Total vegetation cover soil protection Region:LGA Indigo_(S) VIC

Date: May 2025

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:

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 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:

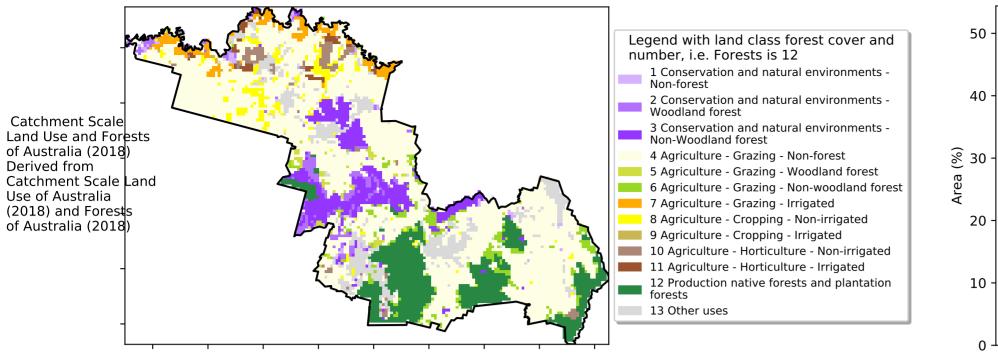
https://doi.org/10.4225/08/5848a3f19a7b3



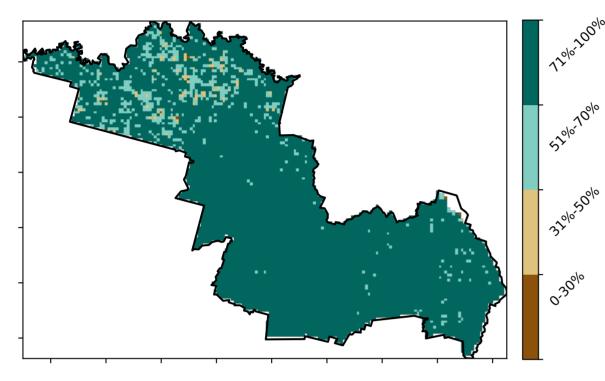
Vegetation Cover May 2025

Land use and forest cover

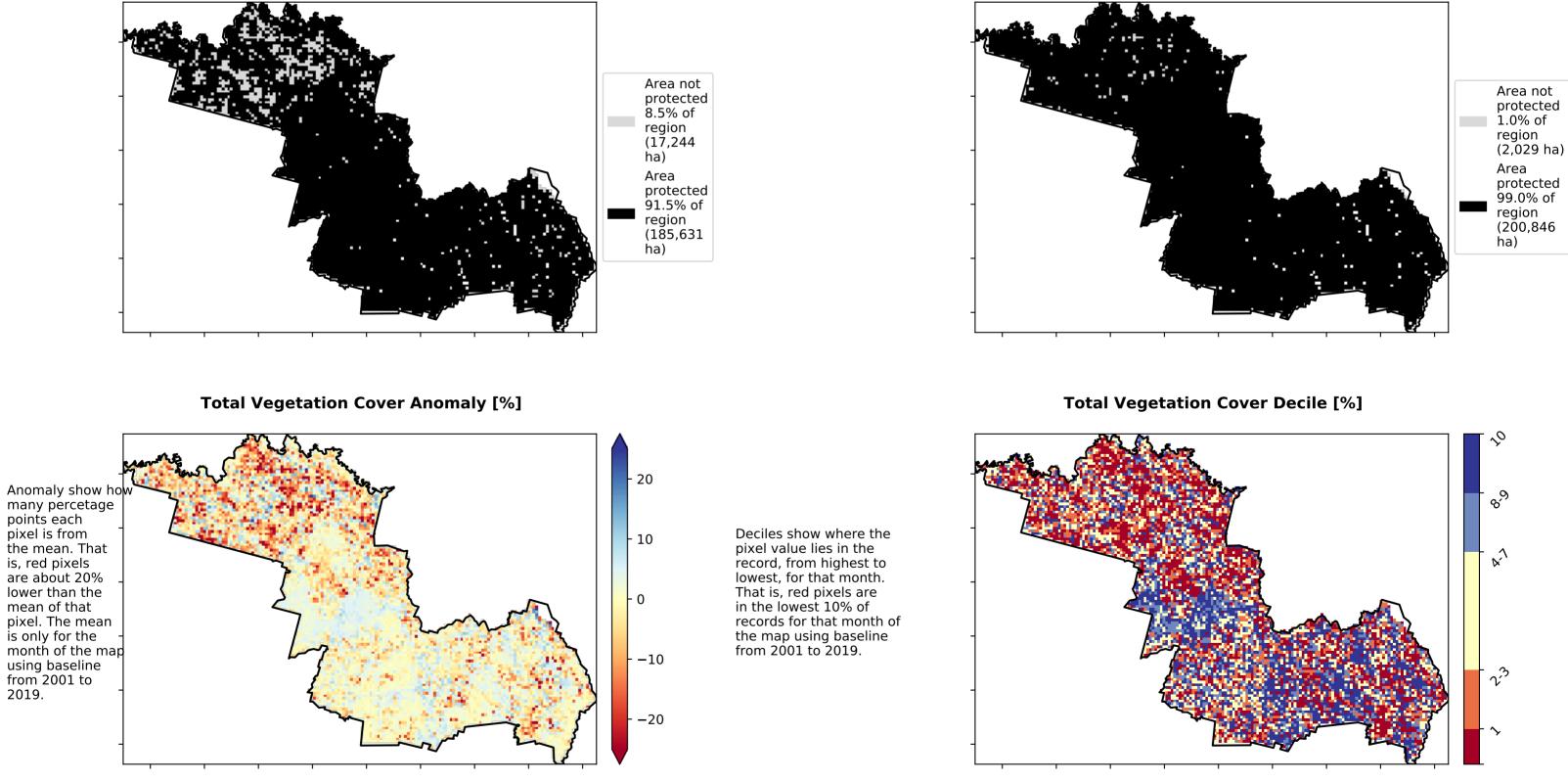
Proportion of each land class in area

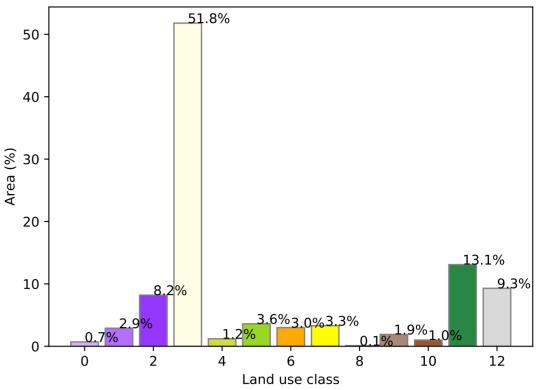


Total Vegetation Cover [%]

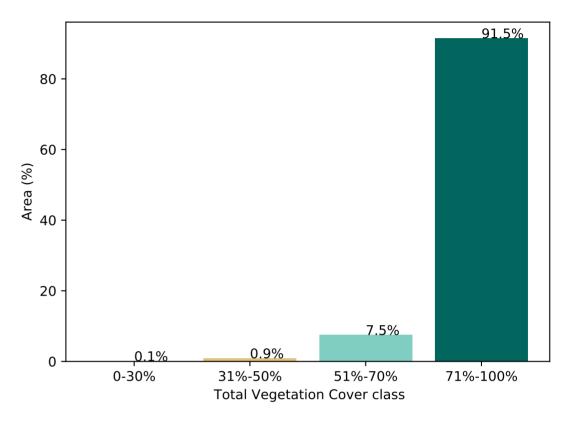


% Area protected from water erosion (>70%)

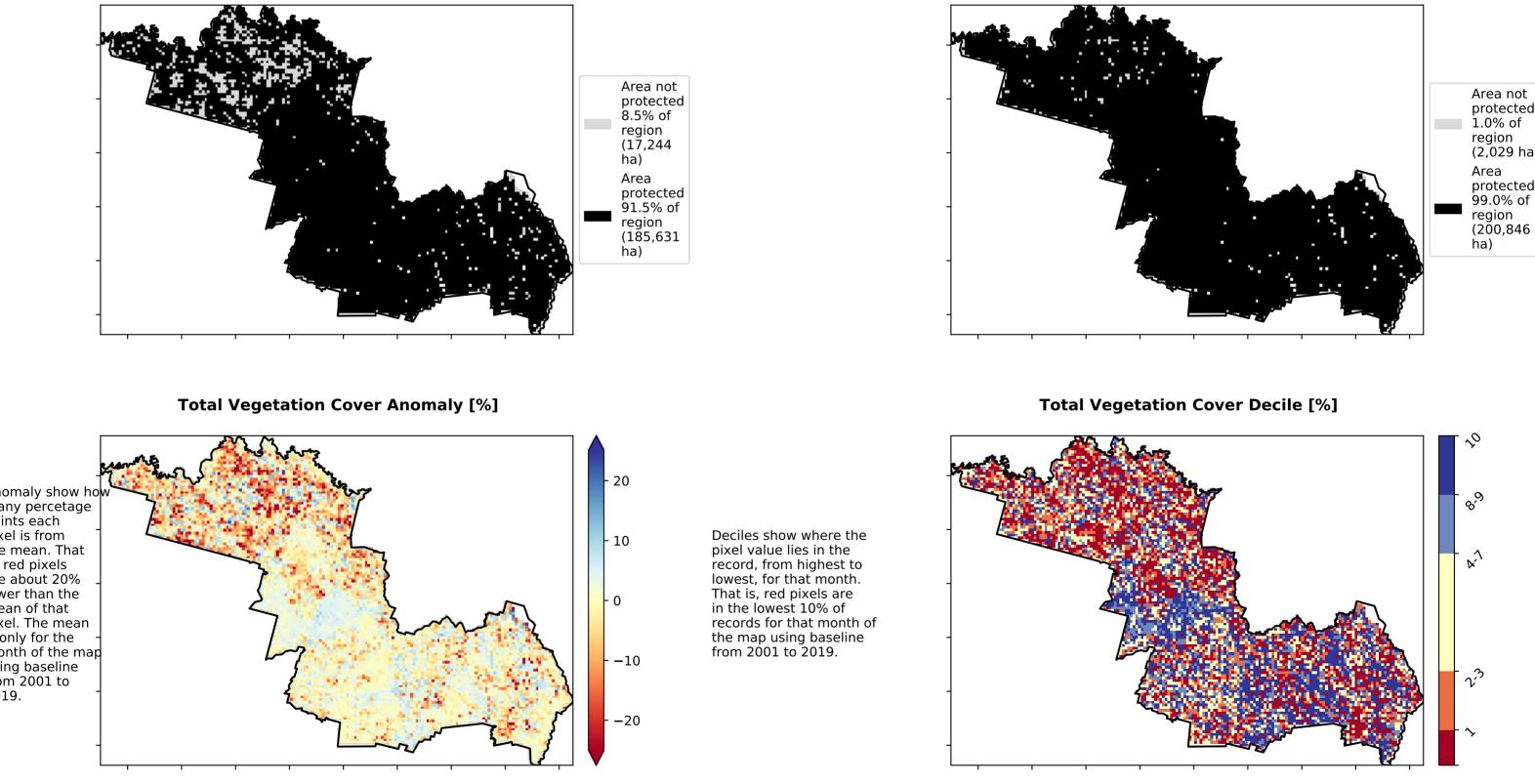




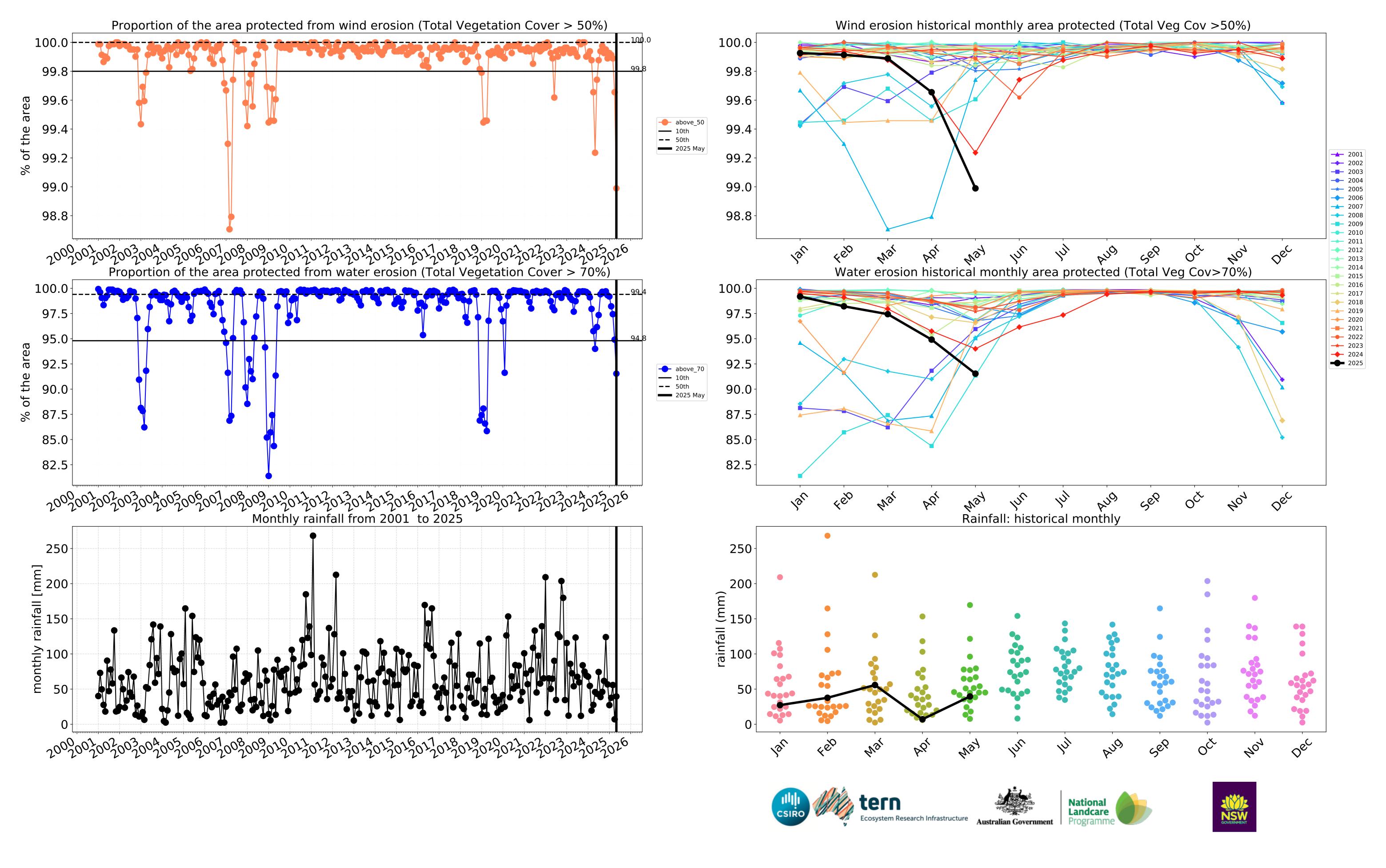
Proportion of vegetation cover class in area

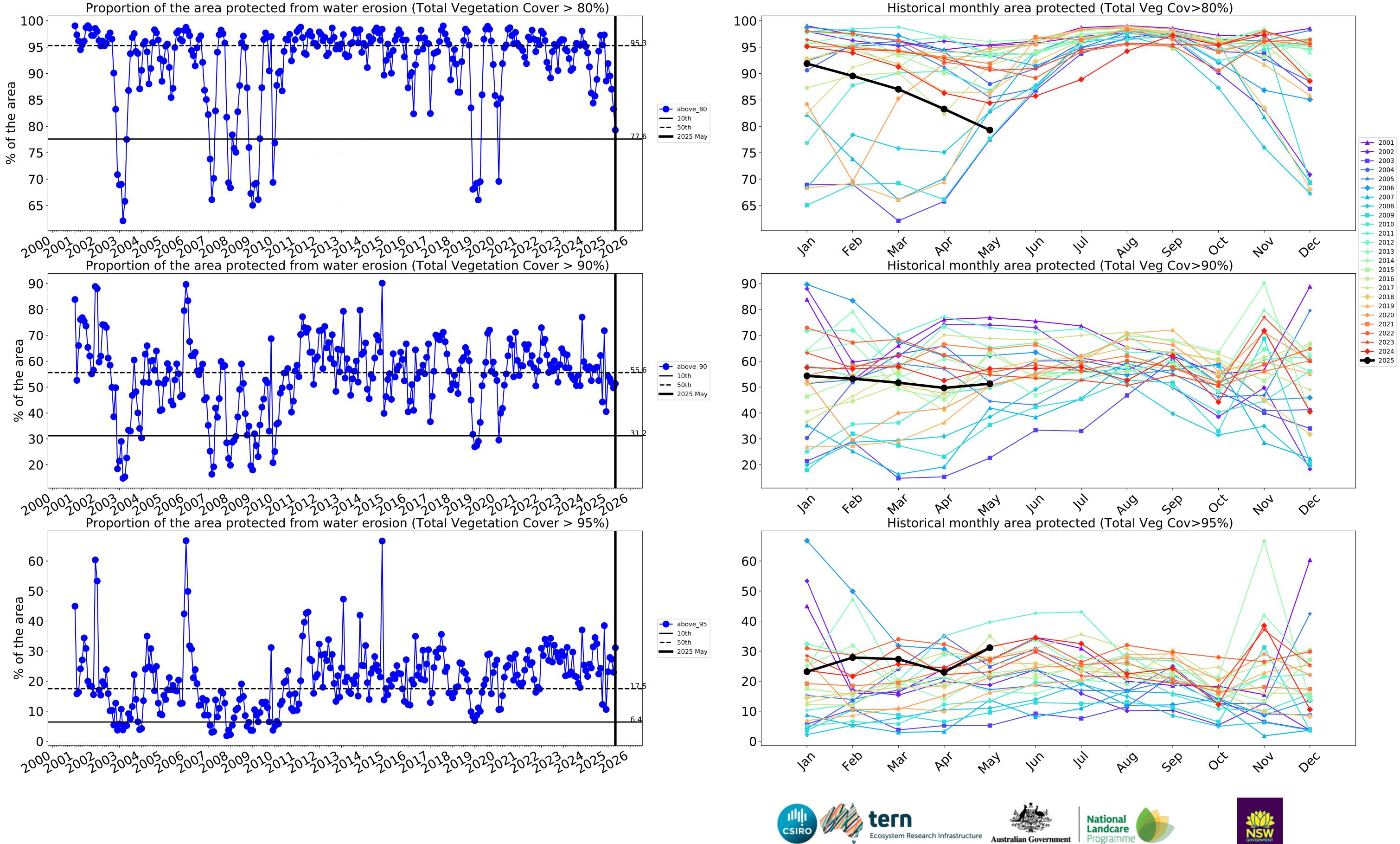


% Area protected from wind erosion (>50%)







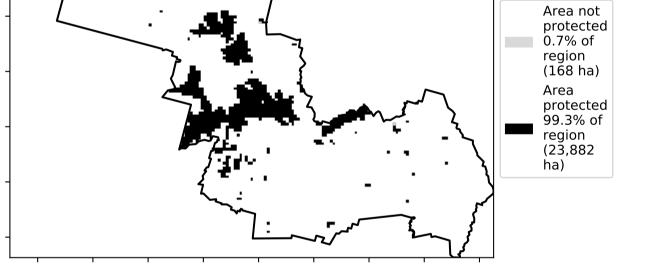


Conservation and natural environments

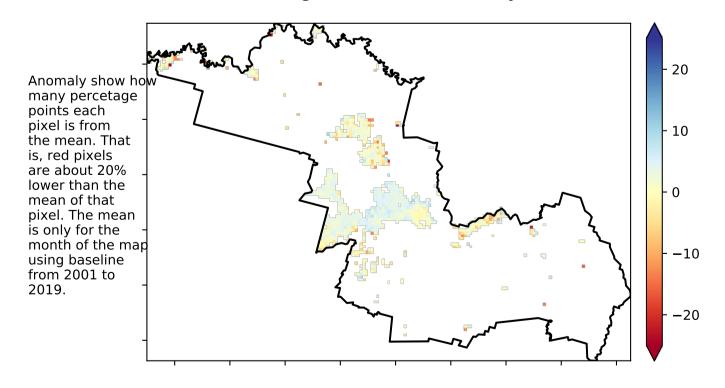
Land use and forest cover Proportion of each land class in area 69.3% 70 60 · 50 Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Non-forest 2 Conservation and natural environments - Woodland 40 ea Catchment Scale Land forest Use of Australia (2018) and Forests of Australia (2018) 3 Conservation and natural environments - Non-woodland forest 30 24.5% 20 · 10 6.1% 0 1.5 -0.5 0.0 0.5 1.02.0 2.5 Land use class Proportion of vegetation cover class in area **Total Vegetation Cover [%]** 12/02/00' 99.3% 100 80 · 52°10'10°1 Area (%) 60 32%50% 40 0.30% 20 · 0.0% 0.7% 0.0% 0 51%-70% 0-30% 31%-50% 71%-100% Total Vegetation Cover class % Area protected from water erosion (>70%) % Area protected from wind erosion (>50%)

Area not

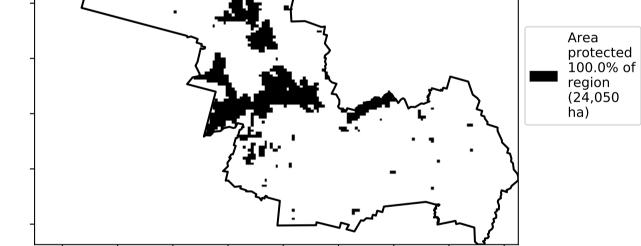


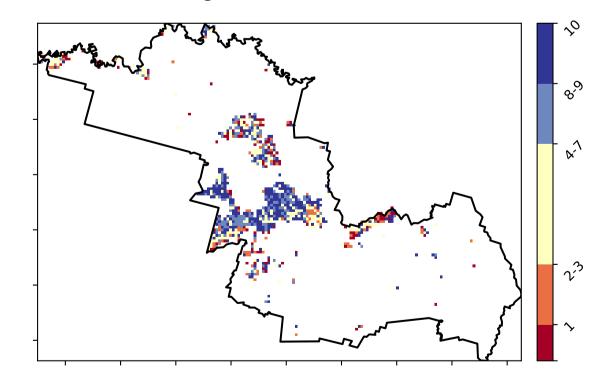


Total Vegetation Cover Anomaly [%]

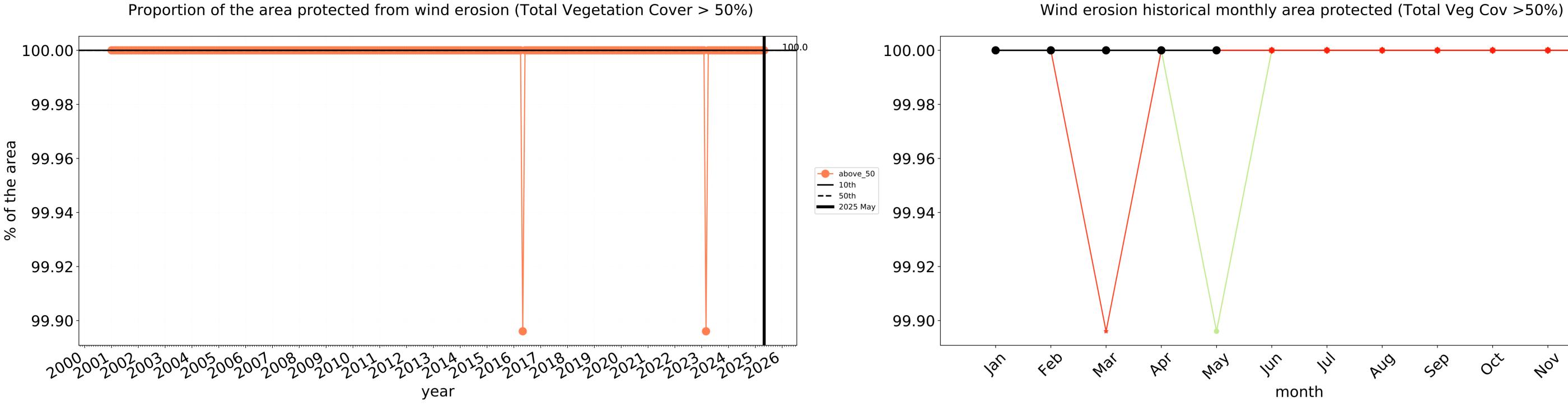


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

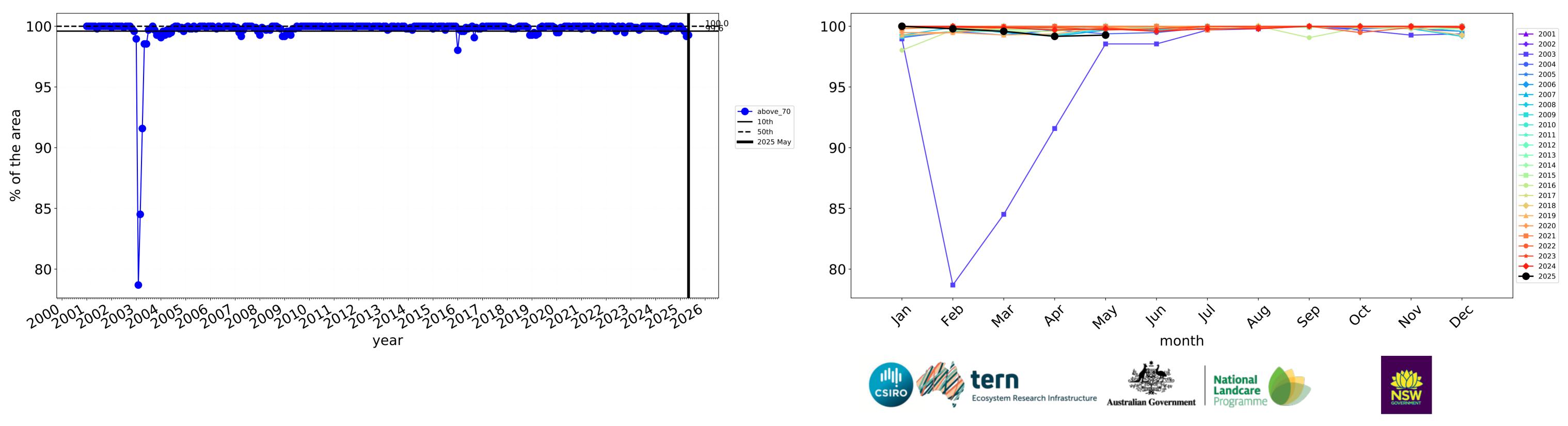


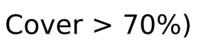






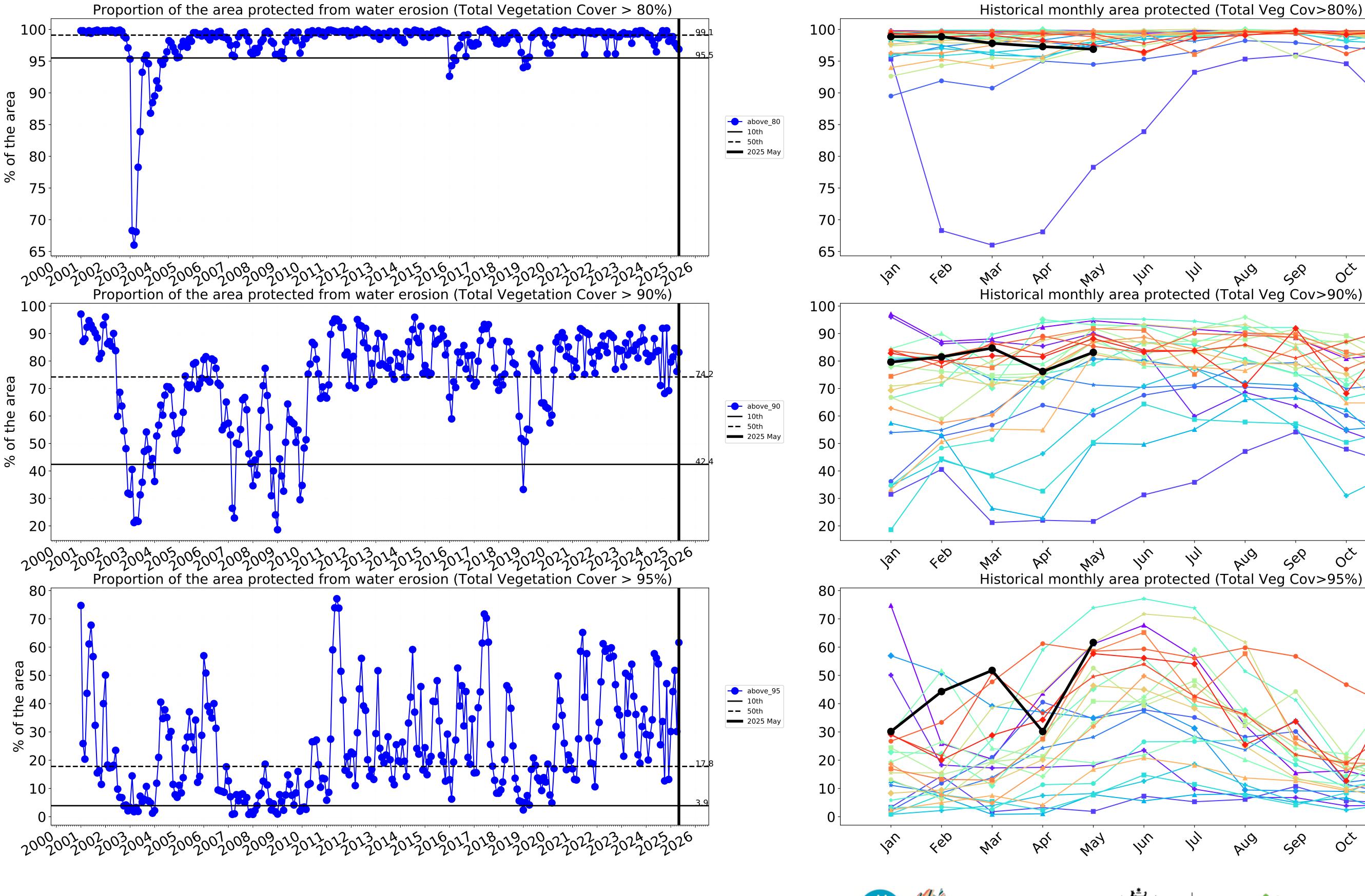
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



