Total vegetation cover soil protection Region:LGA Gympie_(R) 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.

Date: June 2021

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



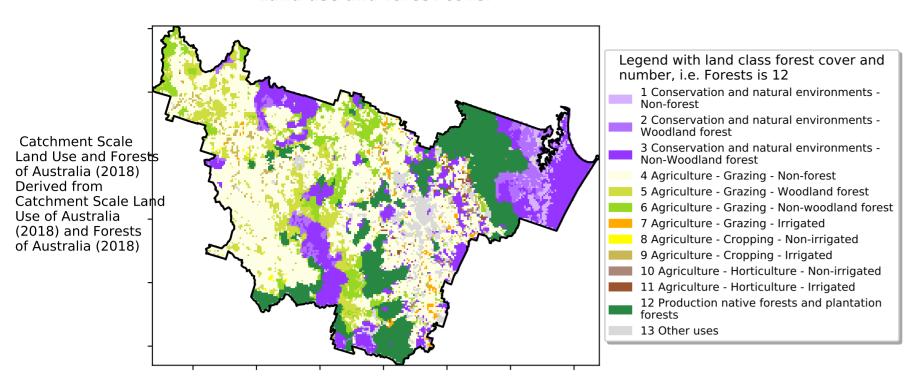


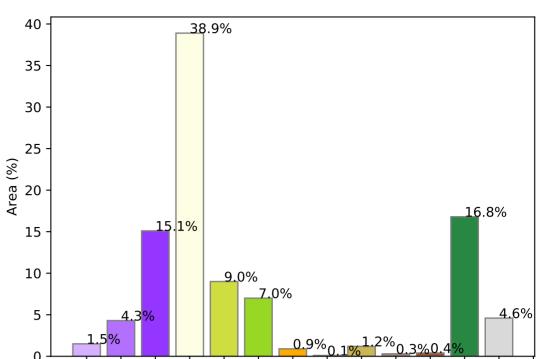




Vegetation Cover Jun 2021

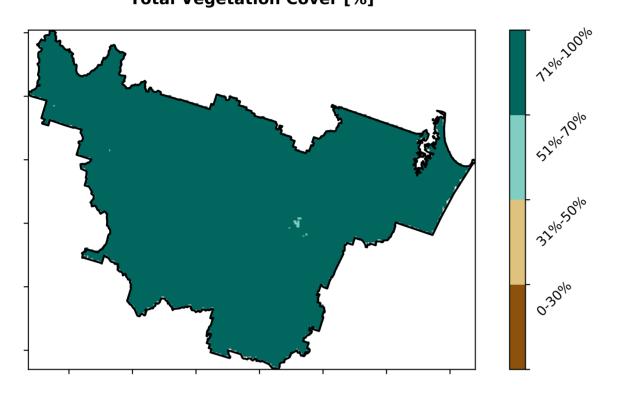
Land use and forest cover





Proportion of each land class in area

Total Vegetation Cover [%]



Proportion of vegetation cover class in area

7

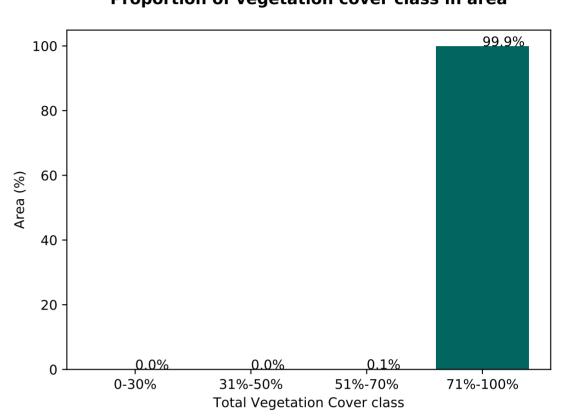
Land use class

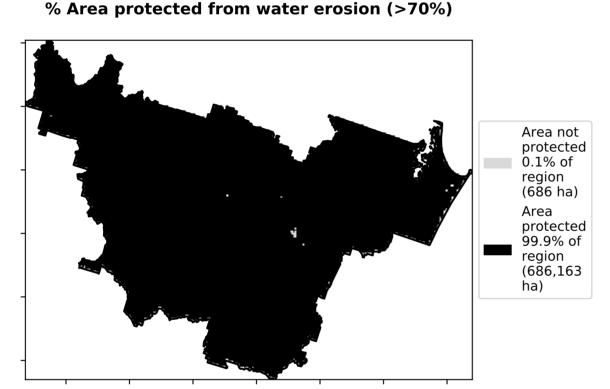
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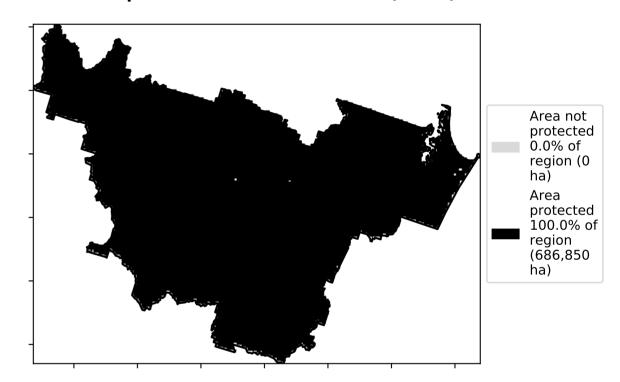
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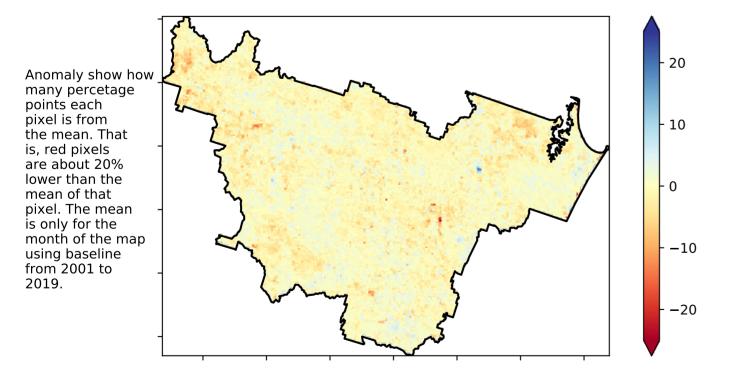




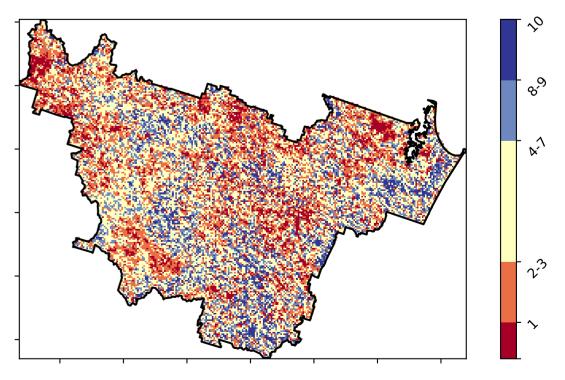
% Area protected from wind erosion (>50%)



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.

