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.

Land use forest cover:

Date: June 2021

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



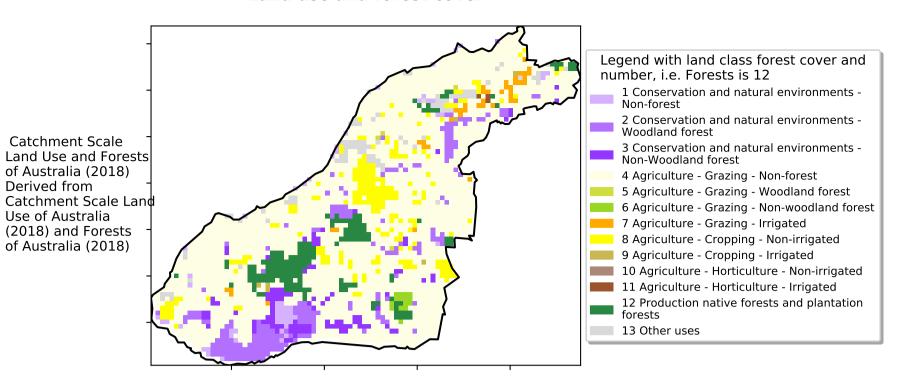




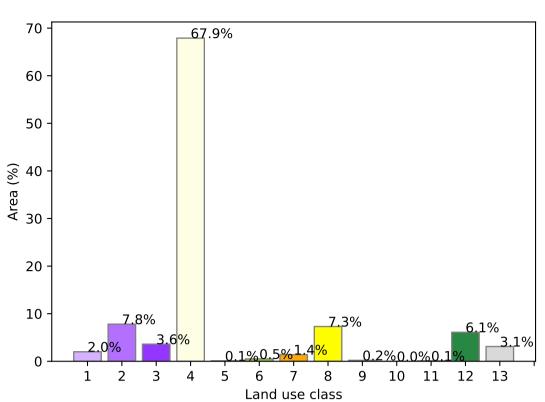


Vegetation Cover Jun 2021

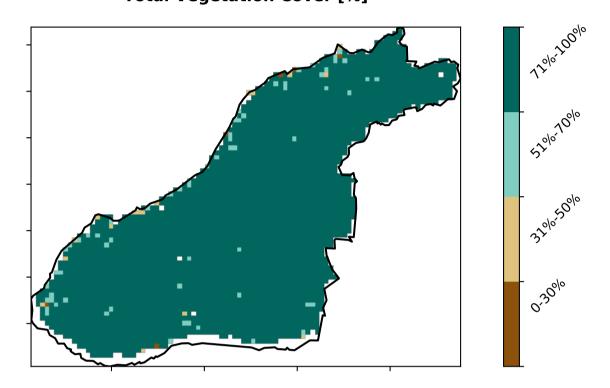
Land use and forest cover



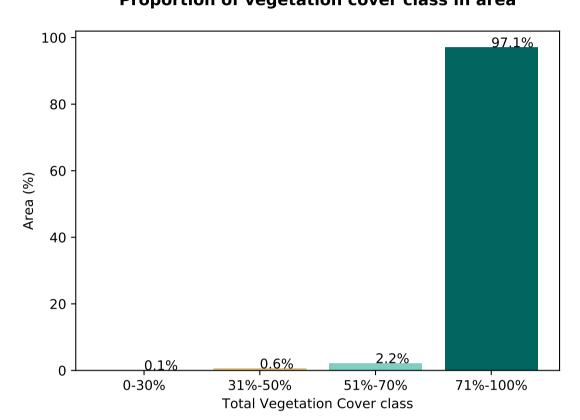
Proportion of each land class in area



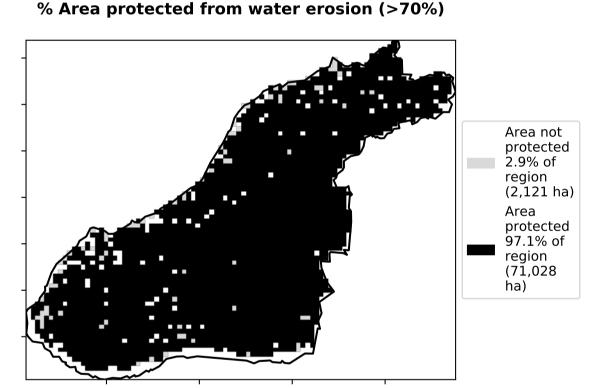
Total Vegetation Cover [%]



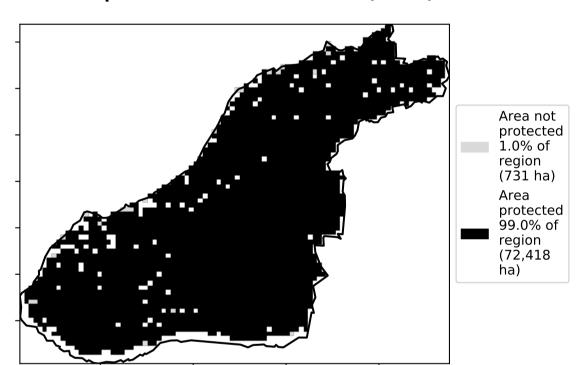
Proportion of vegetation cover class in area



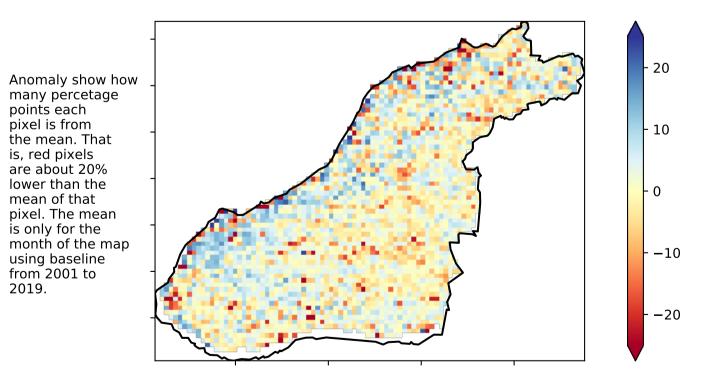
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% Area protected from wind erosion (>50%)

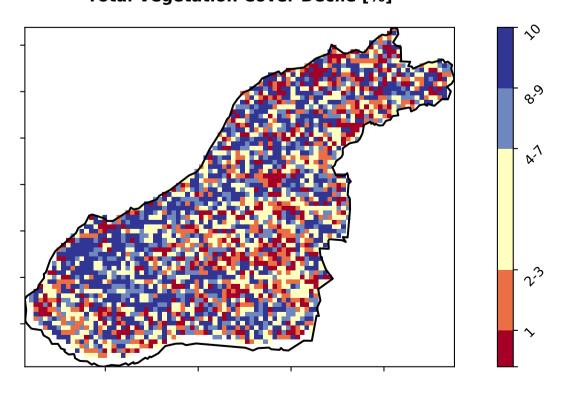


Total Vegetation Cover Anomaly [%]



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 [%]

