Total vegetation cover soil protection Region:LGA Logan (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: May 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



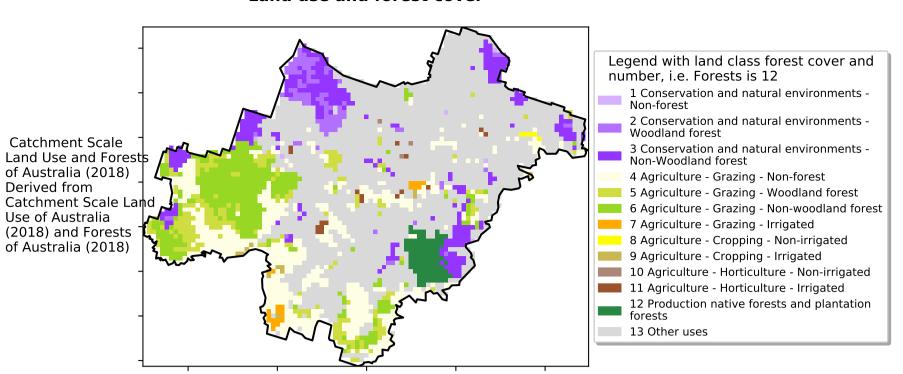




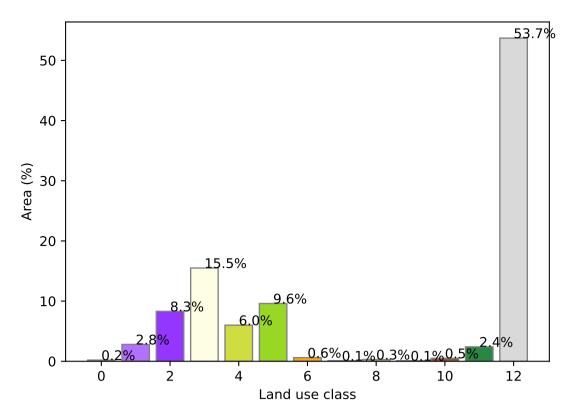


Vegetation Cover May 2024

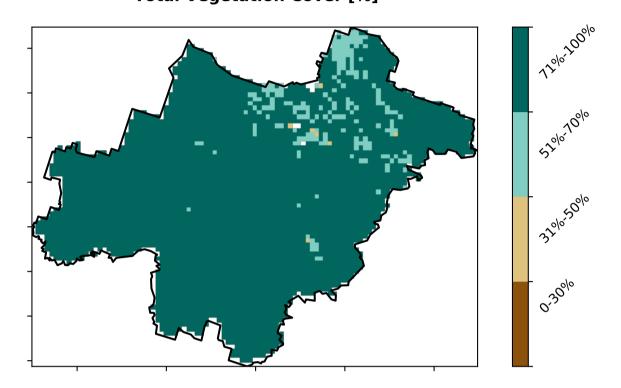
Land use and forest cover



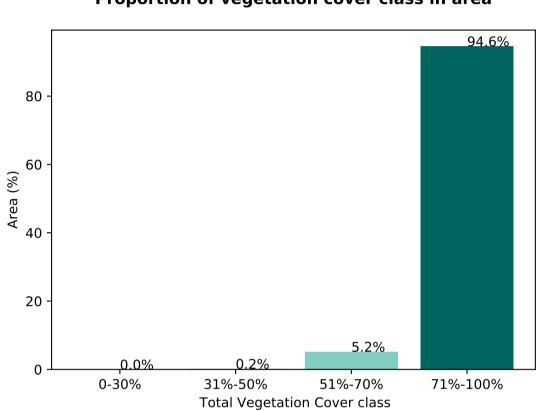
Proportion of each land class in area



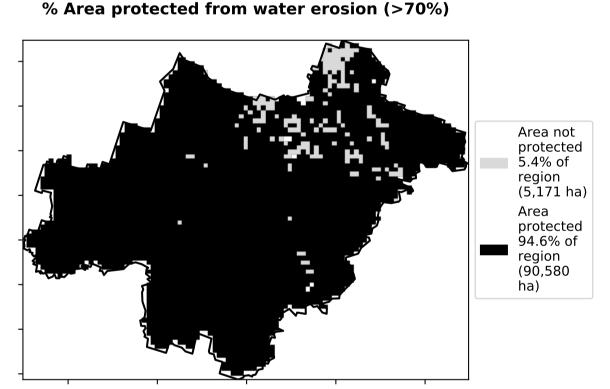
Total Vegetation Cover [%]



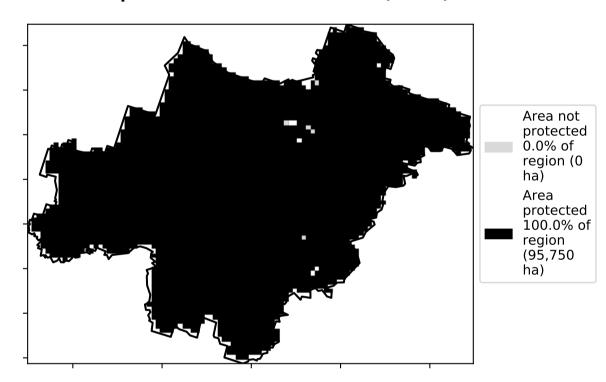
Proportion of vegetation cover class in area



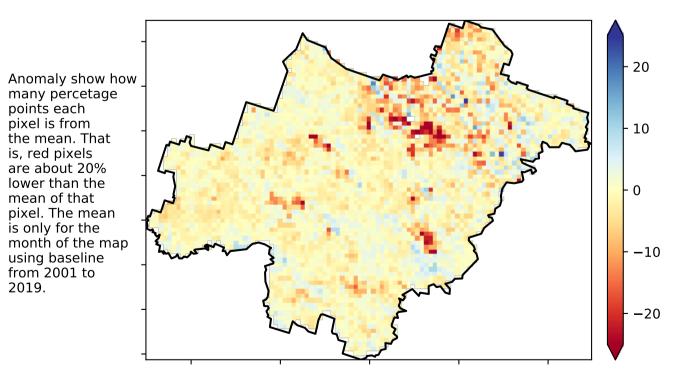
0/ Aven protected from water evenier (> 700/)



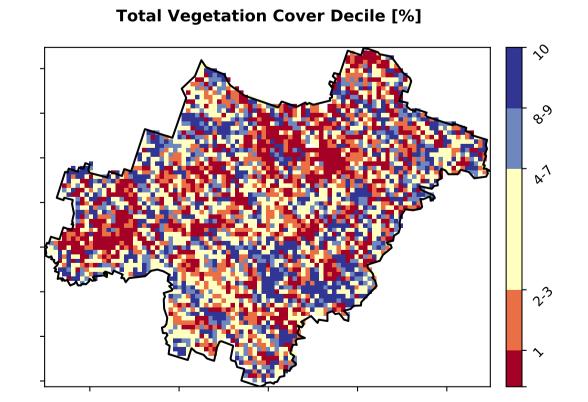
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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.

