Total vegetation cover soil protection Region:LGA Gympie (R) 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: November 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







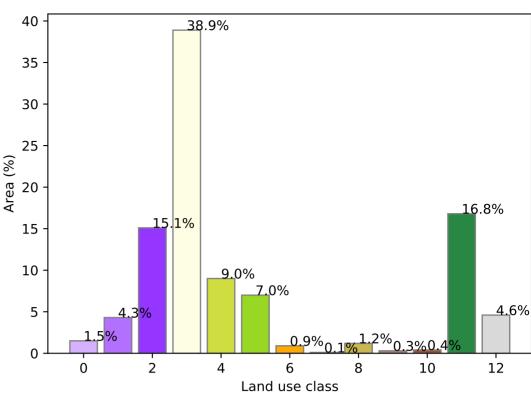


Vegetation Cover Nov 2024

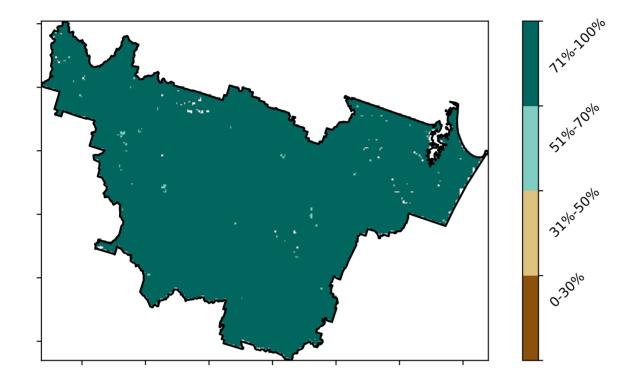
Land use and forest cover

Legend with land class forest cover and number, i.e. Forests is 12 1 Conservation and natural environments - Non-forest 2 Conservation and natural environments - Woodland forest Catchment Scale 3 Conservation and natural environments -Land Use and Forests Non-Woodland forest of Australia (2018) 4 Agriculture - Grazing - Non-forest Derived from 5 Agriculture - Grazing - Woodland forest Catchment Scale Land 6 Agriculture - Grazing - Non-woodland forest Use of Australia 7 Agriculture - Grazing - Irrigated (2018) and Forests 8 Agriculture - Cropping - Non-irrigated of Australia (2018) 9 Agriculture - Cropping - Irrigated 10 Agriculture - Horticulture - Non-irrigated 11 Agriculture - Horticulture - Irrigated 12 Production native forests and plantation forests 13 Other uses

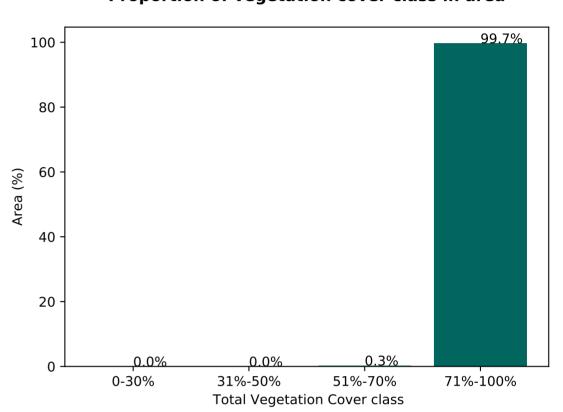
Proportion of each land class in area



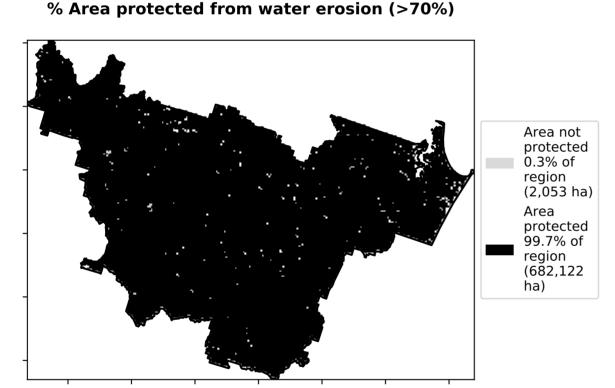
Total Vegetation Cover [%]



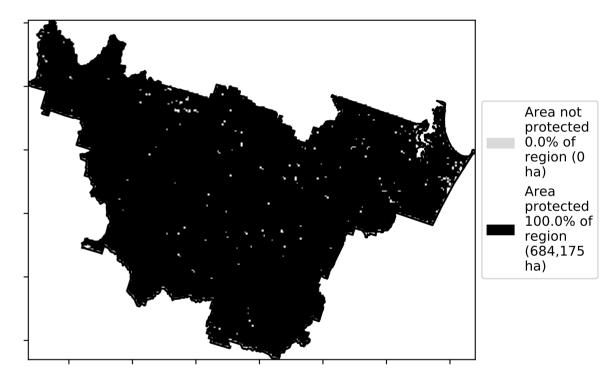
Proportion of vegetation cover class in area



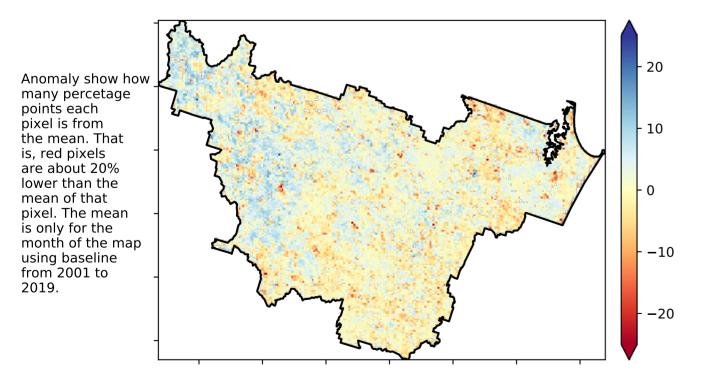
0/ Aven protected from water evenier (> 700/)



% Area protected from wind erosion (>50%)

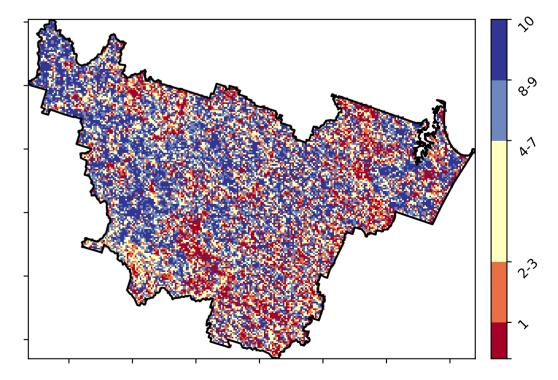


Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]

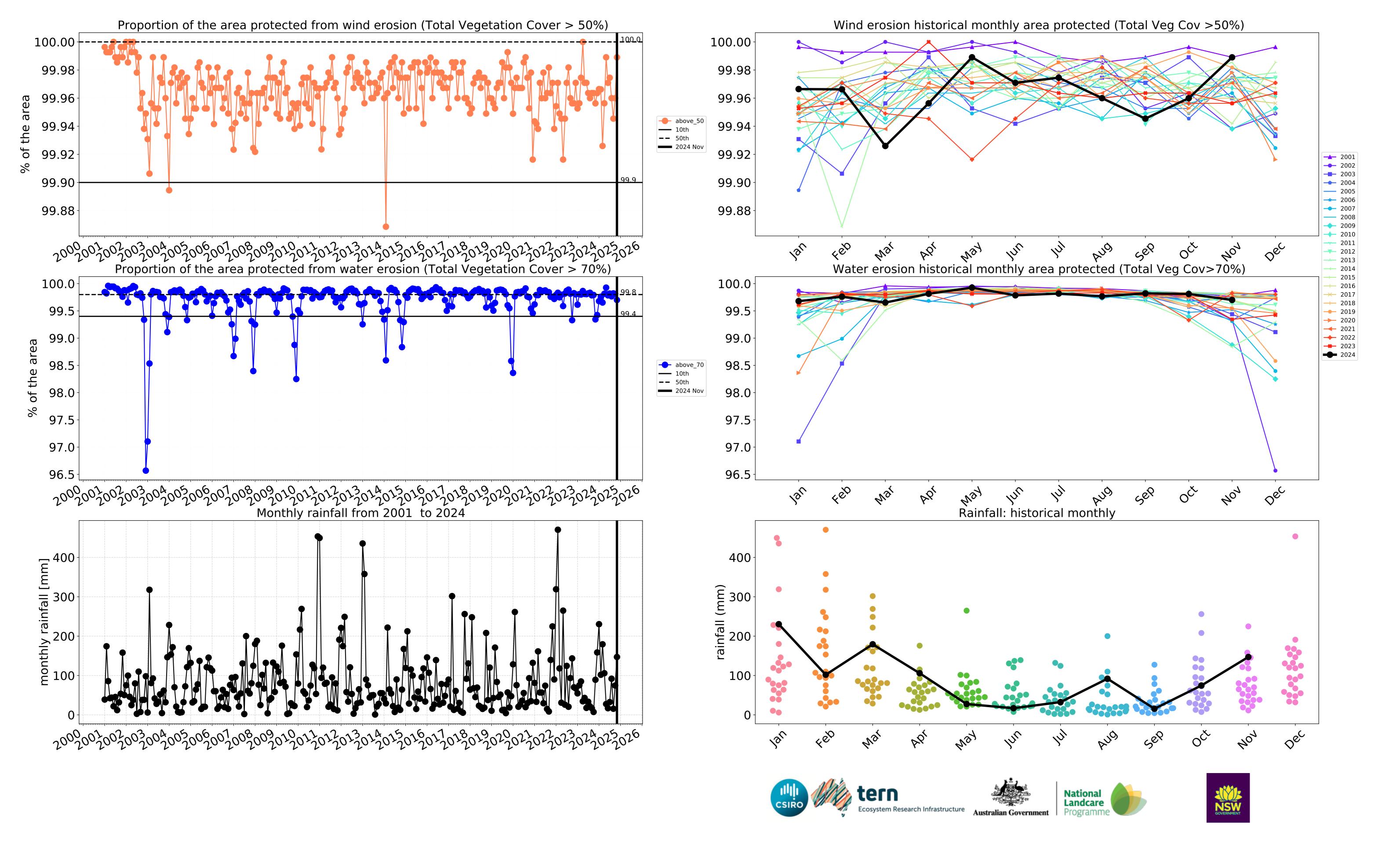


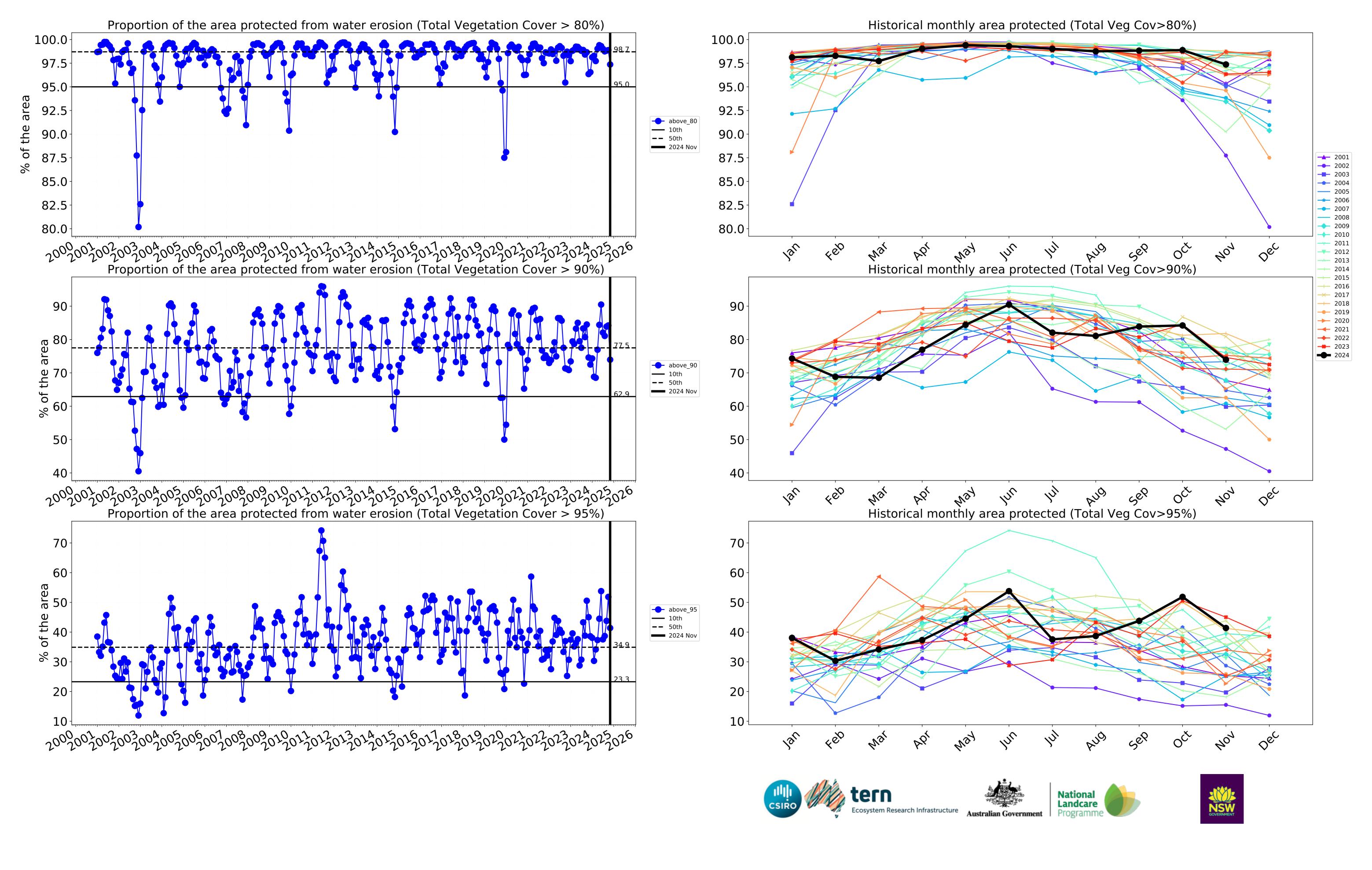




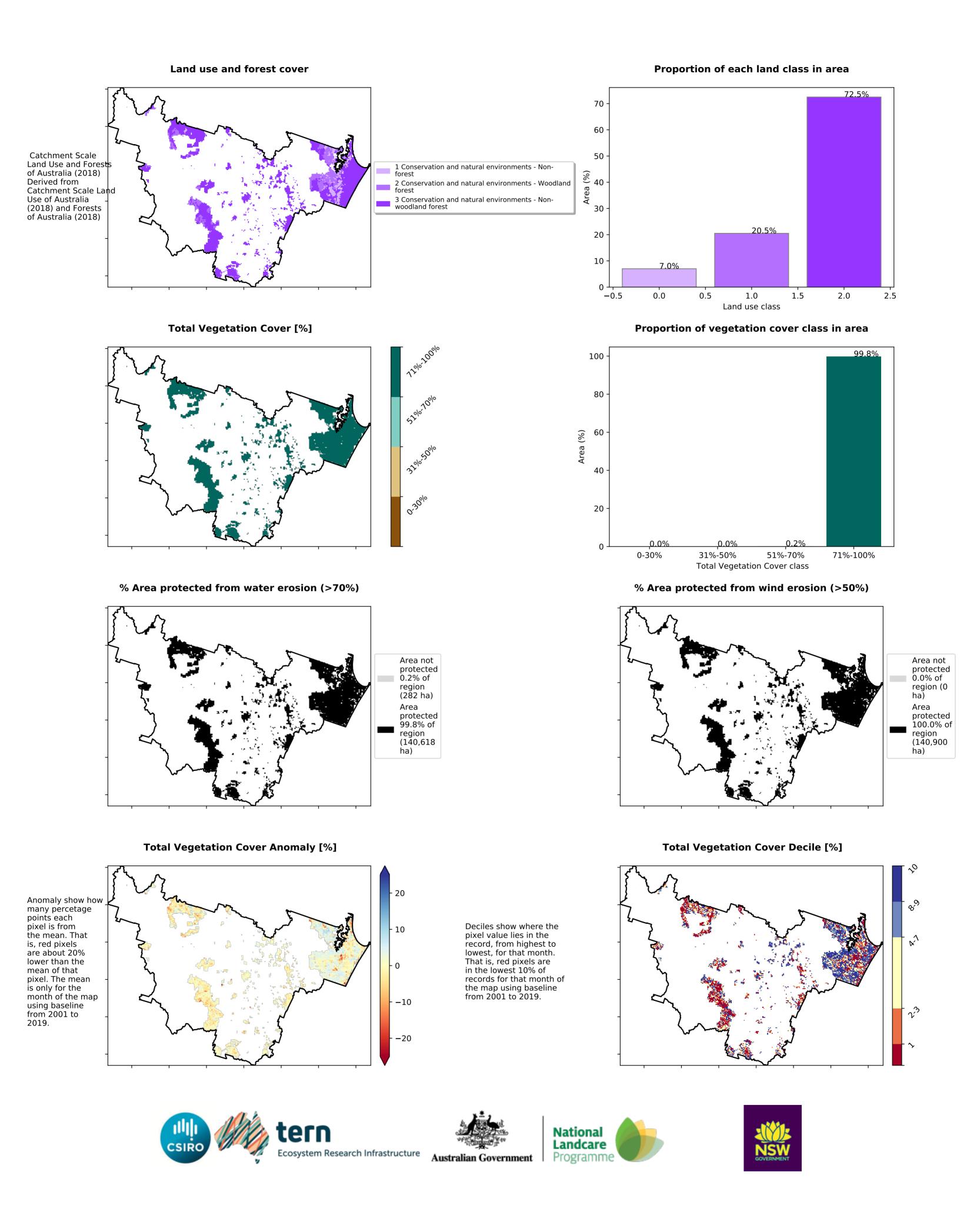




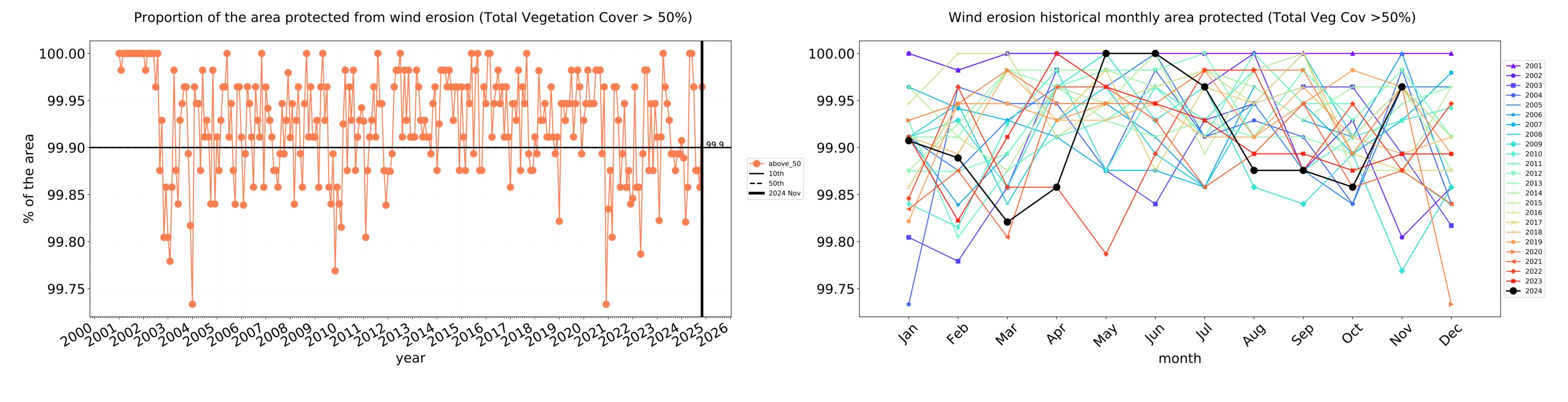


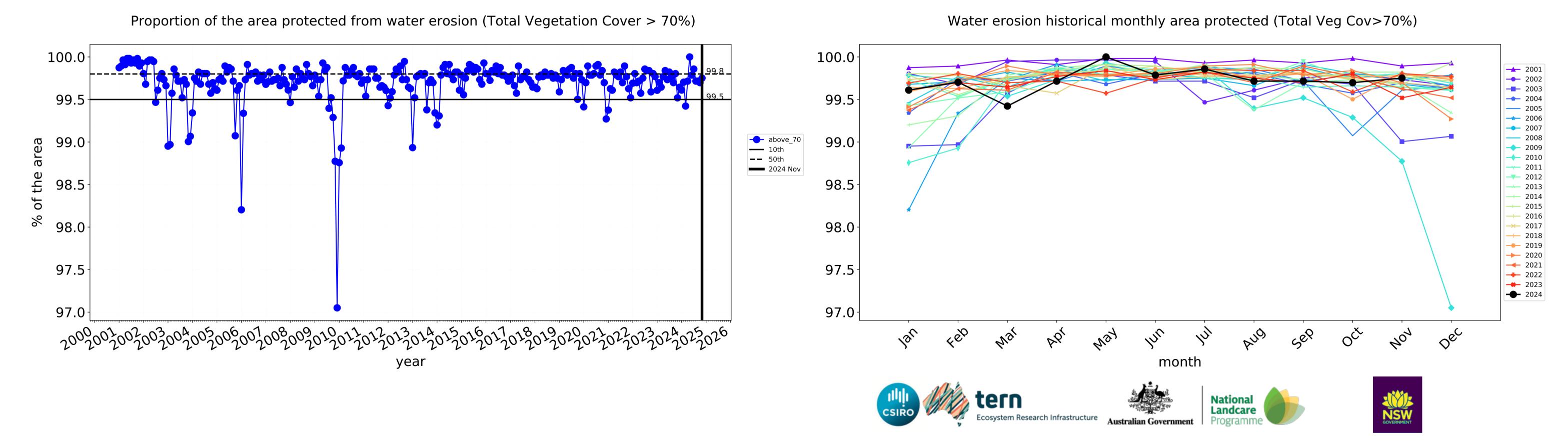


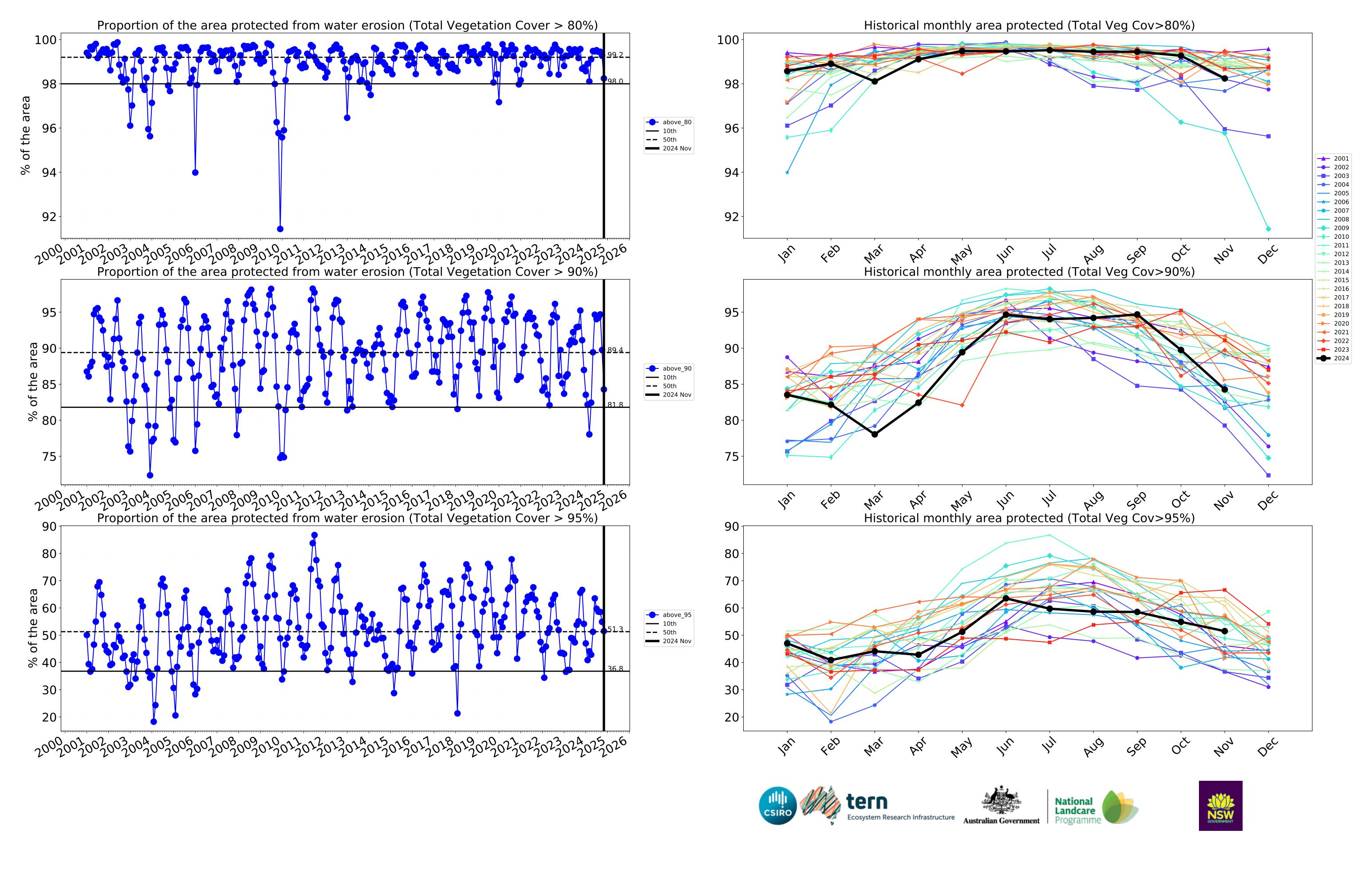
Conservation and natural environments



Conservation and natural environments timeseries

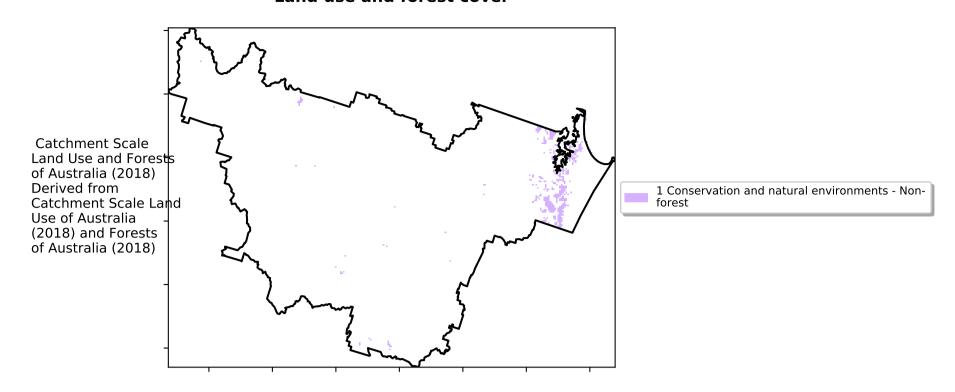




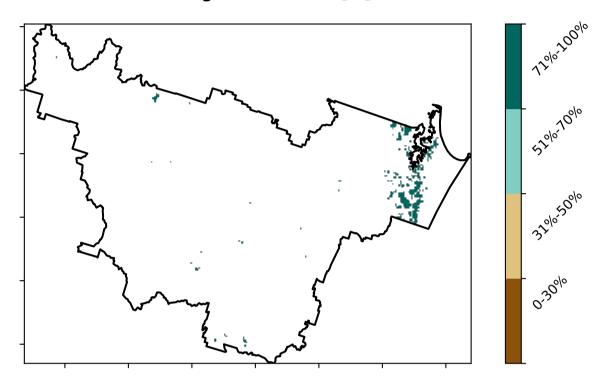


Conservation and natural environments non forest

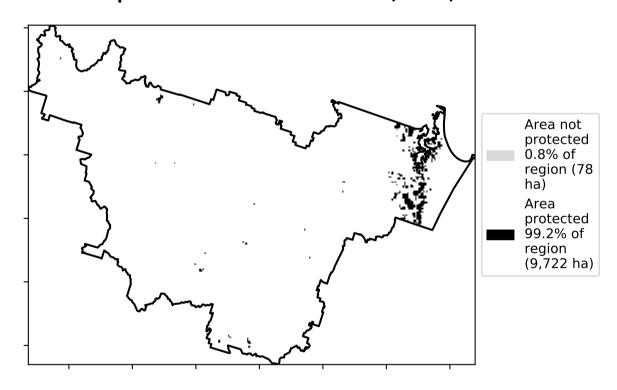
Land use and forest cover



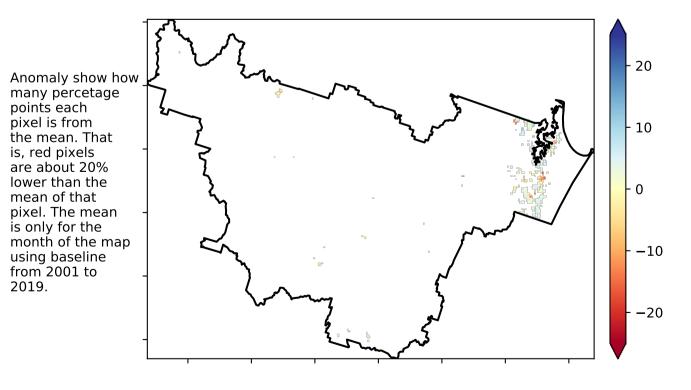
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