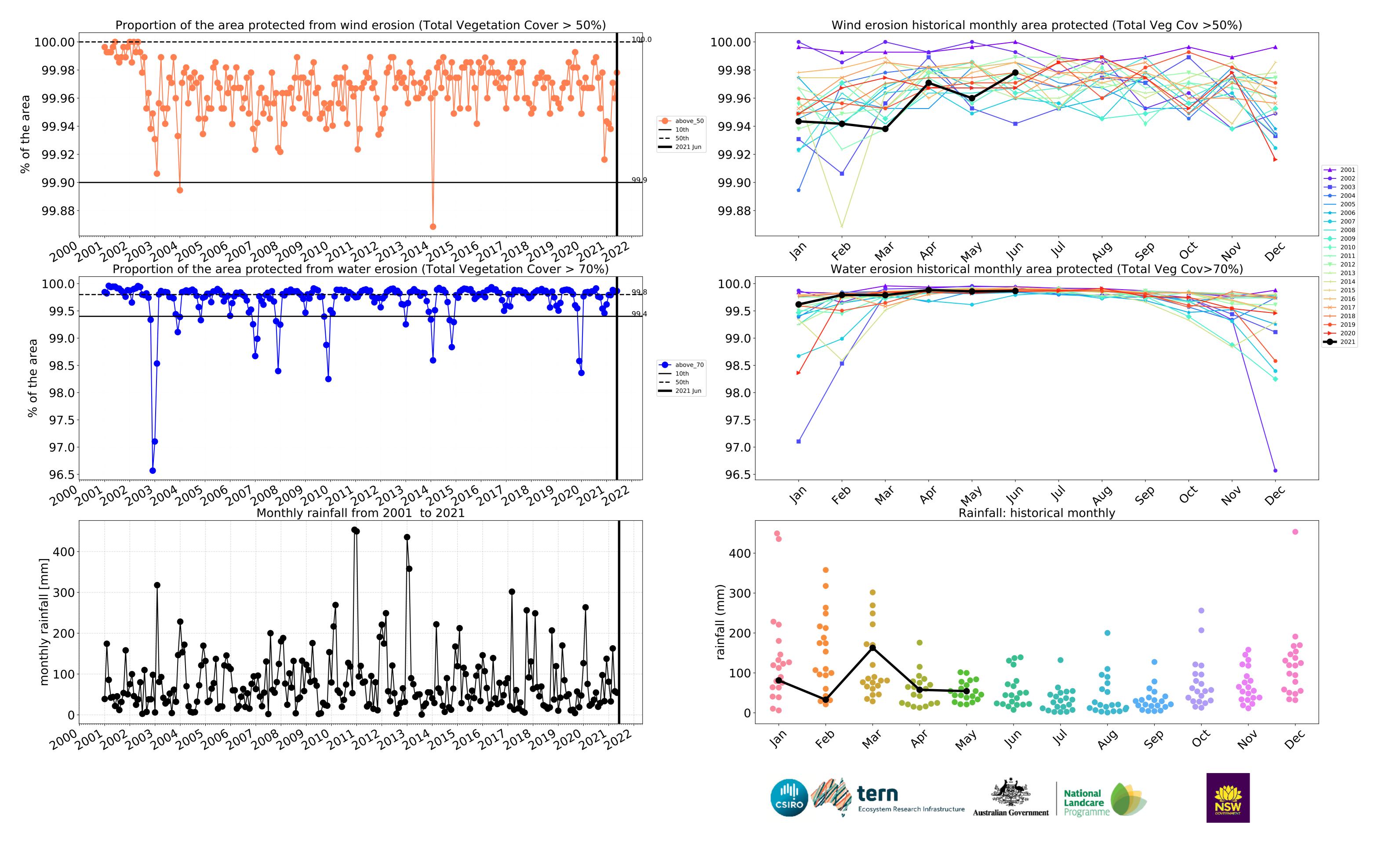


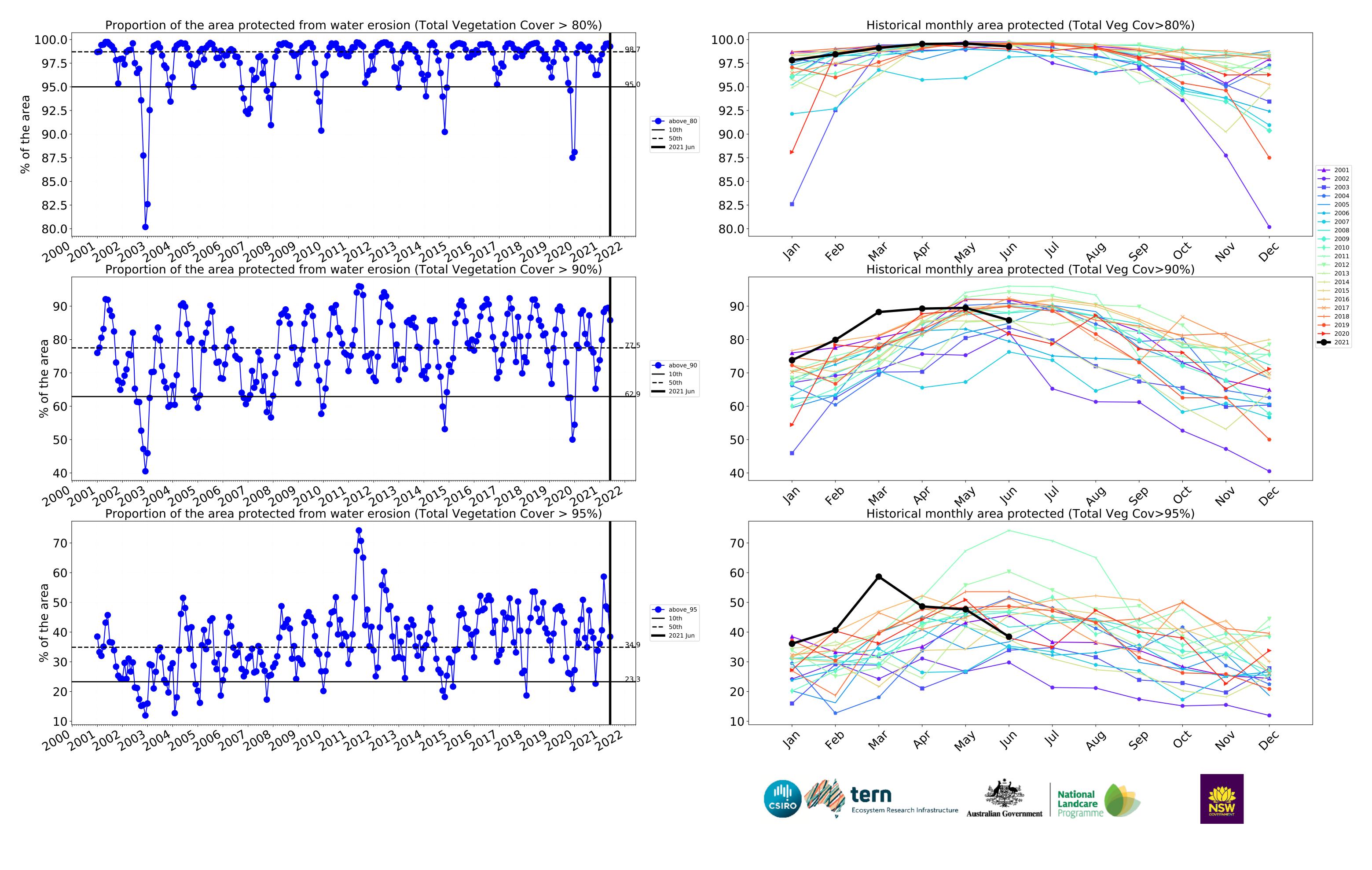




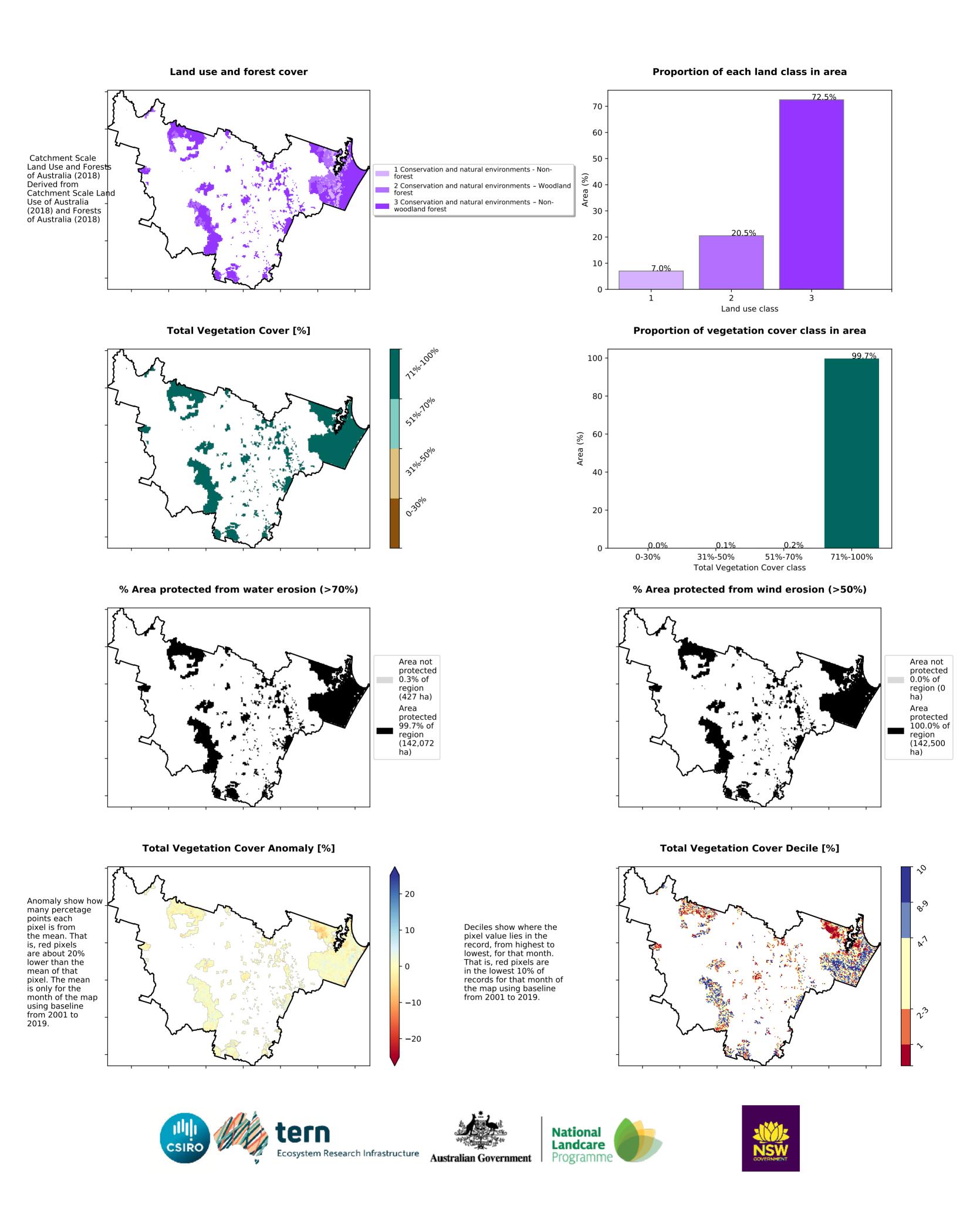




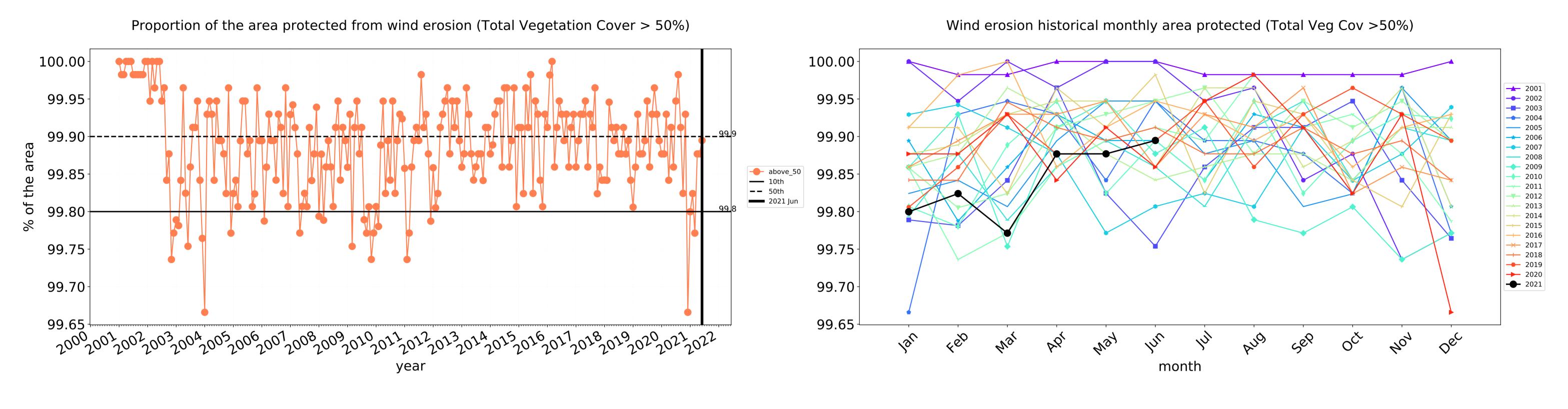


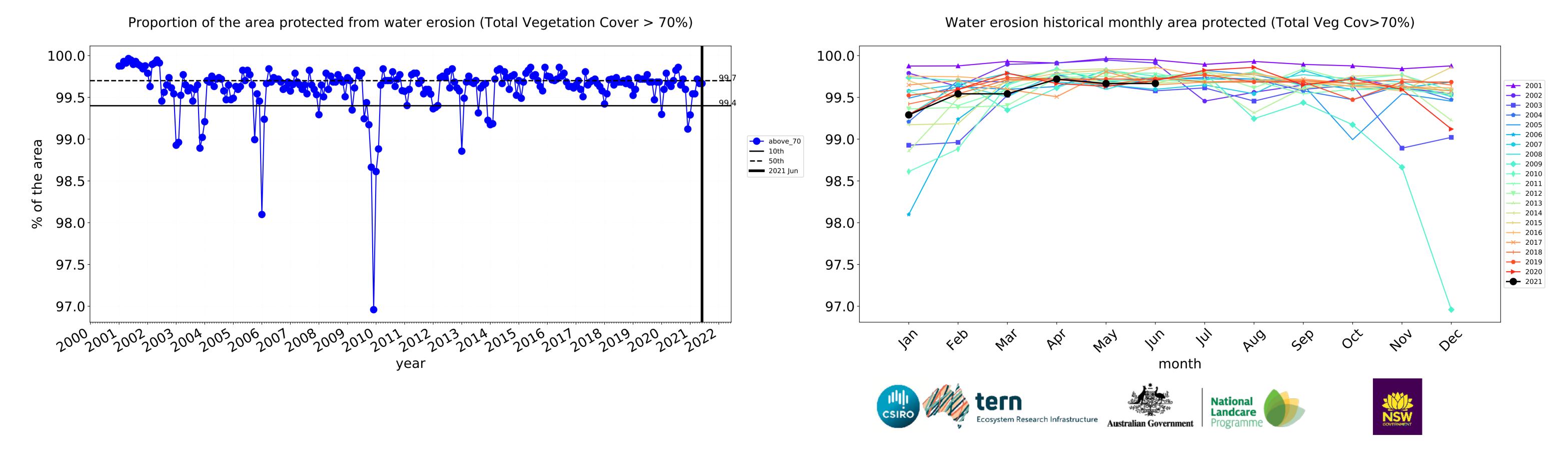


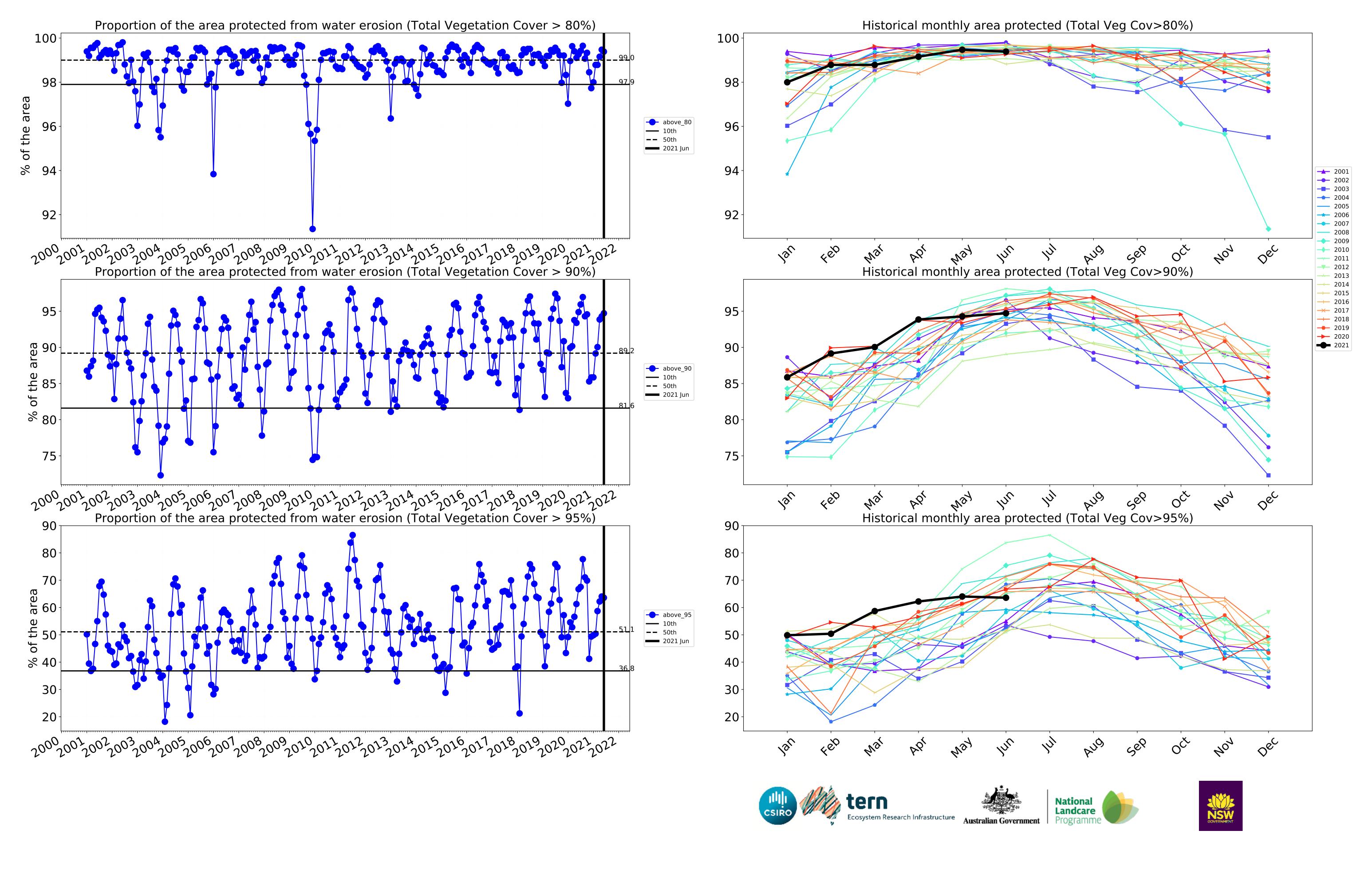
Conservation and natural environments



Conservation and natural environments timeseries

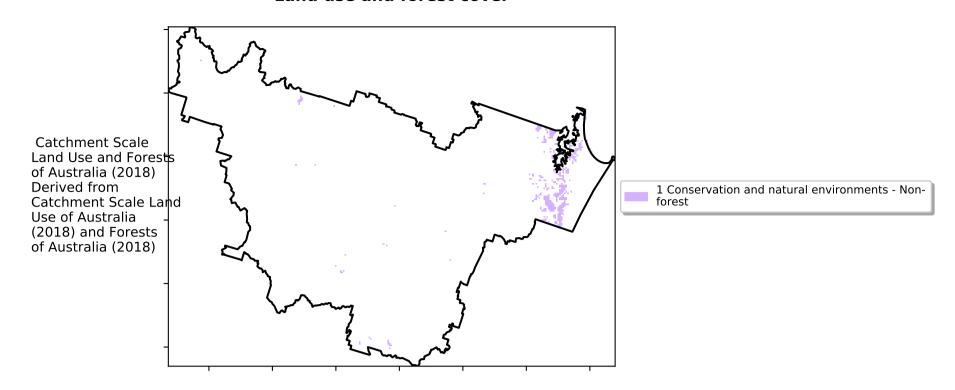




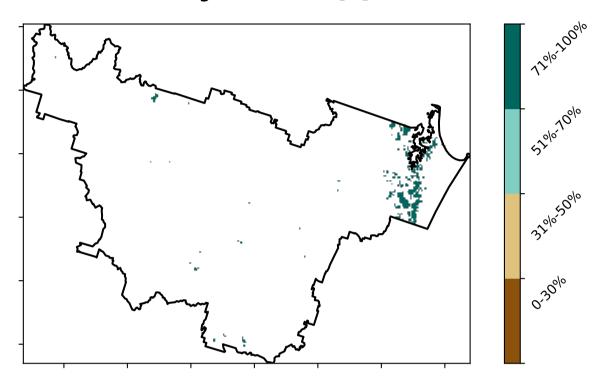


Conservation and natural environments non forest

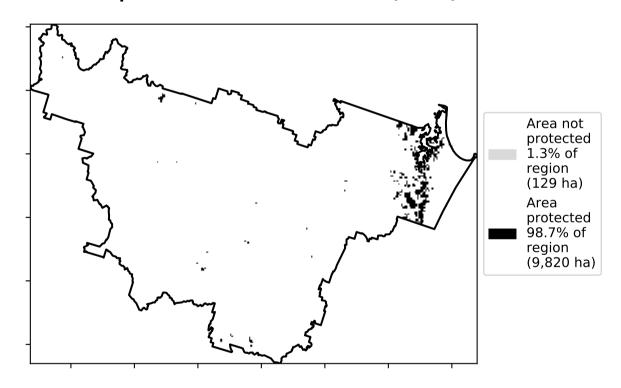
Land use and forest cover



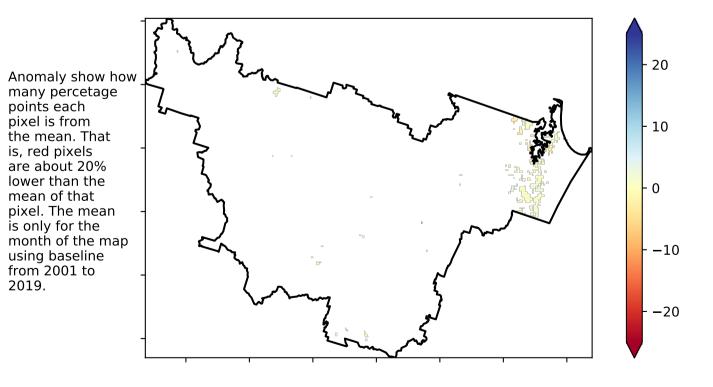
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

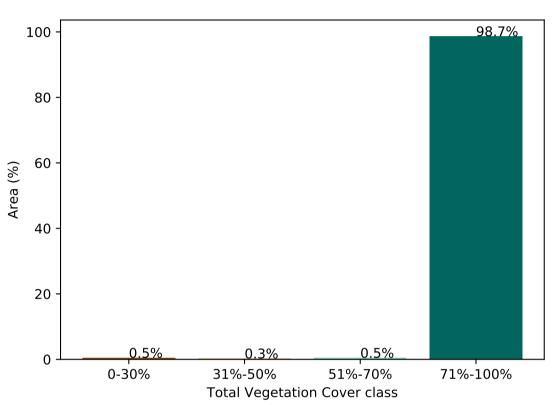


Total Vegetation Cover Anomaly [%]

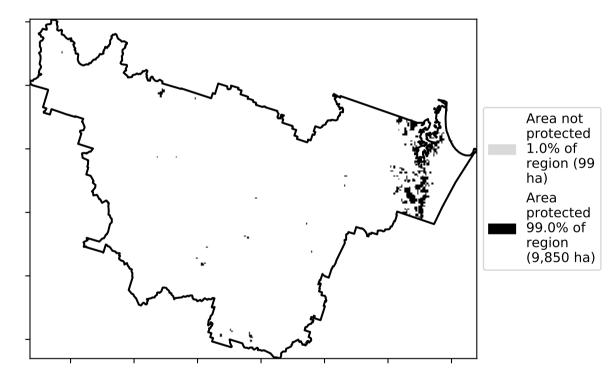


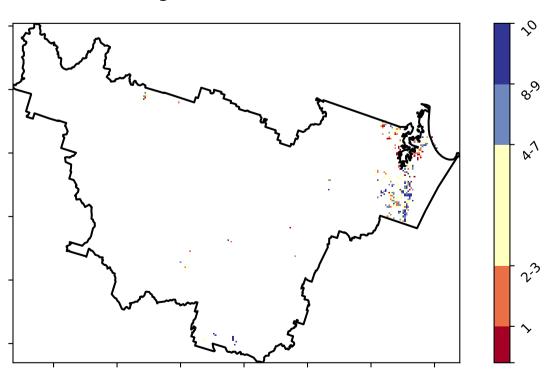
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





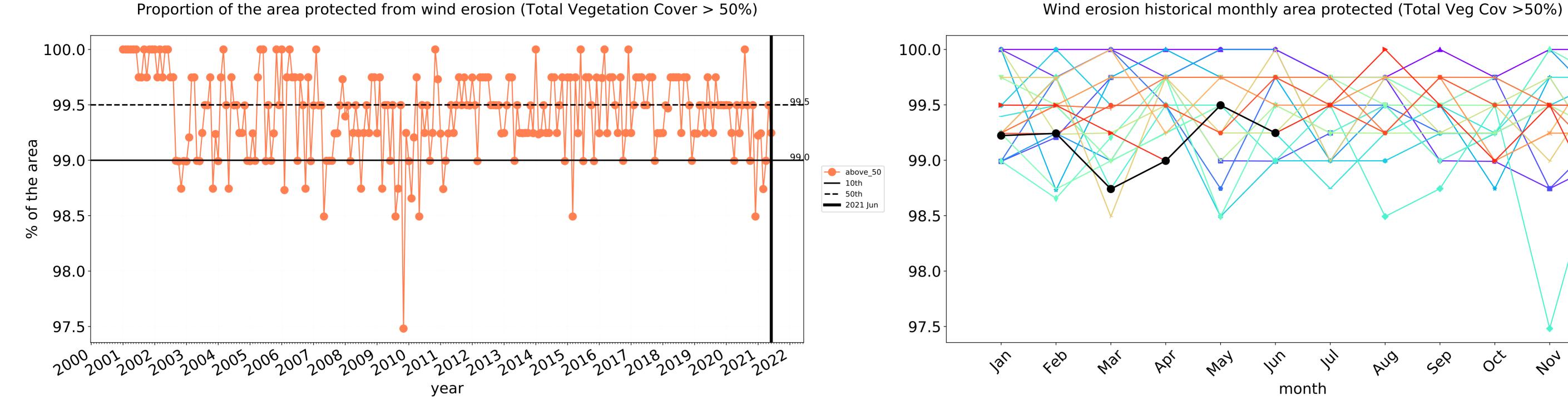


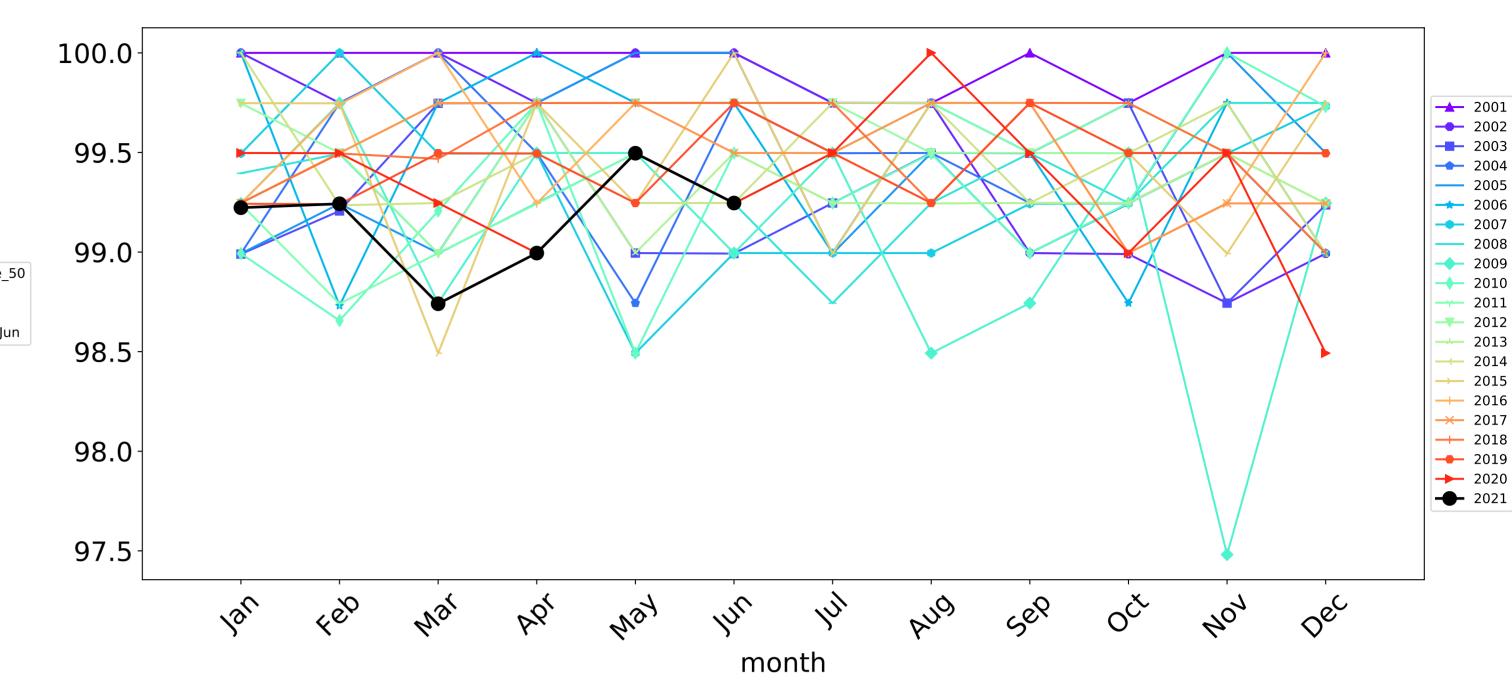


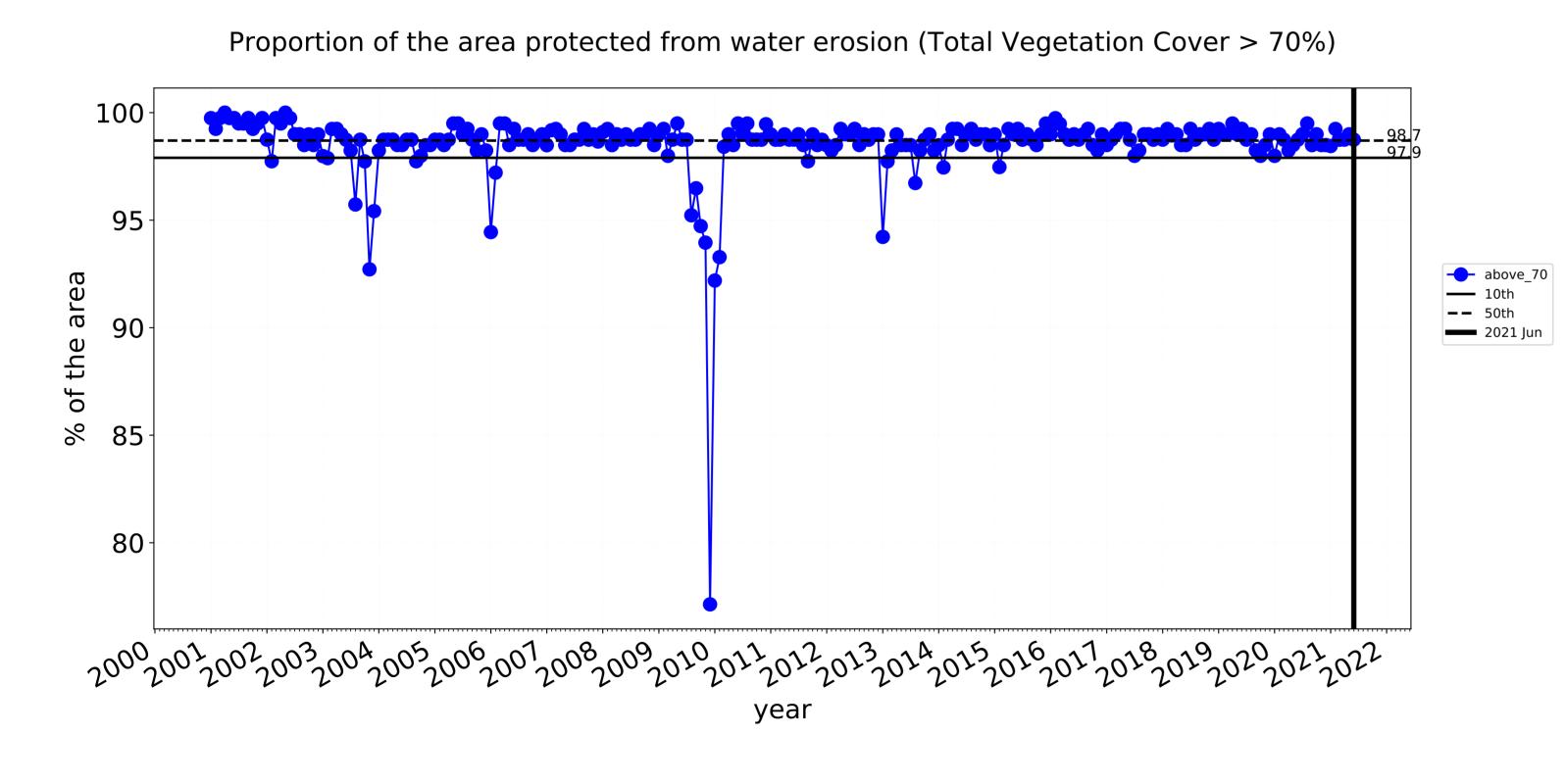


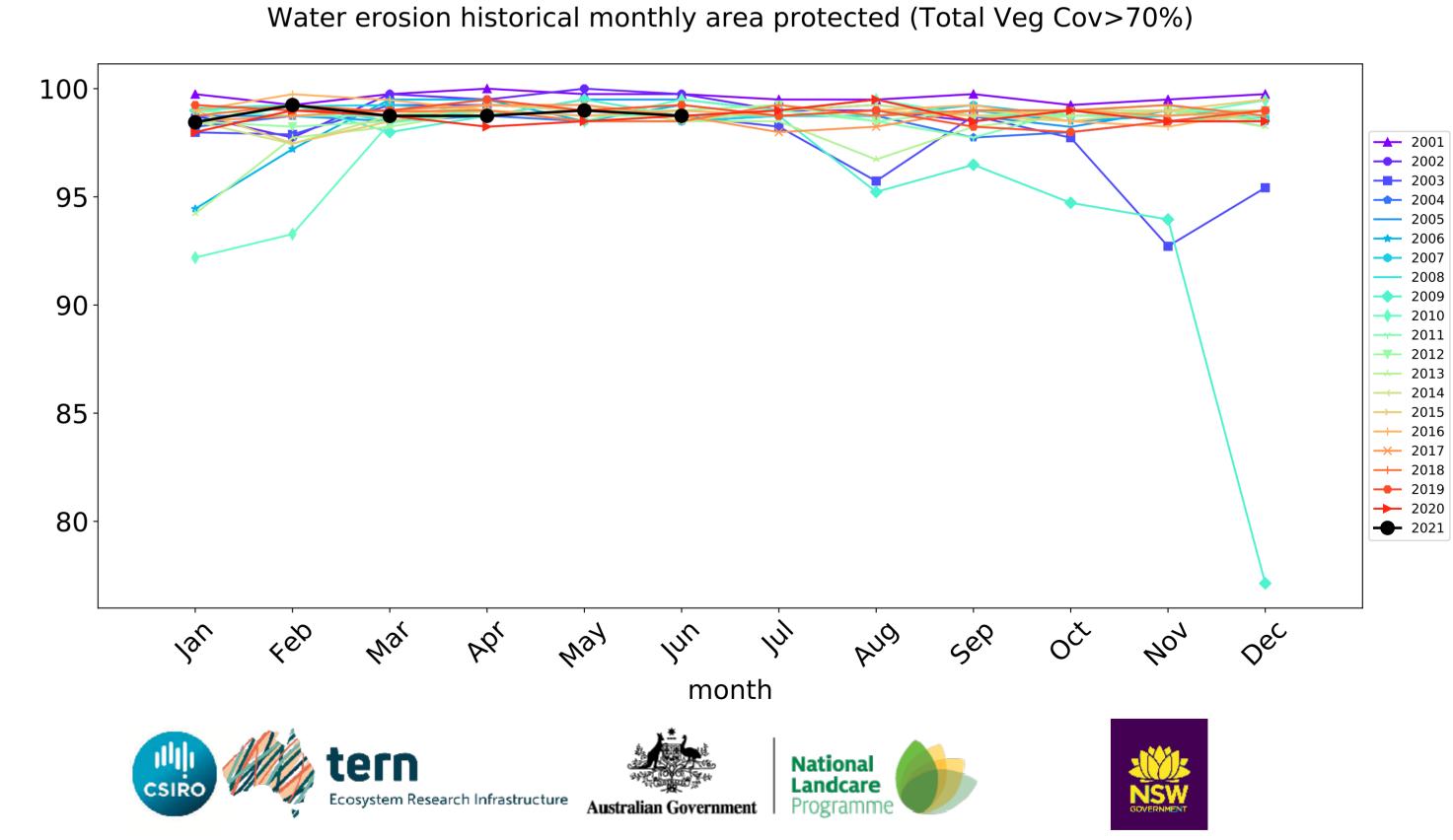


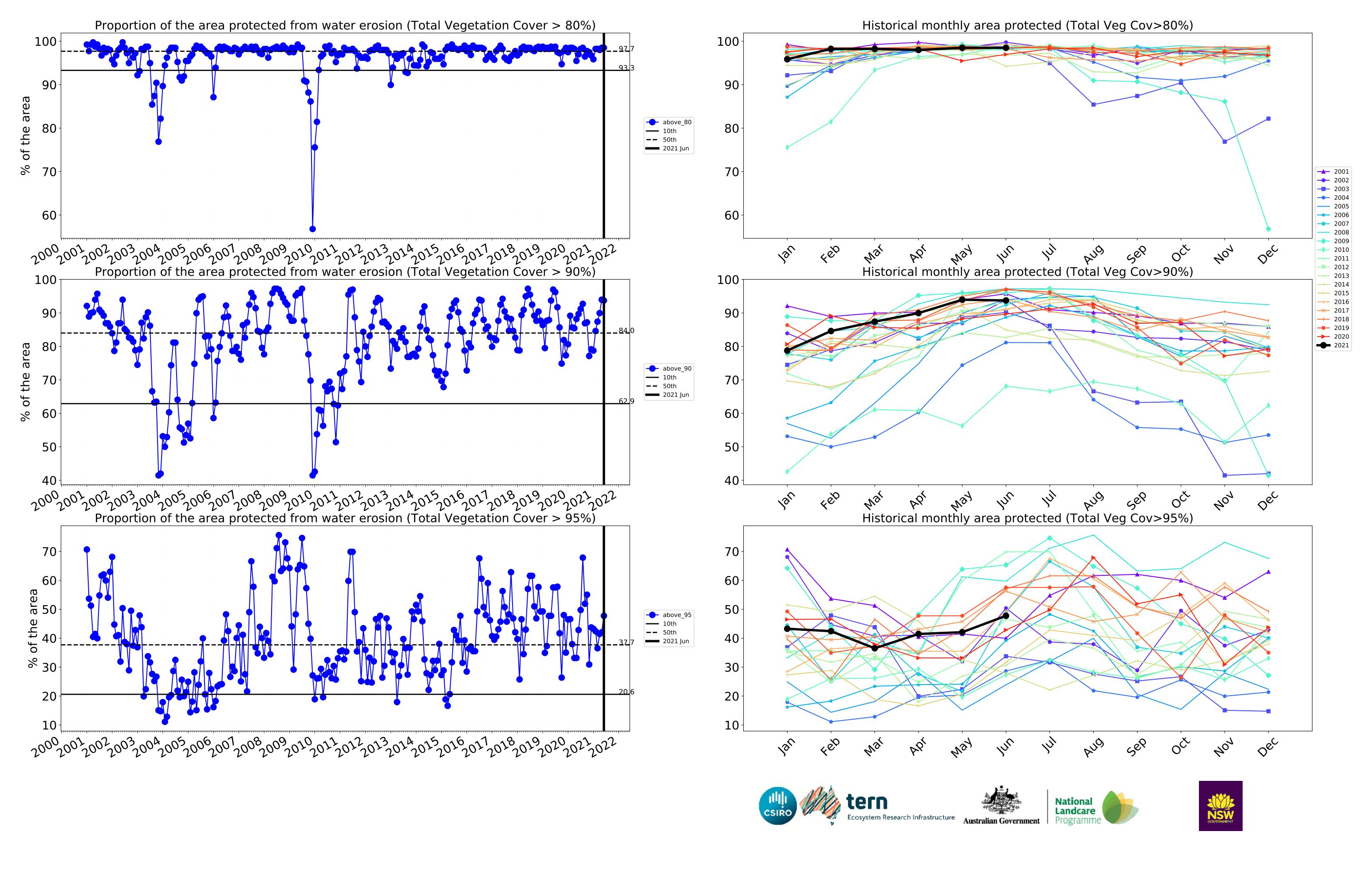
Conservation and natural environments non forest timeseries











