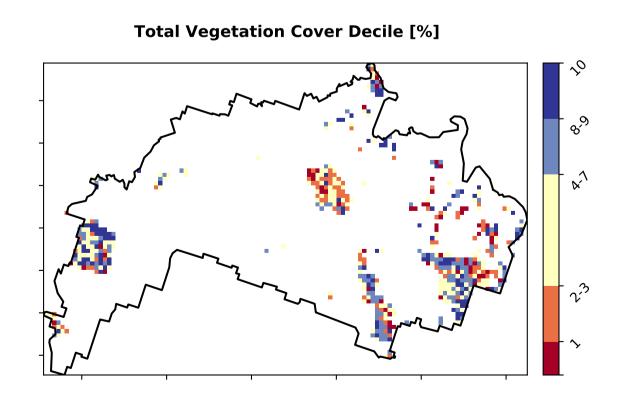












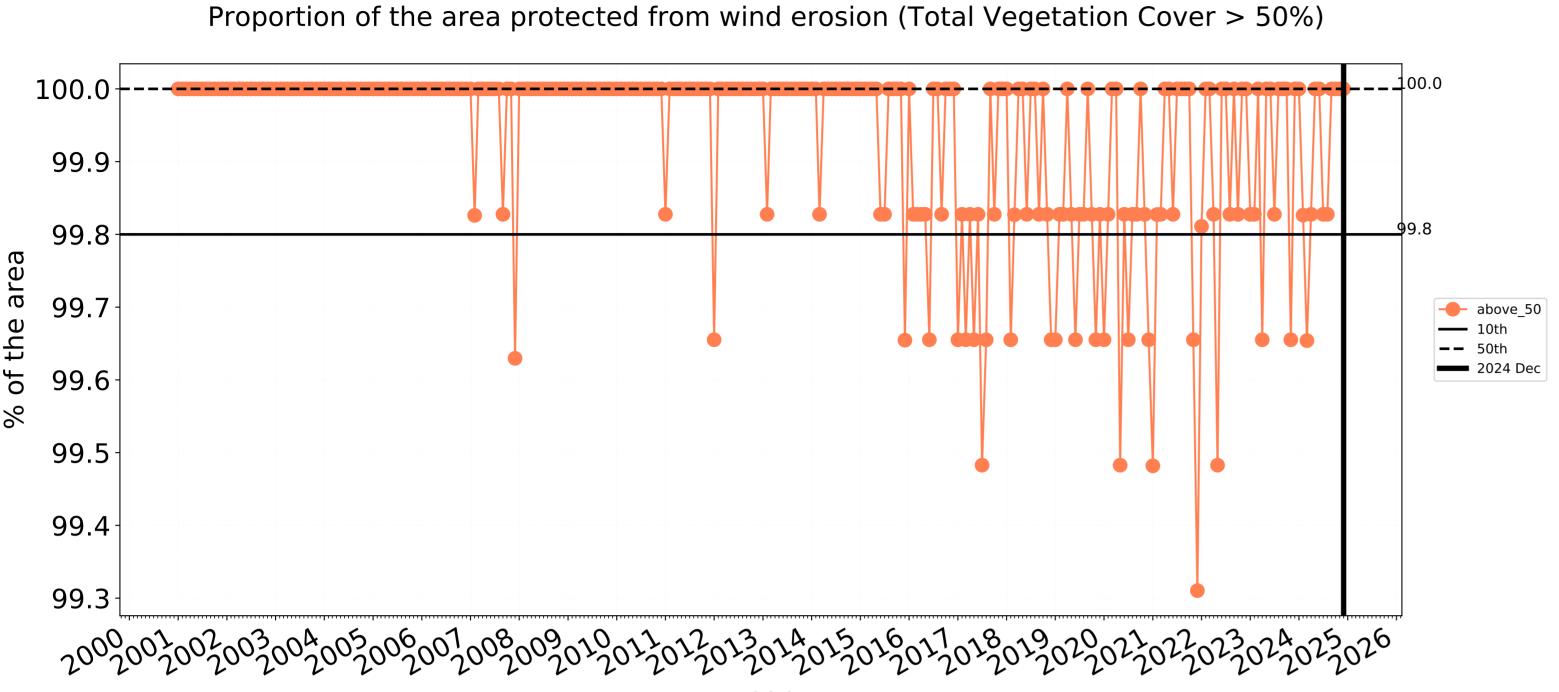


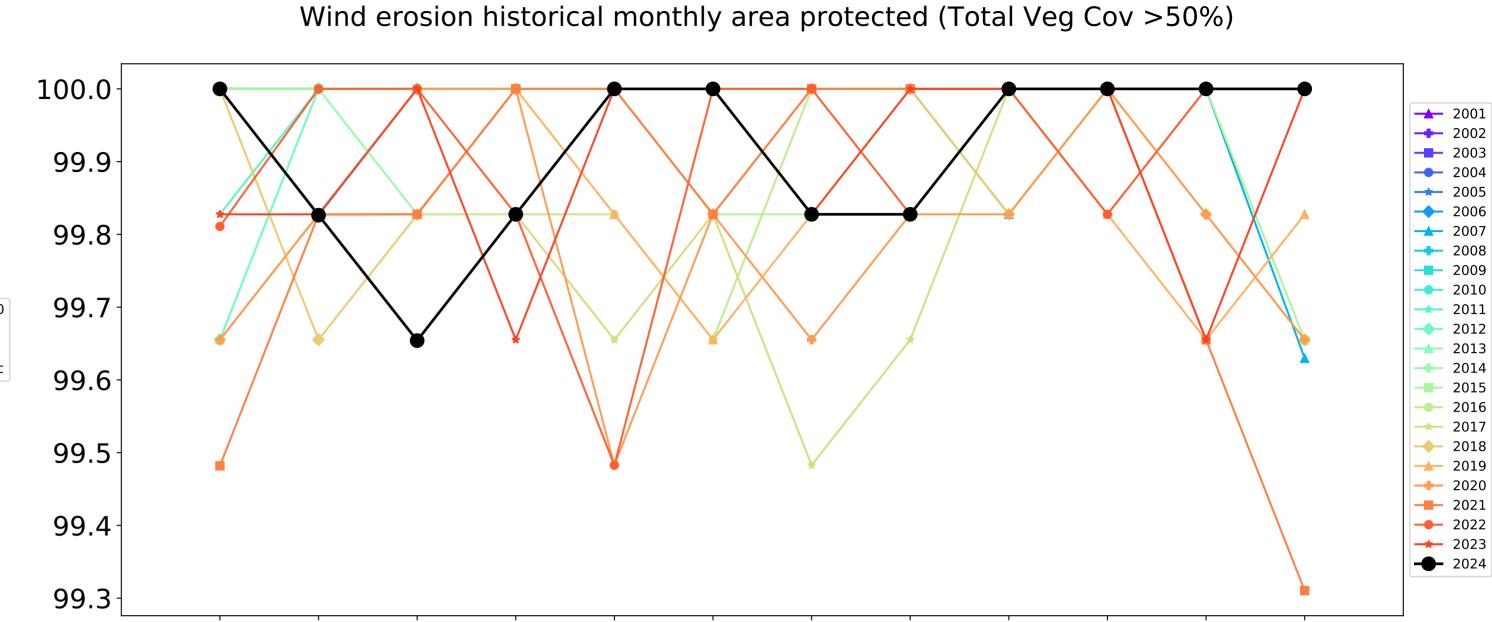




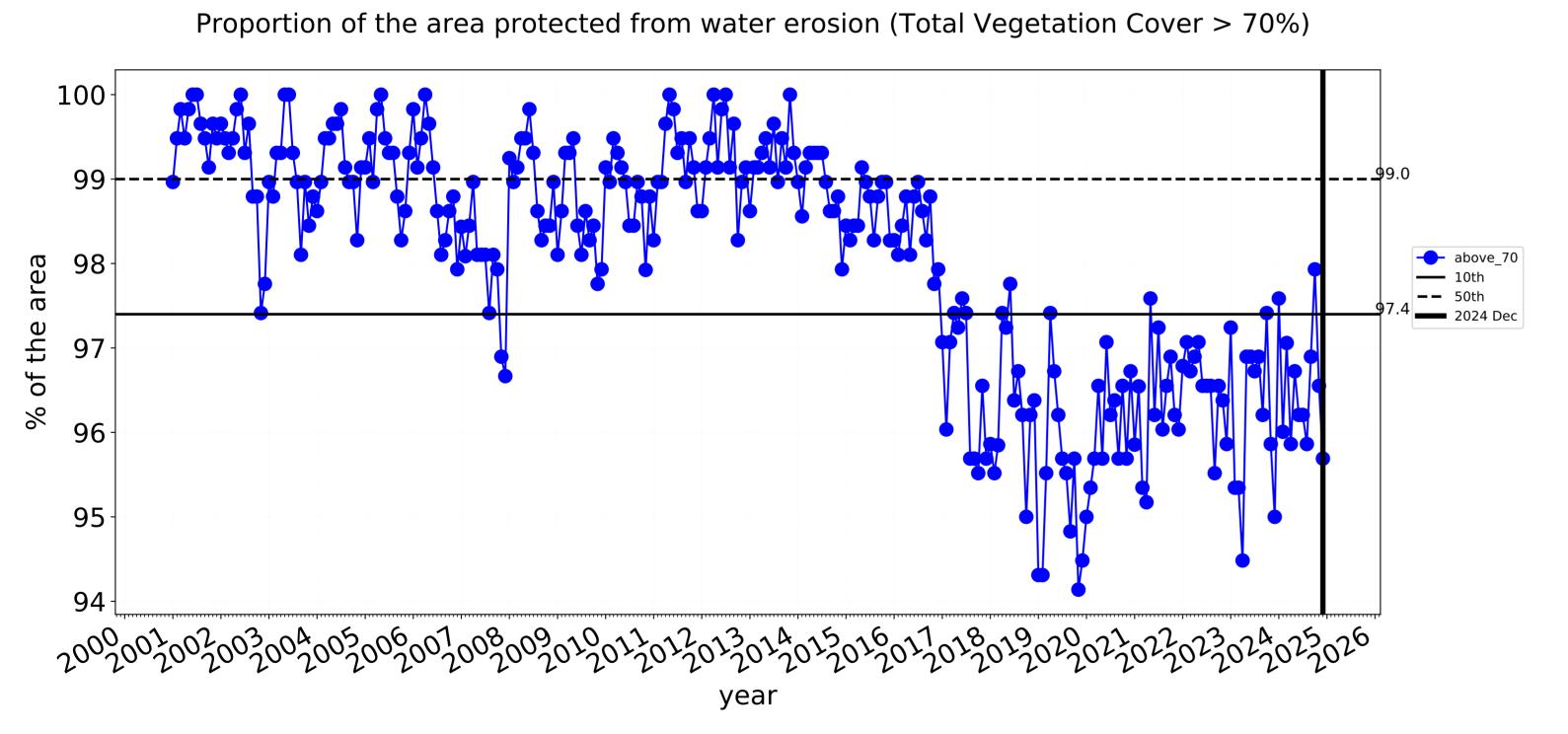


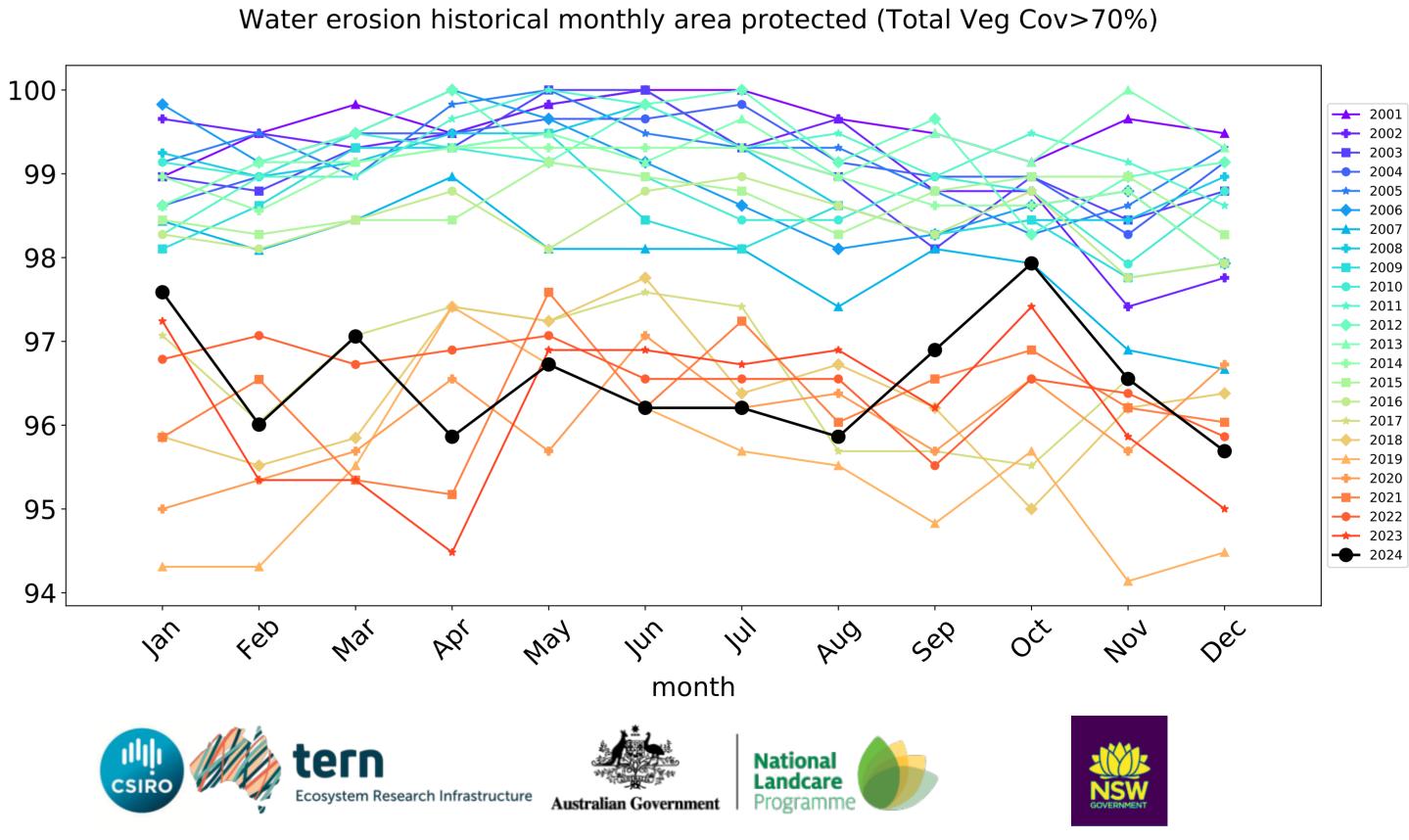
Conservation and natural environments timeseries

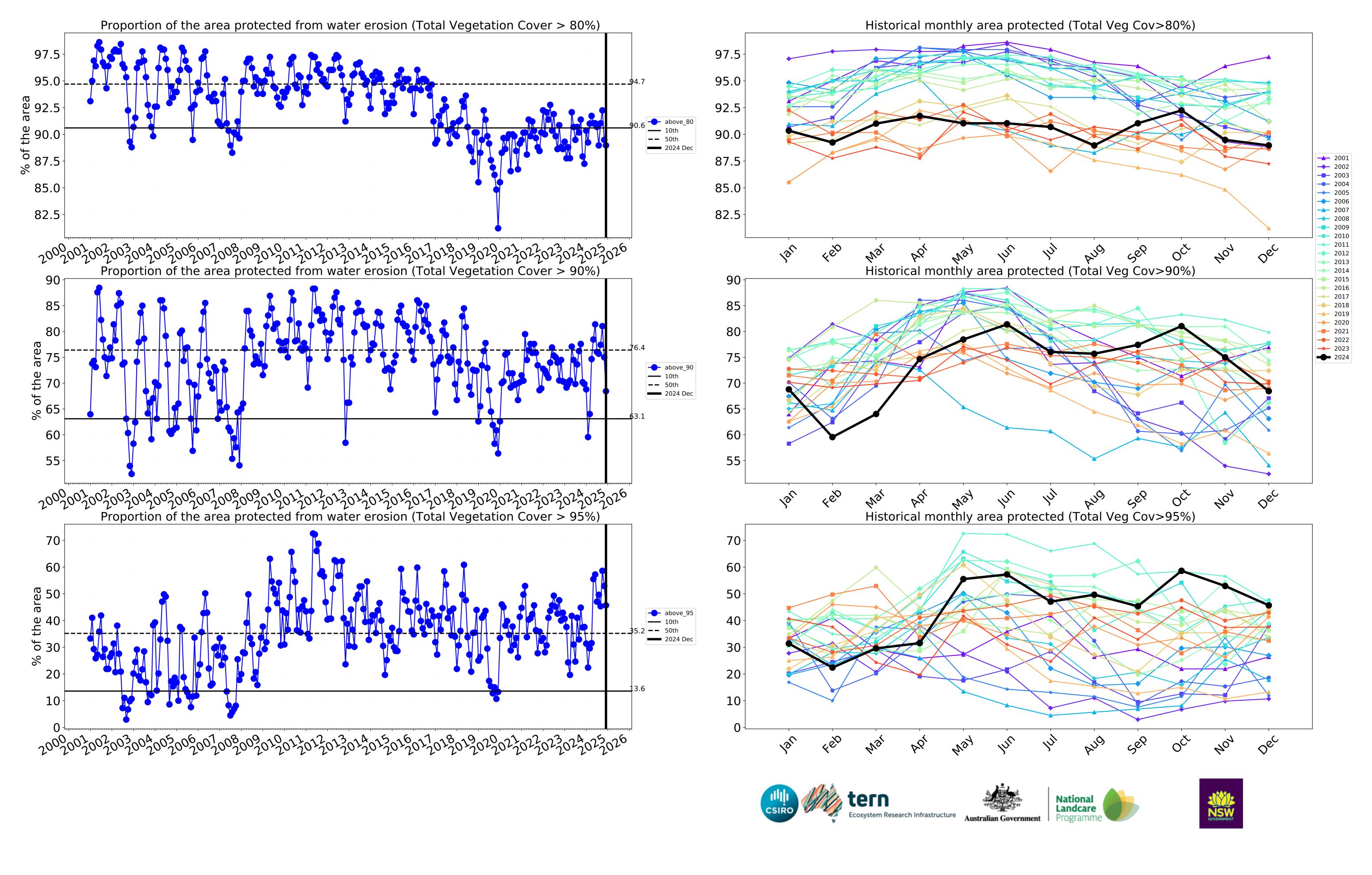




month







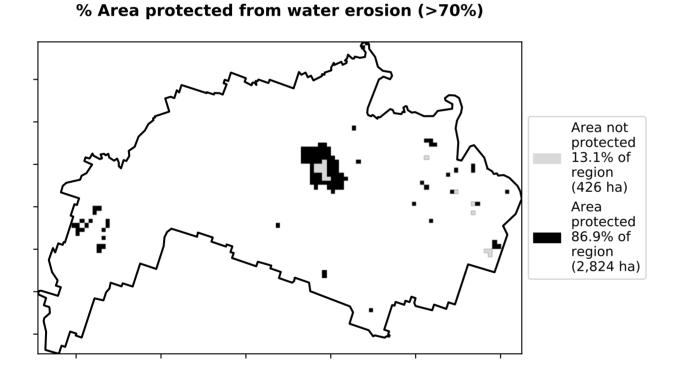
Conservation and natural environments non forest

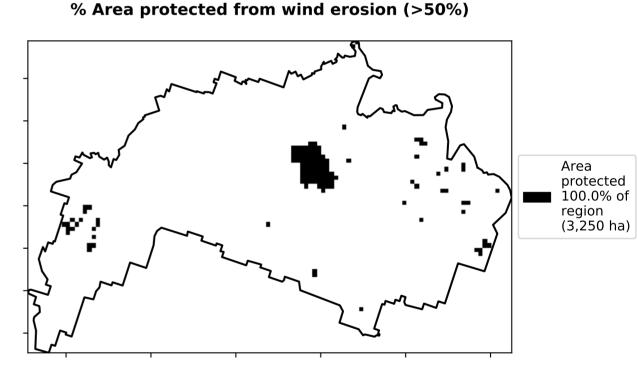
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Non-forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

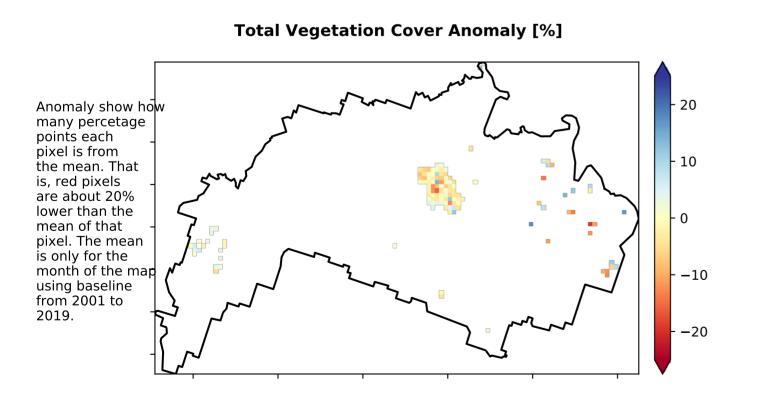
Total Vegetation Cover [%]

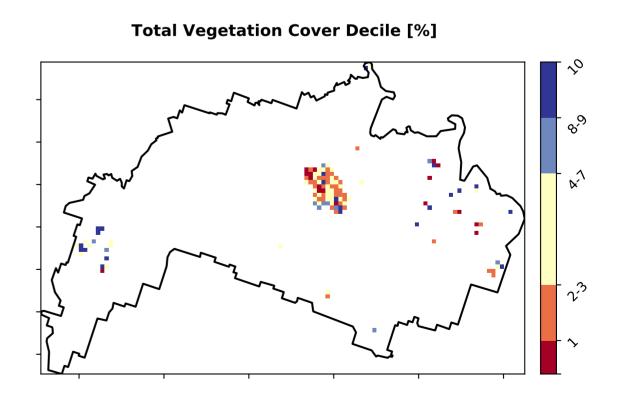
86.9% 80 60 20 13.1% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