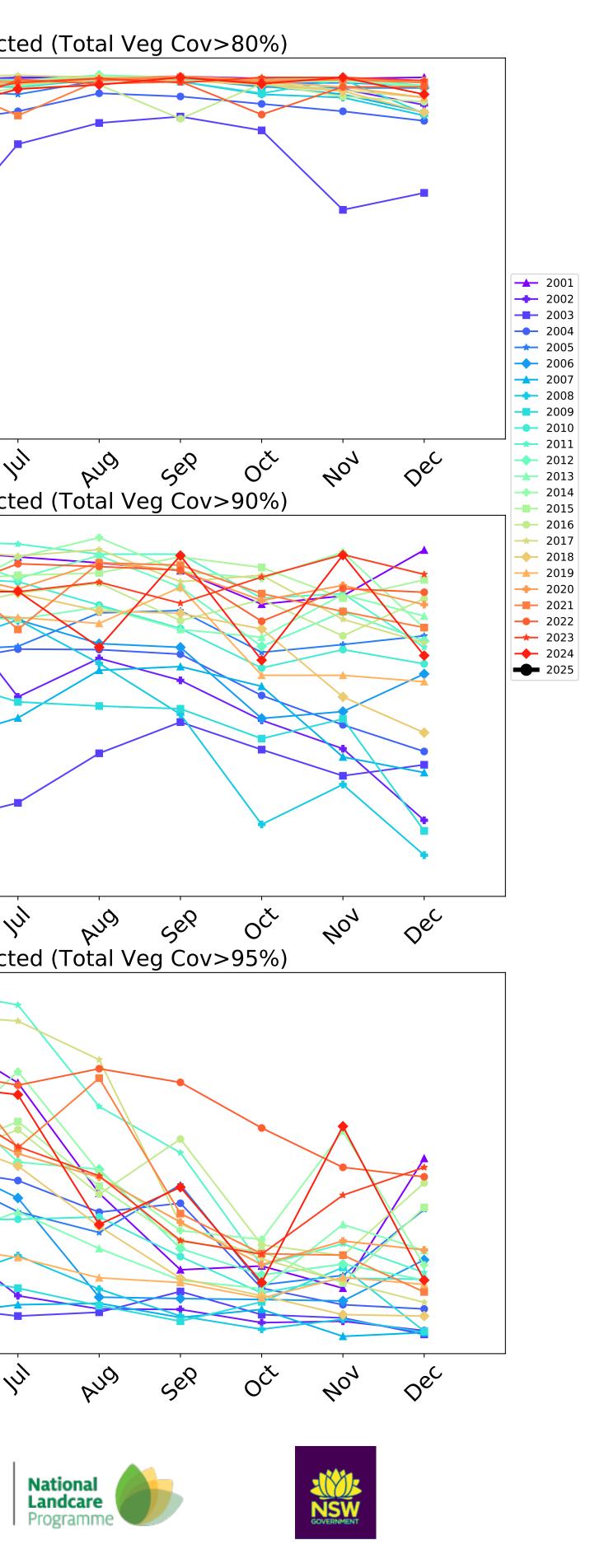


Water erosion historical monthly area protected (Total Veg Cov>70%)

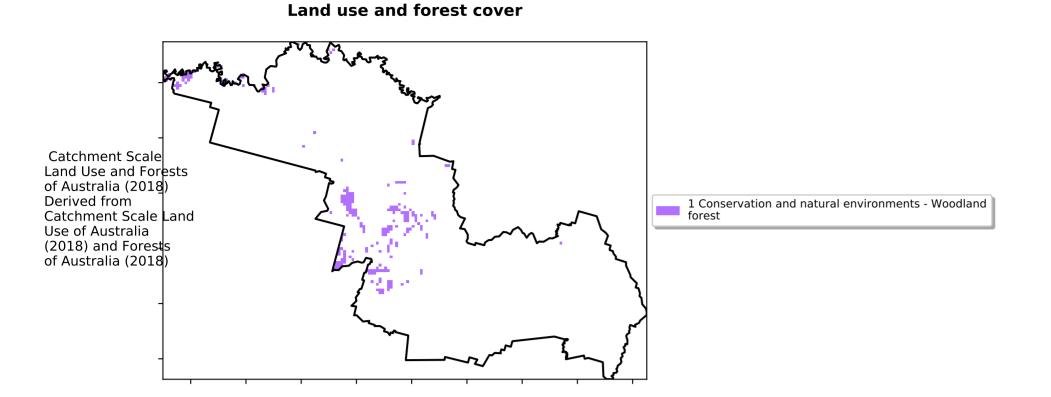
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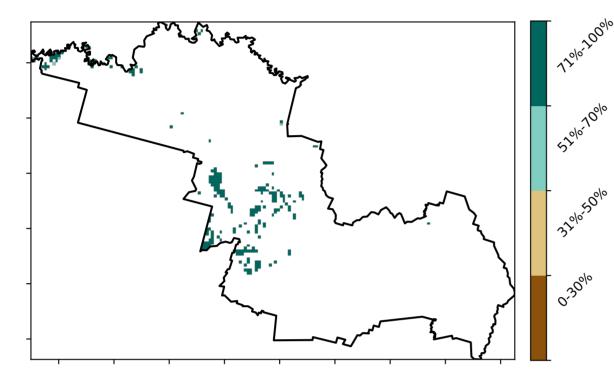




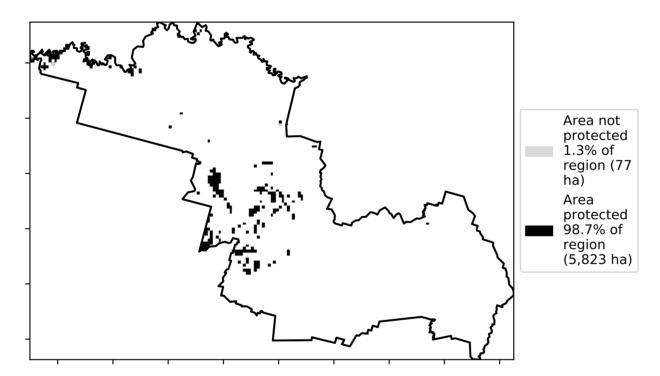
Conservation and natural environments Woodland forest



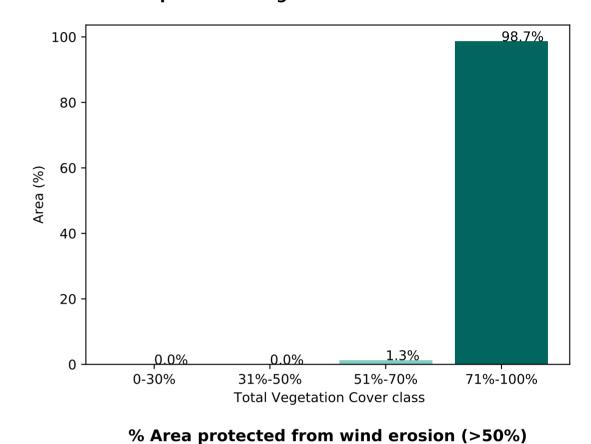
Total Vegetation Cover [%]

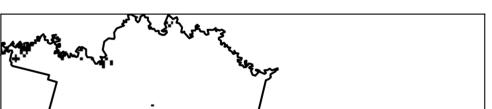


% Area protected from water erosion (>70%)

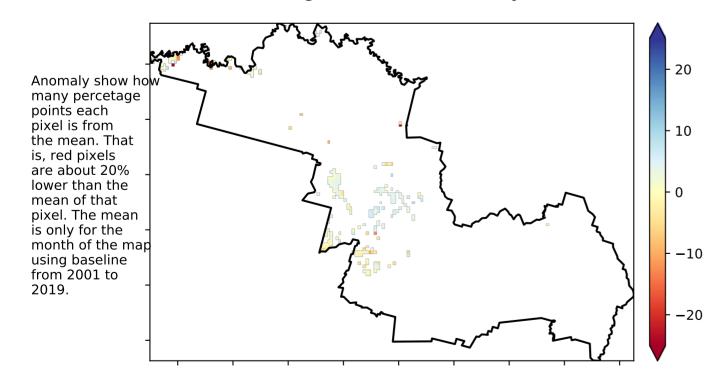


Proportion of vegetation cover class in area

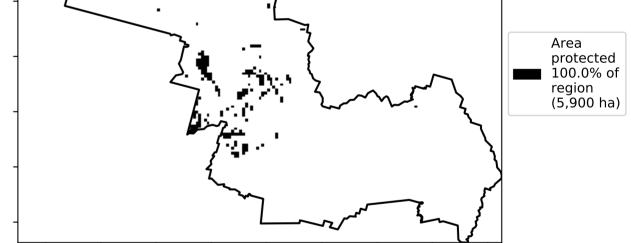


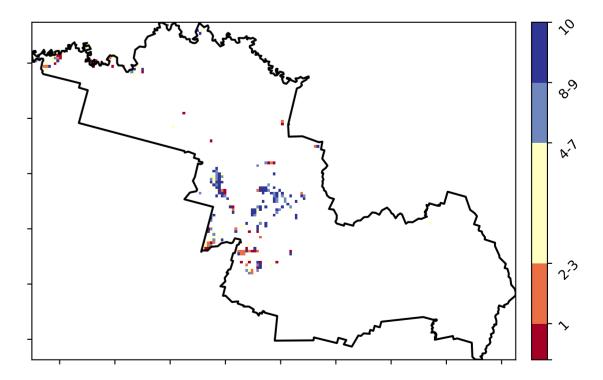


Total Vegetation Cover Anomaly [%]



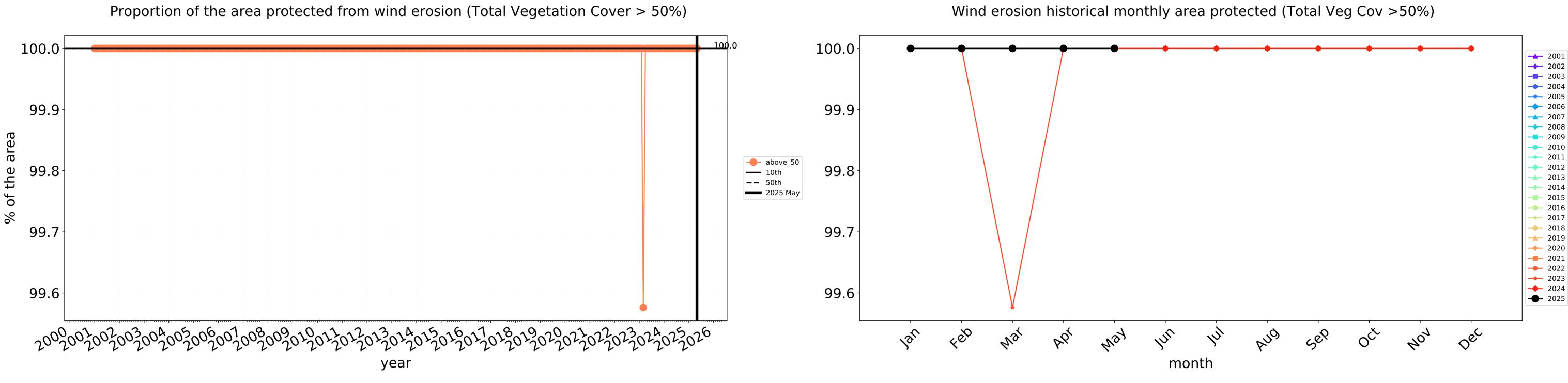
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.



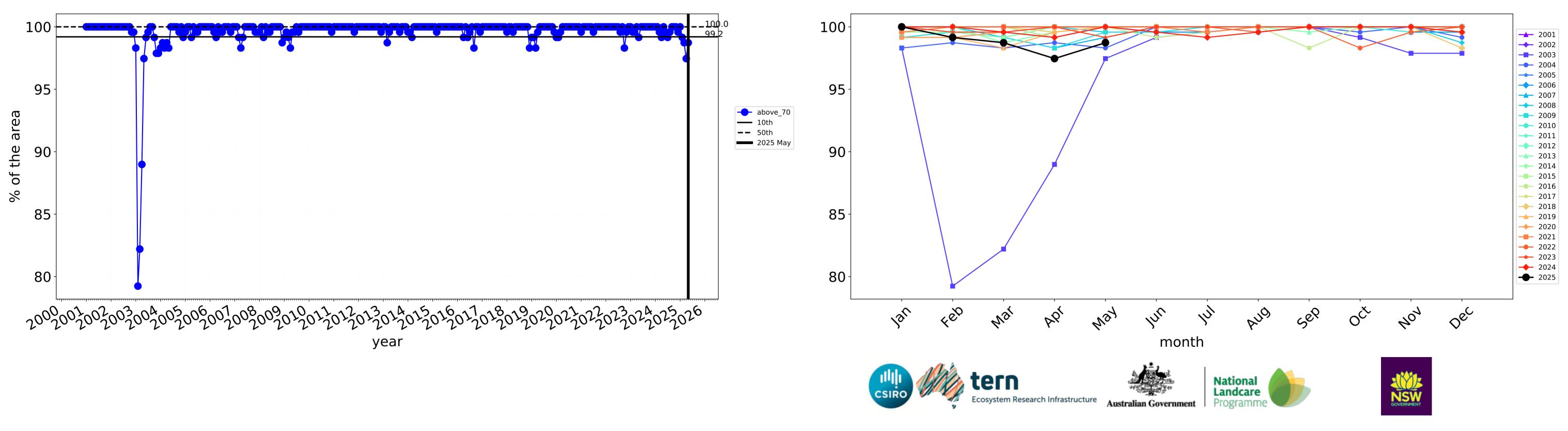




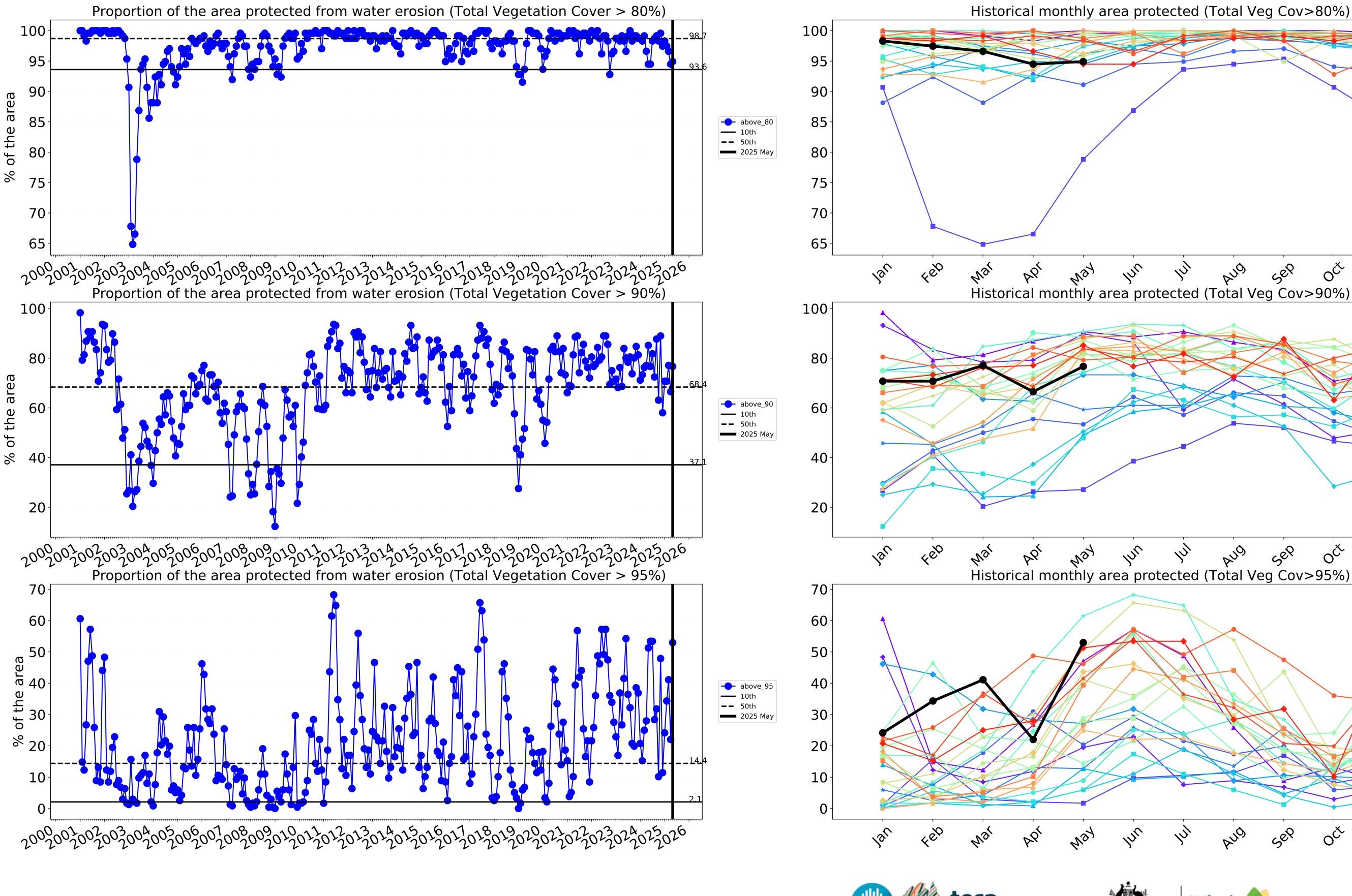
Conservation and natural environments Woodland forest timeseries



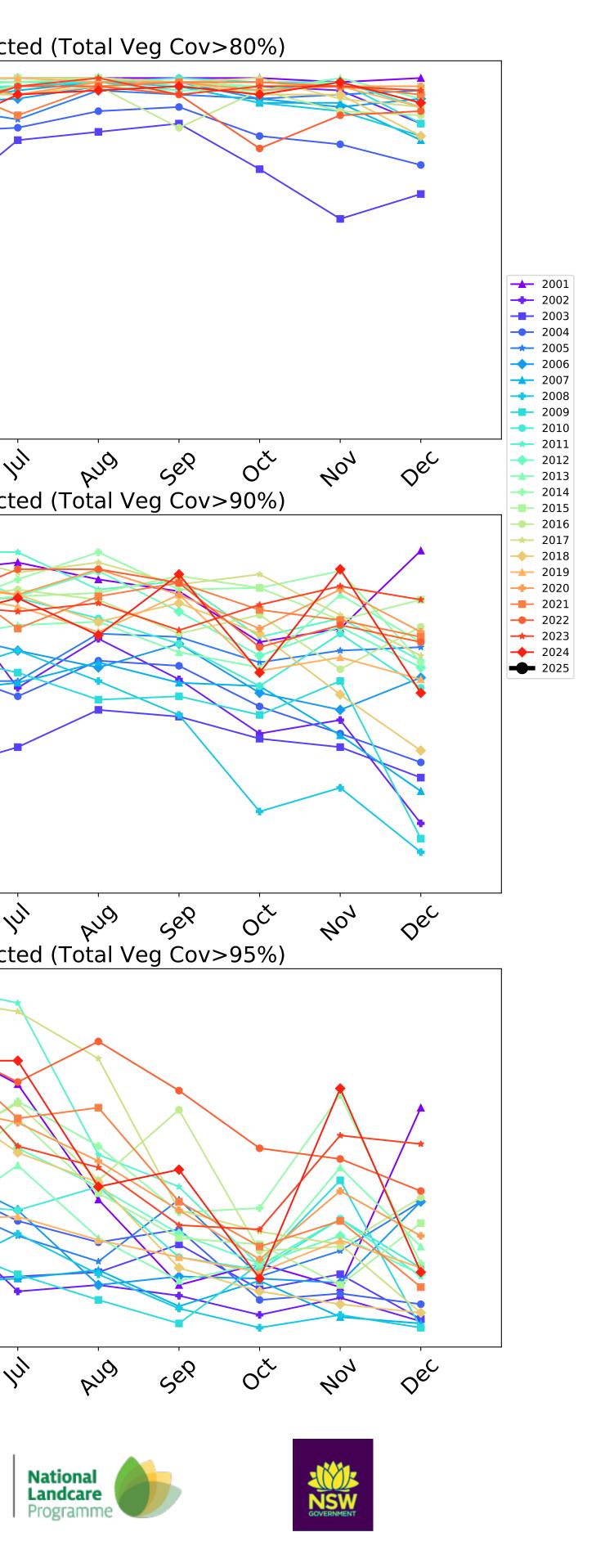
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



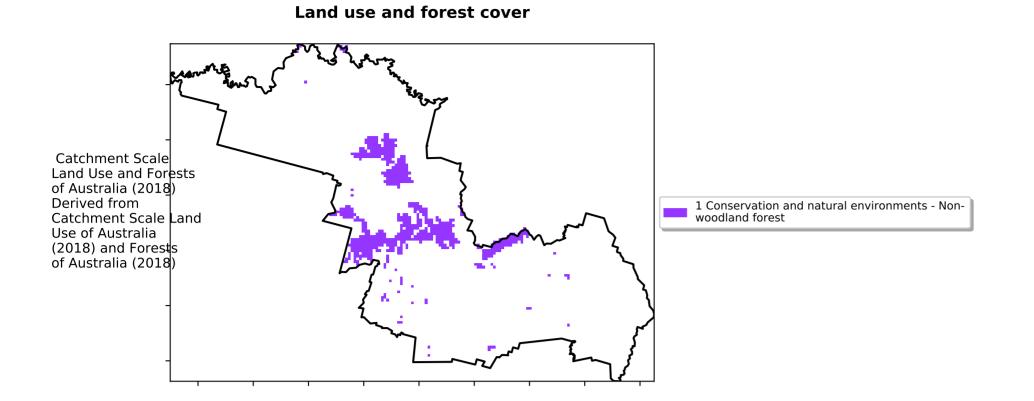
Water erosion historical monthly area protected (Total Veg Cov>70%)



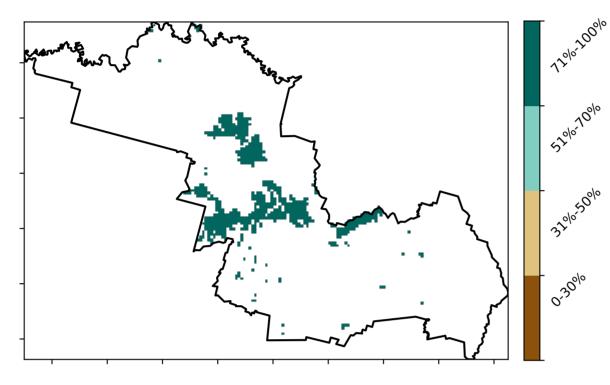
Ecosystem Research Infrastructure Australian Government



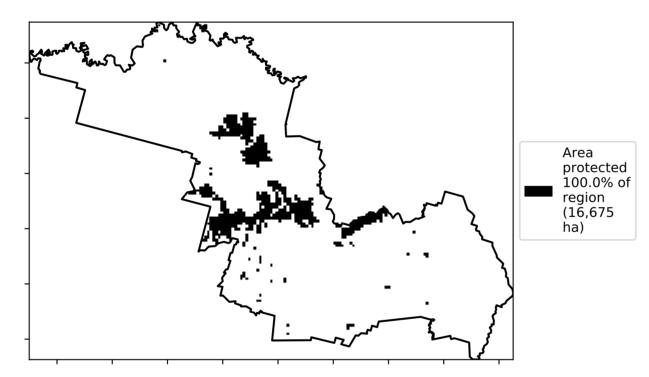
Conservation and natural environments Forest (non woodland)



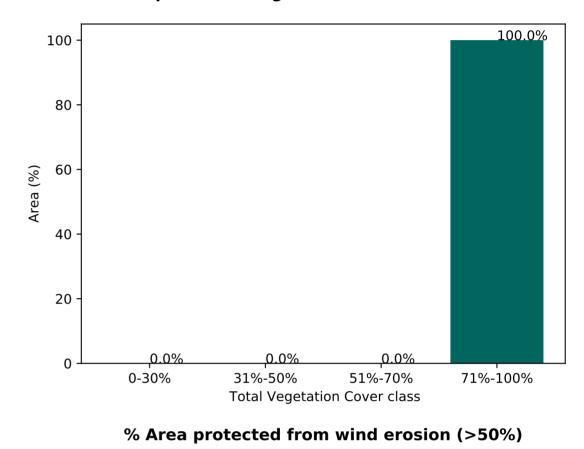
Total Vegetation Cover [%]

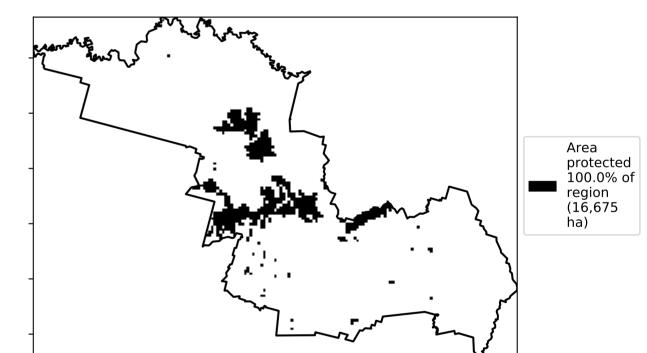


% Area protected from water erosion (>70%)

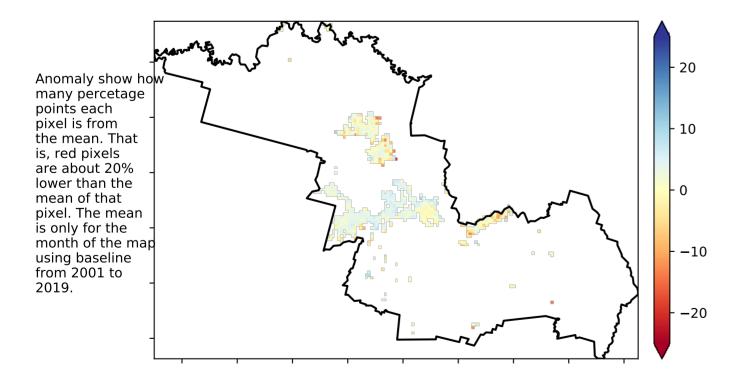


Proportion of vegetation cover class in area

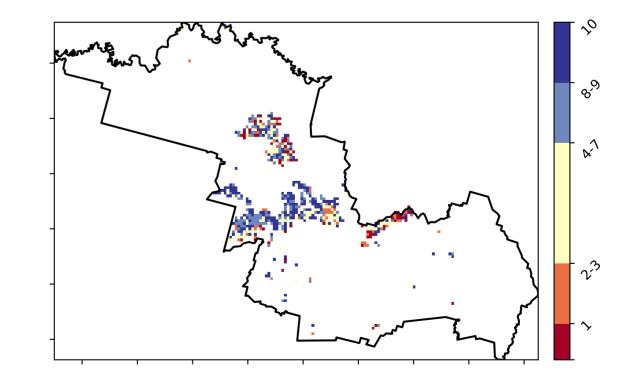




Total Vegetation Cover Anomaly [%]



Total Vegetation Cover Decile [%]

