Total vegetation cover soil protection Region:LGA Ipswich_(C) QLD

This report describes vegetation protecting the soil surface from erosion during a chosen month compared to previous years. This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool https://map.geo-rapp.org/#australia. The report is based on 500 metre pixel data on monthly time steps.

Land use forest cover:

Date: July 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





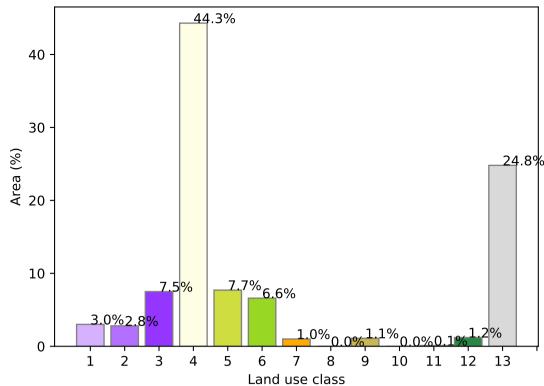




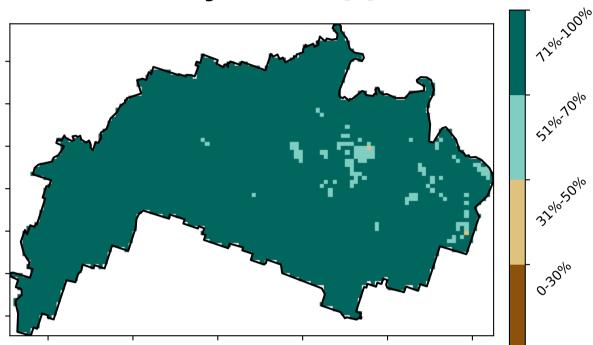
Vegetation Cover Jul 2021

Land use and forest cover Legend with land class forest cover and number, i.e. Forests is 12 1 Conservation and natural environments - Non-forest 2 Conservation and natural environments - Woodland forest Catchment Scale 3 Conservation and natural environments - Non-Woodland forest Land Use and Forests of Australia (2018) 4 Agriculture - Grazing - Non-forest Derived from 5 Agriculture - Grazing - Woodland forest Catchment Scale Land 6 Agriculture - Grazing - Non-woodland forest Use of Australia 7 Agriculture - Grazing - Irrigated (2018) and Forests of Australia (2018) 8 Agriculture - Cropping - Non-irrigated 9 Agriculture - Cropping - Irrigated 10 Agriculture - Horticulture - Non-irrigated 11 Agriculture - Horticulture - Irrigated 12 Production native forests and plantation 13 Other uses

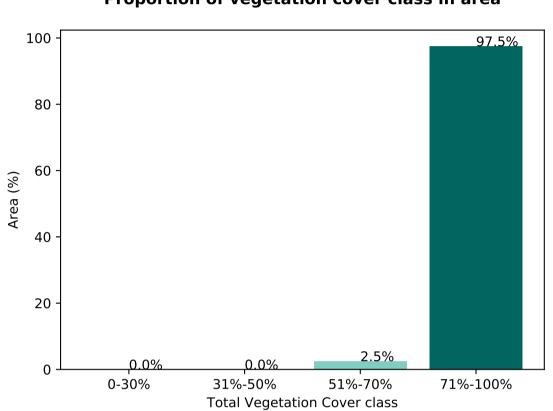
Proportion of each land class in area 44.3%

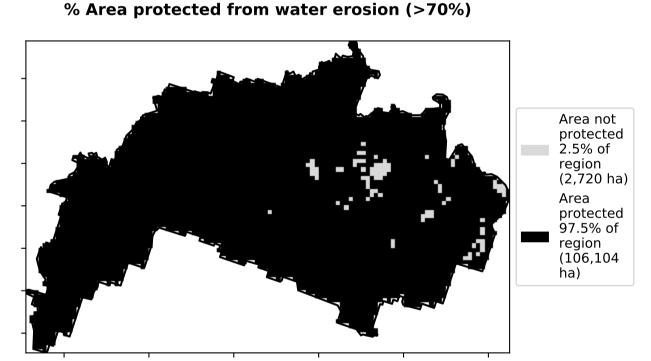




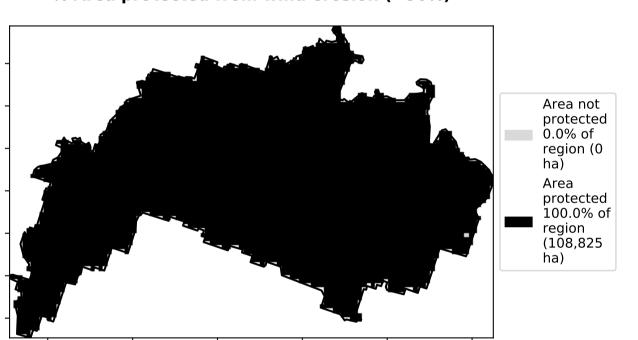


Proportion of vegetation cover class in area

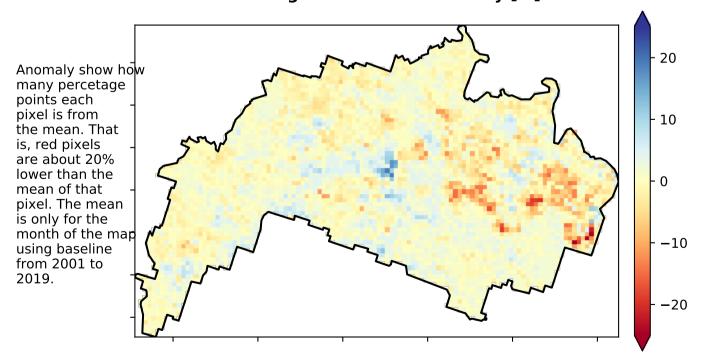




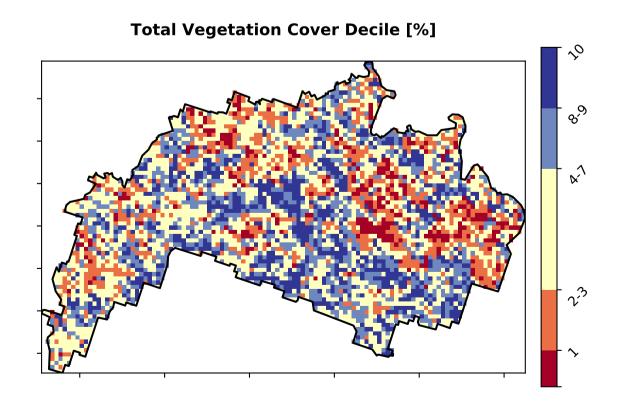
% Area protected from wind erosion (>50%)



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.