Proportion of vegetation cover class in area









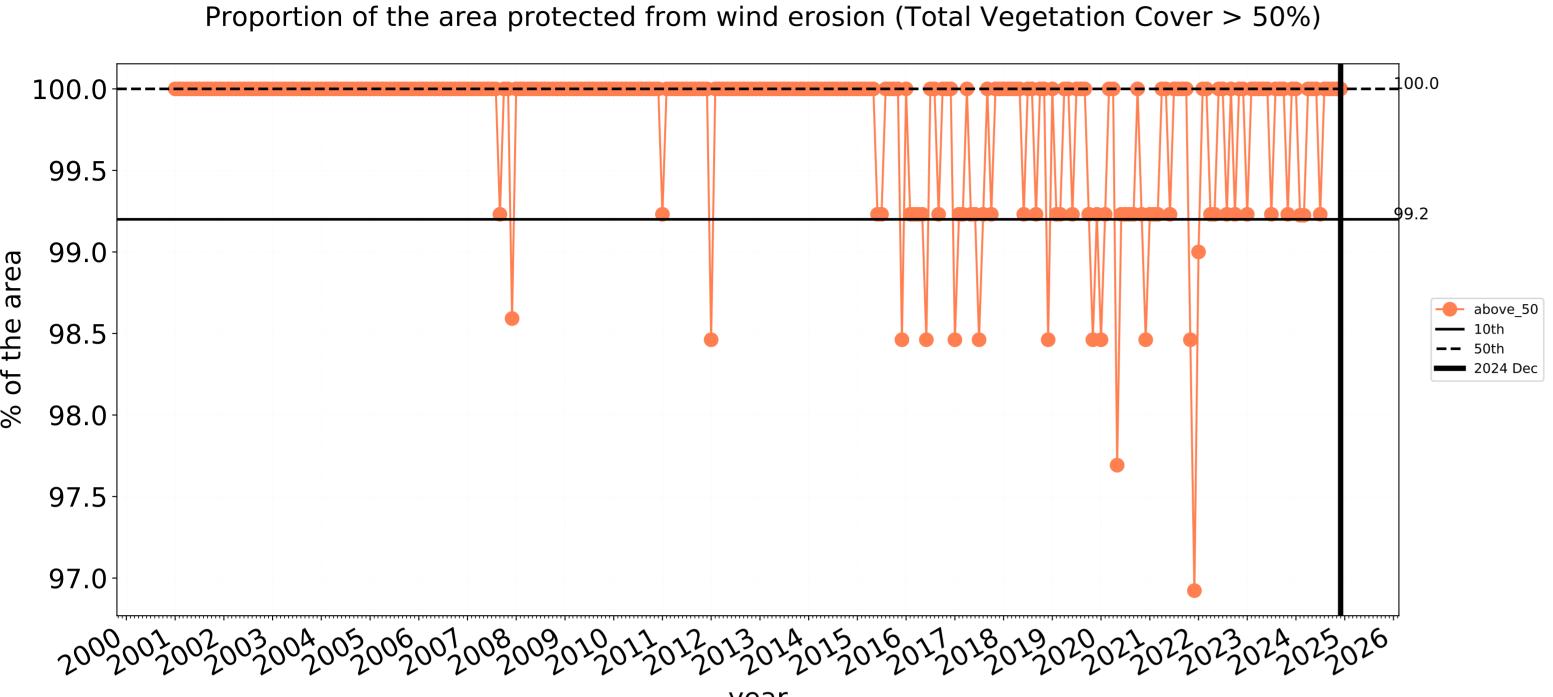


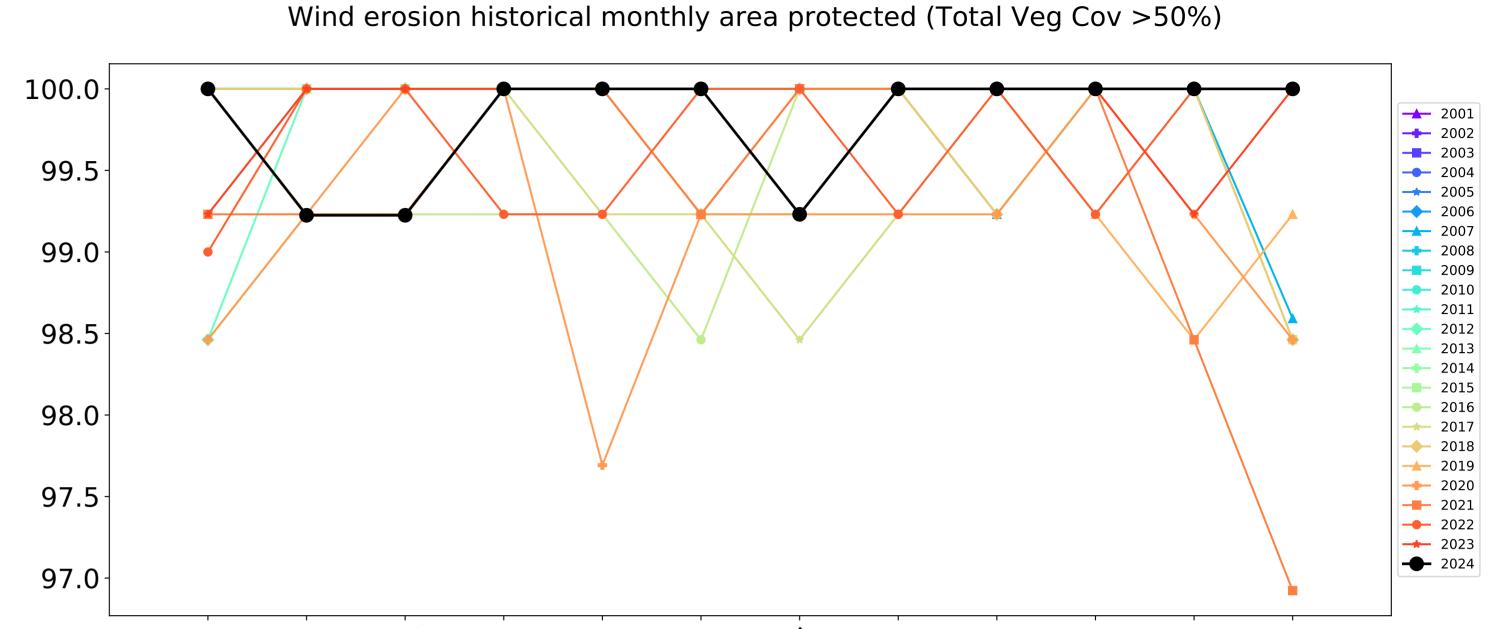




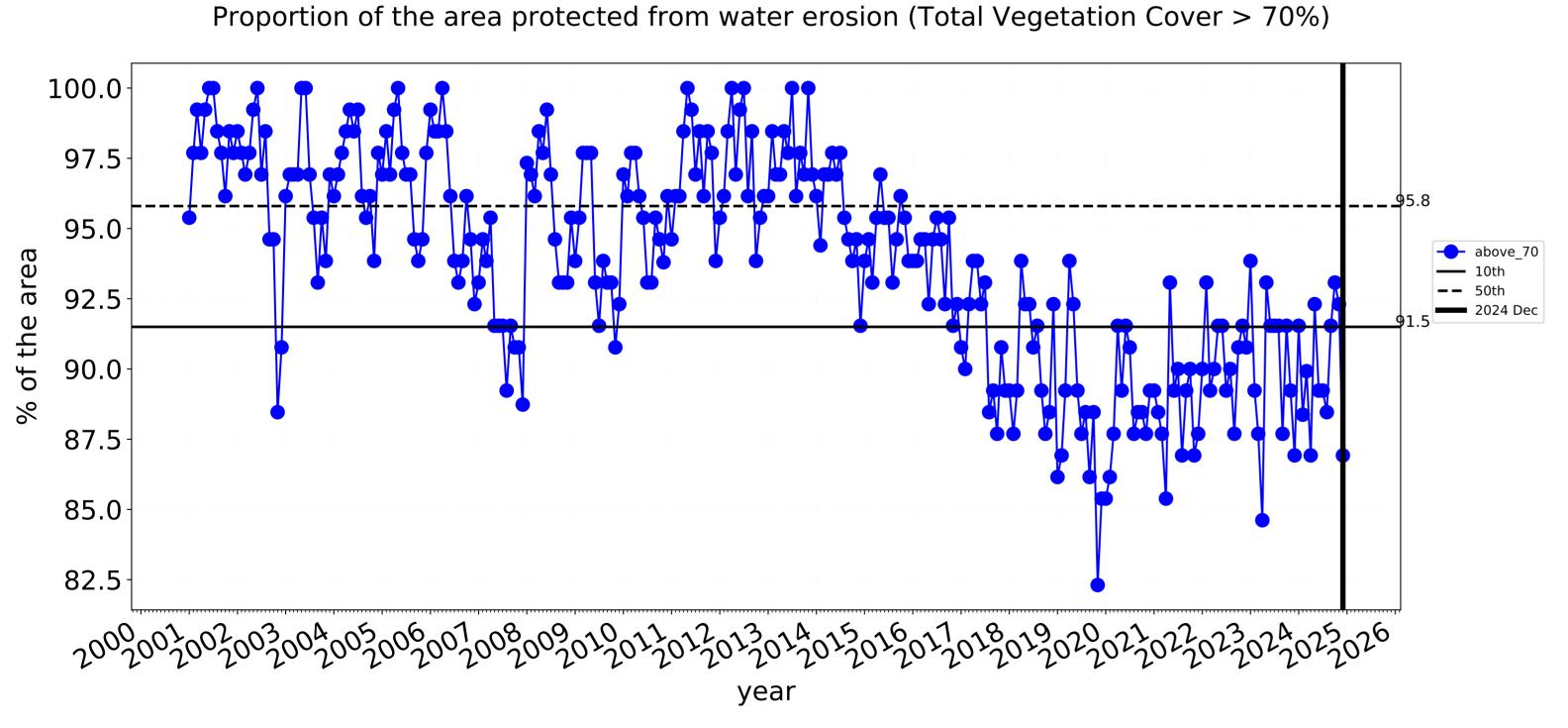


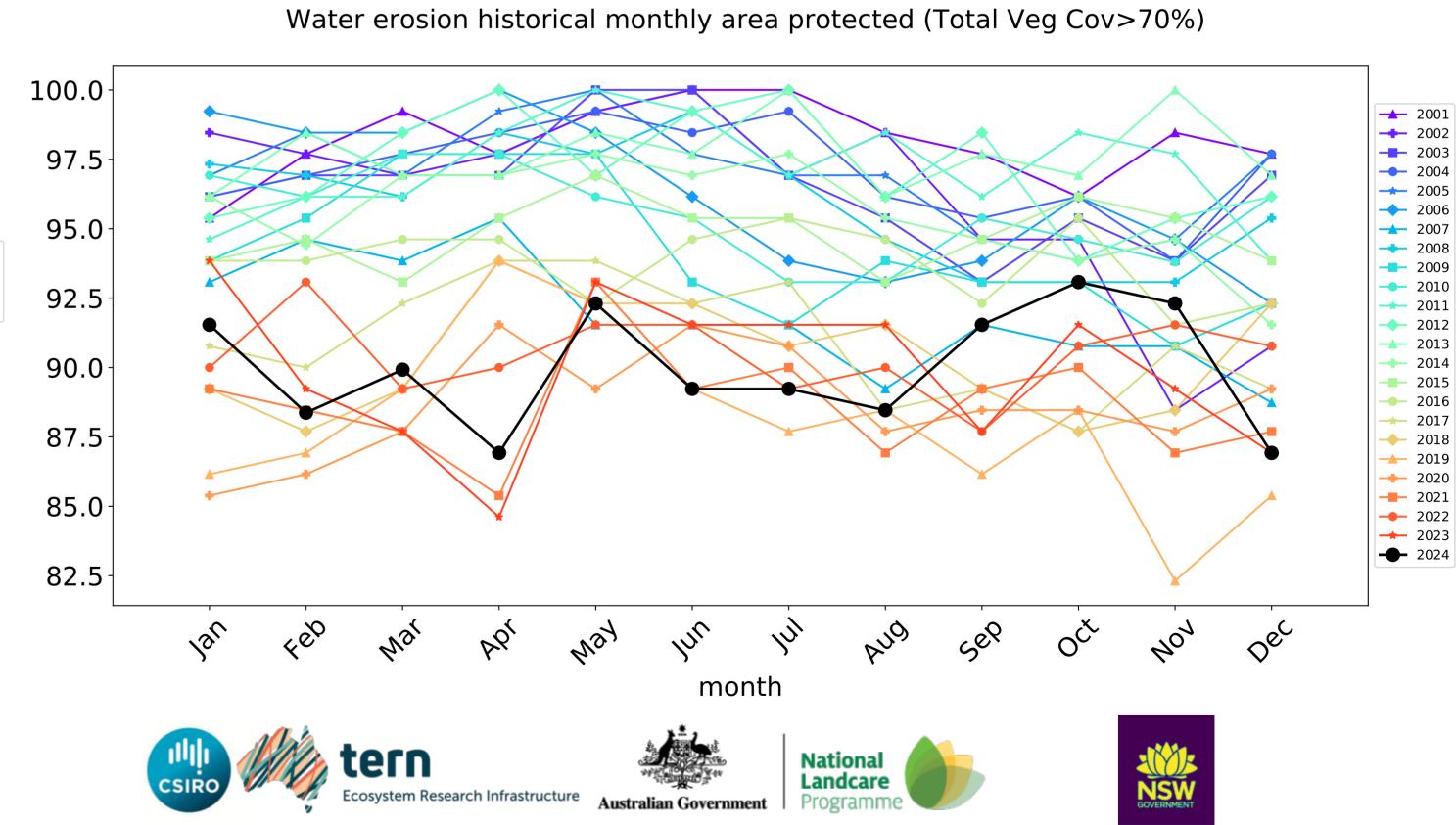
Conservation and natural environments non forest timeseries

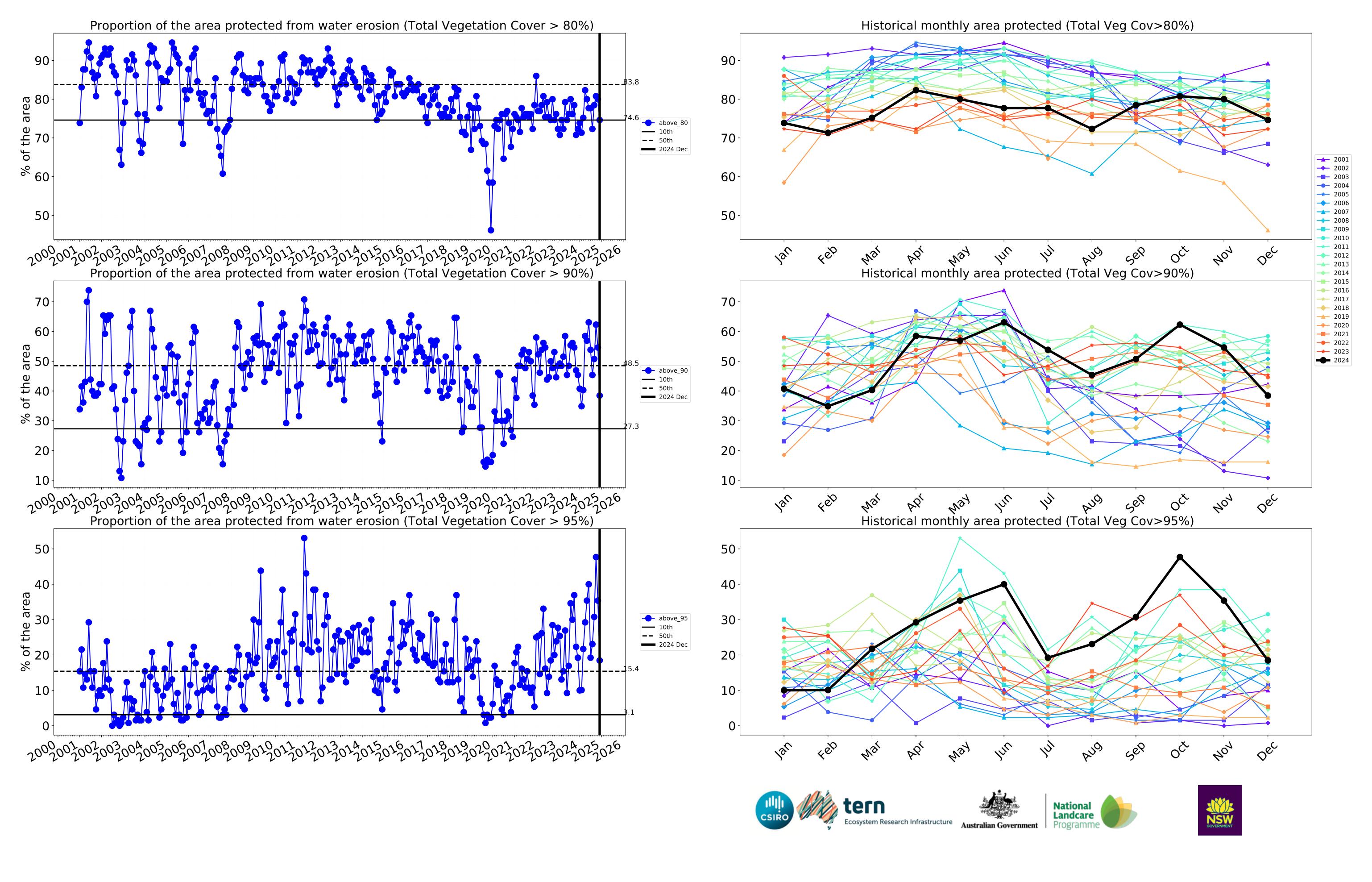




month





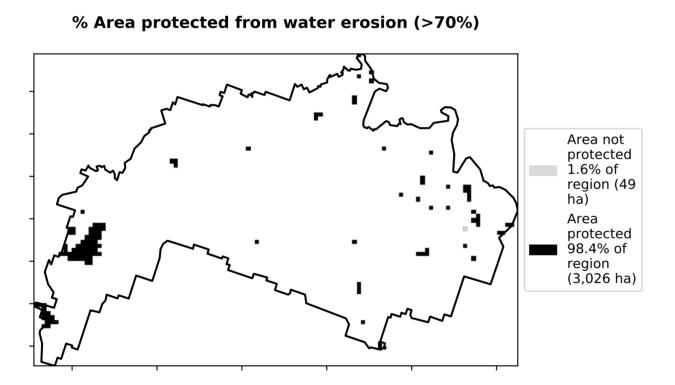


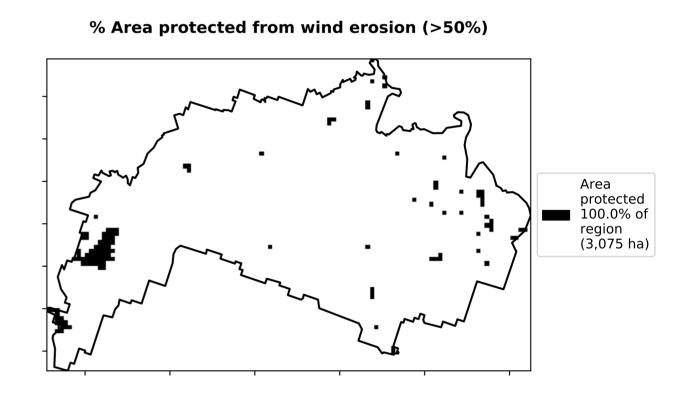
Conservation and natural environments Woodland forest

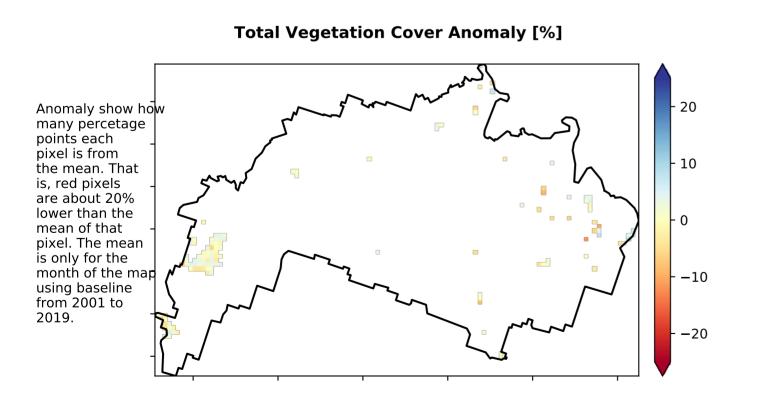
Catchment Scale Land Use and Forests Of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) Of Australi

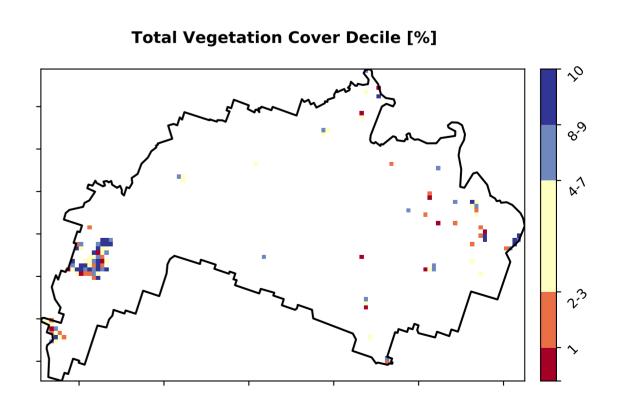
Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 98.4% 80 - 80 - 40 - 40 - 20 - 0.0% 0.0% 1.6% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class