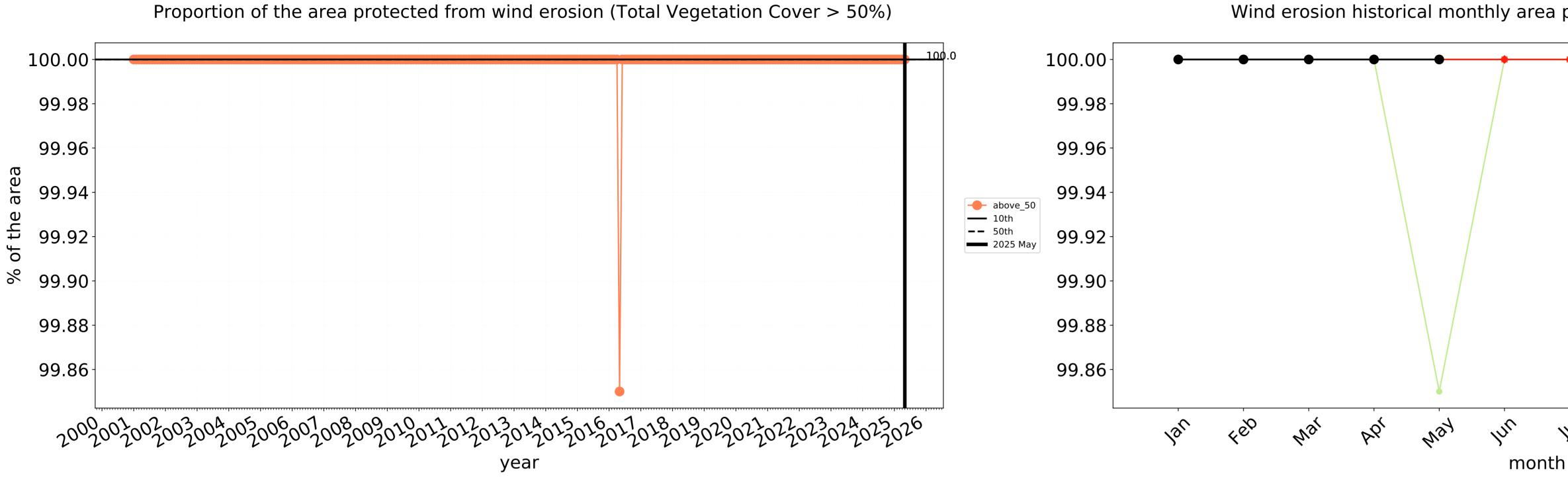




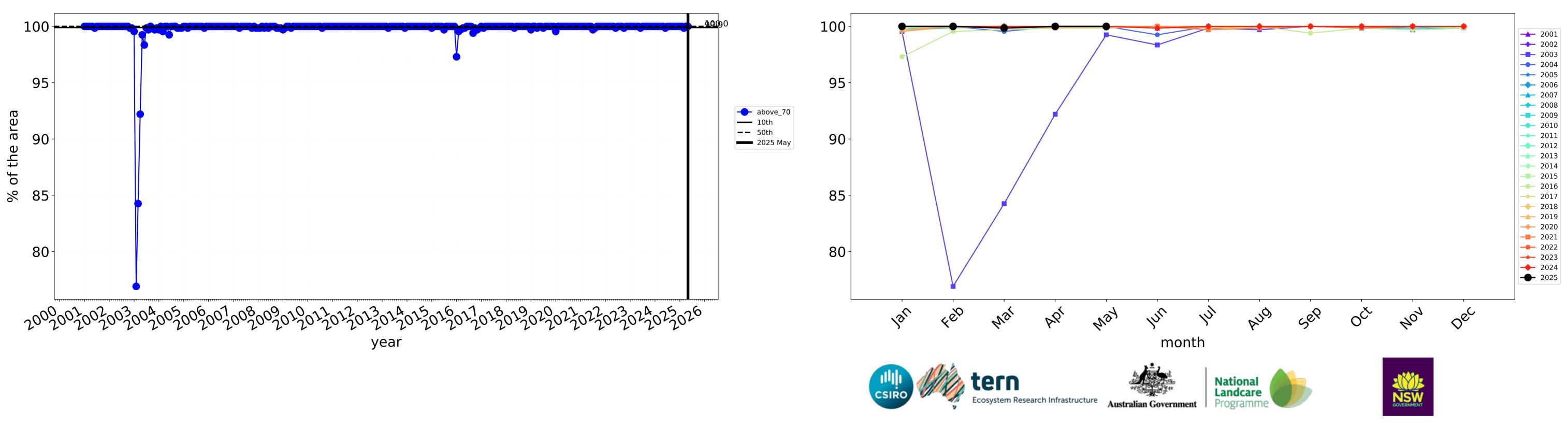
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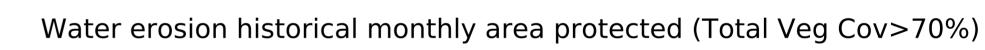
the map using baseline from 2001 to 2019.

Conservation and natural environments Forest (non woodland) timeseries



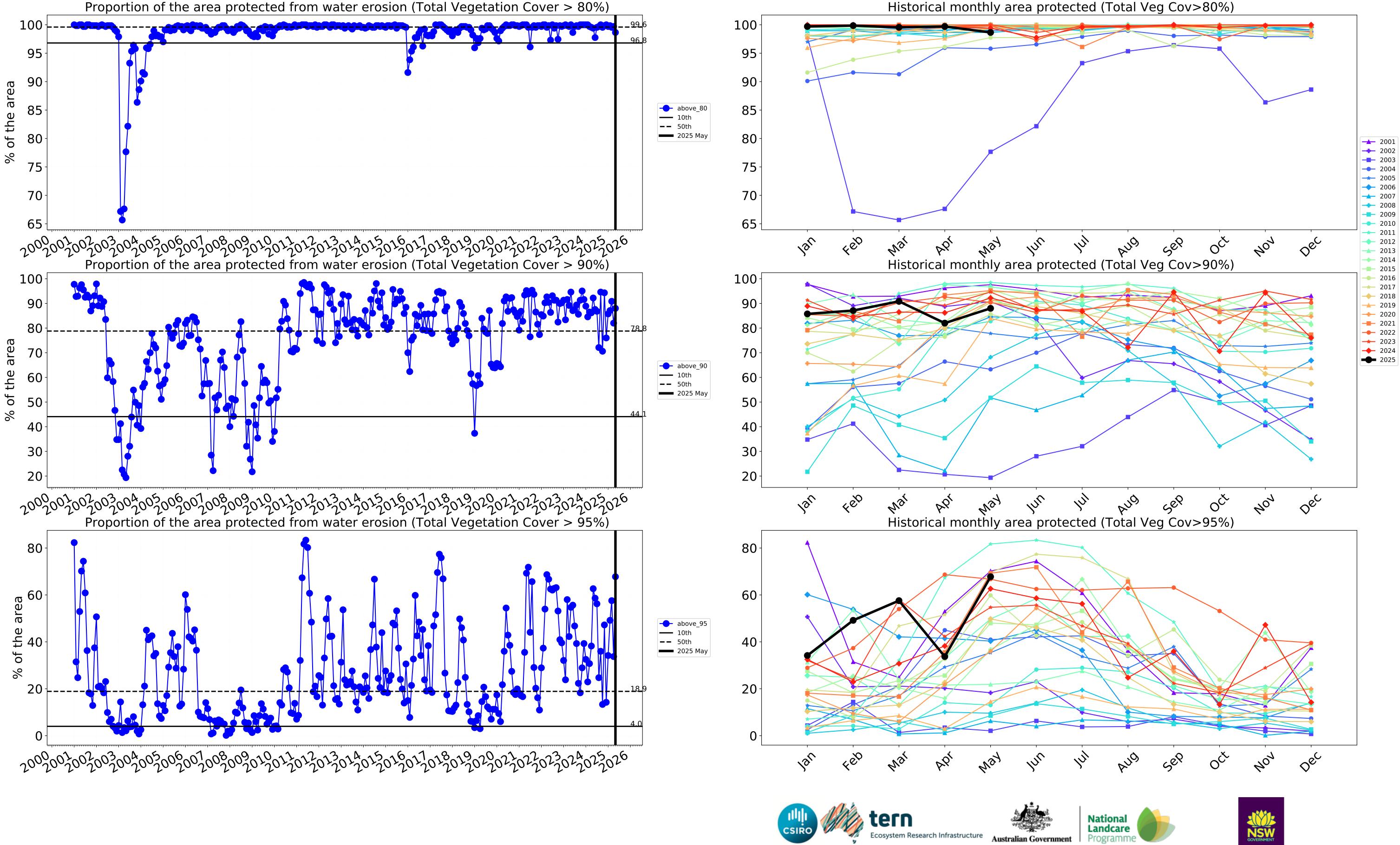
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)





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

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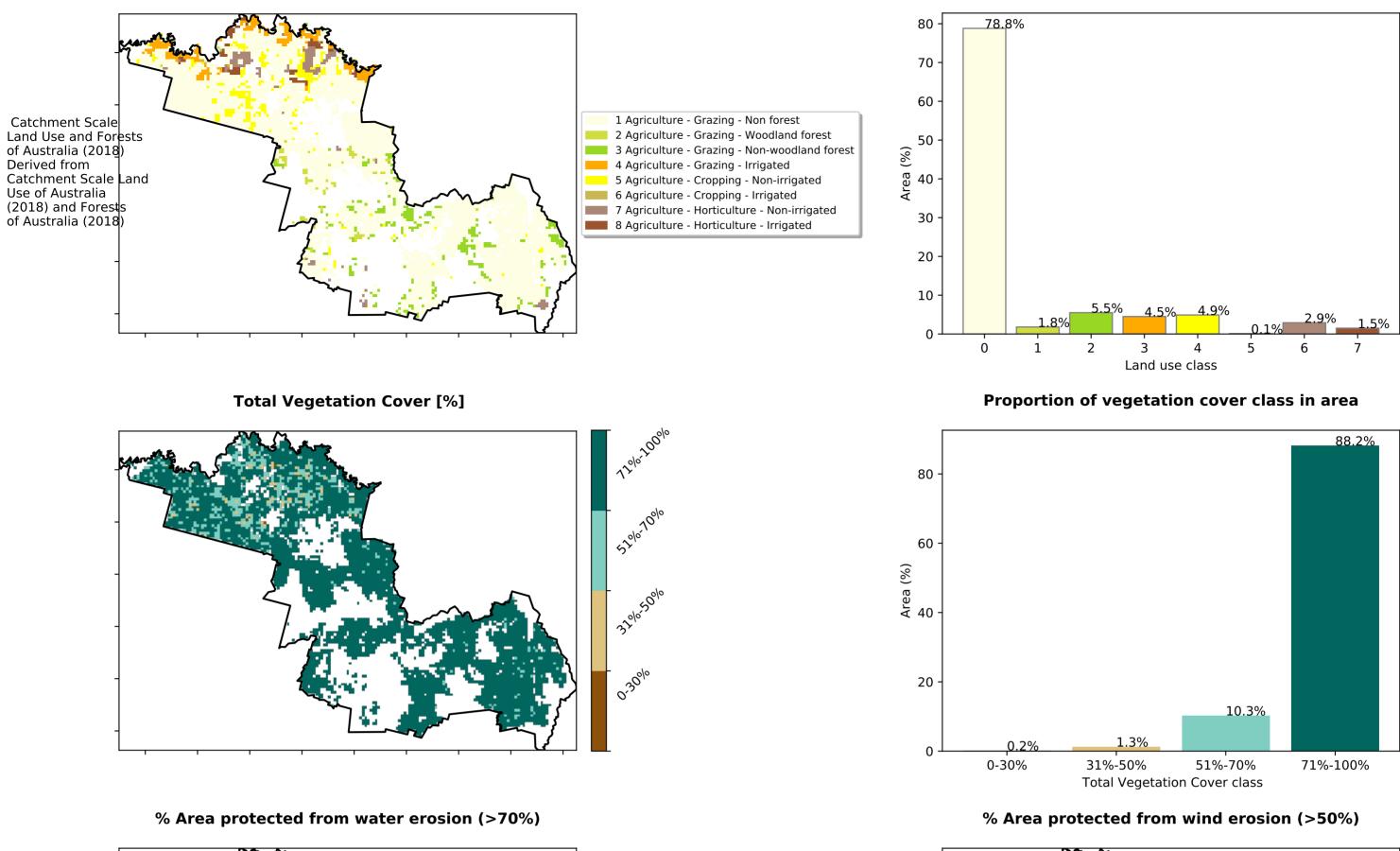


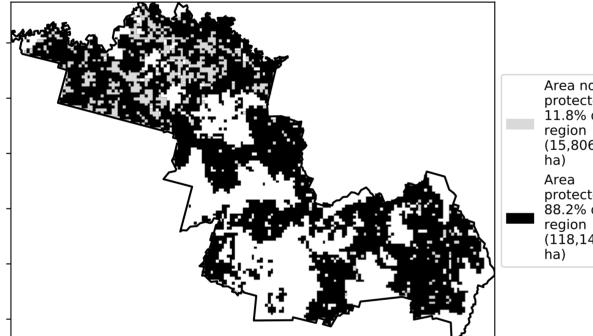
Proportion of the area protected from water erosion (Total Vegetation Cover > 80%)

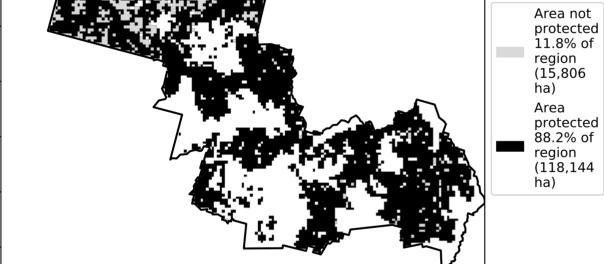
Agriculture

Land use and forest cover

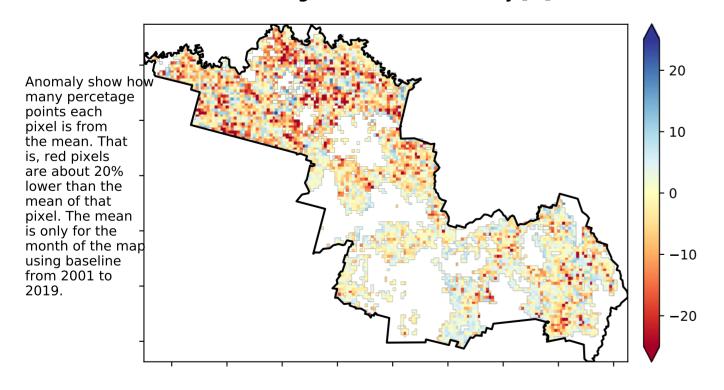
Proportion of each land class in area



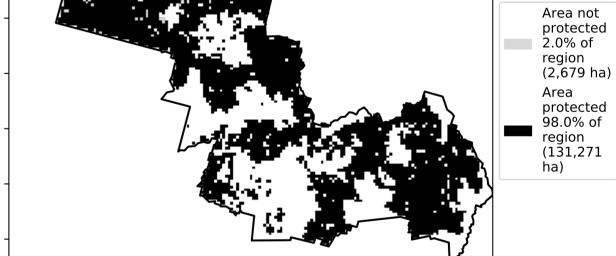


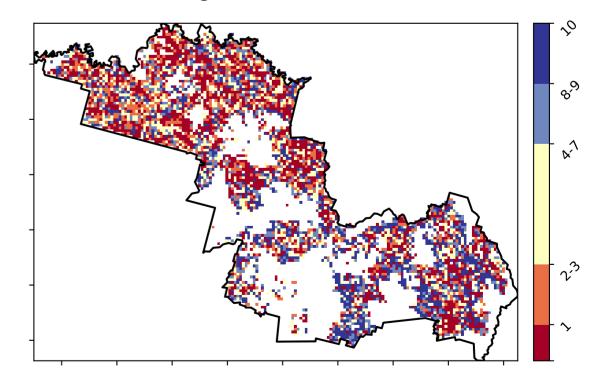


Total Vegetation Cover Anomaly [%]

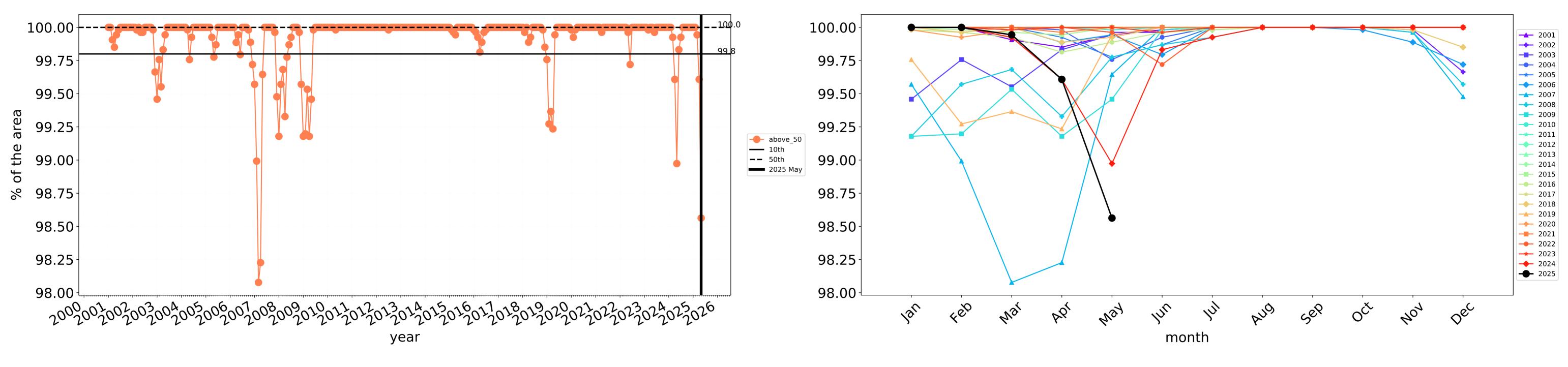


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.



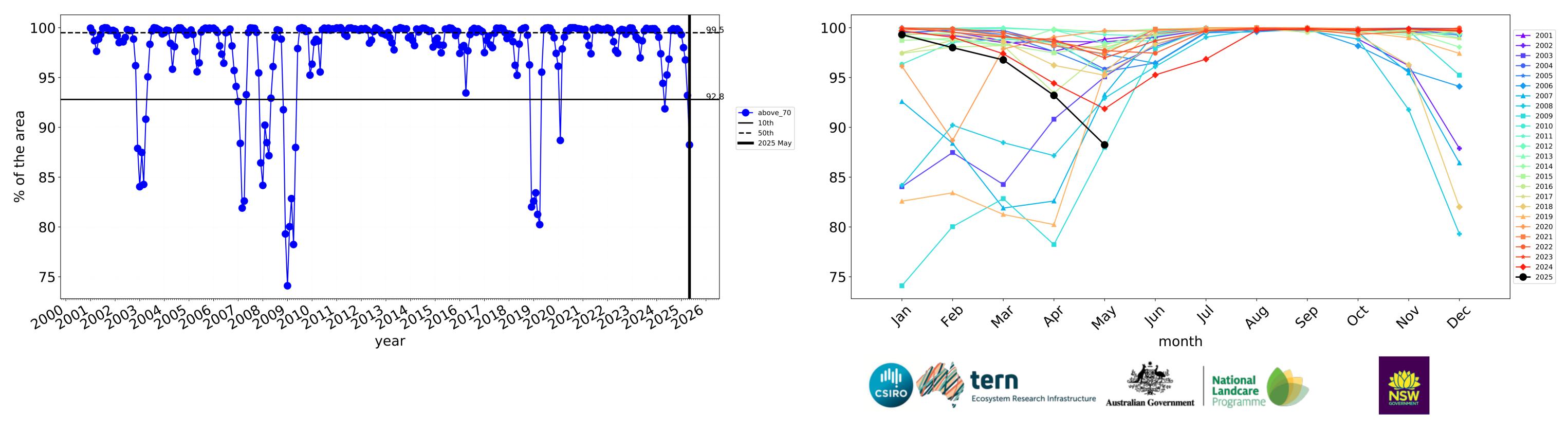






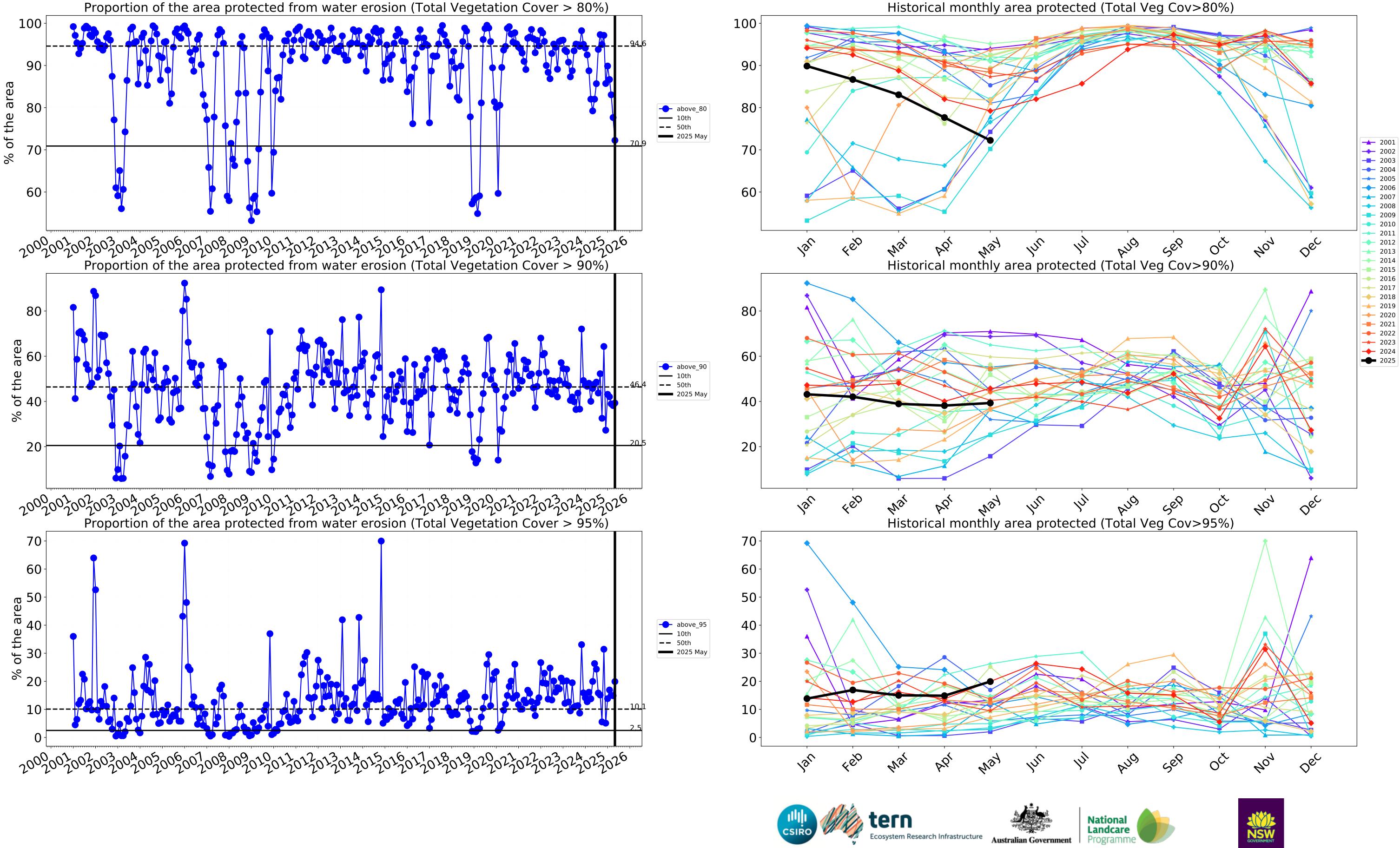
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



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

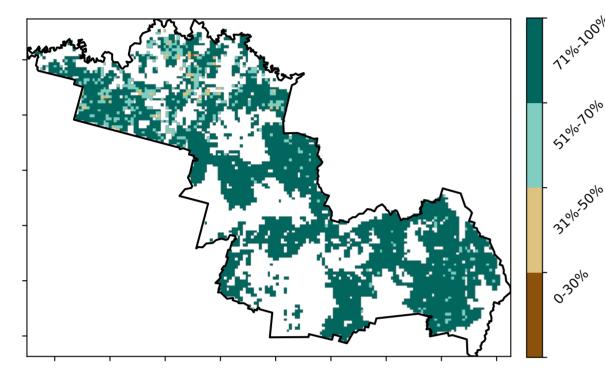
Water erosion historical monthly area protected (Total Veg Cov>70%)



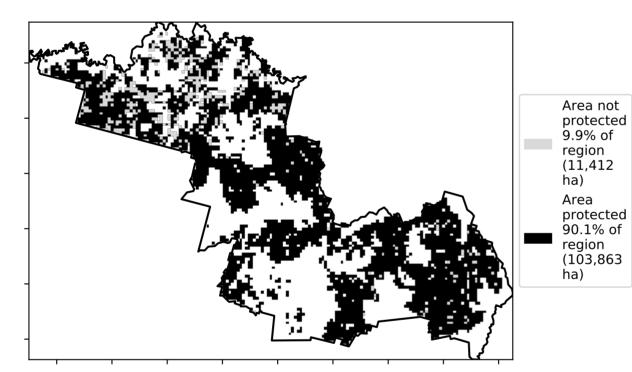
Grazing

Land use and forest cover 91.5% 80 Catchment Scale Land Use and Forests of Australia (2018) Derived from 60 Area (%) 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 3 Agriculture - Grazing - Non-woodland forest 40 20 6.4% .0% 0 -0.5 1.0 1.5 2.0 0.0 0.5

Total Vegetation Cover [%]

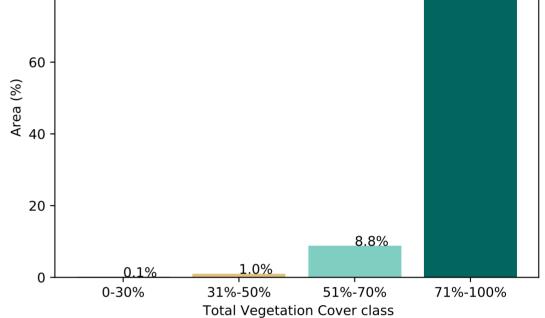


% Area protected from water erosion (>70%)

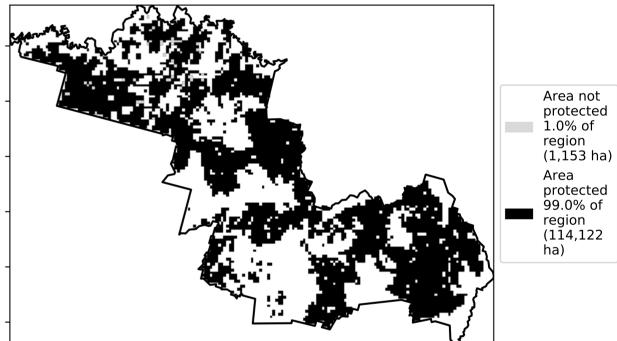


Proportion of each land class in area

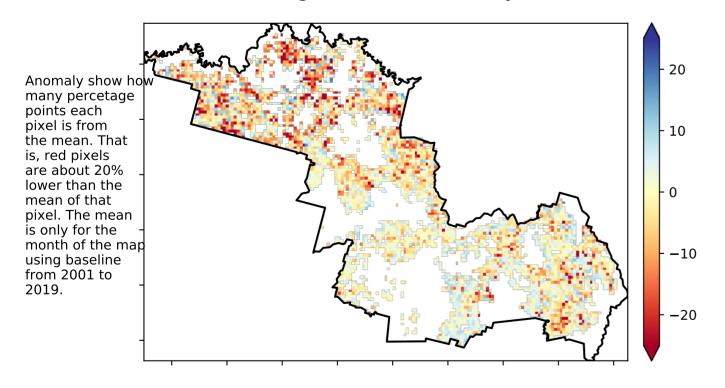
2.5 Land use class Proportion of vegetation cover class in area 90.1% 80



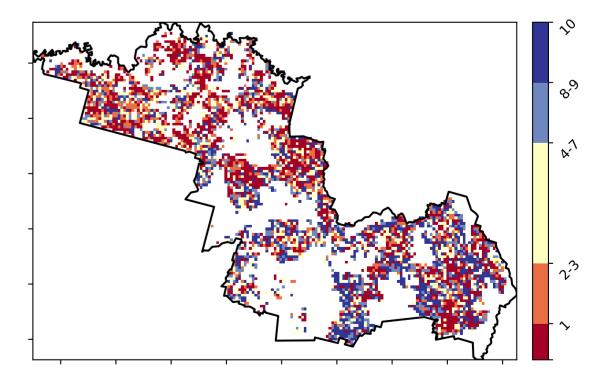
% Area protected from wind erosion (>50%)



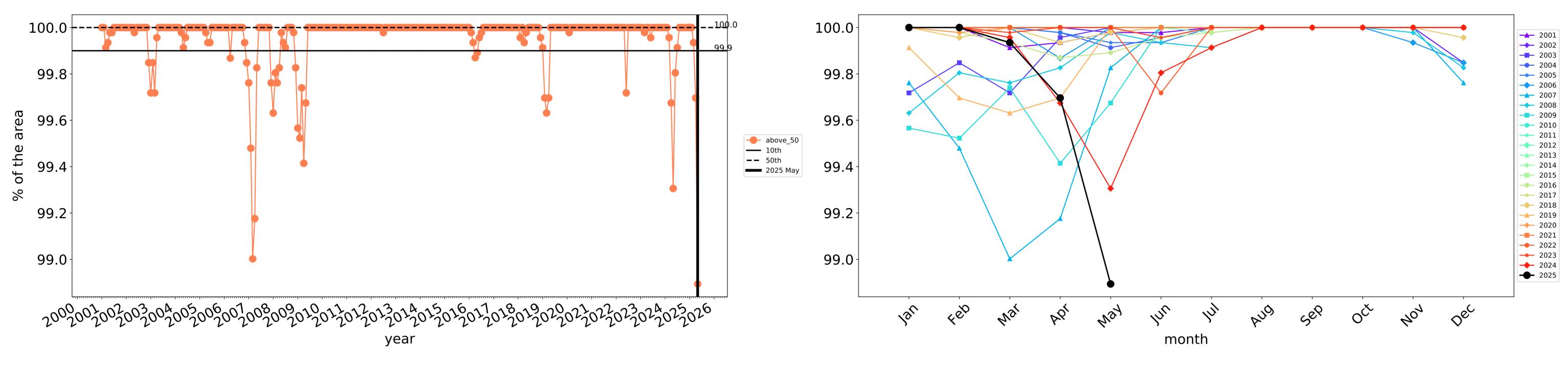
Total Vegetation Cover Anomaly [%]



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.

