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: March 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



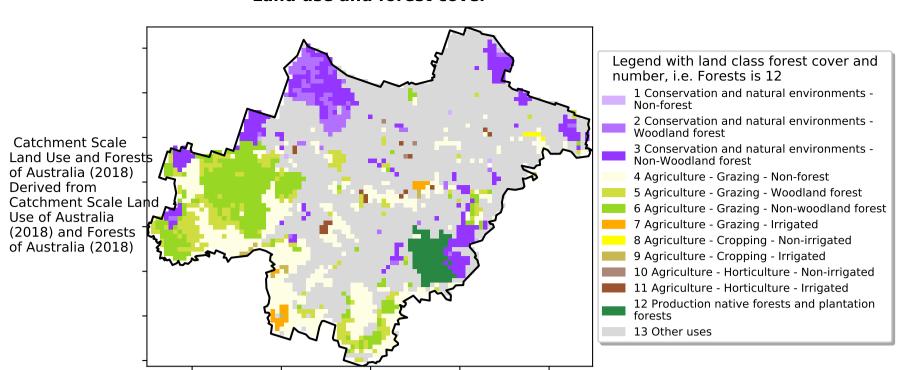




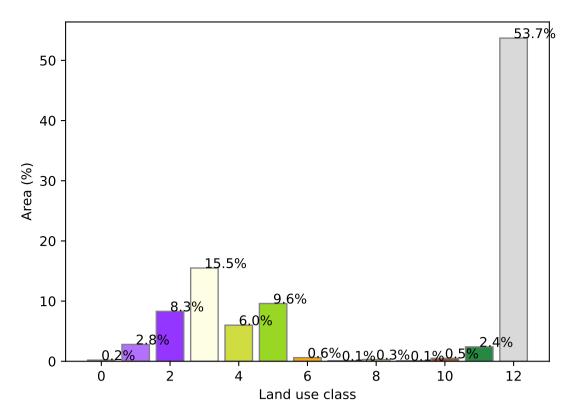


Vegetation Cover Mar 2024

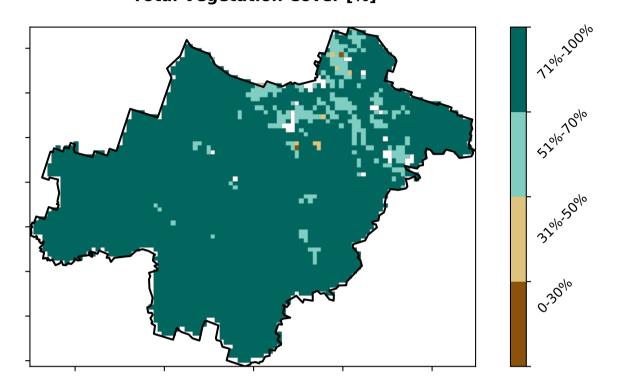
Land use and forest cover



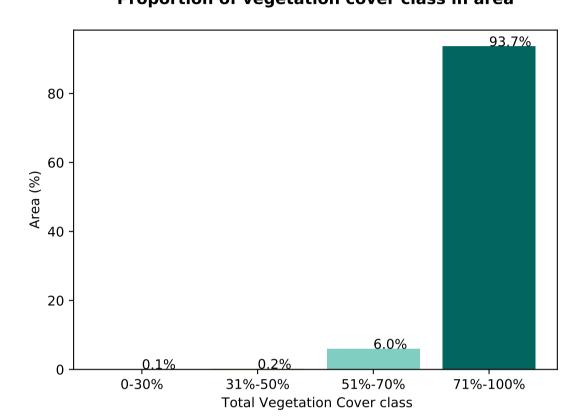
Proportion of each land class in area



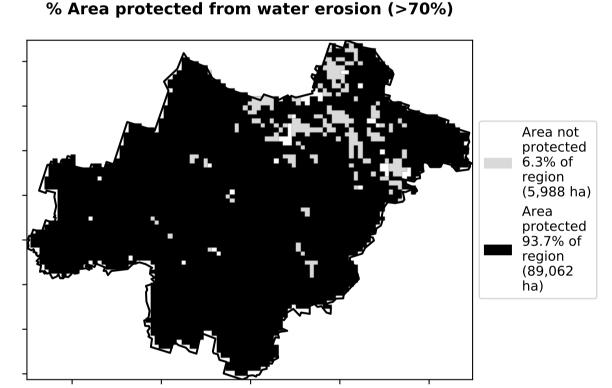
Total Vegetation Cover [%]



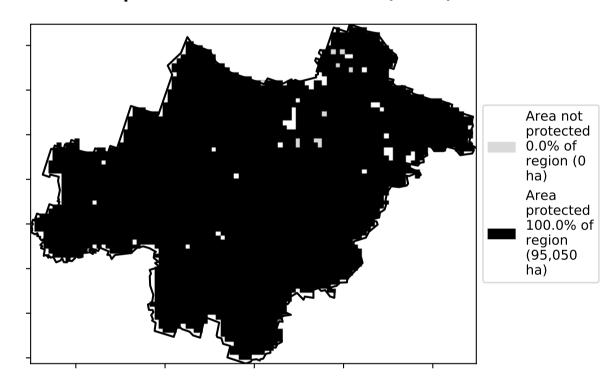
Proportion of vegetation cover class in area



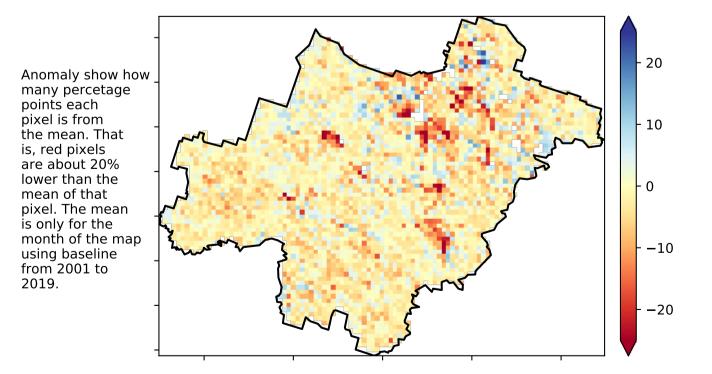
0/ Aven mysterial from water evenion (> 700/)



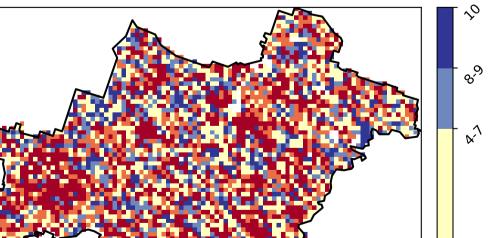
% Area protected from wind erosion (>50%)



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.



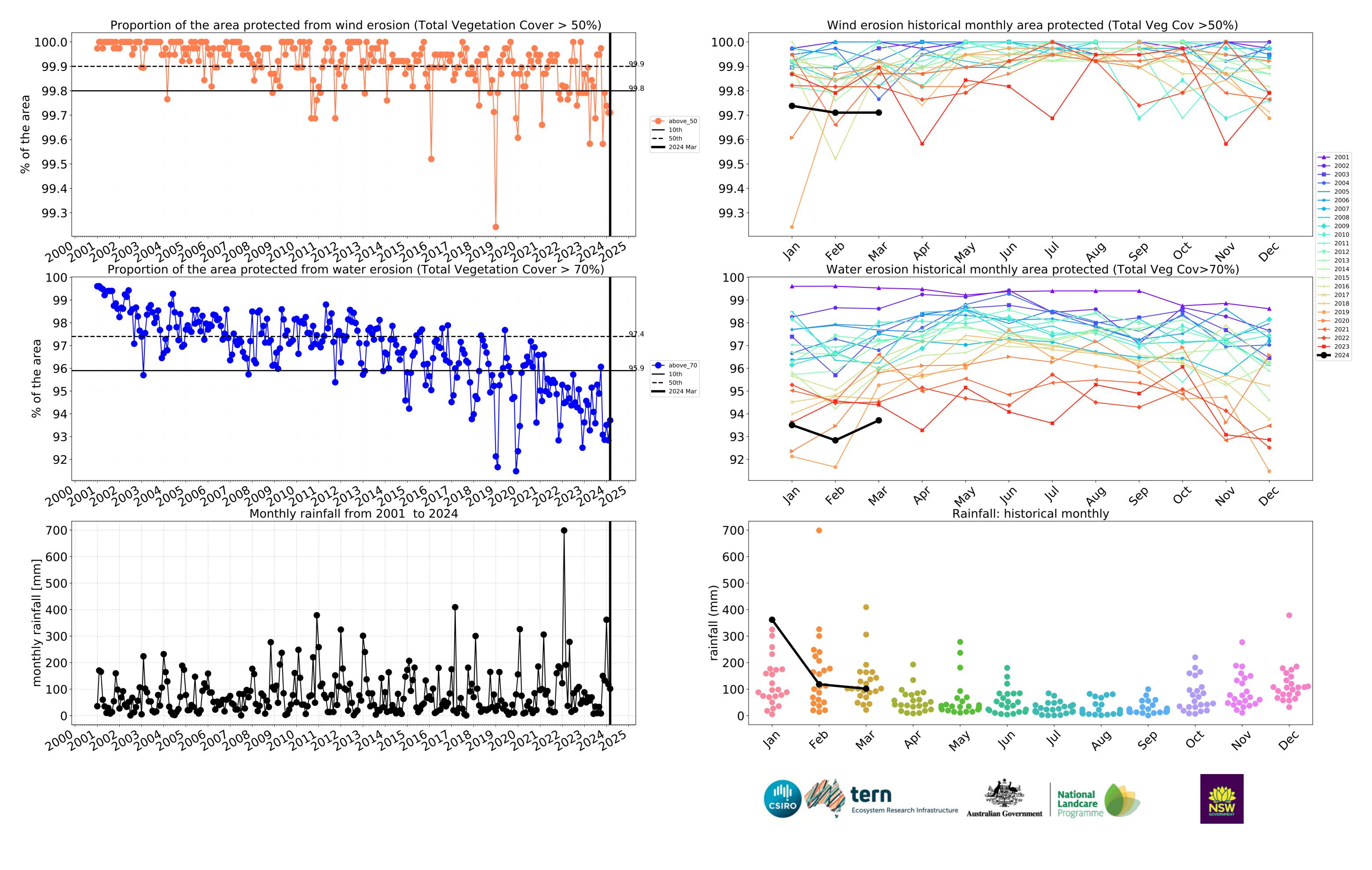
Total Vegetation Cover Decile [%]