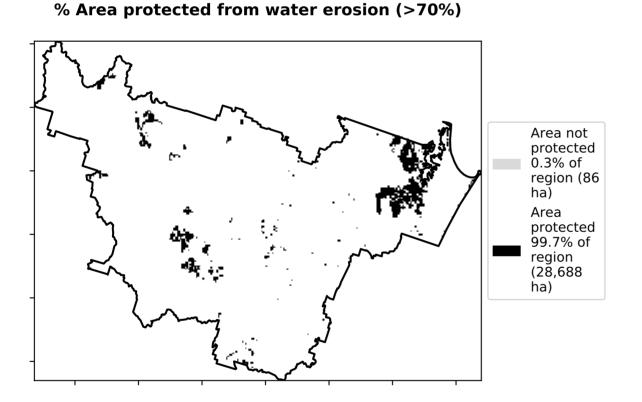
Conservation and natural environments Woodland forest

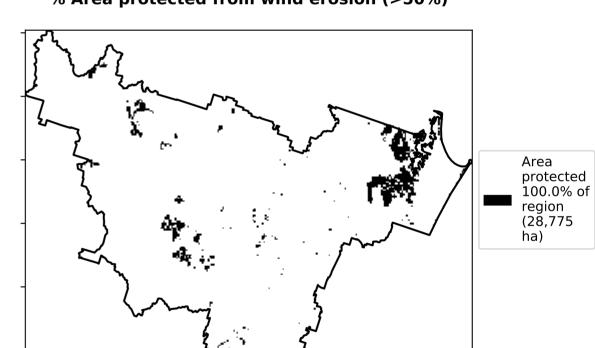
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Woodland Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

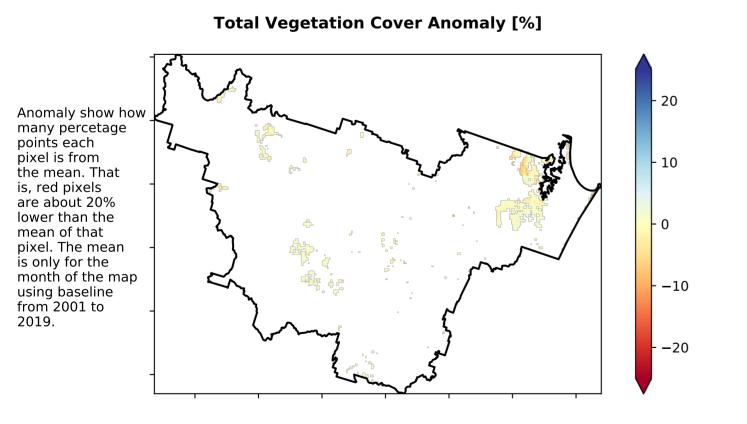
Total Vegetation Cover [%]

99.7% 100 80 Area (%) 60 40 20 -0.0% 0.3% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class** % Area protected from wind erosion (>50%)

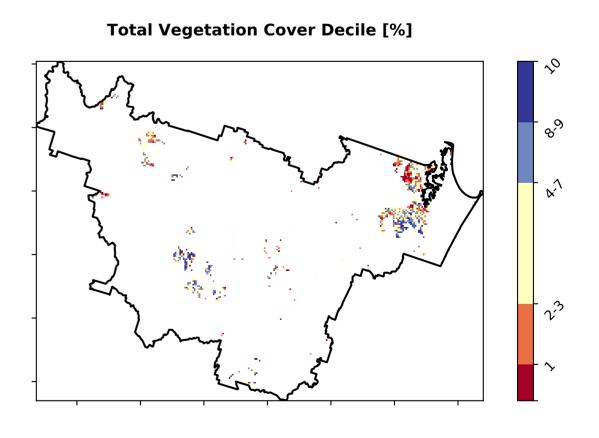
Proportion of vegetation cover class in area







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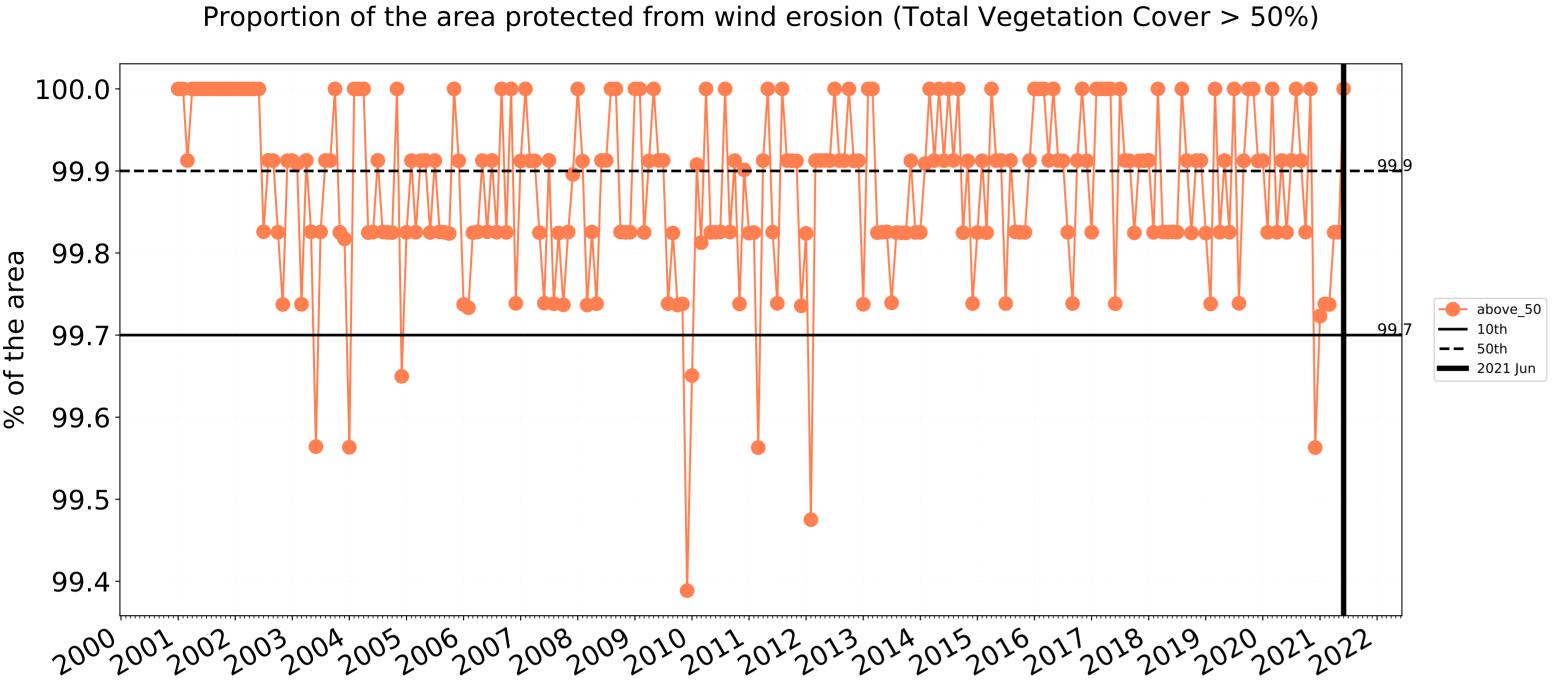


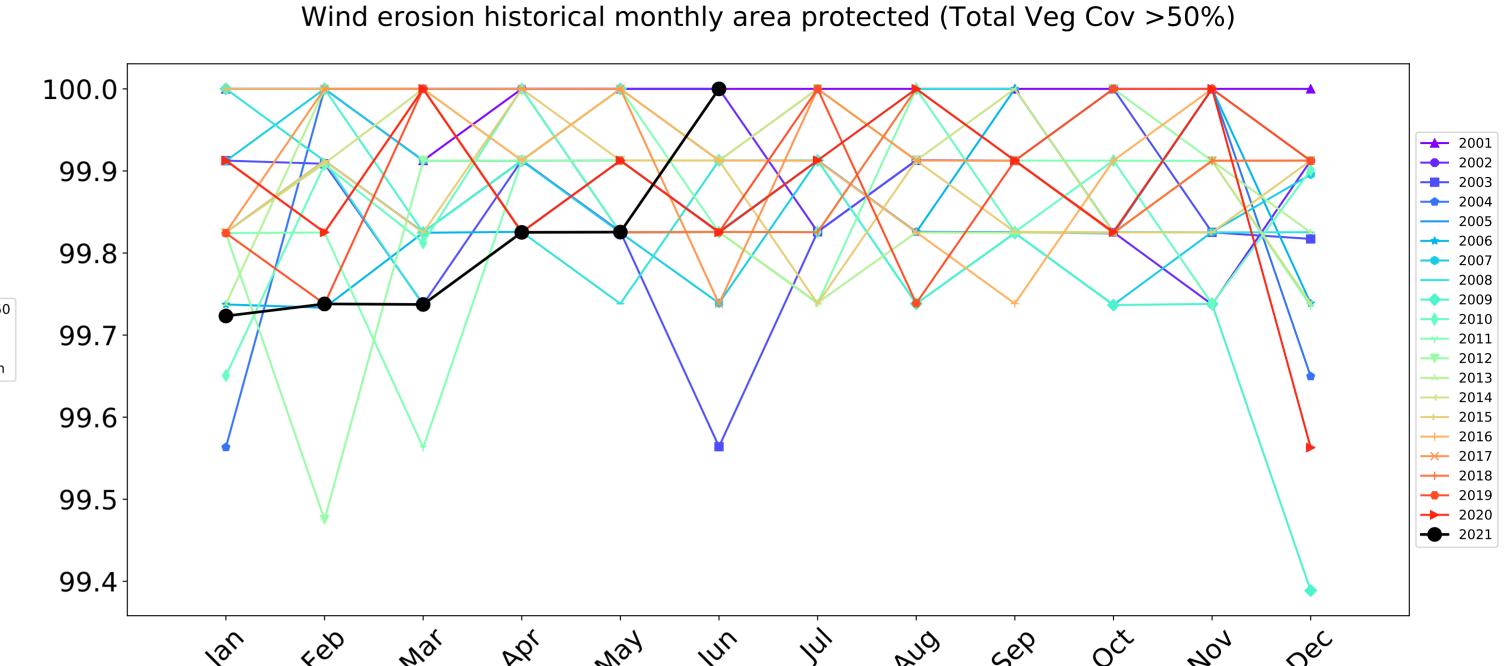




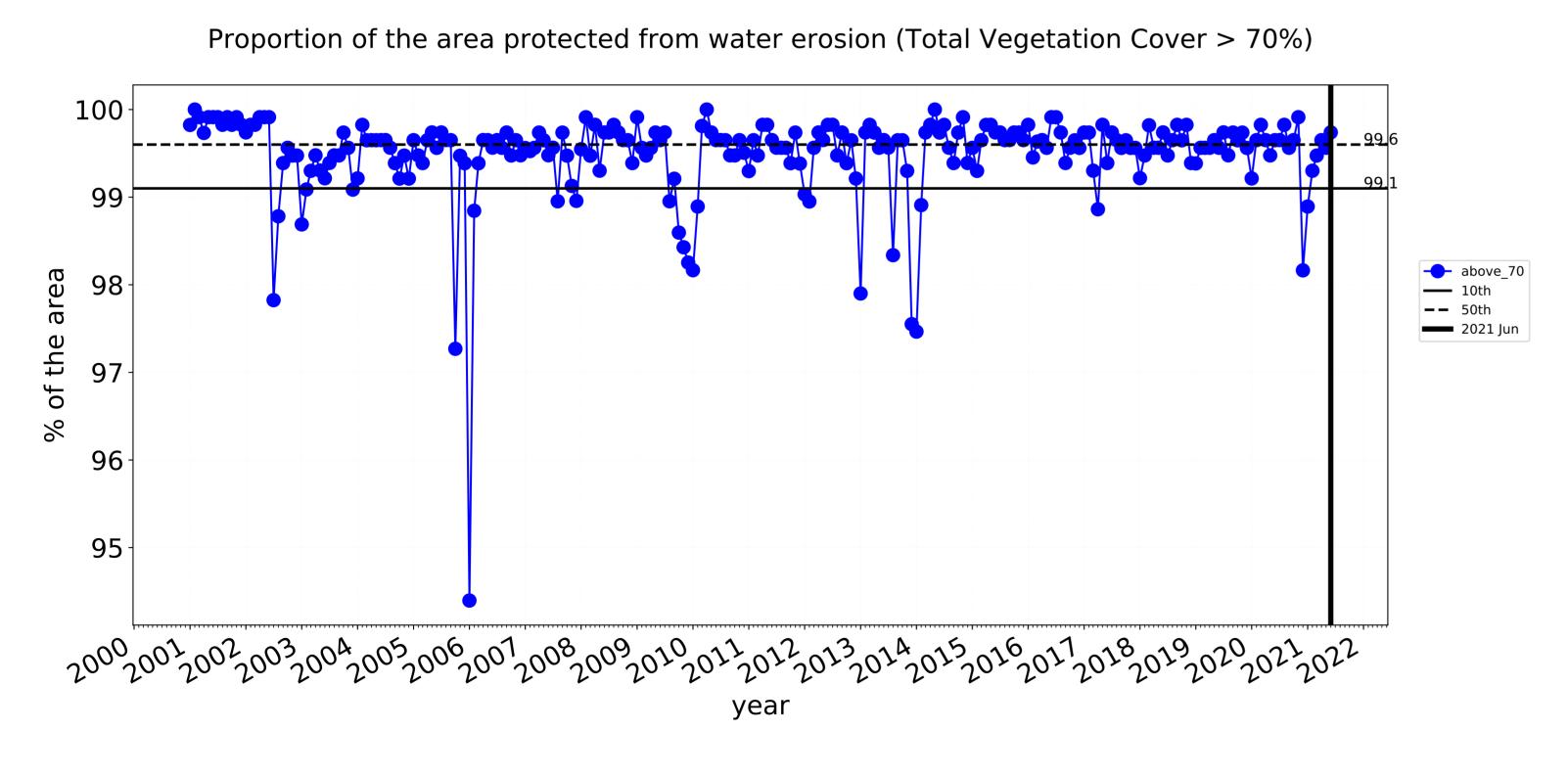


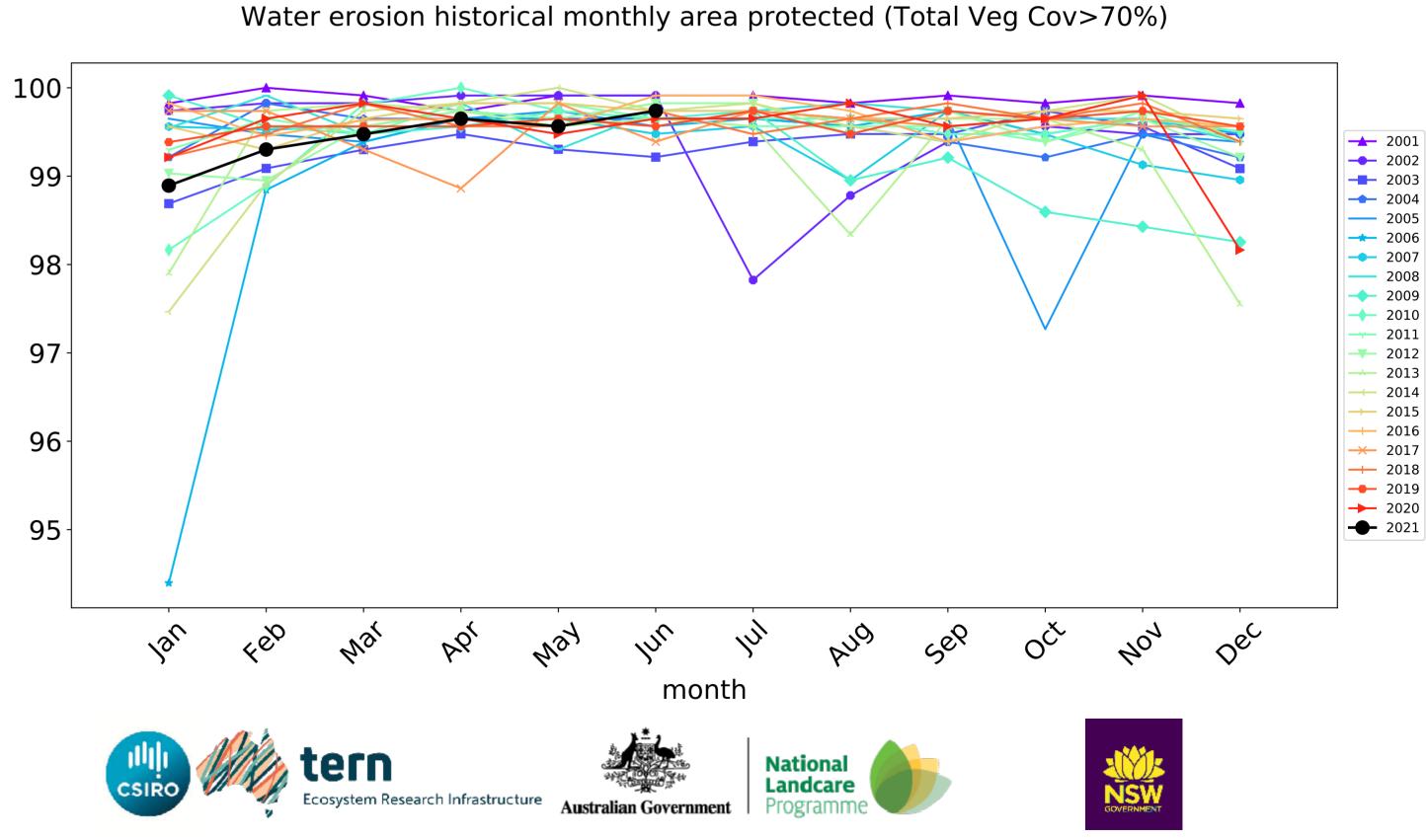
Conservation and natural environments Woodland forest timeseries

