Total vegetation cover soil protection Region:LGA Yankalilla (DC) SA

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.

Date: August 2022

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 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



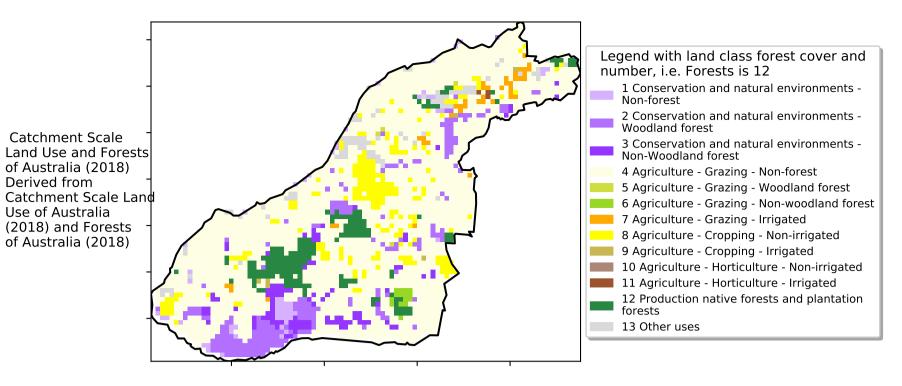




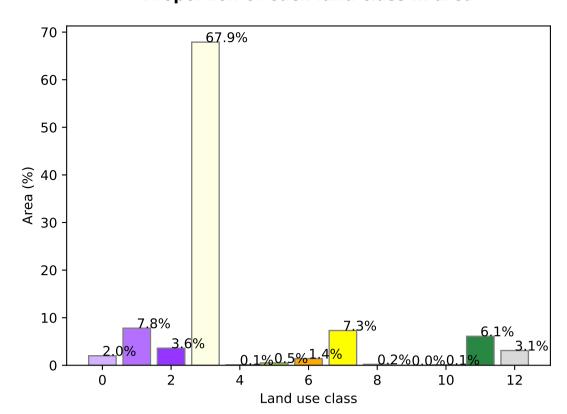


Vegetation Cover Aug 2022

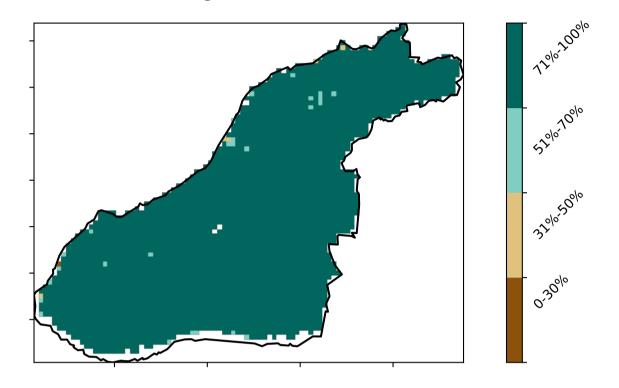
Land use and forest cover



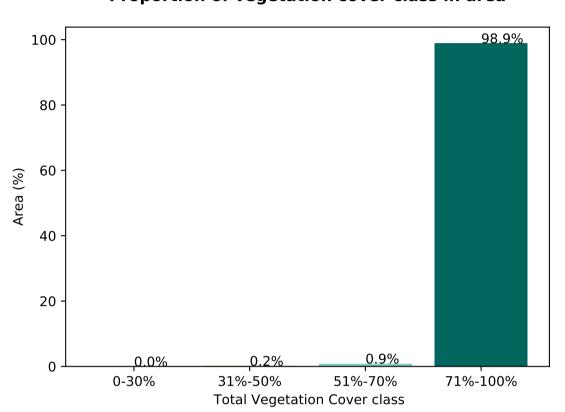
Proportion of each land class in area



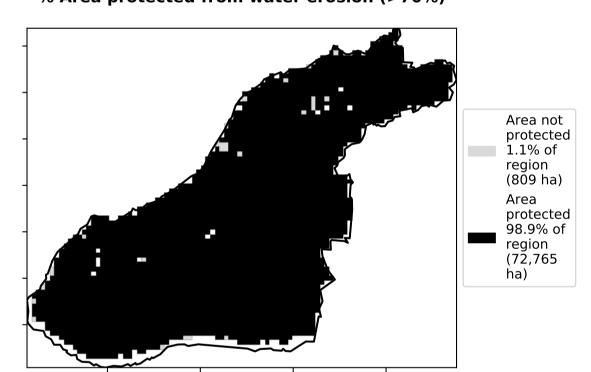
Total Vegetation Cover [%]



Proportion of vegetation cover class in area



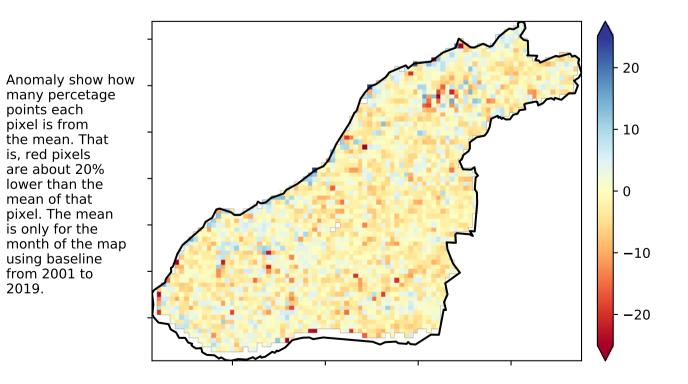
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



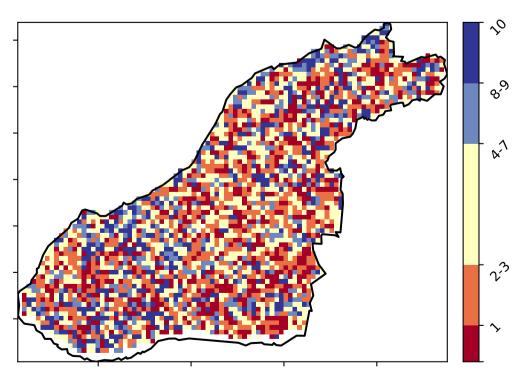
Total Vegetation Cover Anomaly [%]



2019.

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 [%]

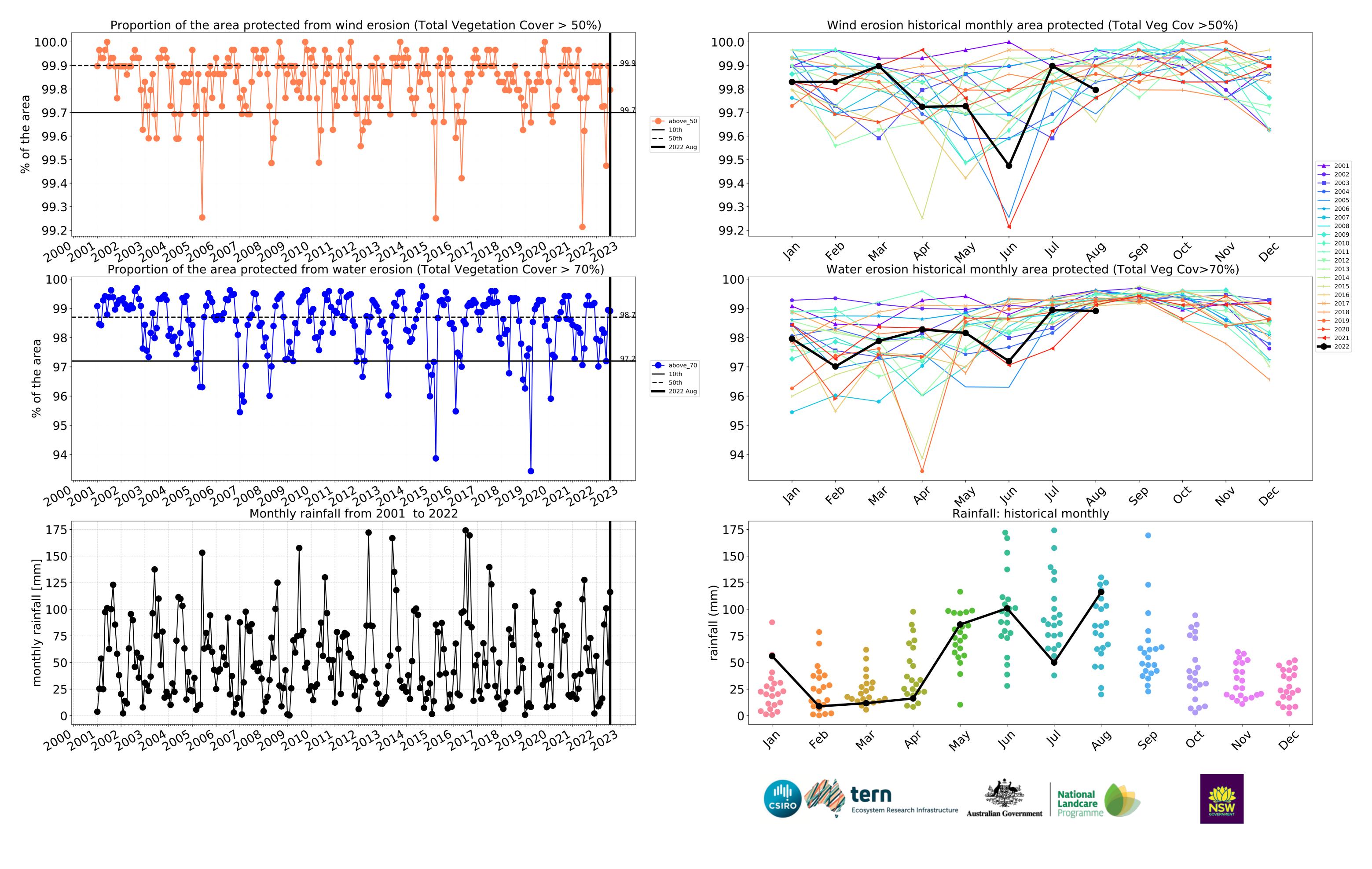


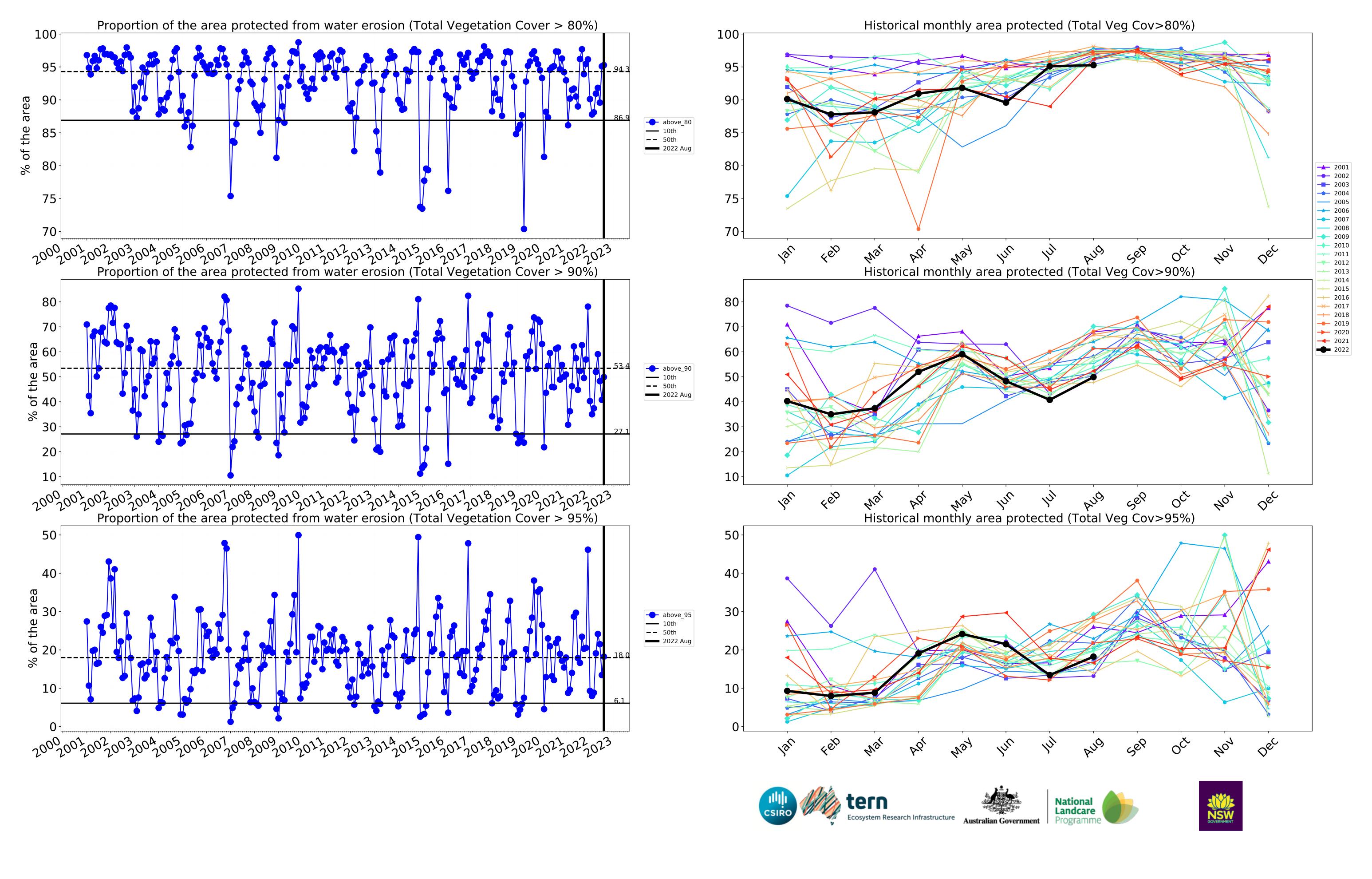












Conservation and natural environments

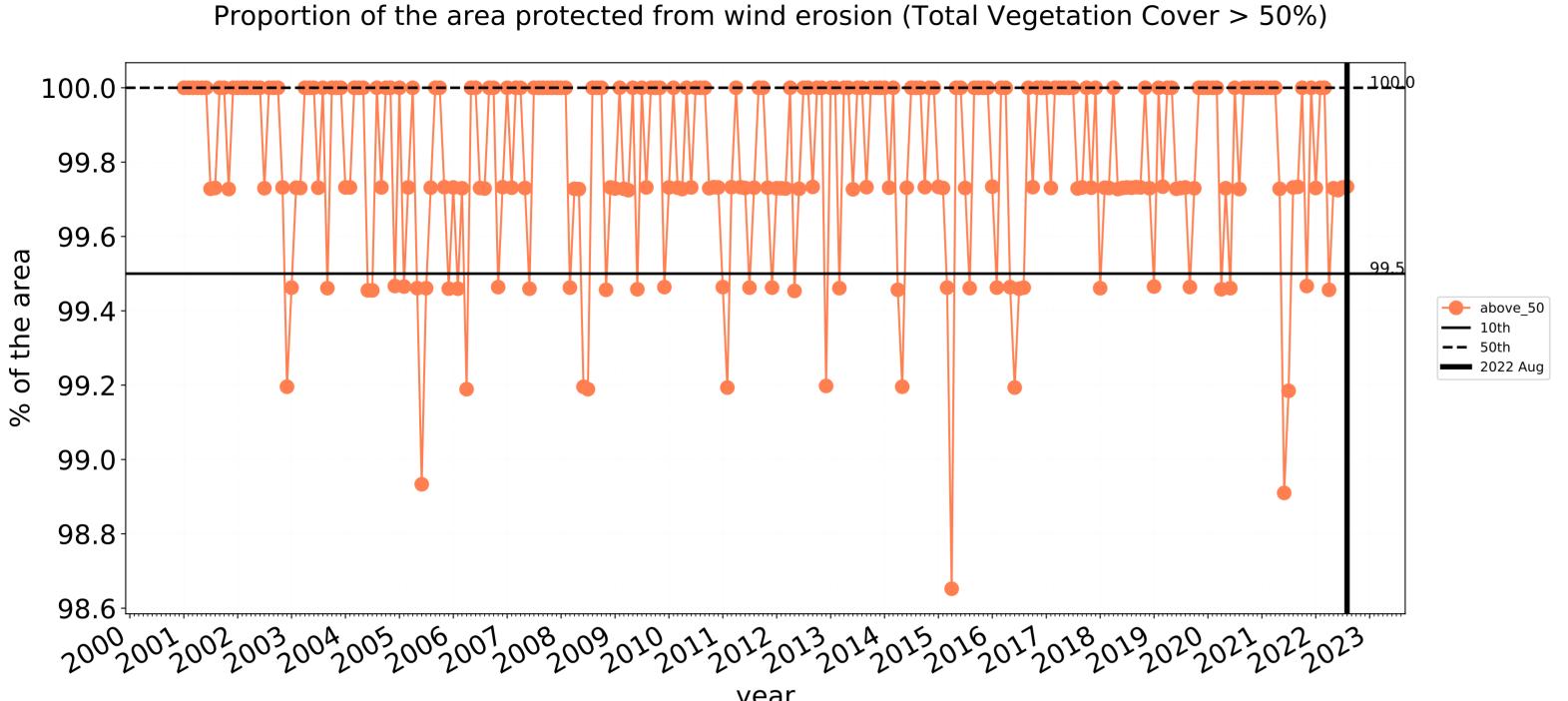
Land use and forest cover **Proportion of each land class in area** 60 58.2% 50 Catchment Scale 40 Land Use and Forests of Australia (2018) 1 Conservation and natural environments - Nonforest Area (%) 0 Derived from 2 Conservation and natural environments - Woodland forest Catchment Scale Land 26.8% Use of Australia 3 Conservation and natural environments - Non-woodland forest (2018) and Forests of Australia (2018) 20 15.0% 10 0.5 1.0 1.5 2.0 2.5 -0.50.0 Land use class Proportion of vegetation cover class in area **Total Vegetation Cover [%]** 98.4% 100 80 40 20 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class** % Area protected from wind erosion (>50%) % Area protected from water erosion (>70%) Area not Area not protected 1.6% of protected 0.0% of region (150 ha) region (0 ha) Area Area protected 100.0% of protected 98.4% of region (9,400 ha) region (9,249 ha) **Total Vegetation Cover Anomaly [%] Total Vegetation Cover Decile [%]** - 20 Anomaly show how many percetage points each pixel is from Deciles show where the - 10 pixel value lies in the the mean. That is, red pixels record, from highest to lowest, for that month. That is, red pixels are are about 20% lower than the mean of that in the lowest 10% of pixel. The mean records for that month of is only for the month of the map the map using baseline from 2001 to 2019. using baseline from 2001 to 2019. -10 **-**20 **National** Landcare