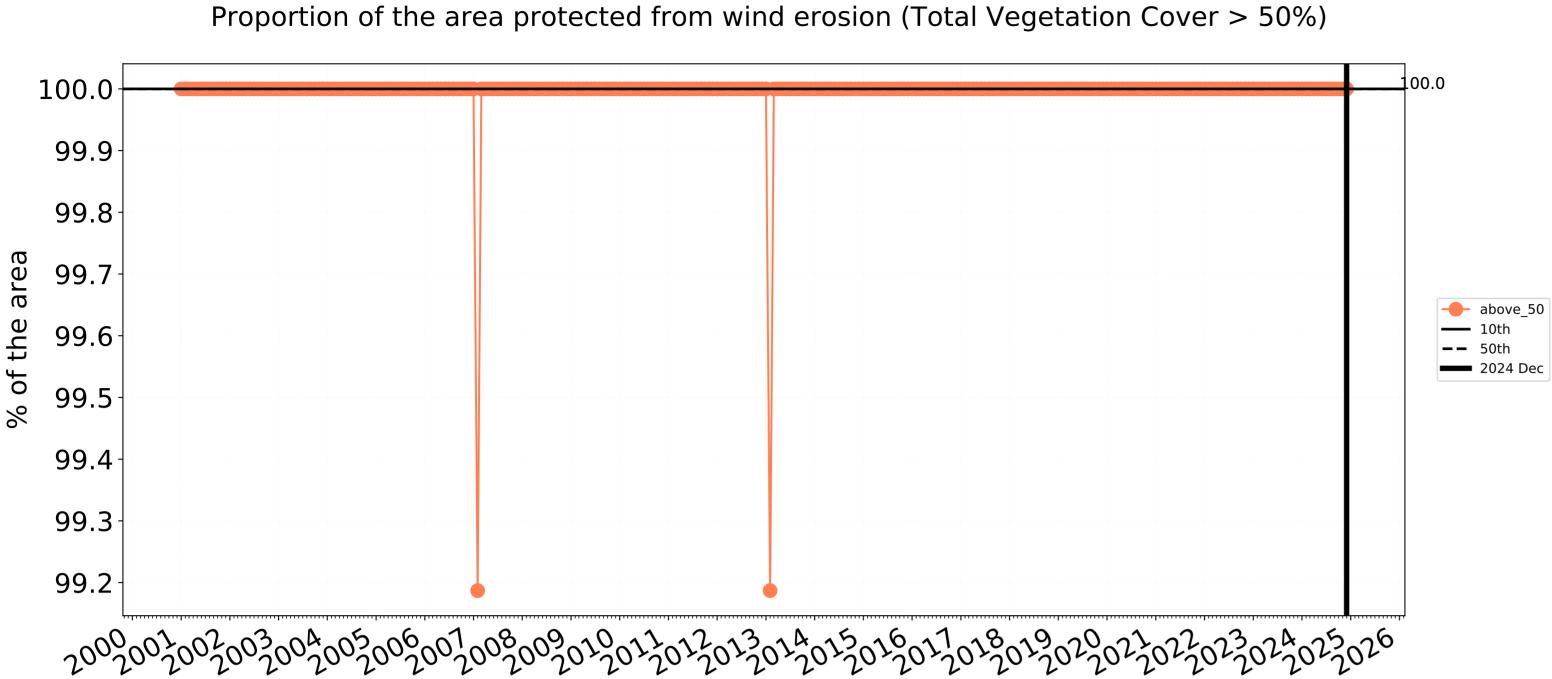


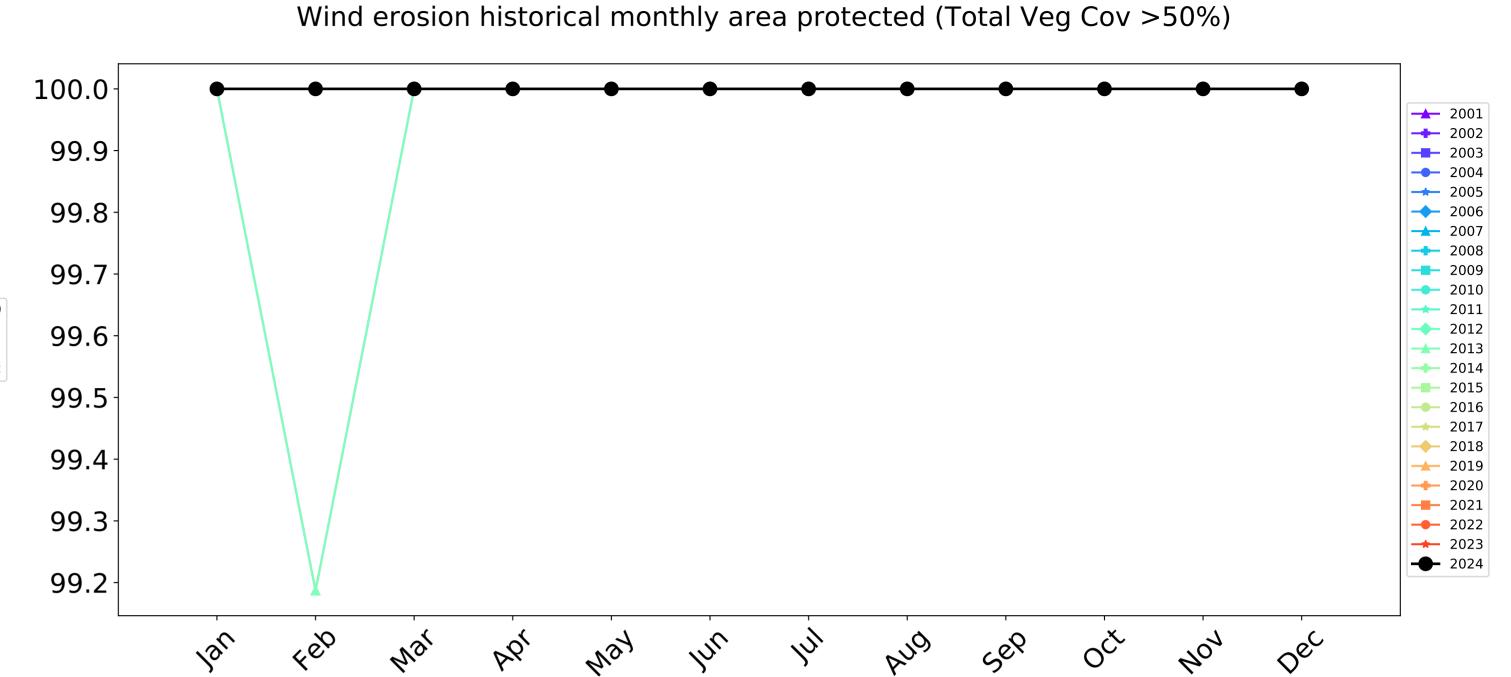




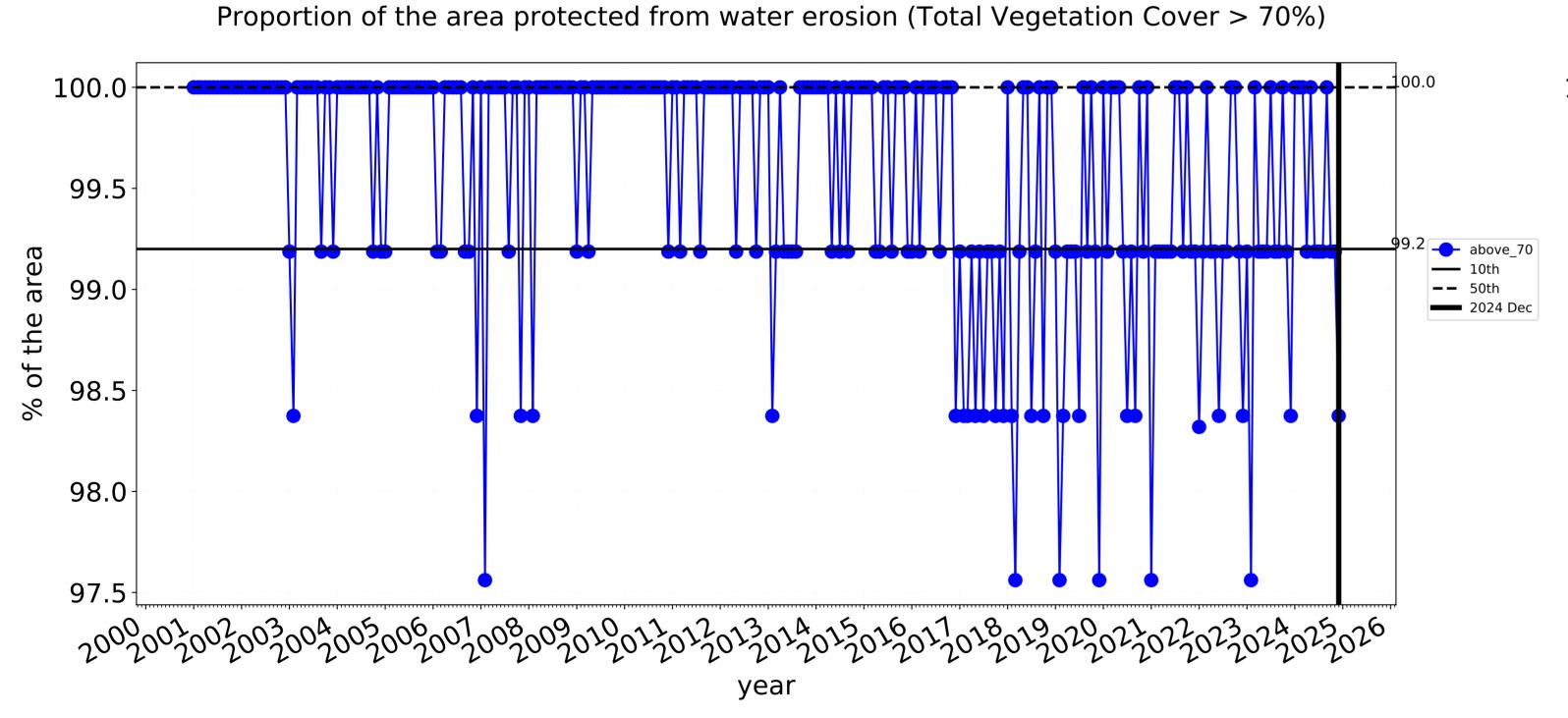


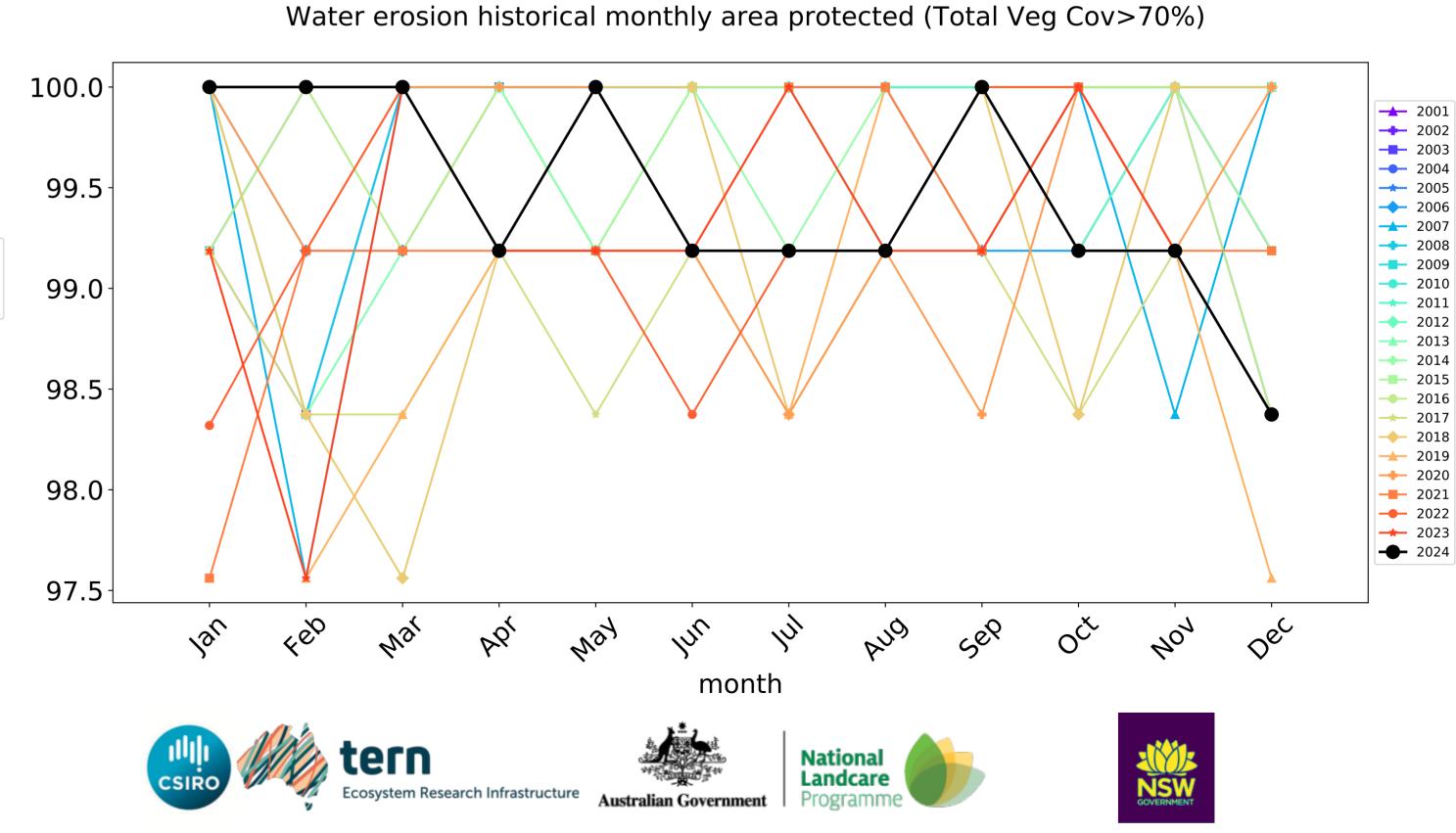
Conservation and natural environments Woodland forest timeseries

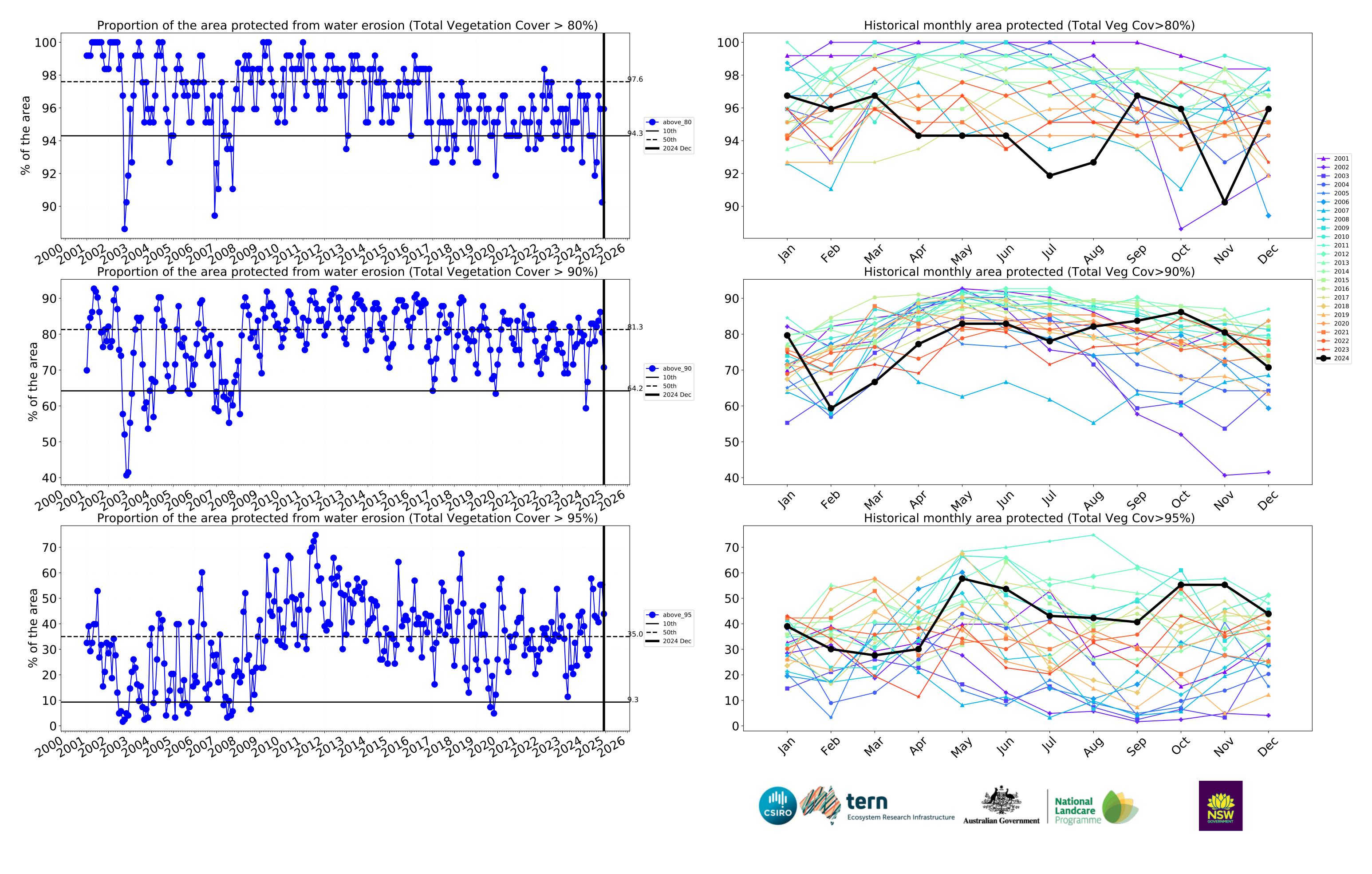




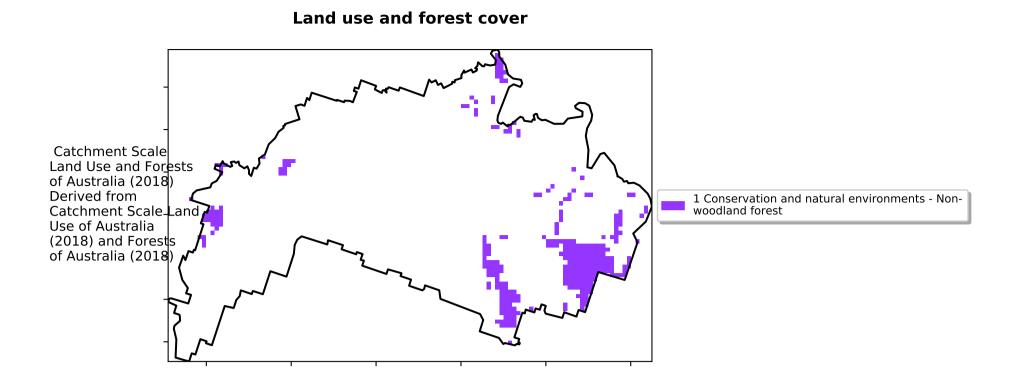
month



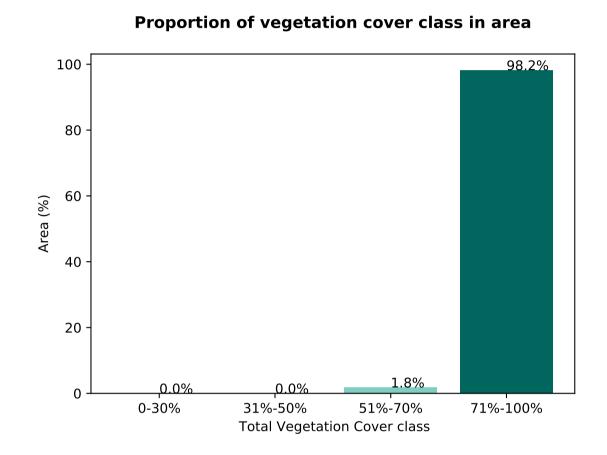


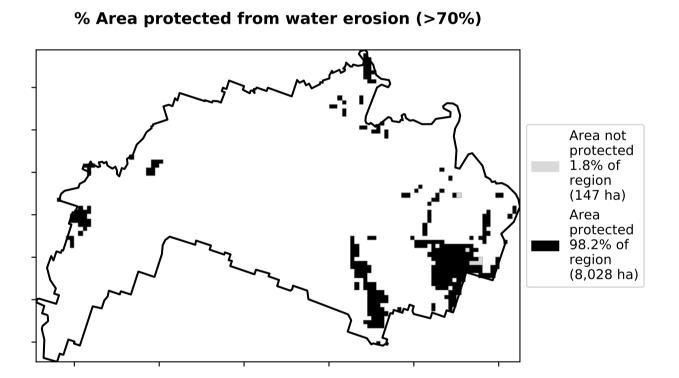


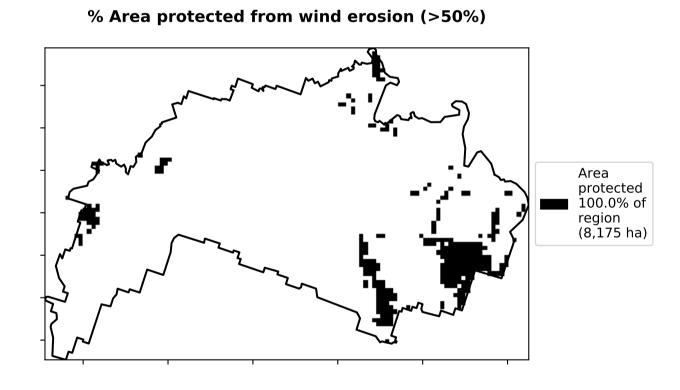
Conservation and natural environments Forest (non woodland)

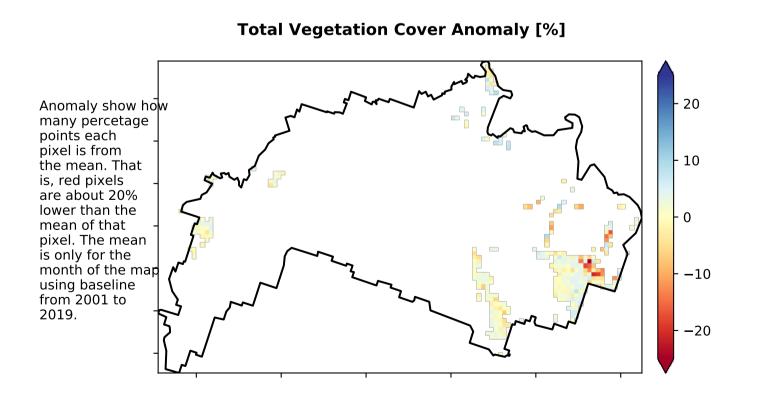


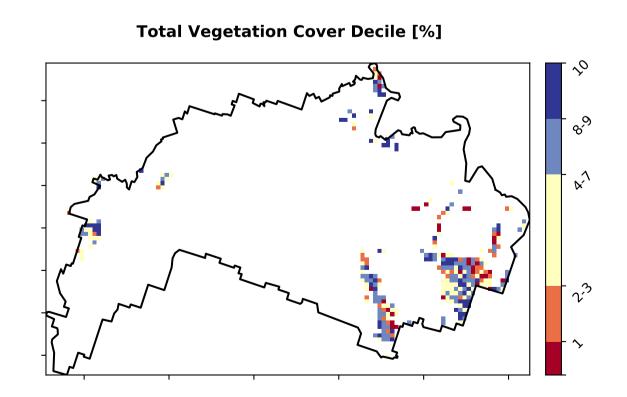
Total Vegetation Cover [%]