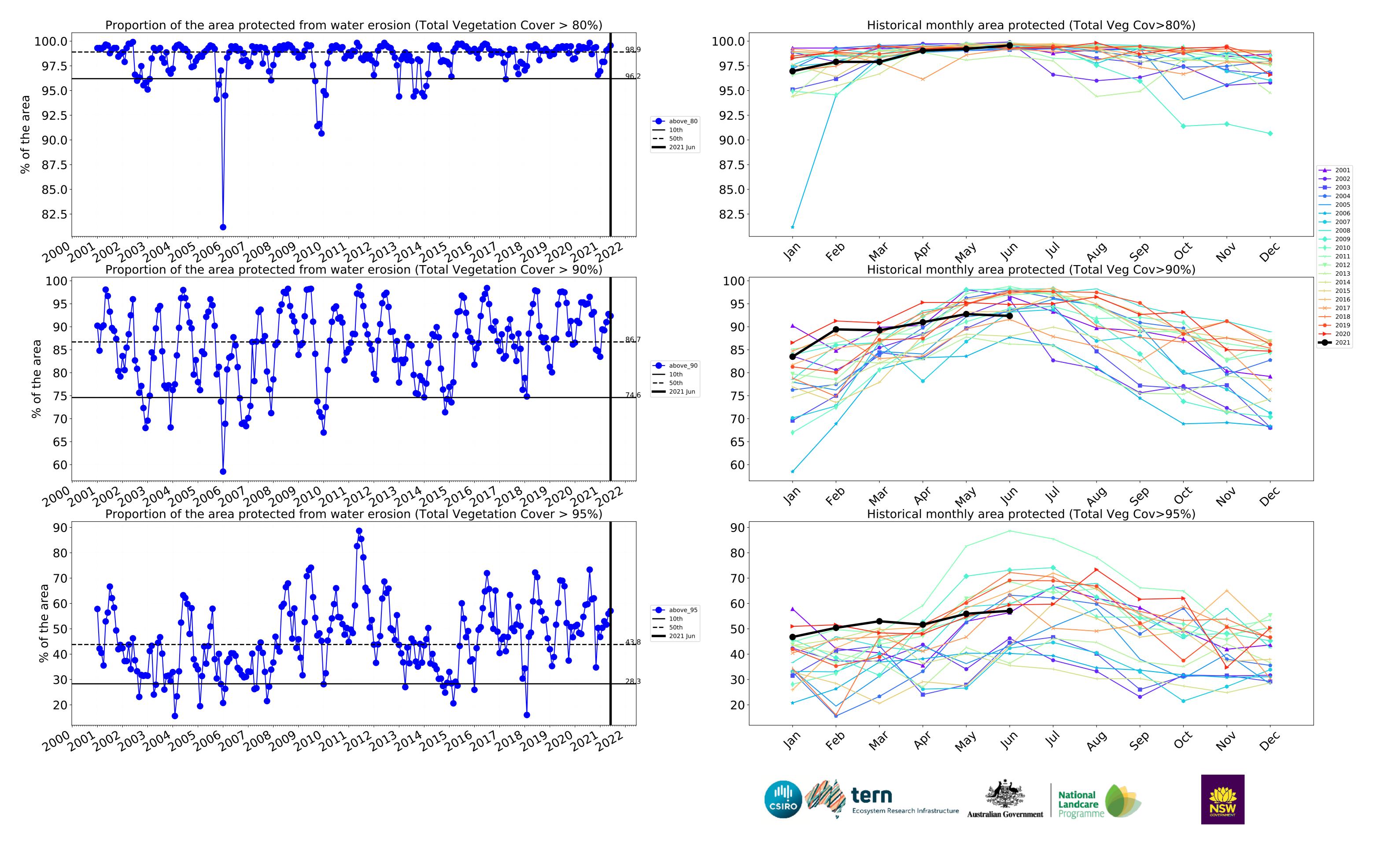




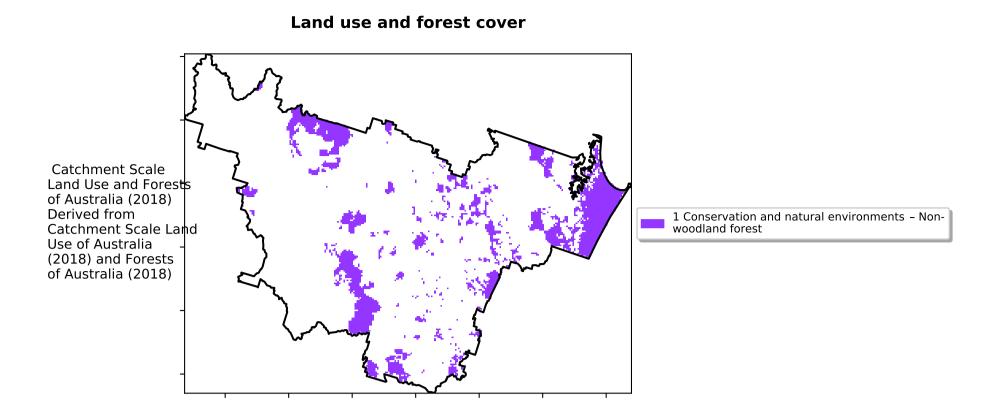
month



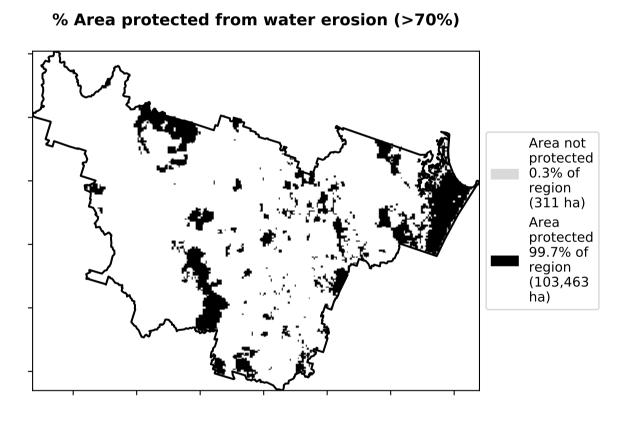


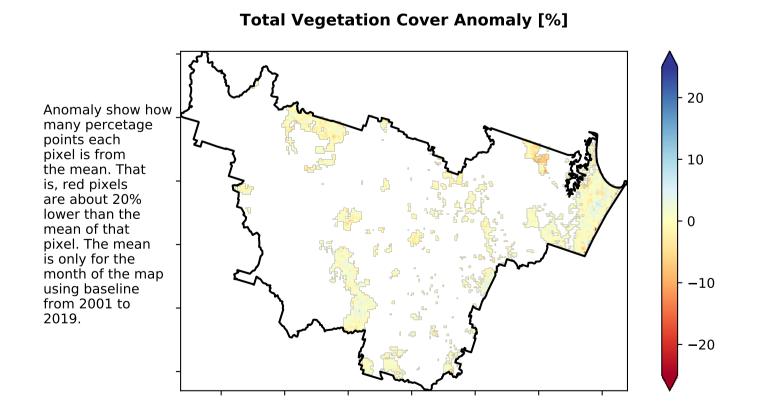


Conservation and natural environments Forest (non woodland)

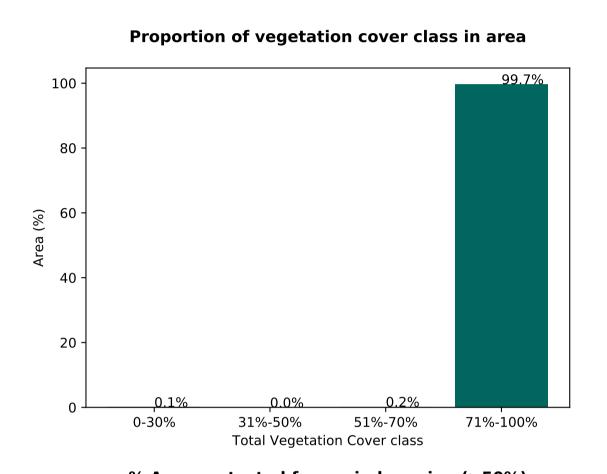


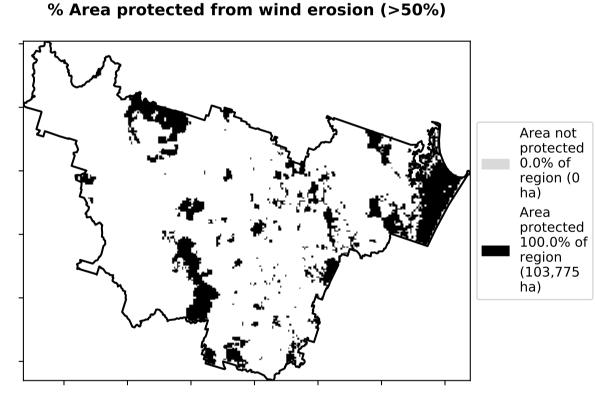
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]

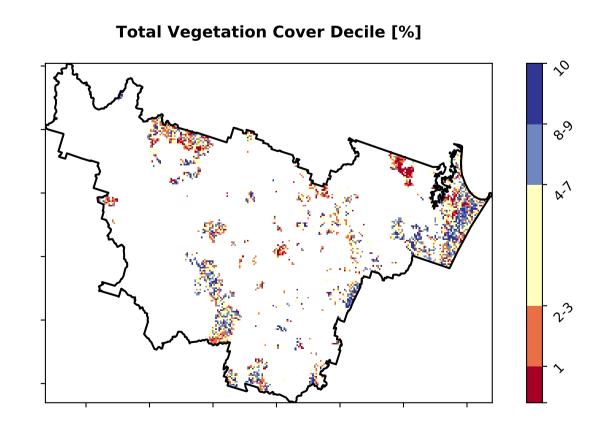




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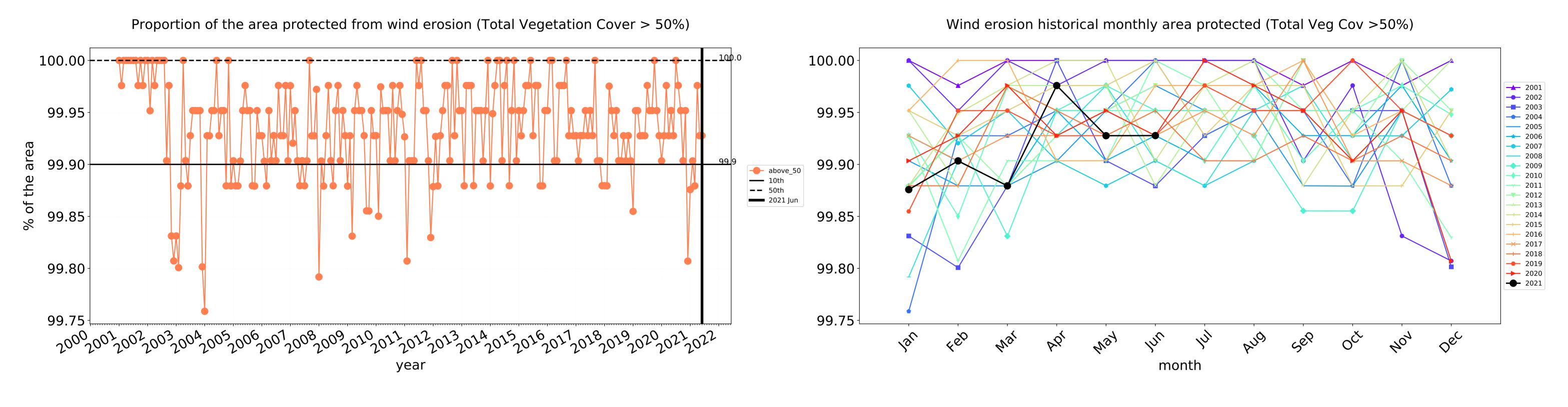


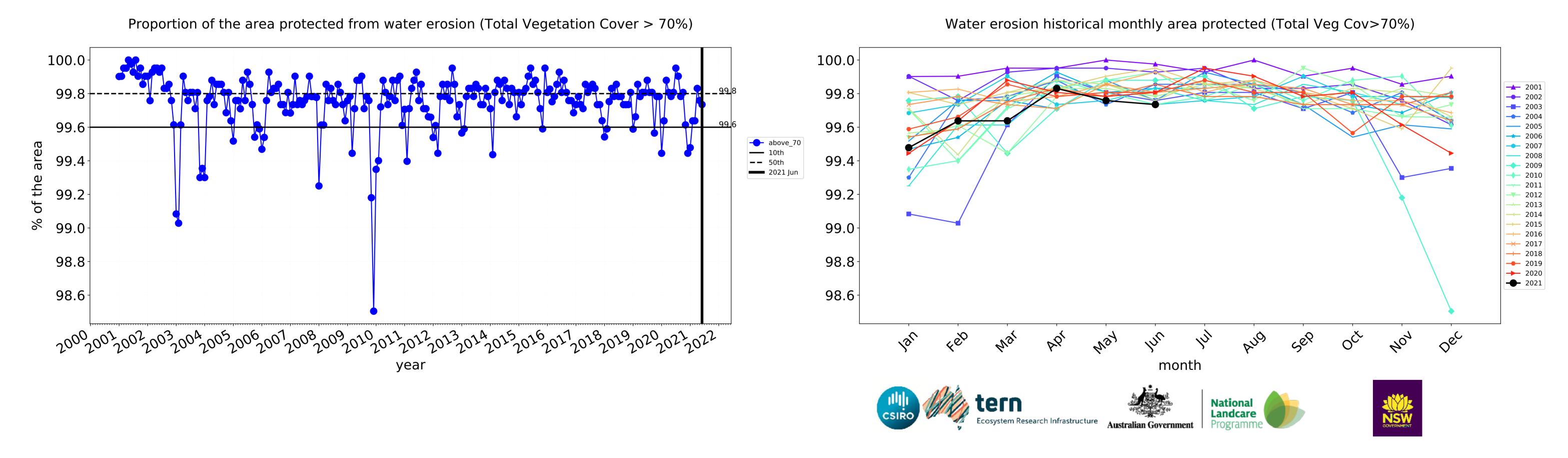


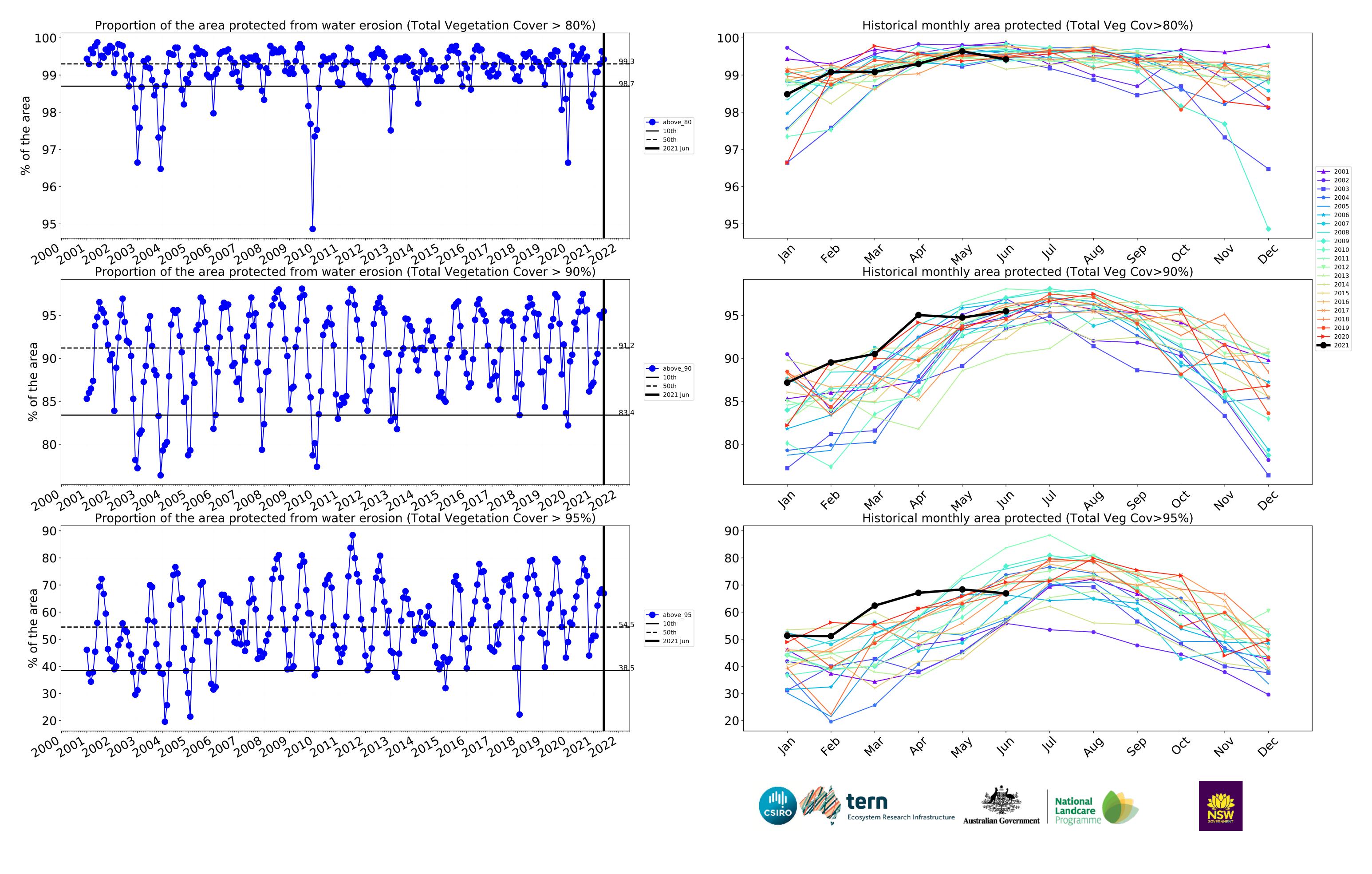




Conservation and natural environments Forest (non woodland) timeseries







Agriculture

70

Land use and forest cover 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest 4 Agriculture - Grazing - Irrigated 5 Agriculture - Cropping - Non-irrigated 6 Agriculture - Cropping - Irrigated 7 Agriculture - Horticulture - Non-irrigated 8 Agriculture - Horticulture - Irrigated

67.3%

Proportion of each land class in area

Total Vegetation Cover [%]

Catchment Scale Land Use and Forests of Australia (2018)

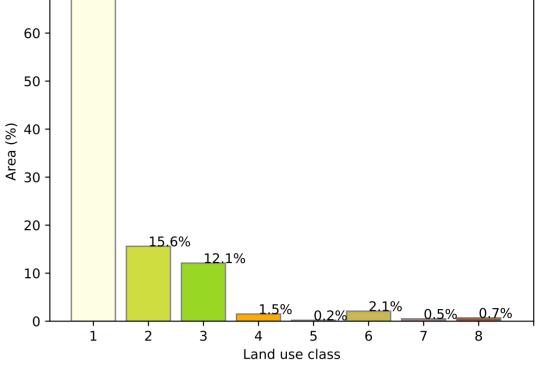
Catchment Scale Land

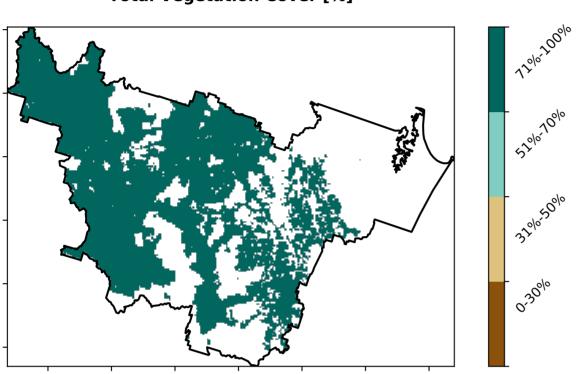
Derived from

Use of Australia

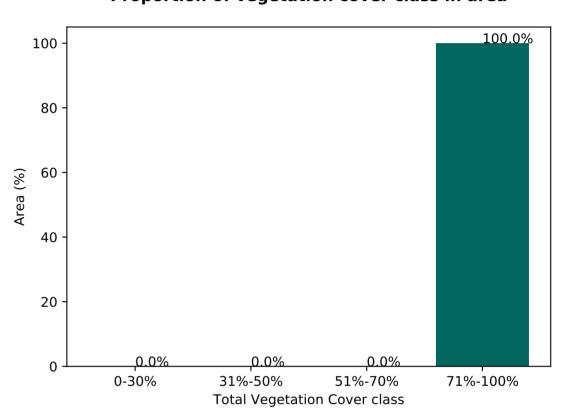
(2018) and Forests

of Australia (2018)



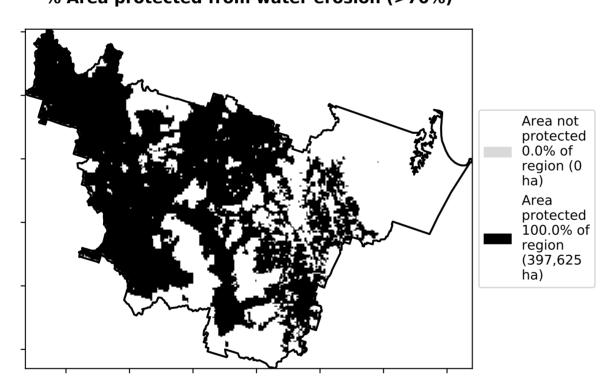


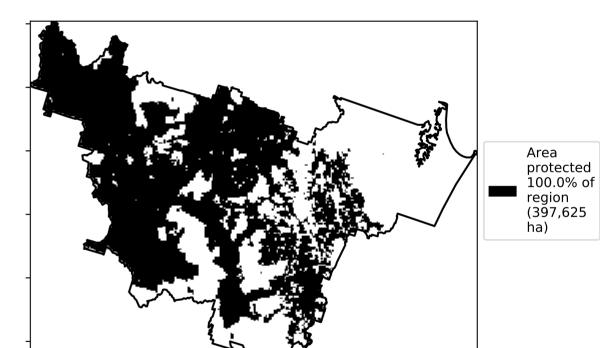
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

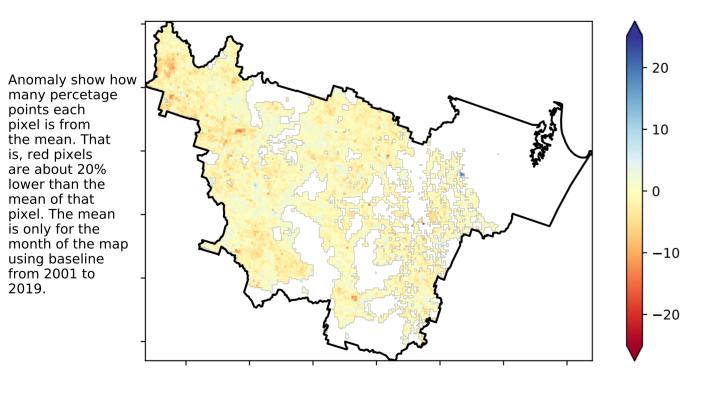
% Area protected from wind erosion (>50%)

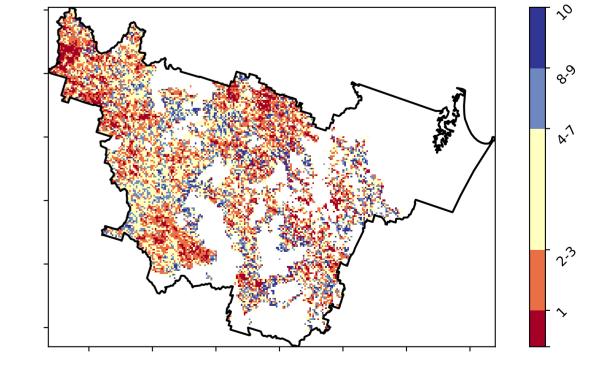




Total Vegetation Cover Anomaly [%]

Total Vegetation Cover Decile [%]





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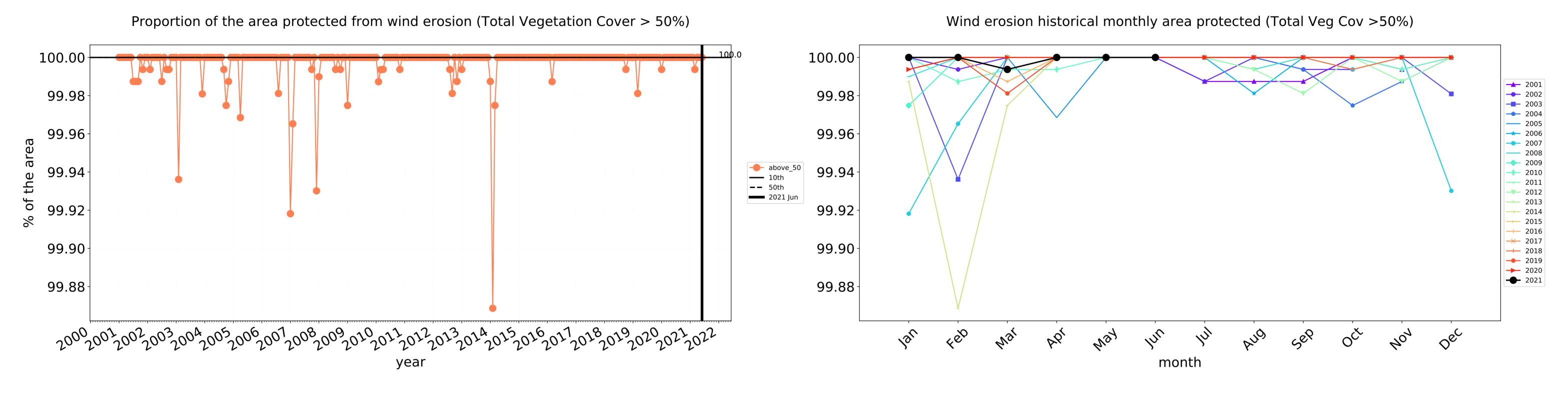