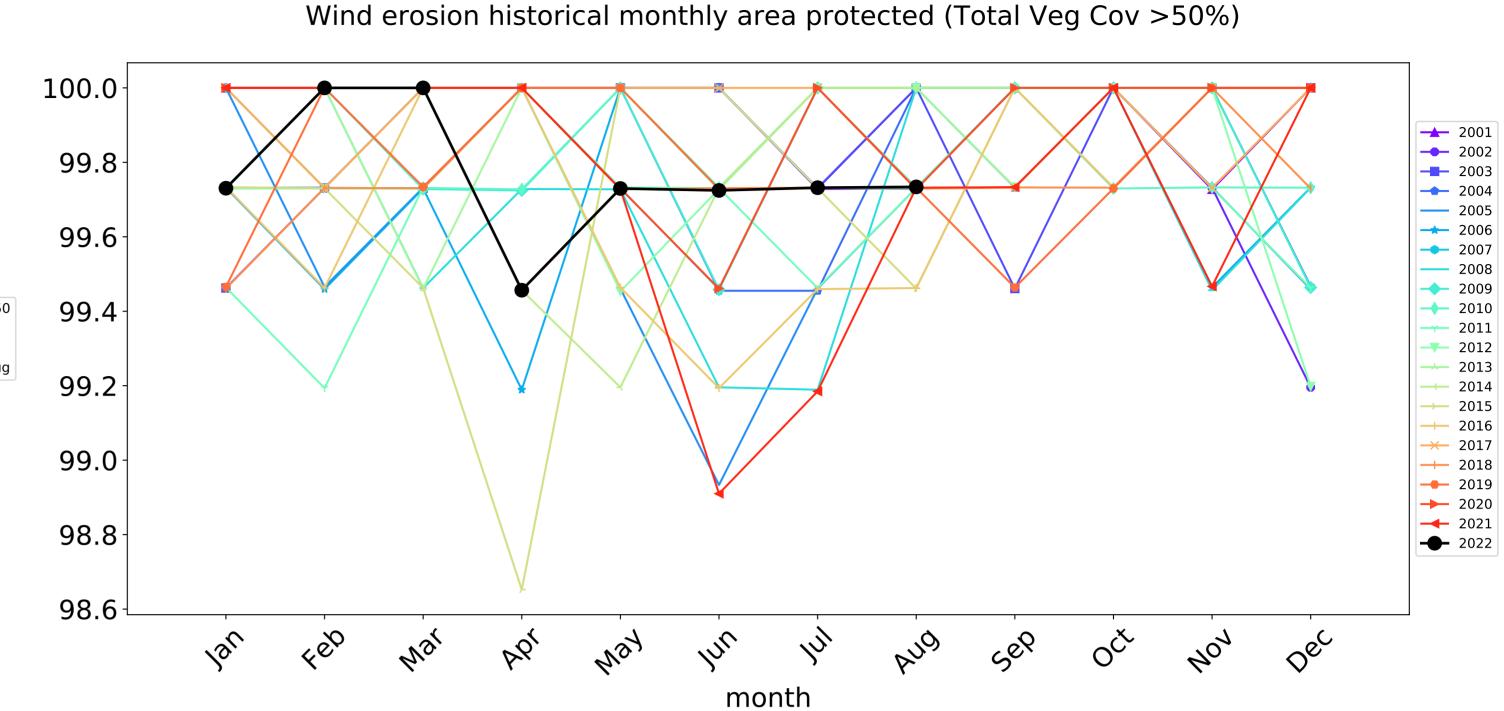
Australian Government

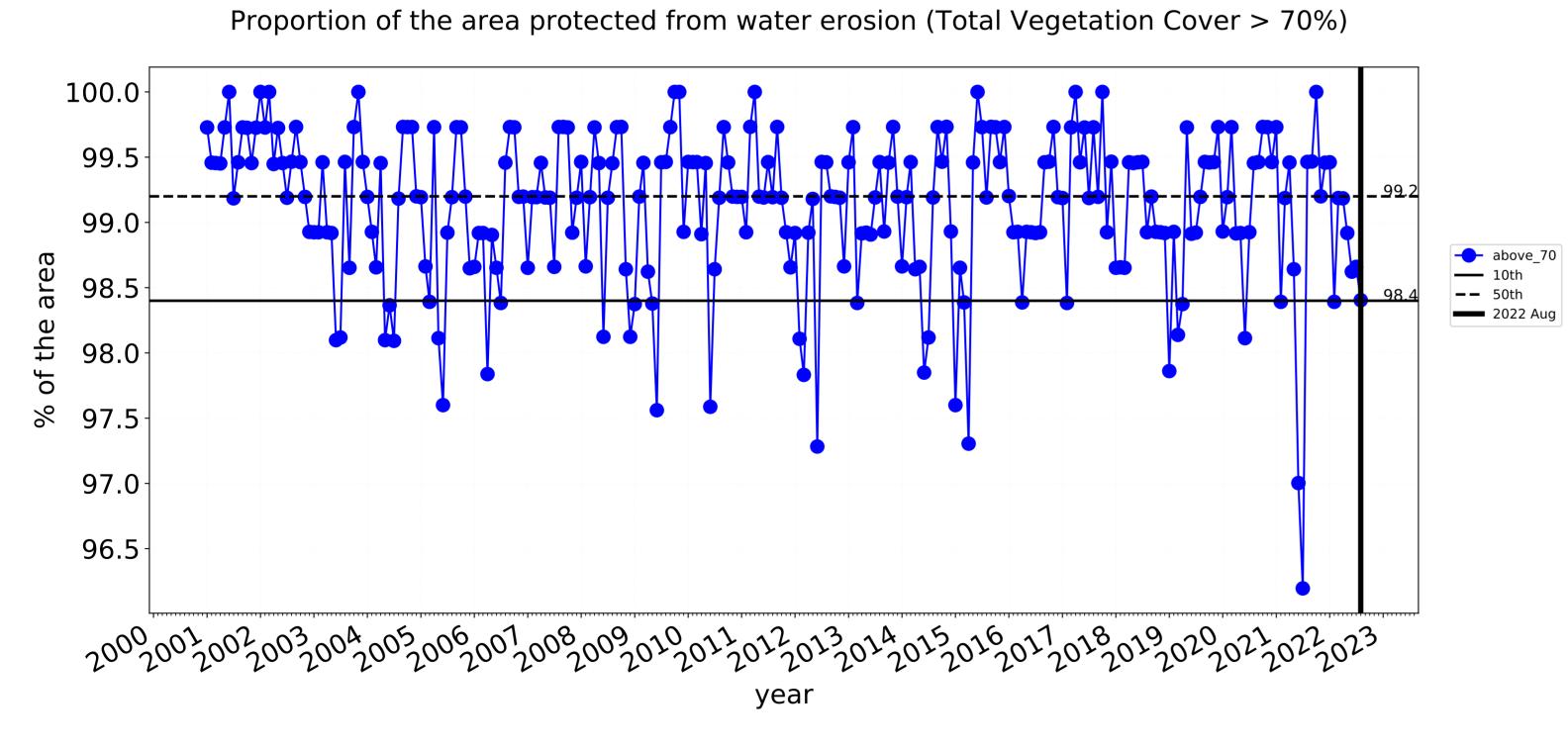
Programme

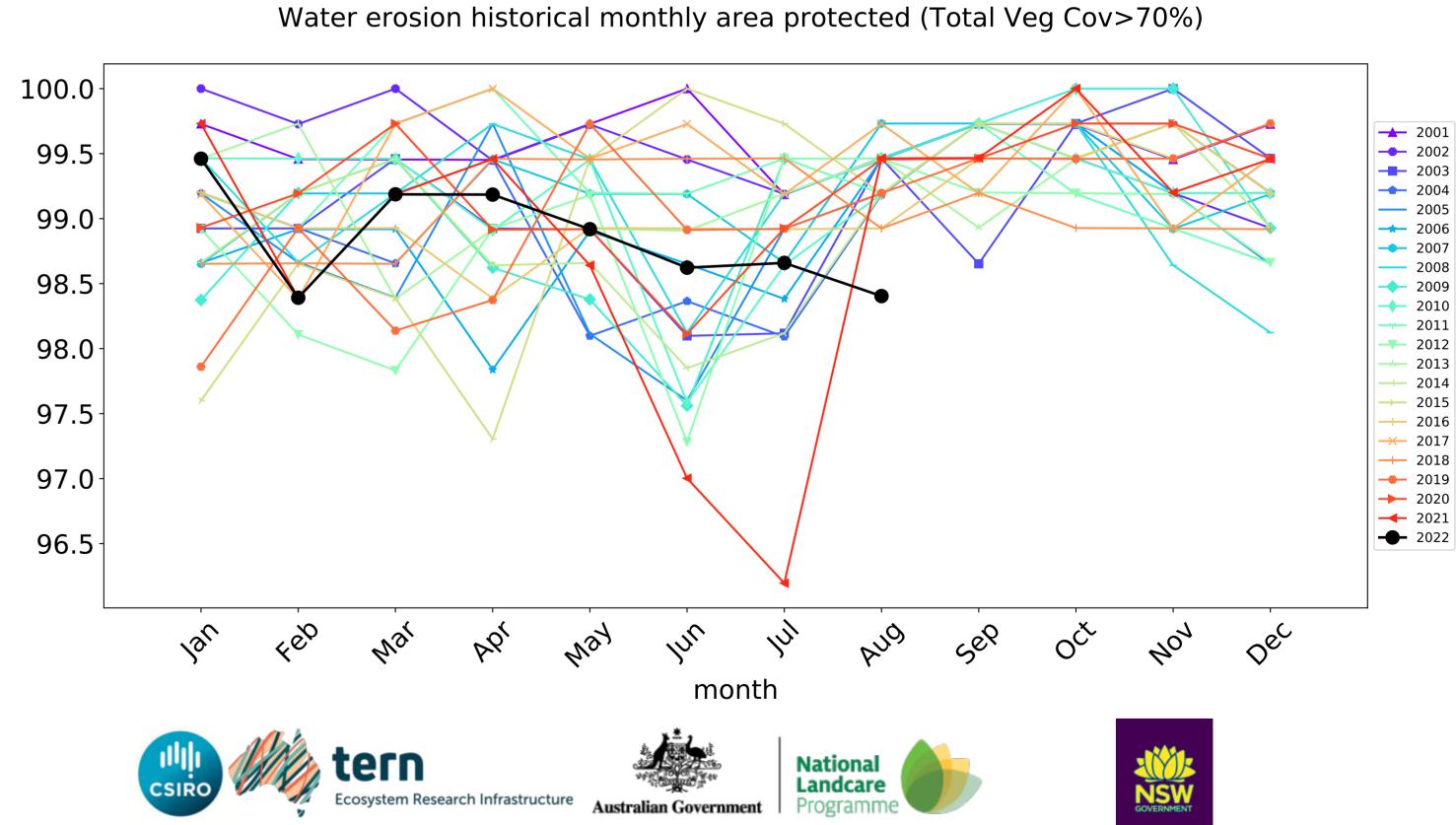
Ecosystem Research Infrastructure

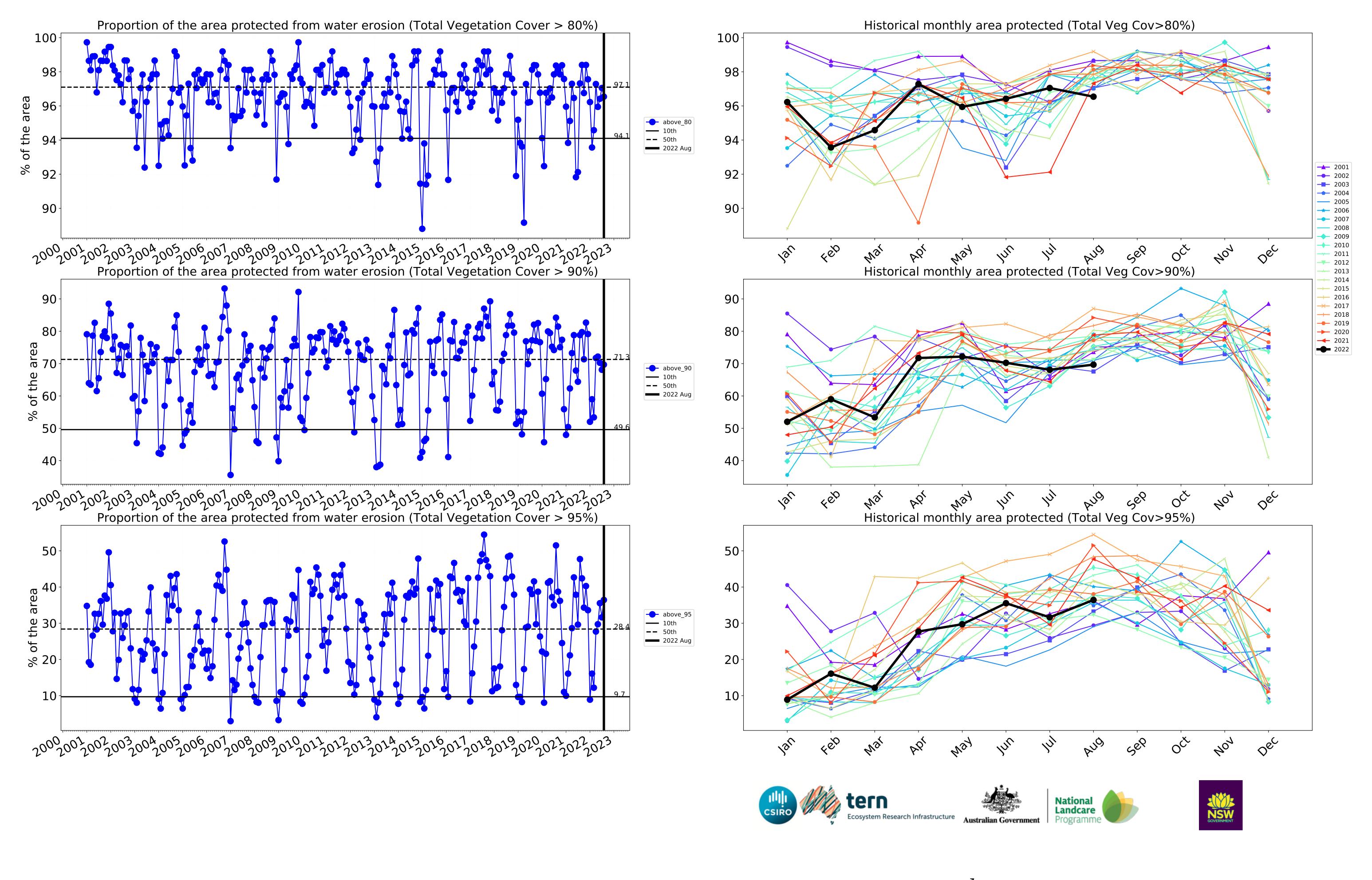
Conservation and natural environments timeseries





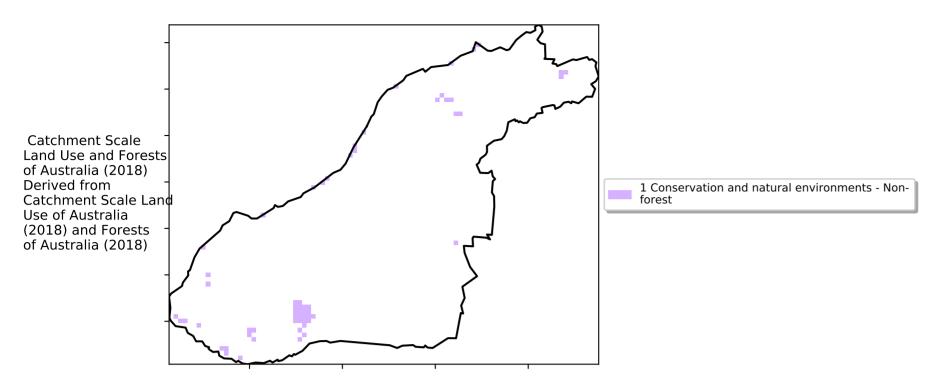




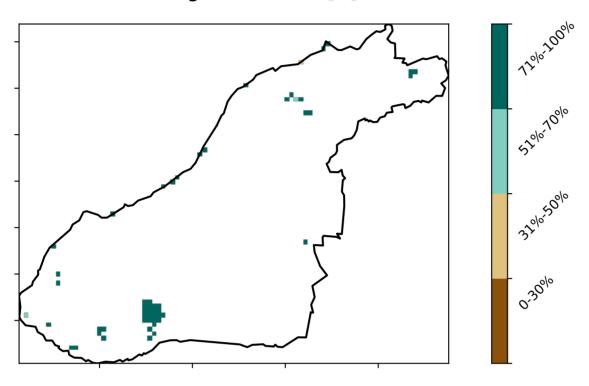


Conservation and natural environments non forest

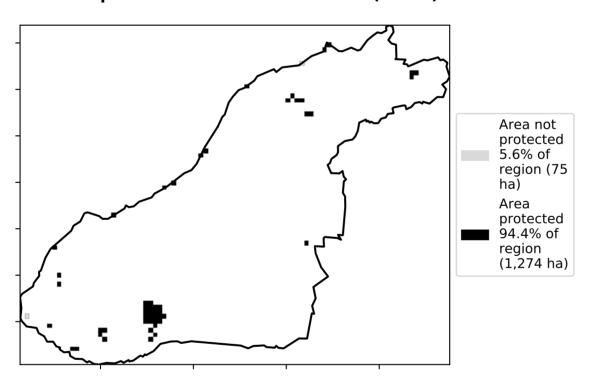
Land use and forest cover



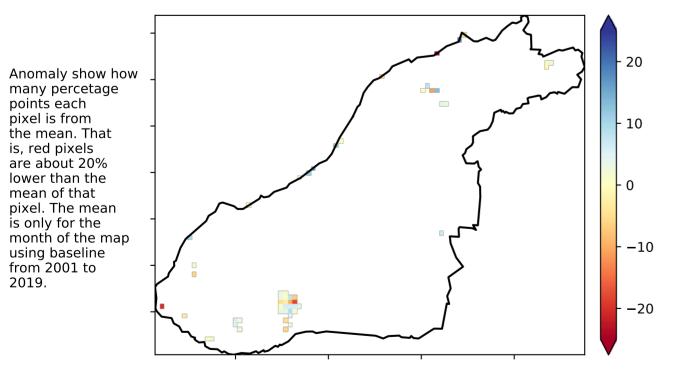
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

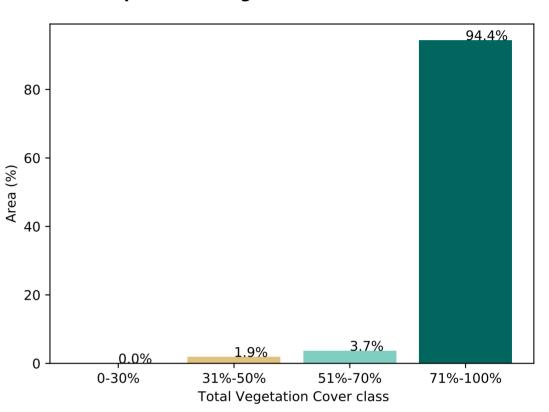


Total Vegetation Cover Anomaly [%]

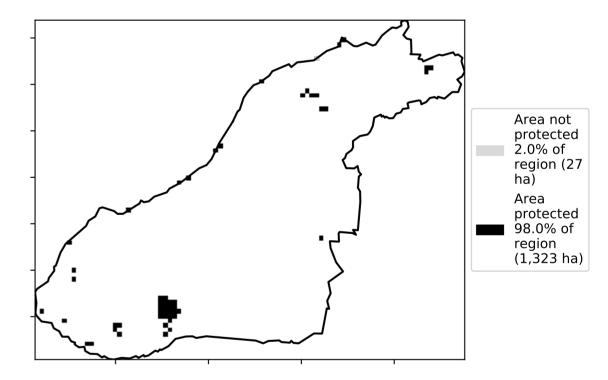


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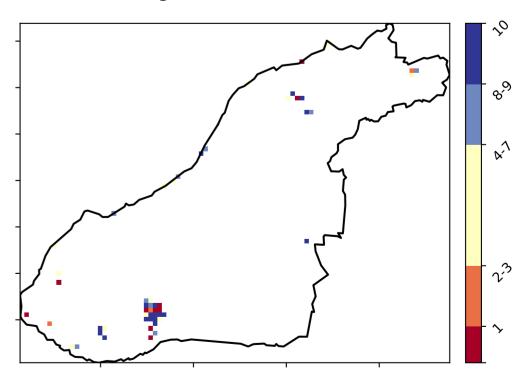
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



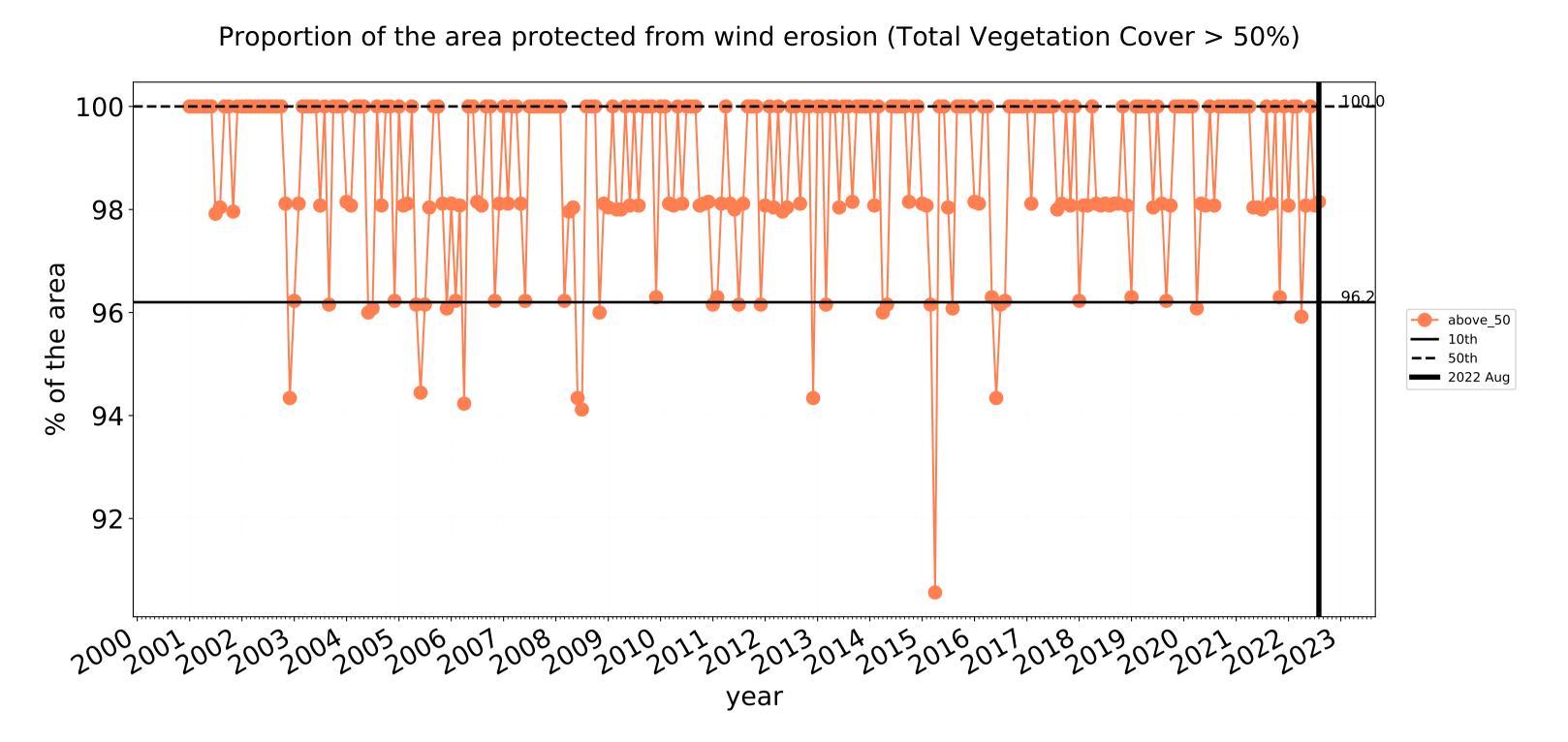


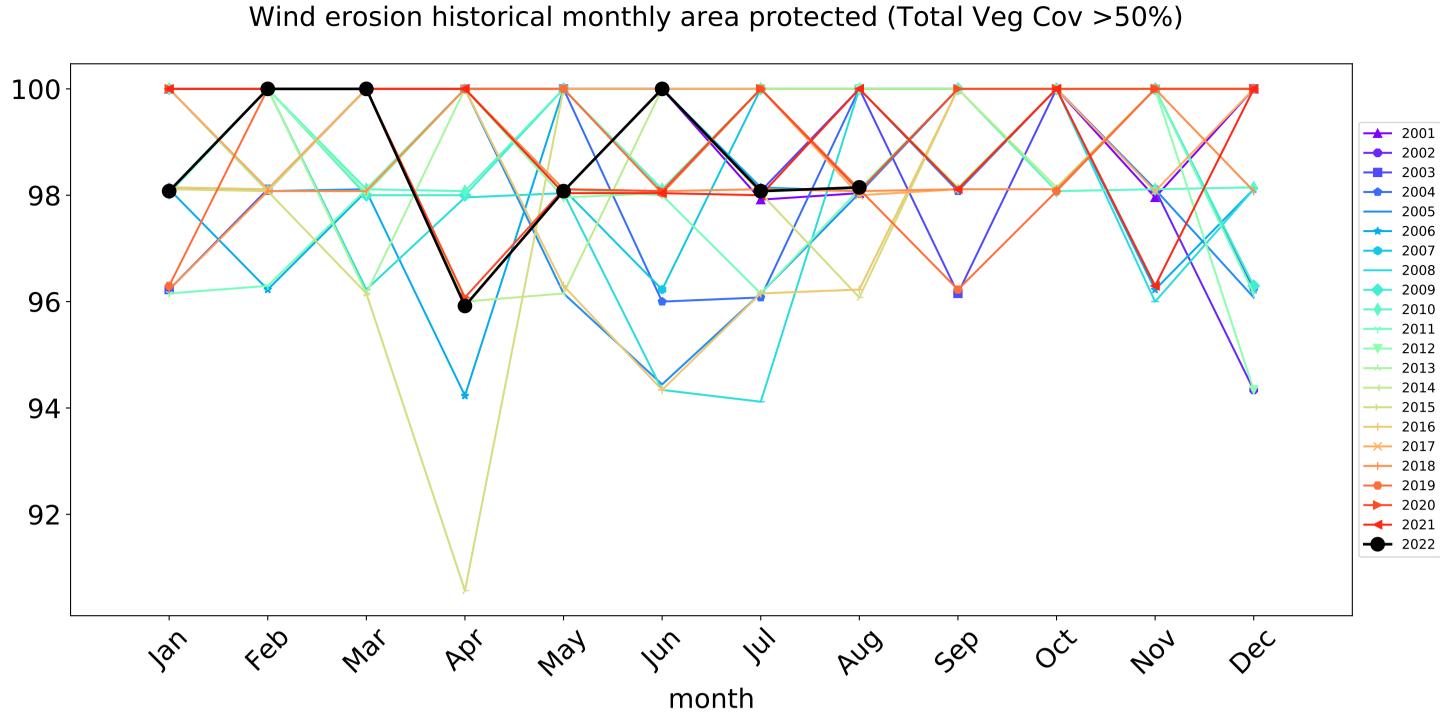


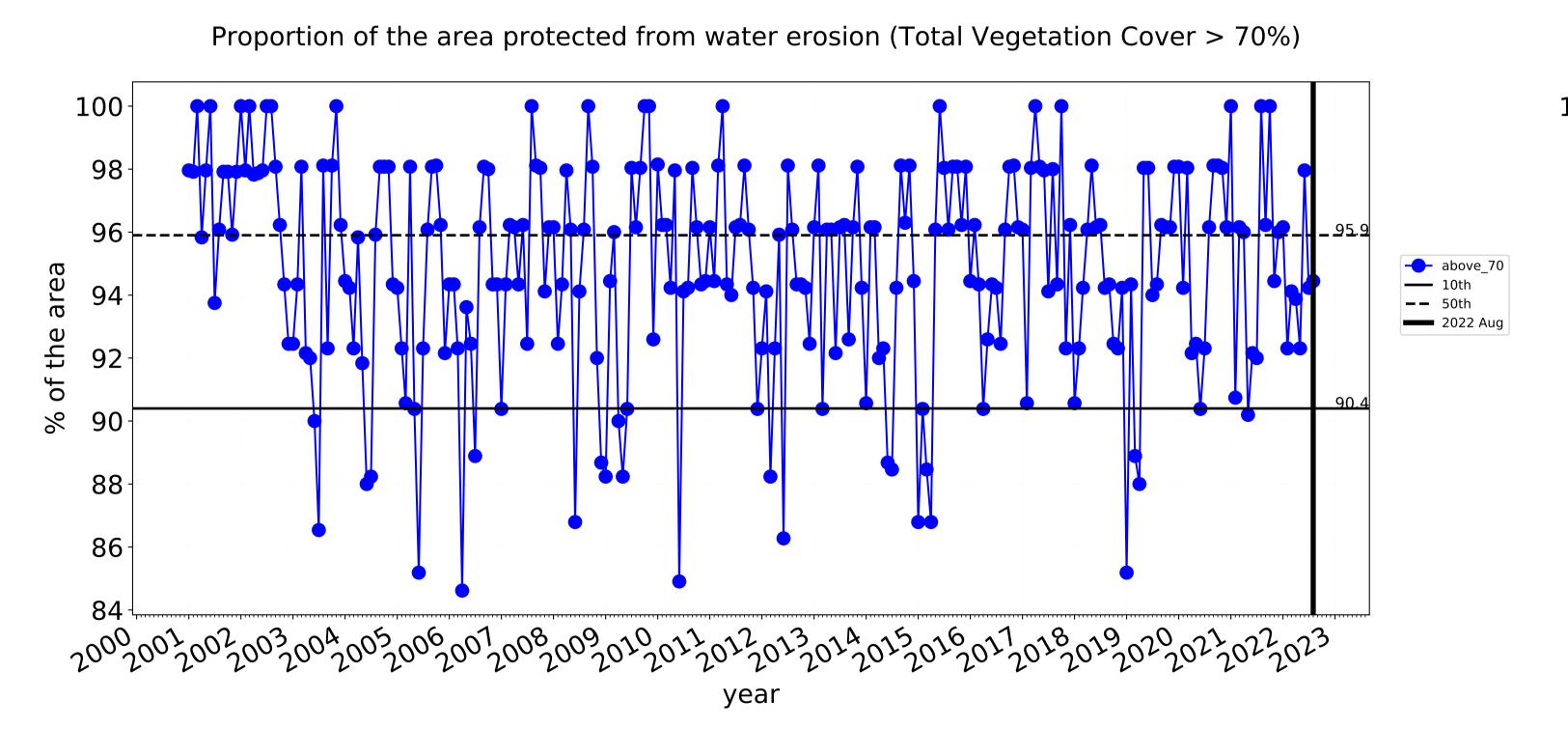


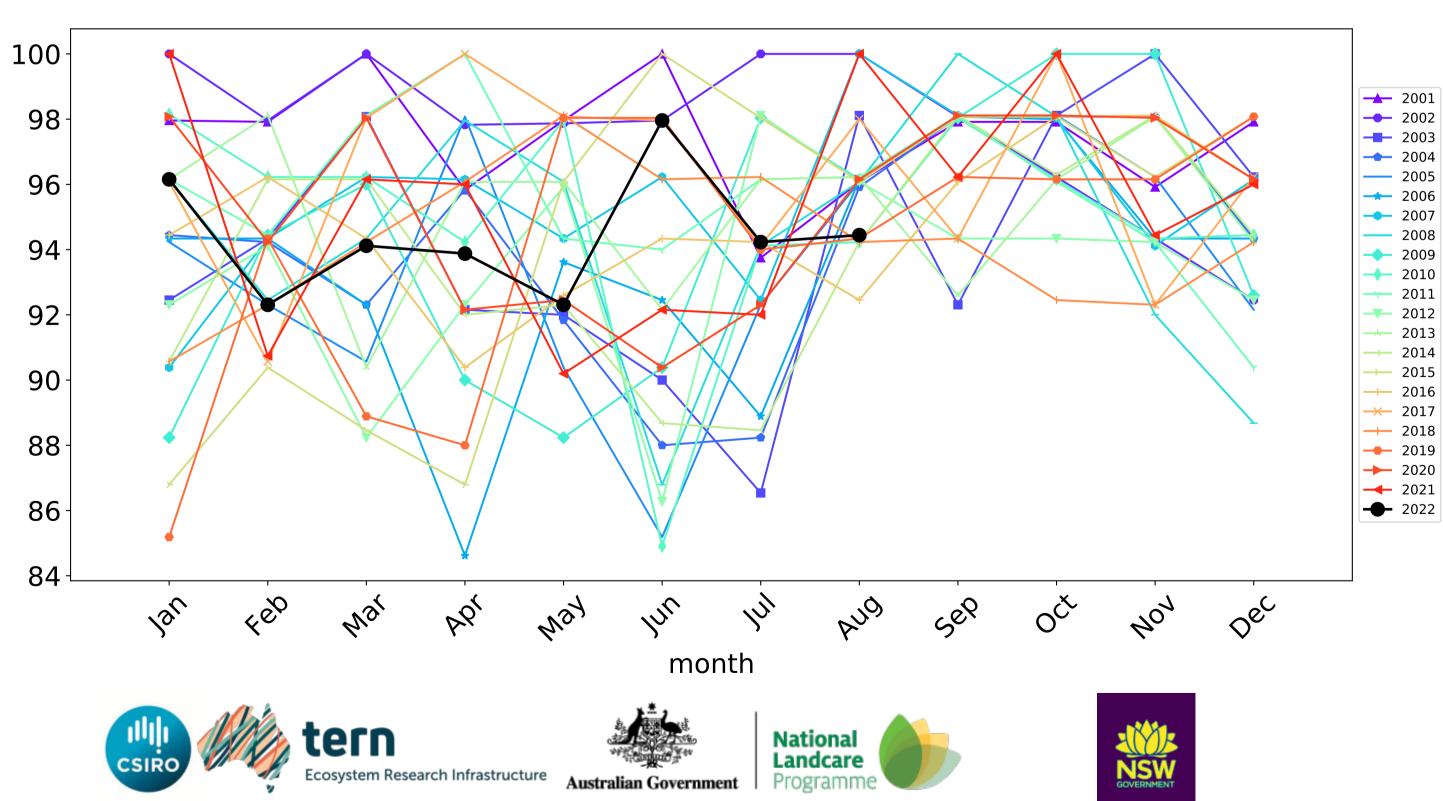


Conservation and natural environments non forest timeseries

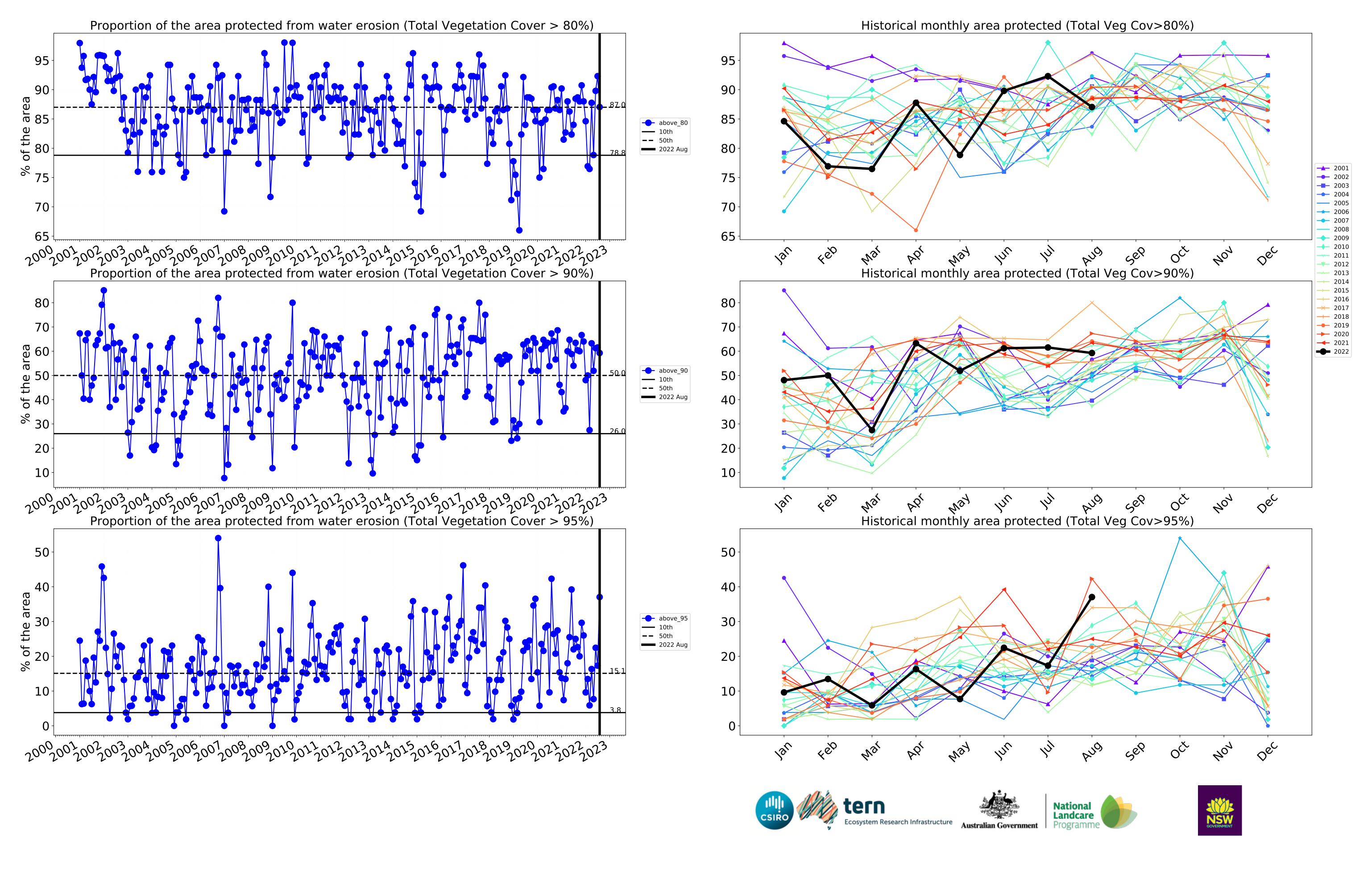








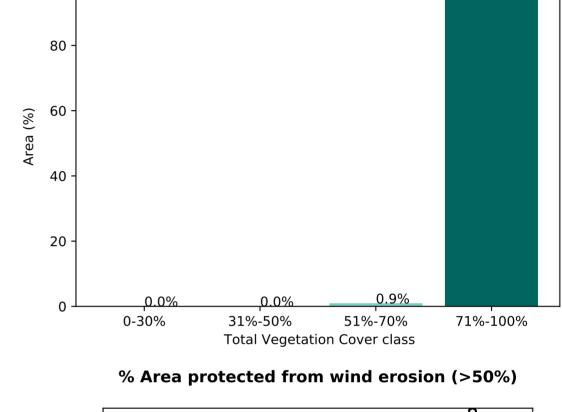
Water erosion historical monthly area protected (Total Veg Cov>70%)