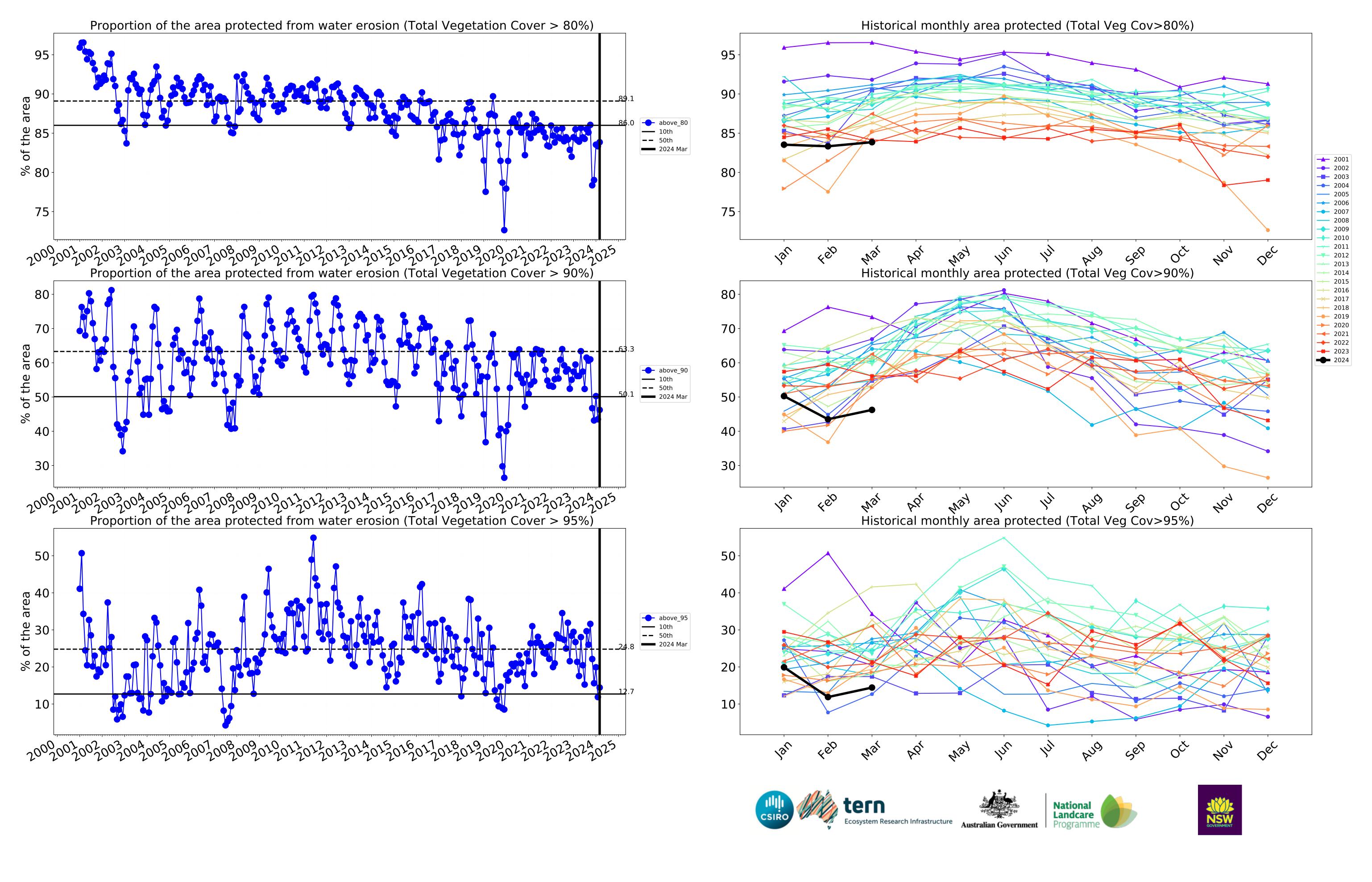




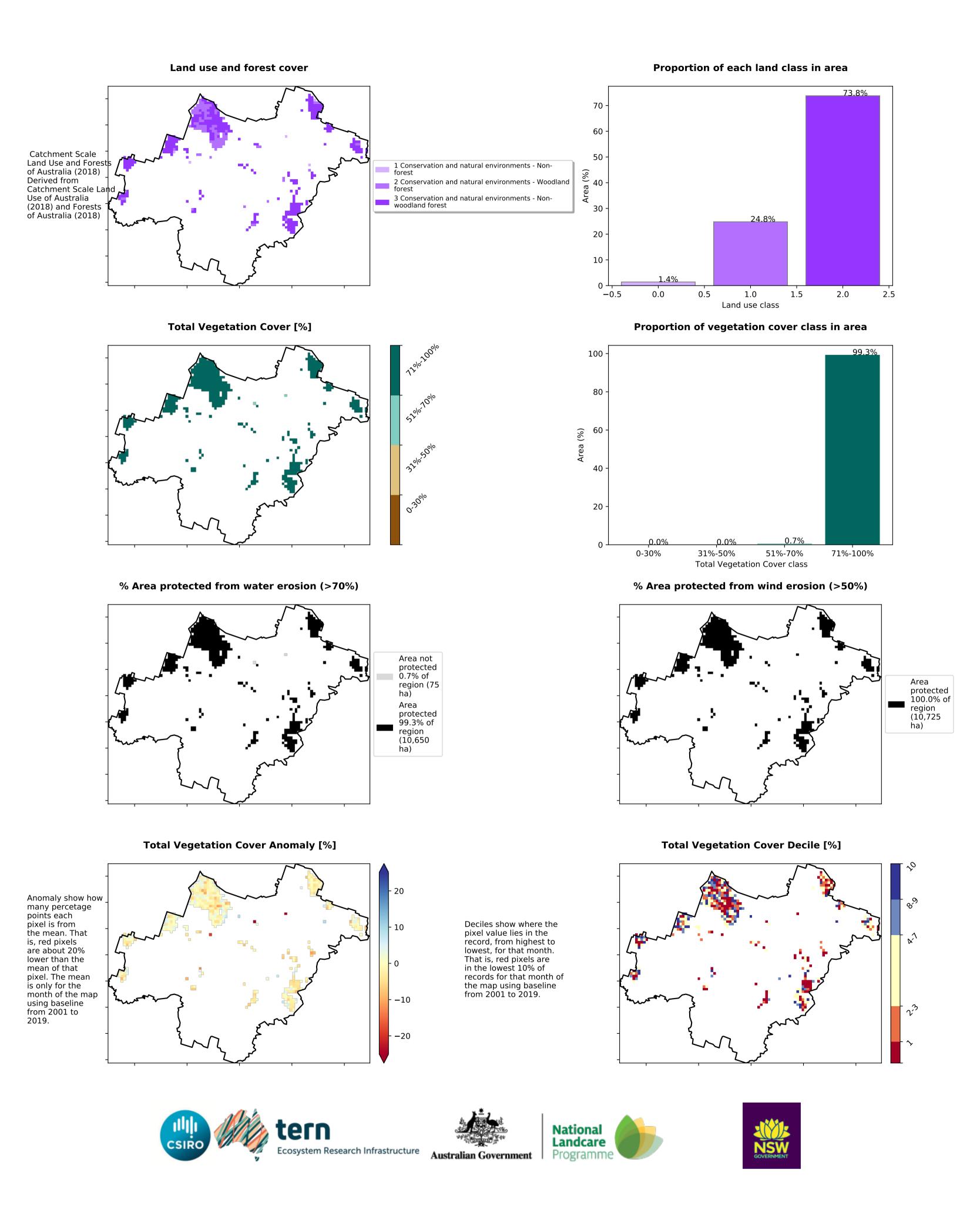




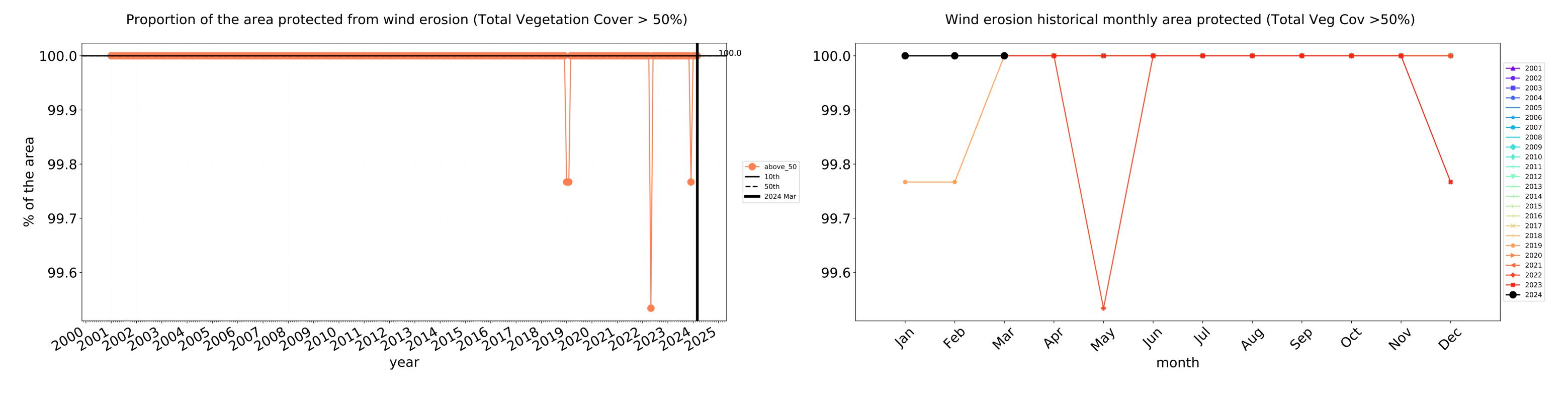


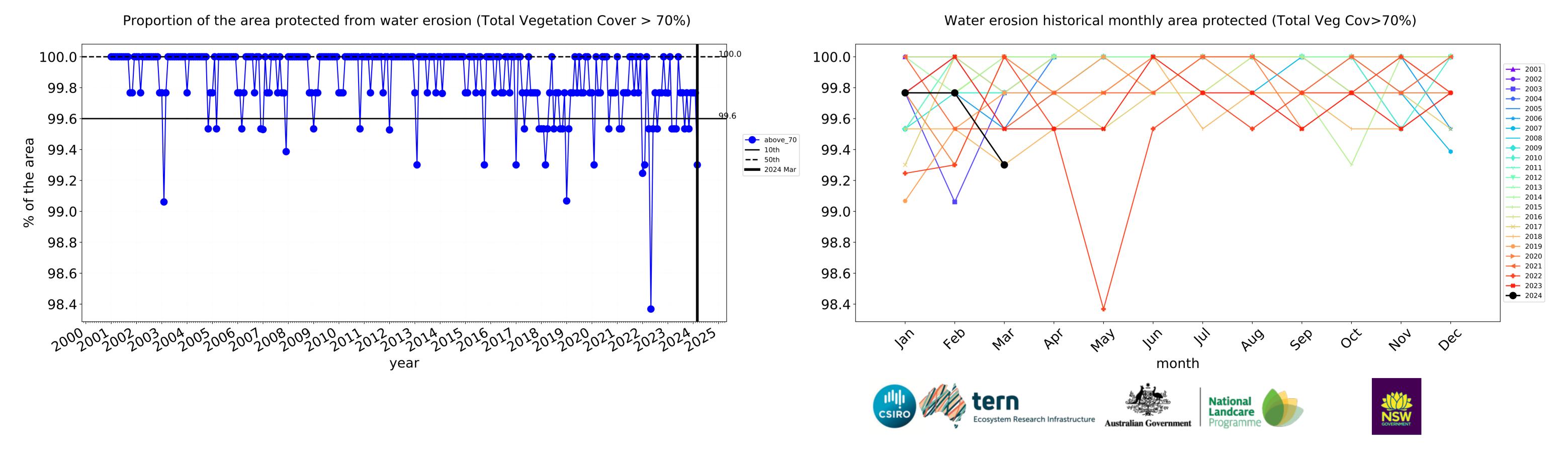


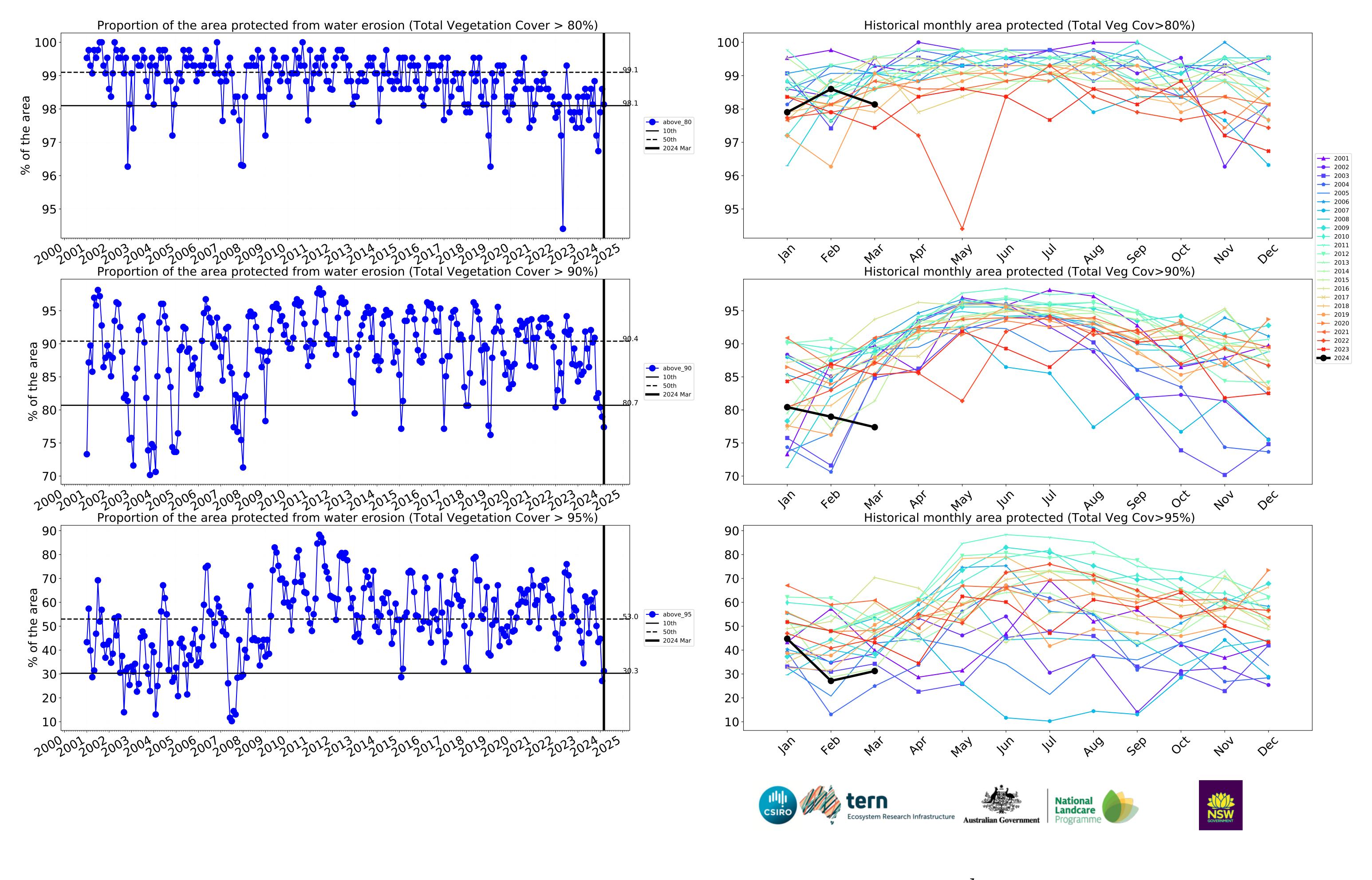
Conservation and natural environments



Conservation and natural environments timeseries



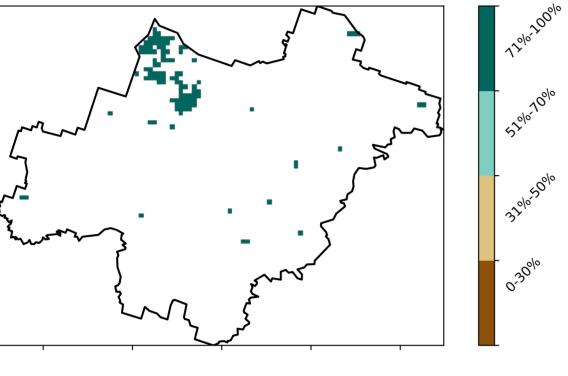


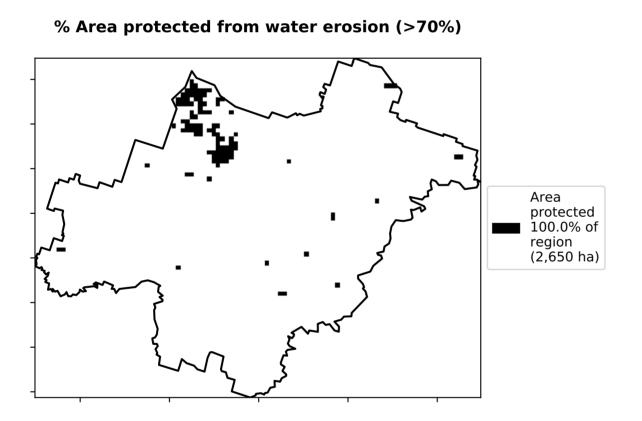


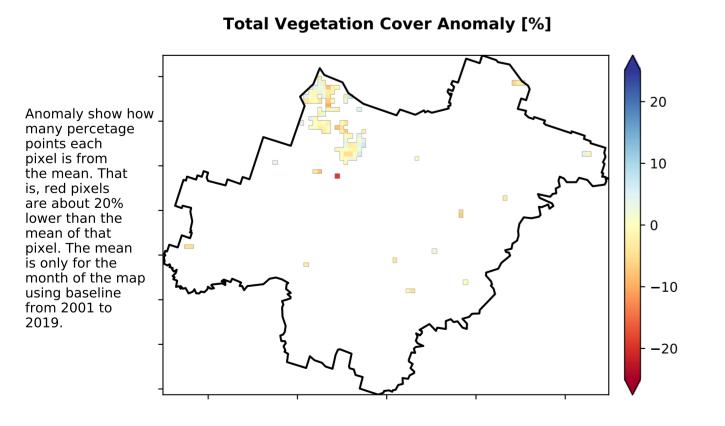
Conservation and natural environments Woodland forest

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

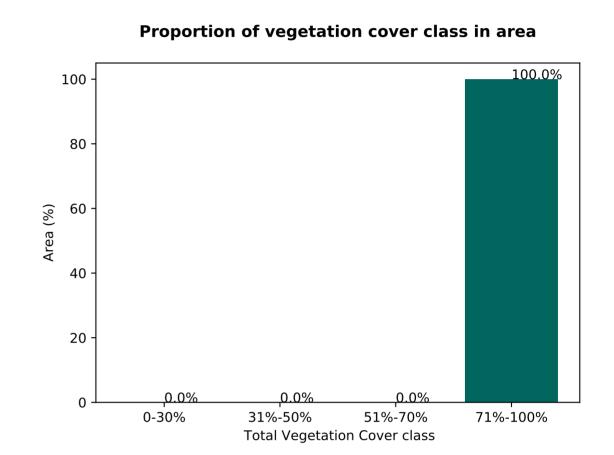
Total Vegetation Cover [%]

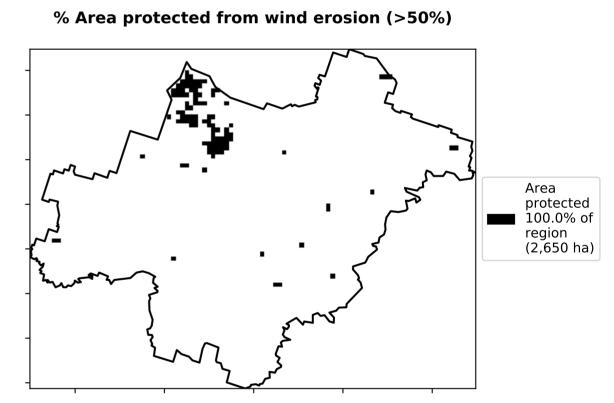


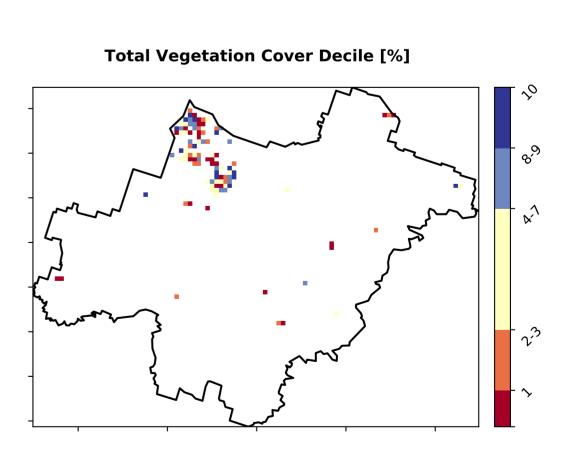




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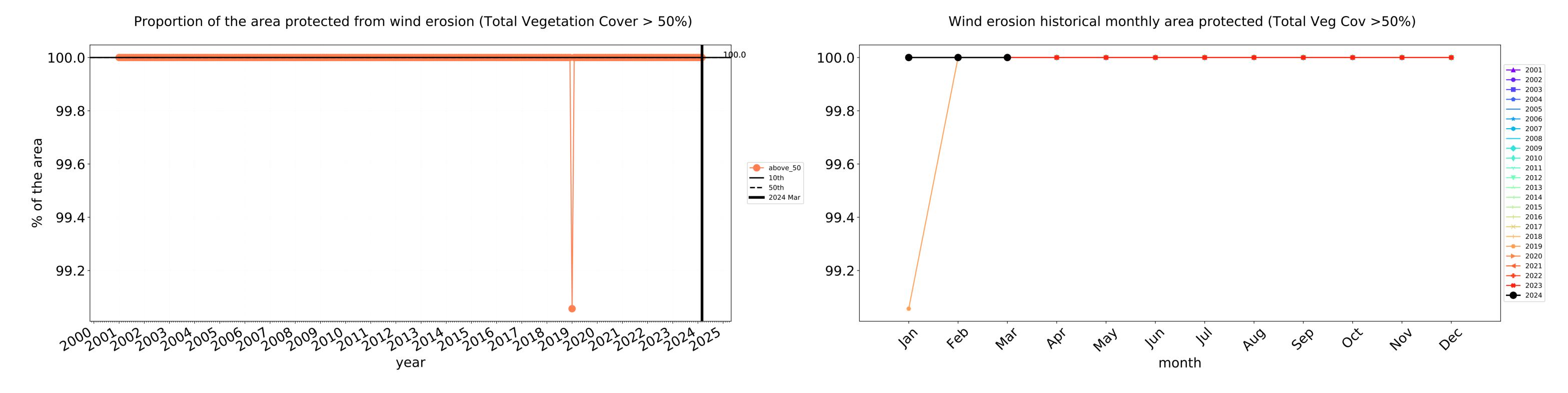


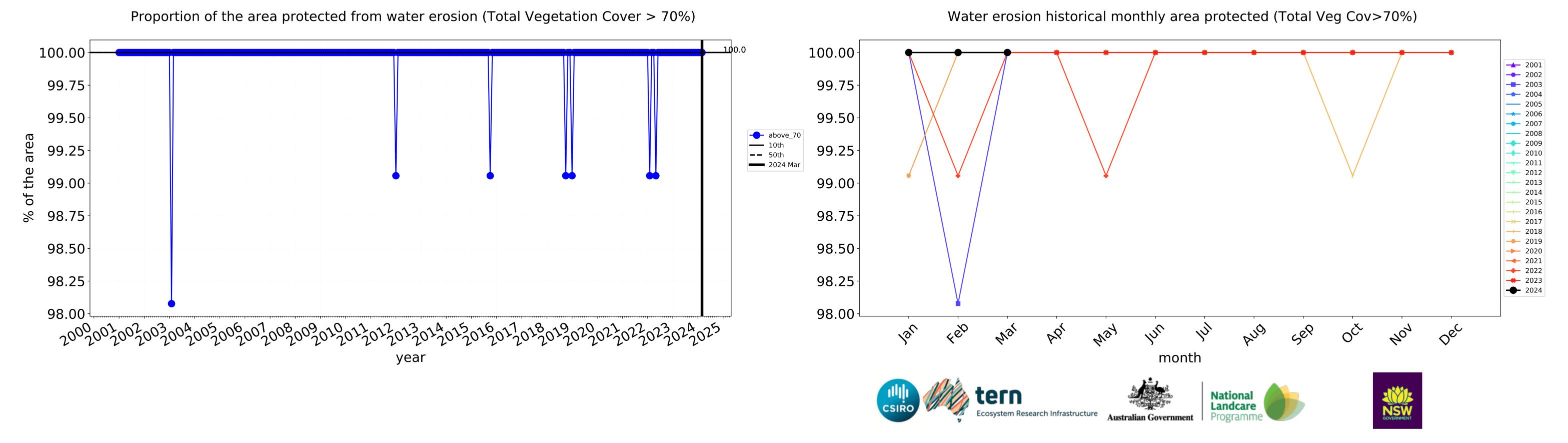


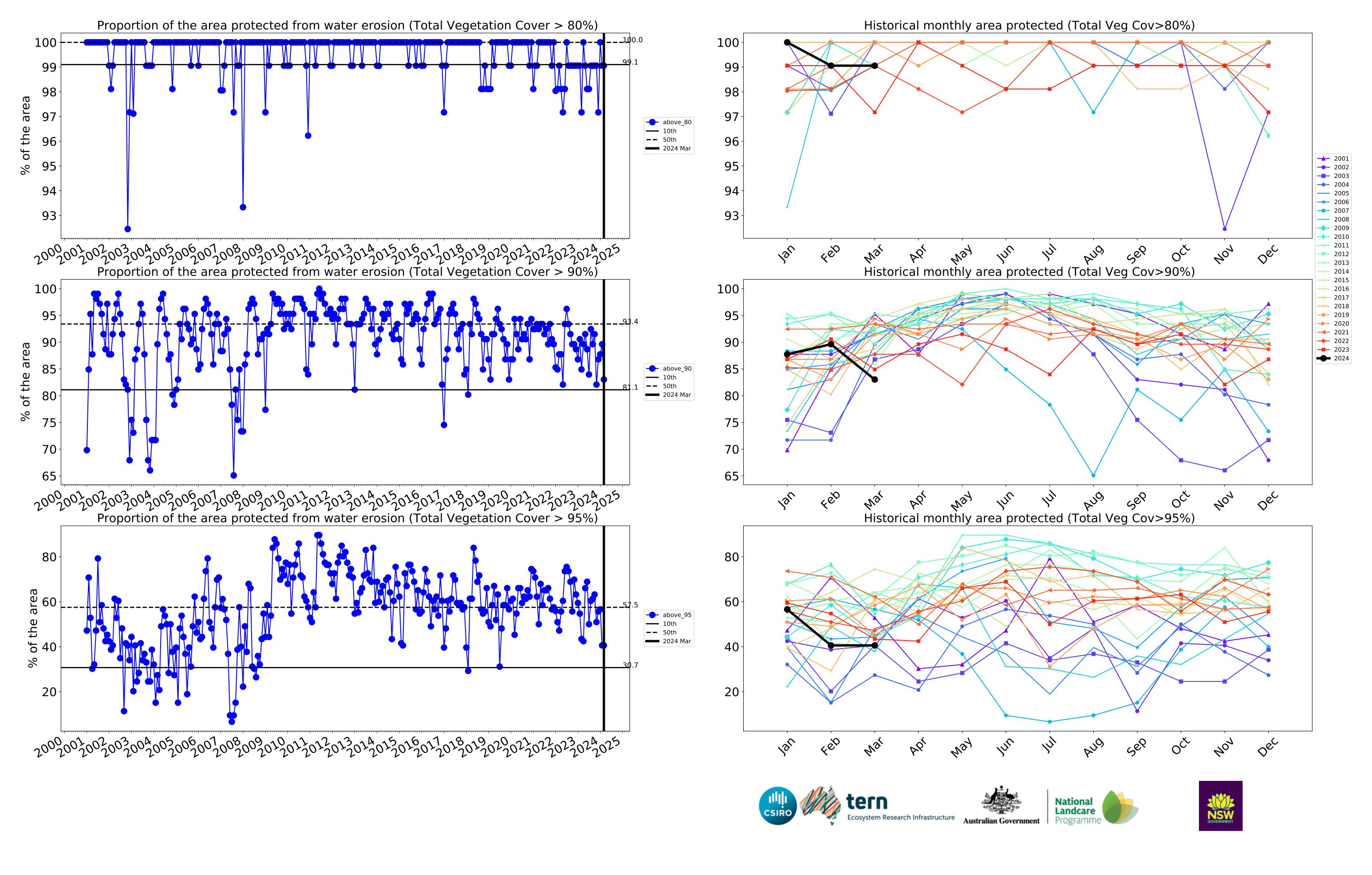




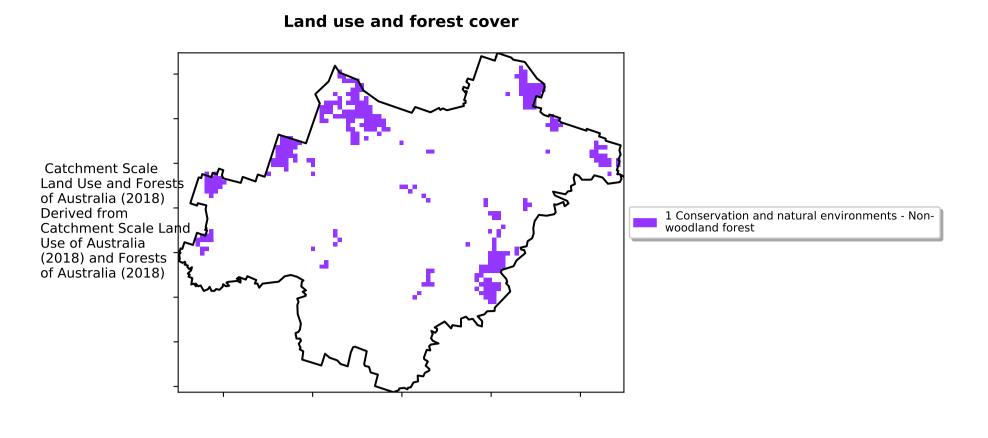




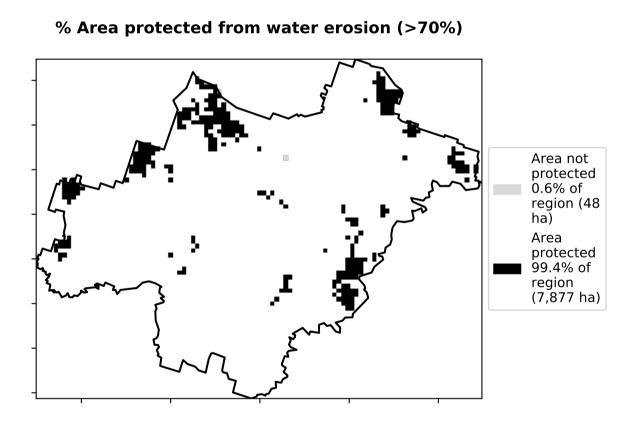


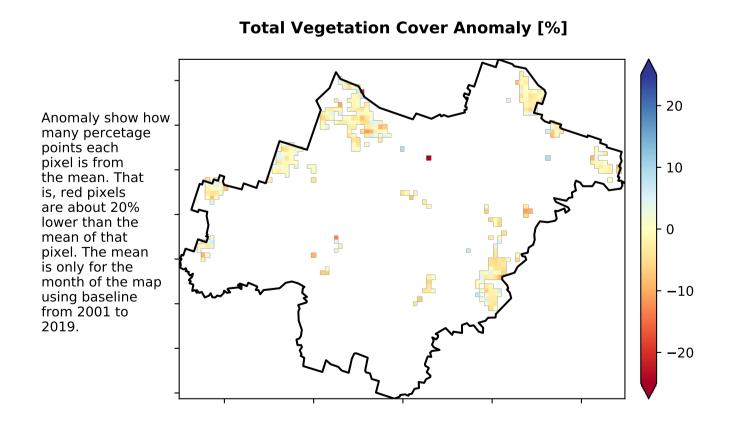


Conservation and natural environments Forest (non woodland)