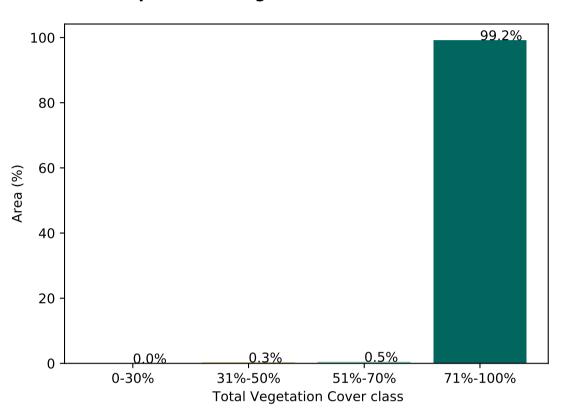


Total Vegetation Cover Anomaly [%]

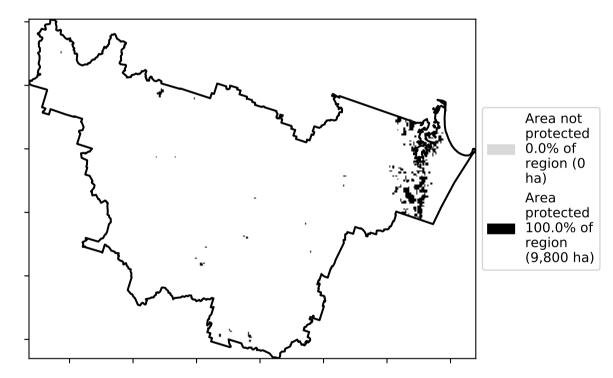


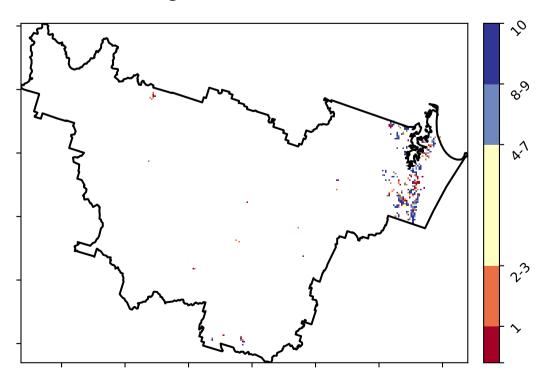
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





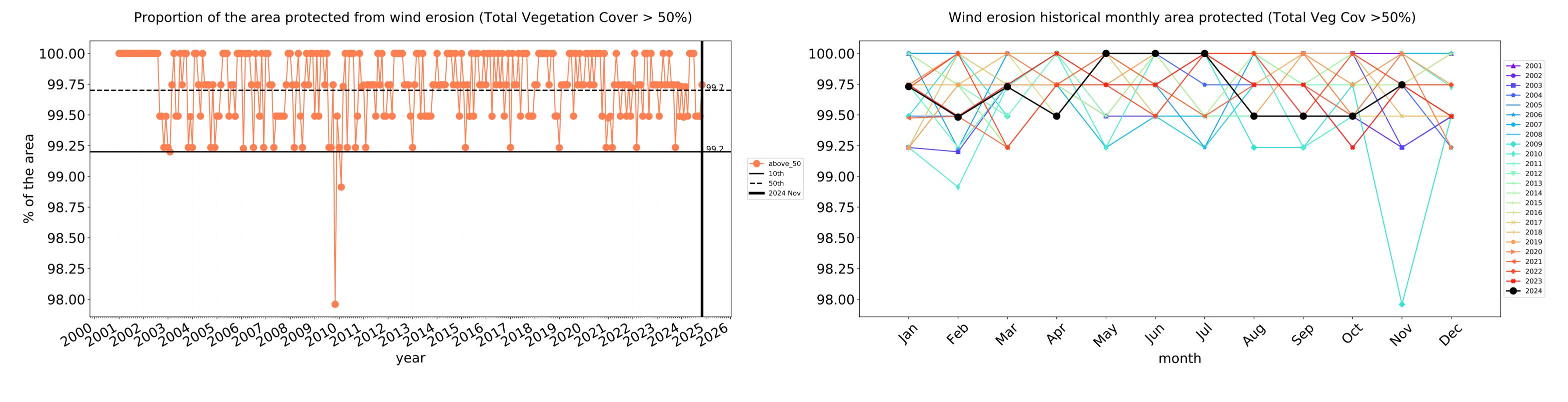


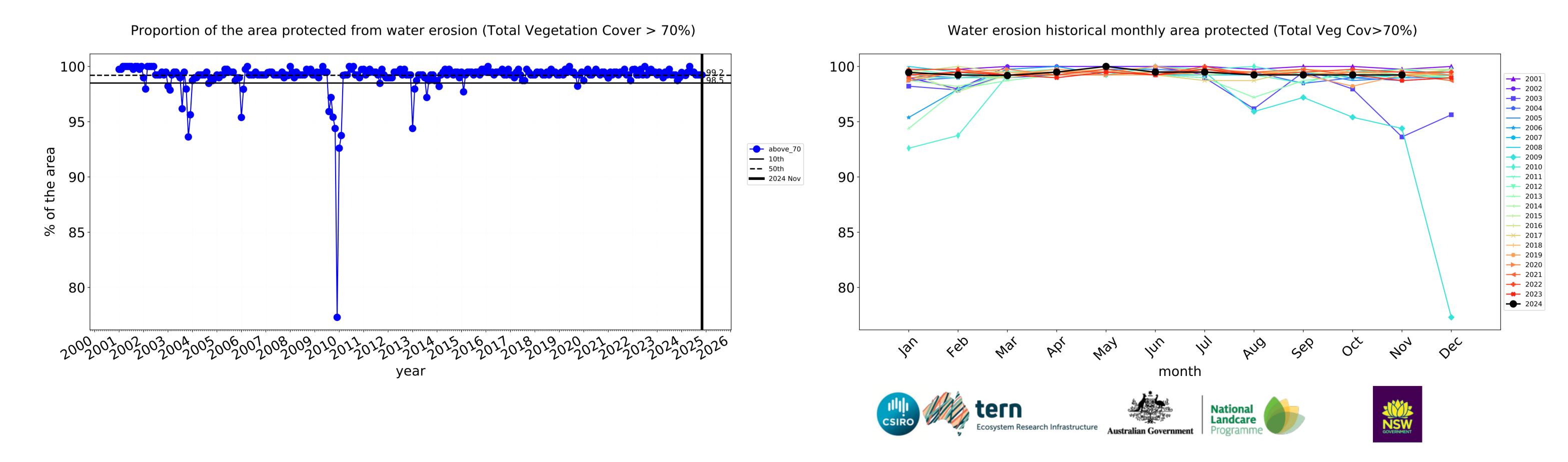


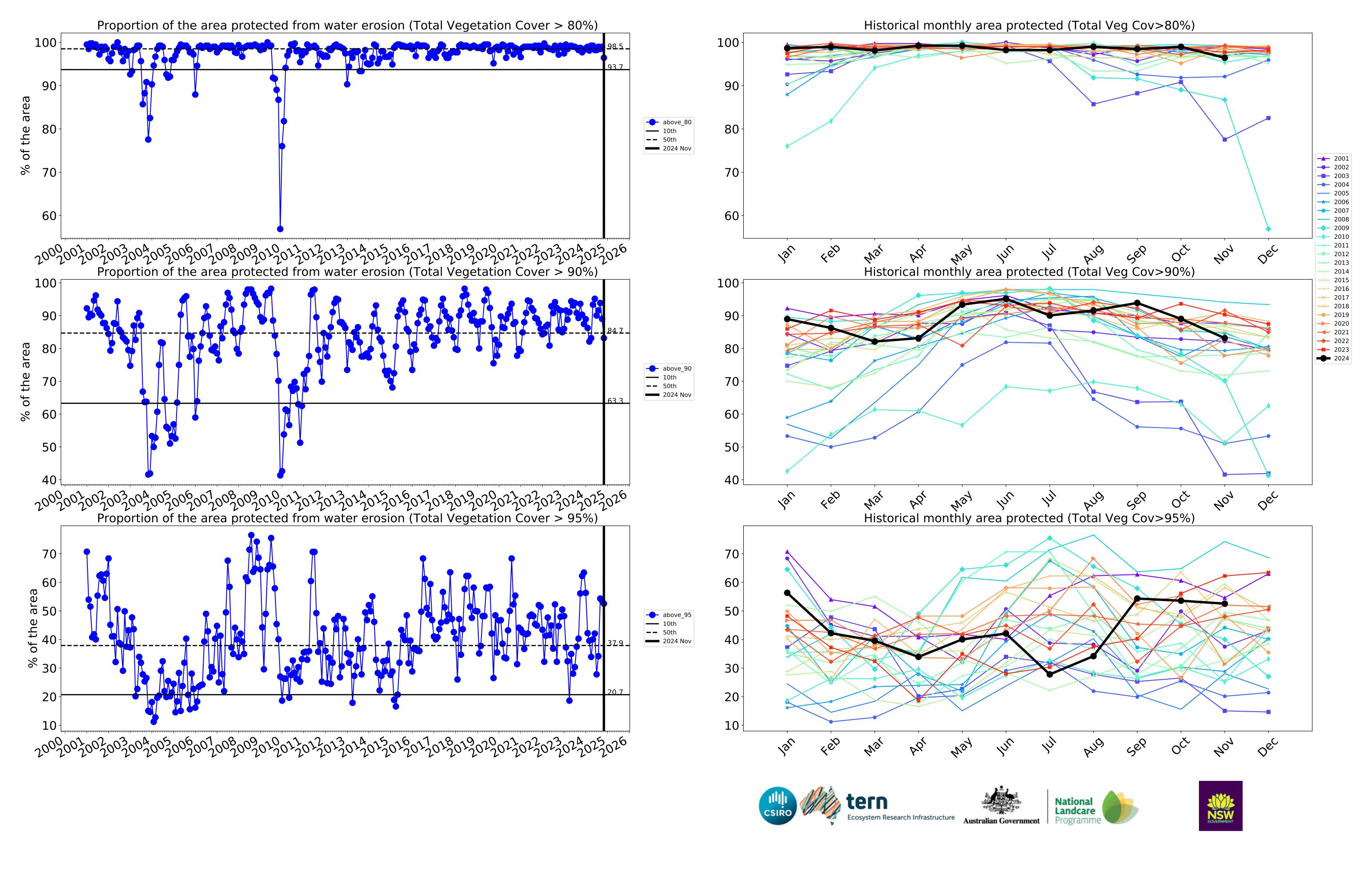




Conservation and natural environments non forest timeseries





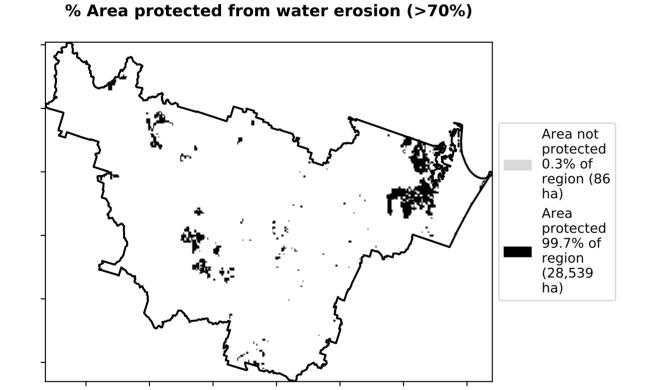


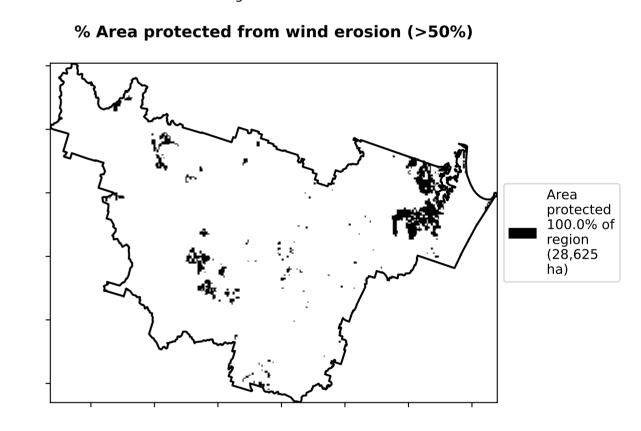
Conservation and natural environments Woodland forest

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

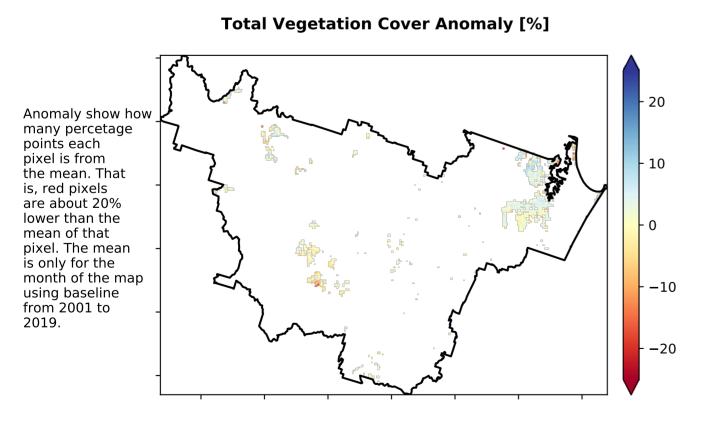
Total Vegetation Cover [%]

99.7% 100 80 Area (%) 60 40 20 -0.0% 0.3% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

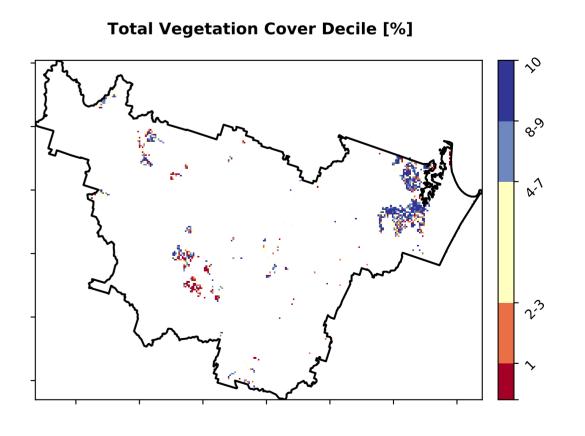




Proportion of vegetation cover class in area



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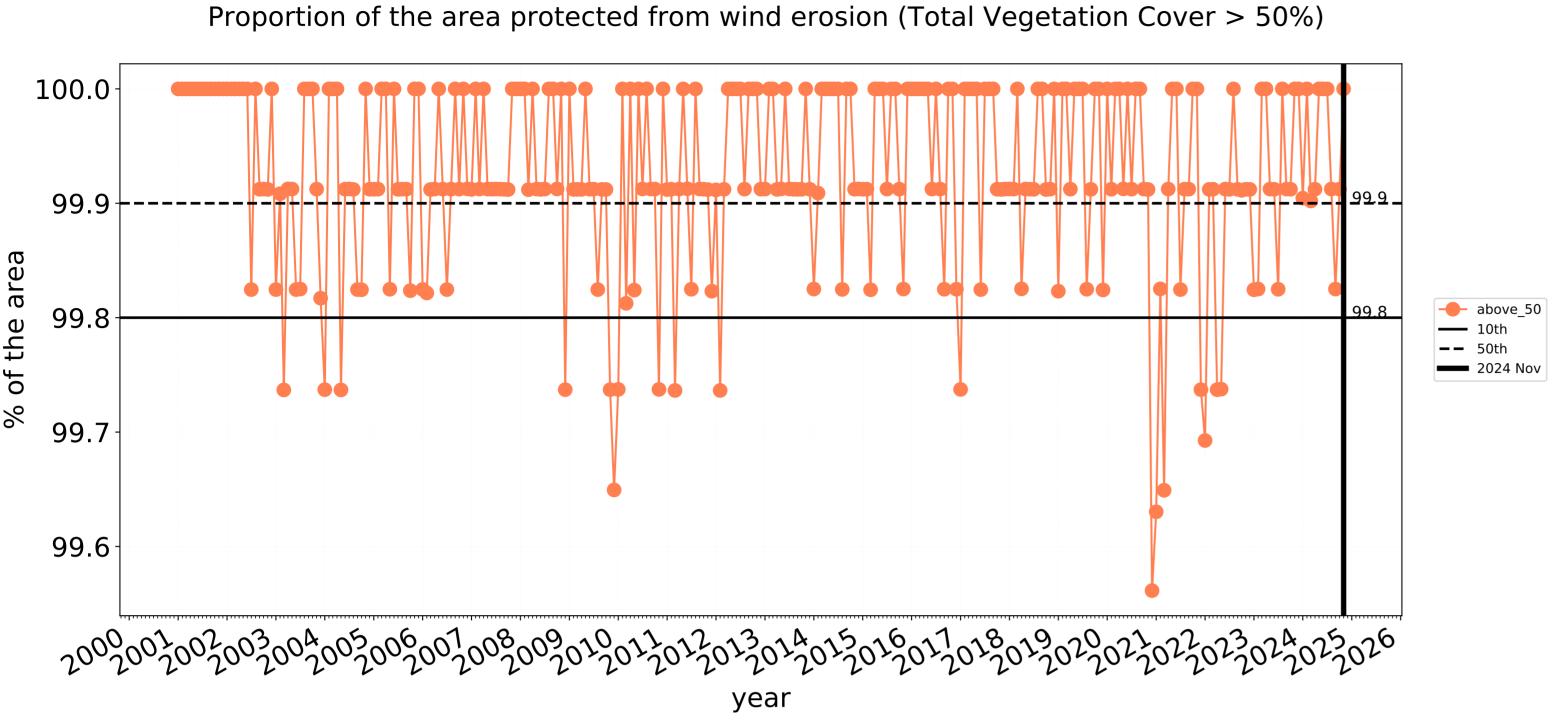