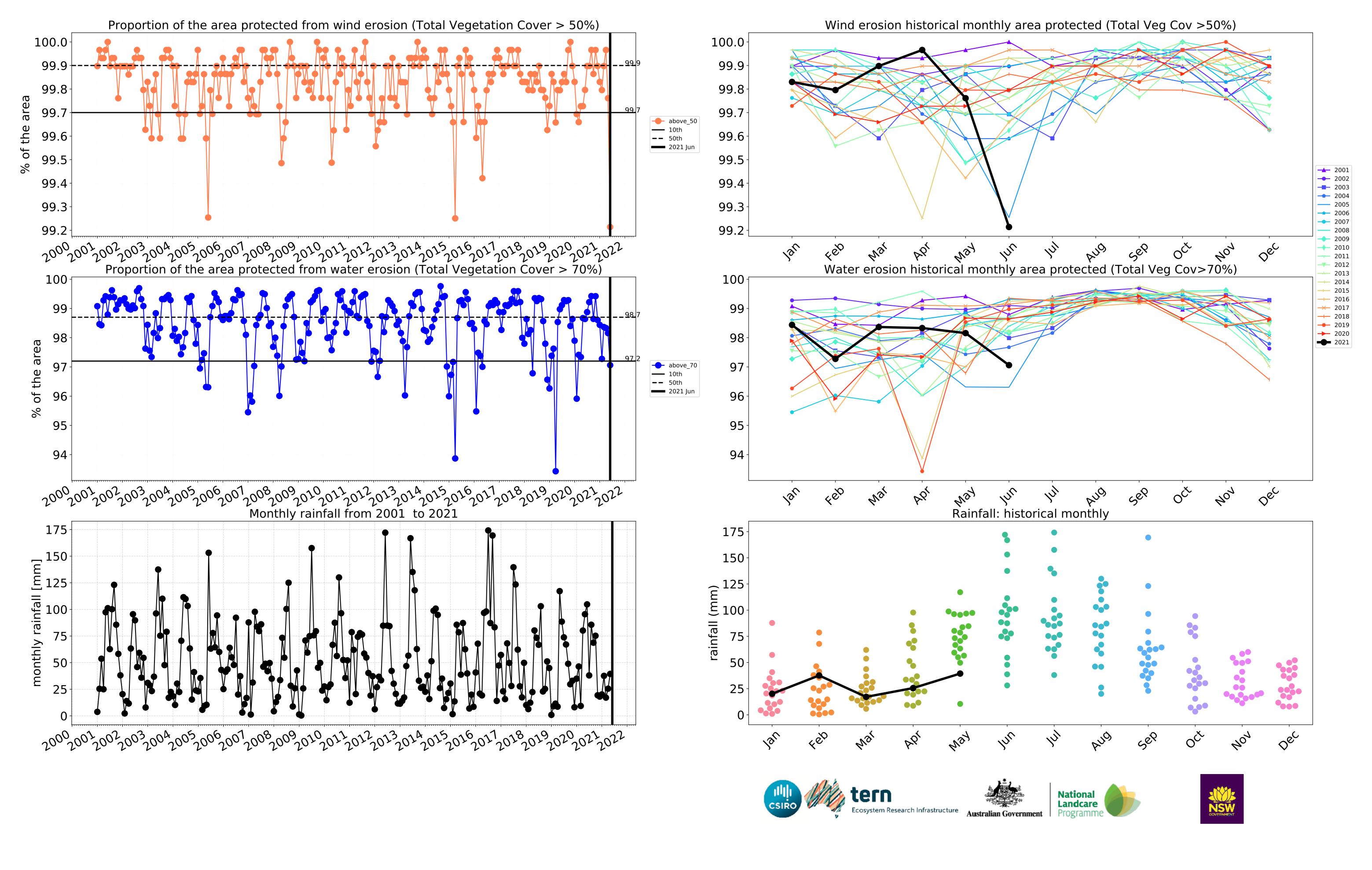


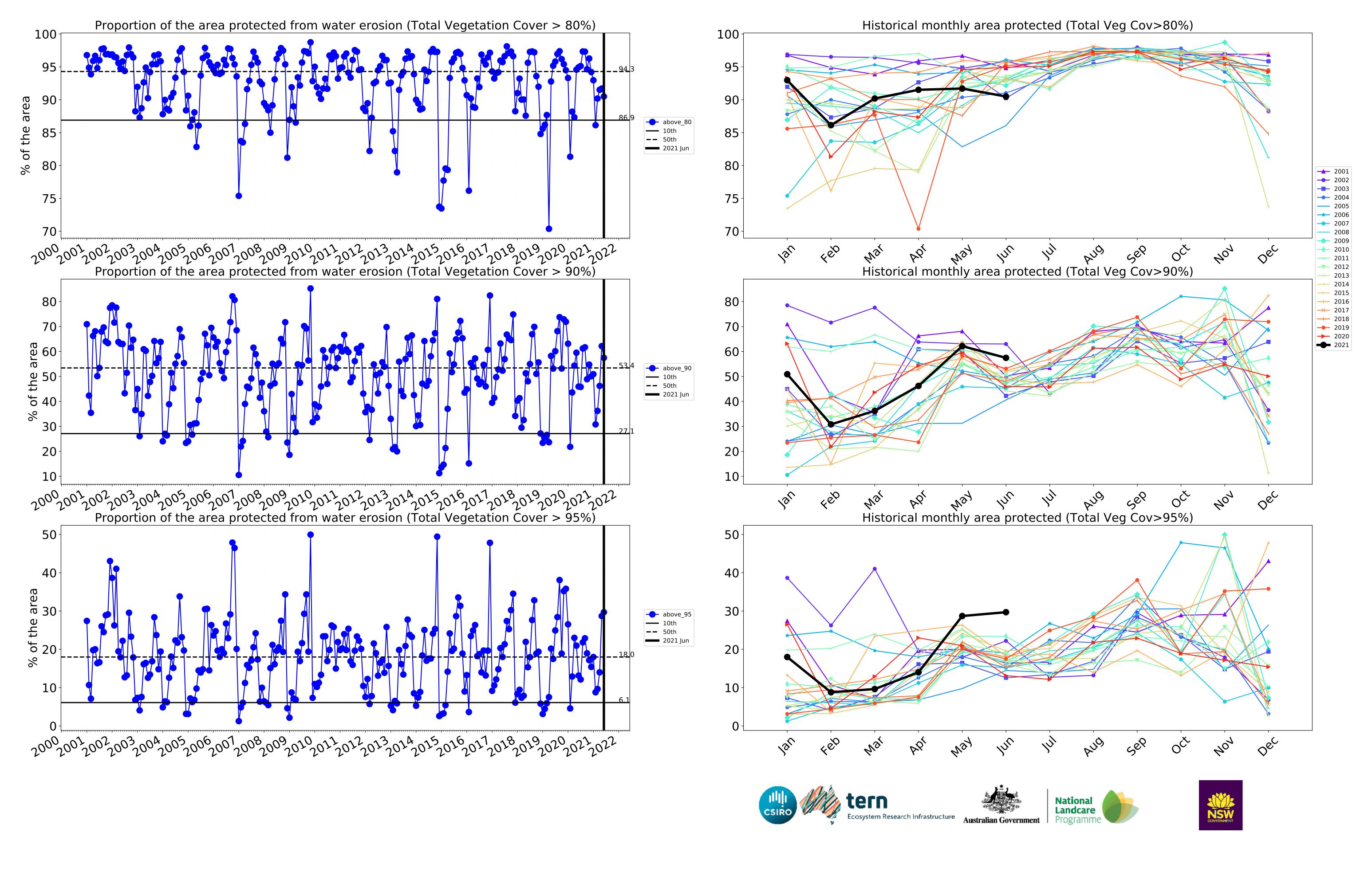




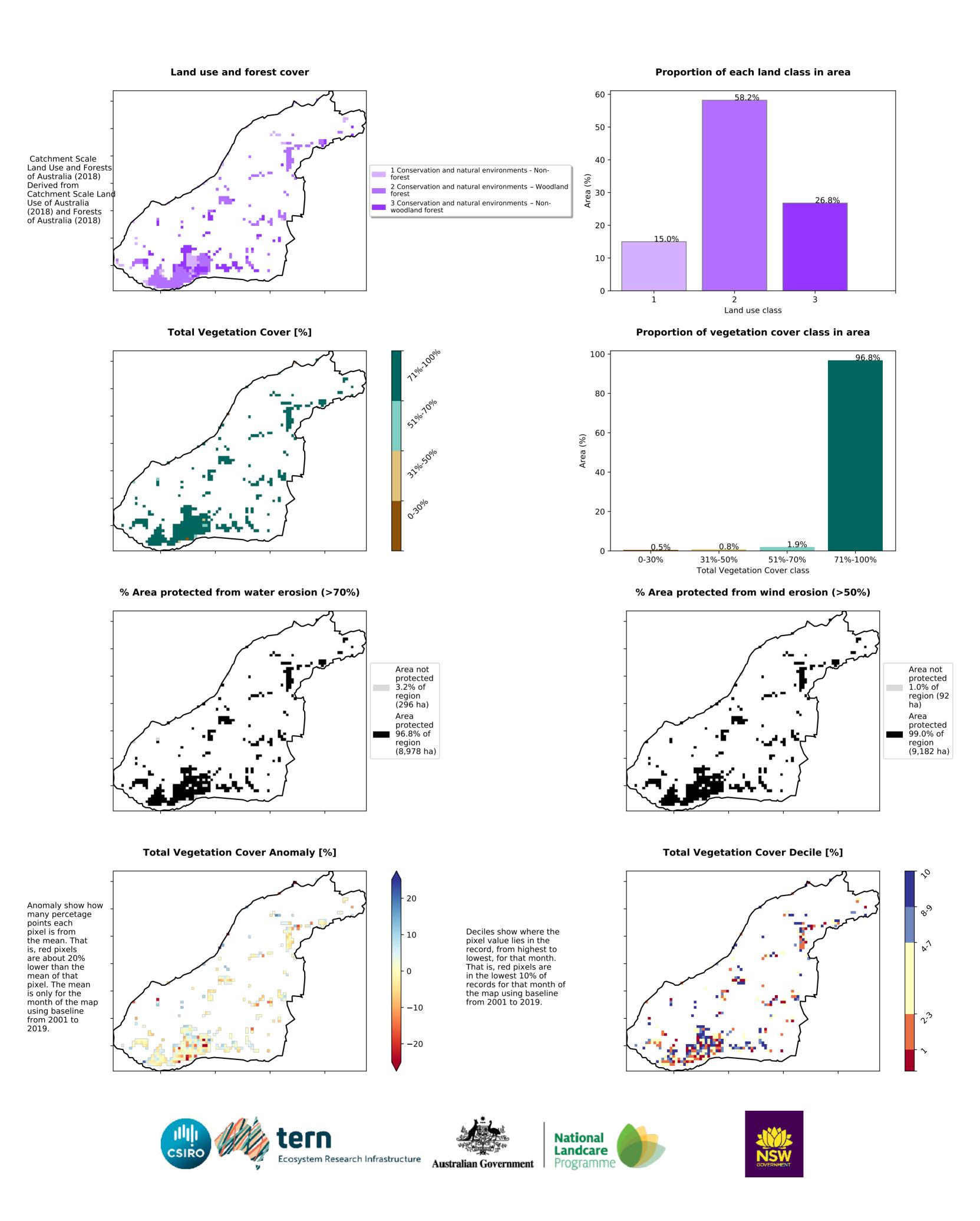




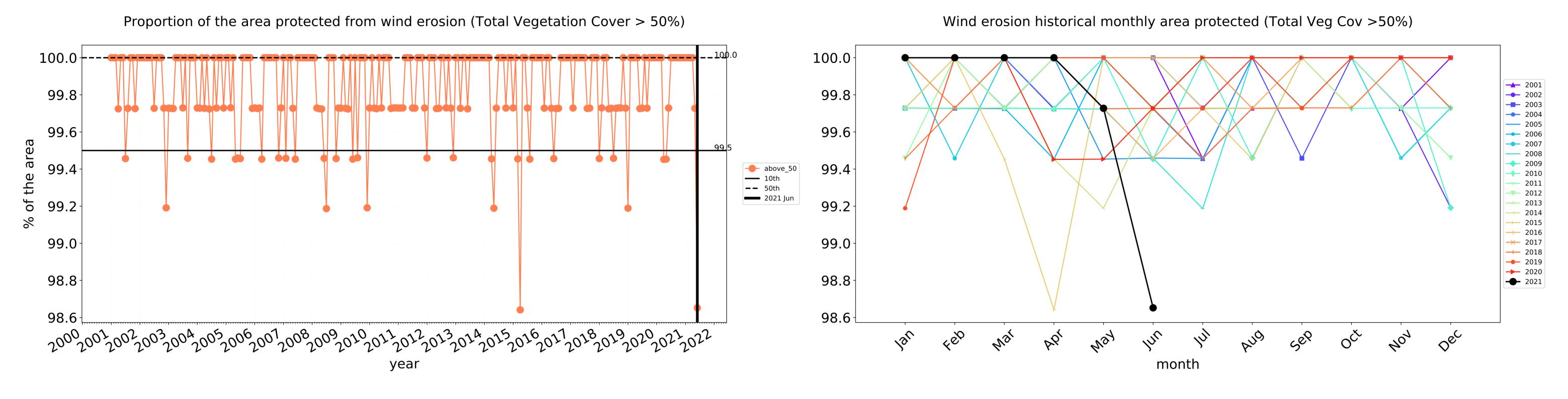


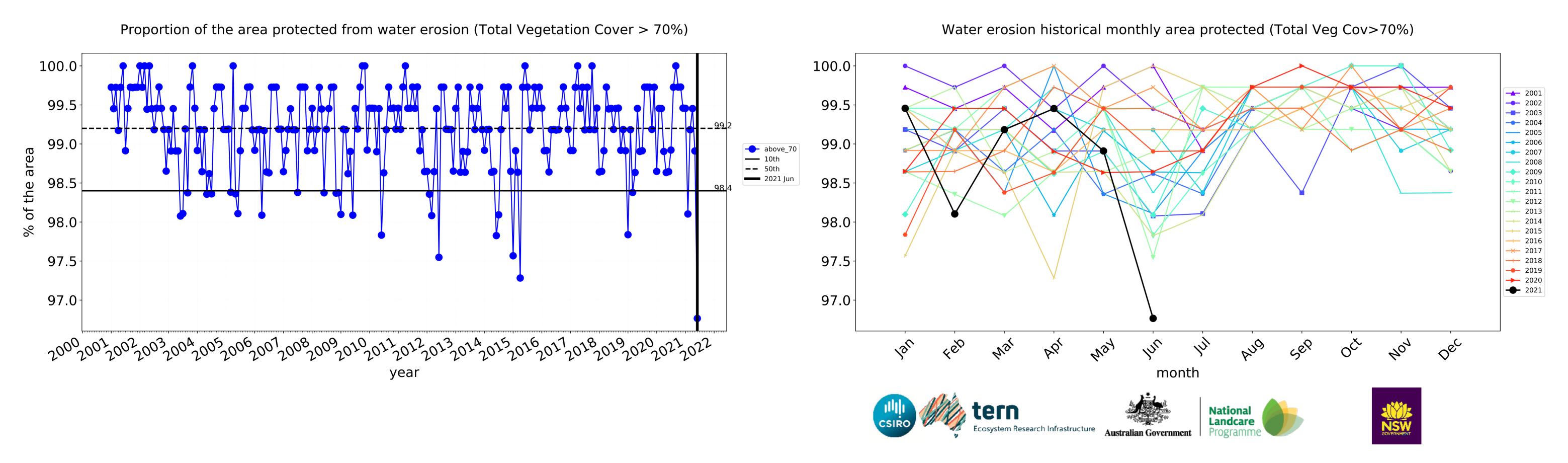


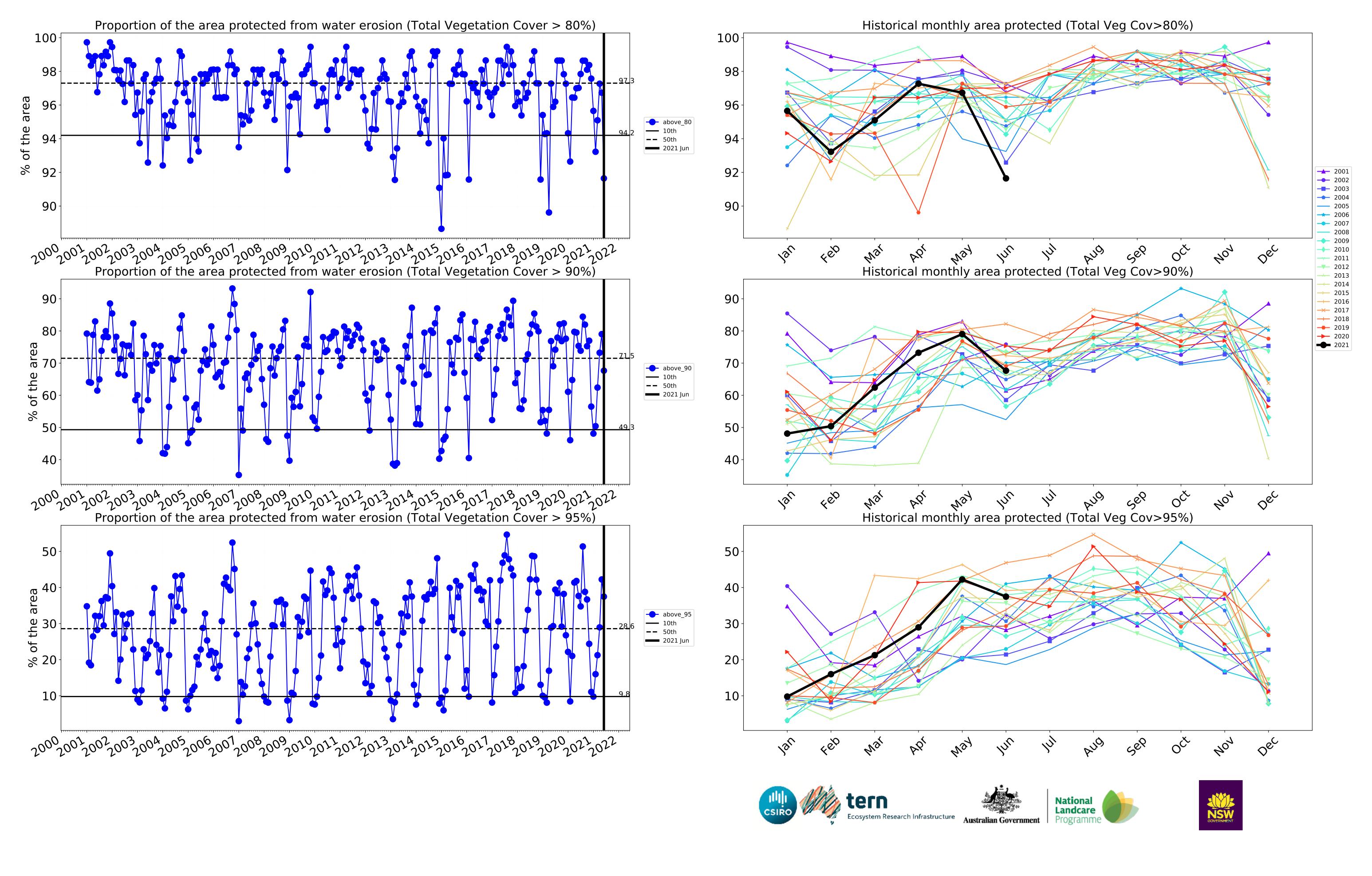
Conservation and natural environments



Conservation and natural environments timeseries





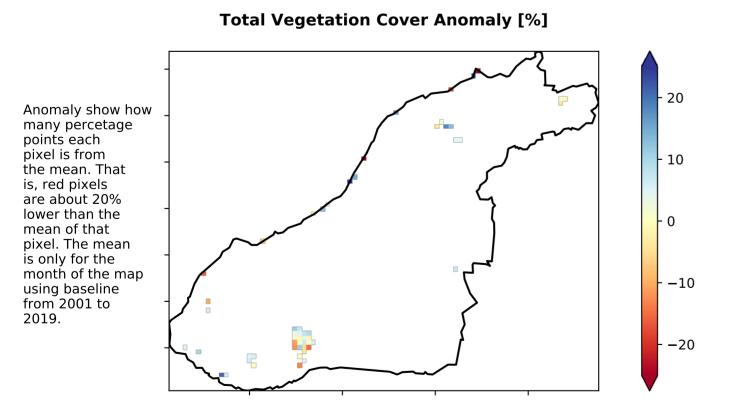


Conservation and natural environments non forest

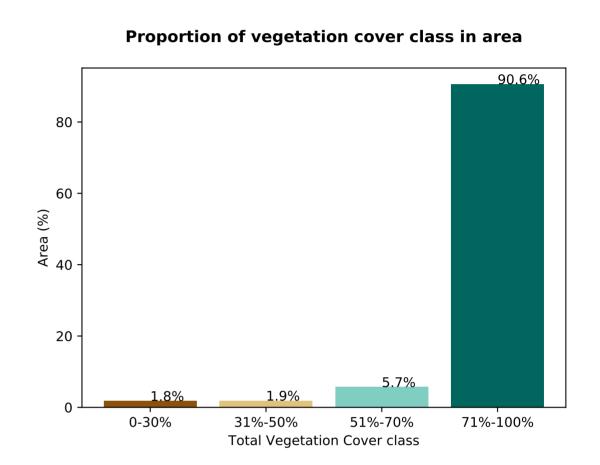
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) of Australia (2018)

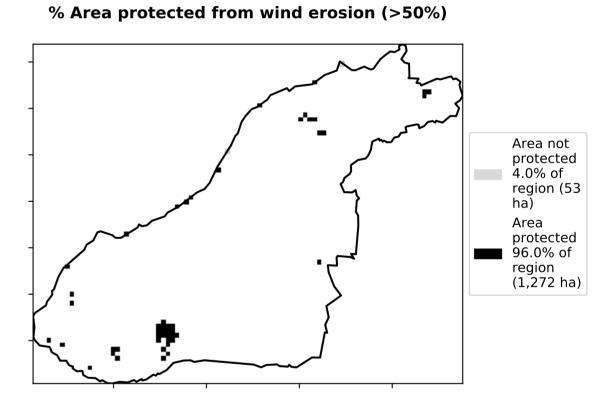
Total Vegetation Cover [%]

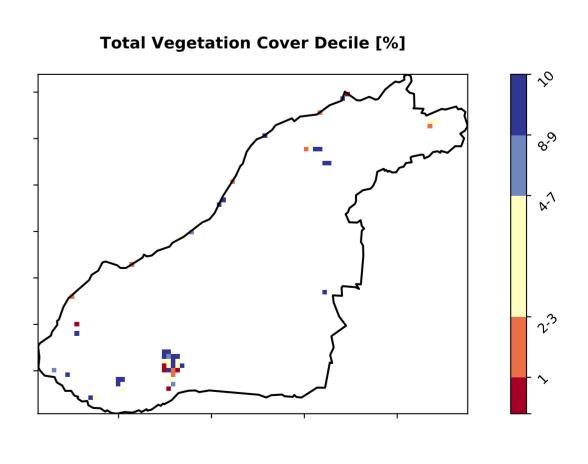
Area not protected 9.4% of region (124 ha) Area protected 90.6% of region (1,200 ha)



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







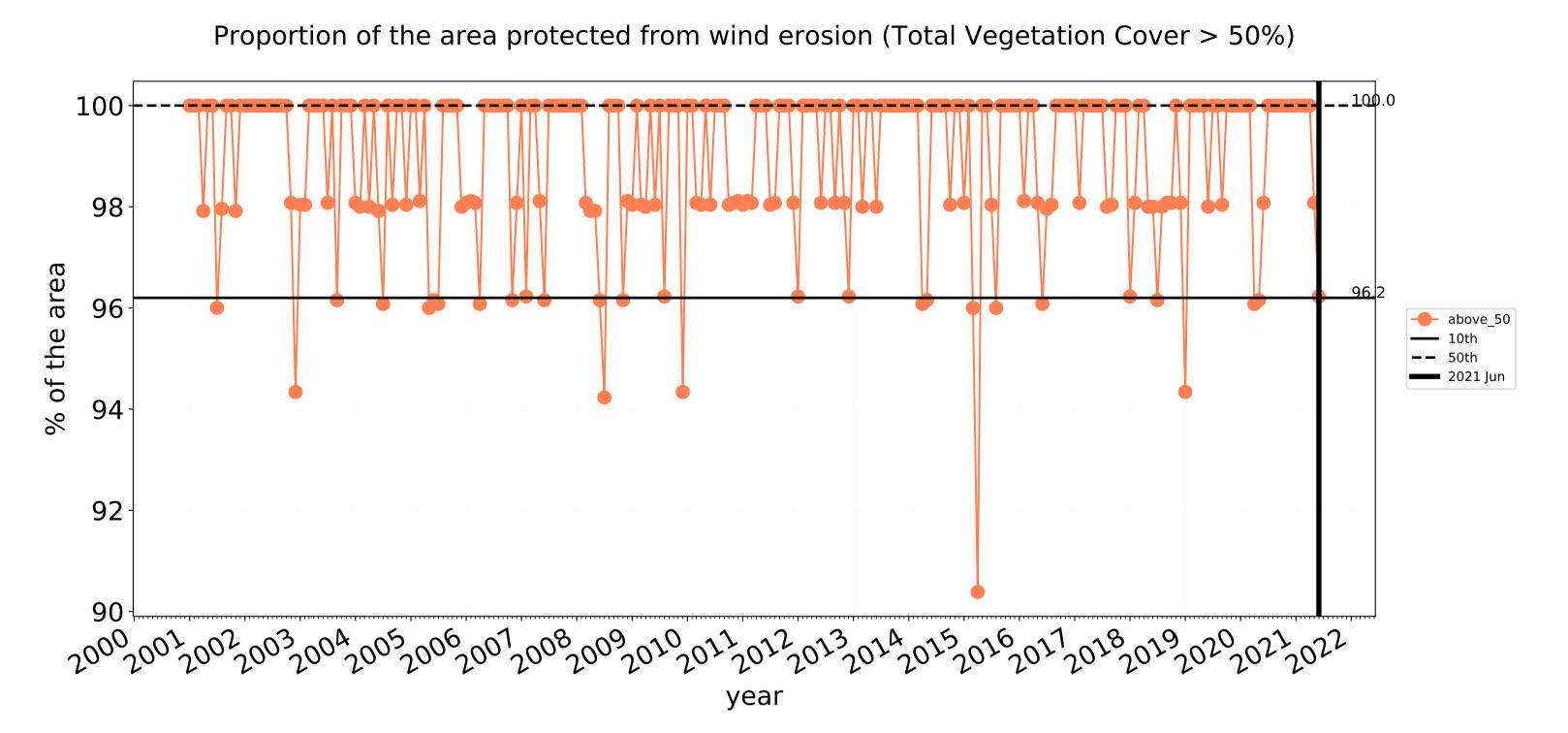


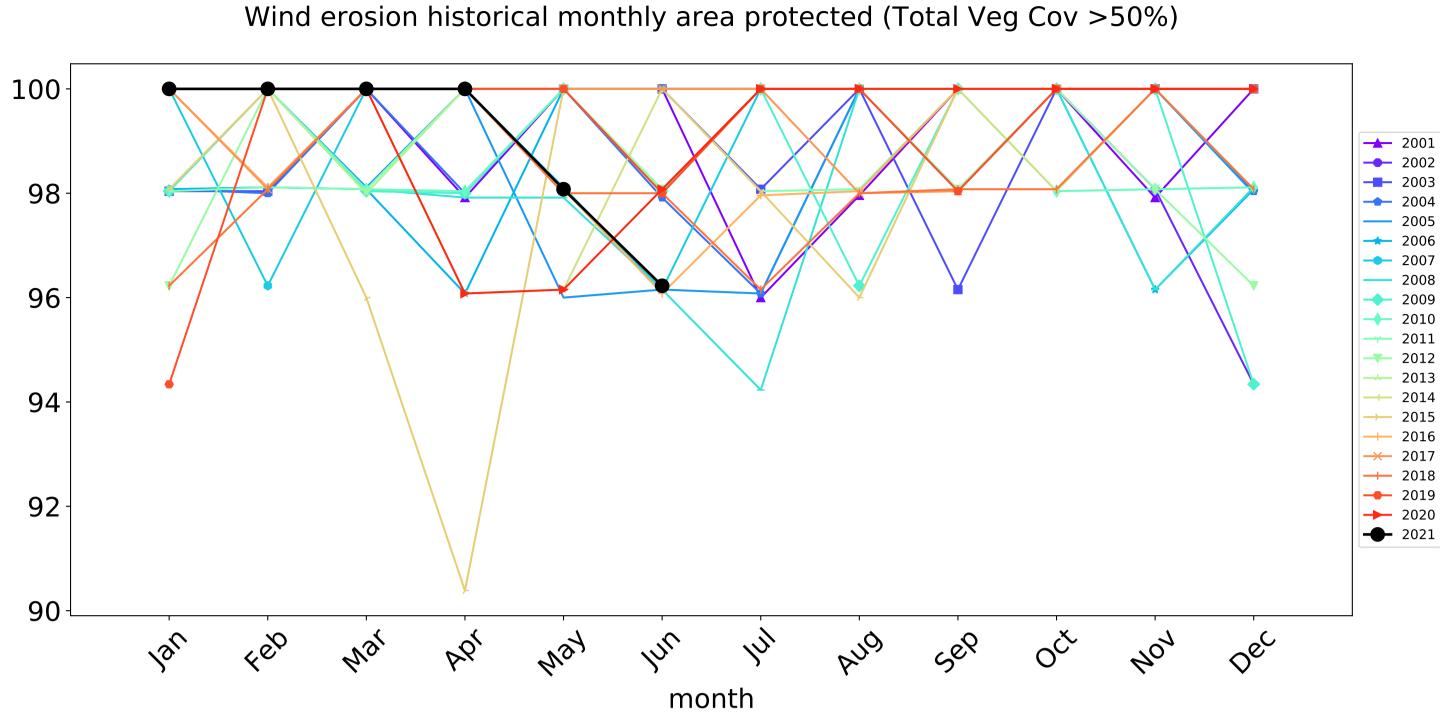


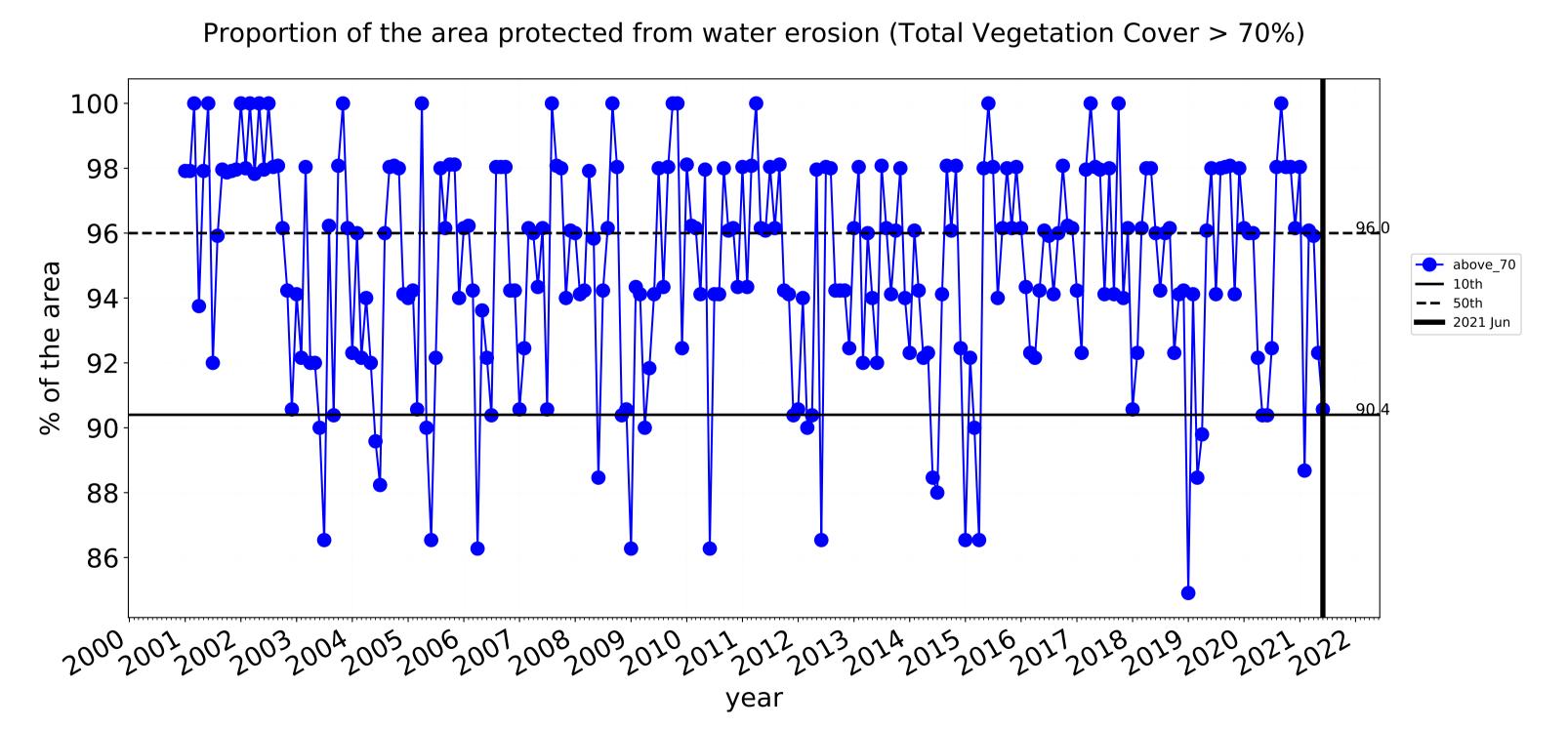


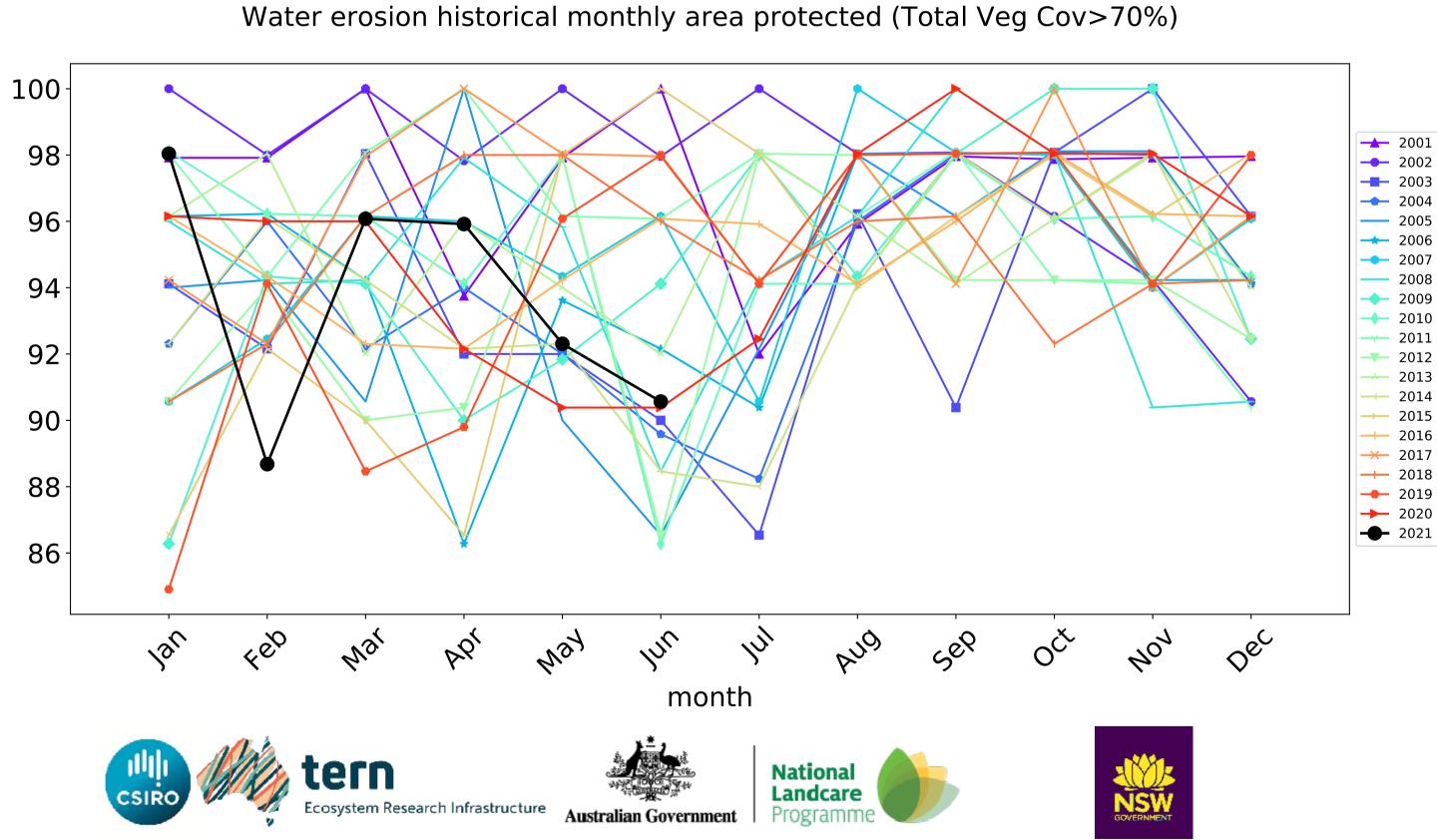


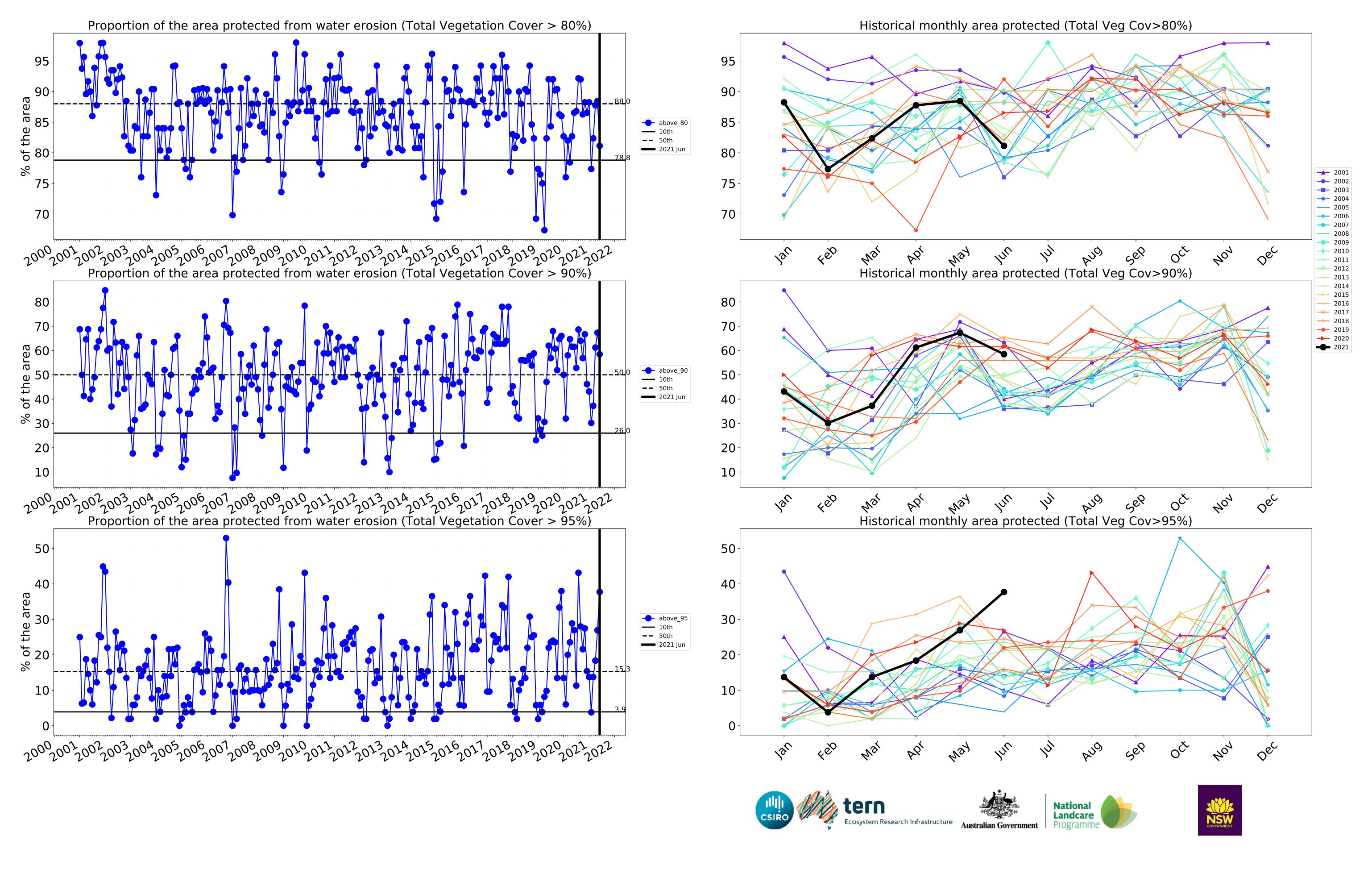
Conservation and natural environments non forest timeseries