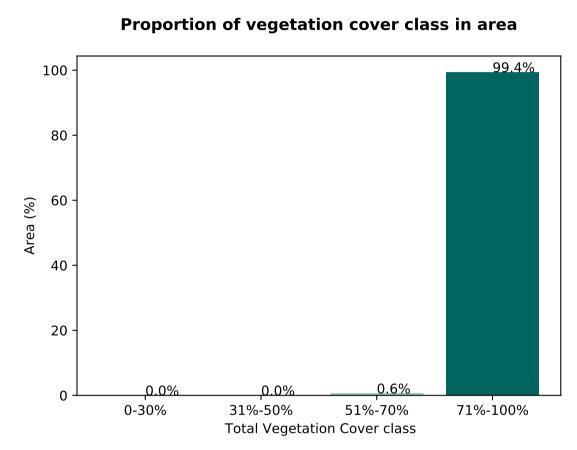


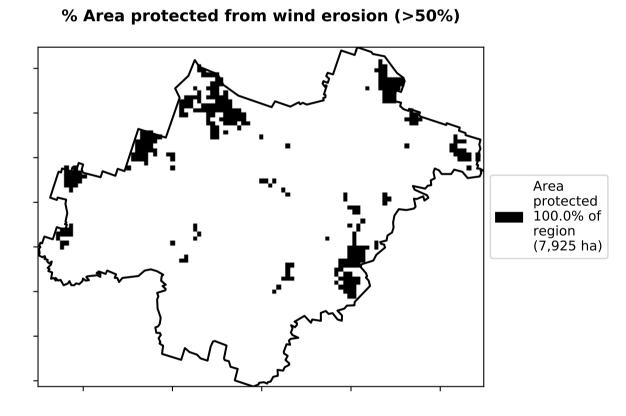
Total Vegetation Cover [%]

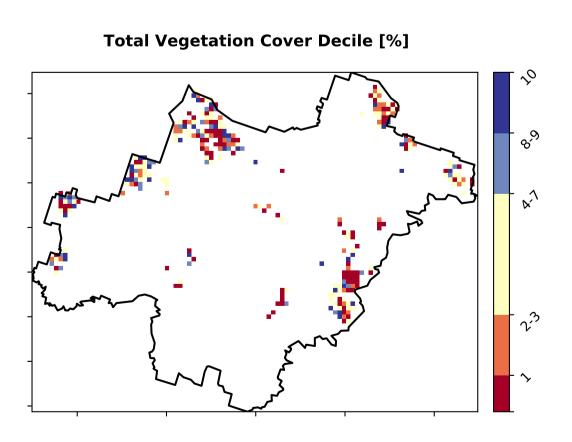




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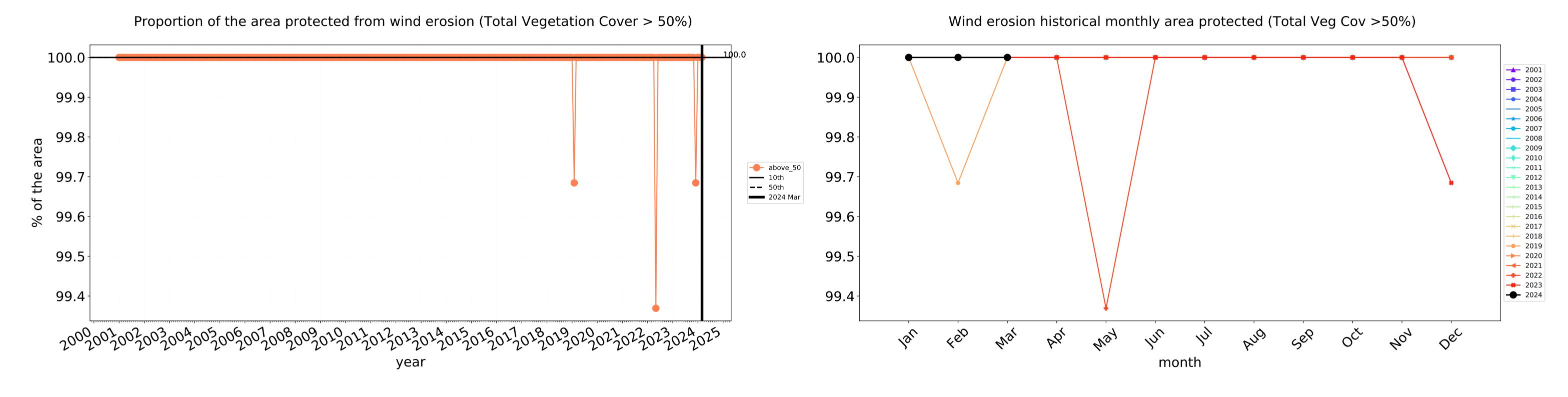


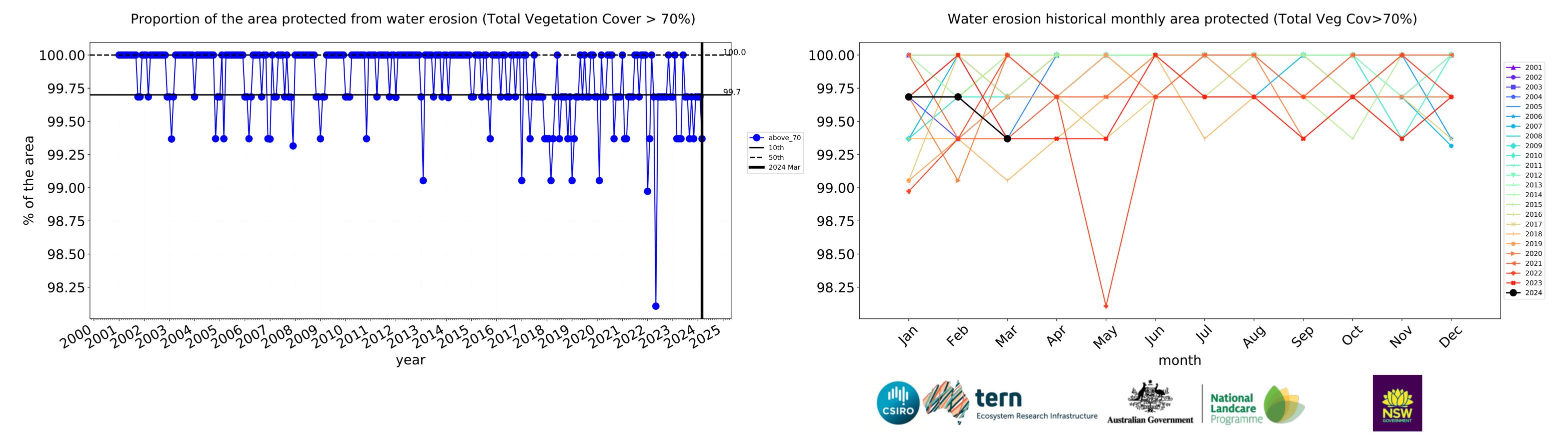


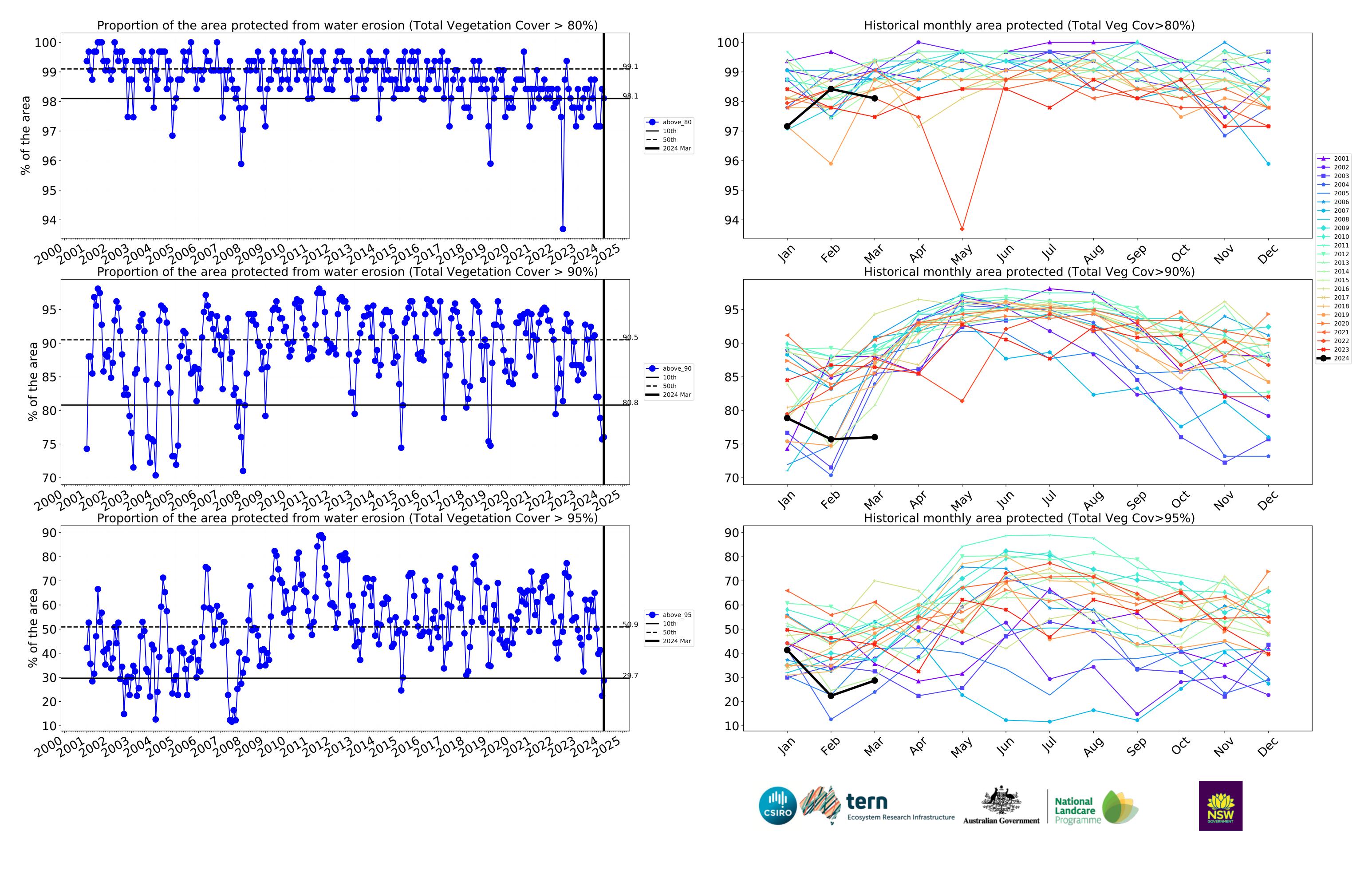




Conservation and natural environments Forest (non woodland) timeseries



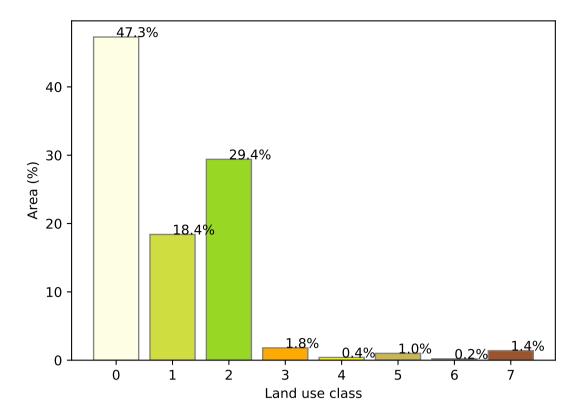




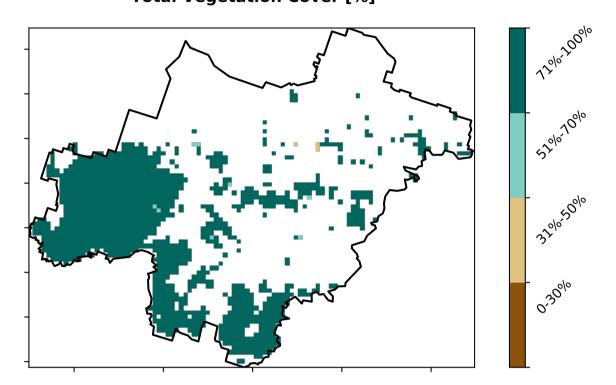
Agriculture

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) 8 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non-woodland forest 9 Agriculture - Grazing - Non-woodland forest 9 Agriculture - Cropping - Non-irrigated 9 Agriculture - Cropping - Non-irrigated 9 Agriculture - Horticulture - Non-irrigated 9 Agriculture - Horticulture - Horticulture - Irrigated 9 Agriculture - Horticulture - Irrigated

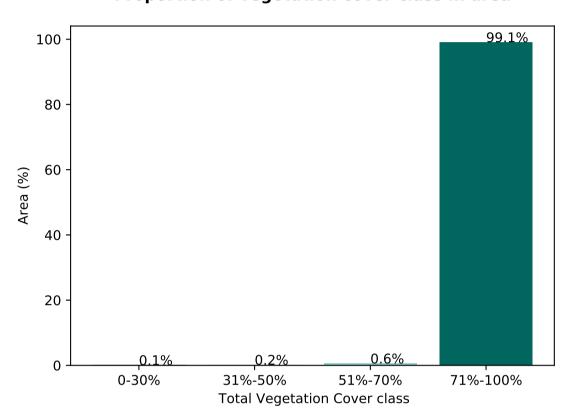
Proportion of each land class in area



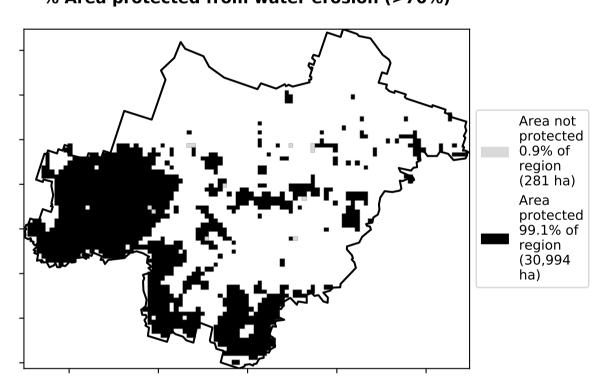
Total Vegetation Cover [%]



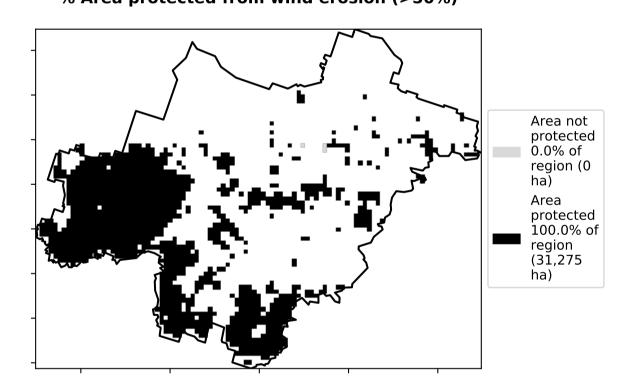
Proportion of vegetation cover class in area



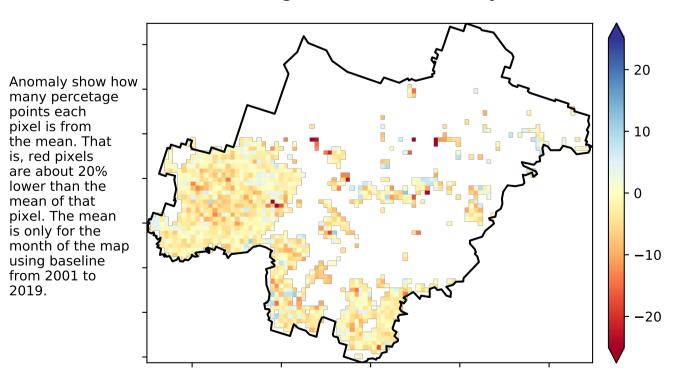
% Area protected from water erosion (>70%)



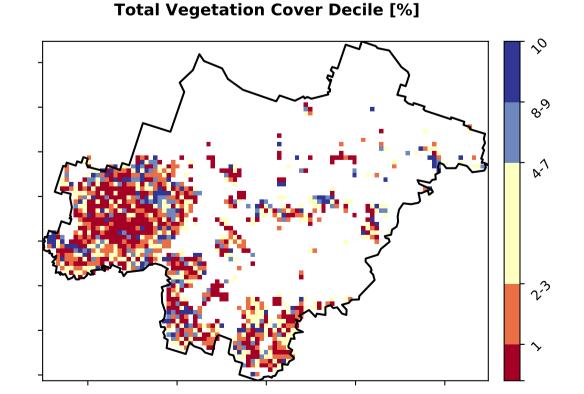
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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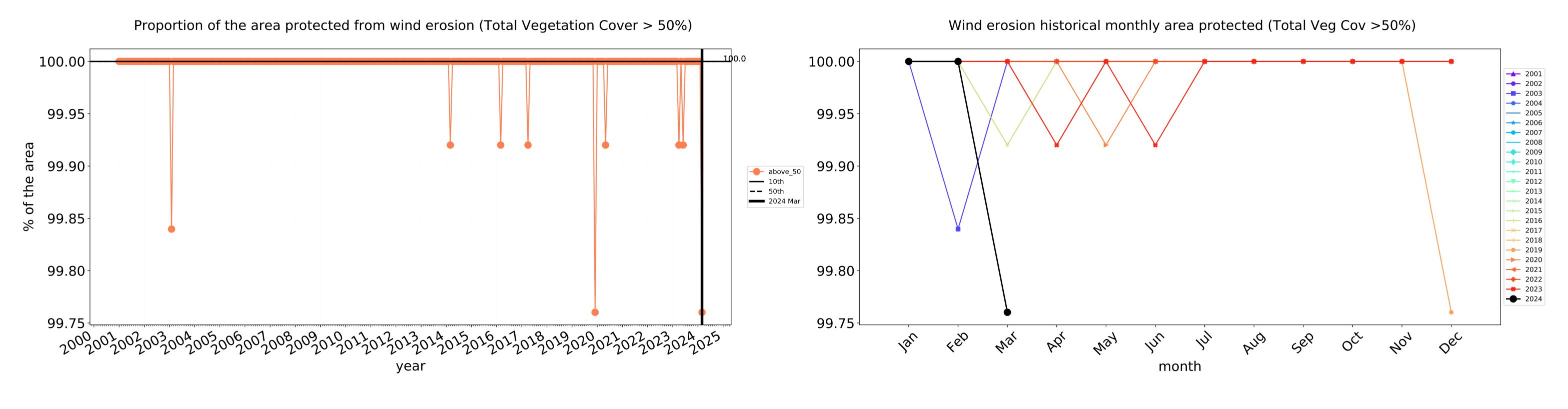