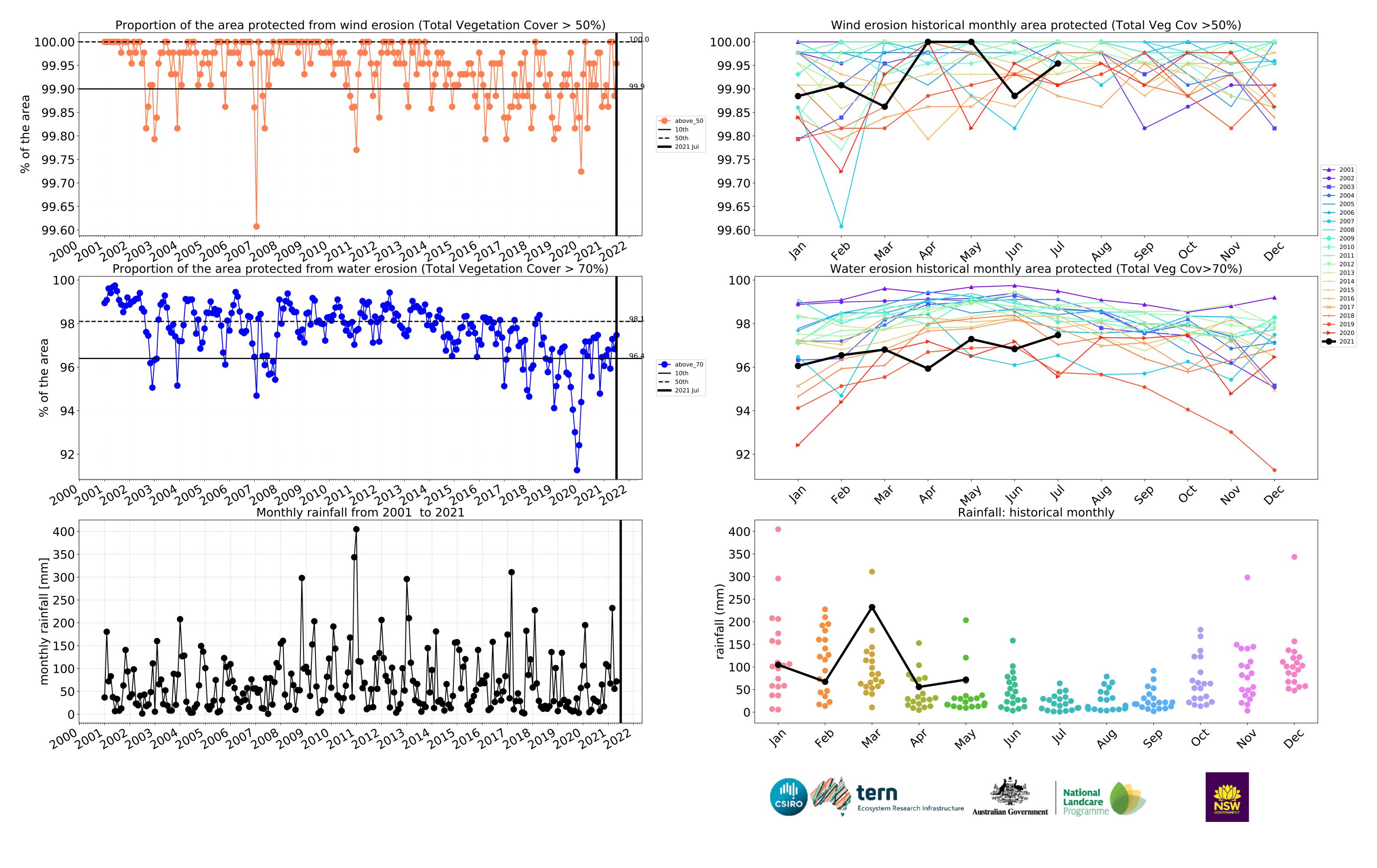


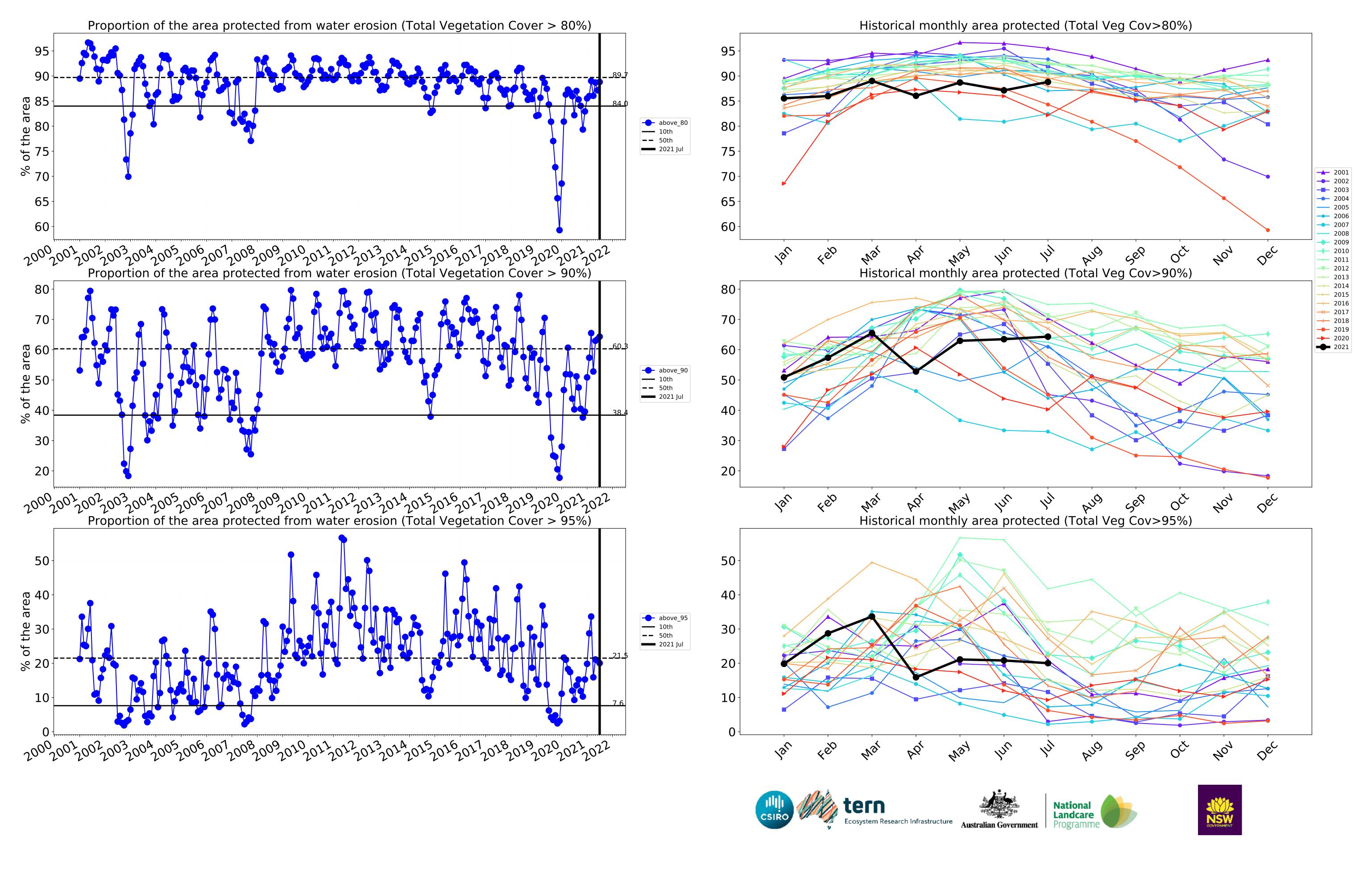












Conservation and natural environments

Proportion of each land class in area Land use and forest cover 56.4% 50 Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Non-forest 2 Conservation and natural environments – Woodland Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 3 Conservation and natural environments – Non-woodland forest 22.4% 21.2% 20 10 2 3 Land use class **Proportion of vegetation cover class in area Total Vegetation Cover [%]** 100 97.2% 80 Area (%) 40 20 2.8% 0-30% 51%-70% 31%-50% 71%-100% **Total Vegetation Cover class** % Area protected from water erosion (>70%) % Area protected from wind erosion (>50%) Area not protected 2.8% of Area region (406 ha) protected 100.0% of Area region (14,500 protected 97.2% of ha) region (14,094 ha) **Total Vegetation Cover Decile [%] Total Vegetation Cover Anomaly [%]** - 20 Anomaly show how many percetage points each pixel is from the mean. That 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. - 10 is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019. -10**-**20