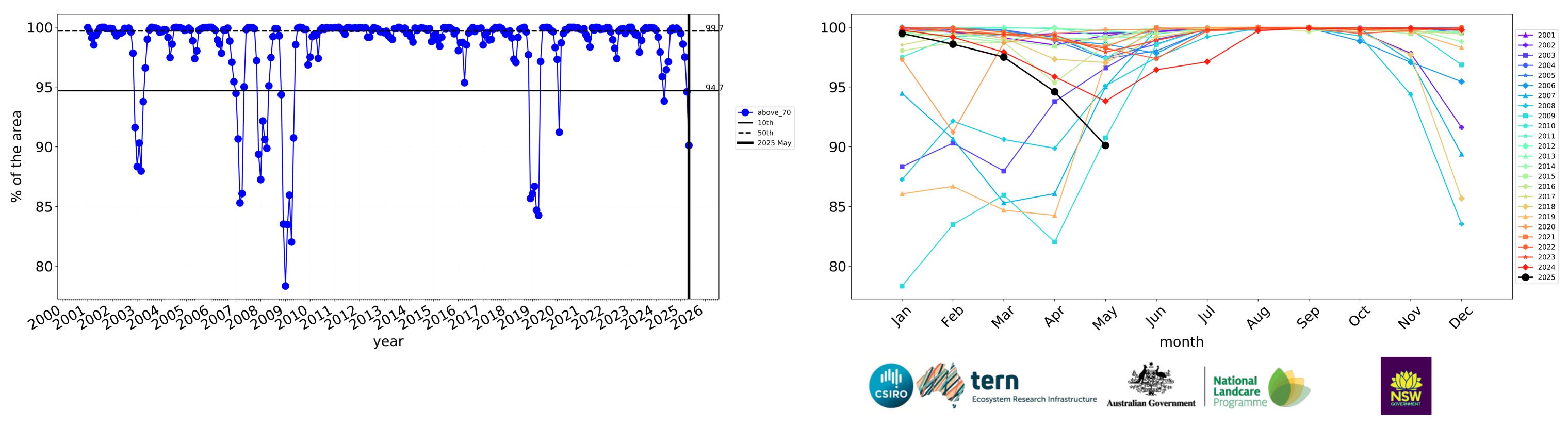


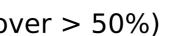




Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

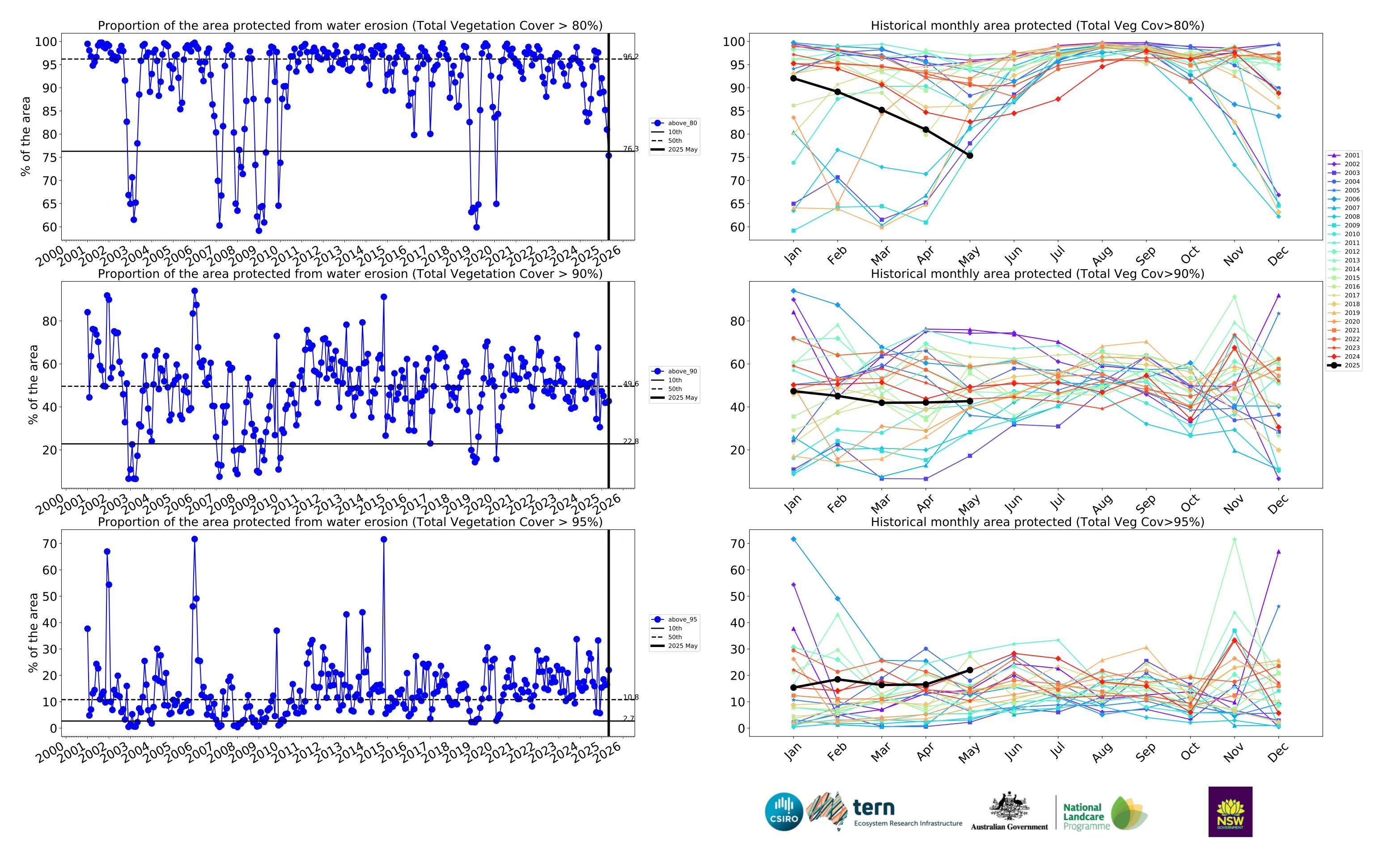
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



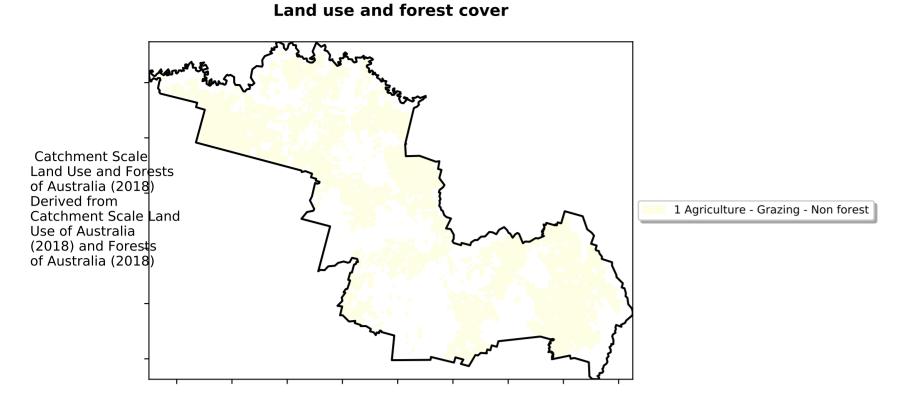


Wind erosion historical monthly area protected (Total Veg Cov >50%)

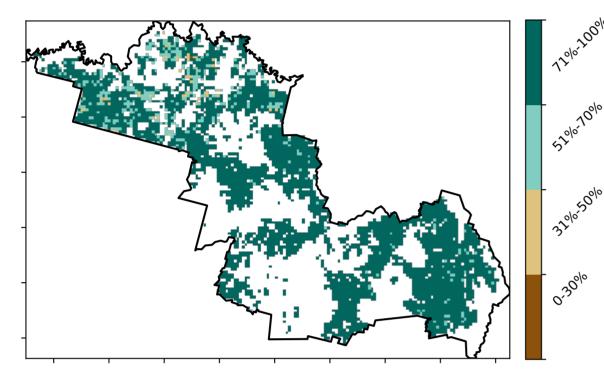




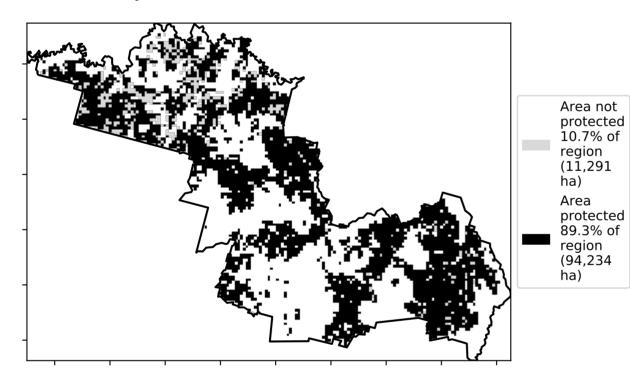
Grazing non forest



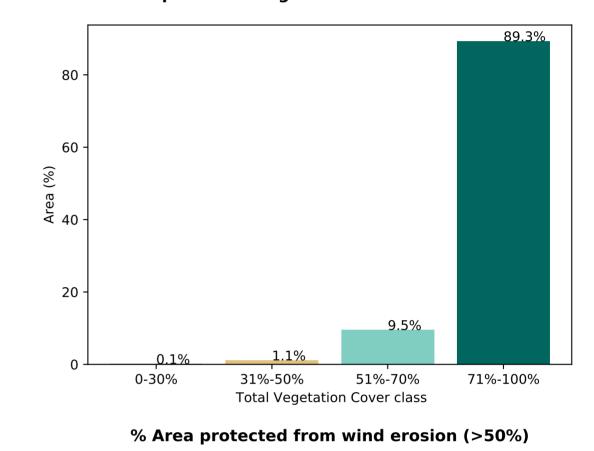
Total Vegetation Cover [%]

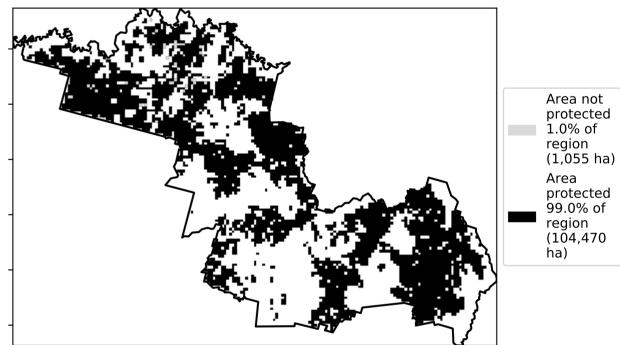


% Area protected from water erosion (>70%)

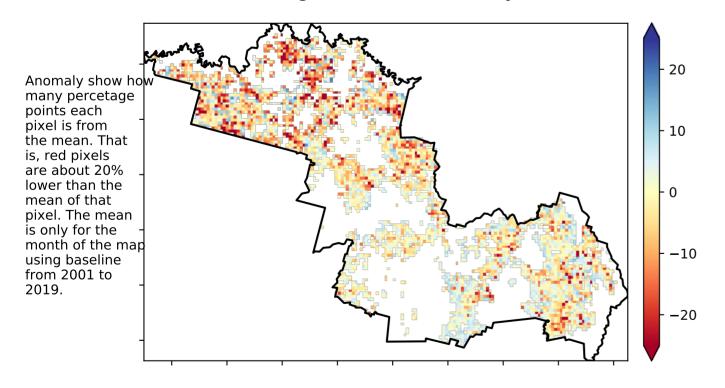


Proportion of vegetation cover class in area



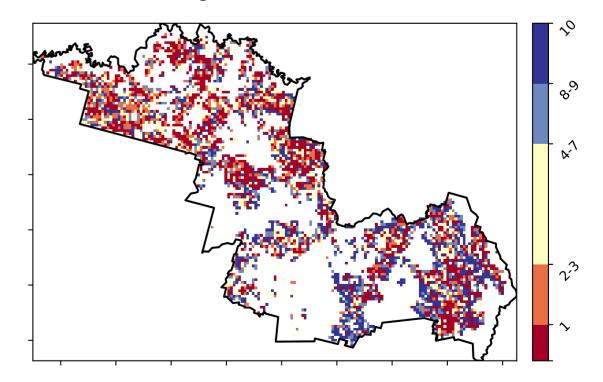


Total Vegetation Cover Anomaly [%]

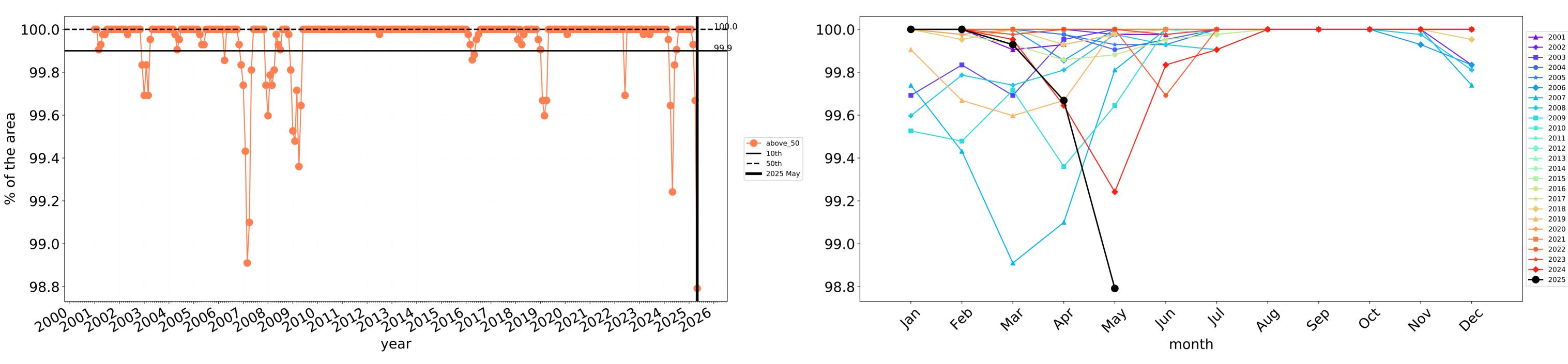


Deciles show where the pixel value lies in the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Total Vegetation Cover Decile [%]

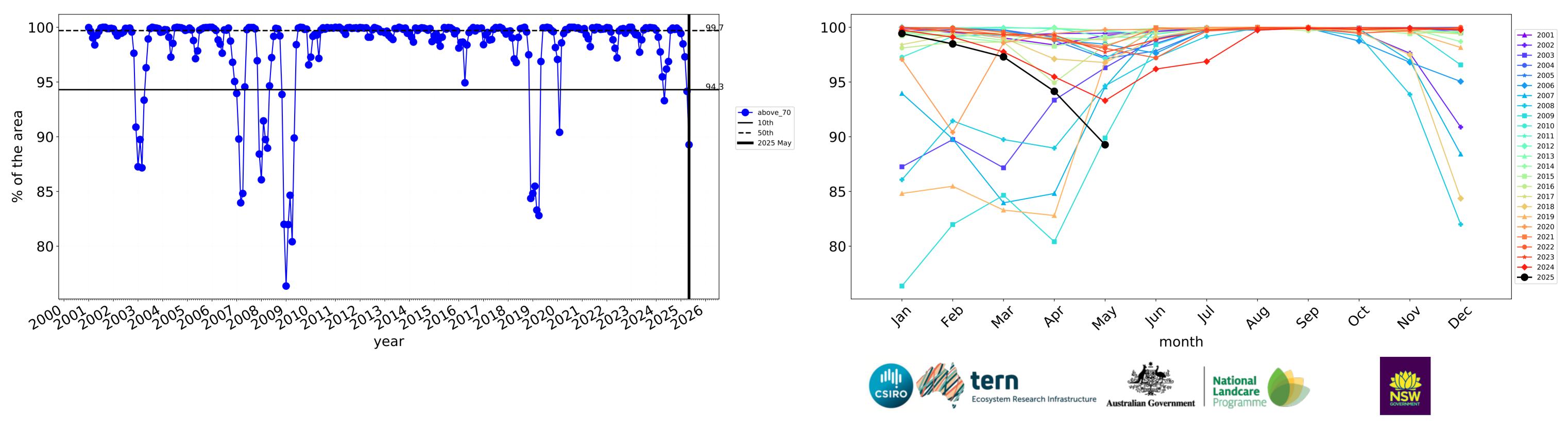






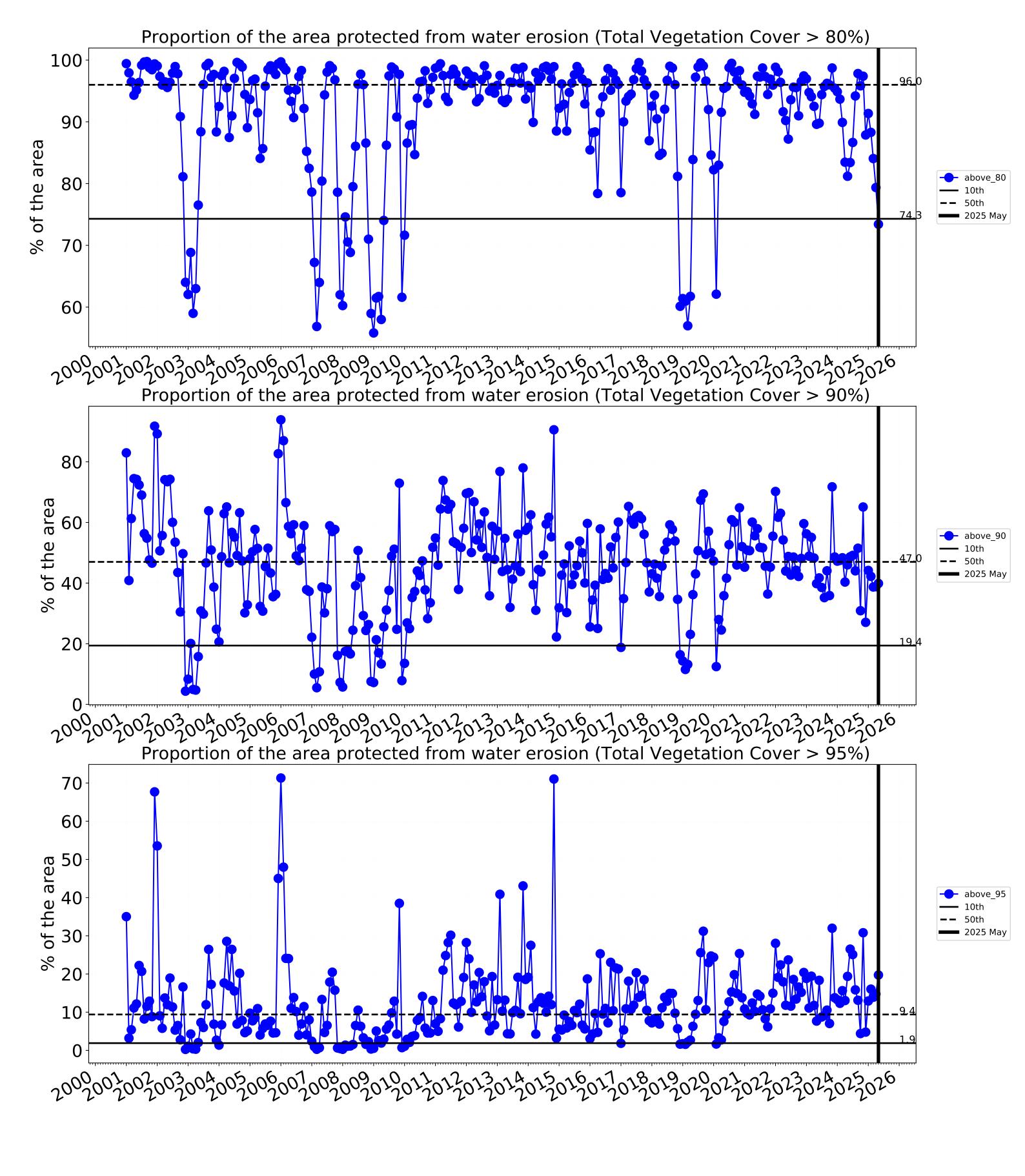
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)

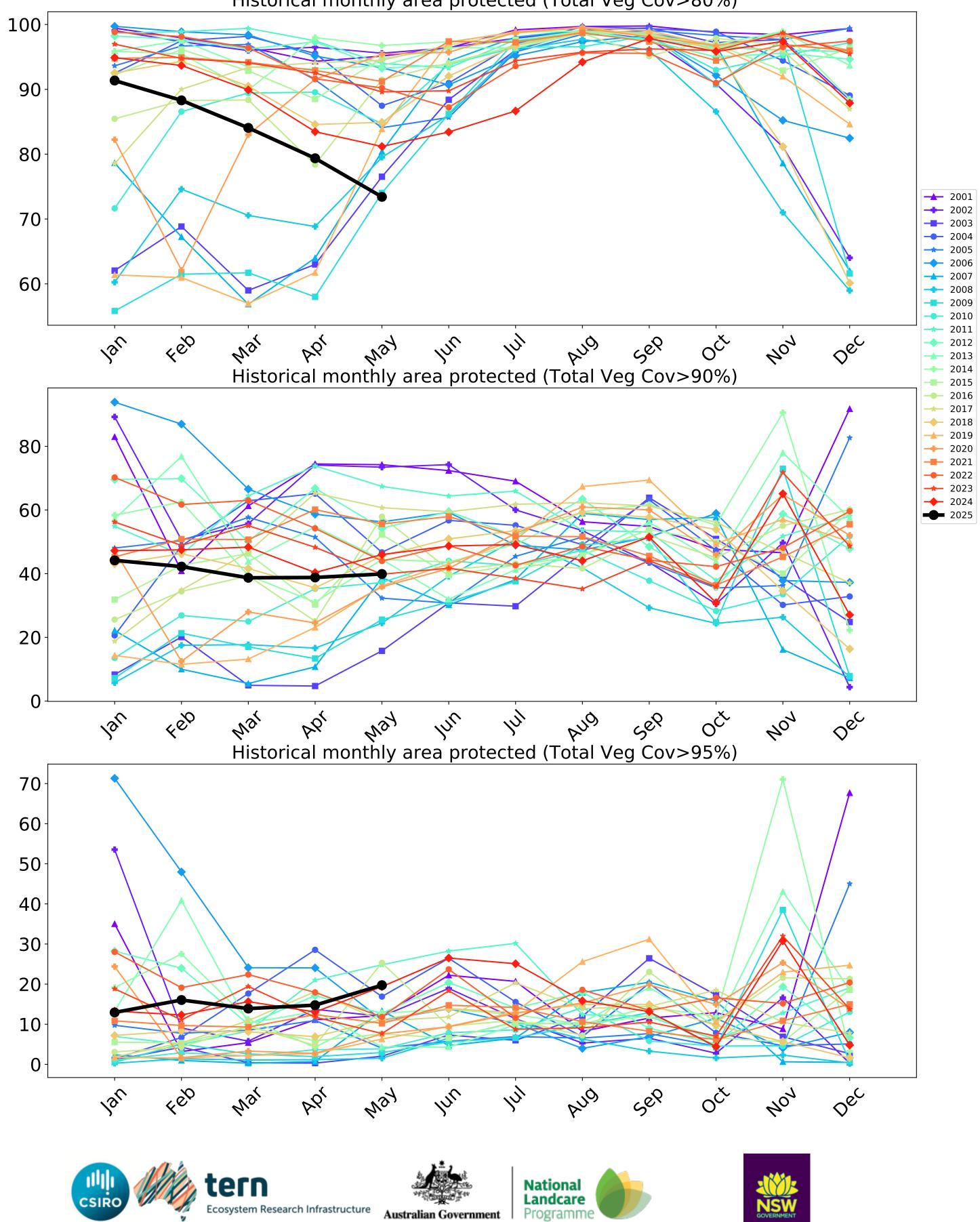


Water erosion historical monthly area protected (Total Veg Cov>70%)

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

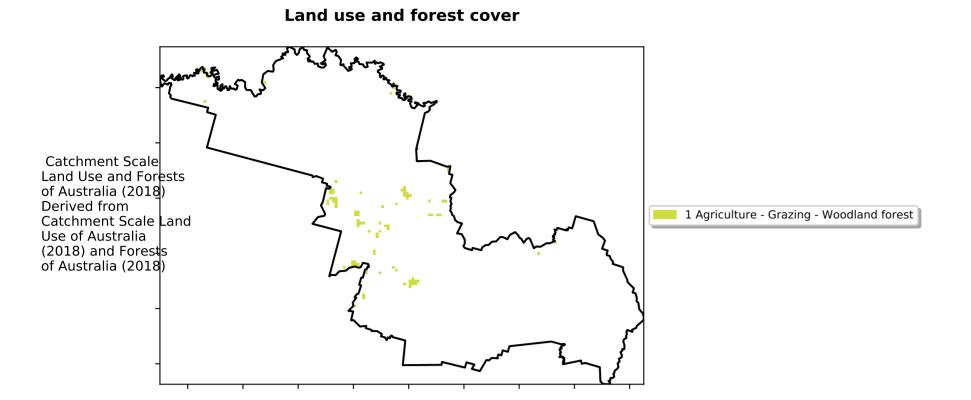


Historical monthly area protected (Total Veg Cov>80%)

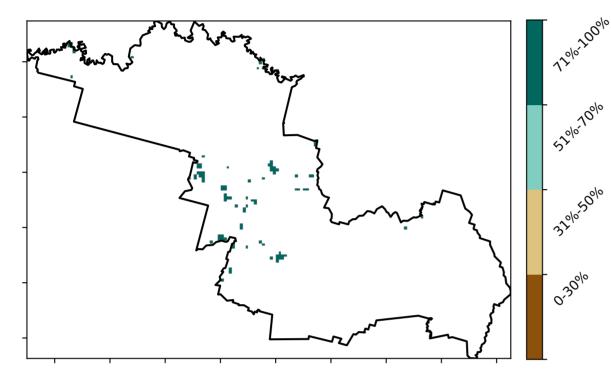




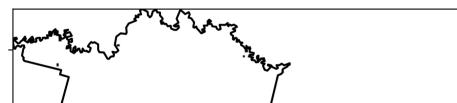
Grazing Woodland forest



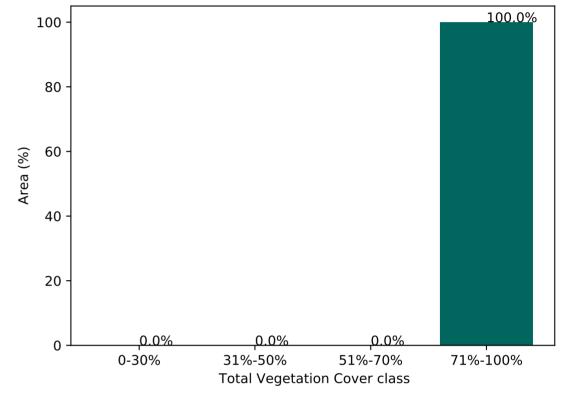
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