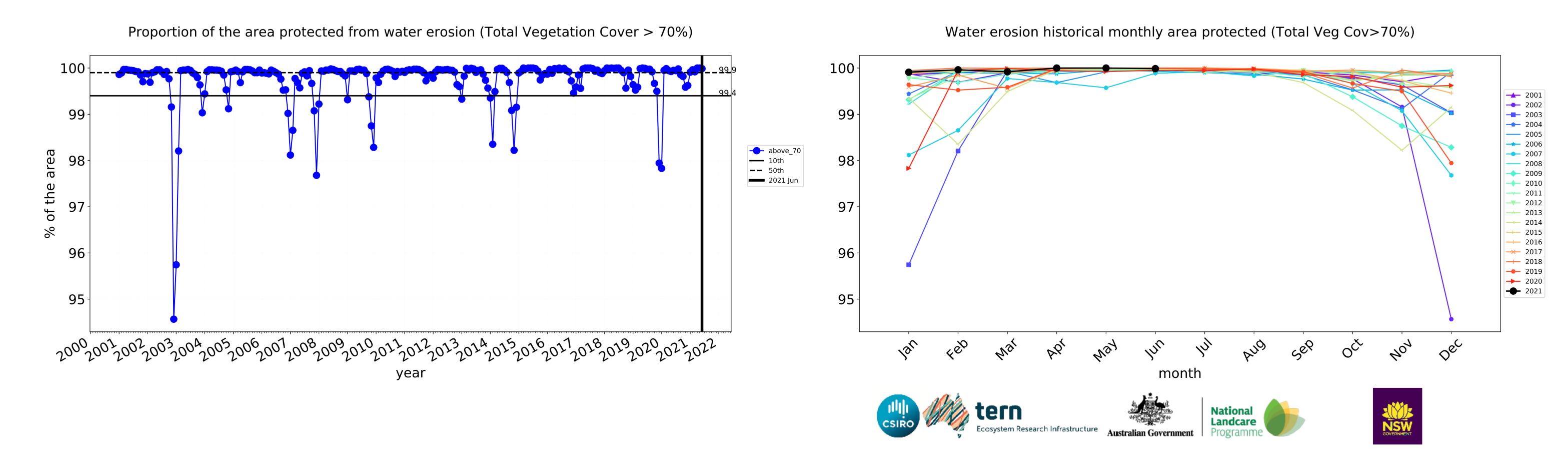


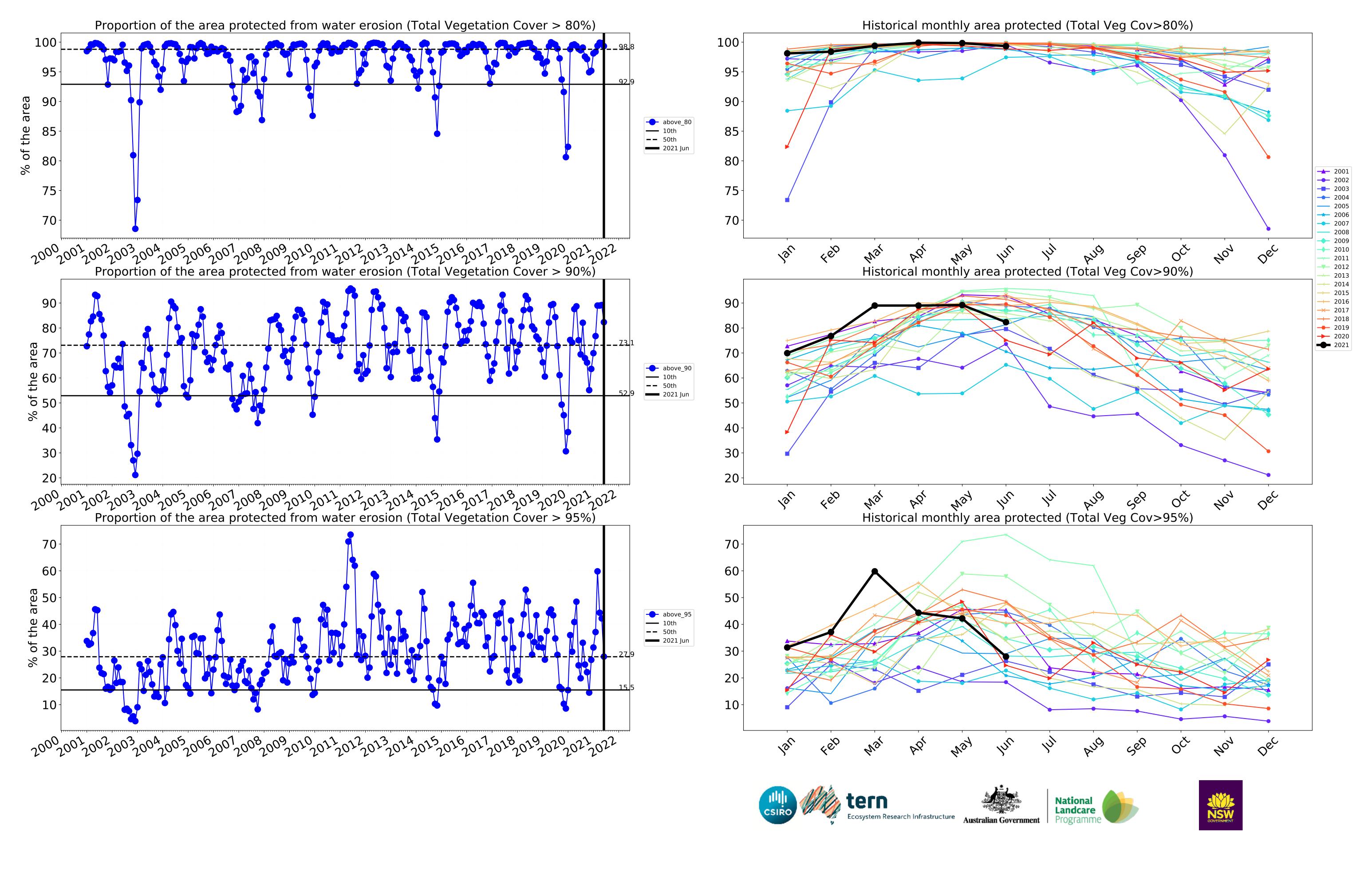




Agriculture timeseries



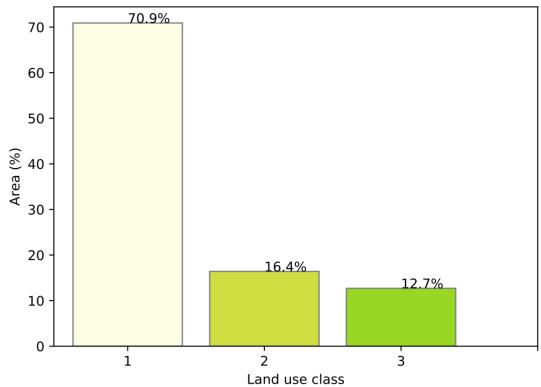




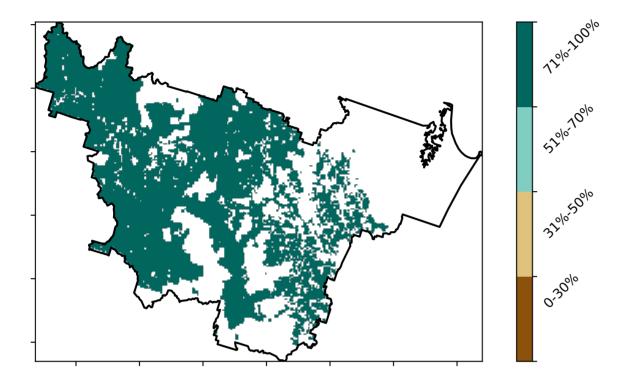
Grazing

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

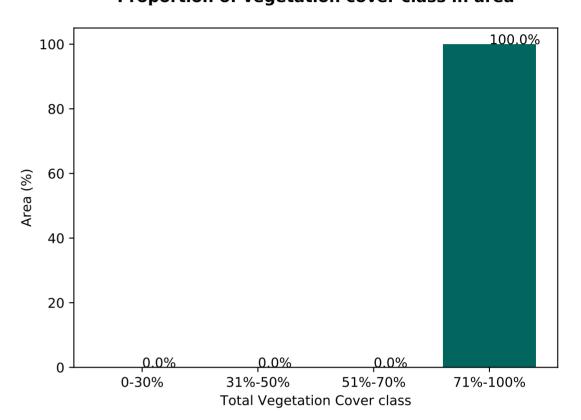
Proportion of each land class in area



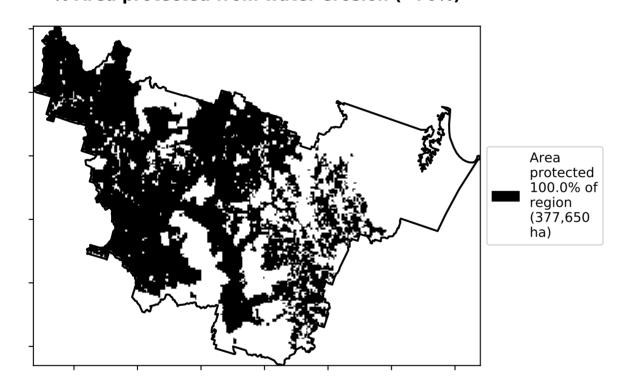
Total Vegetation Cover [%]



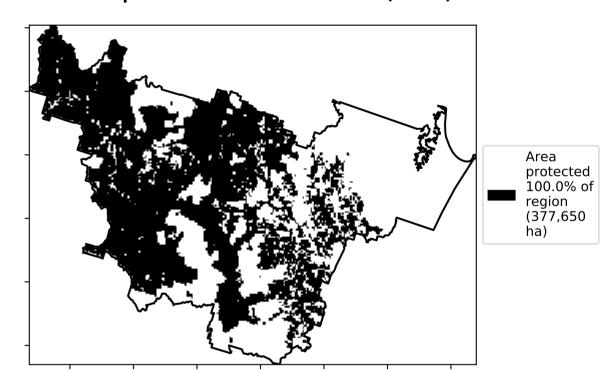
Proportion of vegetation cover class in area



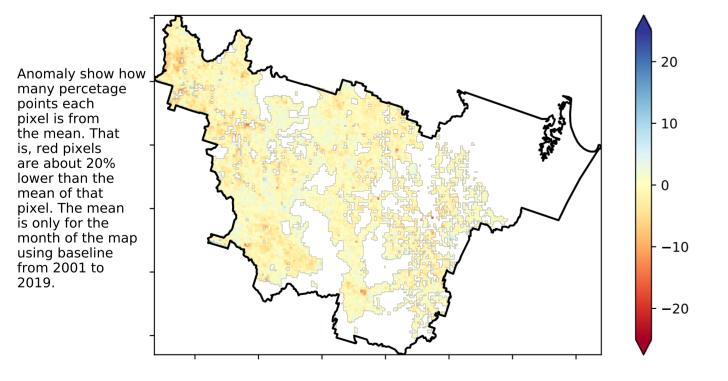
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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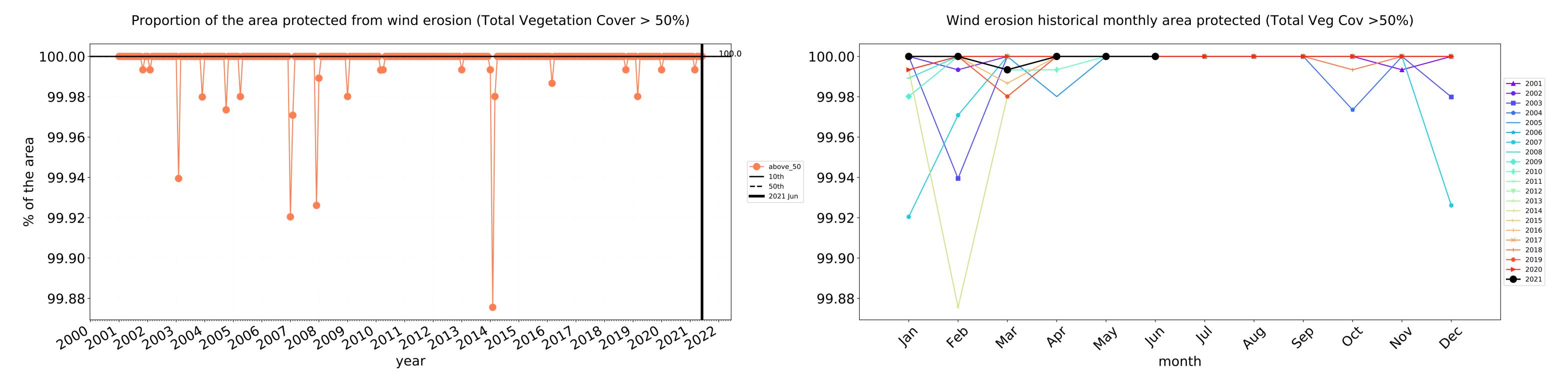


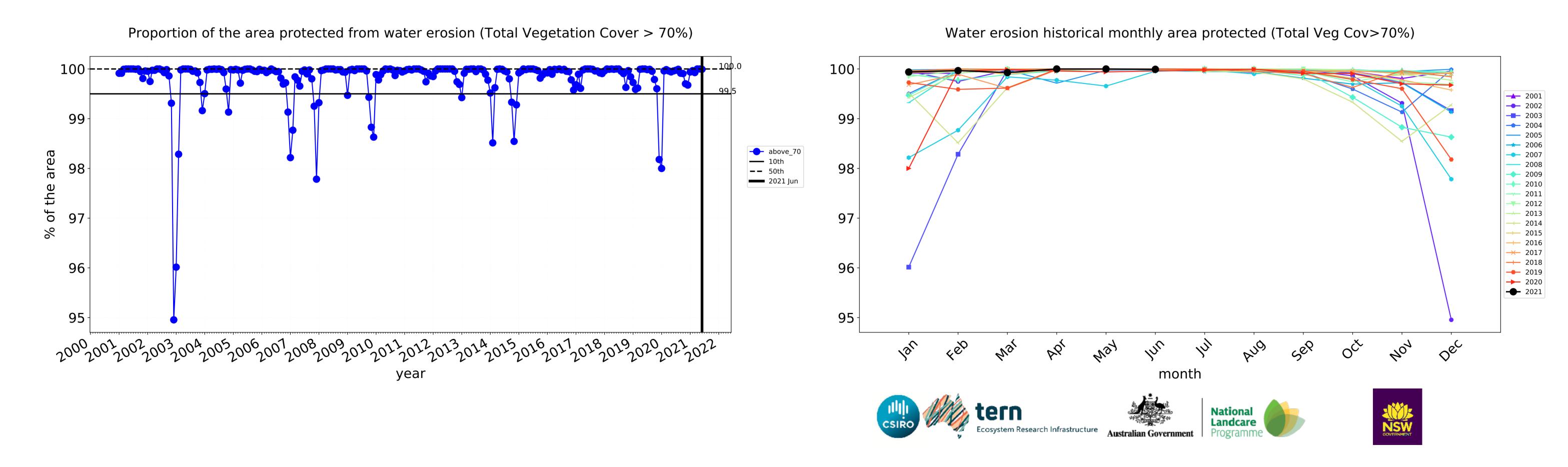


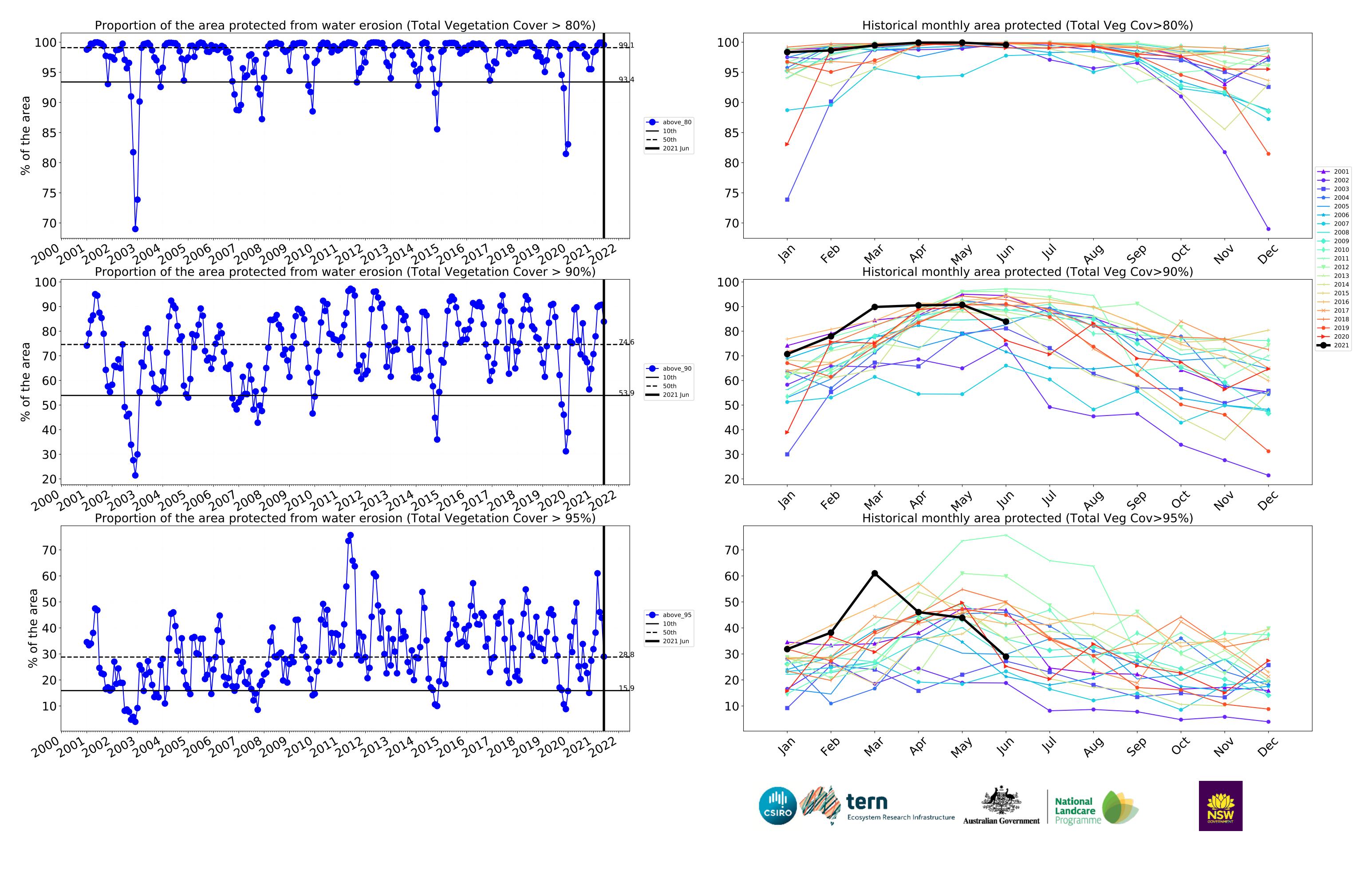




Grazing timeseries

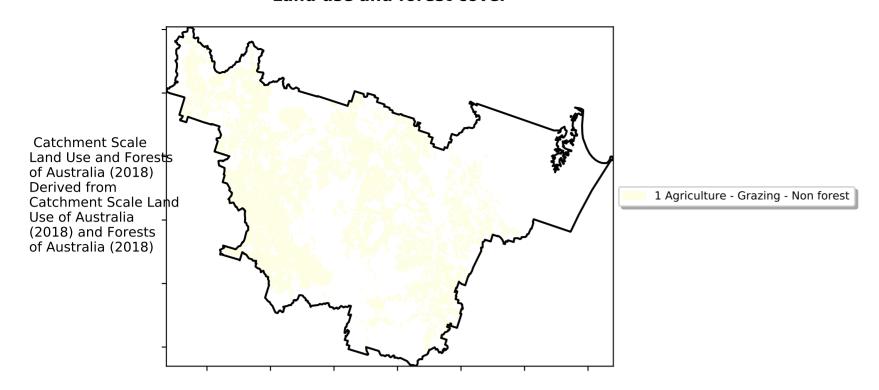




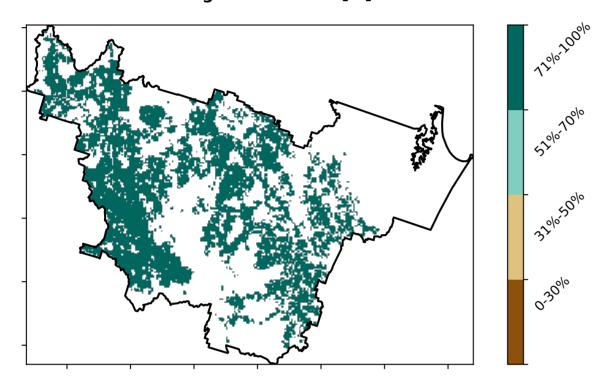


Grazing non forest

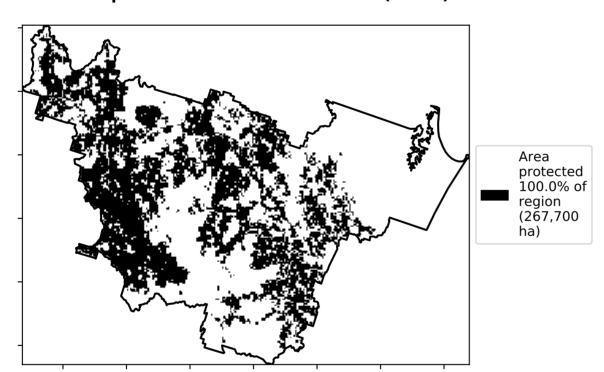
Land use and forest cover



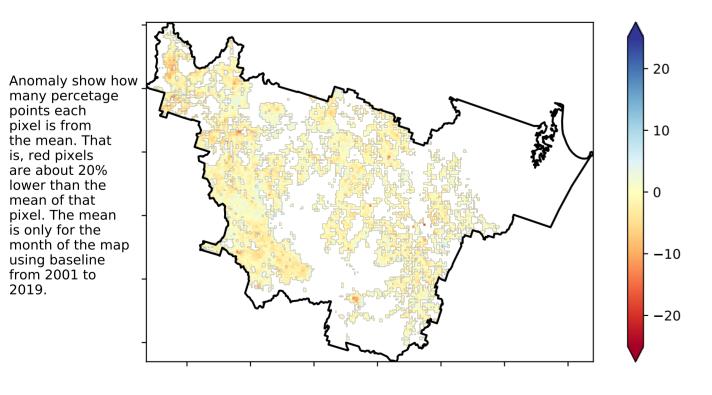
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