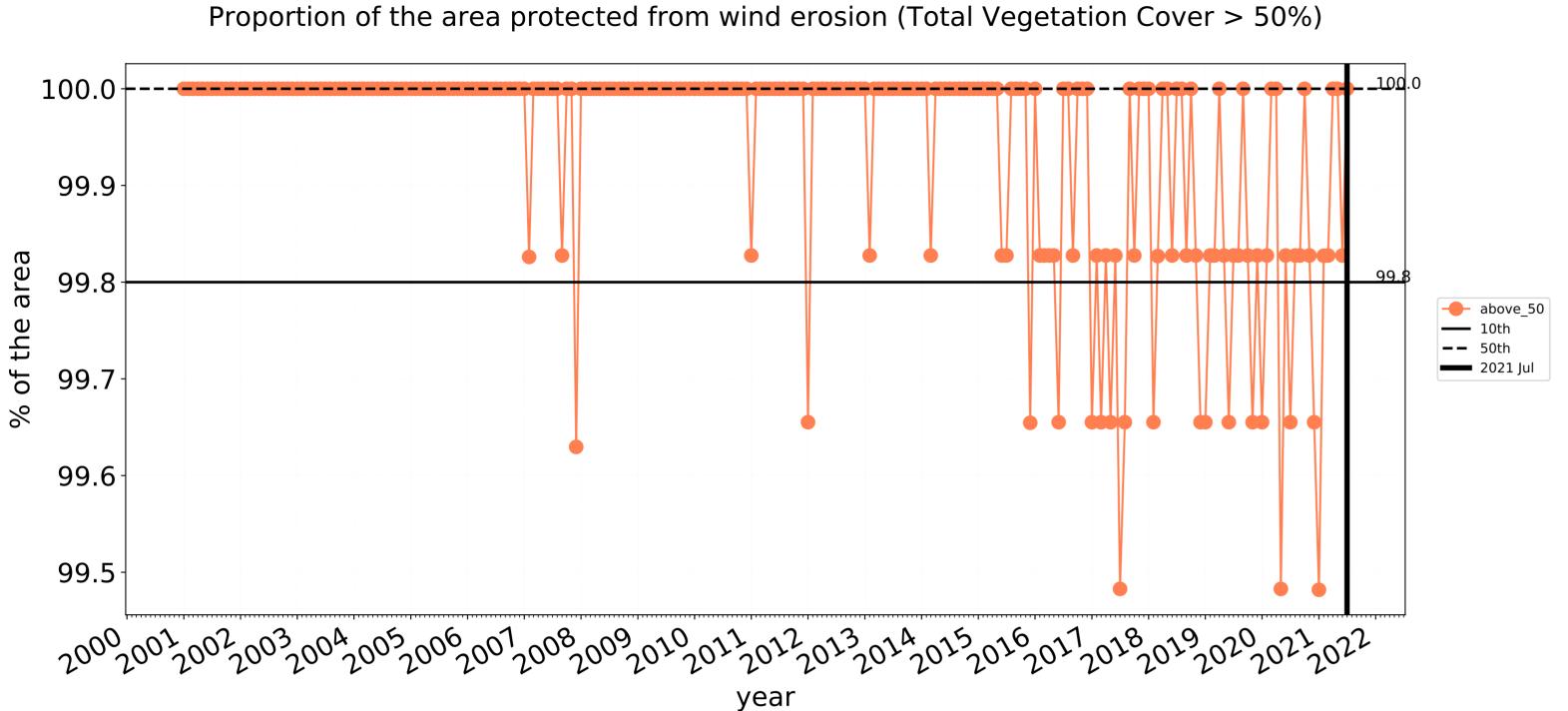
Australian Government

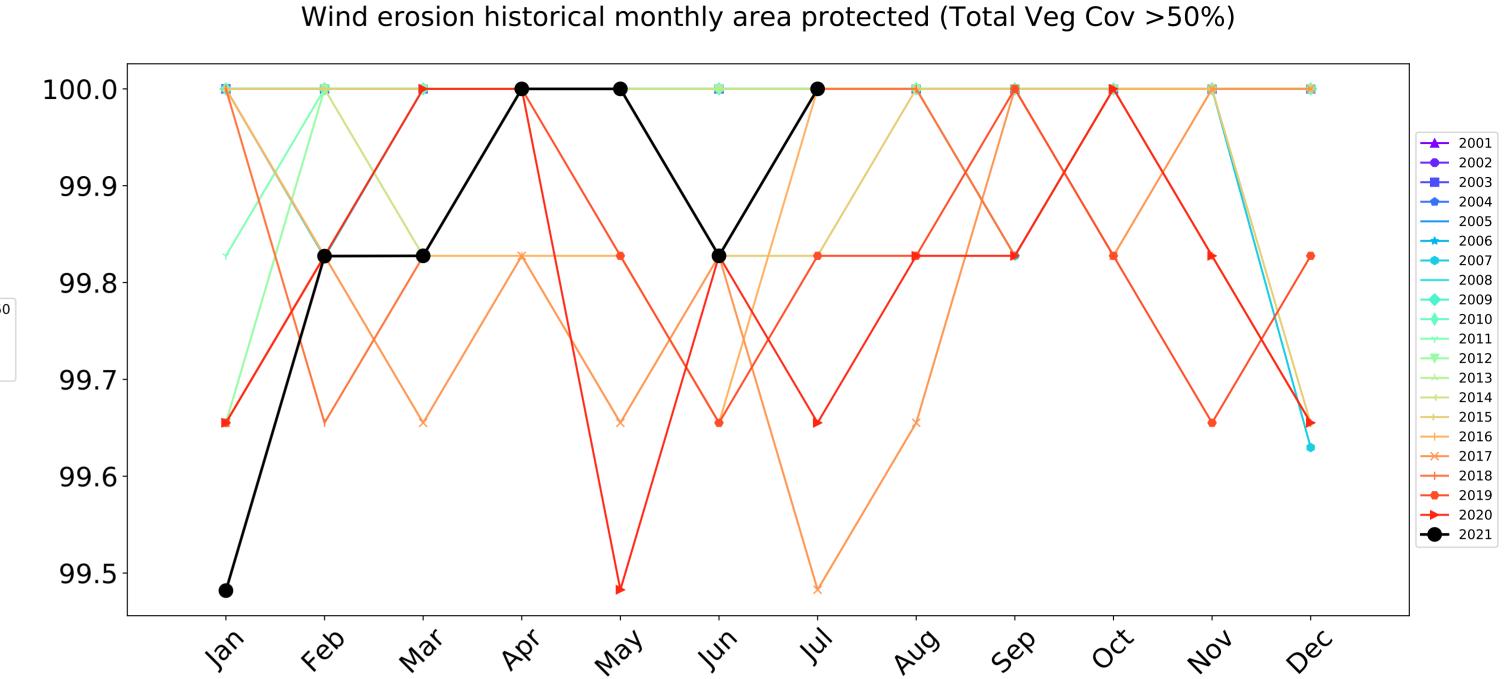
Ecosystem Research Infrastructure

National Landcare

