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: February 2025

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



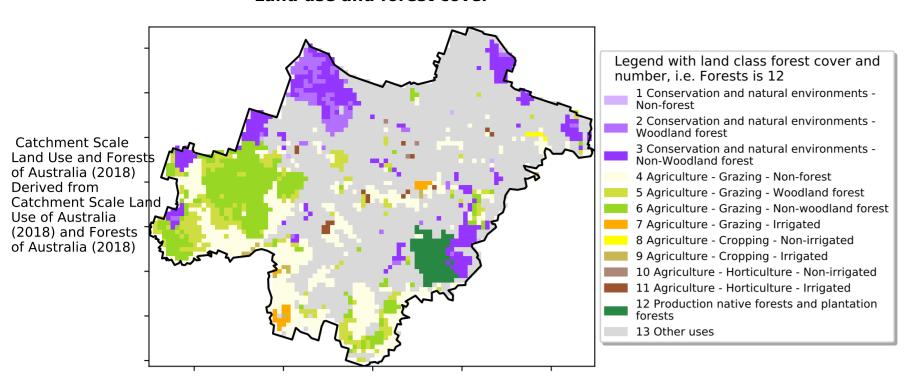




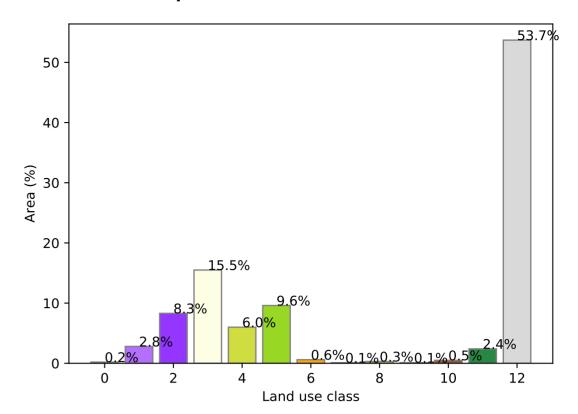


Vegetation Cover Feb 2025

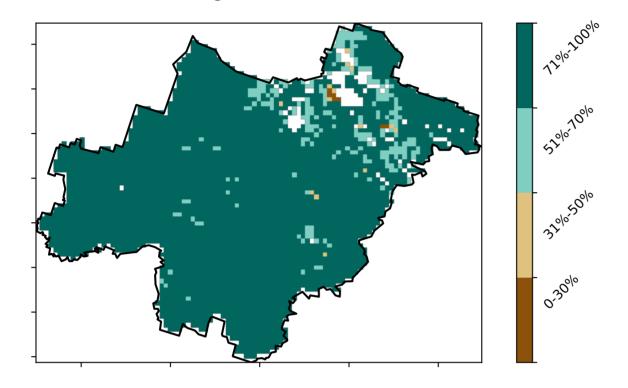
Land use and forest cover



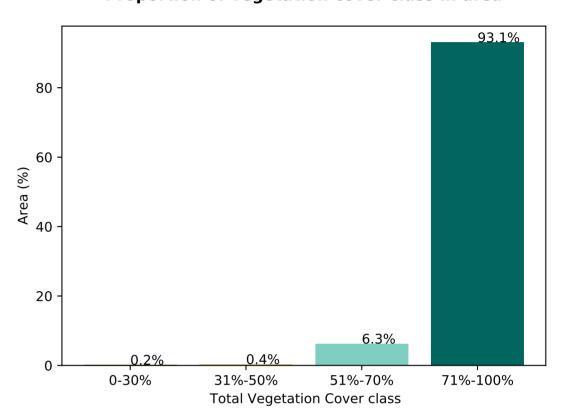
Proportion of each land class in area



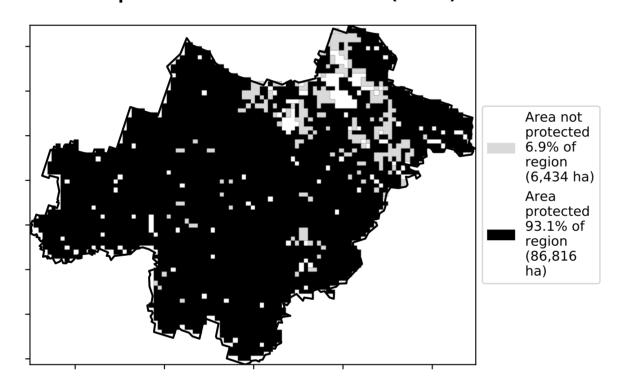
Total Vegetation Cover [%]



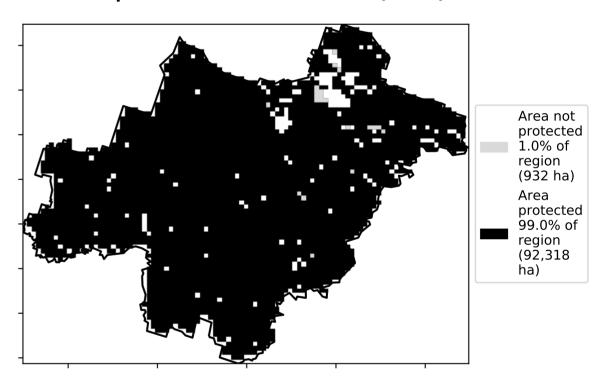
Proportion of vegetation cover class in area



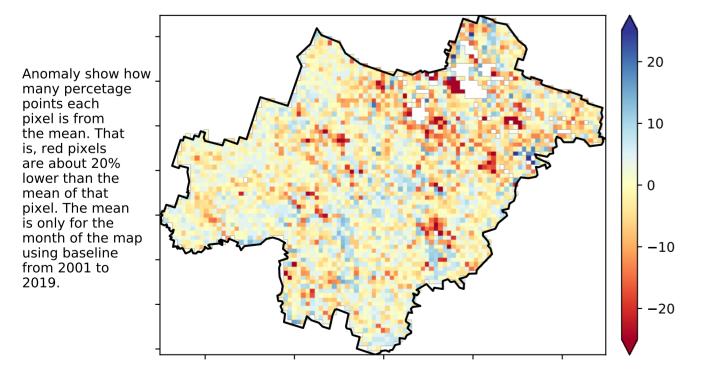
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

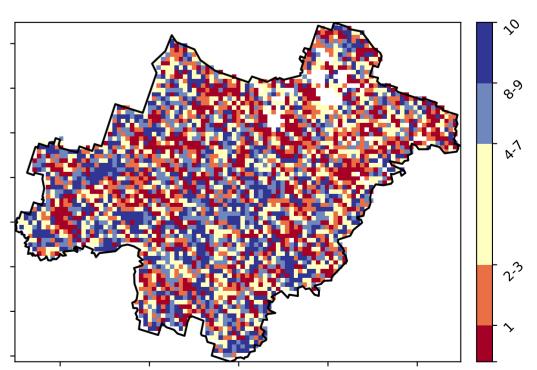


Total Vegetation Cover Anomaly [%]



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

Total Vegetation Cover Decile [%]