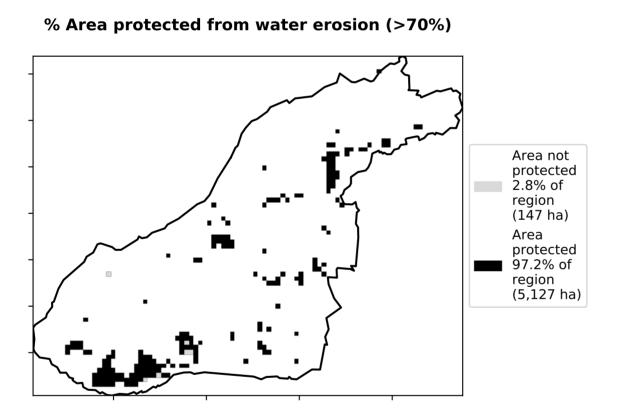


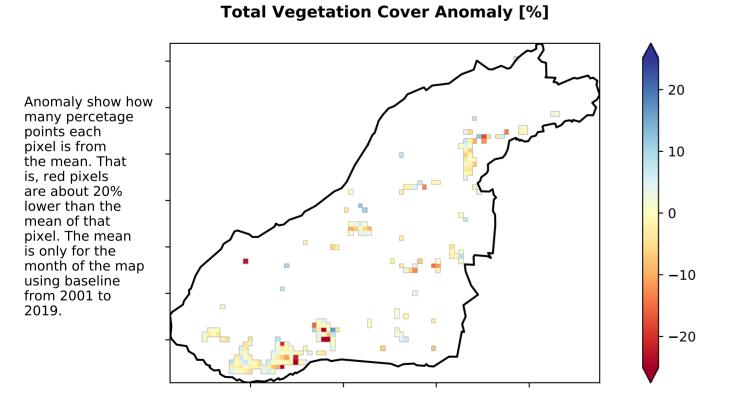


Conservation and natural environments Woodland forest

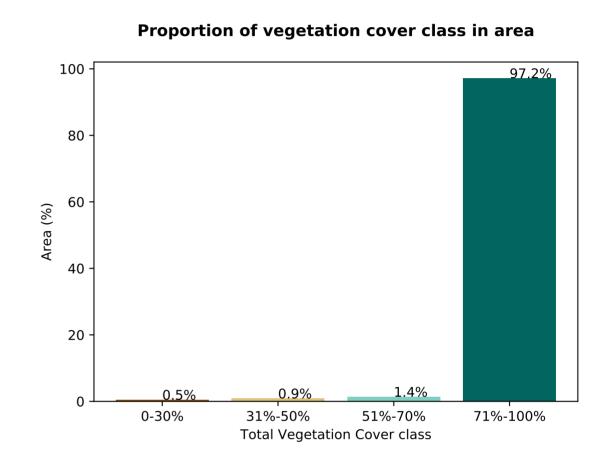
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) Australia (2018) 1 Conservation and natural environments - Woodland forest

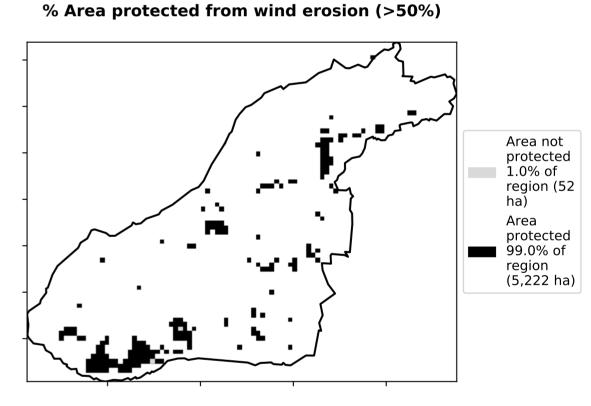
Total Vegetation Cover [%]

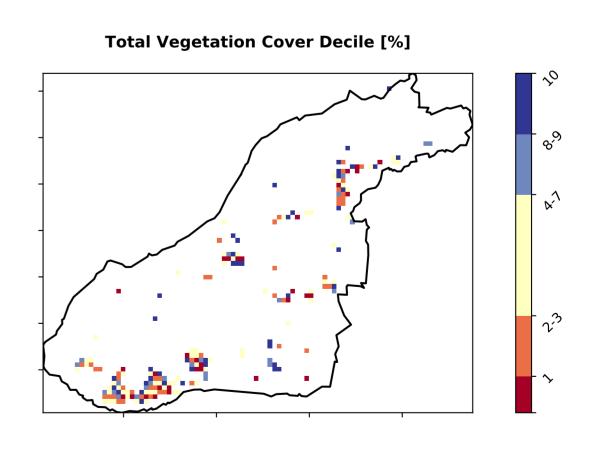




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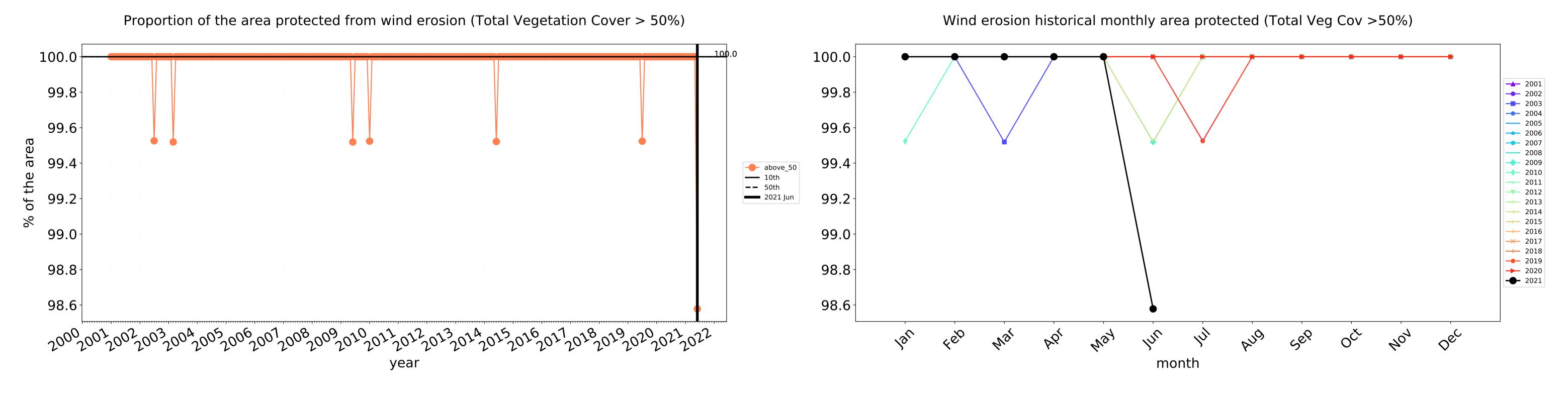


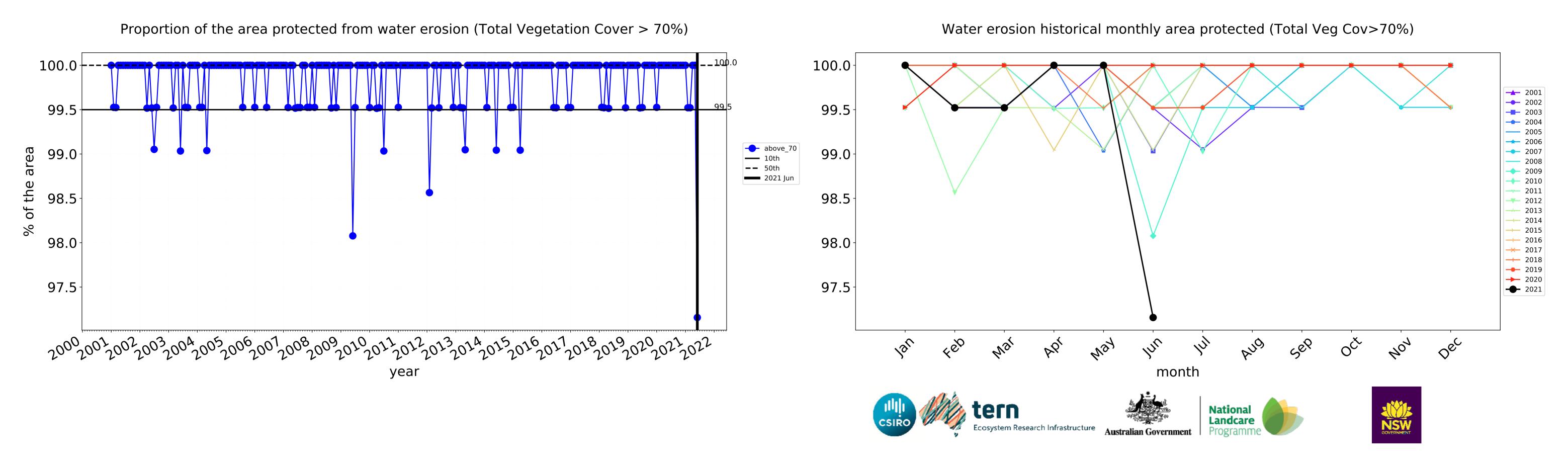


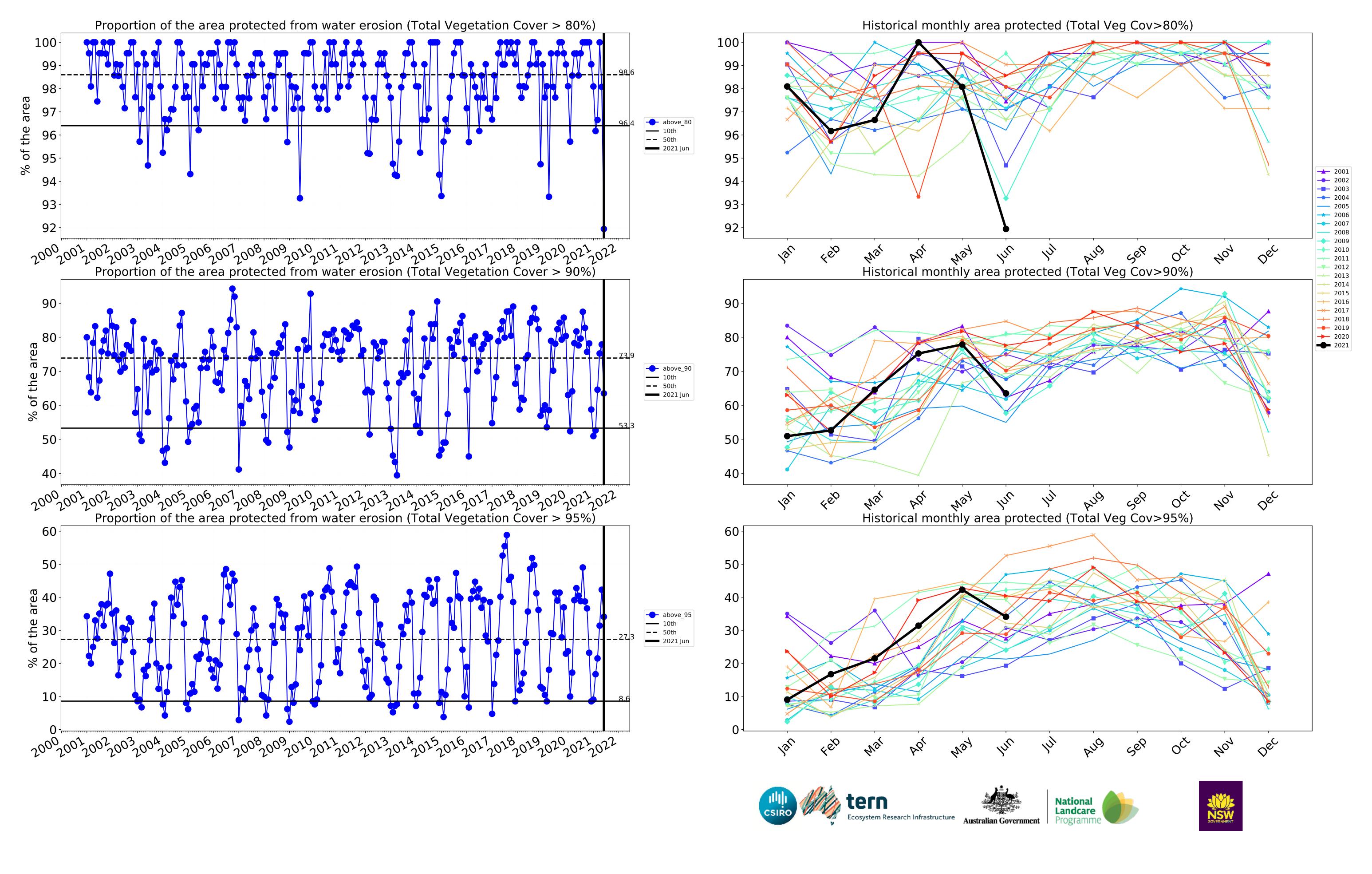




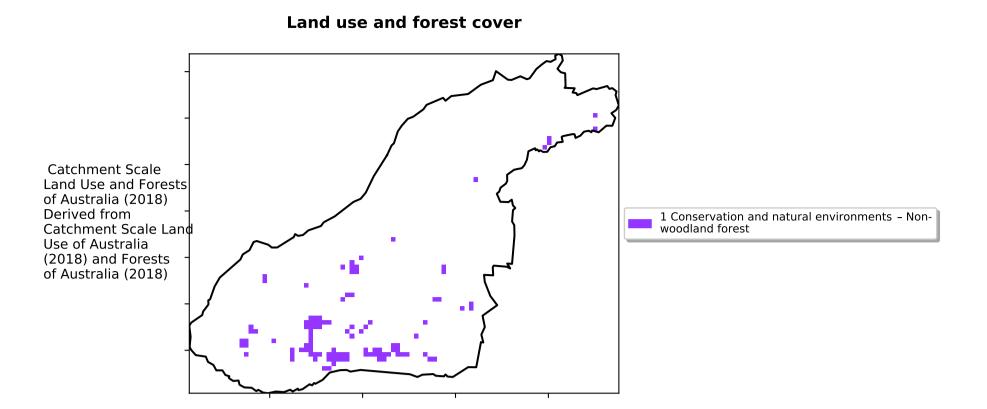
Conservation and natural environments Woodland forest timeseries



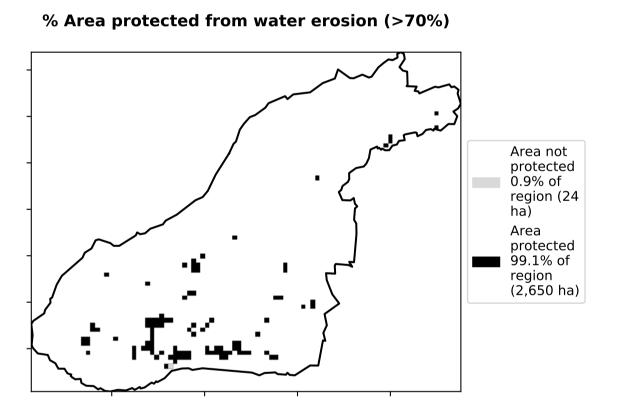


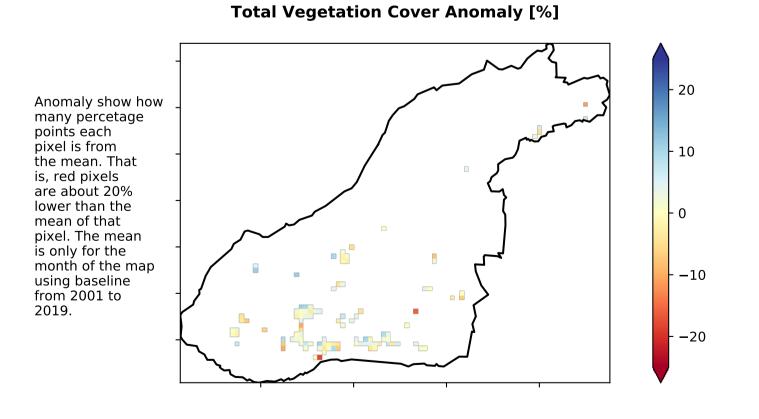


Conservation and natural environments Forest (non woodland)



Total Vegetation Cover [%]

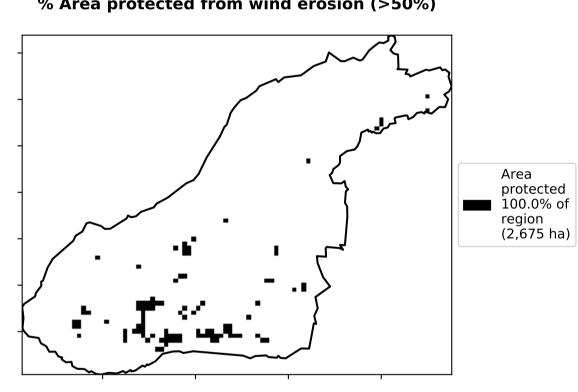


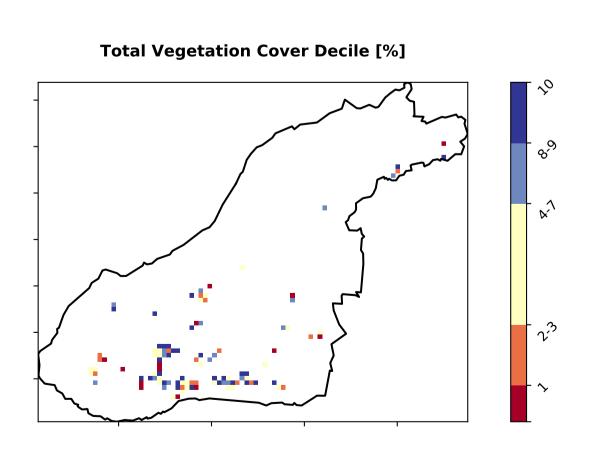


Proportion of vegetation cover class in area

100

99.1%









Deciles show where the pixel value lies in the

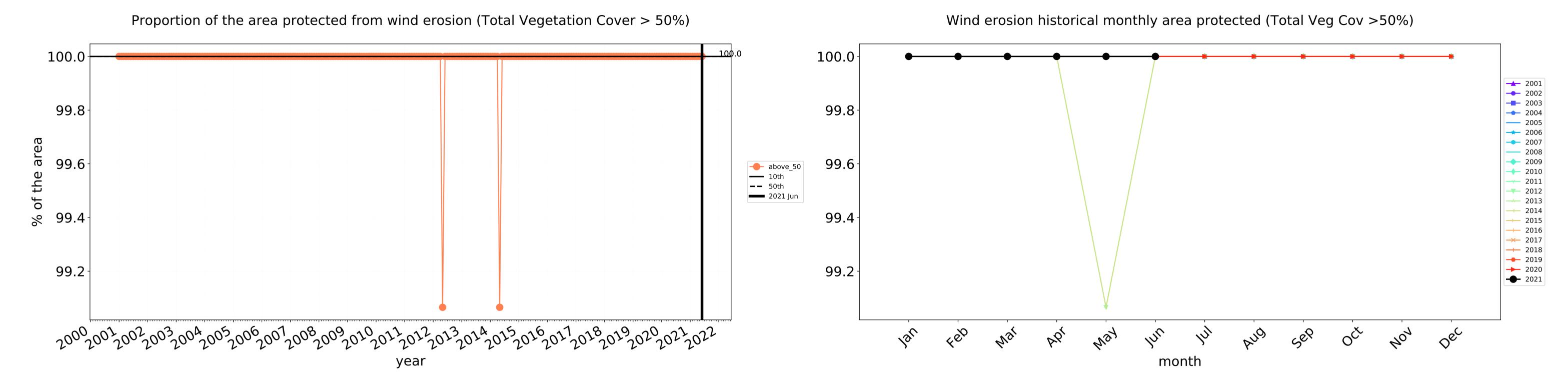
record, from highest to lowest, for that month.
That is, red pixels are in the lowest 10% of records for that month of

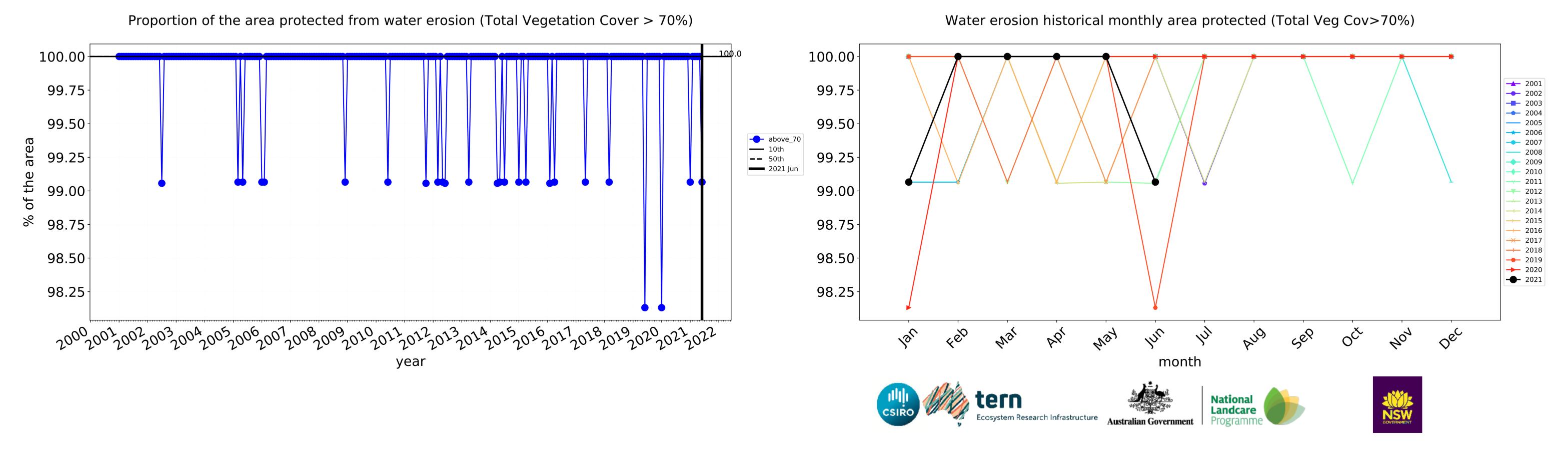
the map using baseline from 2001 to 2019.