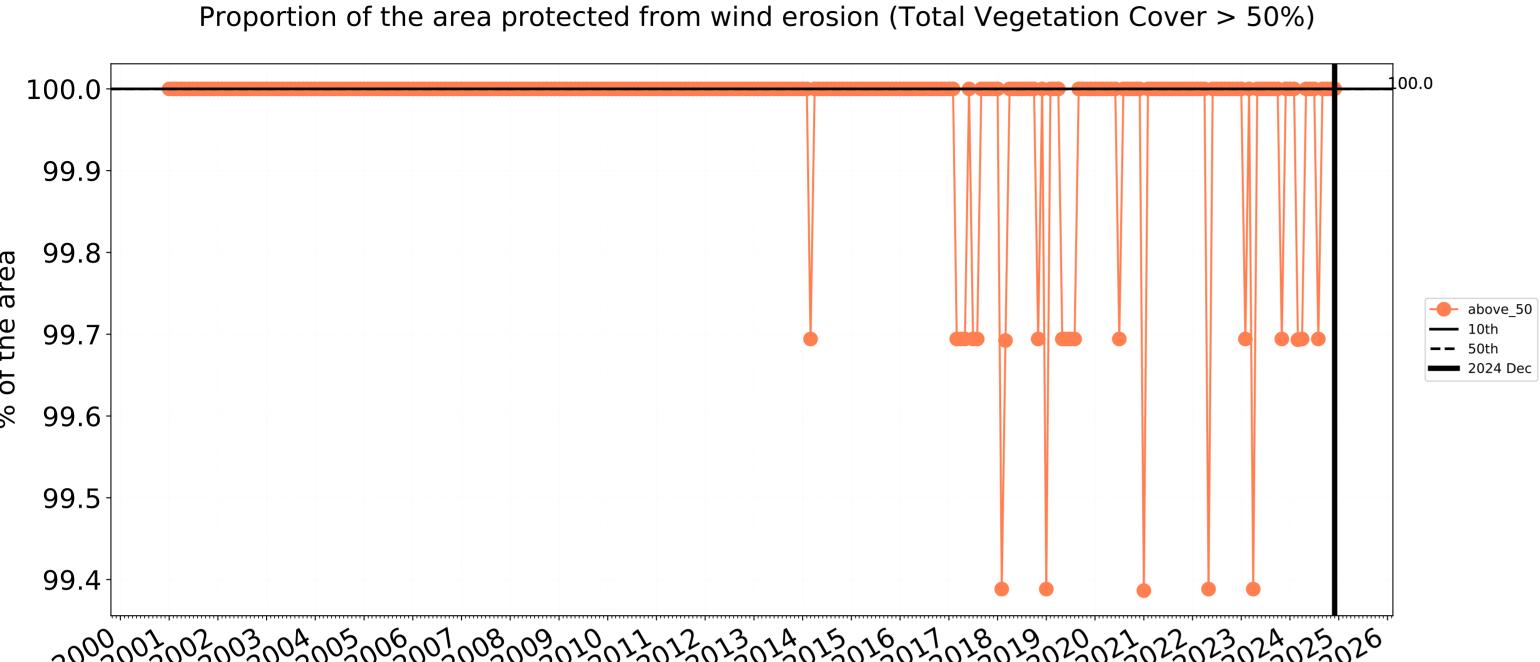


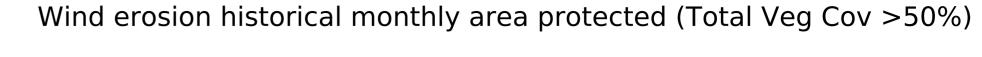


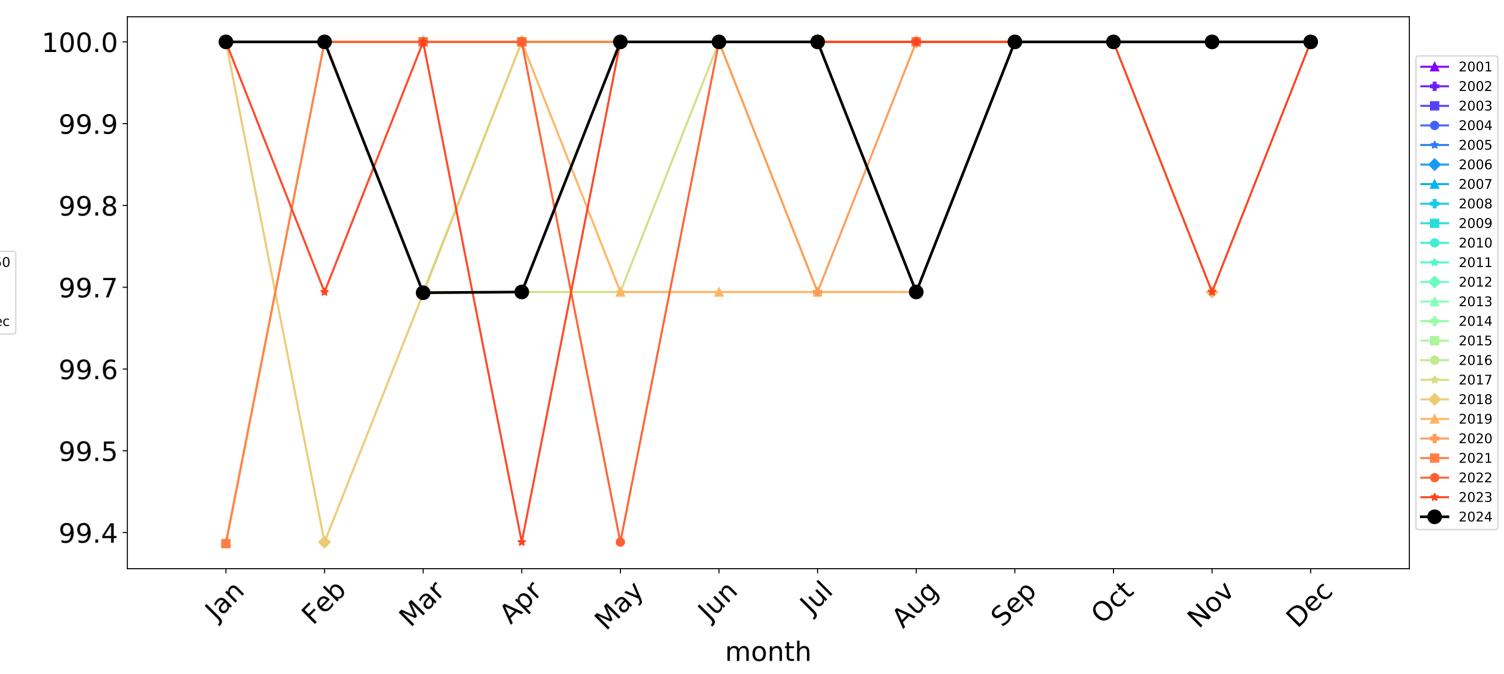


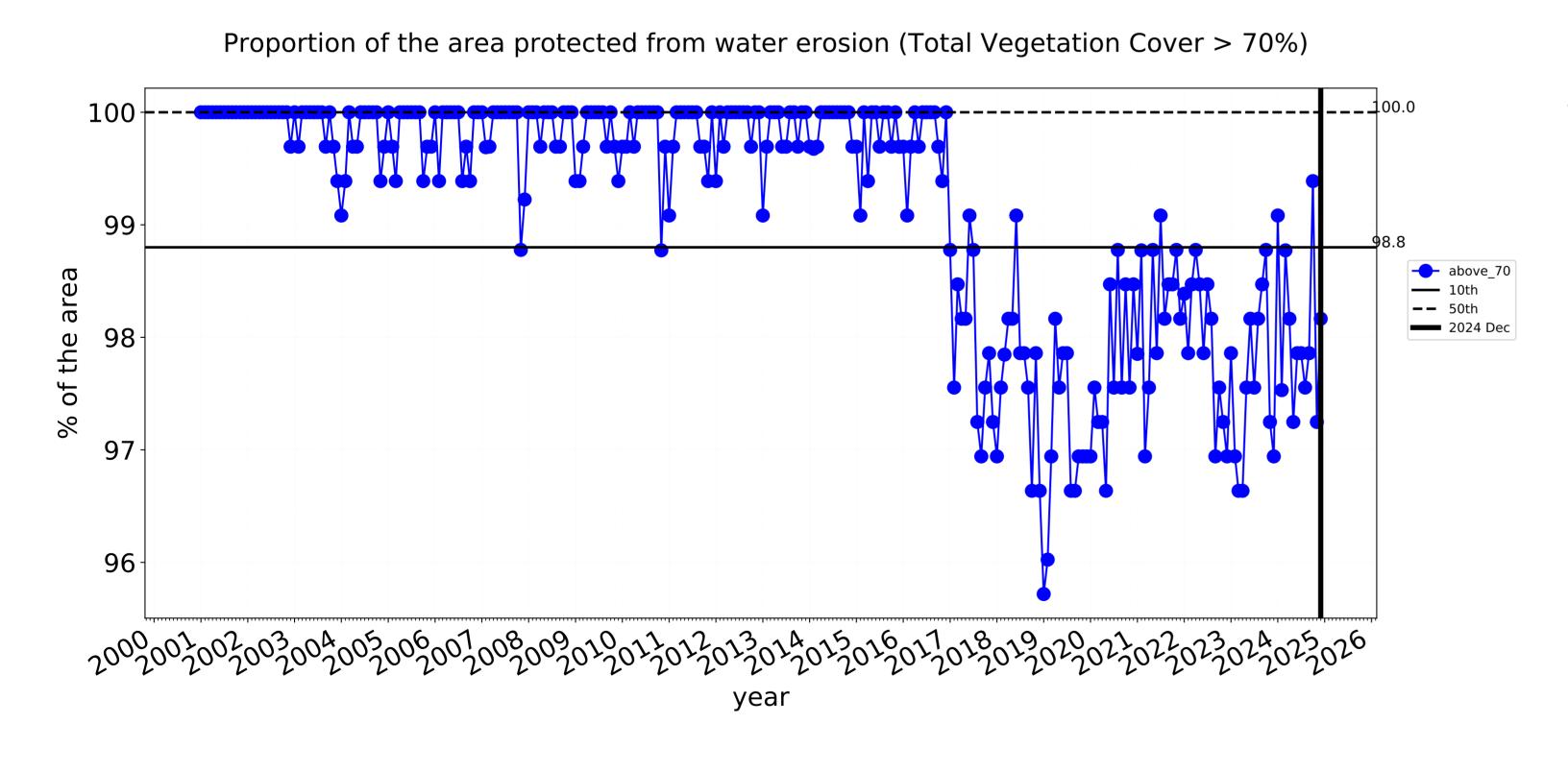


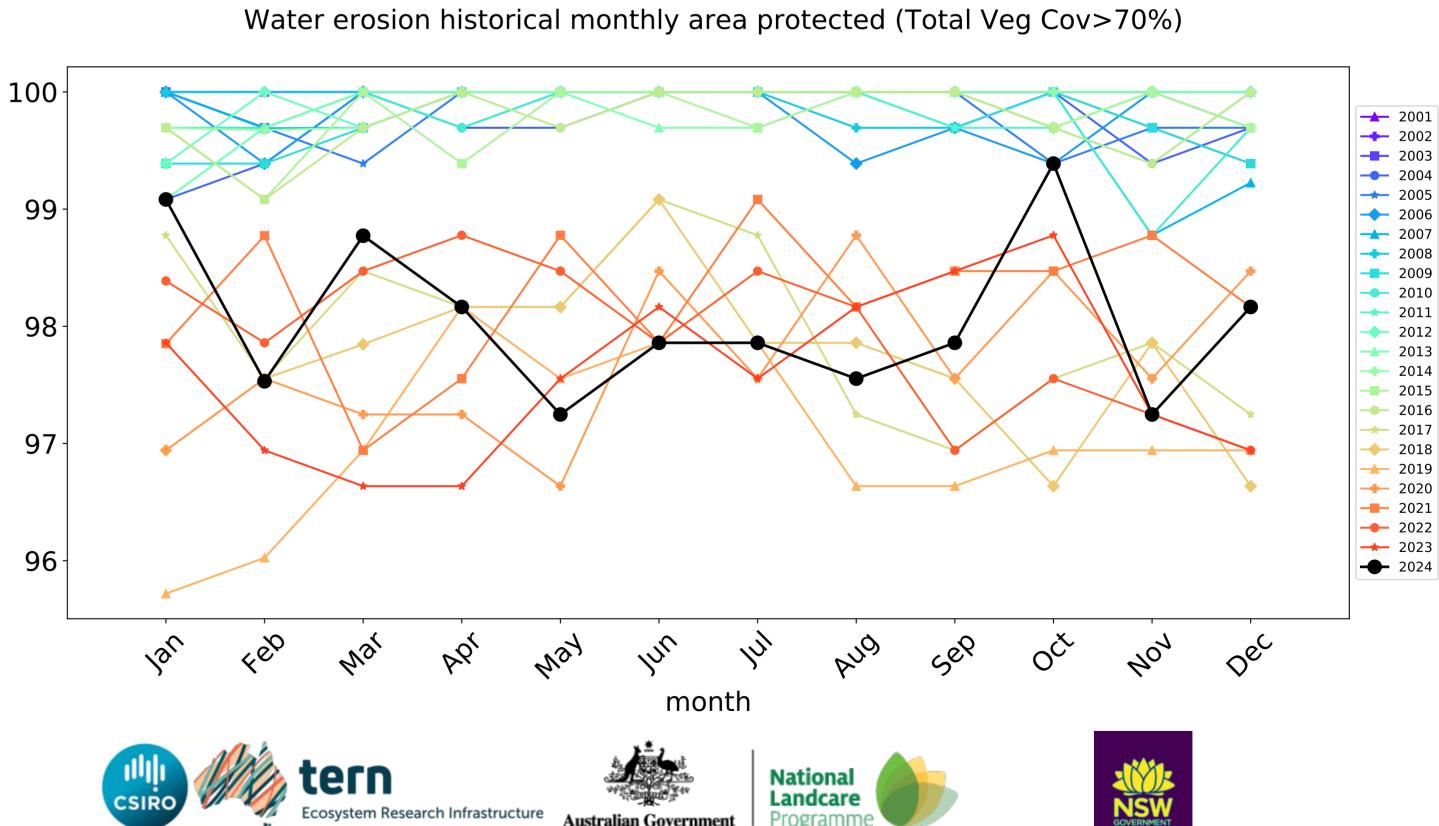


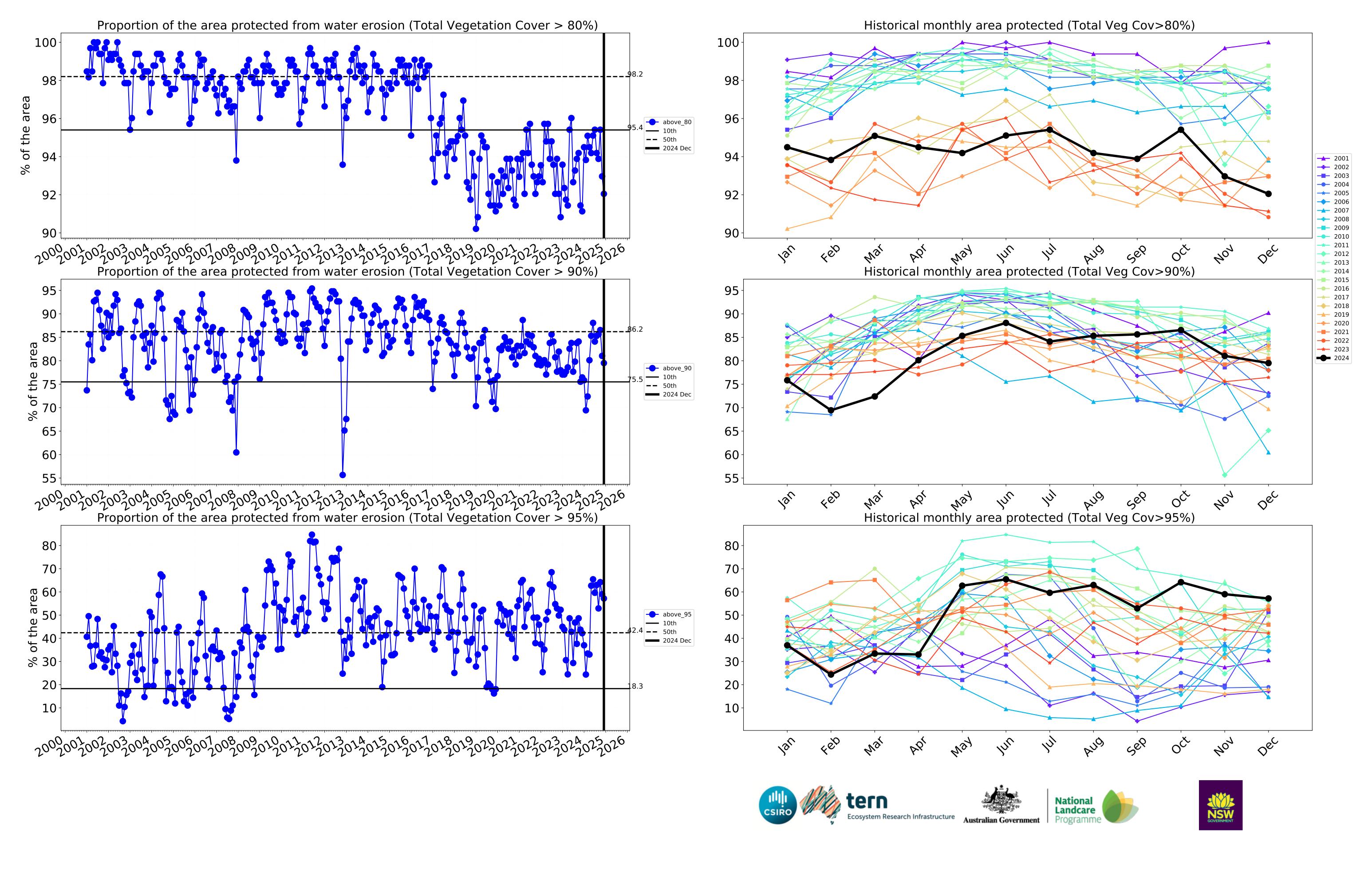




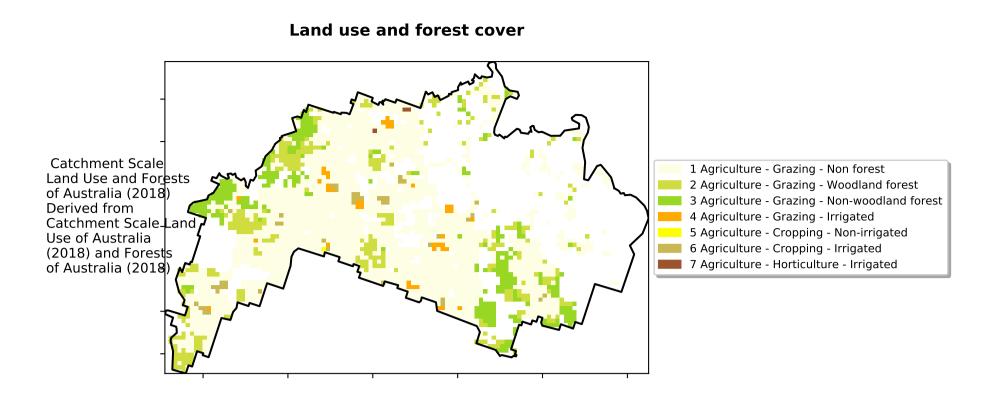








Agriculture

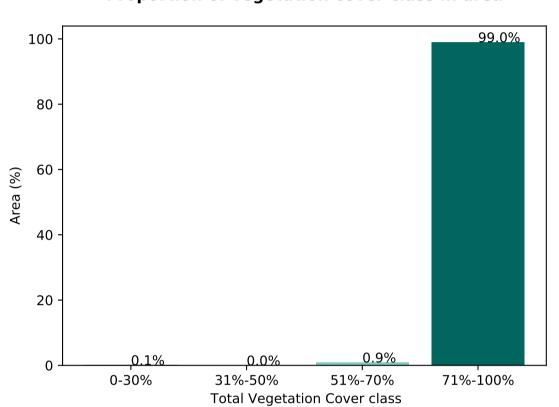


Proportion of each land class in area 73.0% 60 50 30 20 -10 -

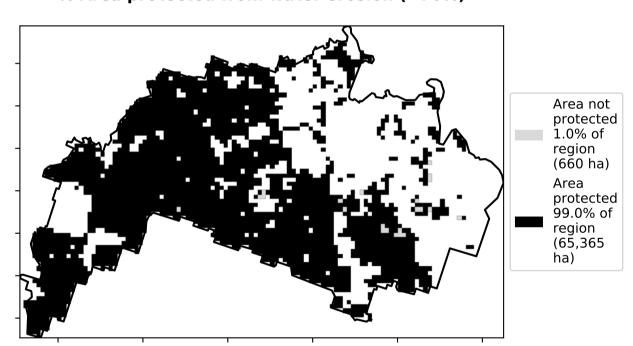
Total Vegetation Cover [%]

Proportion of vegetation cover class in area

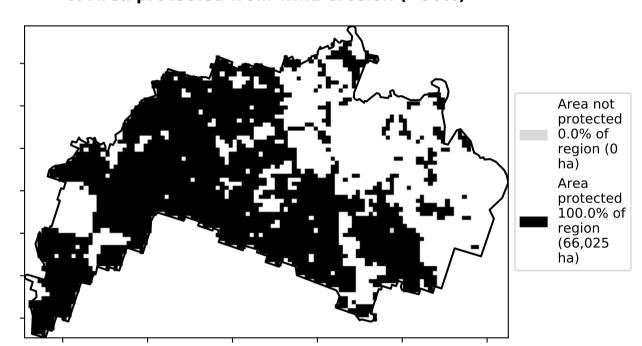
Land use class



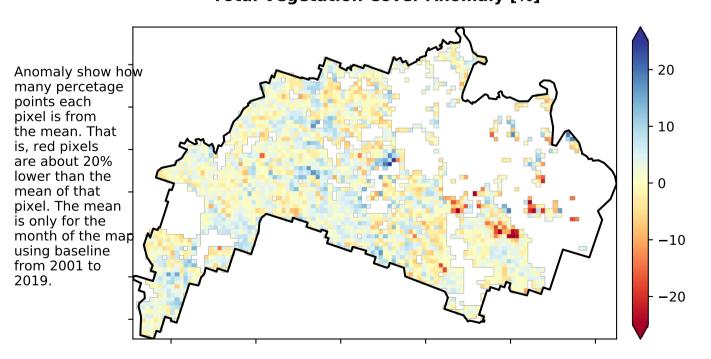
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Total Vegetation Cover Decile [%]