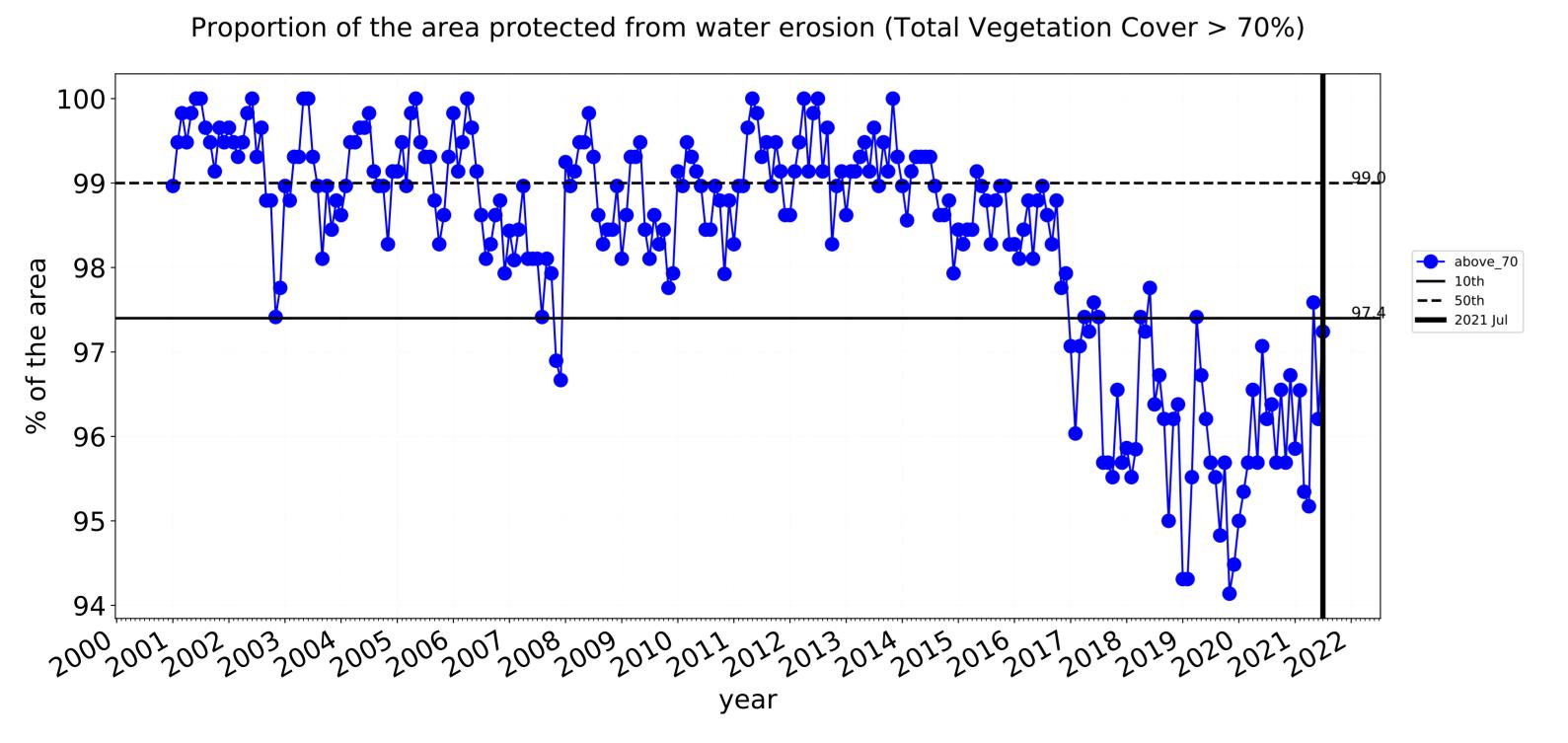
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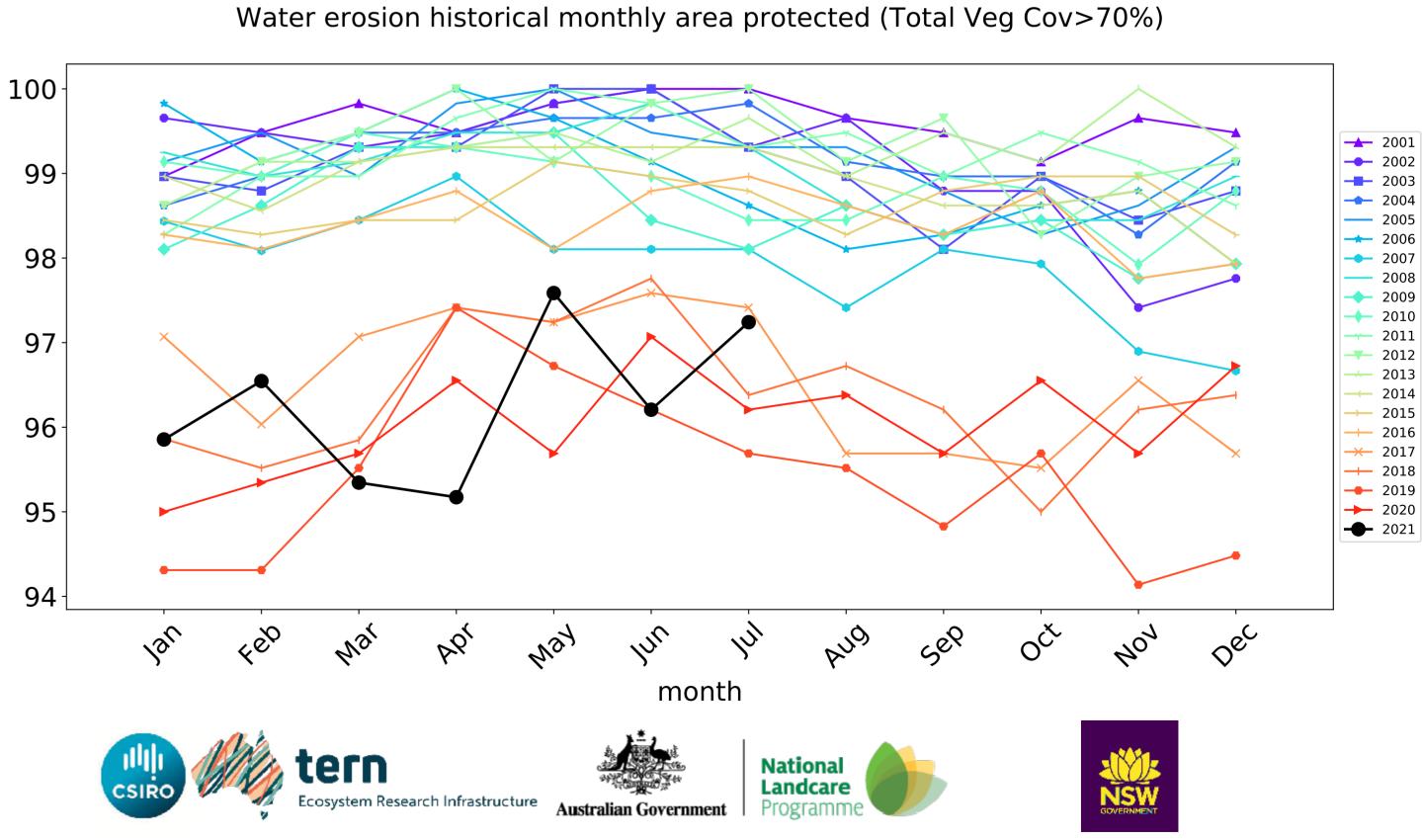
Conservation and natural environments timeseries