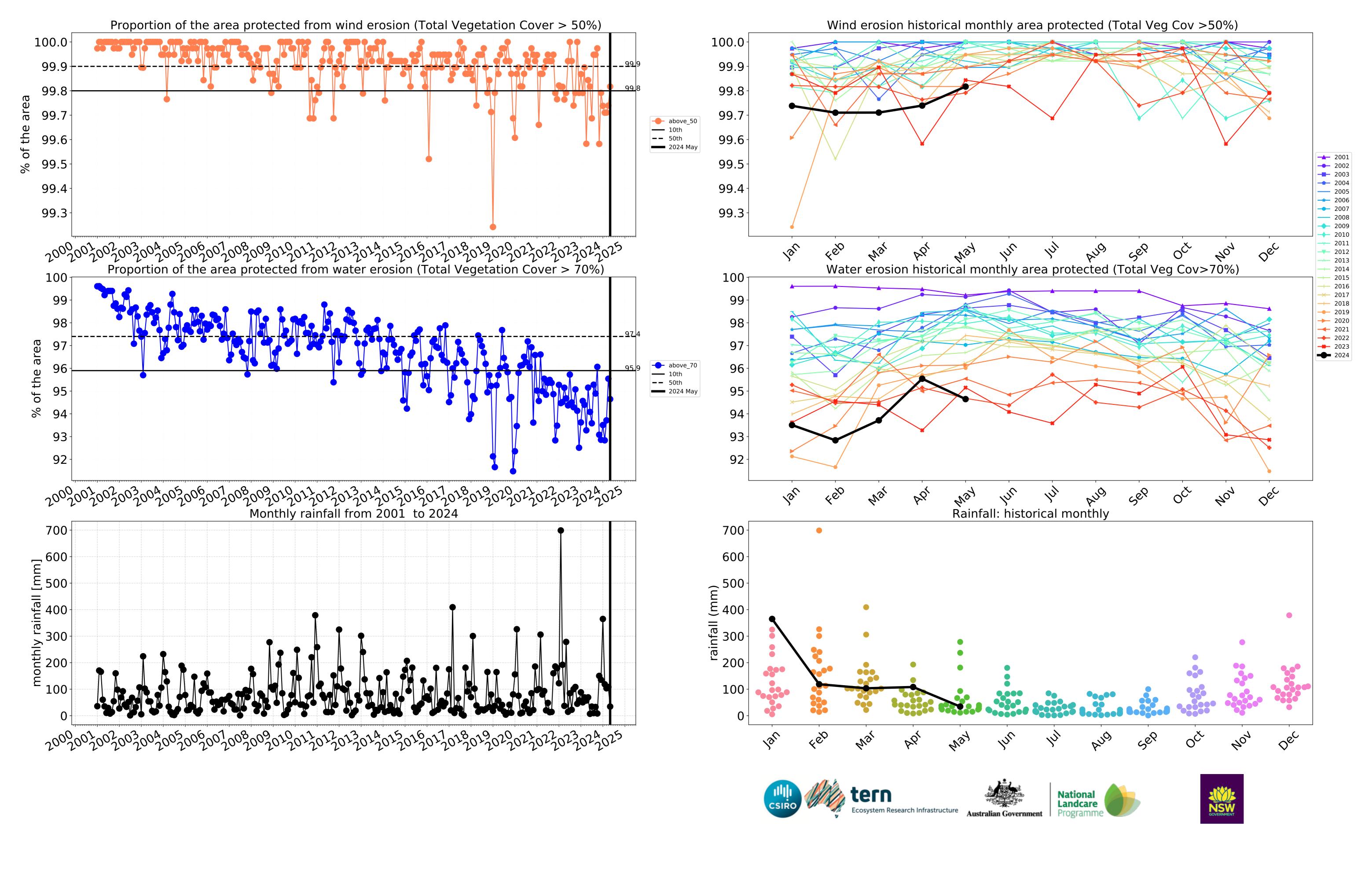


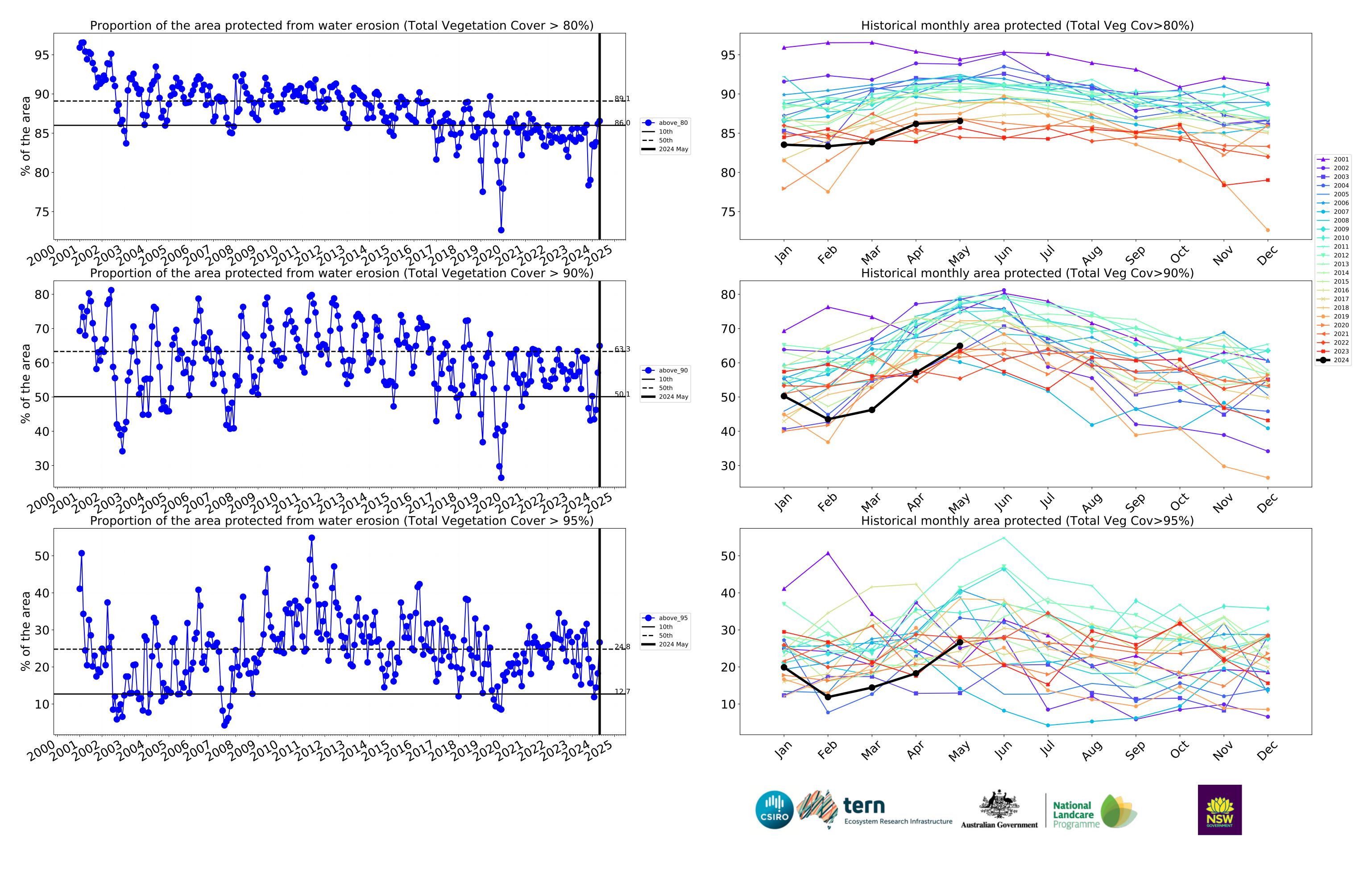
tern Ecosystem Research Infrastructure



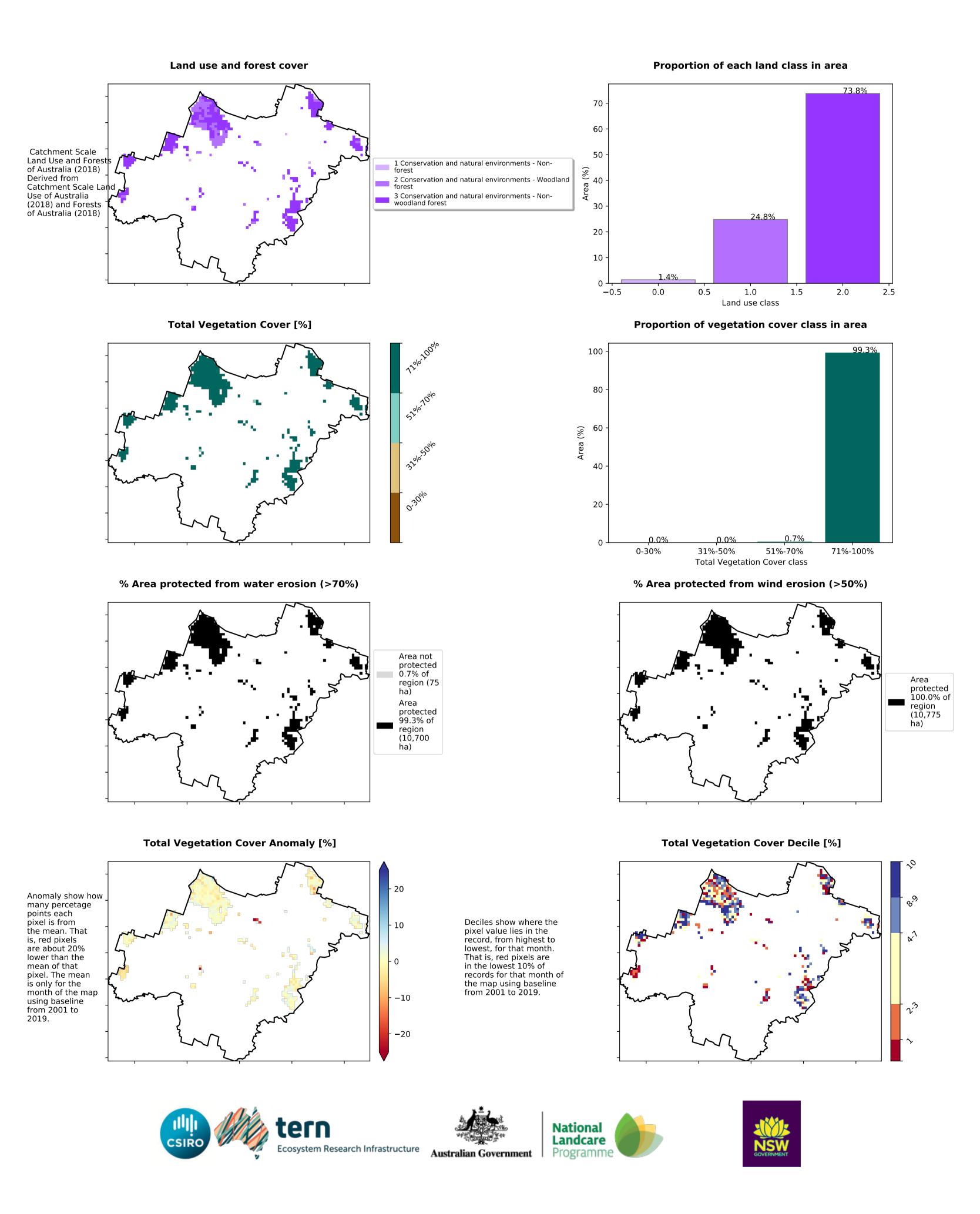




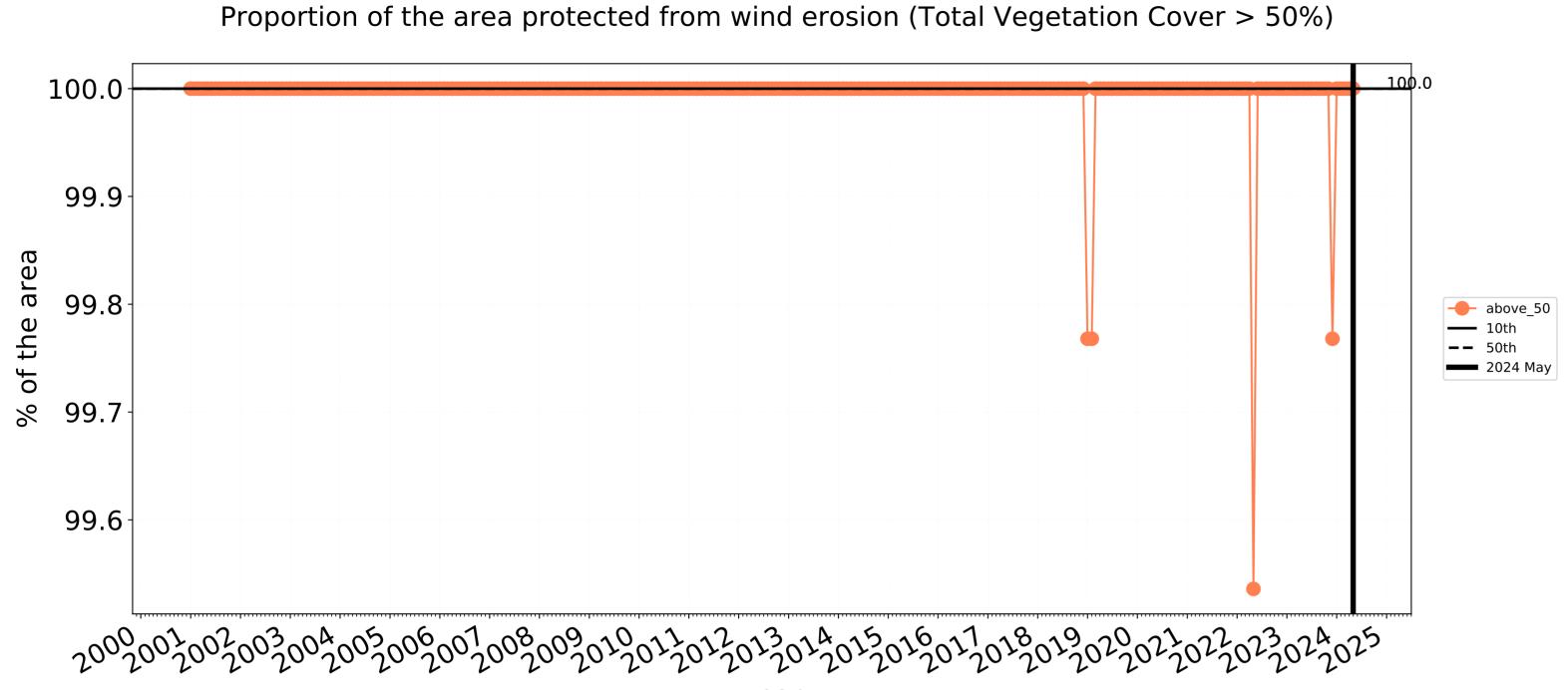


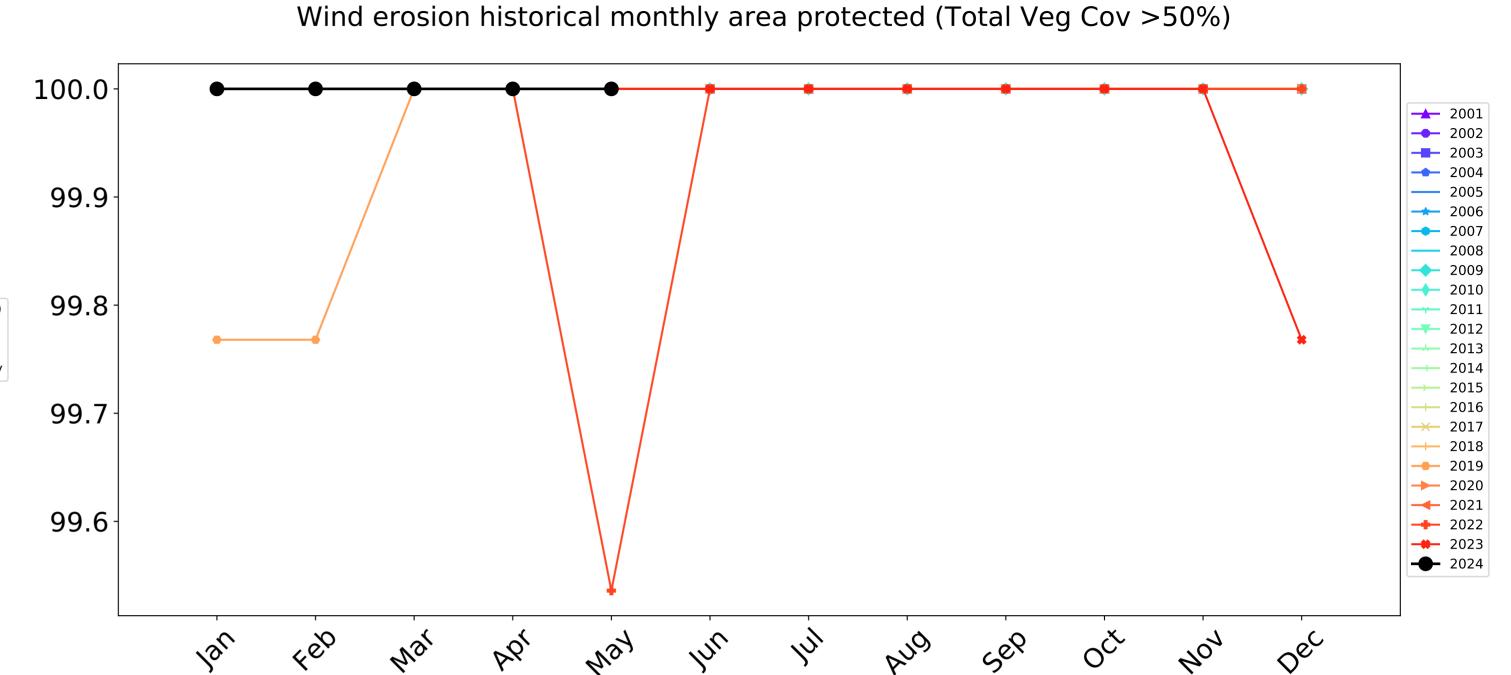


Conservation and natural environments

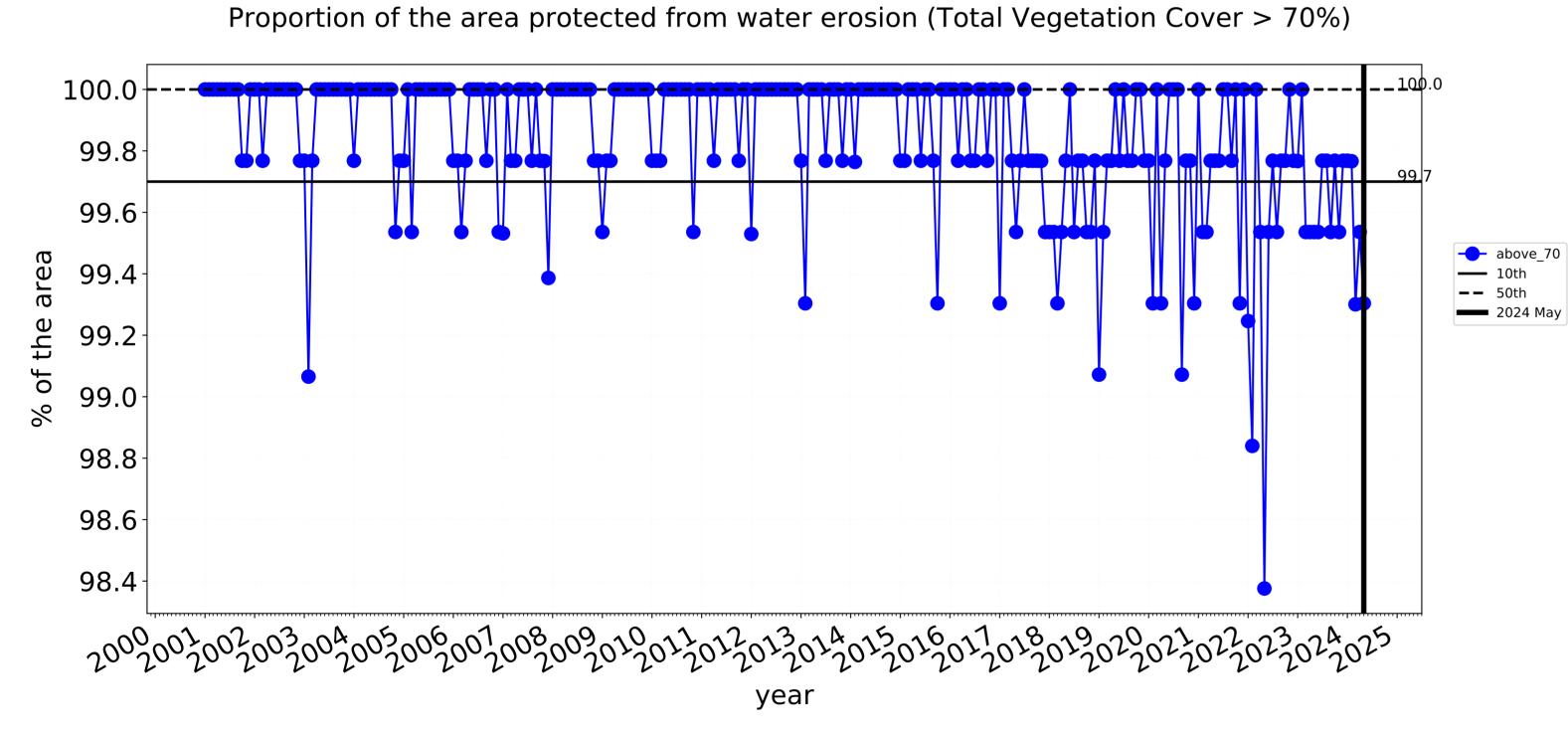


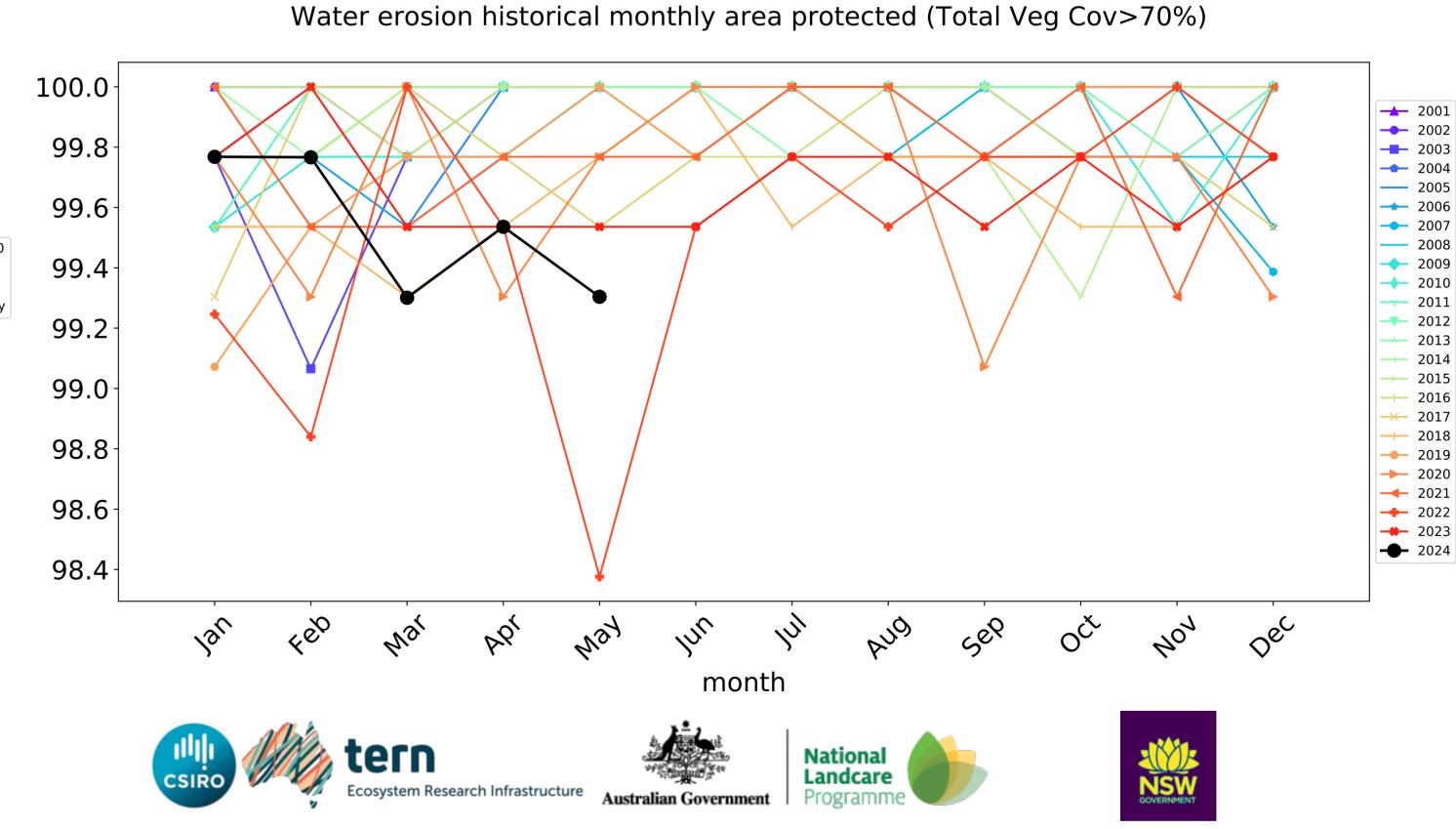
Conservation and natural environments timeseries

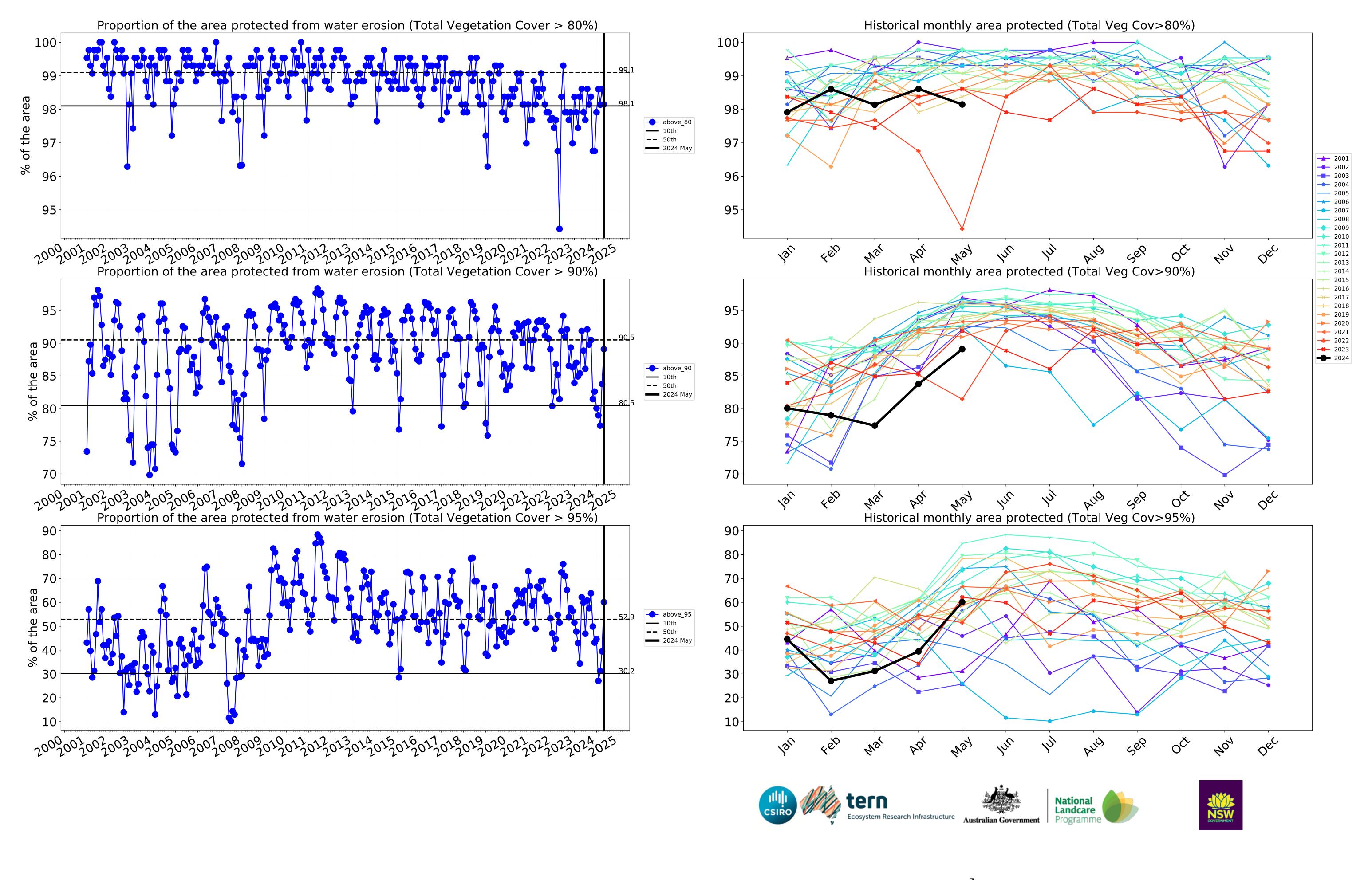




month



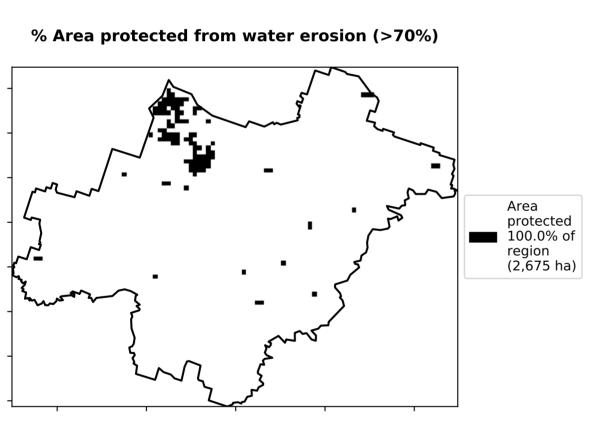


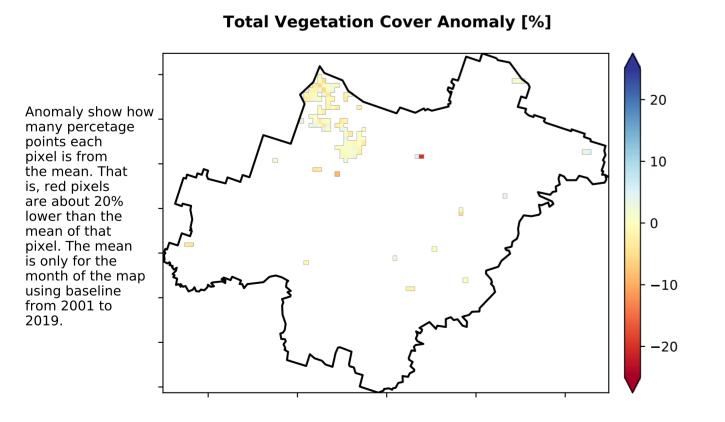


Conservation and natural environments Woodland forest

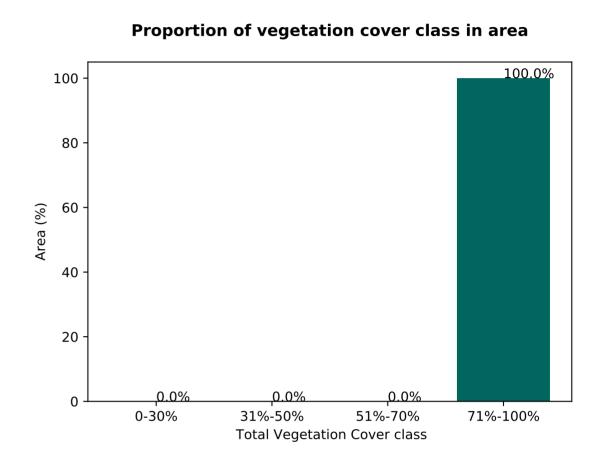
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

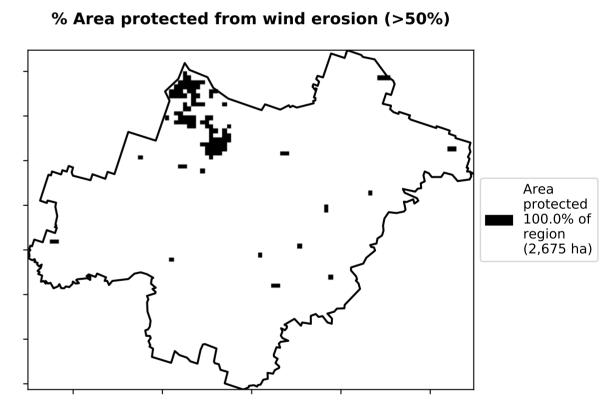
Total Vegetation Cover [%]

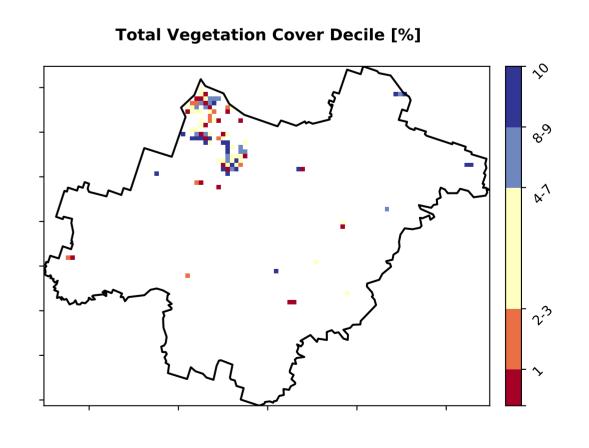




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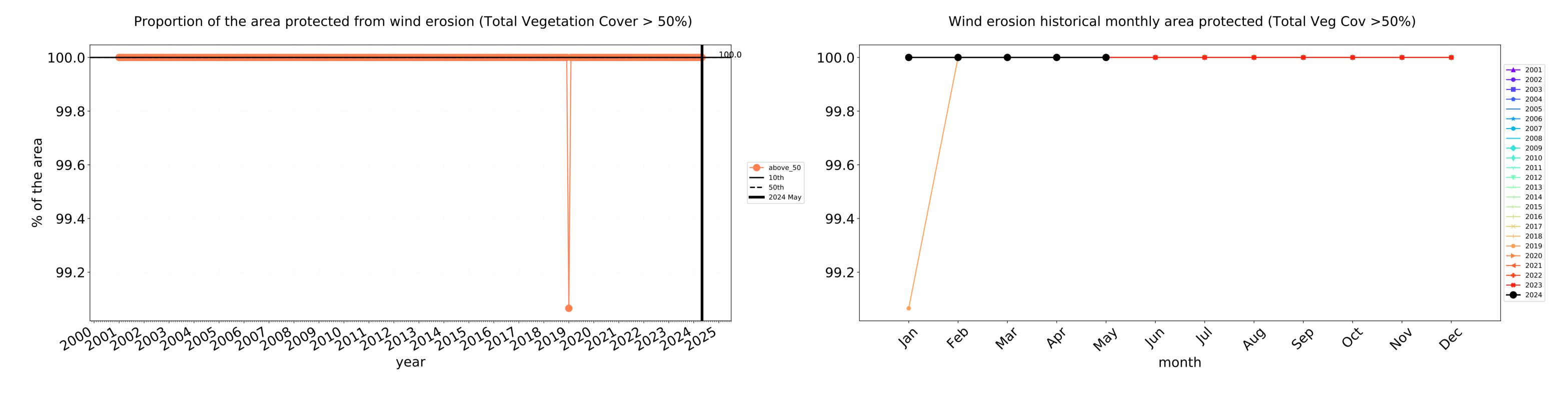


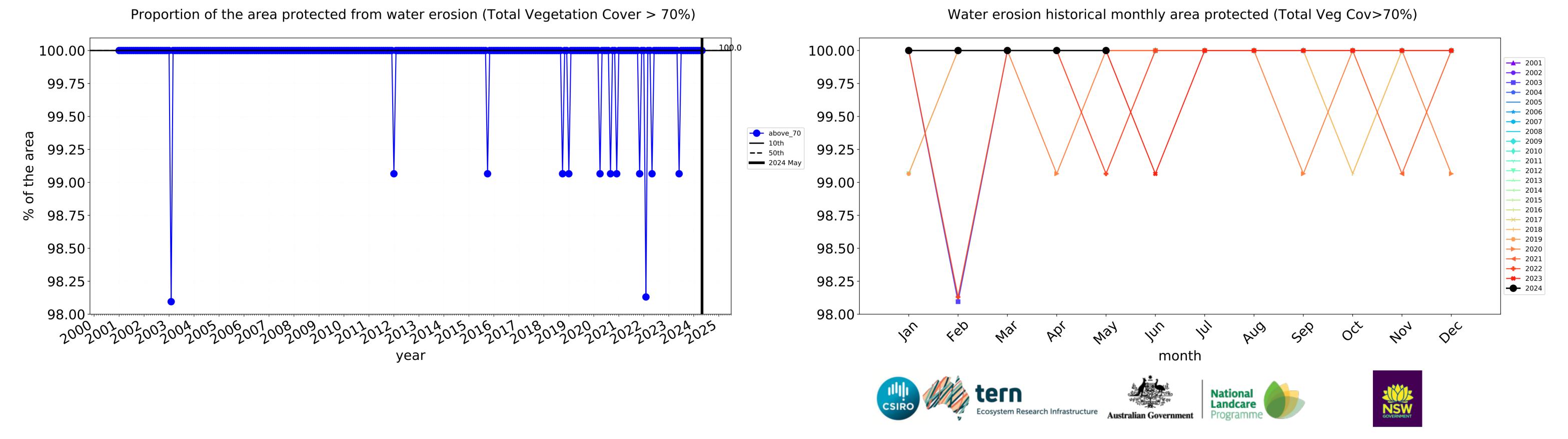


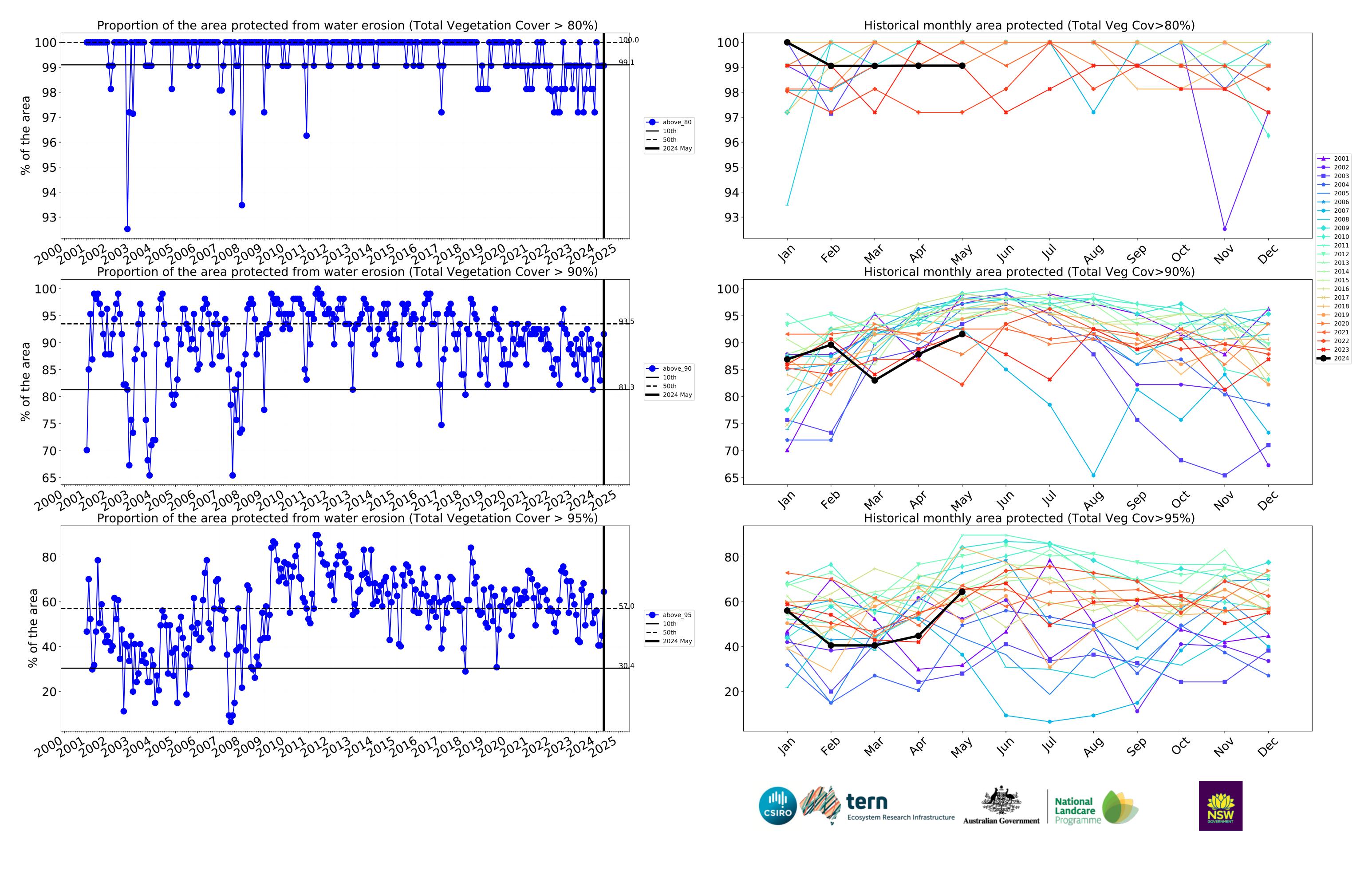




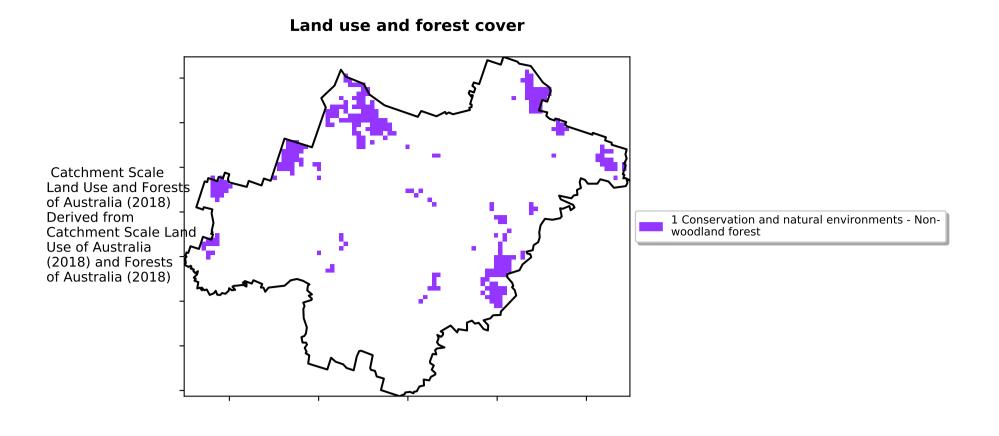
Conservation and natural environments Woodland forest timeseries



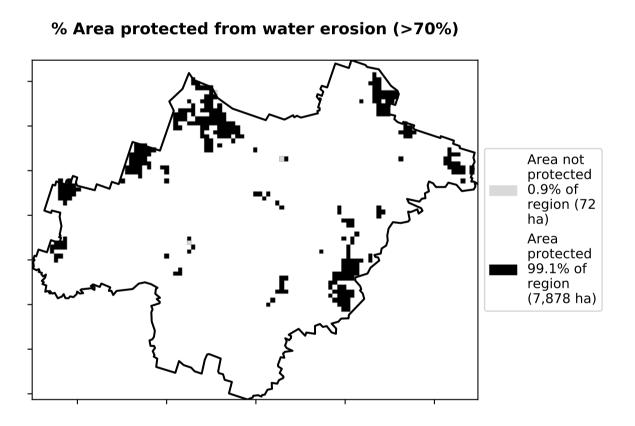


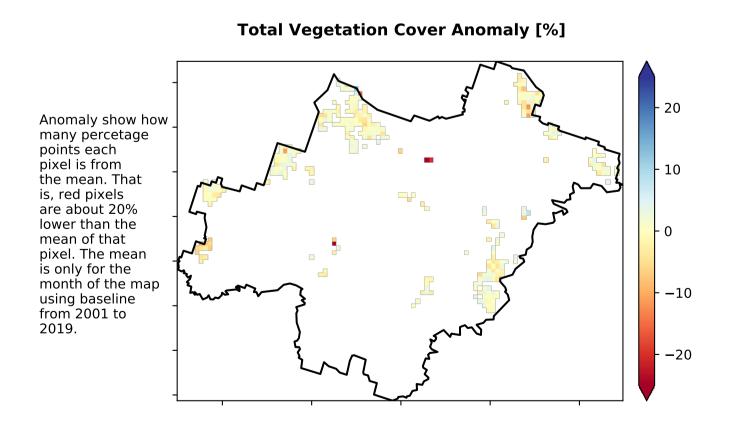


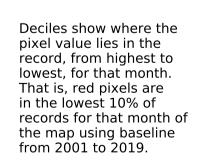
Conservation and natural environments Forest (non woodland)