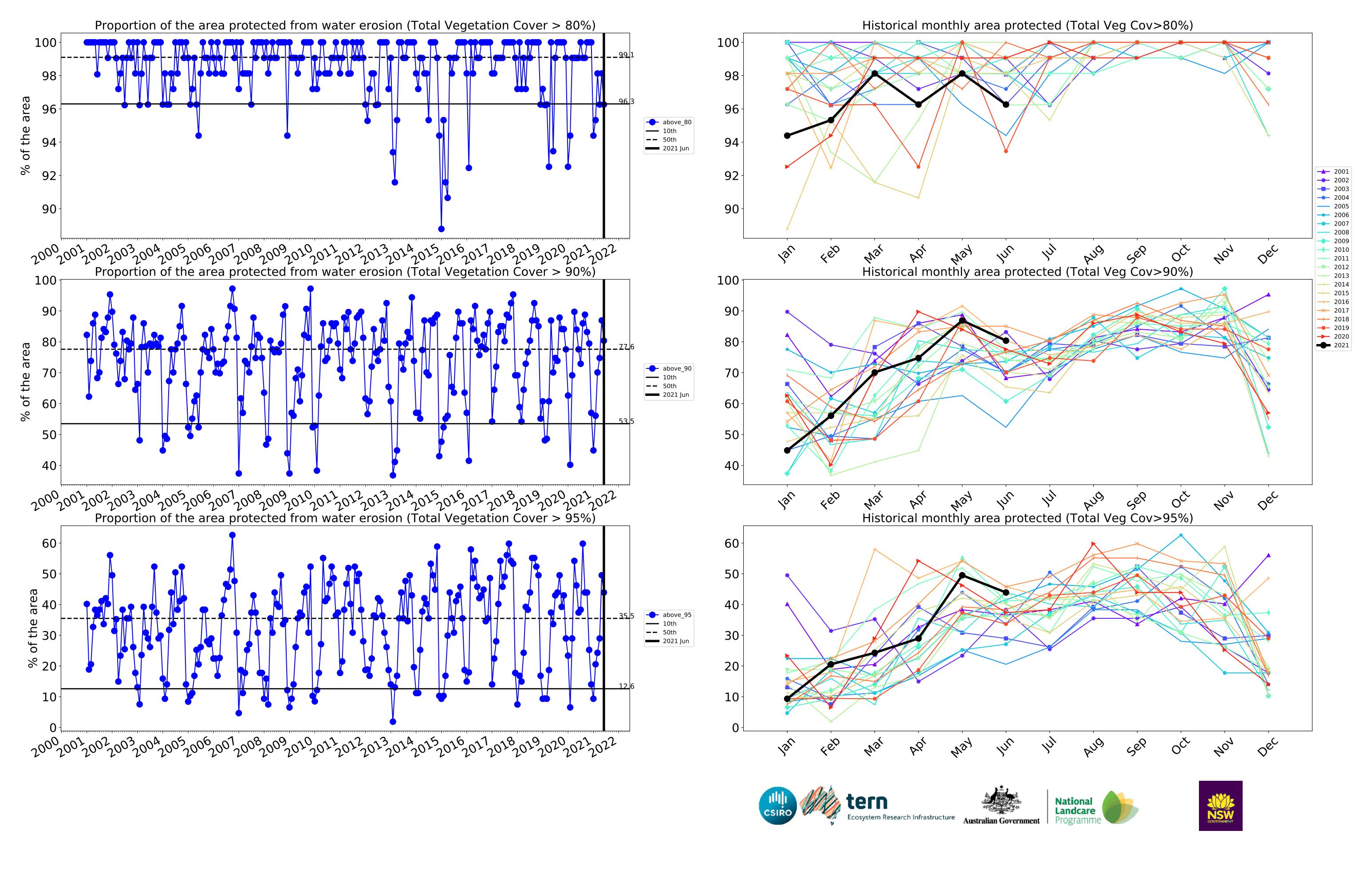




Conservation and natural environments Forest (non woodland) timeseries







Agriculture

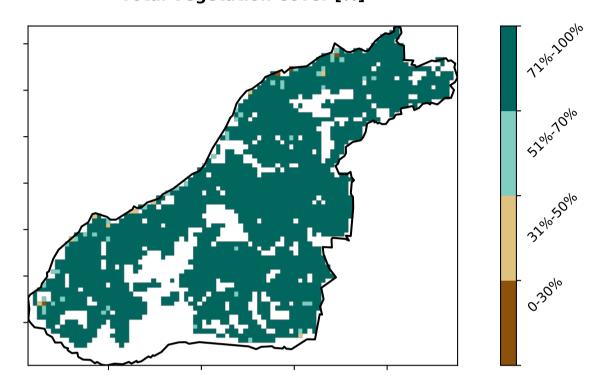
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Taylor of Australia (2018) and Forests of Australia (2018) Taylor of Australia (2018) Taylor of Australia (2018) Taylor of Australia (2018) Taylor of Australia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

60 - (%) 40 -

87.5%

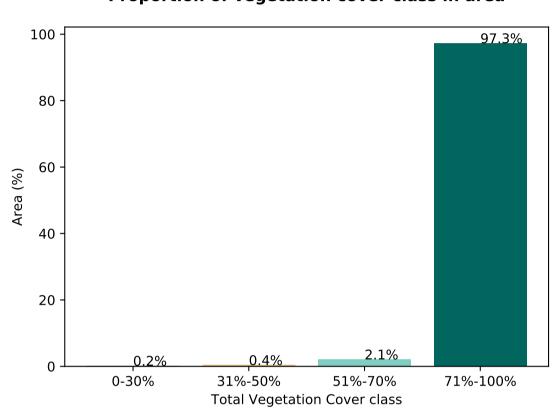
Proportion of each land class in area

Total Vegetation Cover [%]

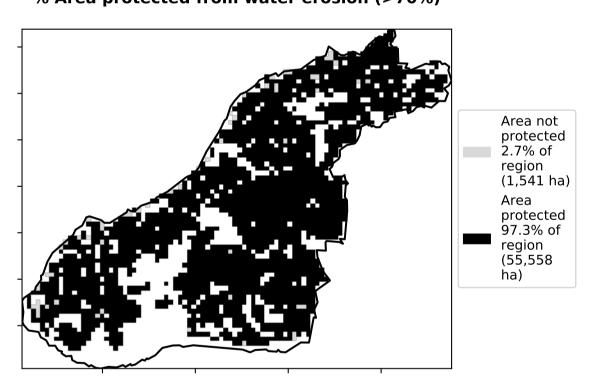


Proportion of vegetation cover class in area

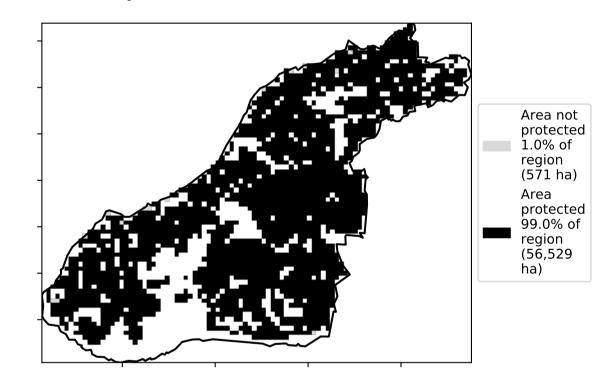
Land use class



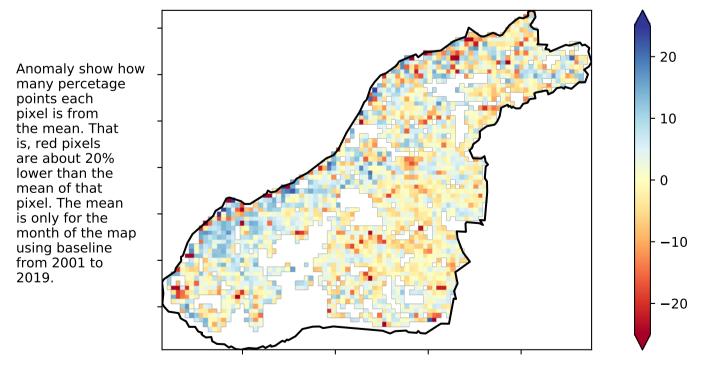
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

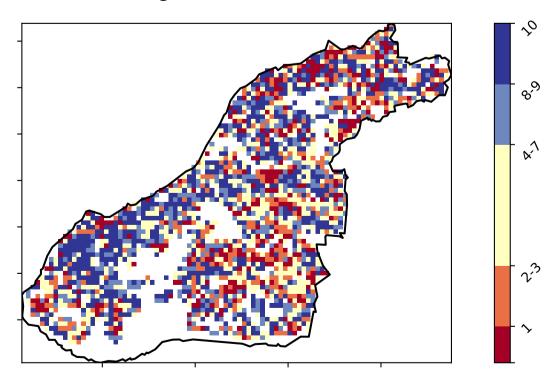


Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



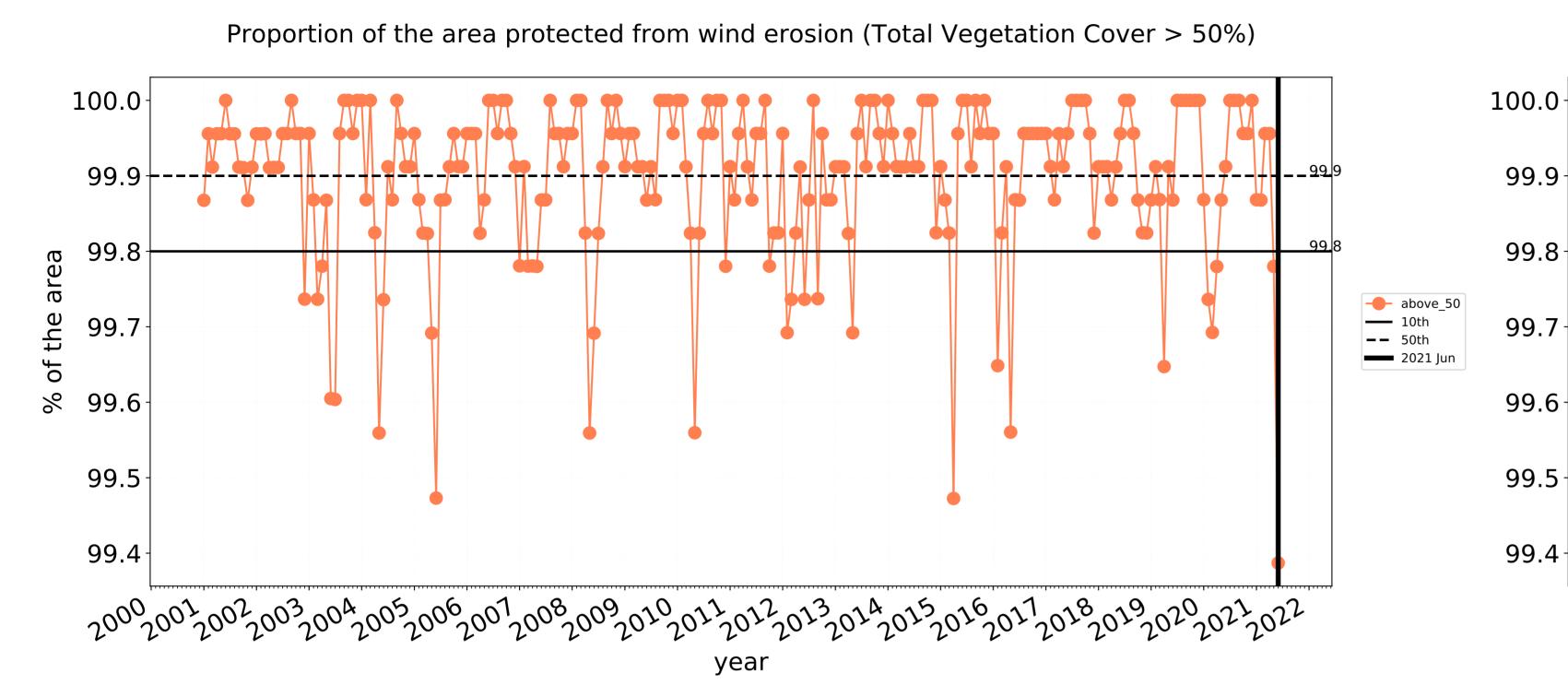


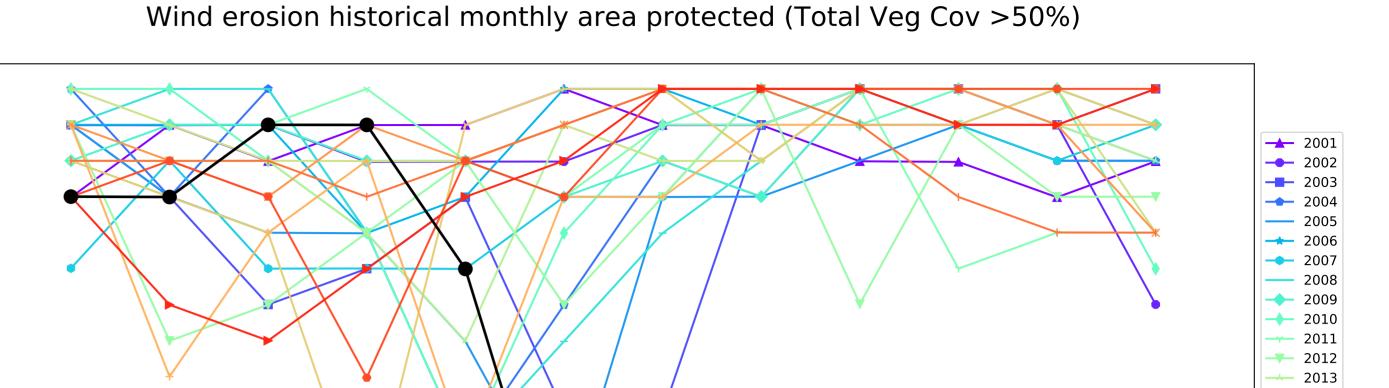






Agriculture timeseries



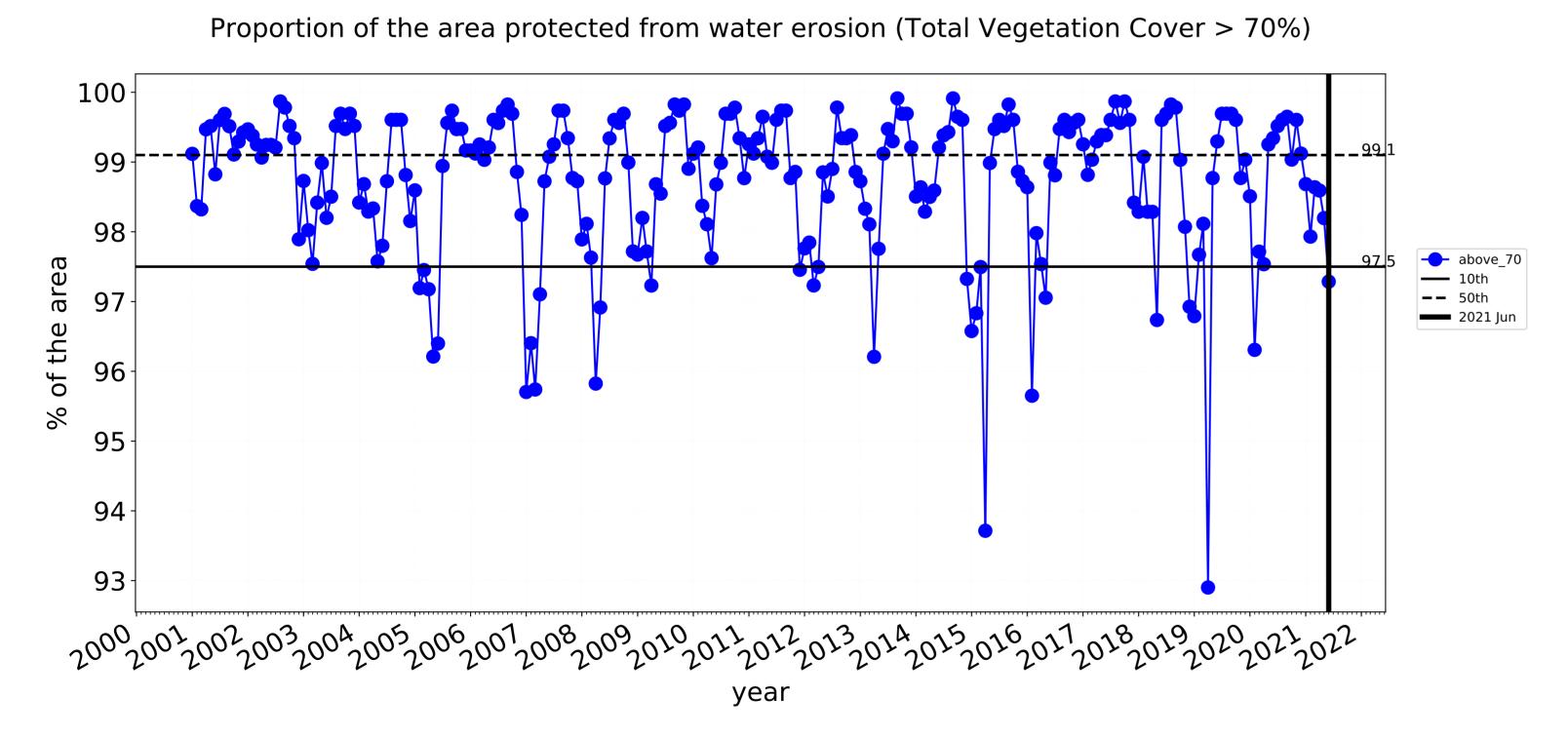


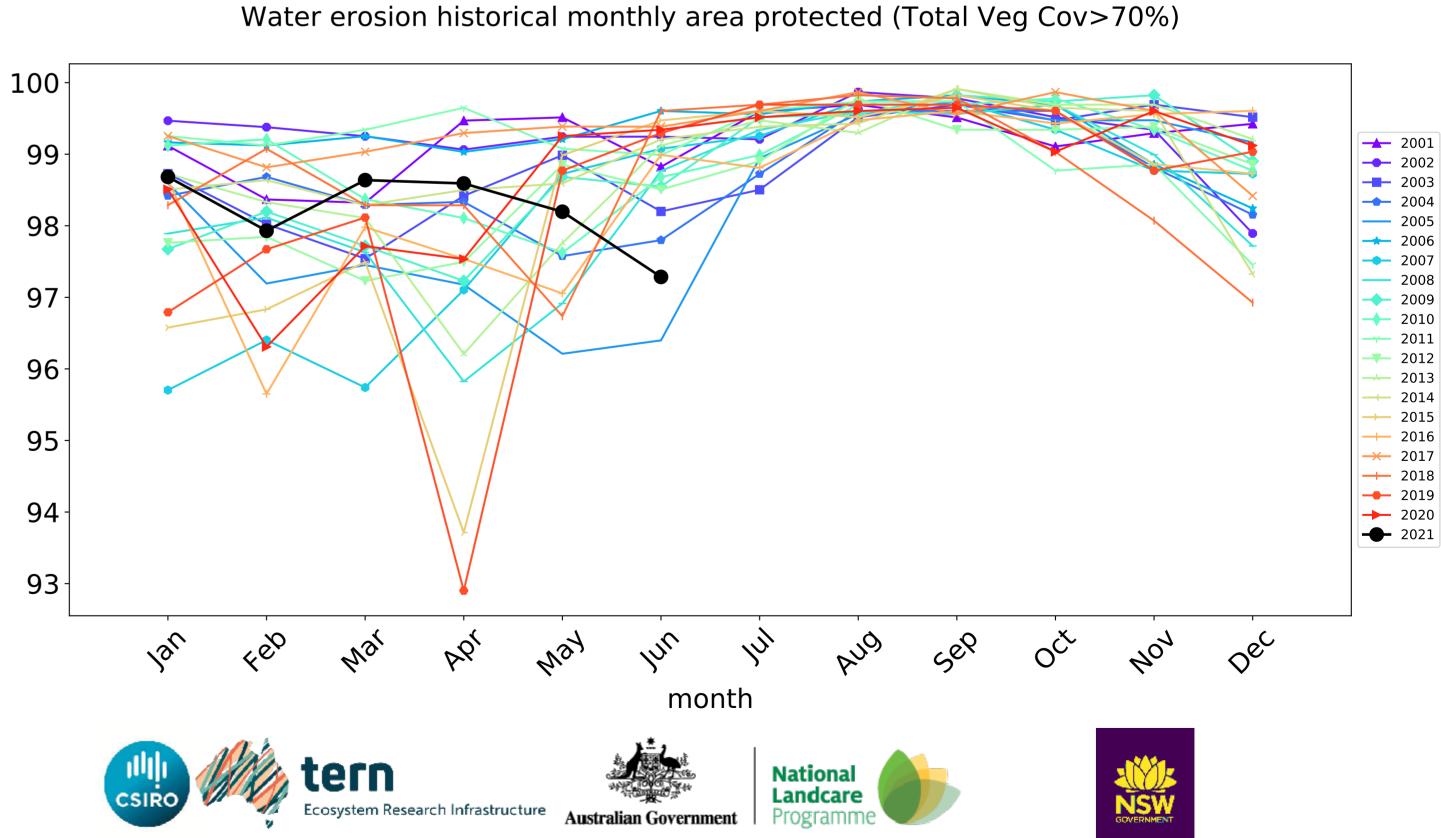
← 2014

→ 2015 → 2016 → 2017

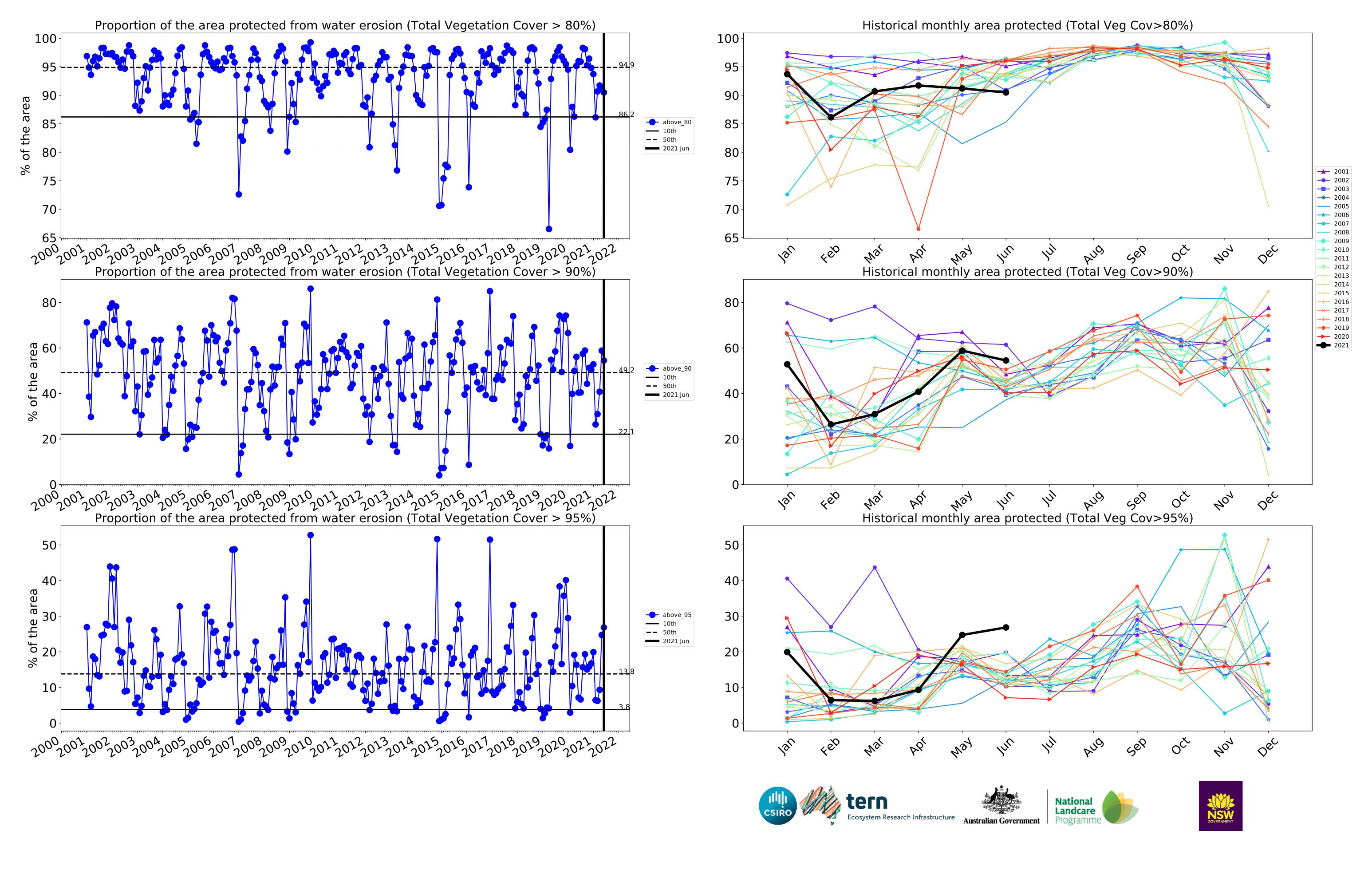
2018 2019 2020

--- 2021





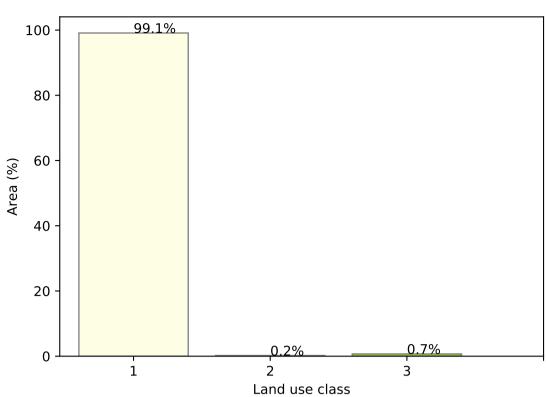
month



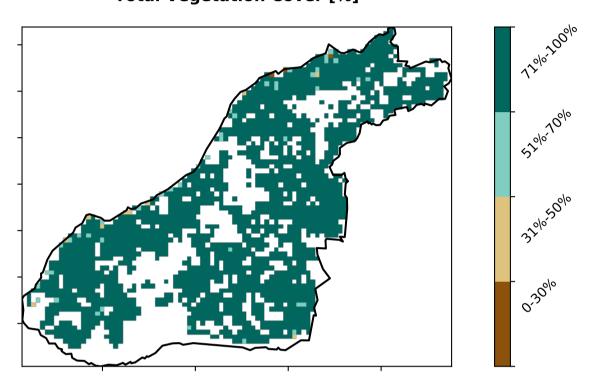
Grazing

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) 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest of Australia (2018)