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)

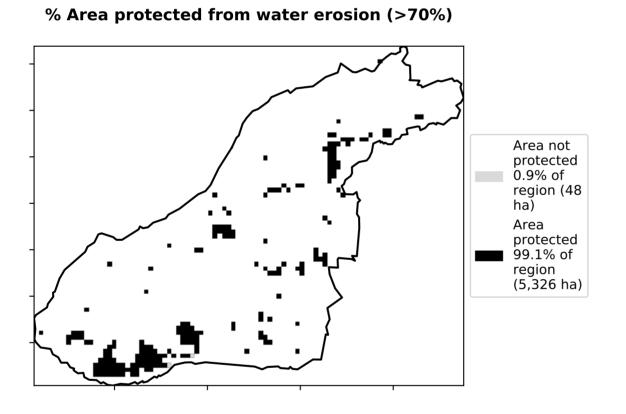
Total Vegetation Cover [%]

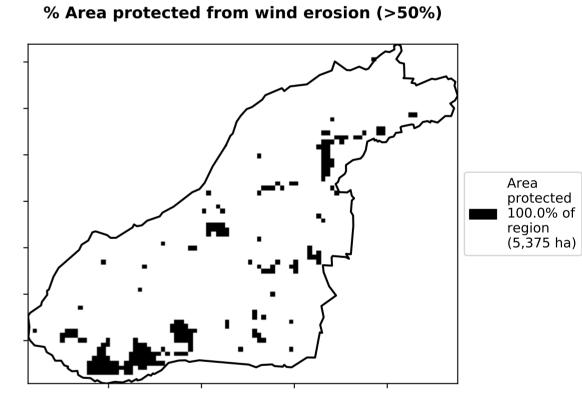


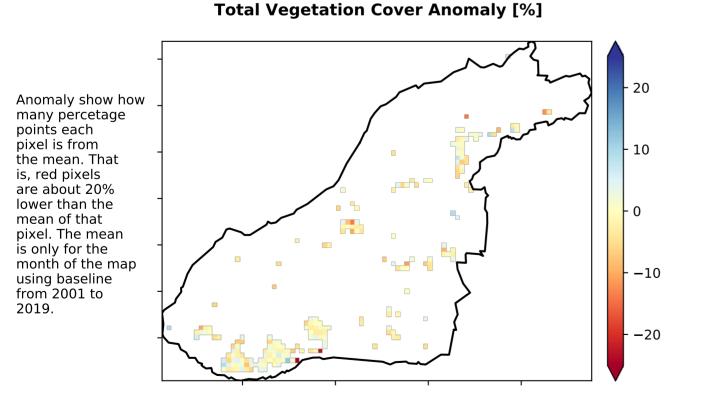
Proportion of vegetation cover class in area

100

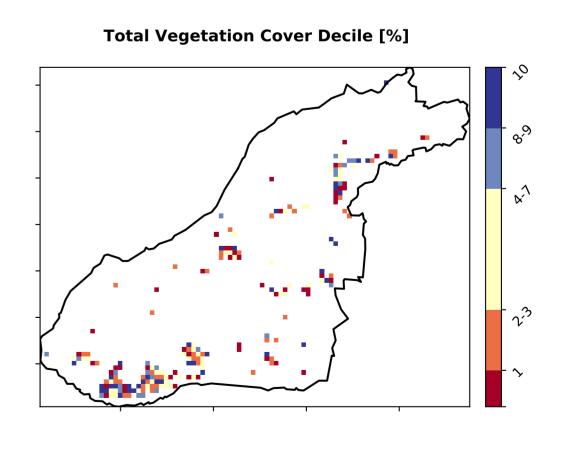
99.1%







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.

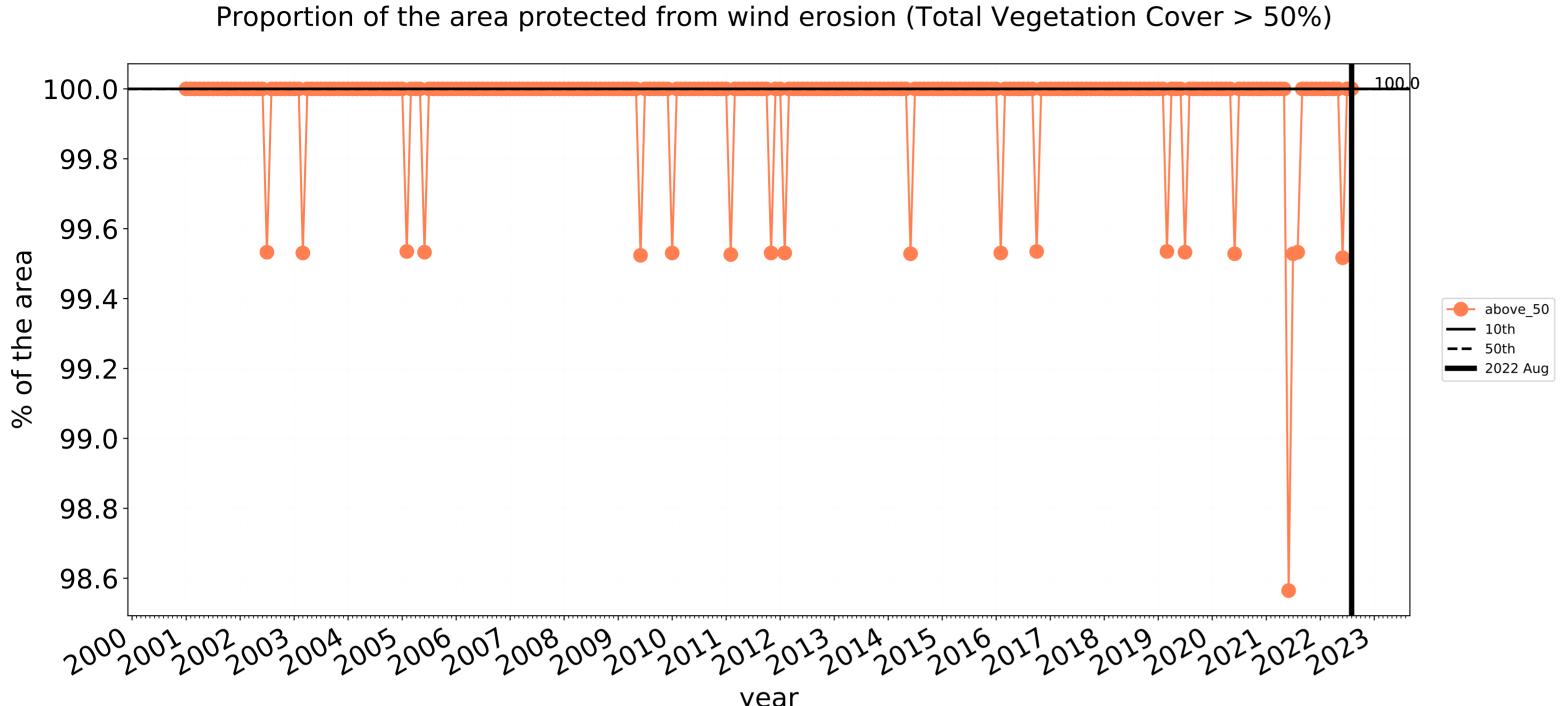


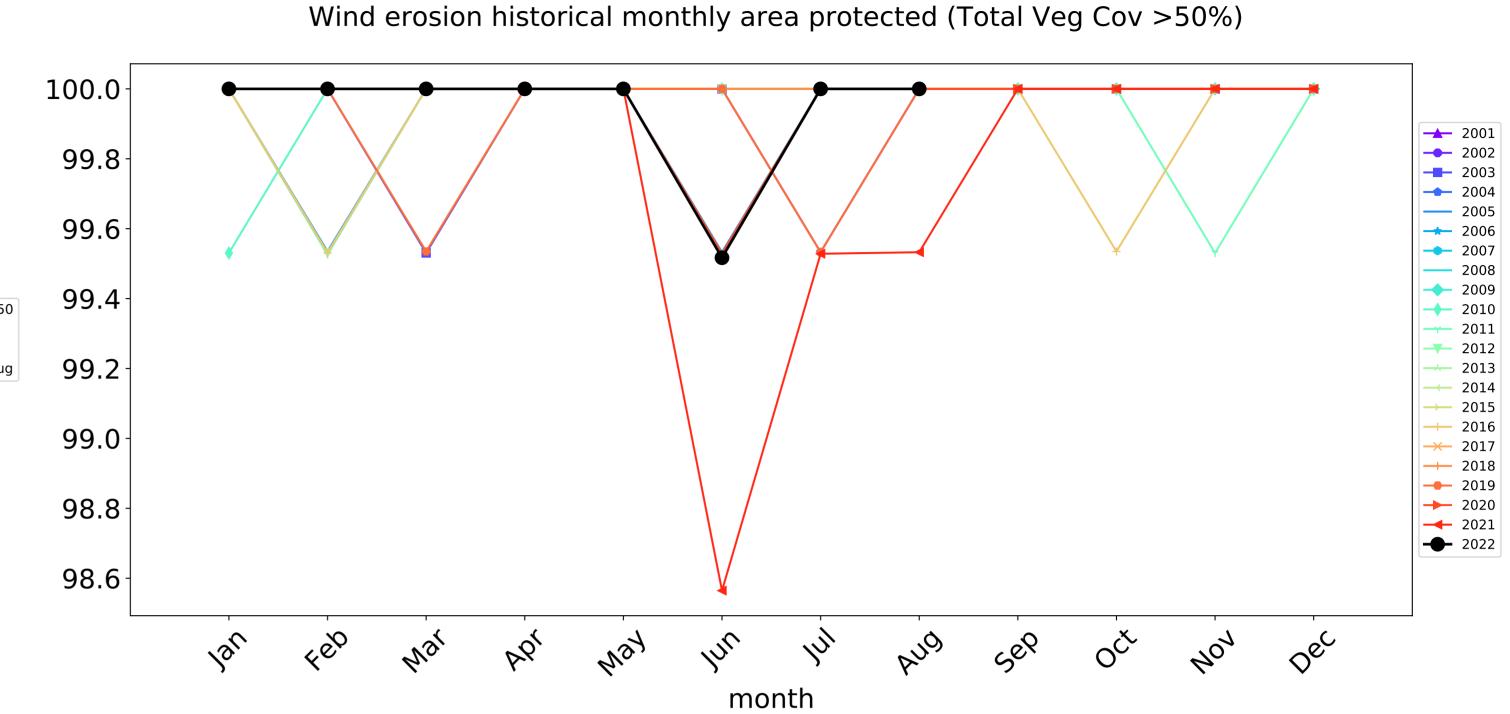


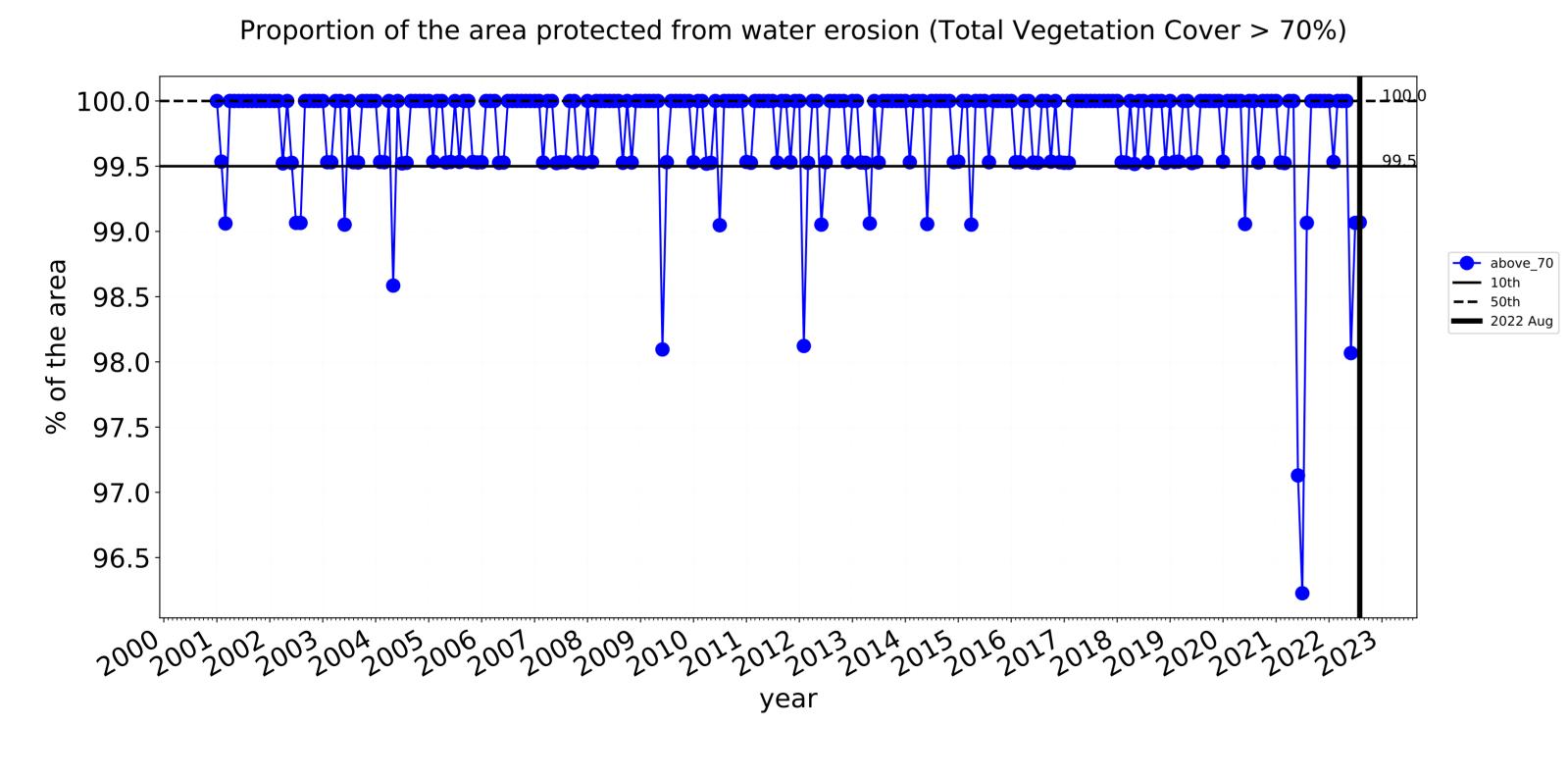


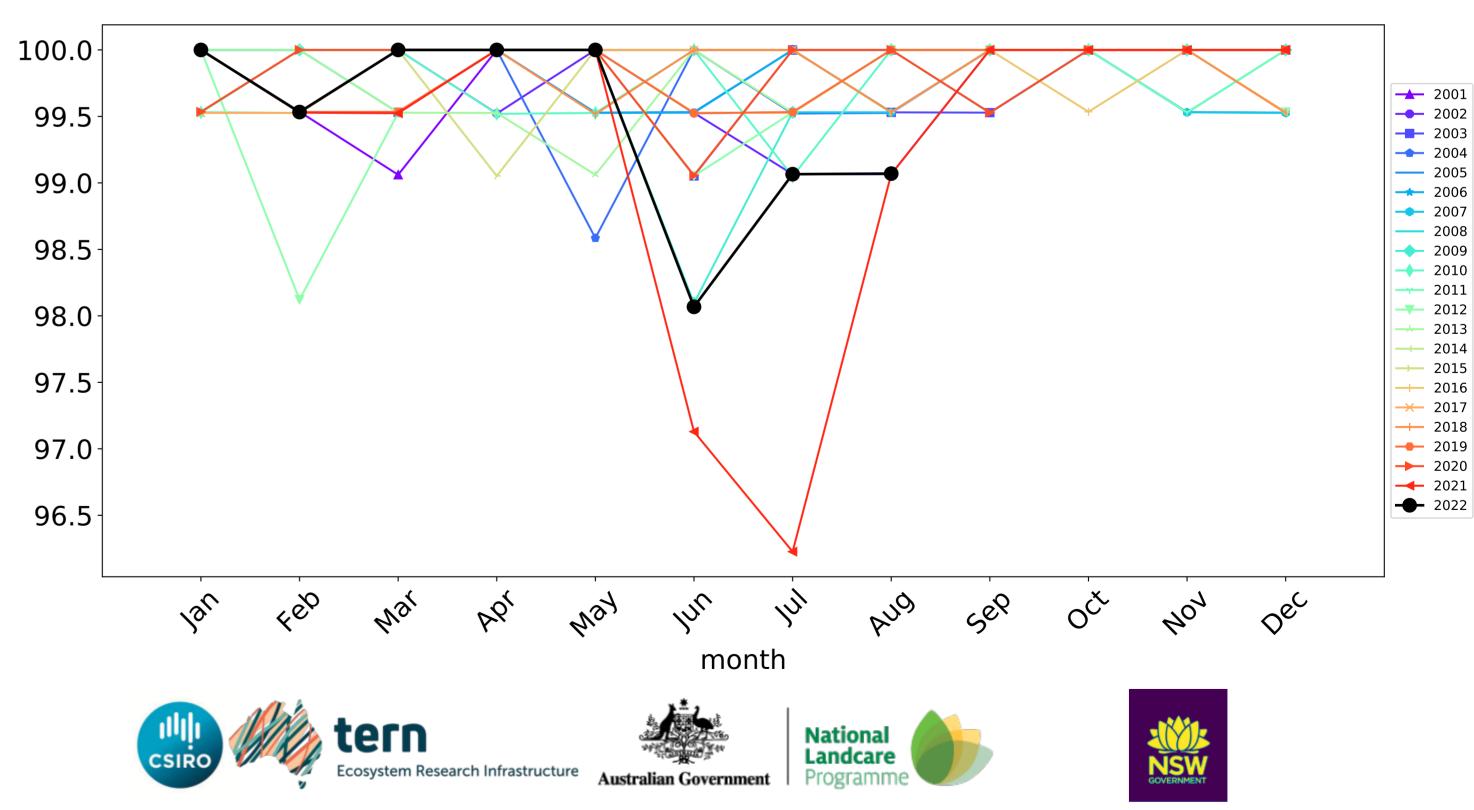


Conservation and natural environments Woodland forest timeseries

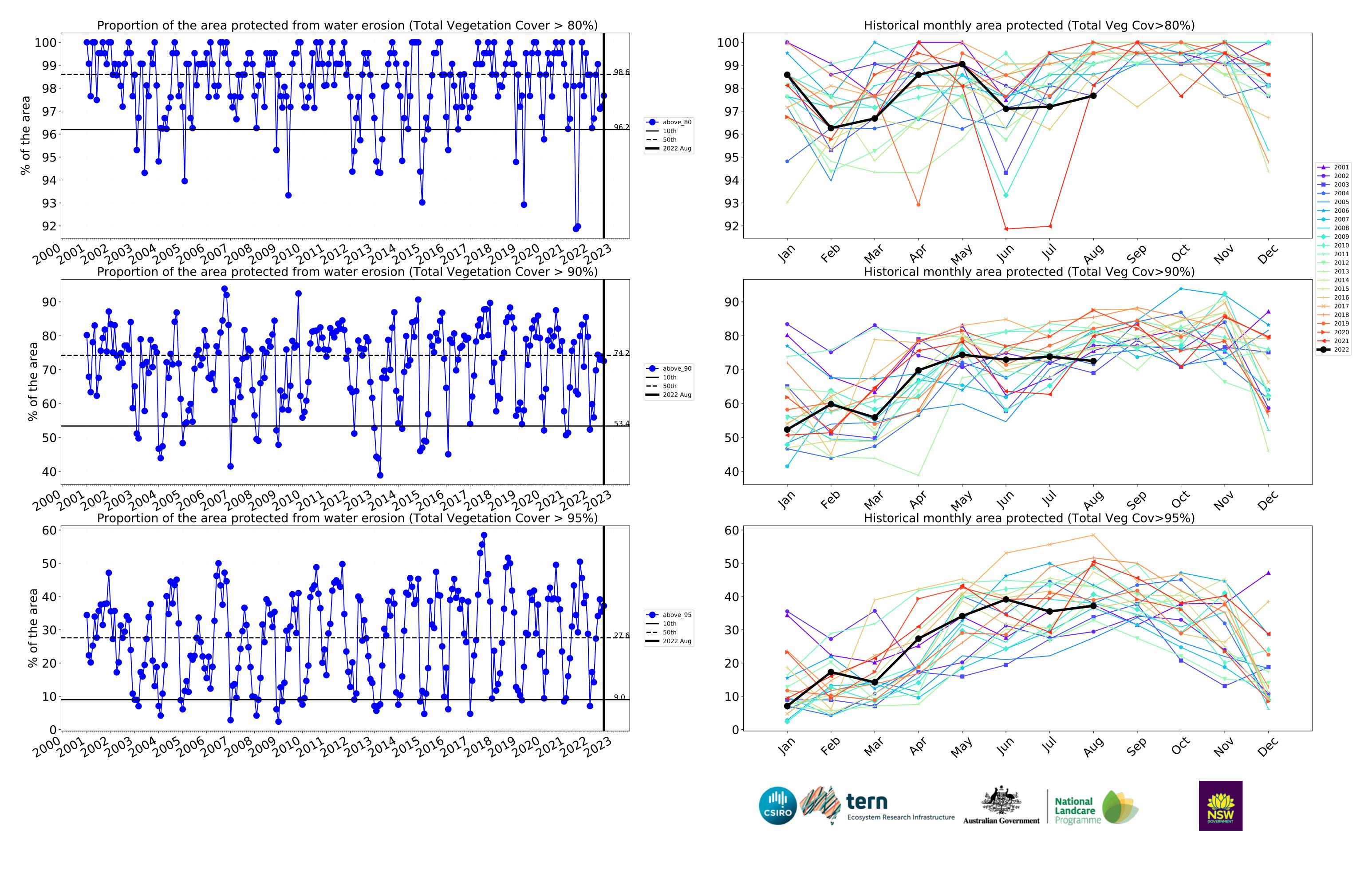






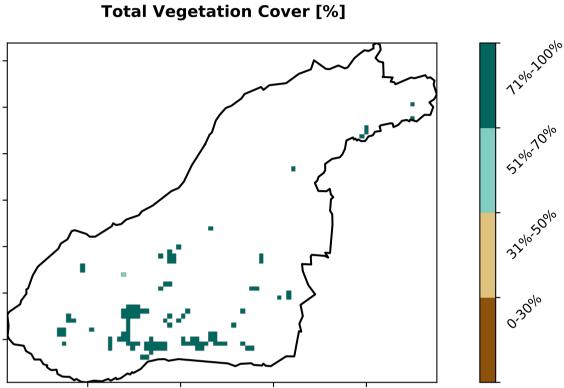


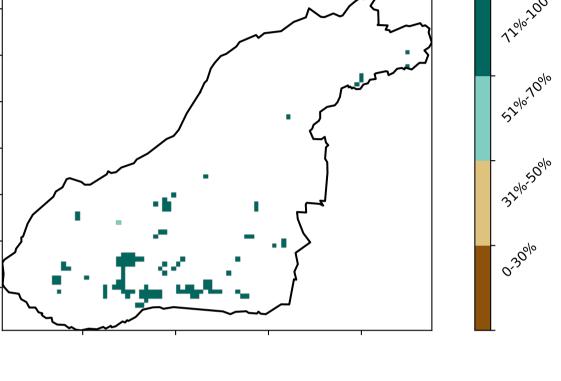
Water erosion historical monthly area protected (Total Veg Cov>70%)