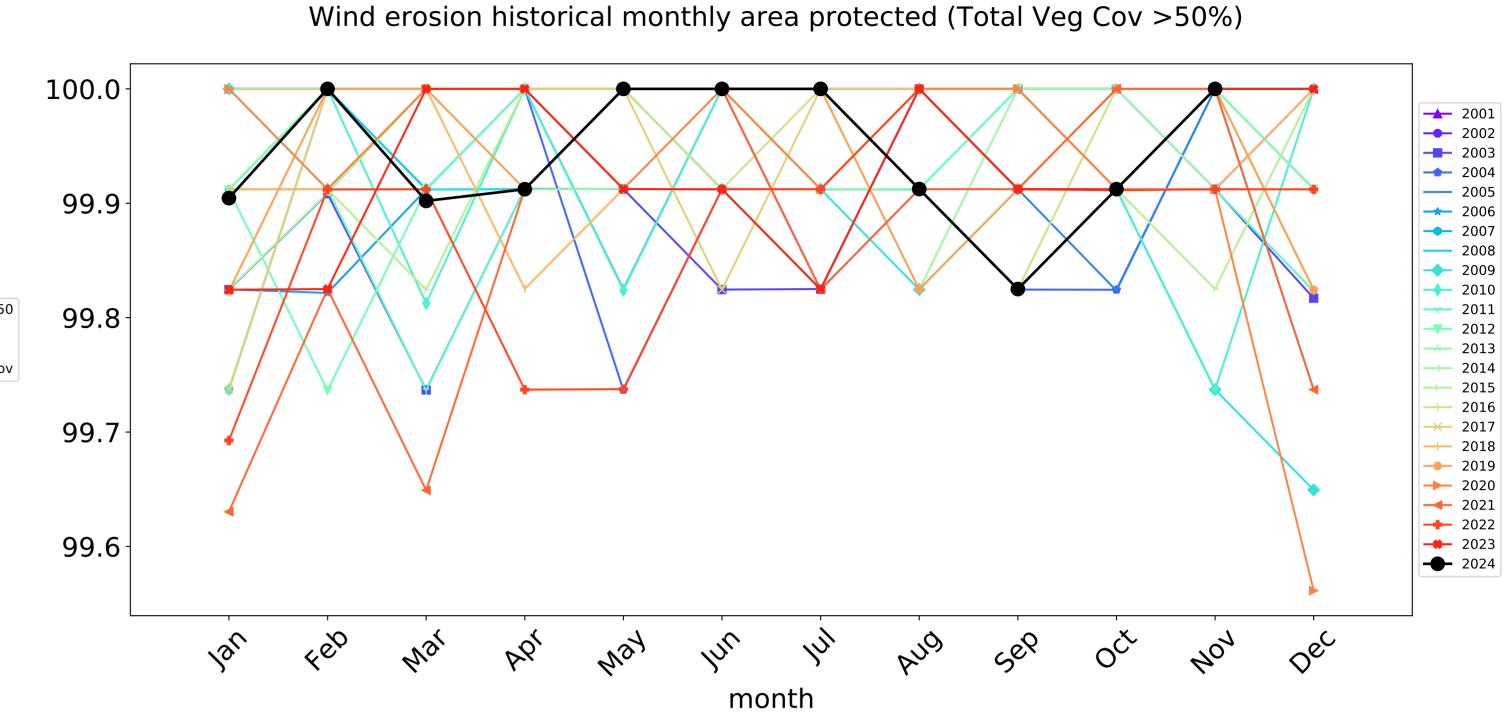


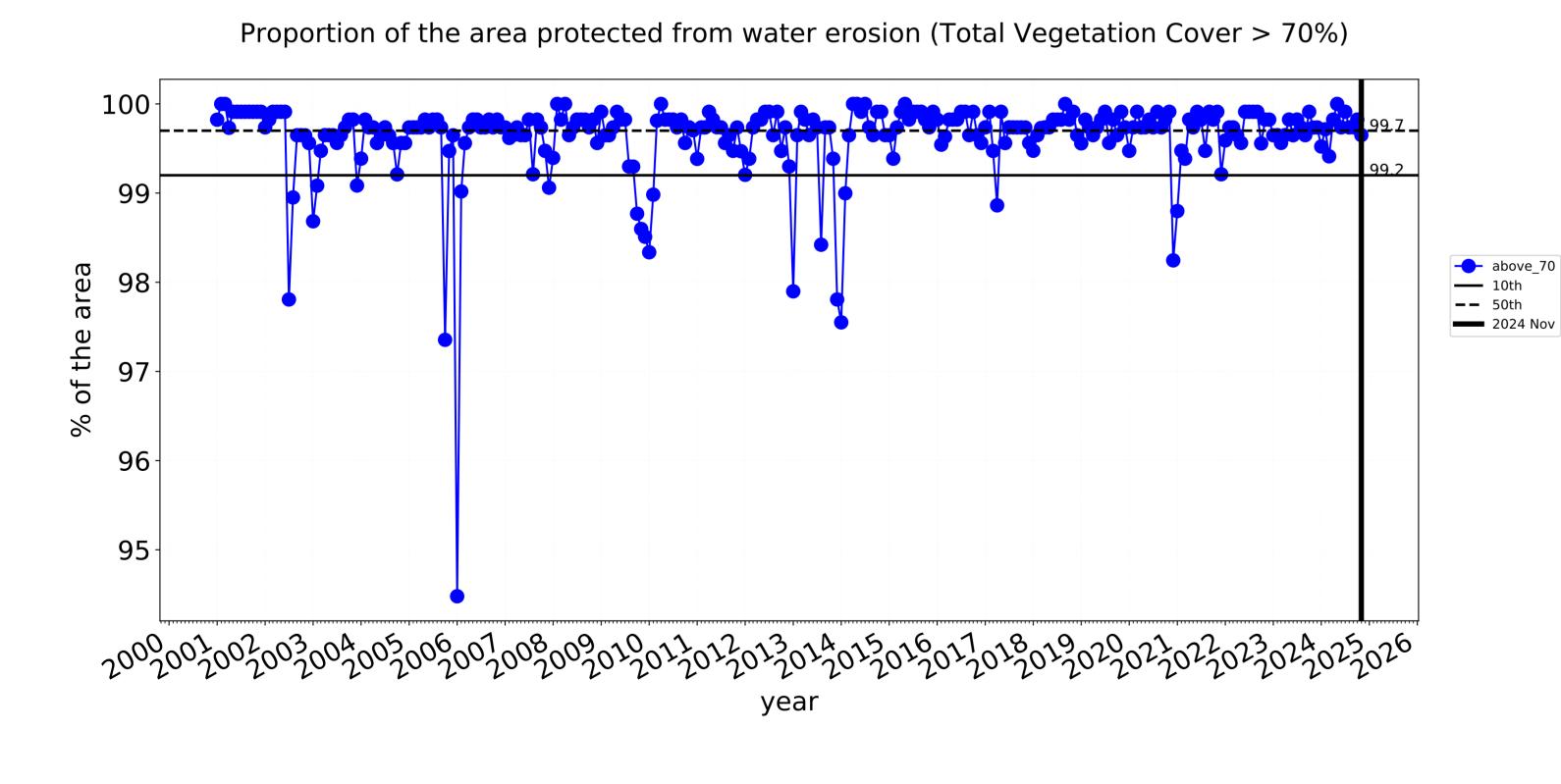


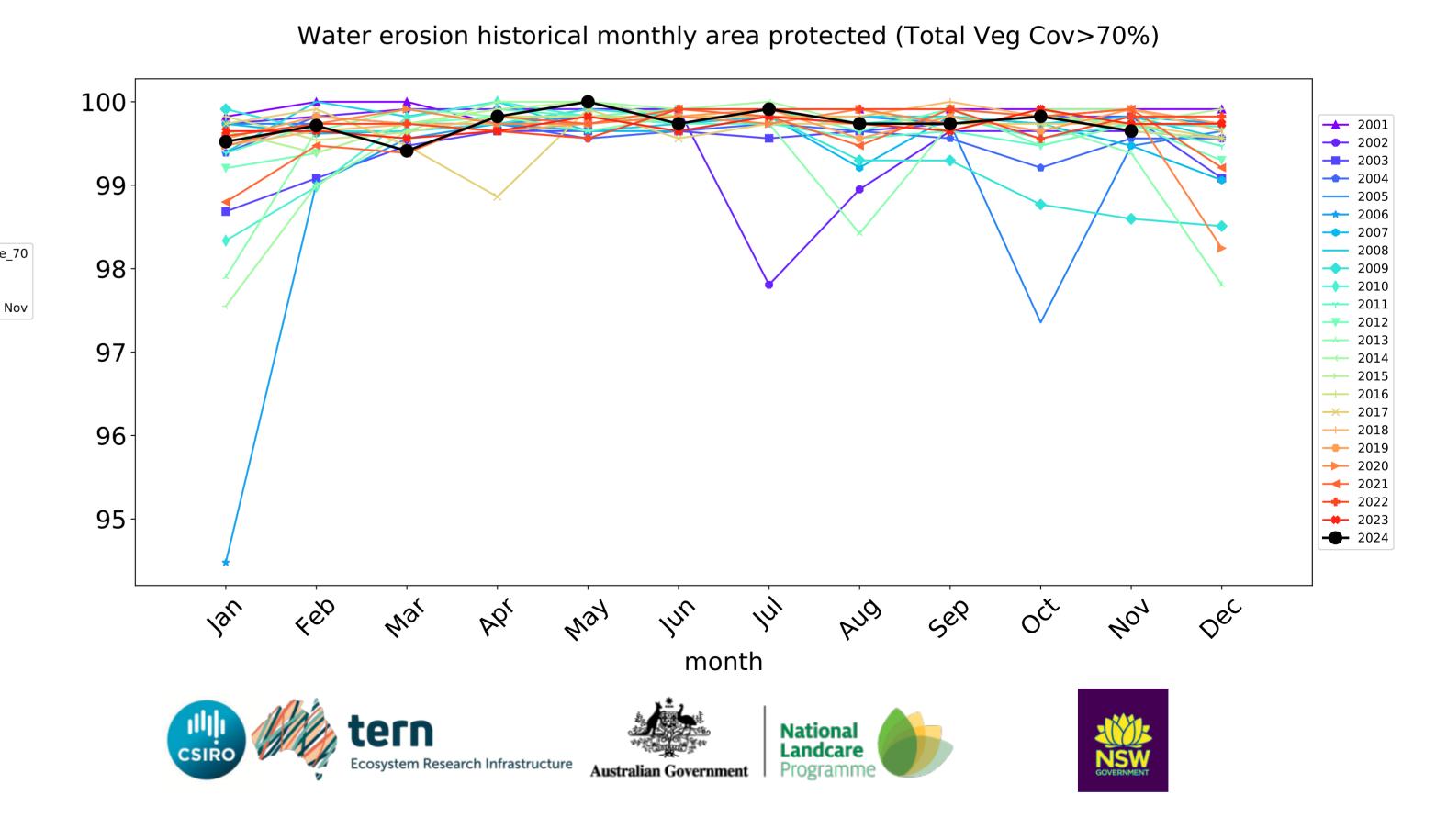


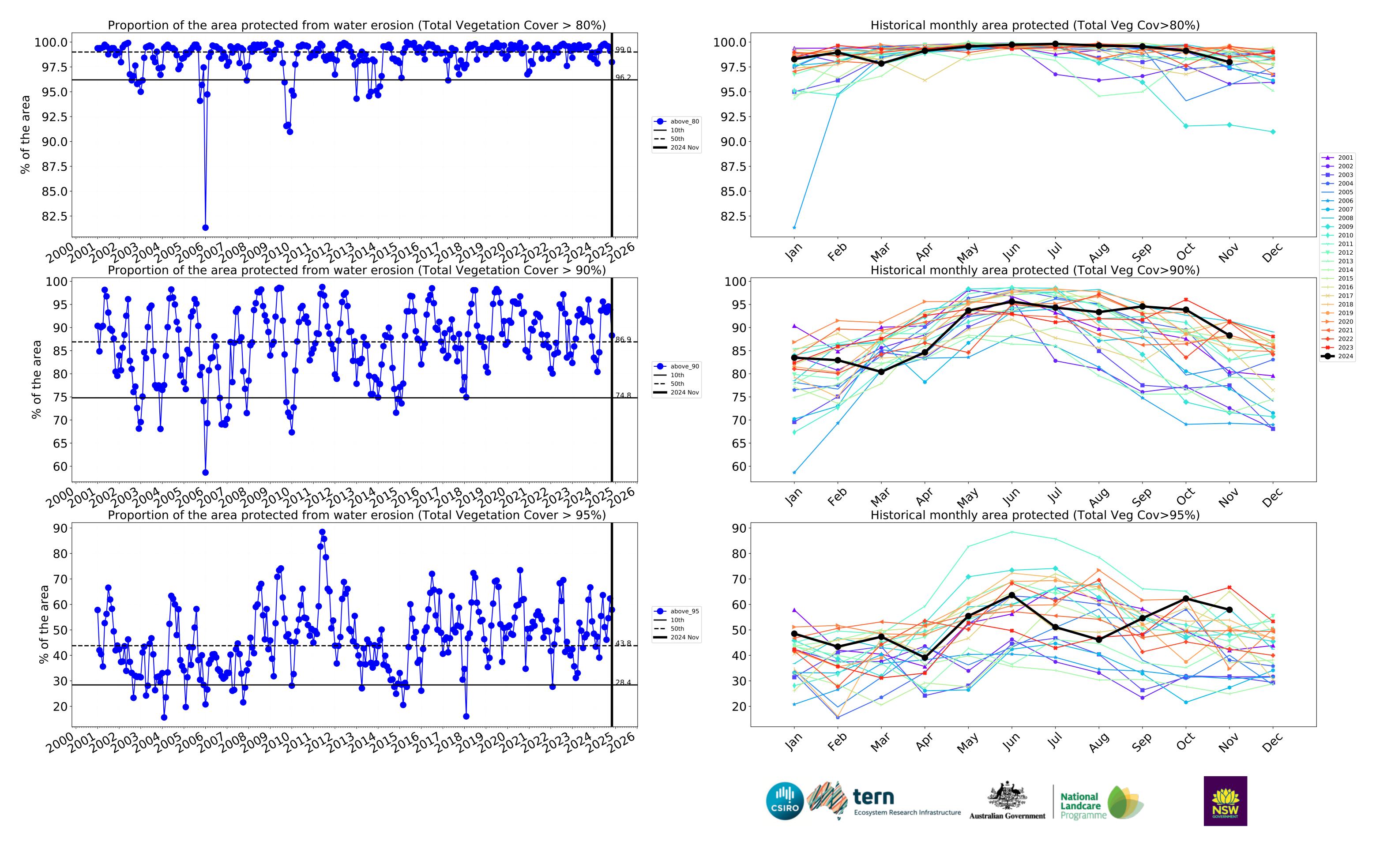
Conservation and natural environments Woodland forest timeseries



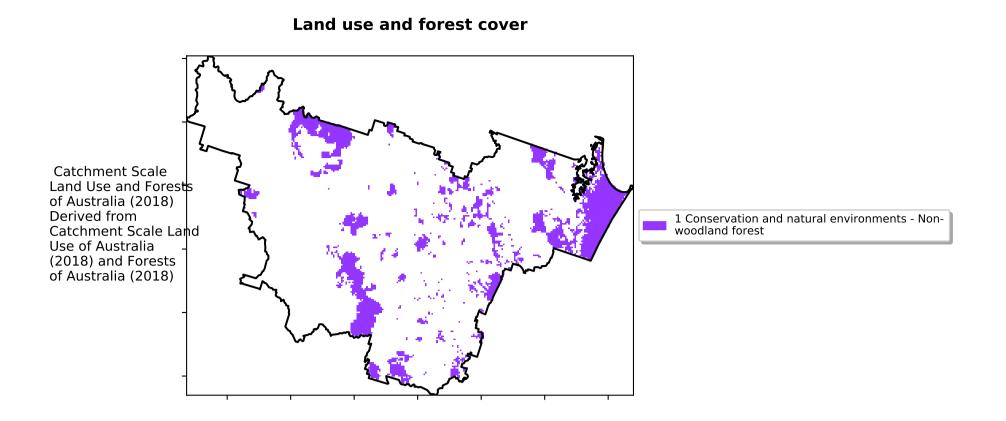


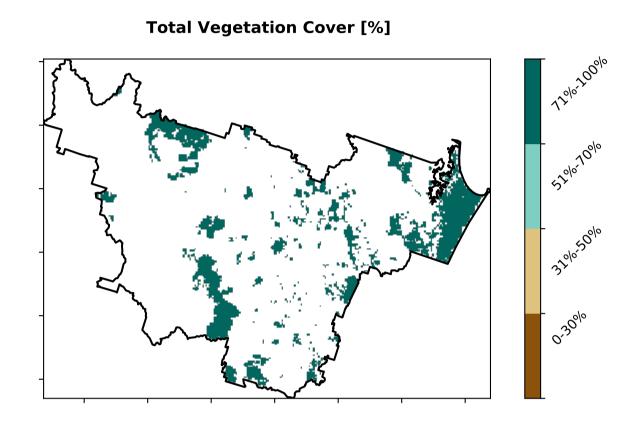


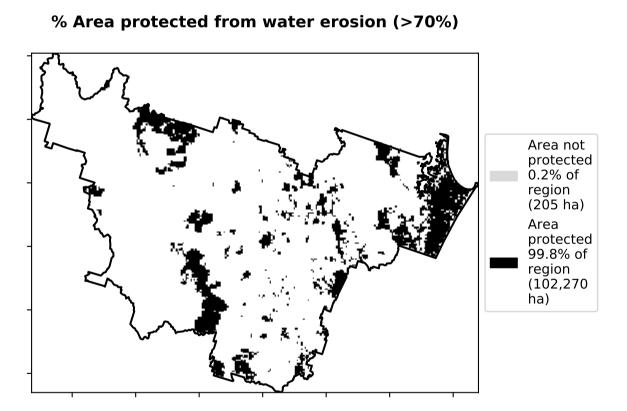


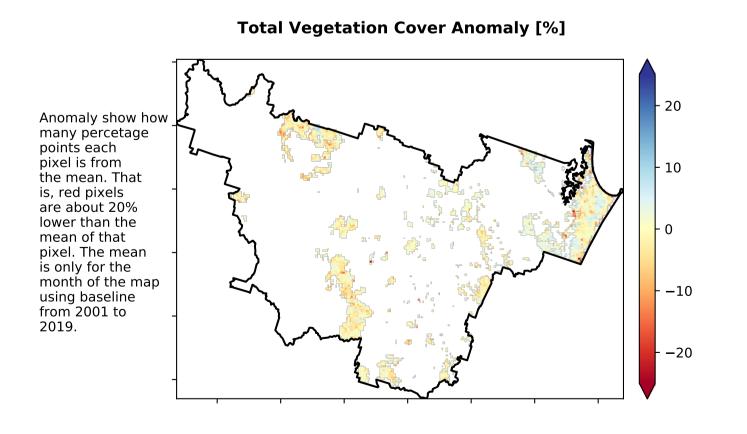


Conservation and natural environments Forest (non woodland)

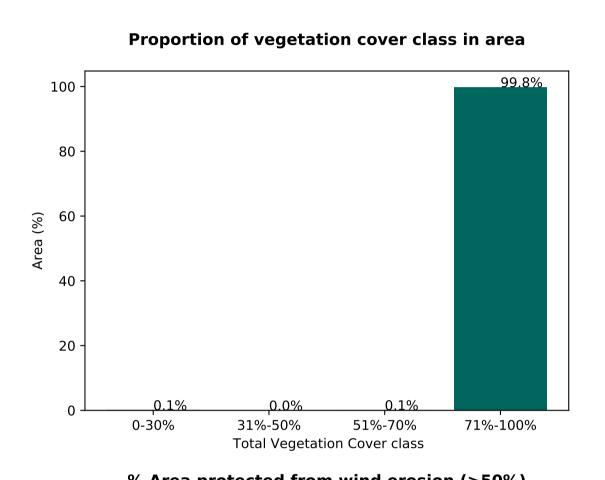


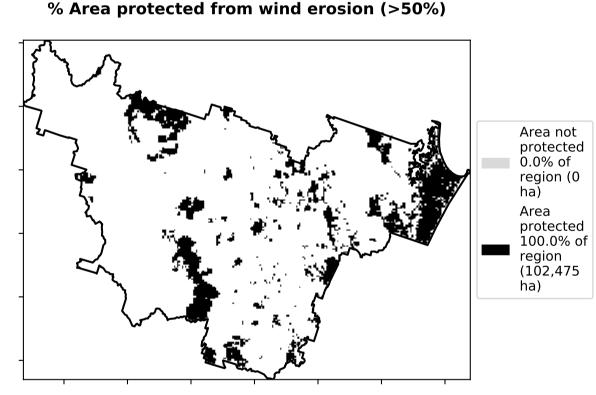


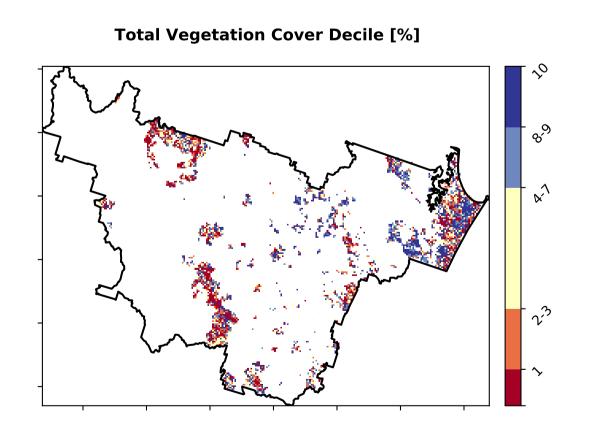




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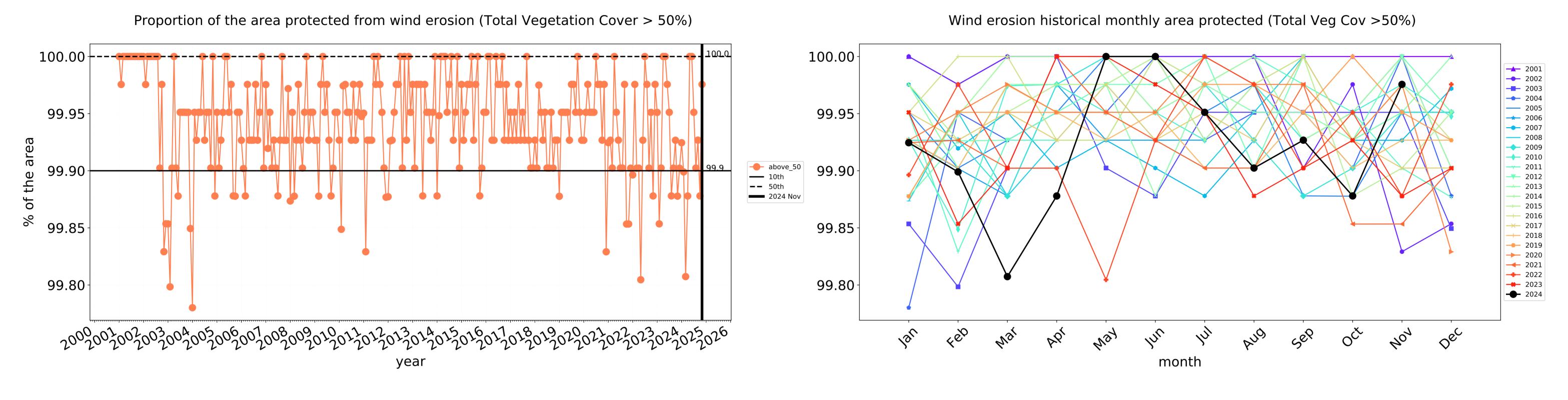


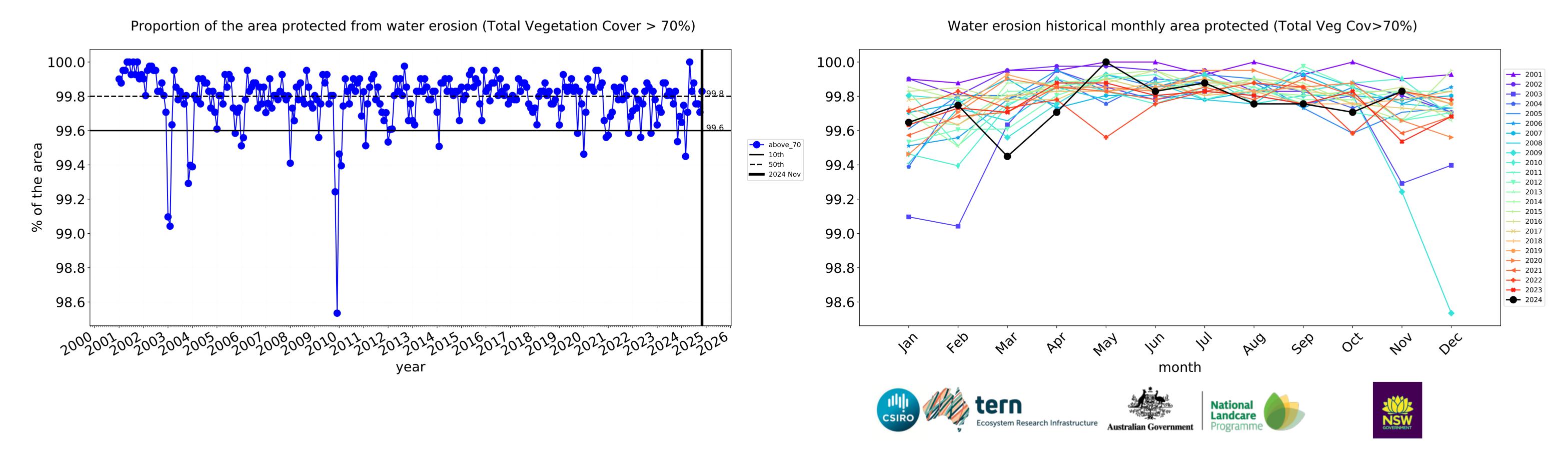


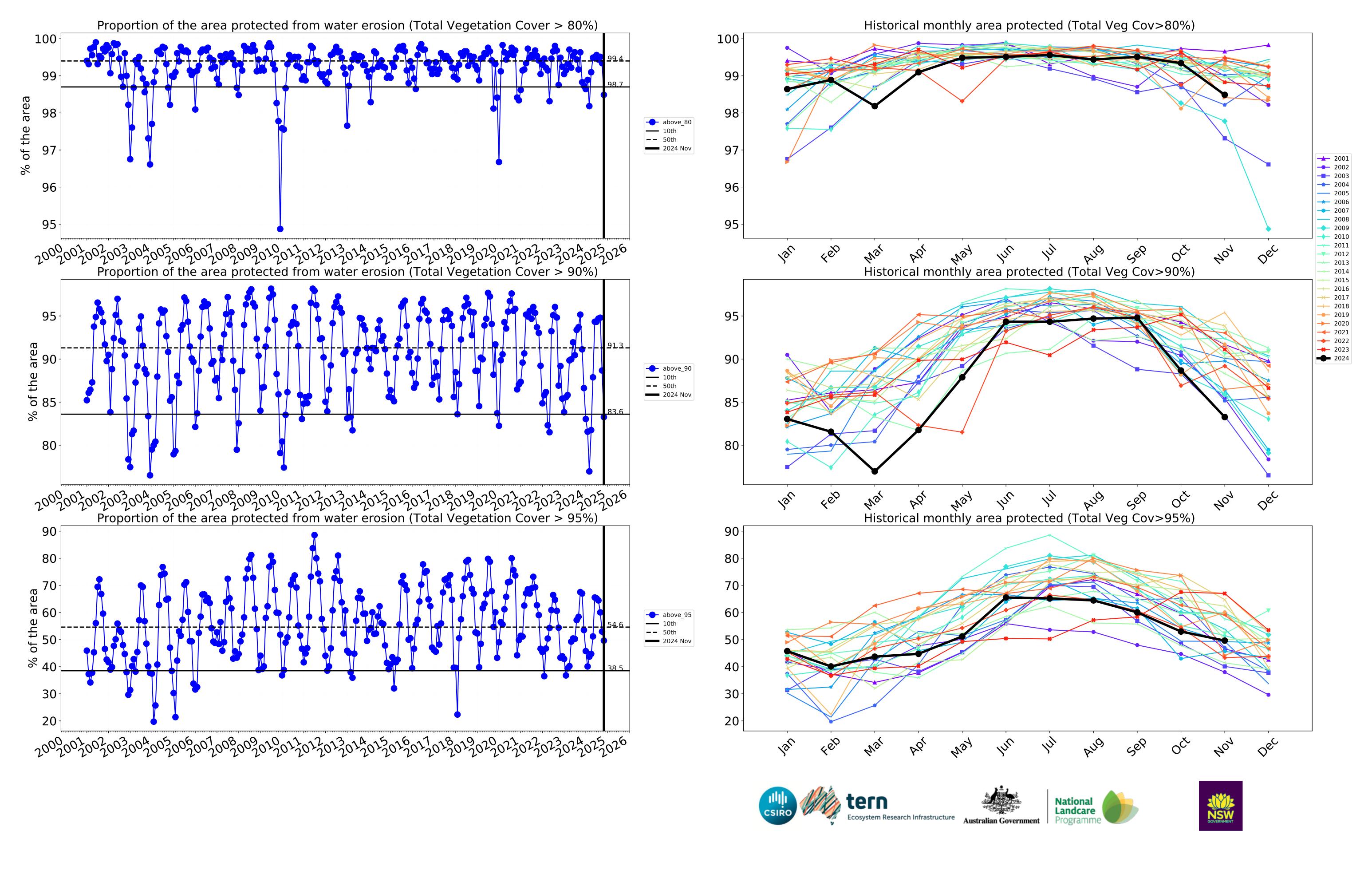






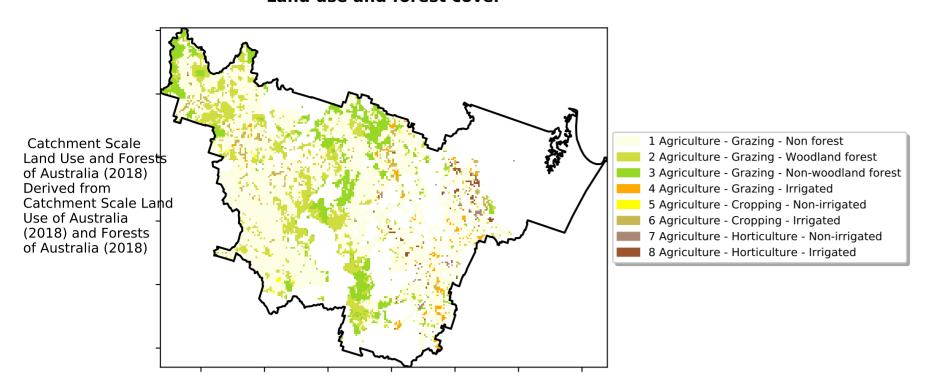




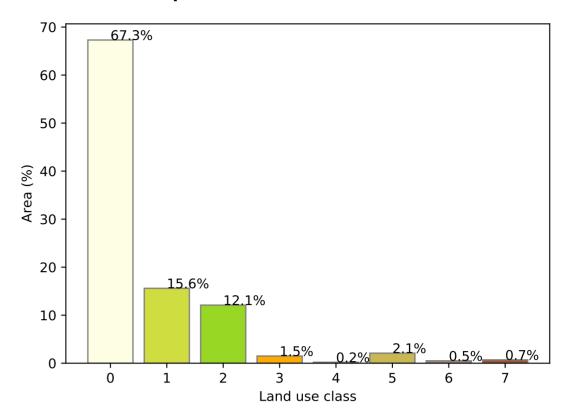


Agriculture

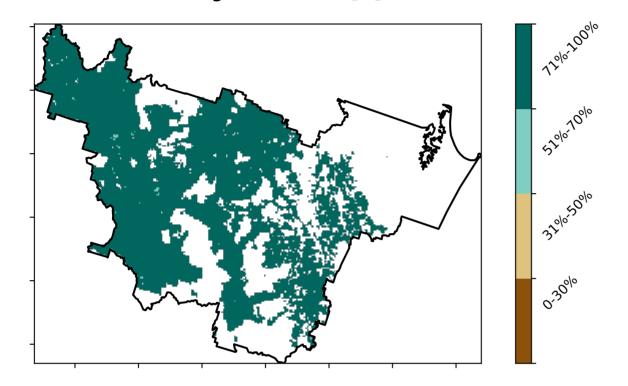
Land use and forest cover



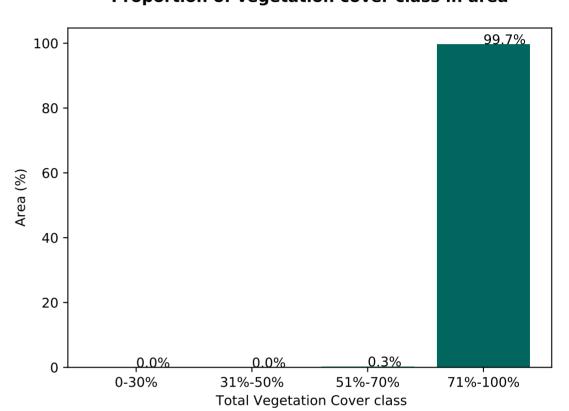
Proportion of each land class in area



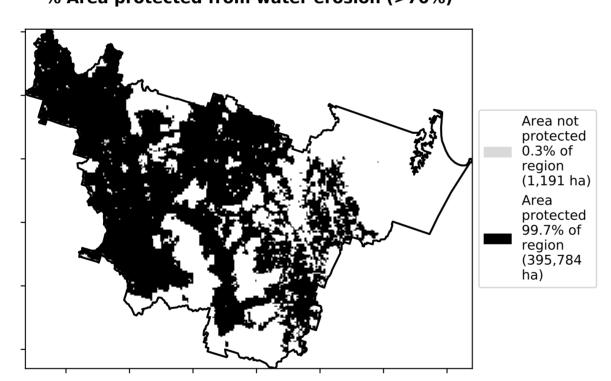
Total Vegetation Cover [%]



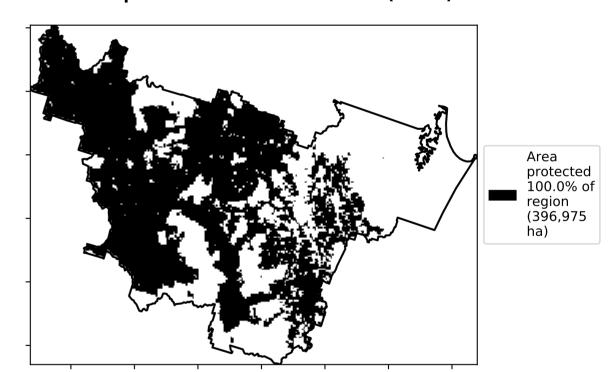
Proportion of vegetation cover class in area



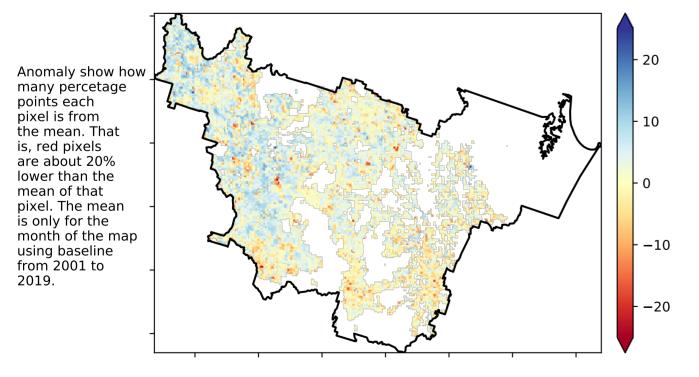
% Area protected from water erosion (>70%)



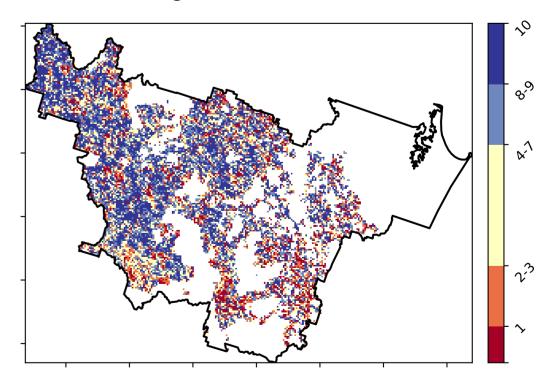
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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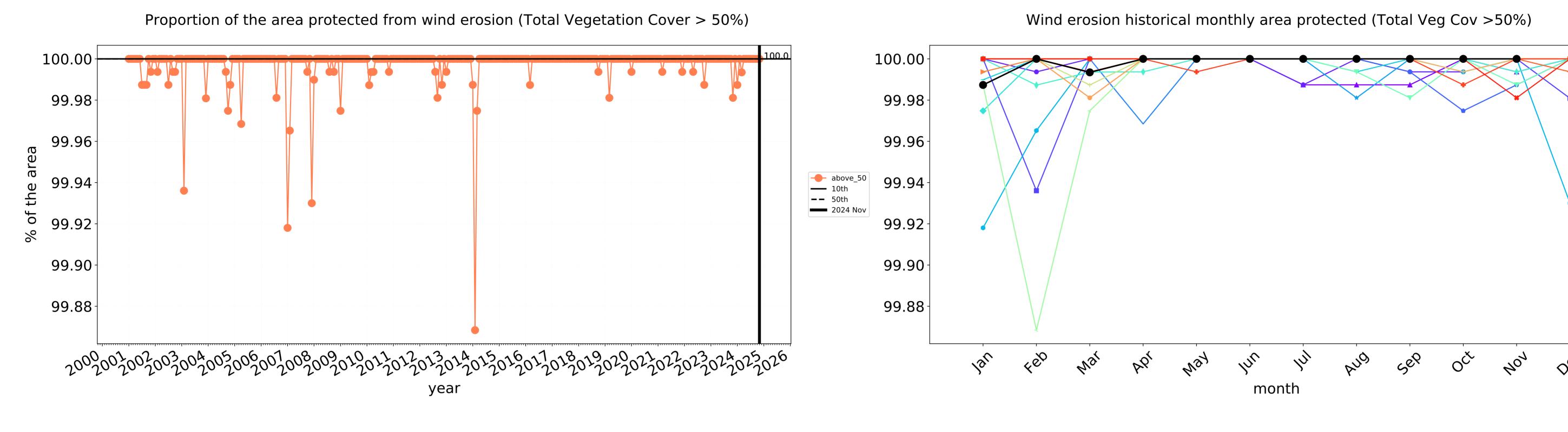