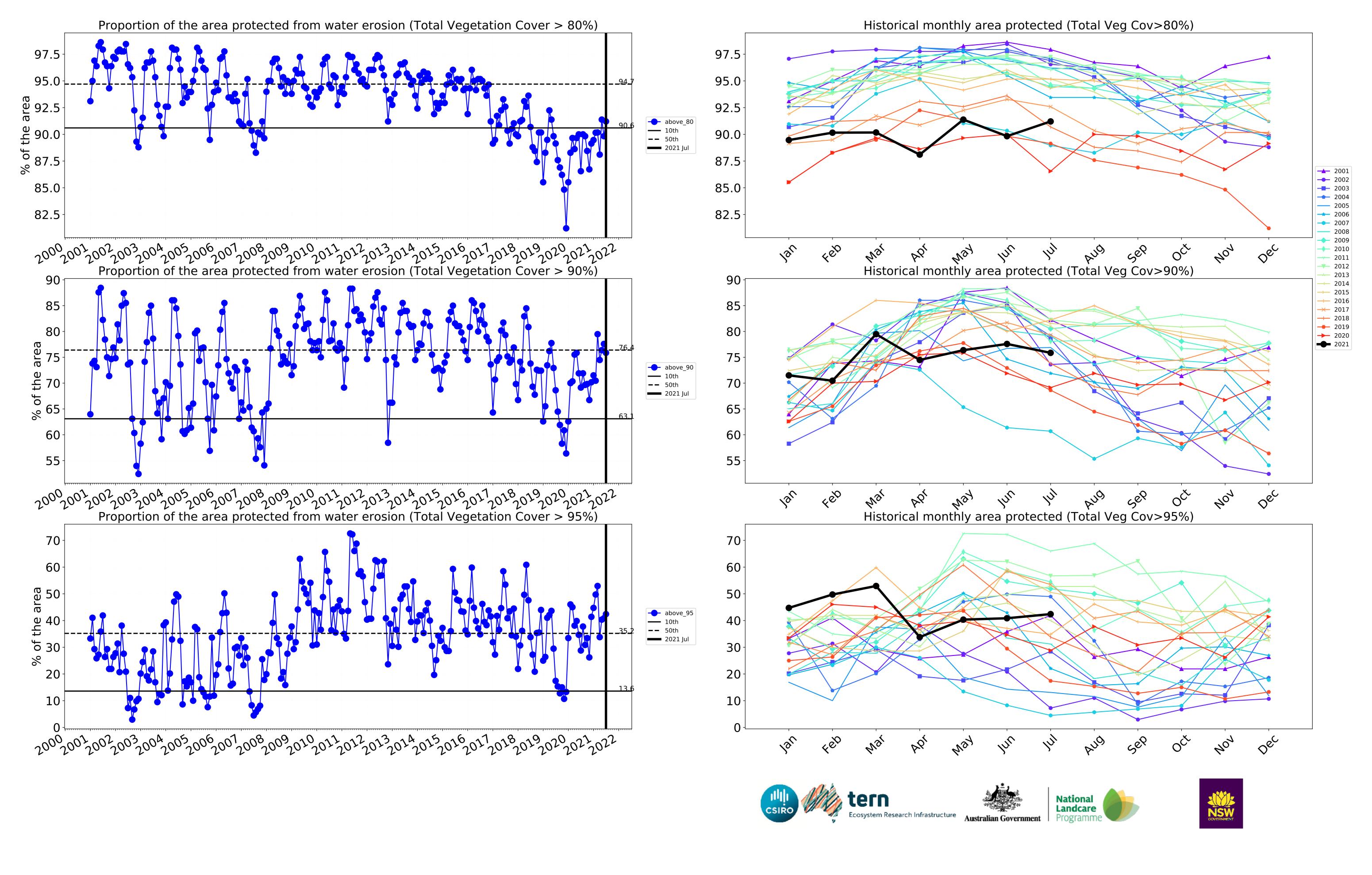




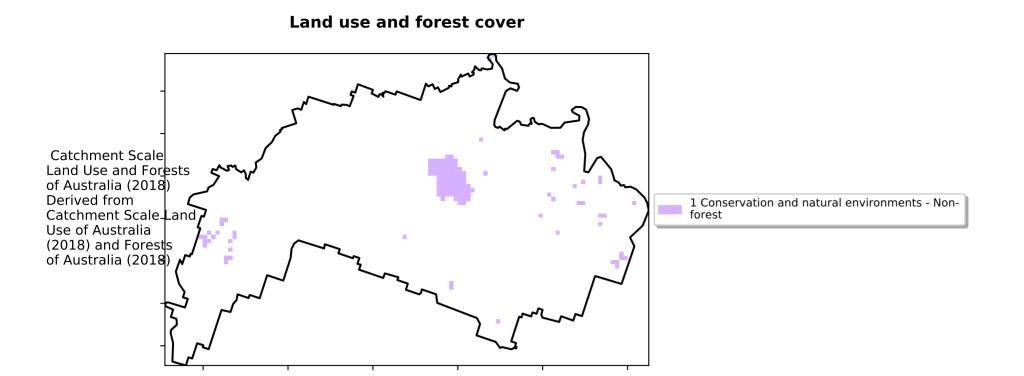
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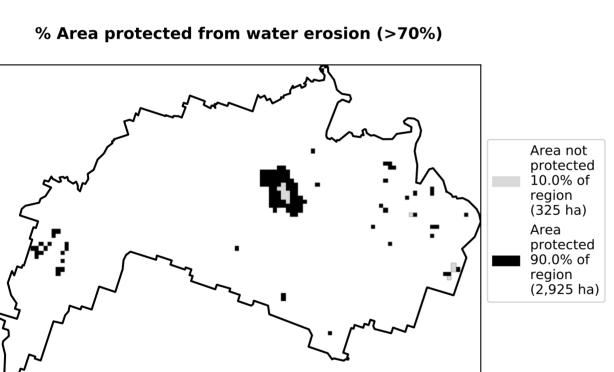


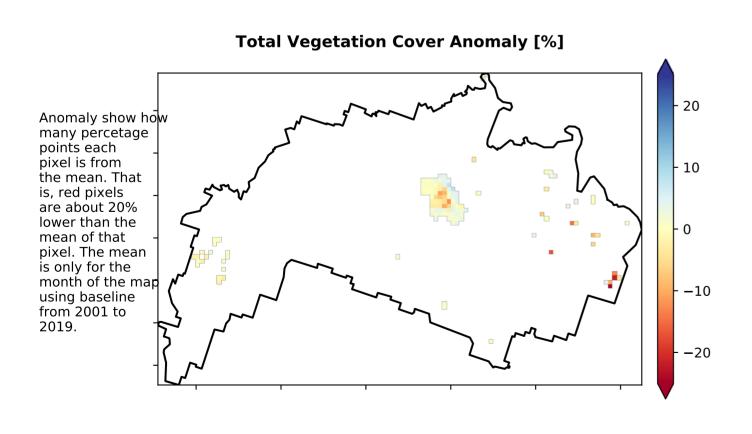


Conservation and natural environments non forest