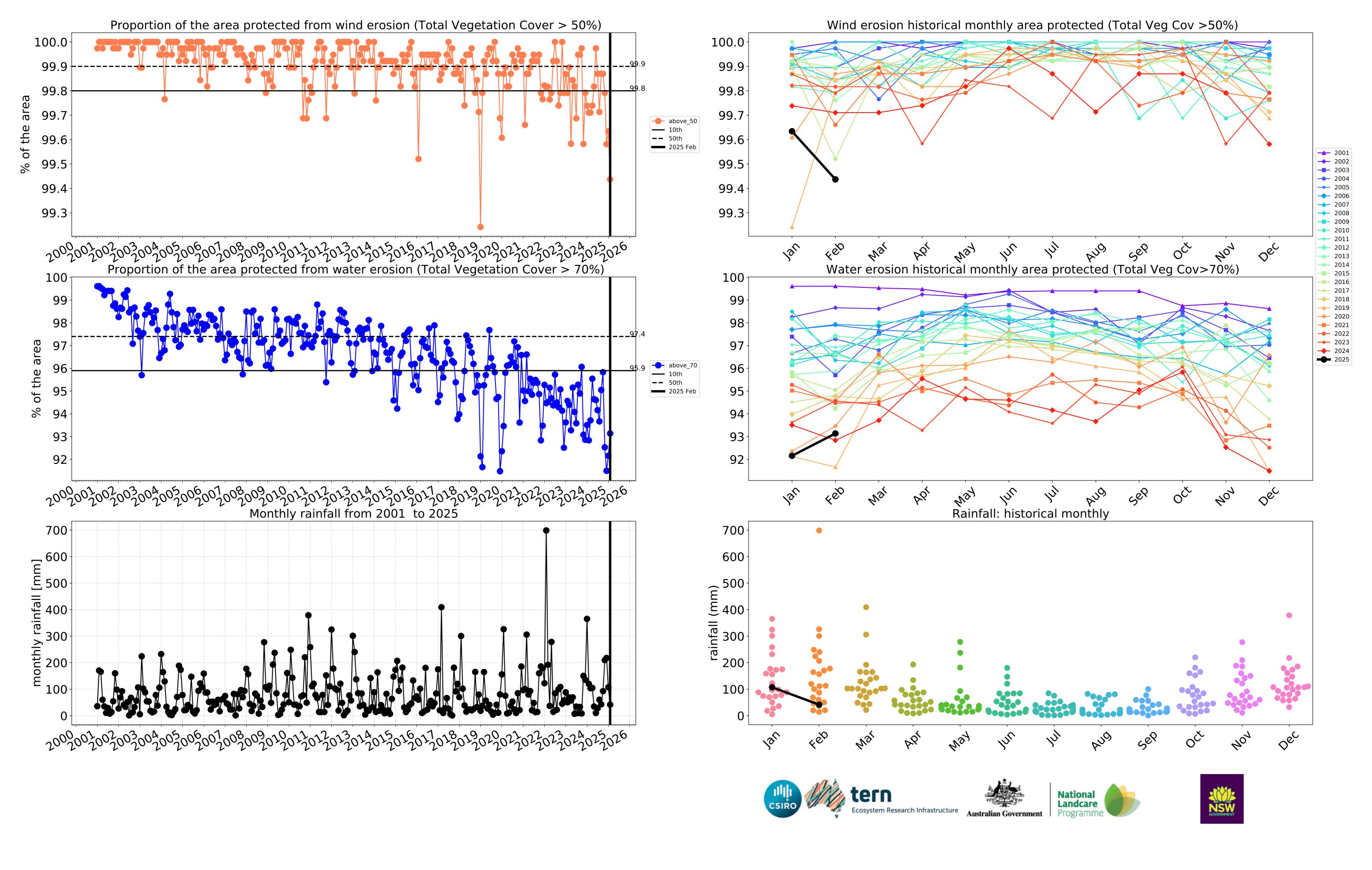


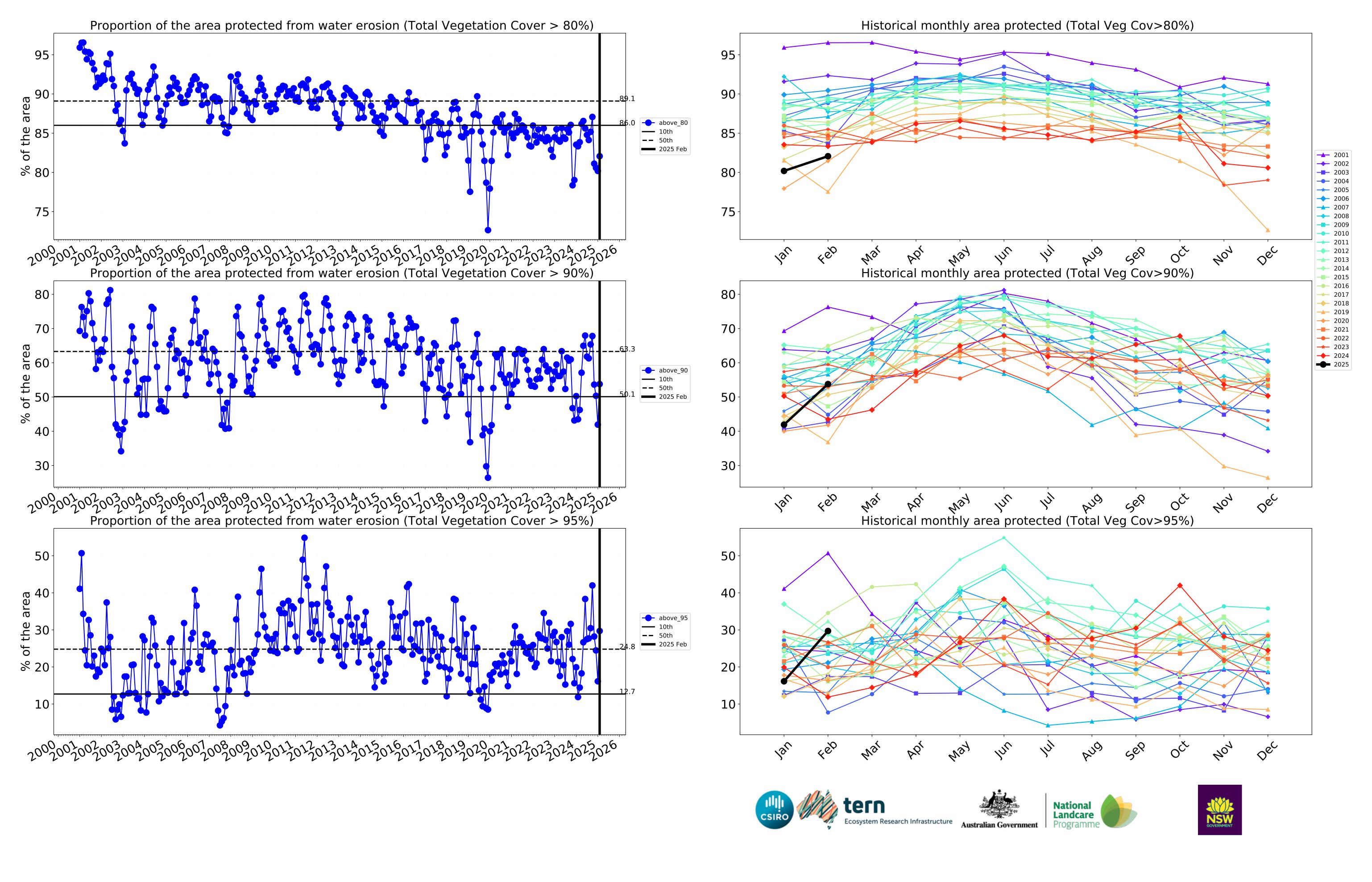




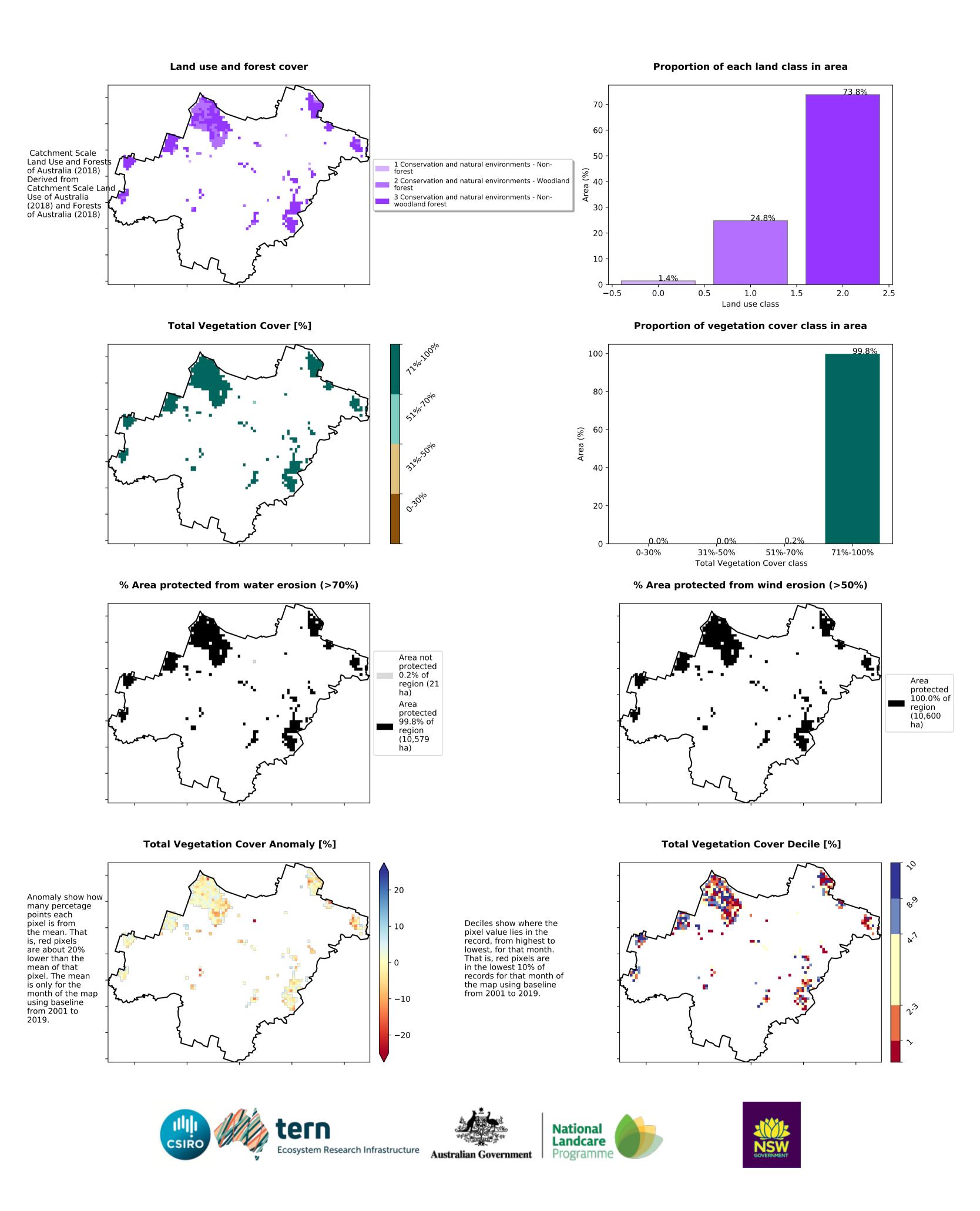




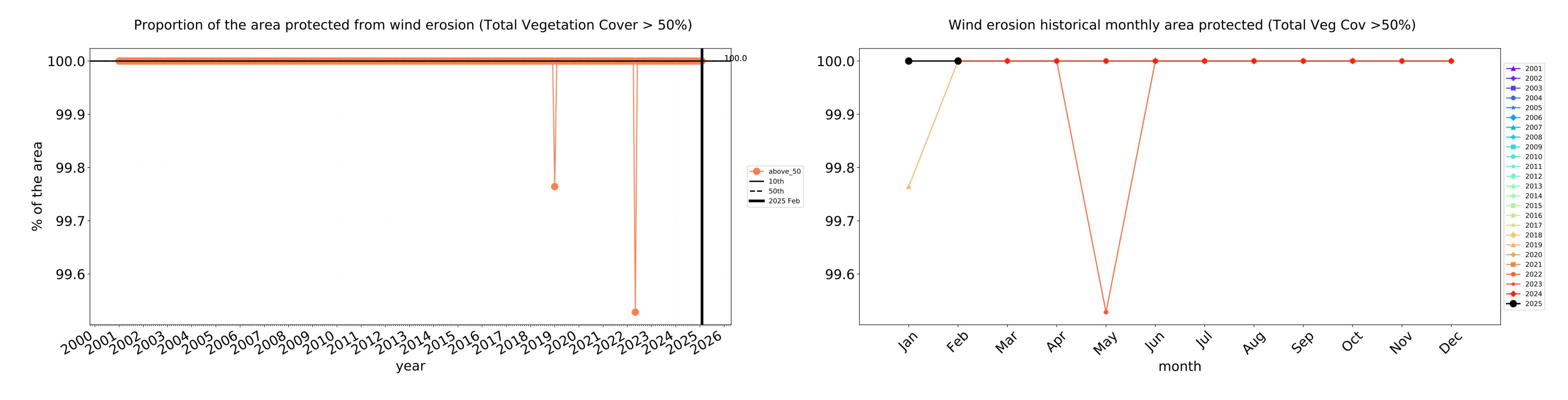


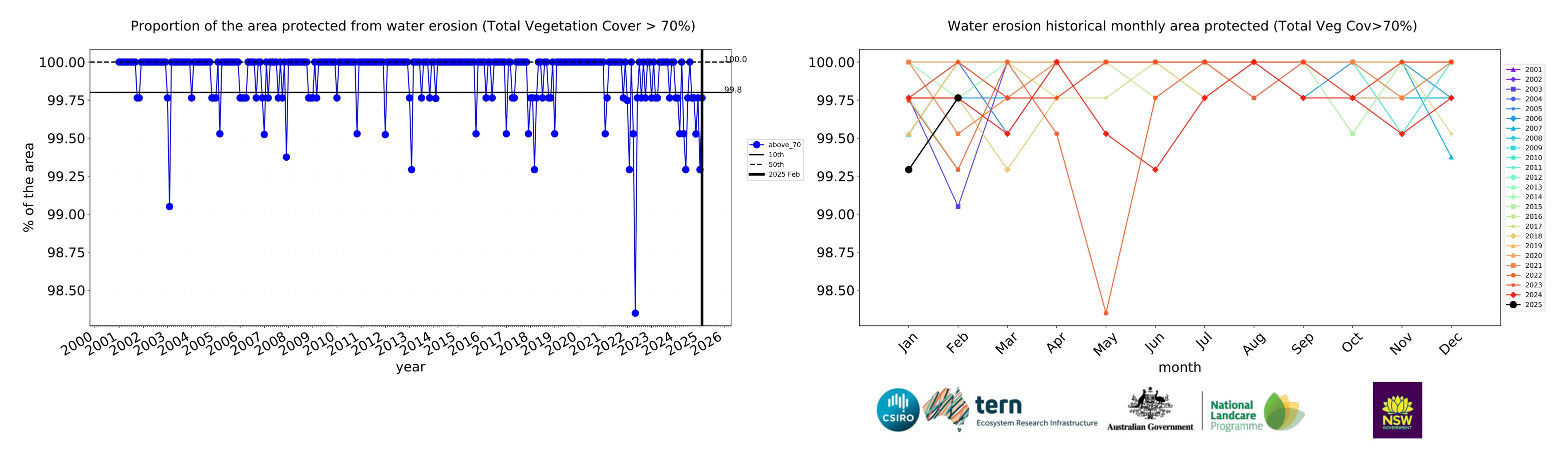


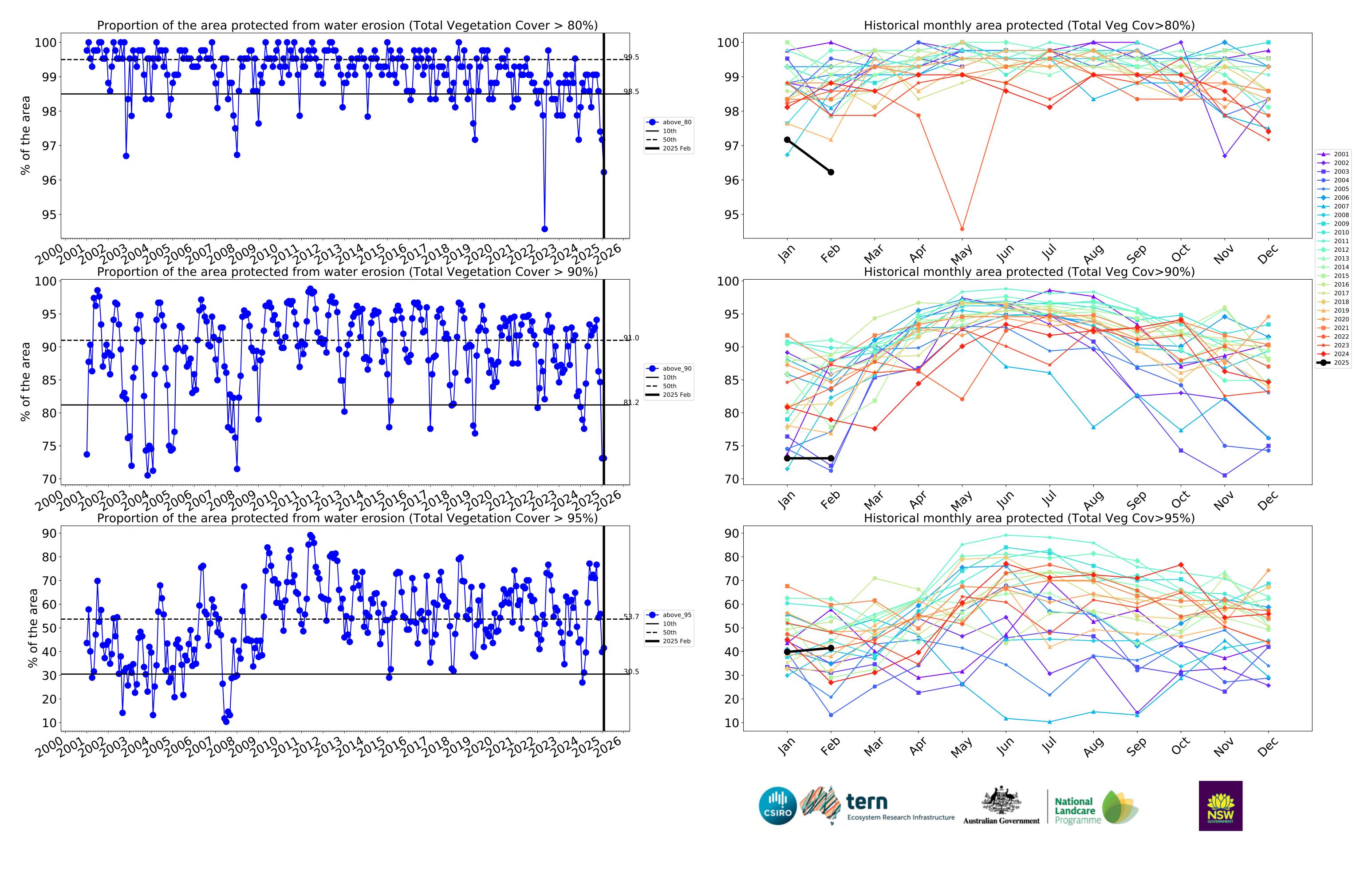
Conservation and natural environments



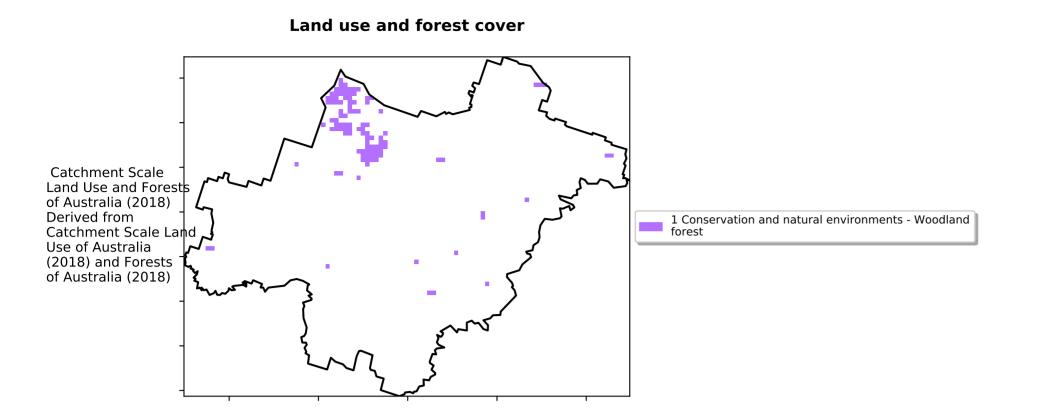
Conservation and natural environments timeseries



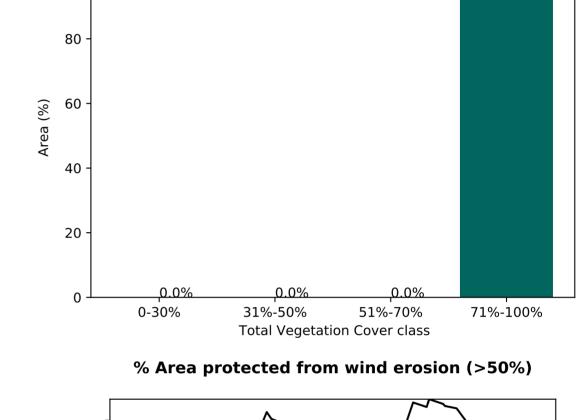




Conservation and natural environments Woodland forest



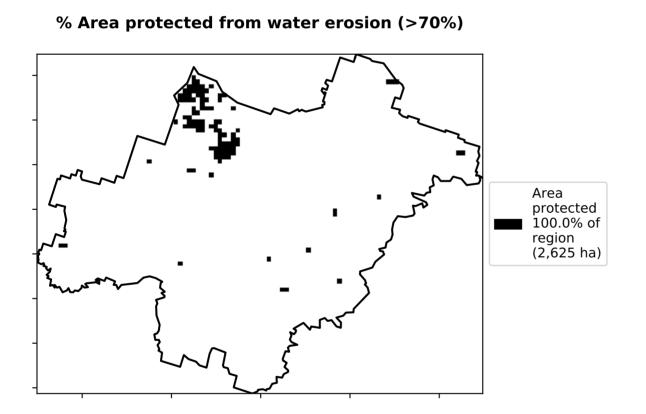
Total Vegetation Cover [%]

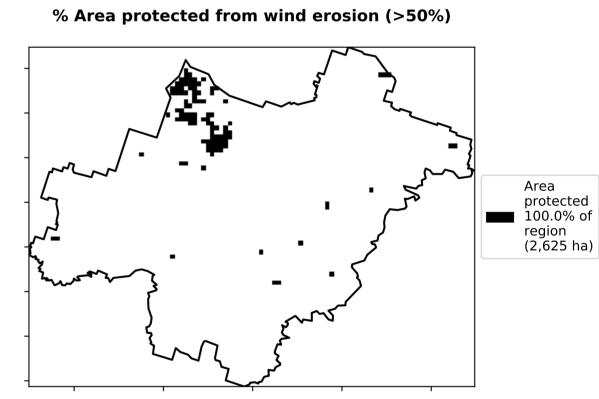


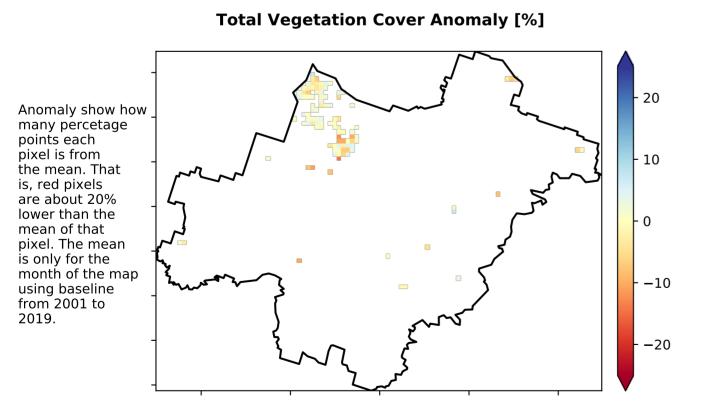
100

Proportion of vegetation cover class in area

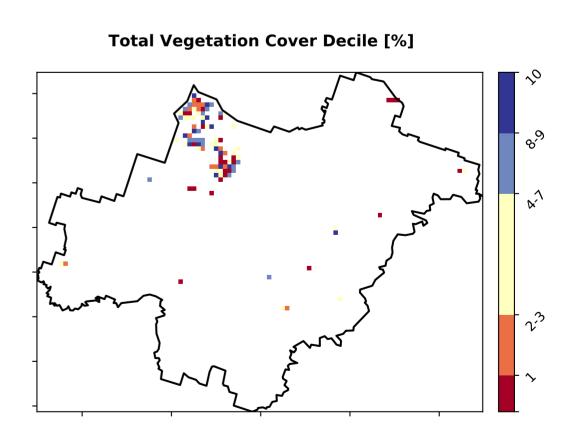
100.0%







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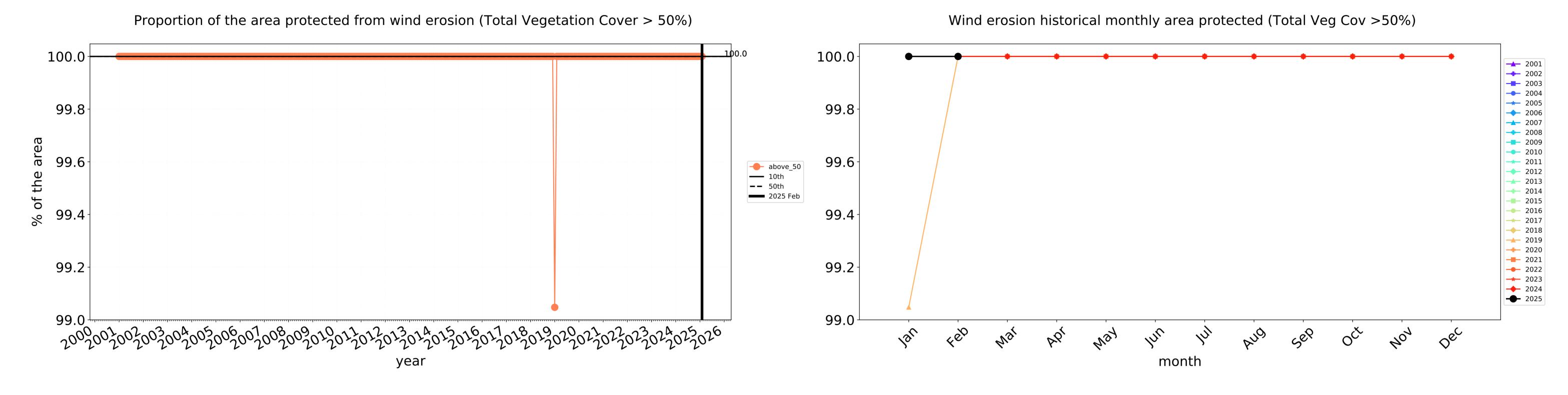