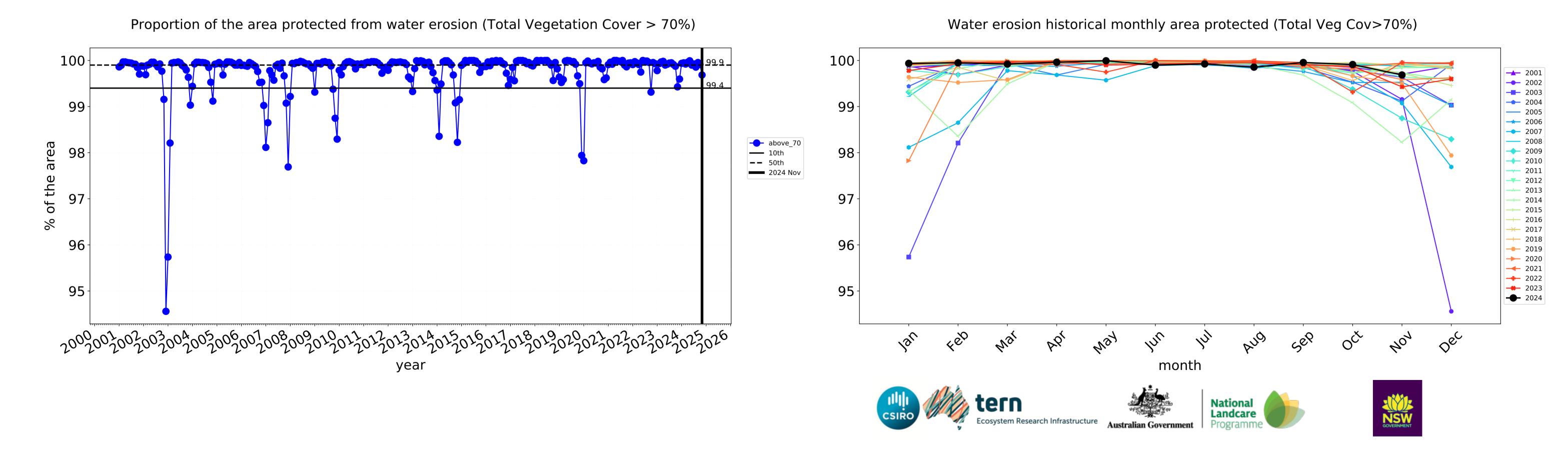






Agriculture timeseries

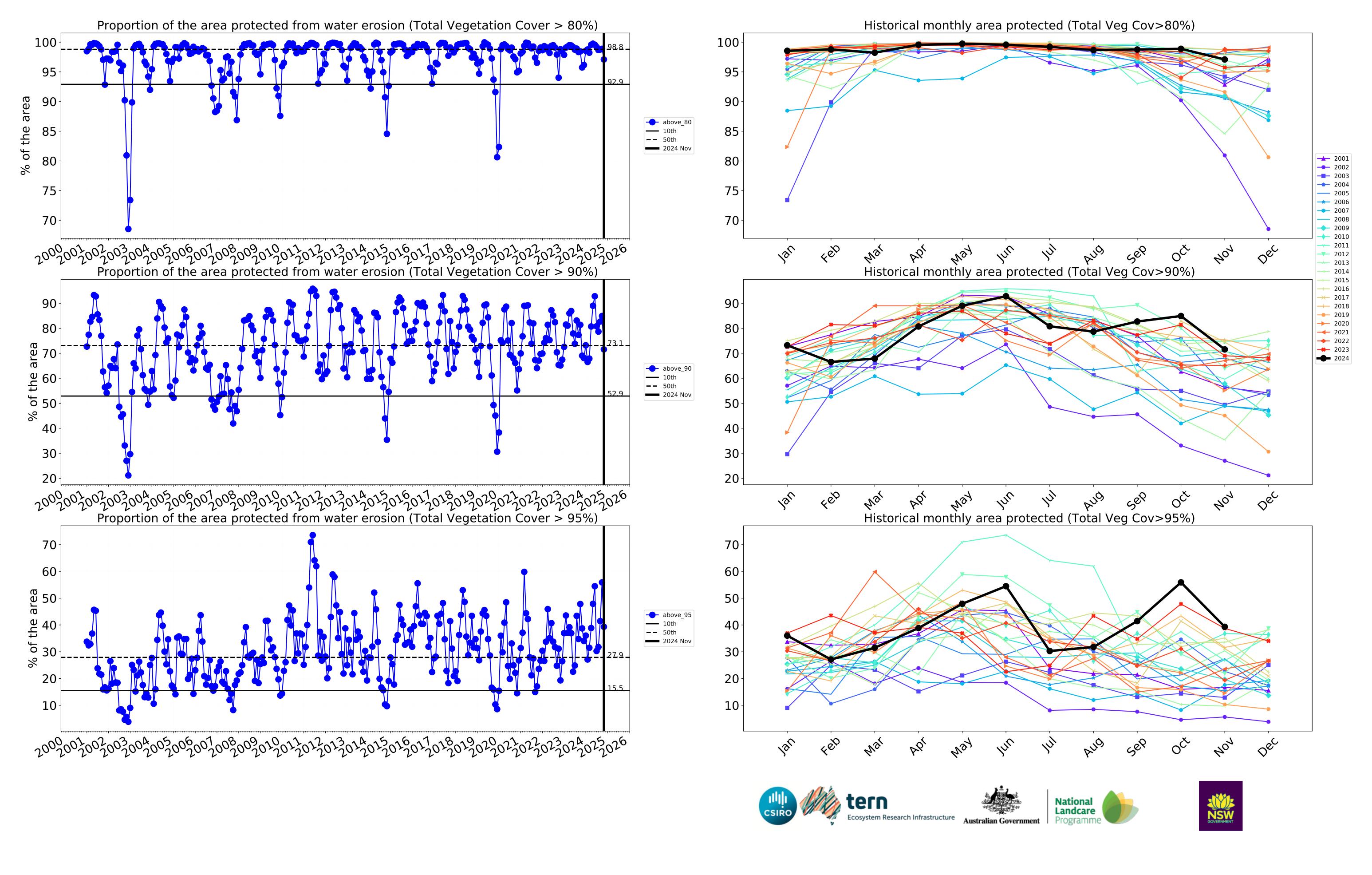




← 2014

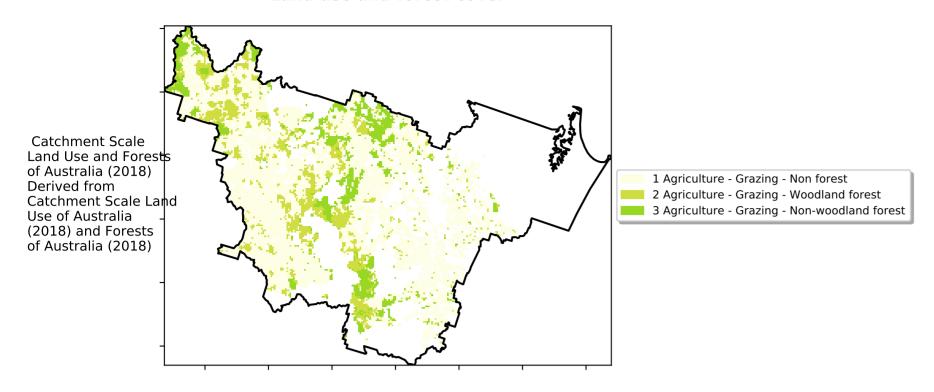
→ 2017 → 2018

023 **2**024

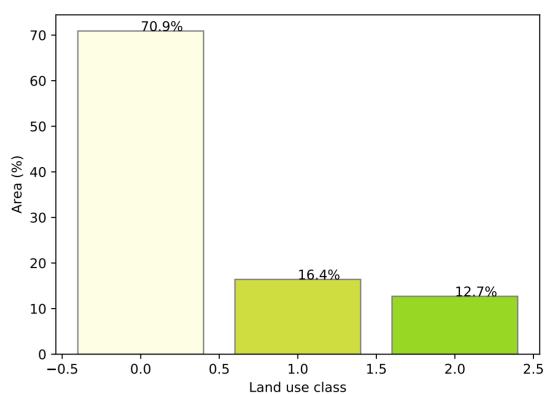


Grazing

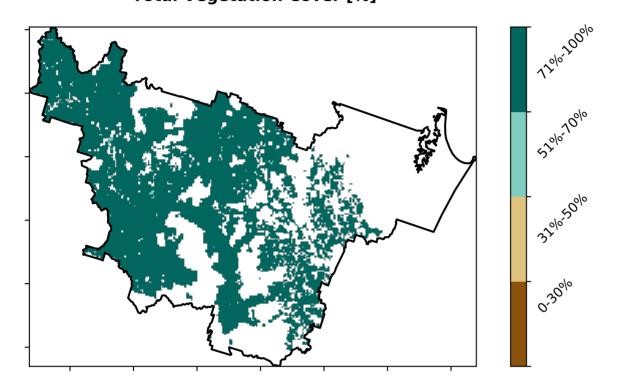
Land use and forest cover



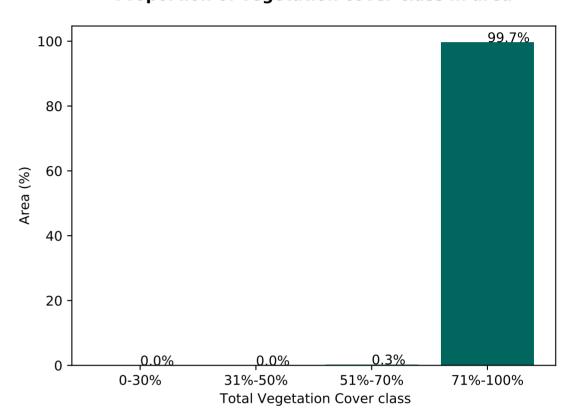
Proportion of each land class in area



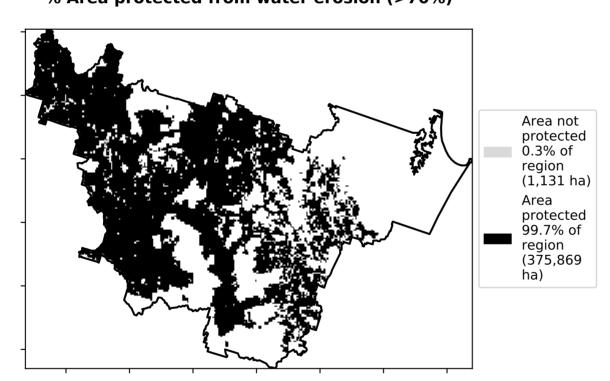
Total Vegetation Cover [%]



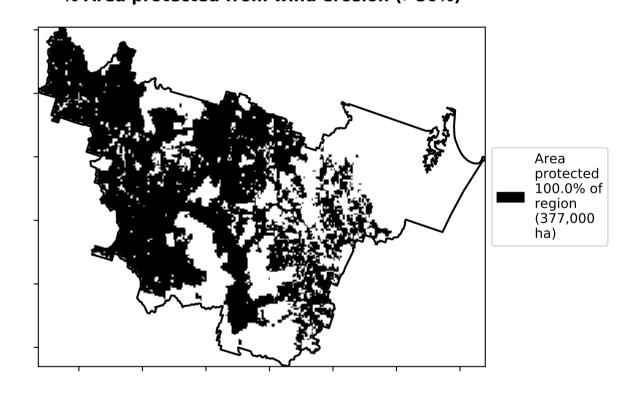
Proportion of vegetation cover class in area



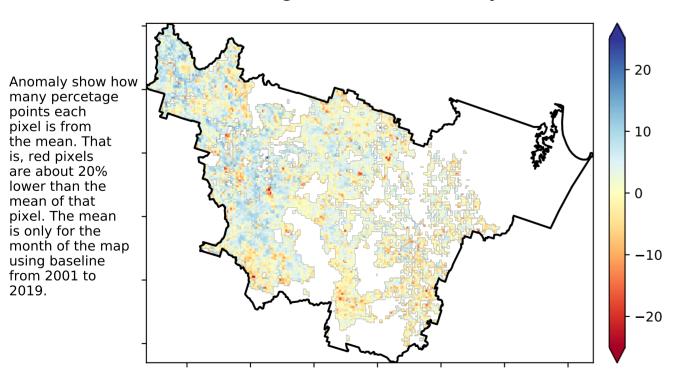
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