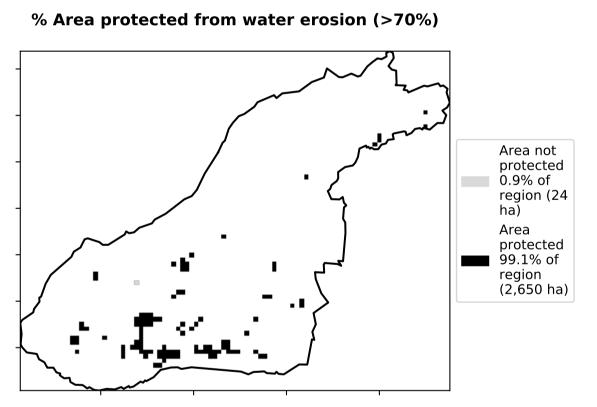


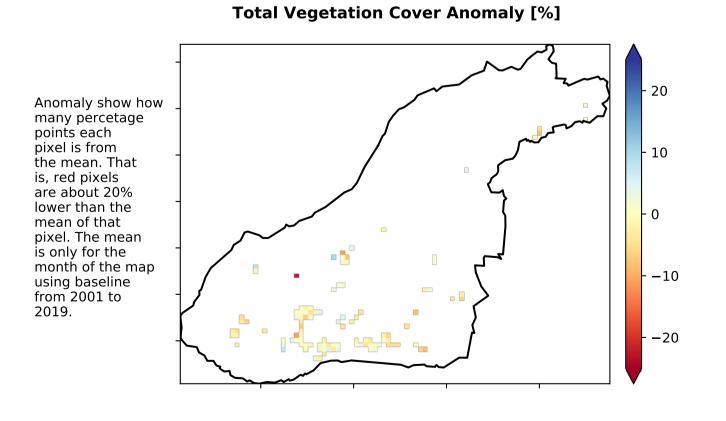
Conservation and natural environments Forest (non woodland)

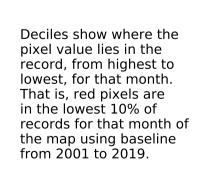
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Non-woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

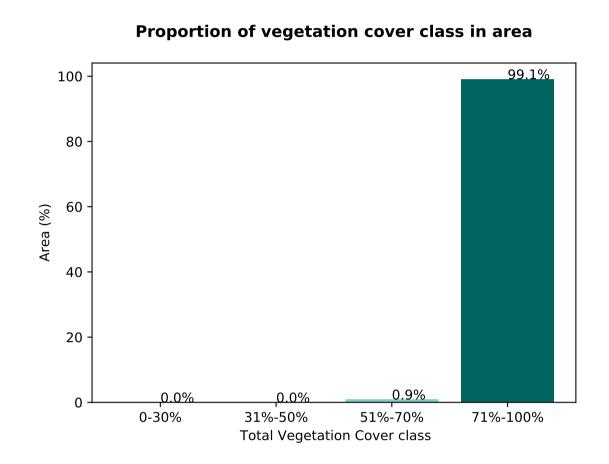


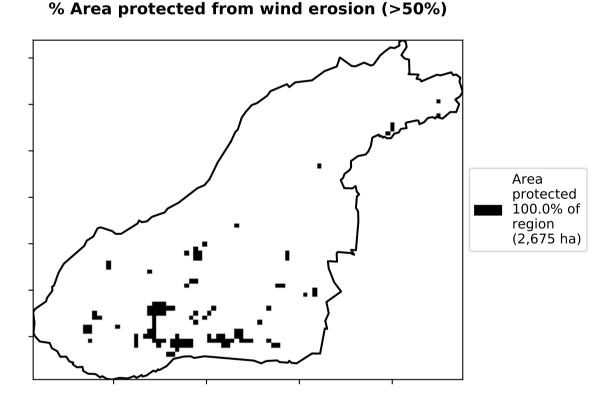


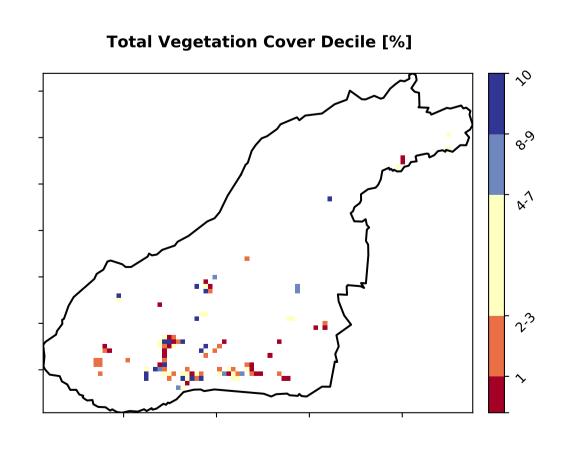










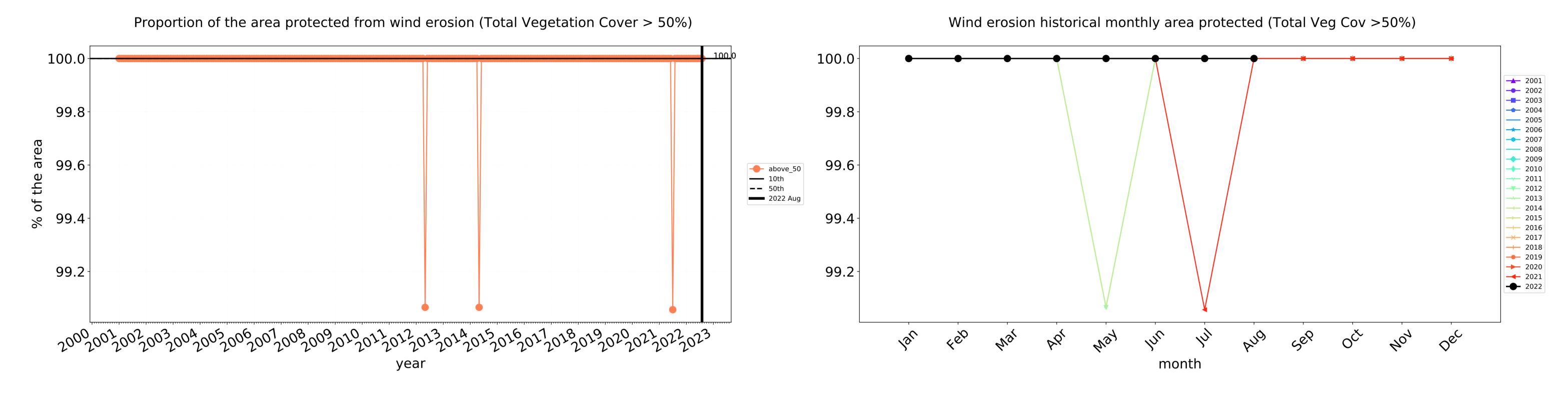


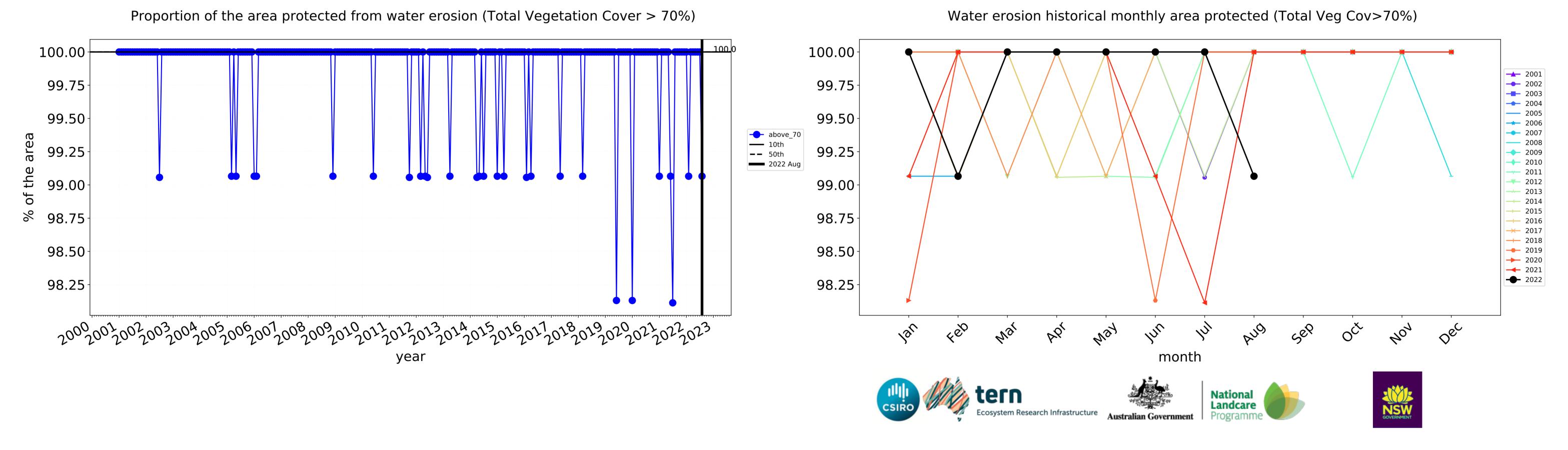


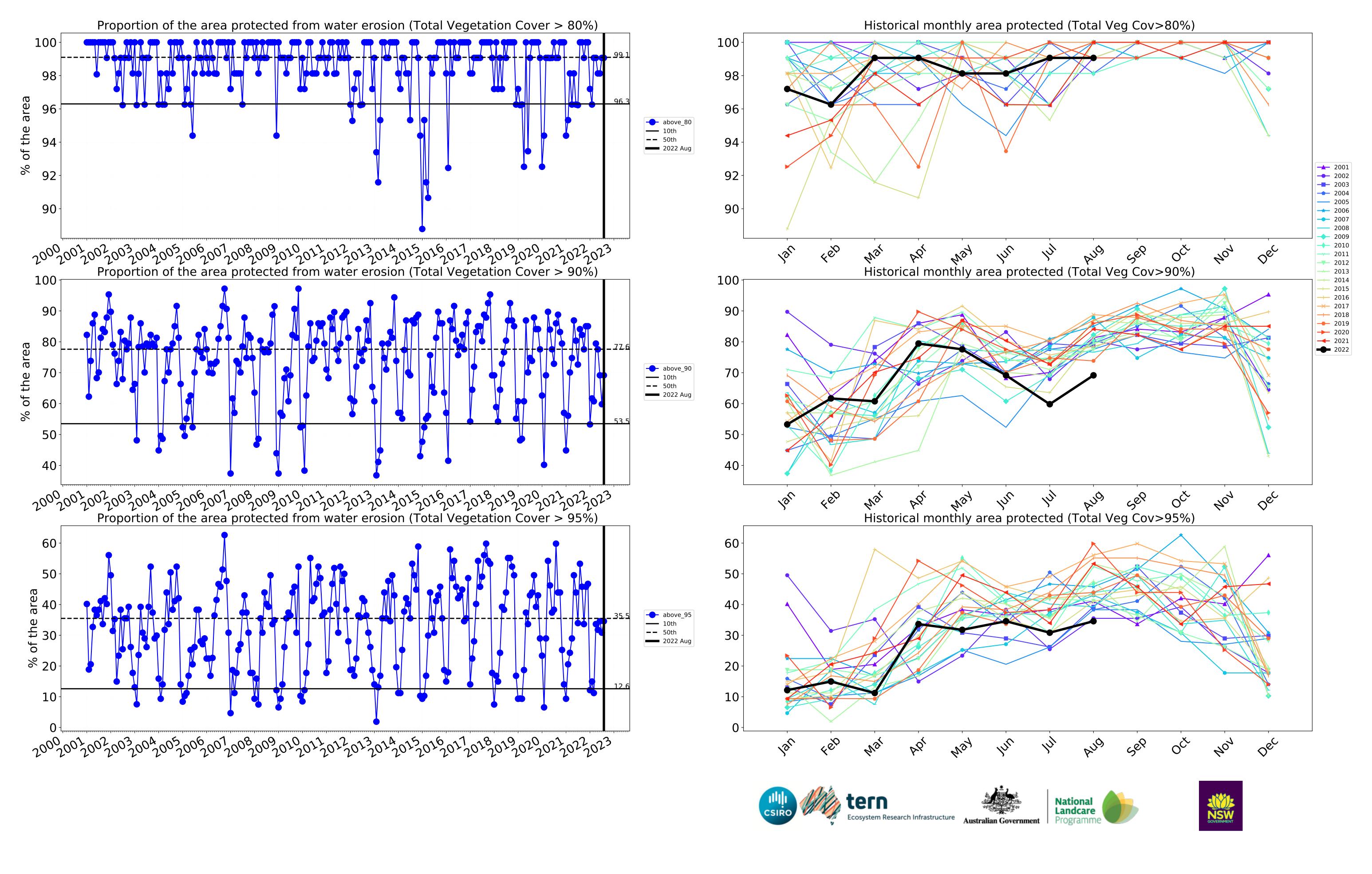








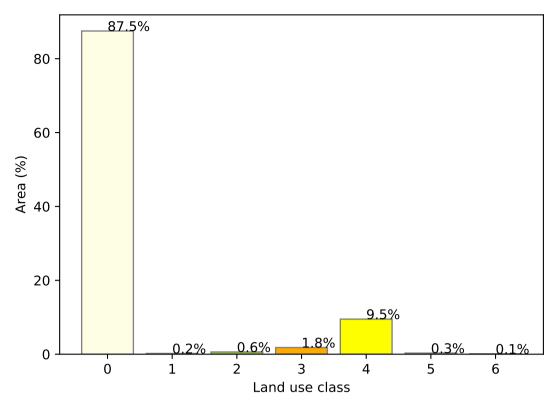




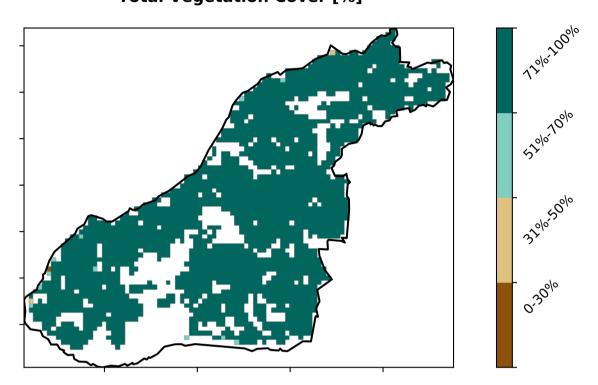
Agriculture

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) The state of Australia (2018) Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest 4 Agriculture - Grazing - Irrigated 5 Agriculture - Grazing - Irrigated 6 Agriculture - Grazing - Irrigated 7 Agriculture - Horticulture - Irrigated

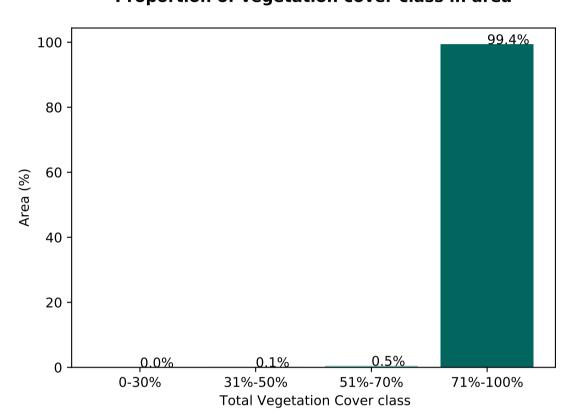
Proportion of each land class in area



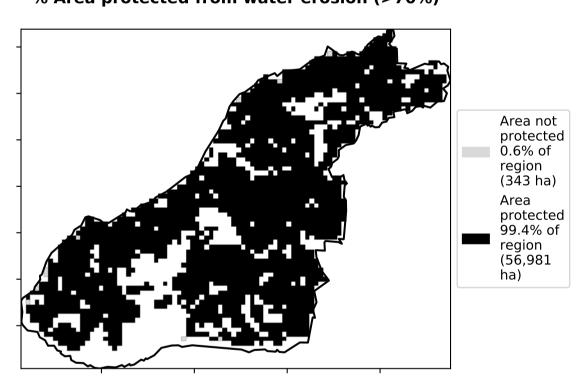
Total Vegetation Cover [%]



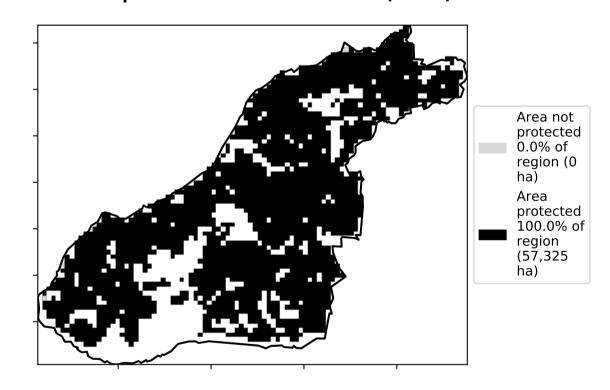
Proportion of vegetation cover class in area



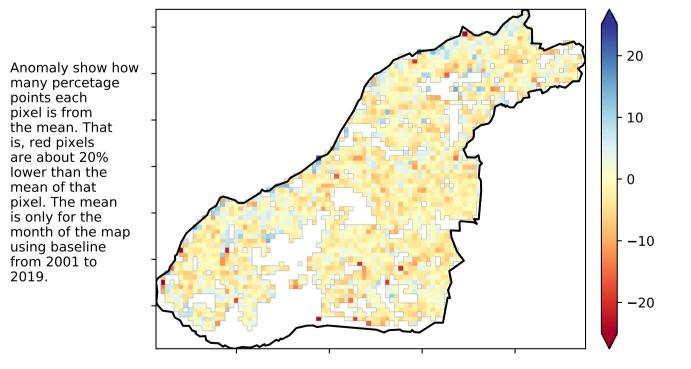
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

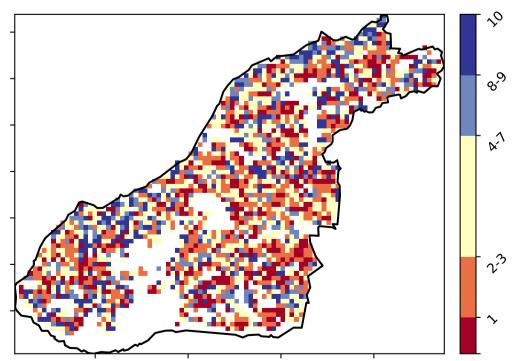


Total Vegetation Cover Anomaly [%]



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 [%]