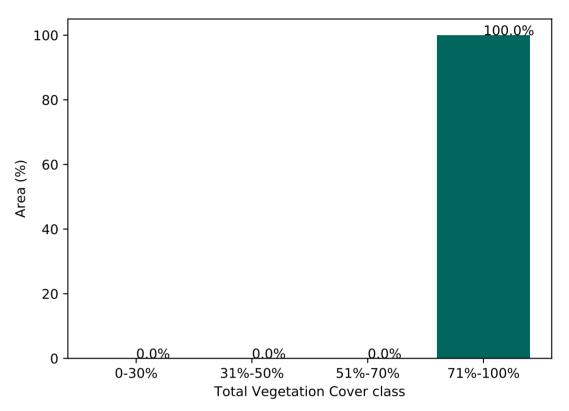


Total Vegetation Cover Anomaly [%]

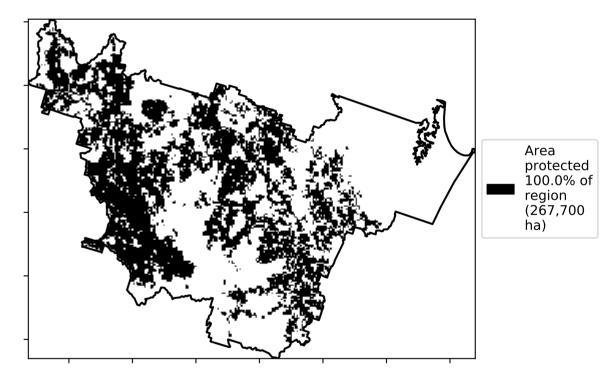


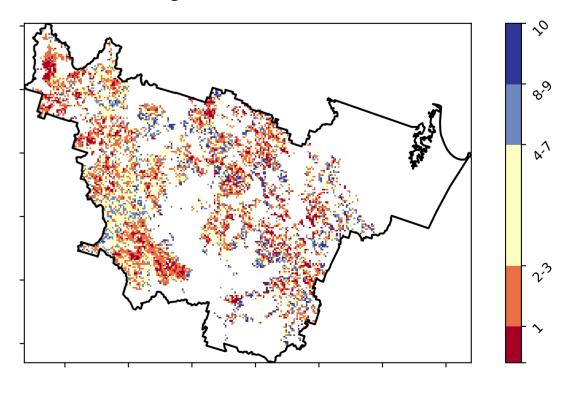
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Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





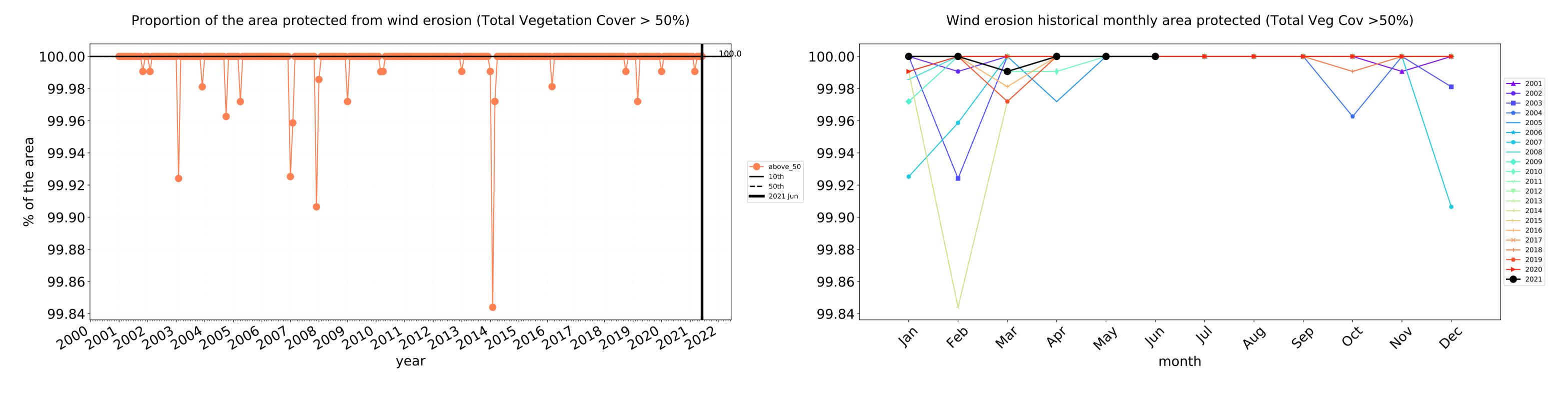


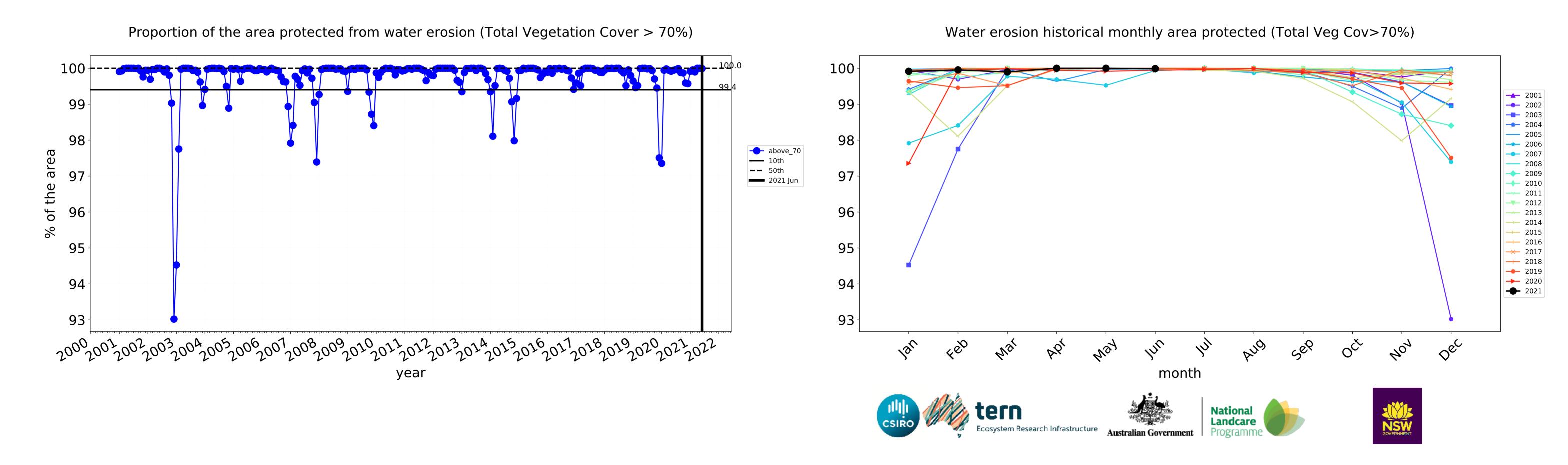


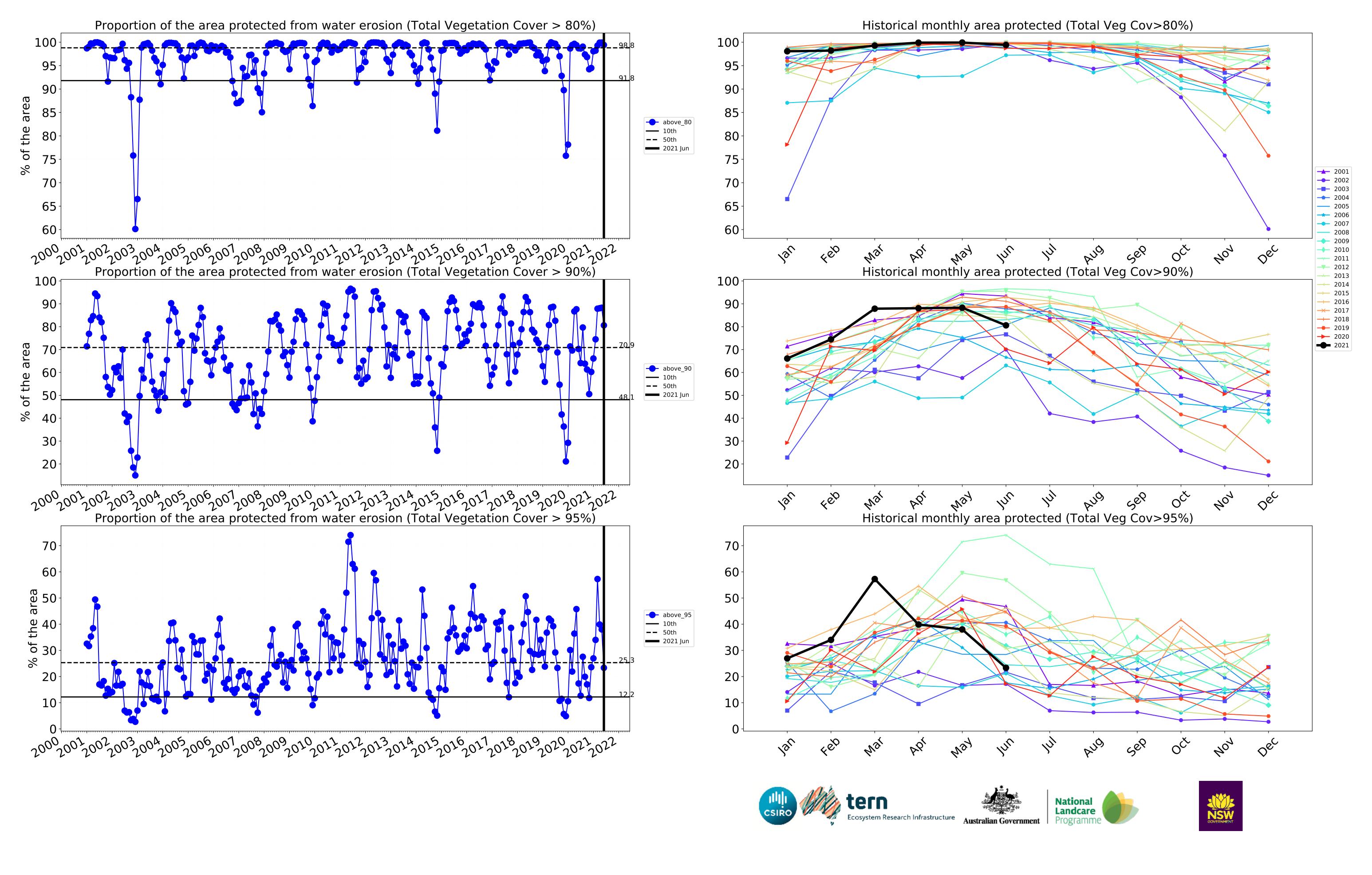




Grazing non forest timeseries

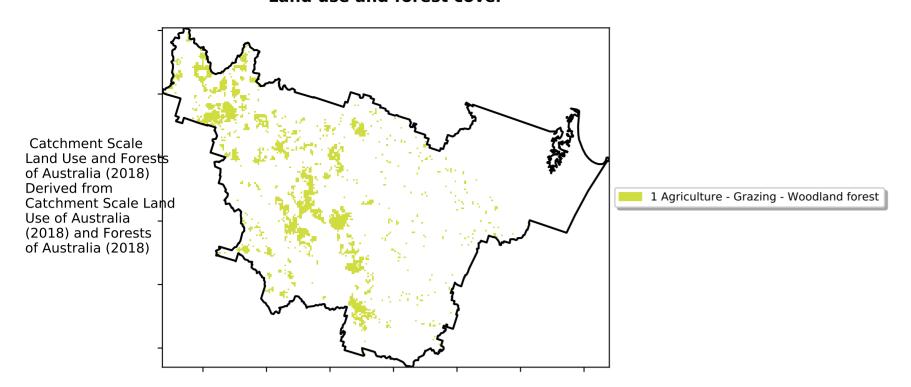




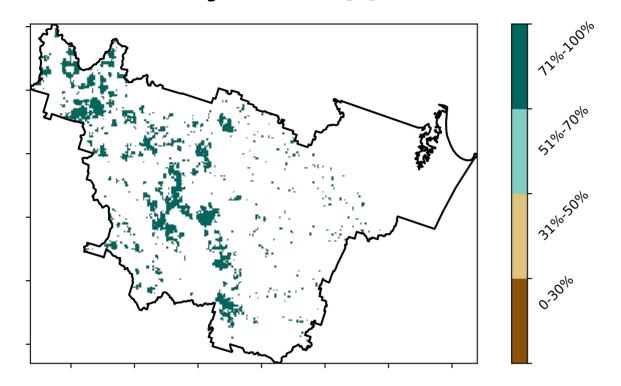


Grazing Woodland forest

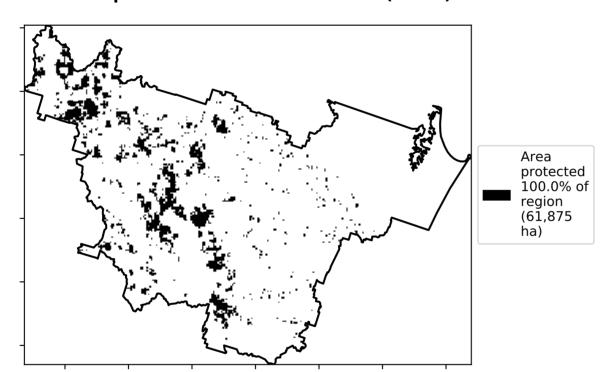
Land use and forest cover



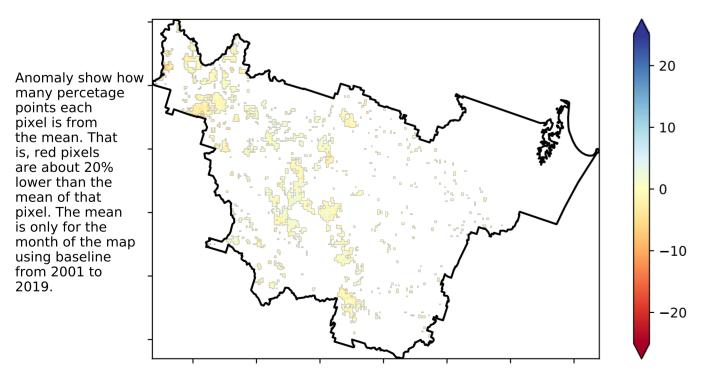
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

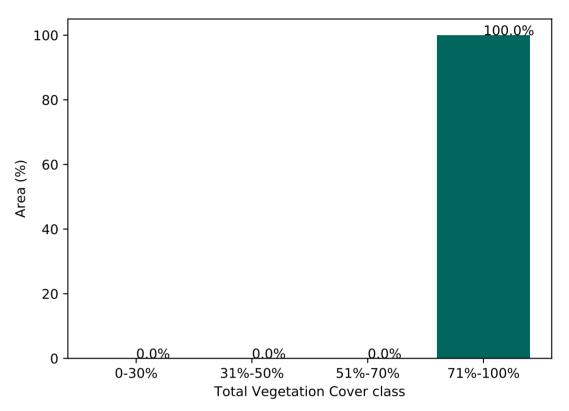


Total Vegetation Cover Anomaly [%]

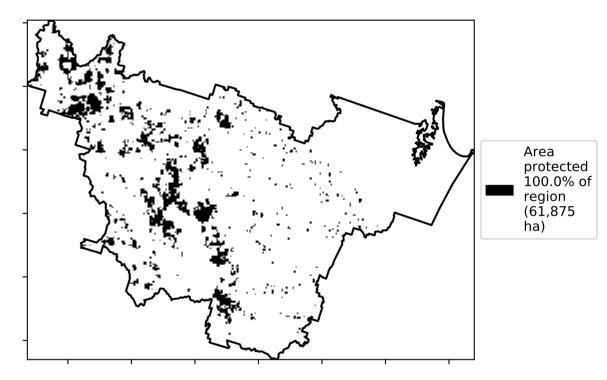


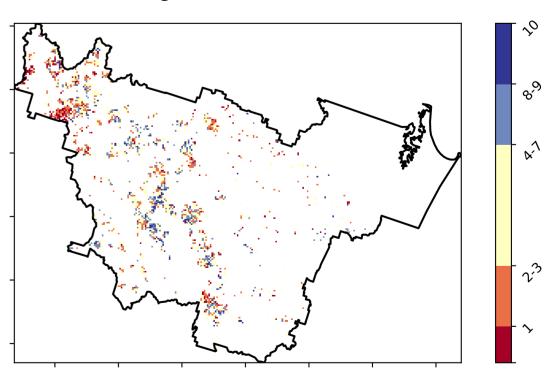
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Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





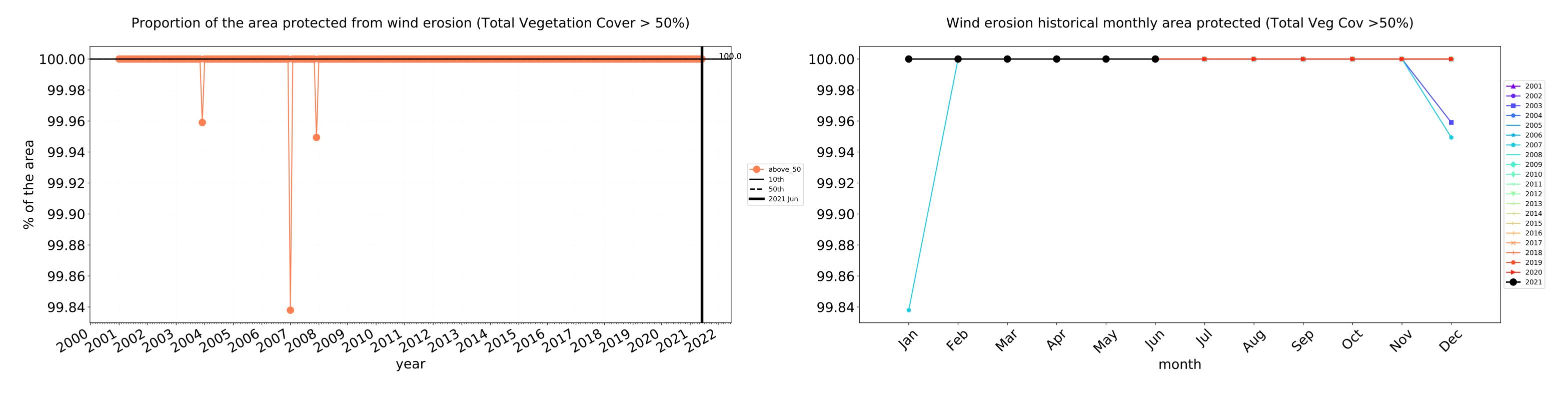


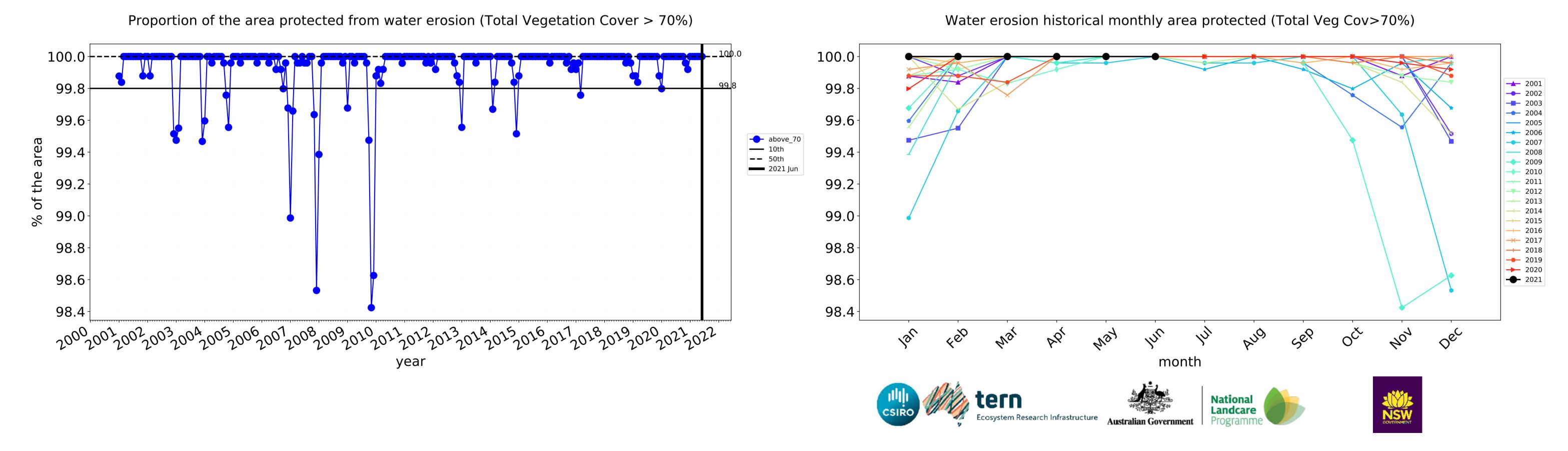


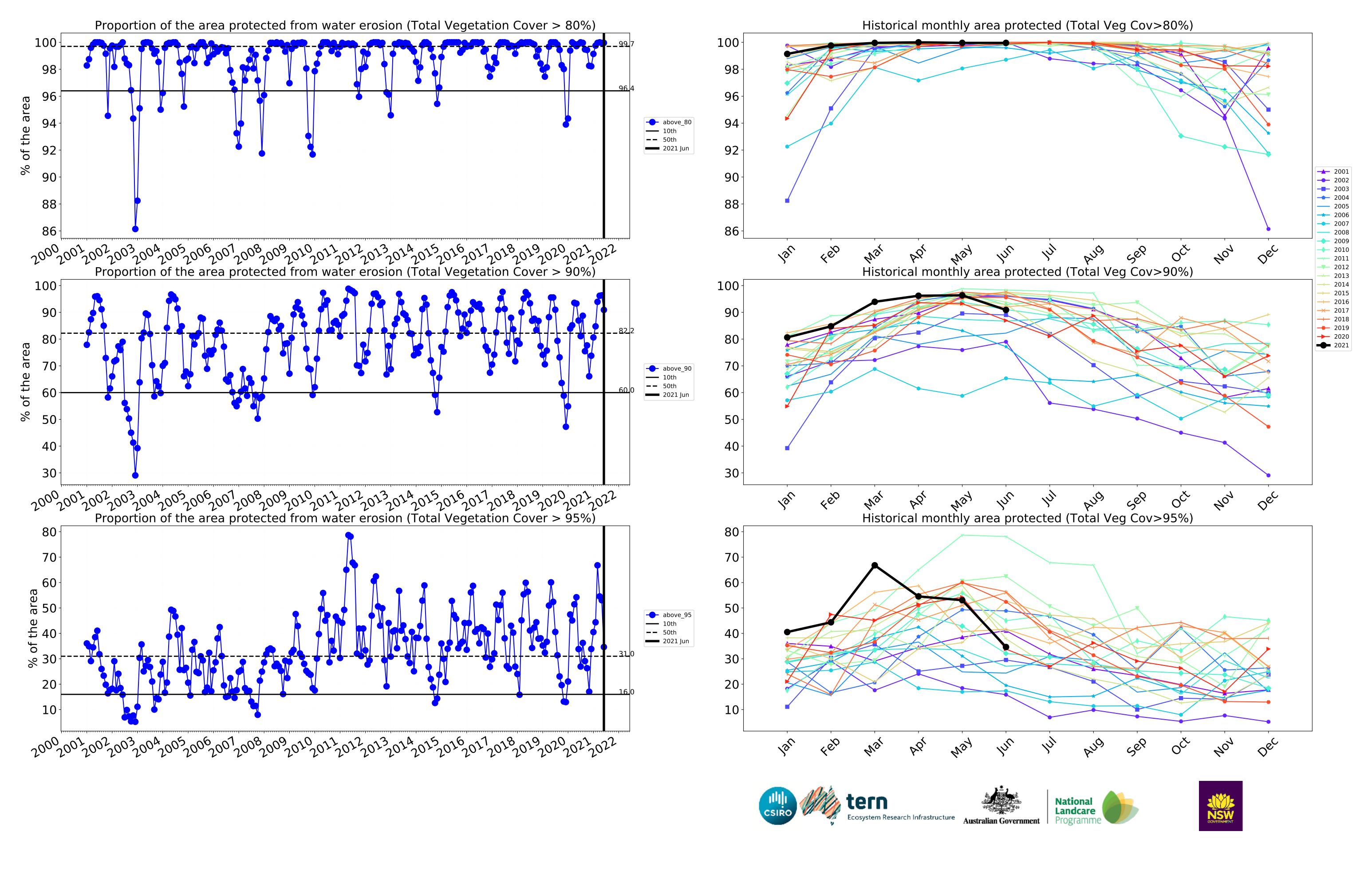




Grazing Woodland forest timeseries

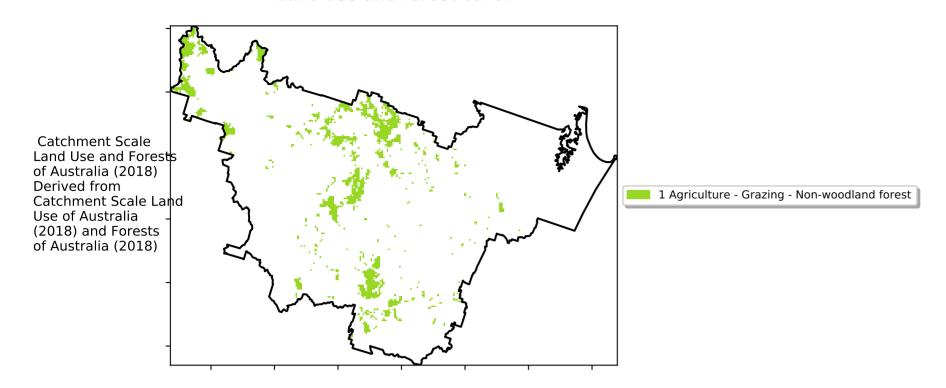




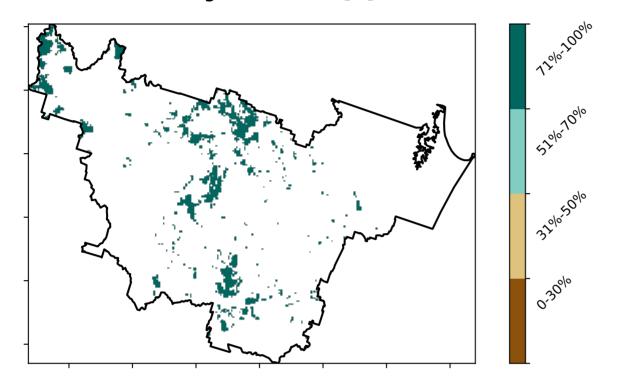


Grazing - Forest (non woodland)