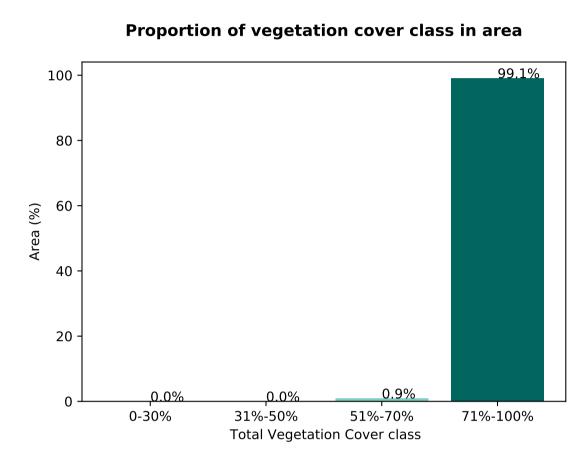


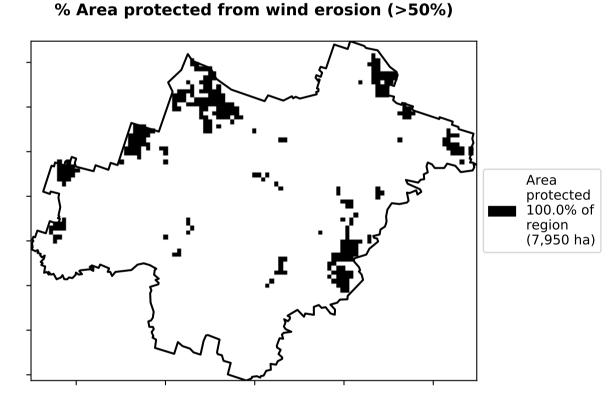
Total Vegetation Cover [%]

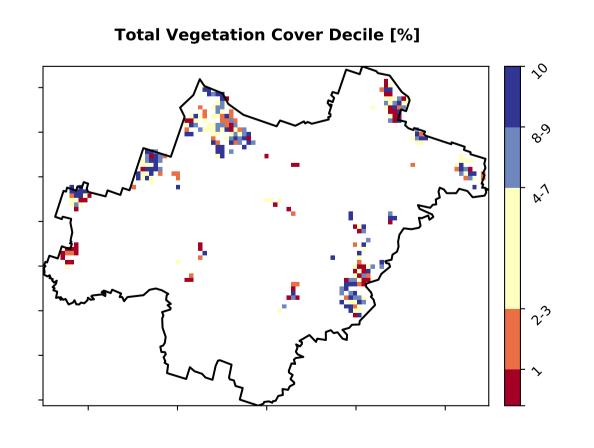












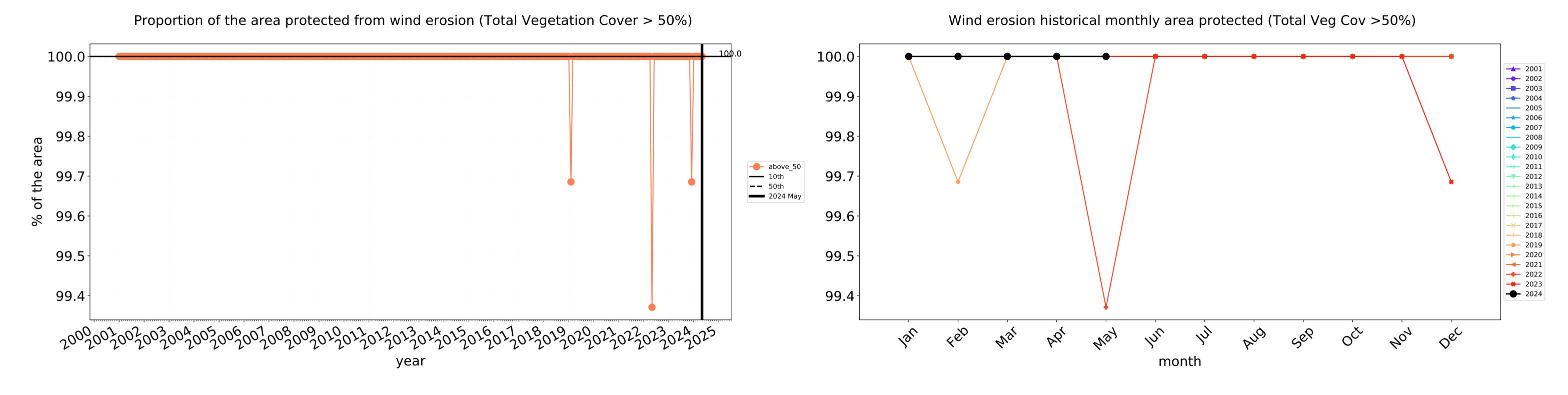


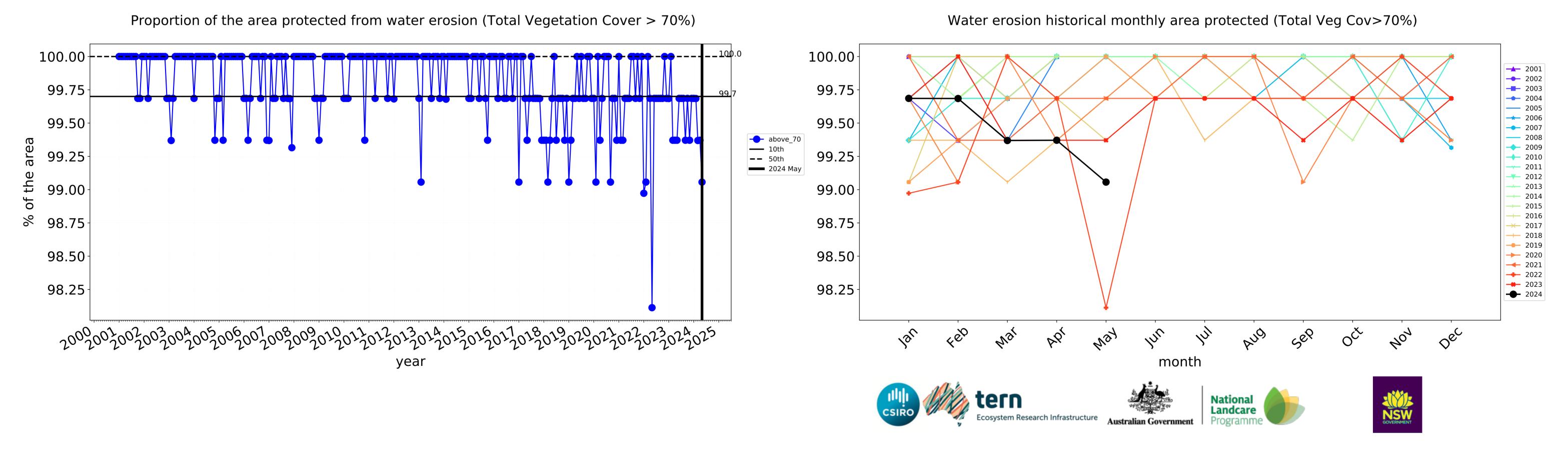


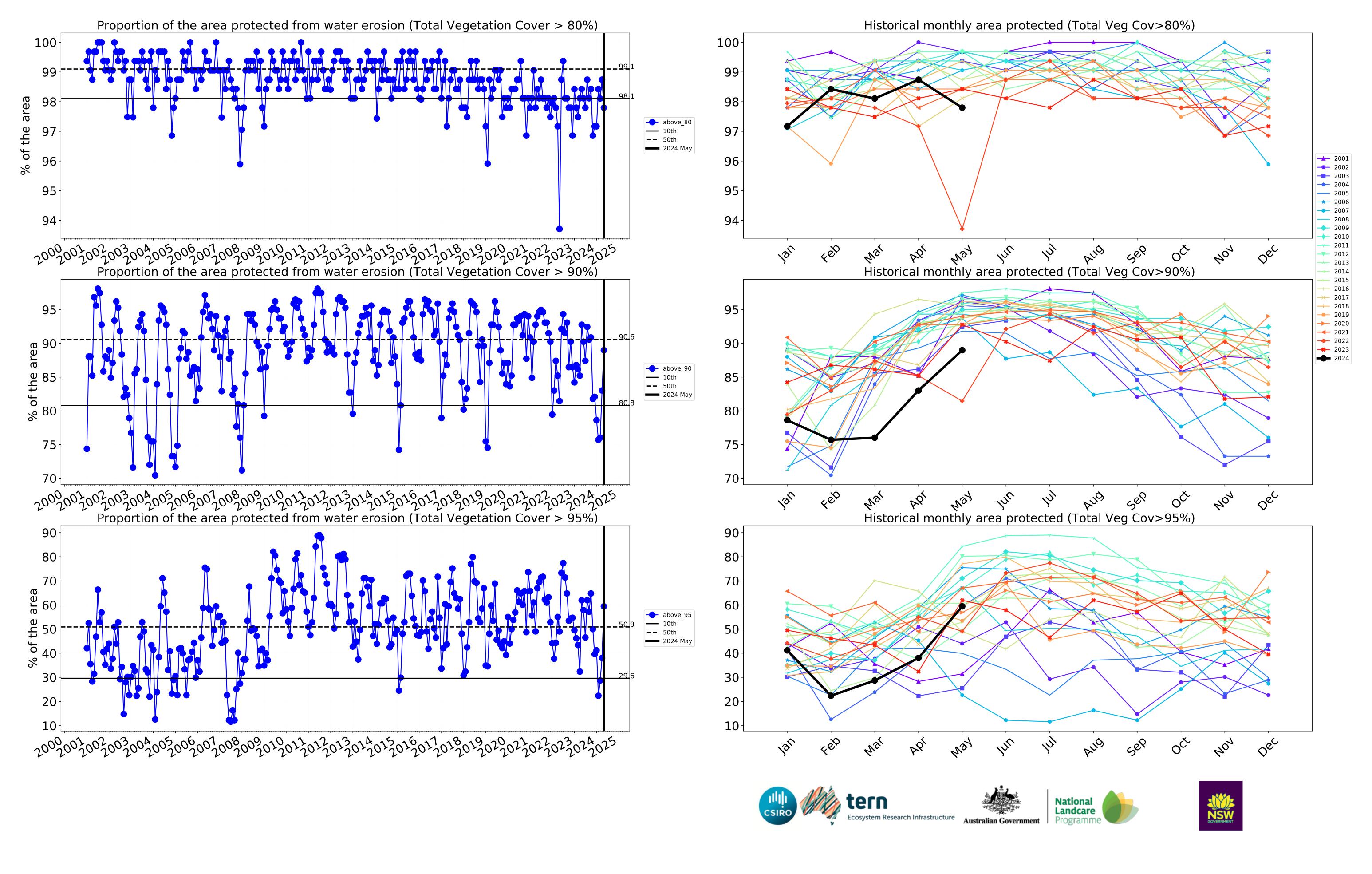




Conservation and natural environments Forest (non woodland) timeseries



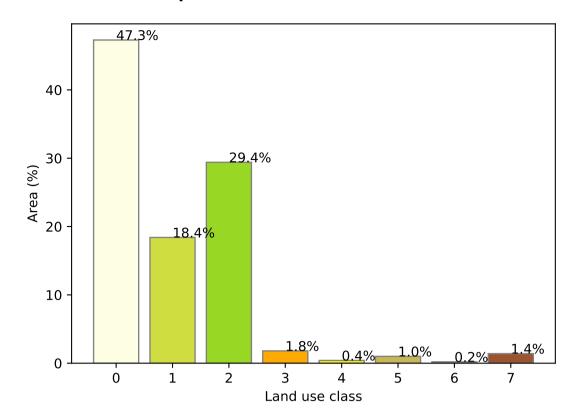




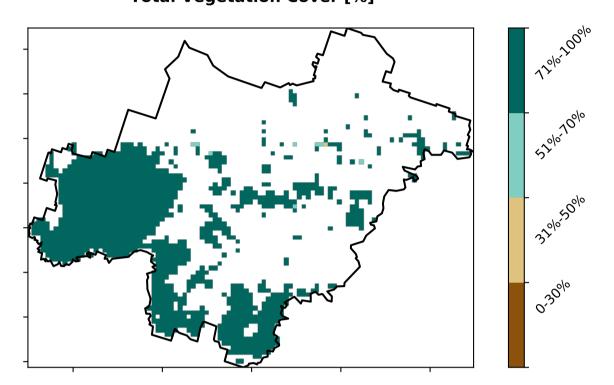
Agriculture

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 8 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Non-woodland forest 3 Agriculture - Grazing - Irrigated 5 Agriculture - Cropping - Non-irrigated 6 Agriculture - Cropping - Irrigated 7 Agriculture - Horticulture - Non-irrigated 8 Agriculture - Horticulture - Irrigated

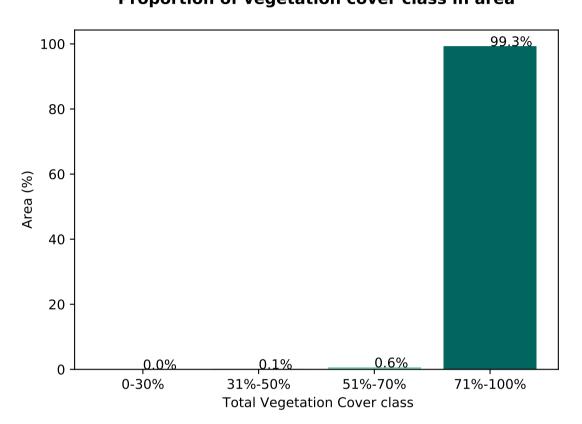
Proportion of each land class in area



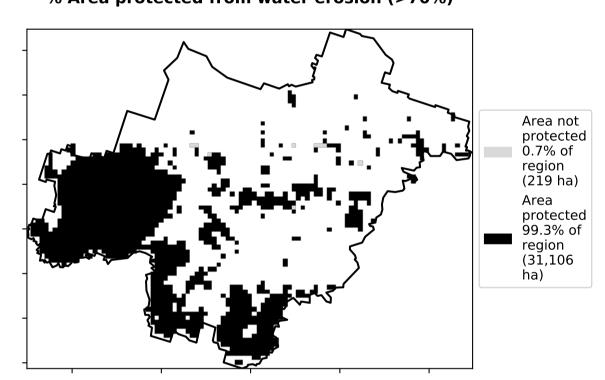
Total Vegetation Cover [%]



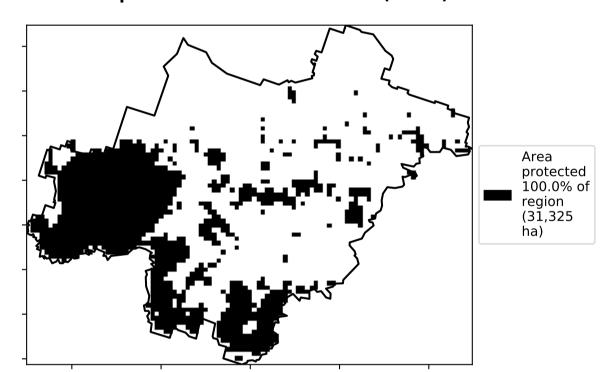
Proportion of vegetation cover class in area



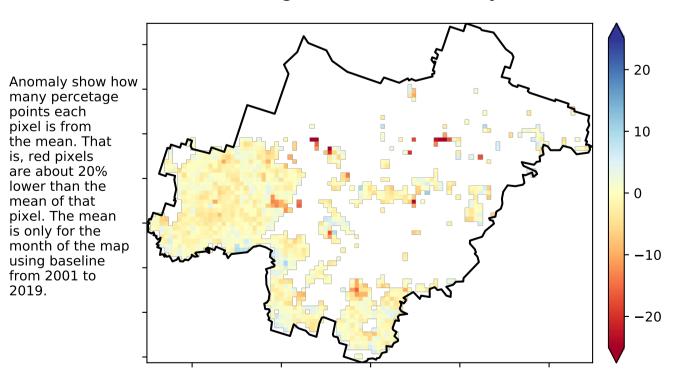
% Area protected from water erosion (>70%)



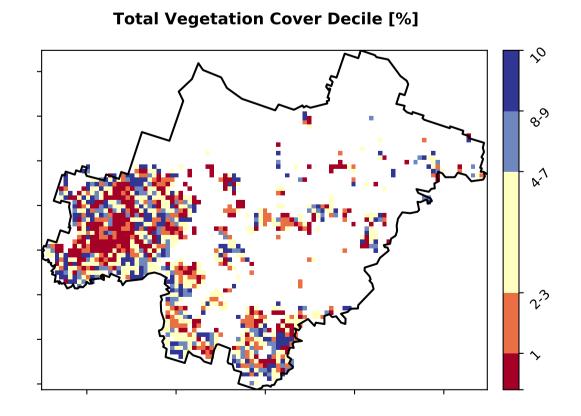
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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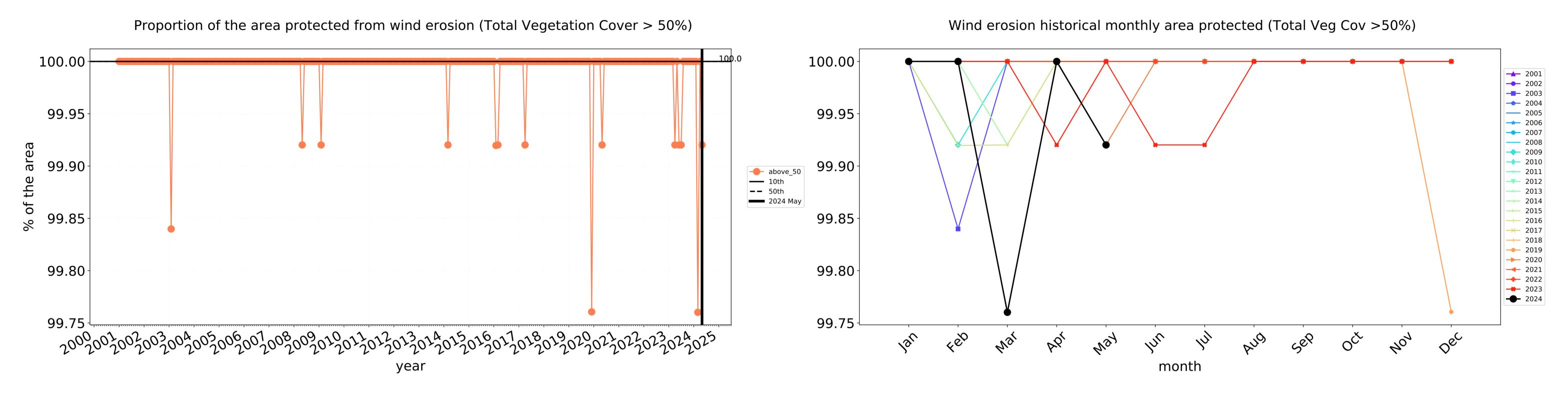