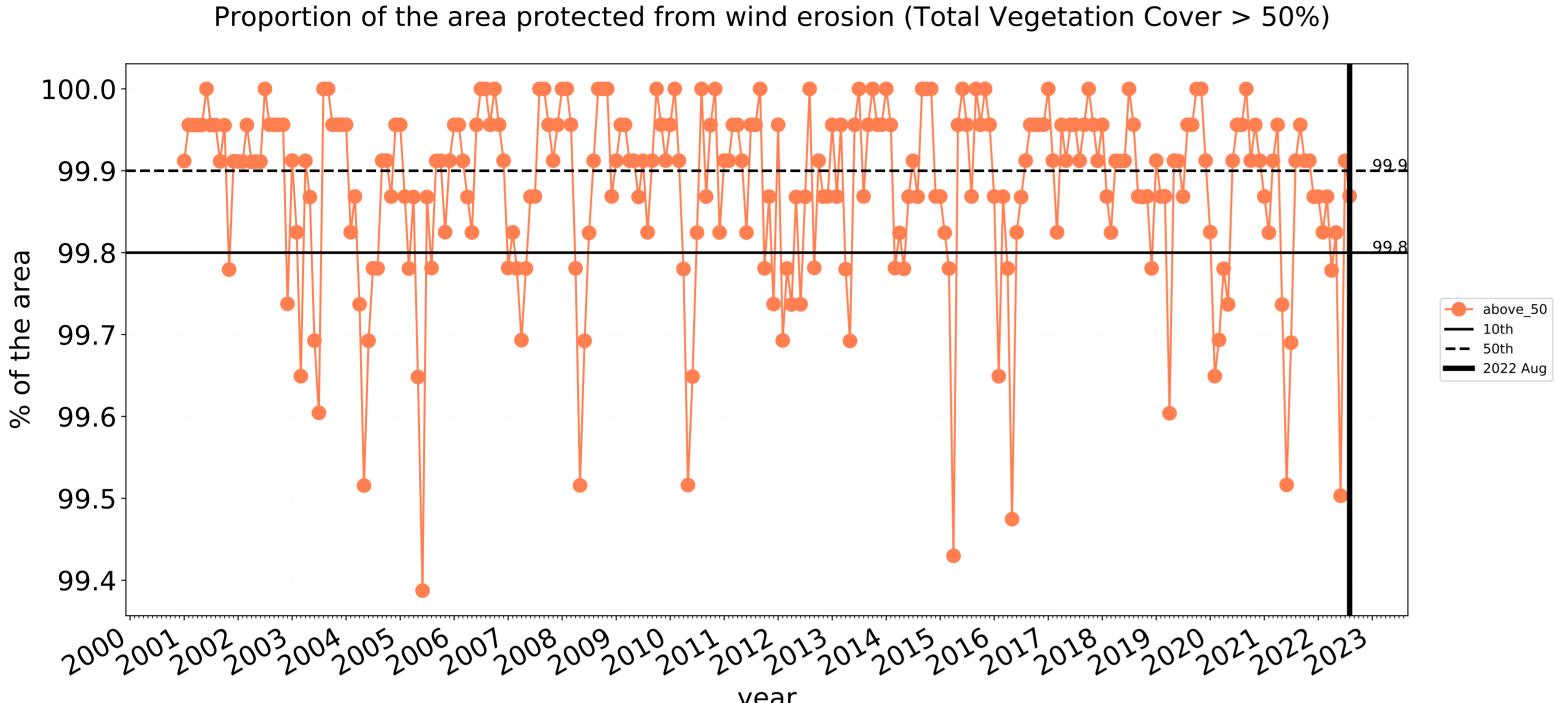


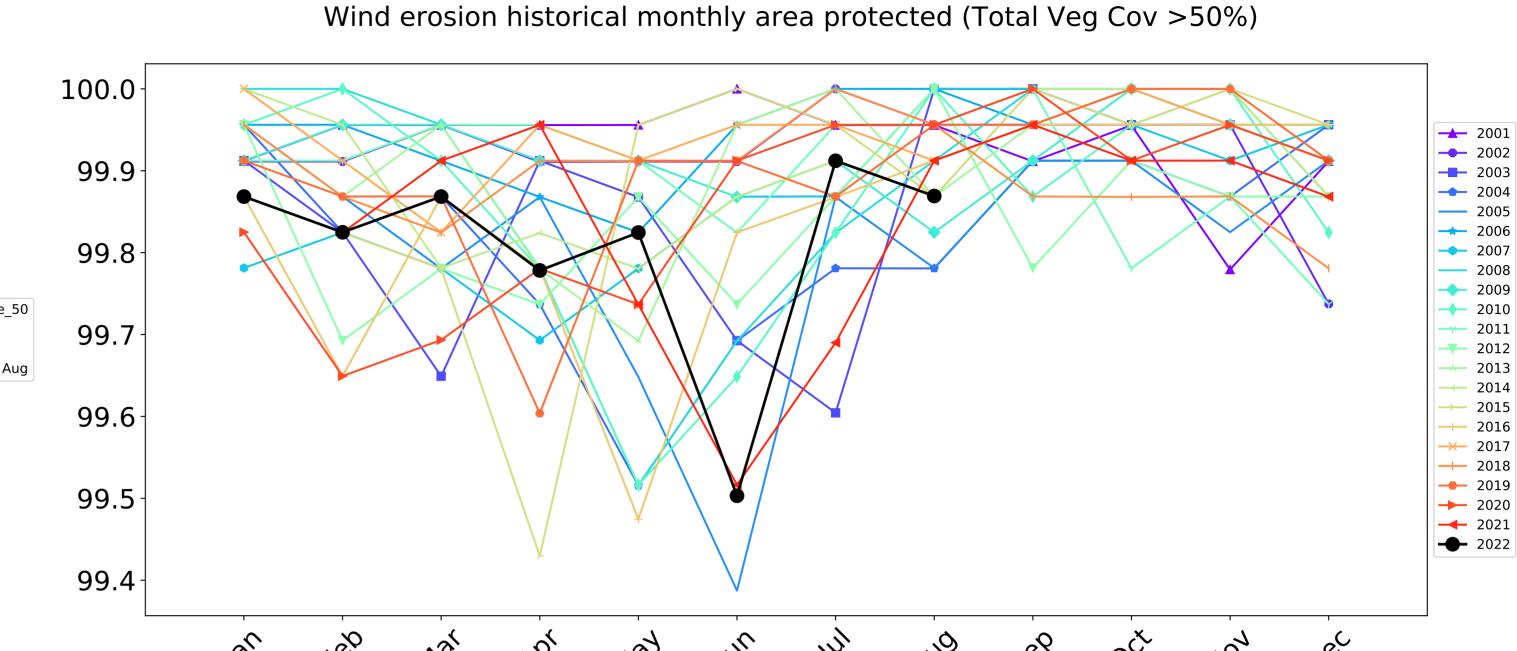




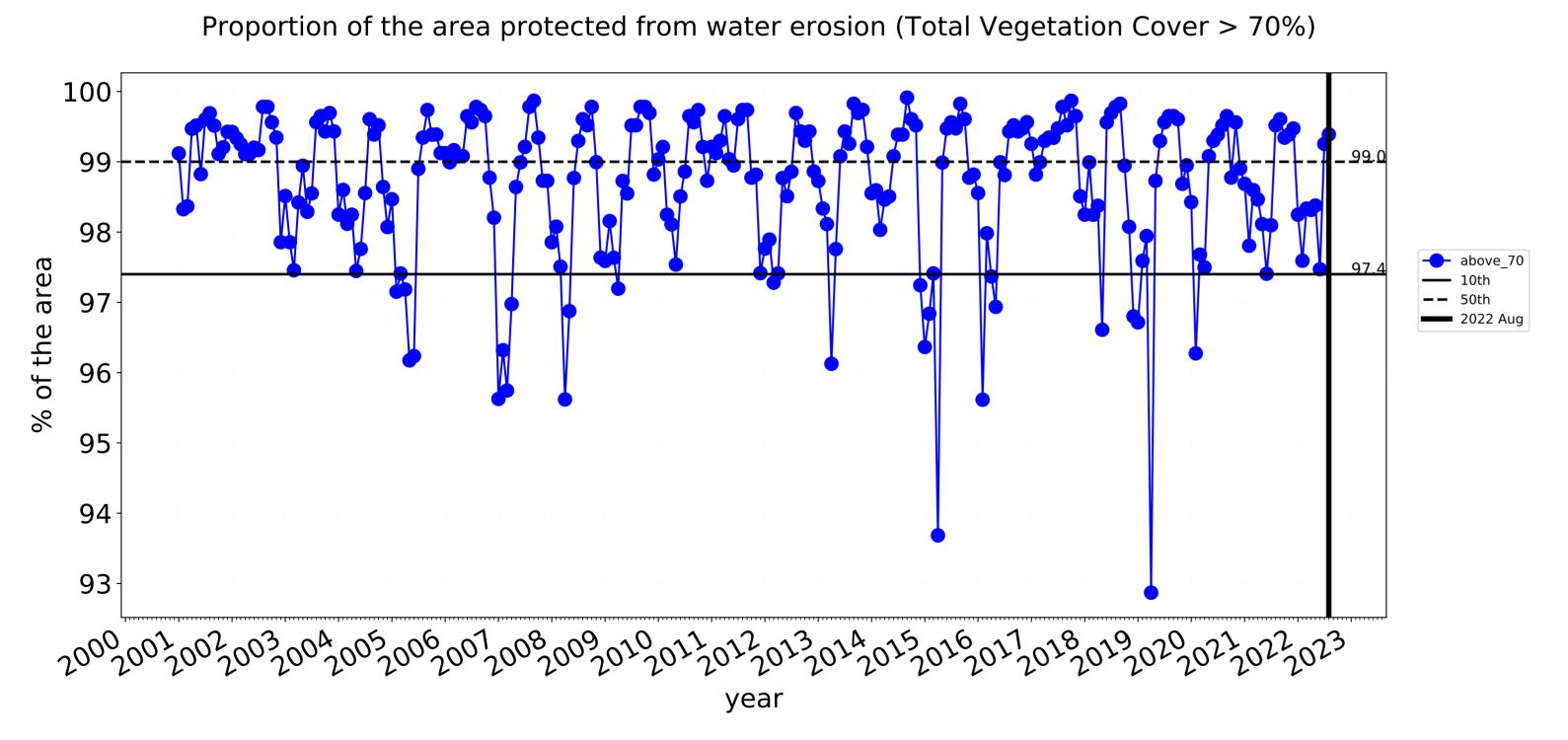


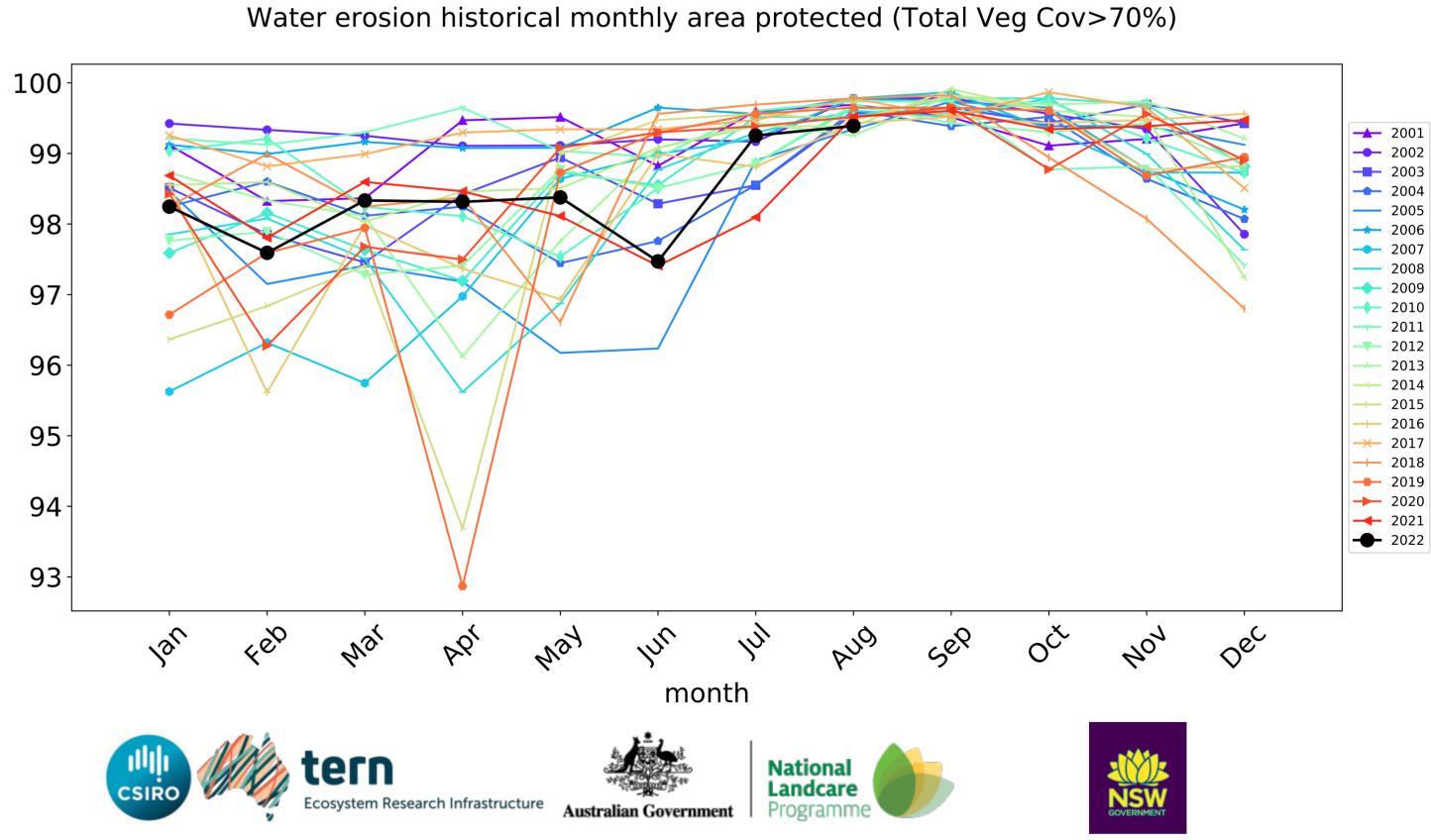
Agriculture timeseries

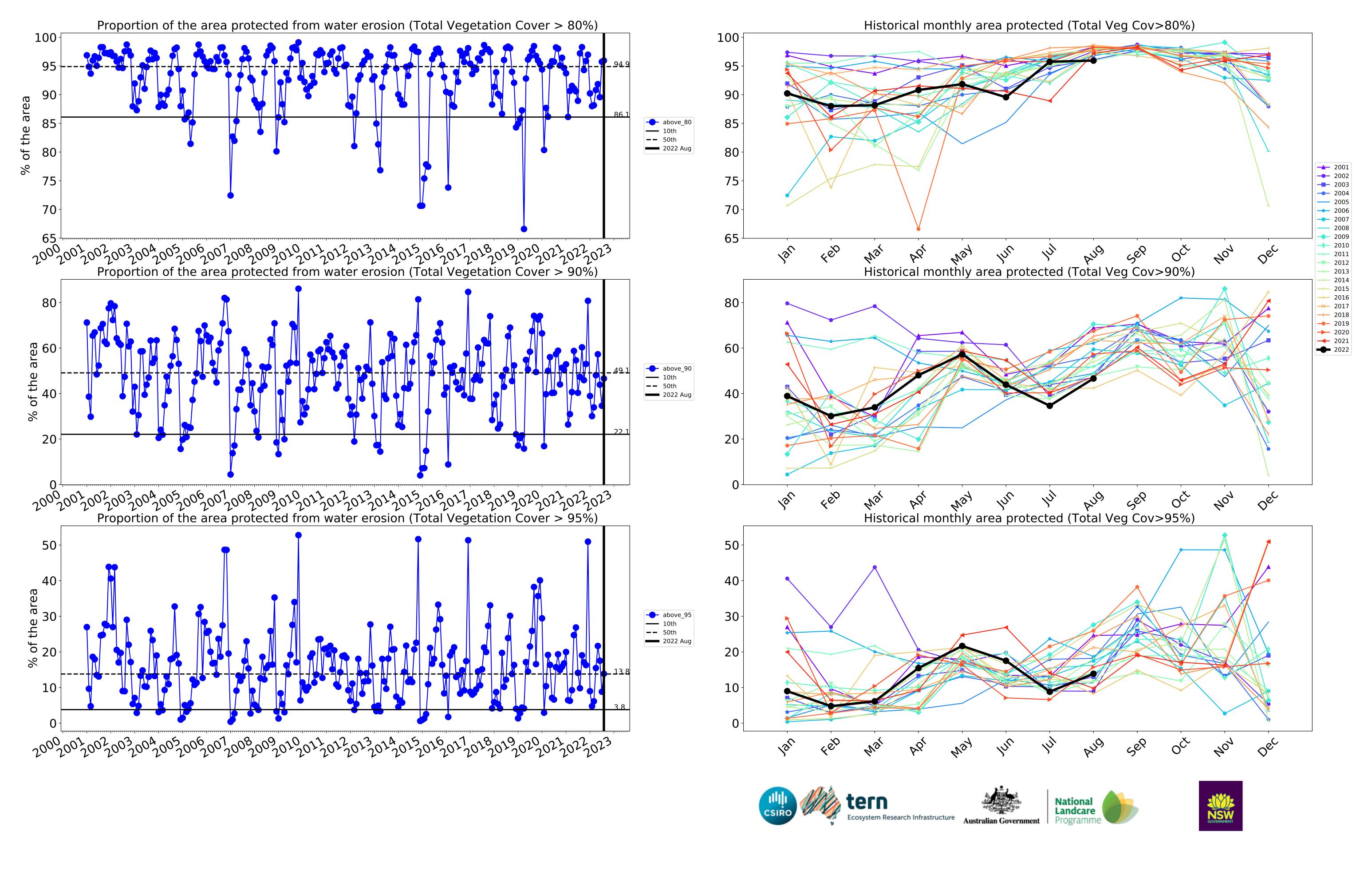




month



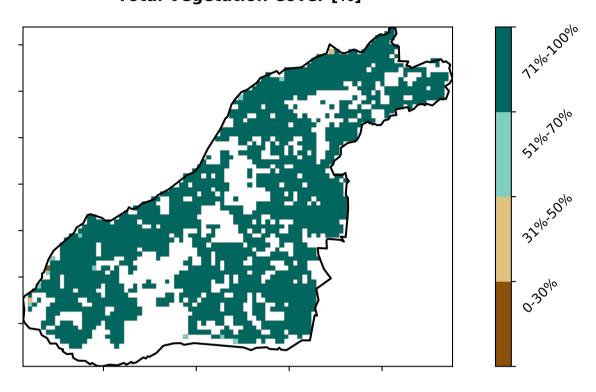




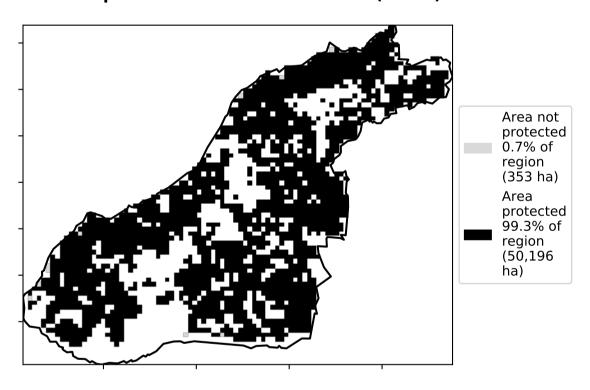
Grazing

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

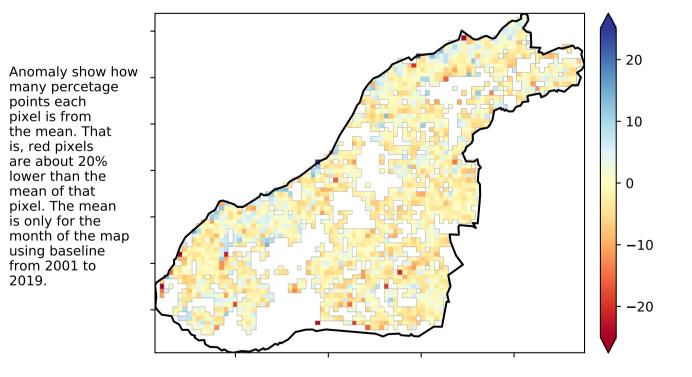
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)



Total Vegetation Cover Anomaly [%]



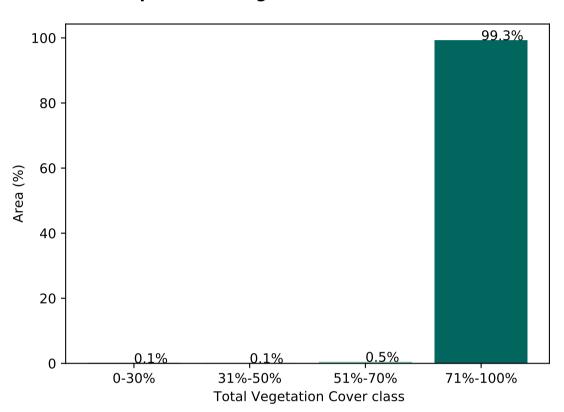
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