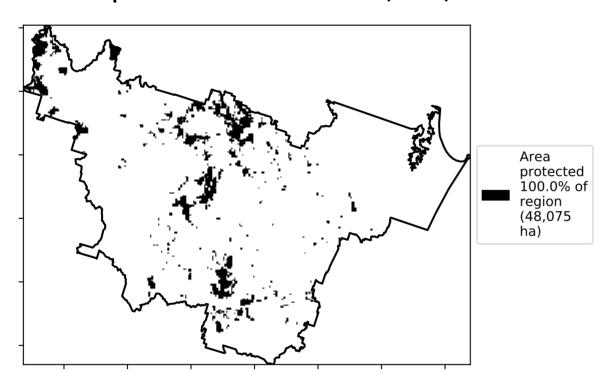
Land use and forest cover



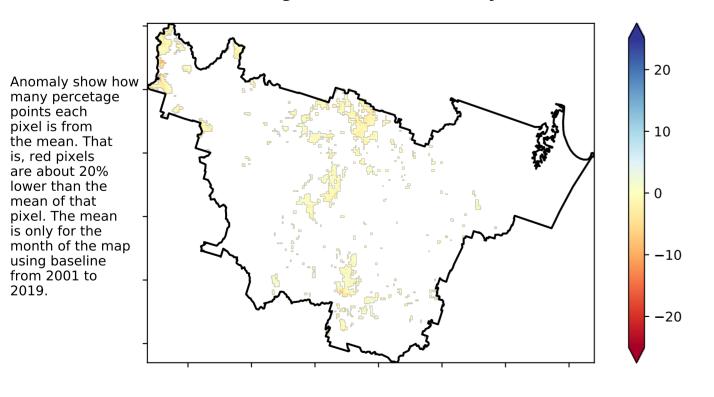
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

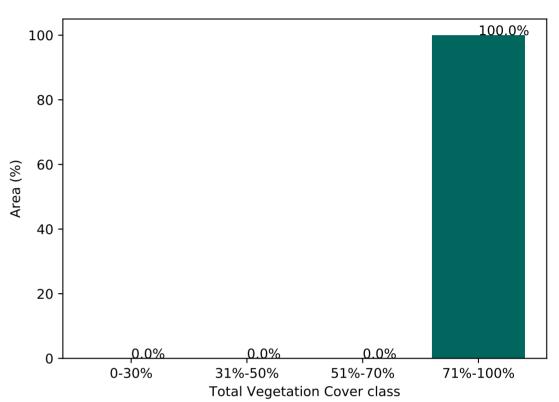


Total Vegetation Cover Anomaly [%]

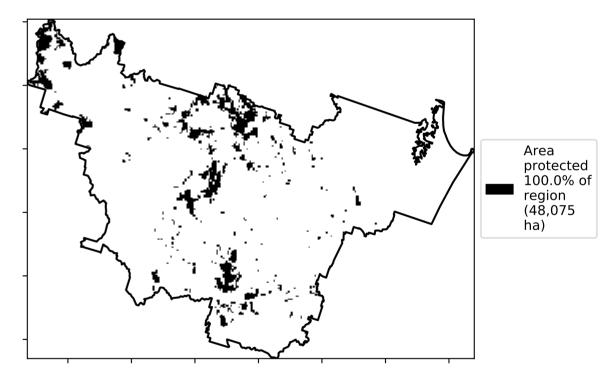


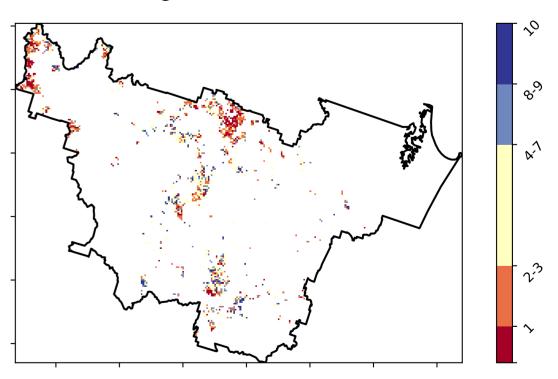
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



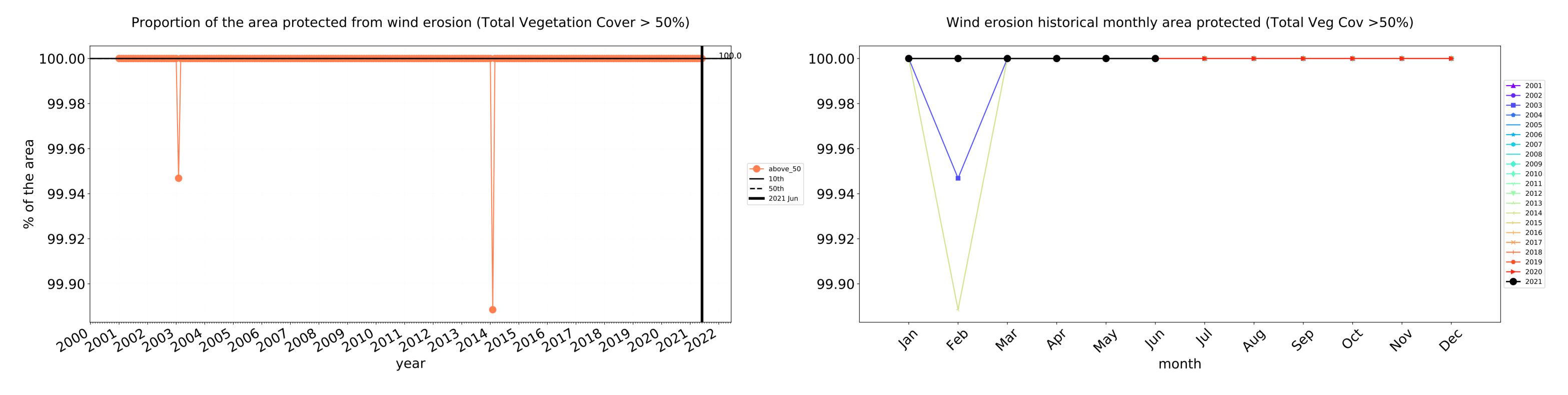


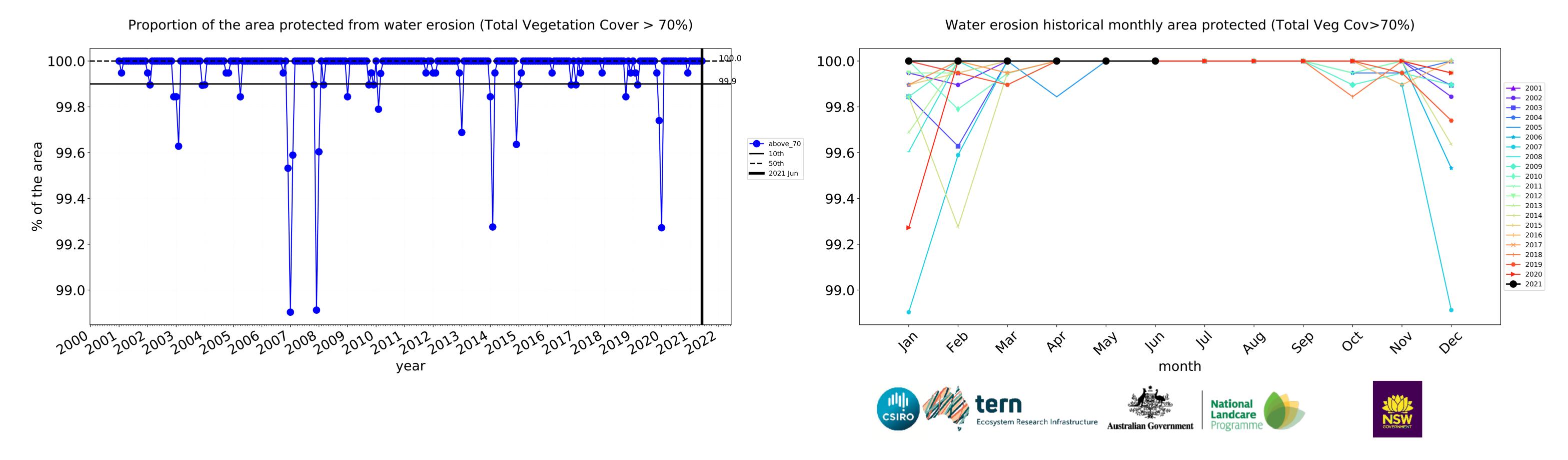


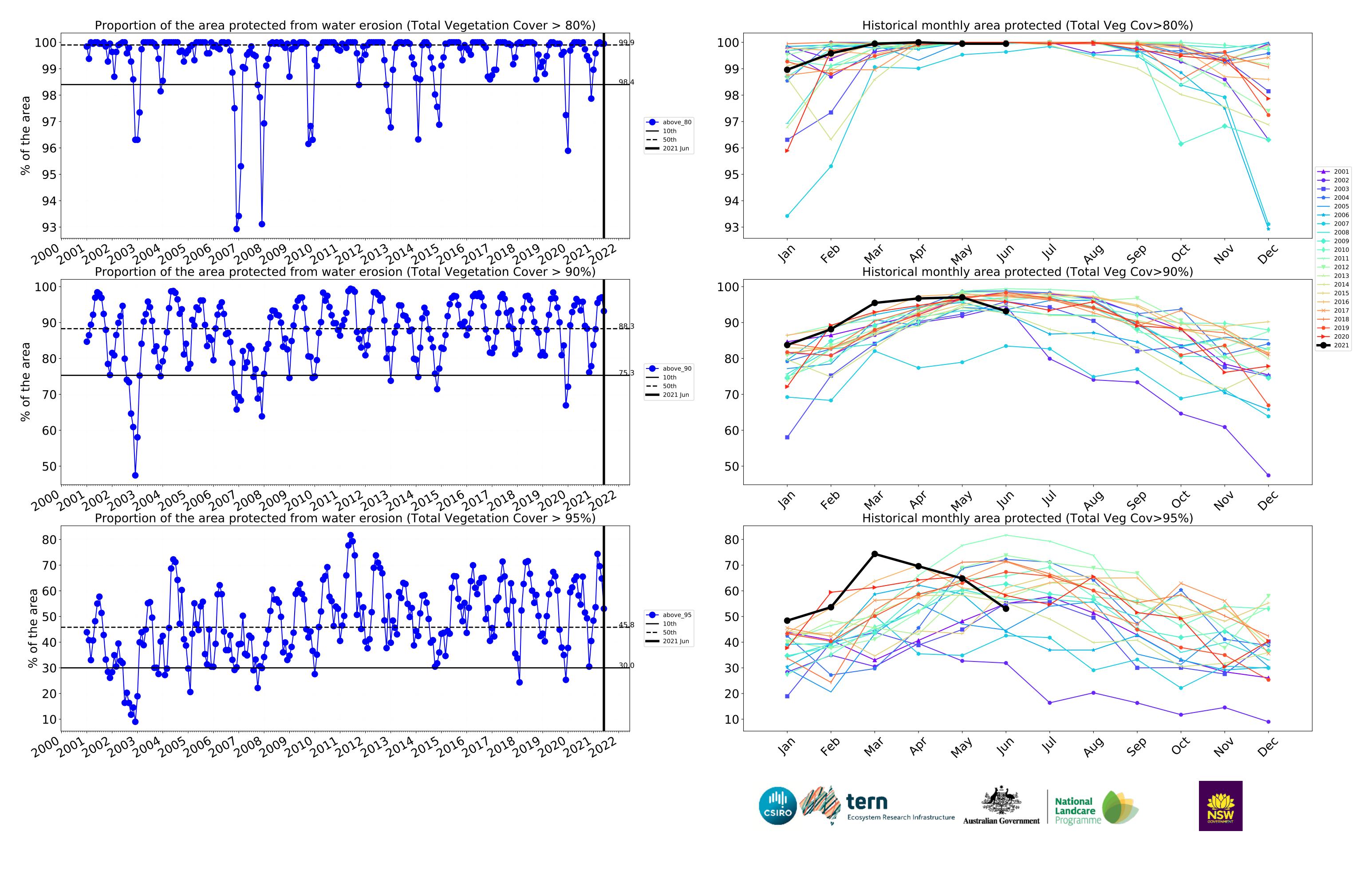




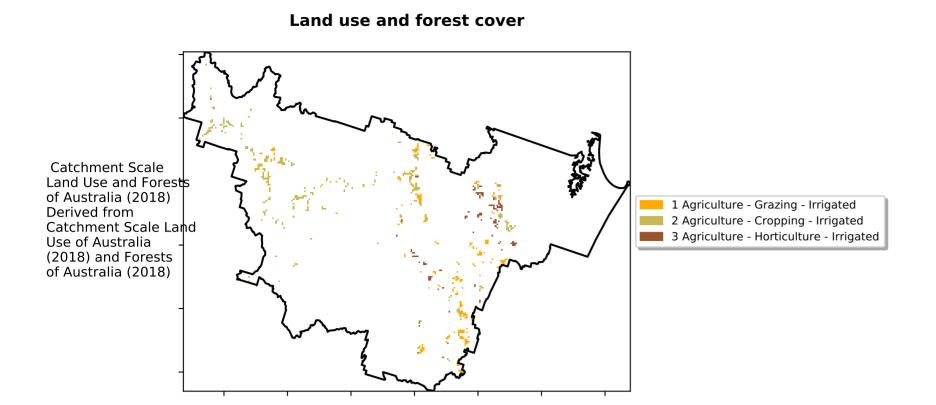






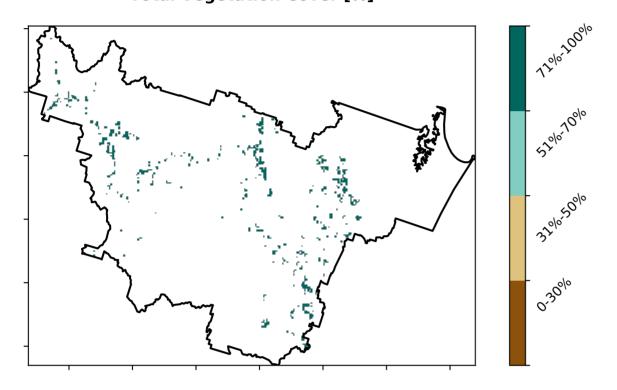


Irrigation

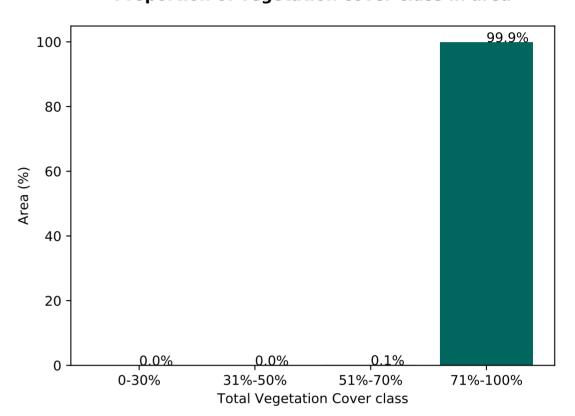


Proportion of each land class in area

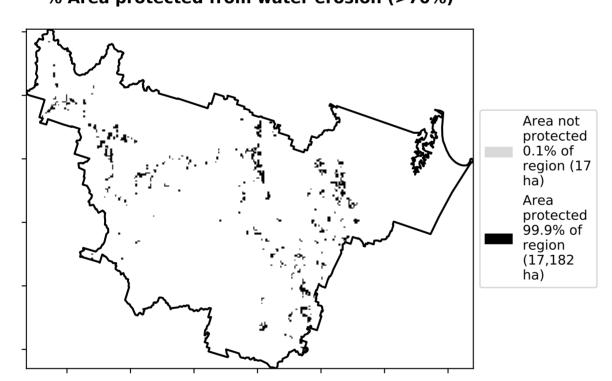




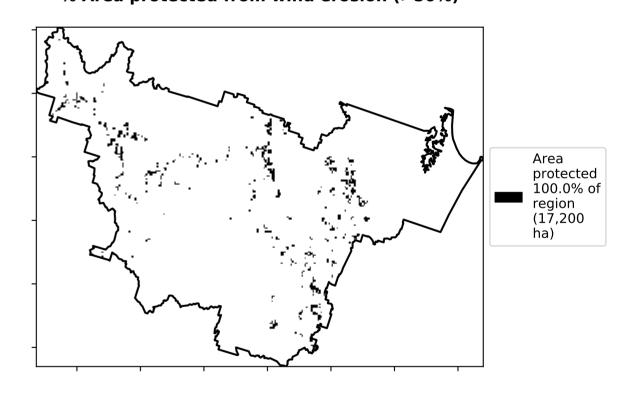
Proportion of vegetation cover class in area



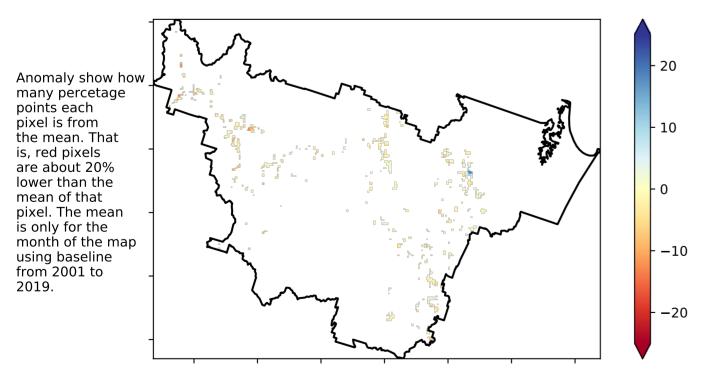
% Area protected from water erosion (>70%)



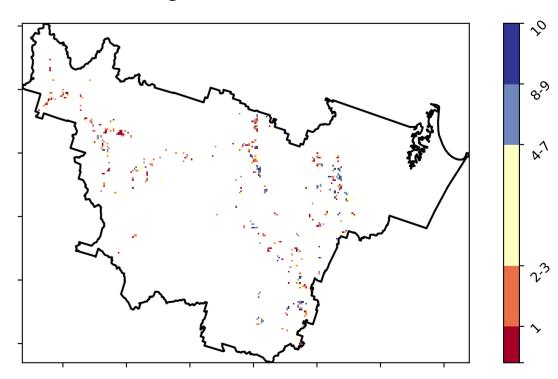
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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.