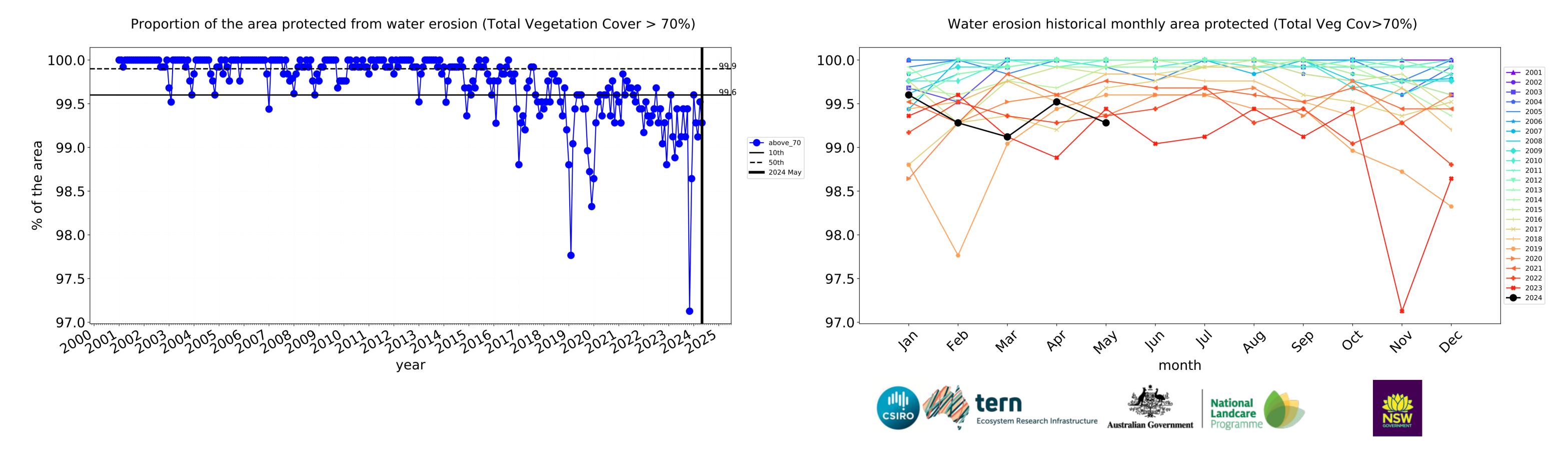


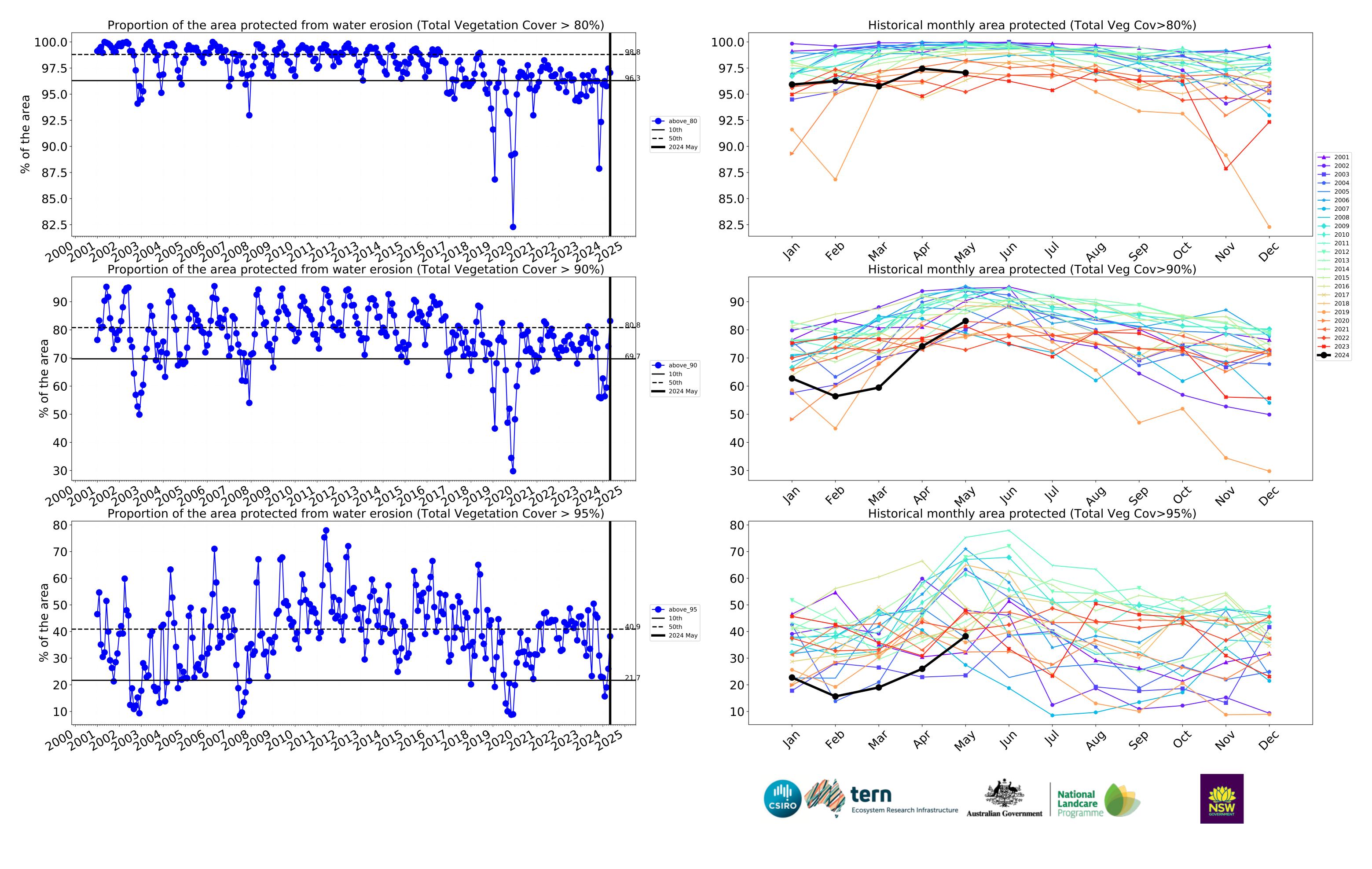




Agriculture timeseries

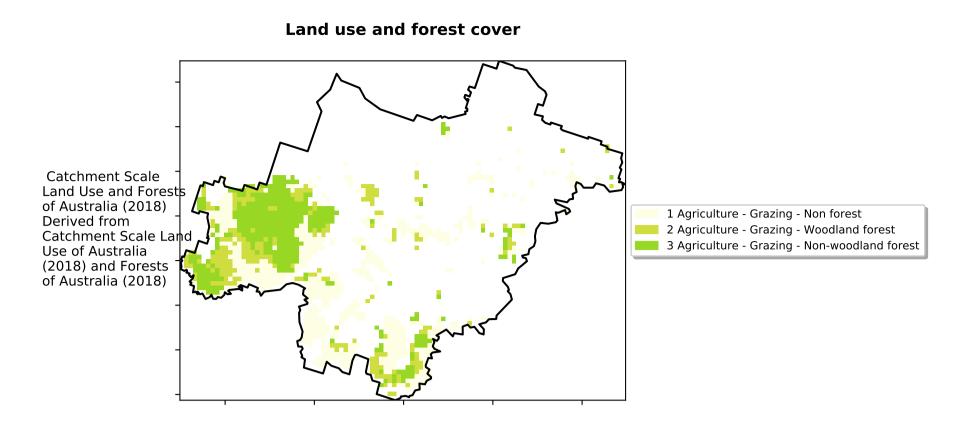






Grazing

50

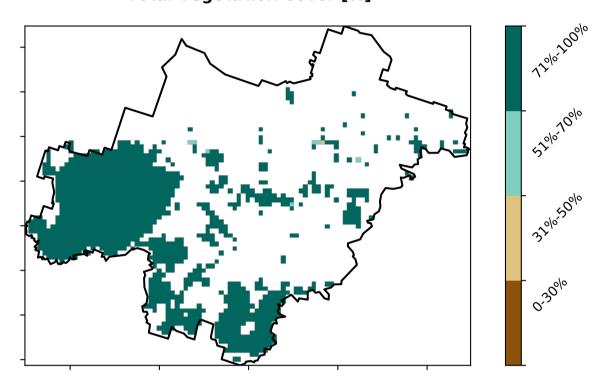


49.7% 30.9%

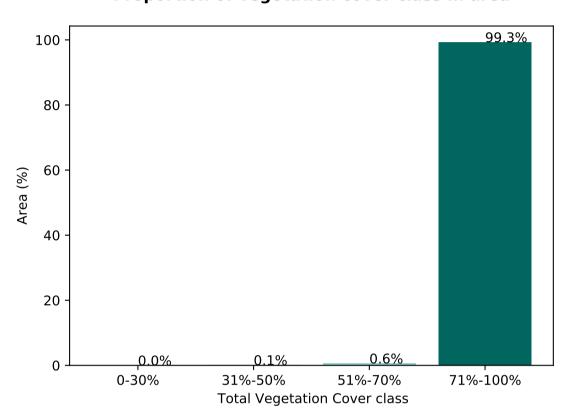
Proportion of each land class in area

40 Area (%) 19.4% 20 10 2.0 -0.5 0.5 1.0 1.5 2.5 0.0 Land use class

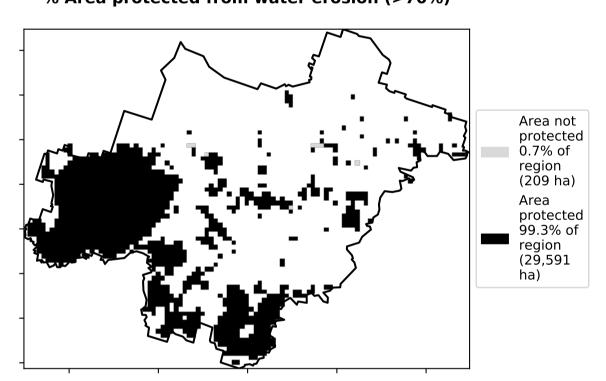




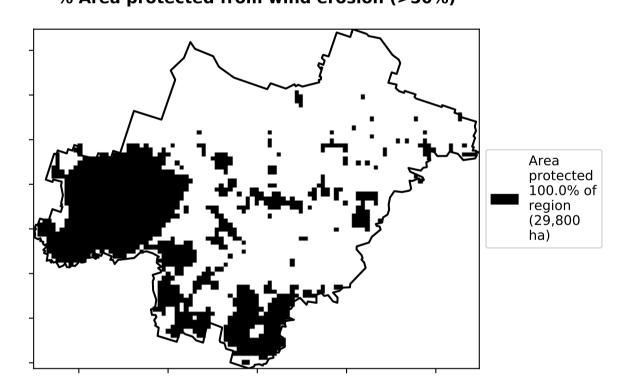
Proportion of vegetation cover class in area



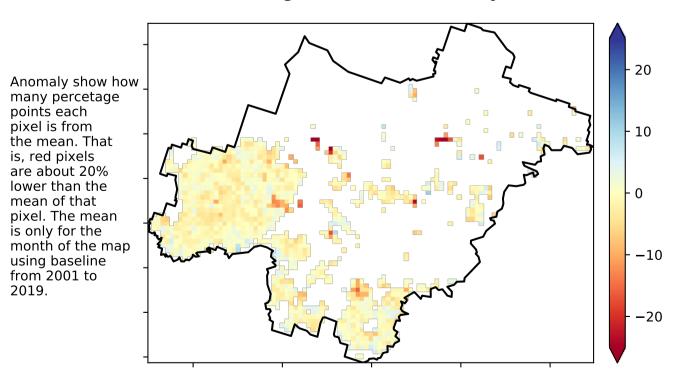
% Area protected from water erosion (>70%)



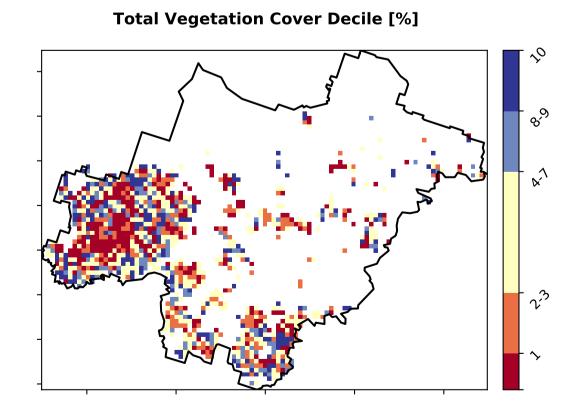
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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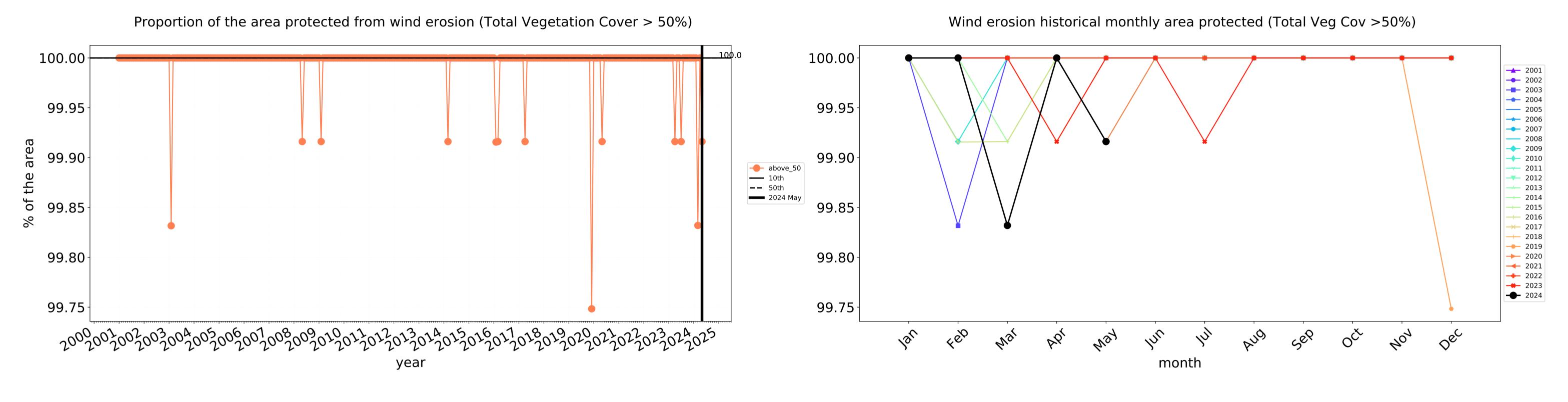


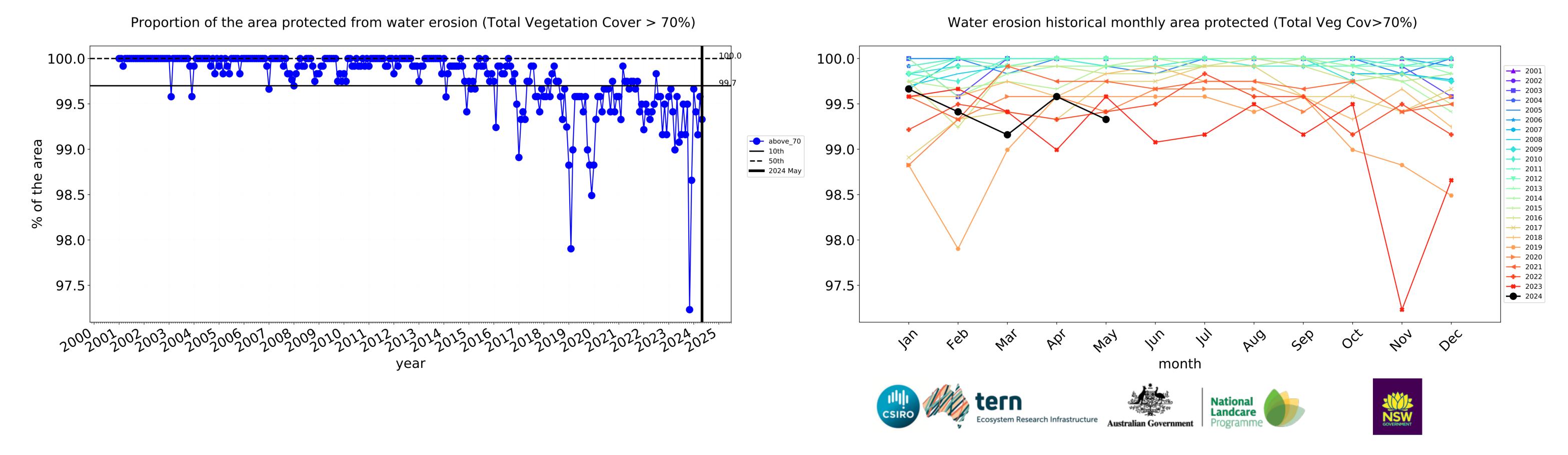


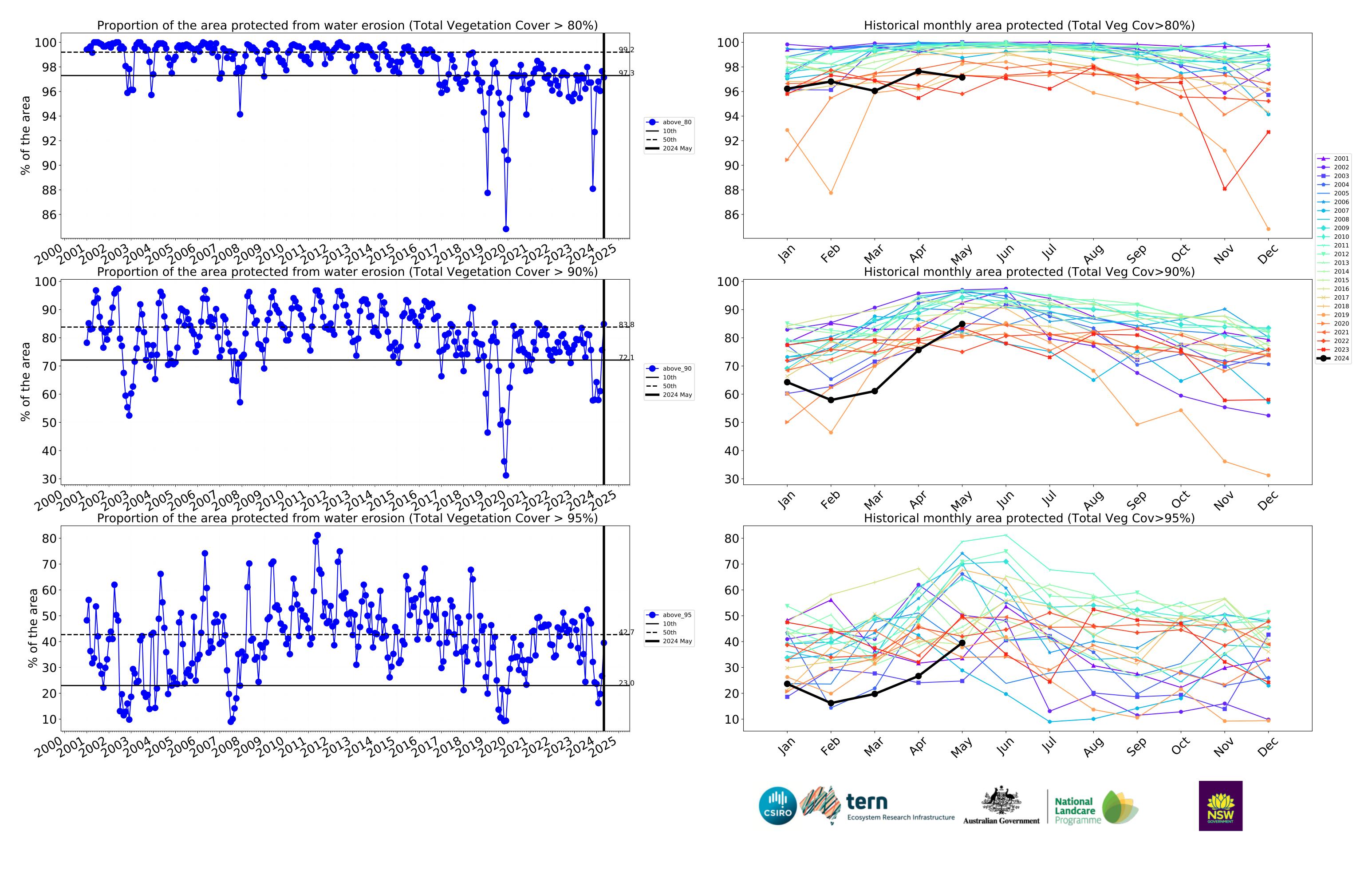




Grazing timeseries





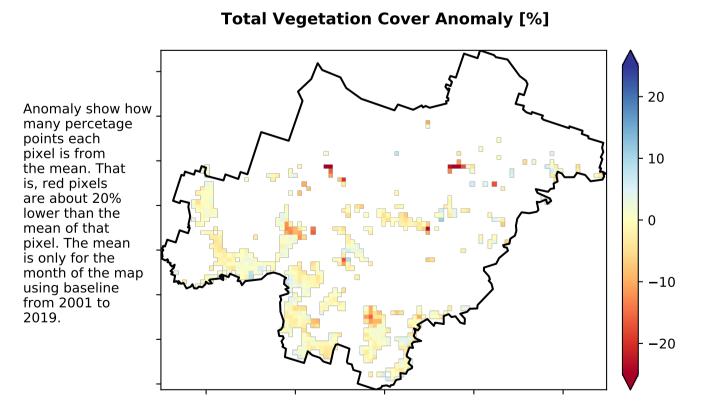


Grazing non forest

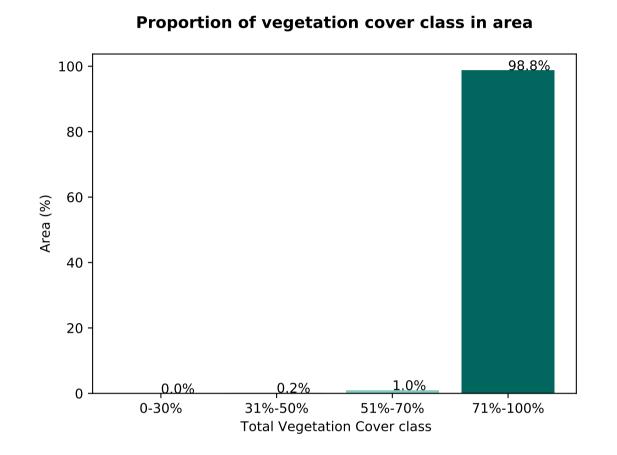
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

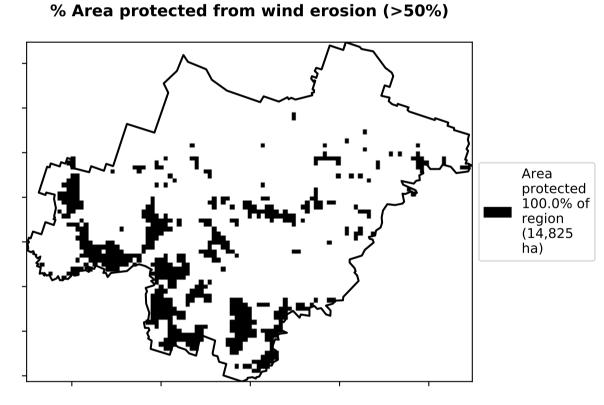
Total Vegetation Cover [%]

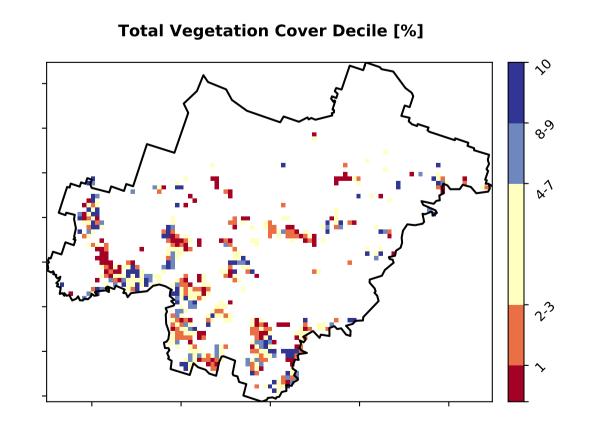
Area not protected 1.2% of region (178 ha) Area protected 98.8% of region (14,647 ha)



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.