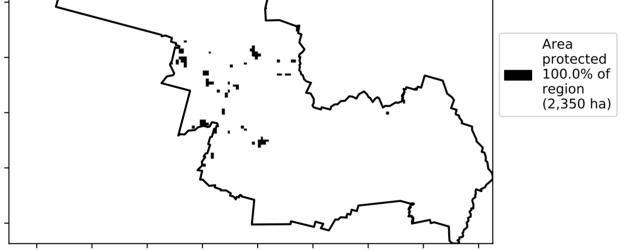


Proportion of vegetation cover class in area

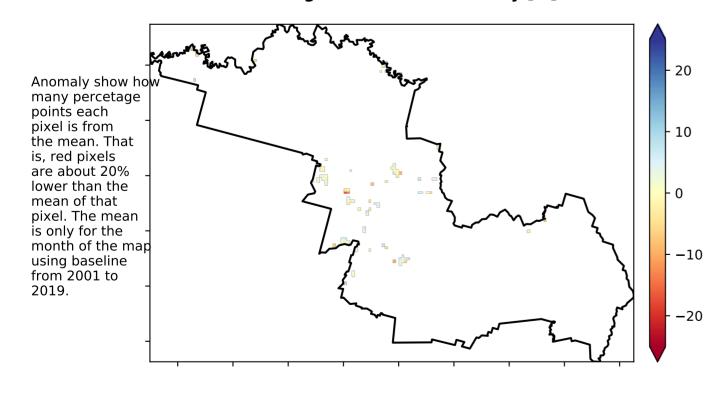


% Area protected from wind erosion (>50%)

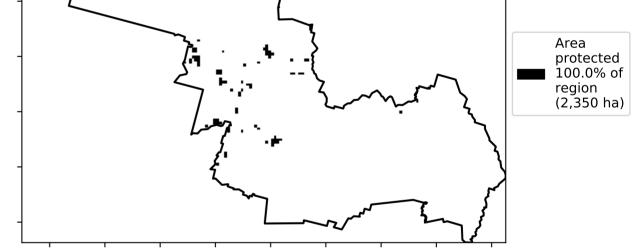


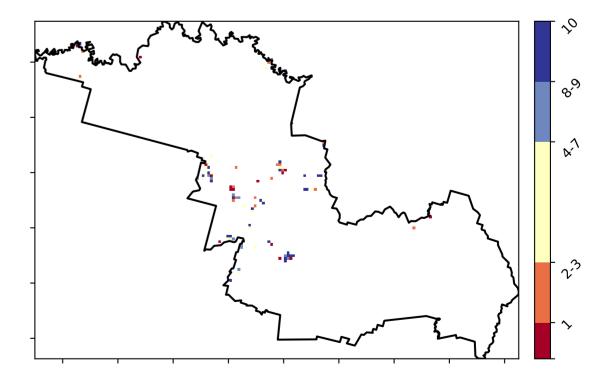


Total Vegetation Cover Anomaly [%]



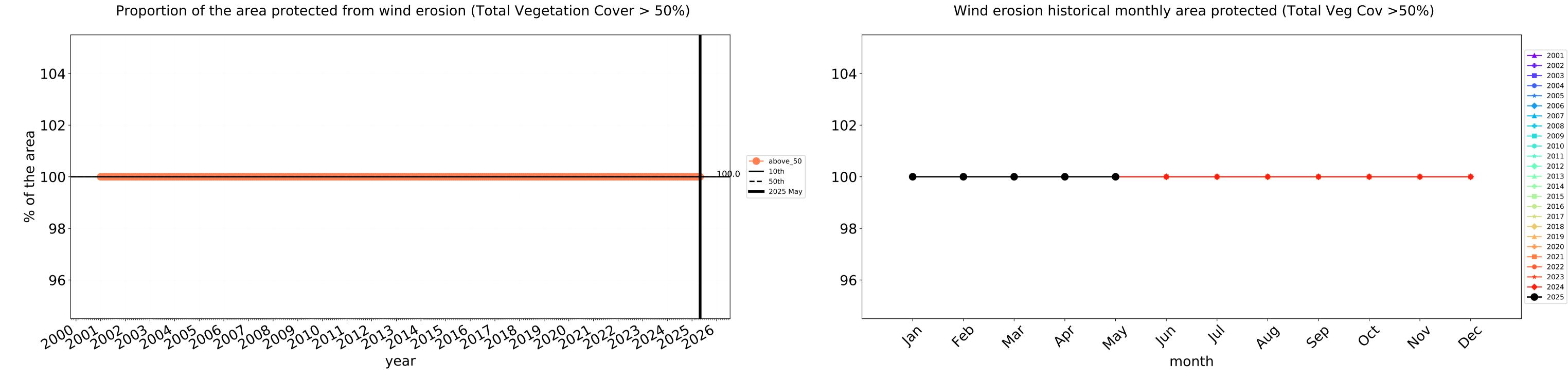
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.



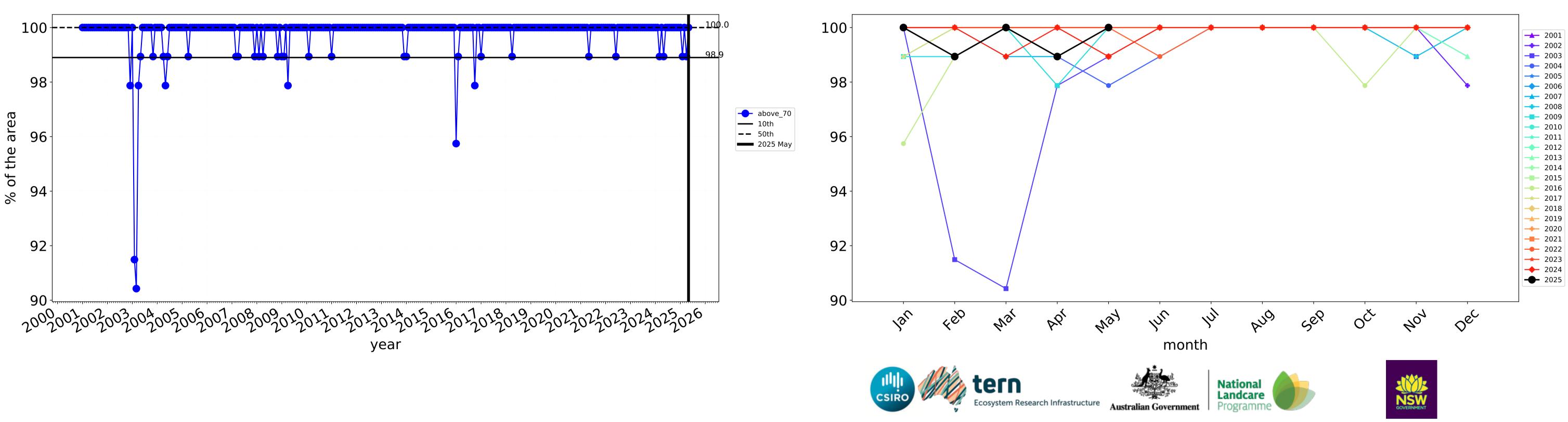




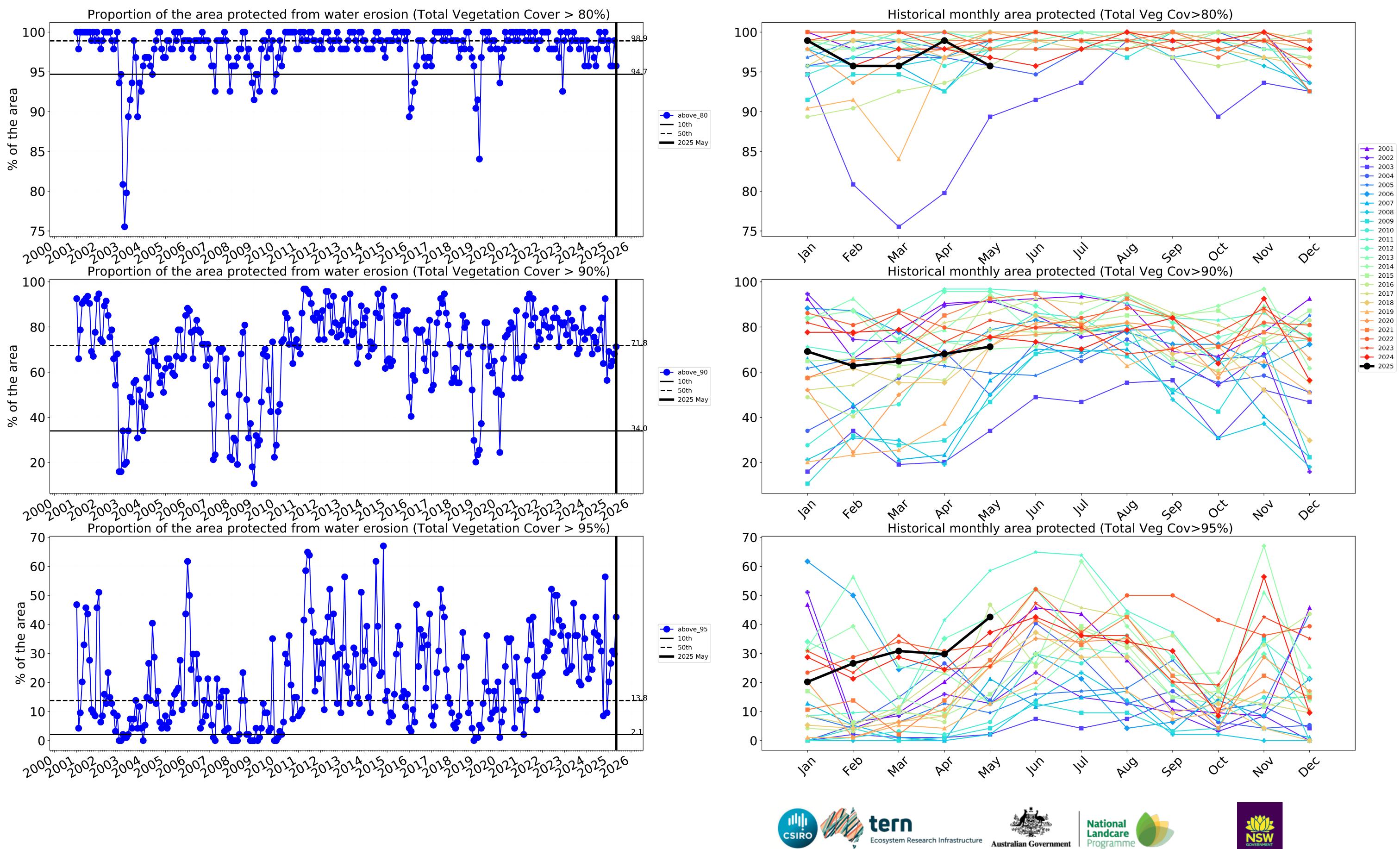
Grazing Woodland forest timeseries



Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)

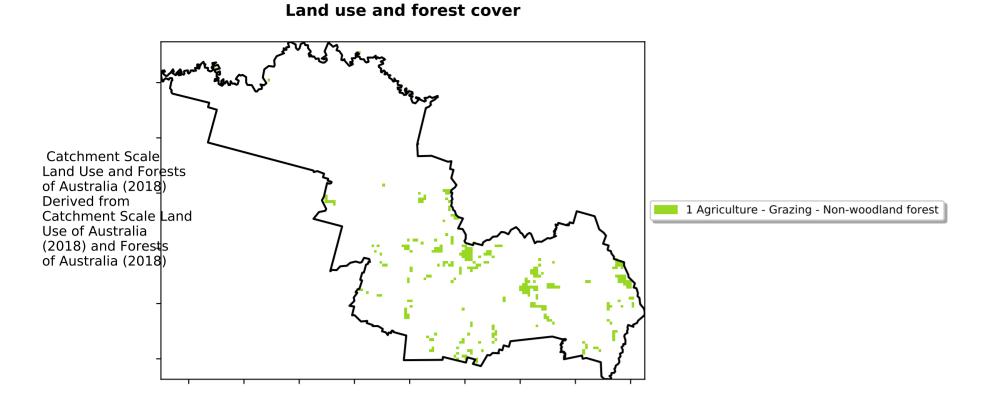


Water erosion historical monthly area protected (Total Veg Cov>70%)

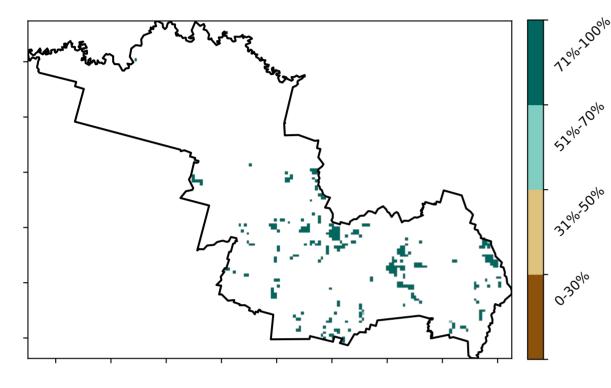




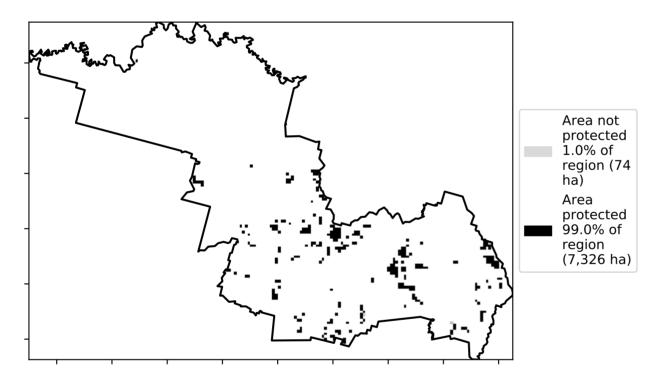
Grazing - Forest (non woodland)



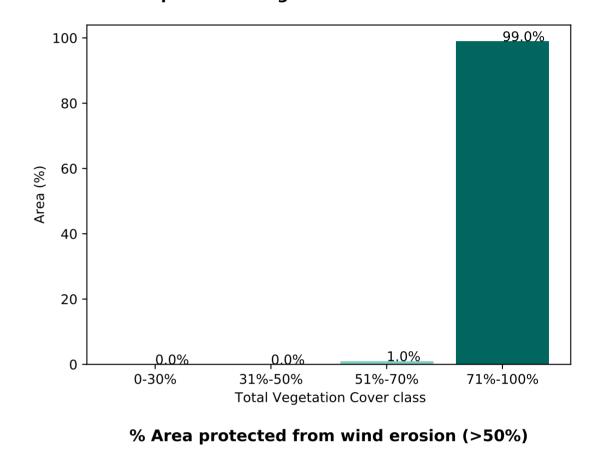
Total Vegetation Cover [%]

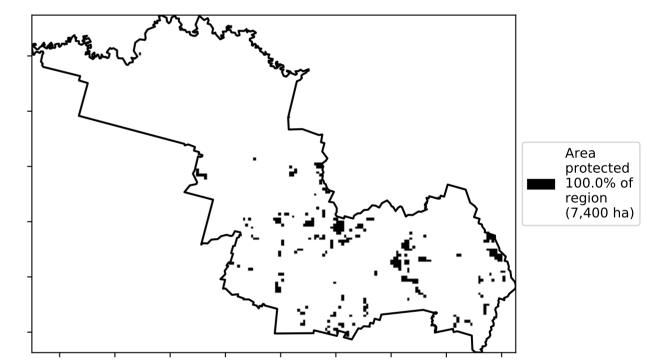


% Area protected from water erosion (>70%)

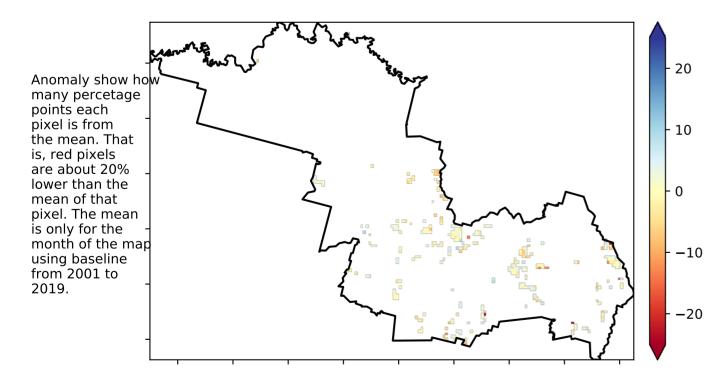


Proportion of vegetation cover class in area

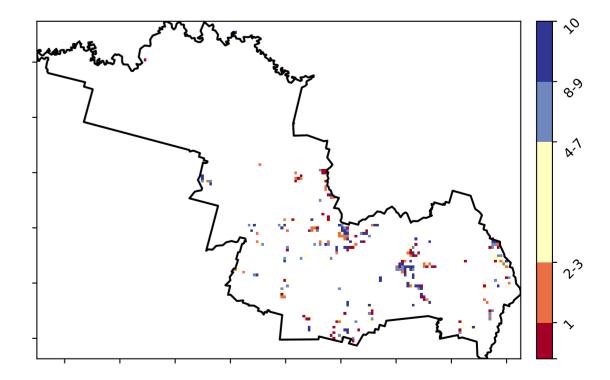




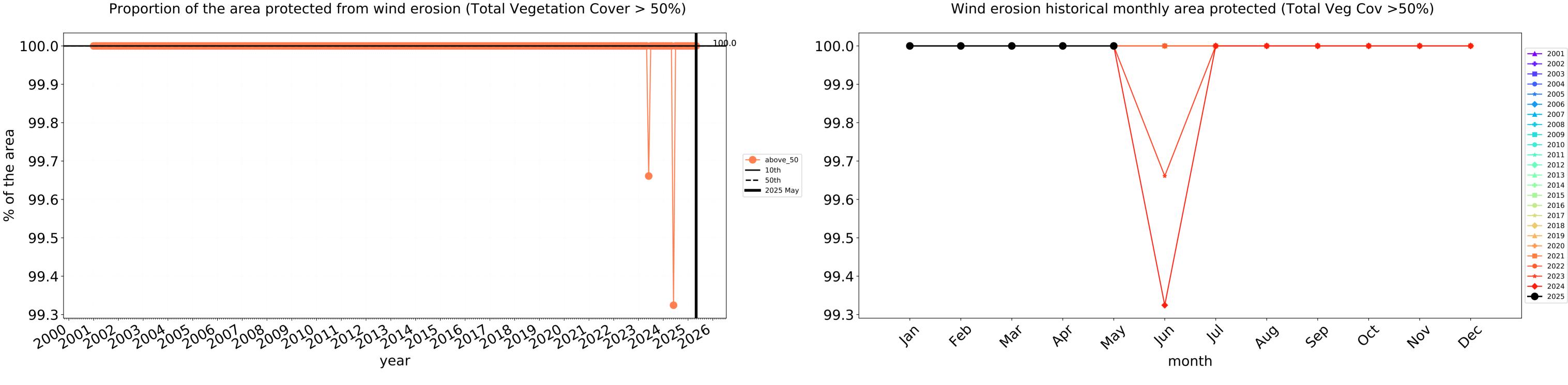
Total Vegetation Cover Anomaly [%]



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.

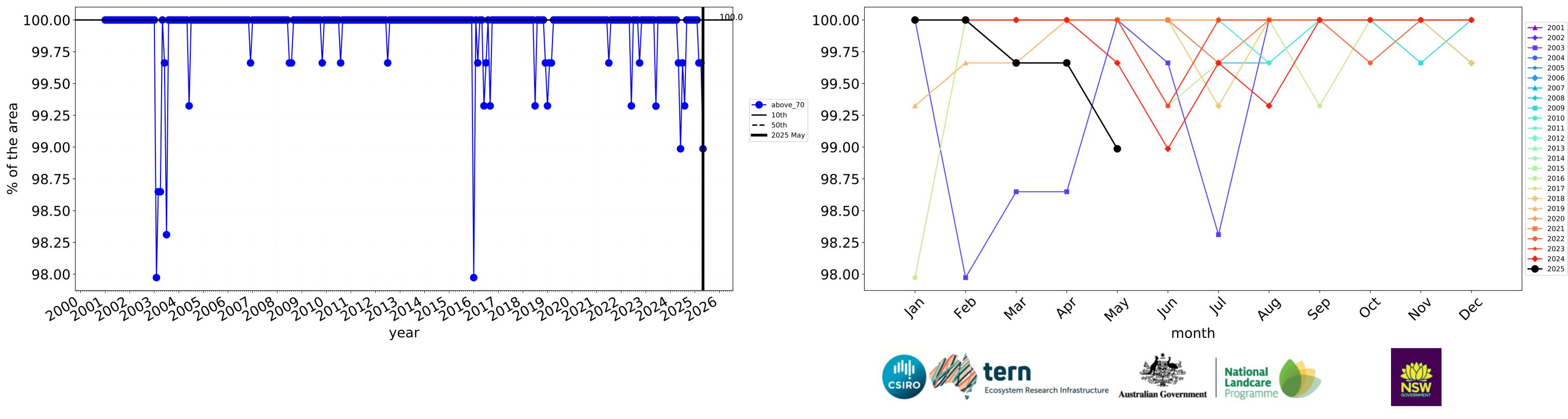






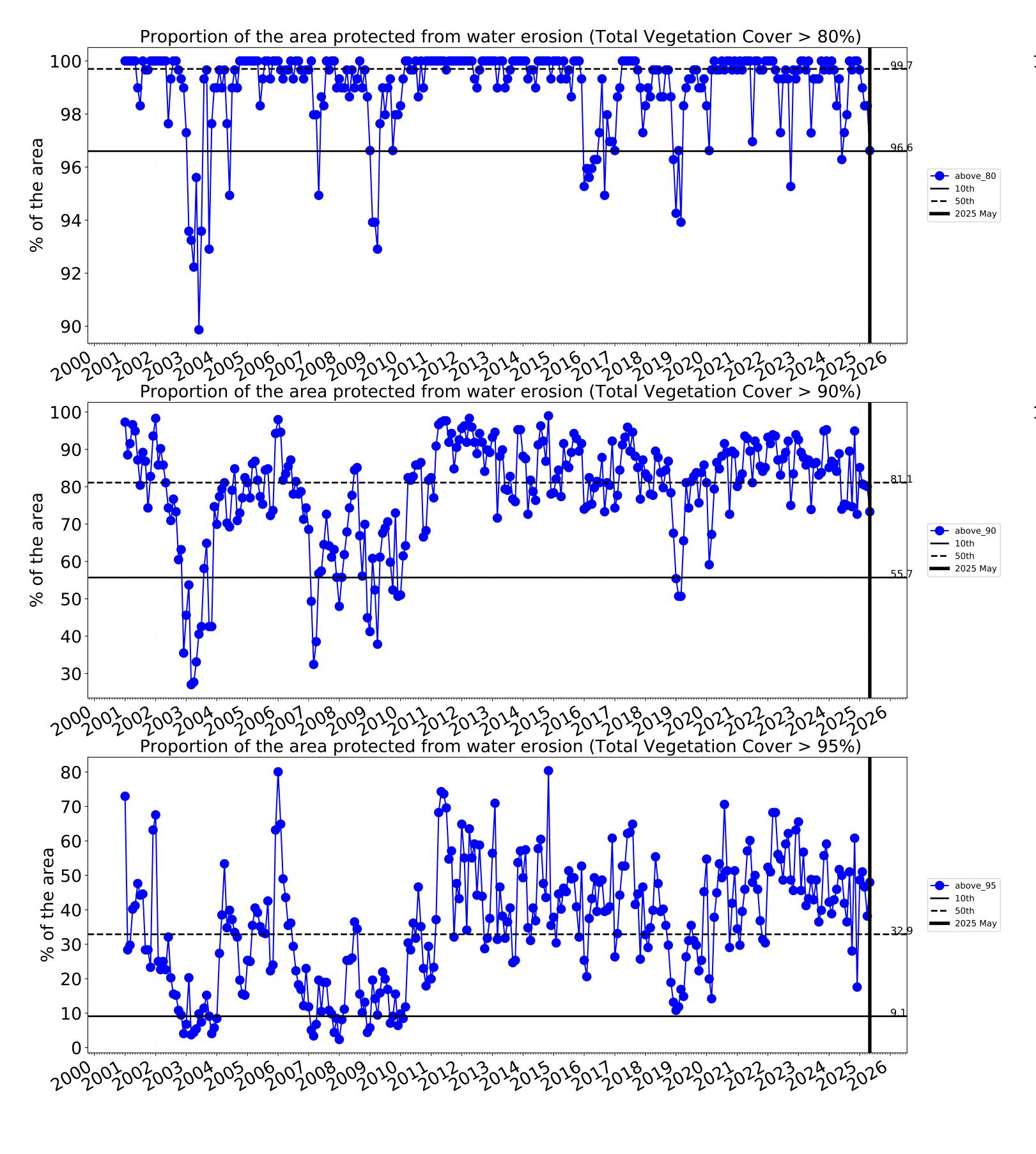
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