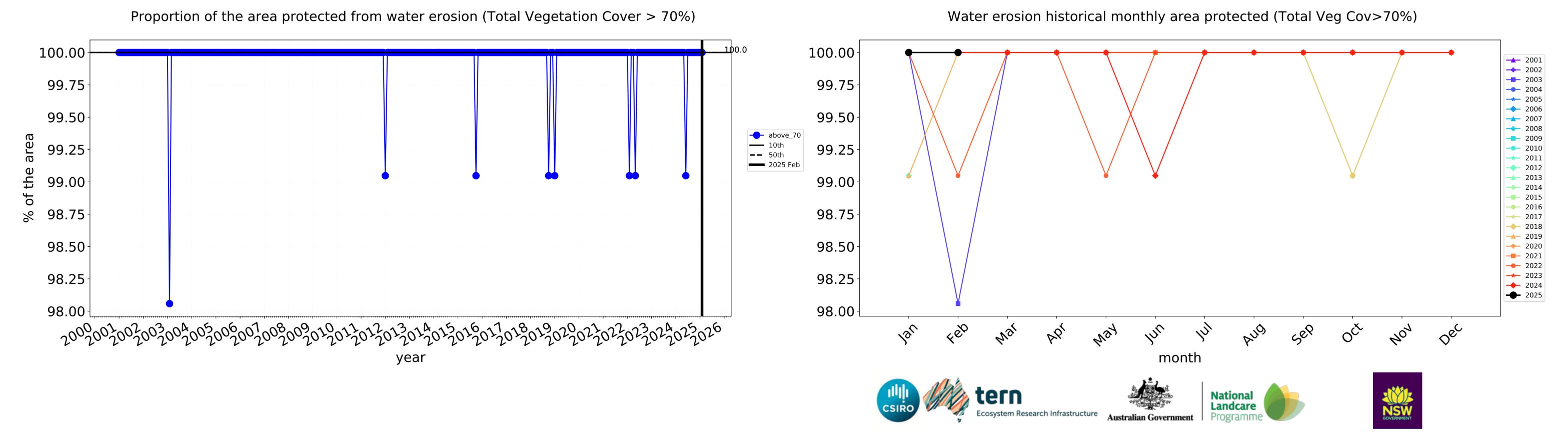


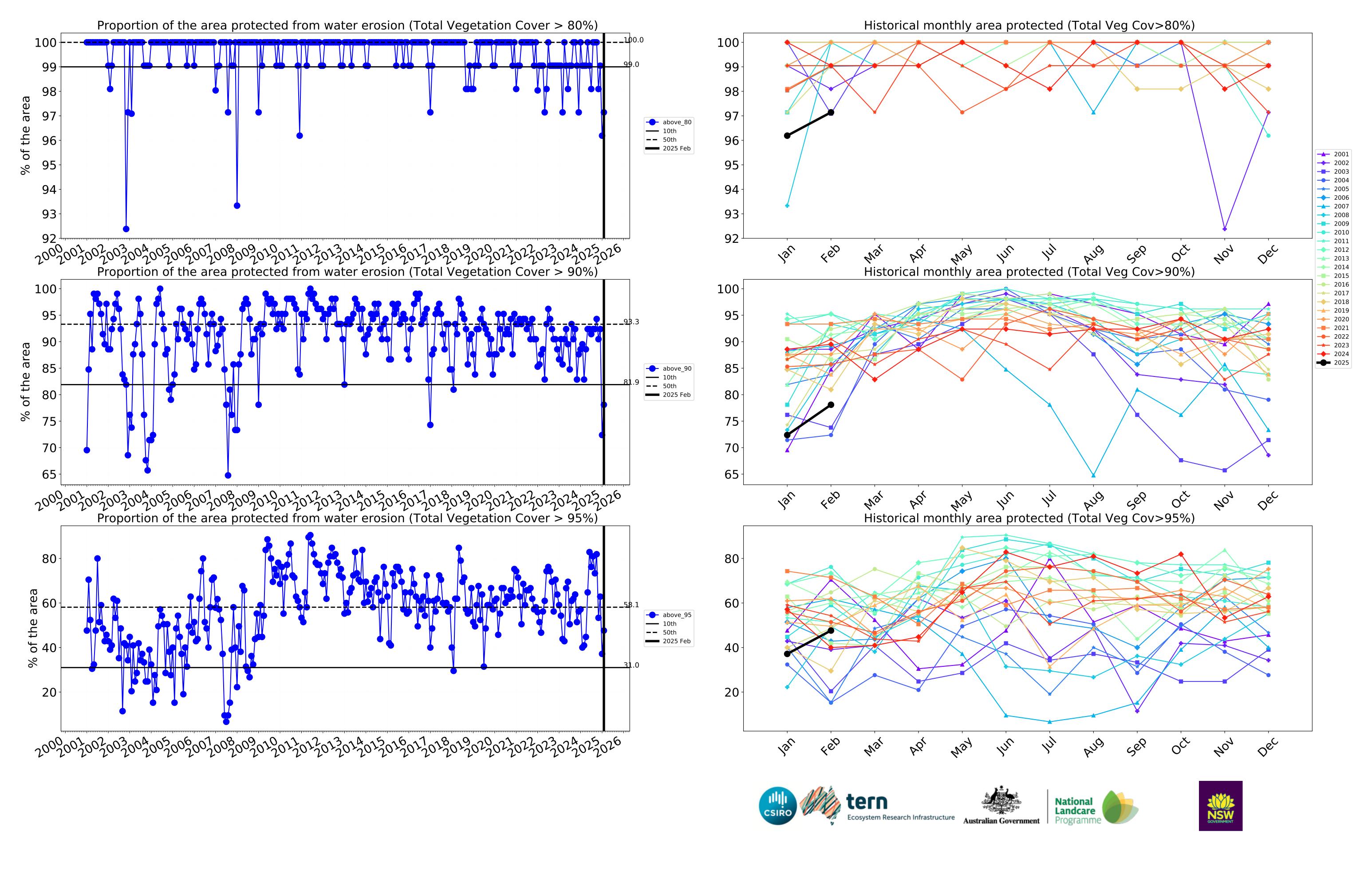




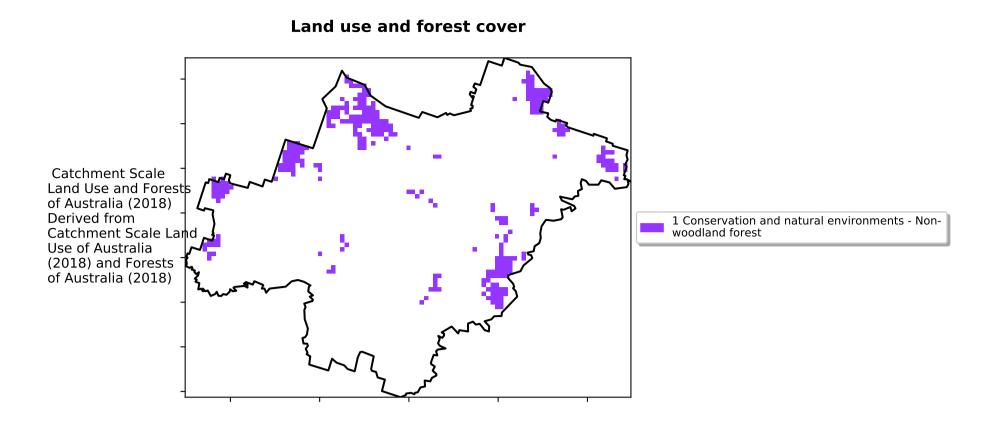




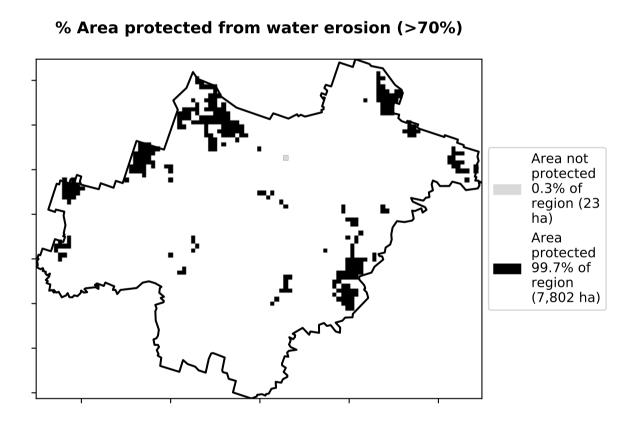


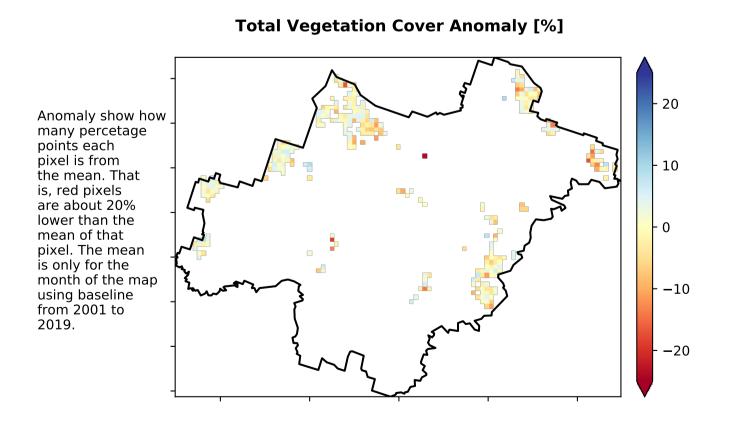


Conservation and natural environments Forest (non woodland)

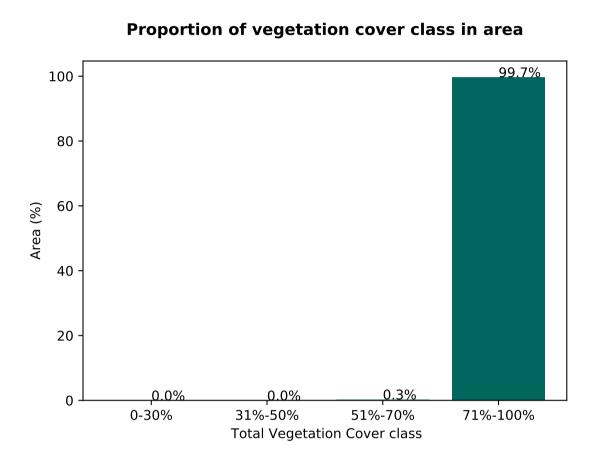


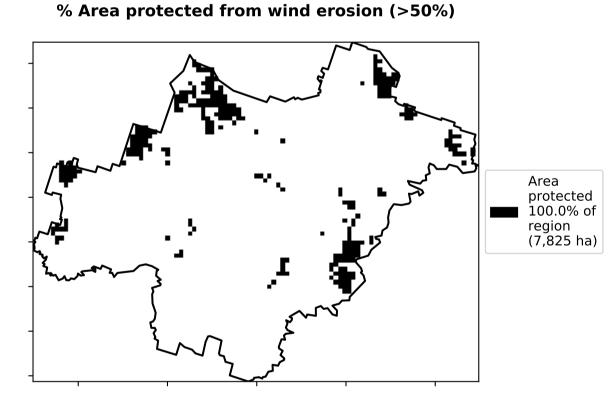
Total Vegetation Cover [%]

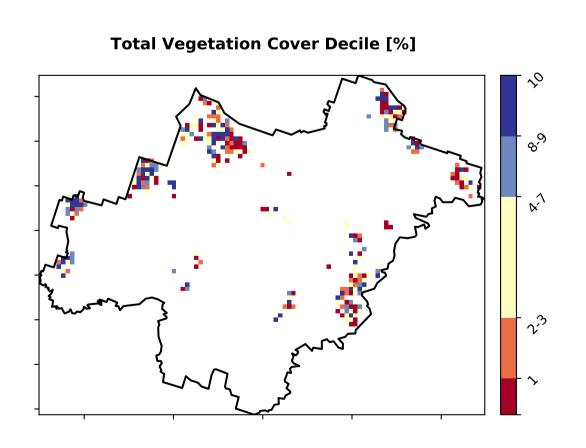




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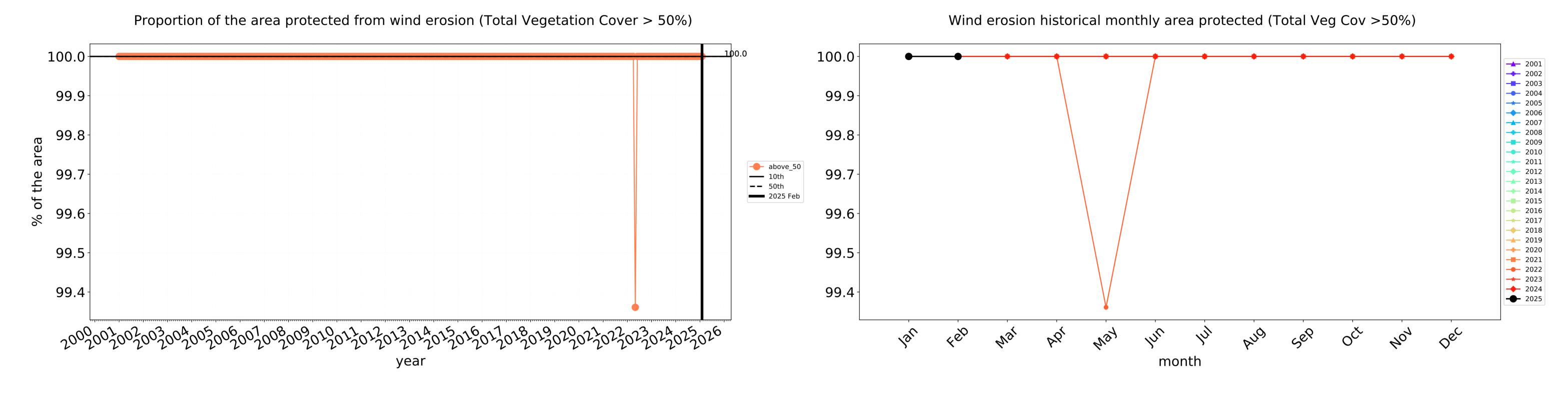


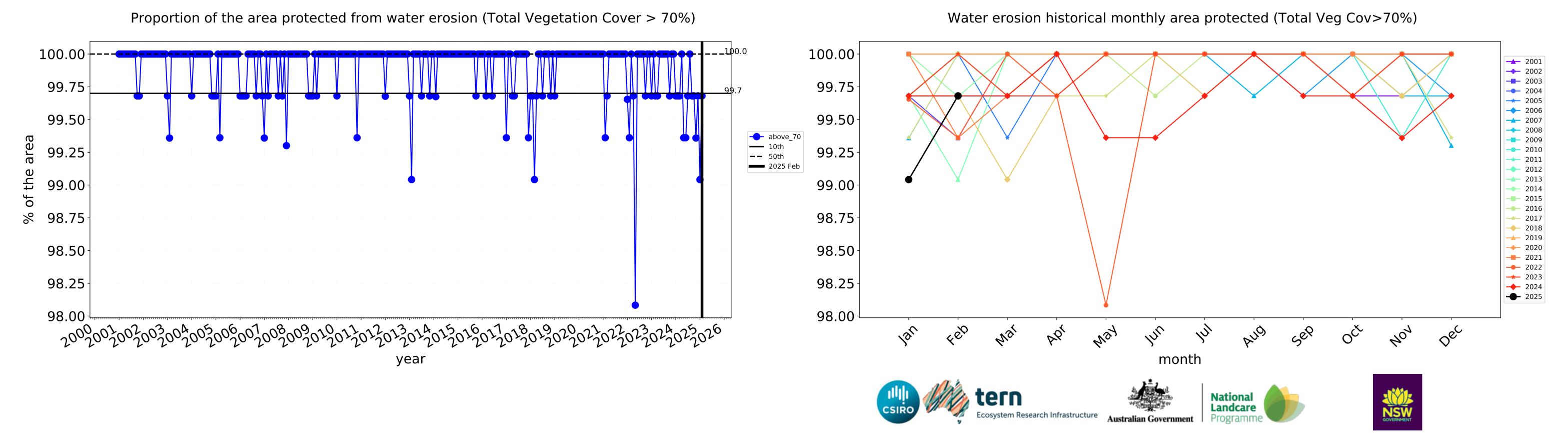


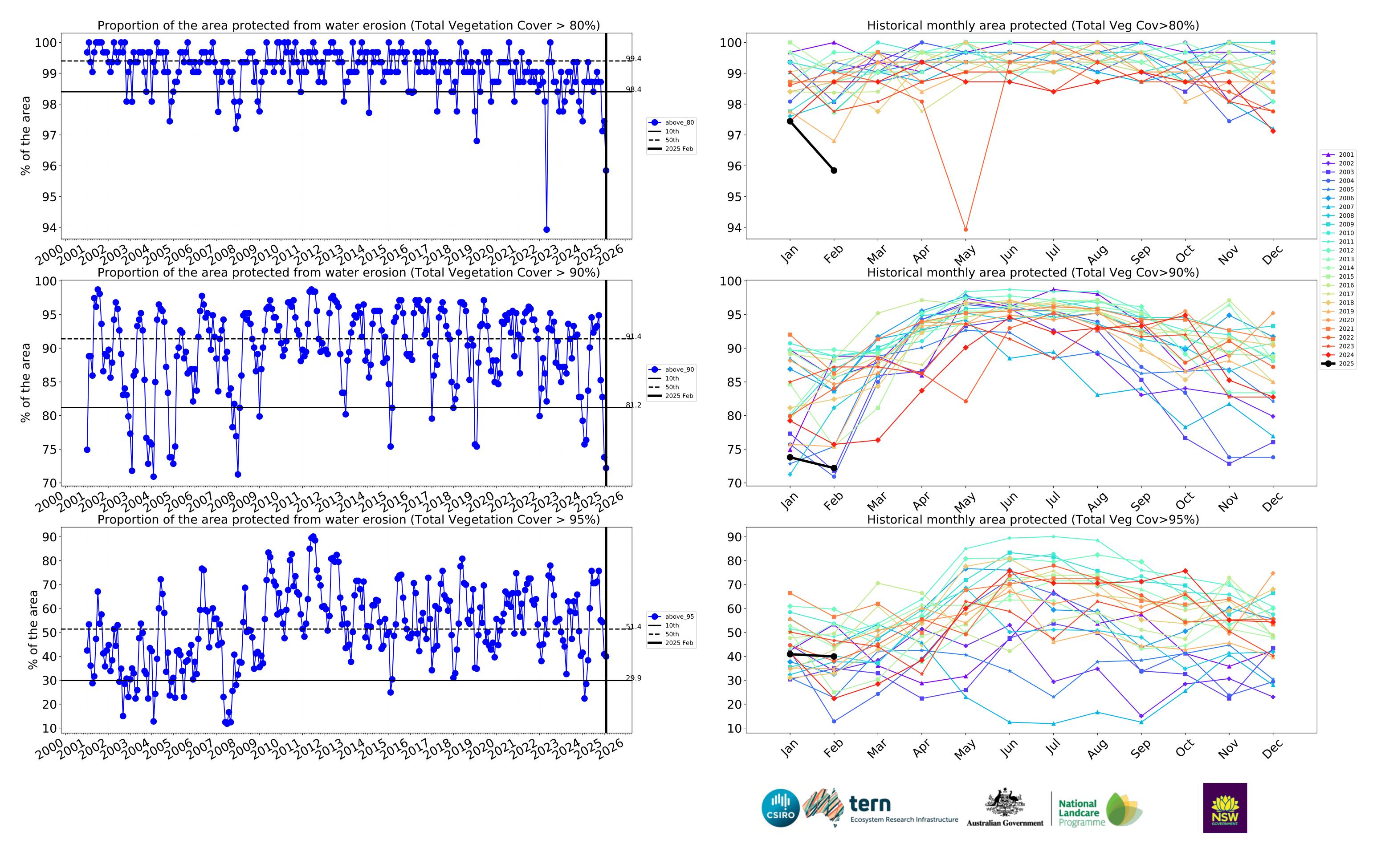








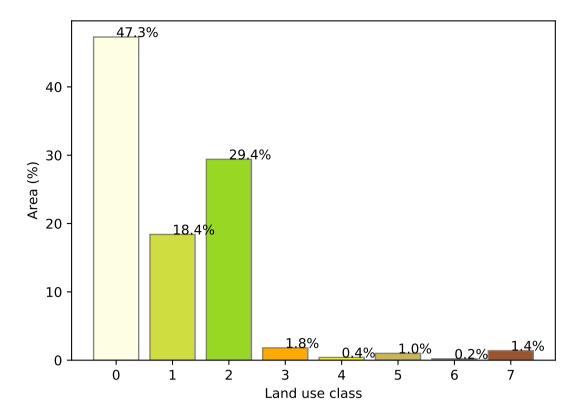




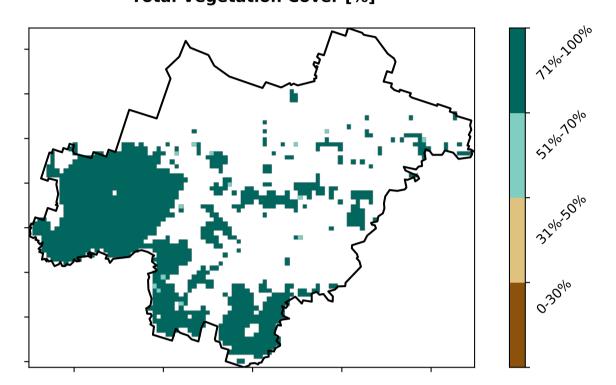
Agriculture

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 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non-woodland forest 9 Agriculture - Cropping - Non-irrigated 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non forest 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non forest 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non forest 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non forest 1 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non forest 1 Agriculture - Grazing - Non forest 9 Agriculture

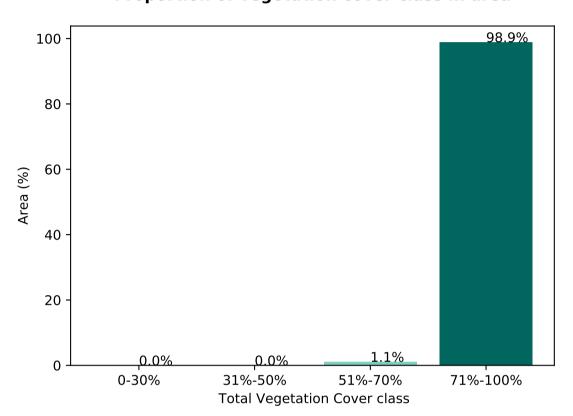
Proportion of each land class in area



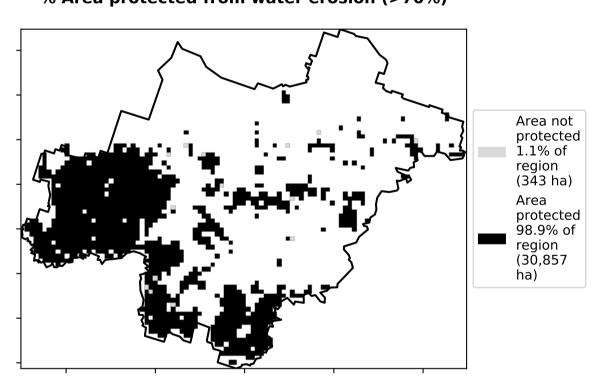
Total Vegetation Cover [%]



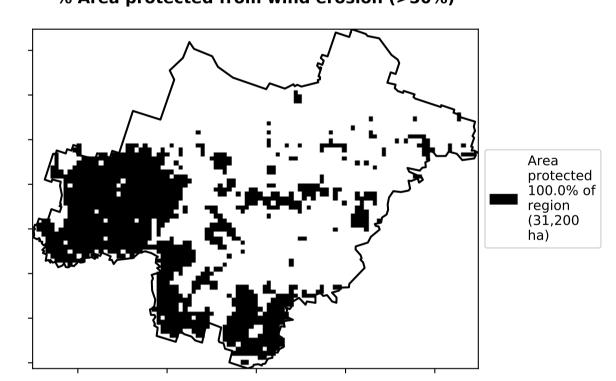
Proportion of vegetation cover class in area



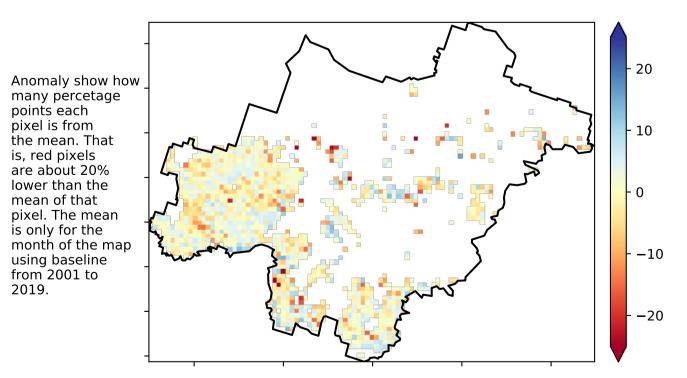
% Area protected from water erosion (>70%)