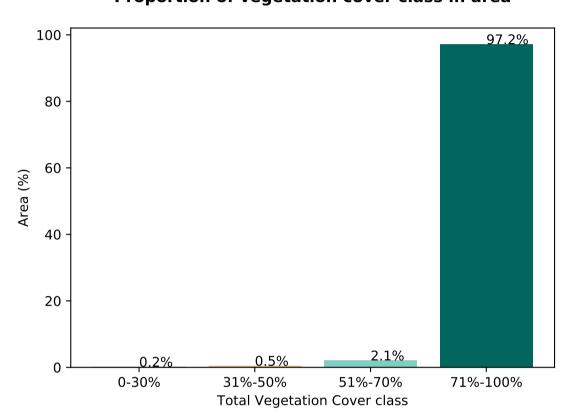
Proportion of each land class in area



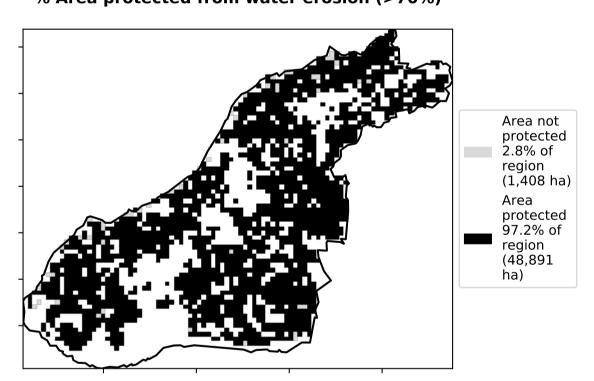
Total Vegetation Cover [%]



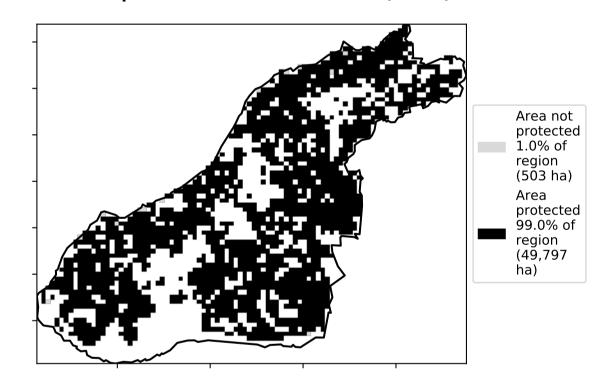
Proportion of vegetation cover class in area



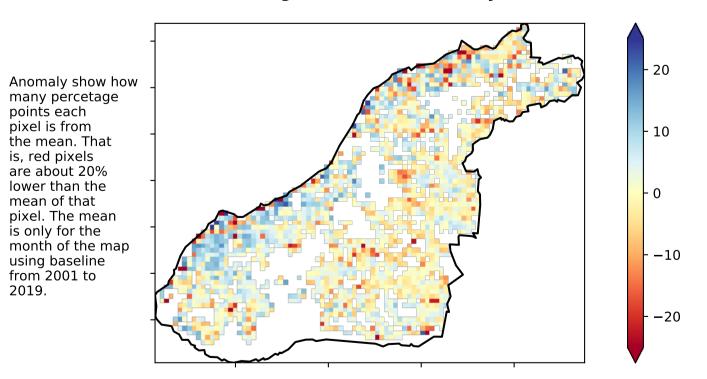
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

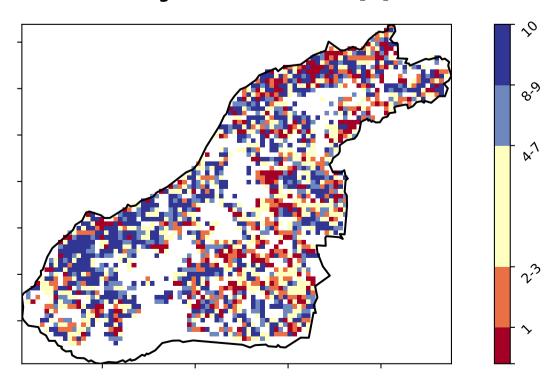


Total Vegetation Cover Anomaly [%]



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 [%]



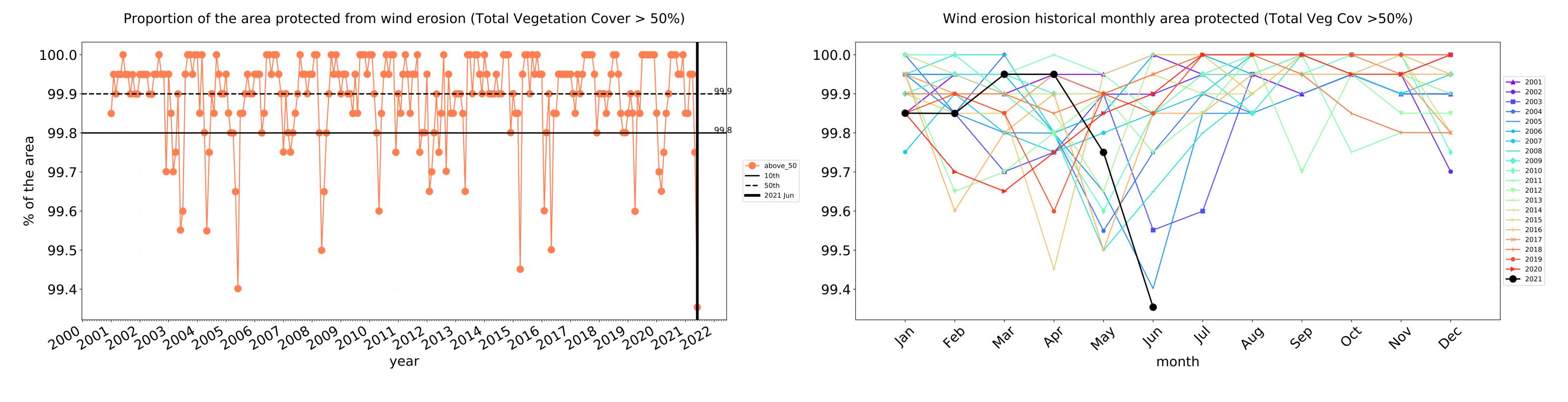


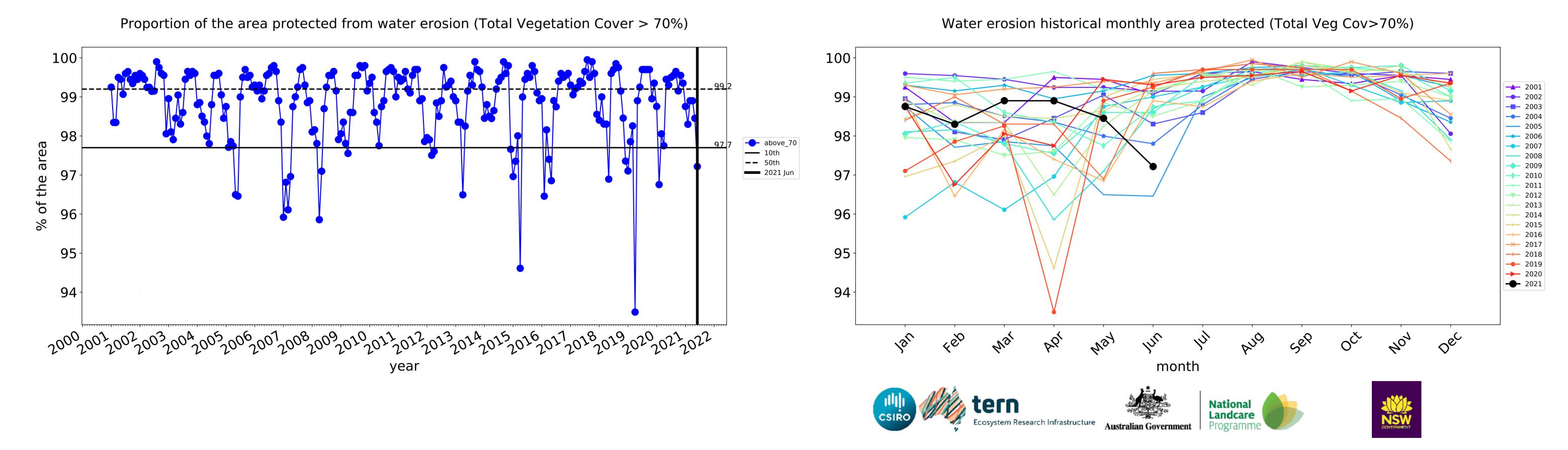


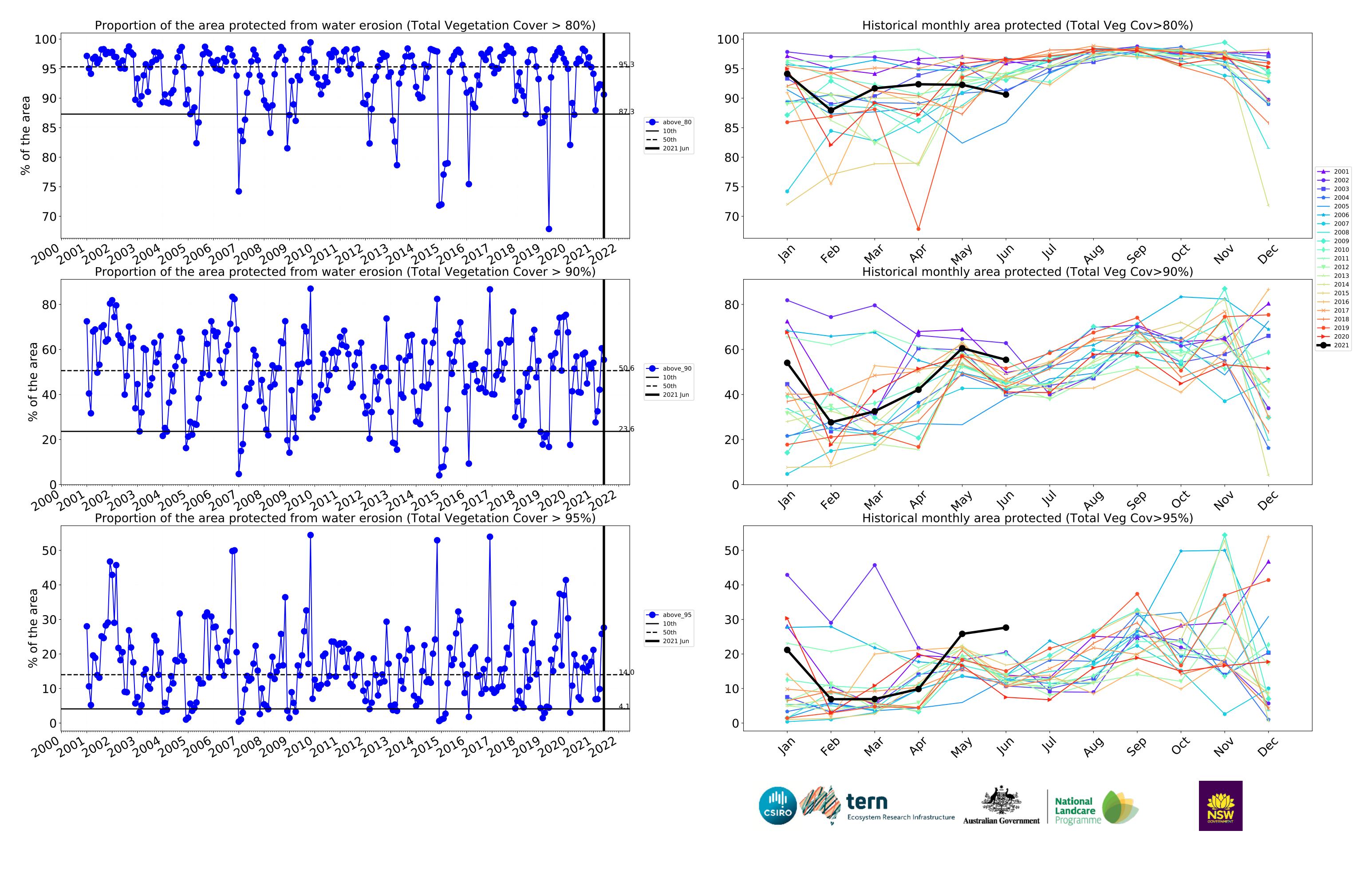




Grazing timeseries

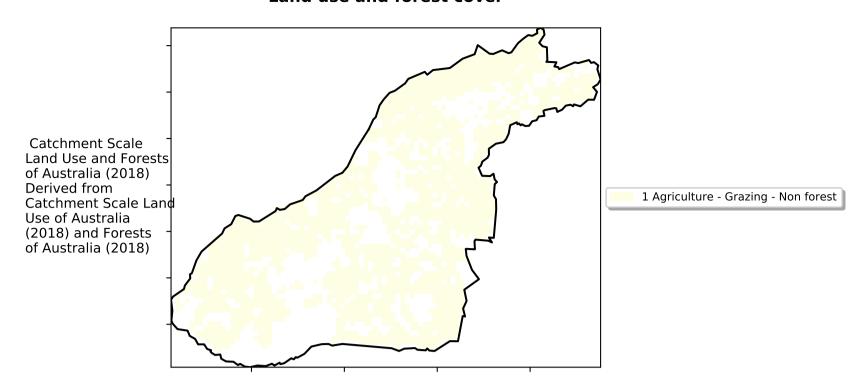




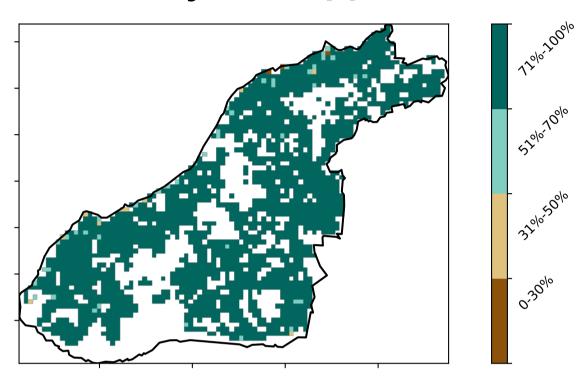


Grazing non forest

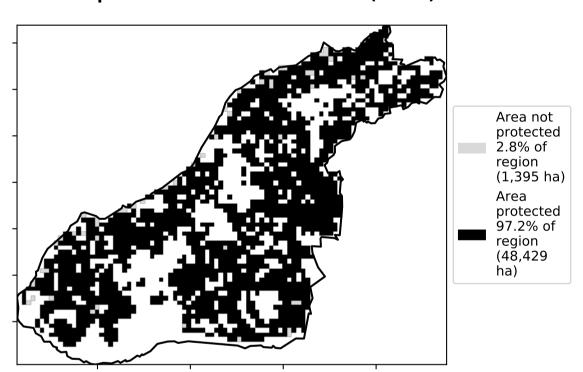
Land use and forest cover



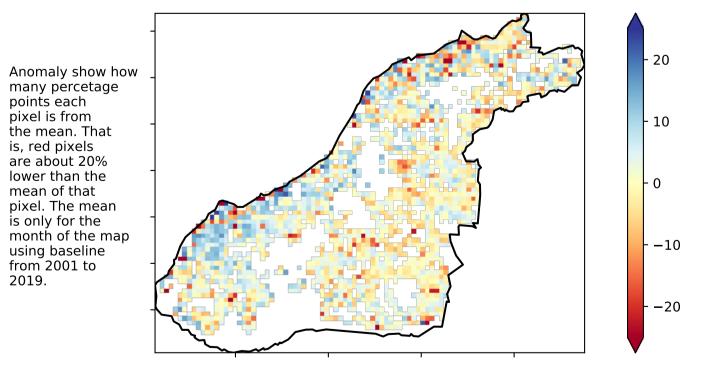
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

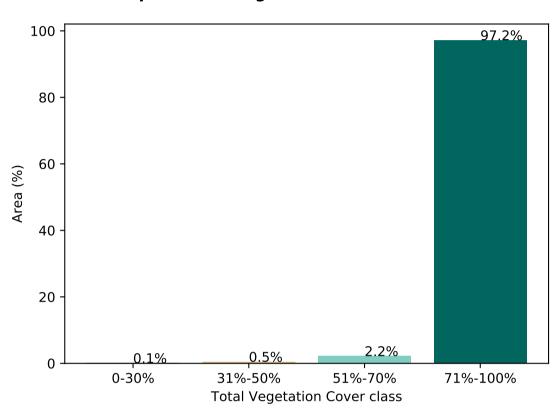


Total Vegetation Cover Anomaly [%]

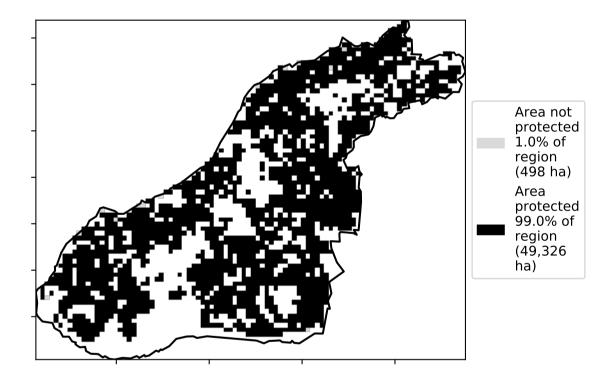


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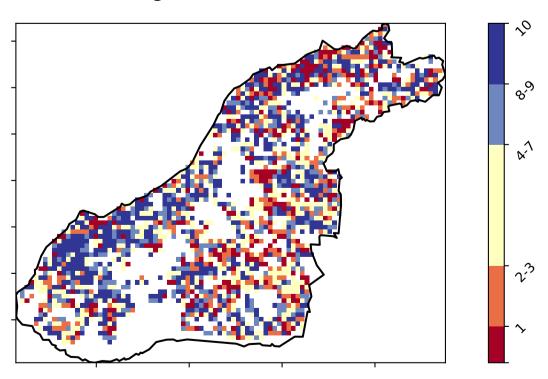
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