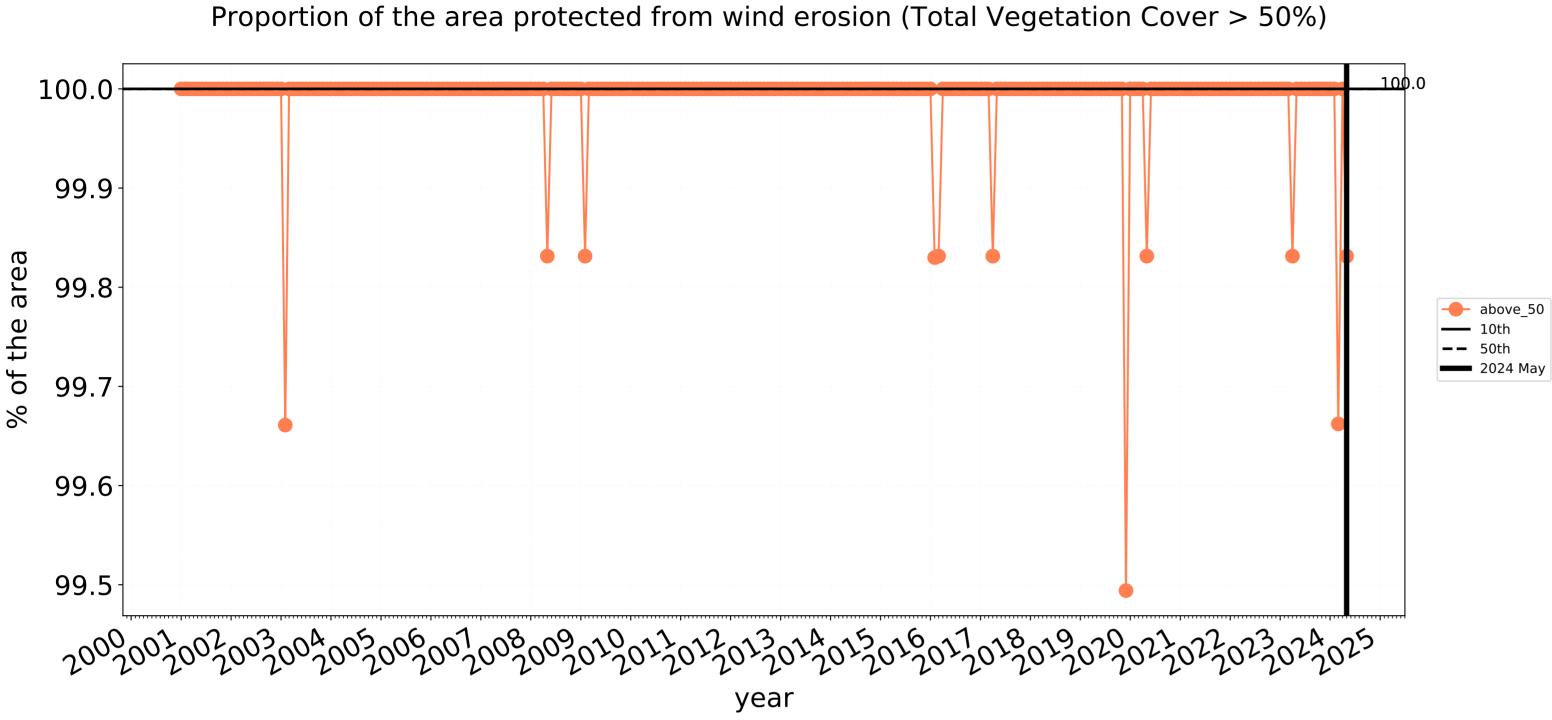


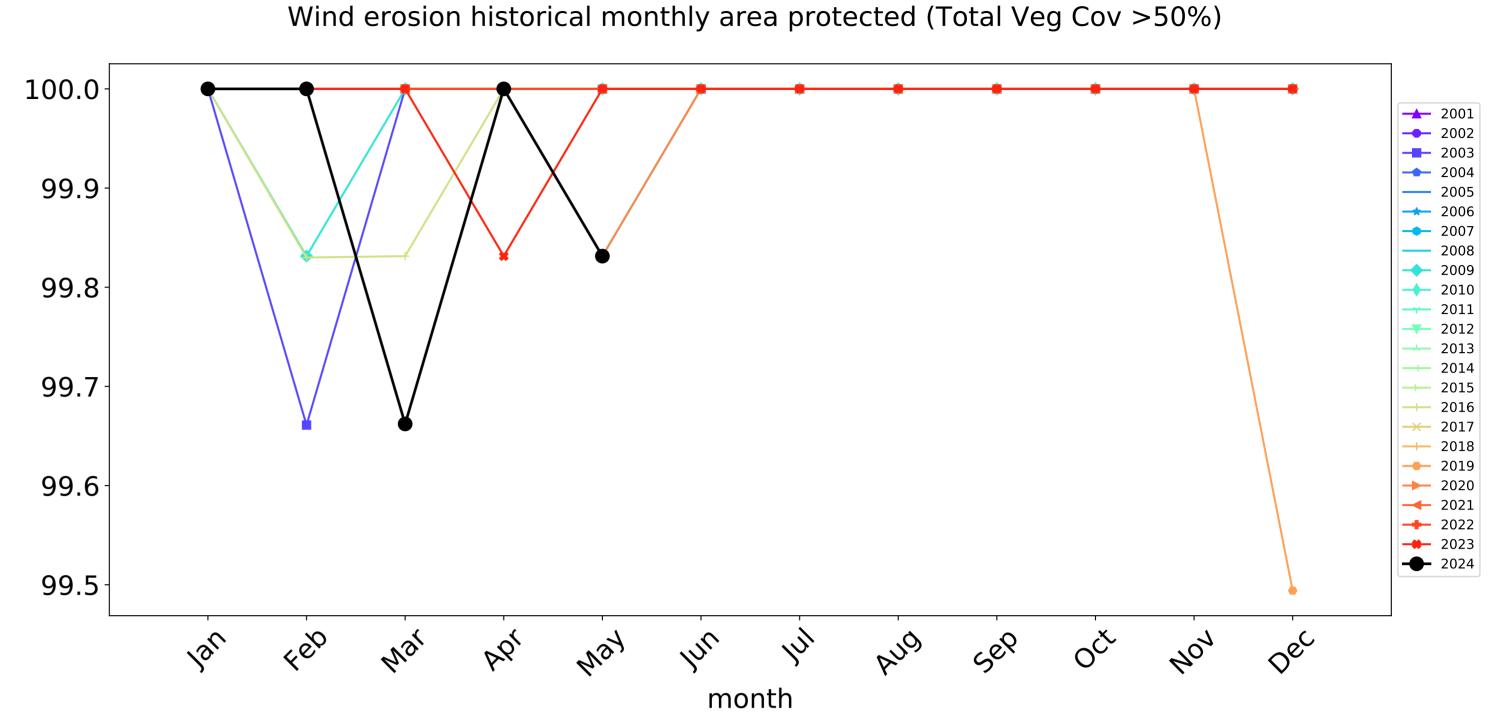


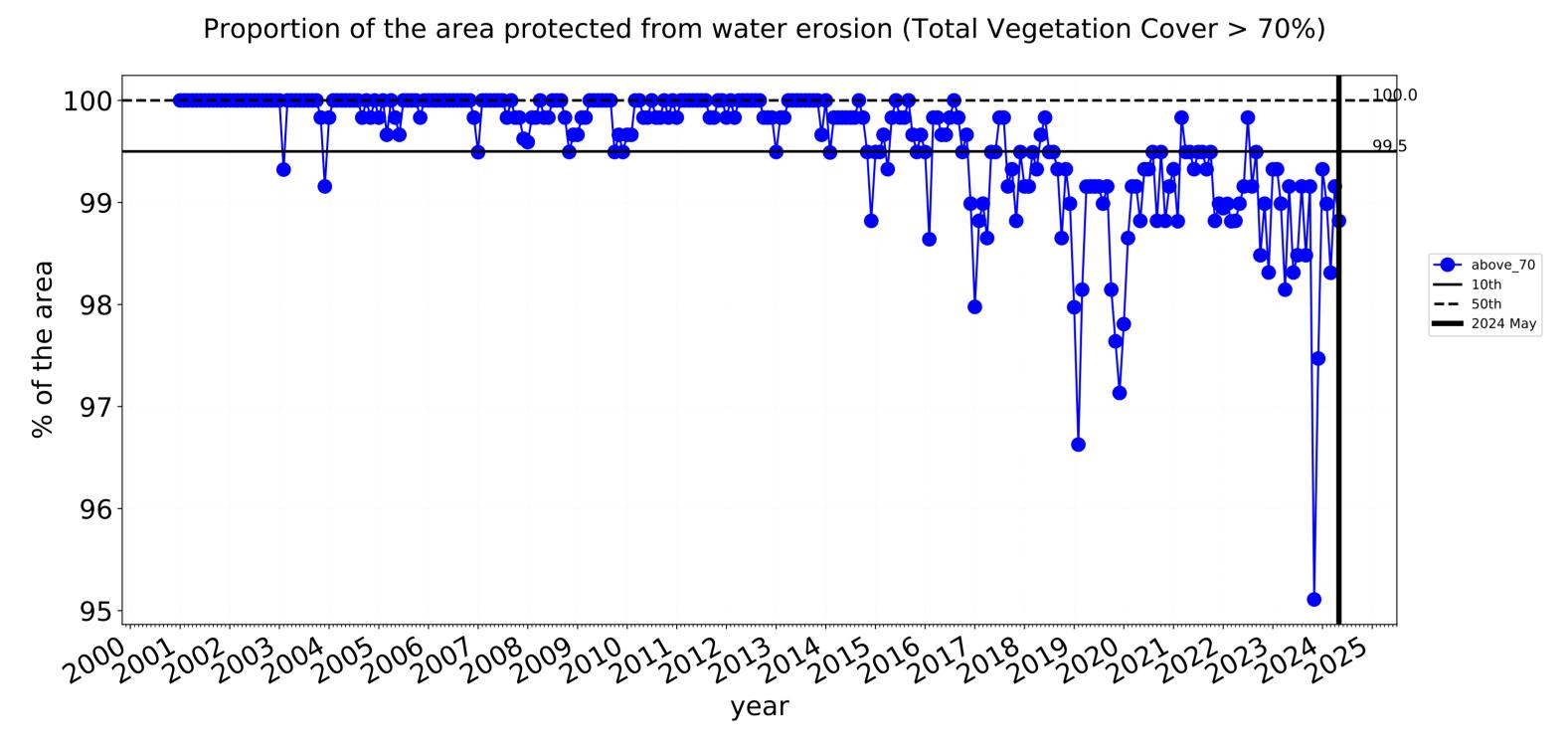


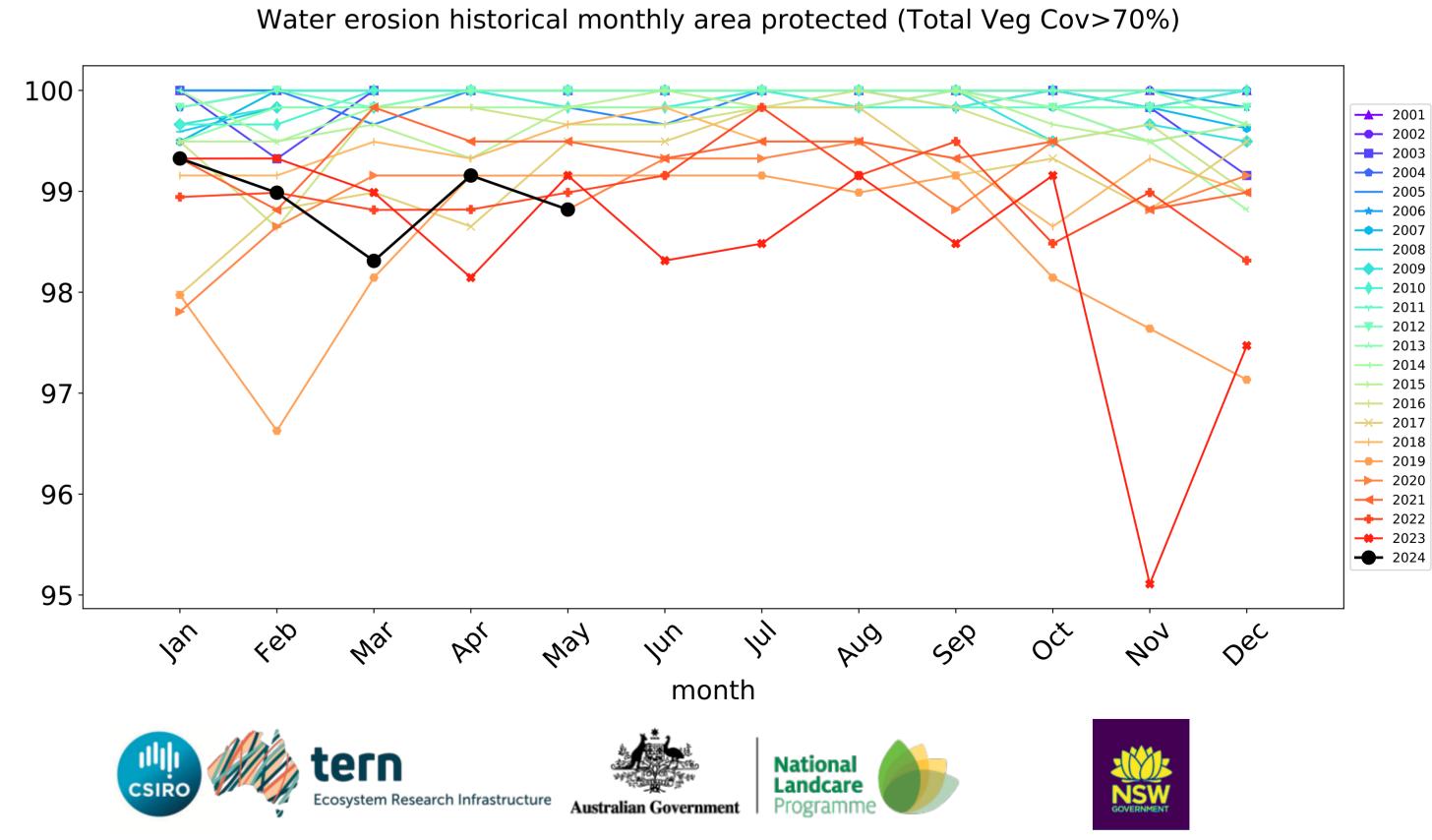


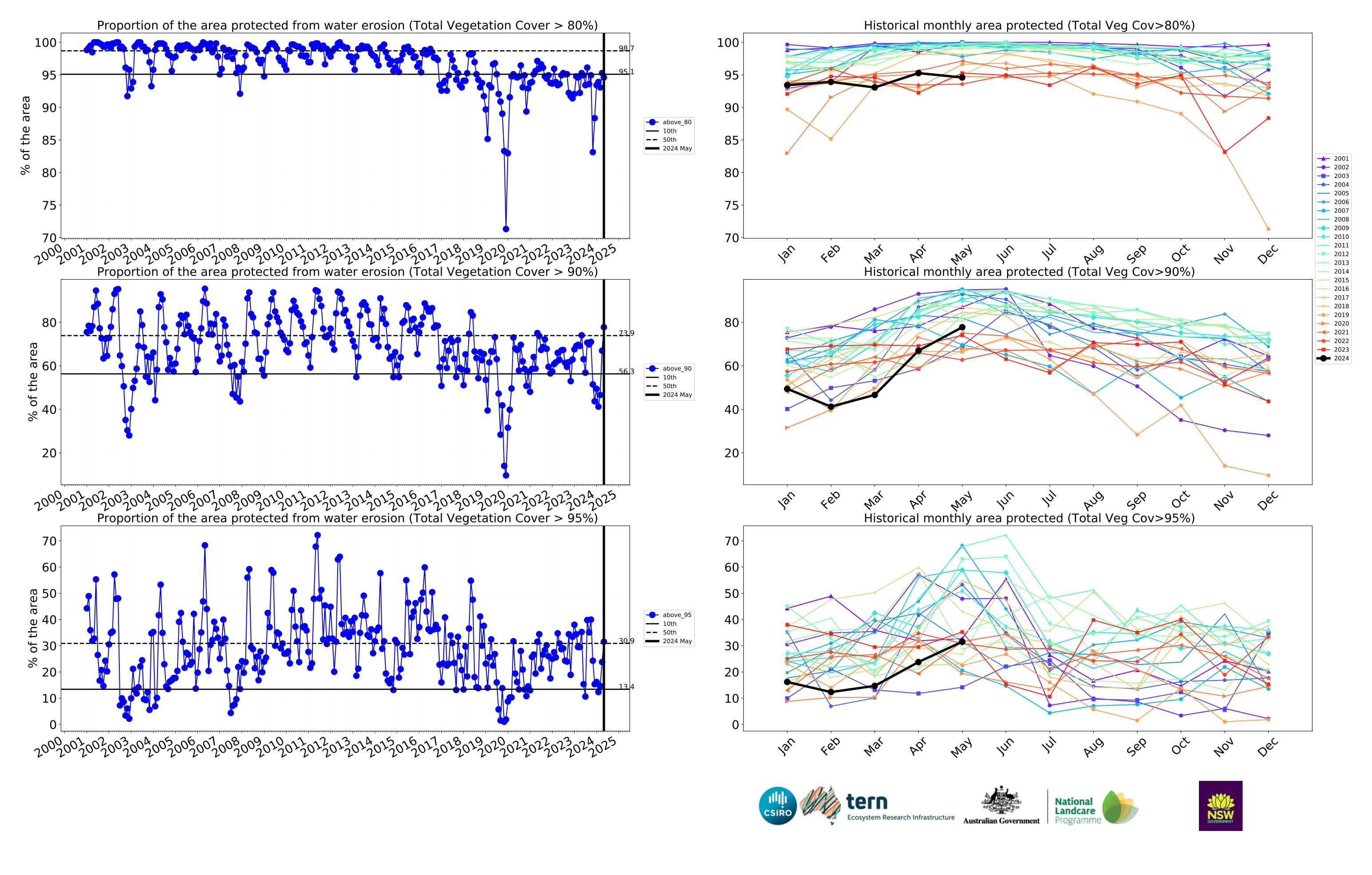
Grazing non forest timeseries









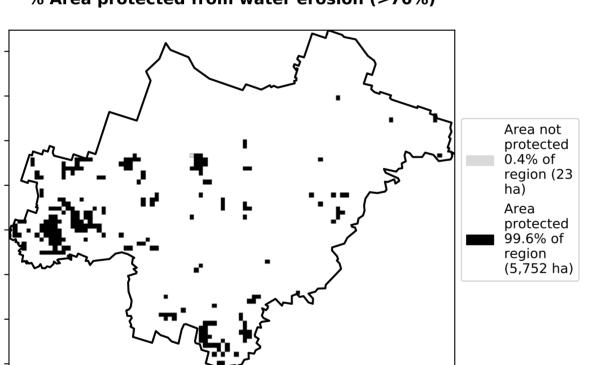


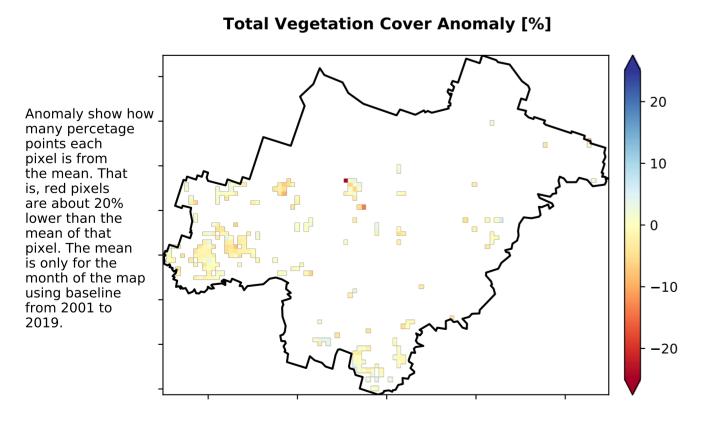
Grazing Woodland forest

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 of Australia (2018) 1 Agriculture - Grazing - Woodland forest of Australia (2018)

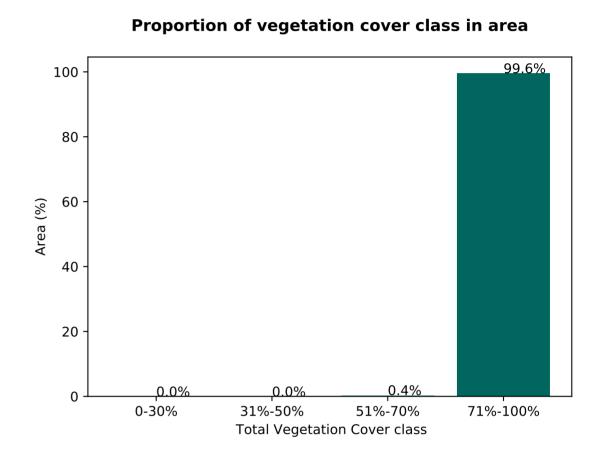
Total Vegetation Cover [%]

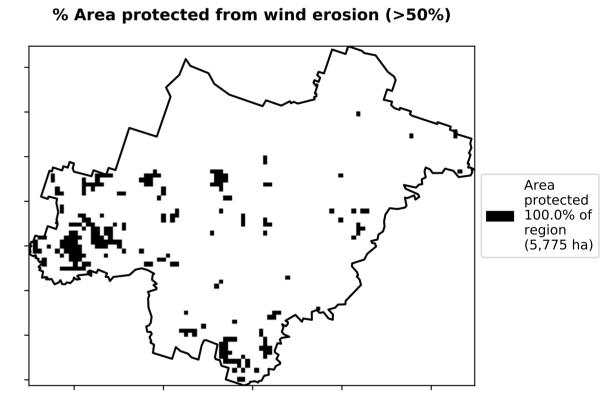
% Area protected from water erosion (>70%)

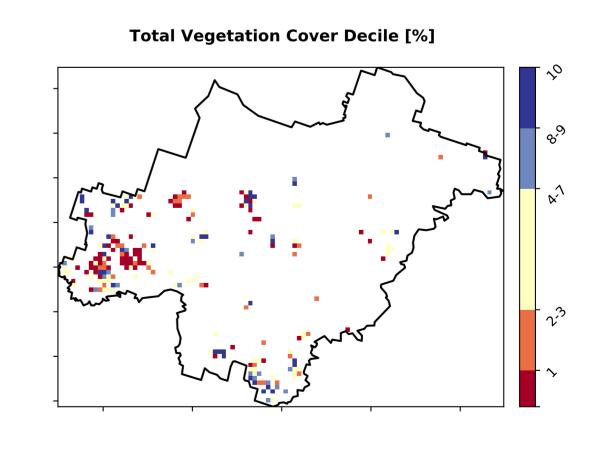




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.