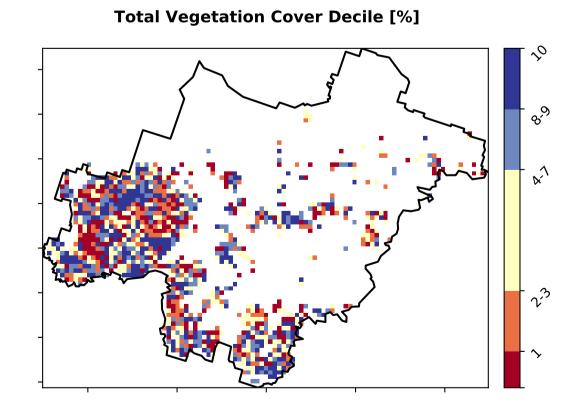
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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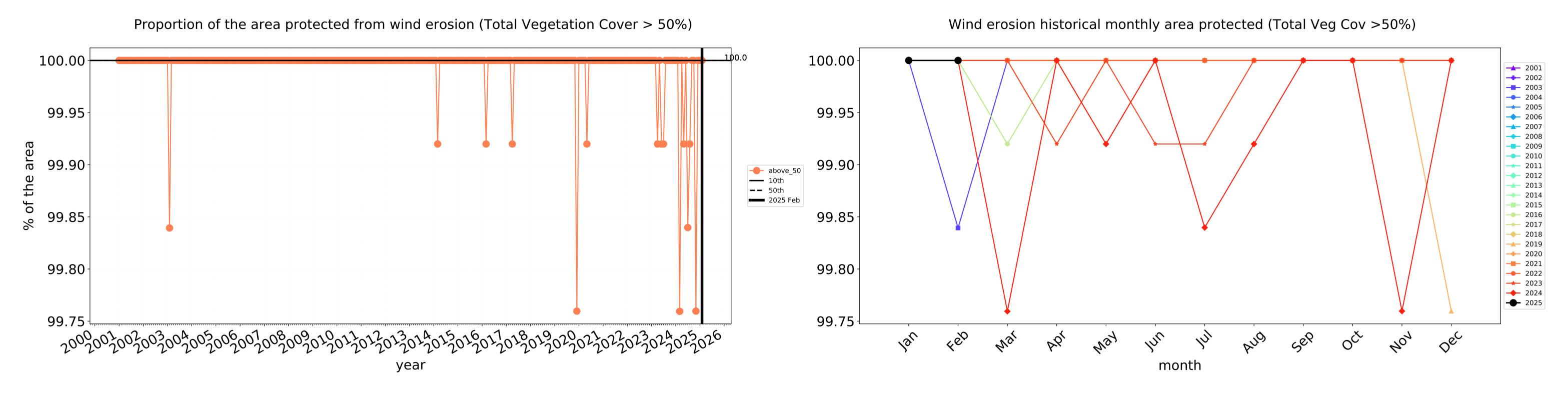


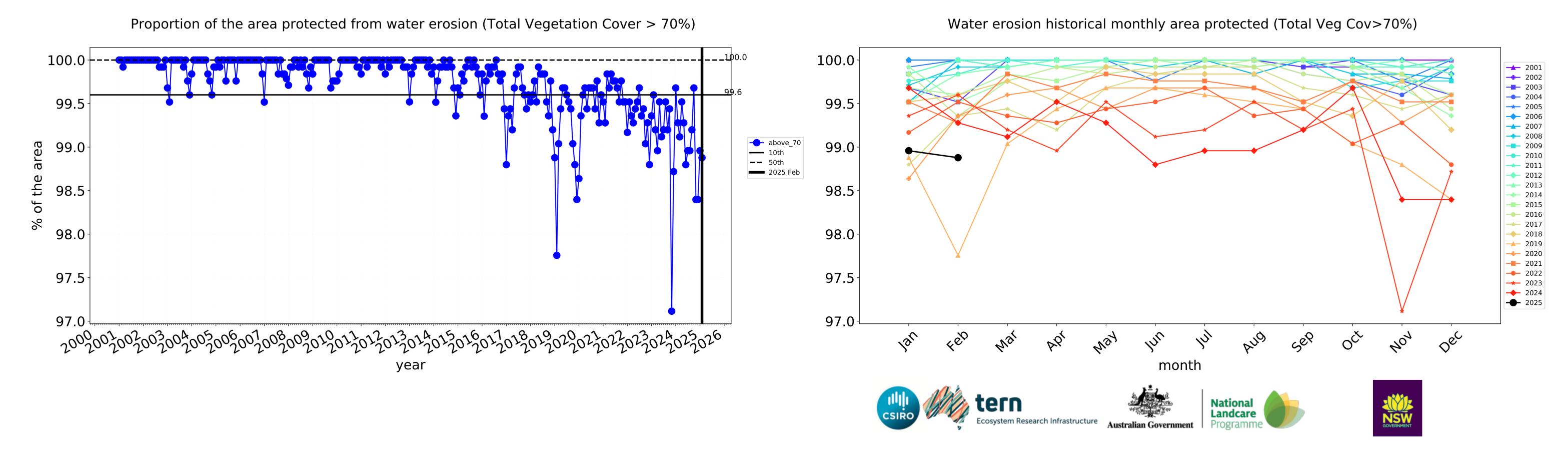


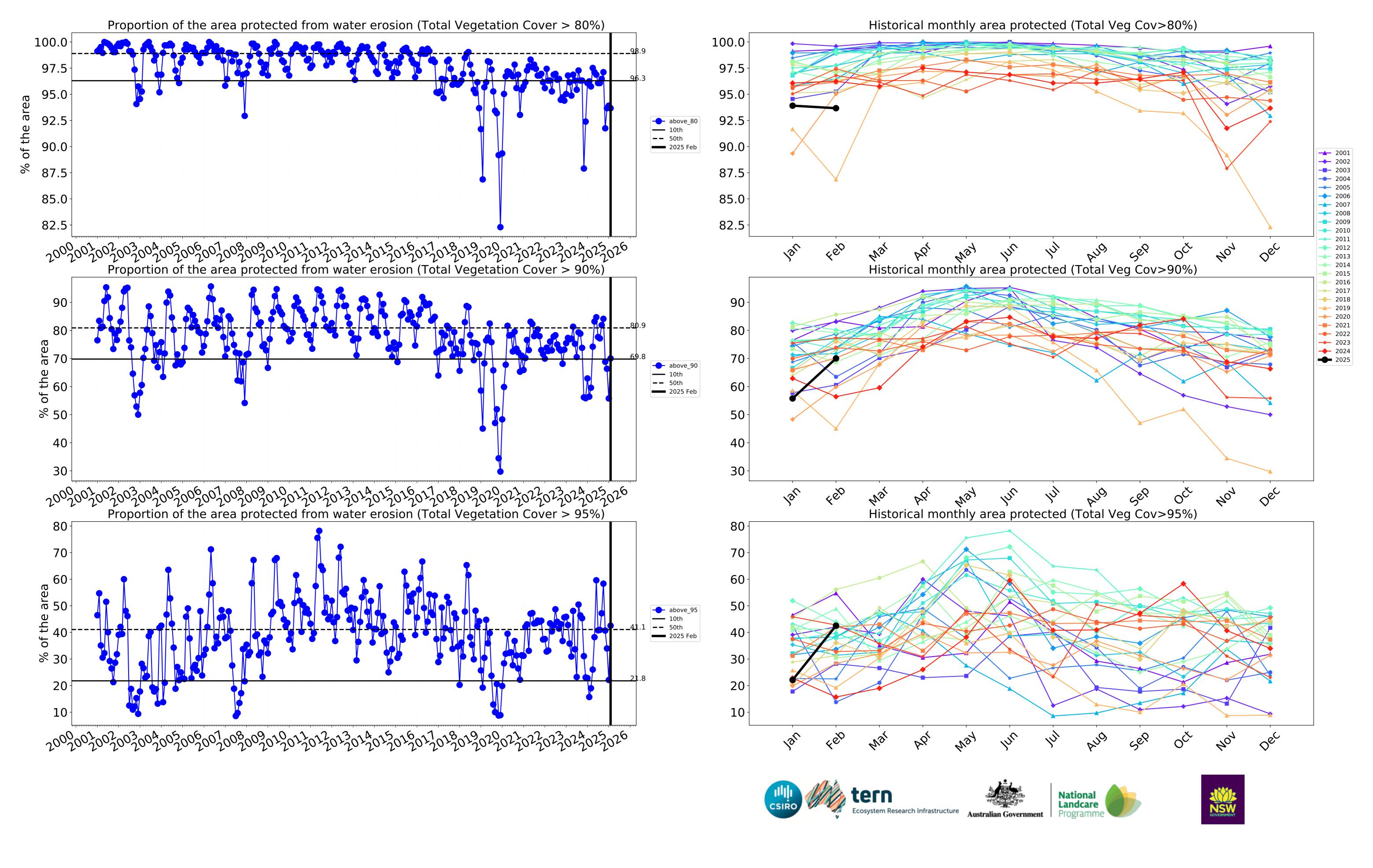




Agriculture timeseries



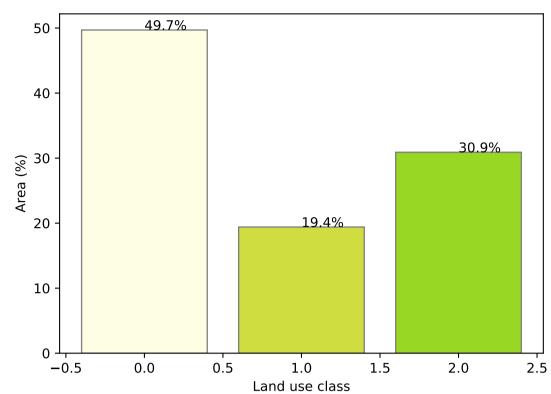




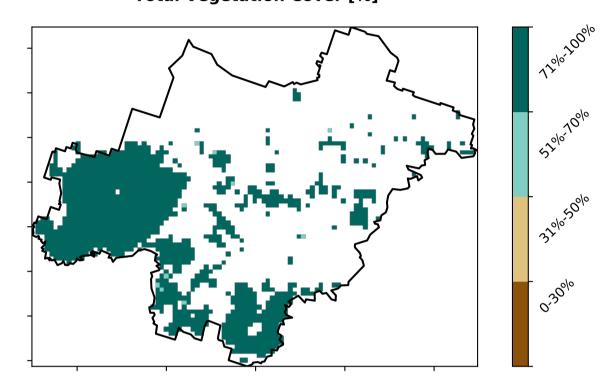
Grazing

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest 3 Agriculture - Grazing - Non-woodland forest

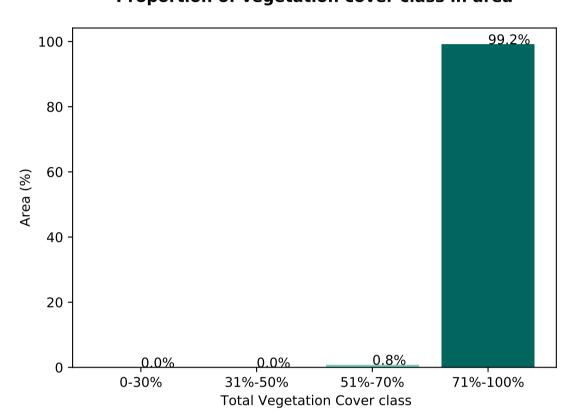
Proportion of each land class in area



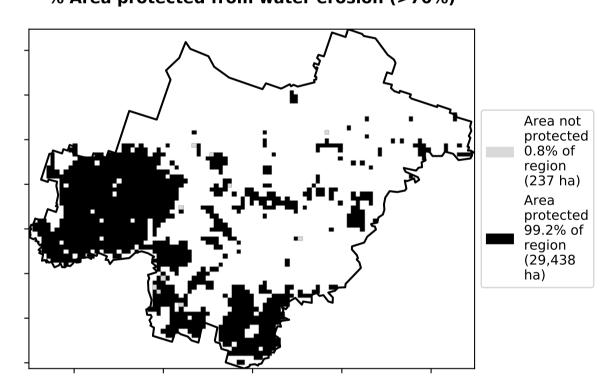




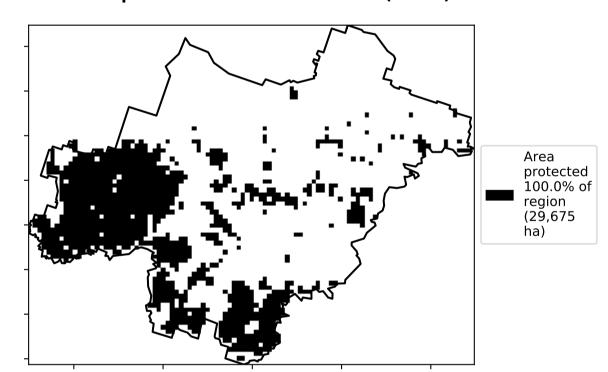
Proportion of vegetation cover class in area



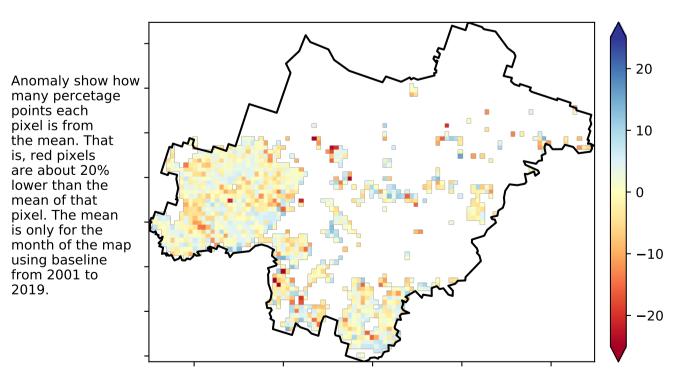
% Area protected from water erosion (>70%)



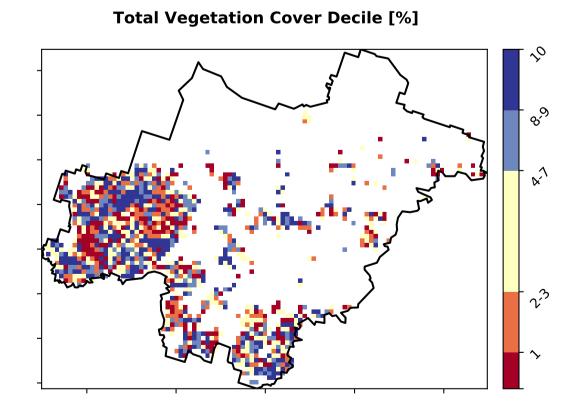
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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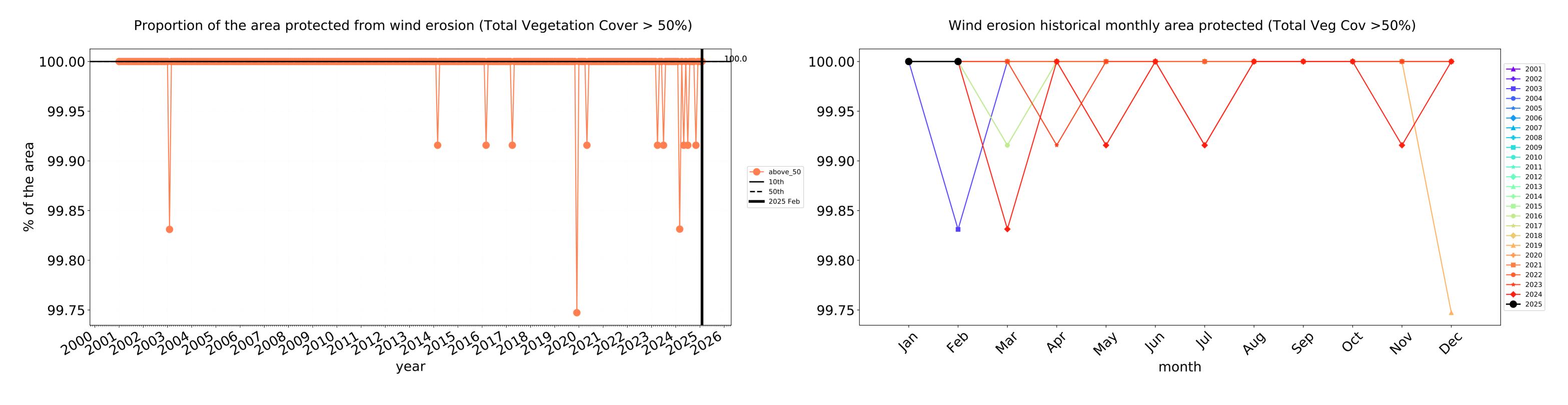