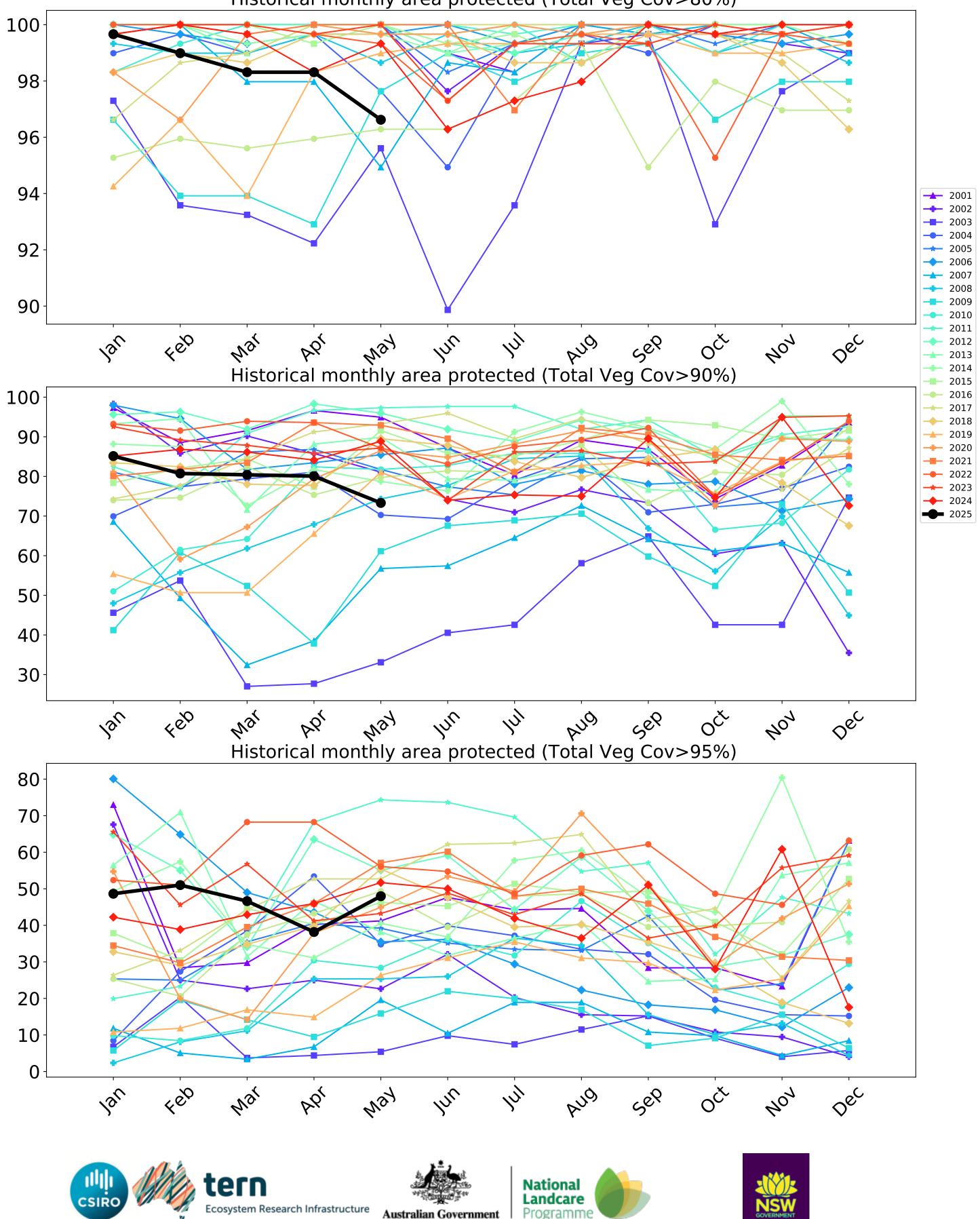


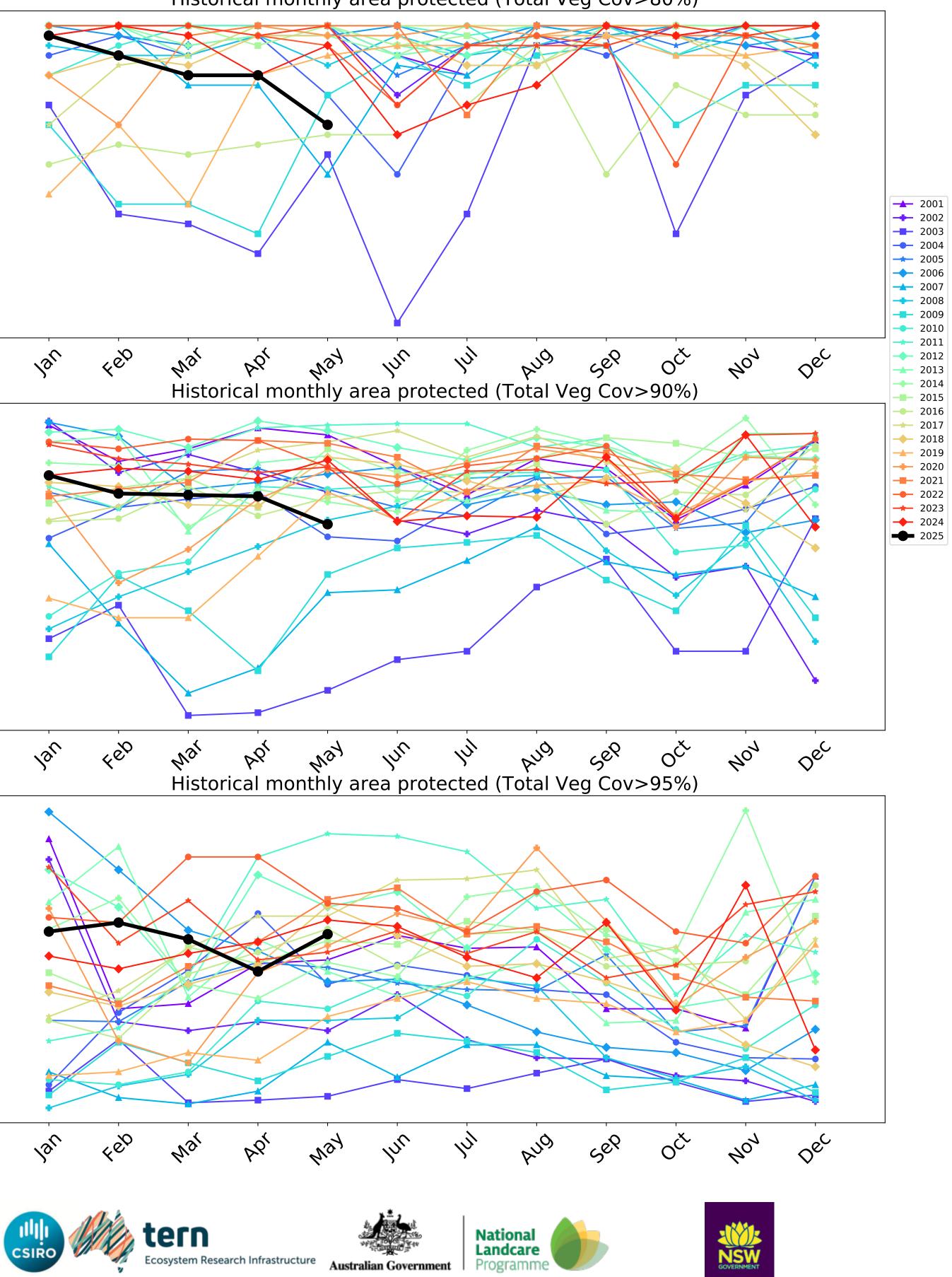
Grazing - Forest (non woodland) timeseries

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

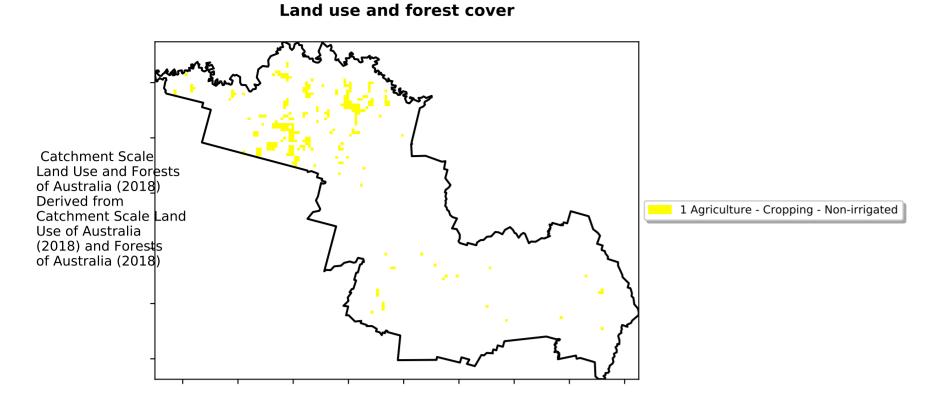


Historical monthly area protected (Total Veg Cov>80%)

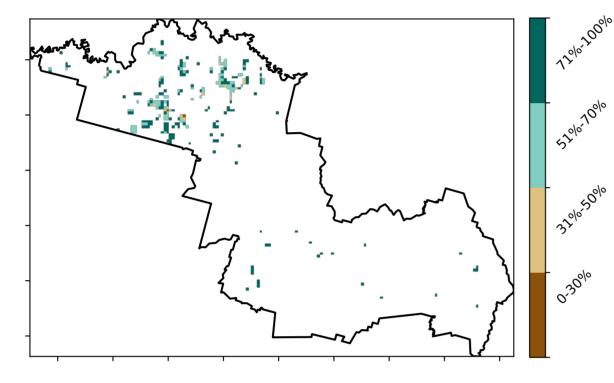




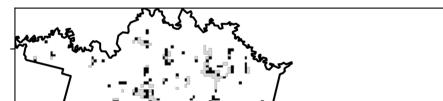
Cropping



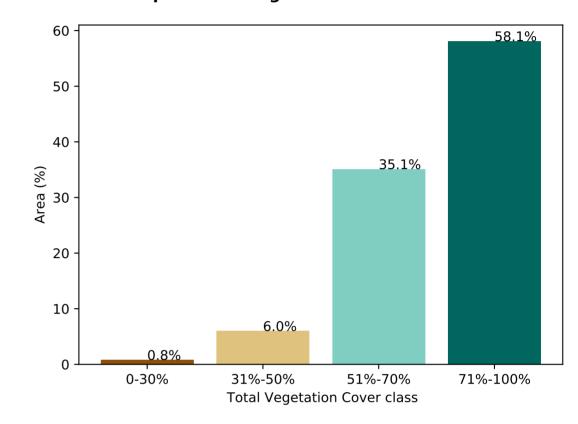
Total Vegetation Cover [%]



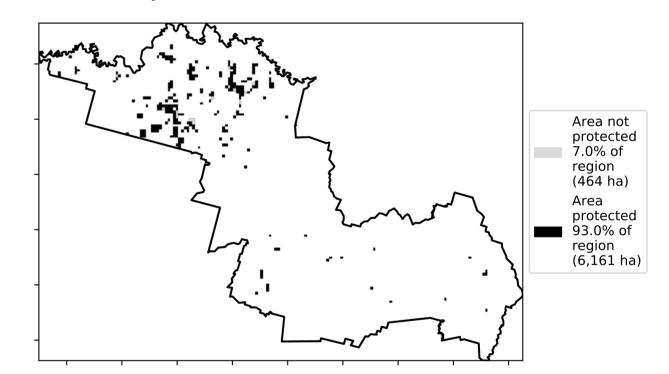
% Area protected from water erosion (>70%)

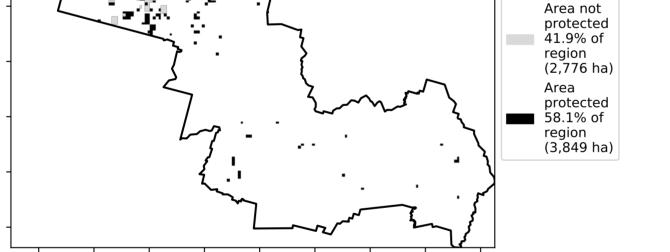


Proportion of vegetation cover class in area

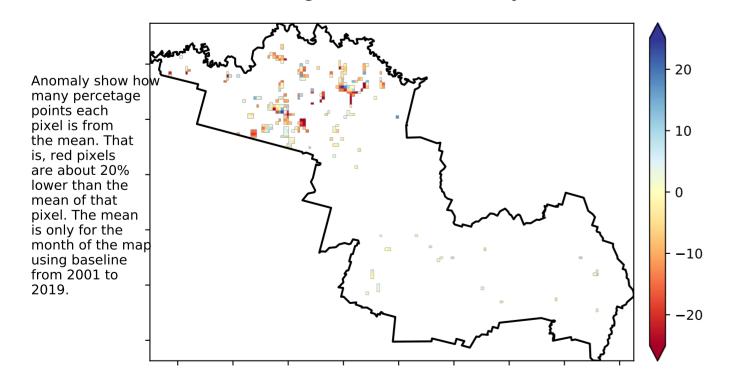


% Area protected from wind erosion (>50%)

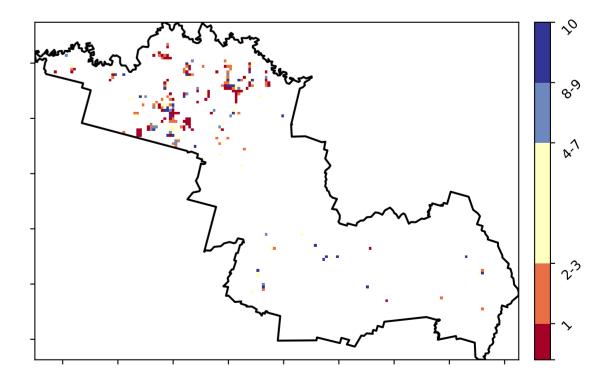




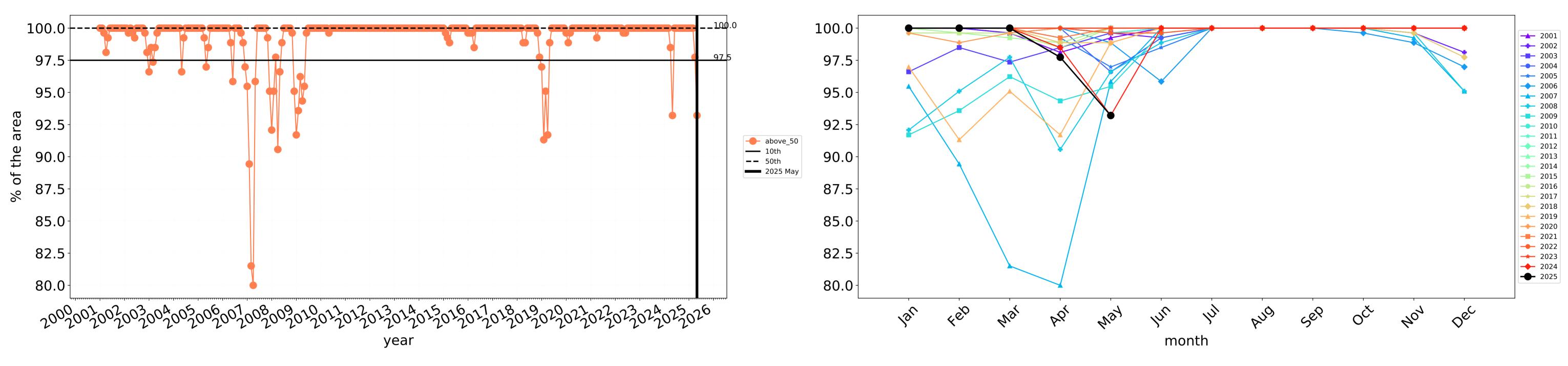
Total Vegetation Cover Anomaly [%]



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.

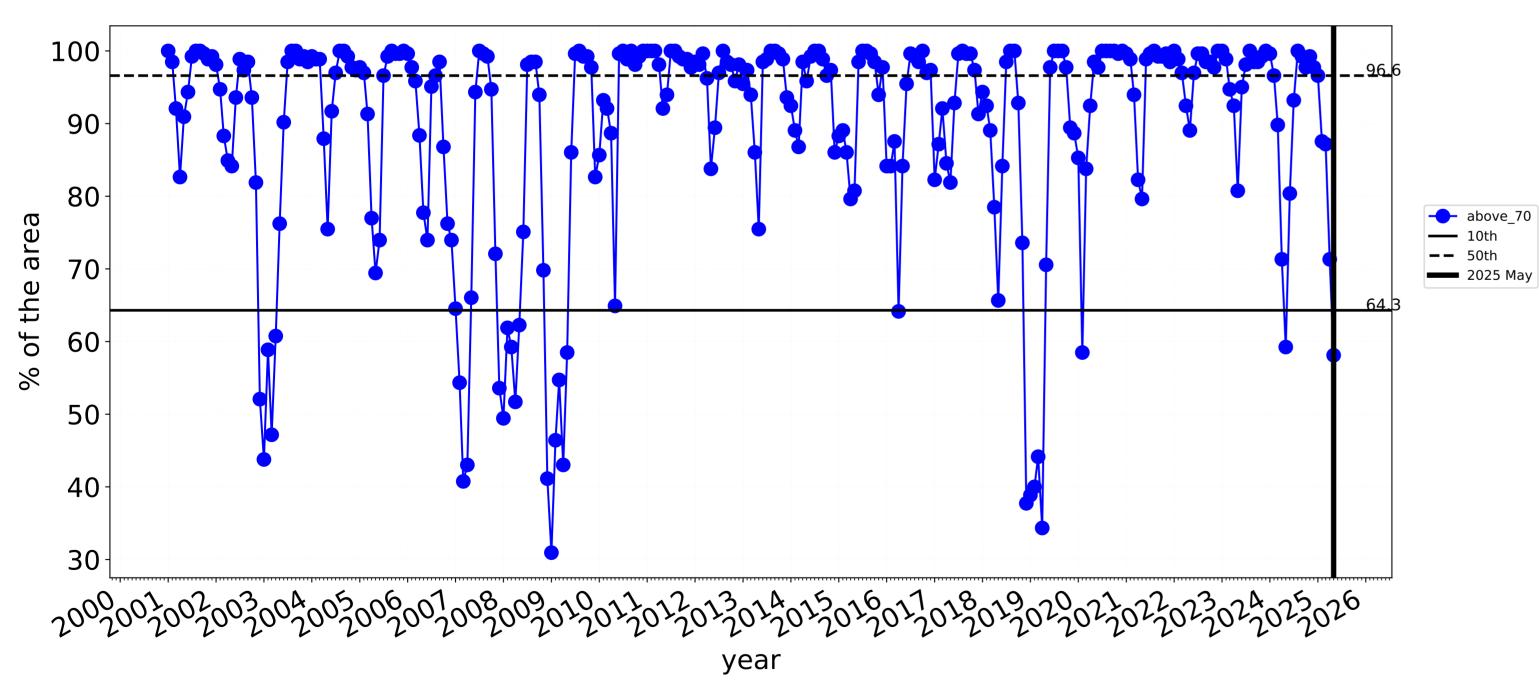


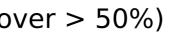




Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

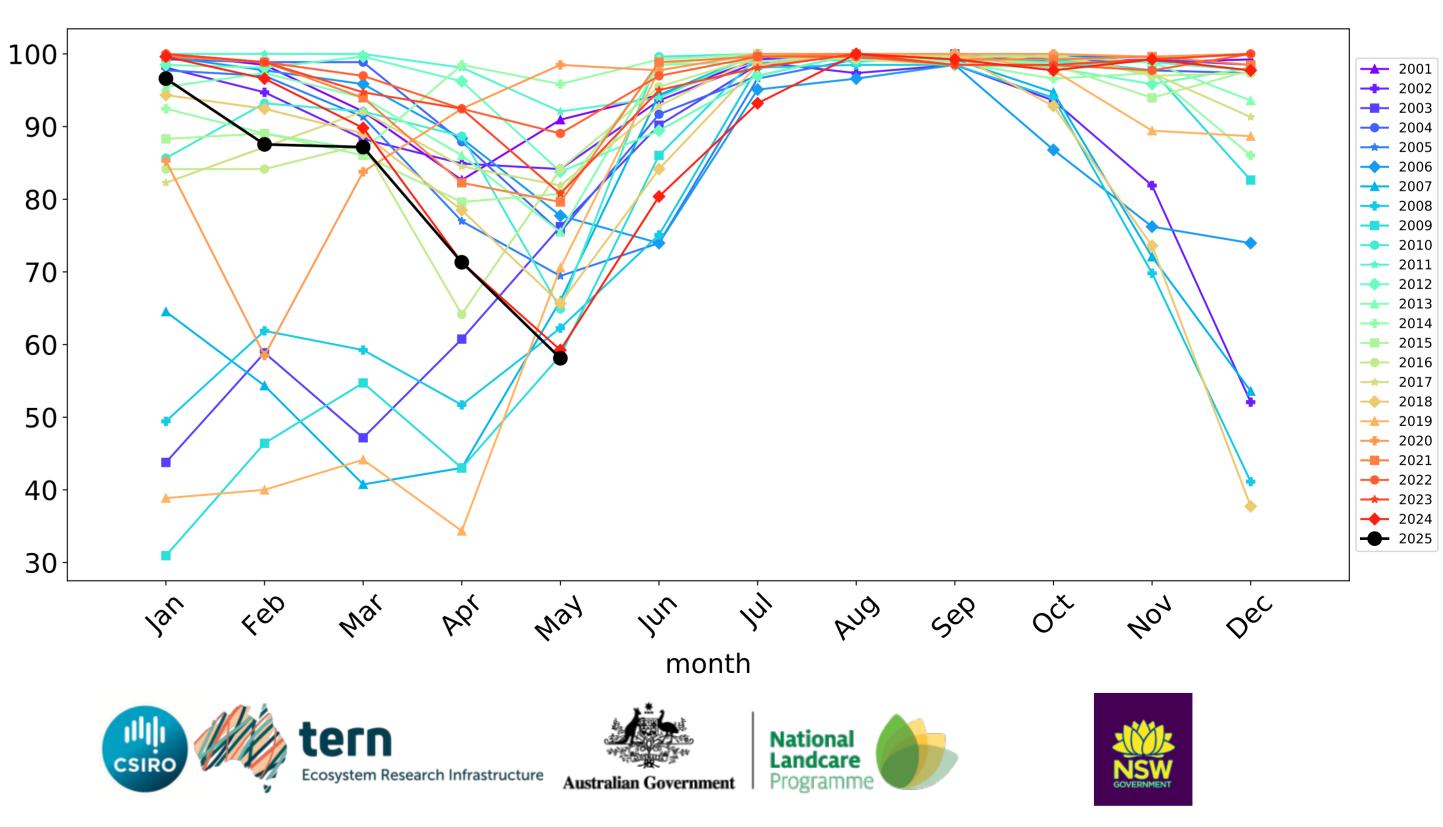


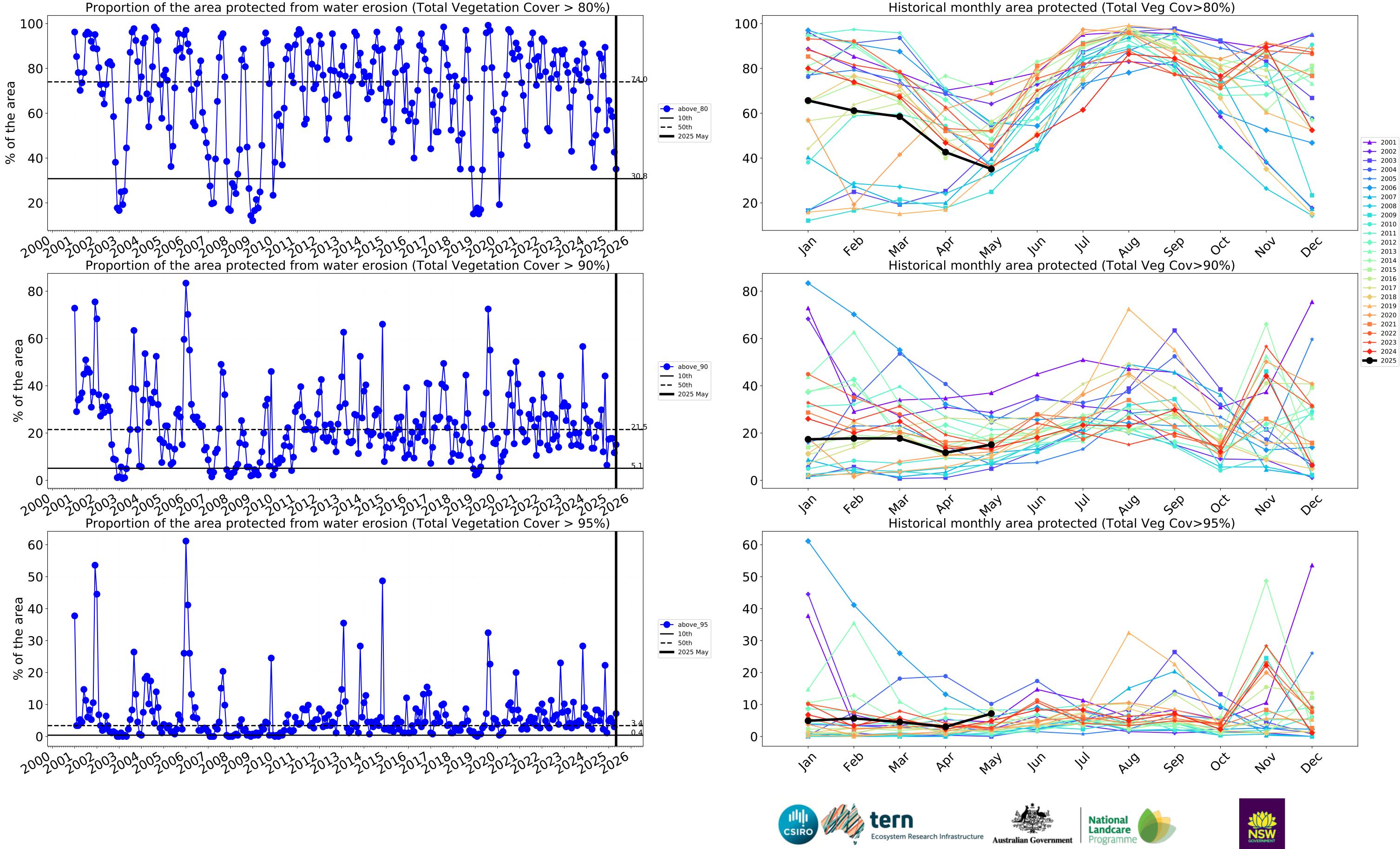




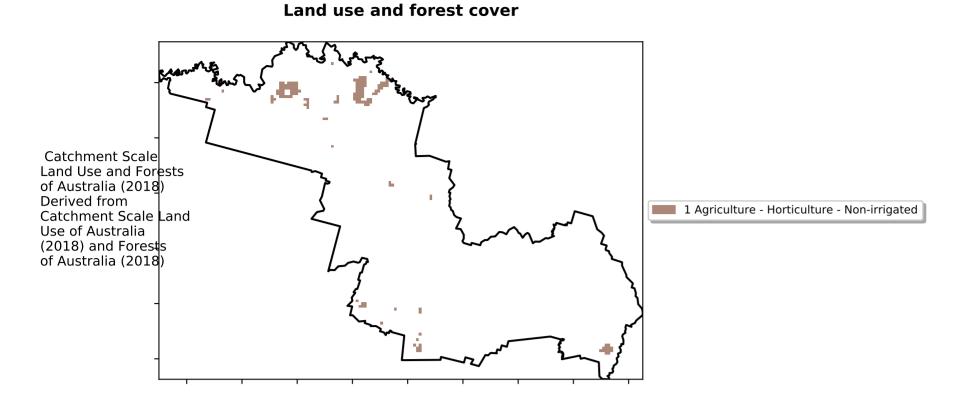
Wind erosion historical monthly area protected (Total Veg Cov >50%)

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

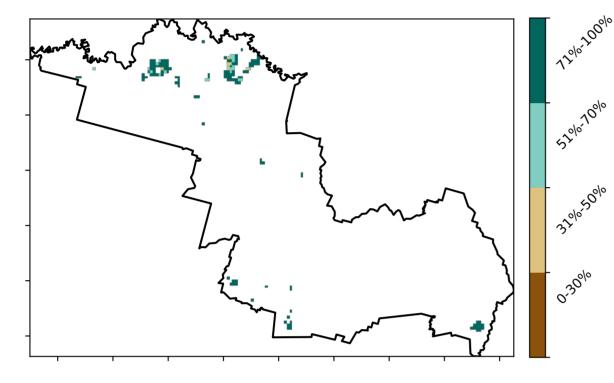




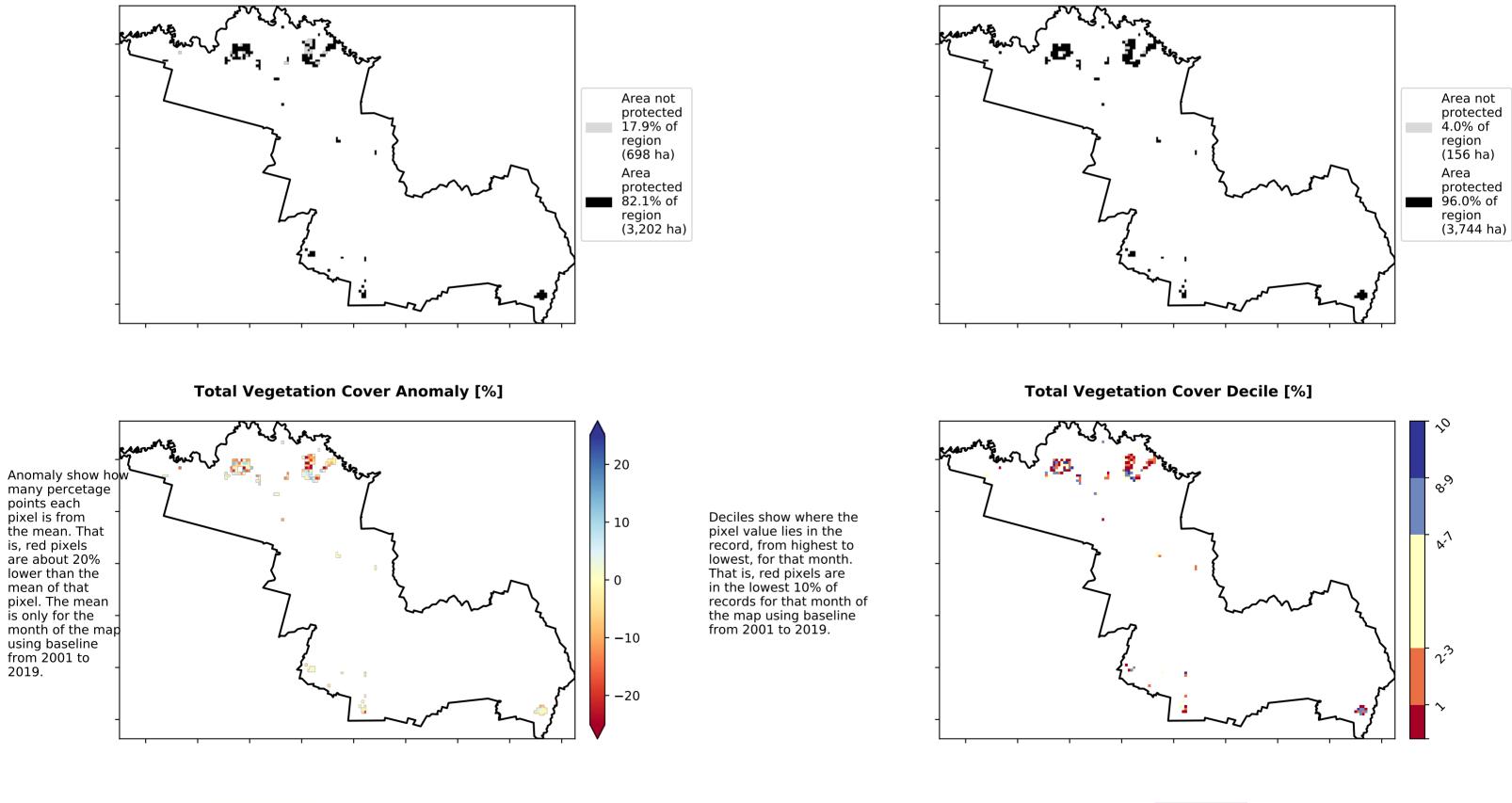
Horticulture



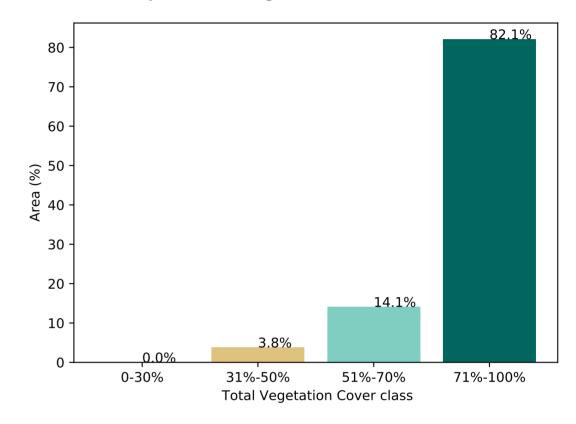
Total Vegetation Cover [%]