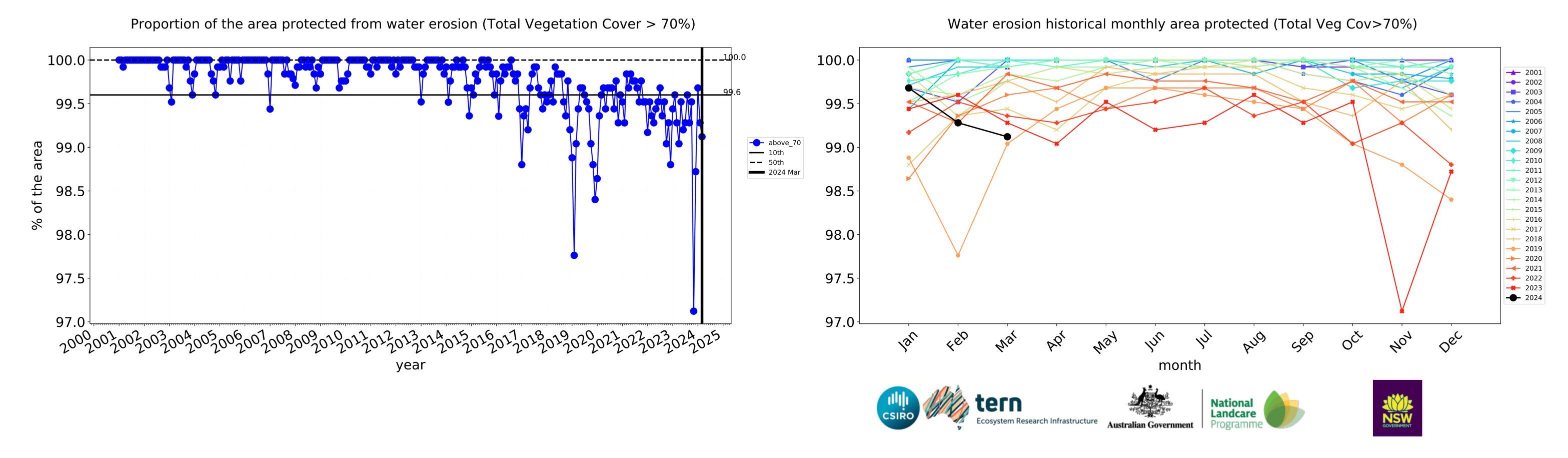


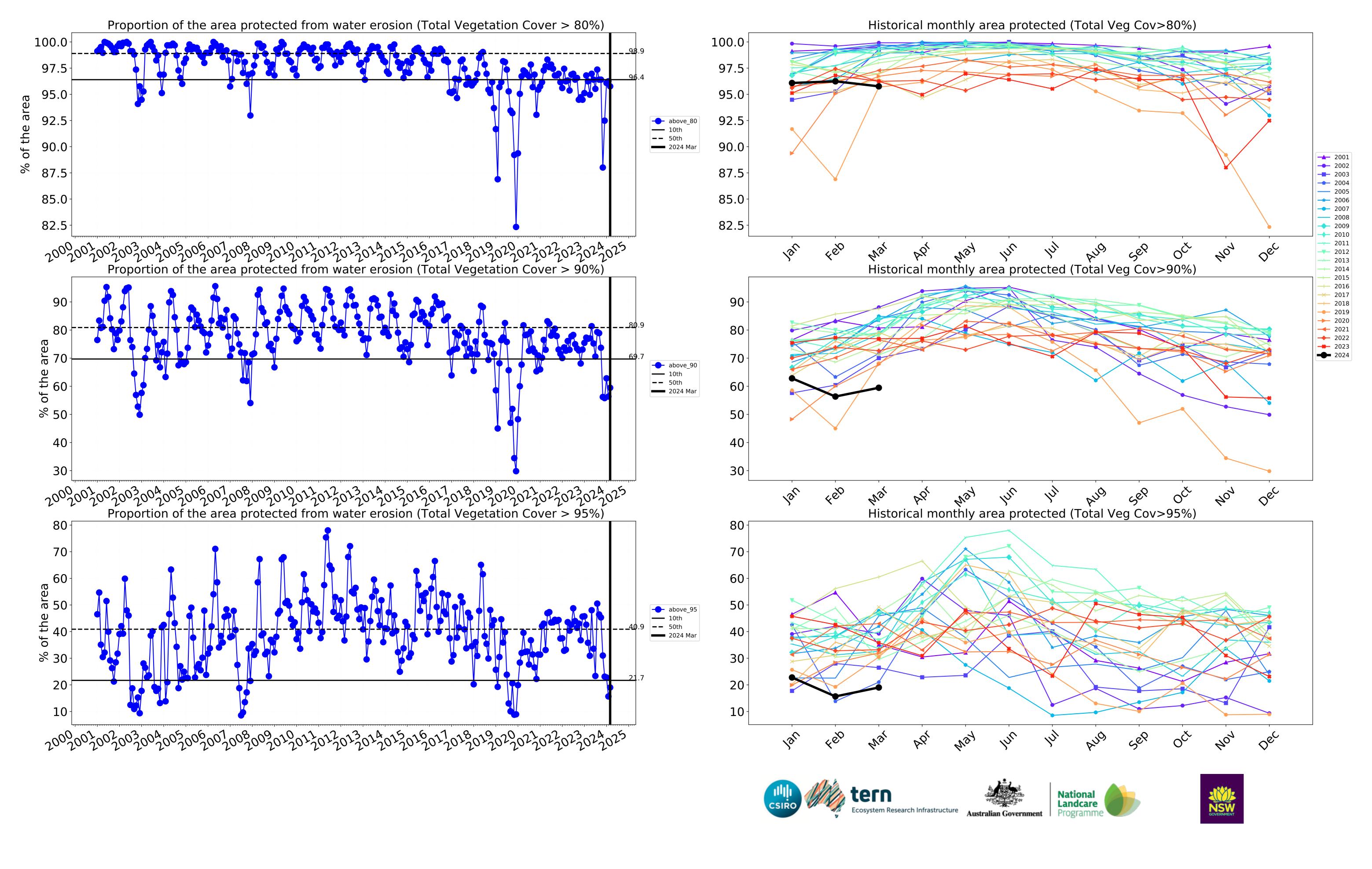




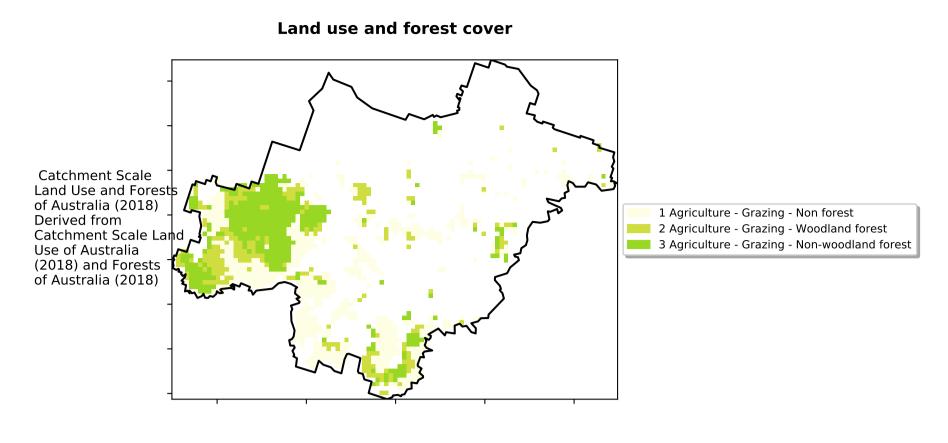
Agriculture timeseries





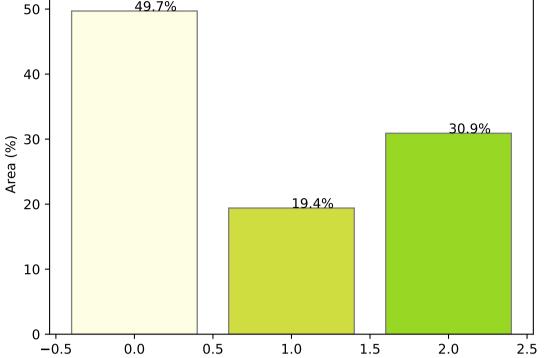


Grazing

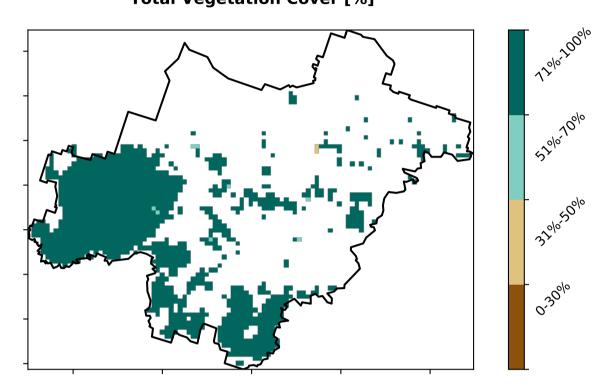


49.7%

Proportion of each land class in area

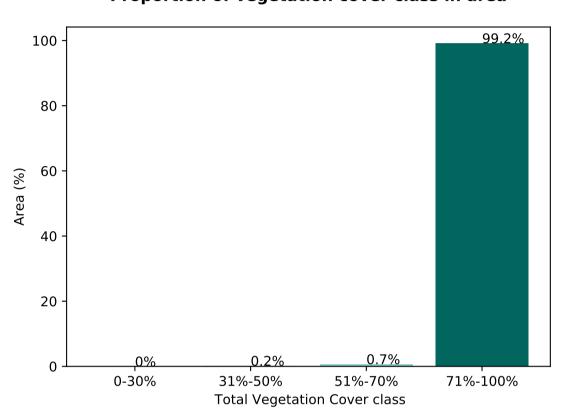




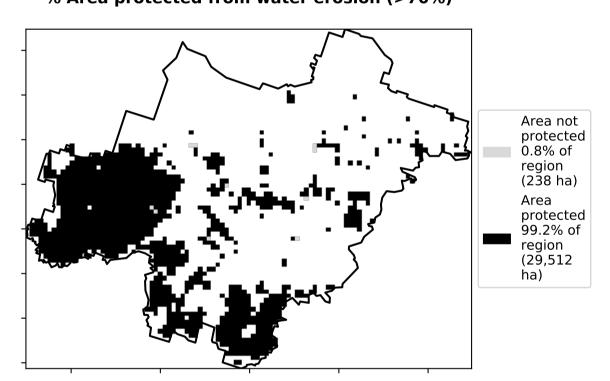


Proportion of vegetation cover class in area

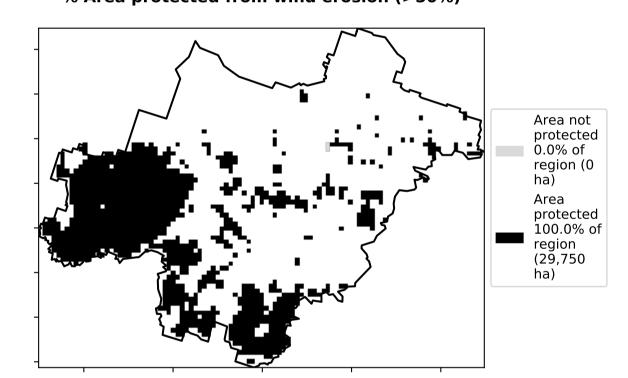
Land use class



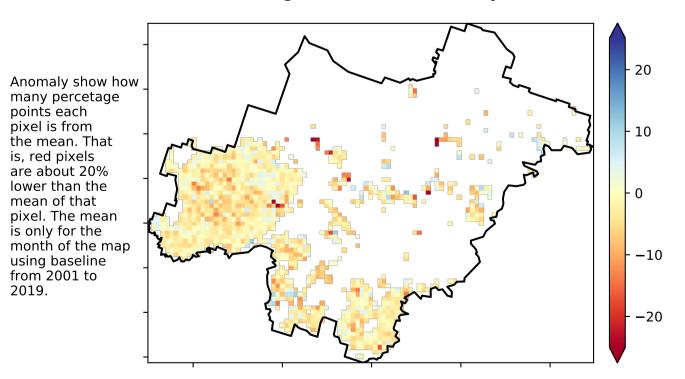
% Area protected from water erosion (>70%)



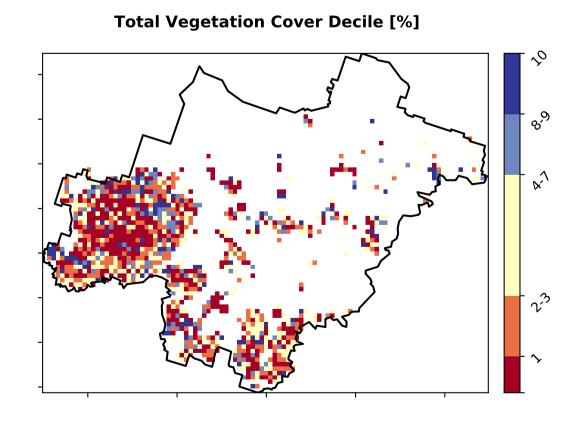
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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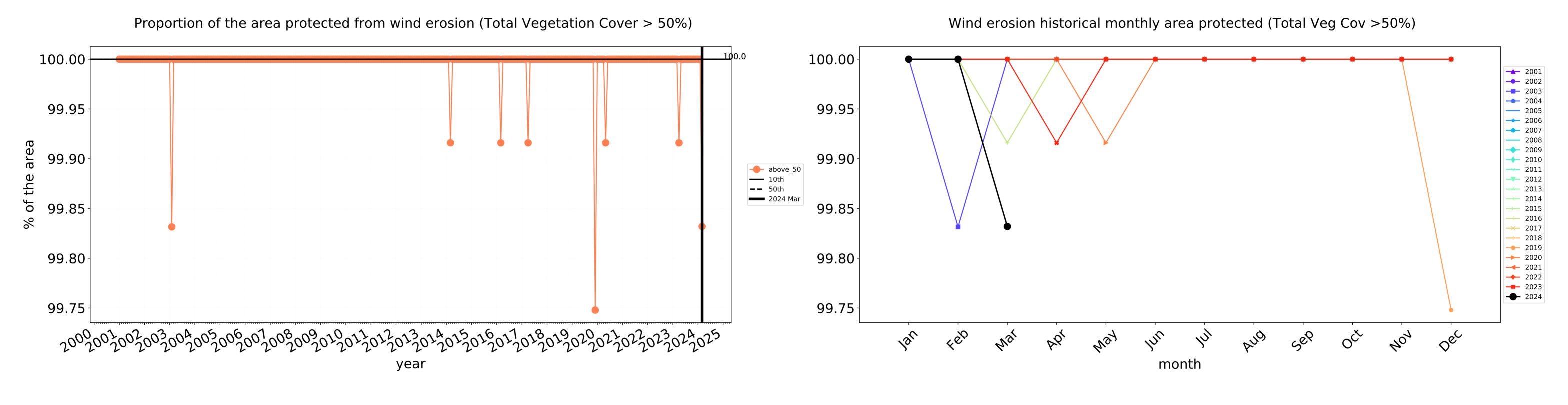


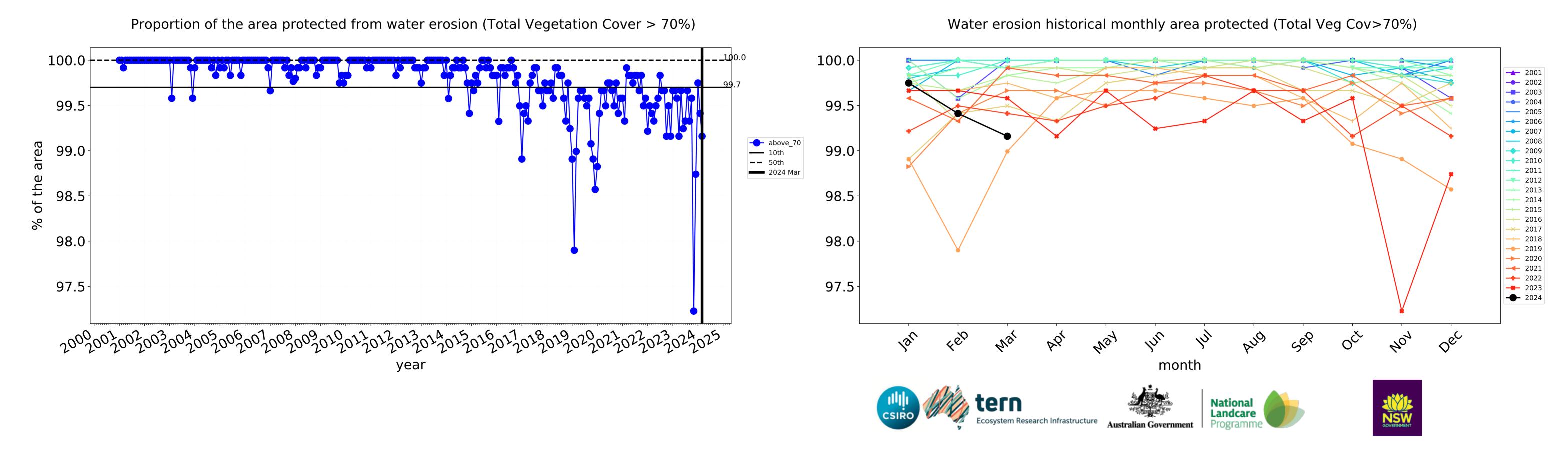


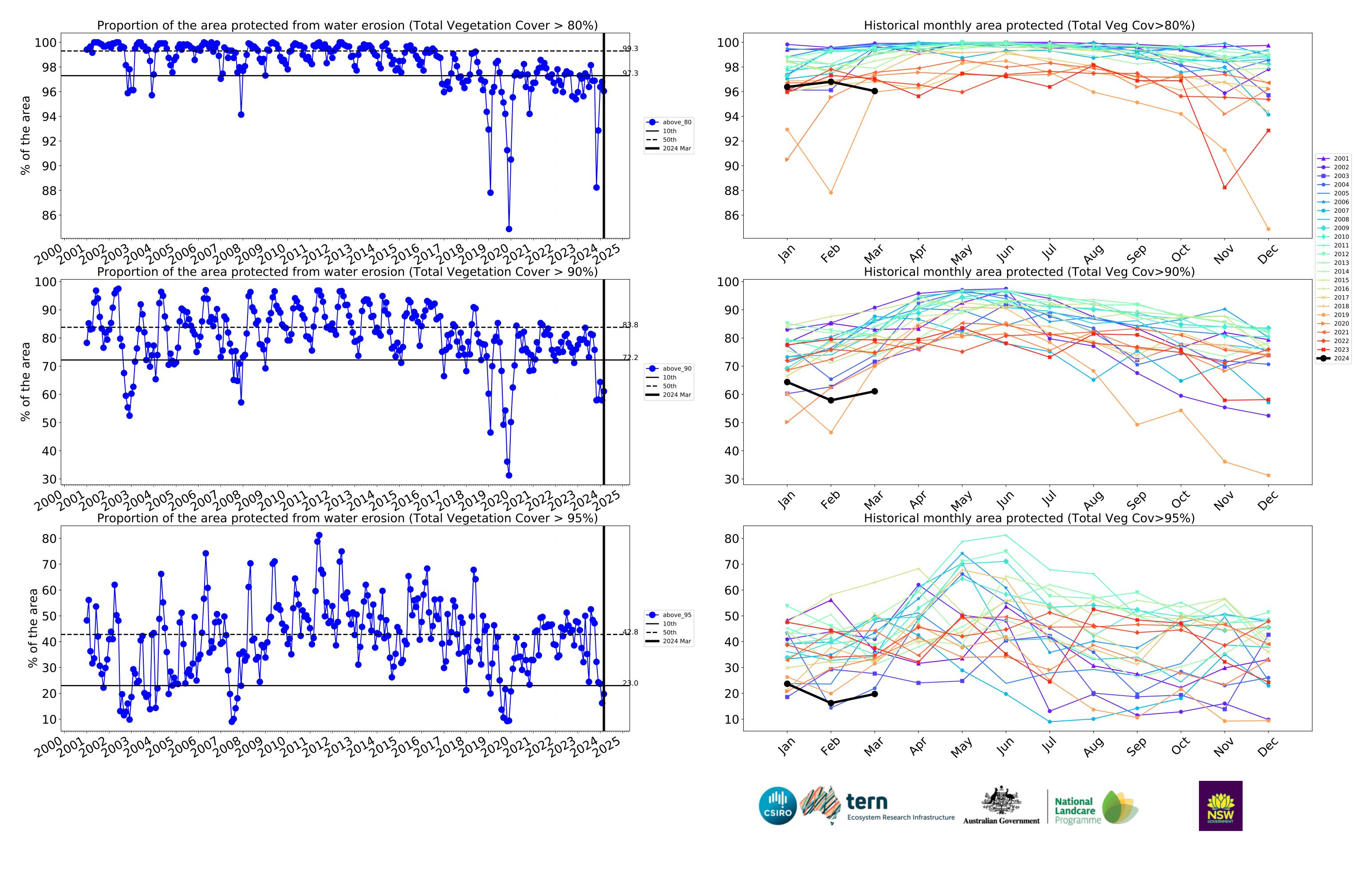




Grazing timeseries





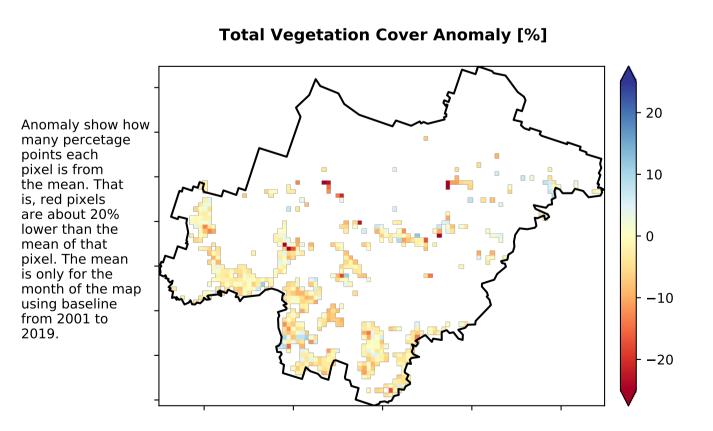


Grazing non forest

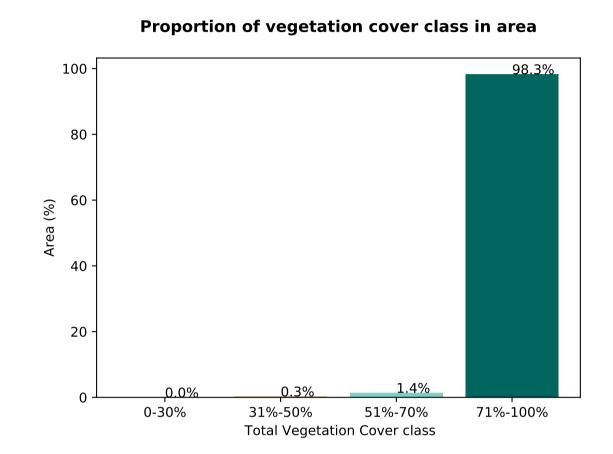
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 1 Agriculture - Grazing - Non forest

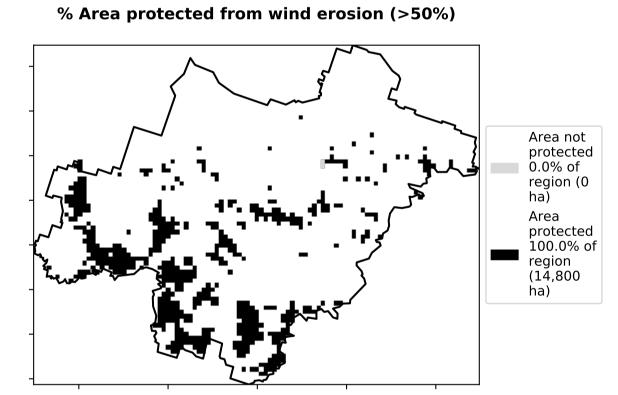
Total Vegetation Cover [%]

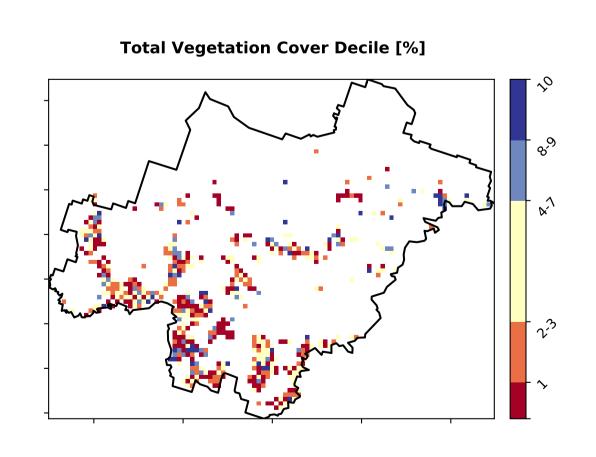
% Area protected from water erosion (>70%) Area not protected 1.7% of region (252 ha) Area protected 98.3% of region (14,548 ha)



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 baseline. the map using baseline from 2001 to 2019.