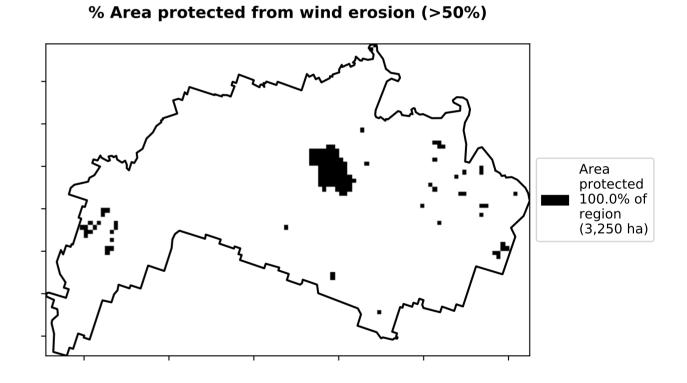
Total Vegetation Cover [%]

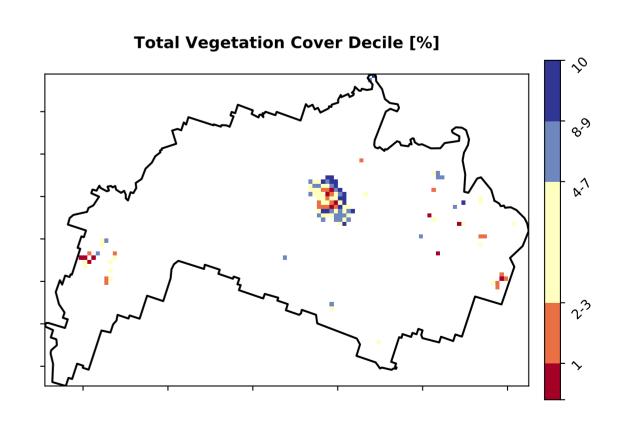




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area 90.0% 80 60 Area (%) 20 10.0% 0.0% 51%-70% 0-30% 31%-50% 71%-100% **Total Vegetation Cover class**