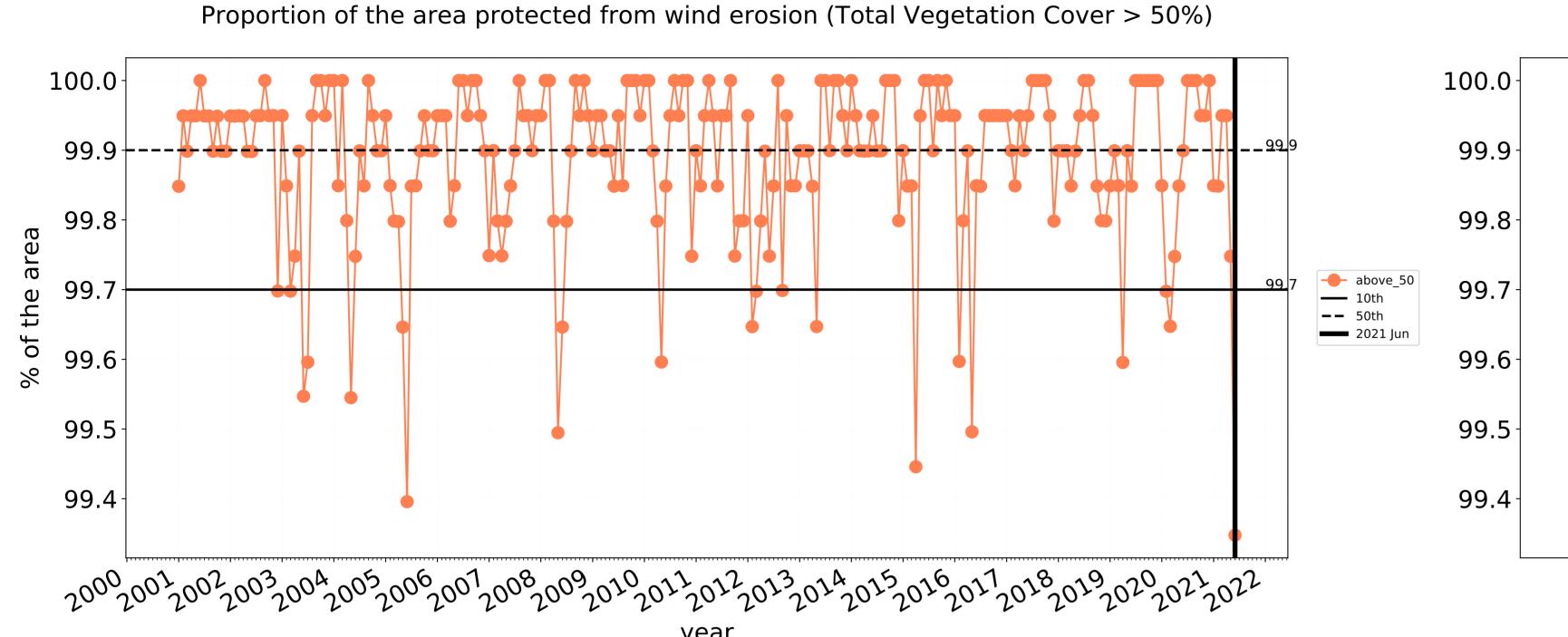


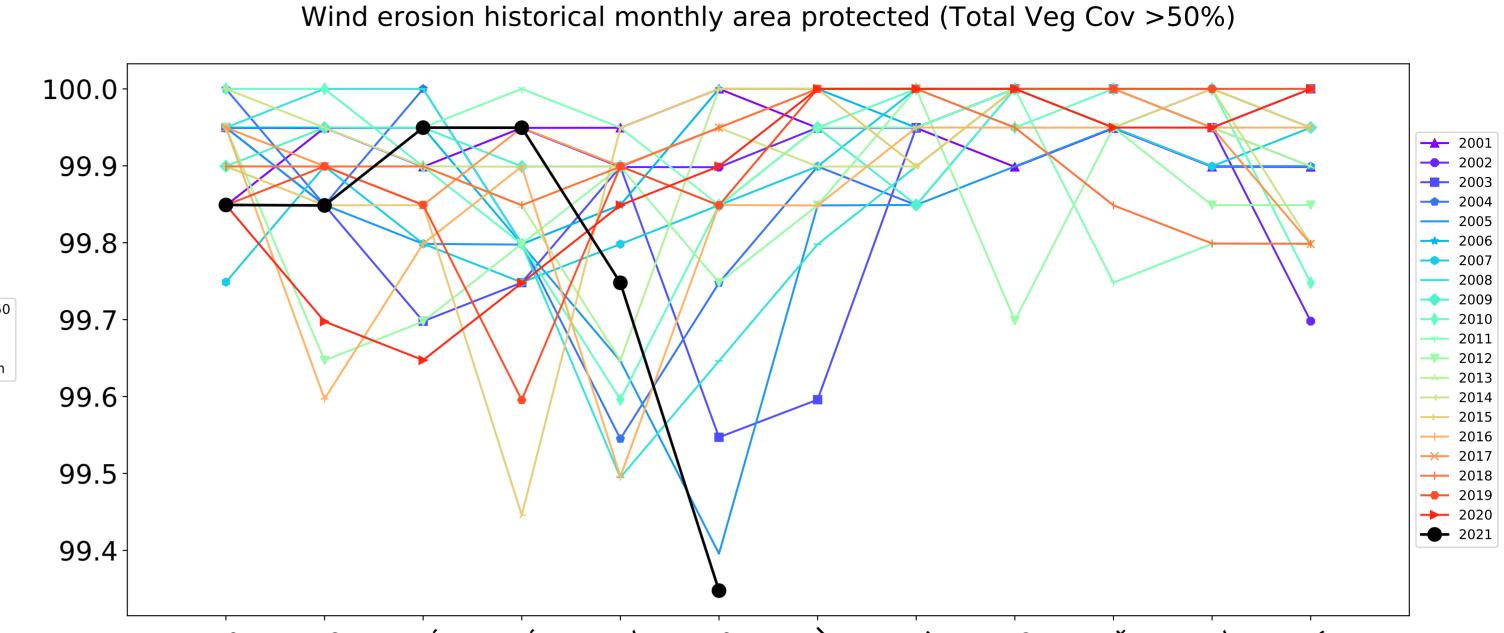




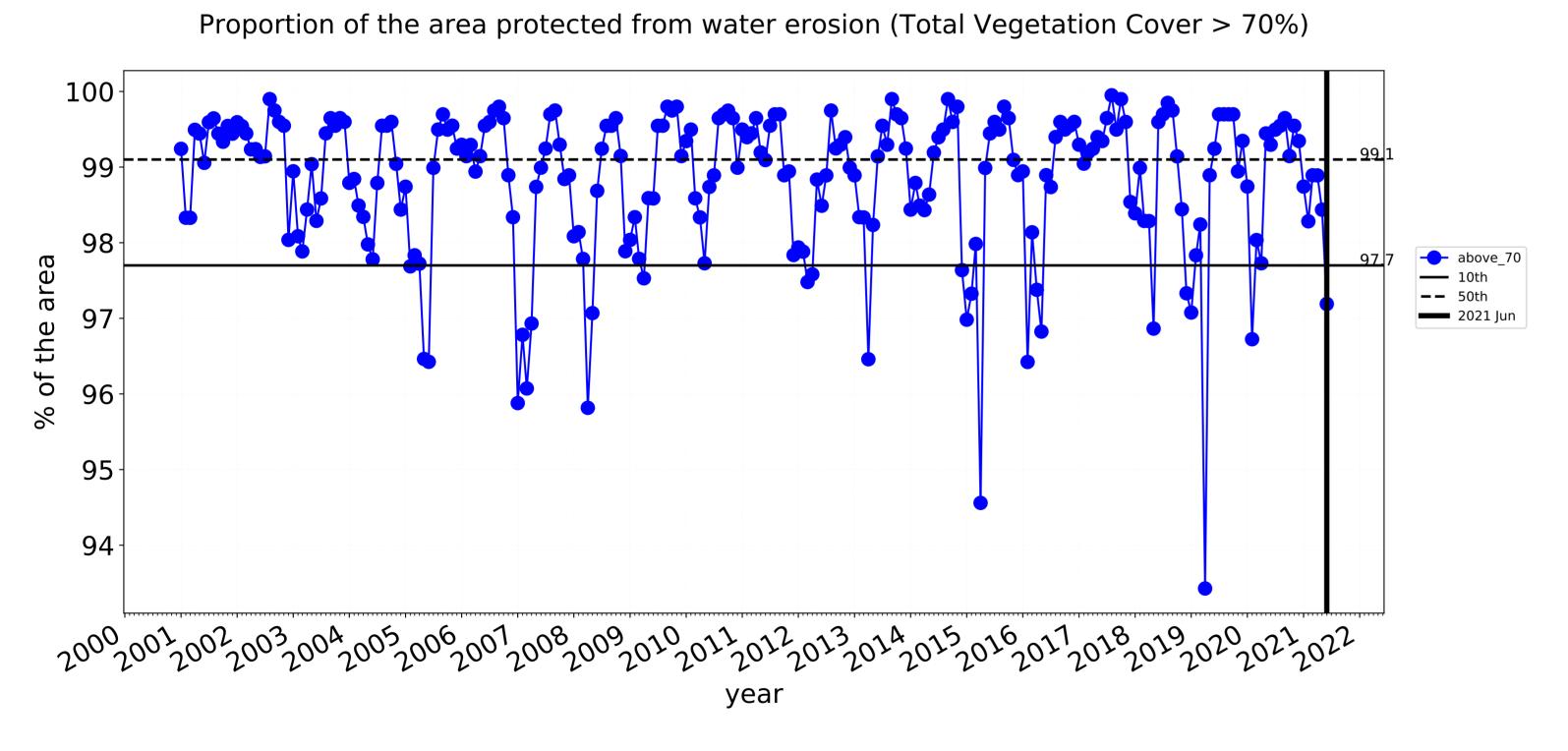


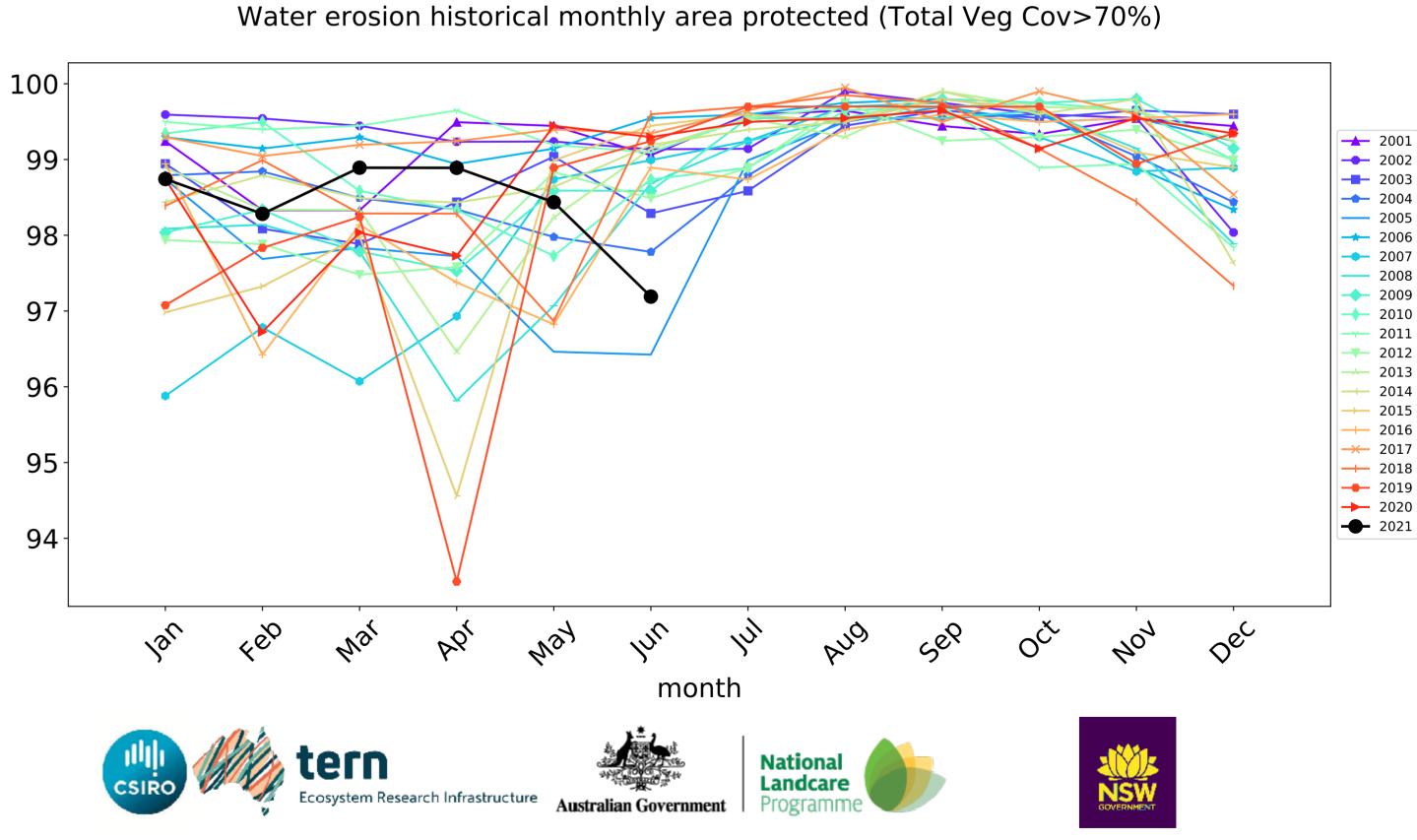
Grazing non forest timeseries

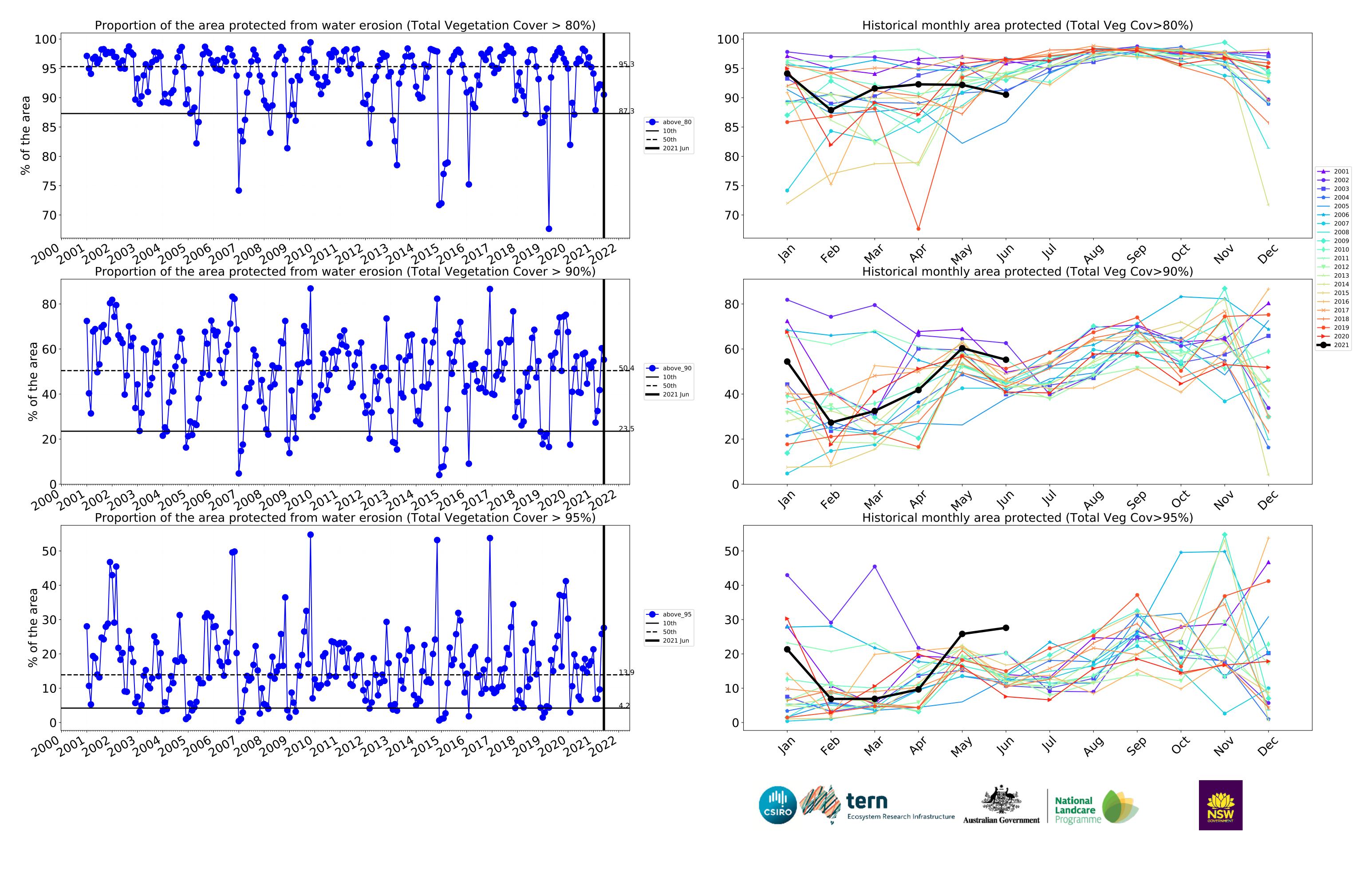




month

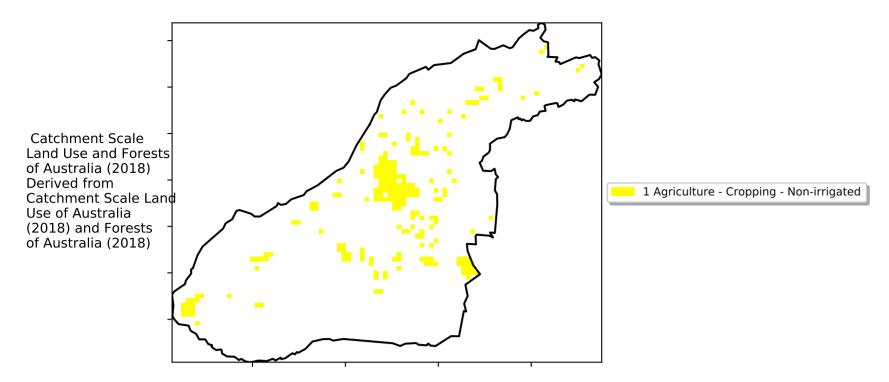




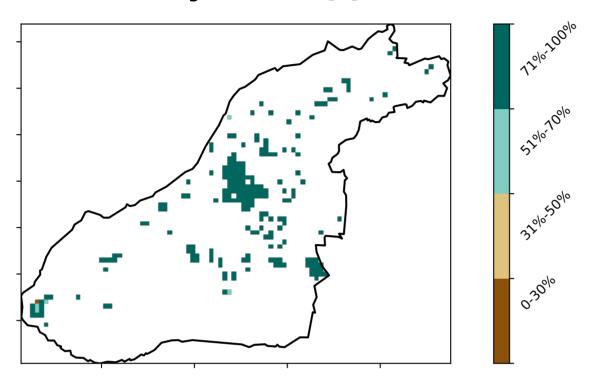


Cropping

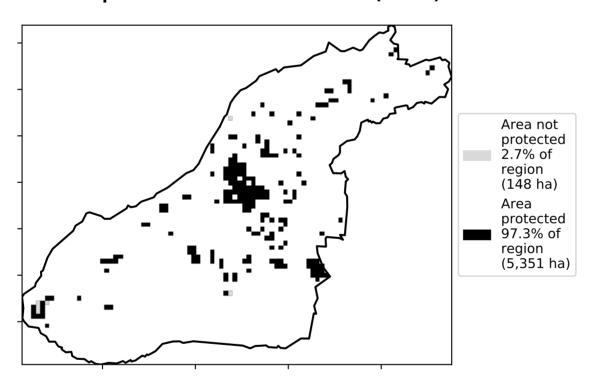
Land use and forest cover



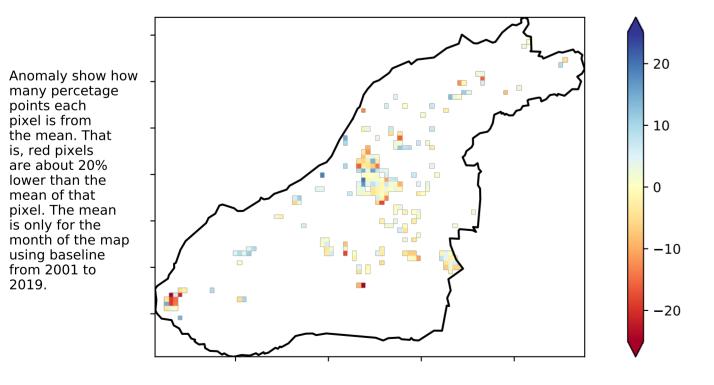
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

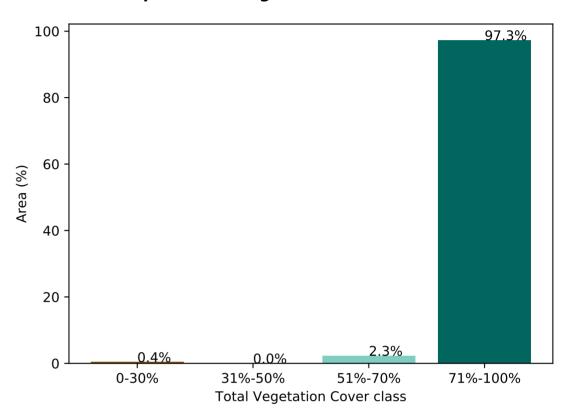


Total Vegetation Cover Anomaly [%]

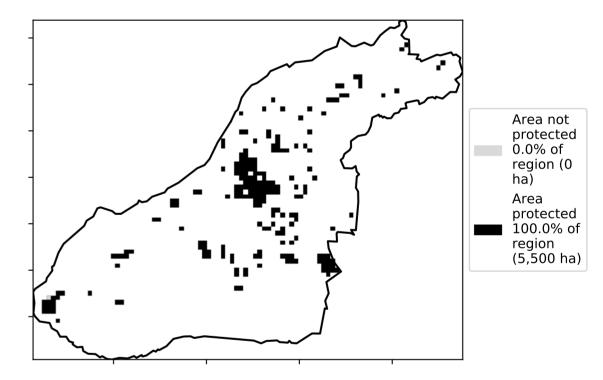


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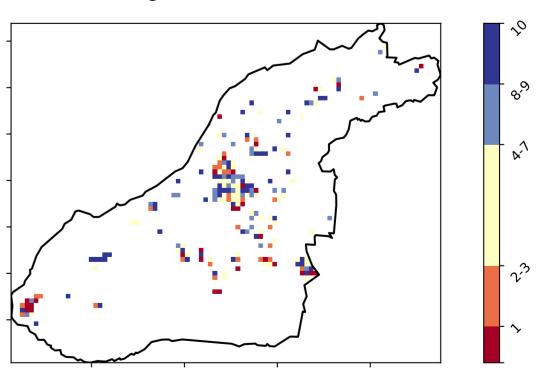
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