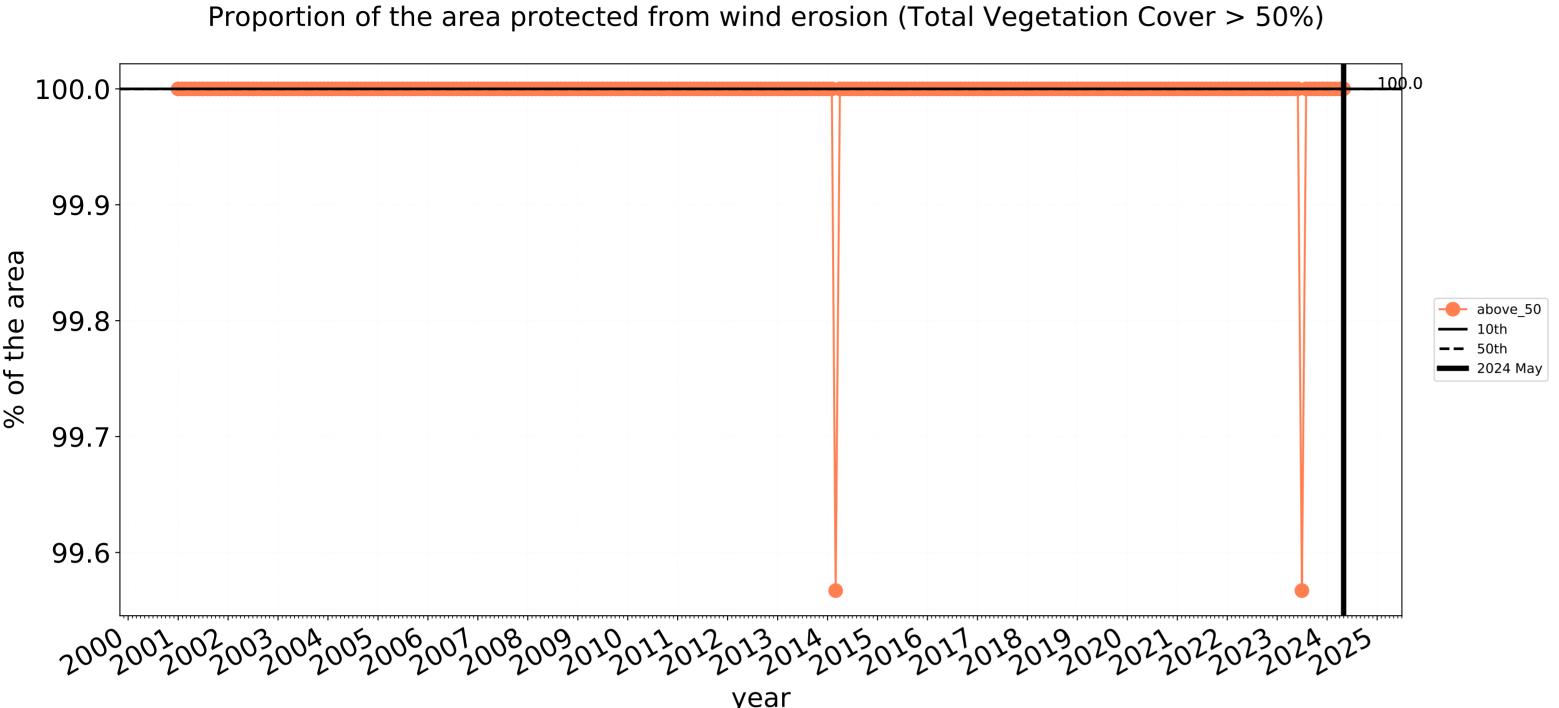


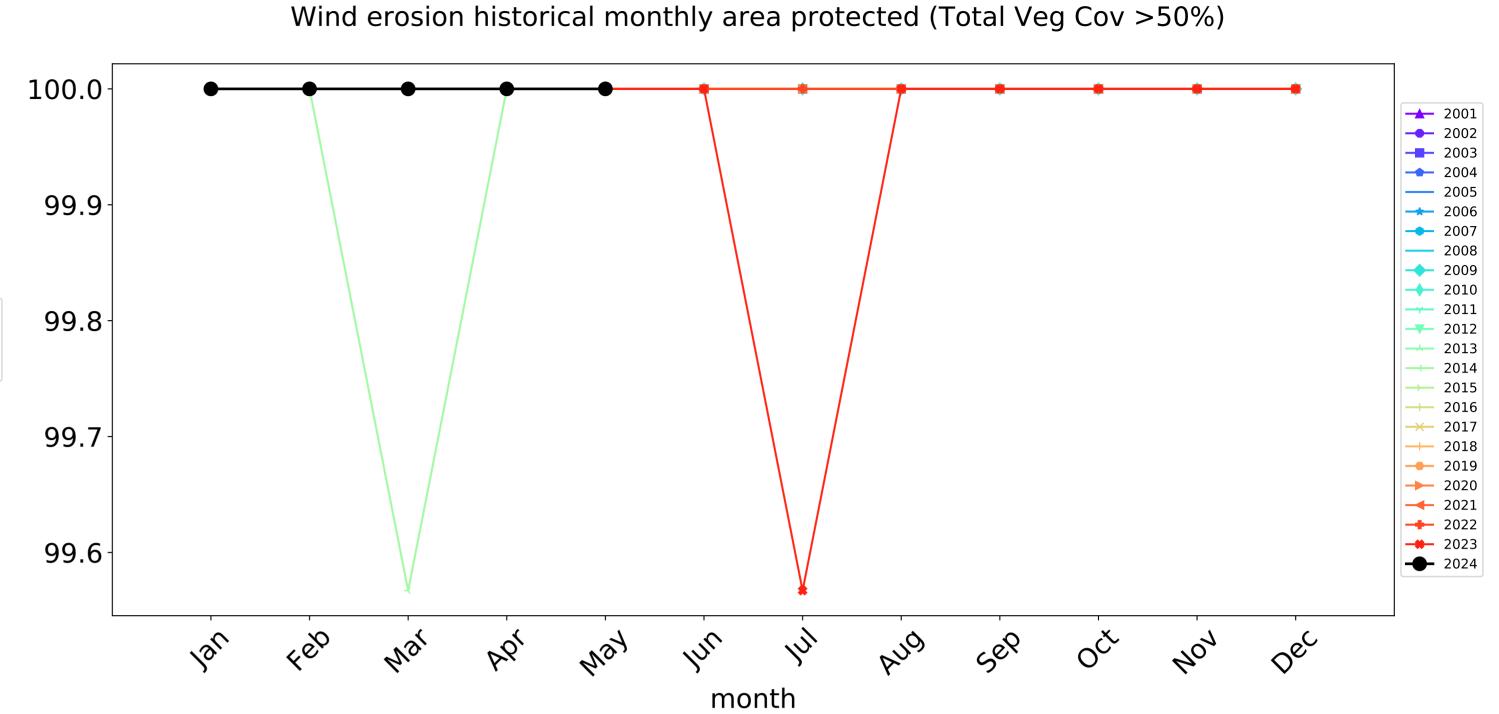


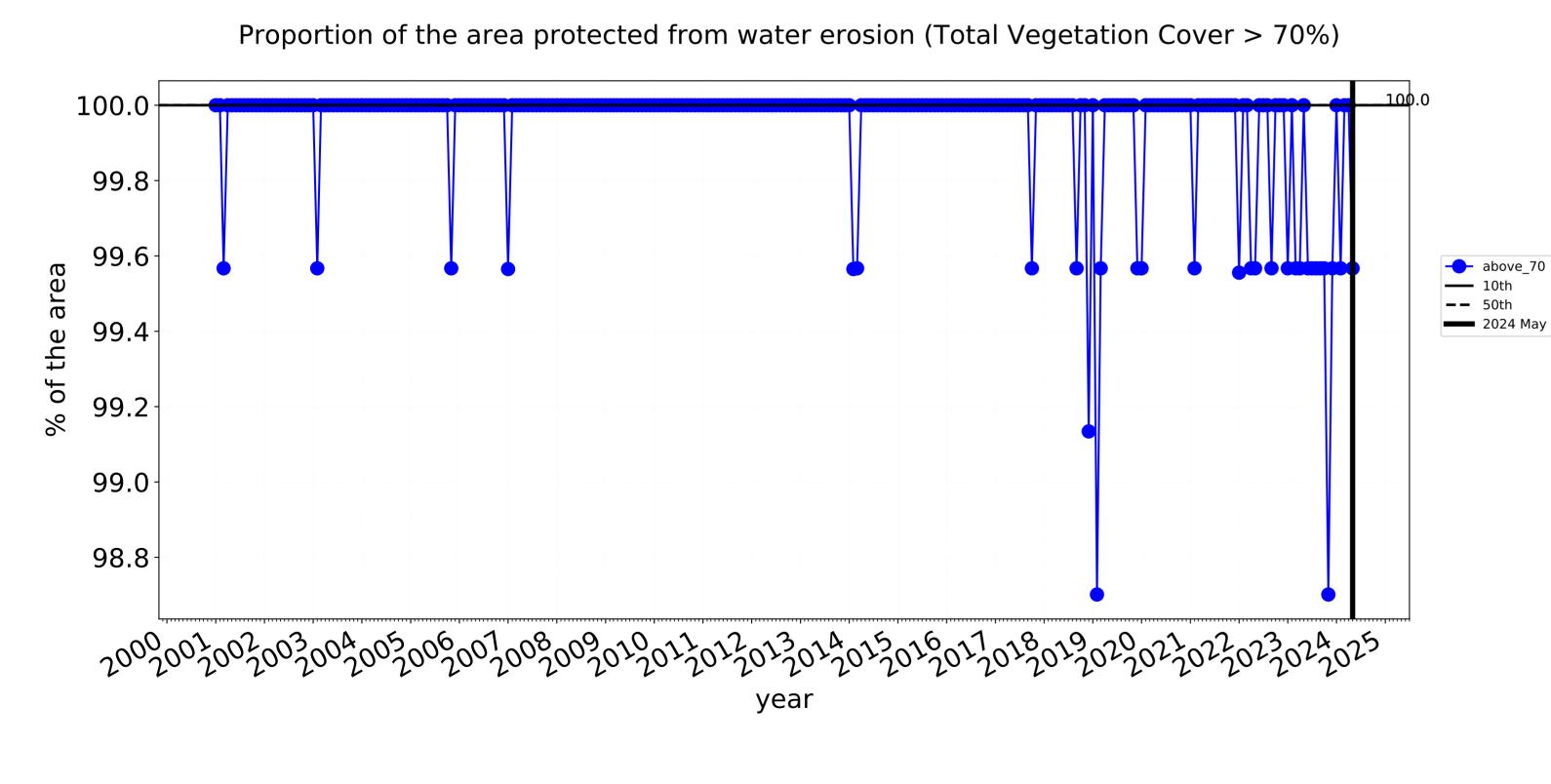


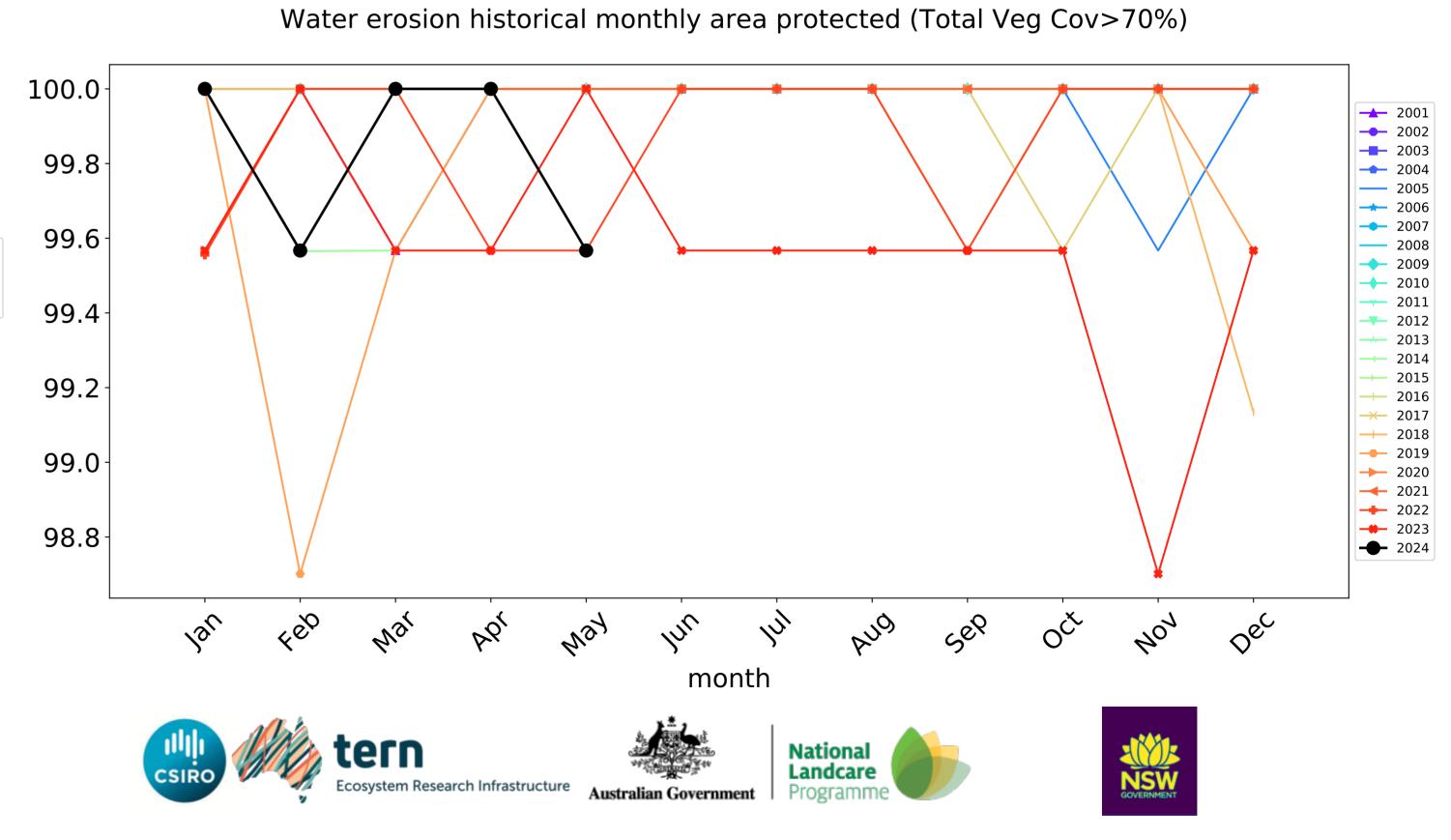


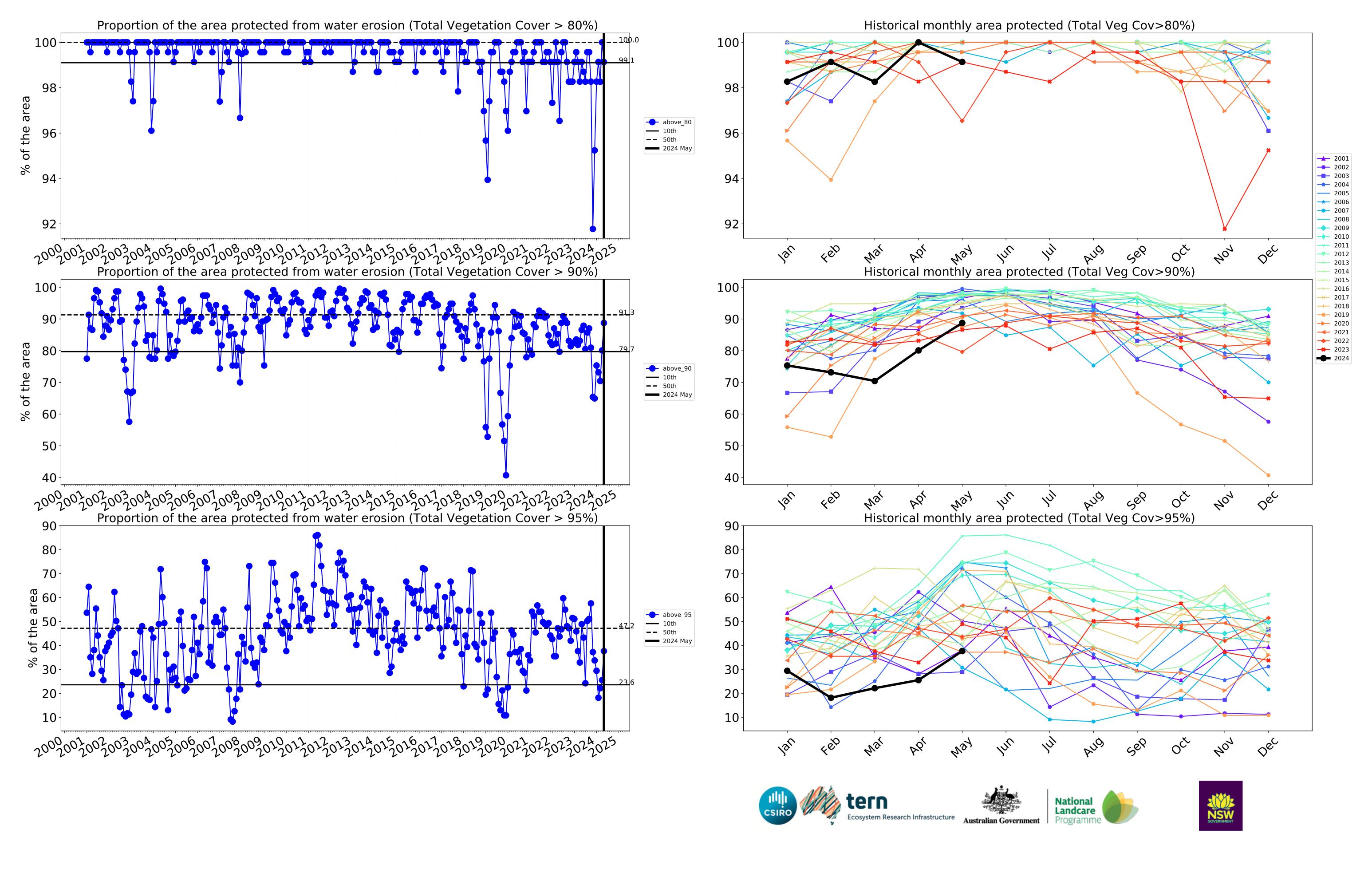
Grazing Woodland forest timeseries









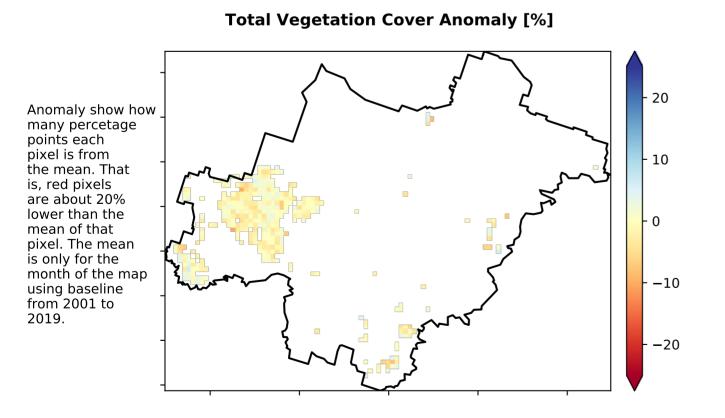


Grazing - Forest (non woodland)

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 of Australia (2018) 1 Agriculture - Grazing - Non-woodland forest of Australia (2018)

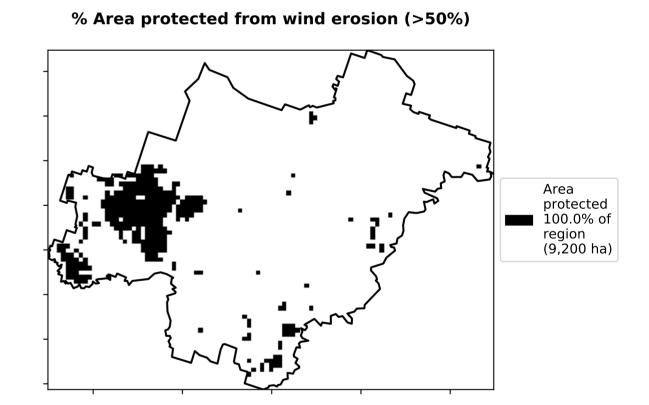
Total Vegetation Cover [%]

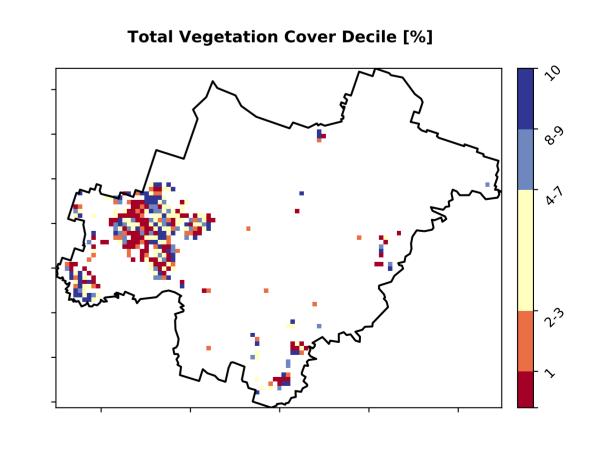
% Area protected from water erosion (>70%) Area protected 100.0% of region (9,200 ha)



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 man using baseling. the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area 100.0% 100 80 Area (%) 60 40 20 -0.0% 0.0% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**