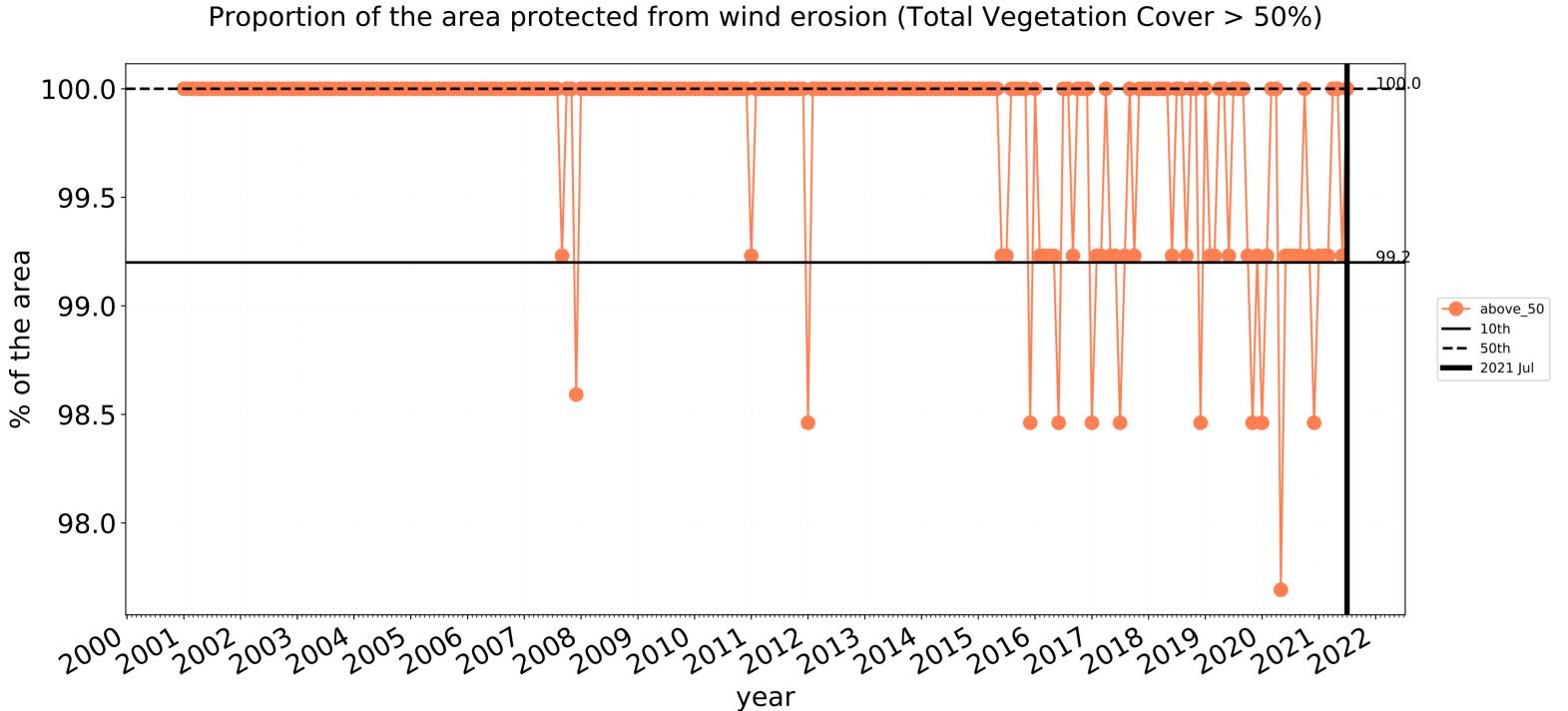


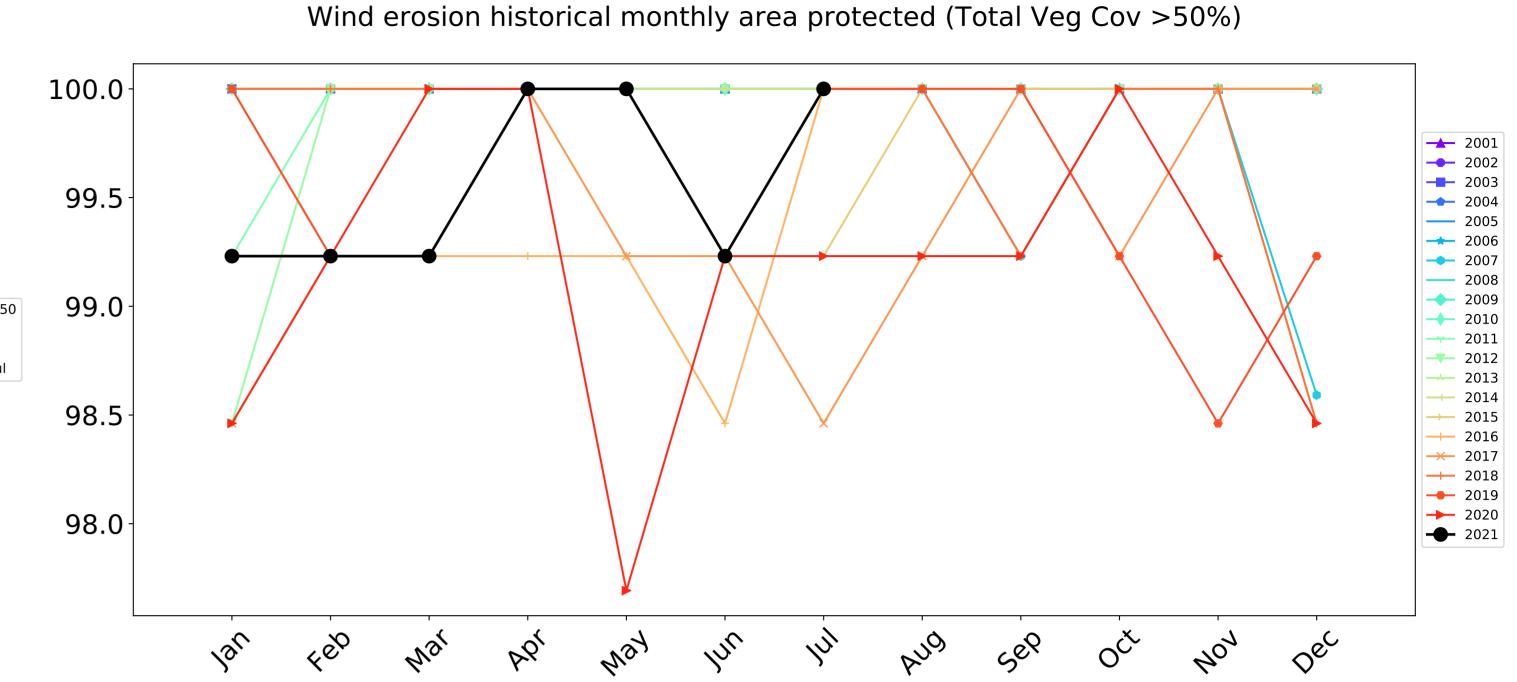




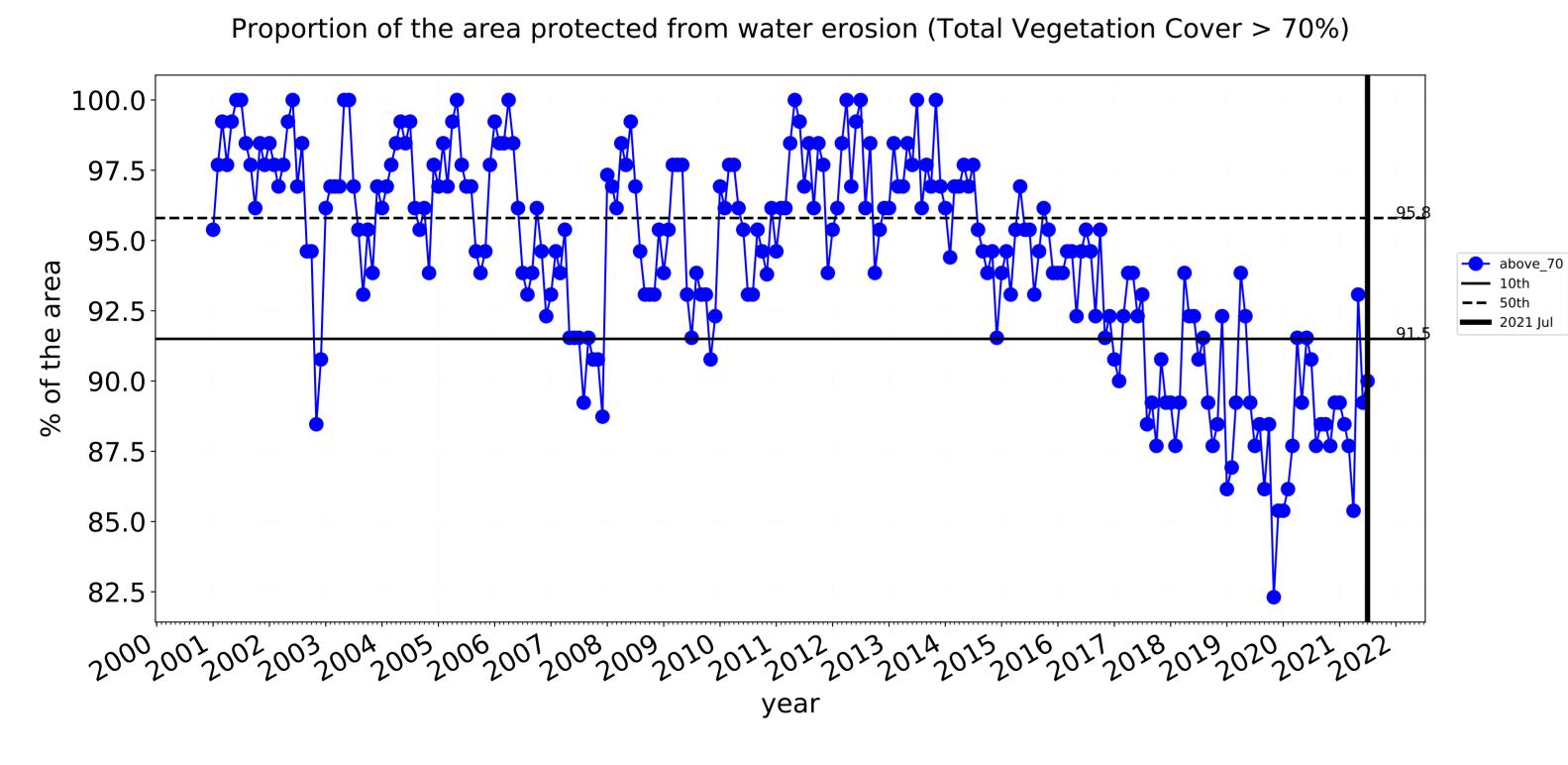