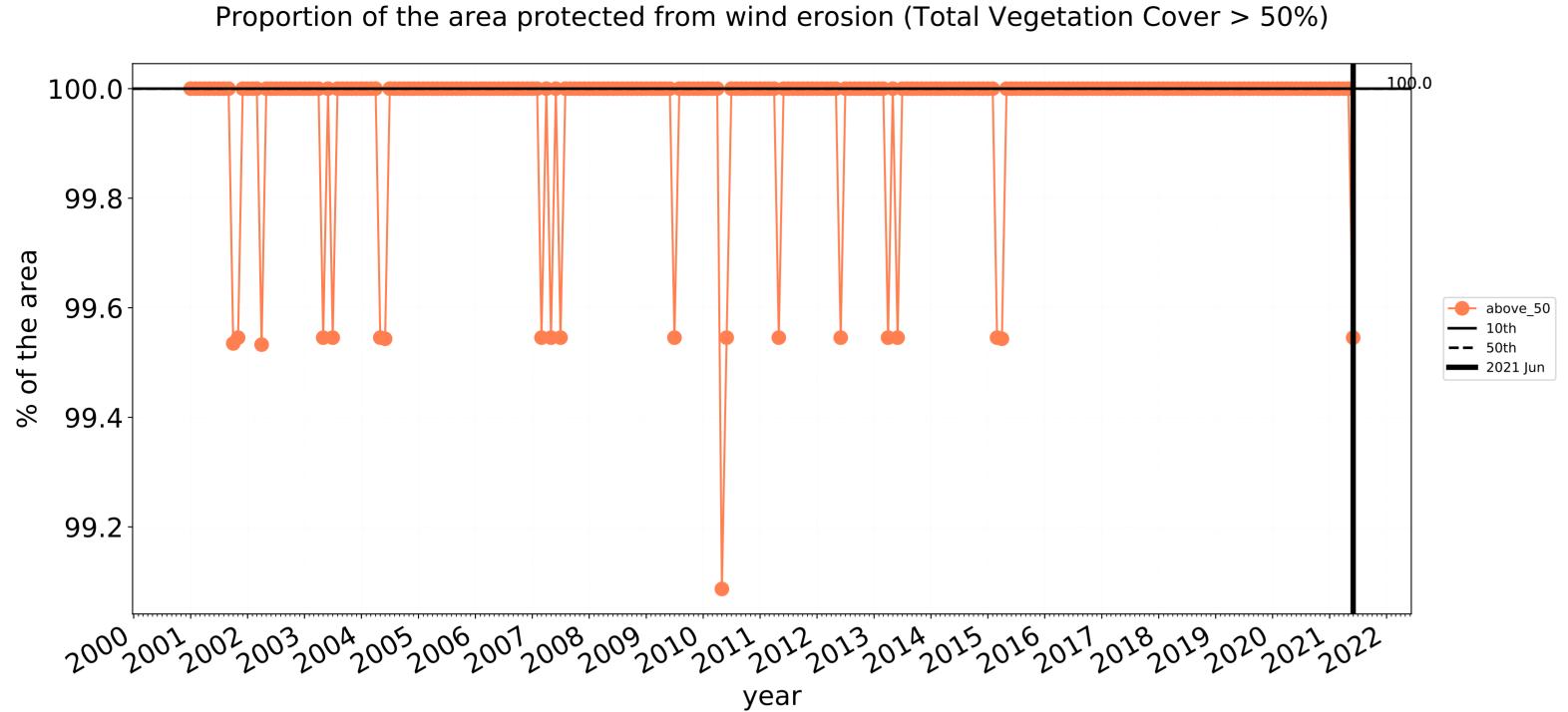


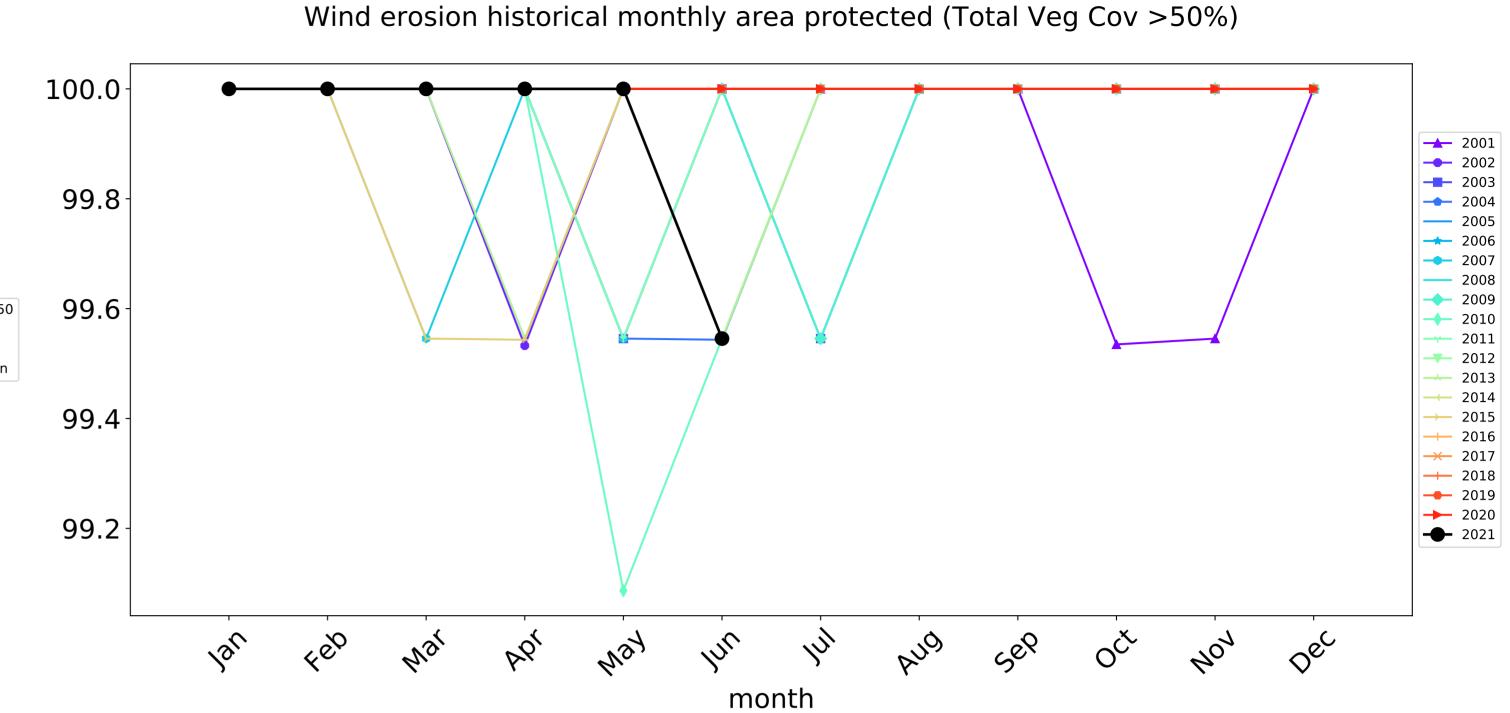


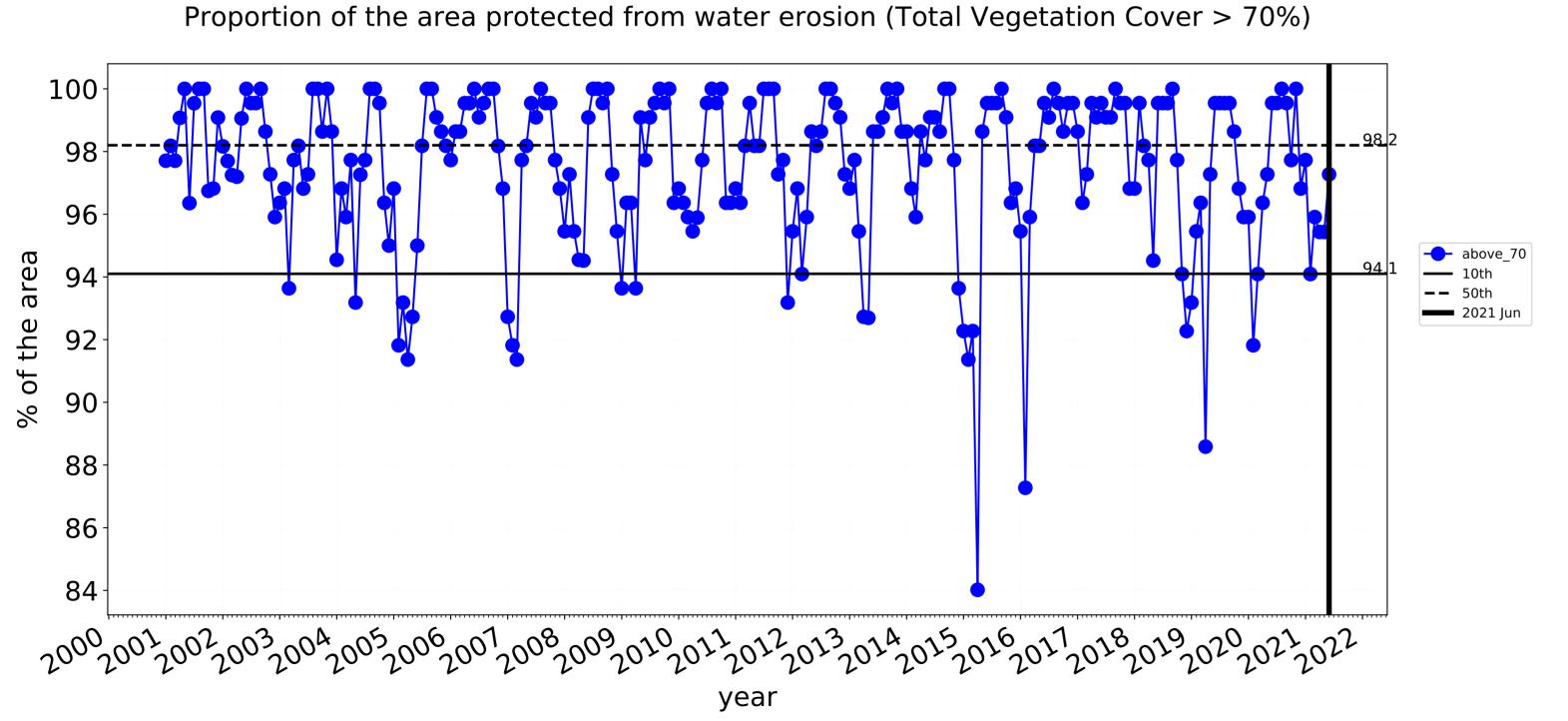


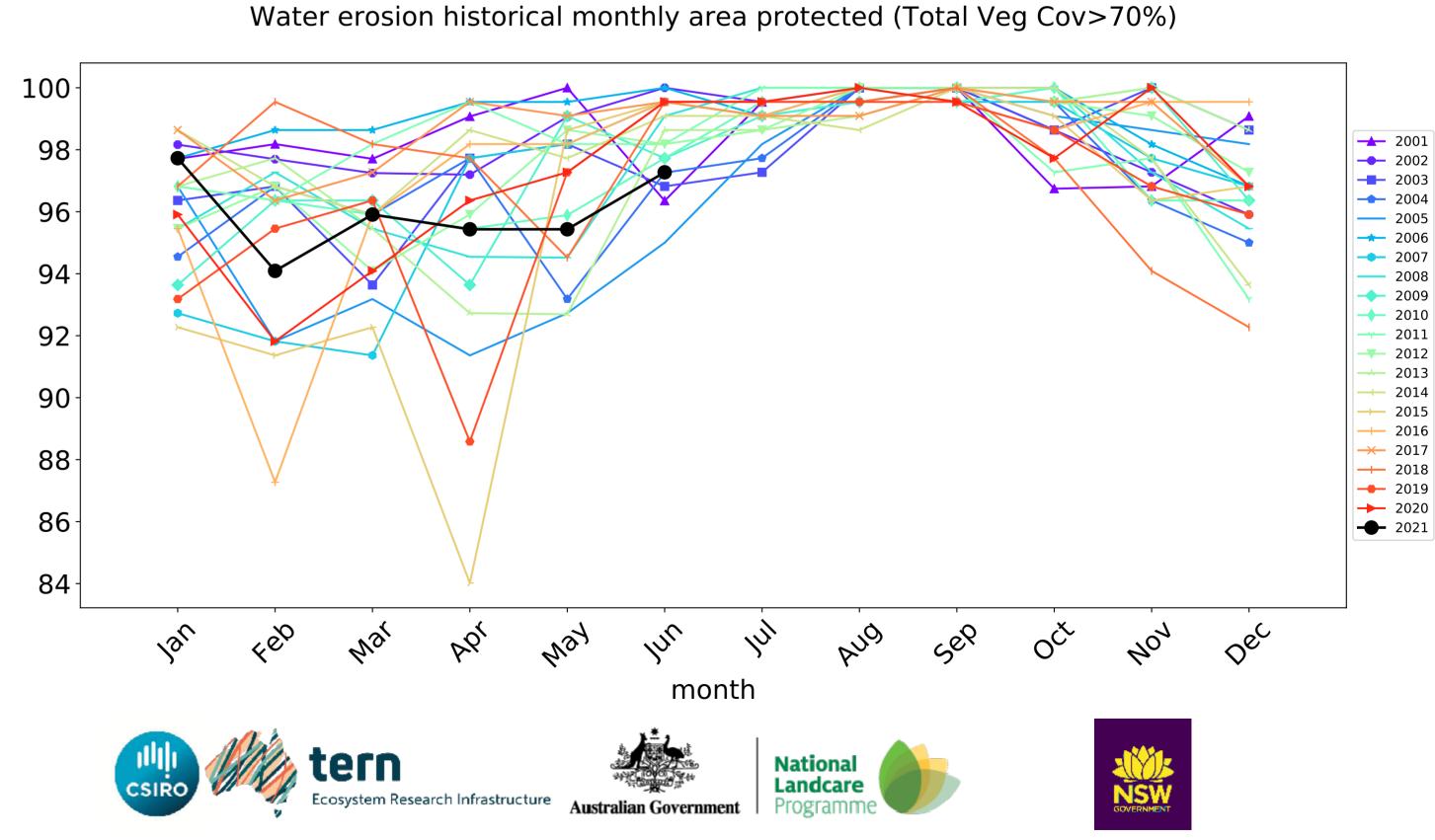


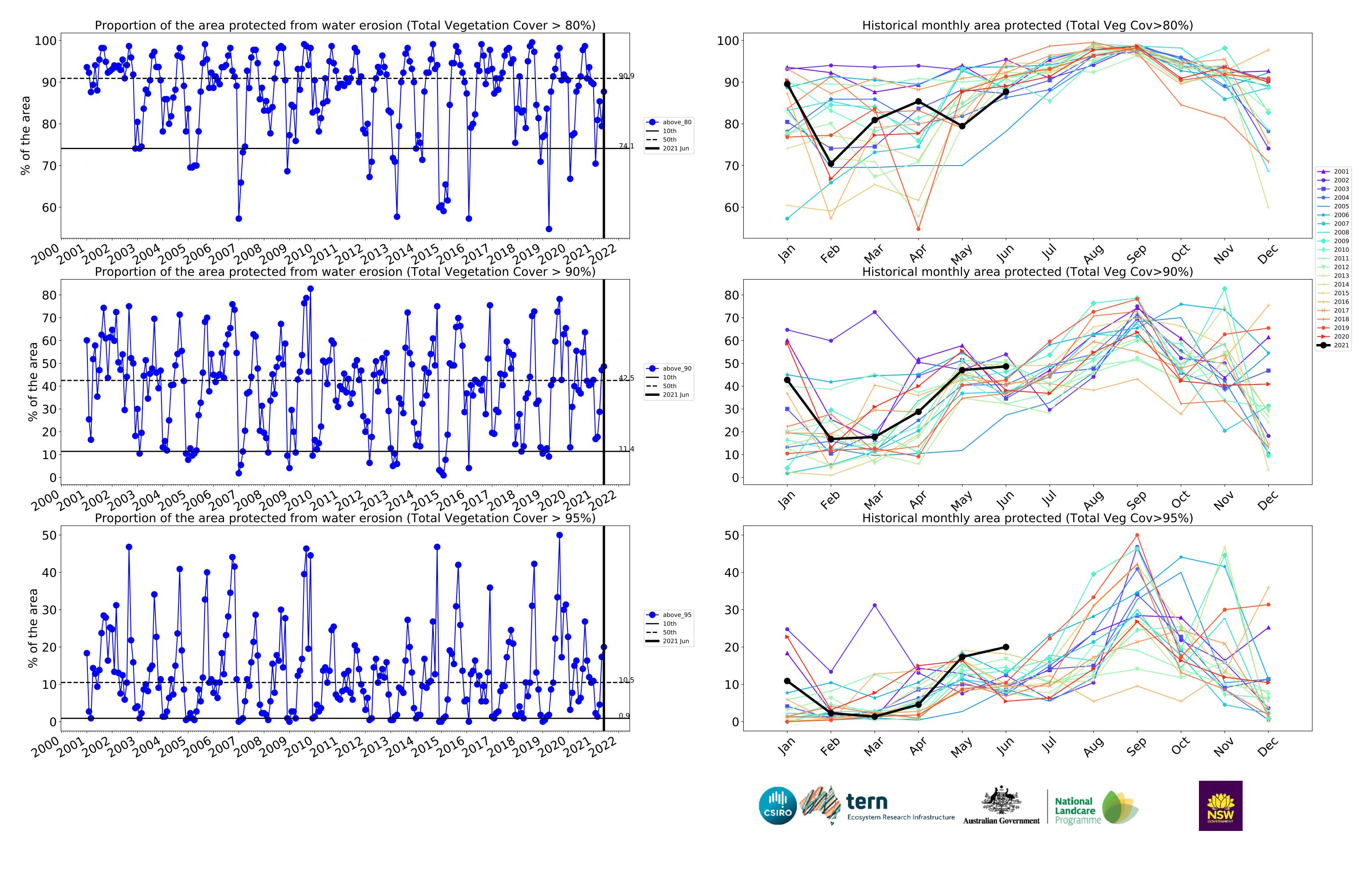
Cropping timeseries







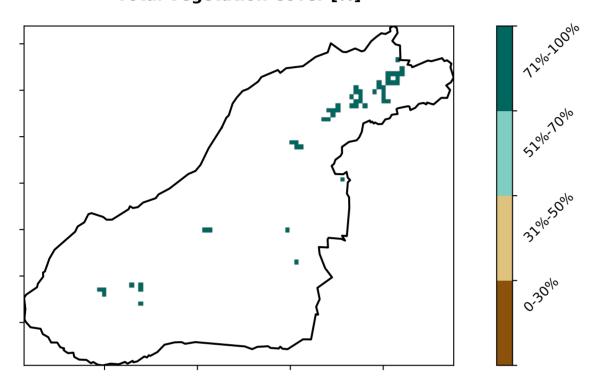




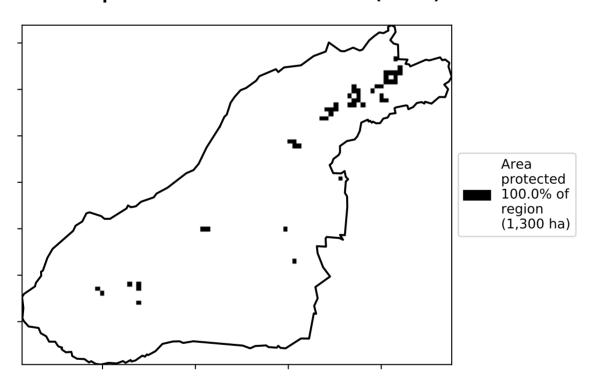
Irrigation

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Serviced from Catchment Scale Land Use of Australia (2018) Agriculture - Grazing - Irrigated Agriculture - Horticulture - Irrigated Australia (2018)

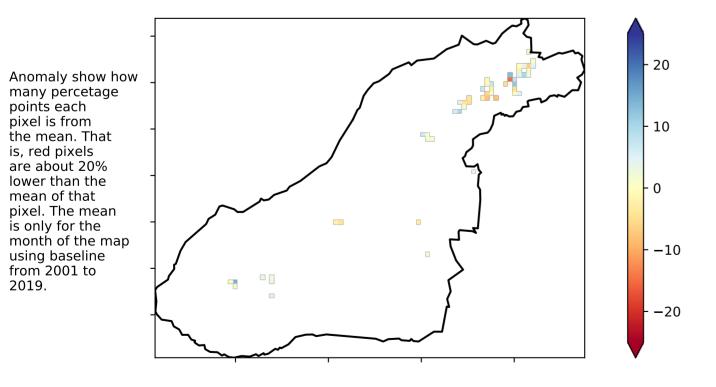
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

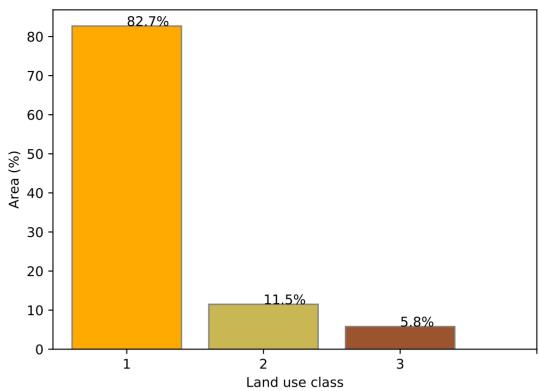


Total Vegetation Cover Anomaly [%]

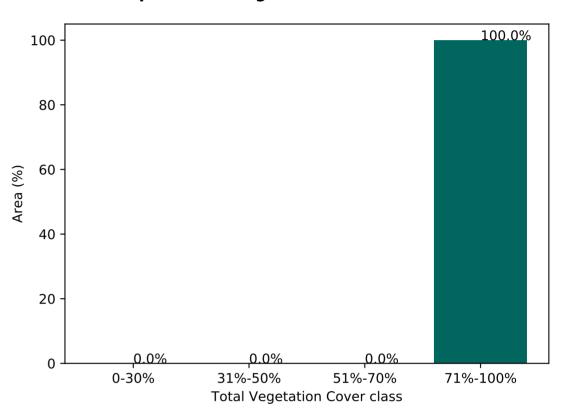


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

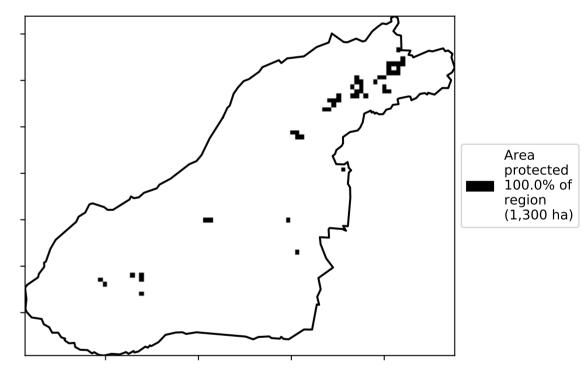
Proportion of each land class in area



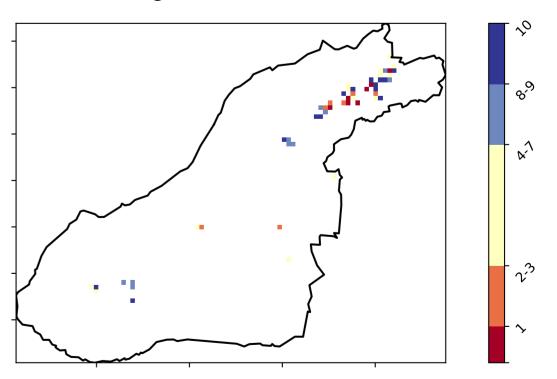
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]