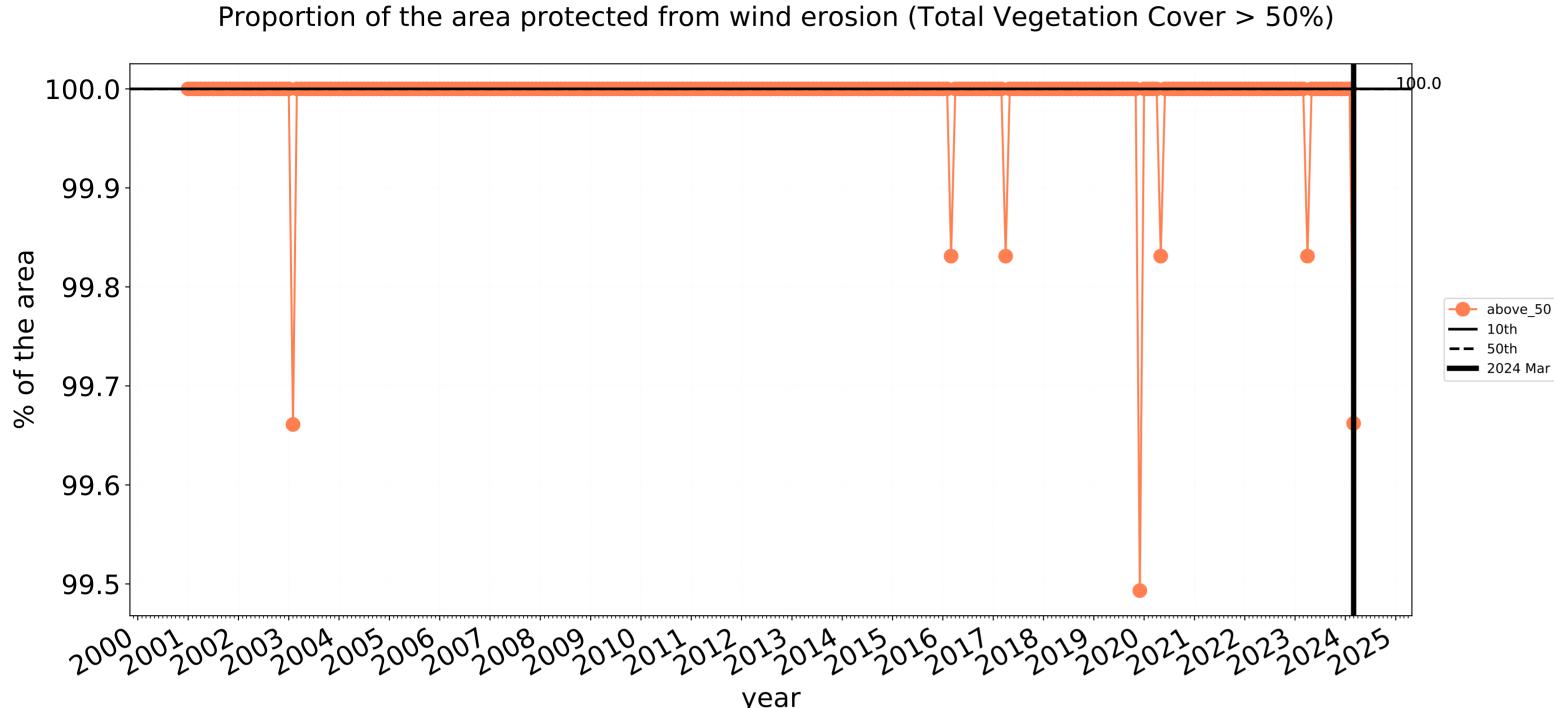


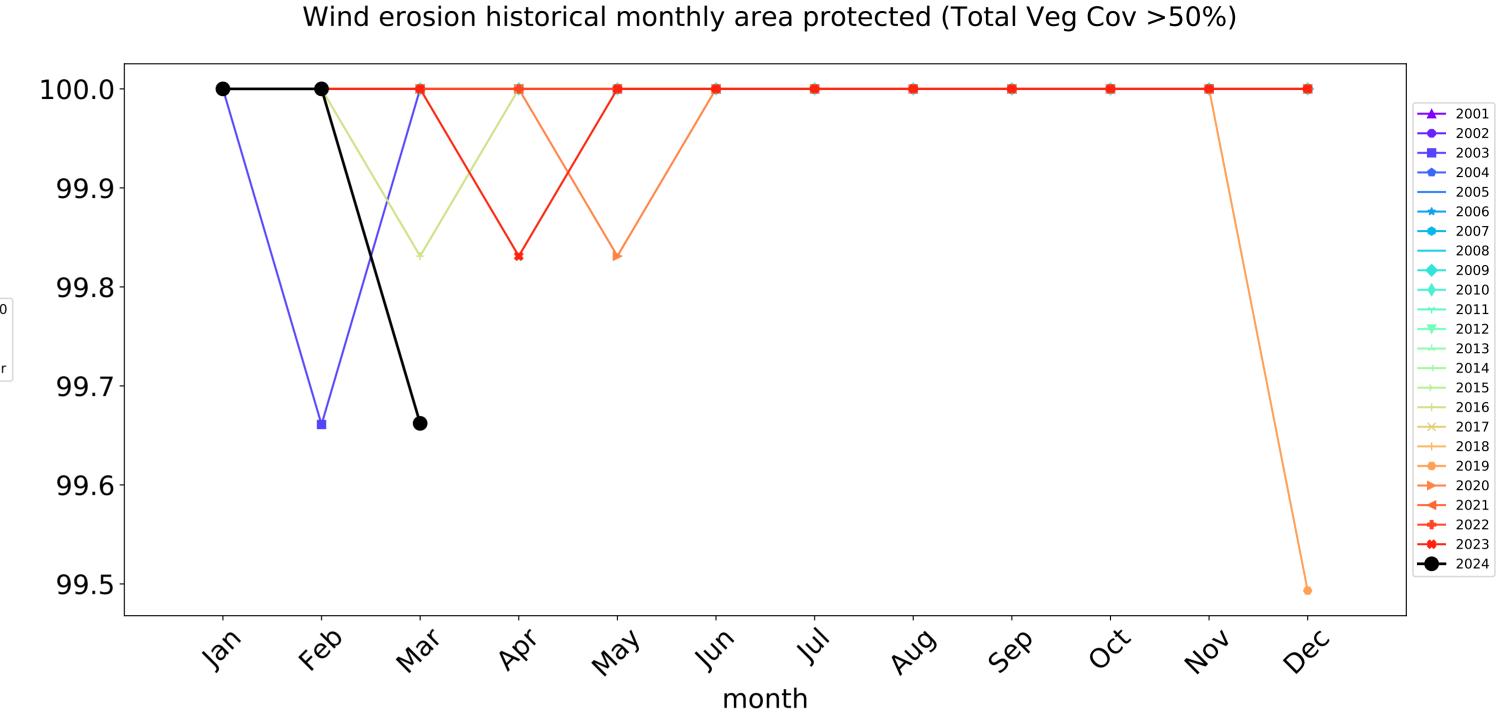


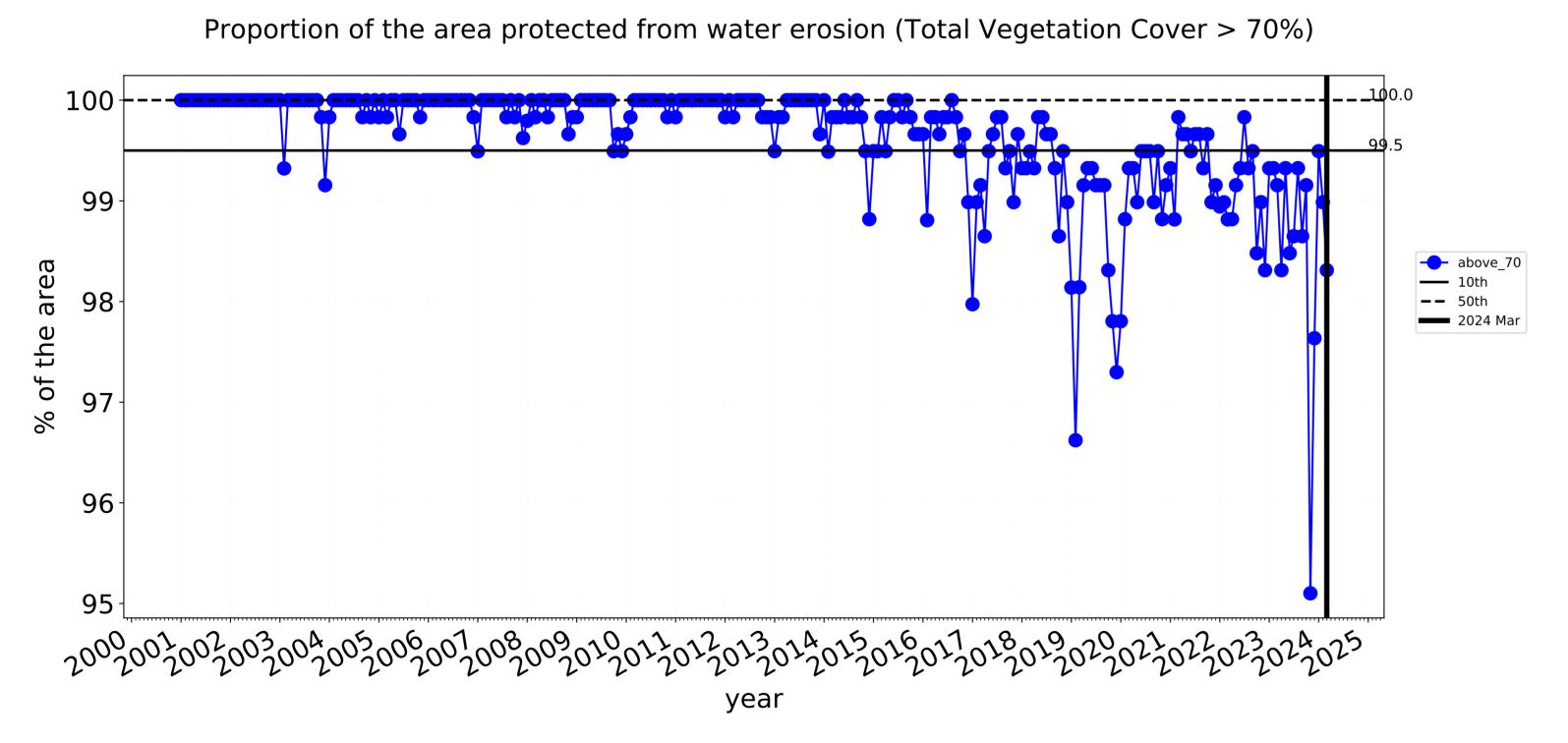


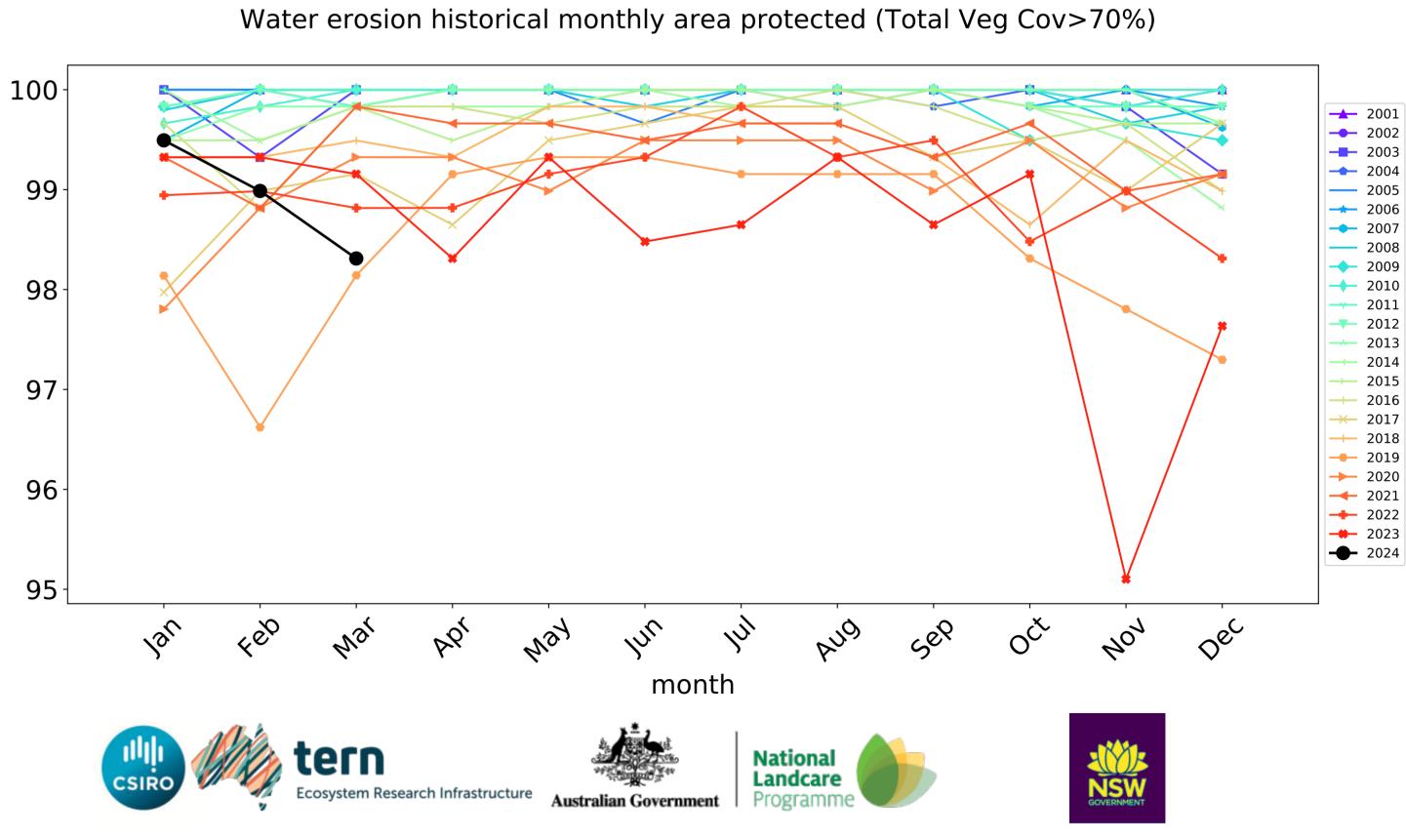


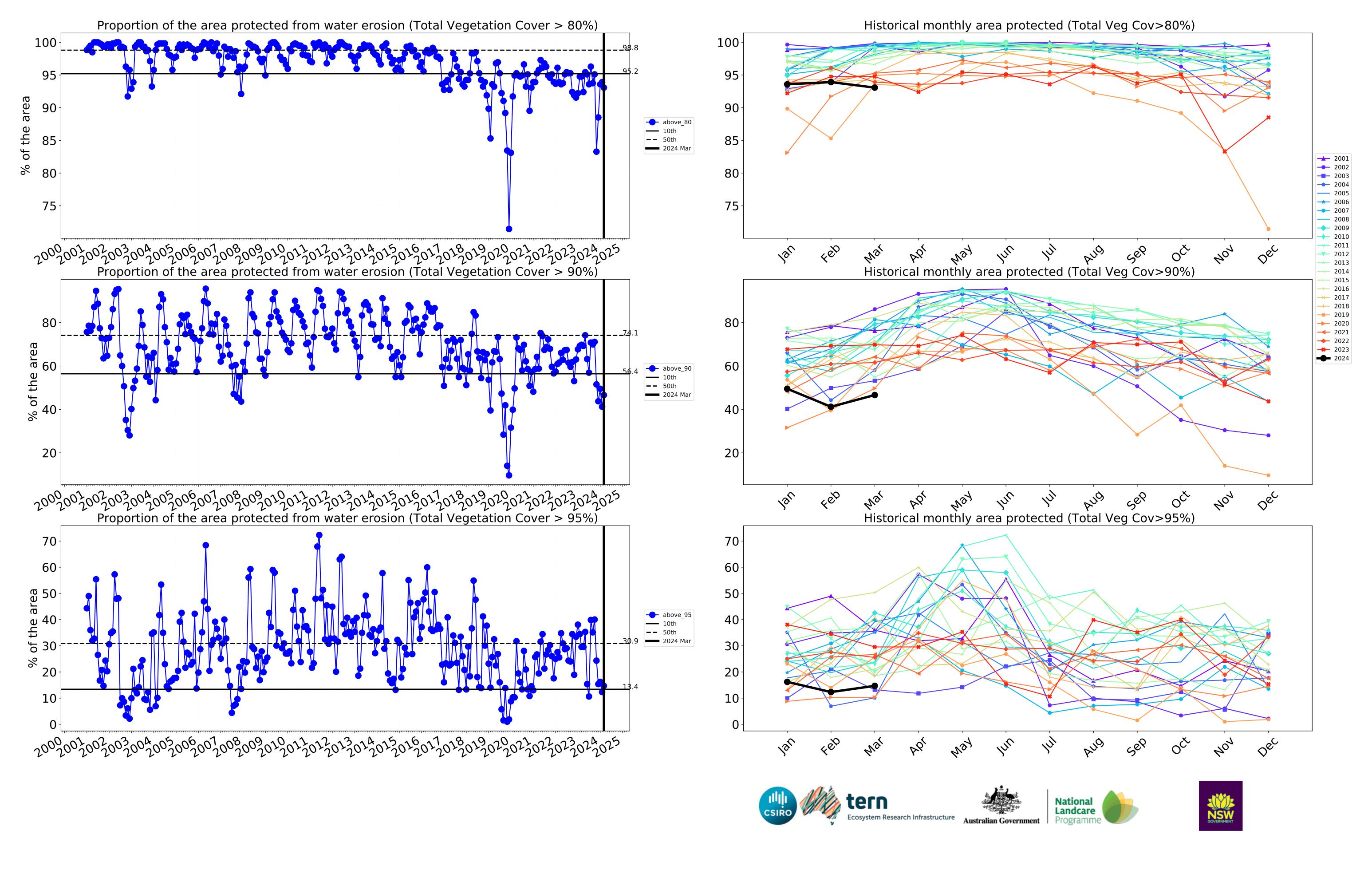
Grazing non forest timeseries







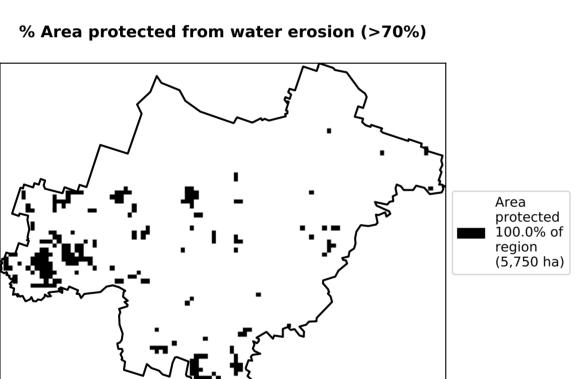


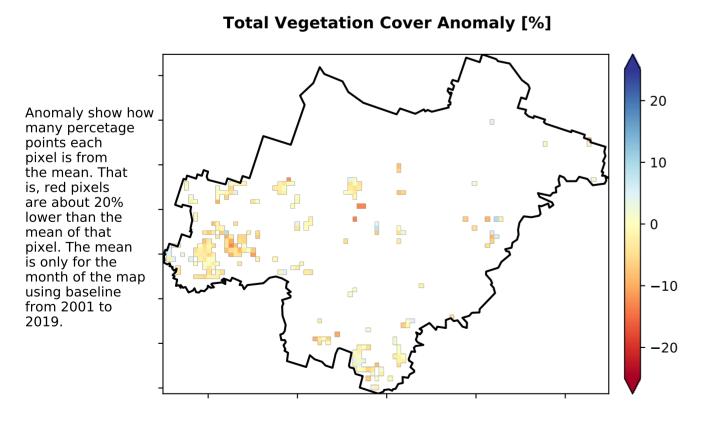


Grazing Woodland forest

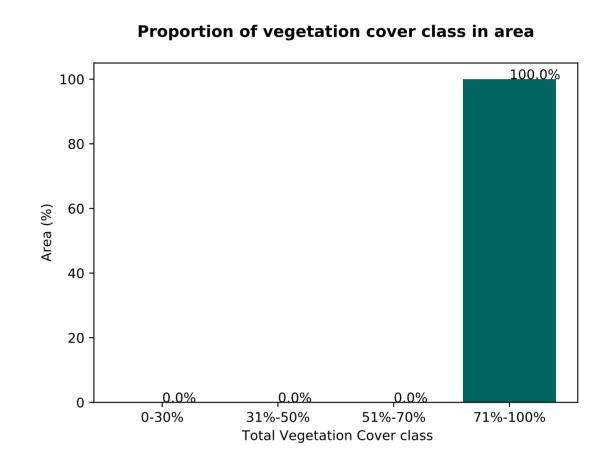
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 1 Agriculture - Grazing - Woodland forest of Australia (2018)

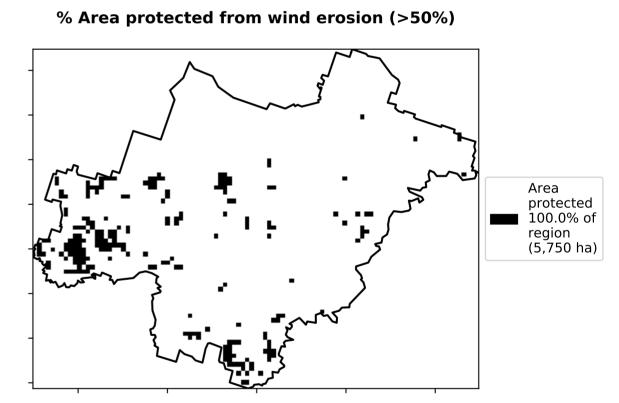
Total Vegetation Cover [%]