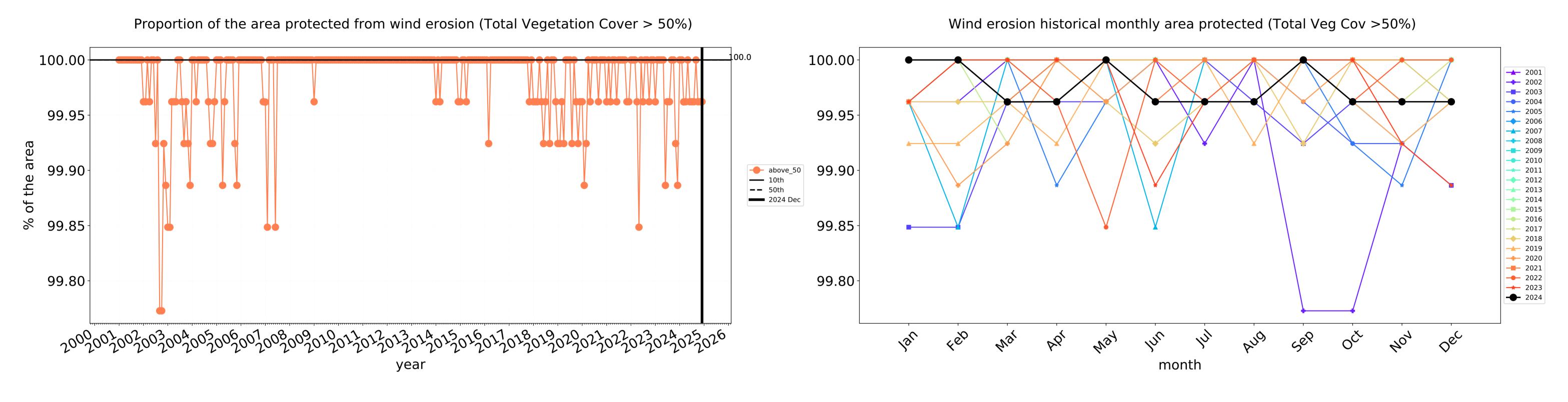
Ecosystem Research Infrastructure

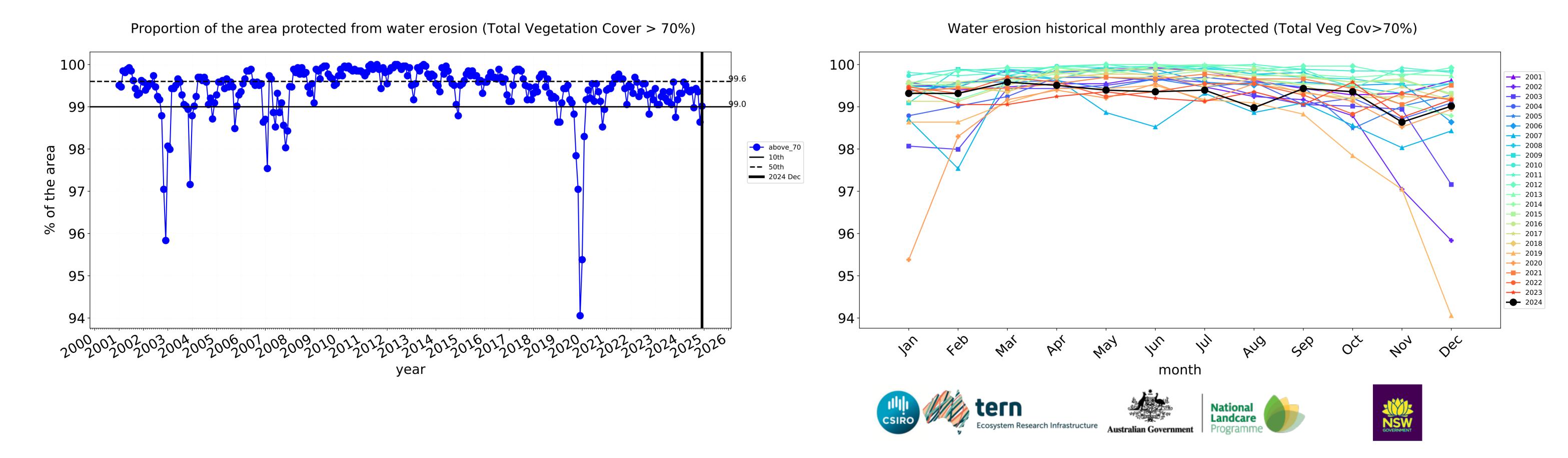


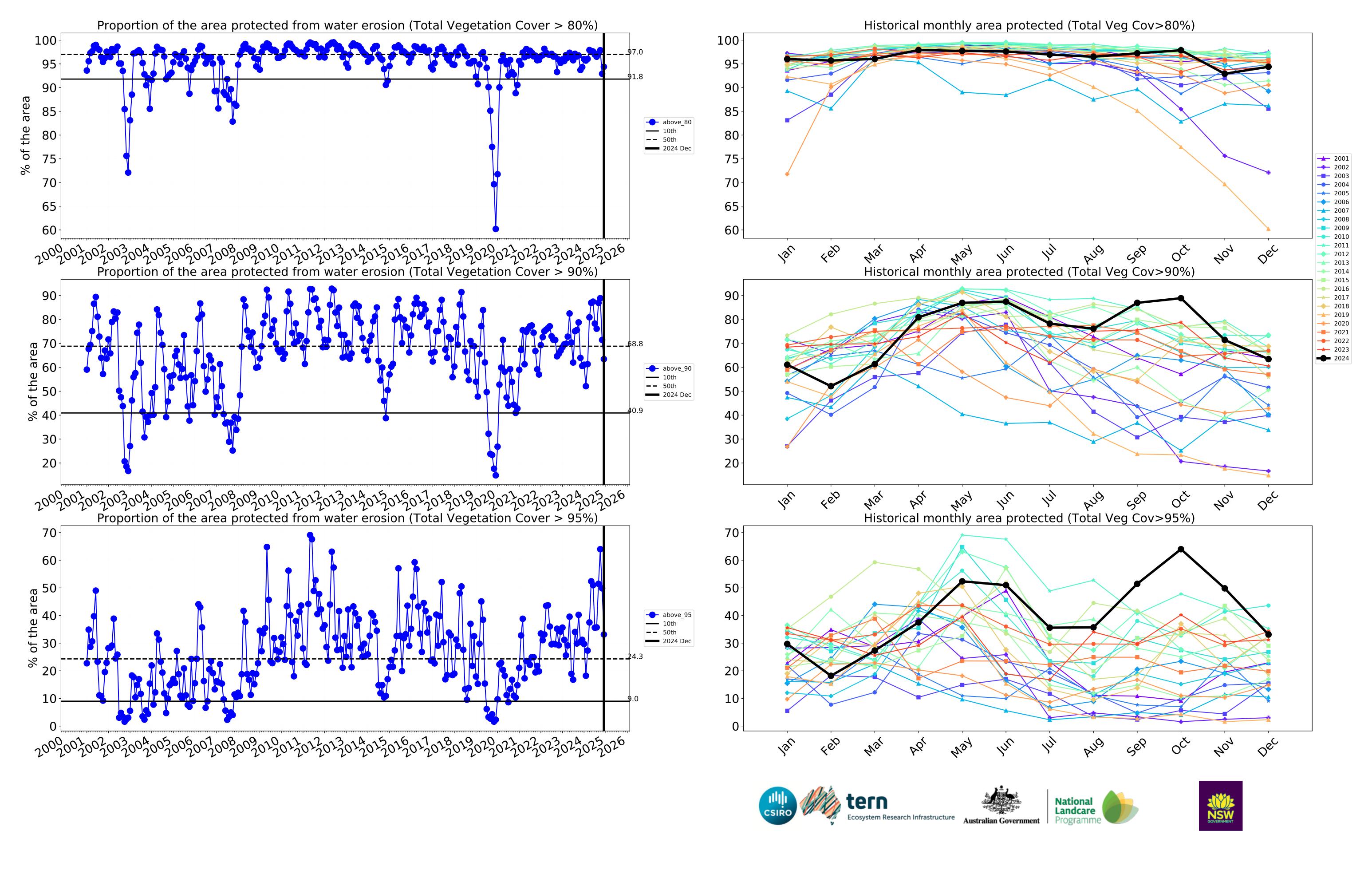




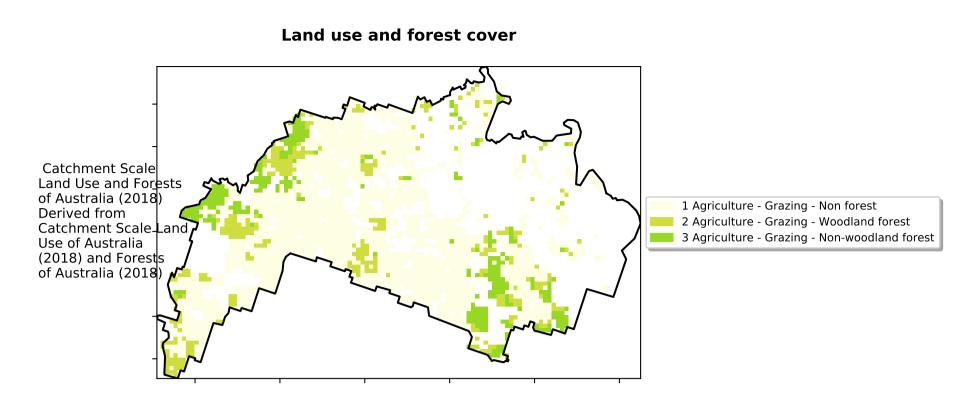
Agriculture timeseries



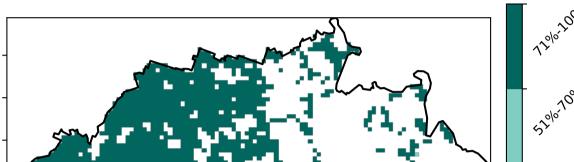




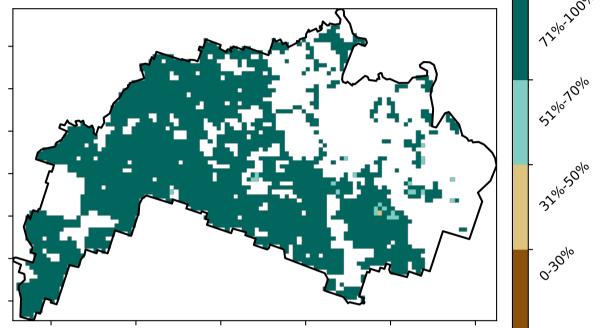
Grazing



Proportion of each land class in area 75.6% 70 60 · 50 Area (%) 40 30 20 -13.1% 11.3% 10 ·



Total Vegetation Cover [%]



Proportion of vegetation cover class in area

1.0

Land use class

1.5

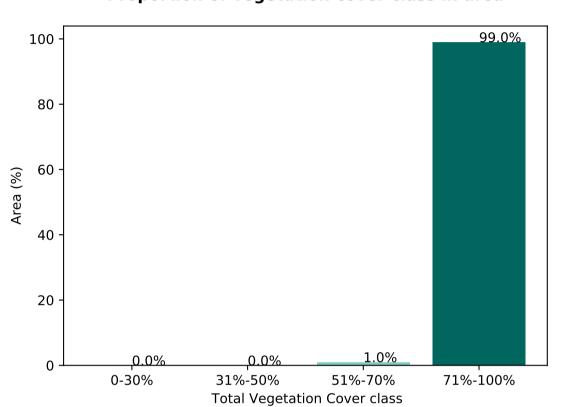
2.0

2.5

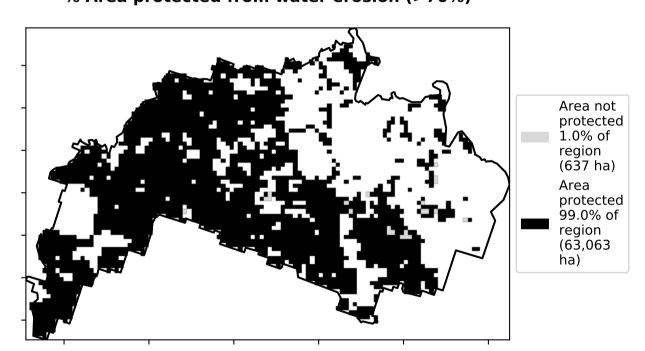
0.5

0.0

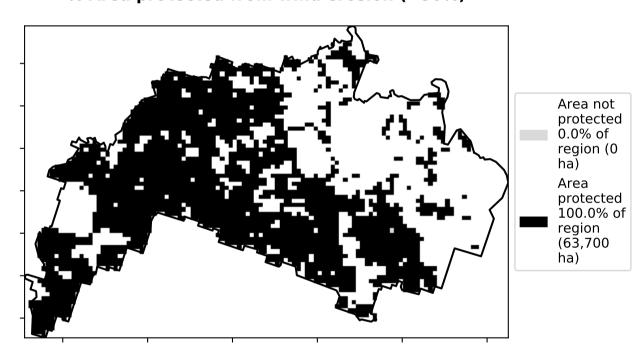
-0.5



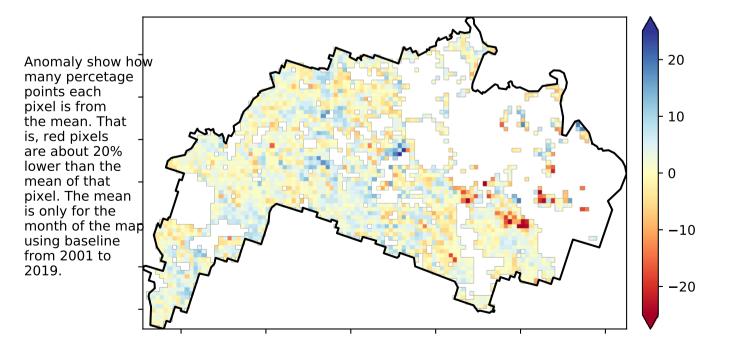
% Area protected from water erosion (>70%)



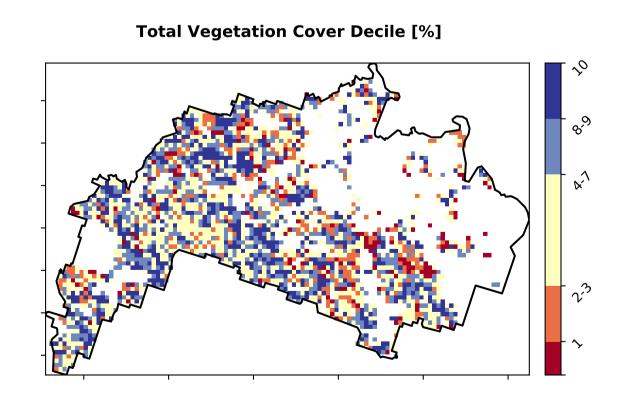
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.





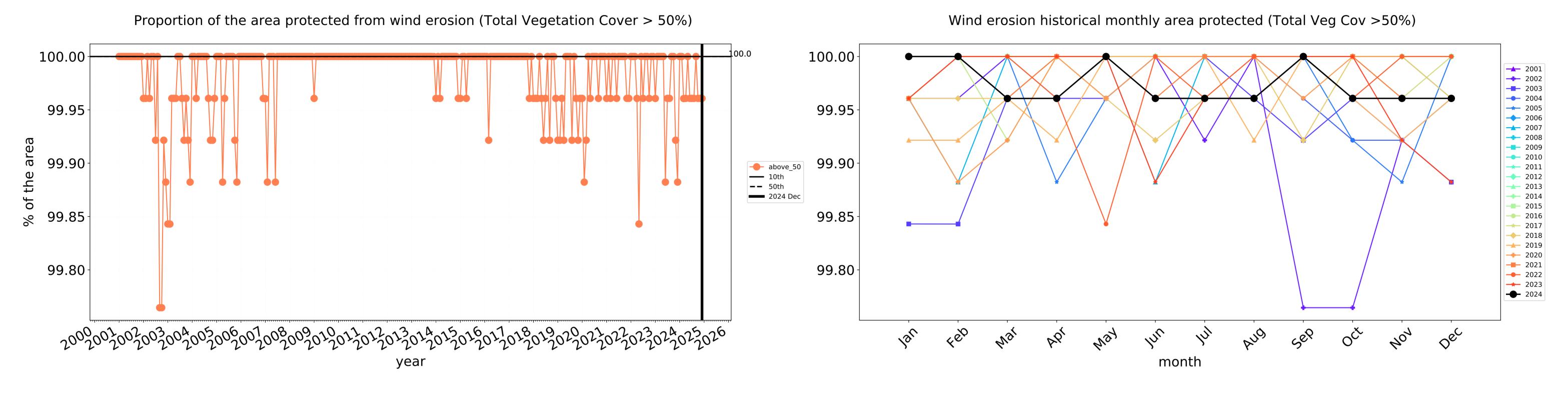


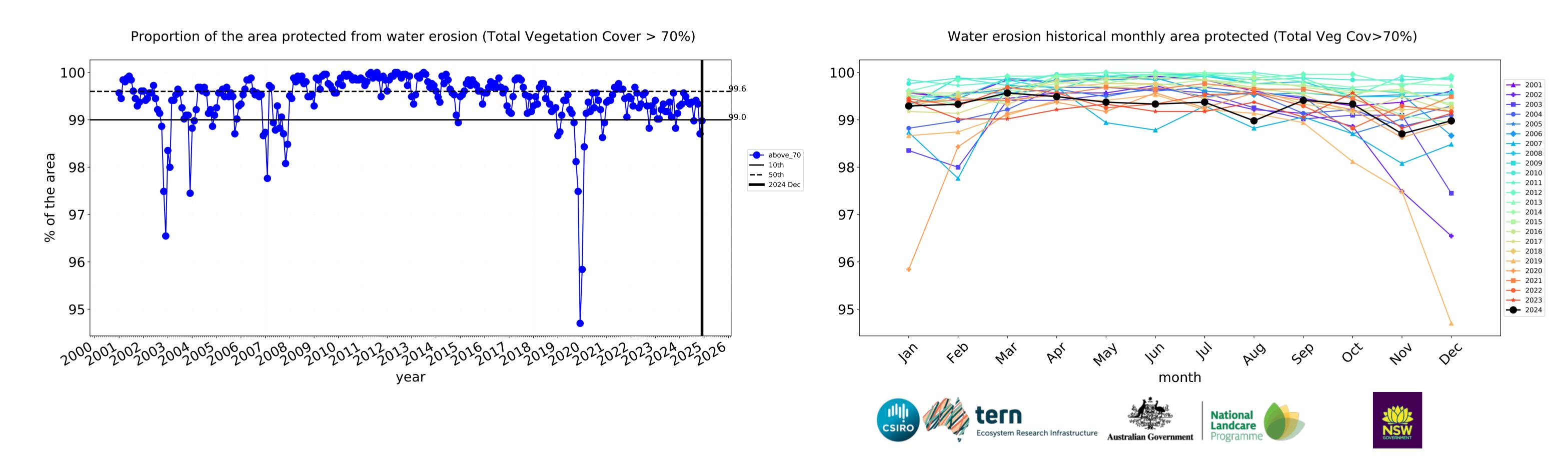


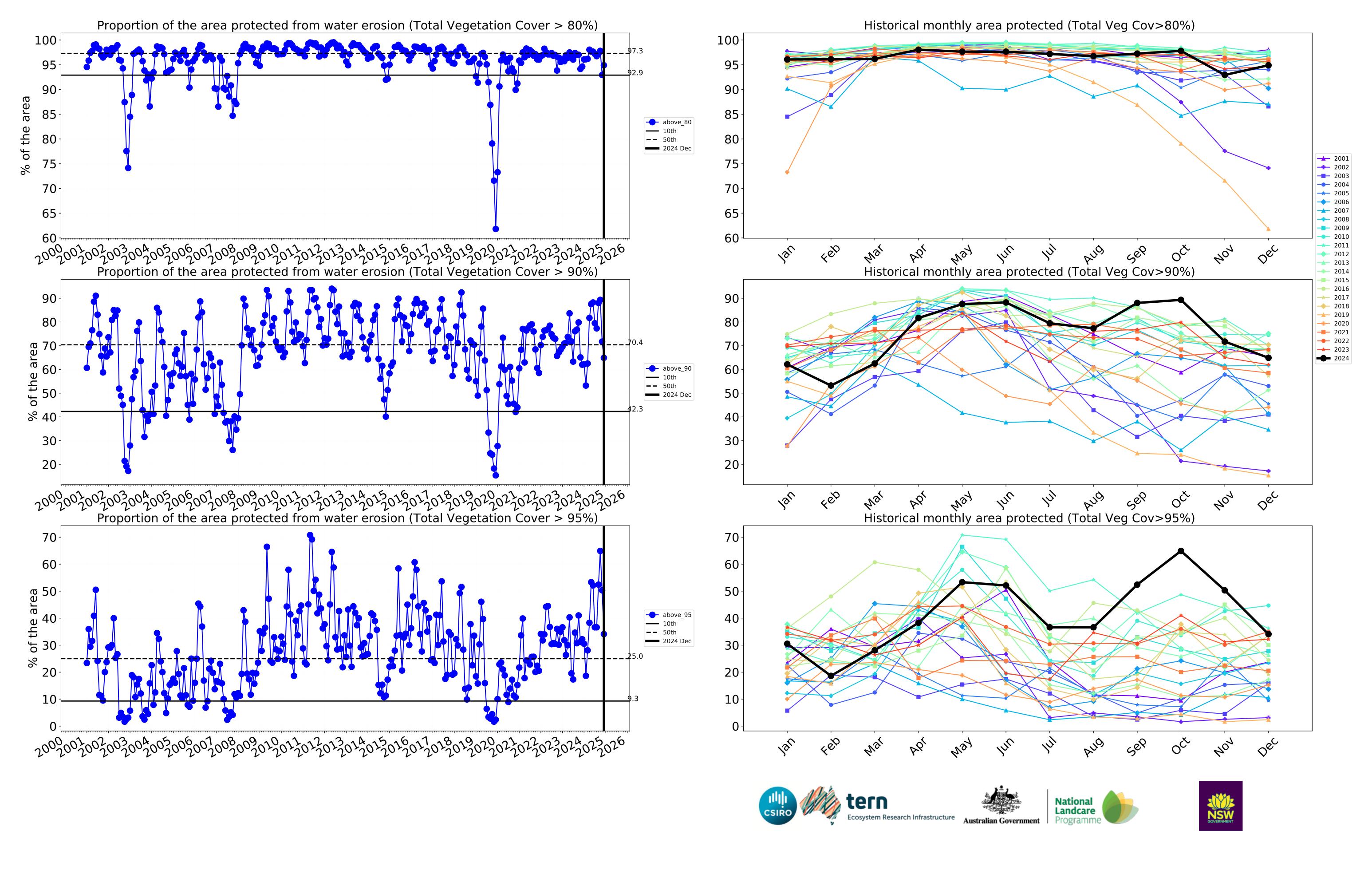




Grazing timeseries







Grazing non forest

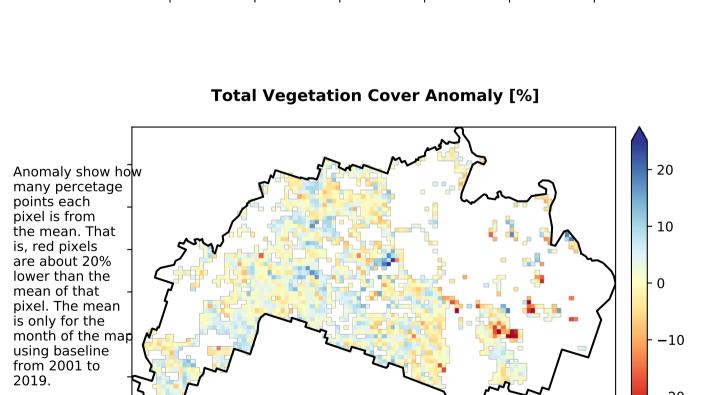
Land use and forest cover 1 Agriculture - Grazing - Non forest

Total Vegetation Cover [%]

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

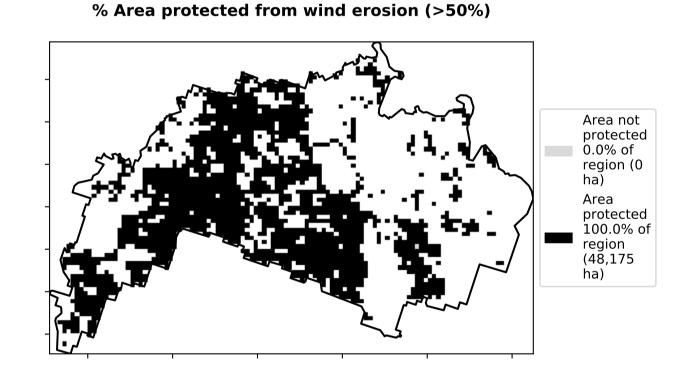
Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