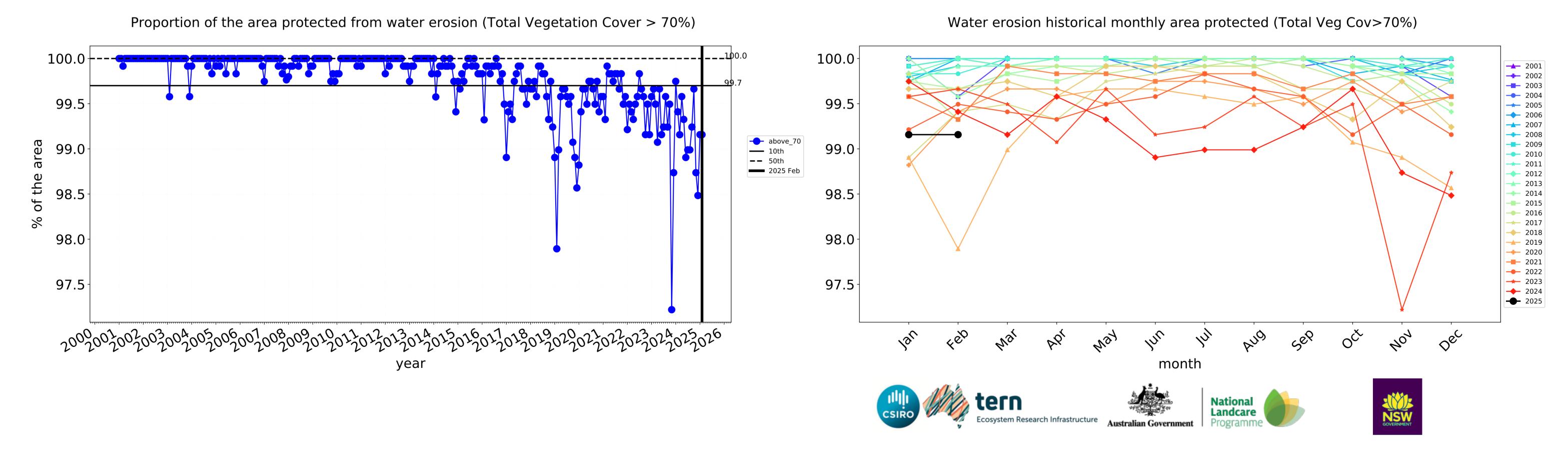


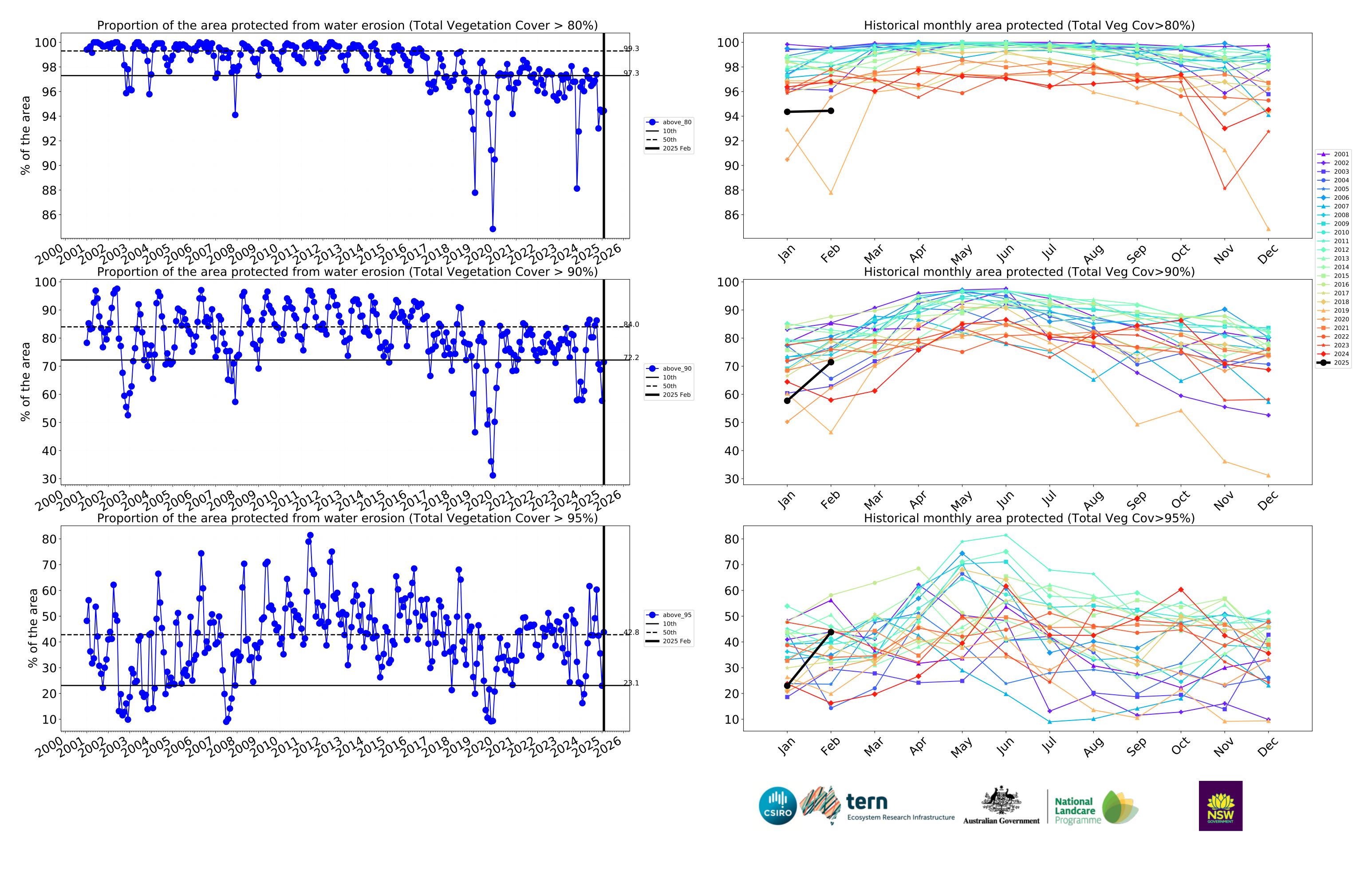




Grazing timeseries





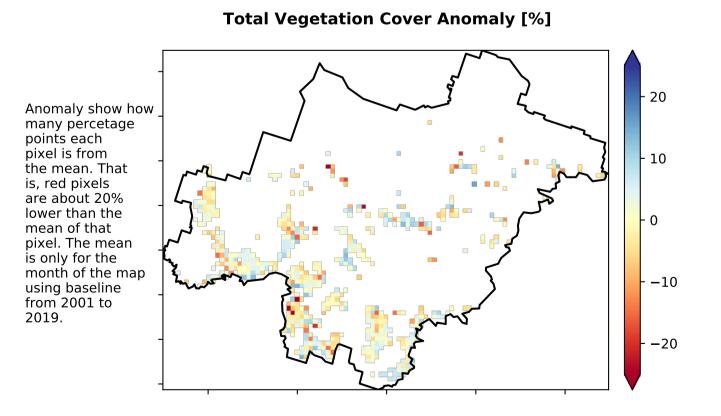


Grazing non forest

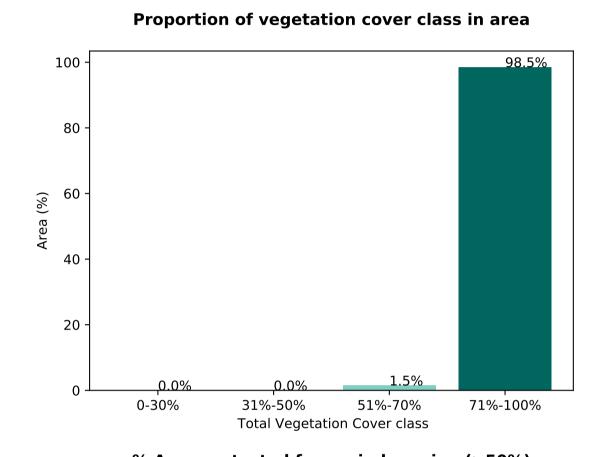
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) and Forests of Australia (2018)

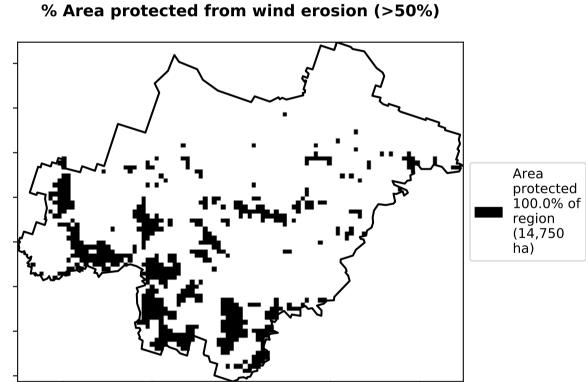
Total Vegetation Cover [%]

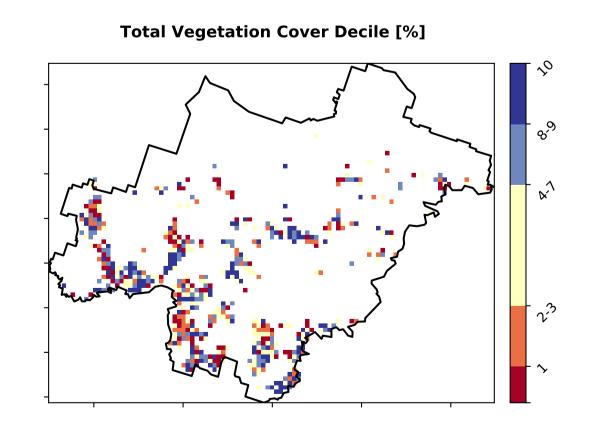
Area not protected 1.5% of region (221 ha) Area protected 98.5% of region (14,529 ha)



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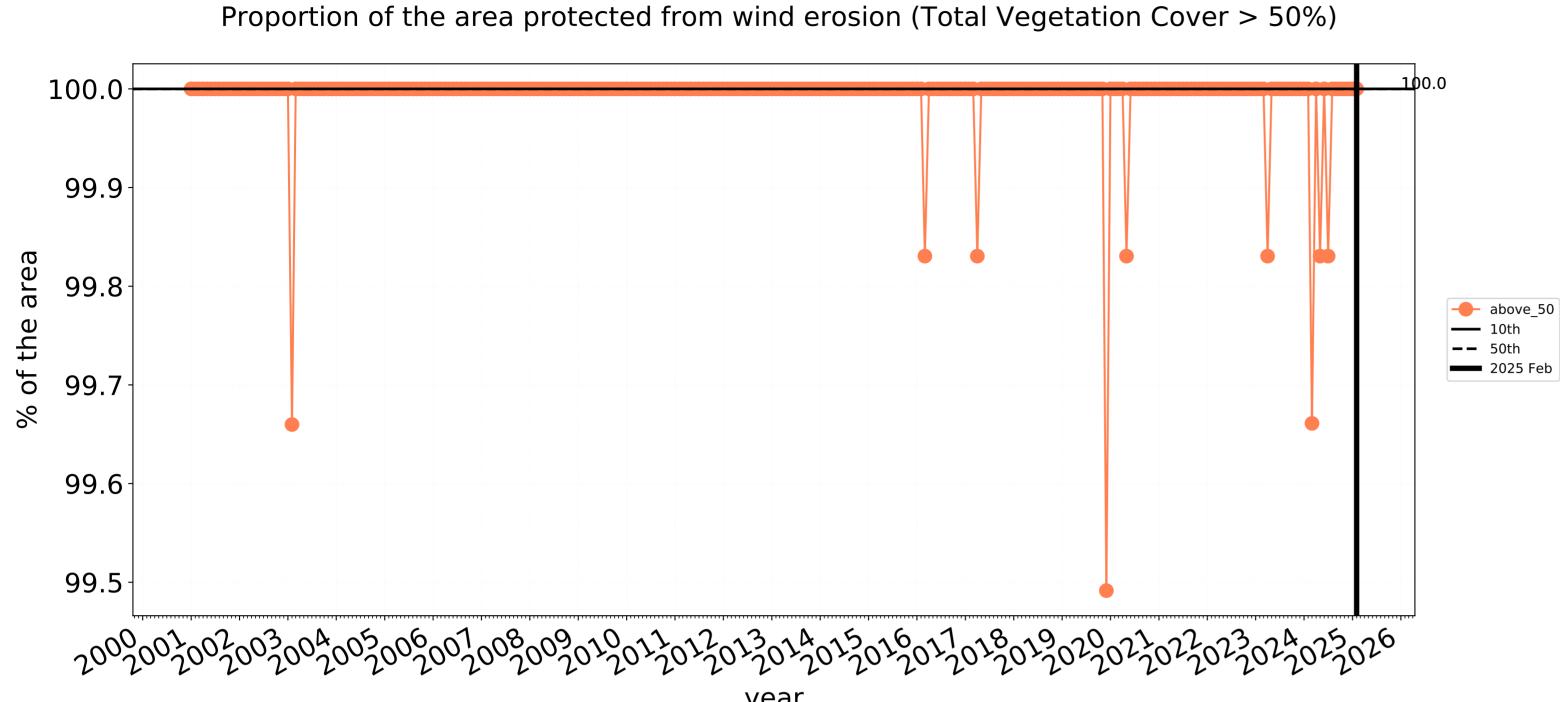