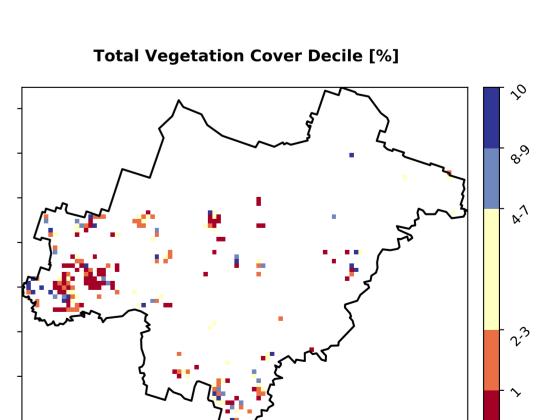




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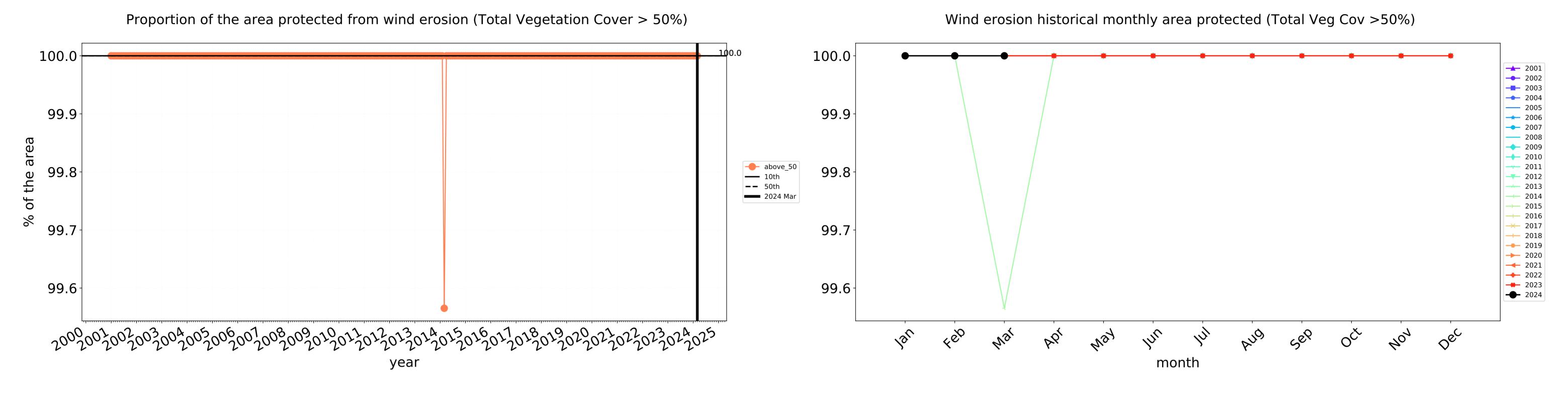


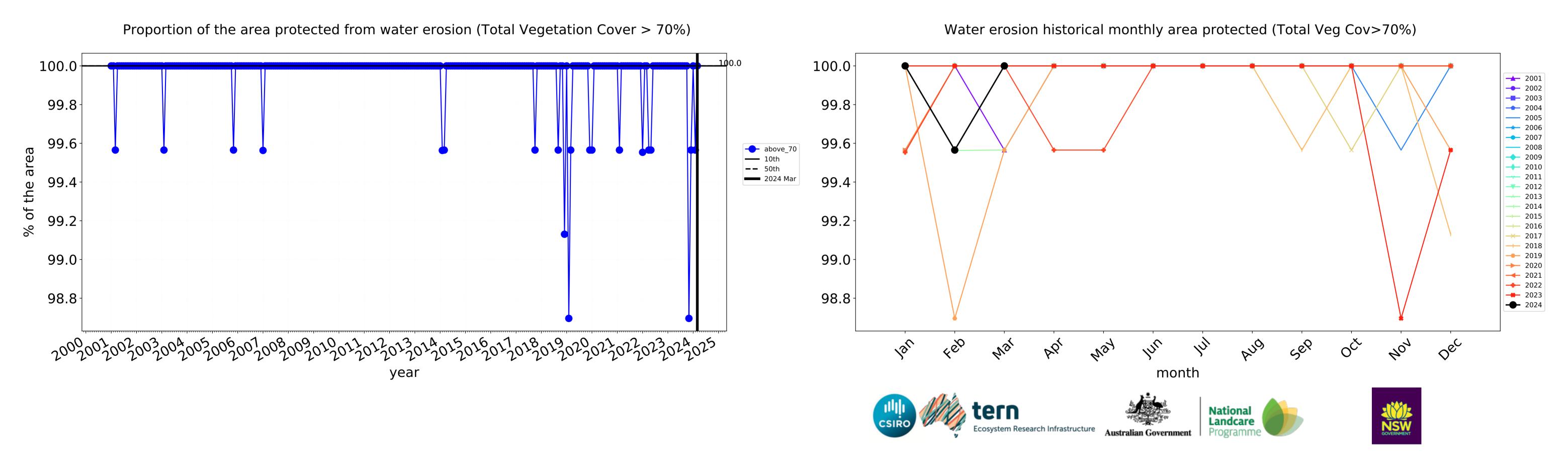


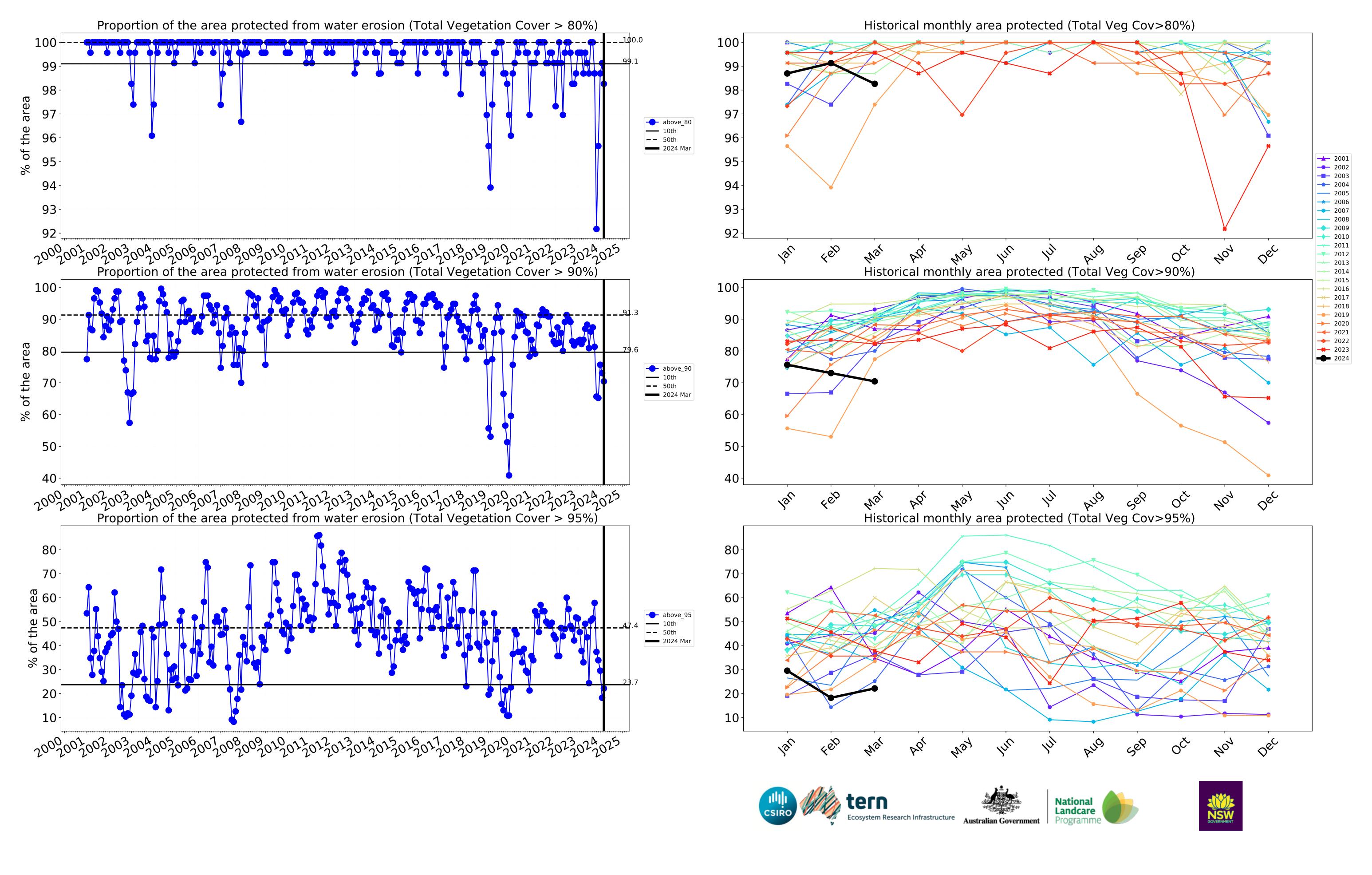




Grazing Woodland forest timeseries





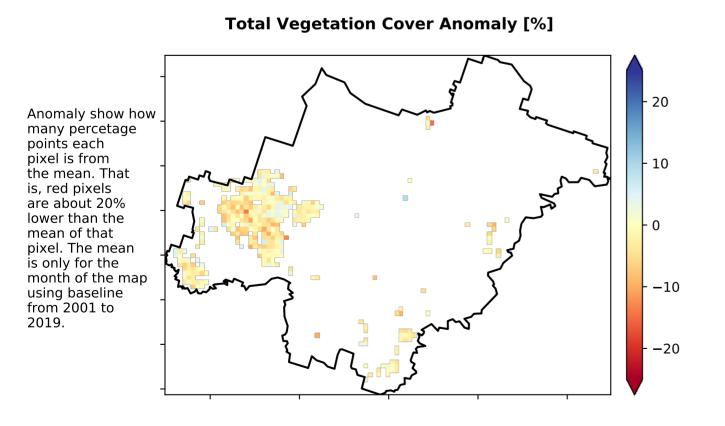


Grazing - Forest (non woodland)

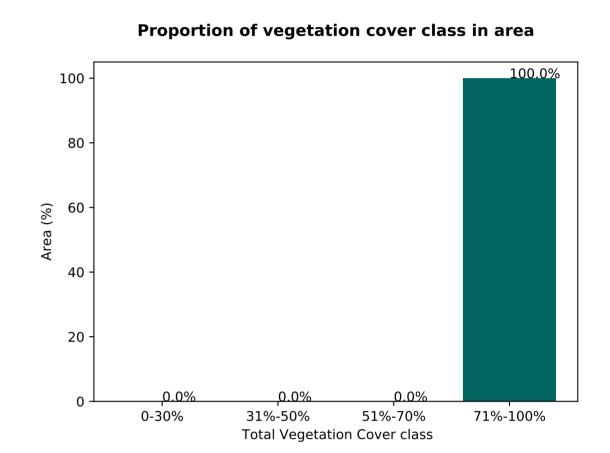
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 1 Agriculture - Grazing - Non-woodland forest of Australia (2018)

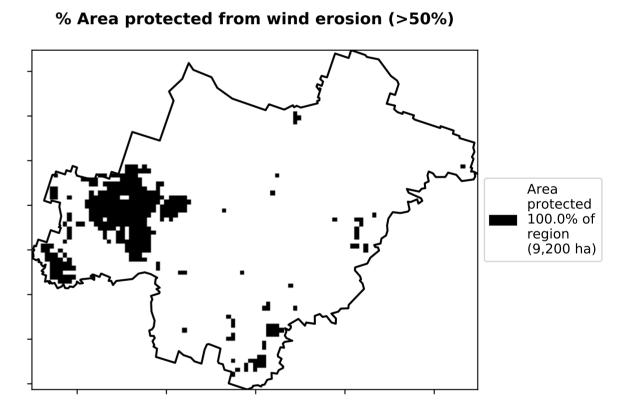
Total Vegetation Cover [%]

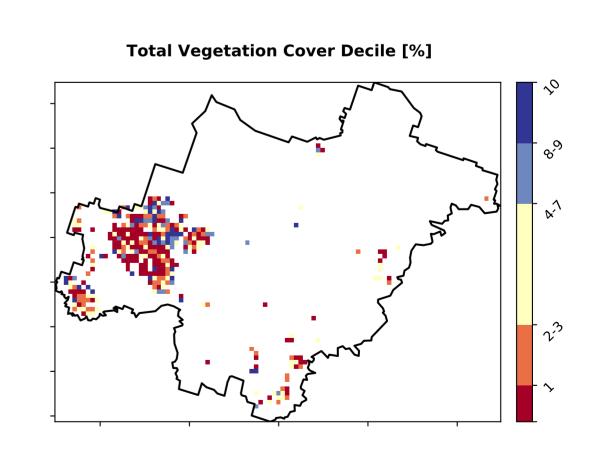
% Area protected from water erosion (>70%) Area protected 100.0% of region (9,200 ha)



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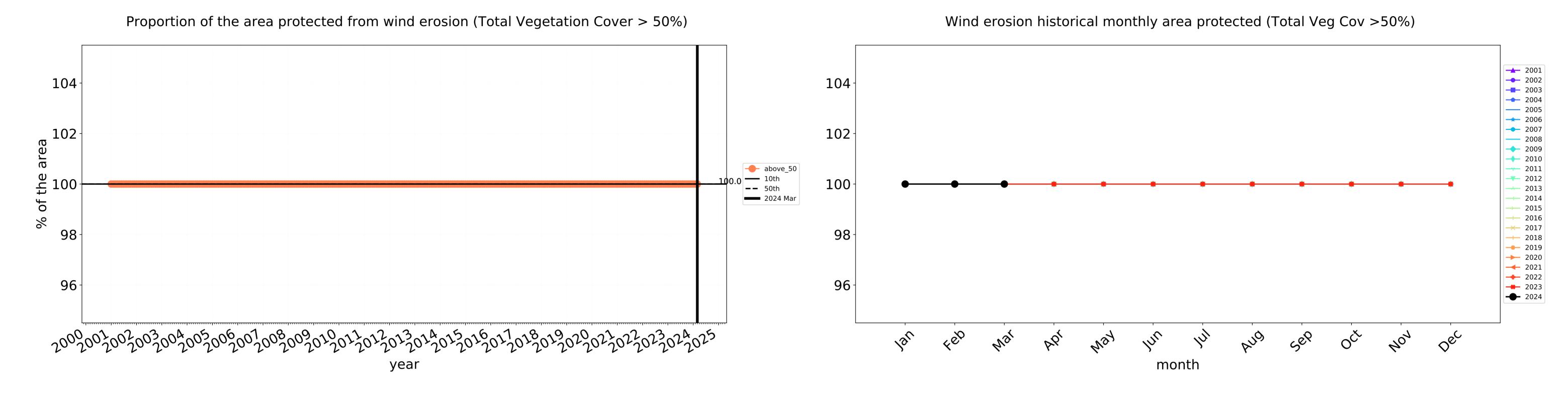


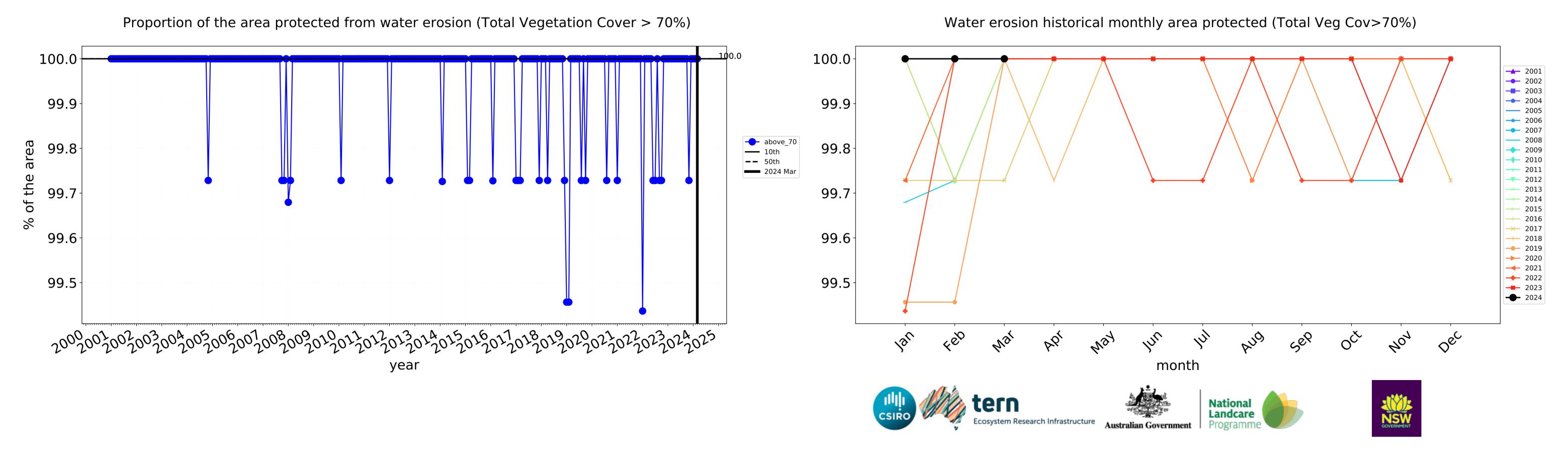


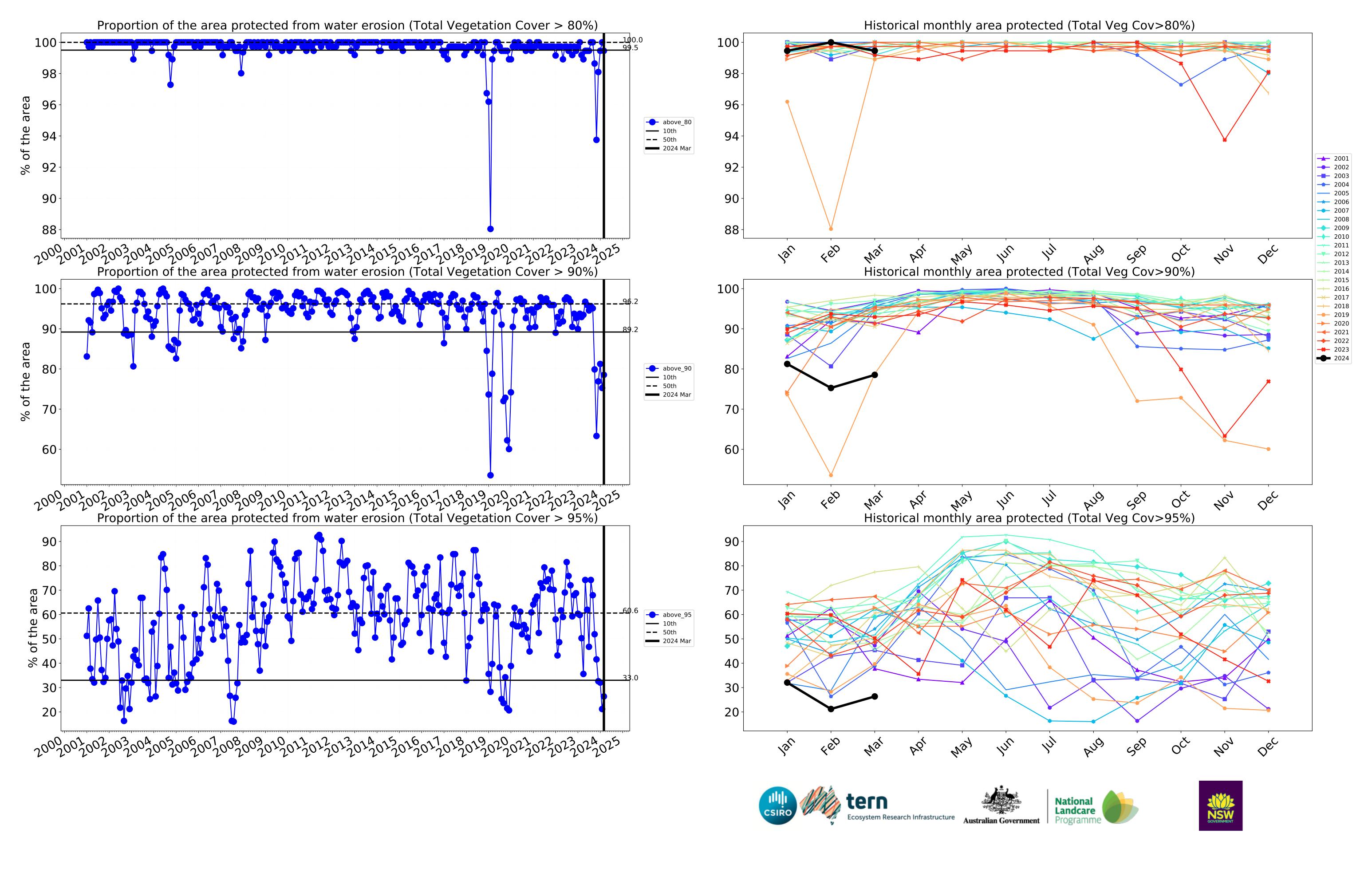




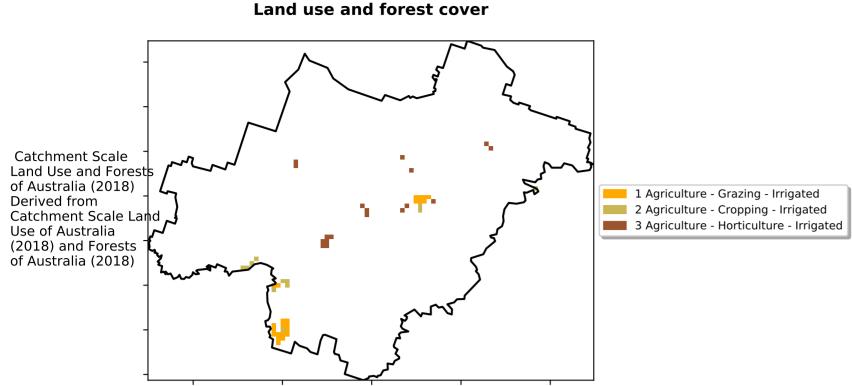


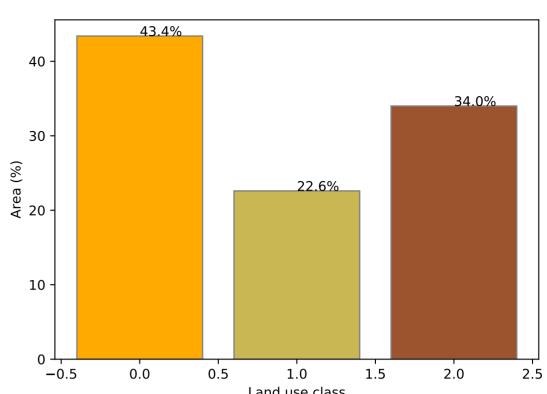




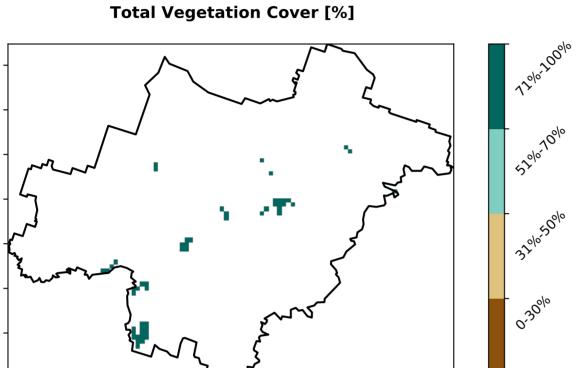


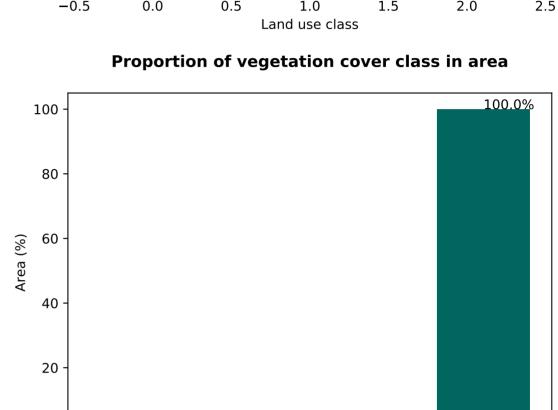
Irrigation

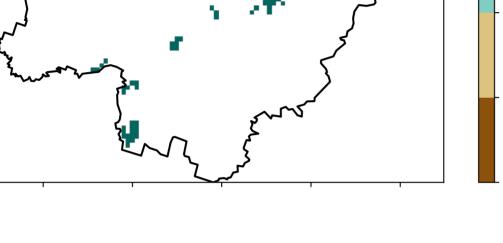




Proportion of each land class in area







% Area protected from wind erosion (>50%)