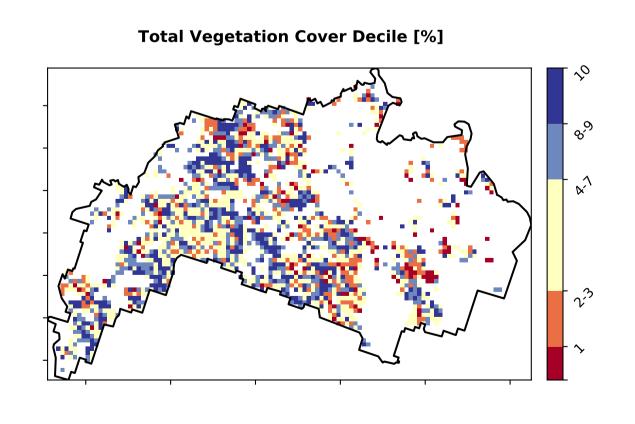
% Area protected from water erosion (>70%) Area not protected 1.2% of region (578 ha) Area protected 98.8% of region (47,597 ha)



Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area 98.8% 100 80 Area (%) 60 20 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class







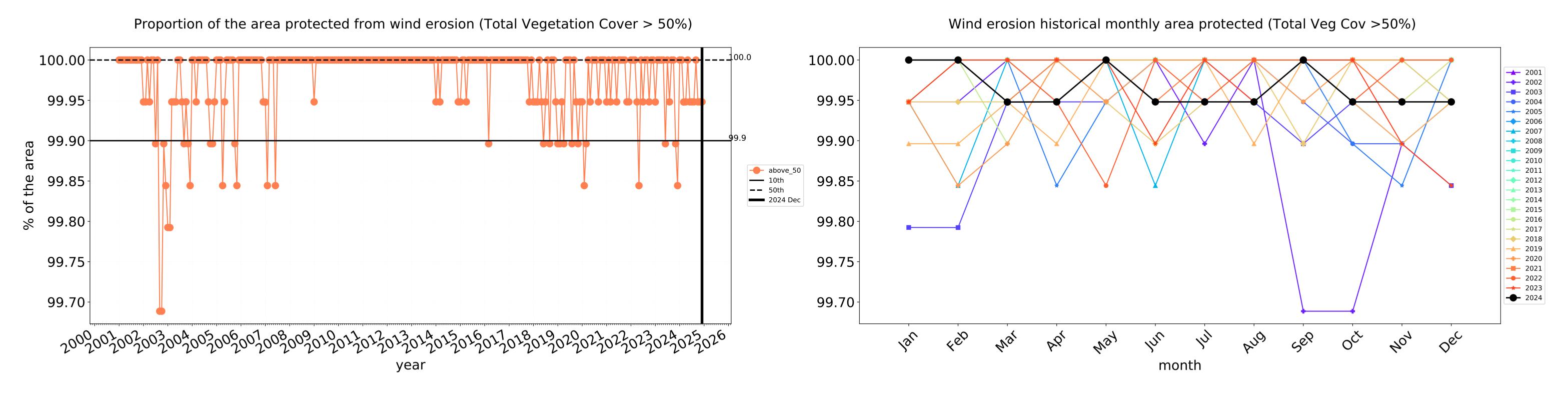


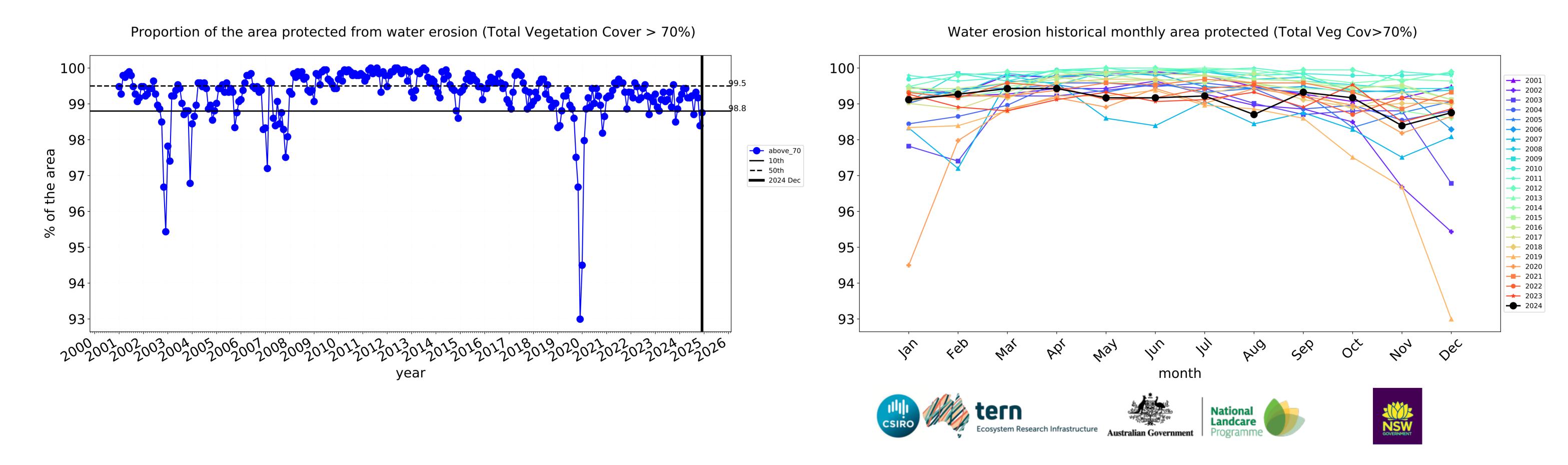


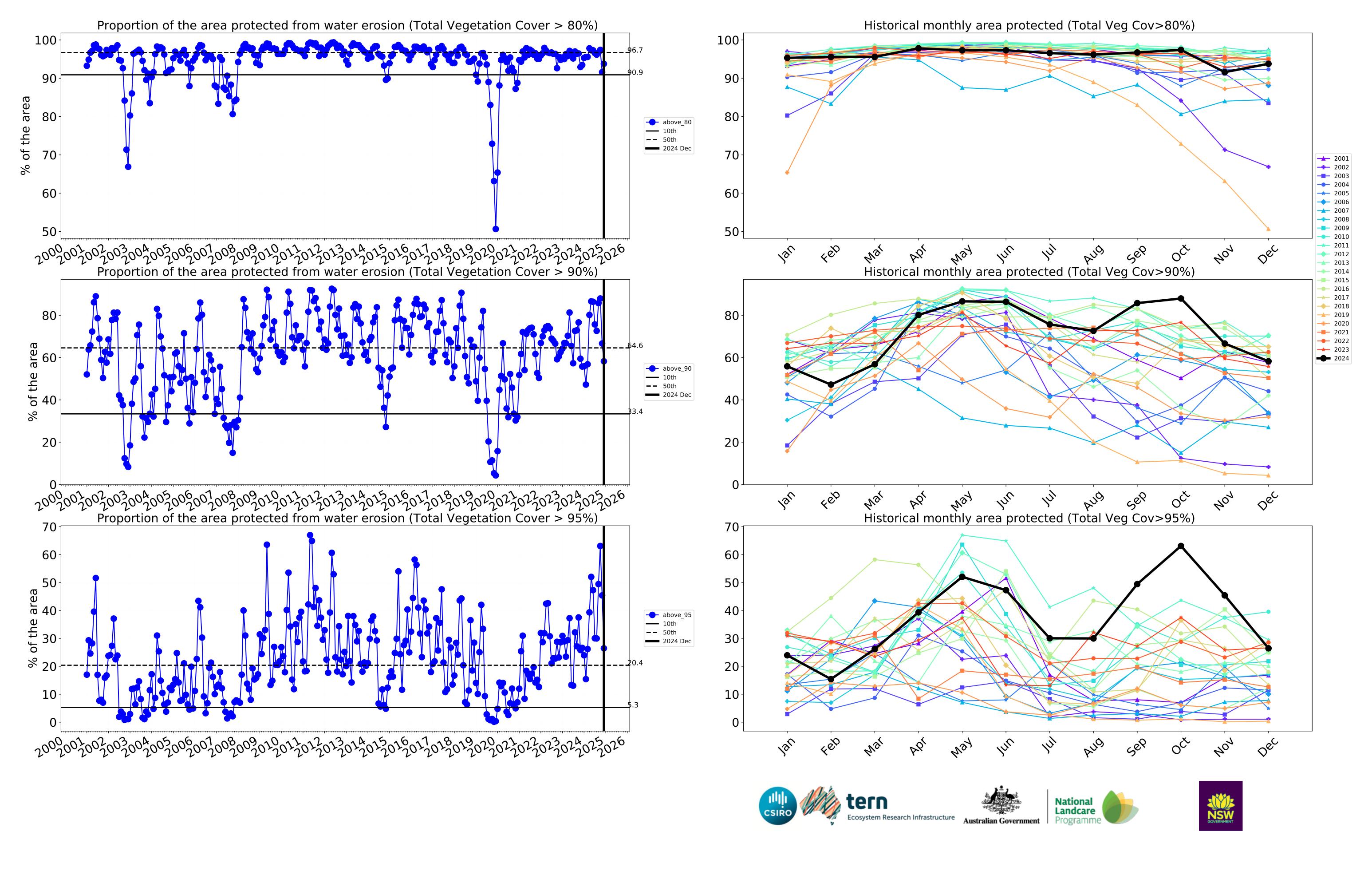


-20

Grazing non forest timeseries





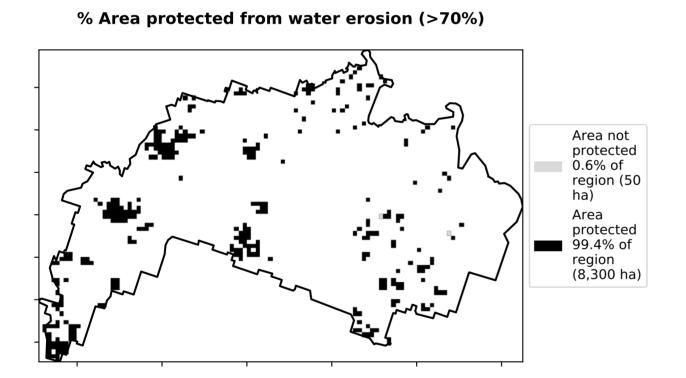


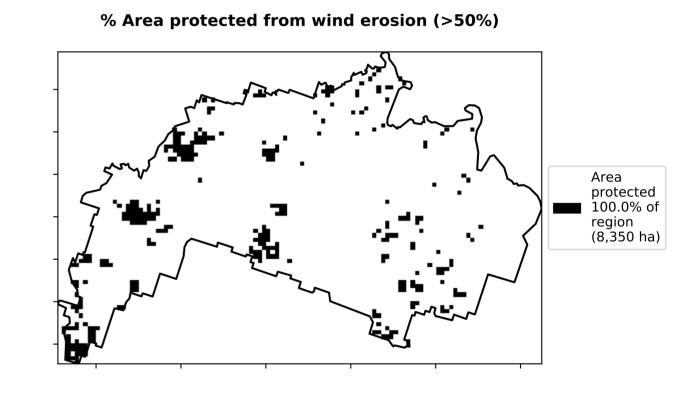
Grazing Woodland forest

Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

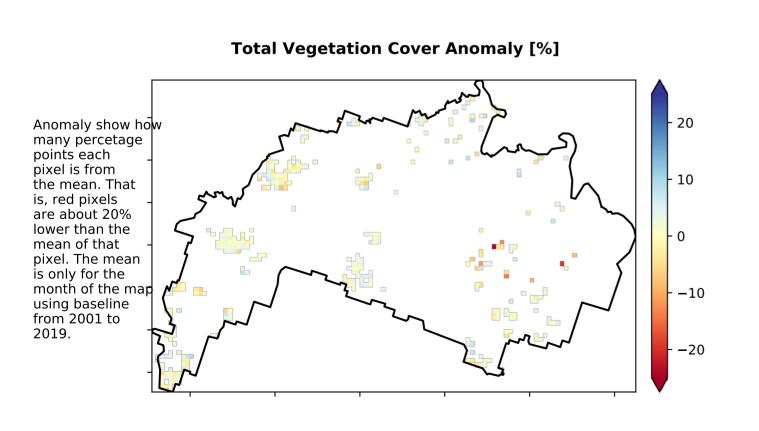
Total Vegetation Cover [%]

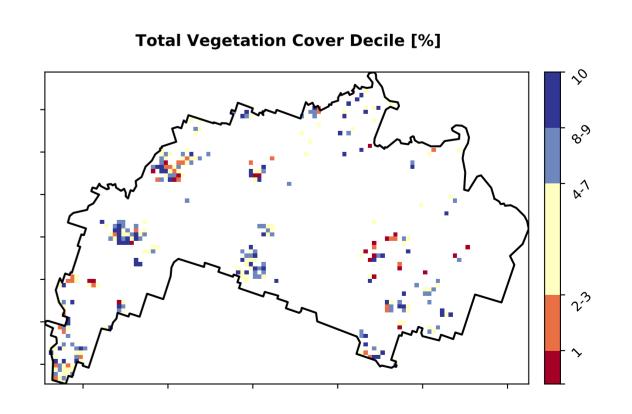
99.4% 100 80 Area (%) 40 20 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**





Proportion of vegetation cover class in area





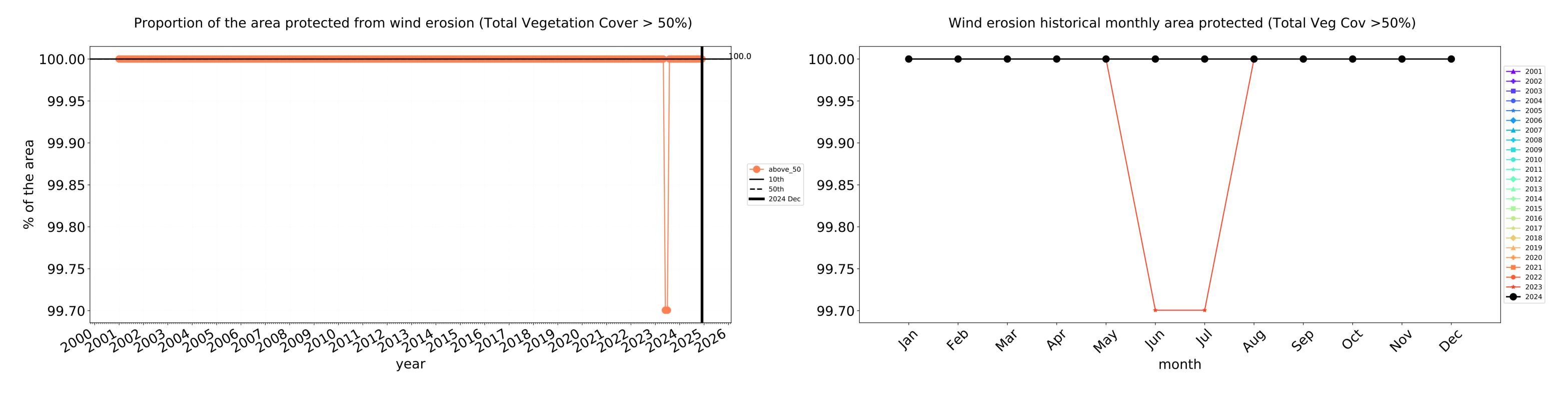


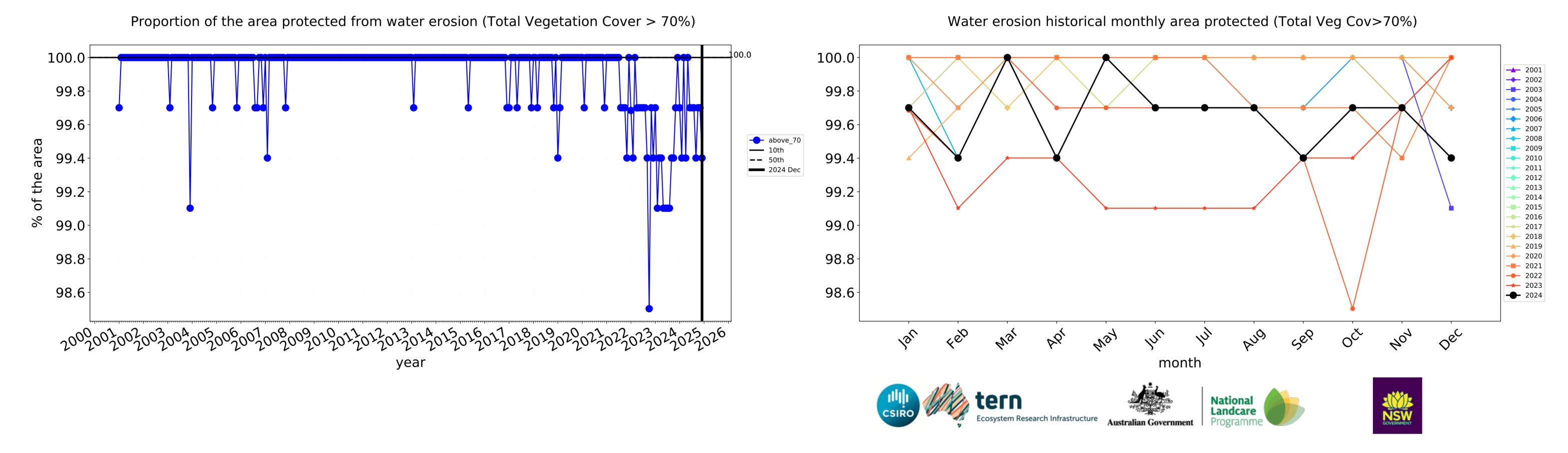


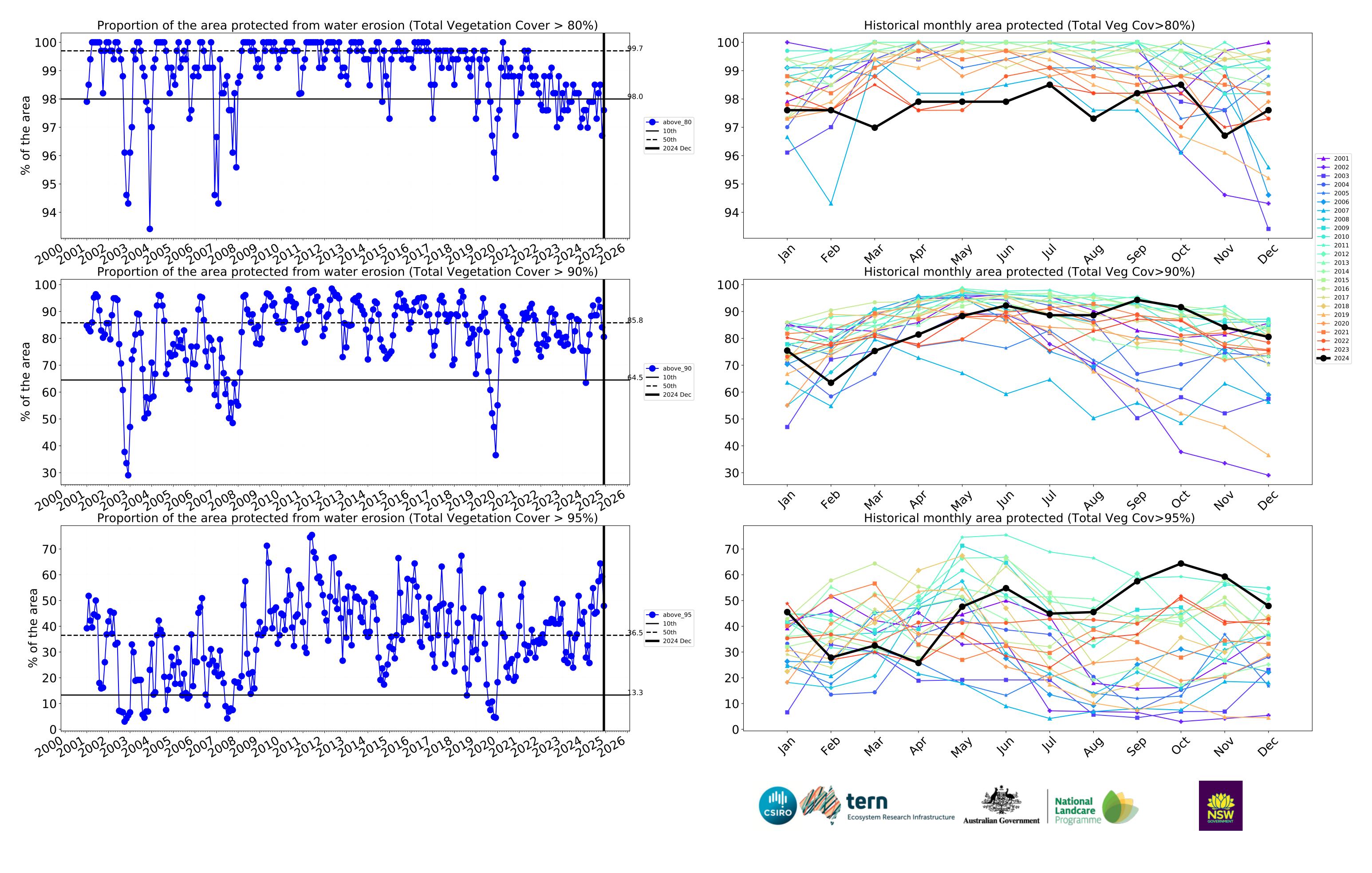




Grazing Woodland forest timeseries







Grazing - Forest (non woodland)

Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Non-woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

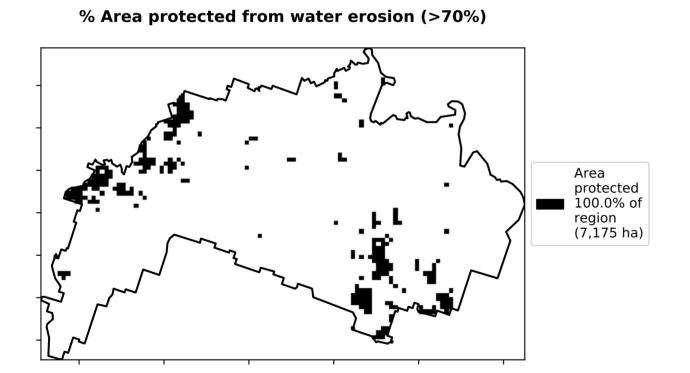
Total Vegetation Cover [%]