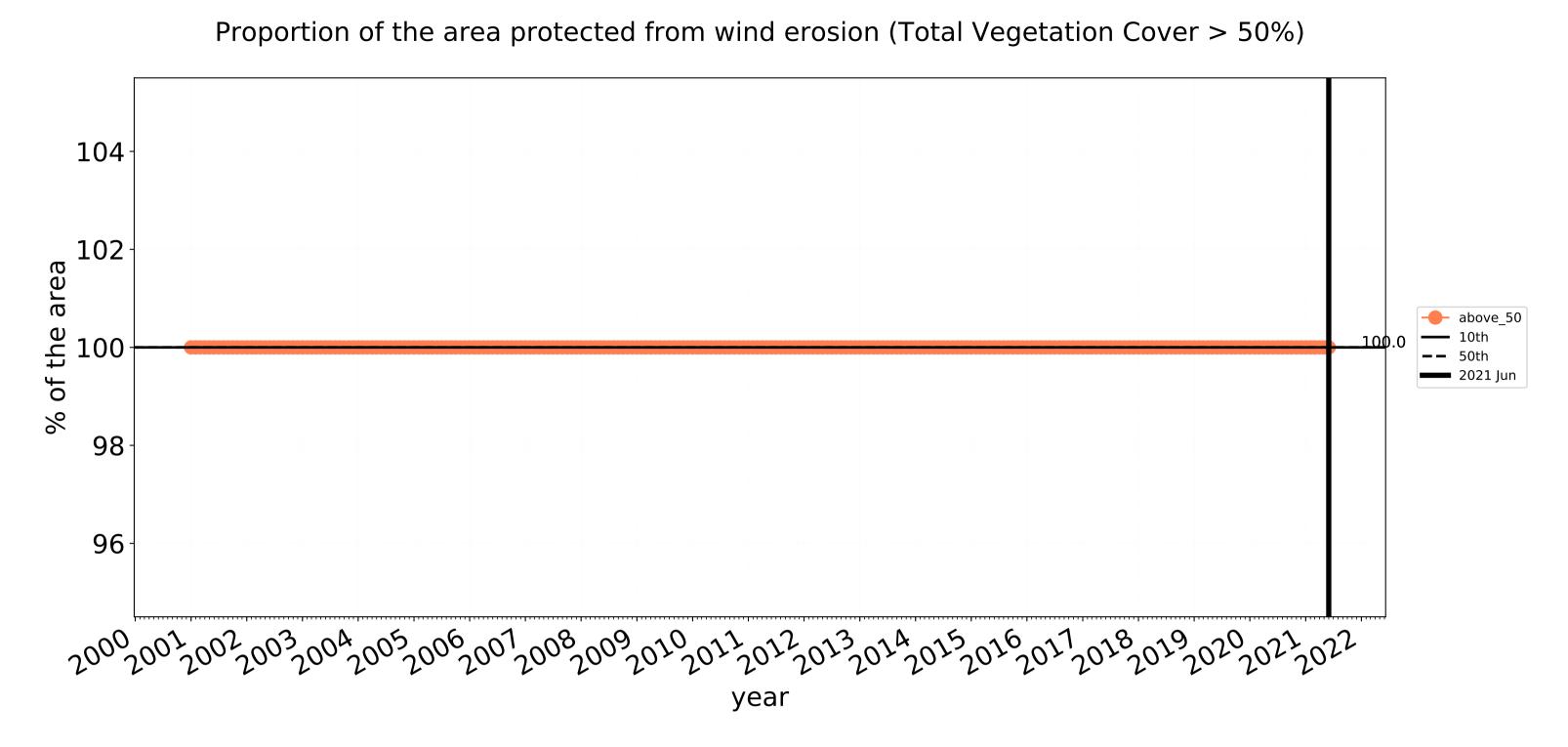


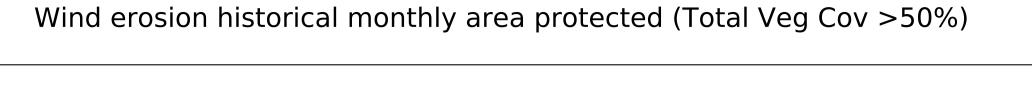


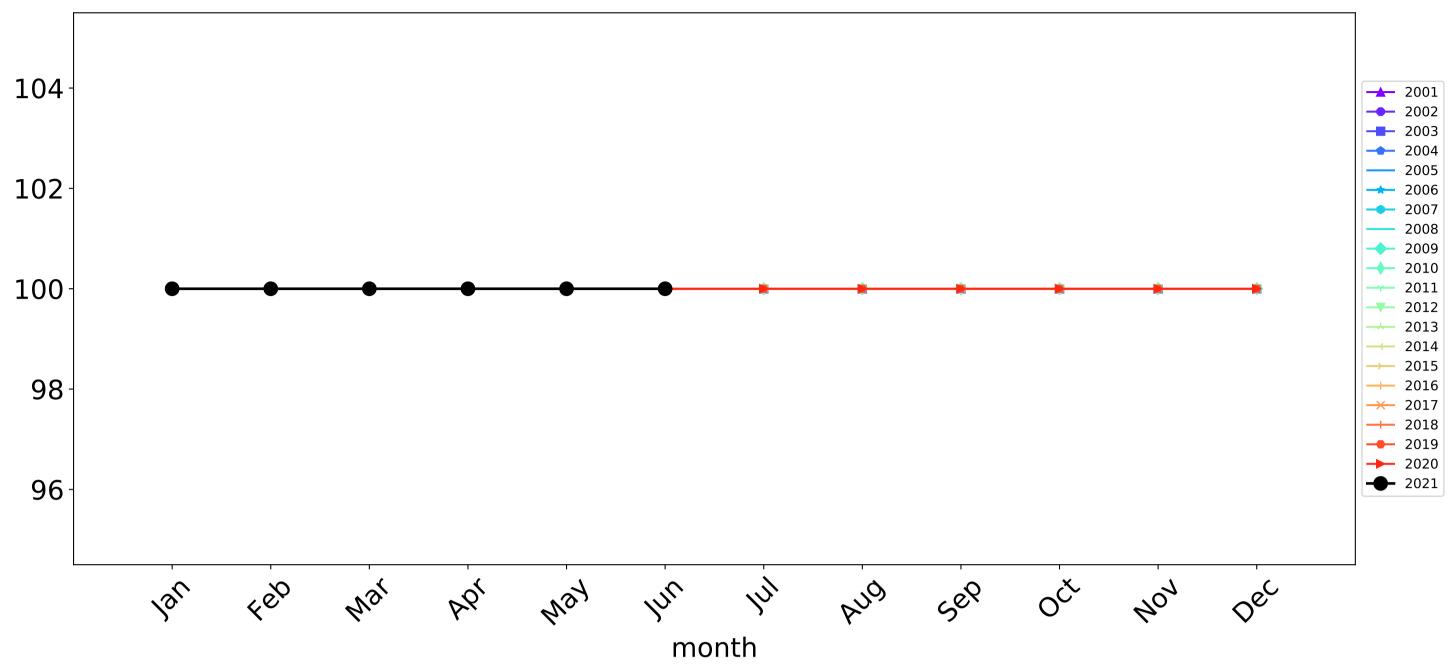


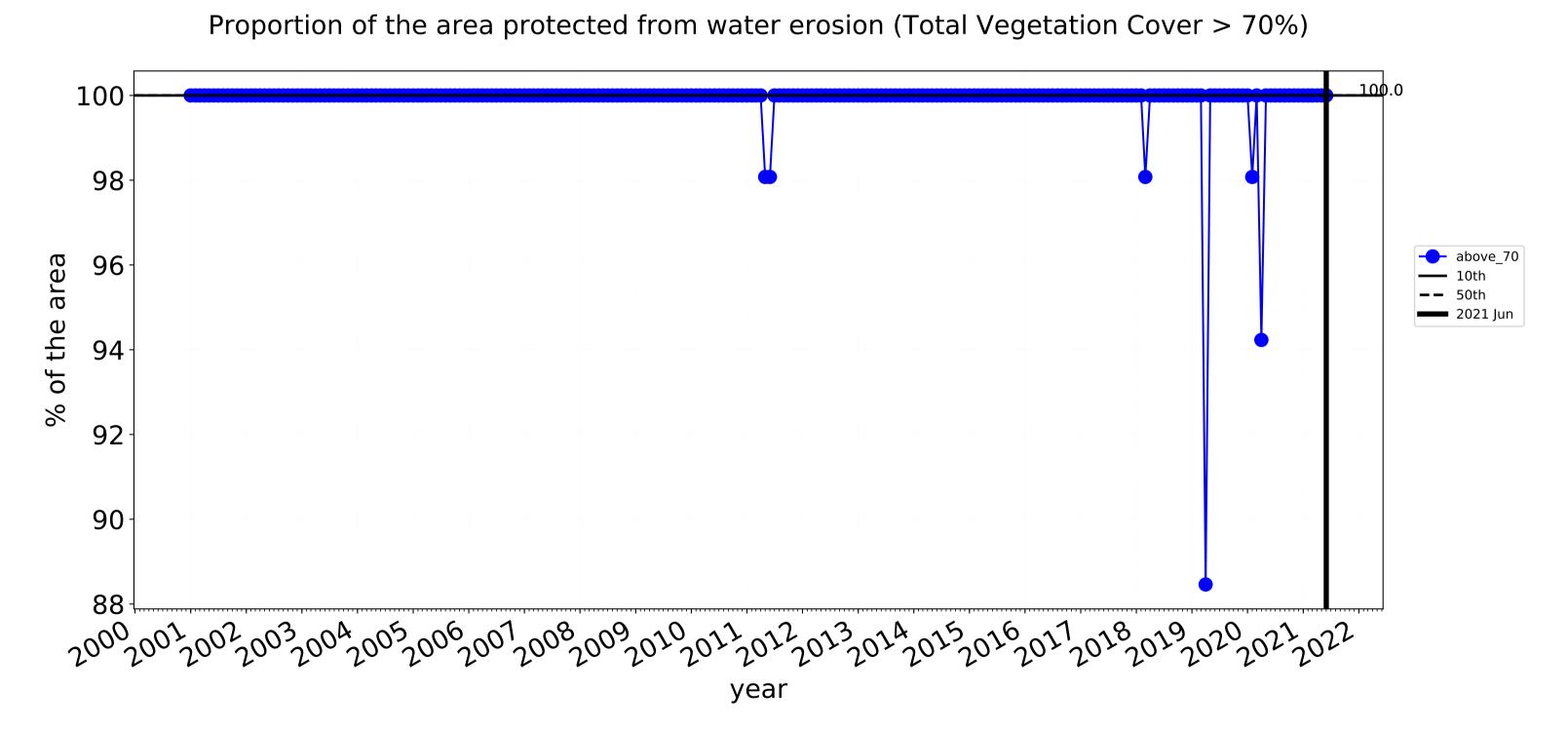


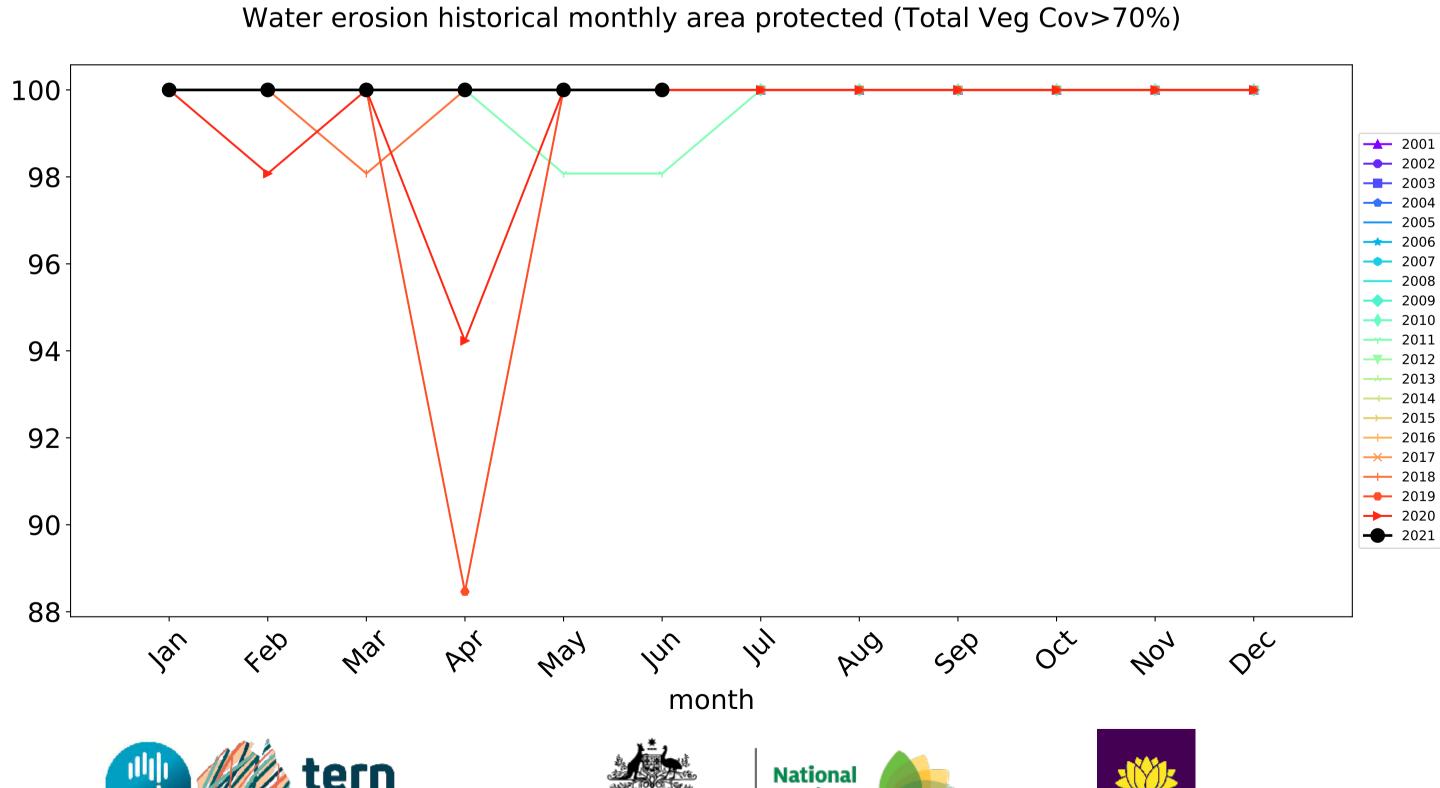




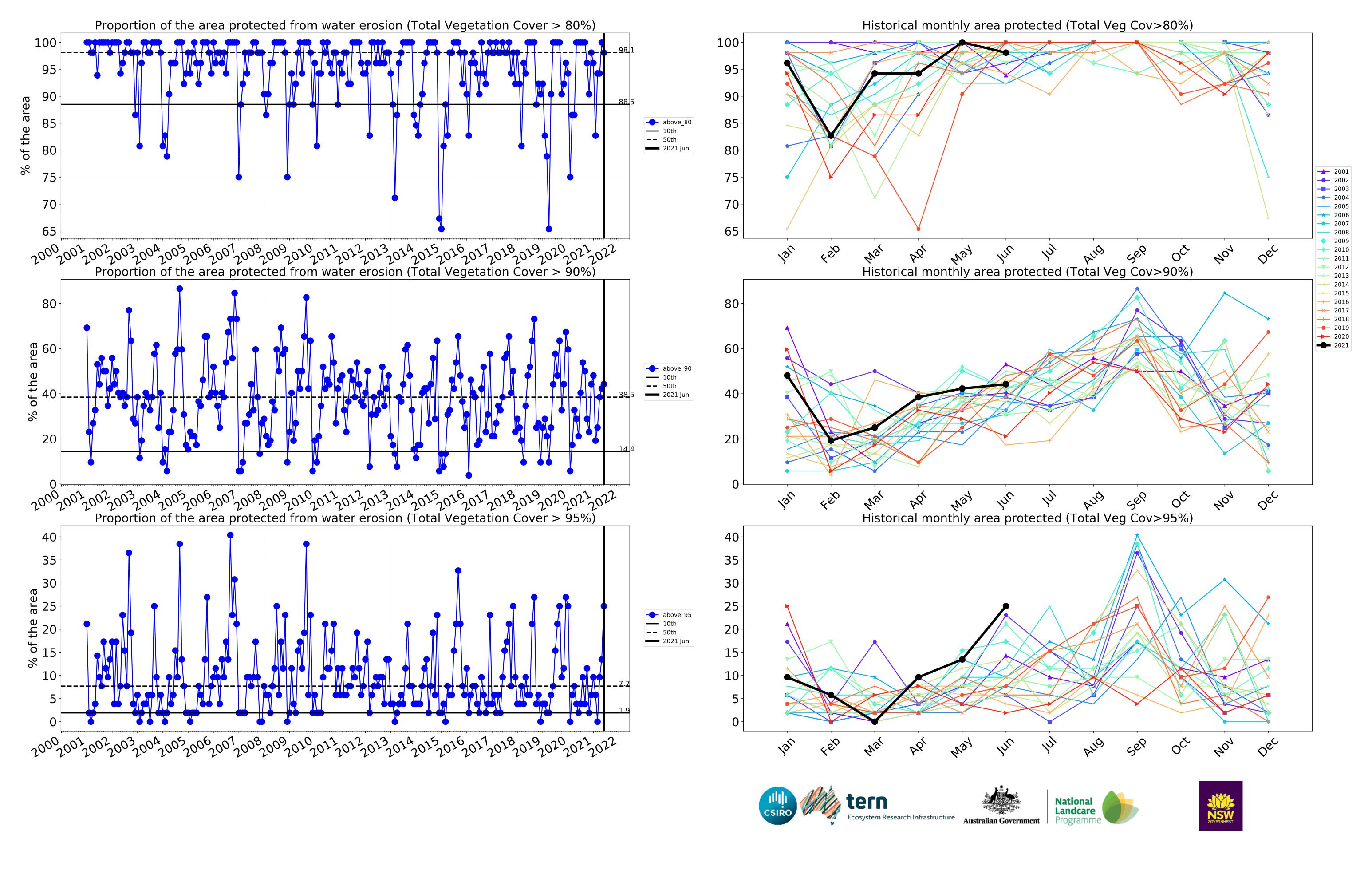








Landcare Programme



Production native forests and plantation forests

Land use and forest cover Land Use and Forests of Australia (2018) 1 Production native forests and plantation forests Catchment Scale Land

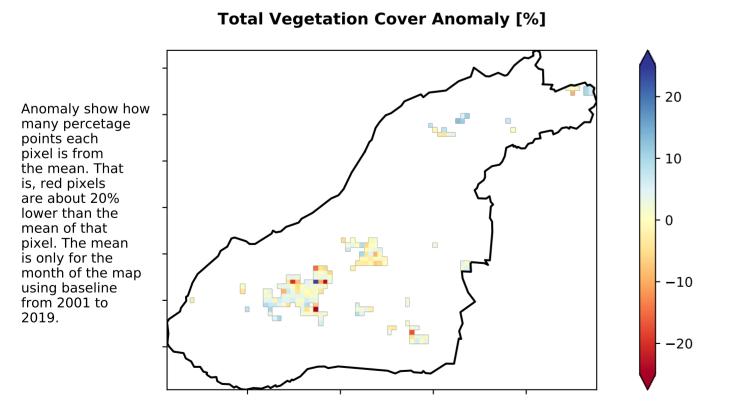
Total Vegetation Cover [%]

Catchment Scale

Derived from

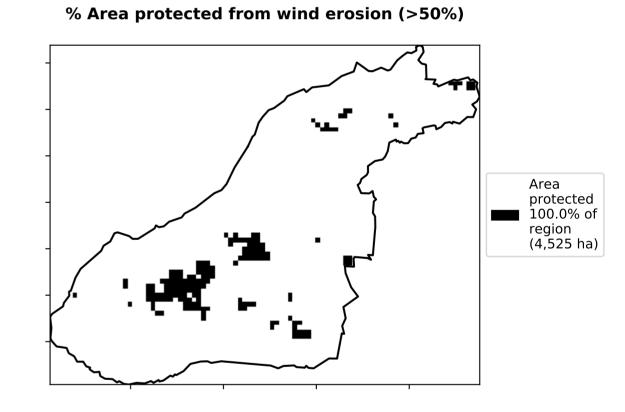
Use of Australia (2018) and Forests of Australia (2018)

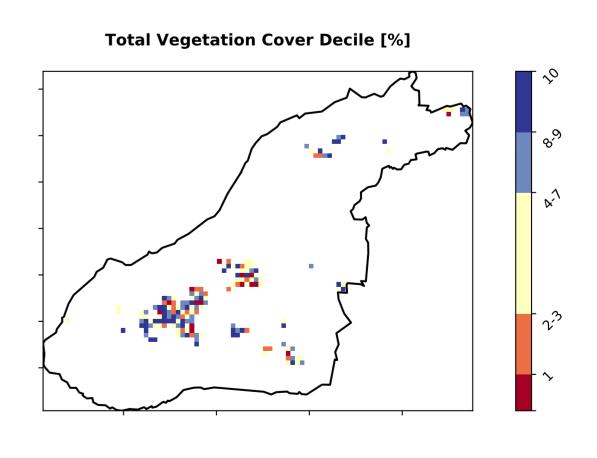
% Area protected from water erosion (>70%) Area not protected 1.1% of region (49 ha) Area protected 98.9% of region (4,475 ha)



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.

Proportion of vegetation cover class in area 98.9% 100 80 20 0.0% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**





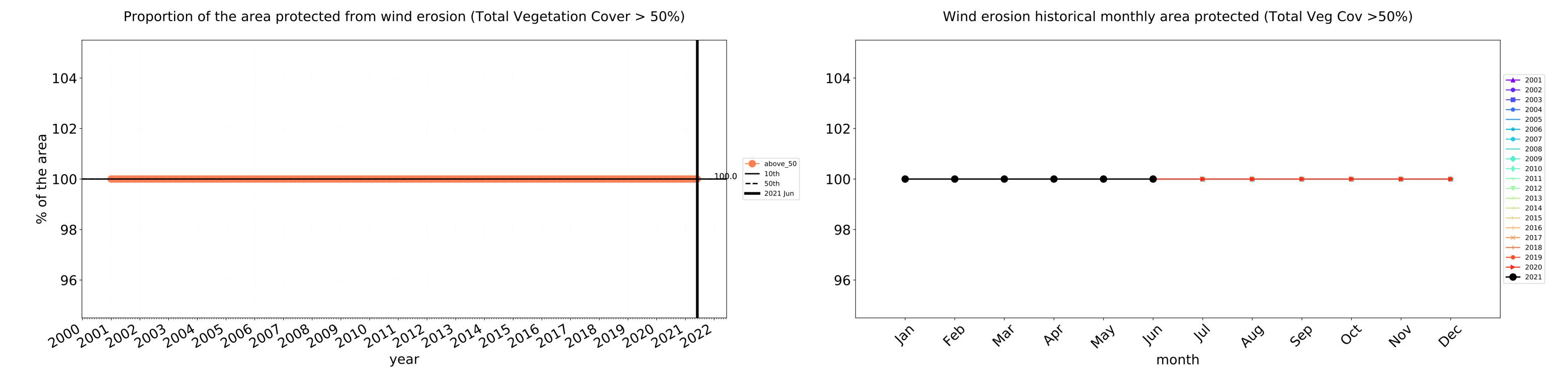


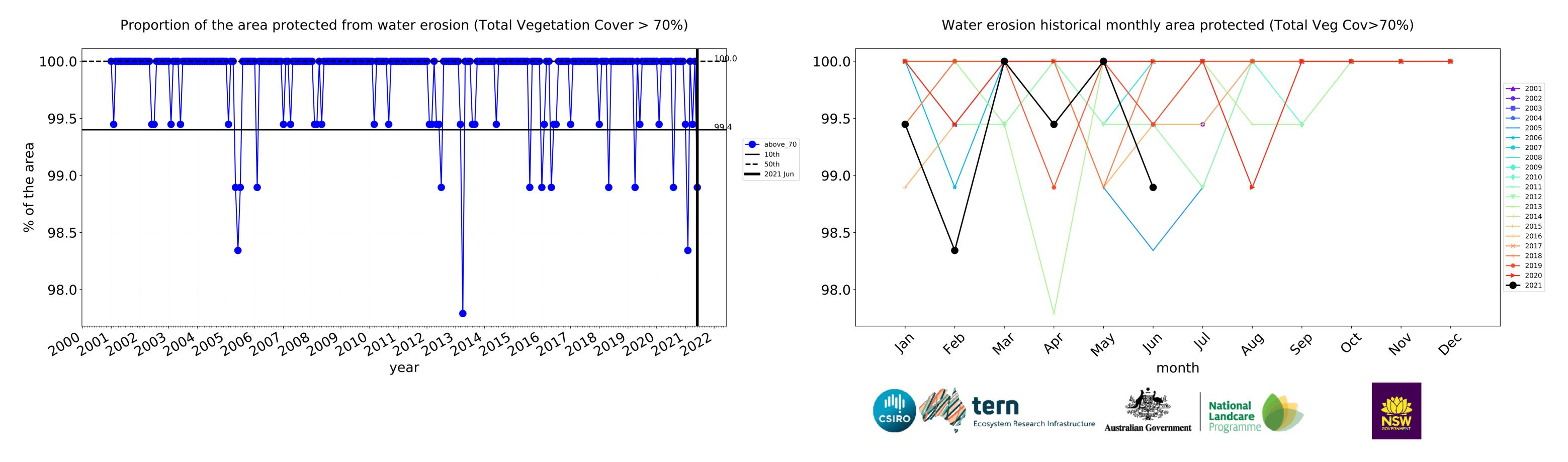


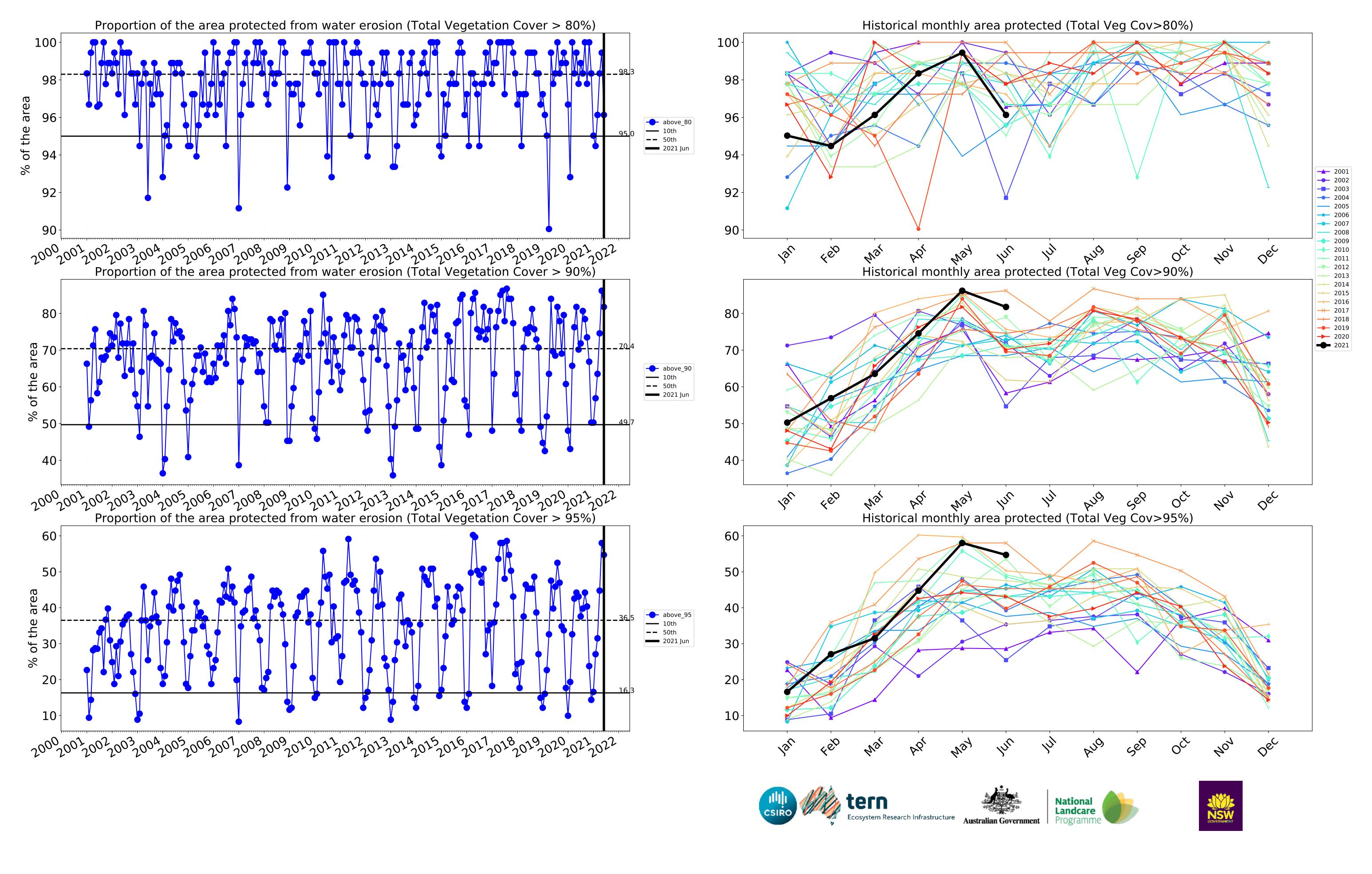




Production native forests and plantation forests timeseries







Yankalilla_(DC) (73,150 ha and no data 1,987 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	73,150	99.8% 73,000	99.2% 72,575	97.1% 71,000	90.5% 66,200	57.5% 42,025	29.7% 21,725
Conservation and natural environments	9,275	99.5% 9,225	98.7% 9,150	96.8% 8,975	91.6% 8,500	67.7% 6,275	37.5% 3,475
Conservation and natural environments non forest	1,325	98.1% 1,300	96.2% 1,275	90.6% 1,200	81.1% 1,075	58.5% 775	37.7% 500
Conservation and natural environments Woodland forest	5,275	99.5% 5,250	98.6% 5,200	97.2% 5,125	91.9% 4,850	63.5% 3,350	34.1% 1,800
Conservation and natural environments Forest (non woodland)	2,675	100.0% 2,675	100.0% 2,675	99.1% 2,650	96.3% 2,575	80.4% 2,150	43.9% 1,175
Agriculture	57,100	99.8% 57,000	99.4% 56,750	97.3% 55,550	90.5% 51,675	54.5% 31,125	26.8% 15,325
Grazing	50,300	99.9% 50,225	99.4% 49,975	97.2% 48,900	90.6% 45,575	55.4% 27,875	27.6% 13,900
Grazing non forest	49,825	99.8% 49,750	99.3% 49,500	97.2% 48,425	90.5% 45,100	55.2% 27,525	27.6% 13,750
Cropping	5,500	99.5% 5,475	99.5% 5,475	97.3% 5,350	87.7% 4,825	48.6% 2,675	20.0% 1,100
Irrigation	1,300	100.0% 1,300	100.0% 1,300	100.0% 1,300	98.1% 1,275	44.2% 575	25.0% 325
Production native forests and plantation forests	4,525	100.0% 4,525	100.0% 4,525	98.9% 4,475	96.1% 4,350	81.8% 3,700	54.7% 2,475