100 - 99.1% 80 - 80 - 40 - 20 - 0.5 0.0 0.5 1.0 1.5 2.0 2.5

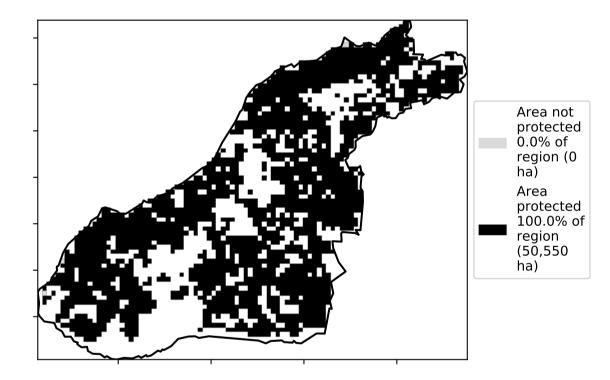
Proportion of each land class in area

Proportion of vegetation cover class in area

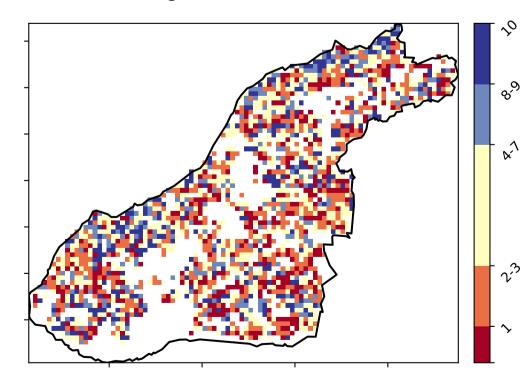
Land use class



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



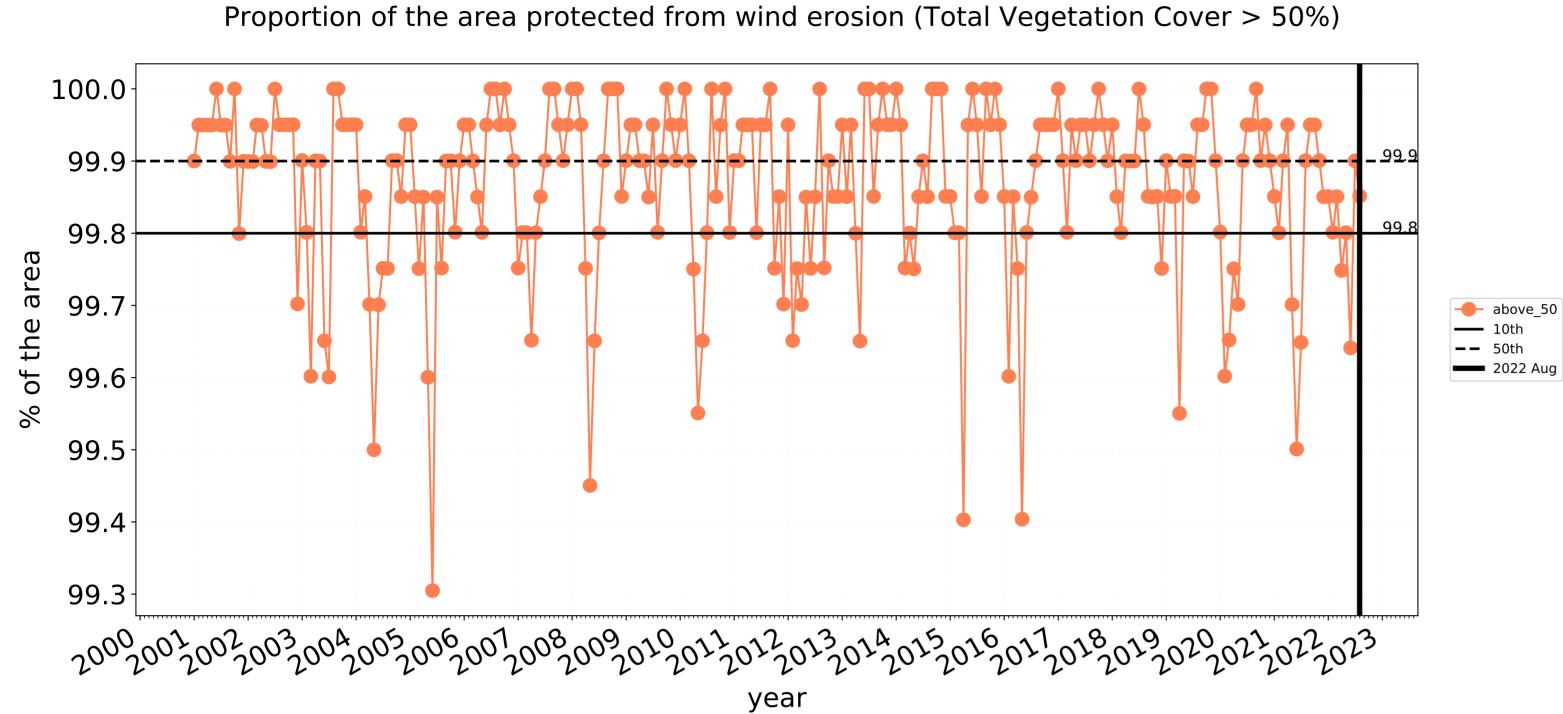


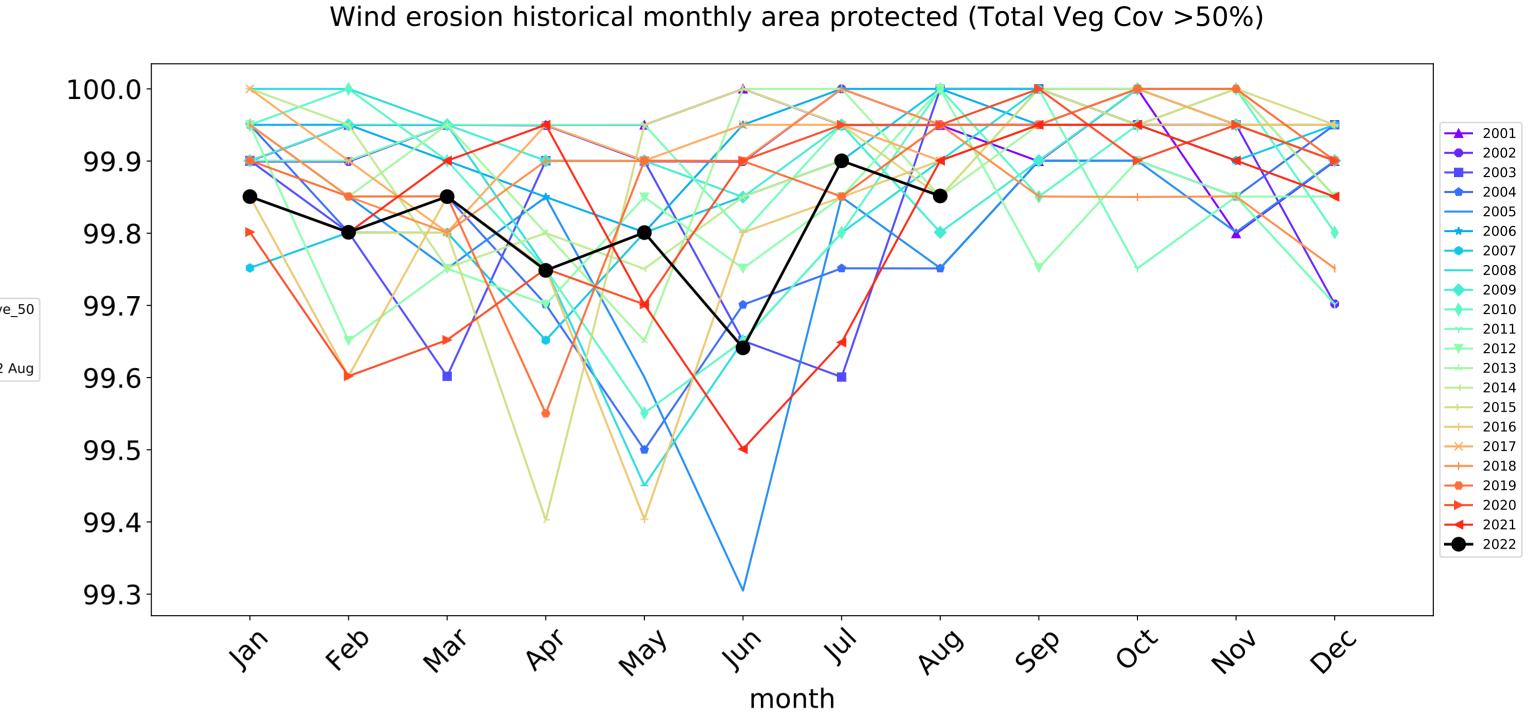


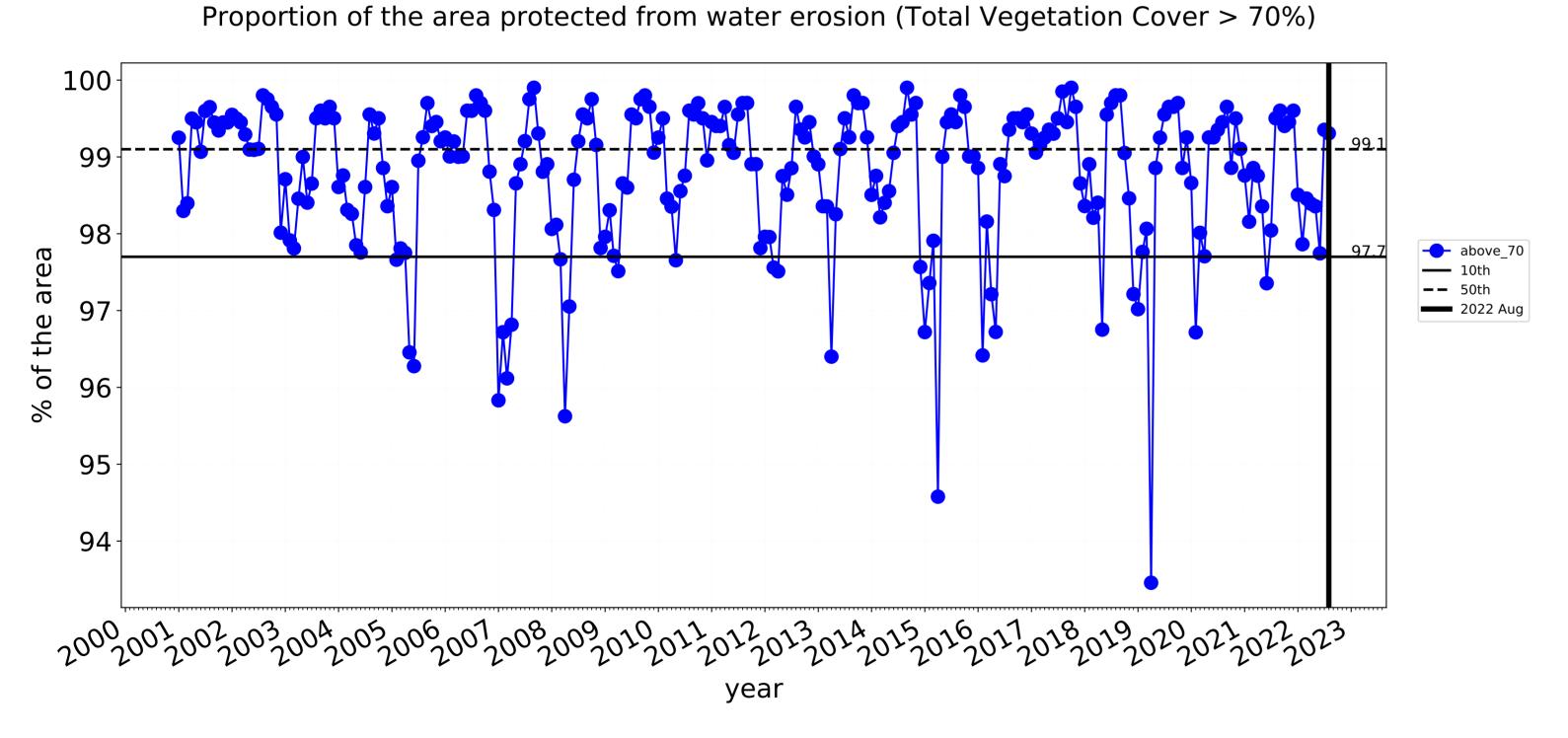


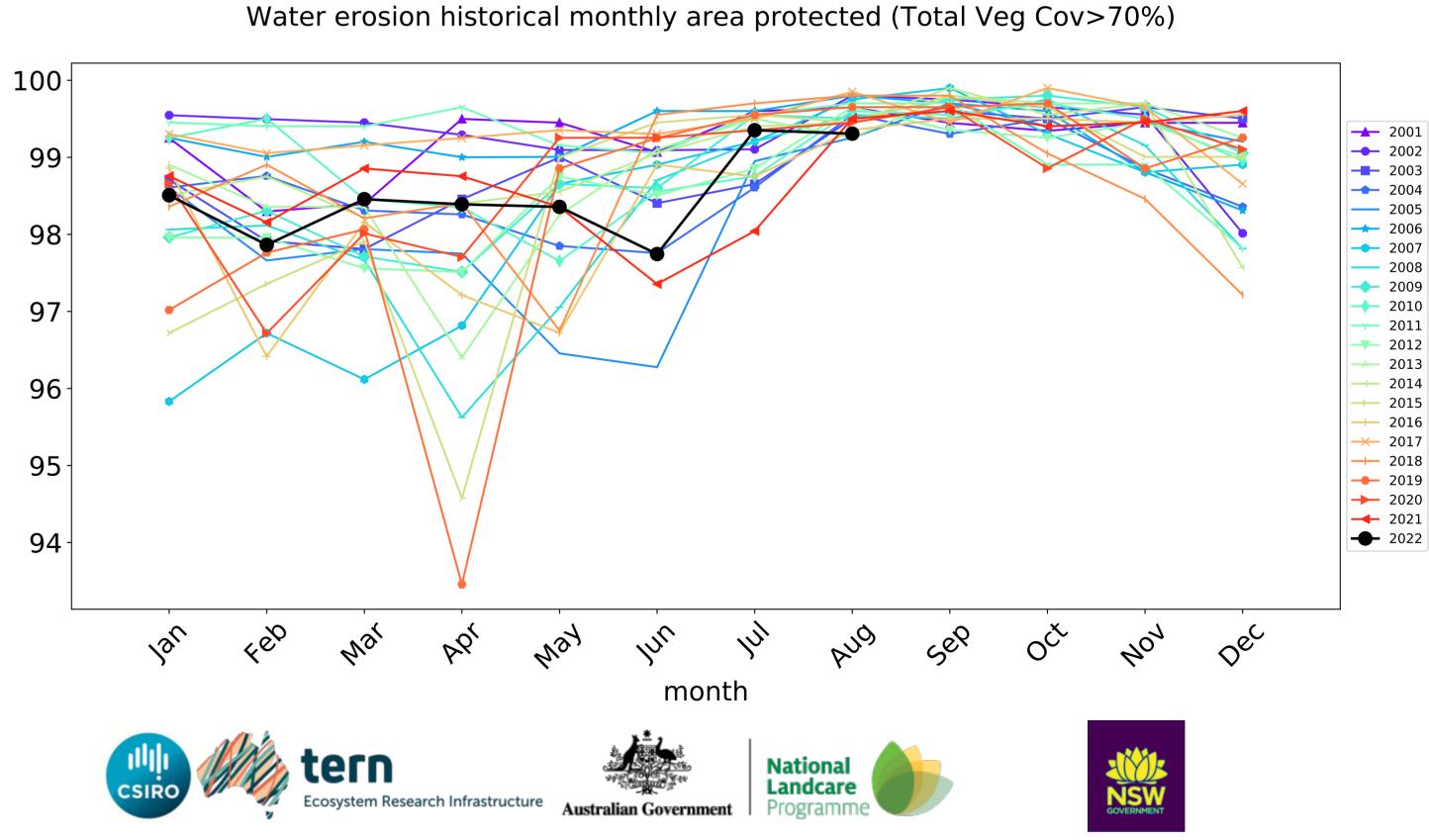


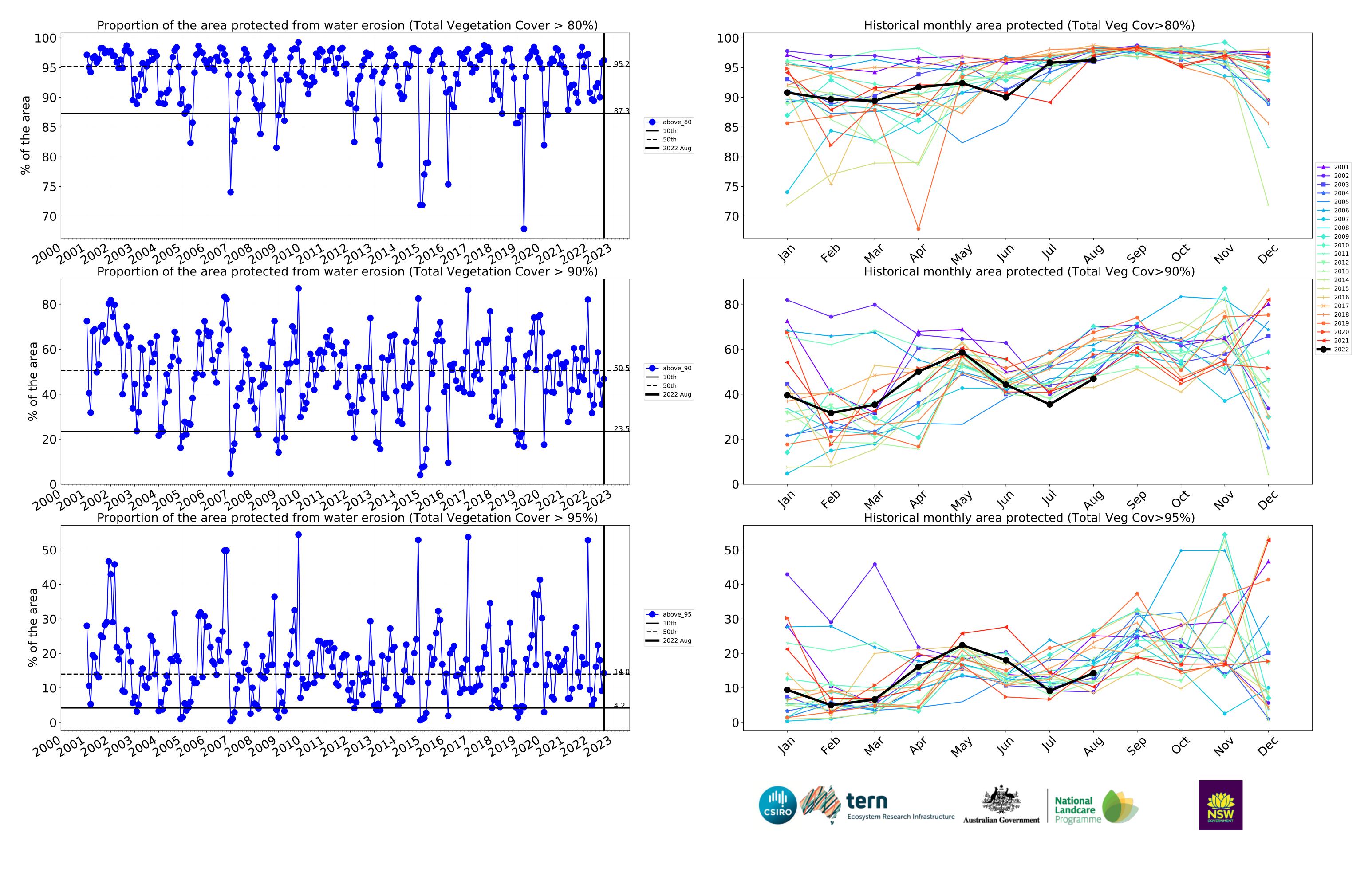
Grazing timeseries





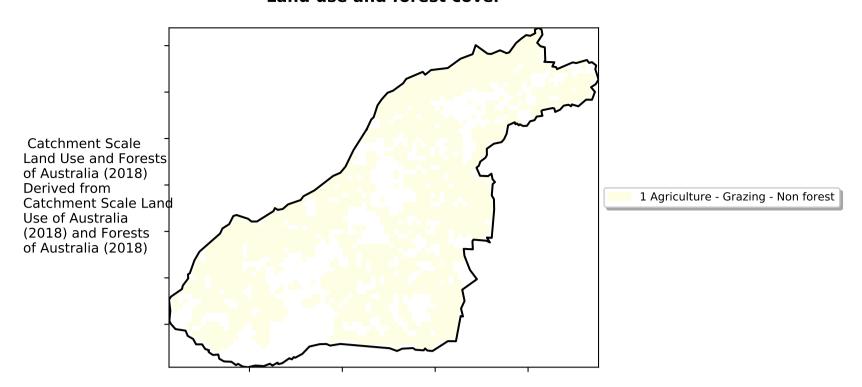




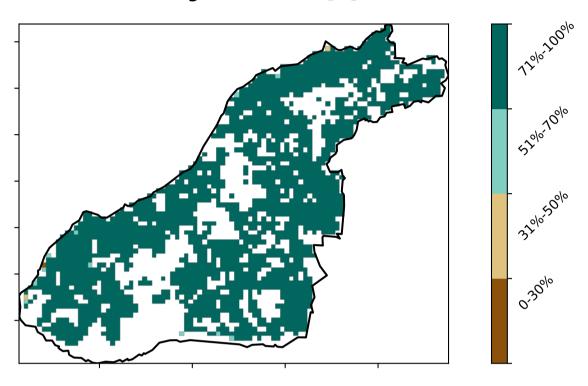


Grazing non forest

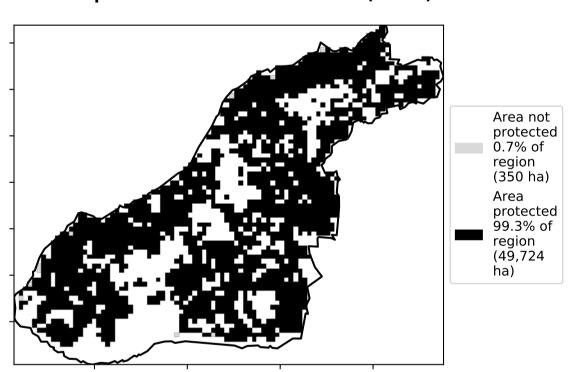
Land use and forest cover



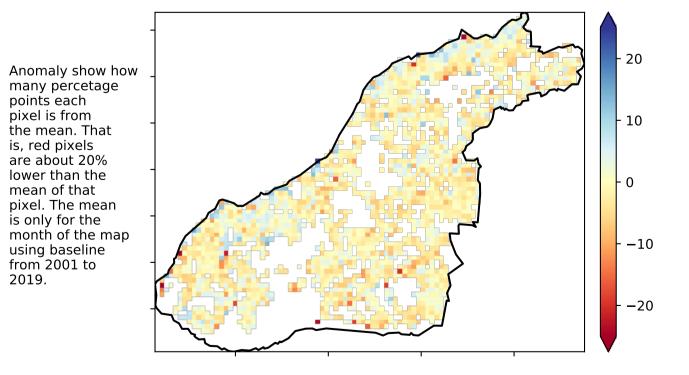
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

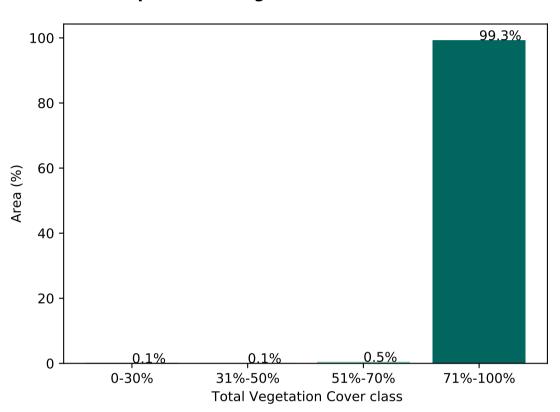


Total Vegetation Cover Anomaly [%]

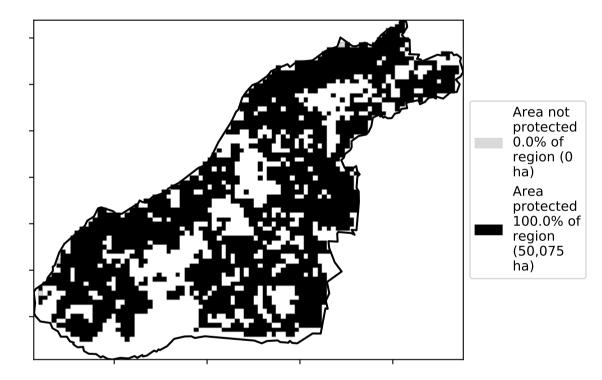


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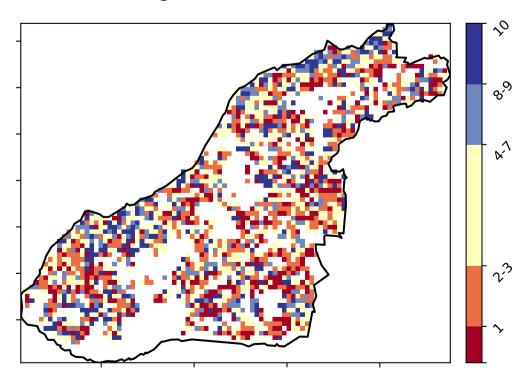
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