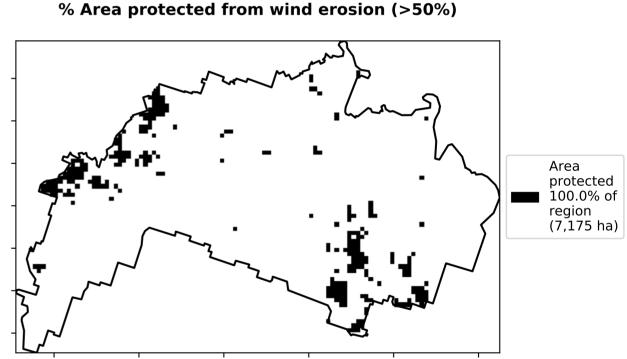
80 Area (%) 60 40 20 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class** % Area protected from wind erosion (>50%)

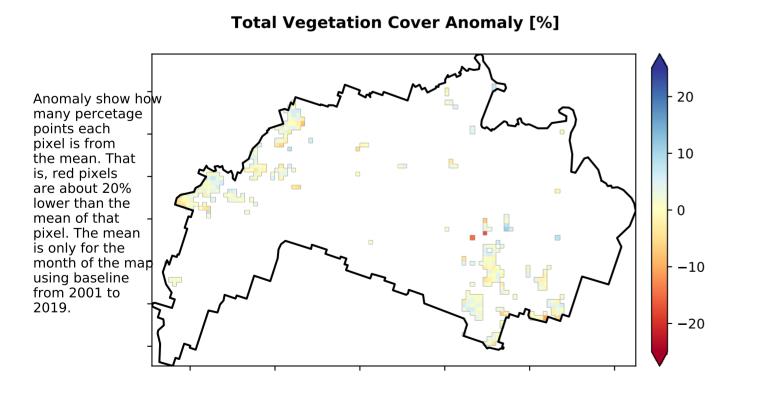
100

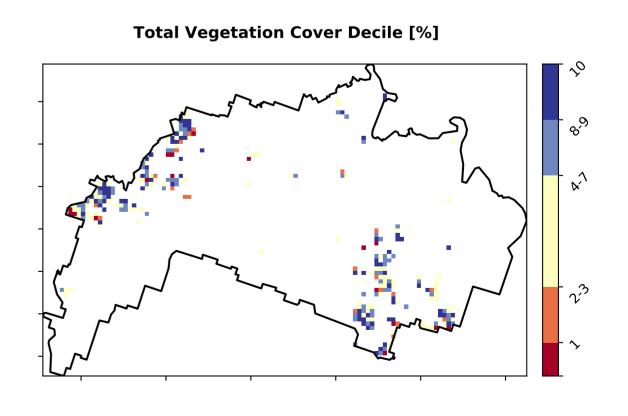
Proportion of vegetation cover class in area

100.0%







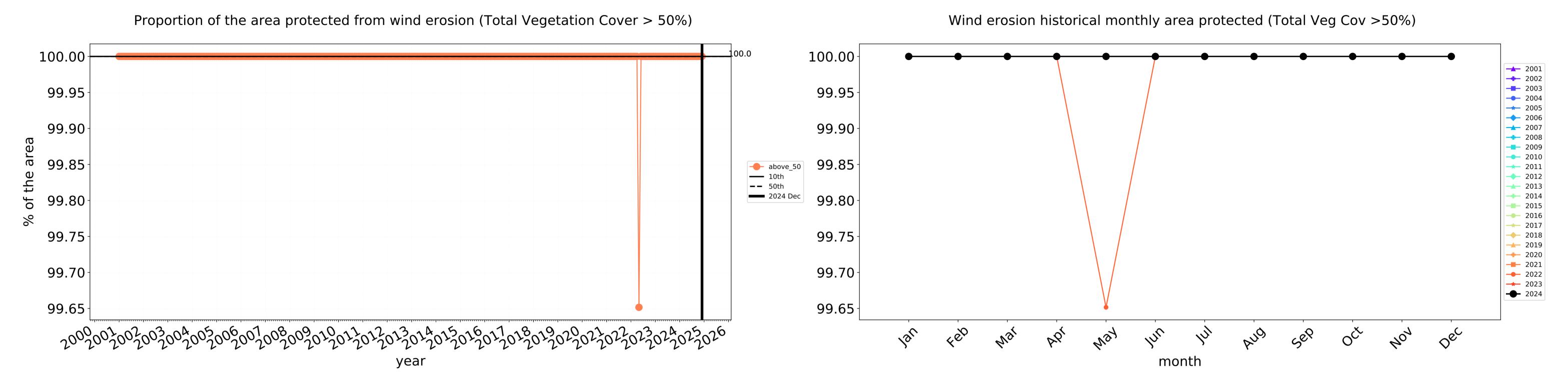


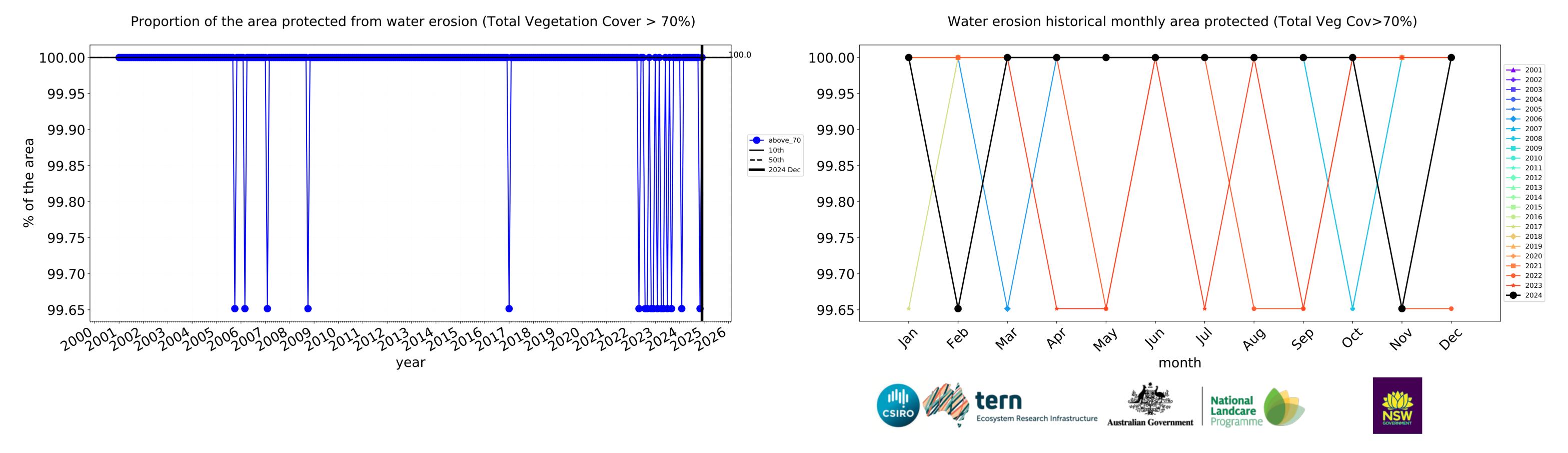


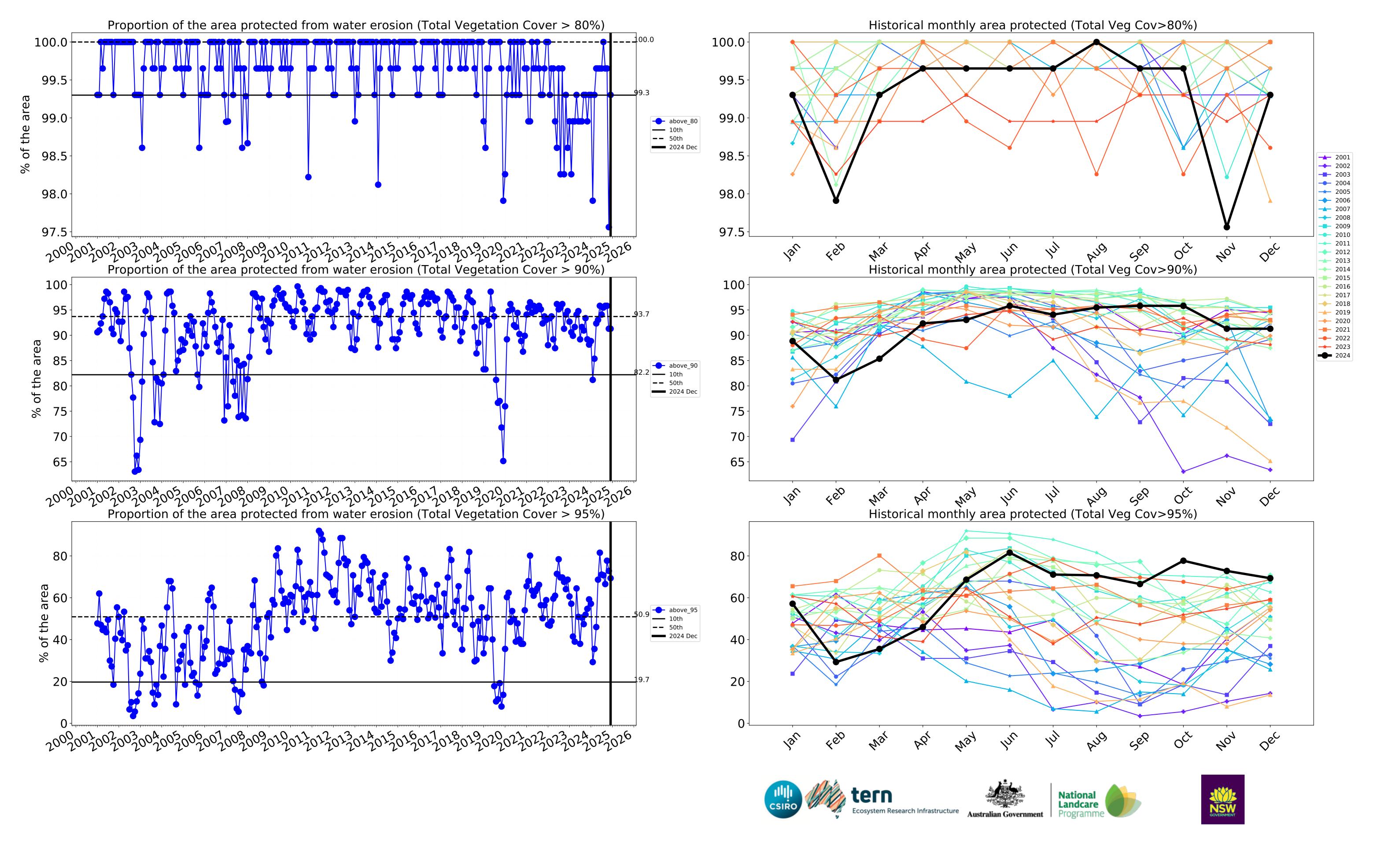




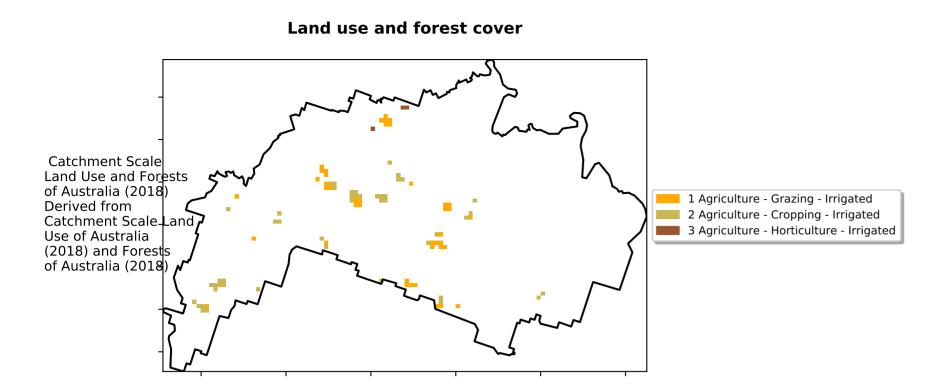




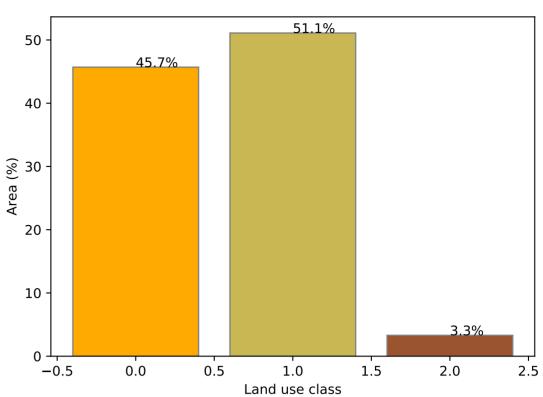




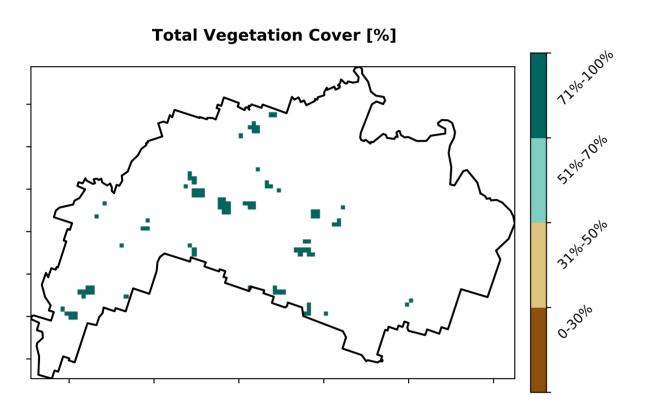
Irrigation



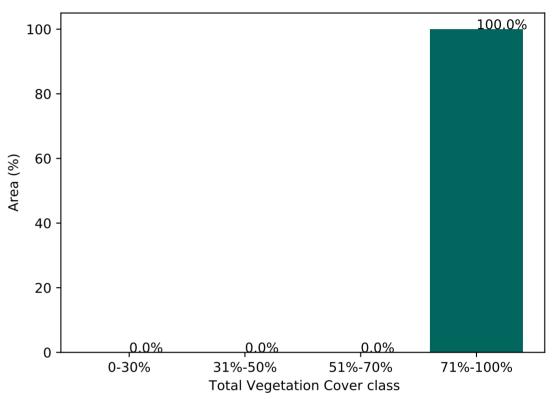
50 45.7% 40 Area (%) 0 20 10 -0.5 0.5 0.0



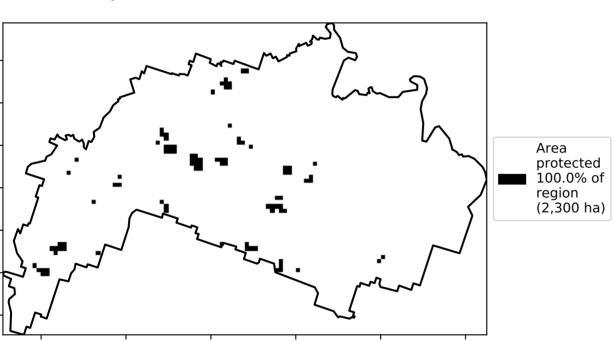
Proportion of each land class in area



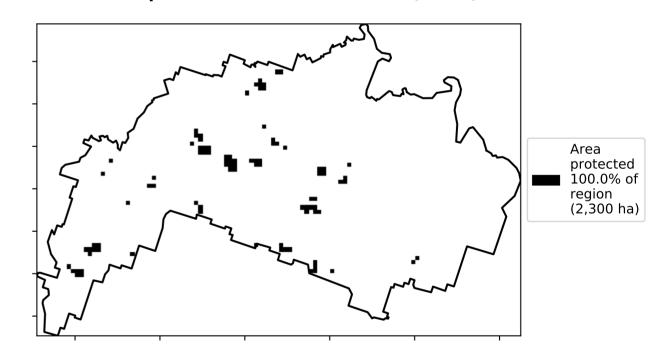
Proportion of vegetation cover class in area

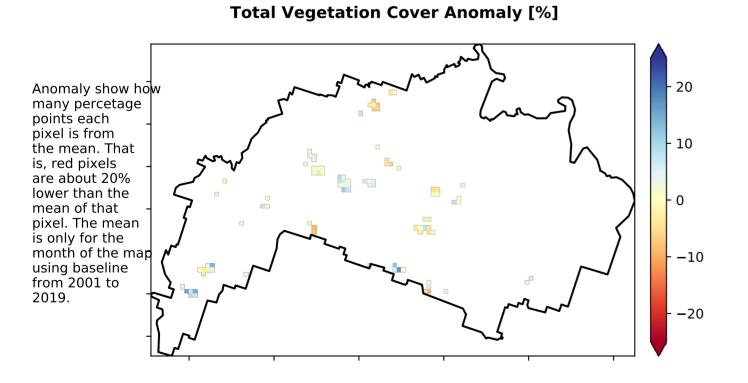


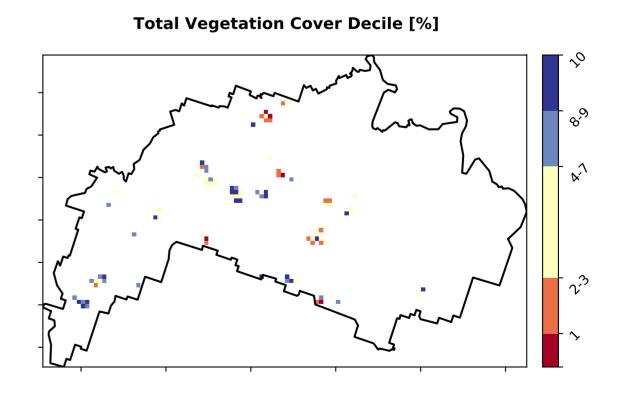




% Area protected from wind erosion (>50%)