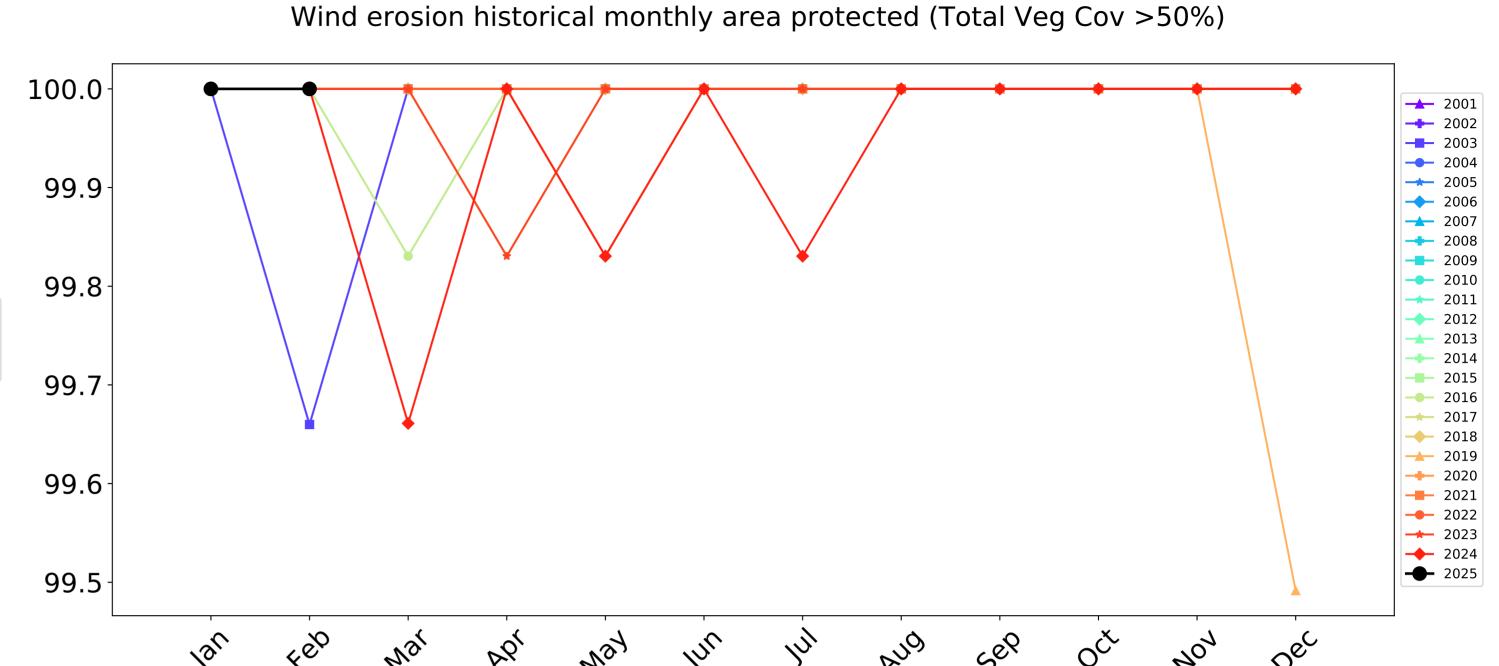




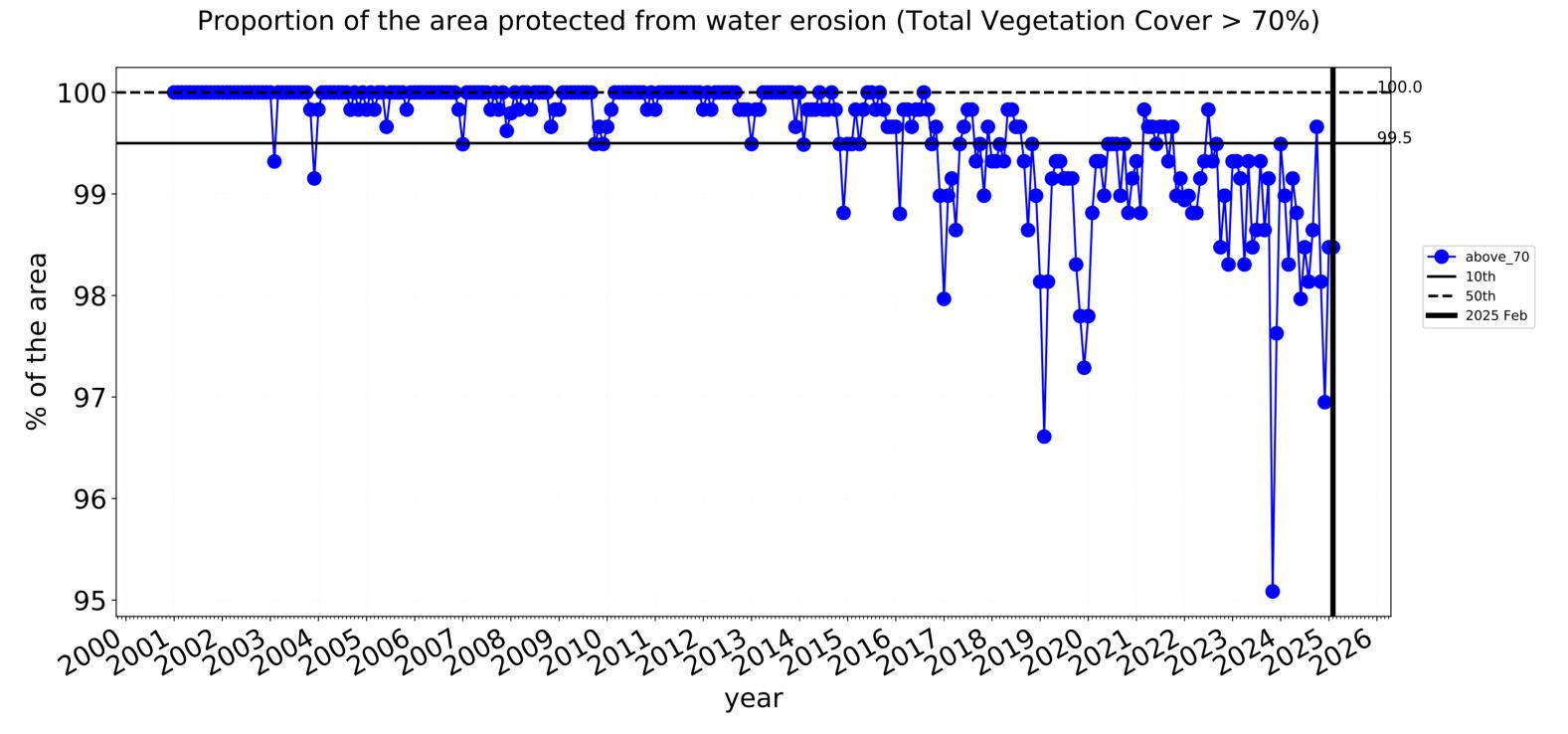


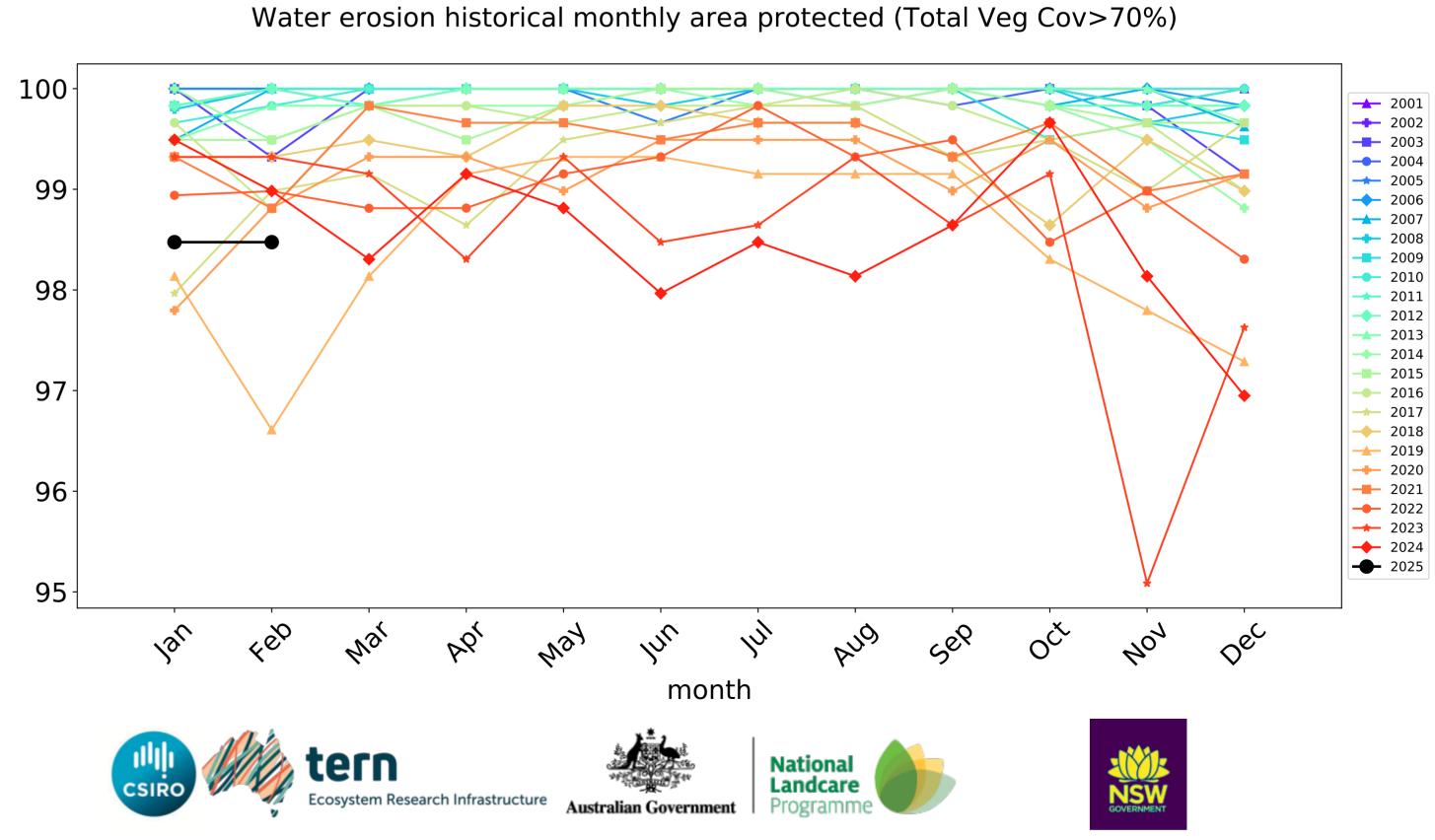
Grazing non forest timeseries

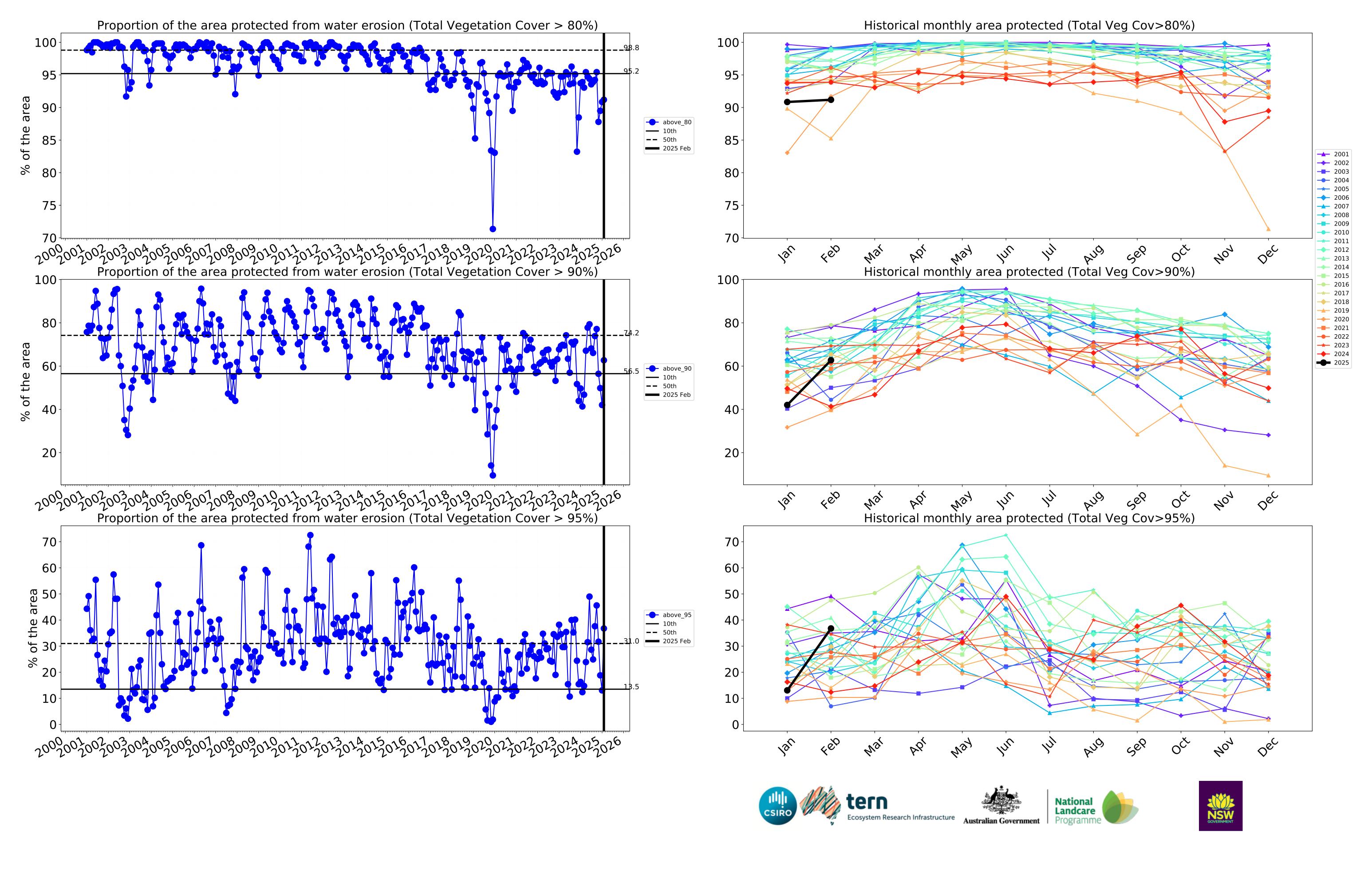




month





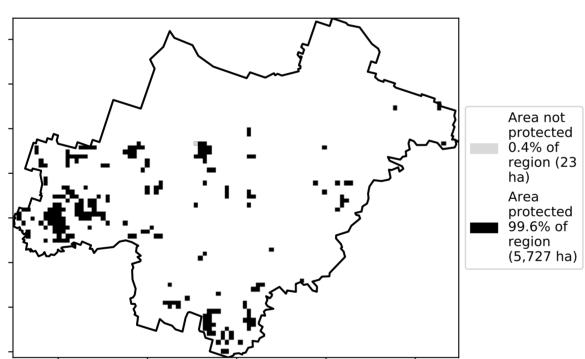


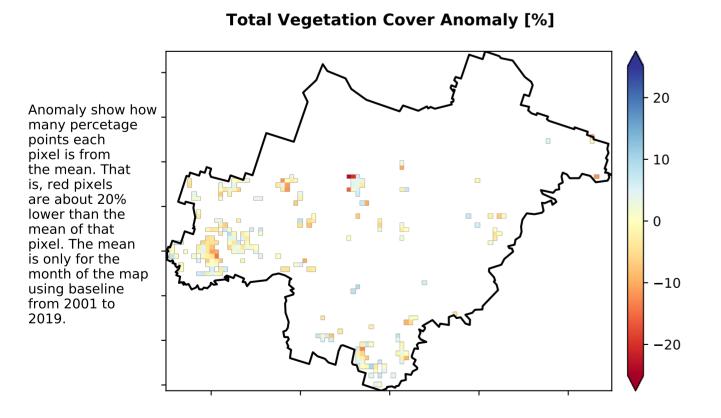
Grazing Woodland forest

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)

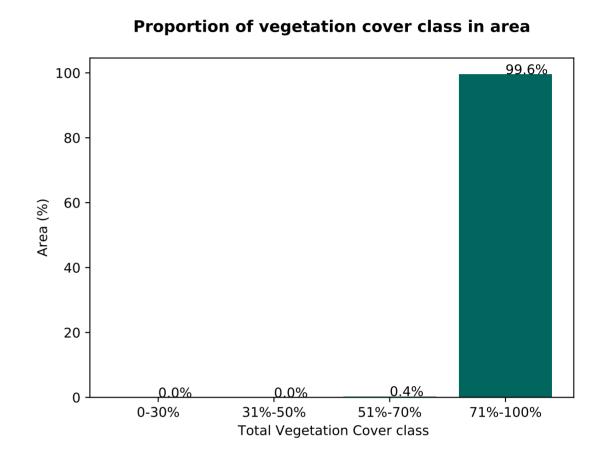
Total Vegetation Cover [%]

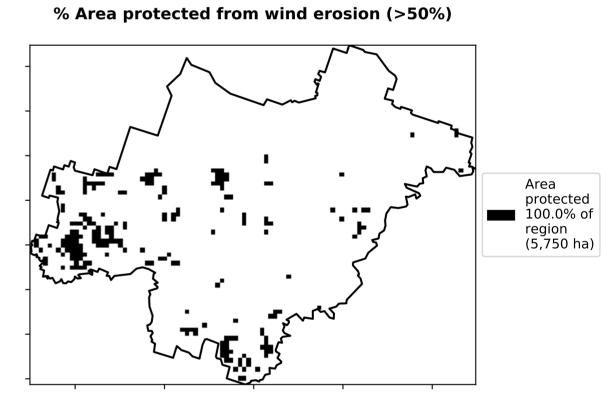
% Area protected from water erosion (>70%)

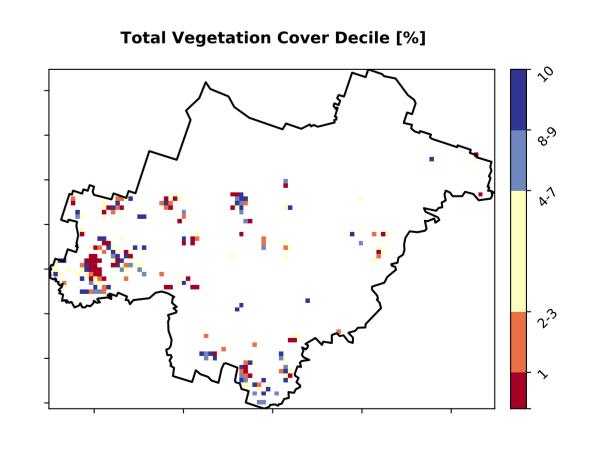




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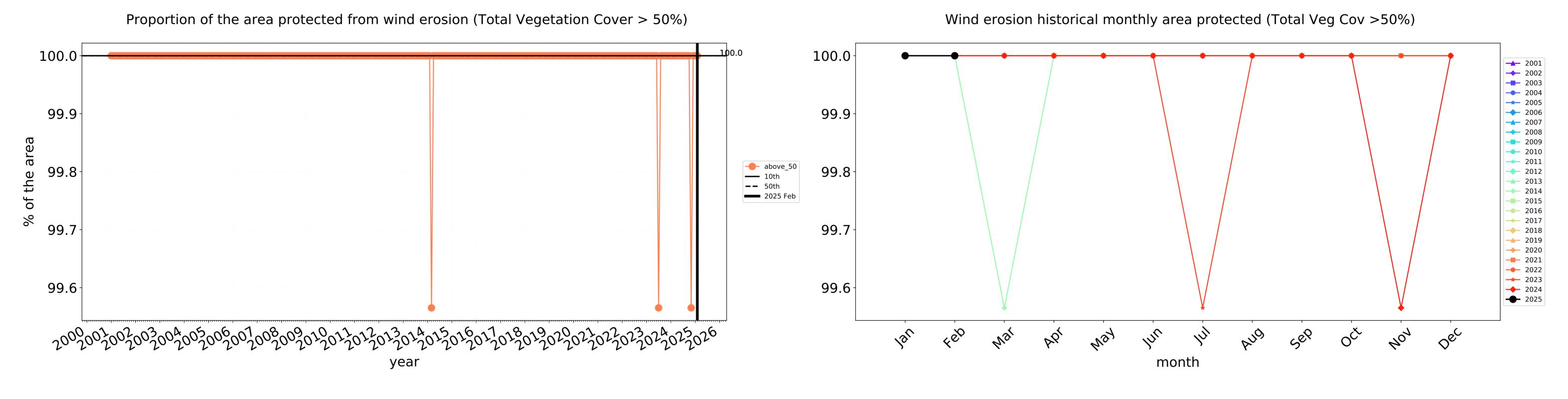


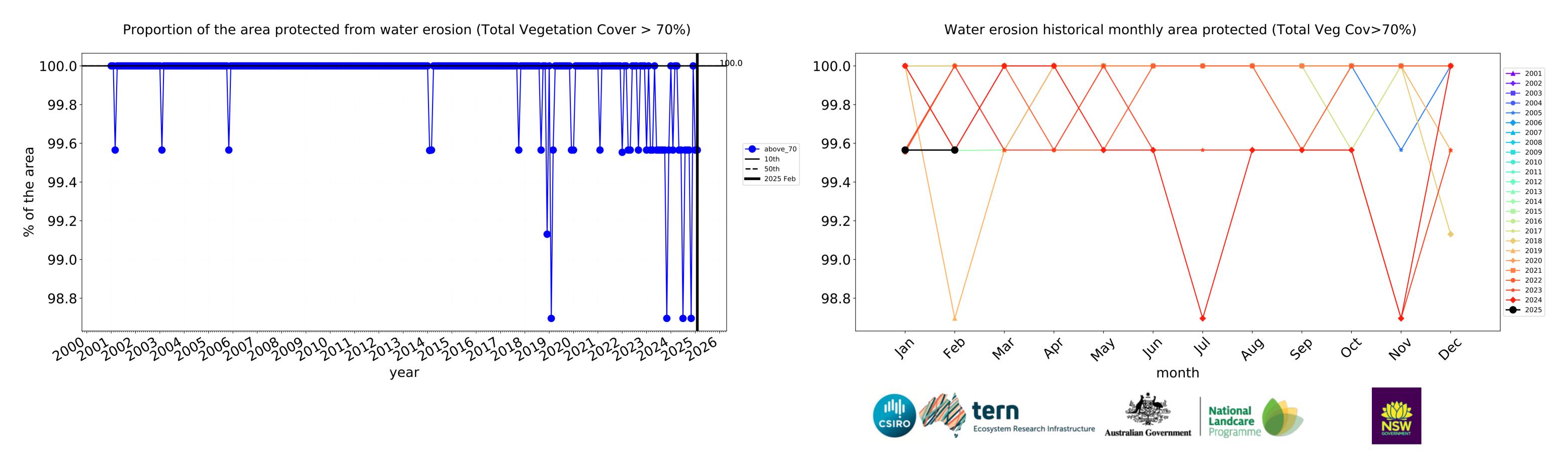


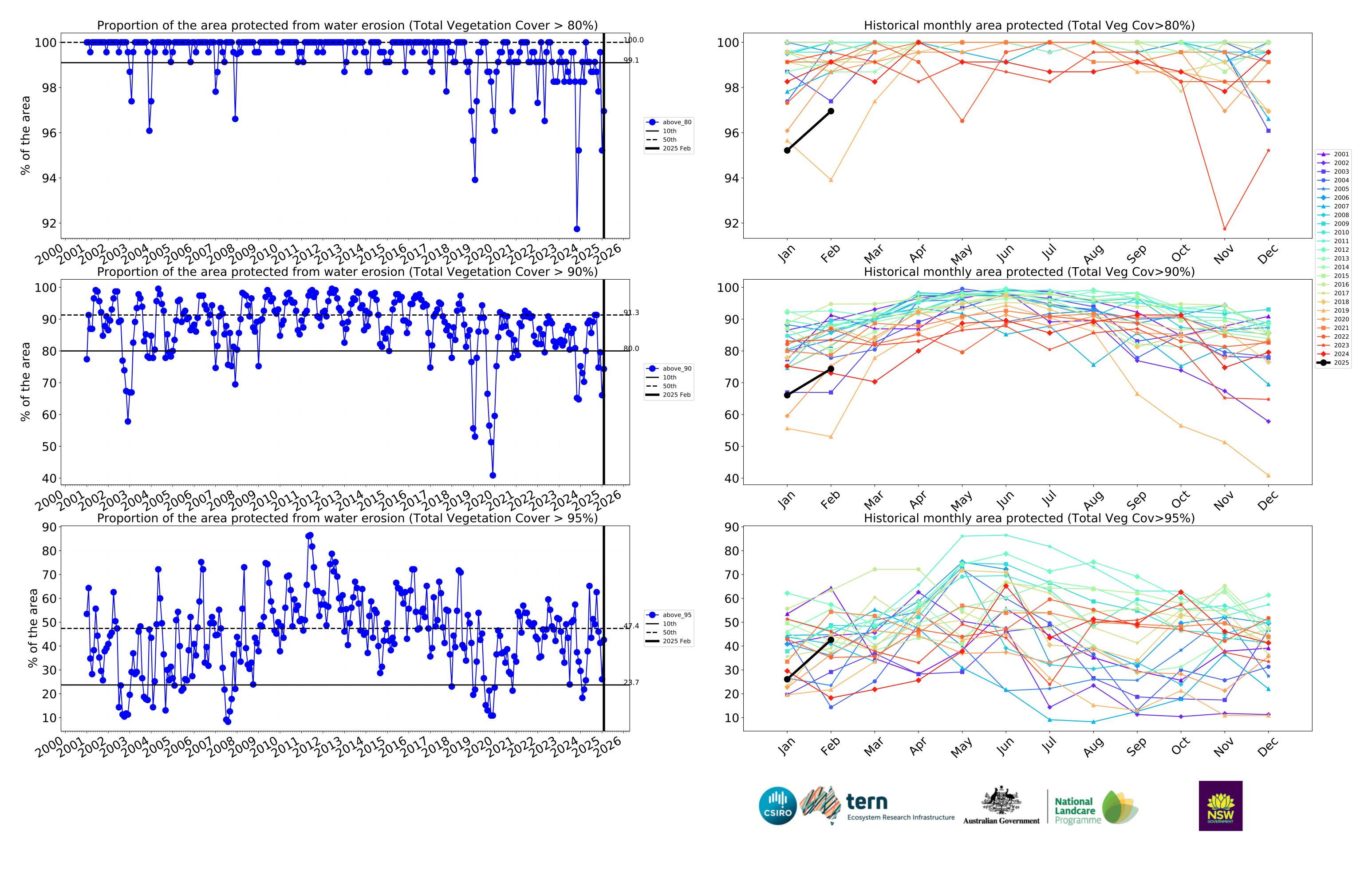




Grazing Woodland forest timeseries



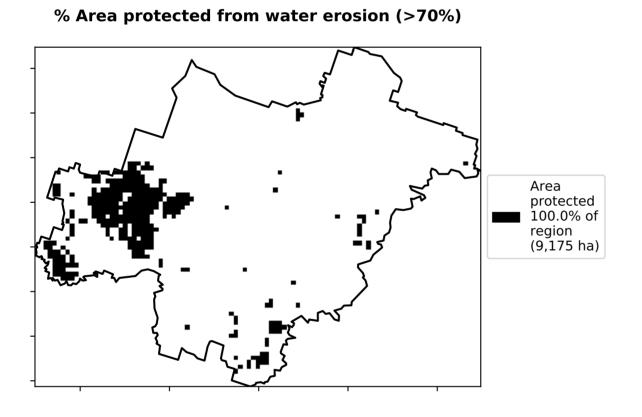


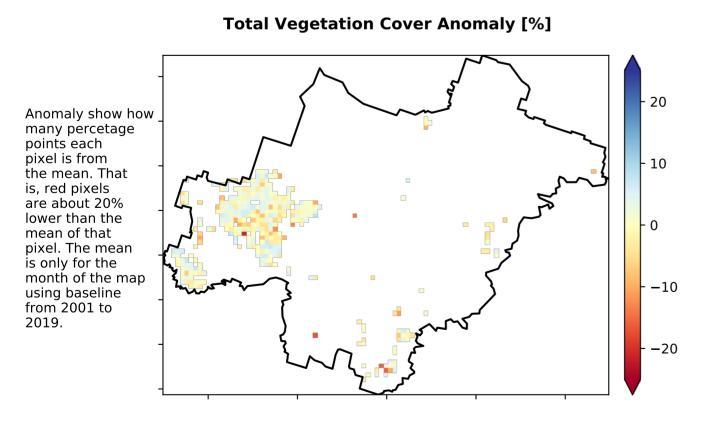


Grazing - Forest (non woodland)