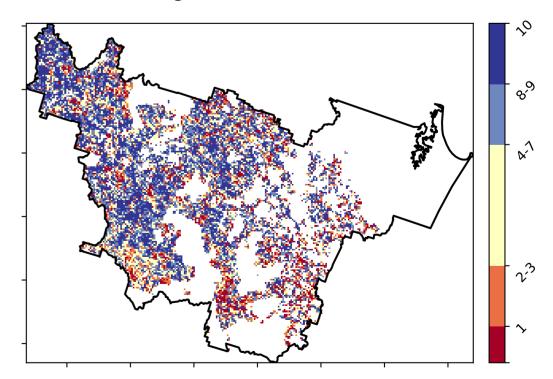


Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



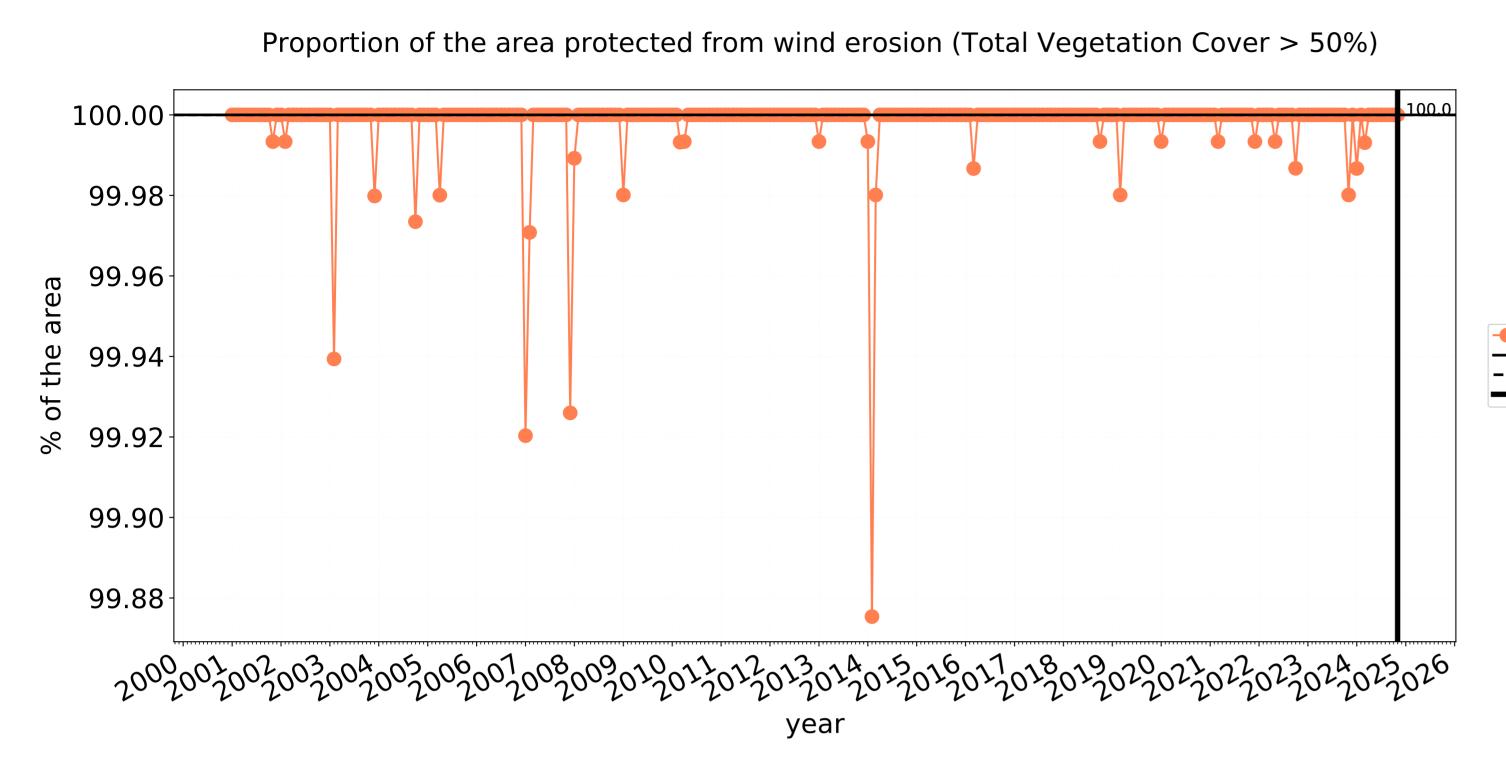


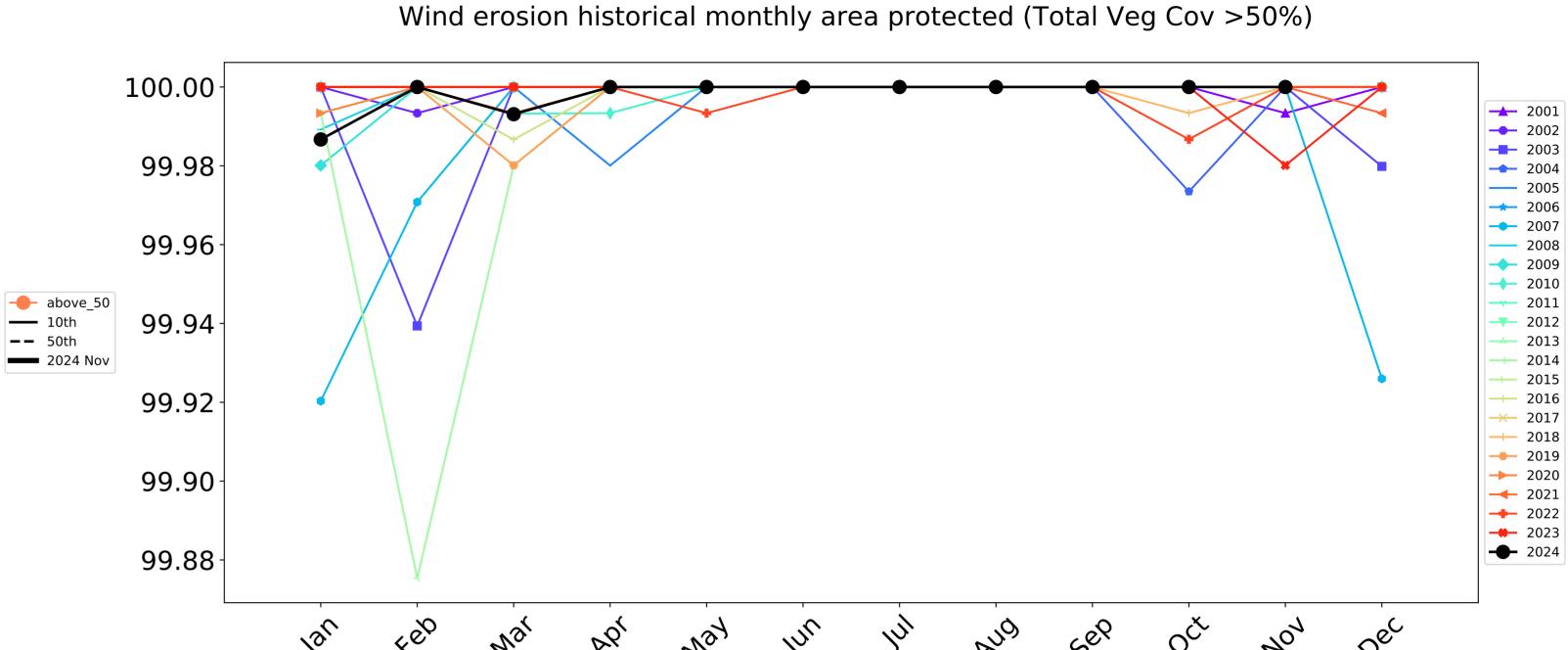




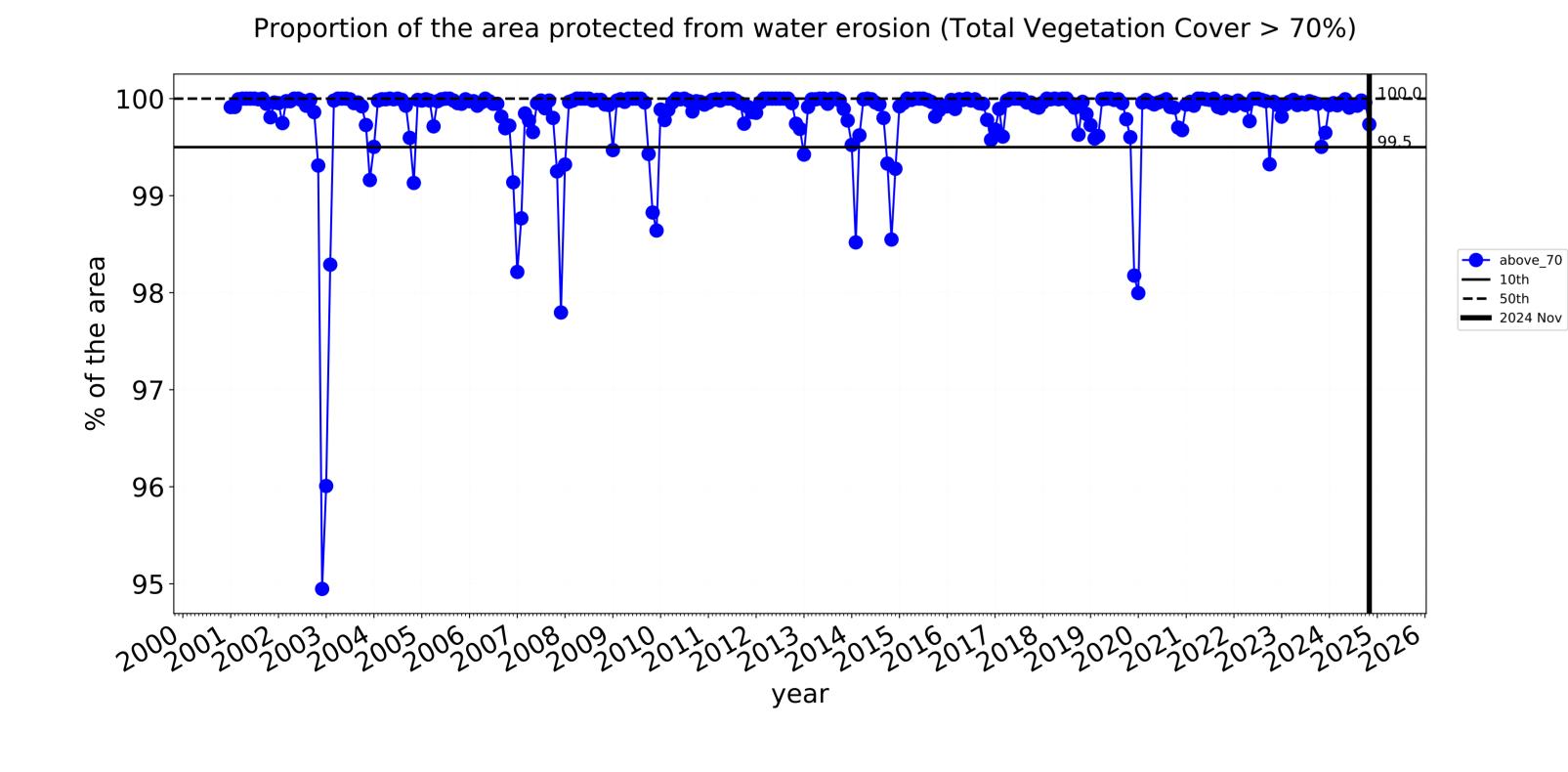


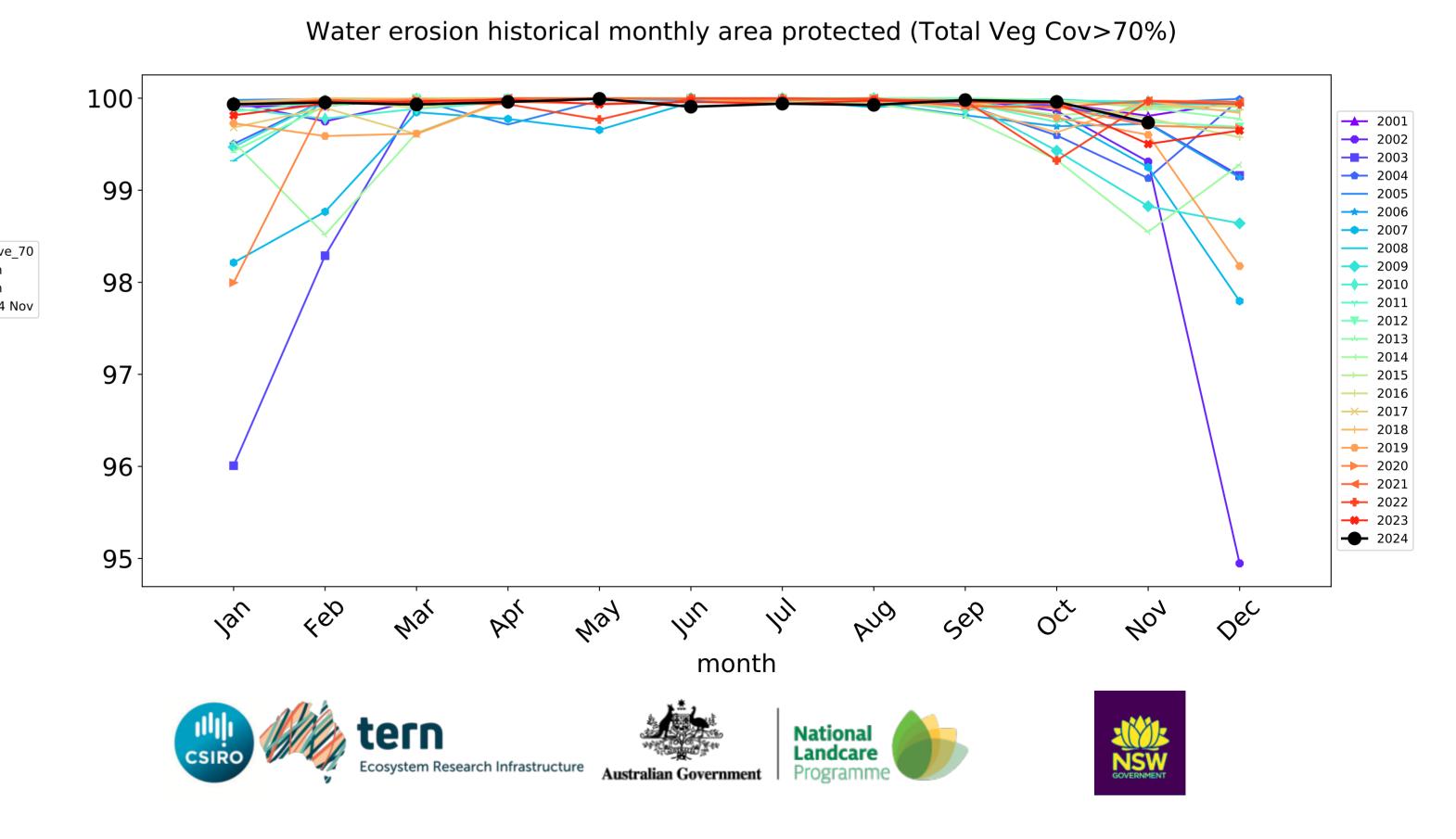
Grazing timeseries

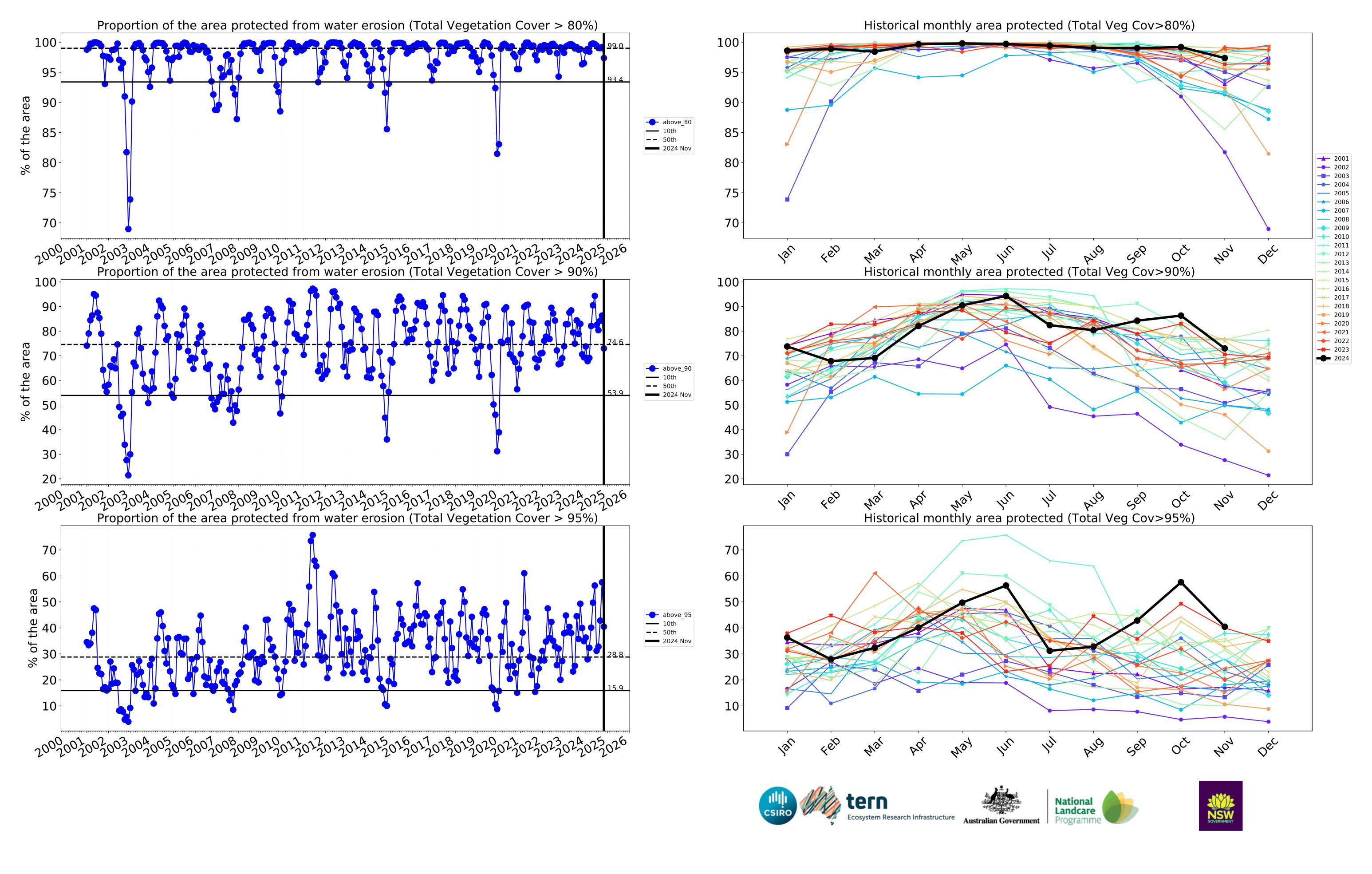




month

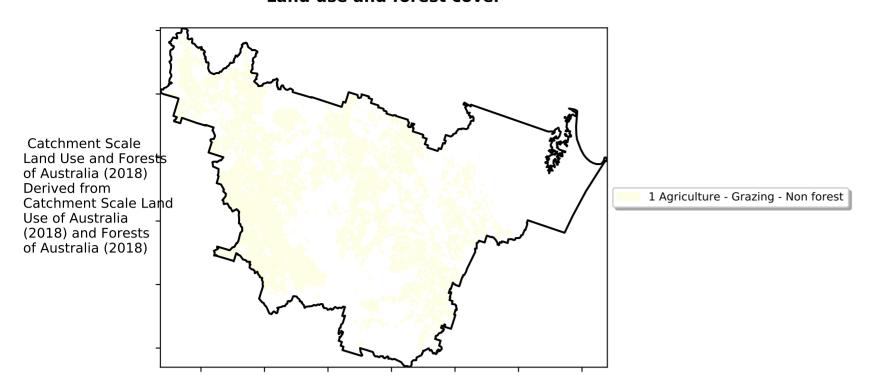




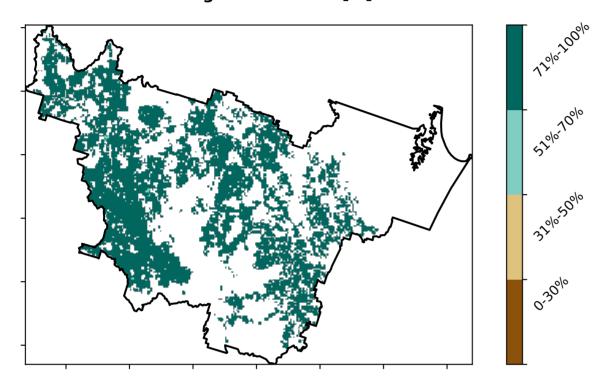


Grazing non forest

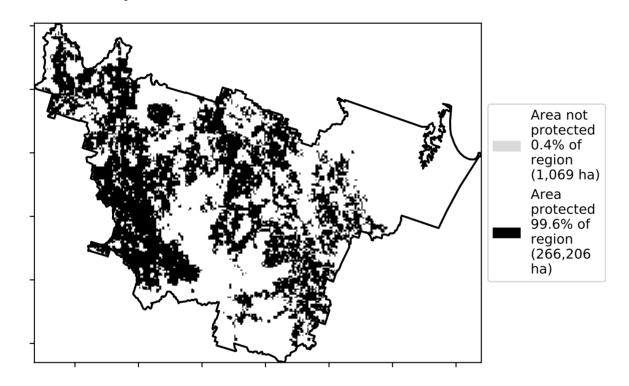
Land use and forest cover



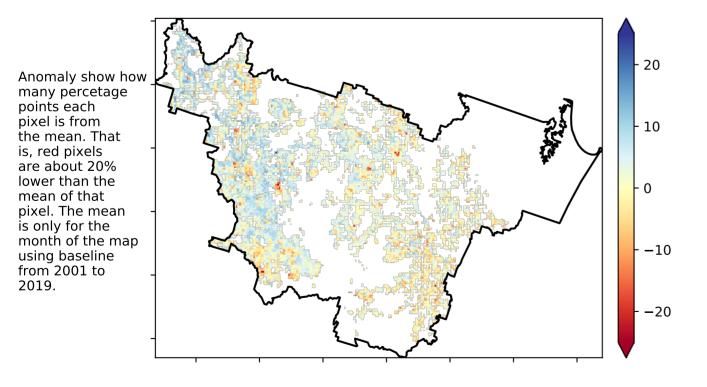
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

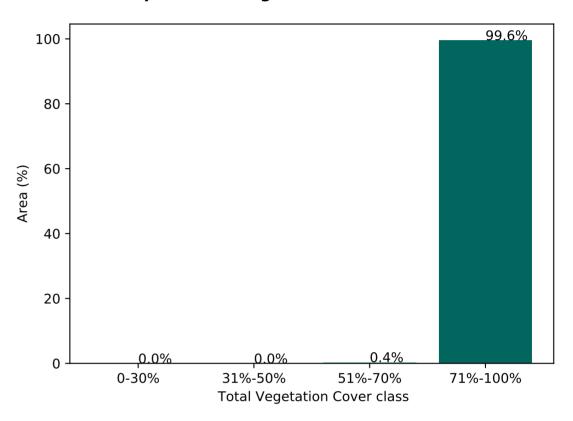


Total Vegetation Cover Anomaly [%]

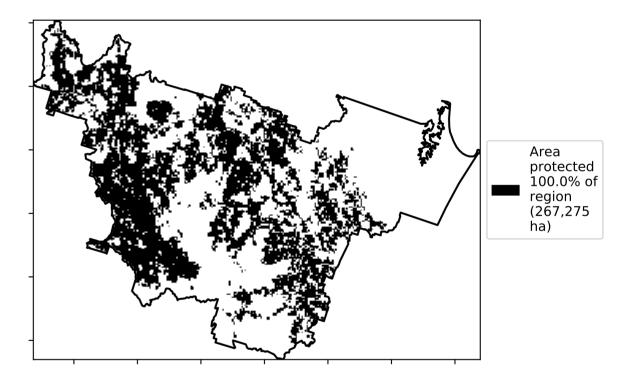


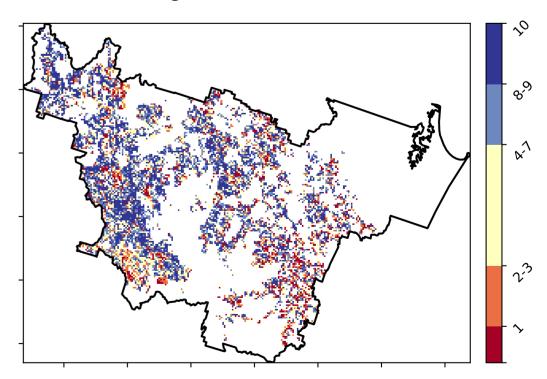
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Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





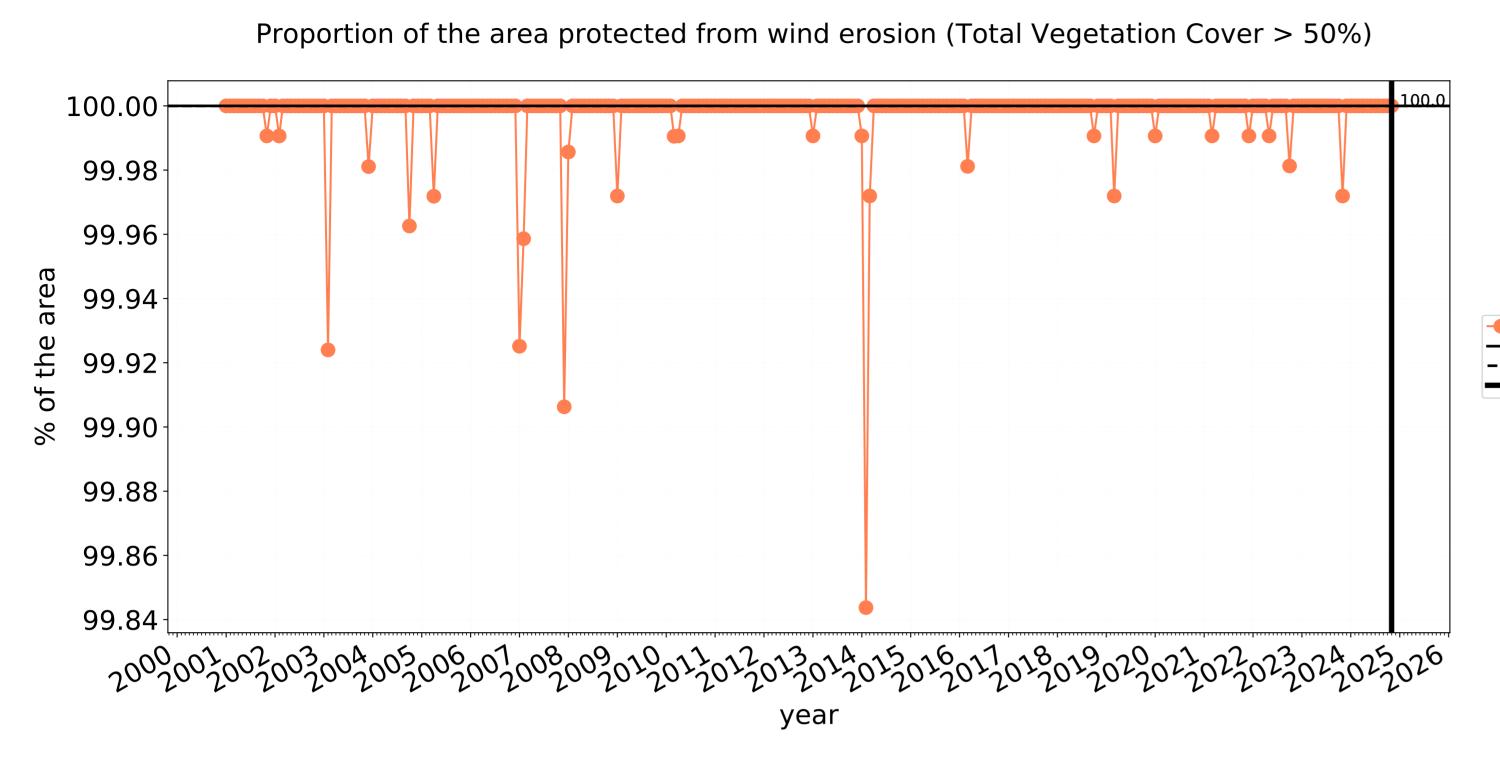


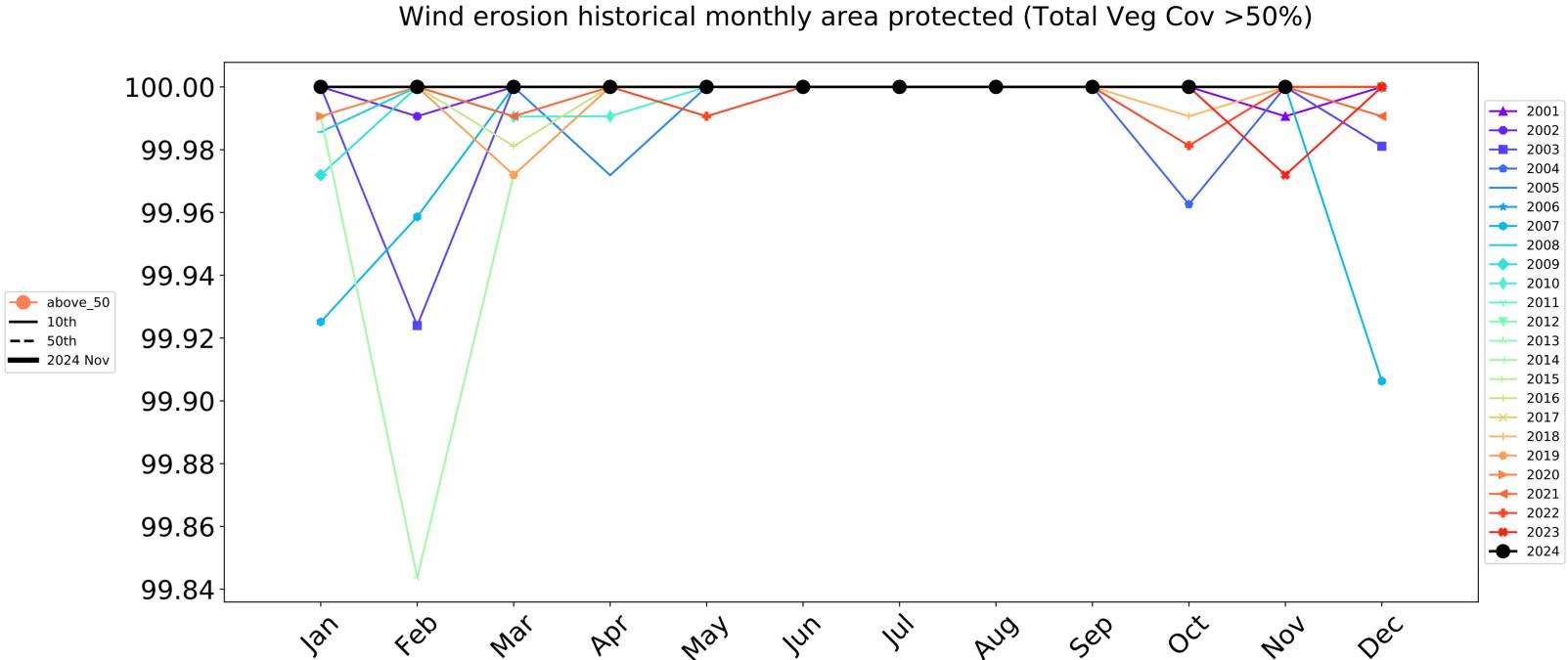




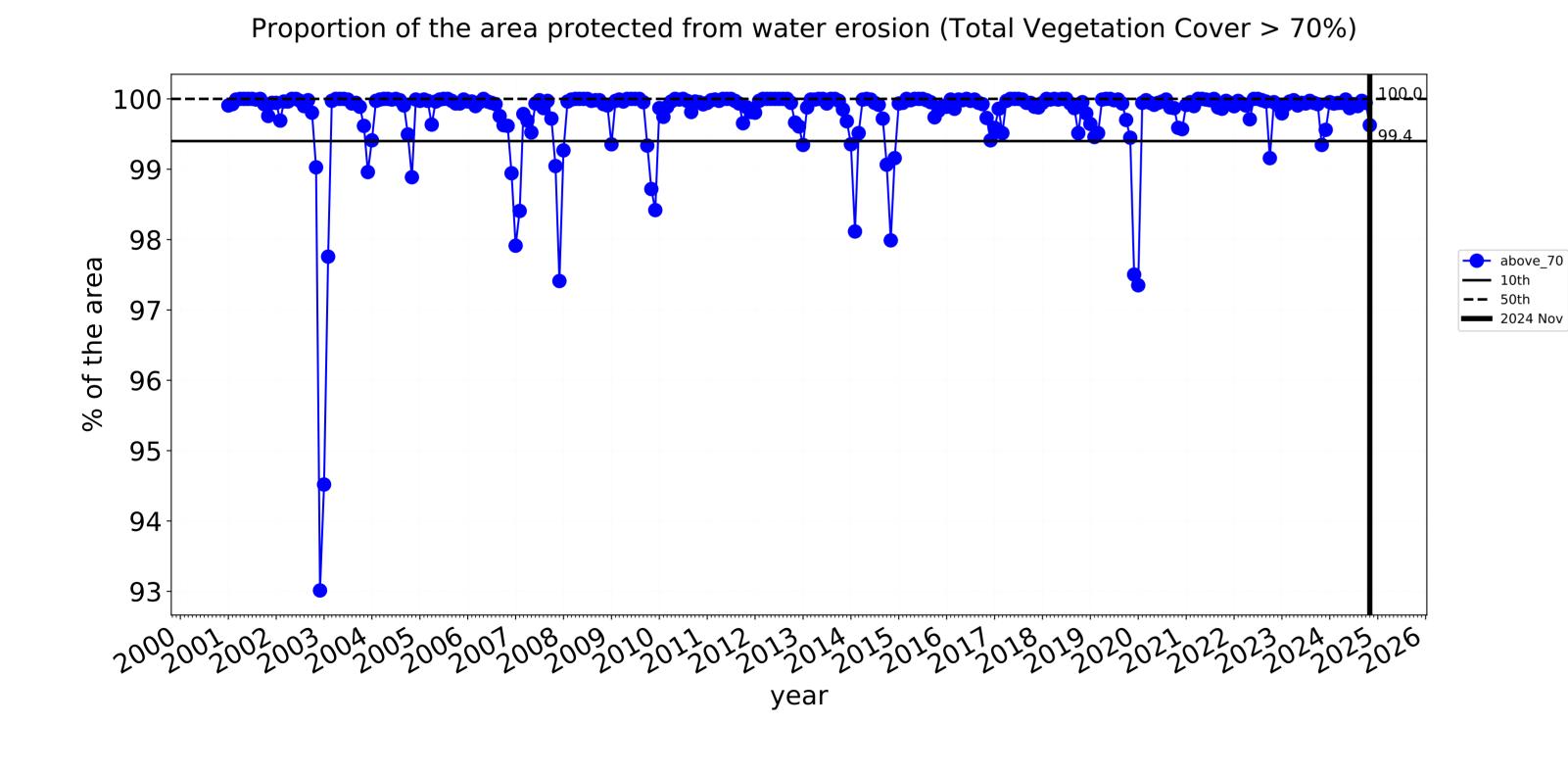


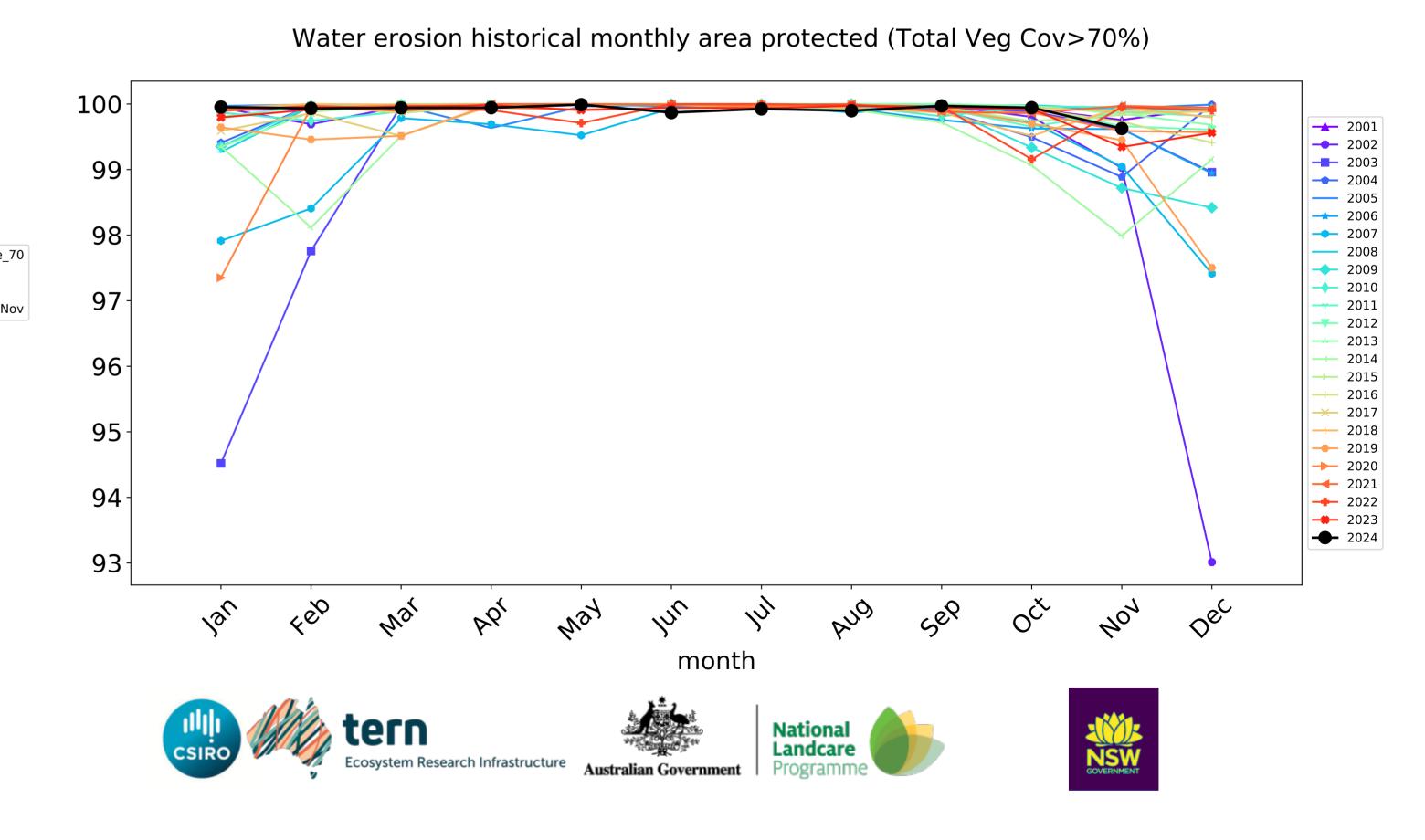
Grazing non forest timeseries

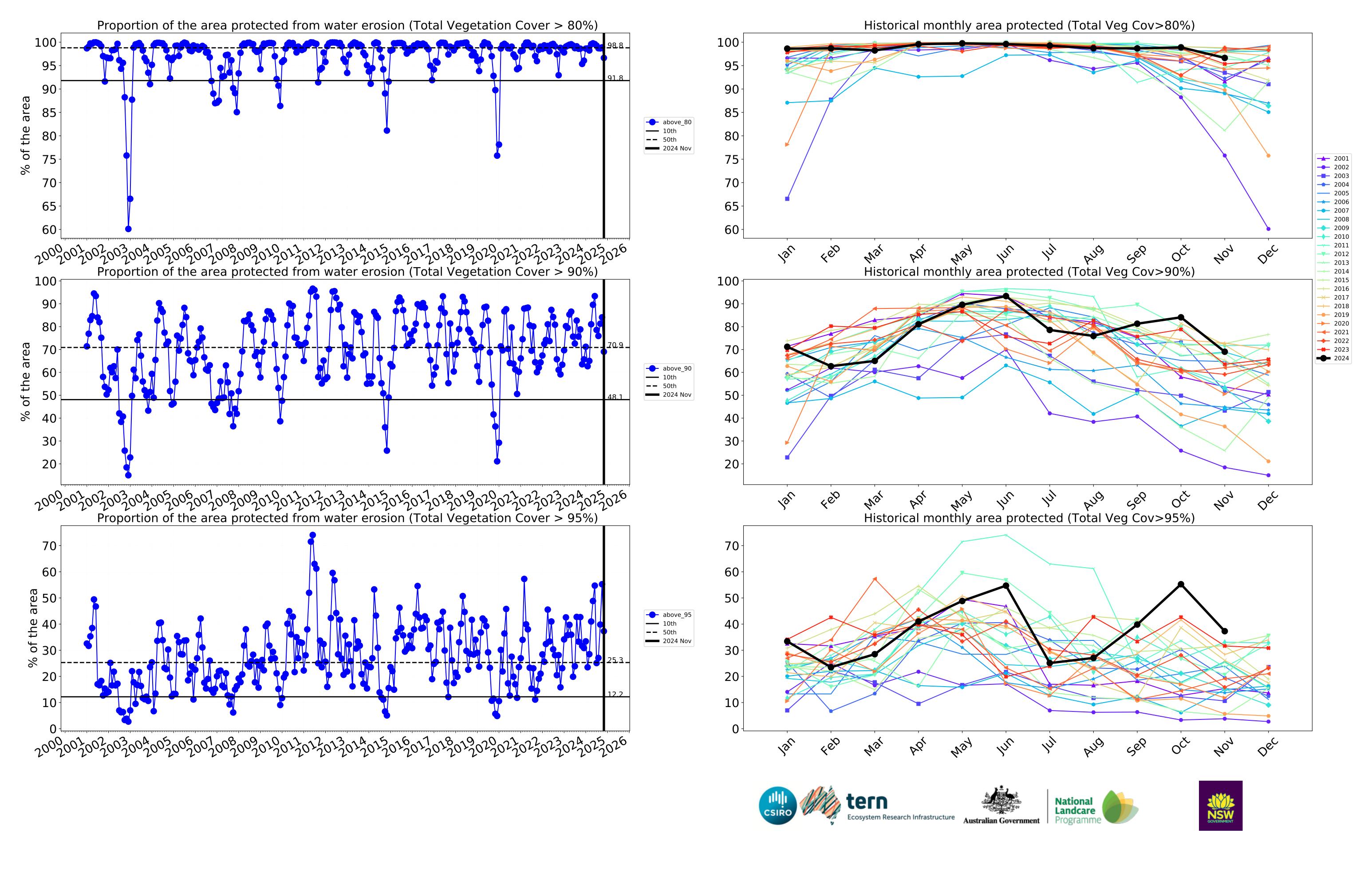




month

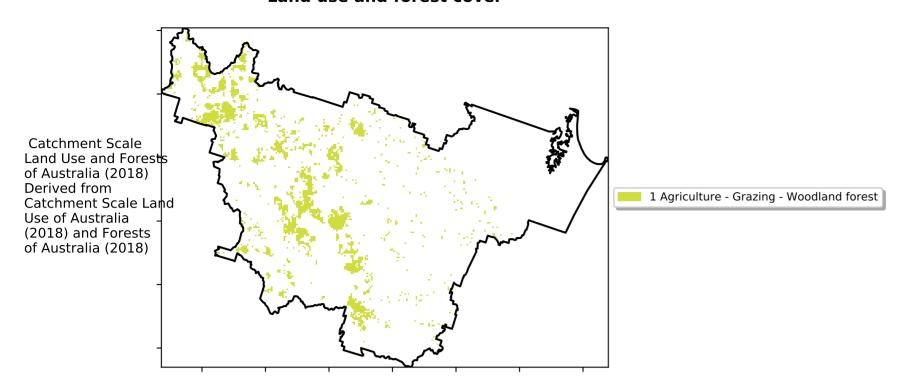




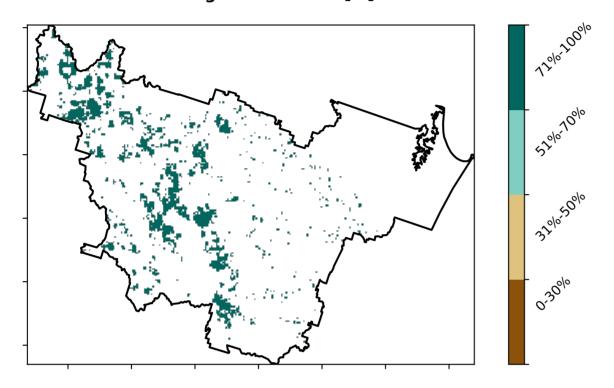


Grazing Woodland forest

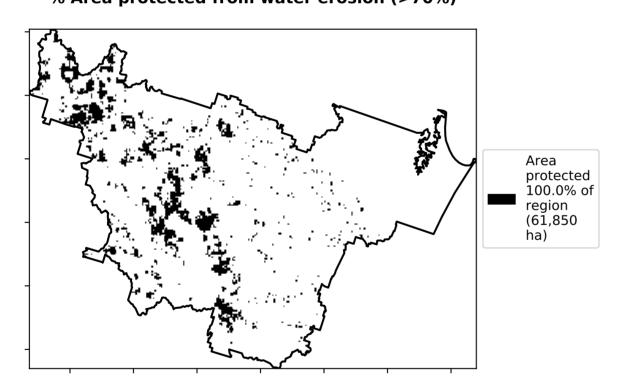
Land use and forest cover



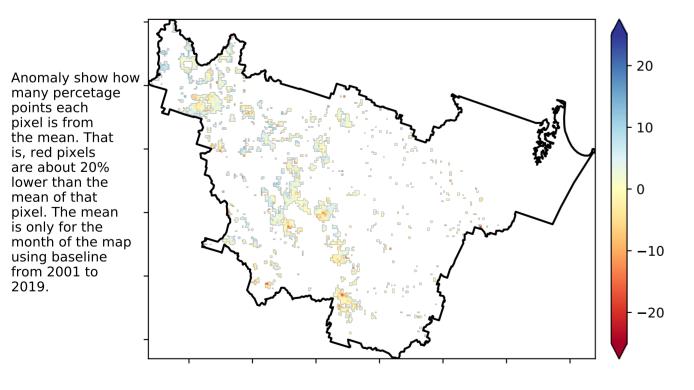
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