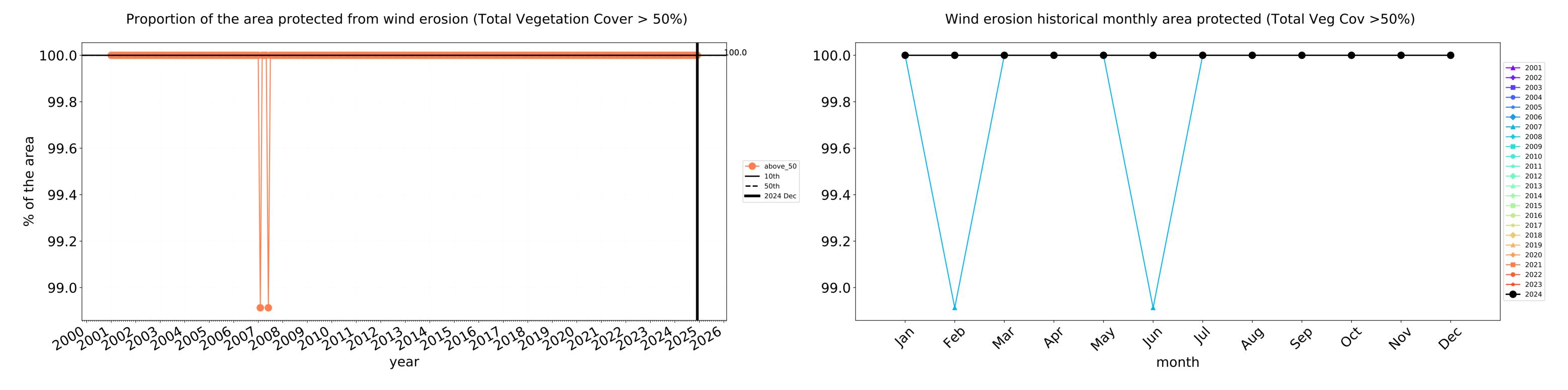


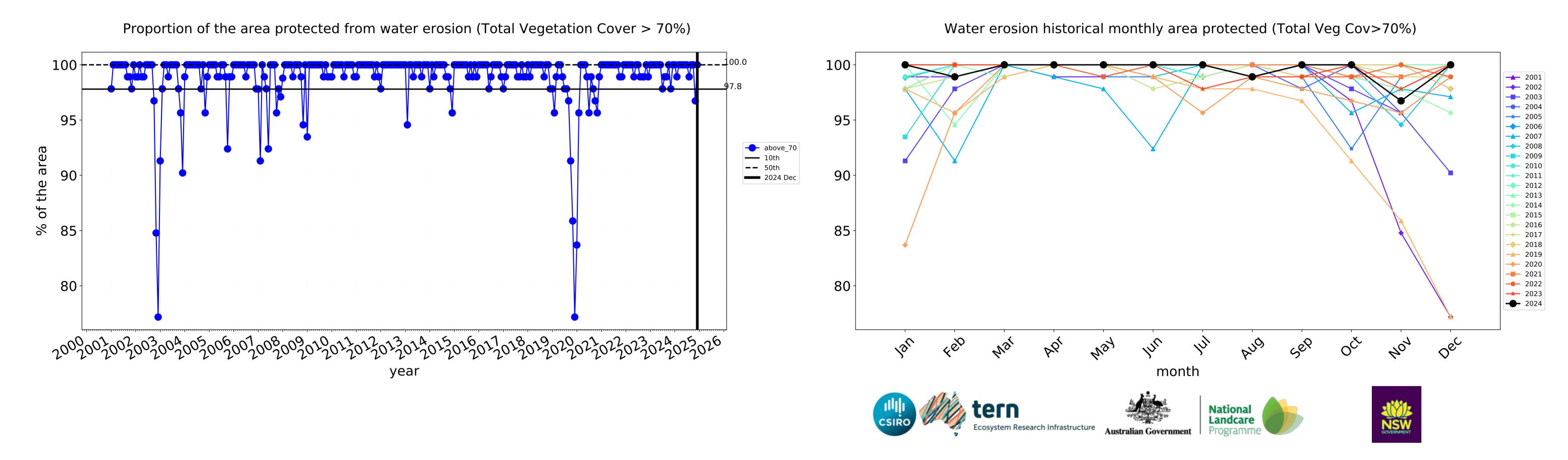


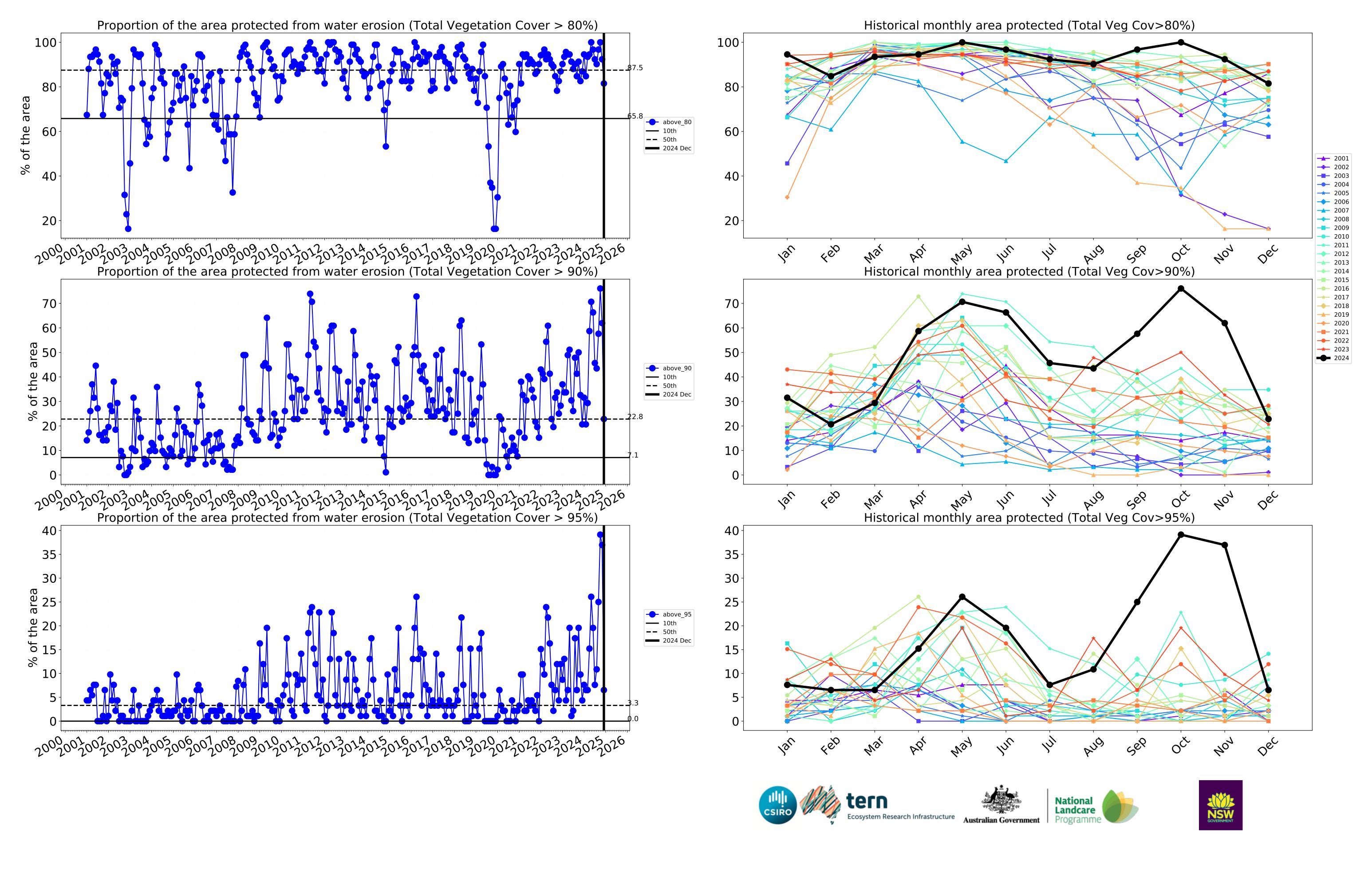




Irrigation timeseries





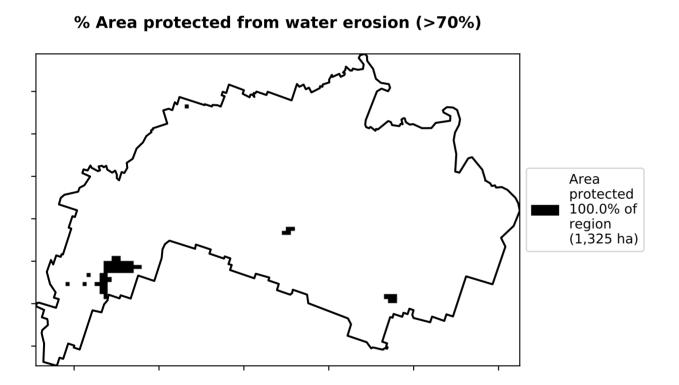


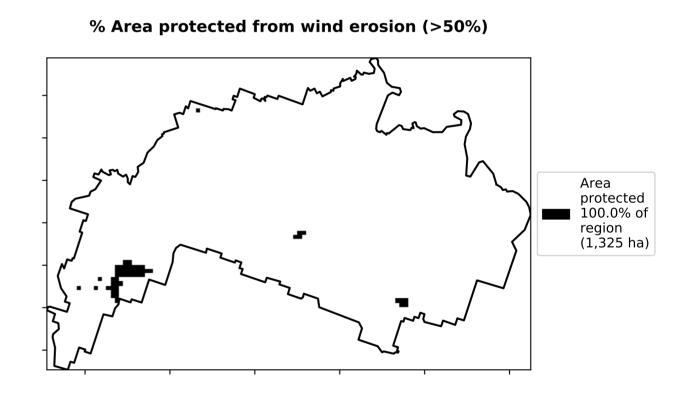
Production native forests and plantation forests

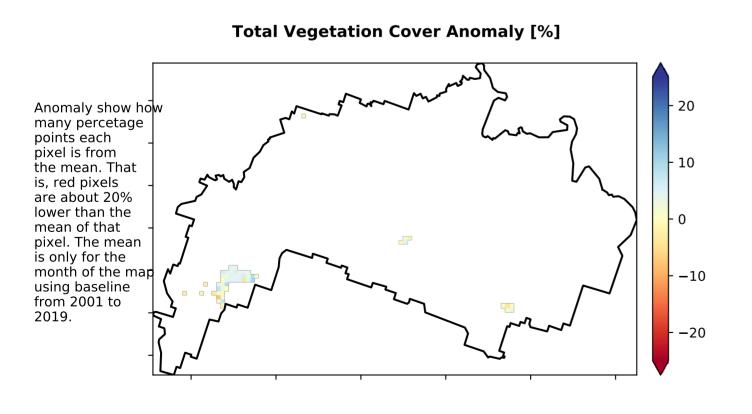
Catchment Scale Land Use and Forests of Australia (2018) Use of Australia (2018) Australia (2018) Australia (2018) Australia (2018)

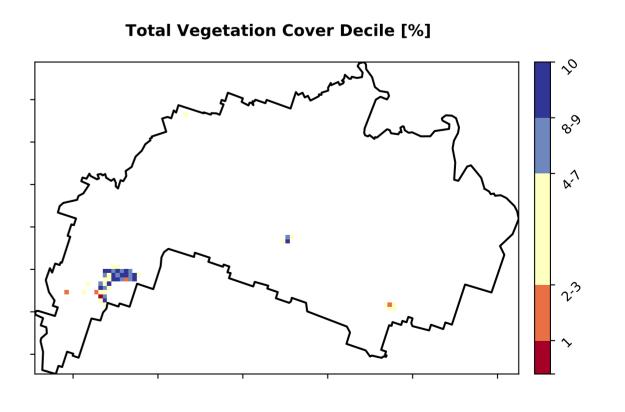
Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 100.0% 80 - 20 - 20 - 20 - 0.0% 0-30% 31%-50% Total Vegetation Cover class









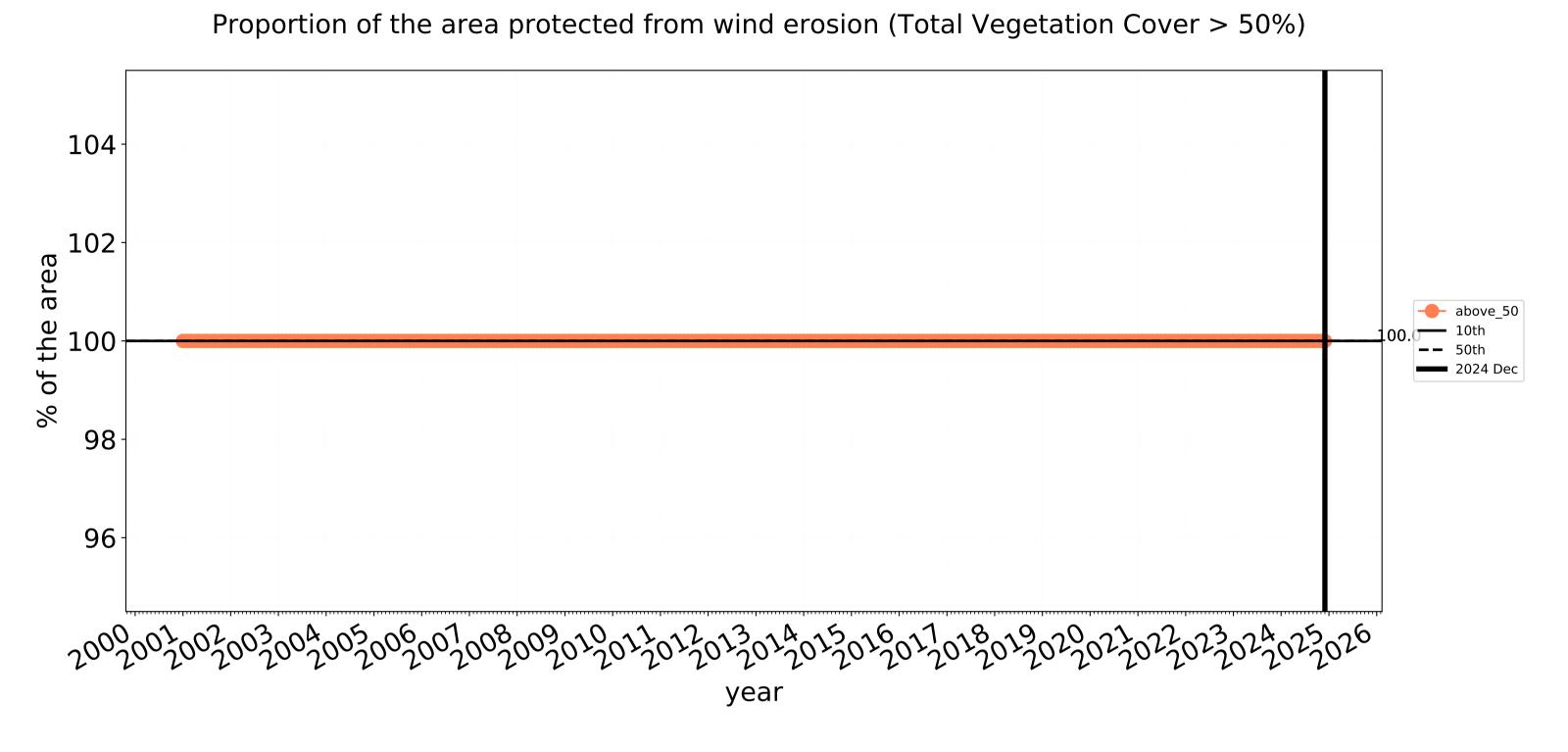




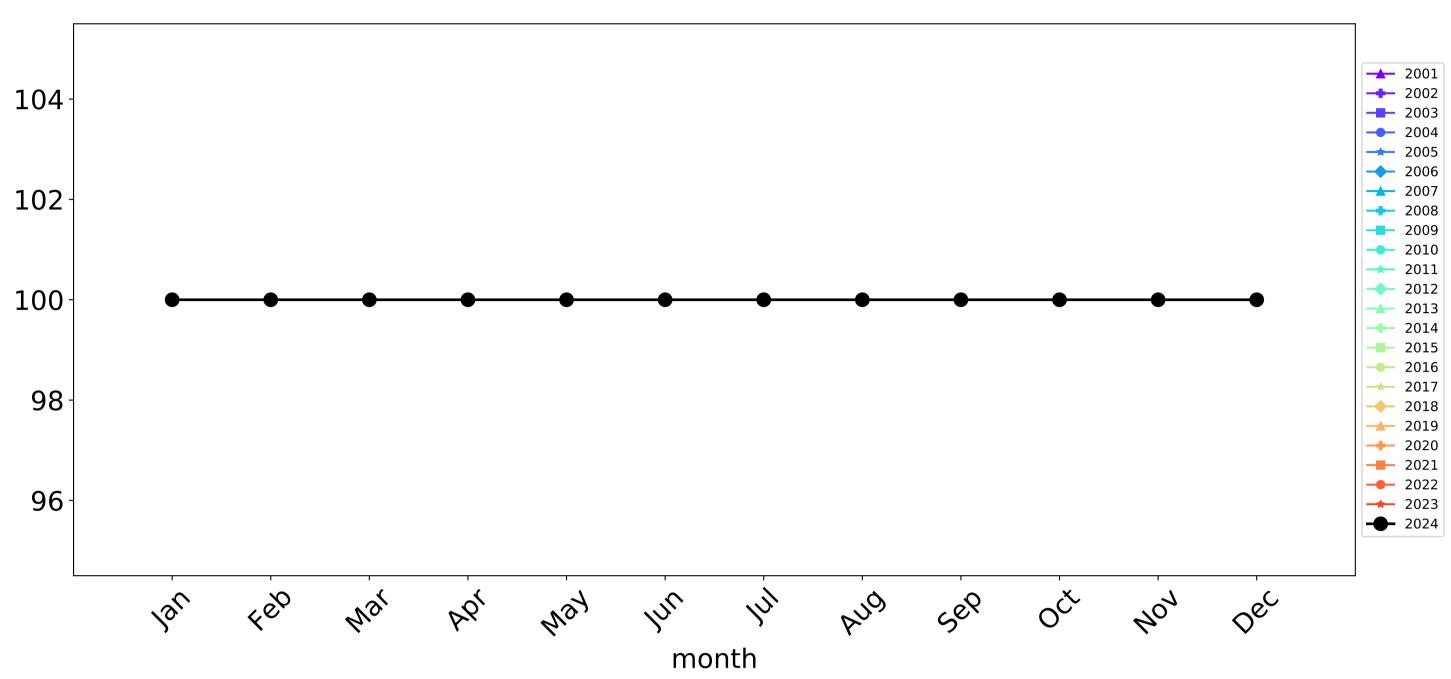


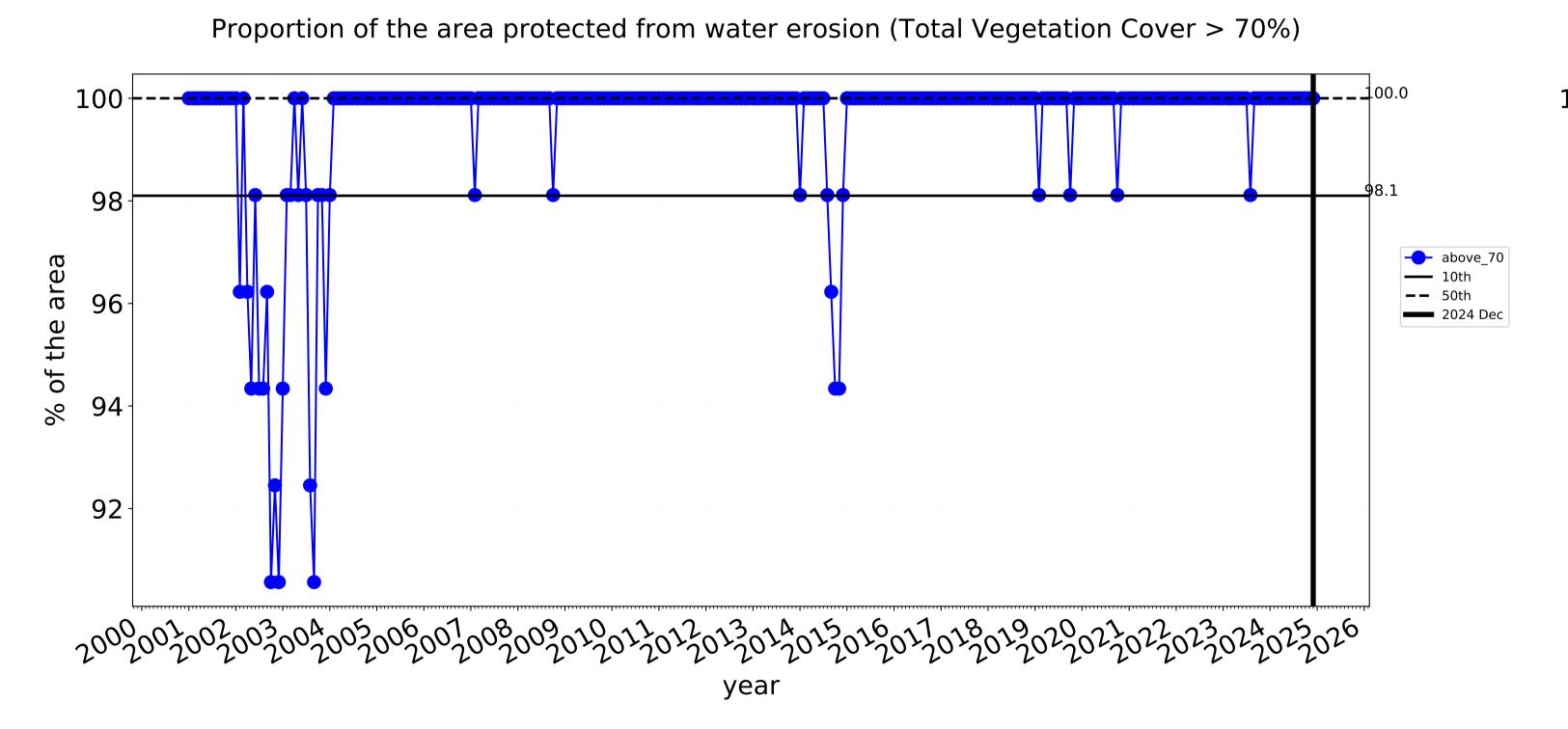


Production native forests and plantation forests timeseries



Wind erosion historical monthly area protected (Total Veg Cov >50%)

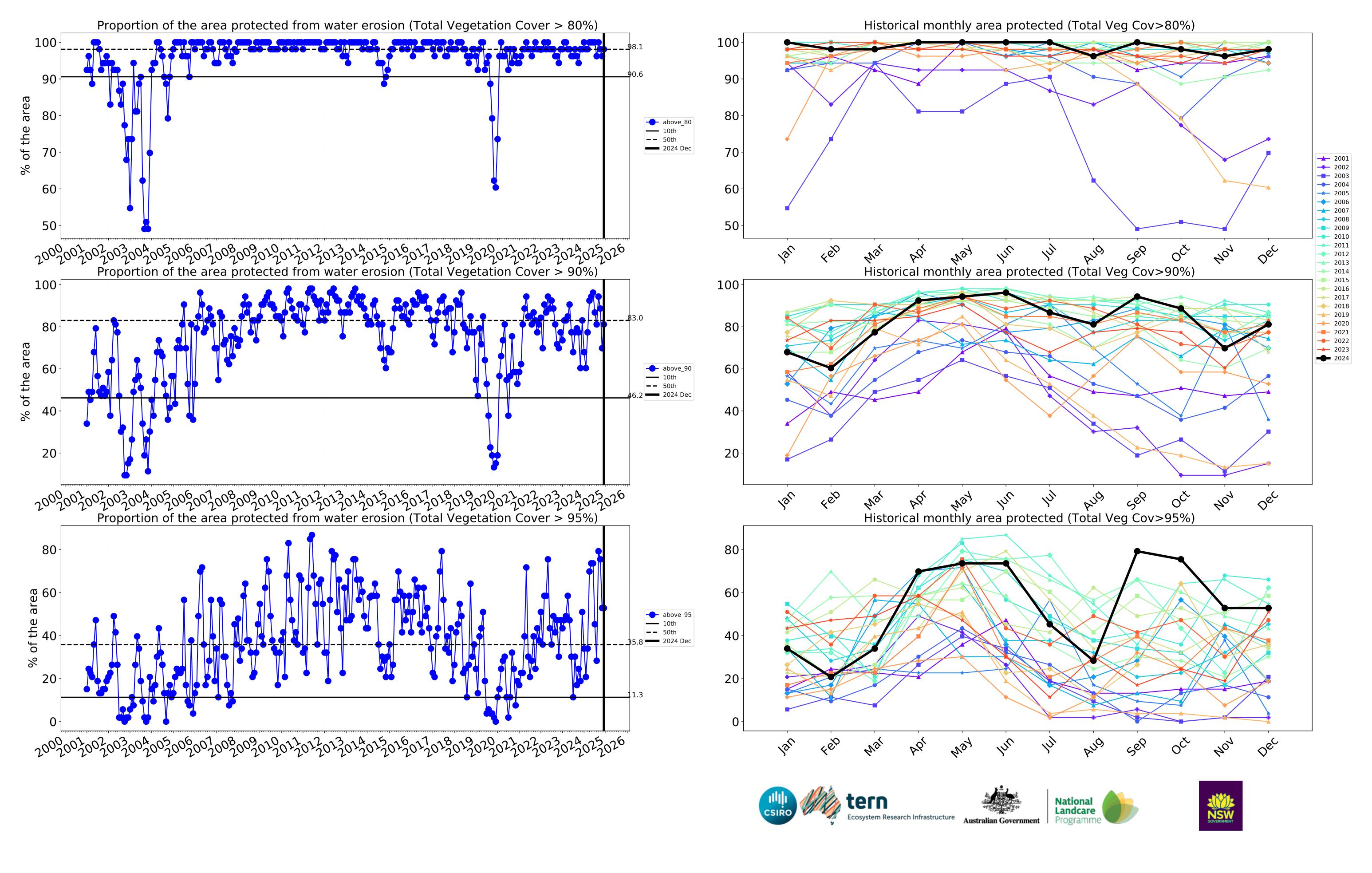




100 → 2001 **---** 2002 98-96 2012 ____ 2013 2015 94 ---- 2016 **→** 2017 ____ 2019 ---- 2022 **---** 2024 month

National Landcare

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



Ipswich_(C) (total 108,775 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	108,775	100.0% 108,775	99.8% 108,550	94.9% 103,225	84.5% 91,875	54.8% 59,575	29.3% 31,900
Conservation and natural environments	14,500	100.0% 14,500	100.0% 14,500	95.7% 13,875	89.0% 12,900	68.4% 9,925	45.7% 6,625
Conservation and natural environments non forest	3,250	100.0% 3,250	100.0% 3,250	86.9% 2,825	74.6% 2,425	38.5% 1,250	18.5% 600
Conservation and natural environments Woodland forest	3,075	100.0% 3,075	100.0% 3,075	98.4% 3,025	95.9% 2,950	70.7% 2,175	43.9% 1,350
Conservation and natural environments Forest (non woodland)	8,175	100.0% 8,175	100.0% 8,175	98.2% 8,025	92.0% 7,525	79.5% 6,500	57.2% 4,675
Agriculture	66,025	100.0% 66,025	100.0% 66,000	99.0% 65,375	94.4% 62,325	63.4% 41,875	33.1% 21,875
Grazing	63,700	100.0% 63,700	100.0% 63,675	99.0% 63,050	94.9% 60,450	64.9% 41,350	34.1% 21,725
Grazing non forest	48,175	100.0% 48,175	99.9% 48,150	98.8% 47,575	93.8% 45,175	58.3% 28,075	26.5% 12,750
Grazing Woodland forest	8,350	100.0% 8,350	100.0% 8,350	99.4% 8,300	97.6% 8,150	80.5% 6,725	47.9% 4,000
Grazing - Forest (non woodland)	7,175	100.0% 7,175	100.0% 7,175	100.0% 7,175	99.3% 7,125	91.3% 6,550	69.3% 4,975
Irrigation	2,300	100.0% 2,300	100.0% 2,300	100.0% 2,300	81.5% 1,875	22.8% 525	6.5% 150
Production native forests and plantation forests	1,325	100.0% 1,325	100.0% 1,325	100.0% 1,325	98.1% 1,300	81.1% 1,075	52.8% 700