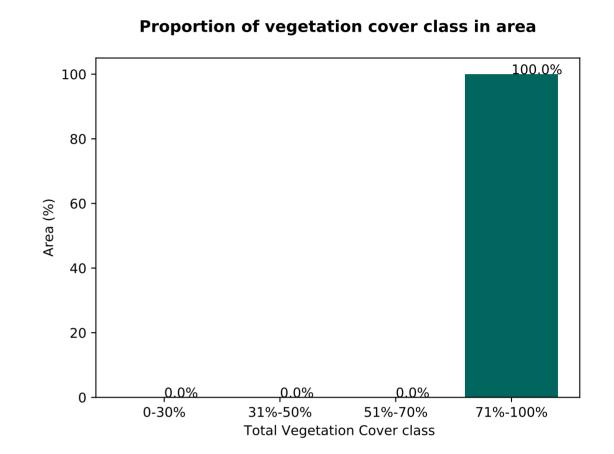
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 1 Agriculture - Grazing - Non-woodland forest of Australia (2018)

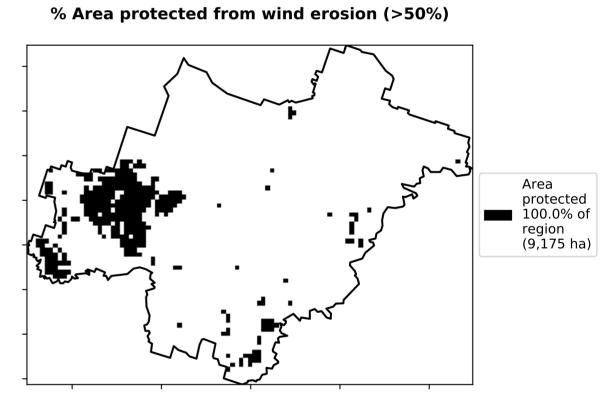
Total Vegetation Cover [%]

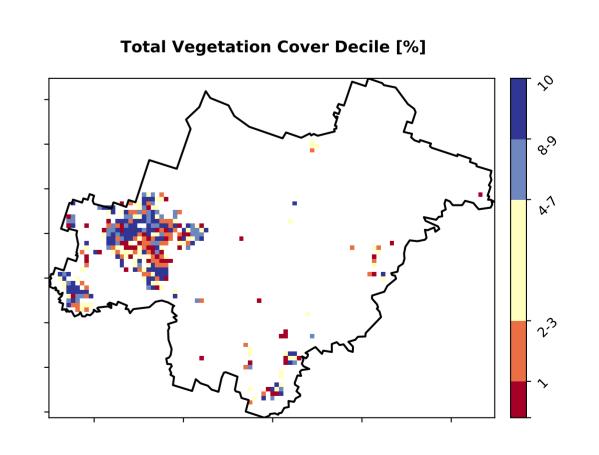




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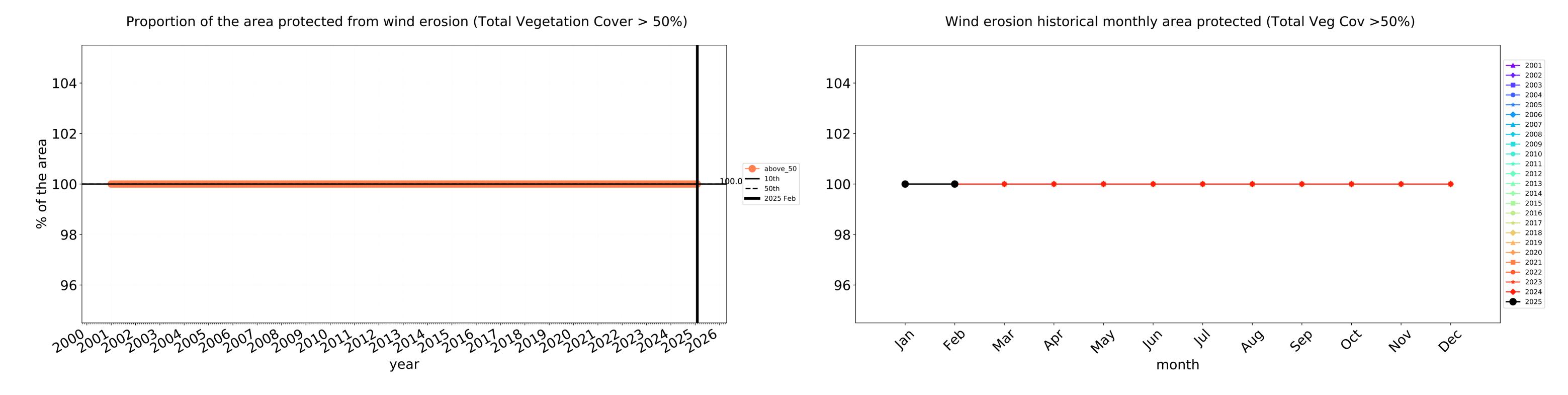


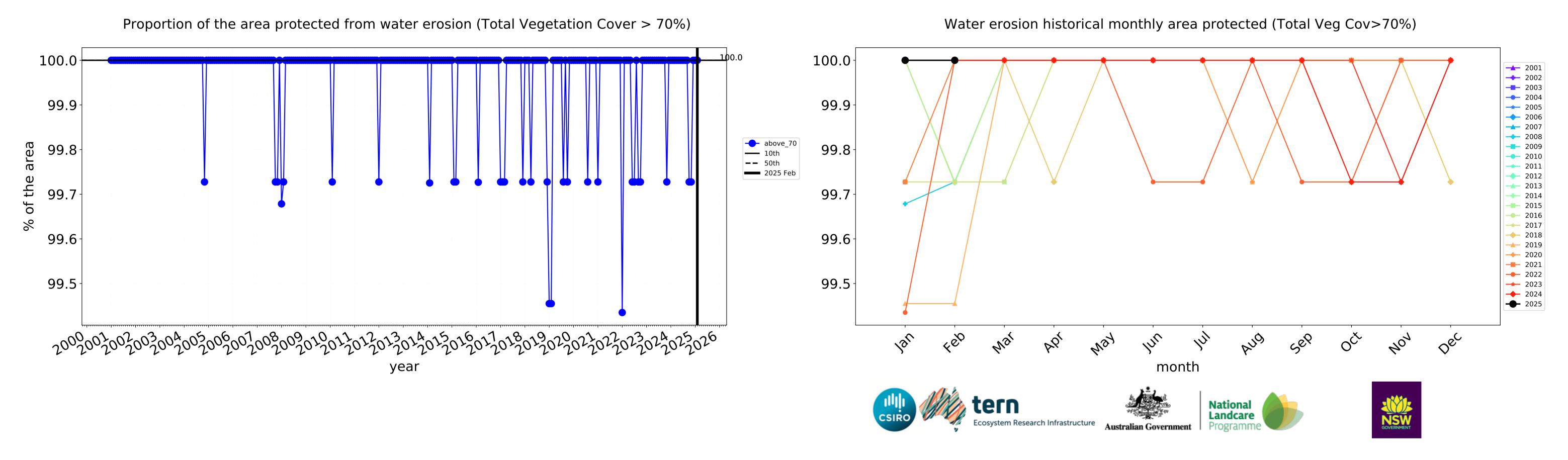


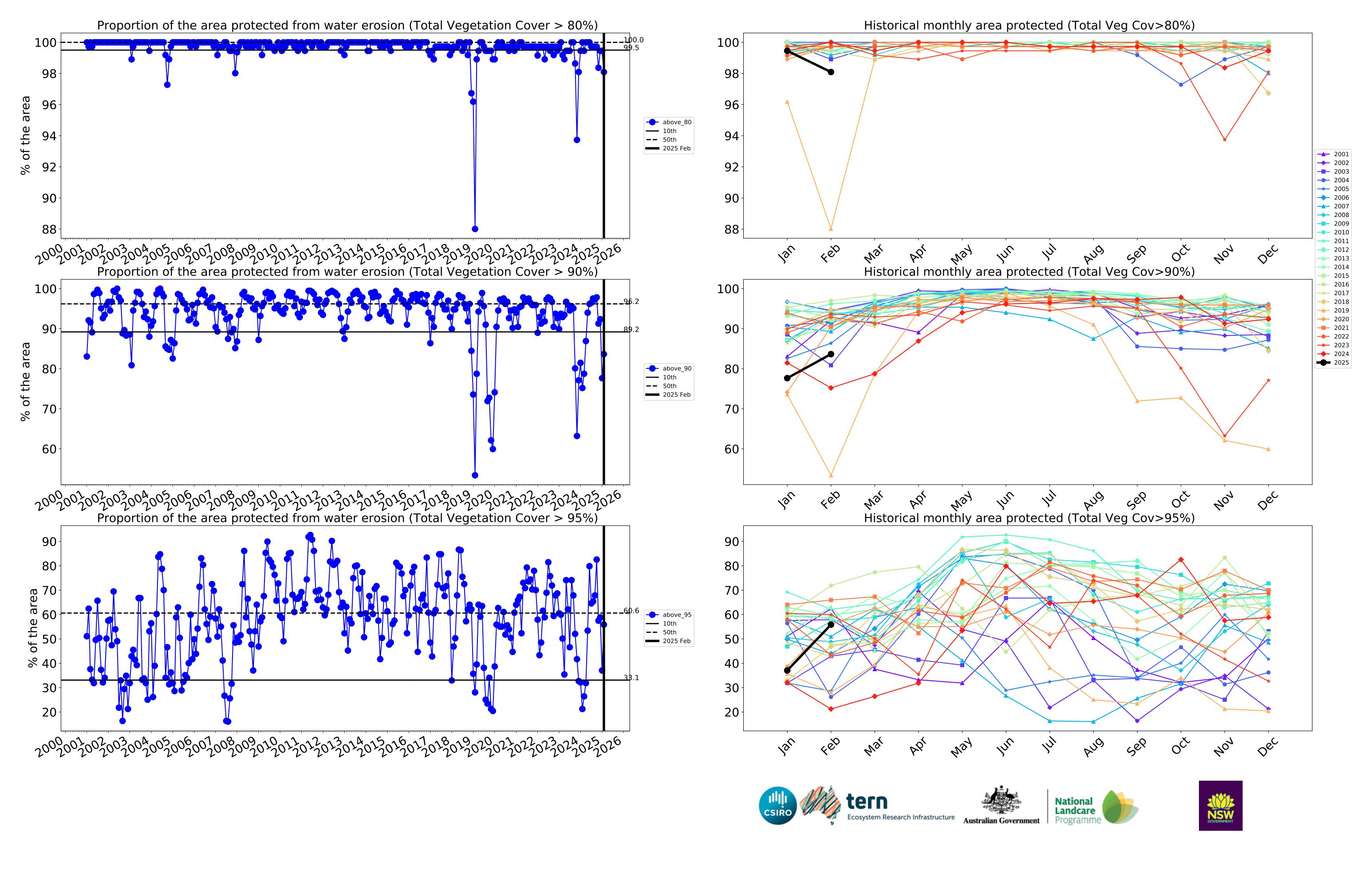




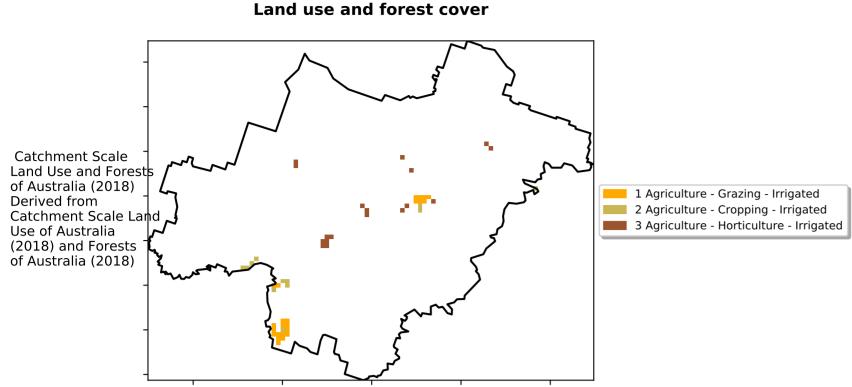


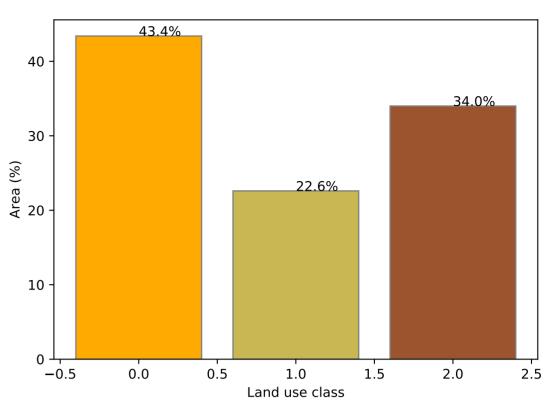




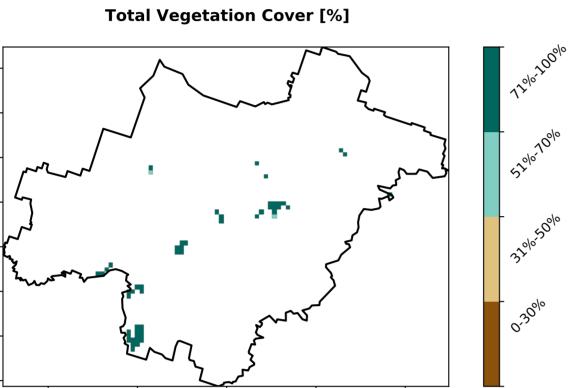


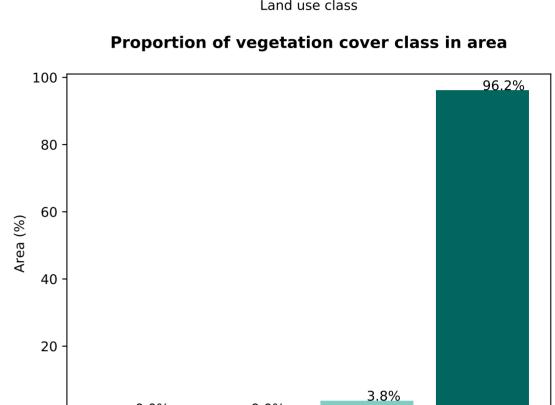
Irrigation





Proportion of each land class in area





% Area protected from water erosion (>70%)



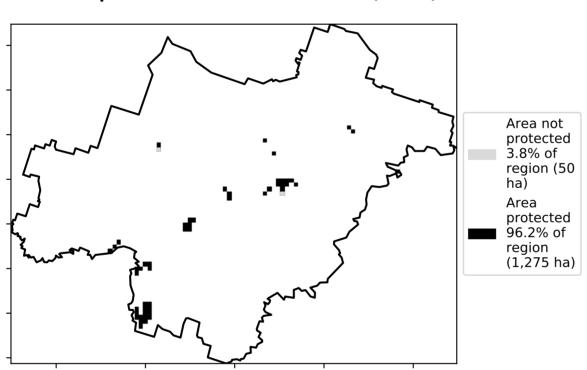
Total Vegetation Cover class

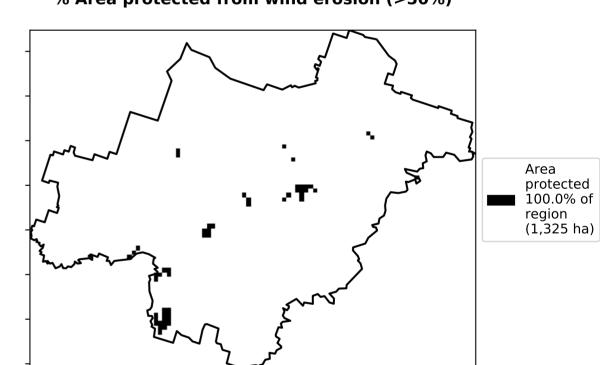
0.0%

31%-50%

0.0%

0-30%



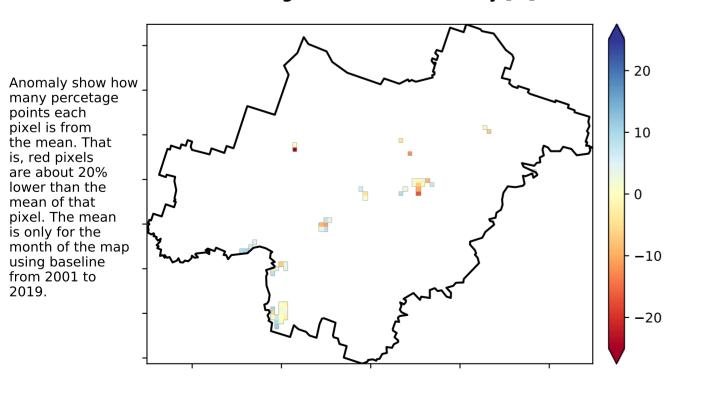


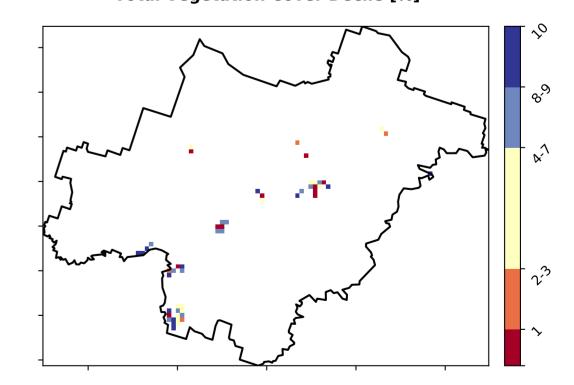
51%-70%

71%-100%

Total Vegetation Cover Anomaly [%]

Total Vegetation Cover Decile [%]





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.