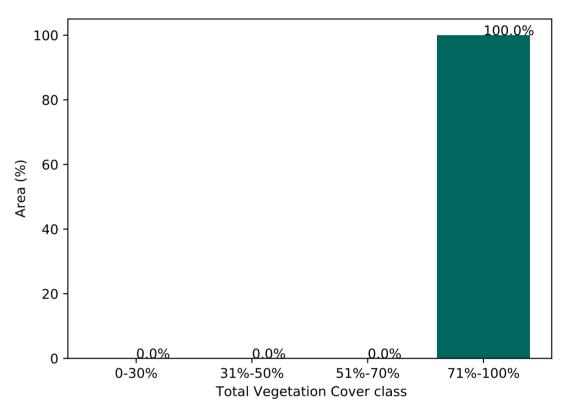


Total Vegetation Cover Anomaly [%]

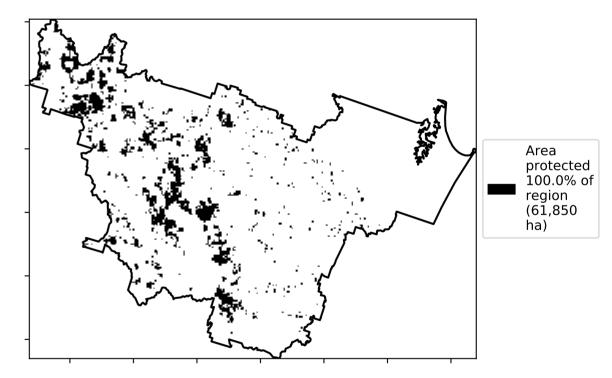


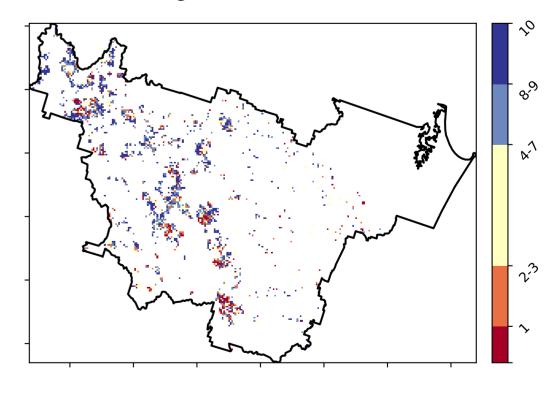
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





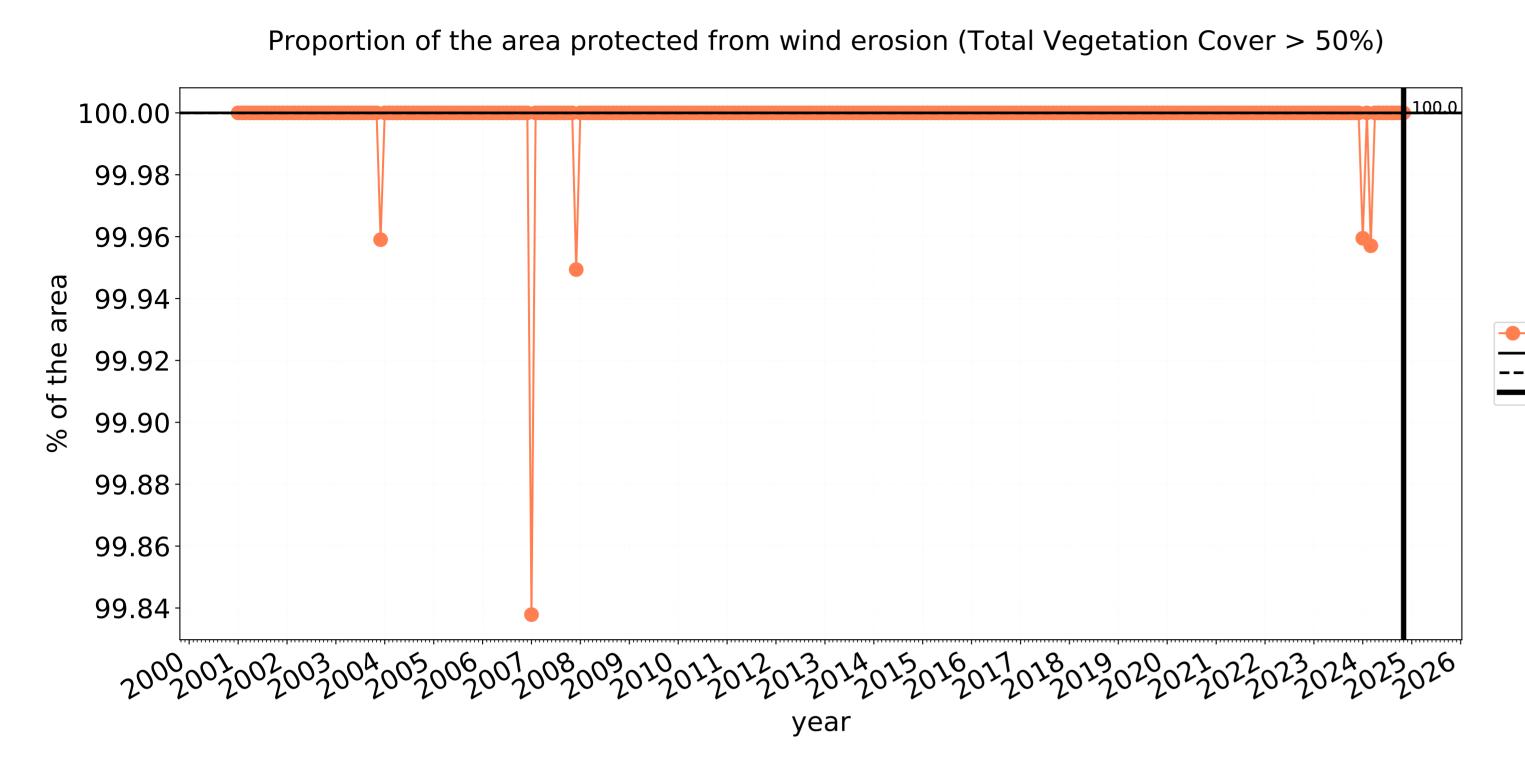


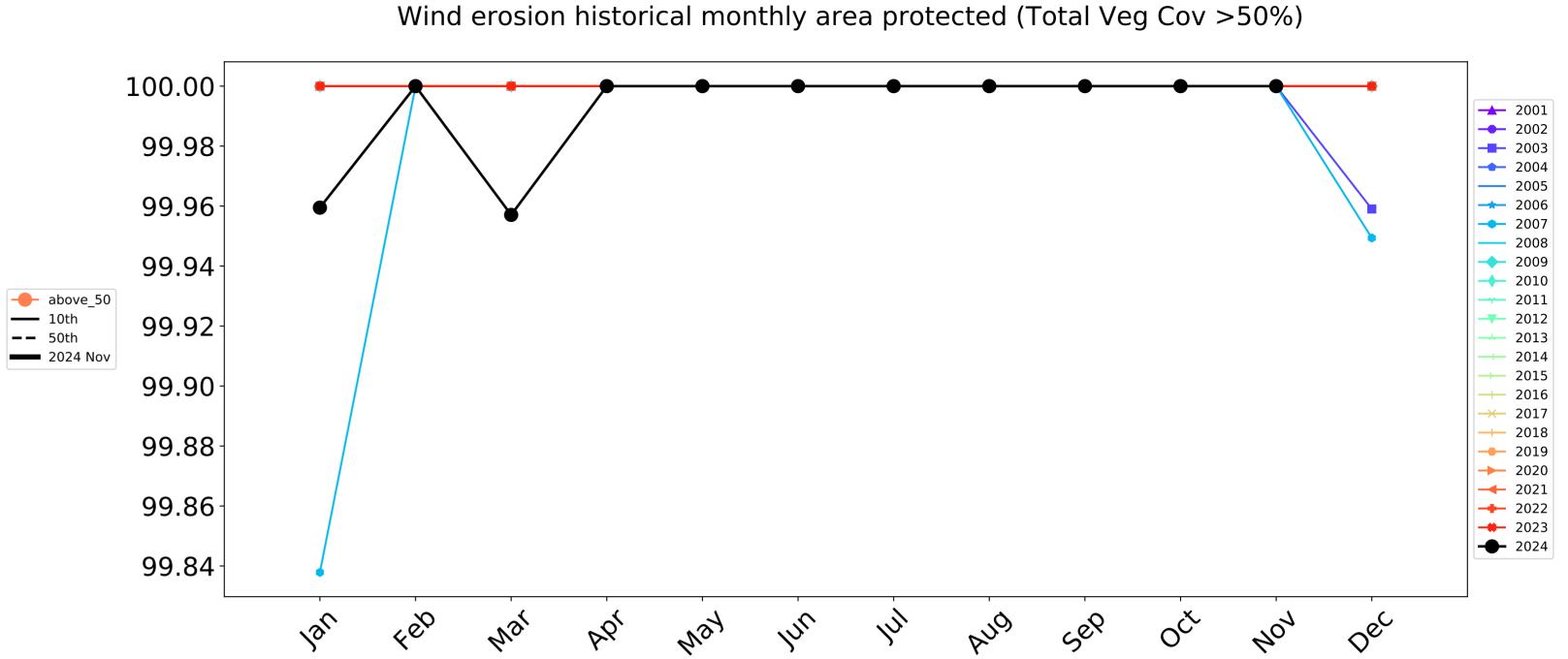






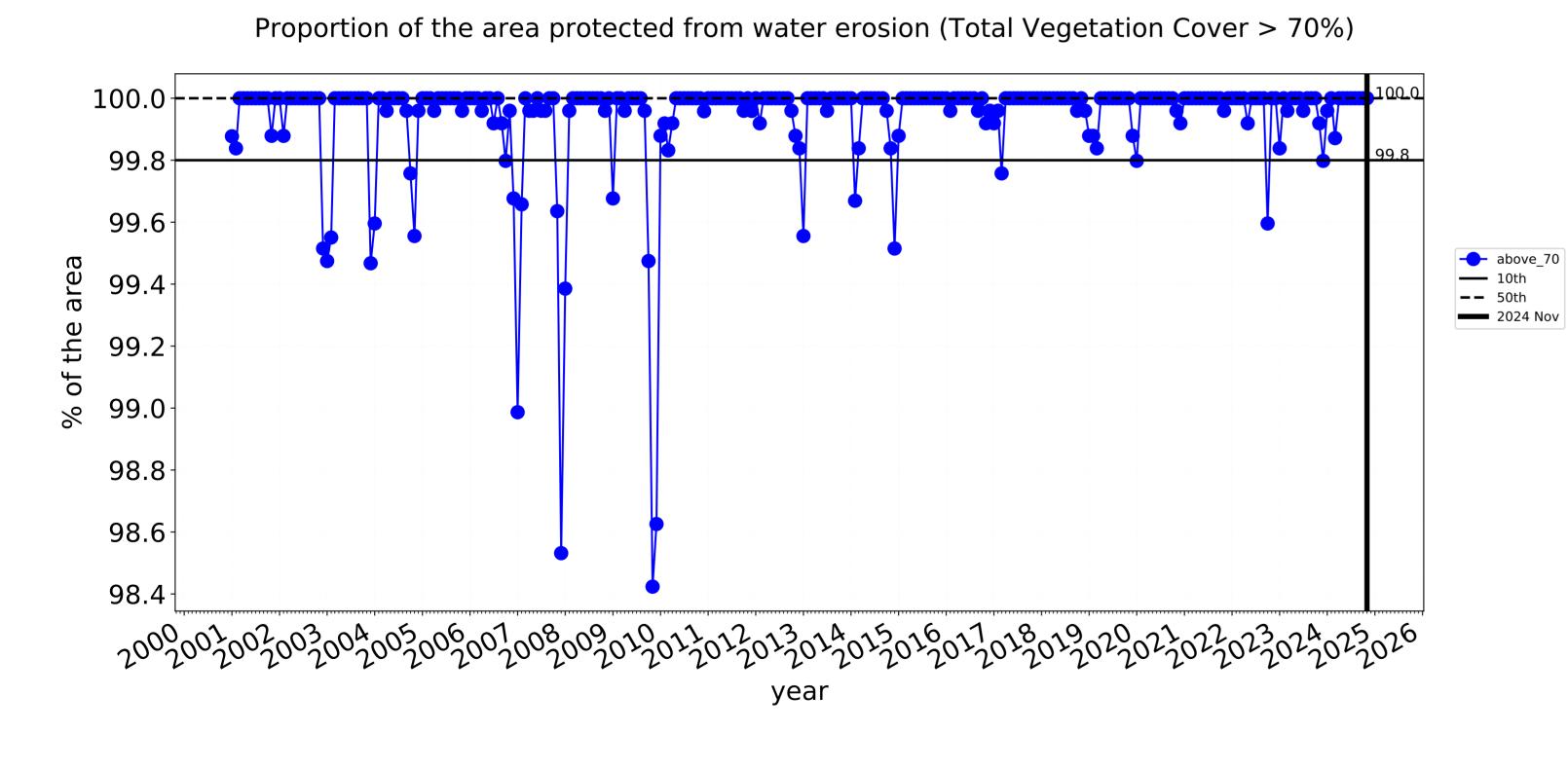
Grazing Woodland forest timeseries

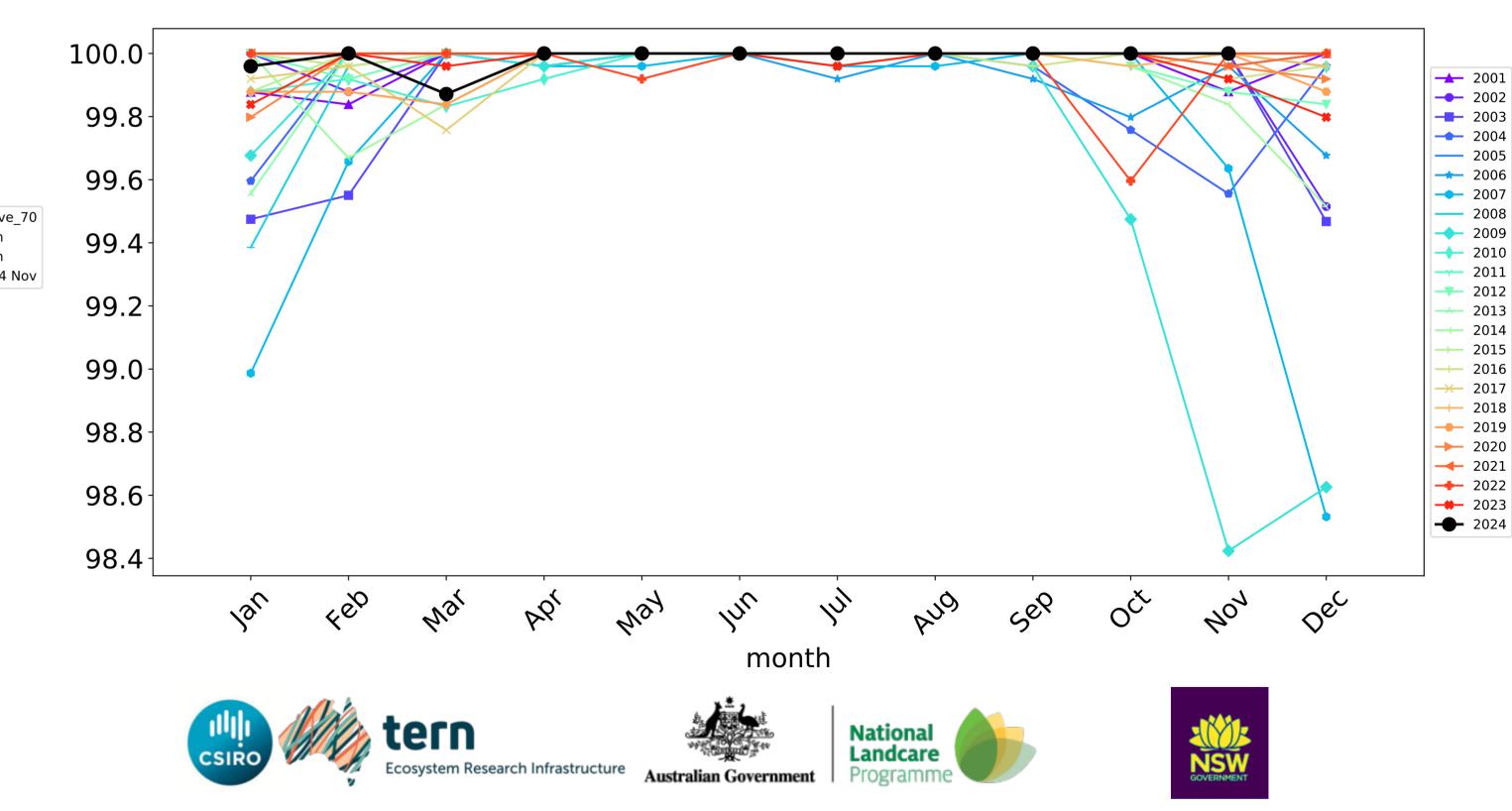


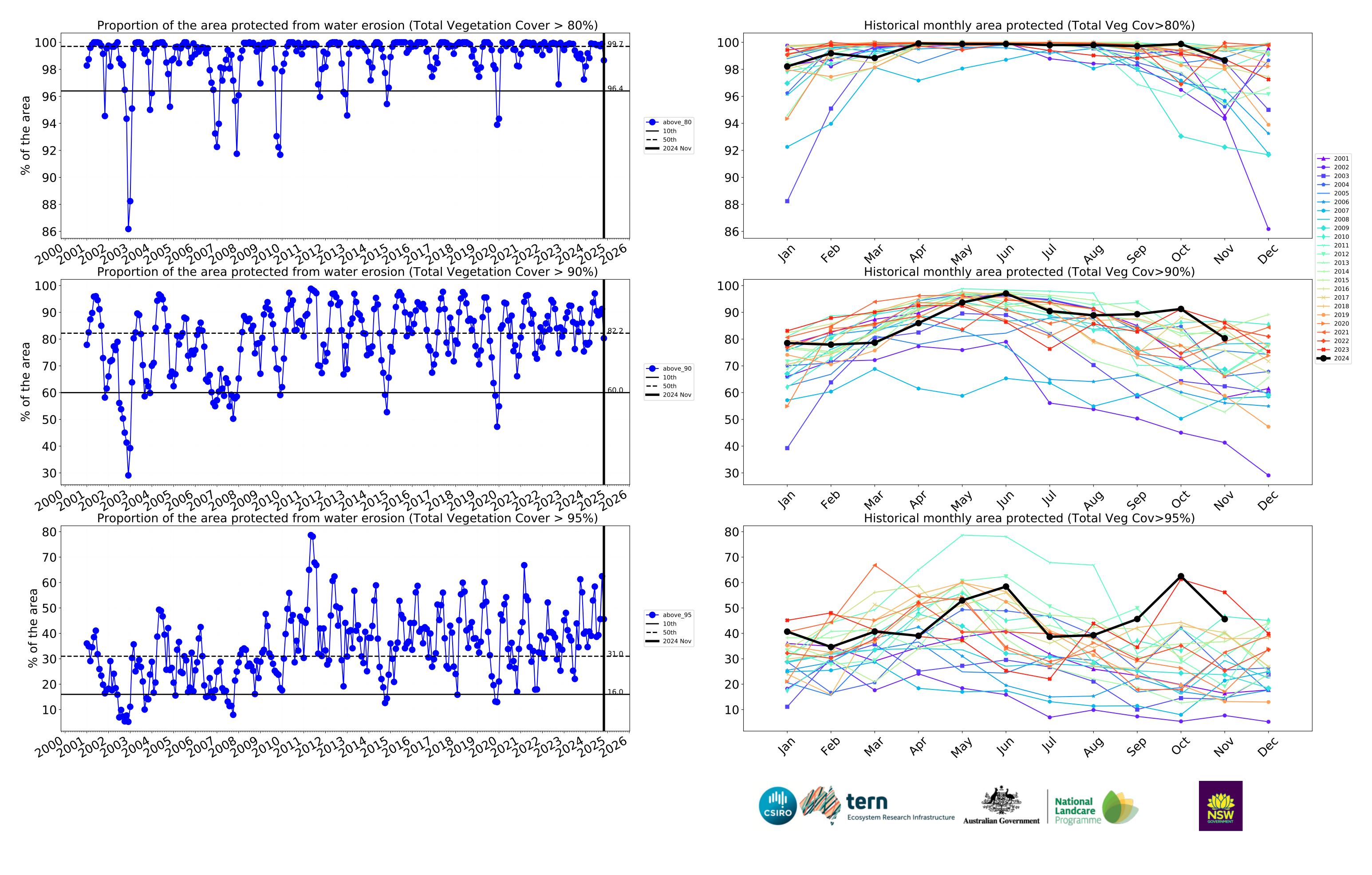


month

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

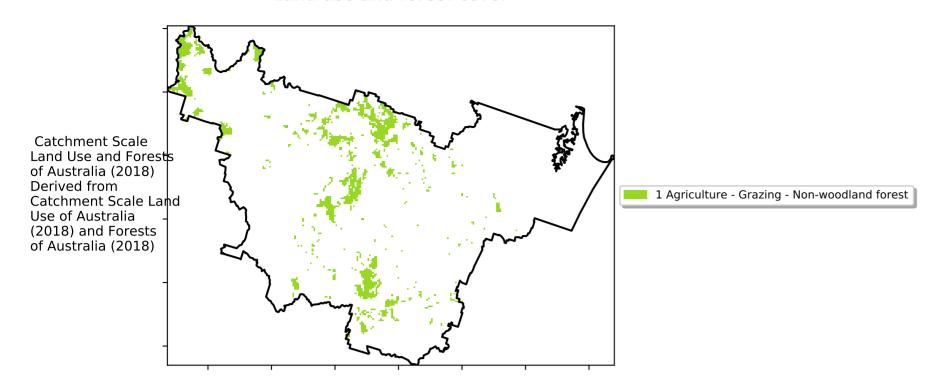




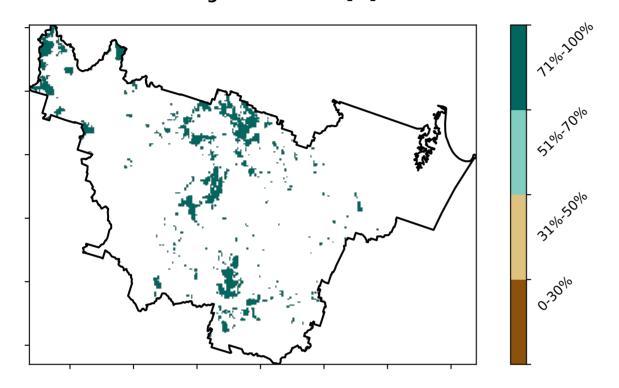


Grazing - Forest (non woodland)

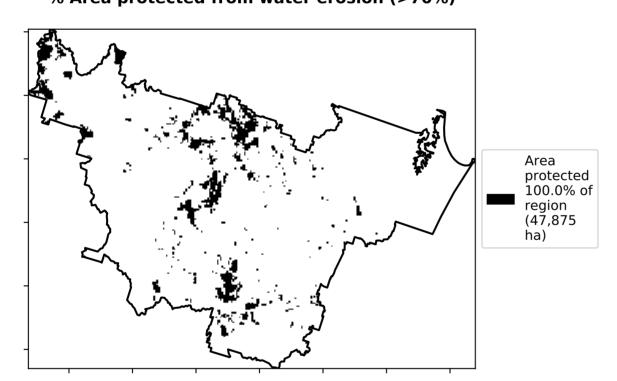
Land use and forest cover



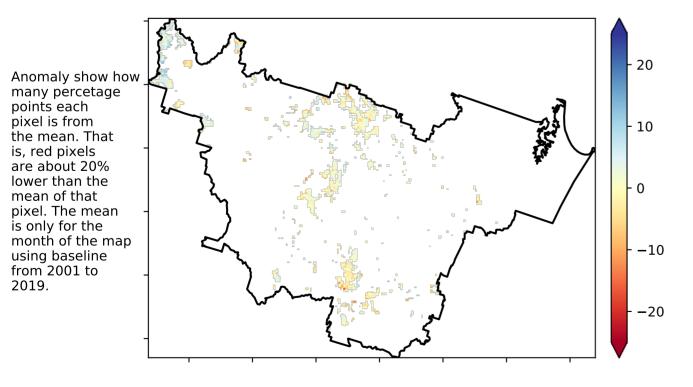
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

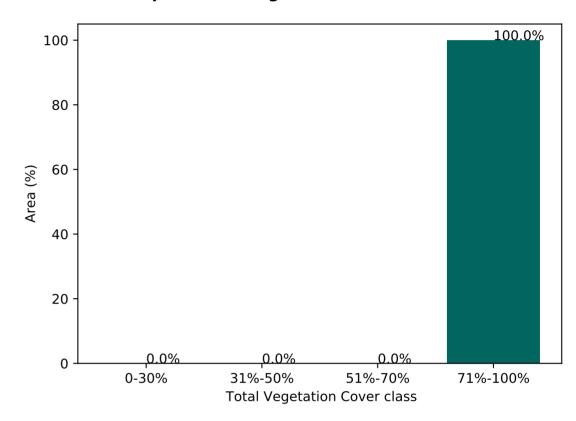


Total Vegetation Cover Anomaly [%]

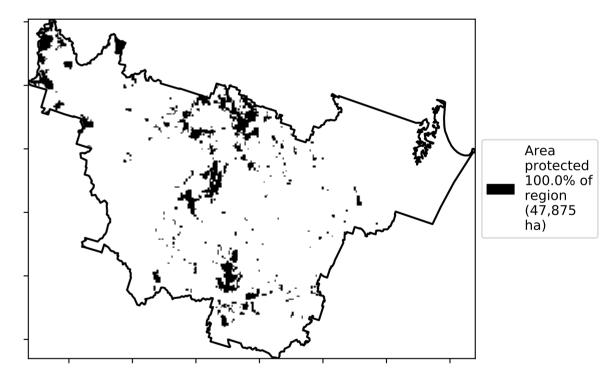


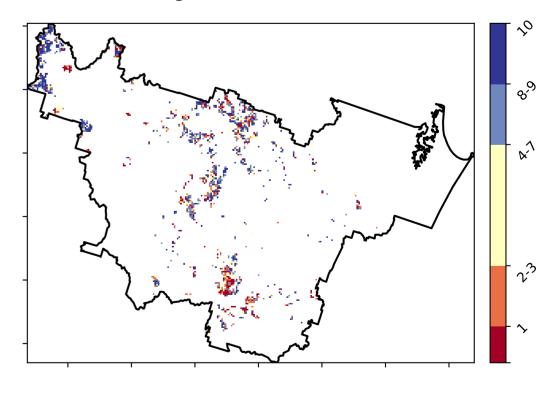
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Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