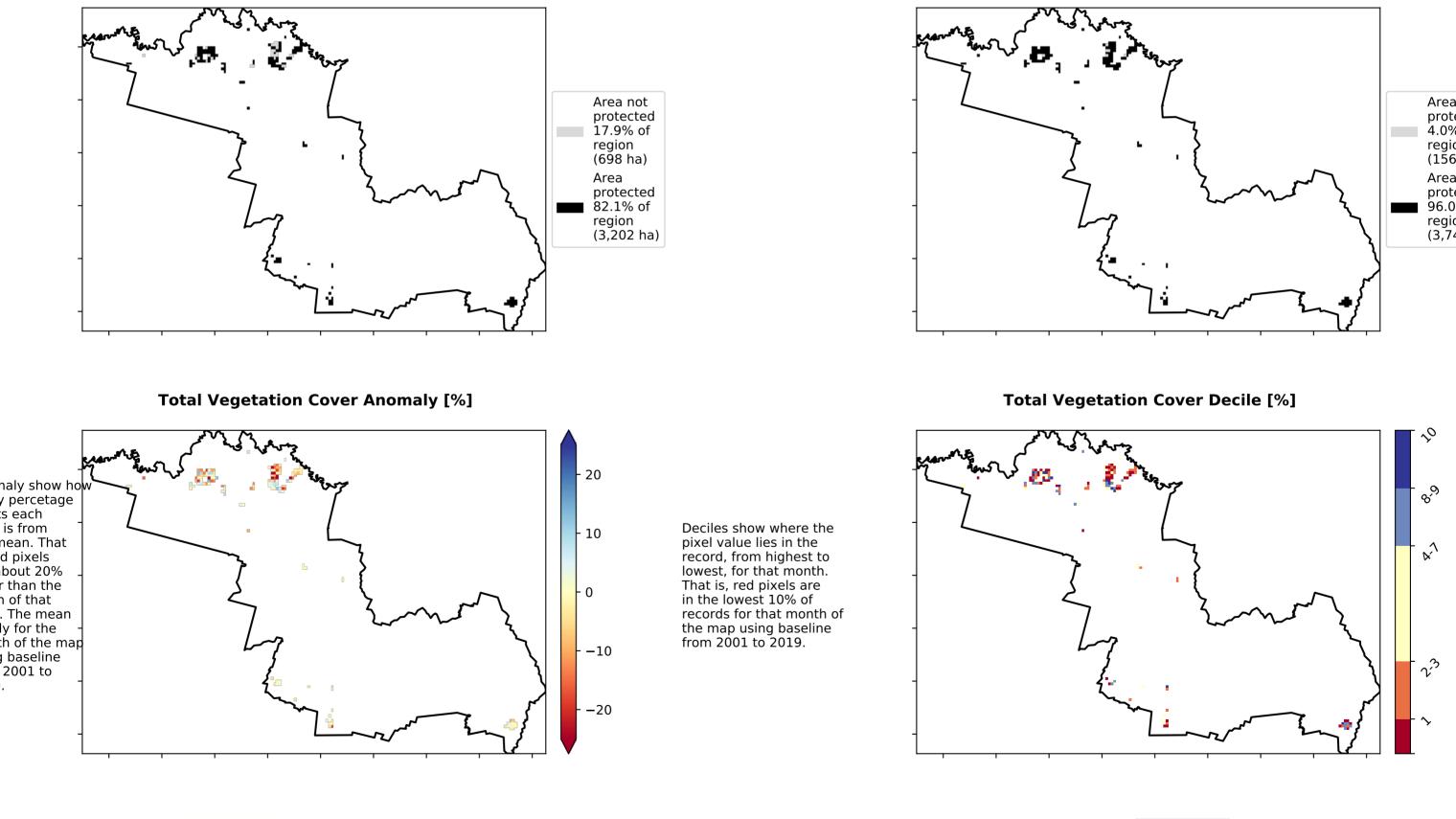
% Area protected from water erosion (>70%)



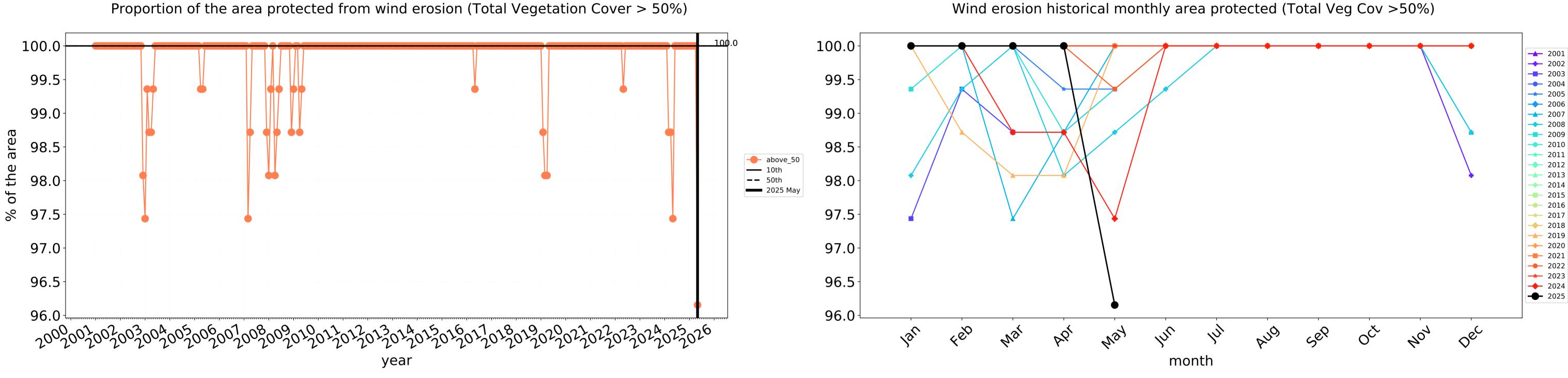
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)

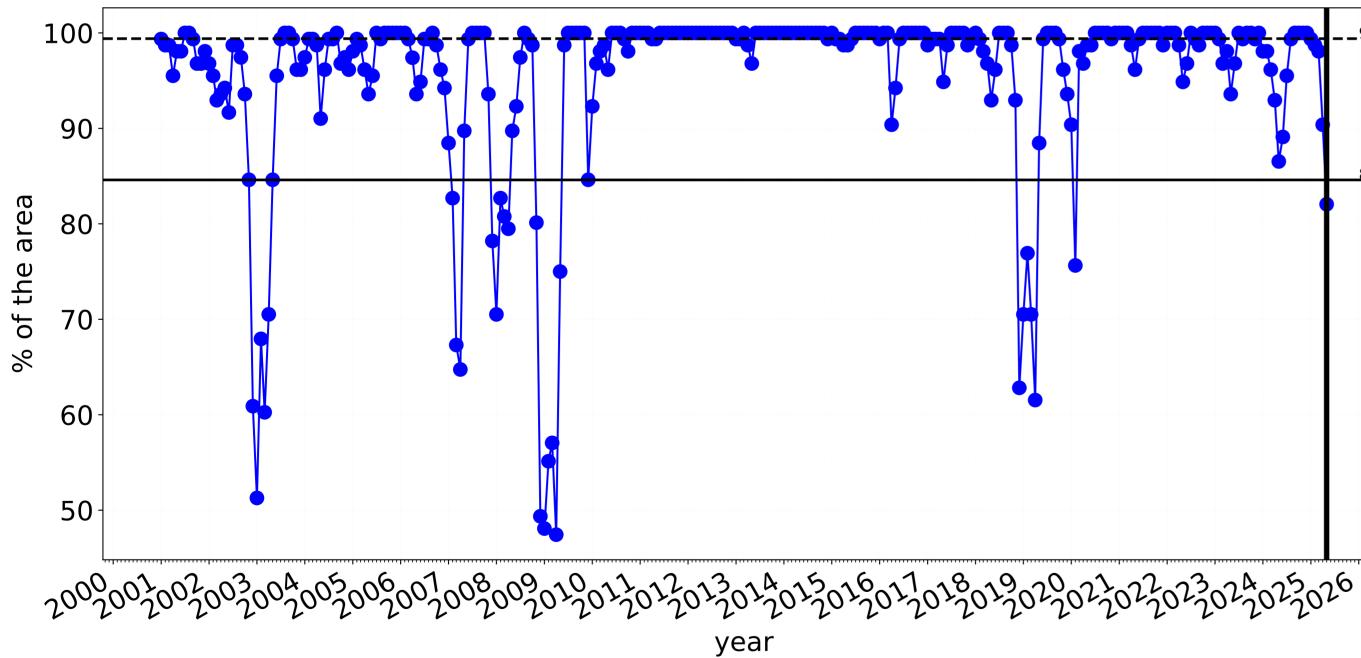






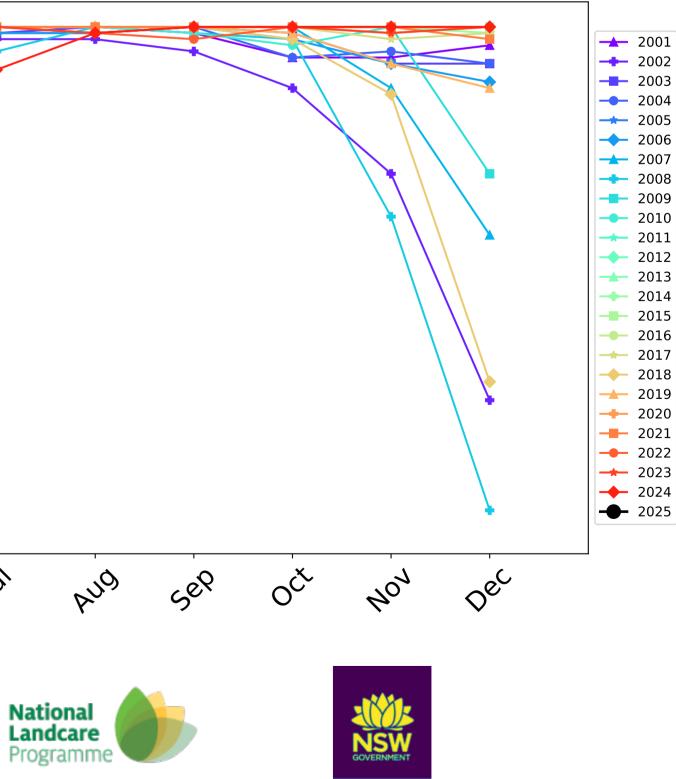
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

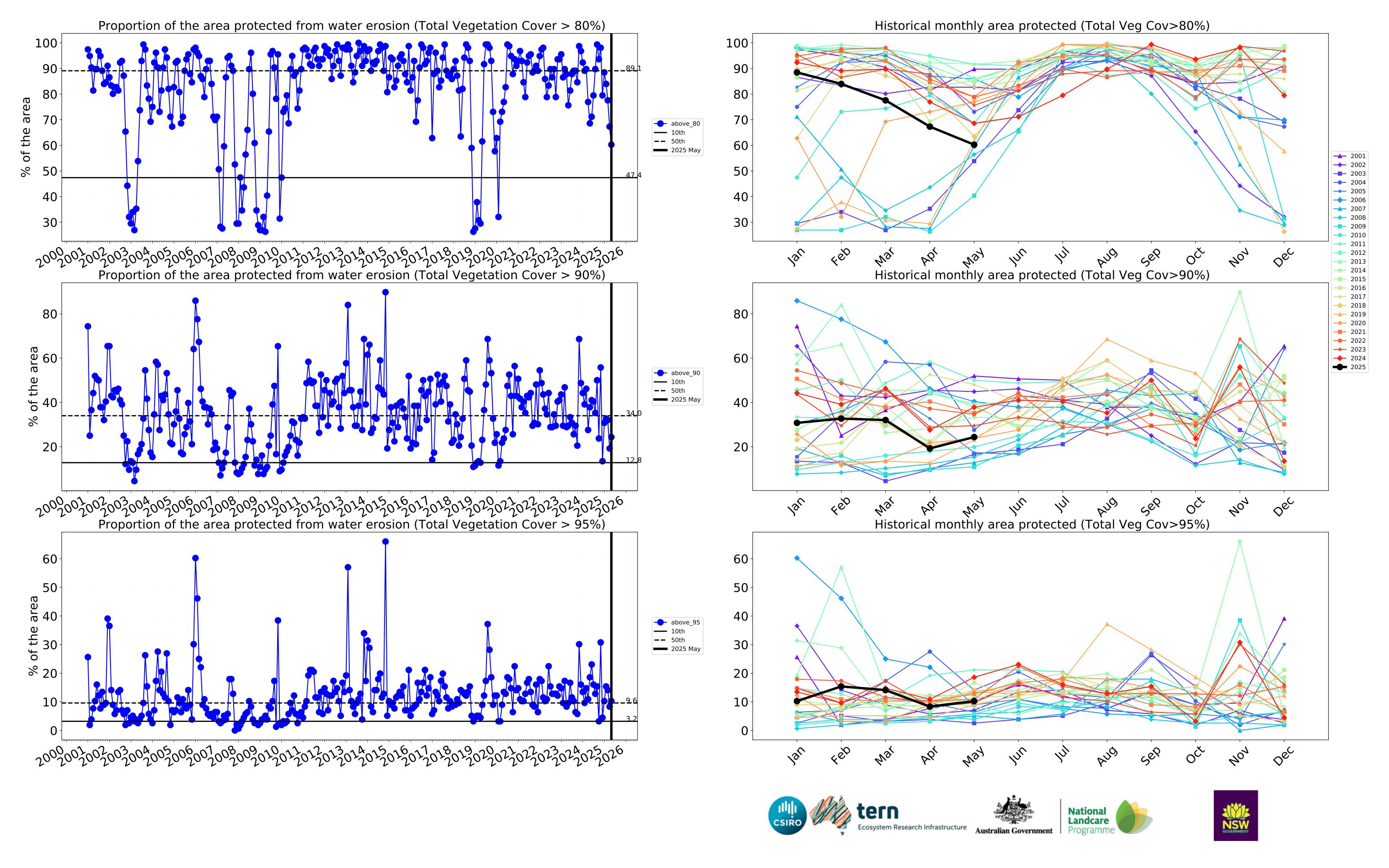
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



100 <u>99.</u>4 90 ---- above_70 80 **—** 10th **——** 50th **——** 2025 May 70 60 50 4eb Jan May In In In PQ1 Mai month tern Ecosystem Research Infrastructure Australian Government

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



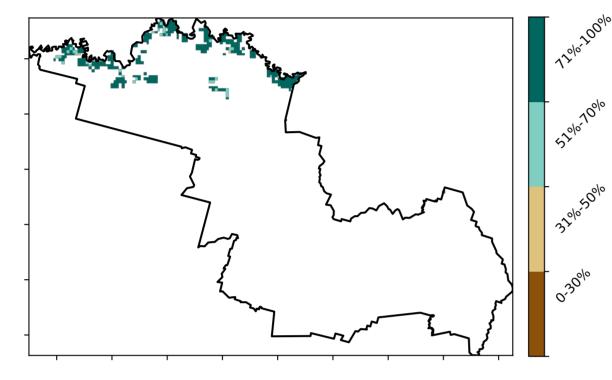


Irrigation

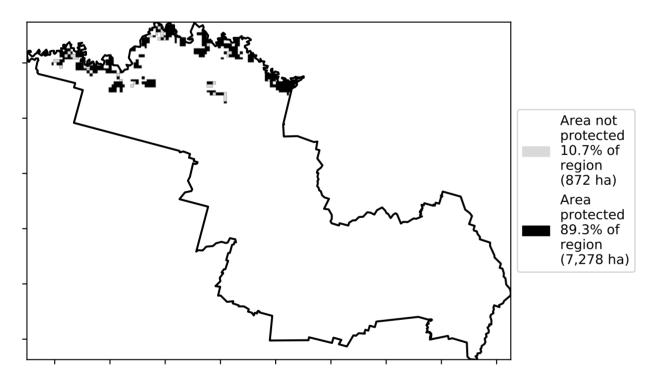
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Use of Australia (2018) and Forests of Australia (2018)

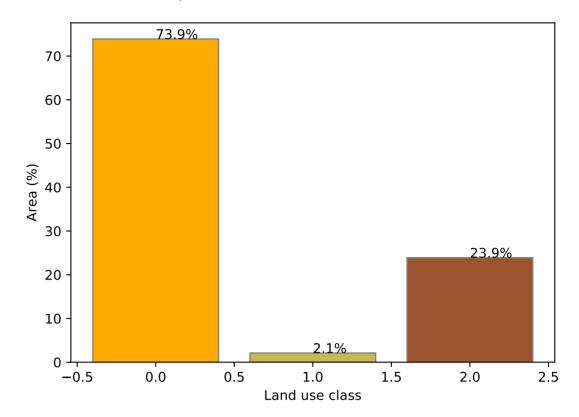
Land use and forest cover

Total Vegetation Cover [%]



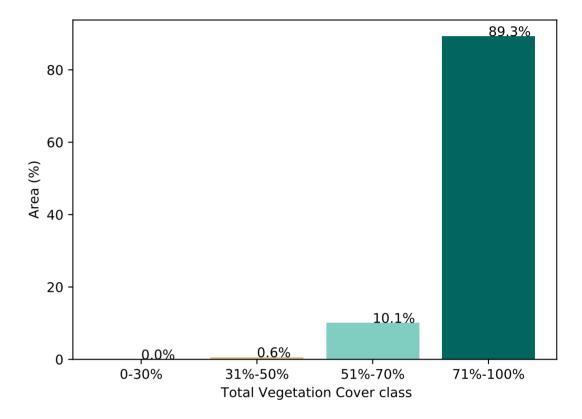
% Area protected from water erosion (>70%)



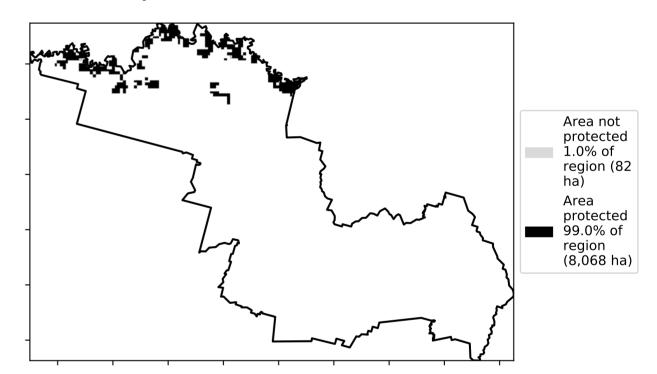


Proportion of each land class in area

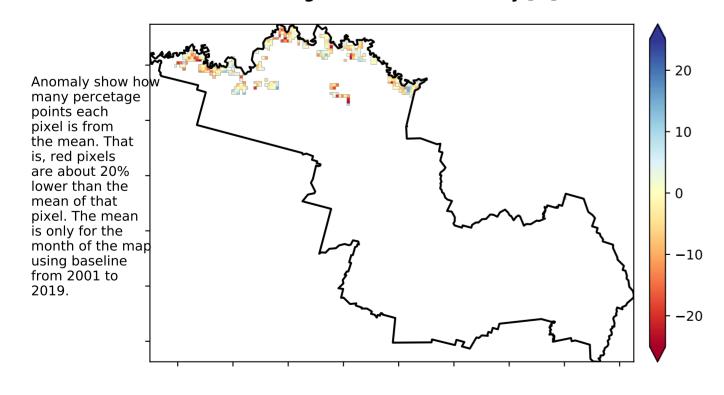
Proportion of vegetation cover class in area



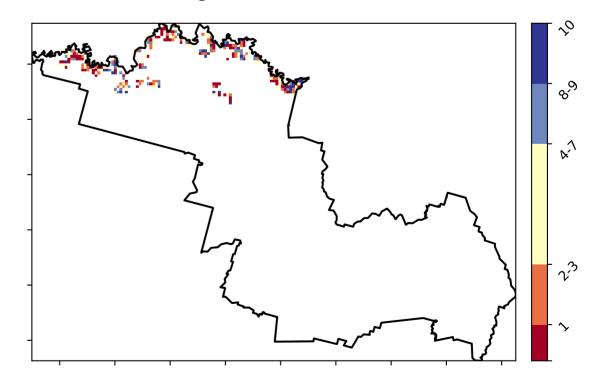
% Area protected from wind erosion (>50%)



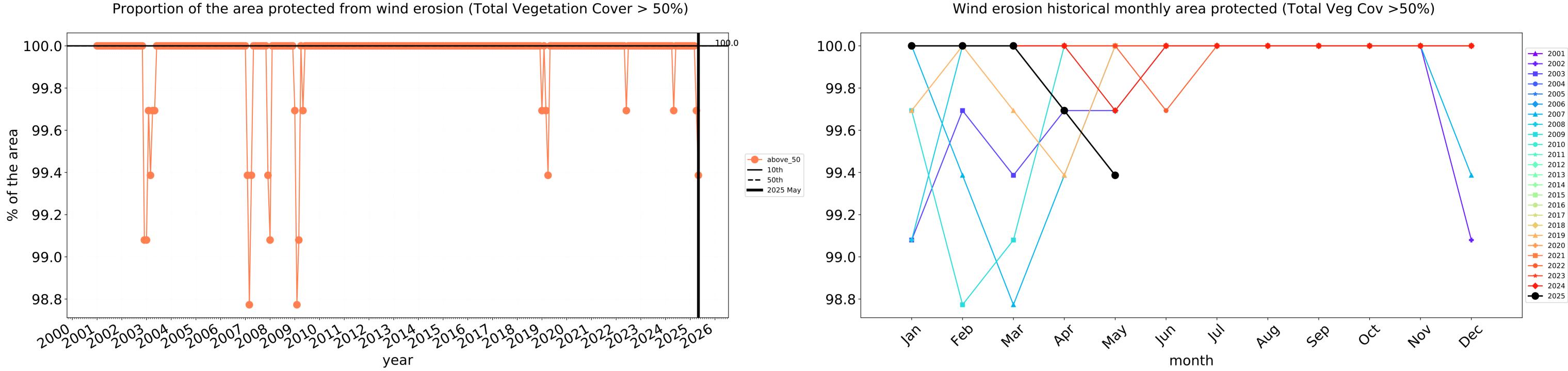
Total Vegetation Cover Anomaly [%]



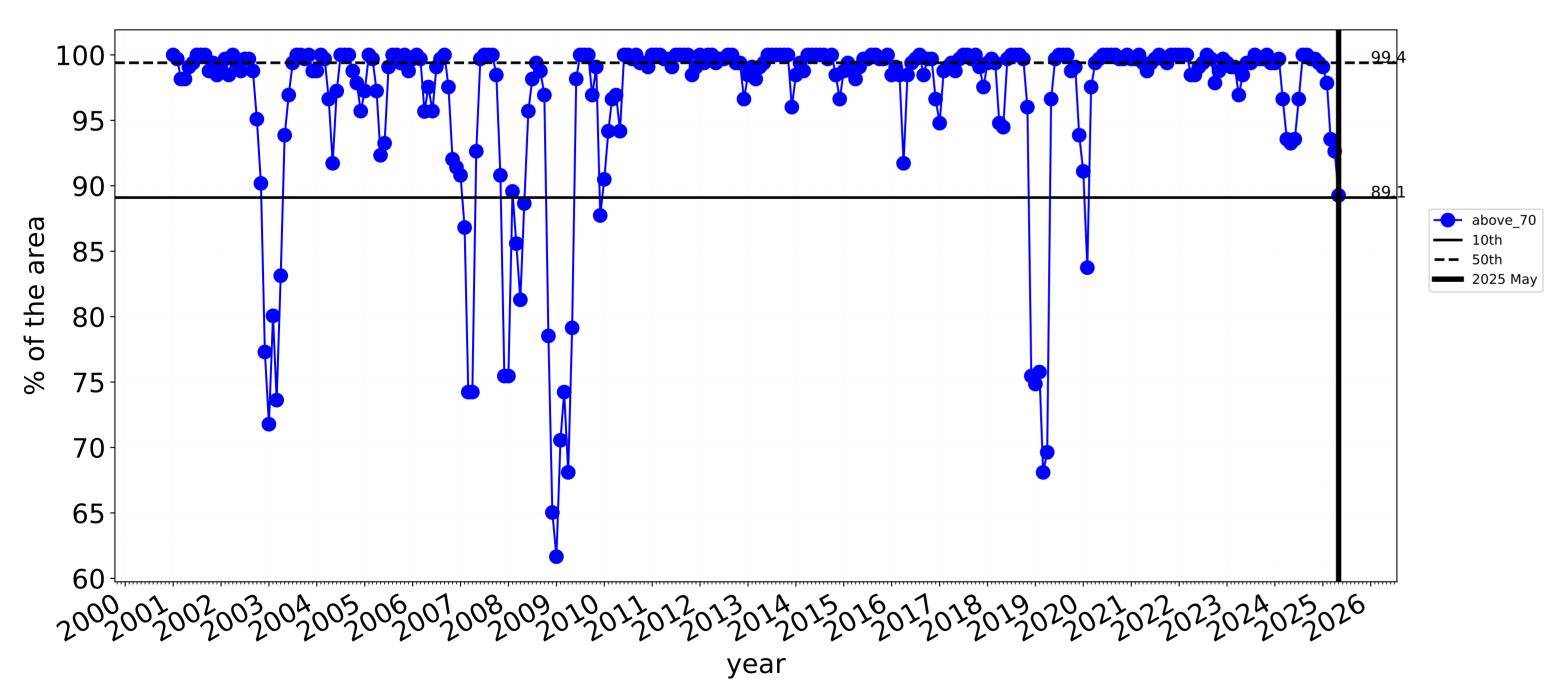
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