Total Vegetation Cover class

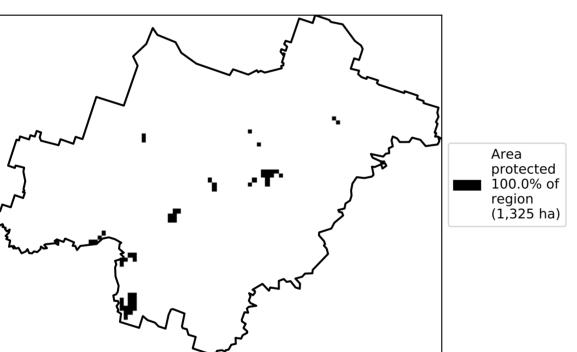
0.0%

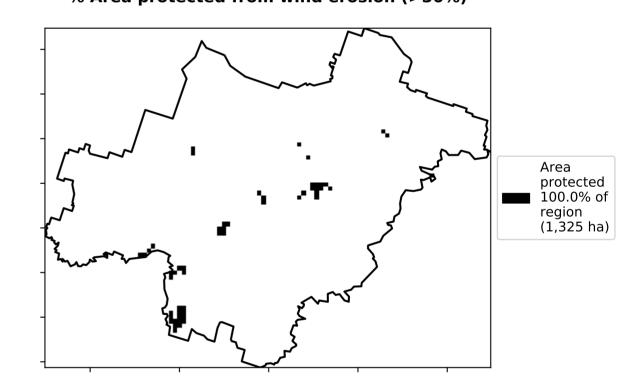
31%-50%

0.0%

0-30%



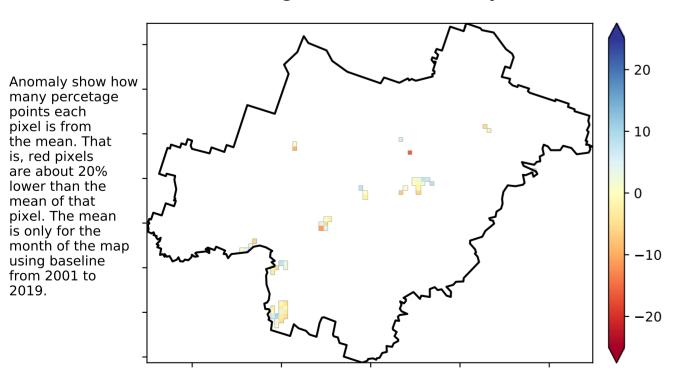




0.0% 51%-70%

71%-100%





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.

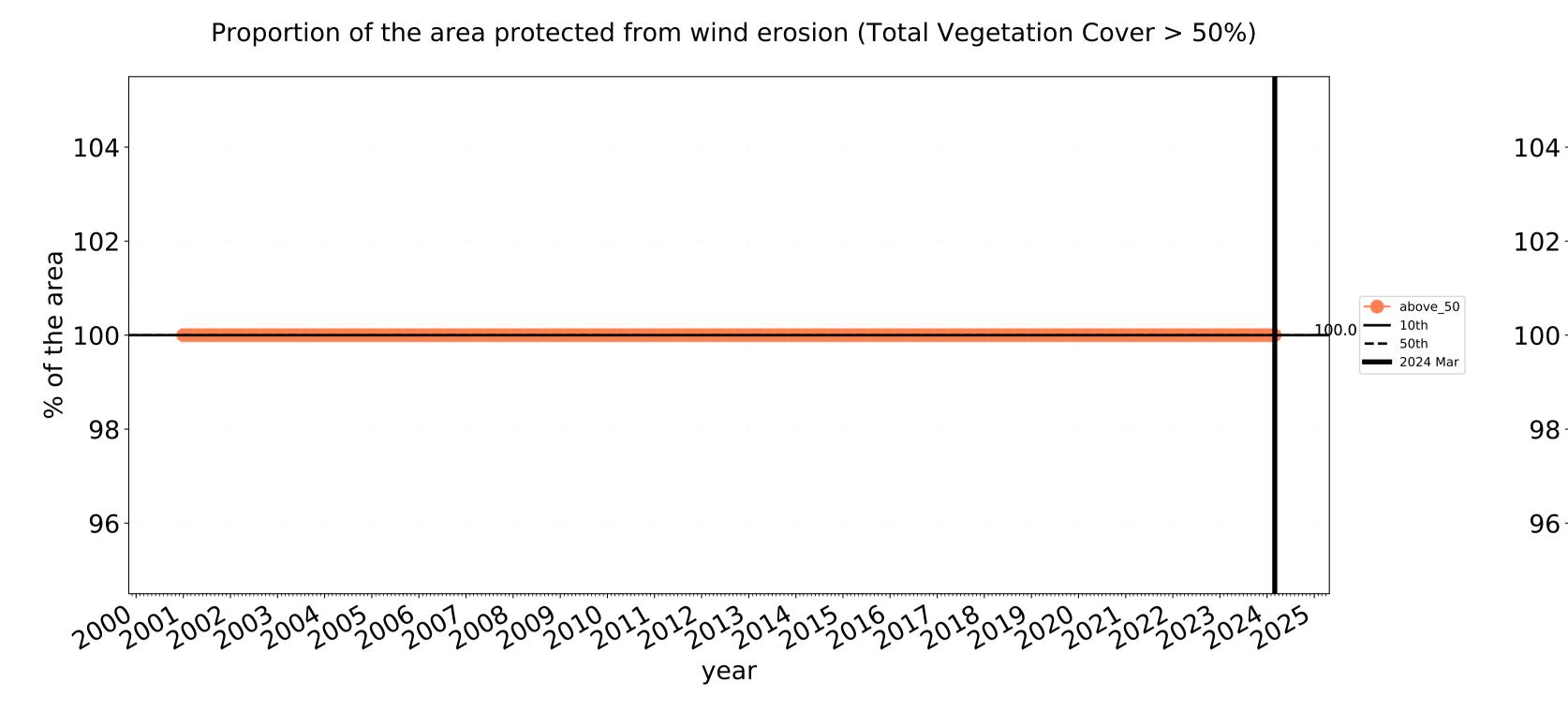
Total Vegetation Cover Decile [%]







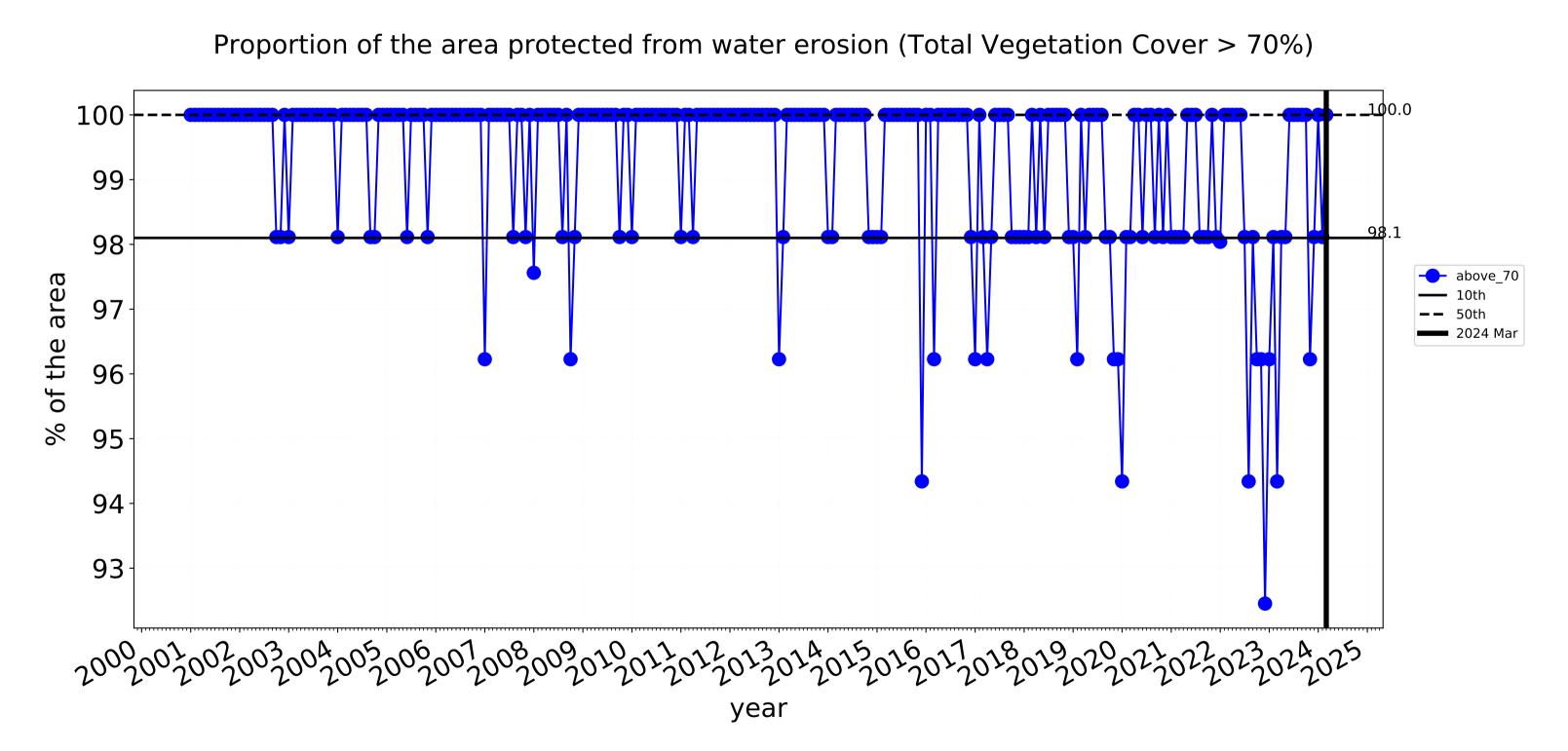


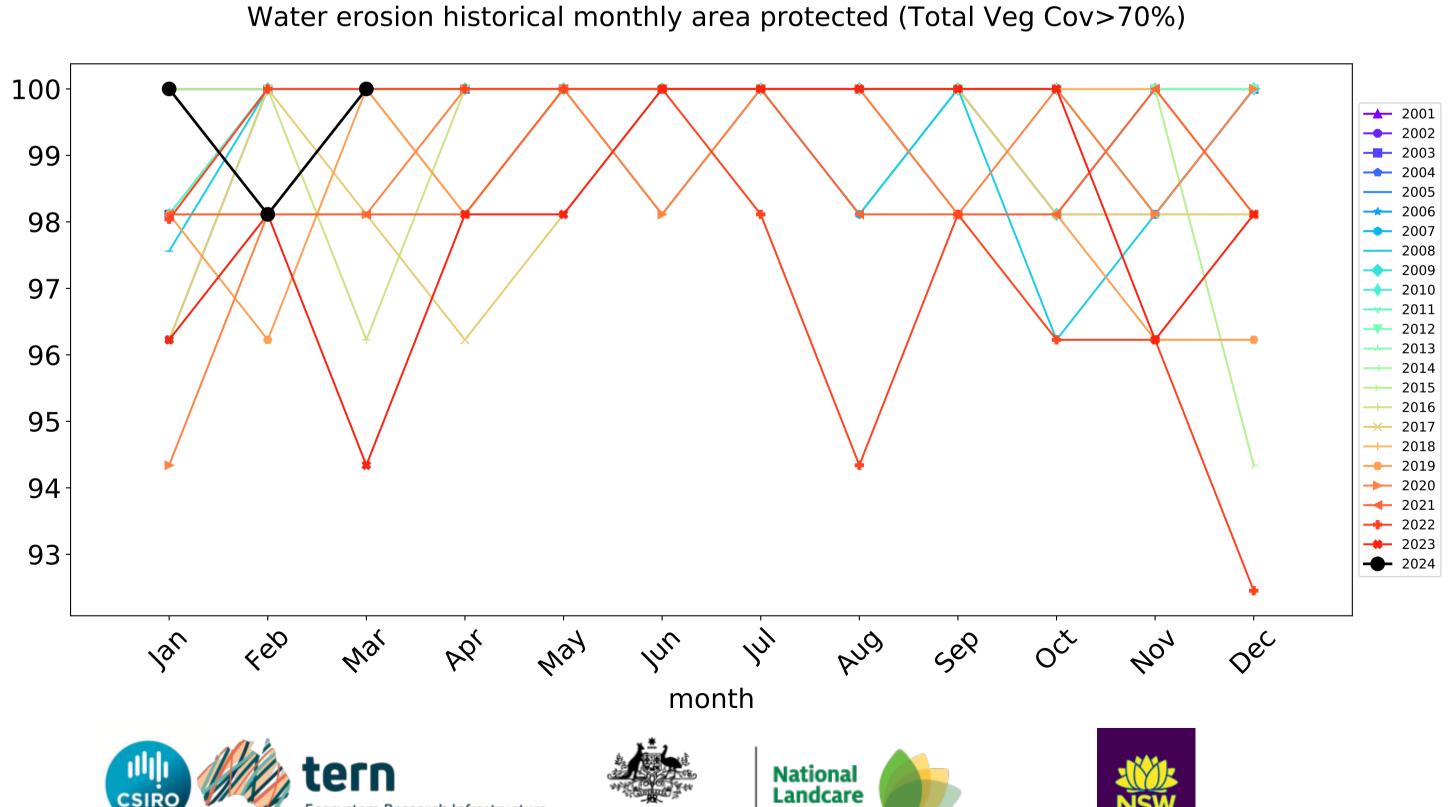


Wind erosion historical monthly area protected (Total Veg Cov >50%)

2014
2015
2016
2017

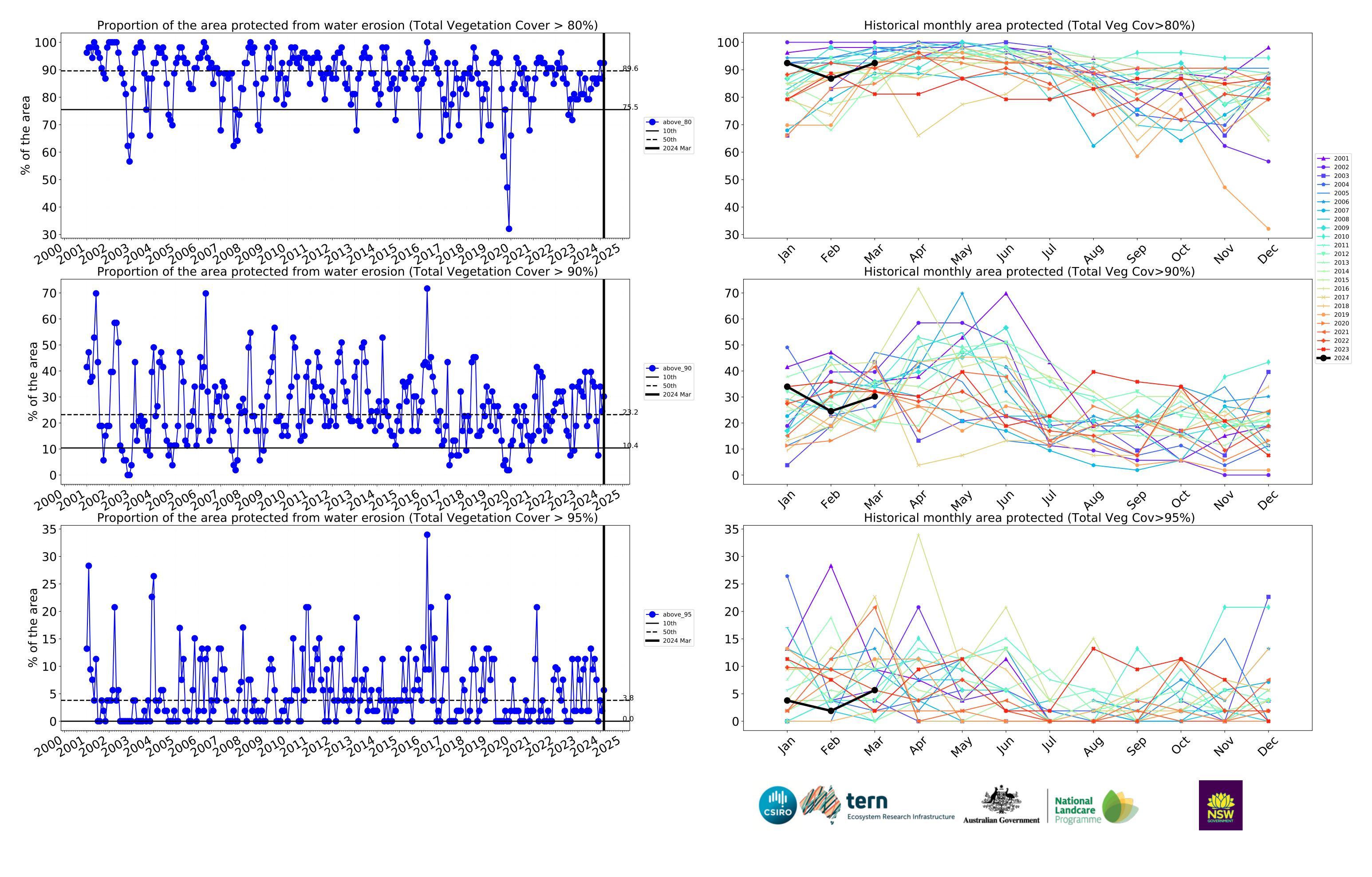
023 **2**024





Nay

month

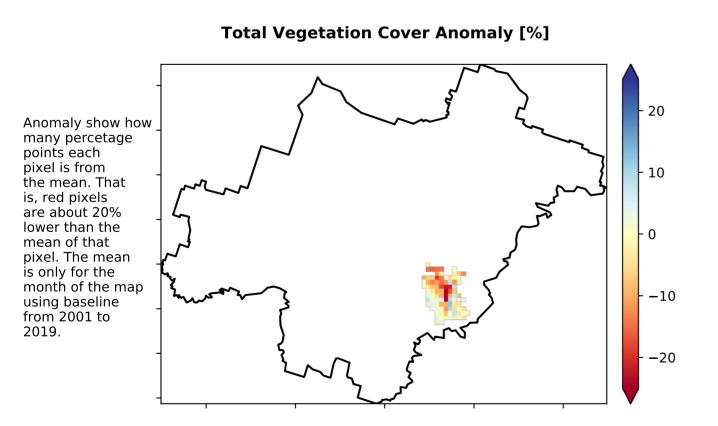


Production native forests and plantation forests

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

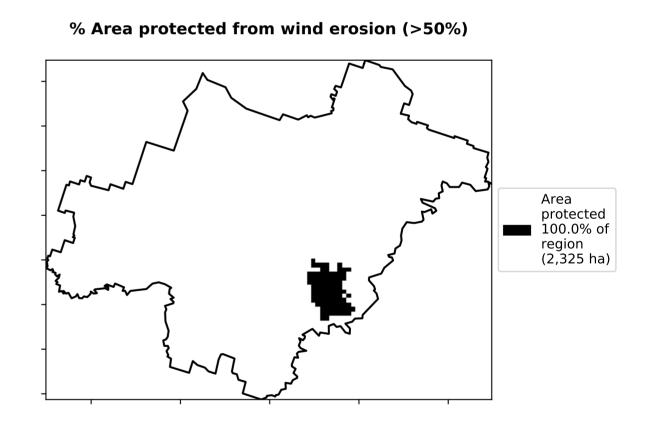
Total Vegetation Cover [%]

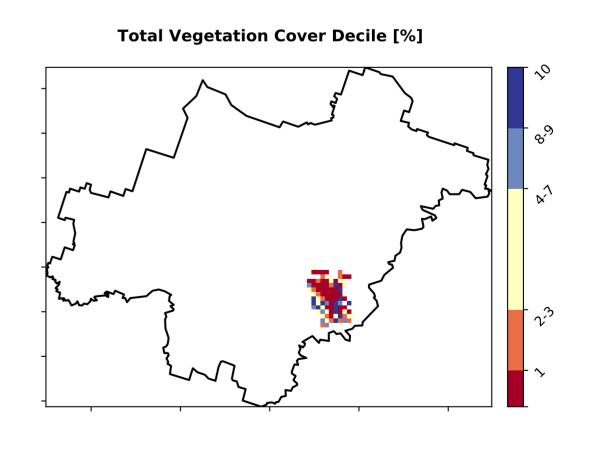
Area not protected 10.8% of region (251 ha) Area protected 89.2% of region (2,074 ha)



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.