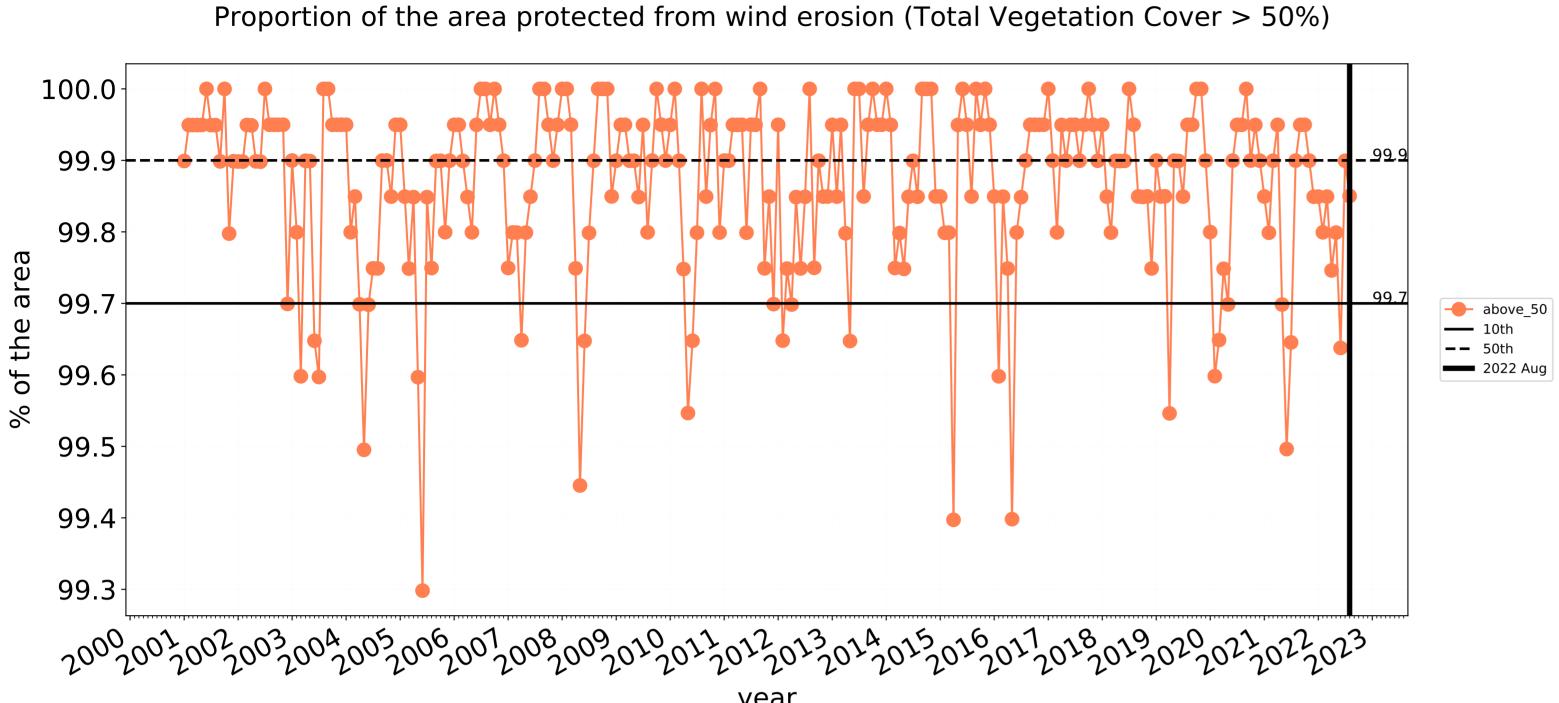


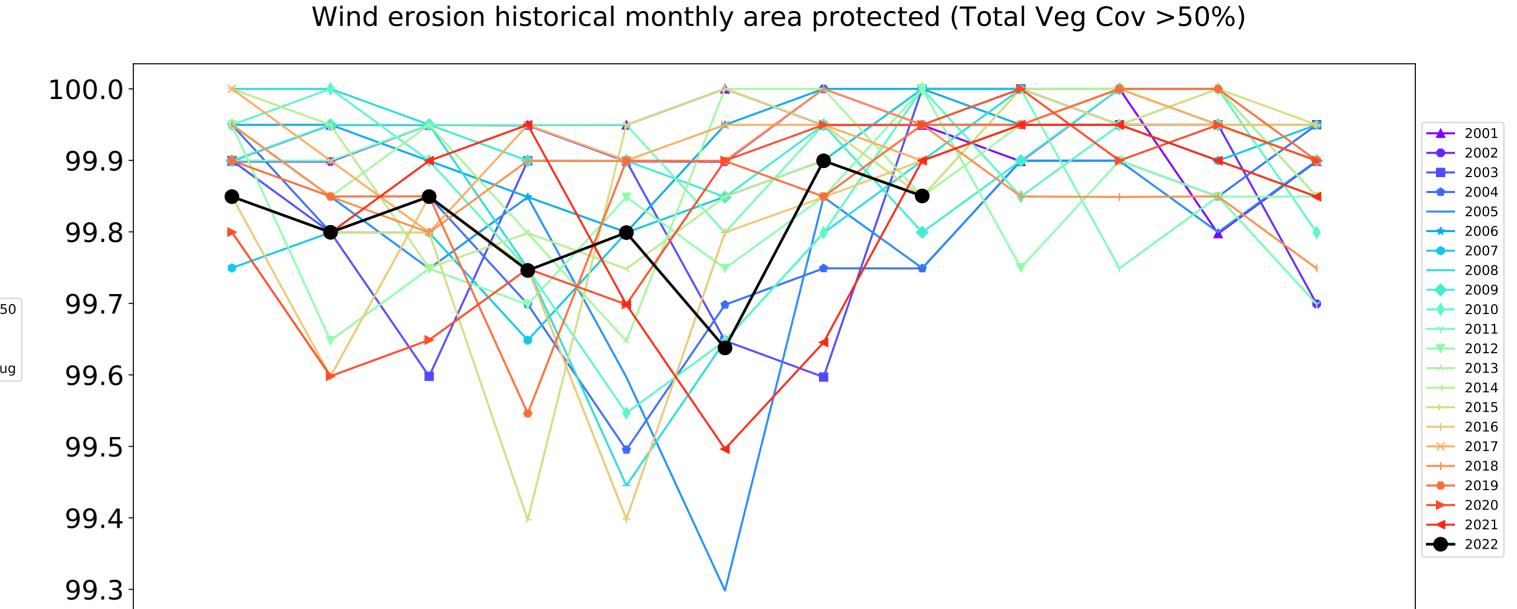




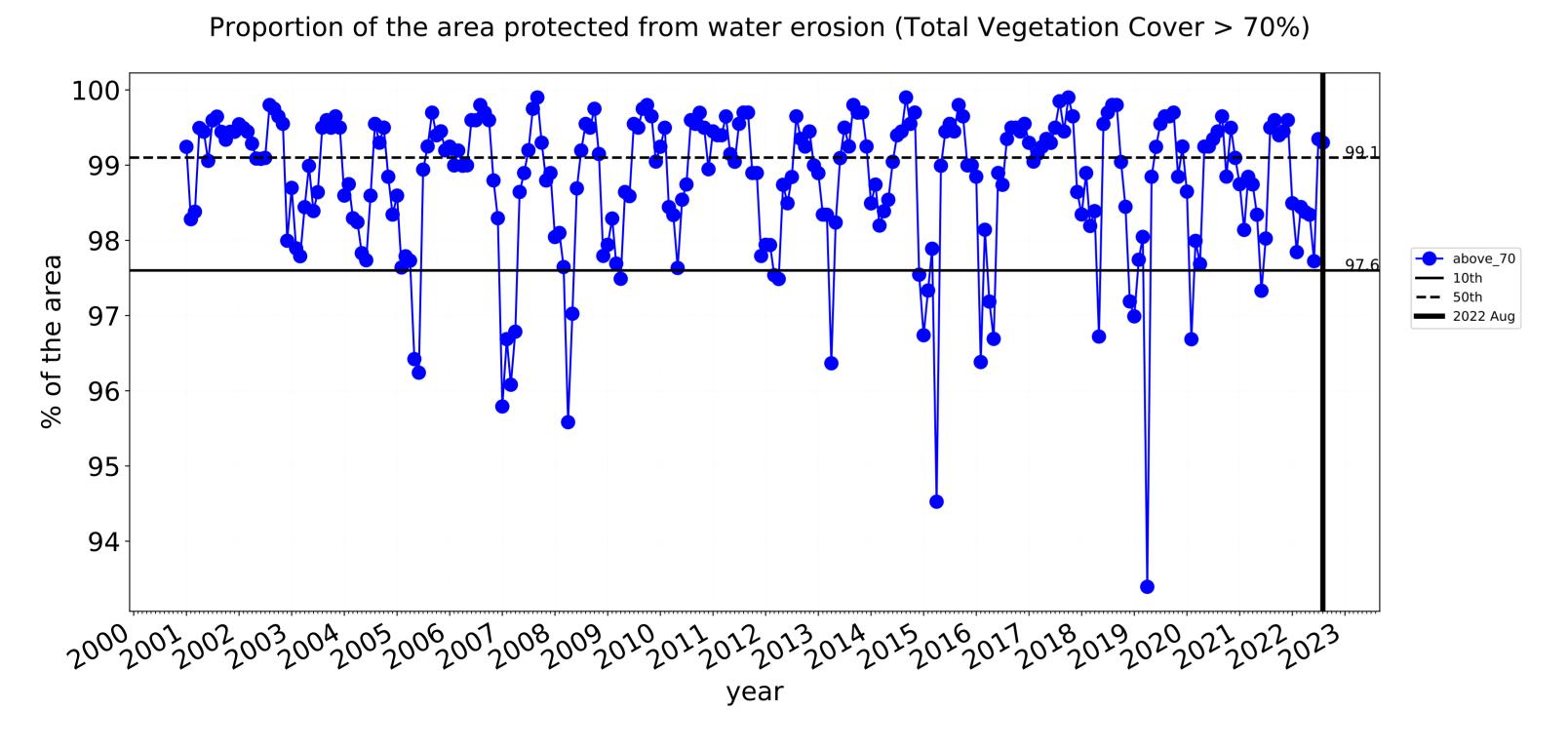


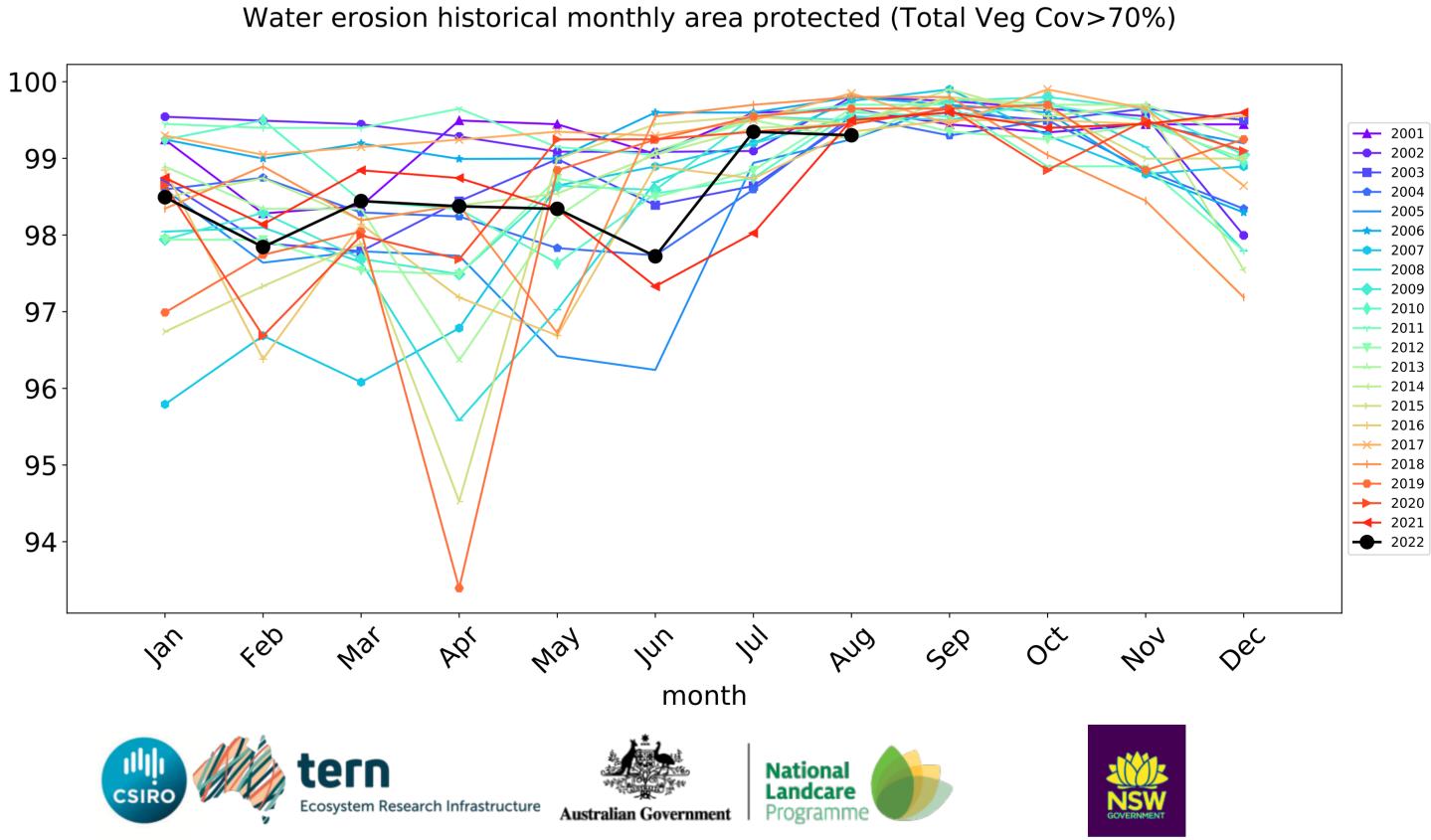
Grazing non forest timeseries

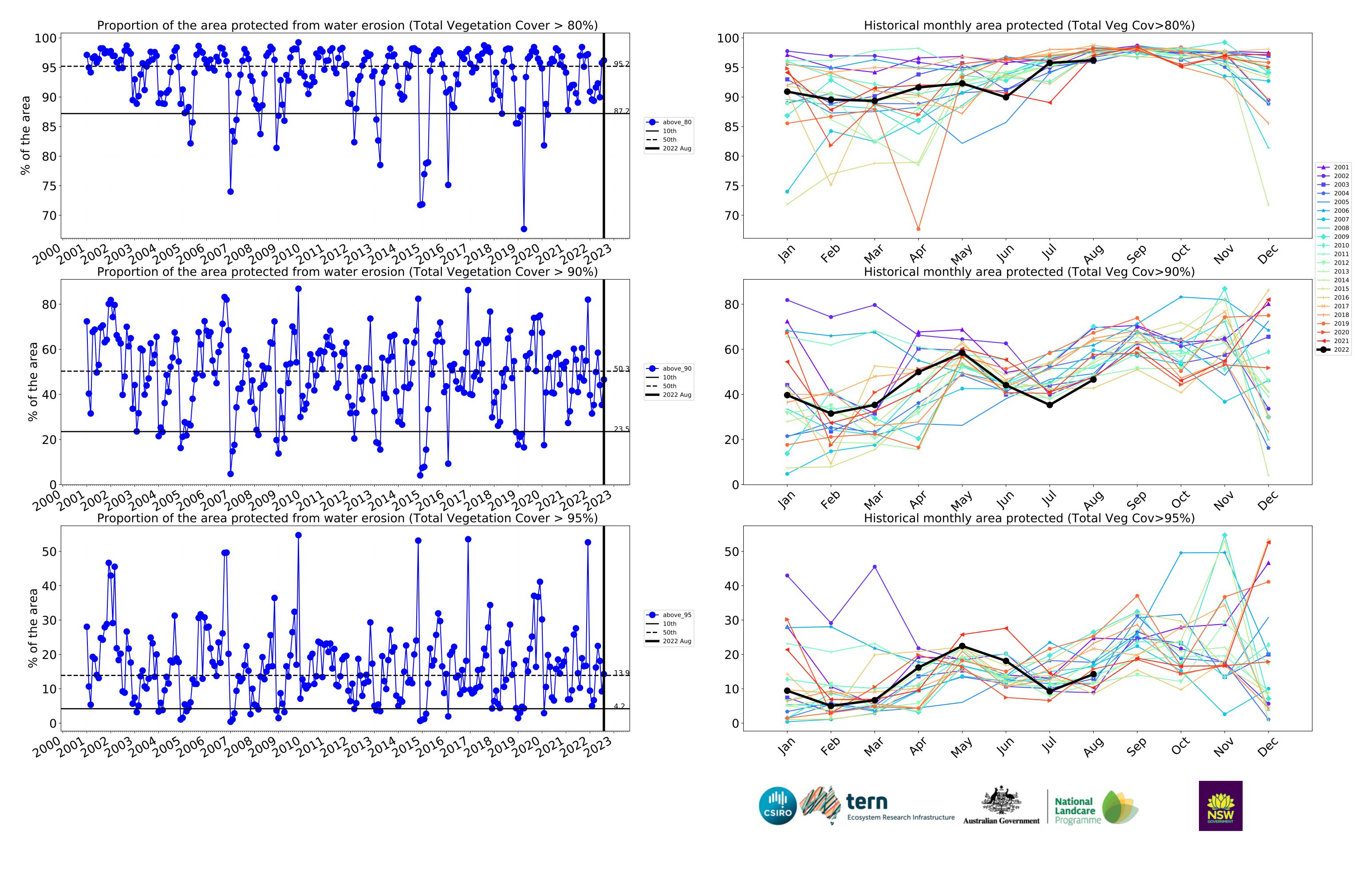




month

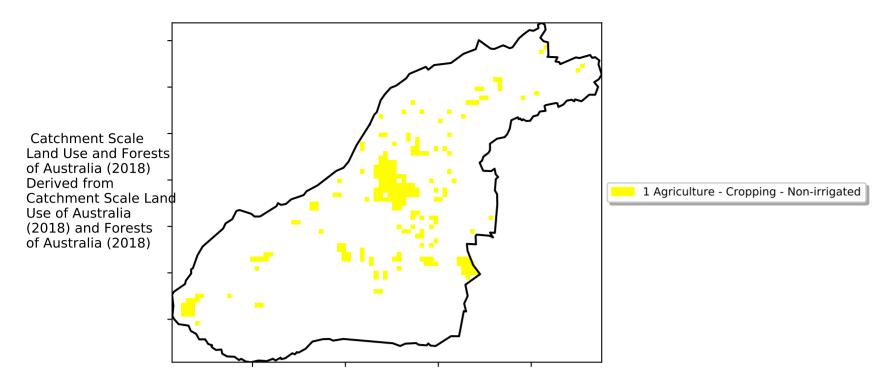




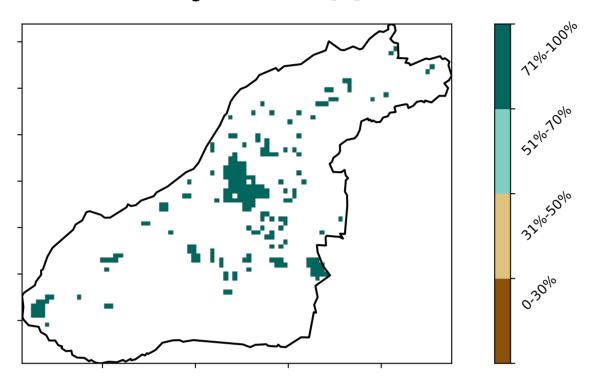


Cropping

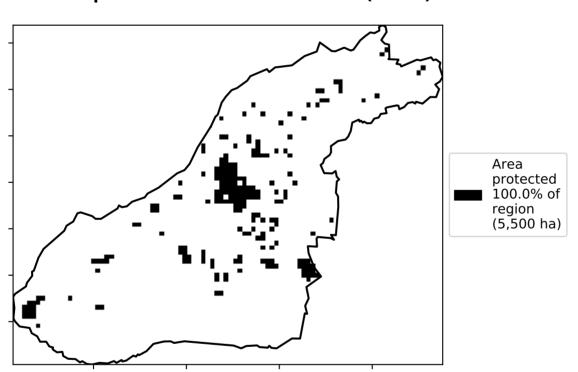
Land use and forest cover



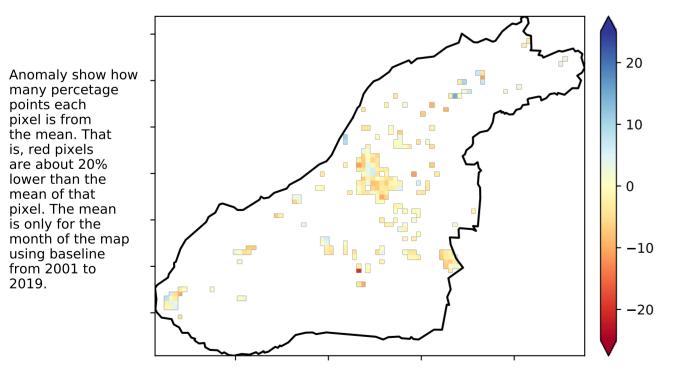
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

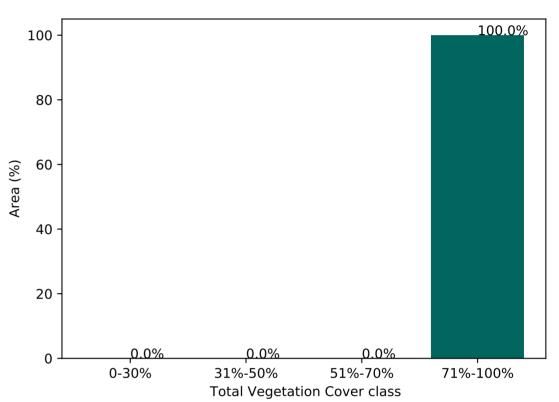


Total Vegetation Cover Anomaly [%]

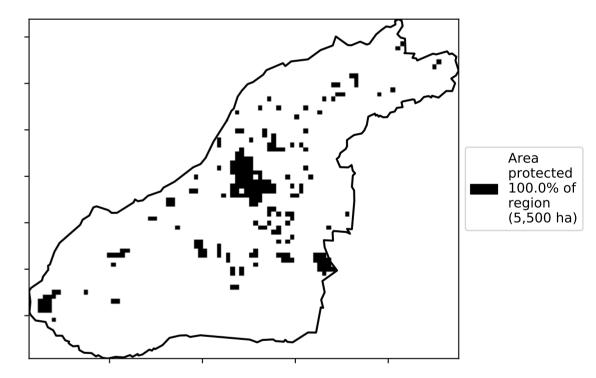


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

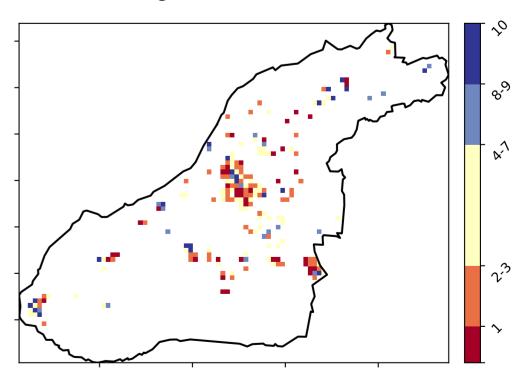
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







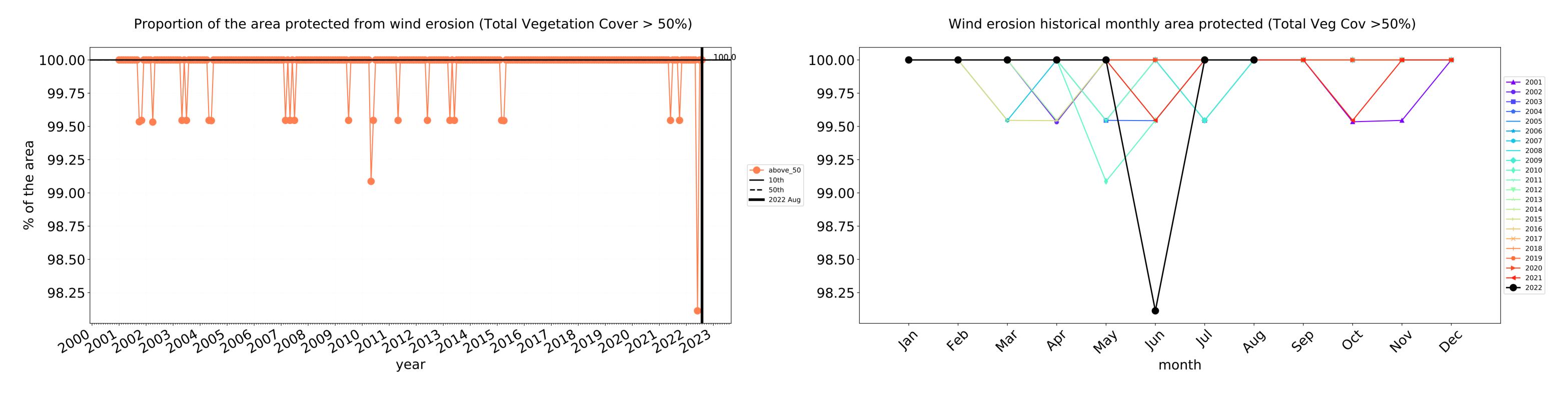


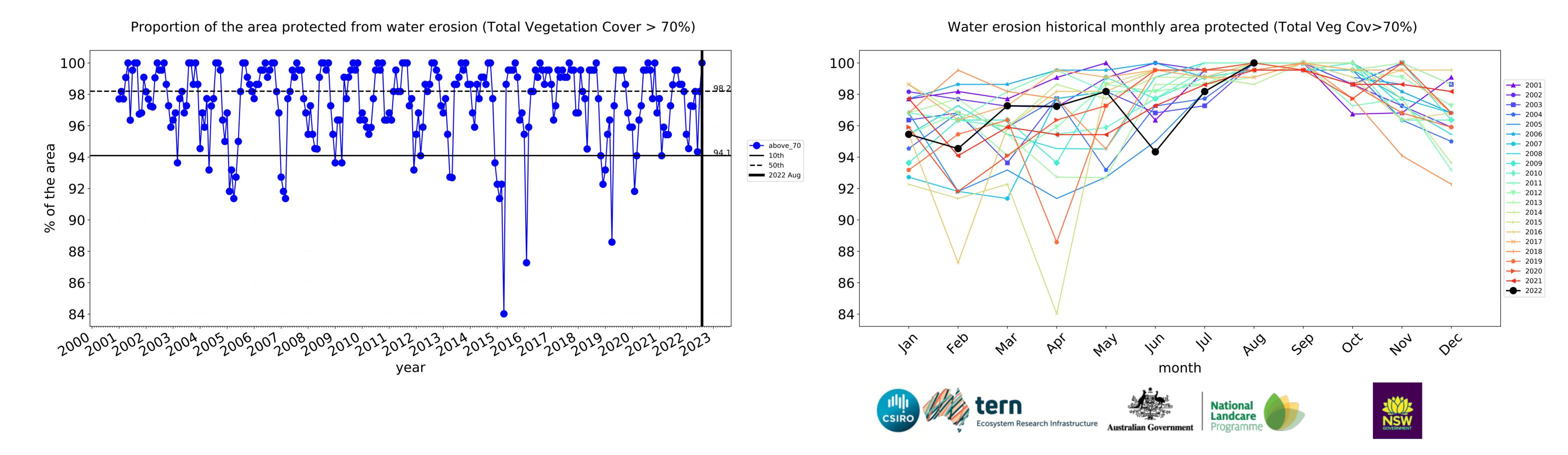


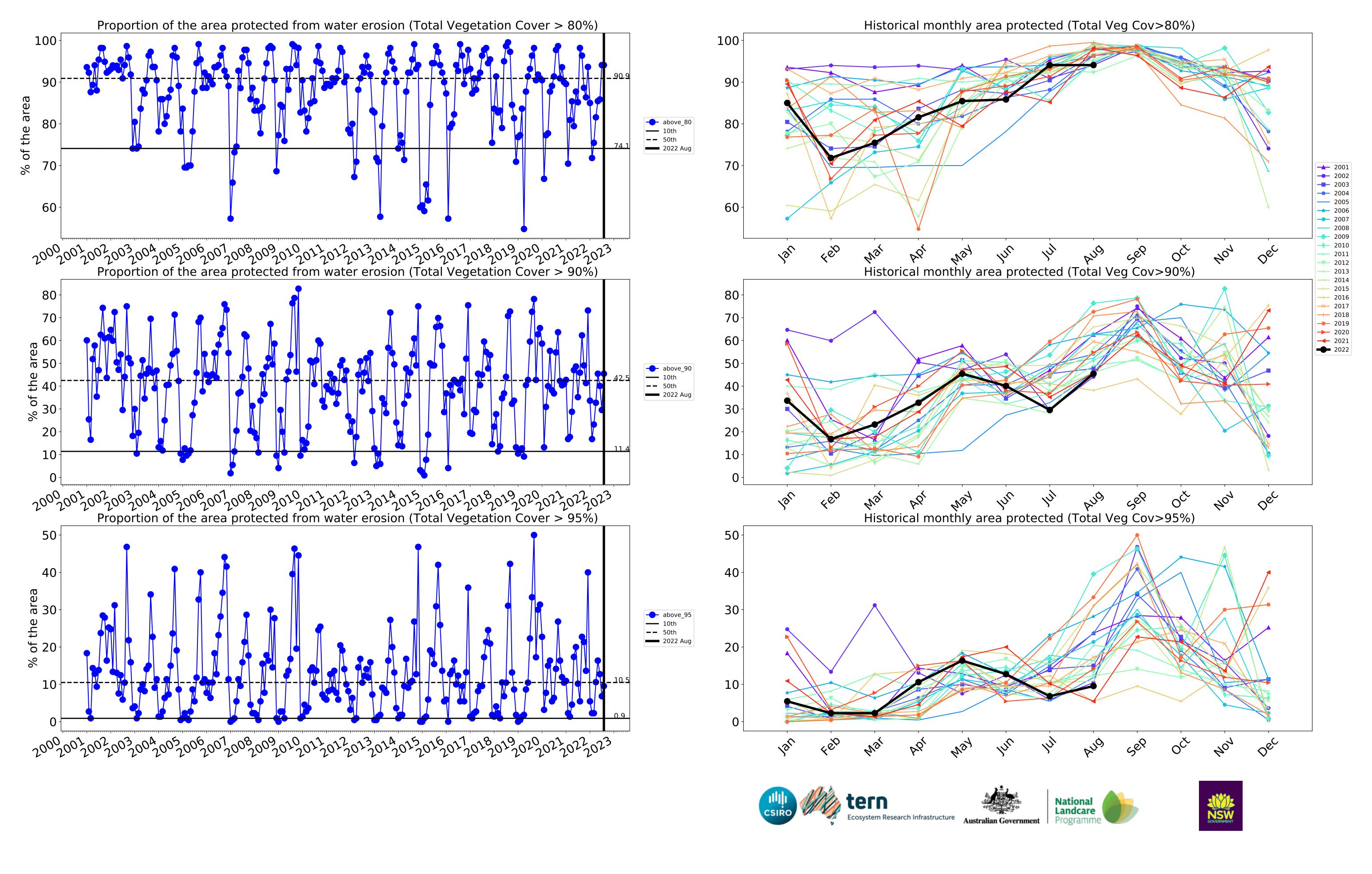




Cropping timeseries



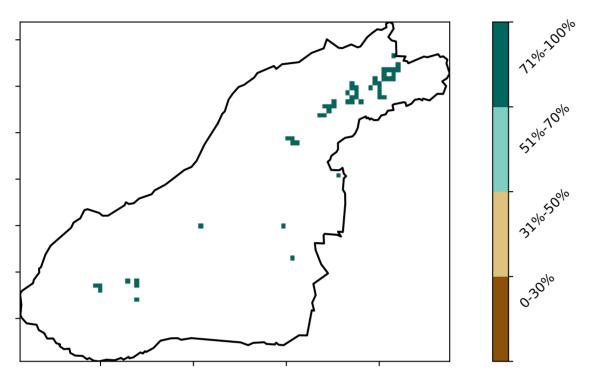




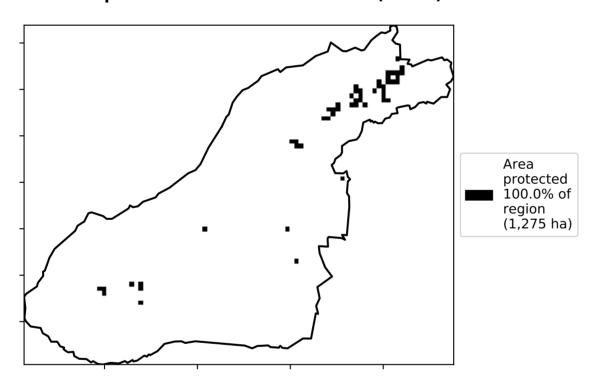
Irrigation

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 - Irrigated 2 Agriculture - Cropping - Irrigated 3 Agriculture - Horticulture - Irrigated 3 Agriculture - Horticulture - Irrigated

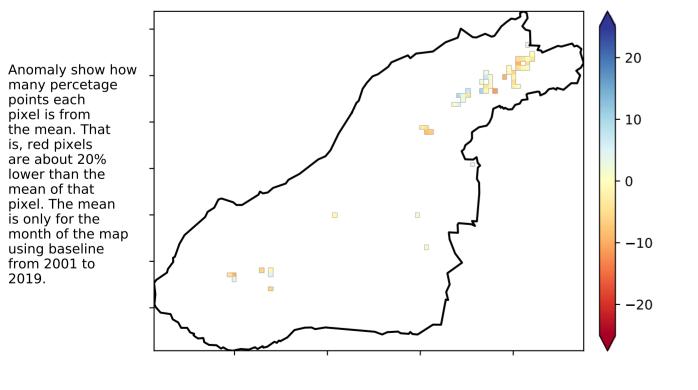
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)



Total Vegetation Cover Anomaly [%]



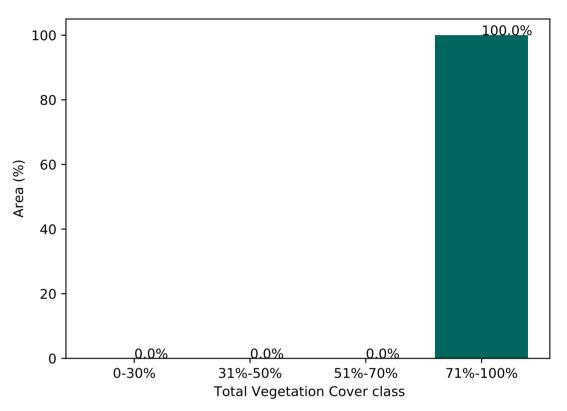
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

82.7% 80 70 60 Area (%) 30 20 11.5% 10 0.5 0.0 1.0 2.0 -0.51.5 2.5

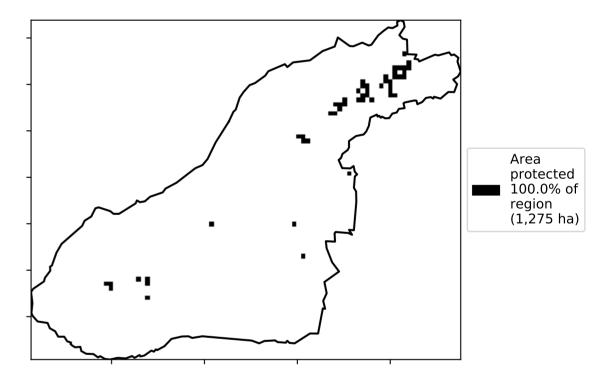
Proportion of each land class in area

Proportion of vegetation cover class in area

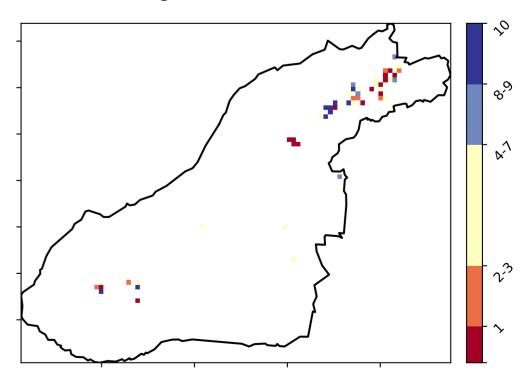
Land use class



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]