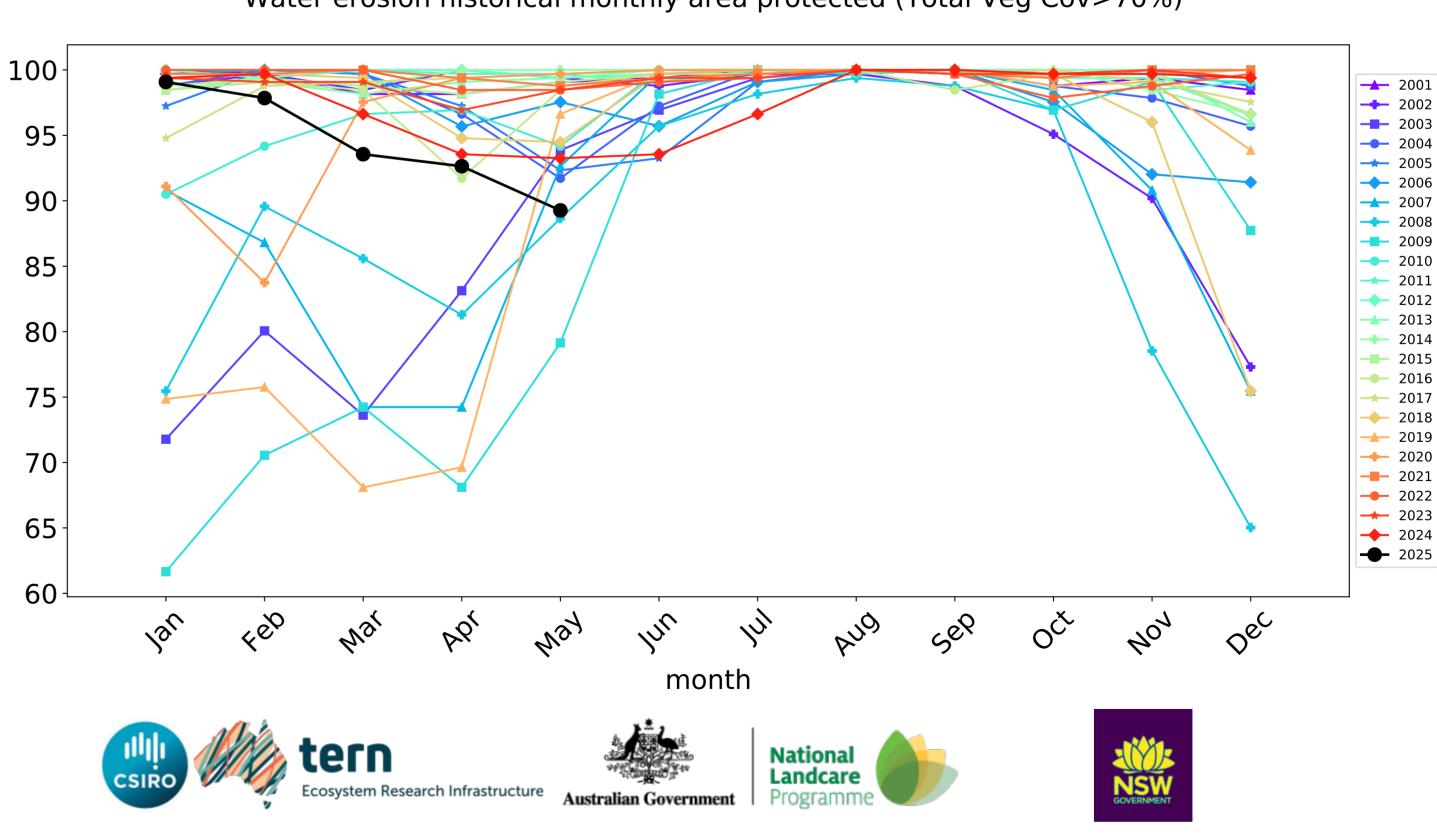




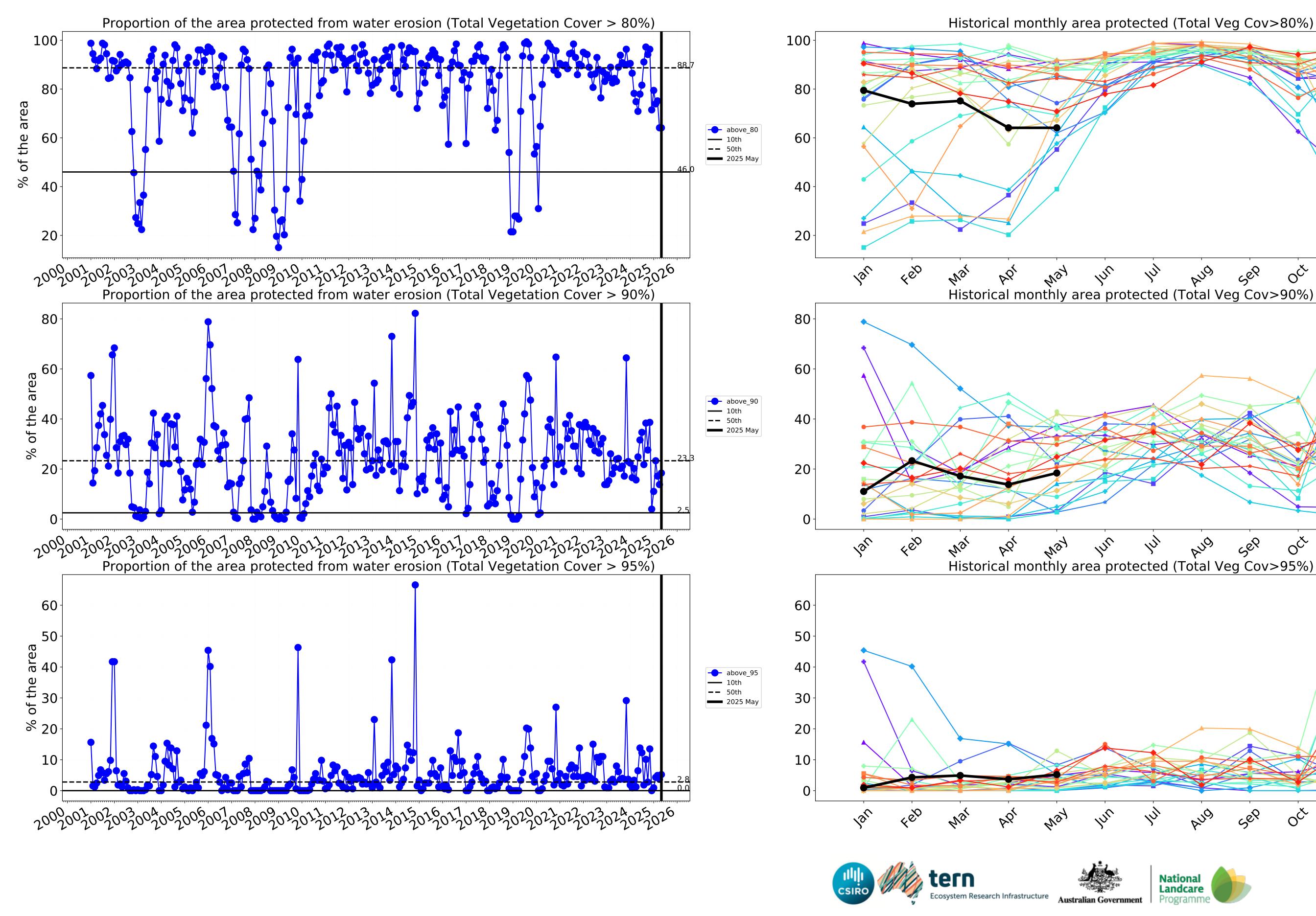


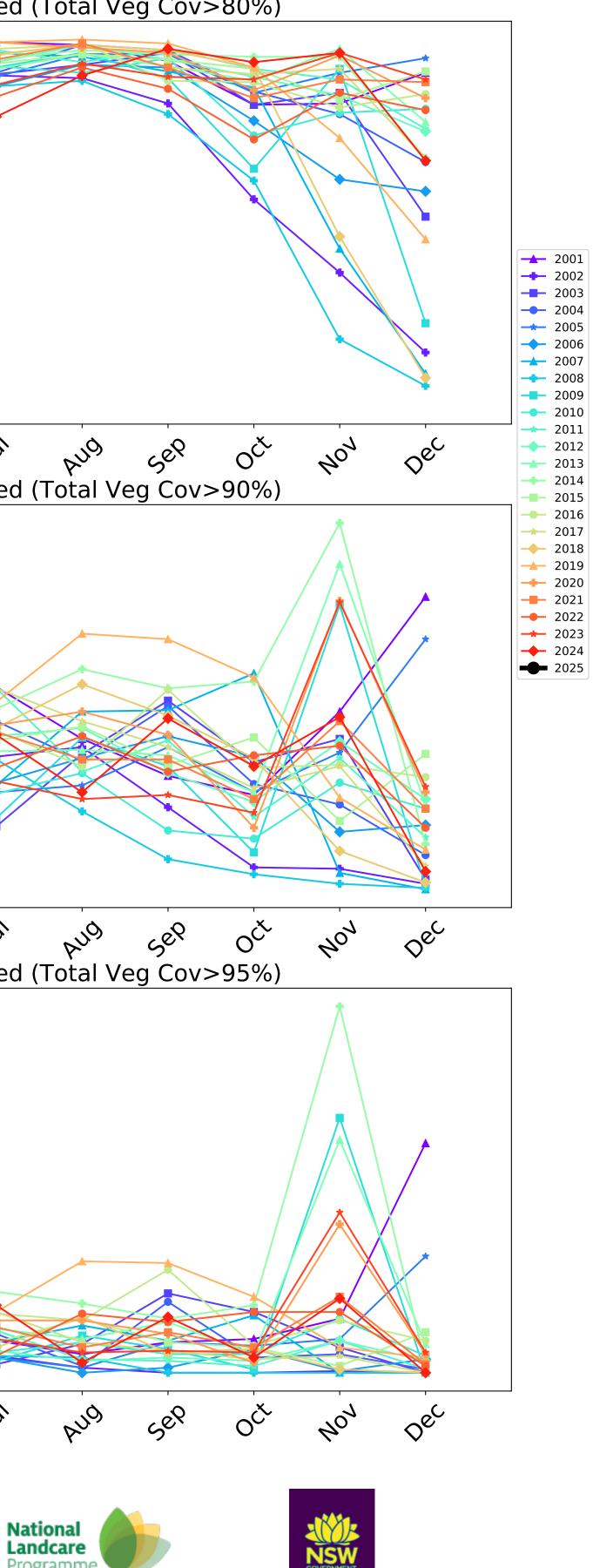
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



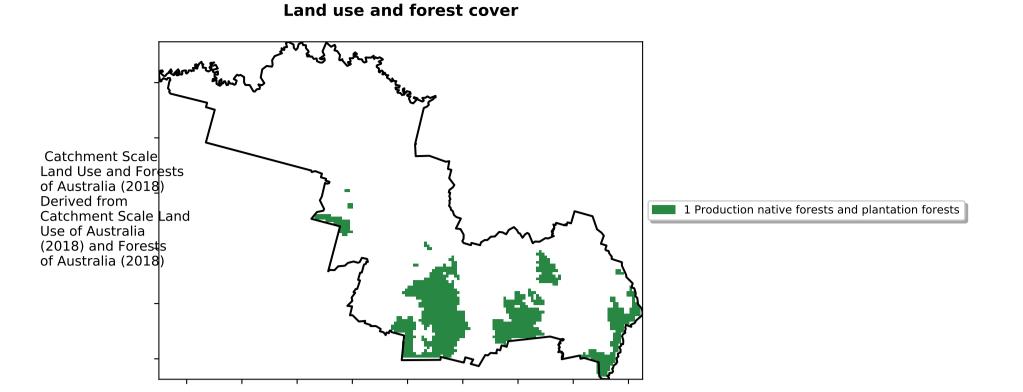


Water erosion historical monthly area protected (Total Veg Cov>70%)

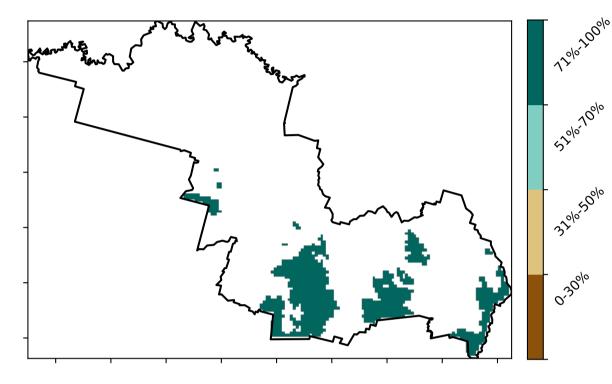




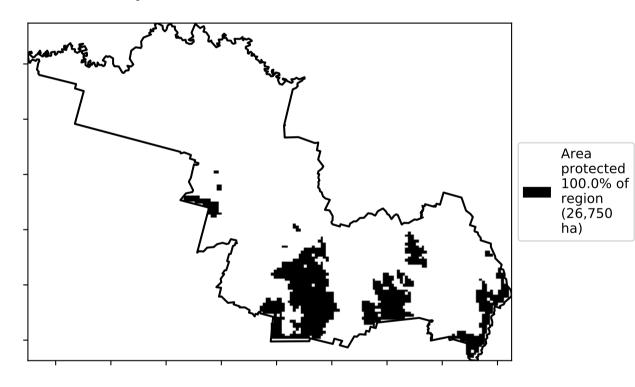
Production native forests and plantation forests



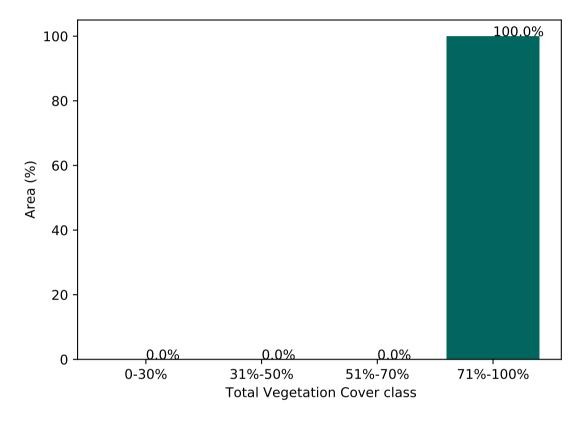
Total Vegetation Cover [%]



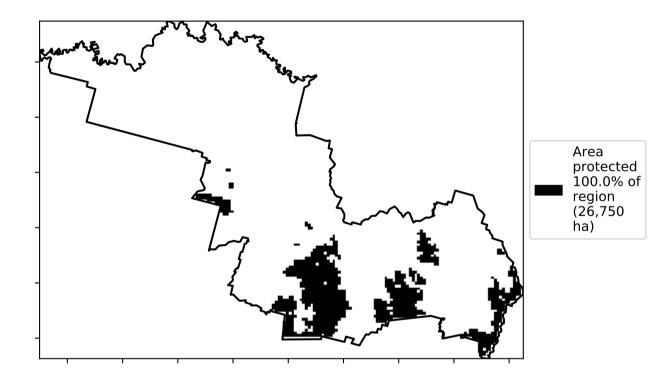
% Area protected from water erosion (>70%)



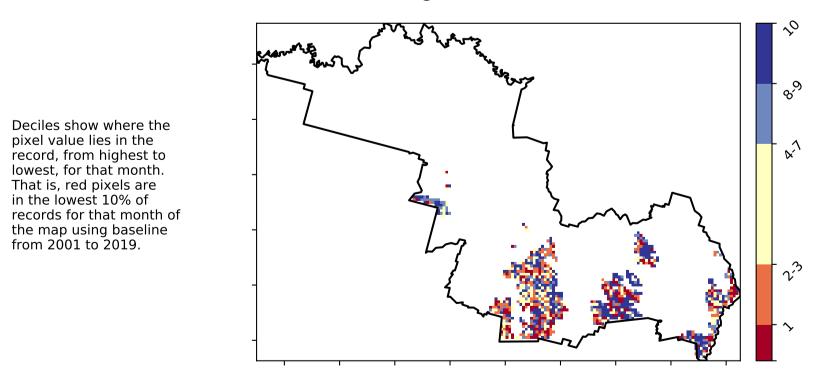
Proportion of vegetation cover class in area



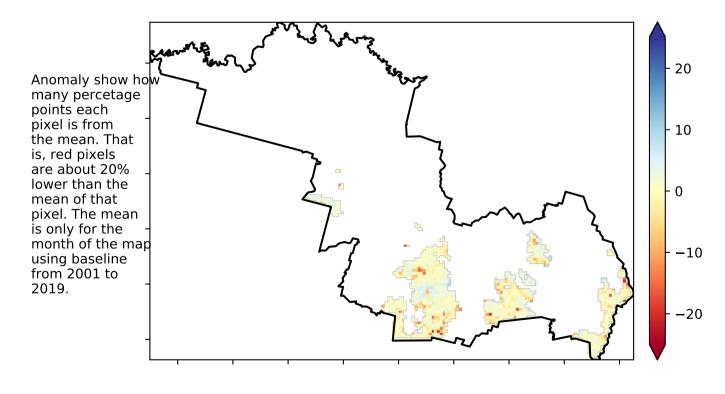
% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]

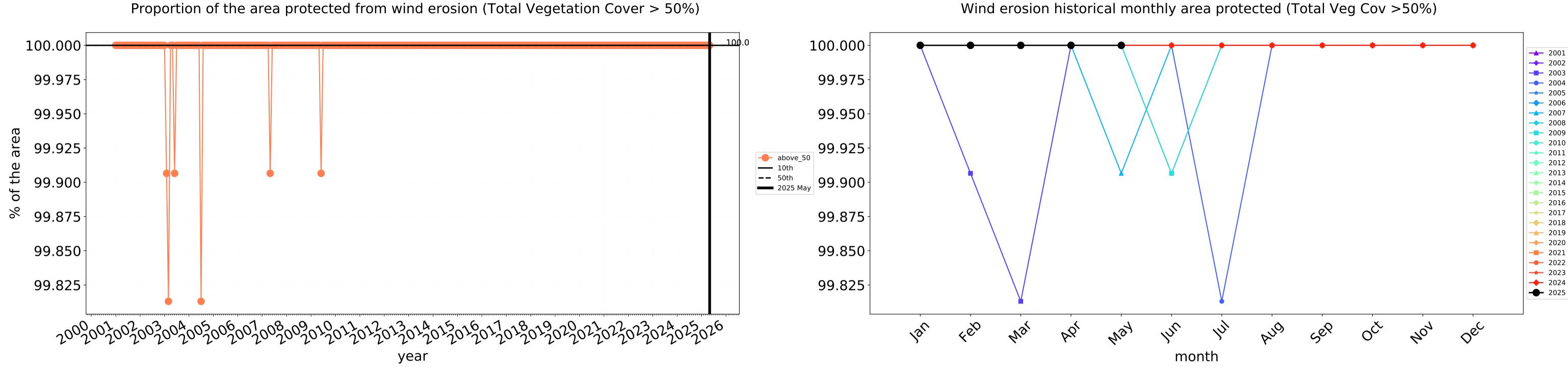


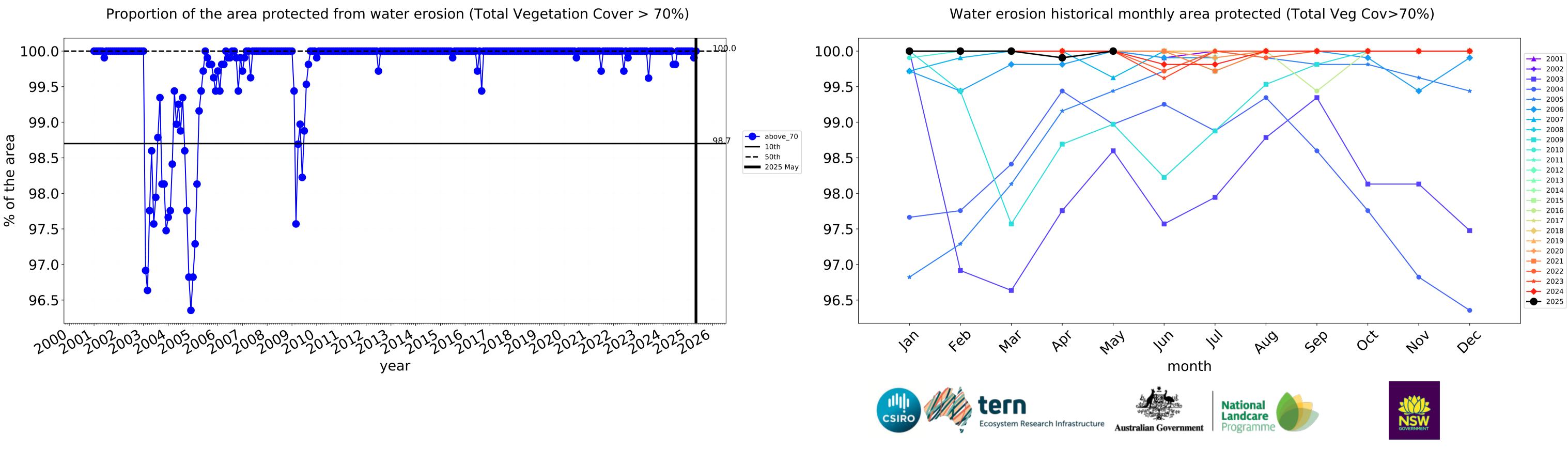
Total Vegetation Cover Anomaly [%]

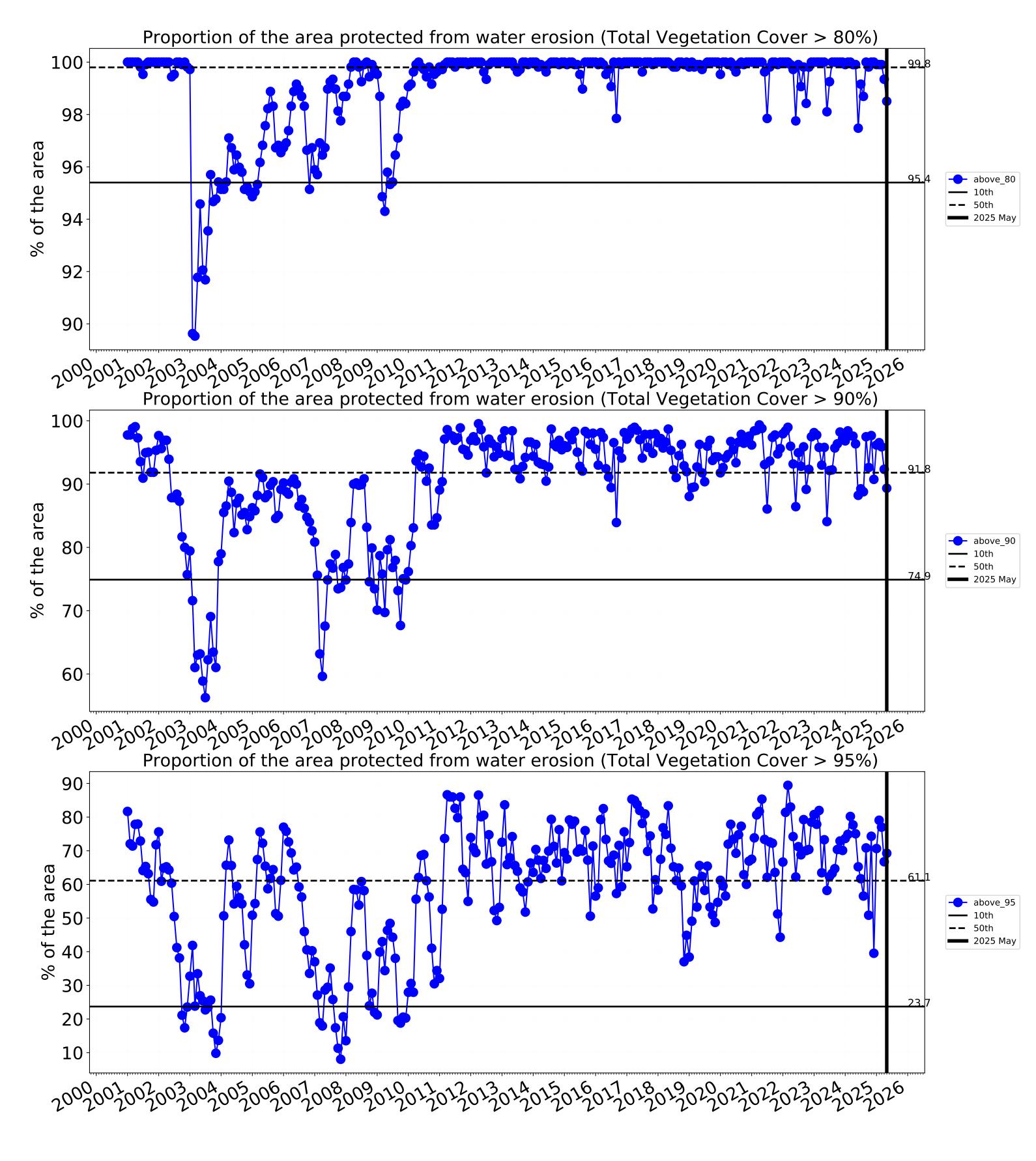


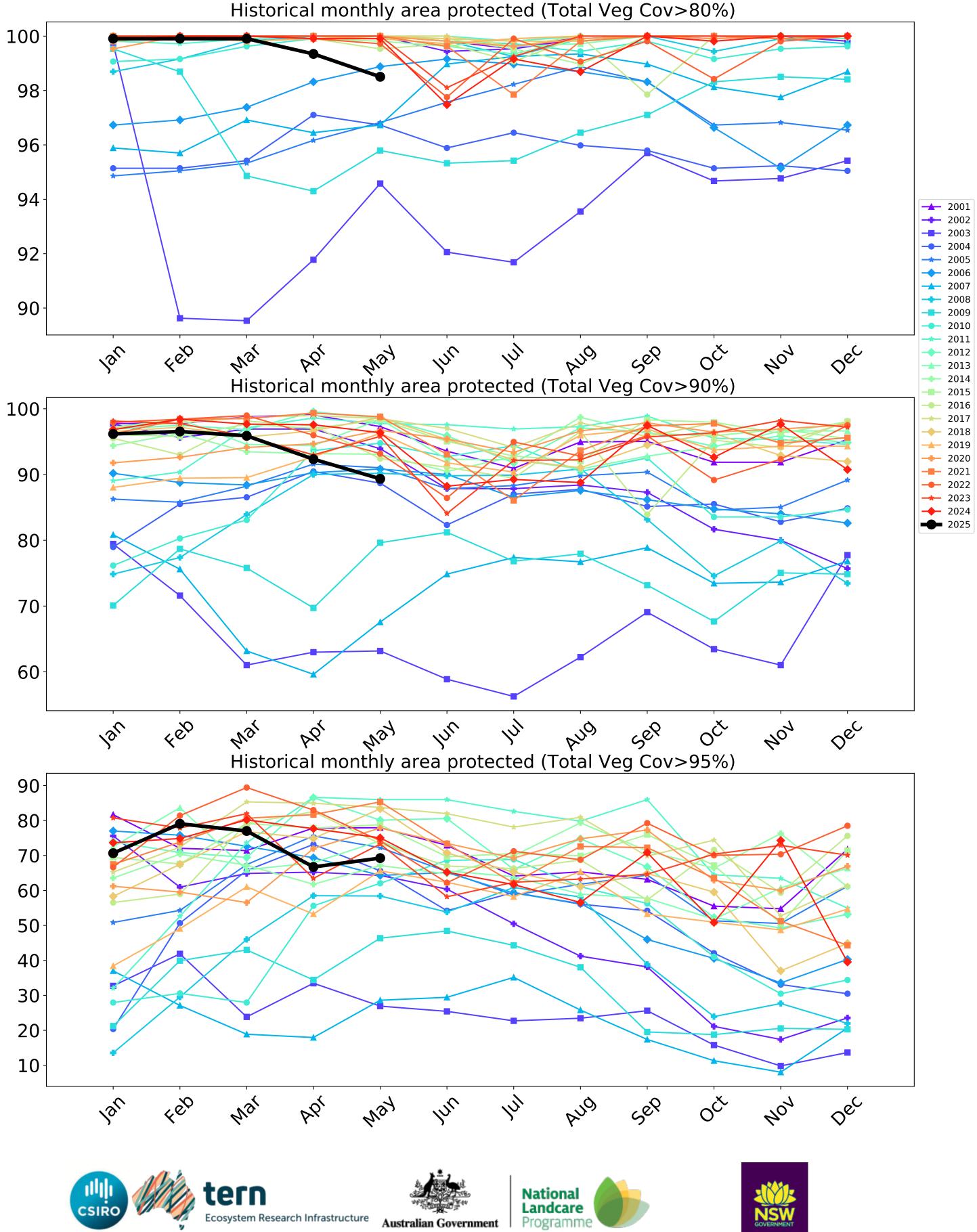


the map using baseline from 2001 to 2019.











Indigo_(S) (202,875 ha and no data 1,001 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	202,875	99.9% 202,700	99.0% 200,825	91.5% 185,700	79.3% 160,850	51.3% 104,075	31.1% 63,175
Conservation and natural environments	24,050	100.0% 24,050	100.0% 24,050	99.3% 23,875	96.9% 23,300	83.2% 20,000	61.6% 14,825
Conservation and natural environments Woodland forest	5,900	100.0% 5,900	100.0% 5,900	98.7% 5,825	94.9% 5,600	76.7% 4,525	53.0% 3,125
Conservation and natural environments Forest (non woodland)	16,675	100.0% 16,675	100.0% 16,675	100.0% 16,675	98.7% 16,450	88.0% 14,675	67.8% 11,300
Agriculture	133,950	99.9% 133,825	98.6% 132,025	88.2% 118,200	72.2% 96,775	39.3% 52,650	19.9% 26,675
Grazing	115,275	99.9% 115,200	98.9% 114,000	90.1% 103,875	75.4% 86,875	42.7% 49,200	22.0% 25,375
Grazing non forest	105,525	99.9% 105,450	98.8% 104,250	89.3% 94,200	73.4% 77,475	39.9% 42,100	19.7% 20,825
Grazing Woodland forest	2,350	100.0% 2,350	100.0% 2,350	100.0% 2,350	95.7% 2,250	71.3% 1,675	42.6% 1,000
Grazing - Forest (non woodland)	7,400	100.0% 7,400	100.0% 7,400	99.0% 7,325	96.6% 7,150	73.3% 5,425	48.0% 3,550
Cropping	6,625	99.2% 6,575	93.2% 6,175	58.1% 3,850	35.1% 2,325	15.1% 1,000	7.2% 475
Horticulture	3,900	100.0% 3,900	96.2% 3,750	82.1% 3,200	60.3% 2,350	24.4% 950	10.3% 400
Irrigation	8,150	100.0% 8,150	99.4% 8,100	89.3% 7,275	64.1% 5,225	18.4% 1,500	5.2% 425
Production native forests and plantation forests	26,750	100.0% 26,750	100.0% 26,750	100.0% 26,750	98.5% 26,350	89.3% 23,900	69.3% 18,525