80 - 89.2% 80 - 60 - 60 - 20 - 10.8% 0 - 30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class





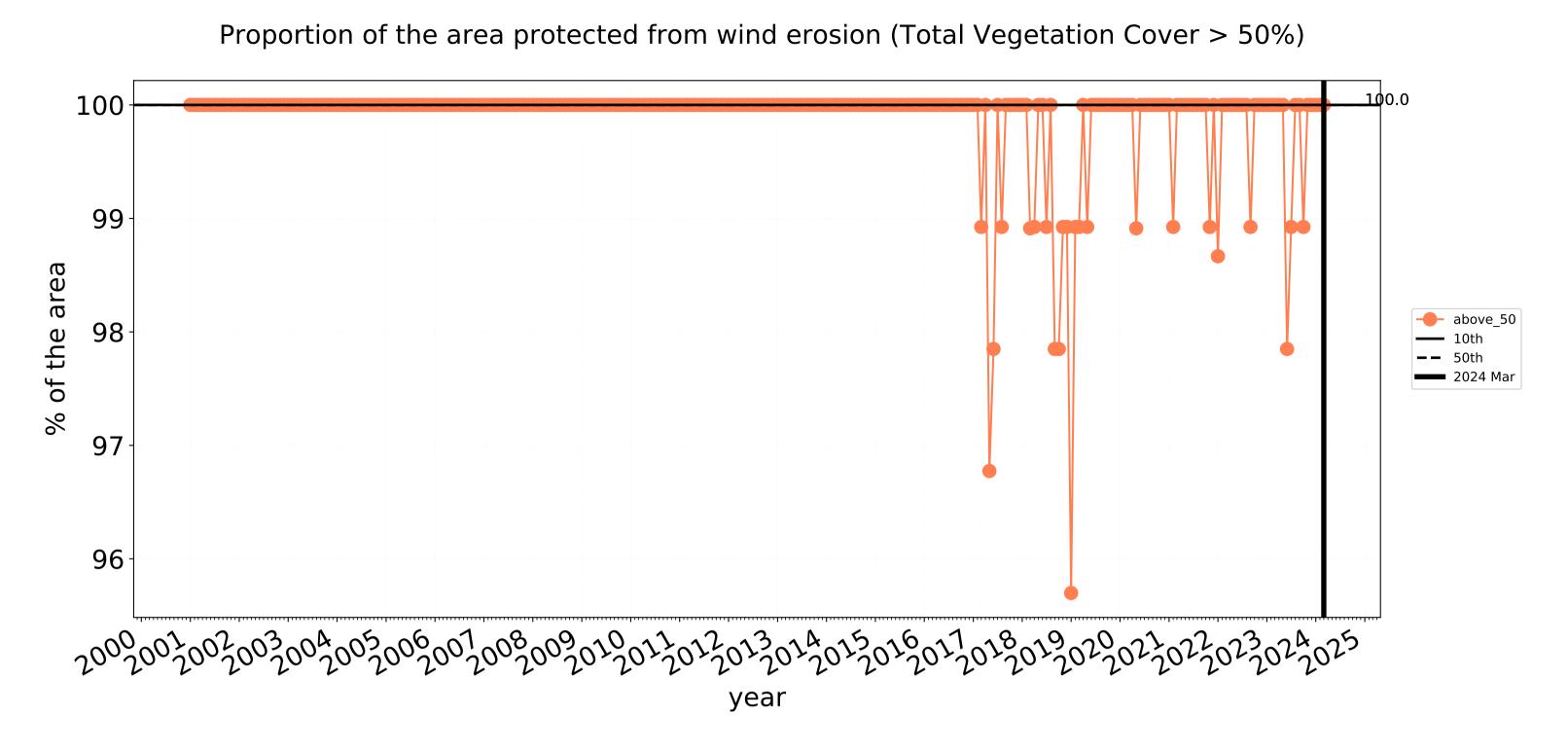


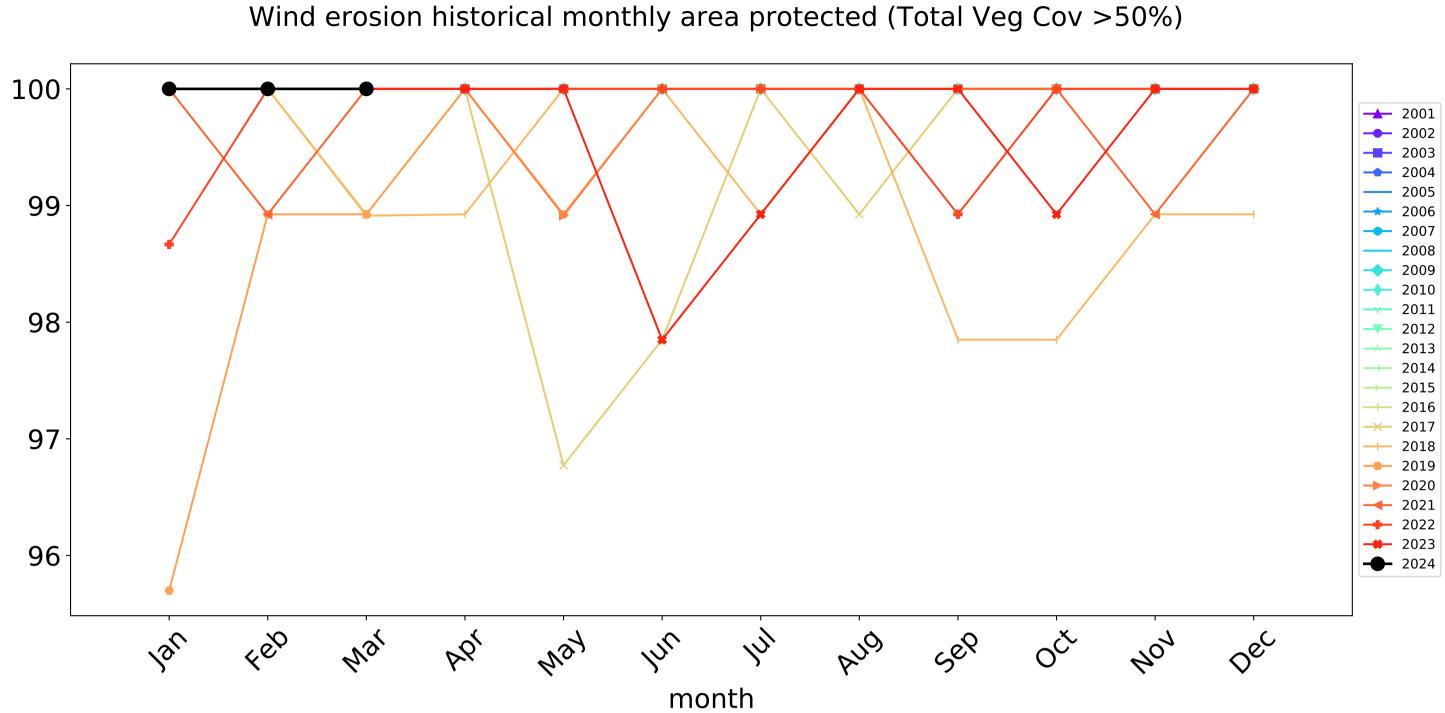


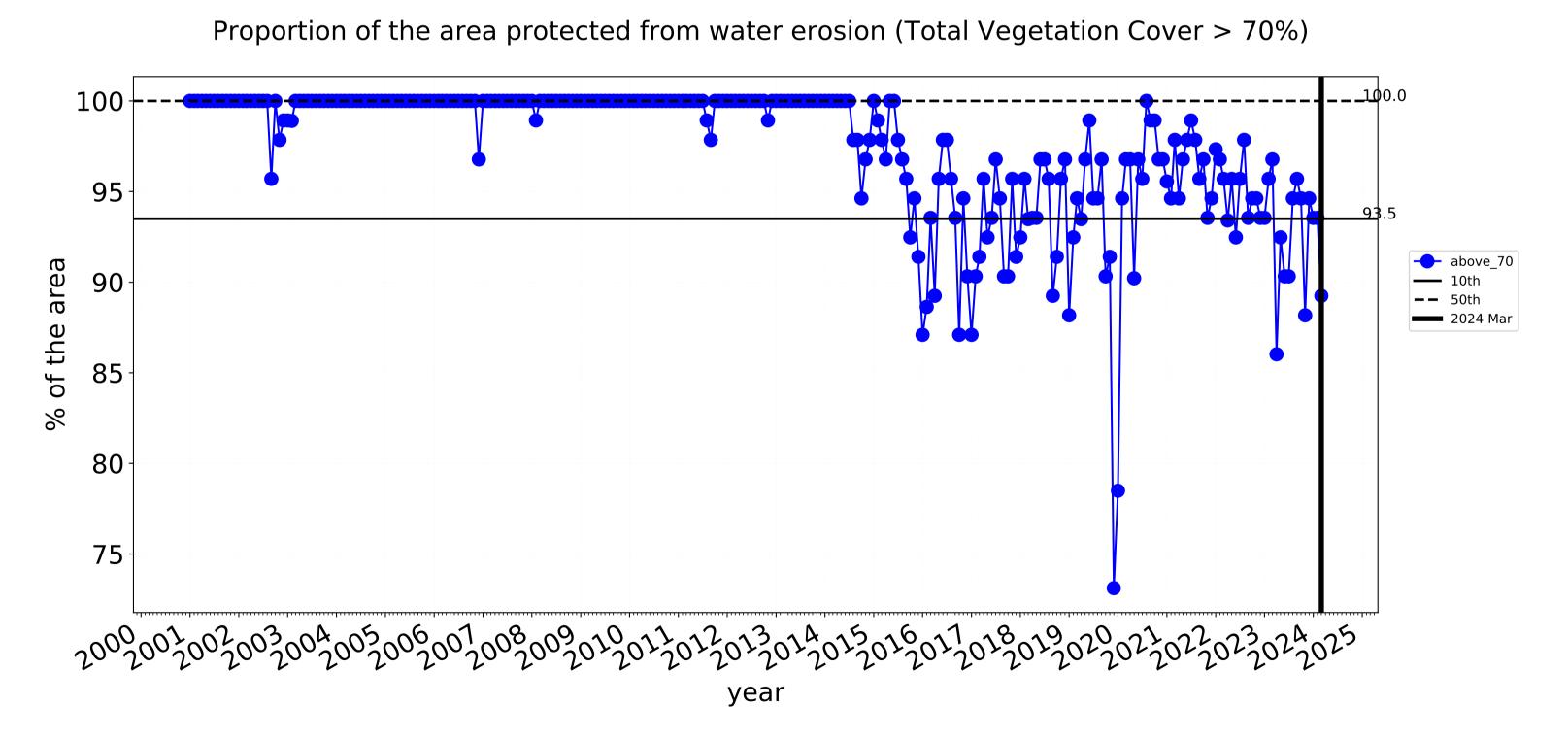


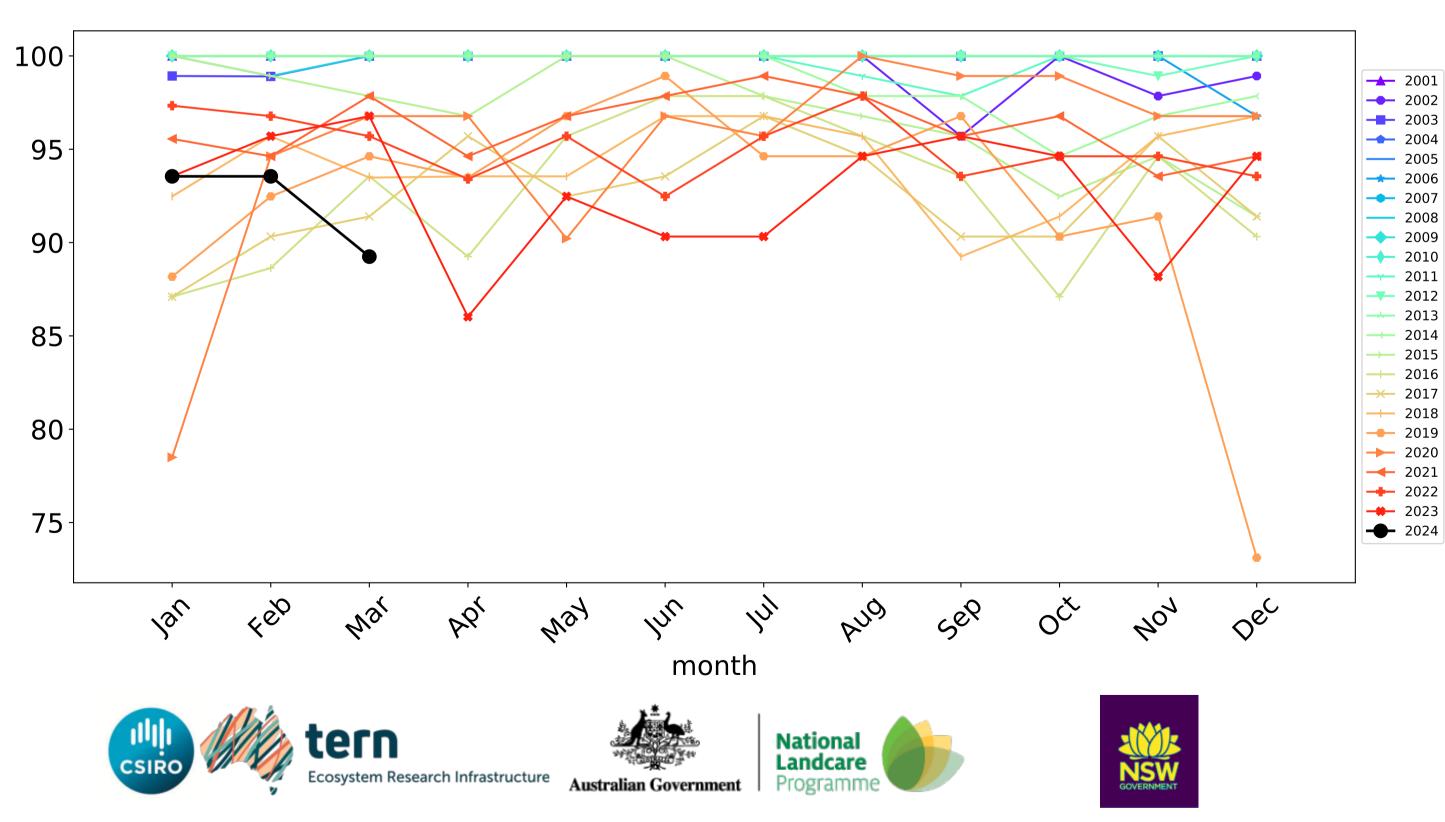


Production native forests and plantation forests timeseries

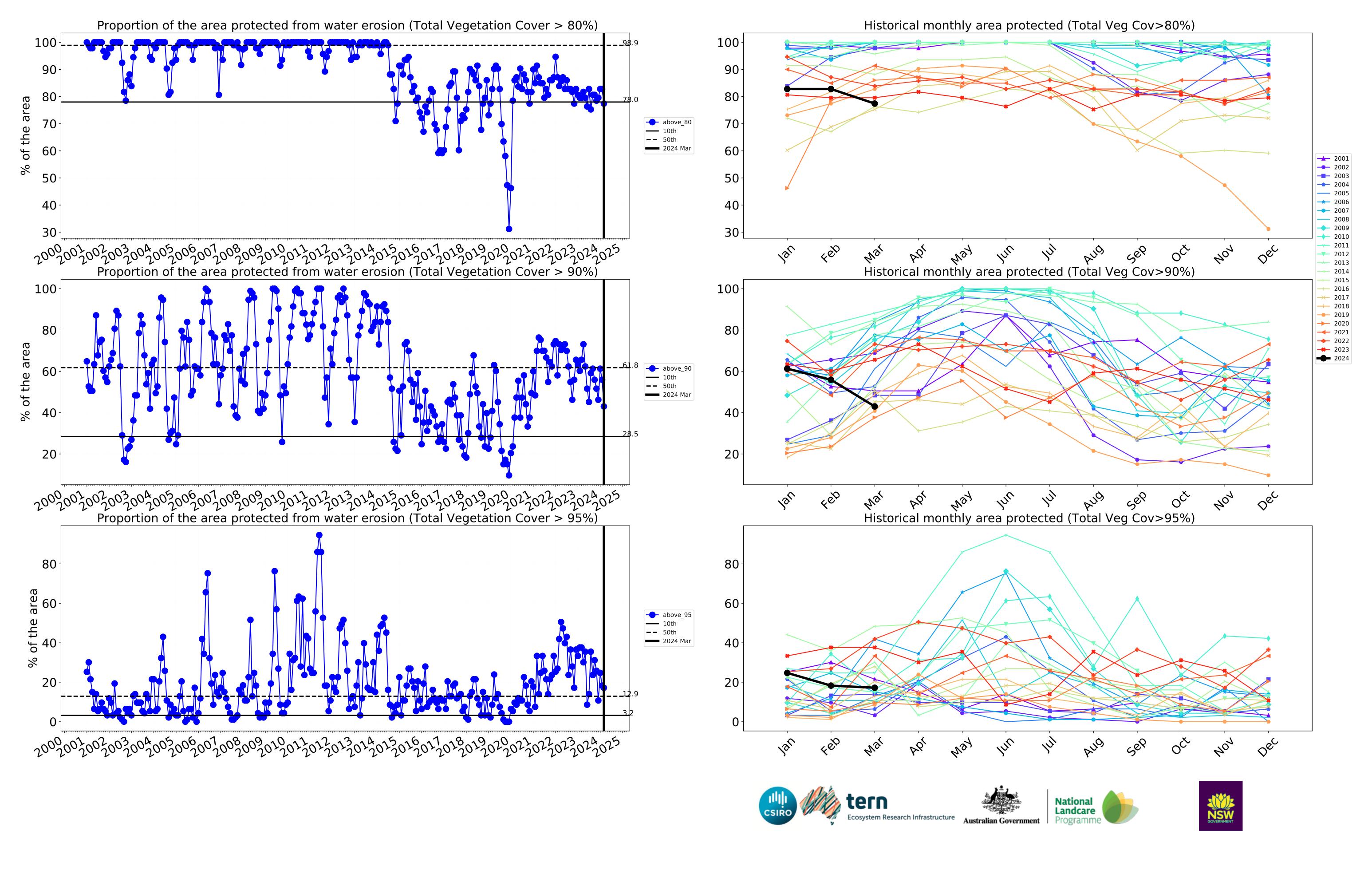








Water erosion historical monthly area protected (Total Veg Cov>70%)



Logan_(C) (95,050 ha and no data 734 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	95,050	99.9% 95,000	99.7% 94,775	93.7% 89,075	83.9% 79,700	46.2% 43,950	14.4% 13,725
Conservation and natural environments	10,725	100.0% 10,725	100.0% 10,725	99.3% 10,650	98.1% 10,525	77.4% 8,300	31.2% 3,350
Conservation and natural environments Woodland forest	2,650	100.0% 2,650	100.0% 2,650	100.0% 2,650	99.1% 2,625	83.0% 2,200	40.6% 1,075
Conservation and natural environments Forest (non woodland)	7,925	100.0% 7,925	100.0% 7,925	99.4% 7,875	98.1% 7,775	76.0% 6,025	28.7% 2,275
Agriculture	31,275	100.0% 31,275	99.8% 31,200	99.1% 31,000	95.8% 29,950	59.5% 18,600	19.0% 5,950
Grazing	29,750	100.0% 29,750	99.8% 29,700	99.2% 29,500	96.1% 28,575	61.1% 18,175	19.7% 5,875
Grazing non forest	14,800	100.0% 14,800	99.7% 14,750	98.3% 14,550	93.1% 13,775	46.6% 6,900	14.7% 2,175
Grazing Woodland forest	5,750	100.0% 5,750	100.0% 5,750	100.0% 5,750	98.3% 5,650	70.4% 4,050	22.2% 1,275
Grazing - Forest (non woodland)	9,200	100.0% 9,200	100.0% 9,200	100.0% 9,200	99.5% 9,150	78.5% 7,225	26.4% 2,425
Irrigation	1,325	100.0% 1,325	100.0% 1,325	100.0% 1,325	92.5% 1,225	30.2% 400	5.7% 75
Production native forests and plantation forests	2,325	100.0% 2,325	100.0% 2,325	89.2% 2,075	77.4% 1,800	43.0% 1,000	17.2% 400