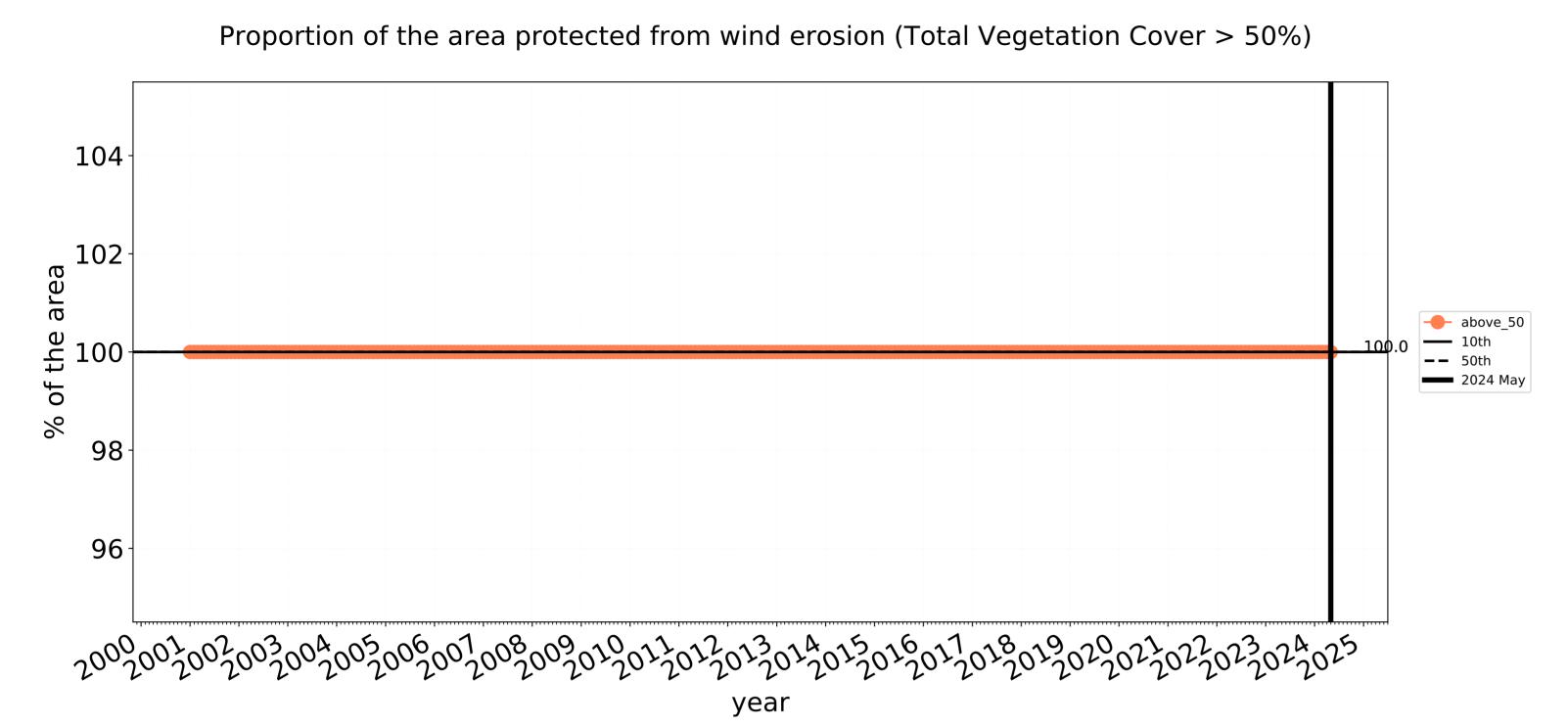




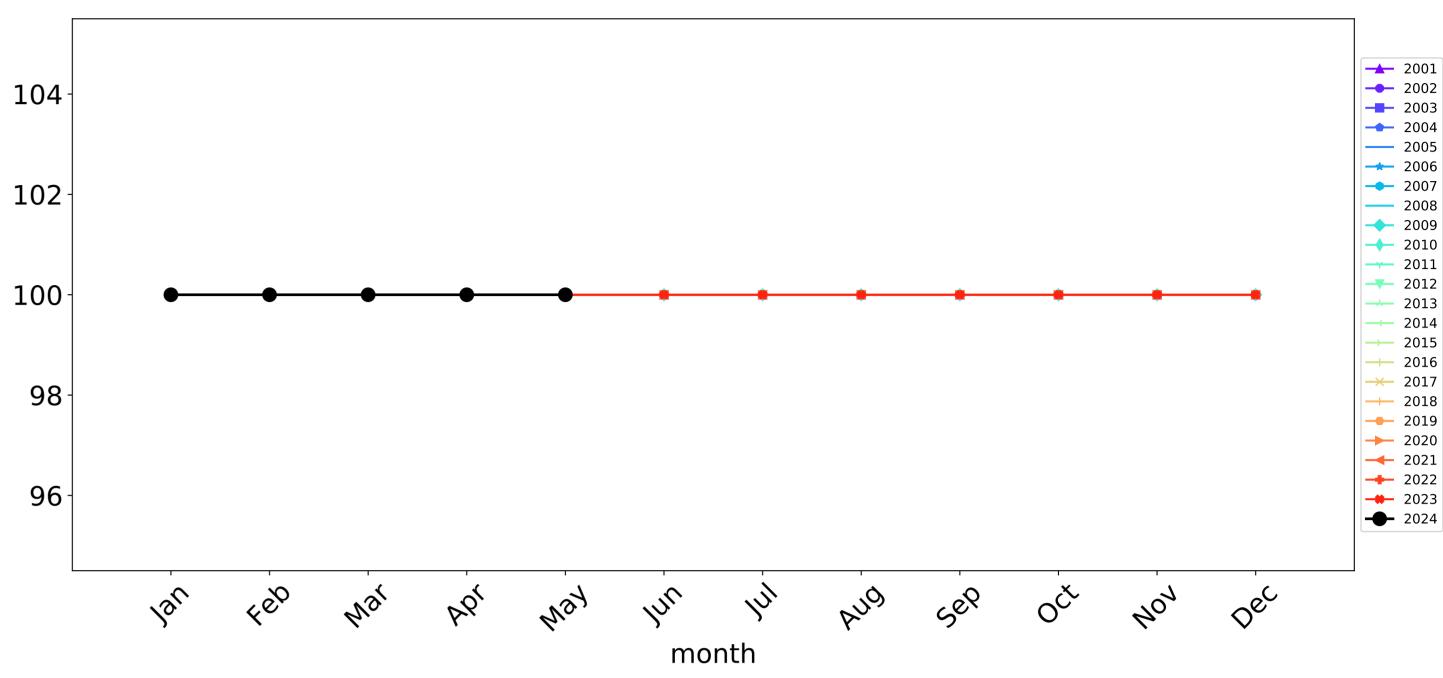


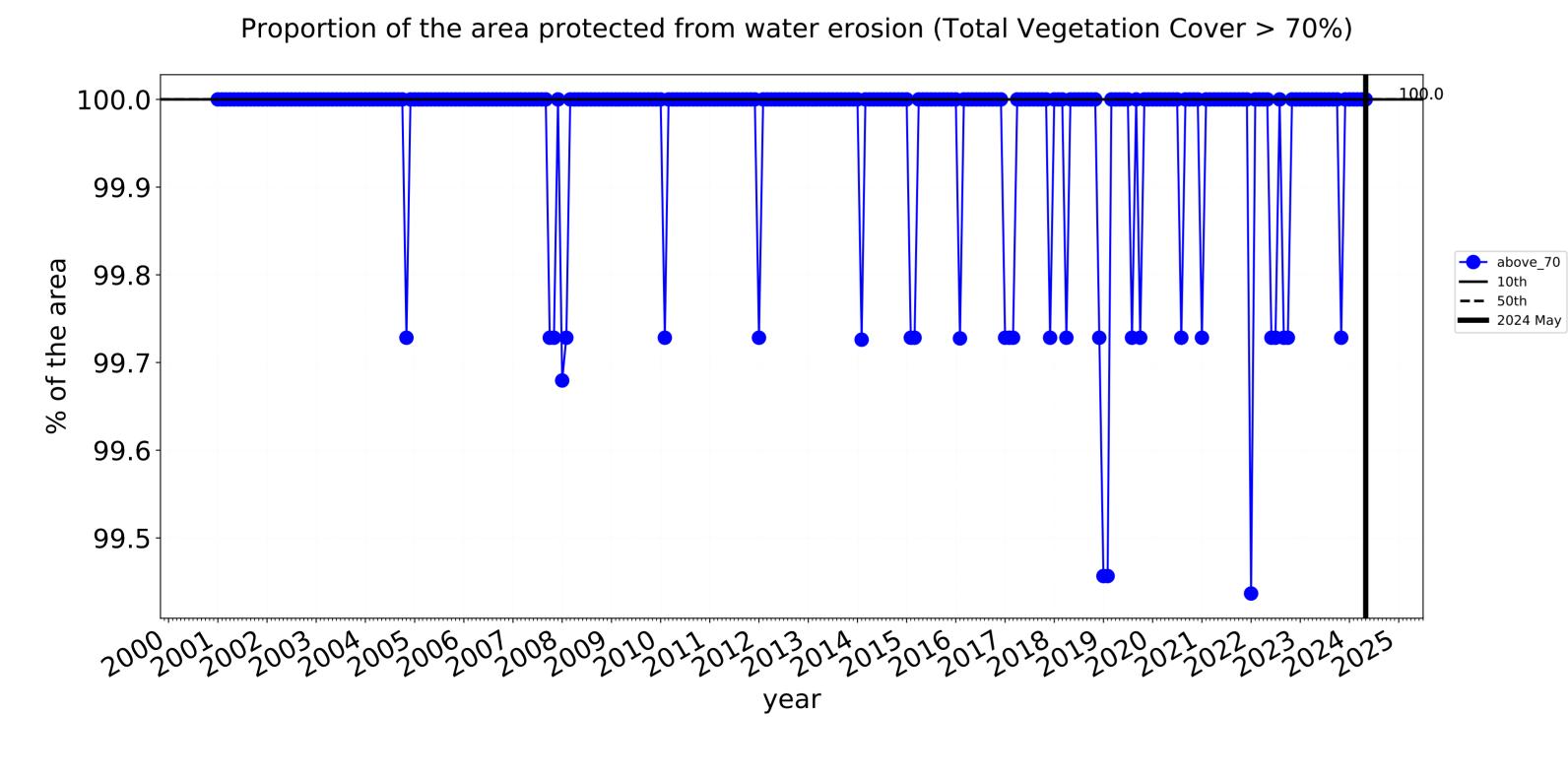


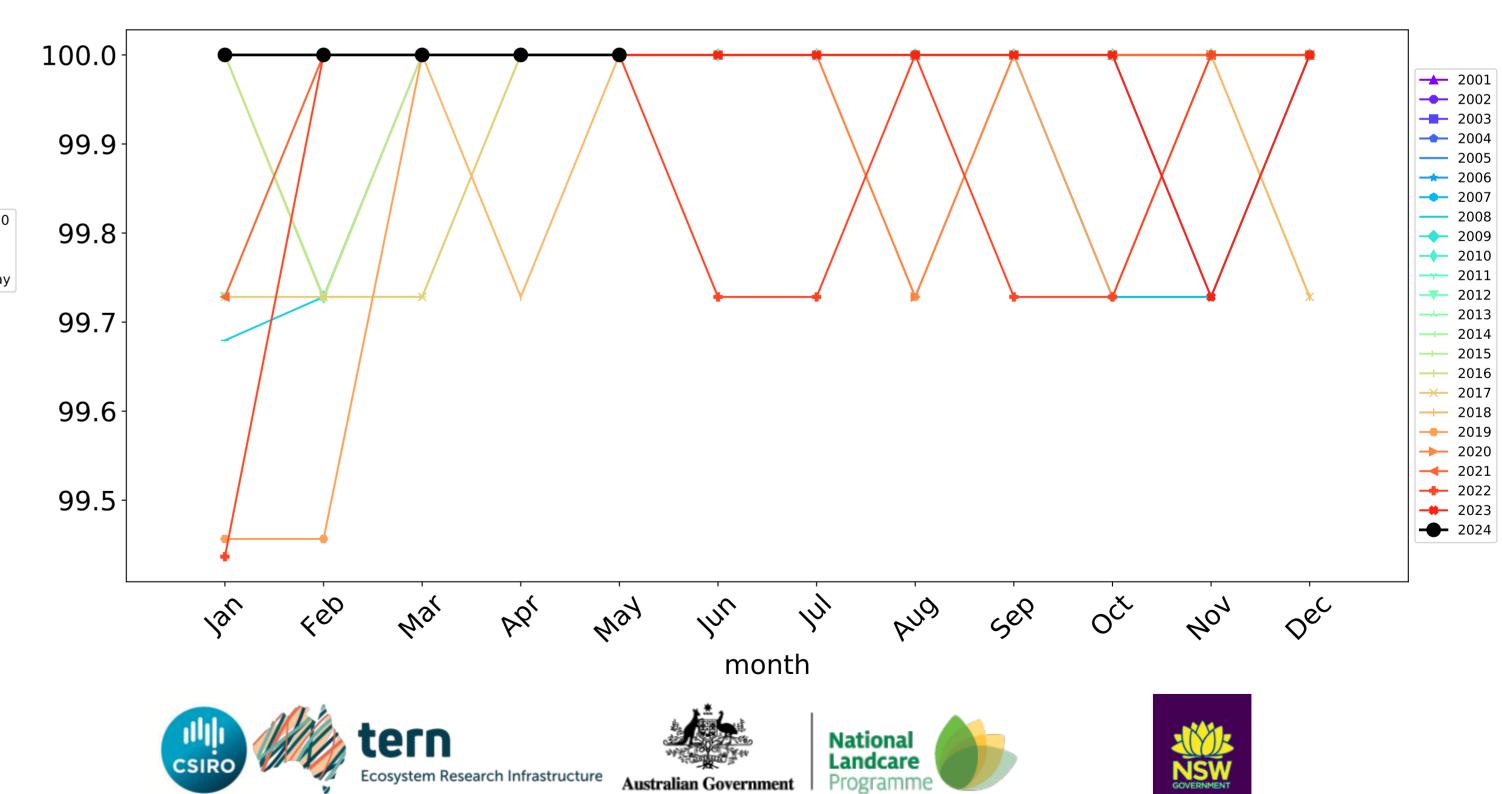




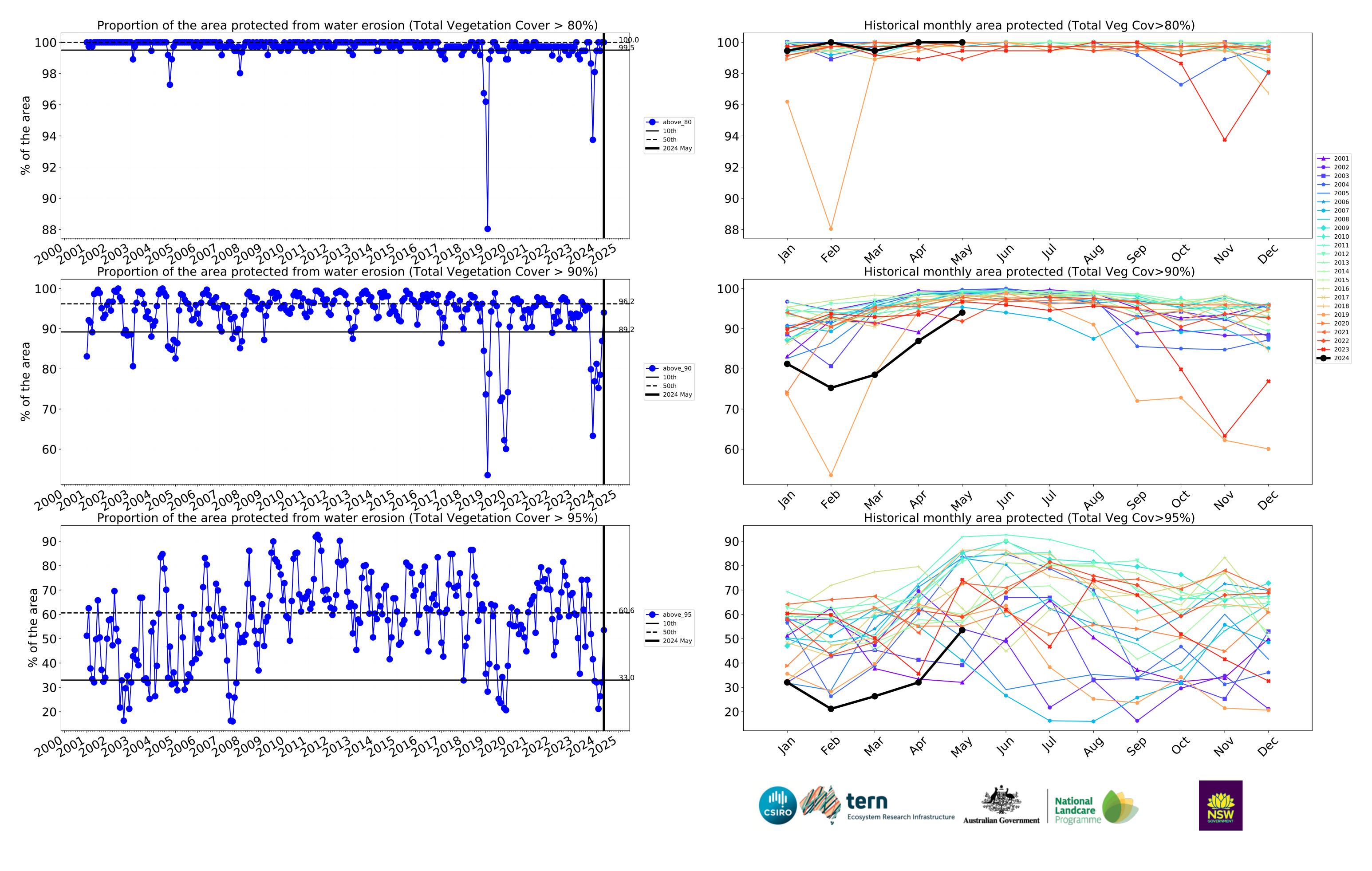
Wind erosion historical monthly area protected (Total Veg Cov >50%)



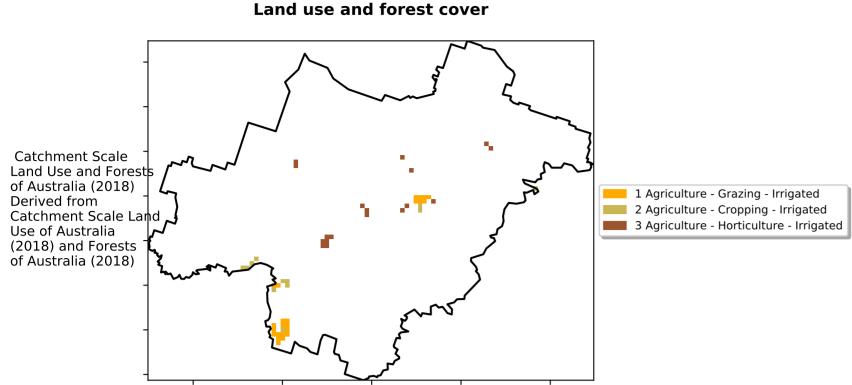


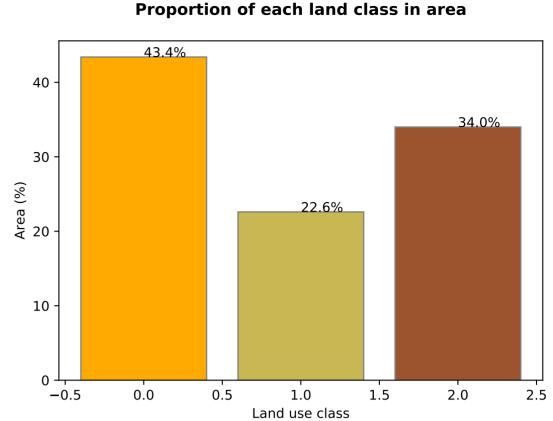


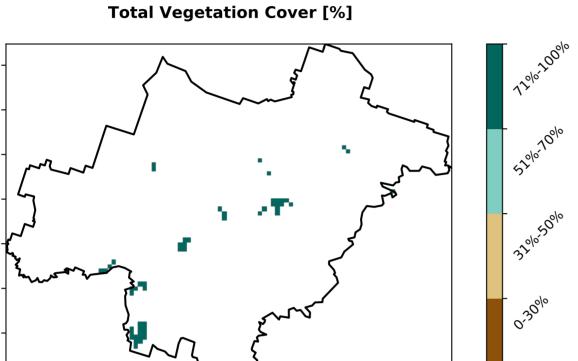
Water erosion historical monthly area protected (Total Veg Cov>70%)

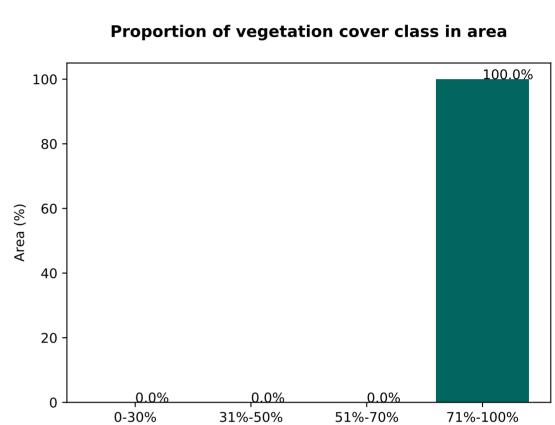


Irrigation





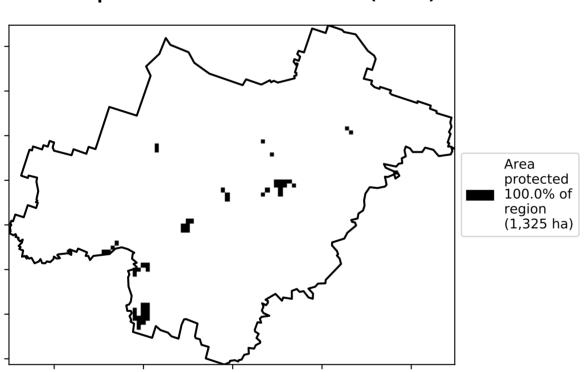


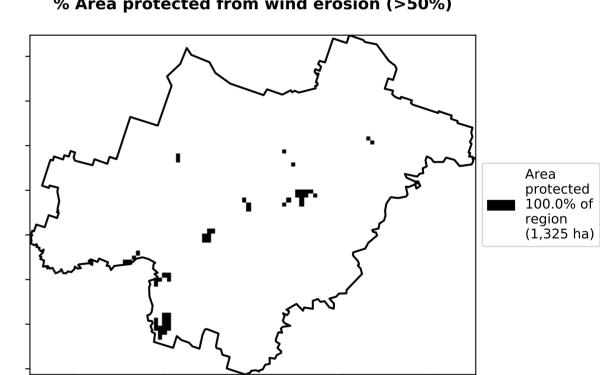


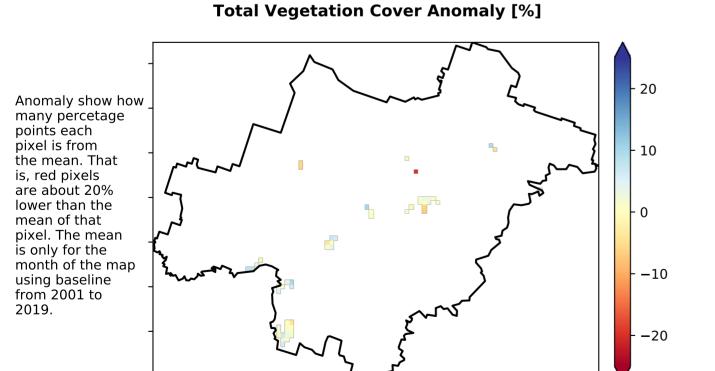


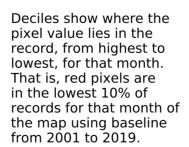


Total Vegetation Cover class









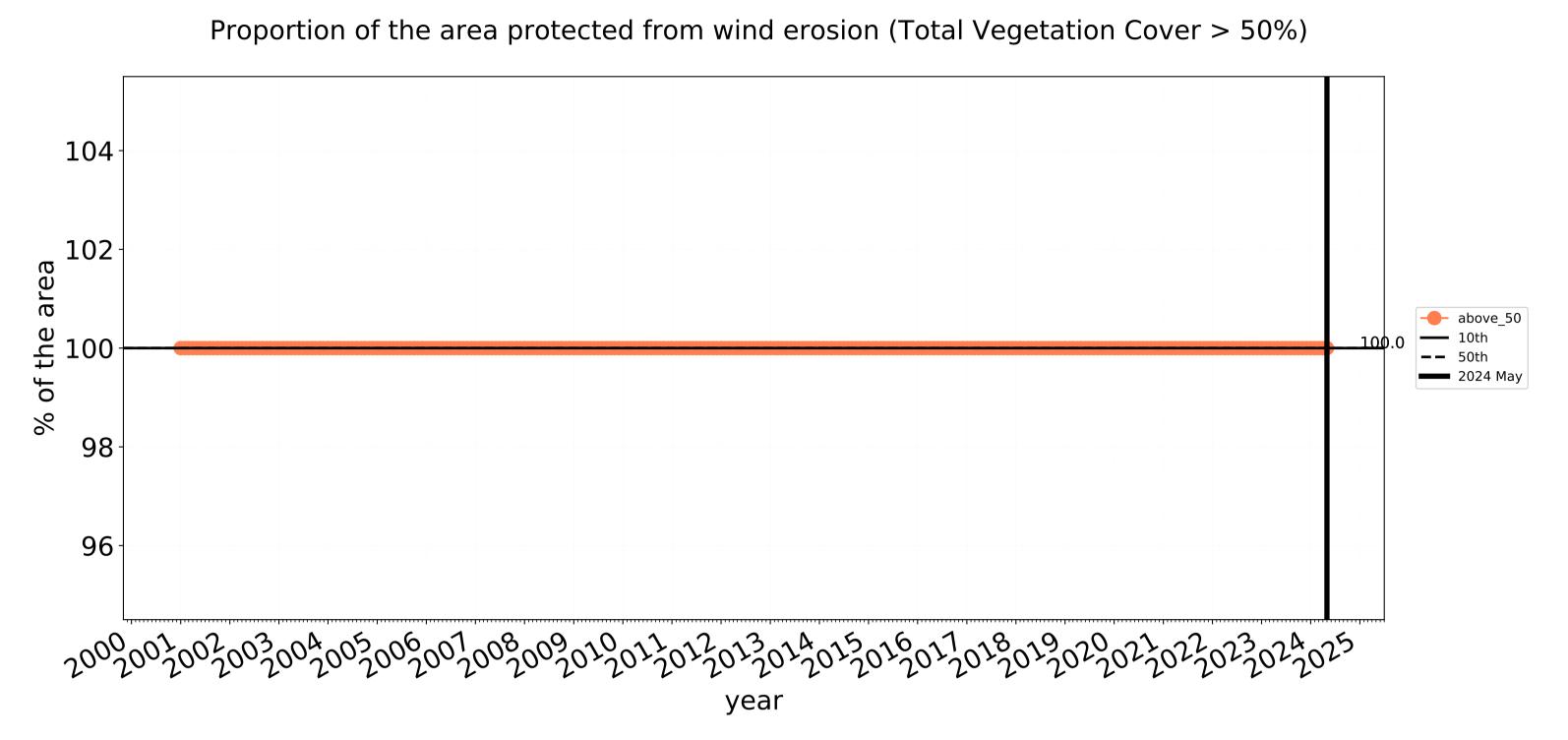
Total Vegetation Cover Decile [%]

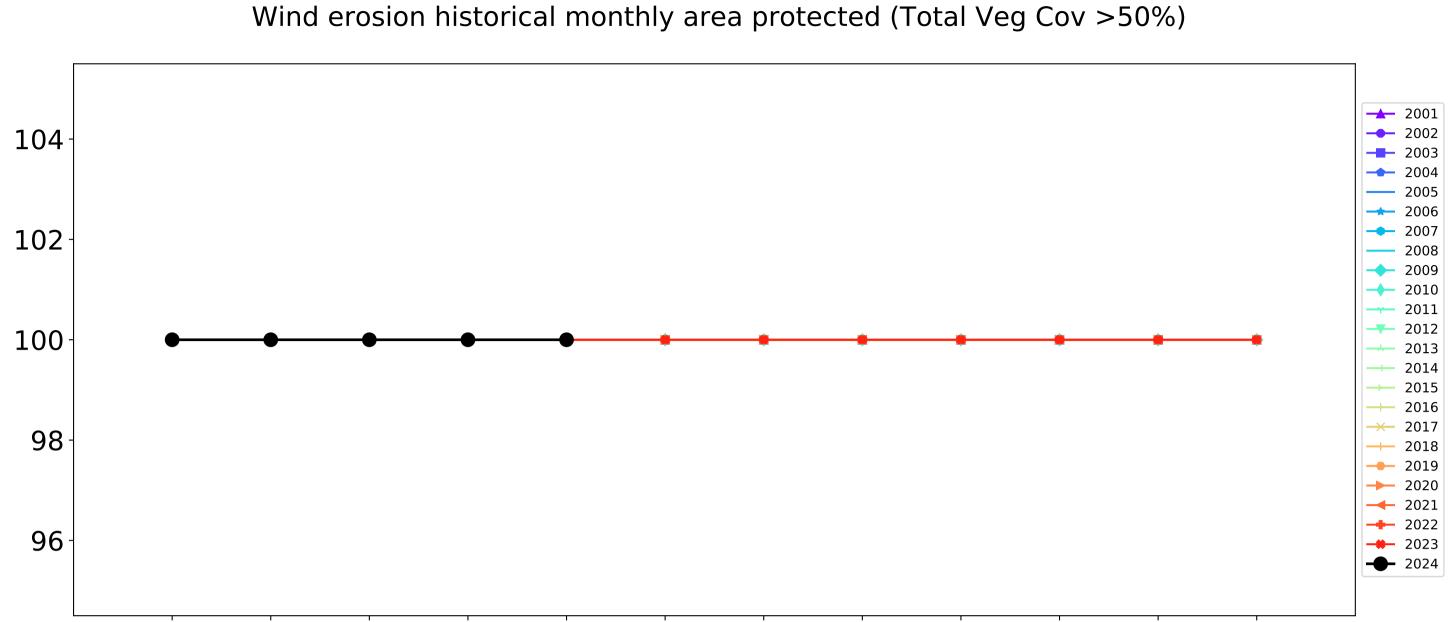










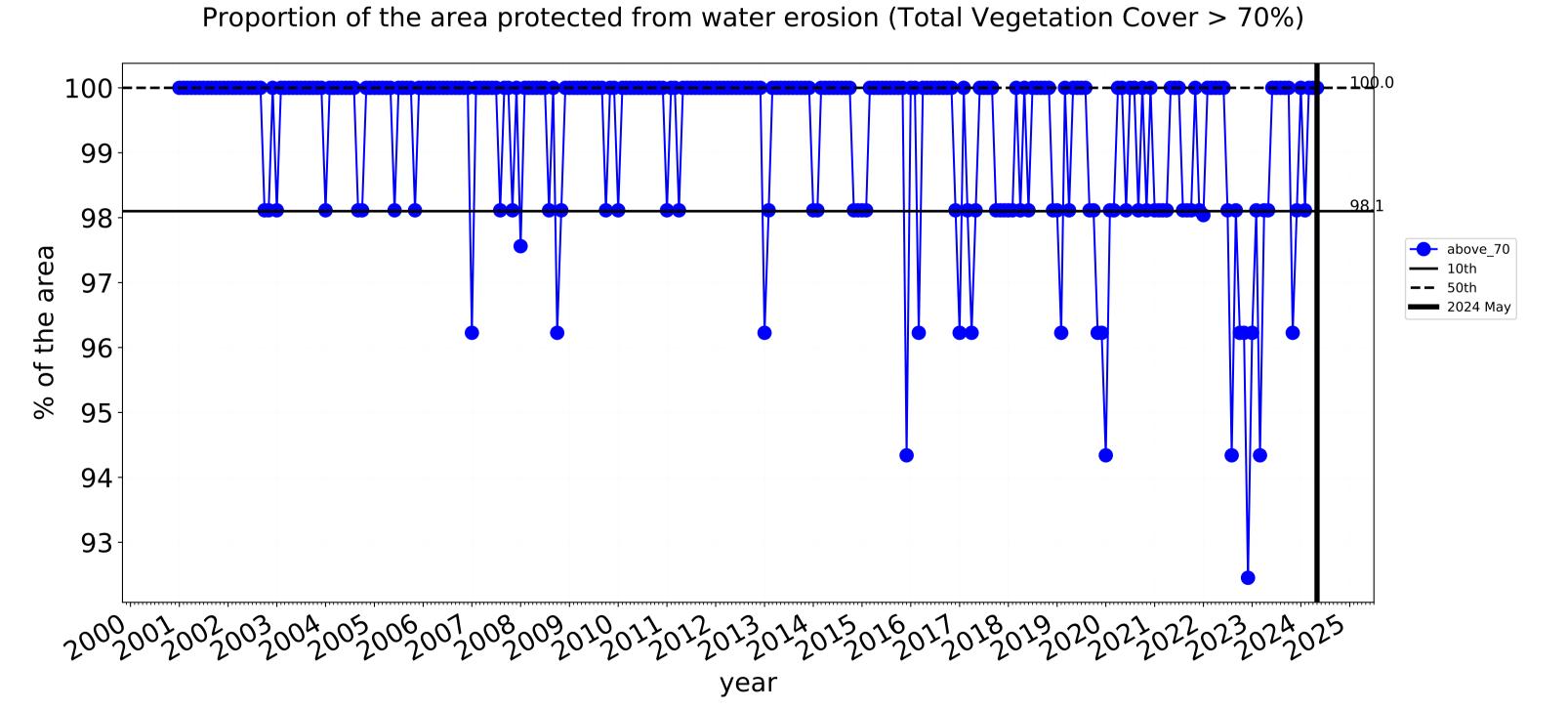


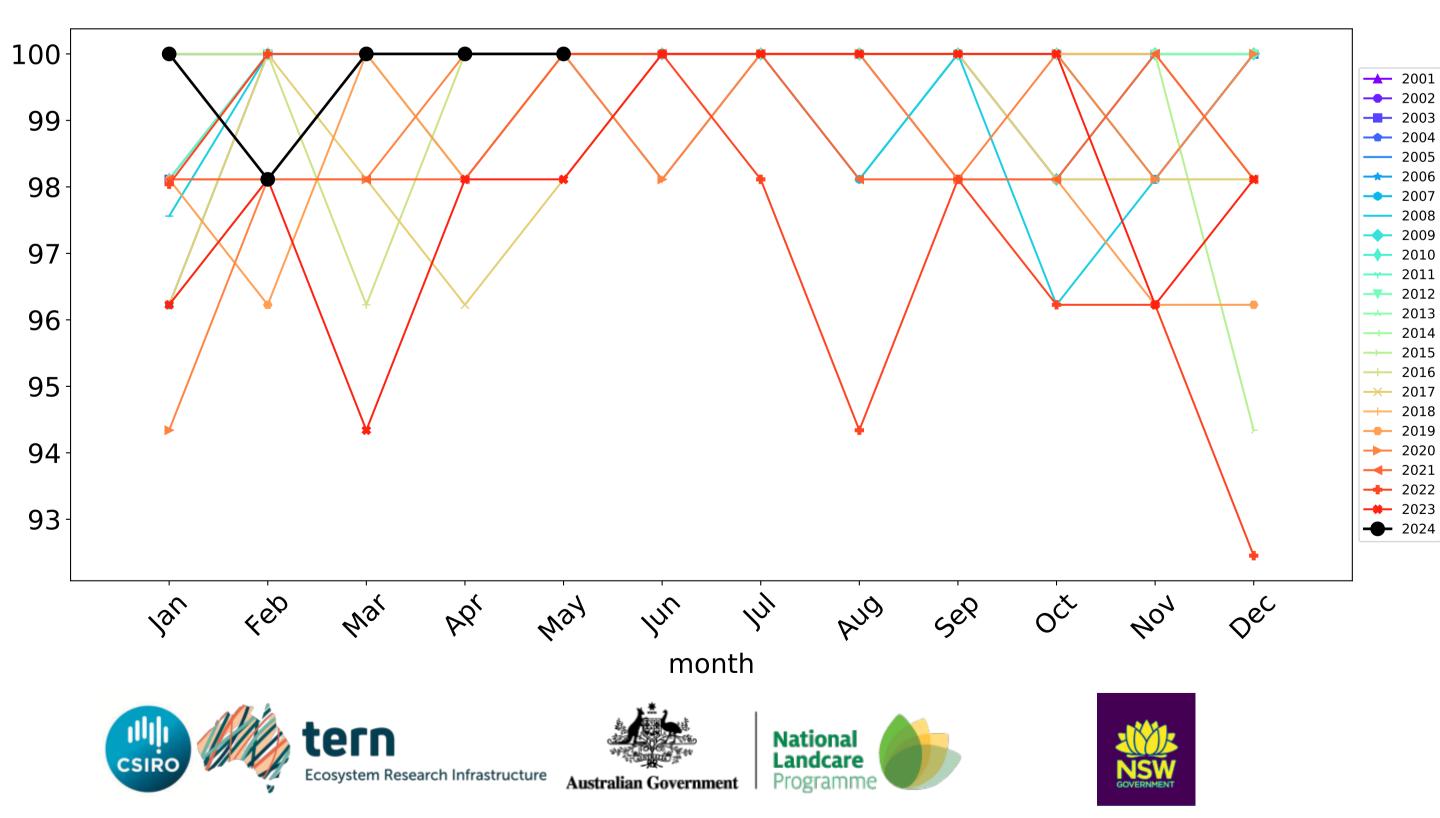
month

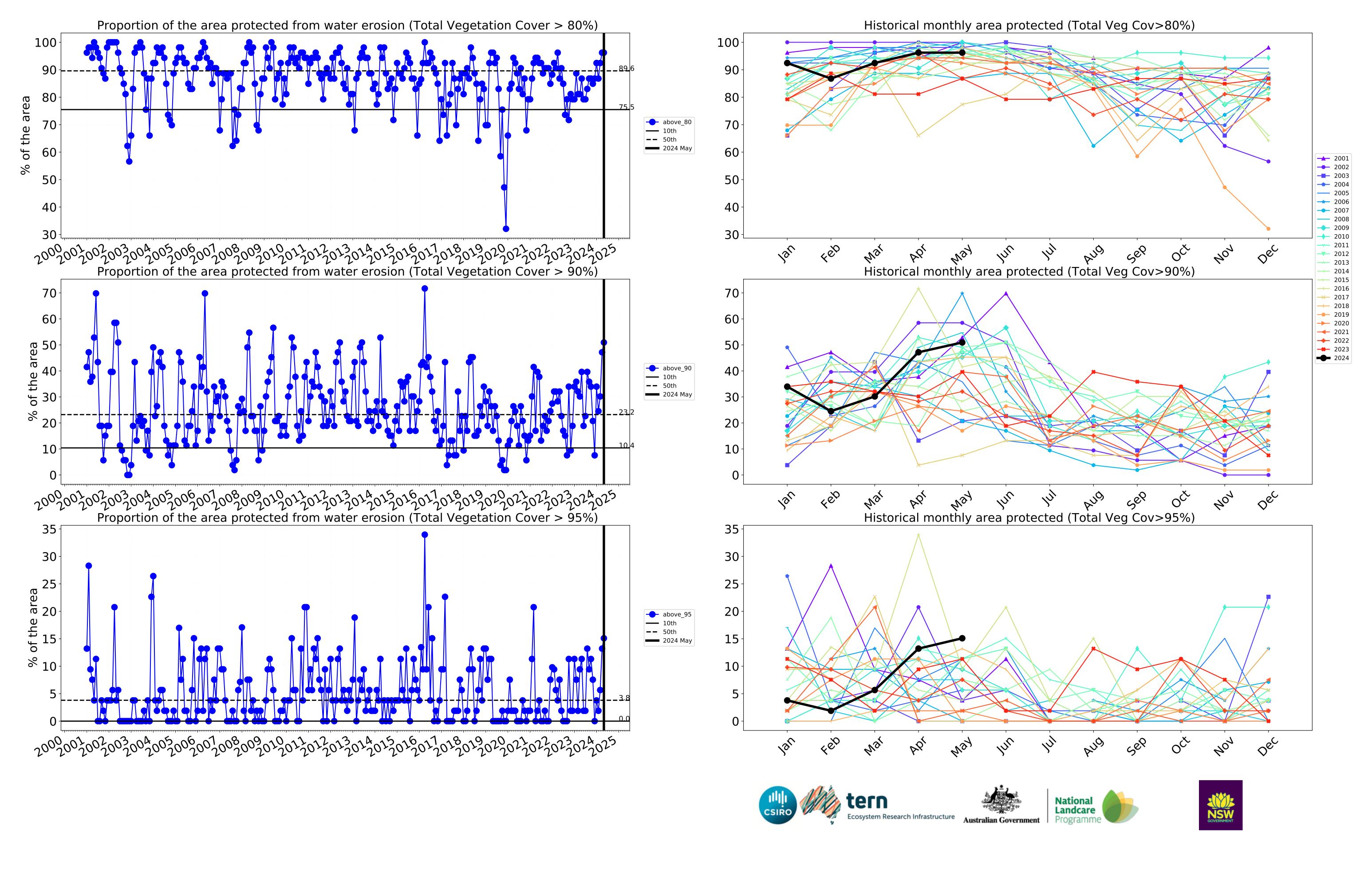
Water erosion historical monthly area protected (Total Veg Cov>70%)