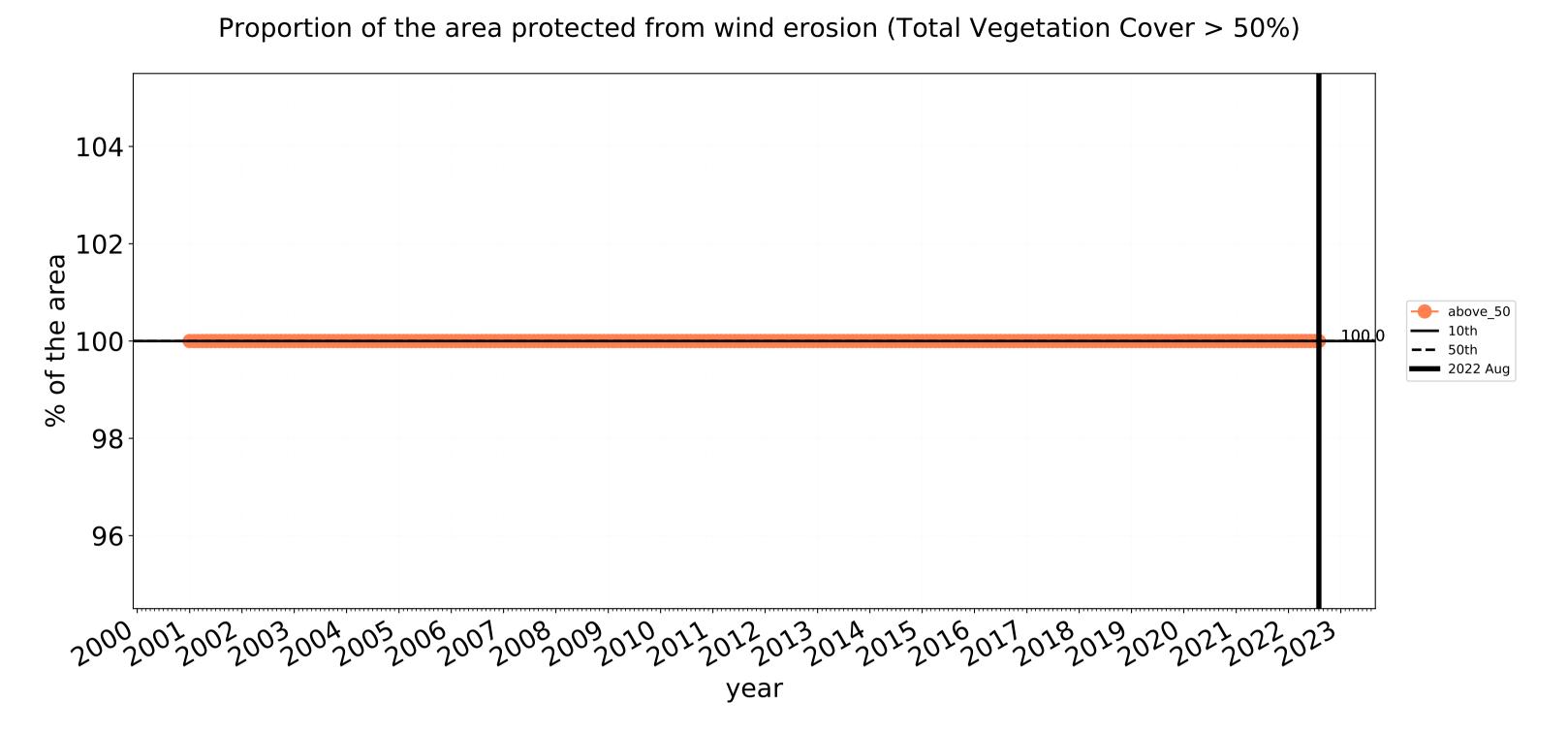


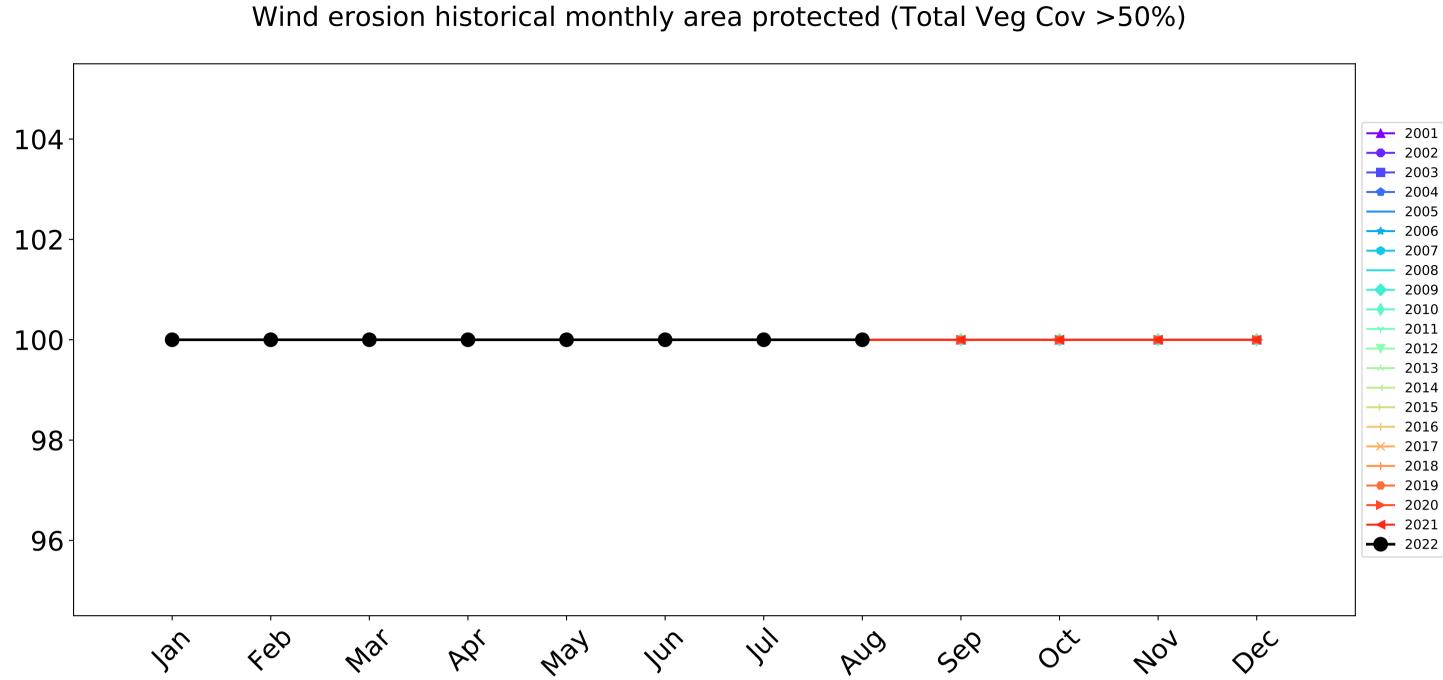




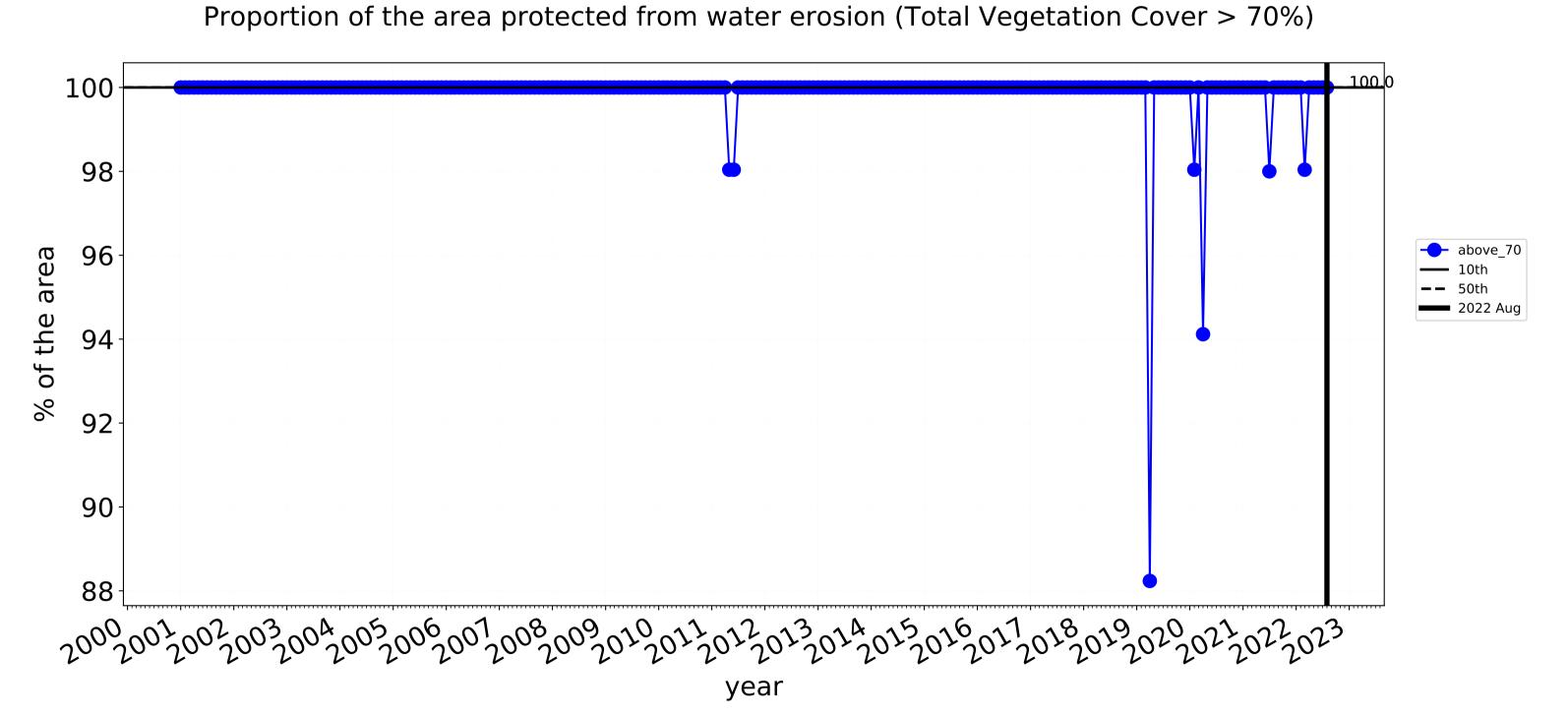


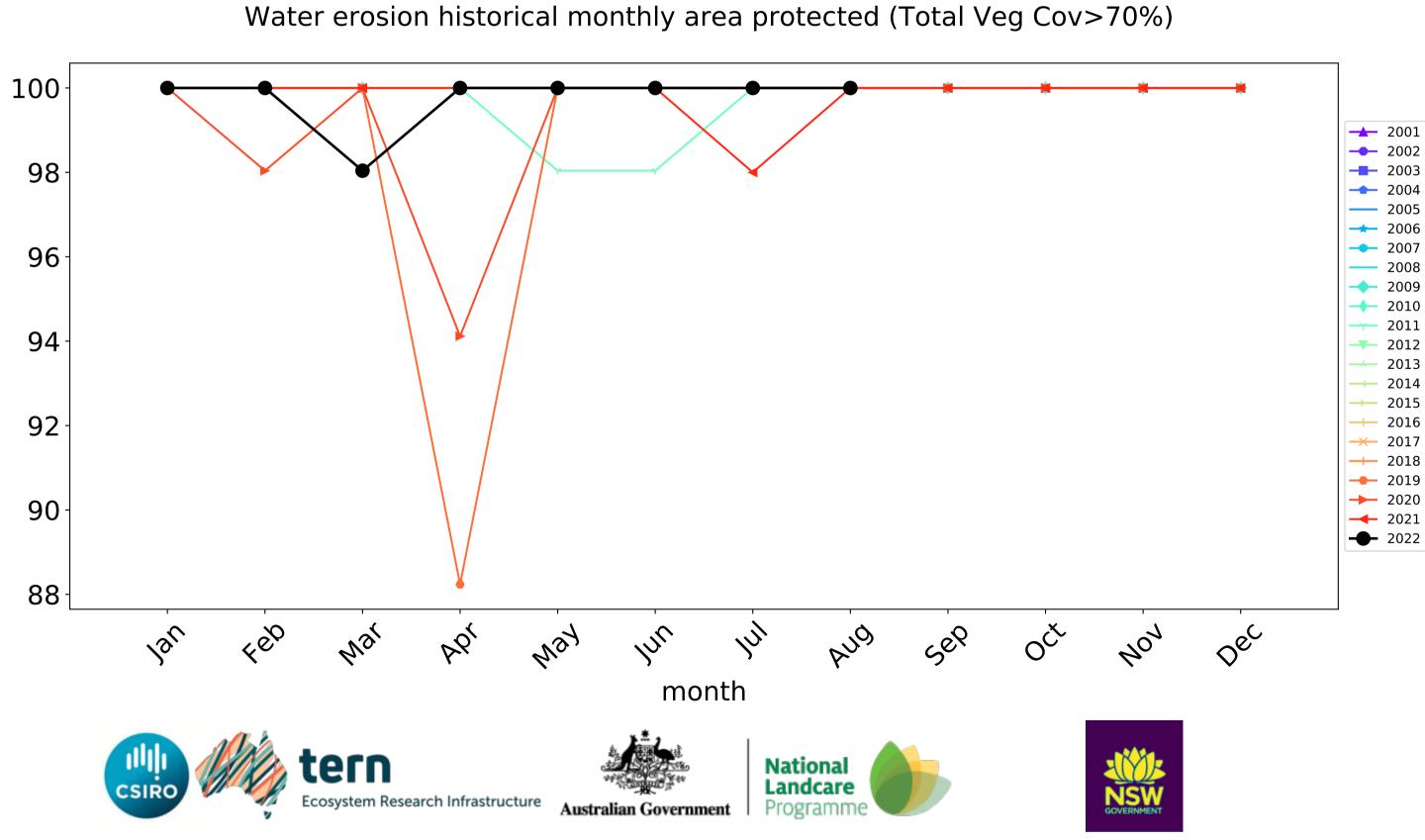


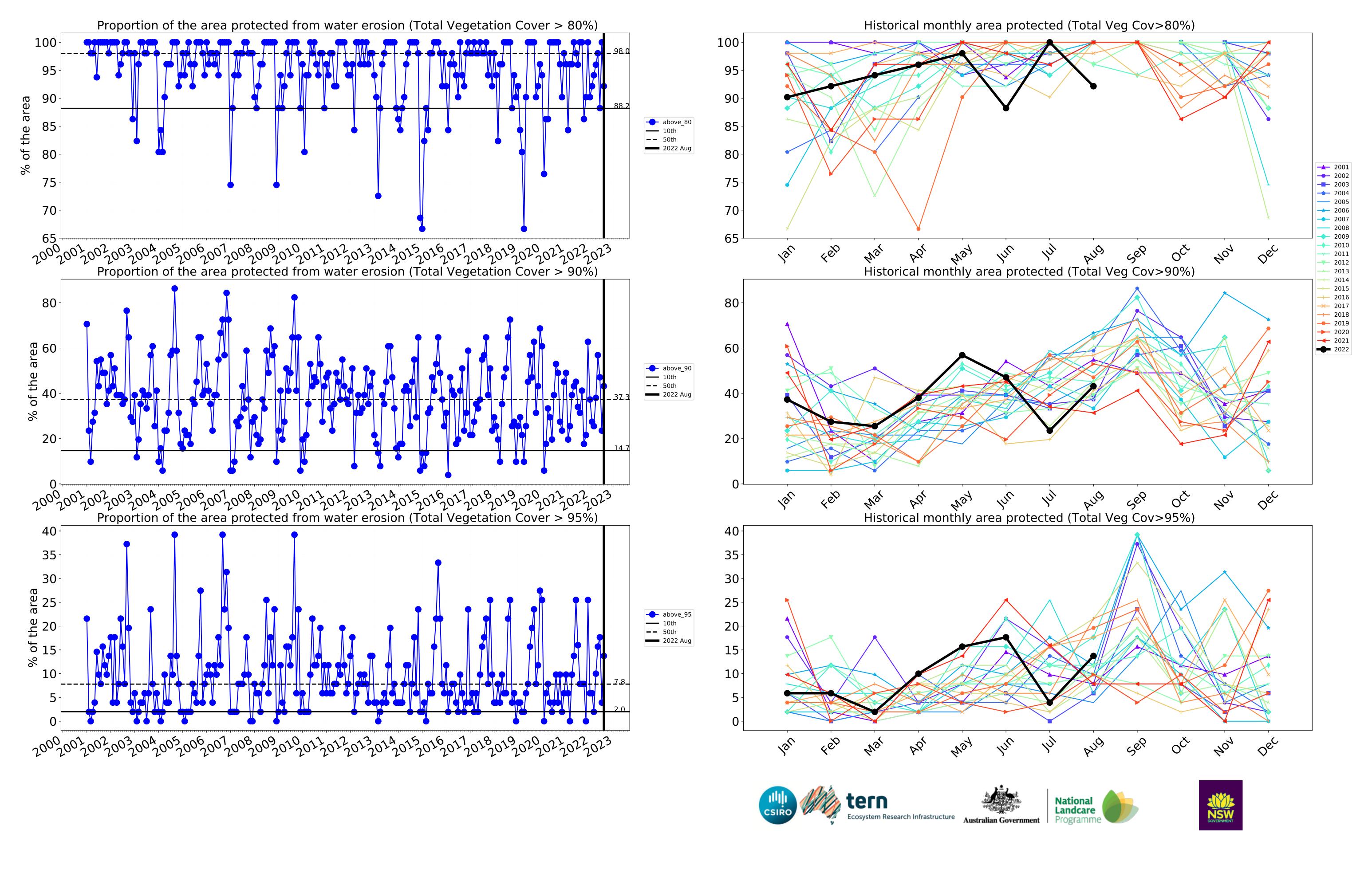




month

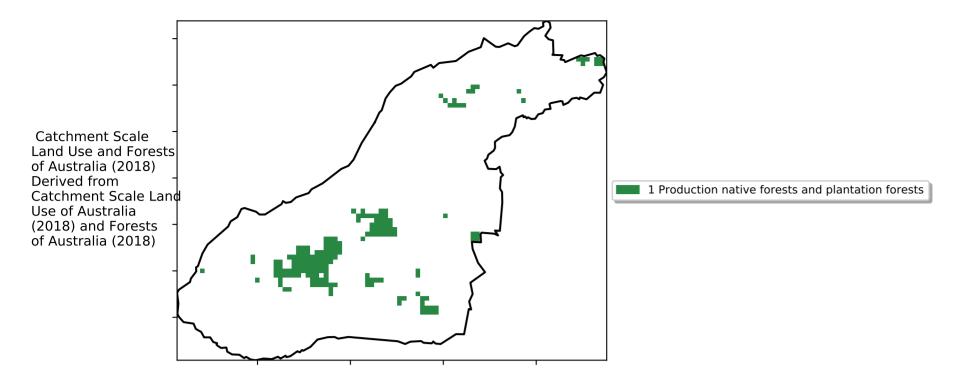




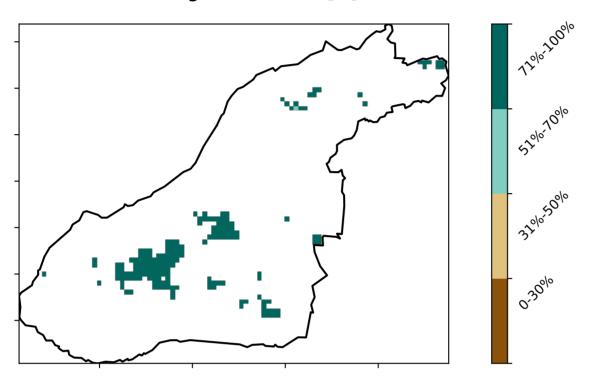


Production native forests and plantation forests

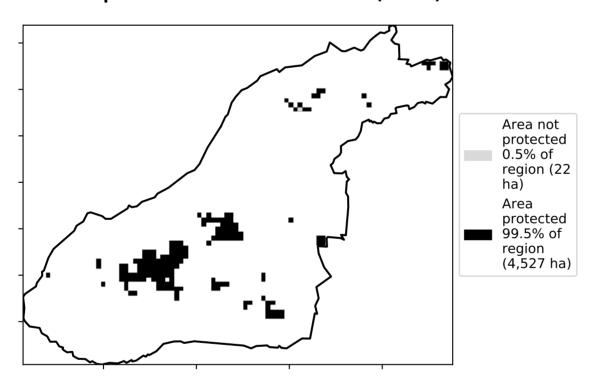
Land use and forest cover



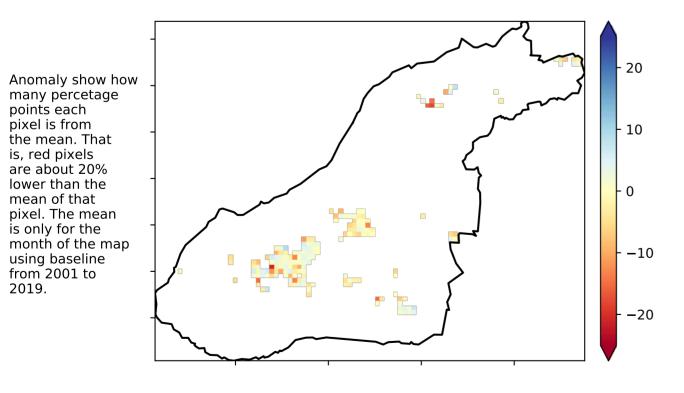
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

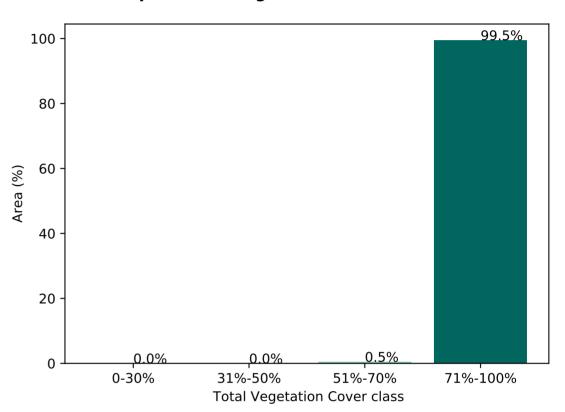


Total Vegetation Cover Anomaly [%]

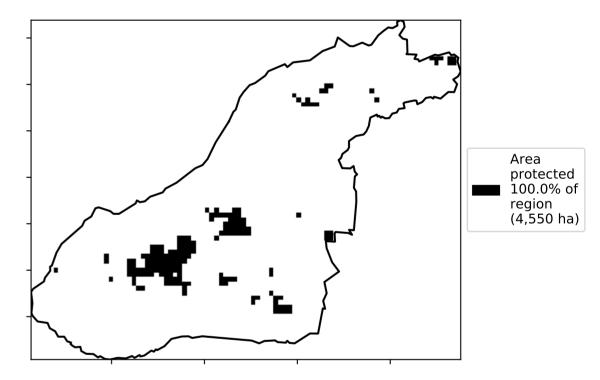


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

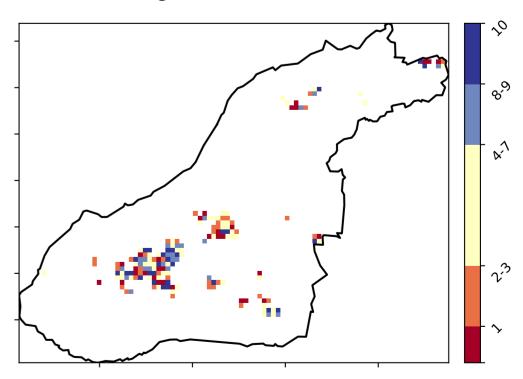
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







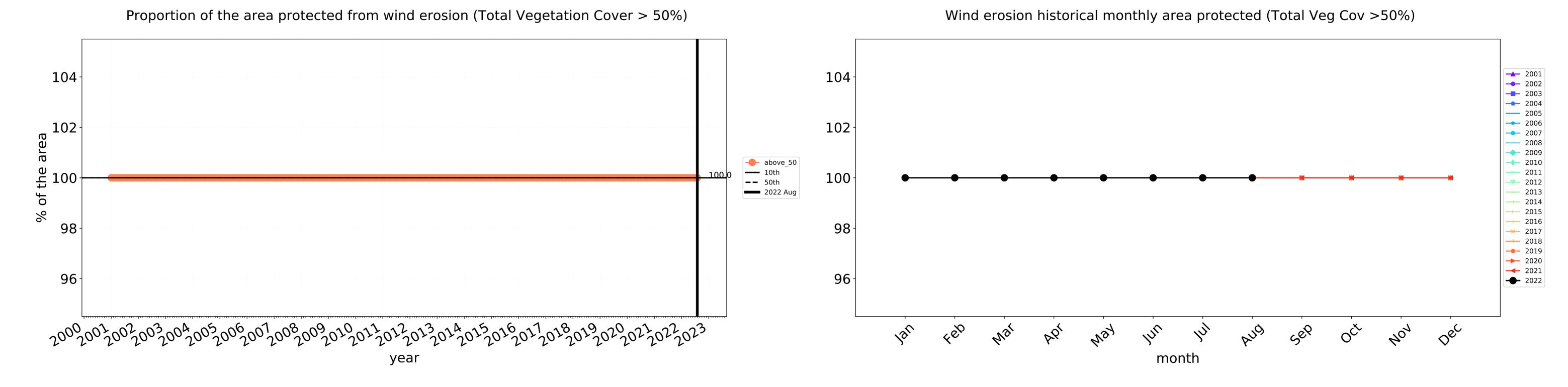


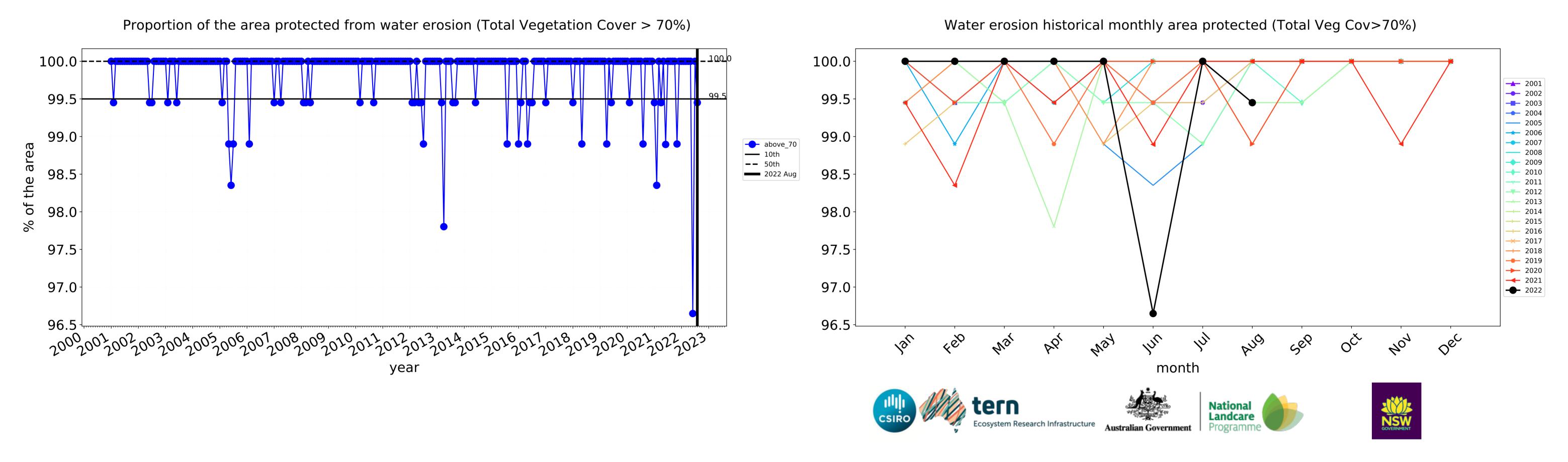


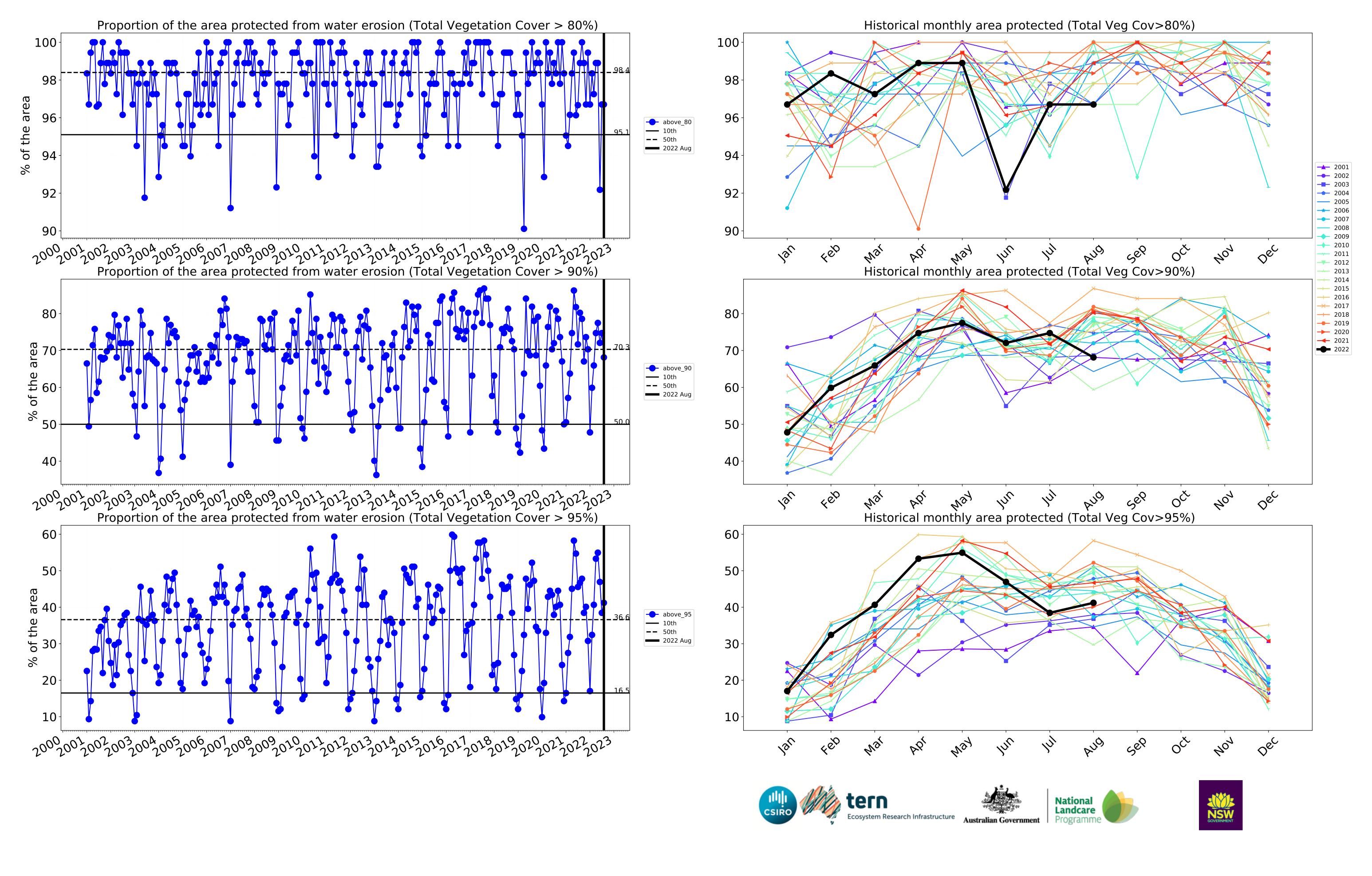




Production native forests and plantation forests timeseries







Yankalilla_(DC) (73,575 ha and no data 1,562 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	73,575	100.0% 73,550	99.8% 73,425	98.9% 72,775	95.3% 70,100	49.9% 36,700	18.2% 13,425
Conservation and natural environments	9,400	100.0% 9,400	99.7% 9,375	98.4% 9,250	96.5% 9,075	69.7% 6,550	36.4% 3,425
Conservation and natural environments non forest	1,350	100.0% 1,350	98.1% 1,325	94.4% 1,275	87.0% 1,175	59.3% 800	37.0% 500
Conservation and natural environments Woodland forest	5,375	100.0% 5,375	100.0% 5,375	99.1% 5,325	97.7% 5,250	72.6% 3,900	37.2% 2,000
Conservation and natural environments Forest (non woodland)	2,675	100.0% 2,675	100.0% 2,675	99.1% 2,650	99.1% 2,650	69.2% 1,850	34.6% 925
Agriculture	57,325	100.0% 57,300	99.9% 57,250	99.4% 56,975	95.9% 55,000	46.6% 26,725	13.9% 7,950
Grazing	50,550	100.0% 50,525	99.9% 50,475	99.3% 50,200	96.2% 48,650	46.8% 23,675	14.3% 7,250
Grazing non forest	50,075	100.0% 50,050	99.9% 50,000	99.3% 49,725	96.2% 48,175	46.6% 23,325	14.3% 7,150
Cropping	5,500	100.0% 5,500	100.0% 5,500	100.0% 5,500	94.1% 5,175	45.5% 2,500	9.5% 525
Irrigation	1,275	100.0% 1,275	100.0% 1,275	100.0% 1,275	92.2% 1,175	43.1% 550	13.7% 175
Production native forests and plantation forests	4,550	100.0% 4,550	100.0% 4,550	99.5% 4,525	96.7% 4,400	68.1% 3,100	41.2% 1,875