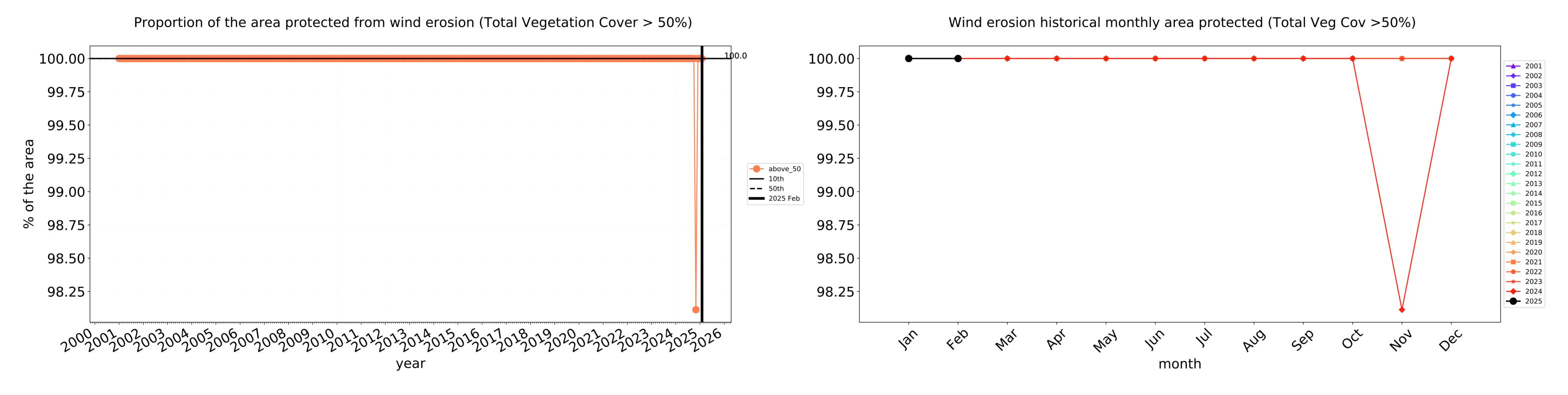


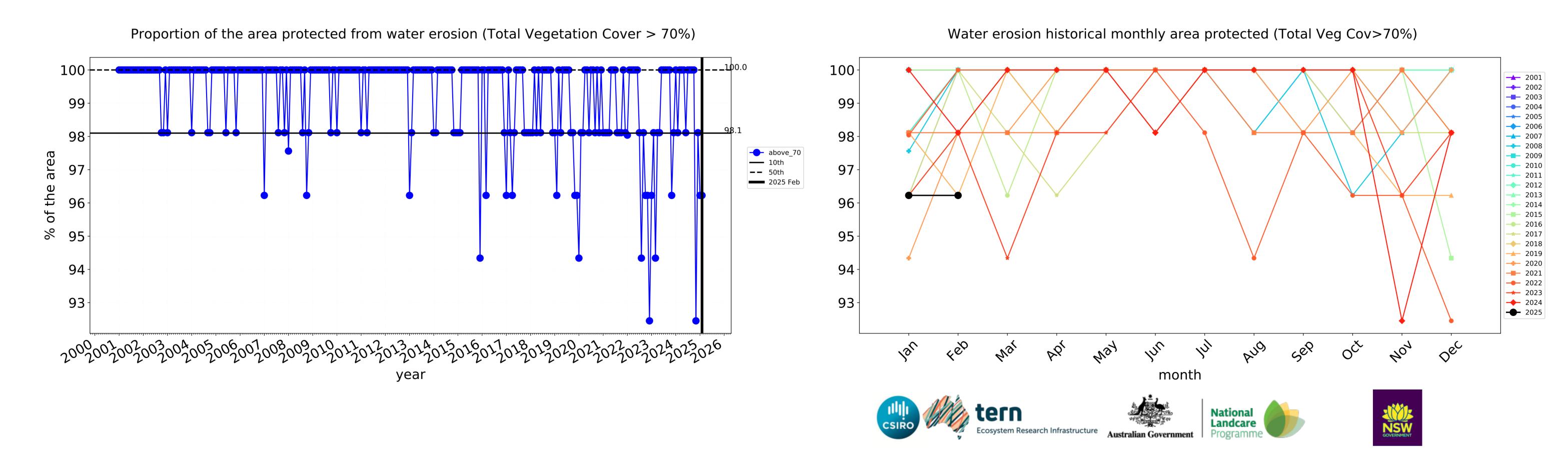


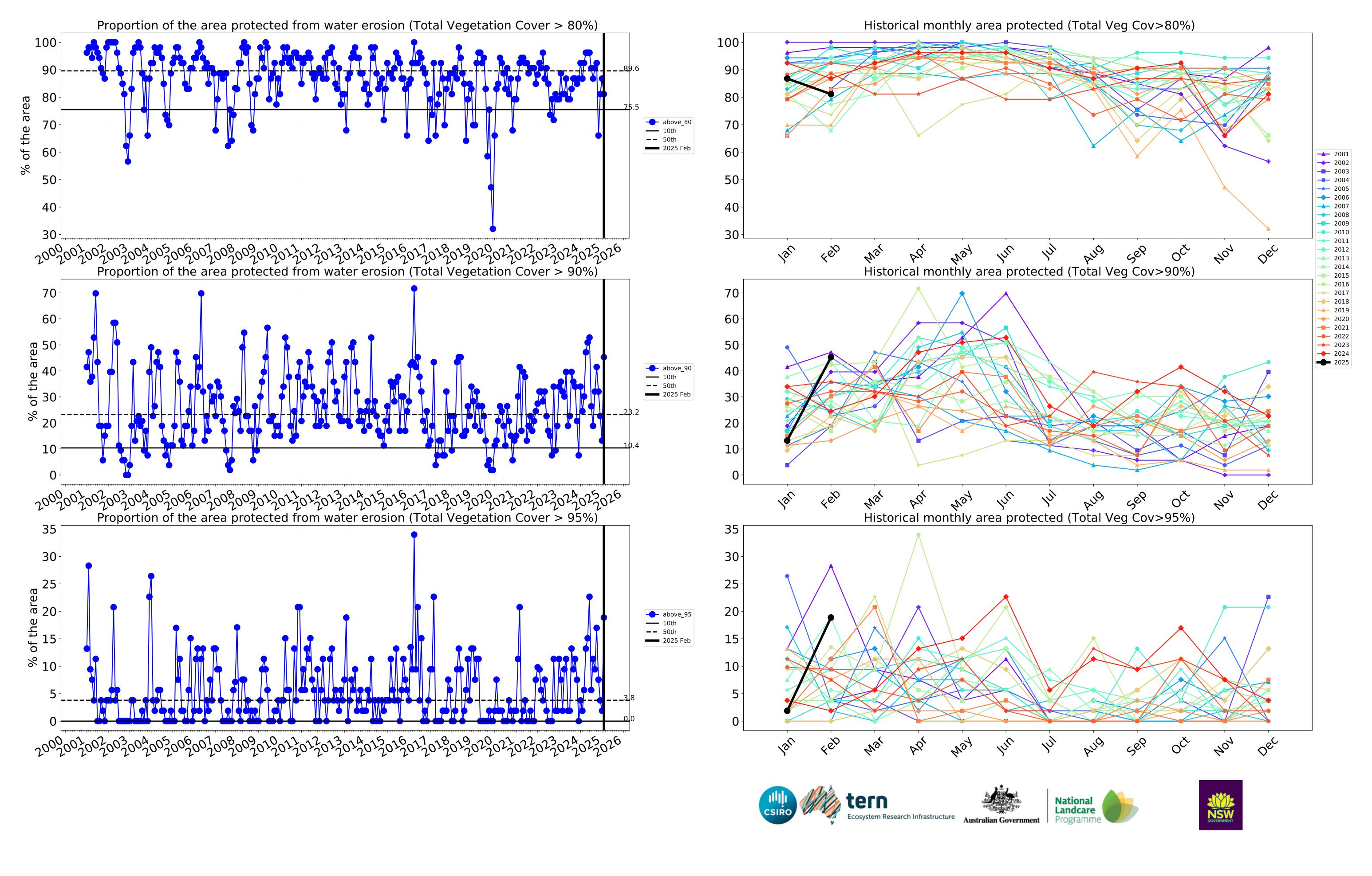




Irrigation timeseries





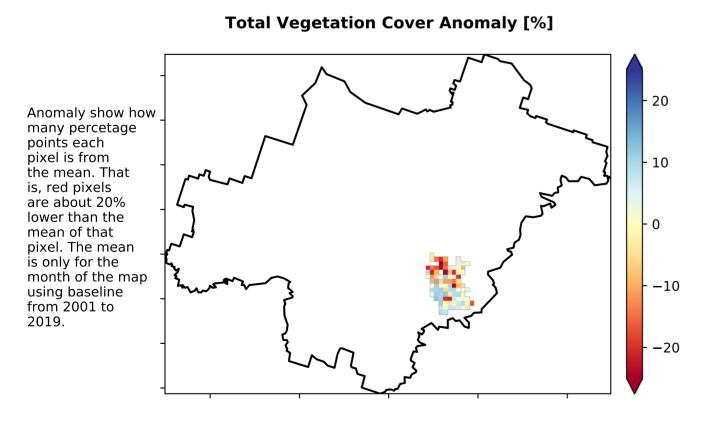


Production native forests and plantation forests

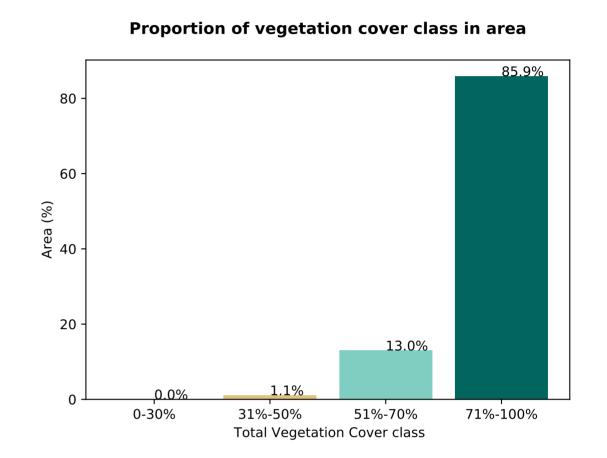
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Use of Australia (2018)

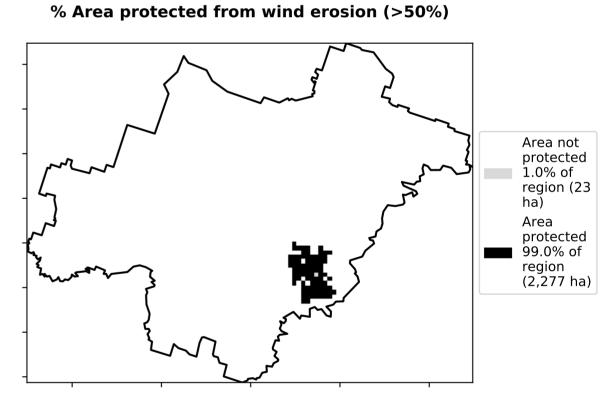
Total Vegetation Cover [%] Tuelor tuelo Tu

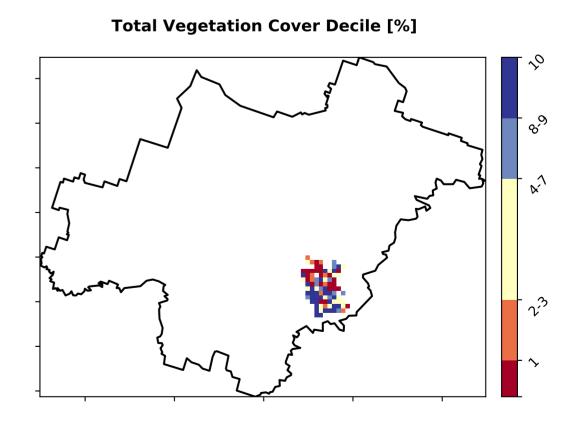
Area not protected 14.1% of region (324 ha) Area protected 85.9% of region (1,976 ha)



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.







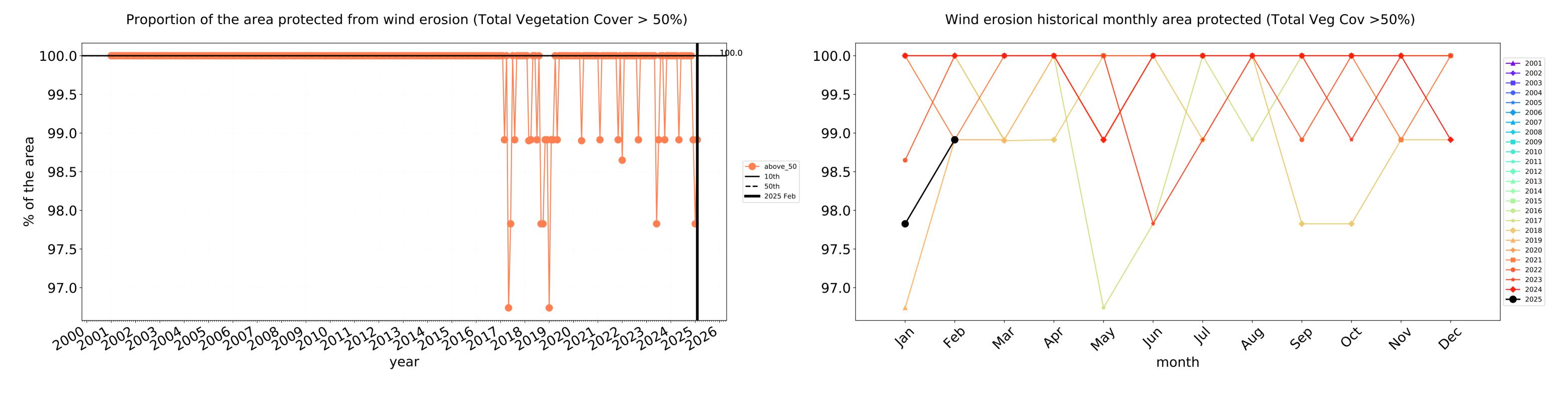


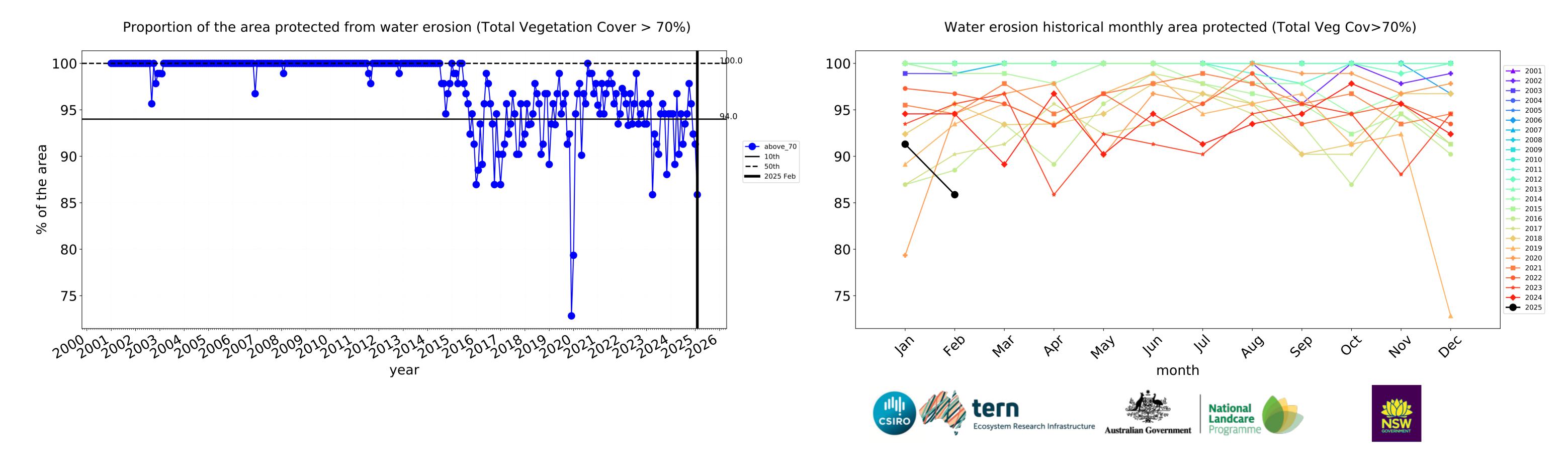


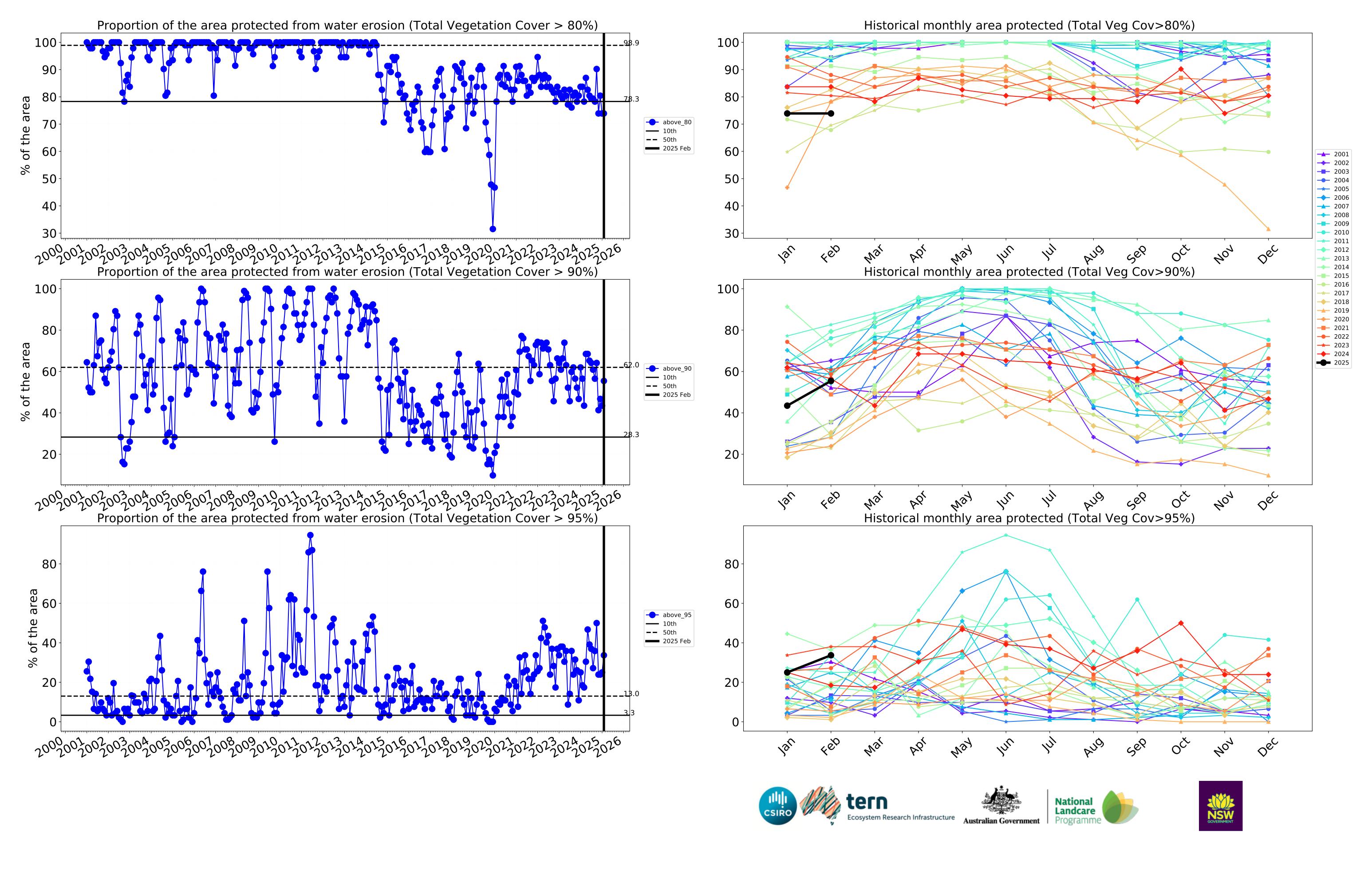




Production native forests and plantation forests timeseries







Logan_(C) (93,250 ha and no data 2,534 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	93,250	99.8% 93,075	99.4% 92,725	93.1% 86,850	82.1% 76,525	53.8% 50,150	29.7% 27,700
Conservation and natural environments	10,600	100.0% 10,600	100.0% 10,600	99.8% 10,575	96.2% 10,200	73.1% 7,750	41.5% 4,400
Conservation and natural environments Woodland forest	2,625	100.0% 2,625	100.0% 2,625	100.0% 2,625	97.1% 2,550	78.1% 2,050	47.6% 1,250
Conservation and natural environments Forest (non woodland)	7,825	100.0% 7,825	100.0% 7,825	99.7% 7,800	95.8% 7,500	72.2% 5,650	39.9% 3,125
Agriculture	31,200	100.0% 31,200	100.0% 31,200	98.9% 30,850	93.7% 29,225	70.0% 21,850	42.5% 13,275
Grazing	29,675	100.0% 29,675	100.0% 29,675	99.2% 29,425	94.4% 28,025	71.4% 21,200	43.8% 13,000
Grazing non forest	14,750	100.0% 14,750	100.0% 14,750	98.5% 14,525	91.2% 13,450	62.7% 9,250	36.8% 5,425
Grazing Woodland forest	5,750	100.0% 5,750	100.0% 5,750	99.6% 5,725	97.0% 5,575	74.3% 4,275	42.6% 2,450
Grazing - Forest (non woodland)	9,175	100.0% 9,175	100.0% 9,175	100.0% 9,175	98.1% 9,000	83.7% 7,675	55.9% 5,125
Irrigation	1,325	100.0% 1,325	100.0% 1,325	96.2% 1,275	81.1% 1,075	45.3% 600	18.9% 250
Production native forests and plantation forests	2,300	100.0% 2,300	98.9% 2,275	85.9% 1,975	73.9% 1,700	55.4% 1,275	33.7% 775