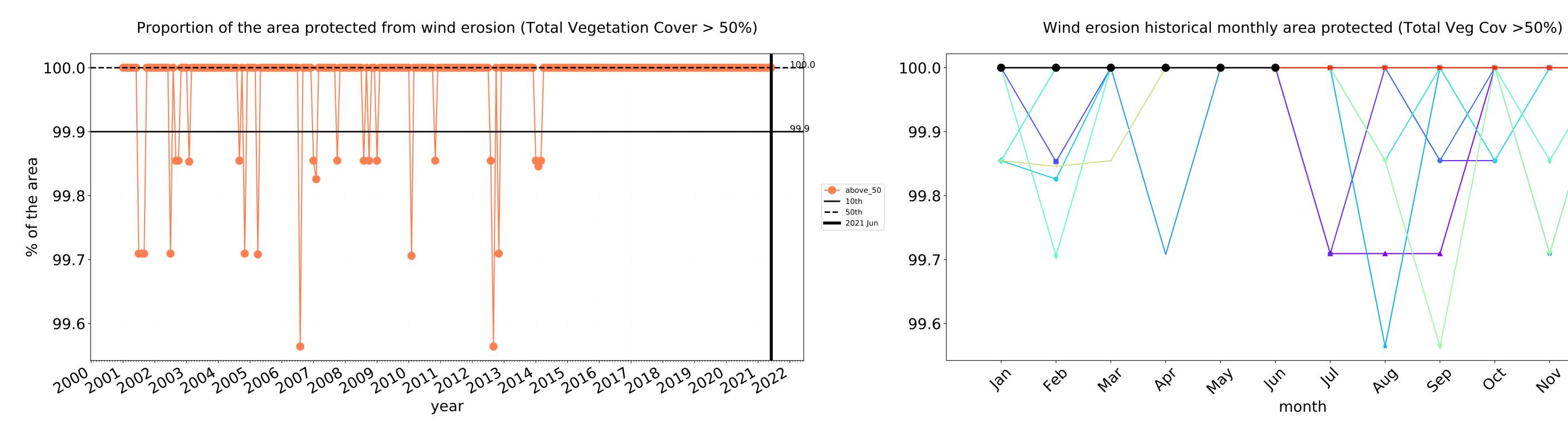


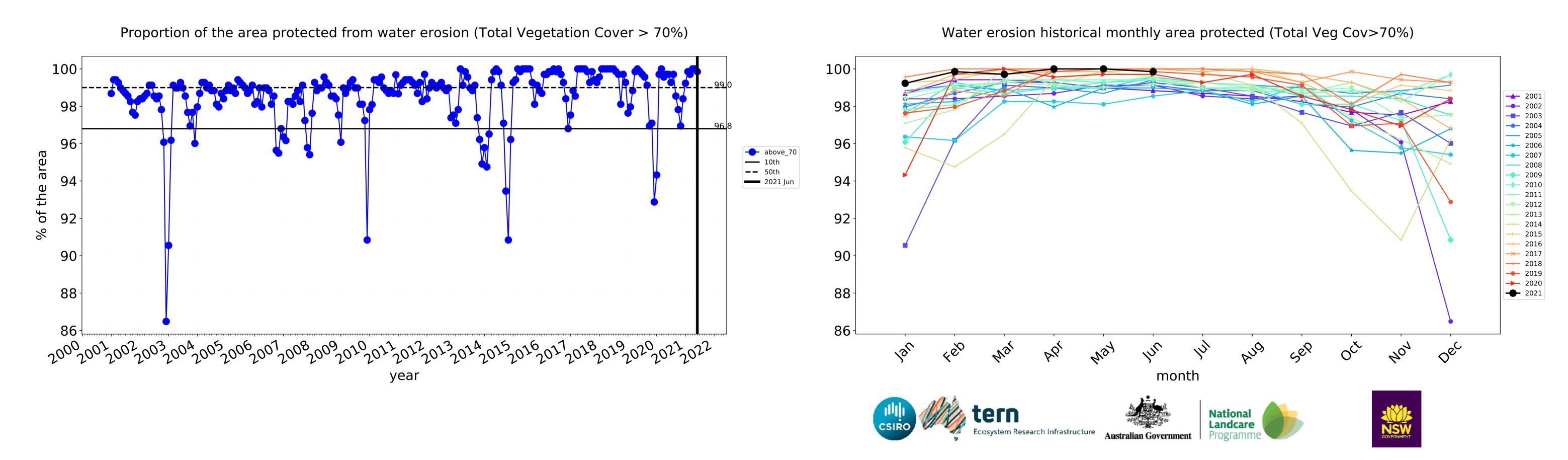






Irrigation timeseries



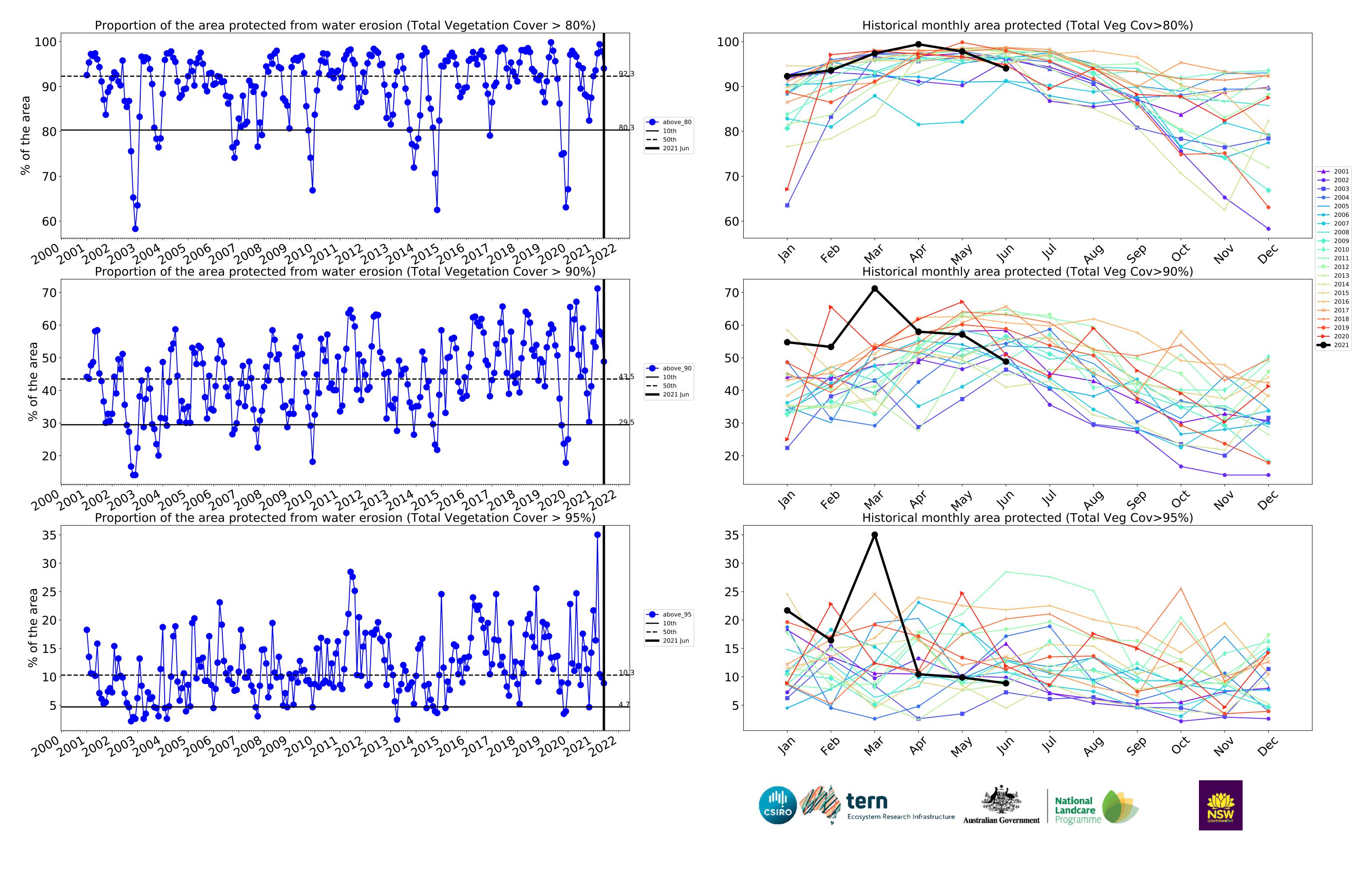


2002 2003

2010 2011 2012

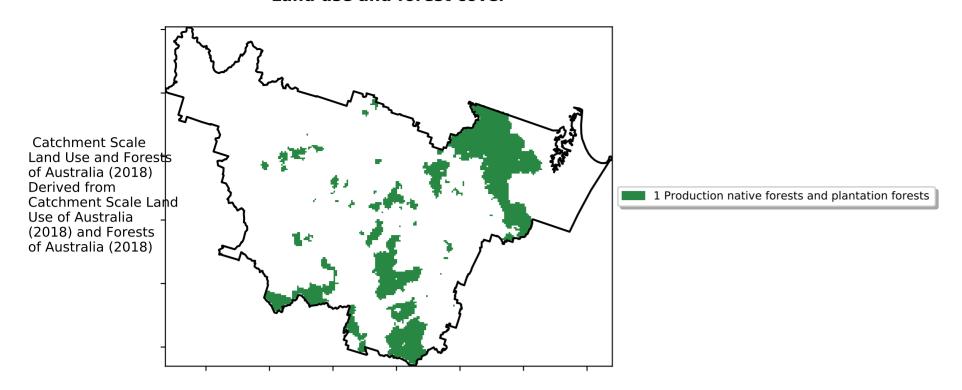
2013
2014
2015

→ 2016 → 2017 → 2018 → 2019 → 2020 → 2021

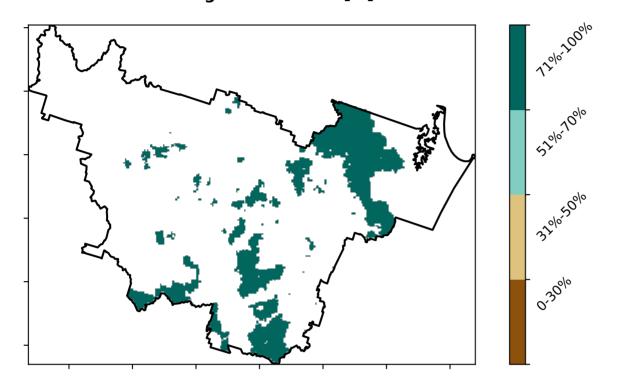


Production native forests and plantation forests

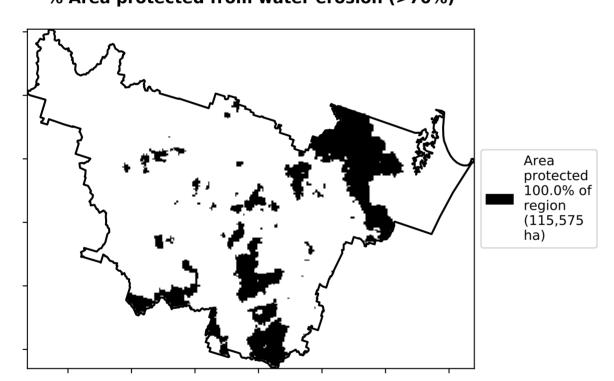
Land use and forest cover



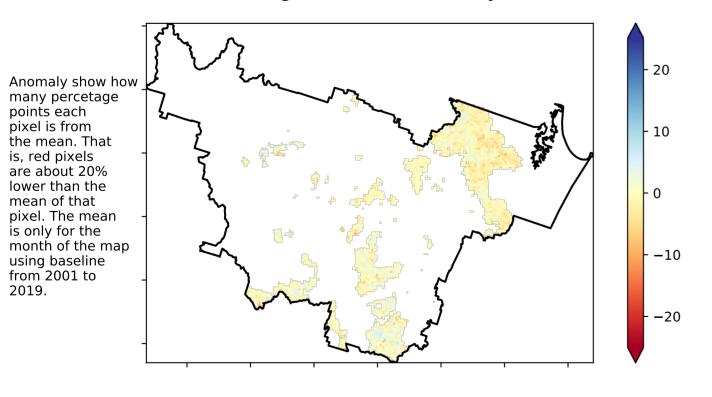
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

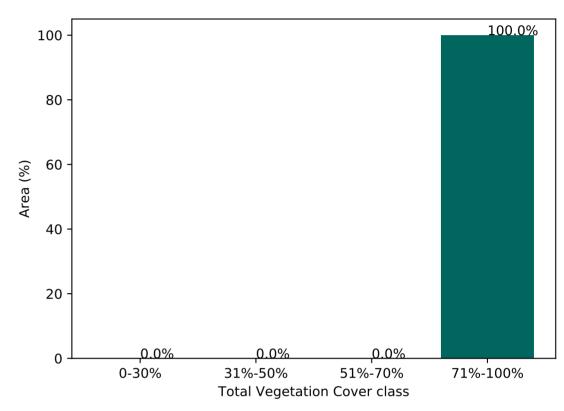


Total Vegetation Cover Anomaly [%]

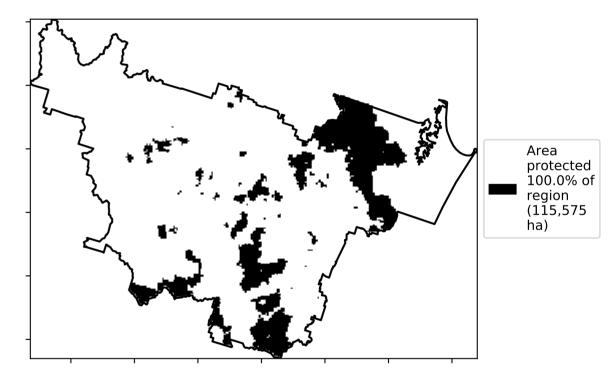


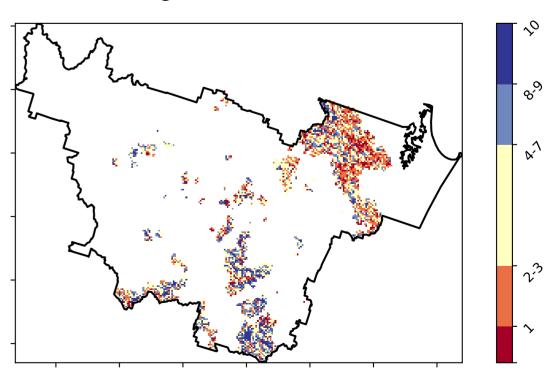
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)





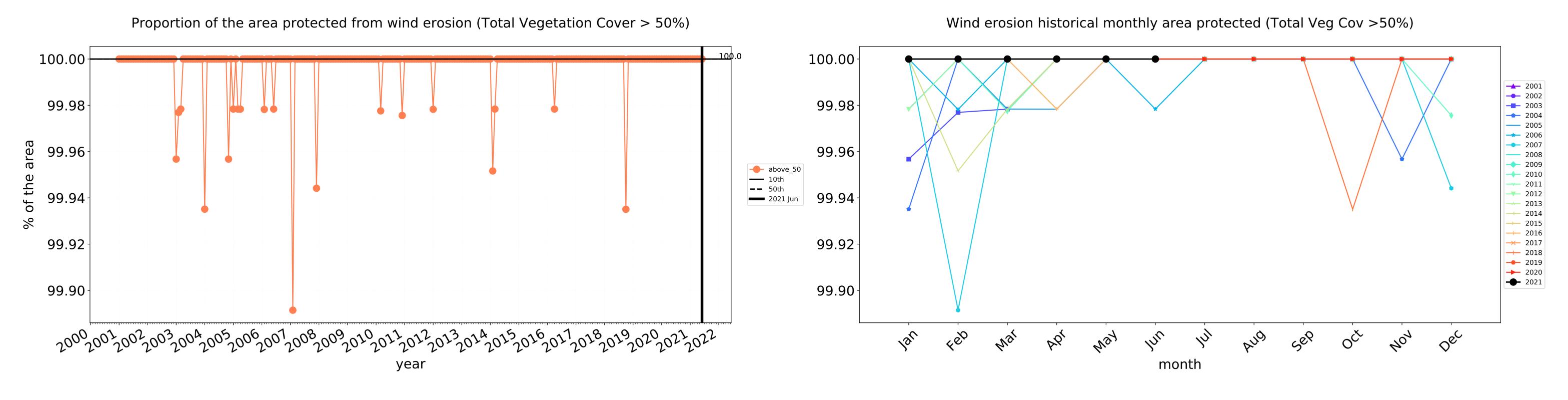


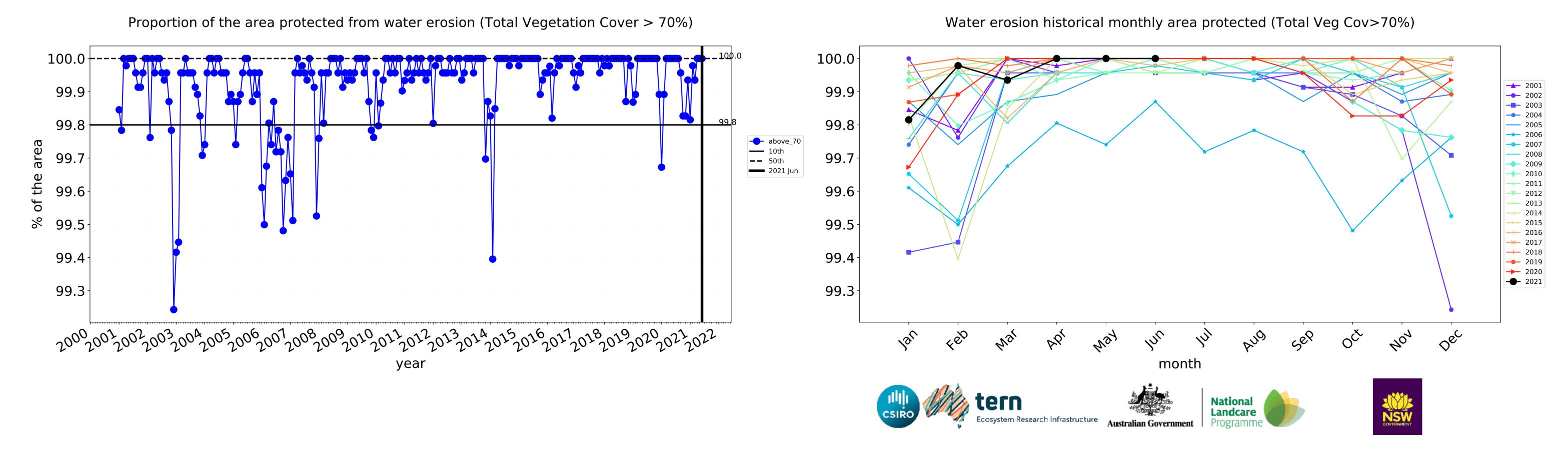


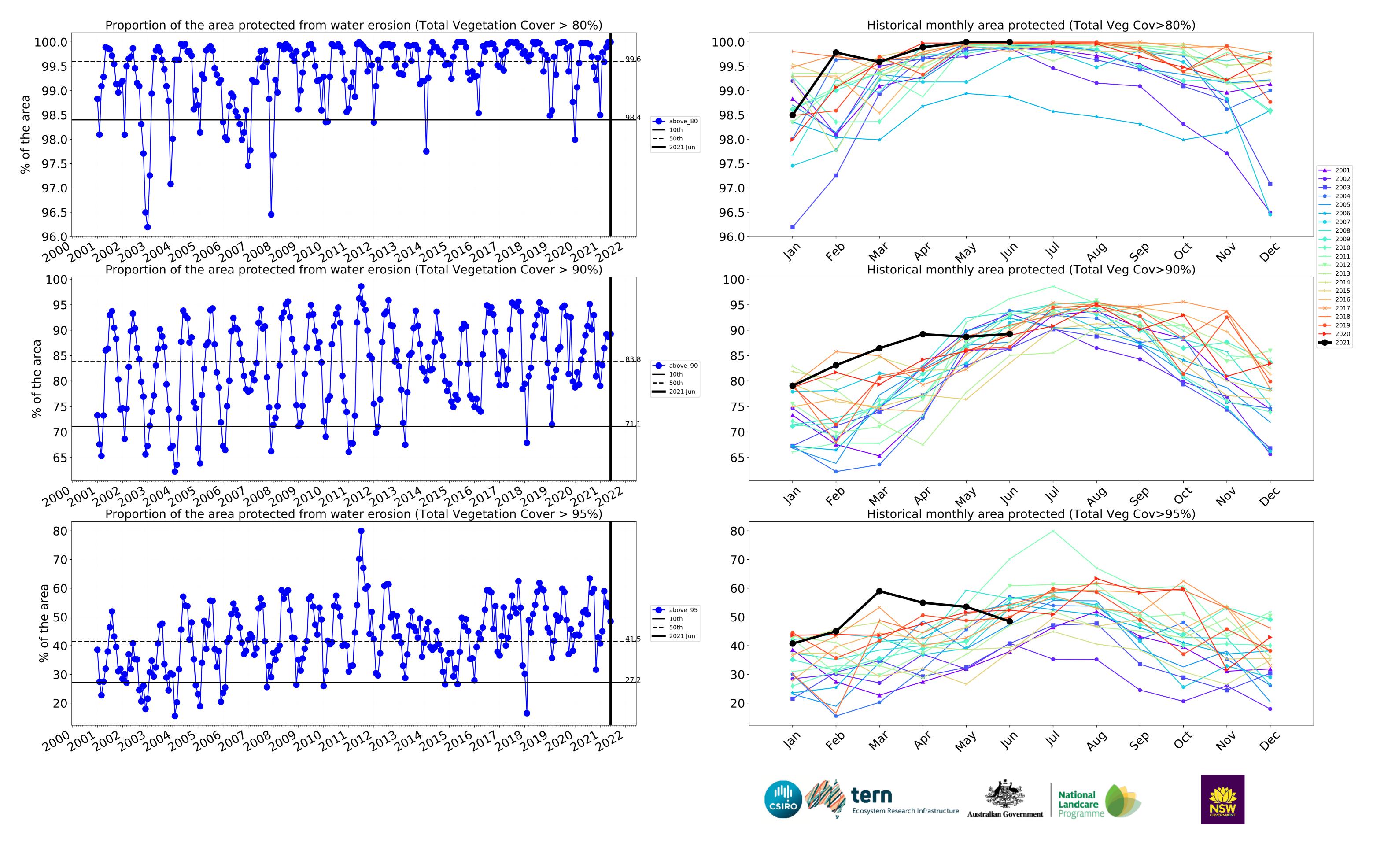




Production native forests and plantation forests timeseries







Gympie_(R) (686,850 ha and no data 1,525 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	686,850	100.0% 686,775	100.0% 686,700	99.9% 685,925	99.3% 681,825	85.8% 589,250	38.5% 264,125
Conservation and natural environments	142,500	99.9% 142,425	99.9% 142,350	99.7% 142,025	99.4% 141,625	94.7% 134,975	63.6% 90,600
Conservation and natural environments non forest	9,950	99.5% 9,900	99.2% 9,875	98.7% 9,825	98.5% 9,800	93.7% 9,325	47.7% 4,750
Conservation and natural environments Woodland forest	28,775	100.0% 28,775	100.0% 28,775	99.7% 28,700	99.6% 28,650	92.4% 26,575	57.1% 16,425
Conservation and natural environments Forest (non woodland)	103,775	100.0% 103,750	99.9% 103,700	99.7% 103,500	99.4% 103,175	95.5% 99,075	66.9% 69,425
Agriculture	397,625	100.0% 397,625	100.0% 397,625	100.0% 397,575	99.3% 394,950	82.3% 327,350	28.0% 111,175
Grazing	377,650	100.0% 377,650	100.0% 377,650	100.0% 377,625	99.6% 376,025	83.9% 316,825	29.0% 109,375
Grazing non forest	267,700	100.0% 267,700	100.0% 267,700	100.0% 267,675	99.4% 266,125	80.6% 215,775	23.3% 62,450
Grazing Woodland forest	61,875	100.0% 61,875	100.0% 61,875	100.0% 61,875	100.0% 61,850	90.9% 56,250	34.6% 21,425
Grazing - Forest (non woodland)	48,075	100.0% 48,075	100.0% 48,075	100.0% 48,075	99.9% 48,050	93.2% 44,800	53.0% 25,500
Irrigation	17,200	100.0% 17,200	100.0% 17,200	99.9% 17,175	94.0% 16,175	48.8% 8,400	8.9% 1,525
Production native forests and plantation forests	115,575	100.0% 115,575	100.0% 115,575	100.0% 115,575	100.0% 115,575	89.2% 103,150	48.5% 56,000