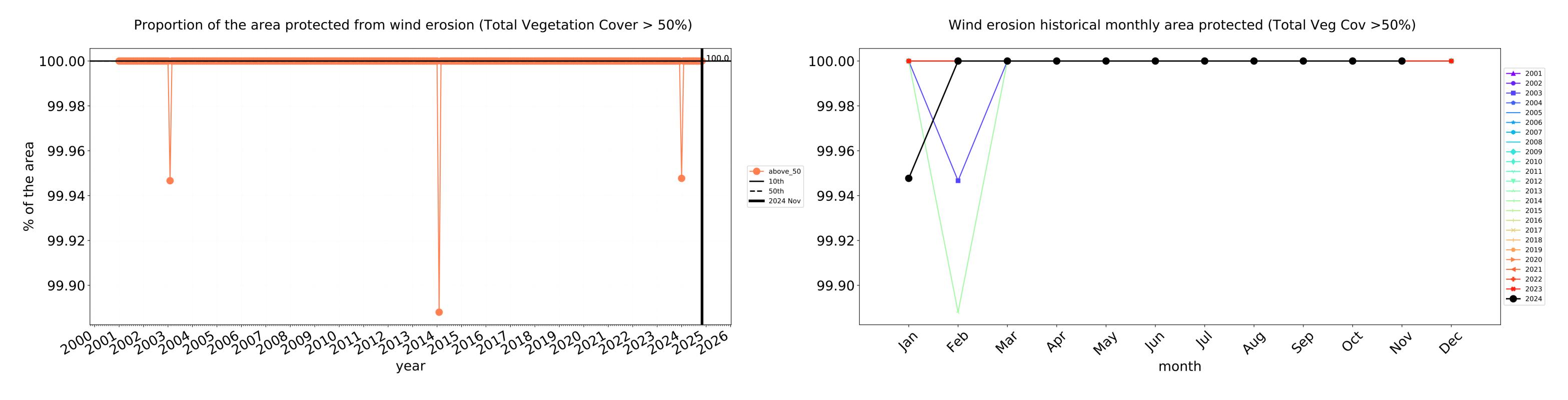


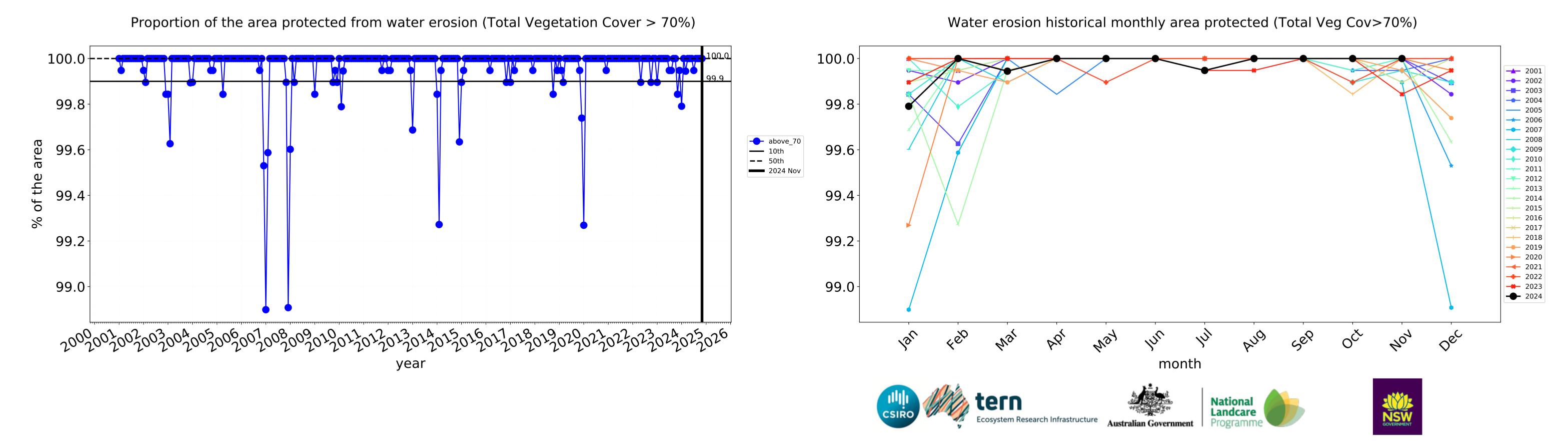


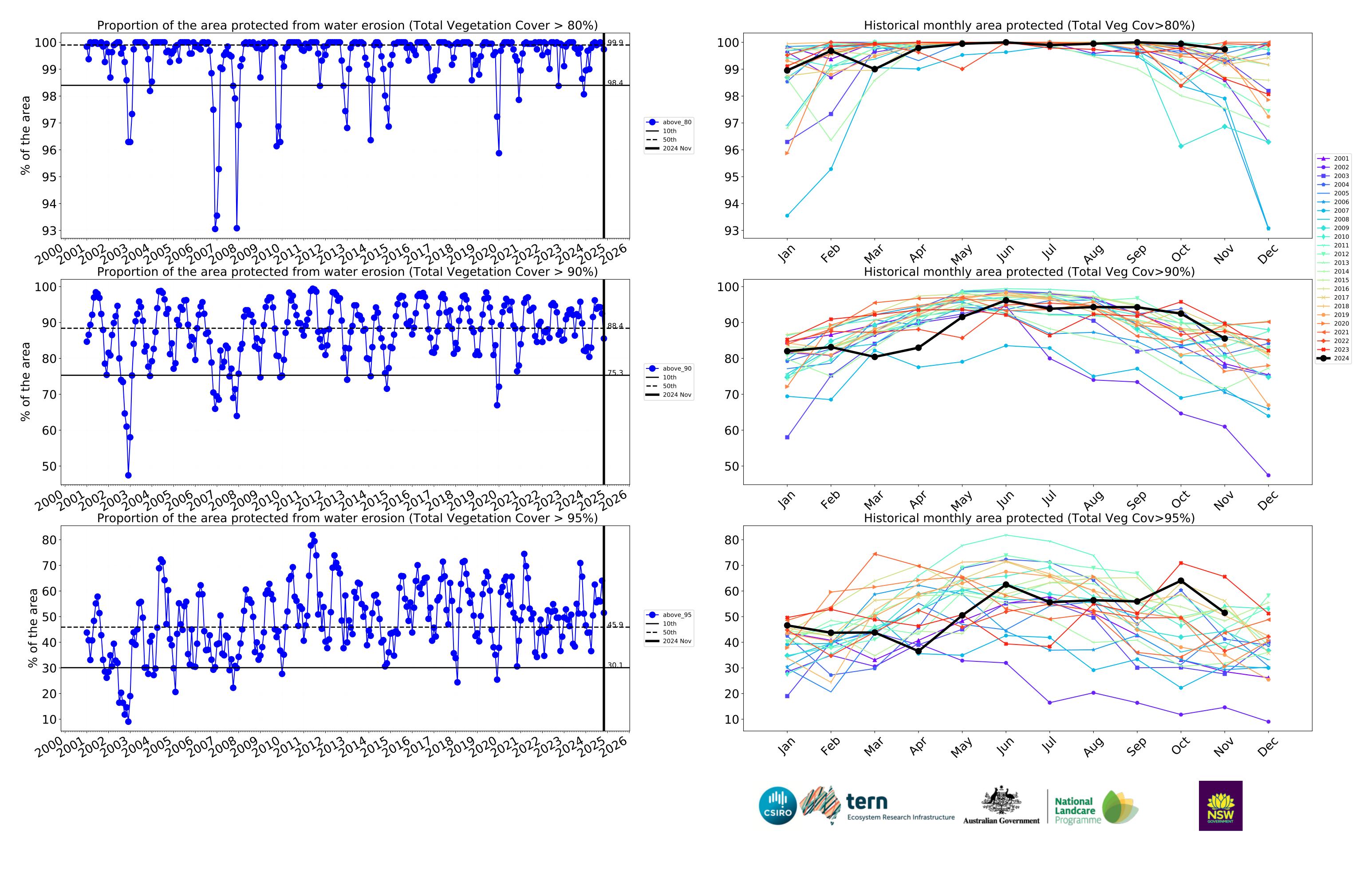








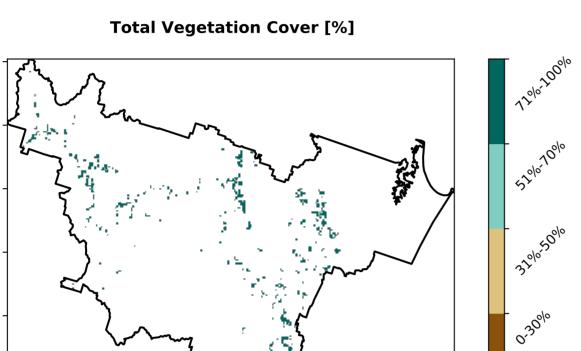


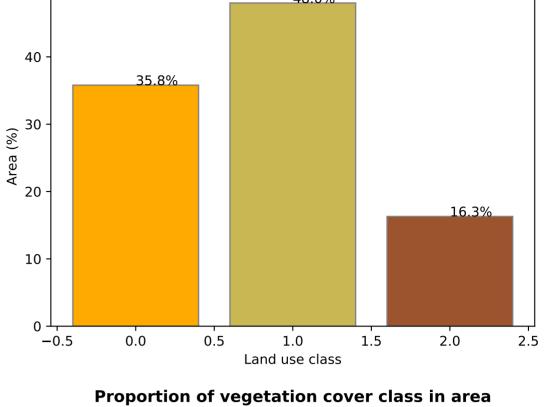


Irrigation

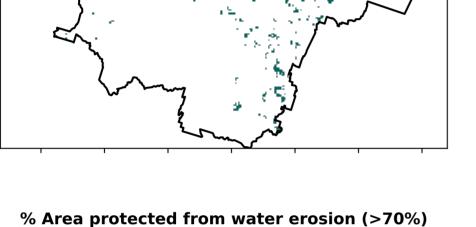
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests 1 Agriculture - Grazing - Irrigated 2 Agriculture - Cropping - Irrigated 3 Agriculture - Horticulture - Irrigated of Australia (2018)

Proportion of each land class in area 50 48.0% 40 35.8% Area (%) 0 20 16.3% 10 -0.50.5 1.0 0.0 1.5 2.0

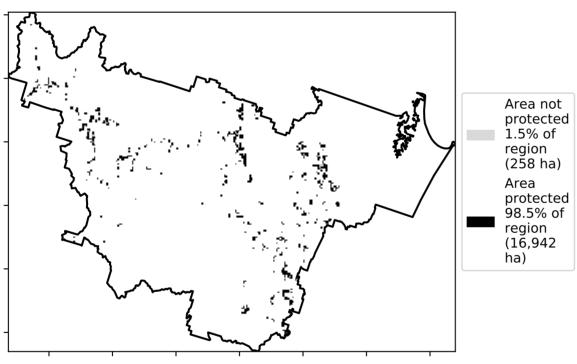


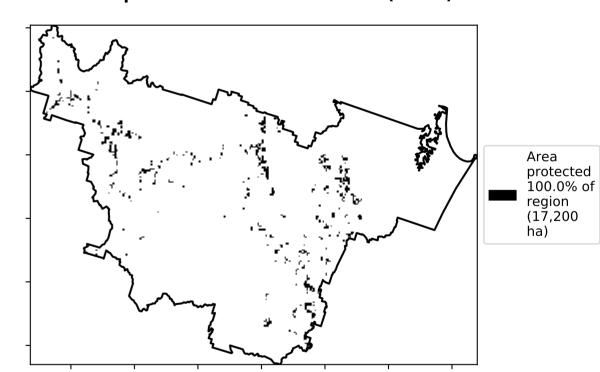


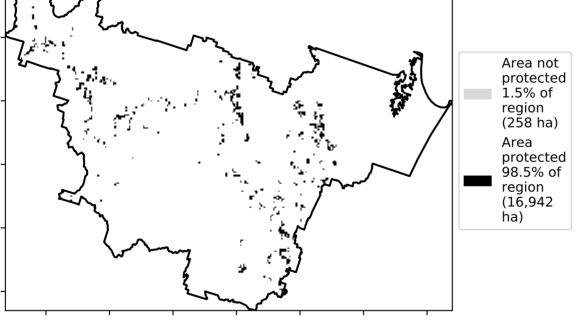
98.5% 100 80 Area (%) 60 20 0.0% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**



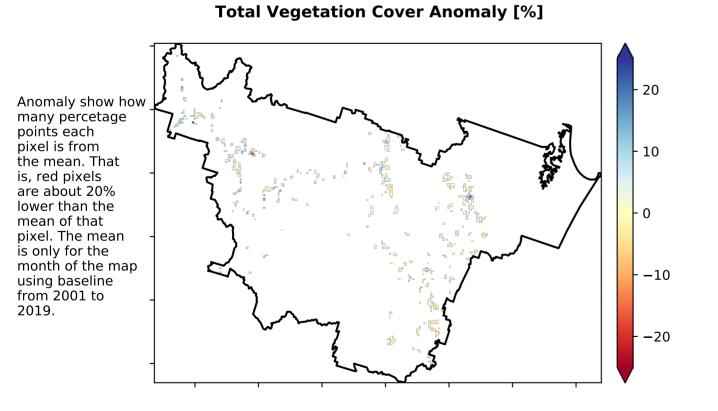
% Area protected from wind erosion (>50%)

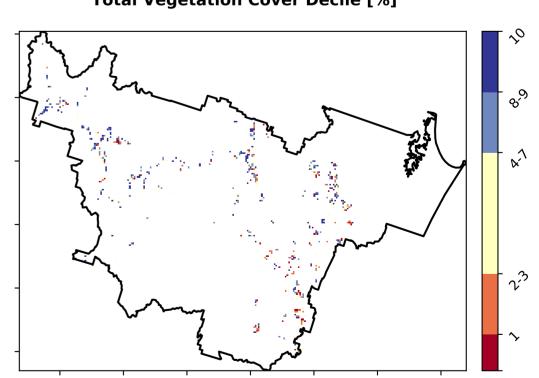






Total Vegetation Cover Decile [%]





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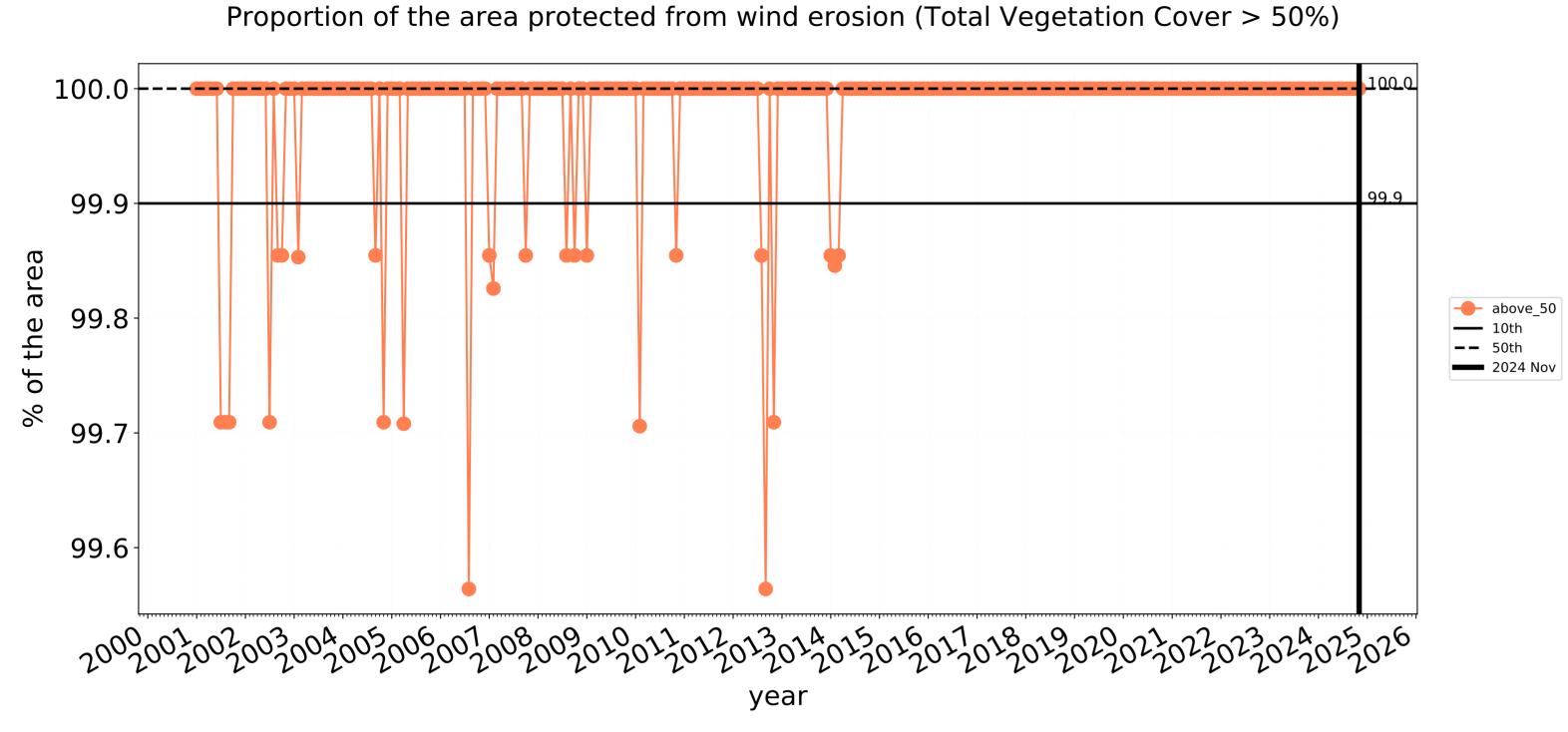