May

404





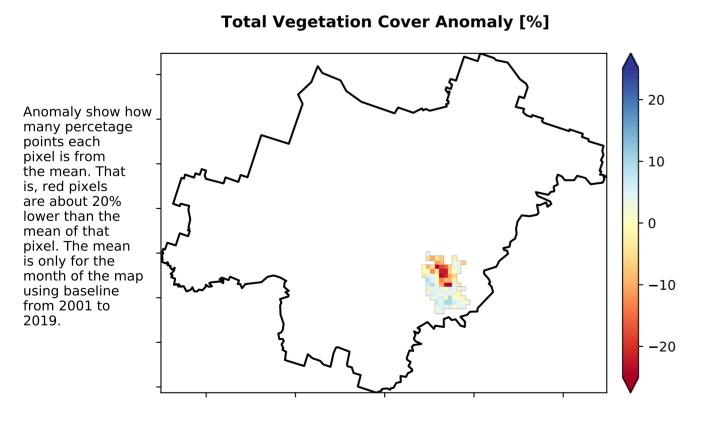


Production native forests and plantation forests

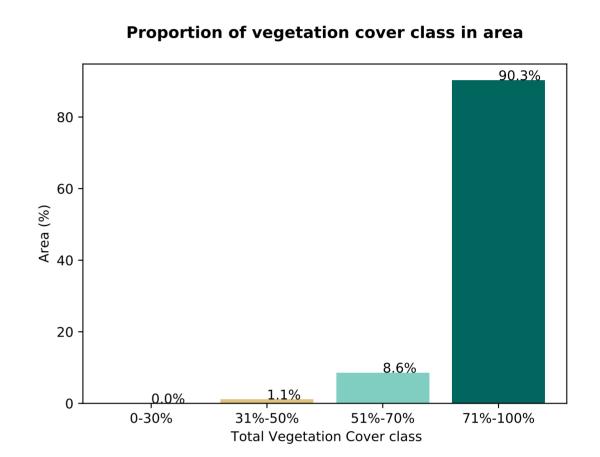
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

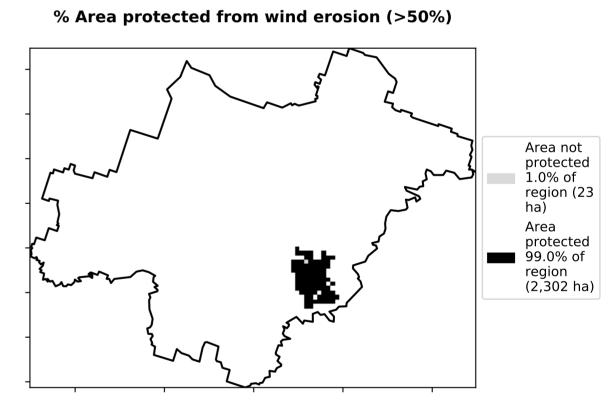
Total Vegetation Cover [%] Tuelor tuelo Tu

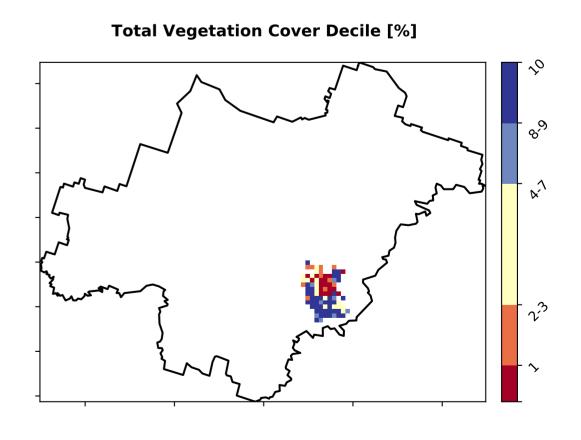
% Area protected from water erosion (>70%) Area not protected 9.7% of region (226 ha) Area protected 90.3% of region (2,099 ha)



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.







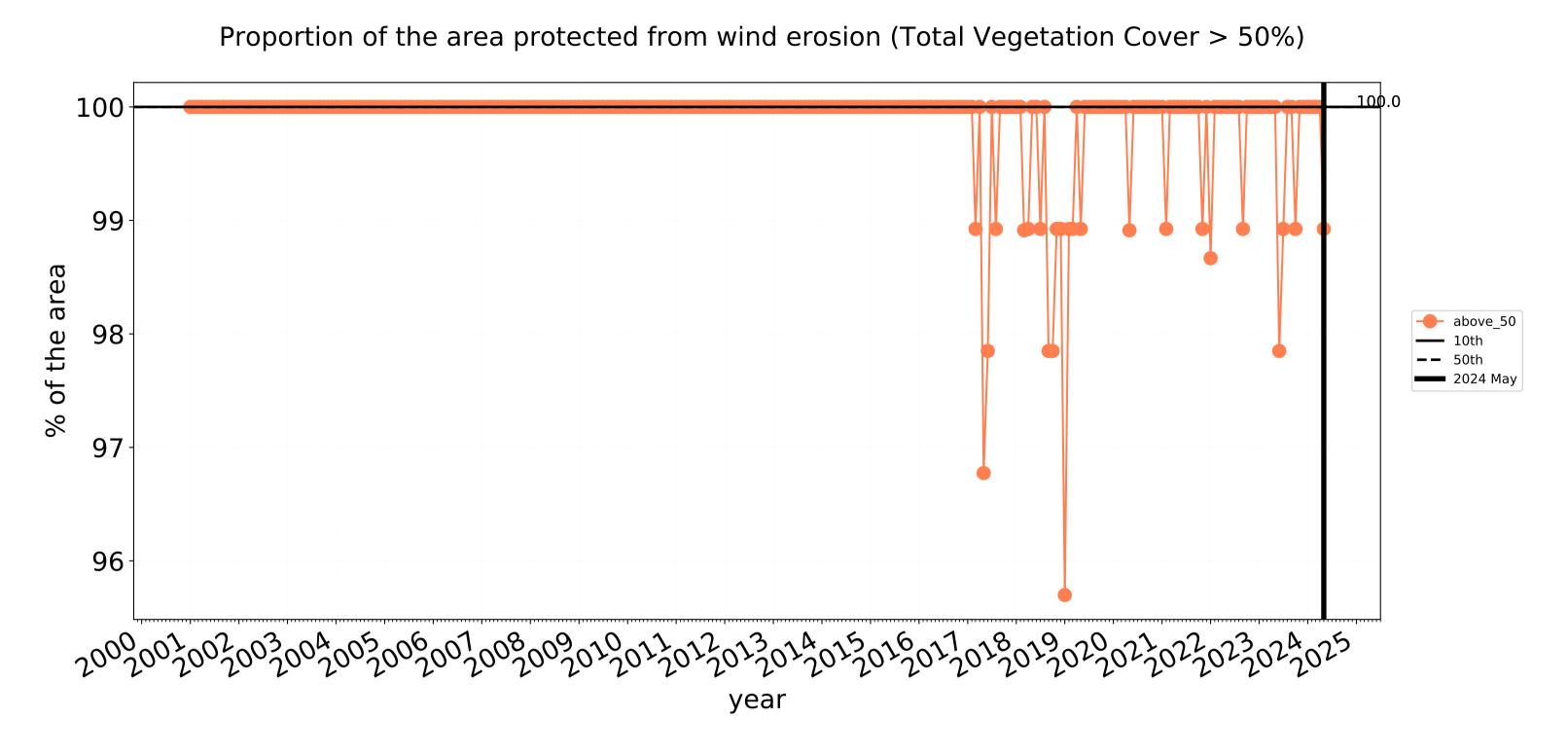


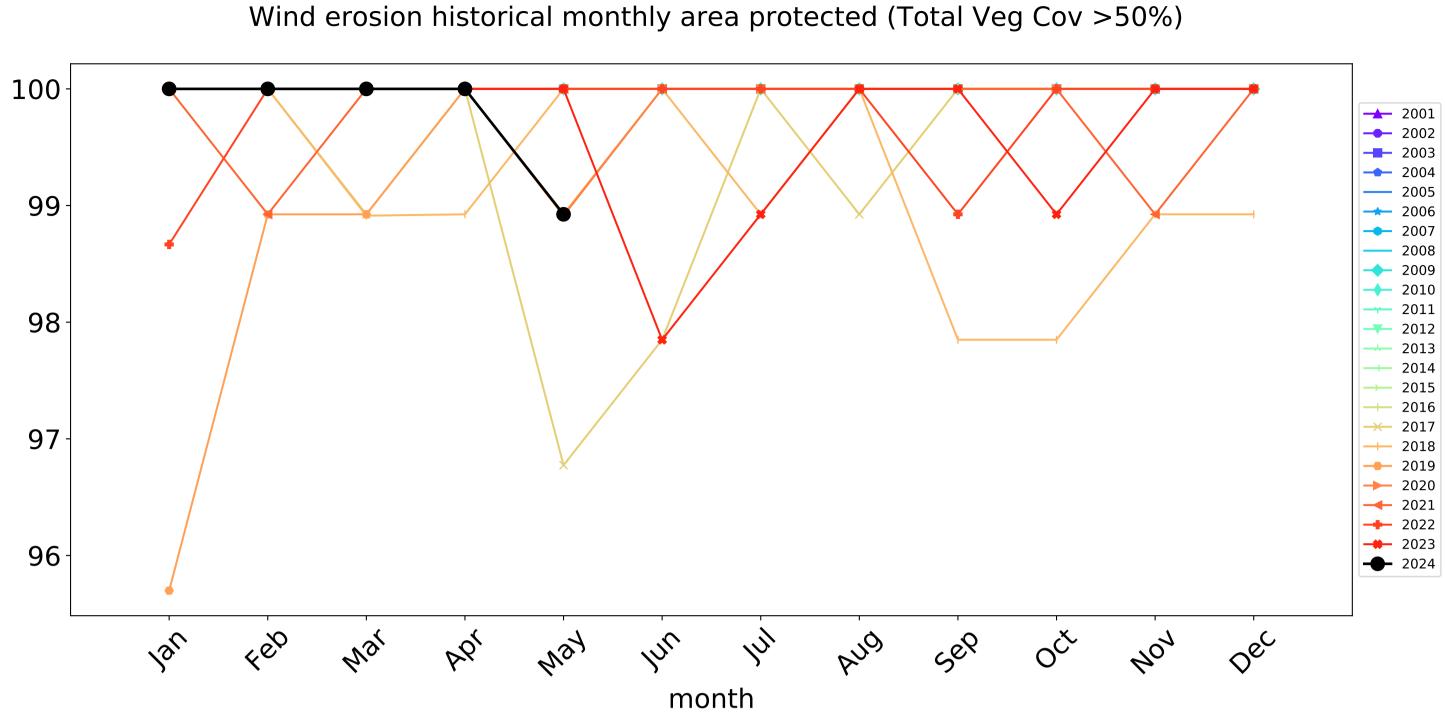


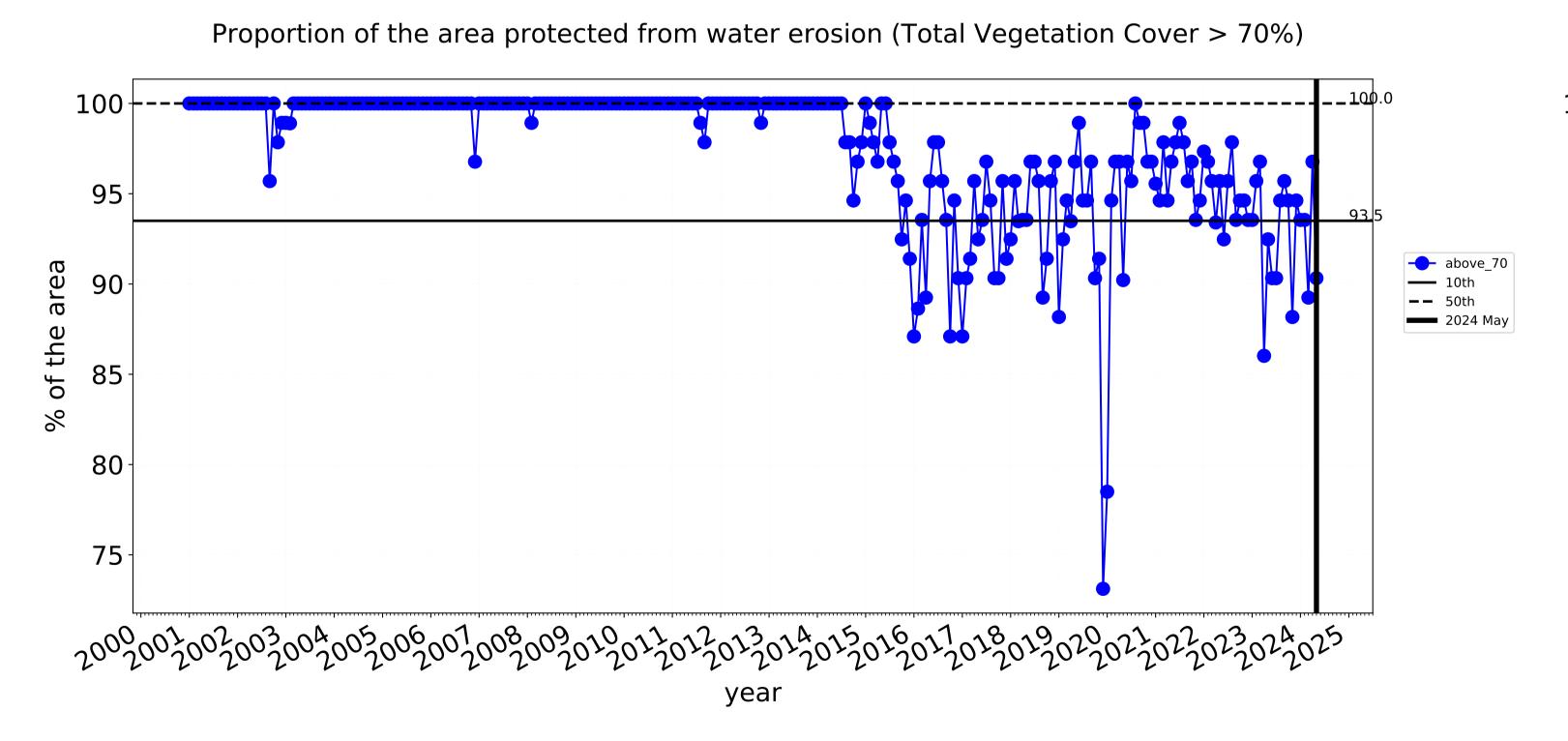


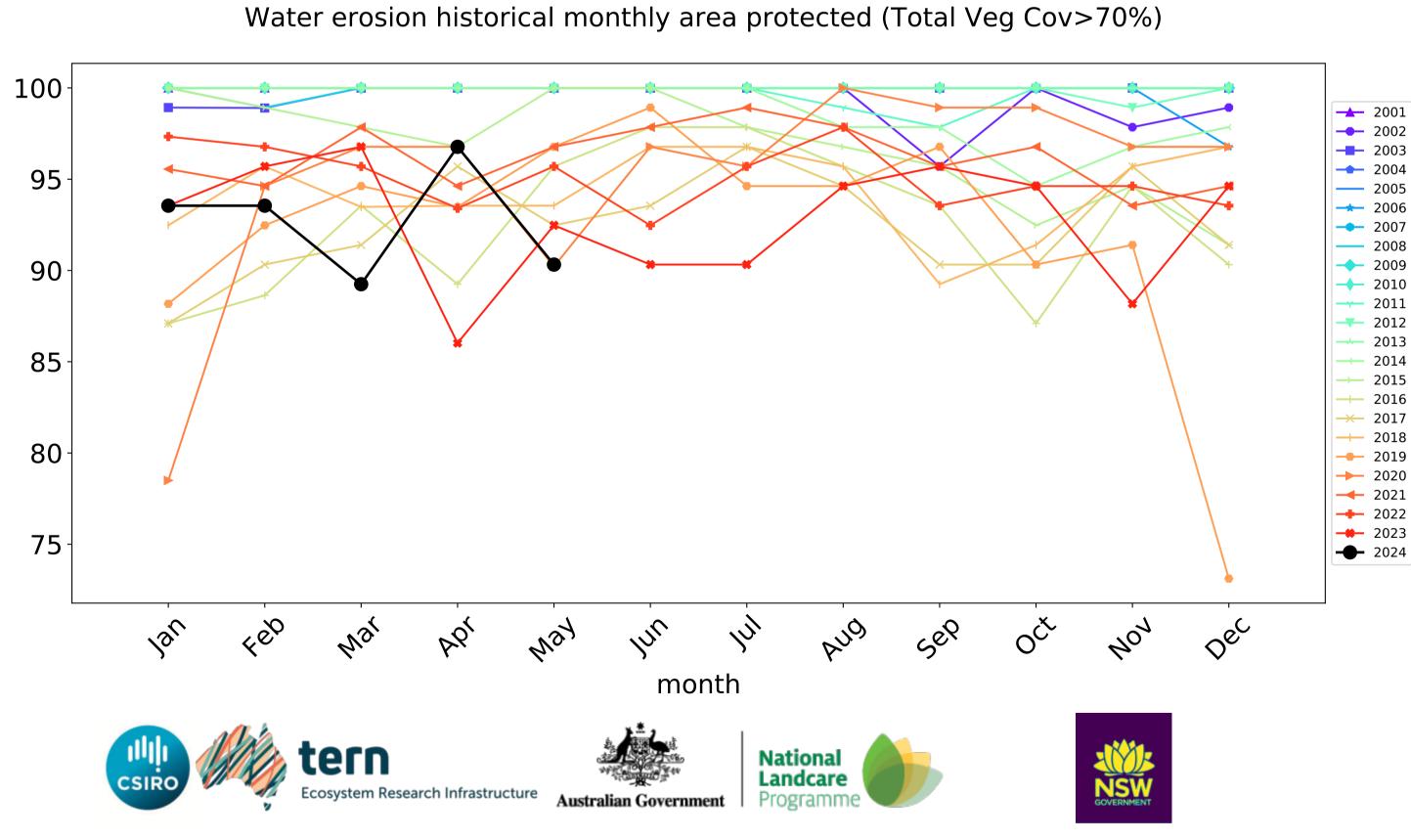


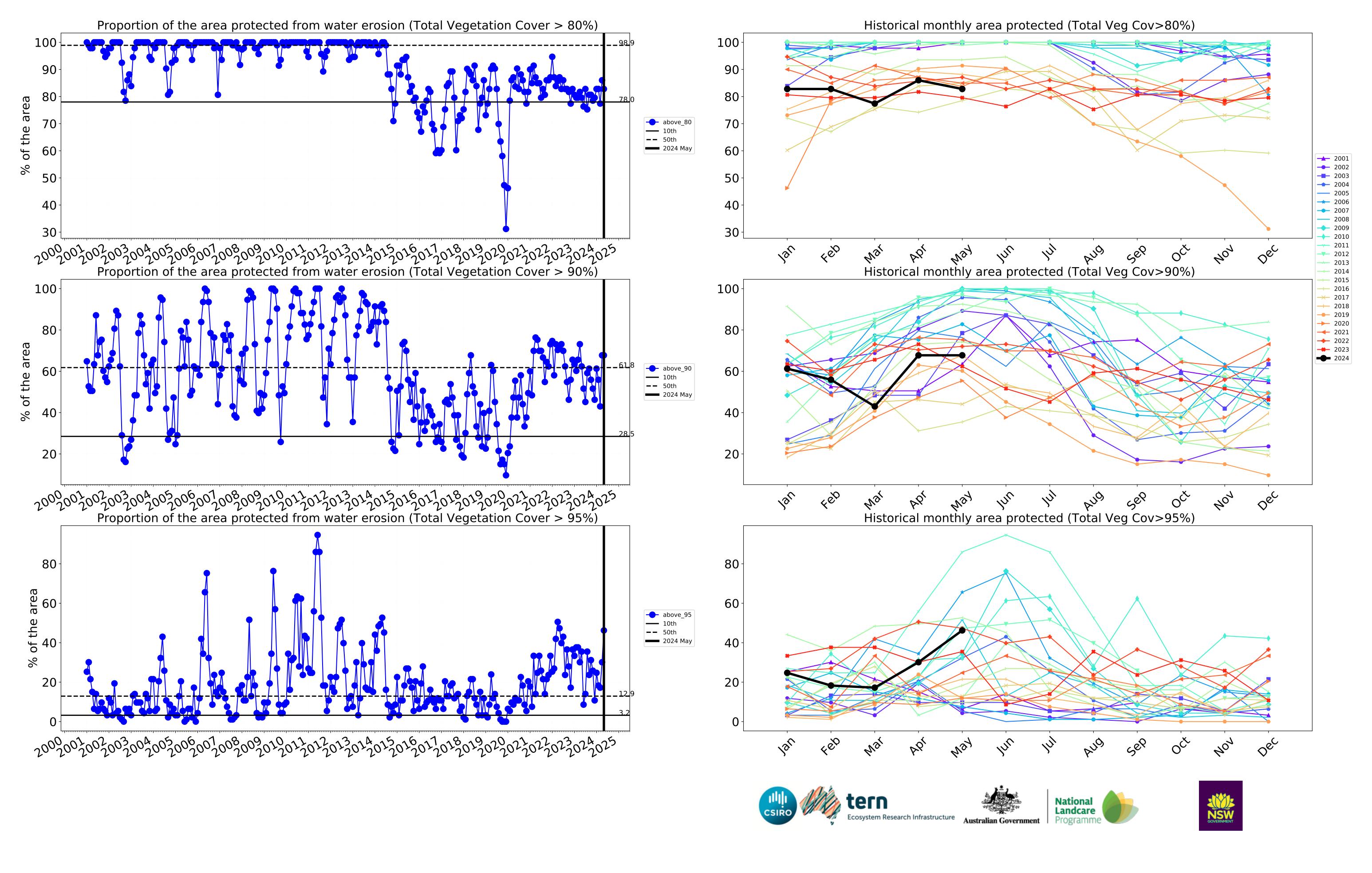
Production native forests and plantation forests timeseries











Logan_(C) (95,750 ha and no data 34 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	95,750	100.0% 95,750	99.8% 95,575	94.6% 90,625	86.6% 82,875	65.0% 62,200	26.7% 25,525
Conservation and natural environments	10,775	100.0% 10,775	100.0% 10,775	99.3% 10,700	98.1% 10,575	89.1% 9,600	60.1% 6,475
Conservation and natural environments Woodland forest	2,675	100.0% 2,675	100.0% 2,675	100.0% 2,675	99.1% 2,650	91.6% 2,450	64.5% 1,725
Conservation and natural environments Forest (non woodland)	7,950	100.0% 7,950	100.0% 7,950	99.1% 7,875	97.8% 7,775	89.0% 7,075	59.4% 4,725
Agriculture	31,325	100.0% 31,325	99.9% 31,300	99.3% 31,100	97.0% 30,400	83.2% 26,050	38.2% 11,975
Grazing	29,800	100.0% 29,800	99.9% 29,775	99.3% 29,600	97.1% 28,950	84.9% 25,300	39.5% 11,775
Grazing non forest	14,825	100.0% 14,825	99.8% 14,800	98.8% 14,650	94.6% 14,025	77.7% 11,525	31.5% 4,675
Grazing Woodland forest	5,775	100.0% 5,775	100.0% 5,775	99.6% 5,750	99.1% 5,725	88.7% 5,125	37.7% 2,175
Grazing - Forest (non woodland)	9,200	100.0% 9,200	100.0% 9,200	100.0% 9,200	100.0% 9,200	94.0% 8,650	53.5% 4,925
Irrigation	1,325	100.0% 1,325	100.0% 1,325	100.0% 1,325	96.2% 1,275	50.9% 675	15.1% 200
Production native forests and plantation forests	2,325	100.0% 2,325	98.9% 2,300	90.3% 2,100	82.8% 1,925	67.7% 1,575	46.2% 1,075