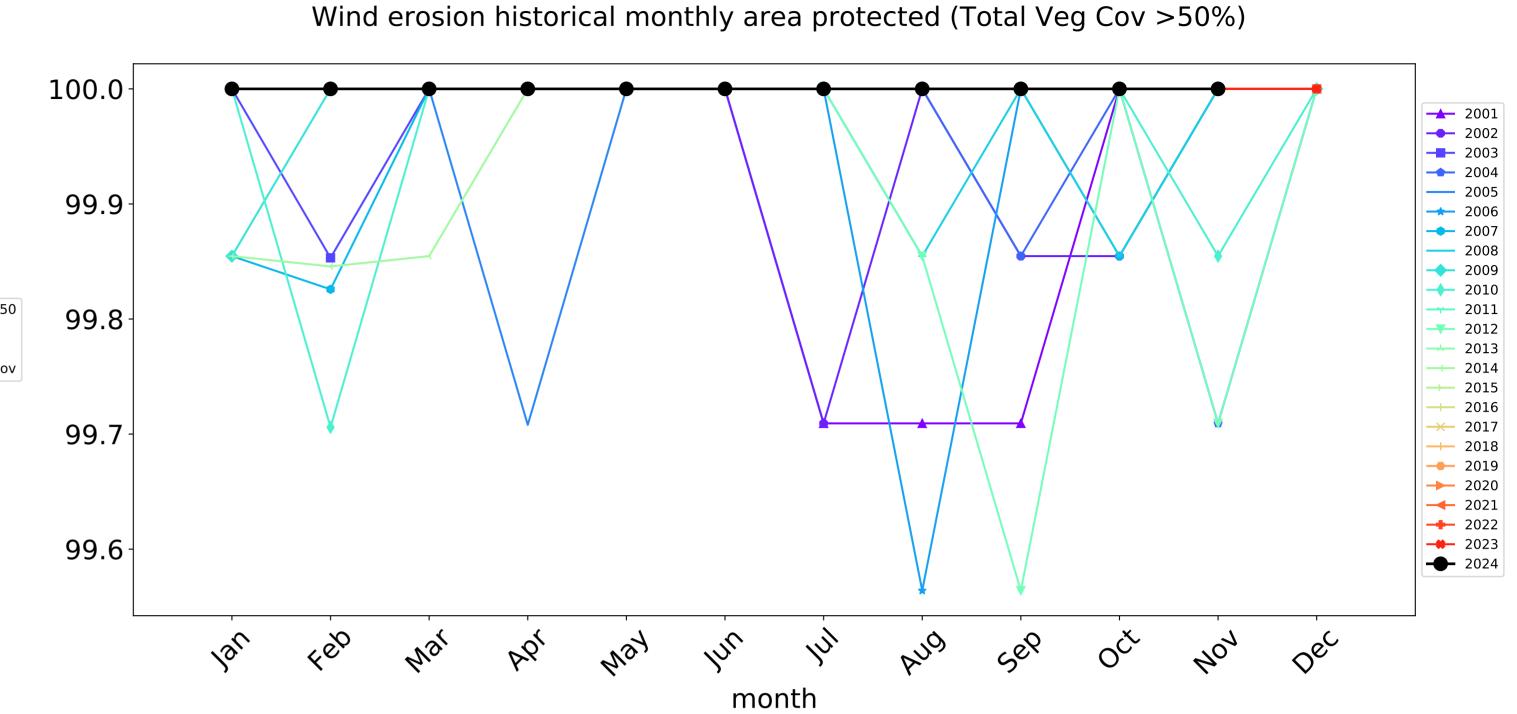


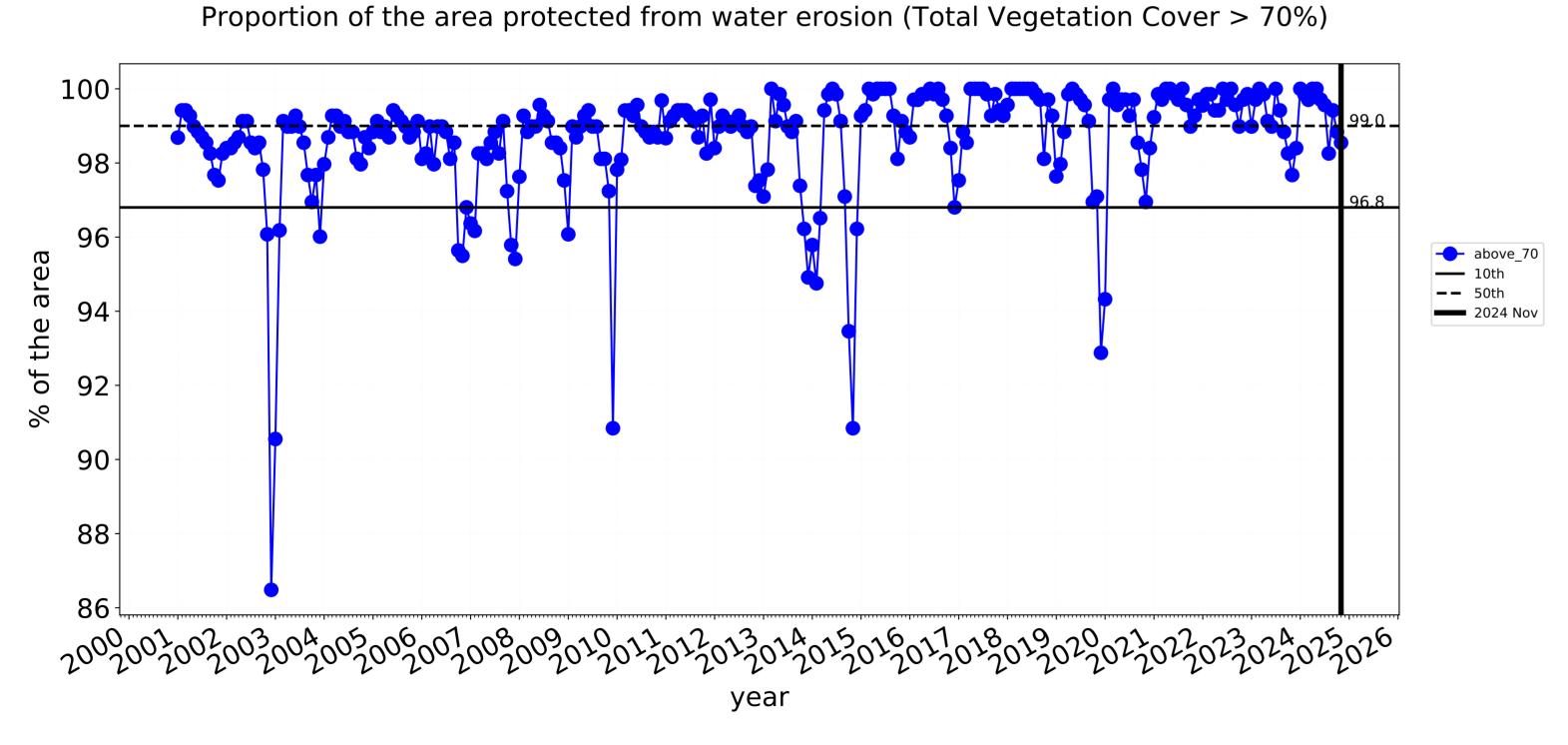


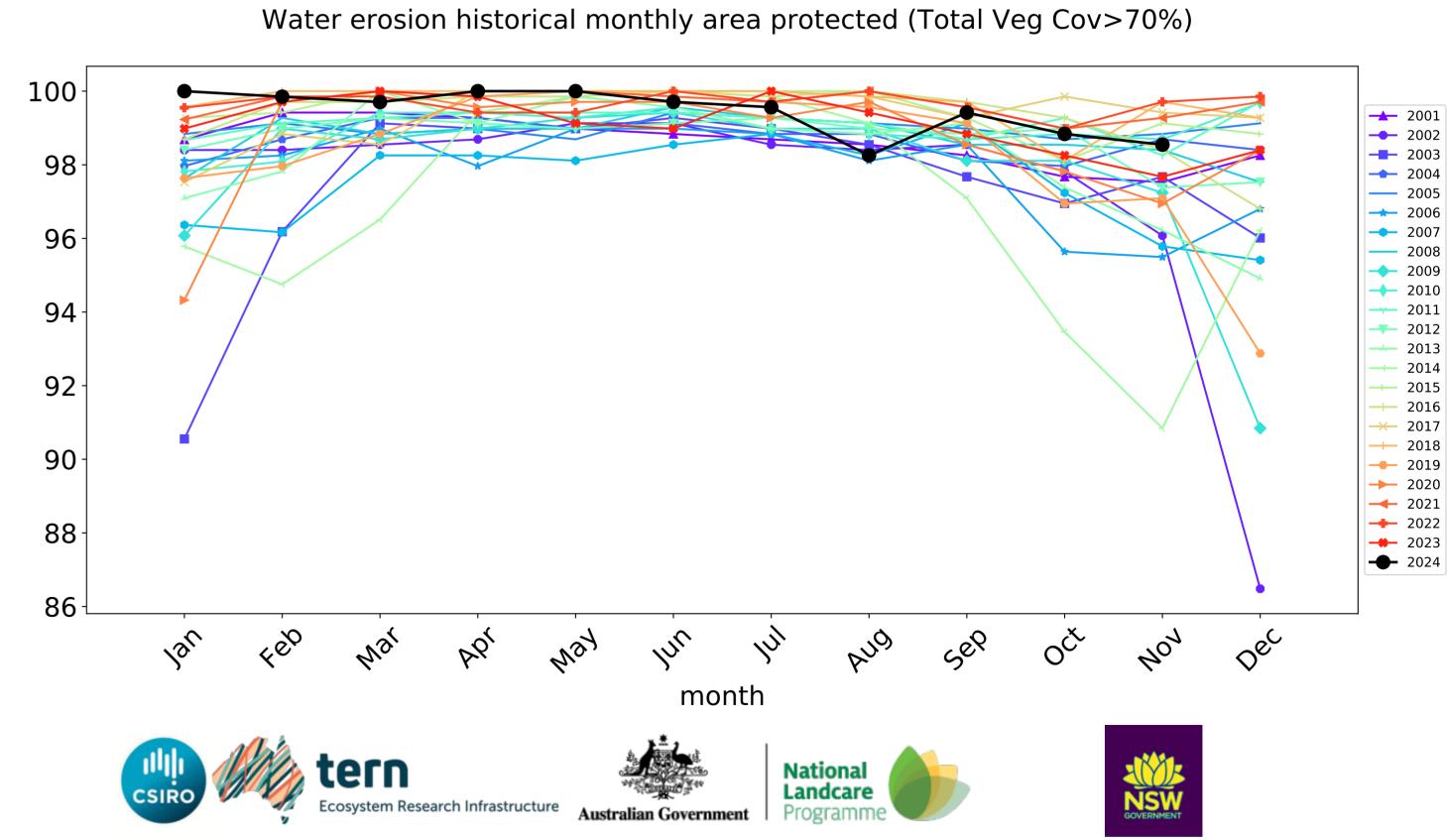


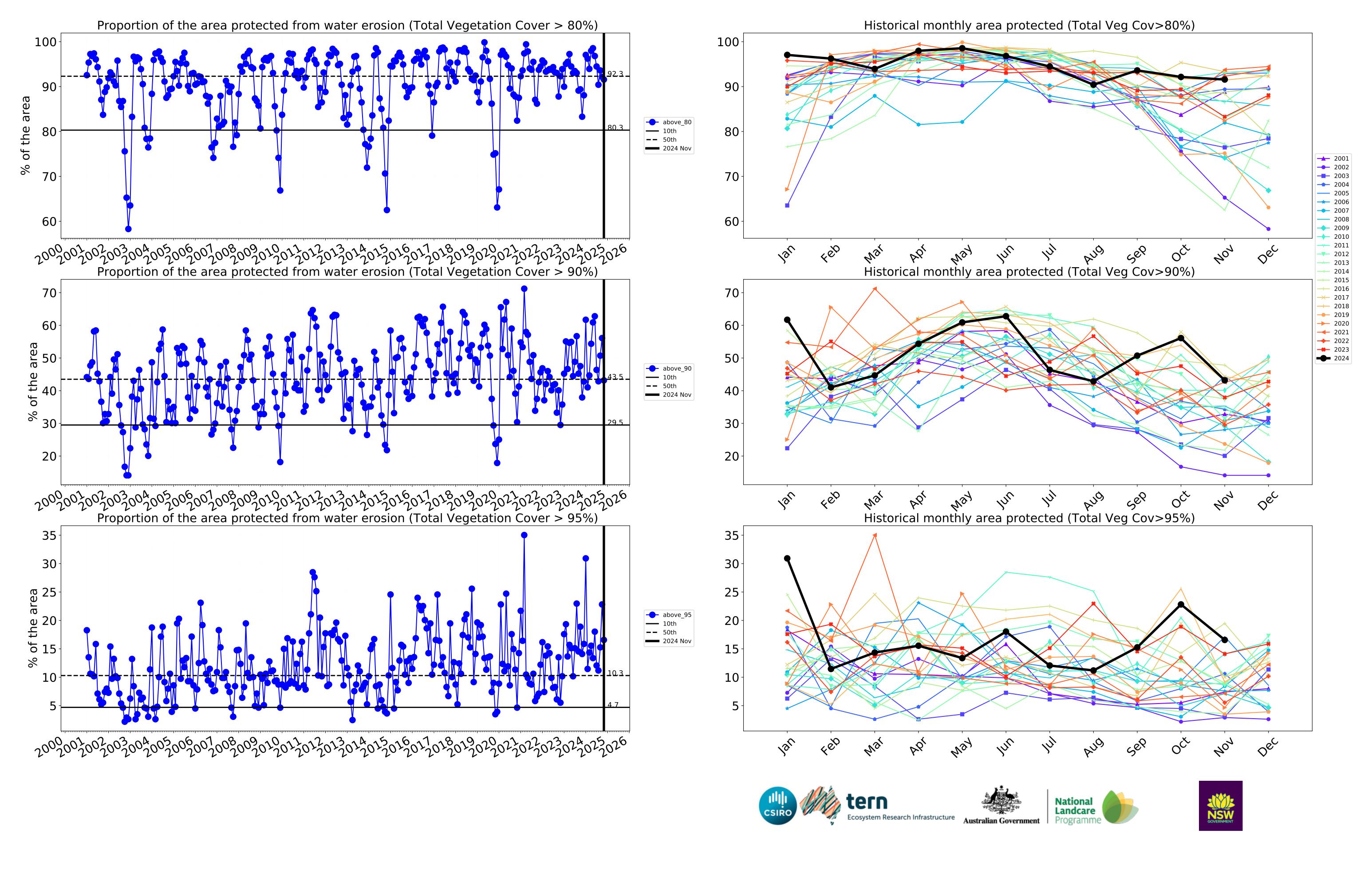
Irrigation timeseries





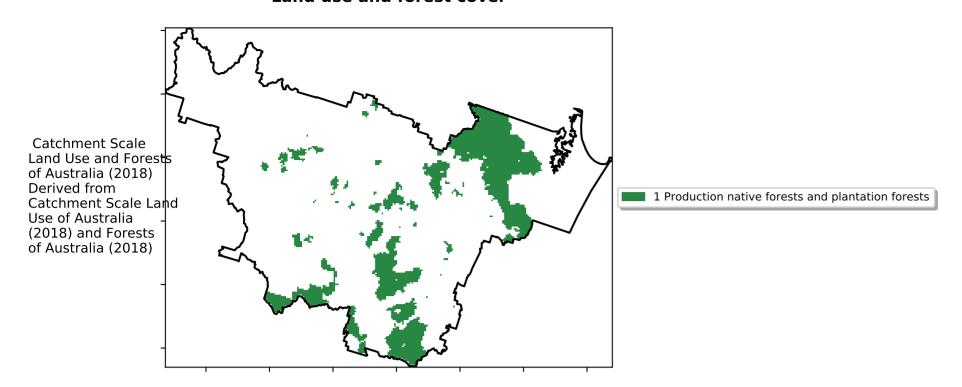




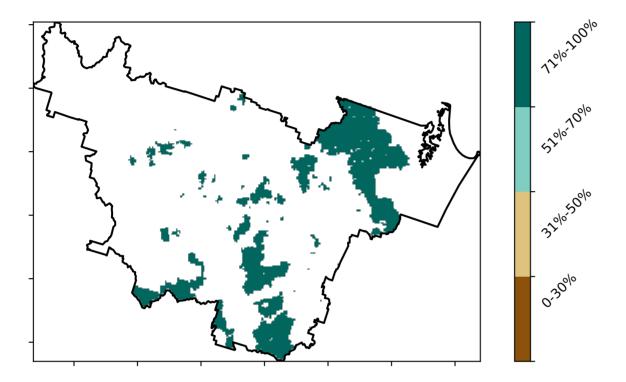


Production native forests and plantation forests

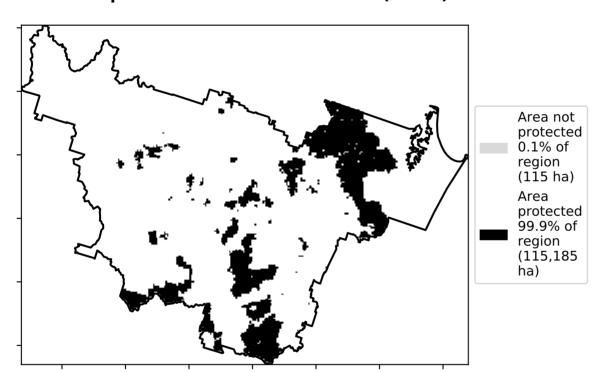
Land use and forest cover



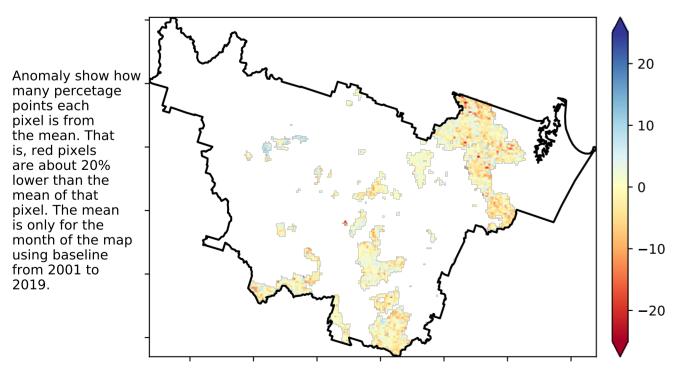
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

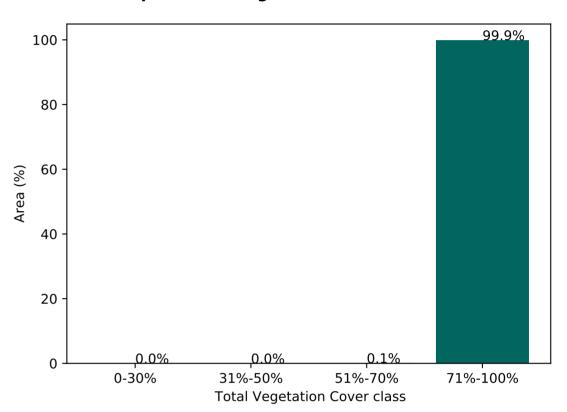


Total Vegetation Cover Anomaly [%]

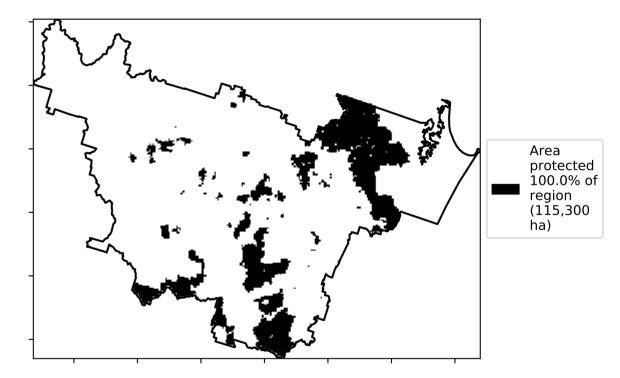


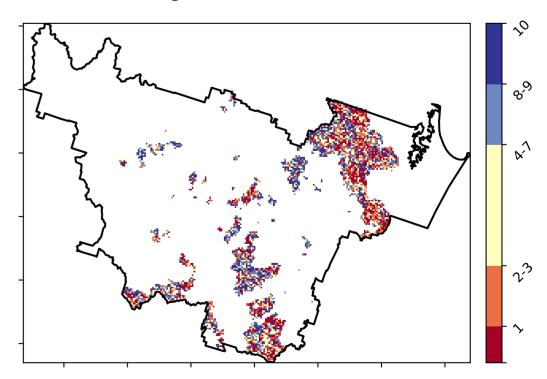
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Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





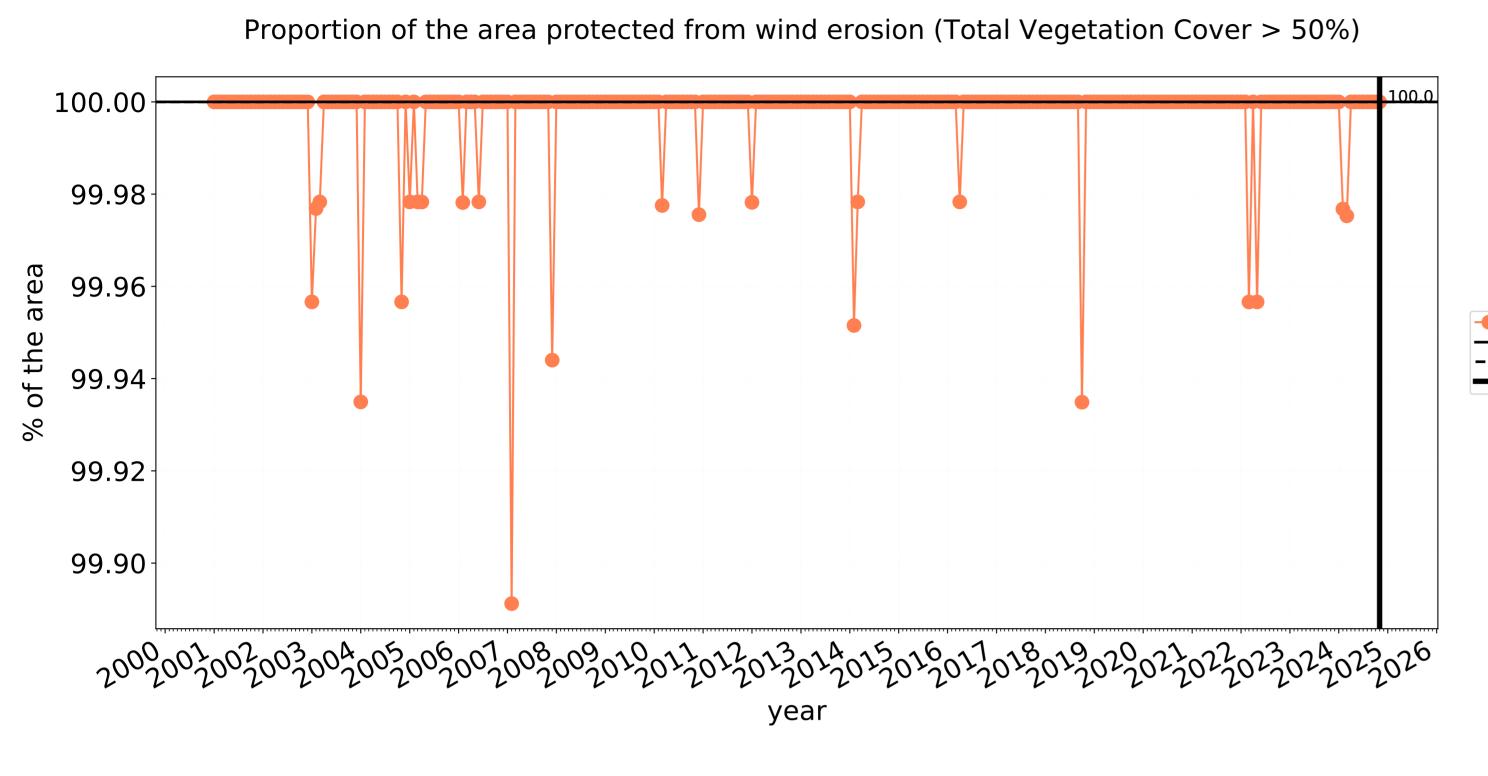


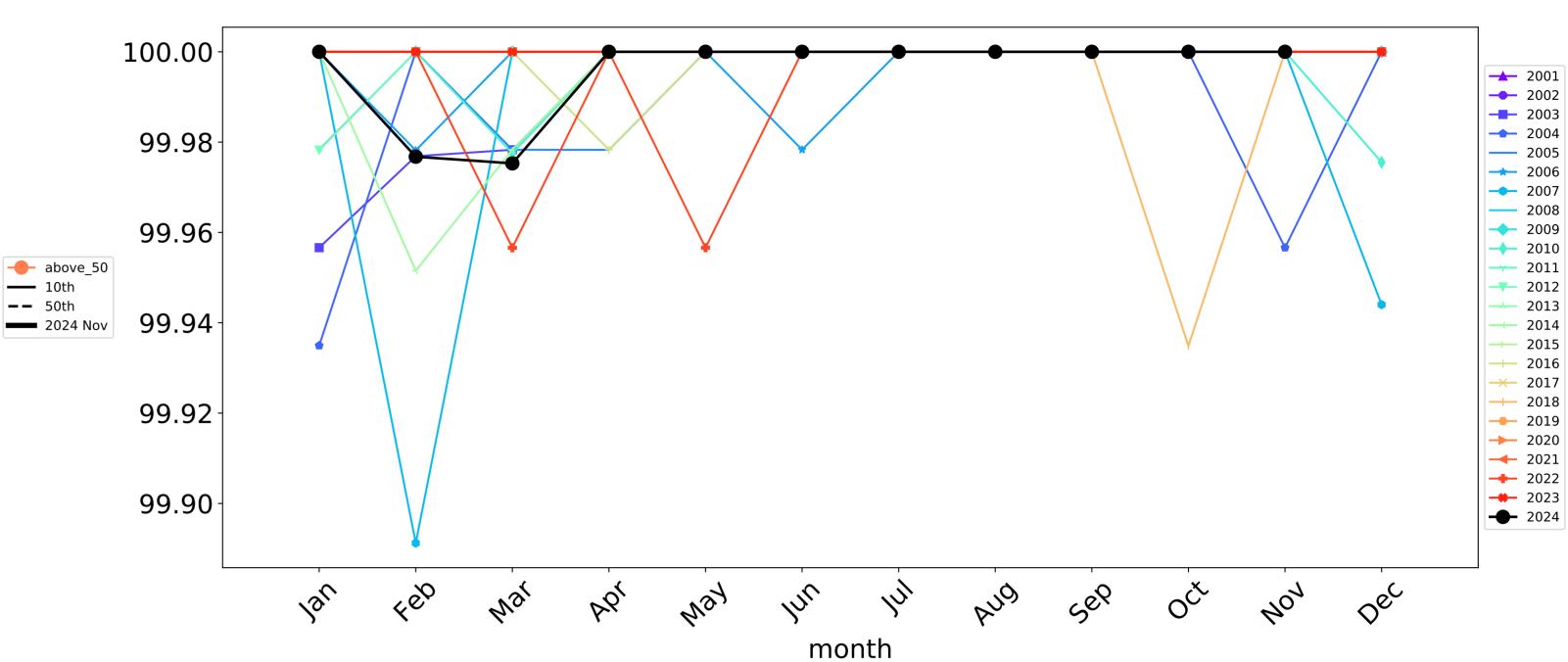




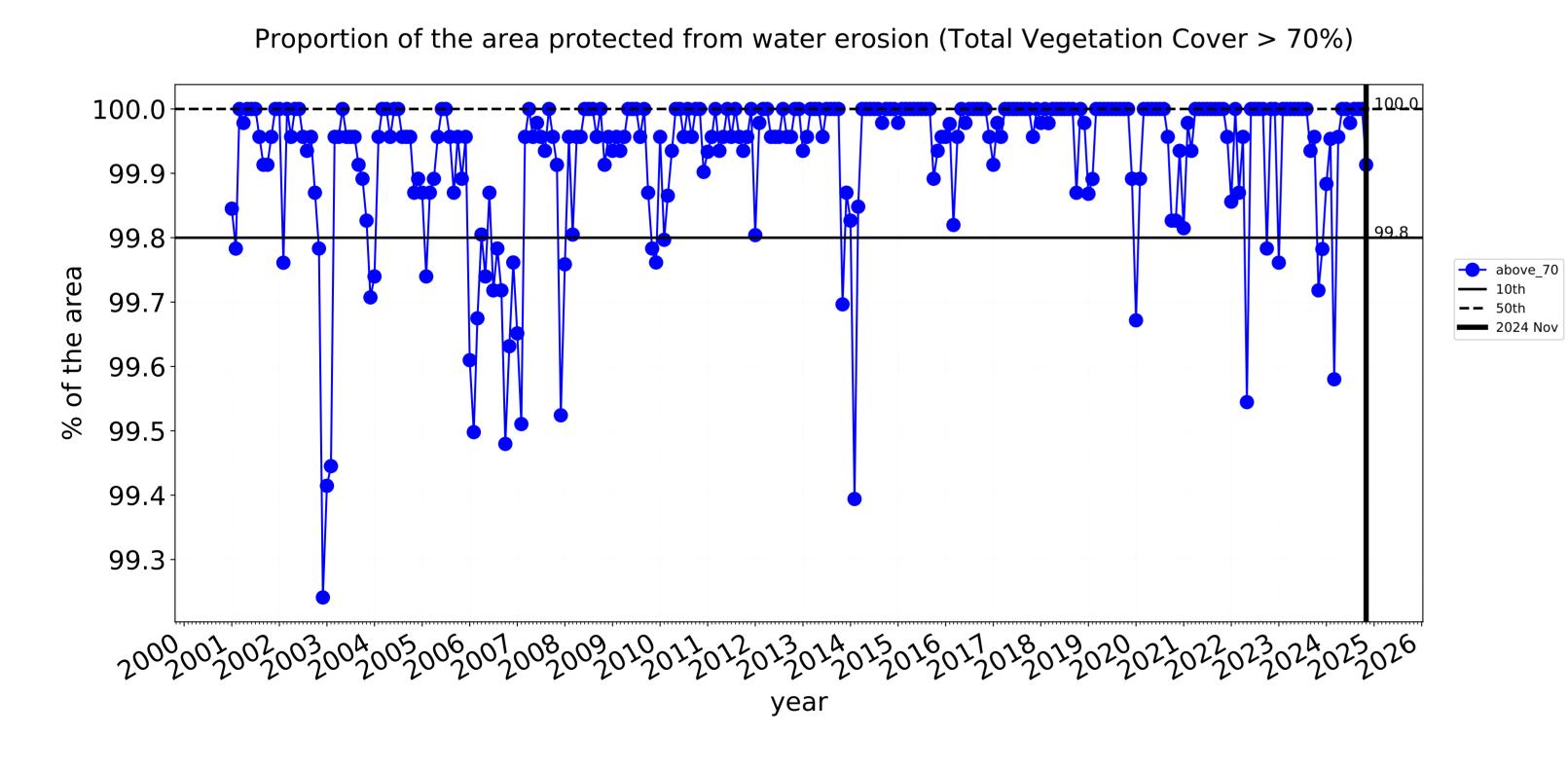


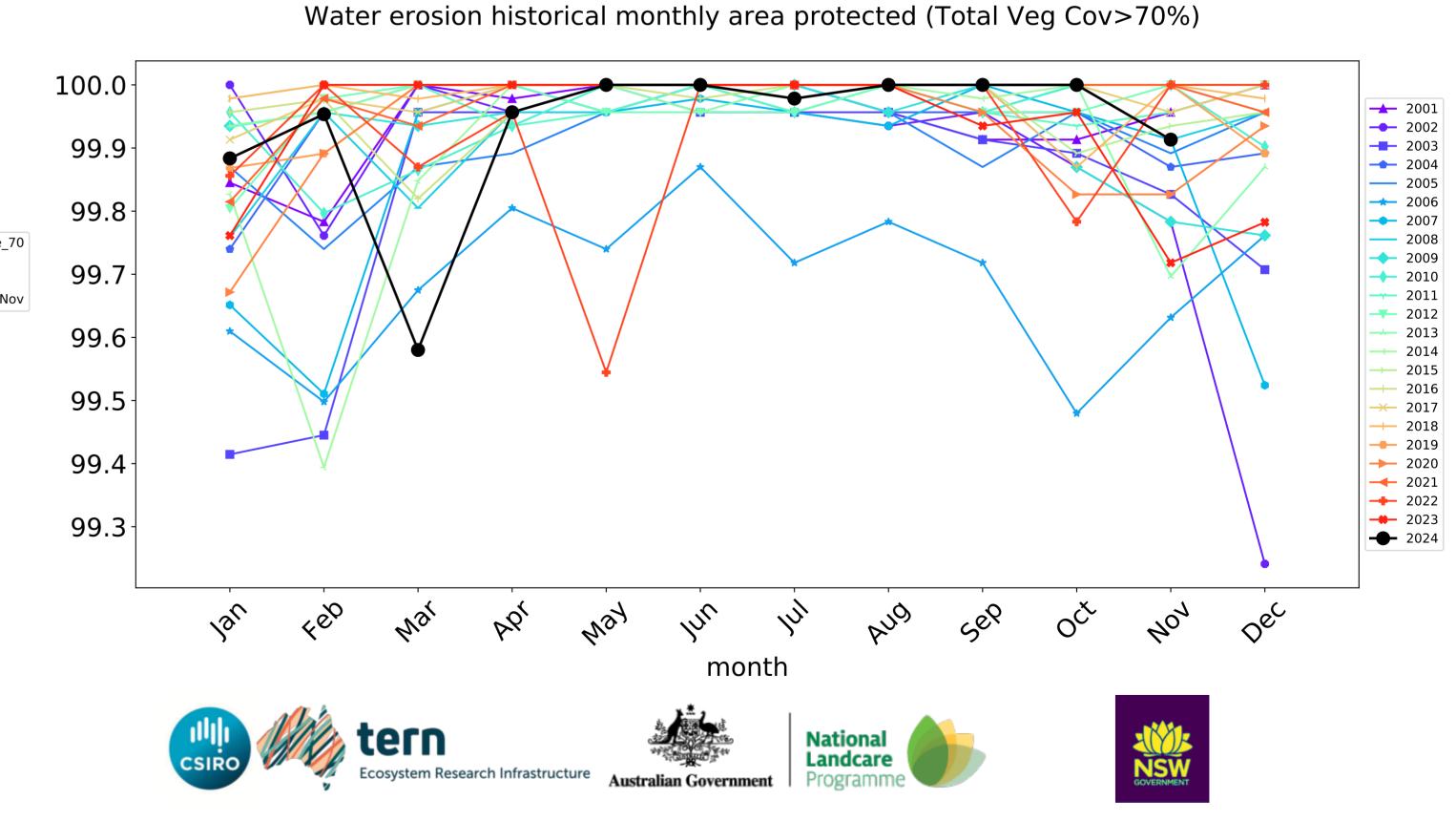
Production native forests and plantation forests timeseries

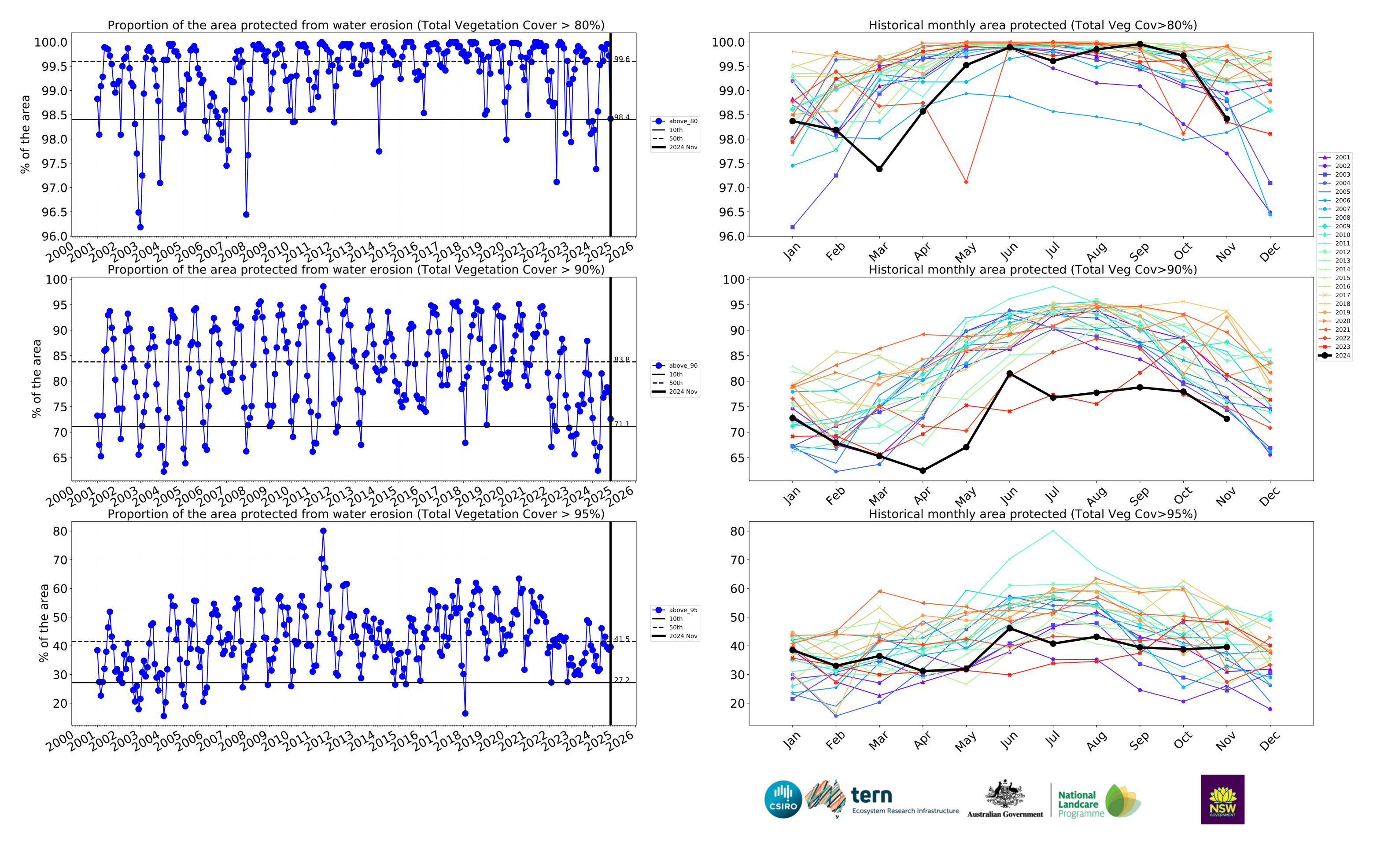




Wind erosion historical monthly area protected (Total Veg Cov >50%)







Gympie_(R) (684,175 ha and no data 4,200 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	684,175	100.0% 684,175	100.0% 684,100	99.7% 682,125	97.4% 666,125	73.9% 505,925	41.4% 283,125
Conservation and natural environments	140,900	100.0% 140,900	100.0% 140,850	99.8% 140,550	98.2% 138,425	84.3% 118,750	51.5% 72,575
Conservation and natural environments non forest	9,800	100.0% 9,800	99.7% 9,775	99.2% 9,725	96.4% 9,450	83.2% 8,150	52.6% 5,150
Conservation and natural environments Woodland forest	28,625	100.0% 28,625	100.0% 28,625	99.7% 28,525	98.0% 28,050	88.3% 25,275	57.9% 16,575
Conservation and natural environments Forest (non woodland)	102,475	100.0% 102,475	100.0% 102,450	99.8% 102,300	98.5% 100,925	83.3% 85,325	49.6% 50,850
Agriculture	396,975	100.0% 396,975	100.0% 396,975	99.7% 395,725	97.1% 385,425	71.6% 284,100	39.3% 156,100
Grazing	377,000	100.0% 377,000	100.0% 377,000	99.7% 376,000	97.4% 367,075	73.0% 275,150	40.5% 152,525
Grazing non forest	267,275	100.0% 267,275	100.0% 267,275	99.6% 266,275	96.6% 258,300	69.0% 184,525	37.3% 99,675
Grazing Woodland forest	61,850	100.0% 61,850	100.0% 61,850	100.0% 61,850	98.7% 61,025	80.3% 49,675	45.6% 28,200
Grazing - Forest (non woodland)	47,875	100.0% 47,875	100.0% 47,875	100.0% 47,875	99.7% 47,750	85.5% 40,950	51.5% 24,650
Irrigation	17,200	100.0% 17,200	100.0% 17,200	98.5% 16,950	91.6% 15,750	43.2% 7,425	16.6% 2,850
Production native forests and plantation forests	115,300	100.0% 115,300	100.0% 115,300	99.9% 115,200	98.4% 113,475	72.6% 83,725	39.6% 45,625