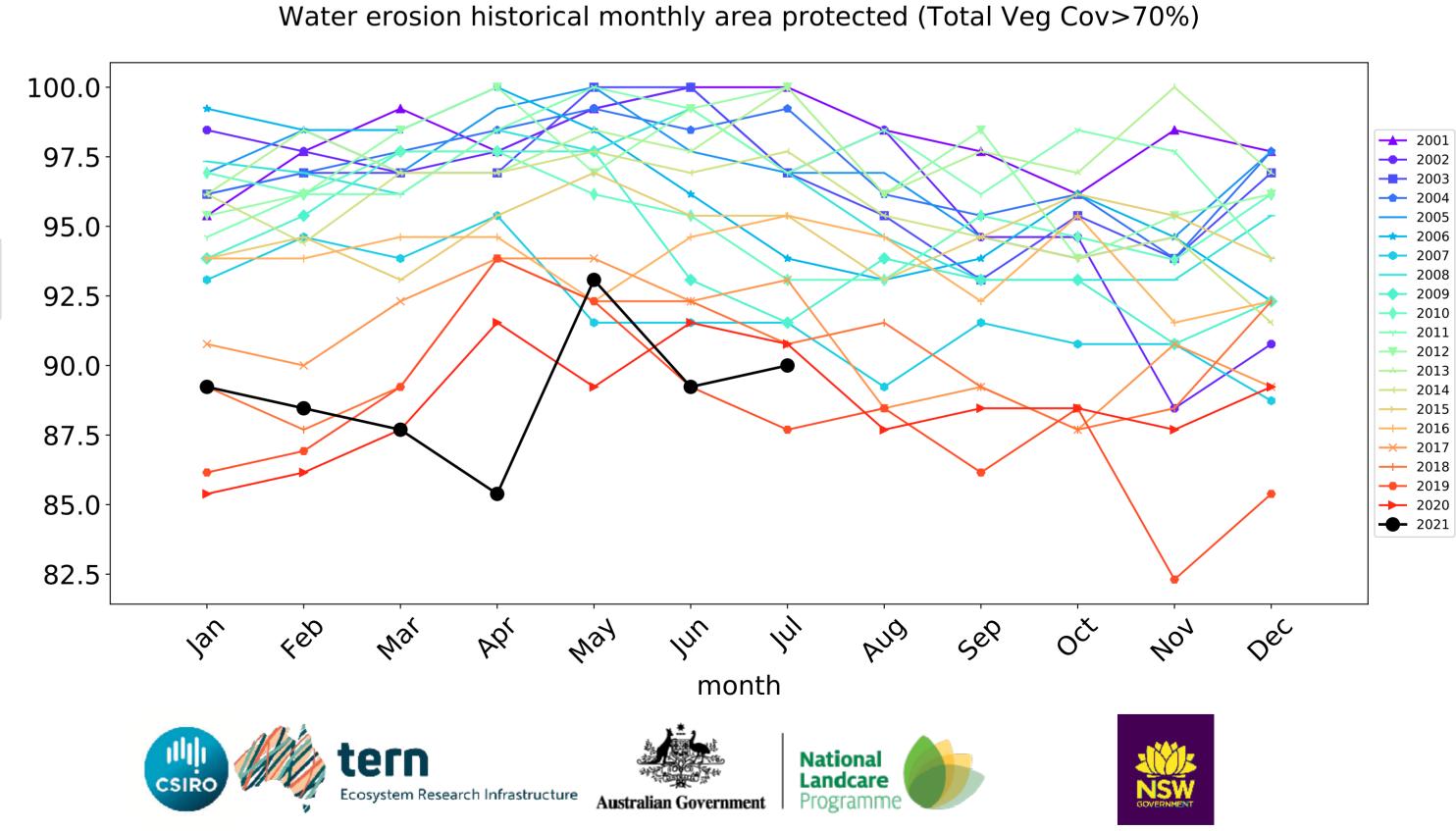
Conservation and natural environments non forest timeseries

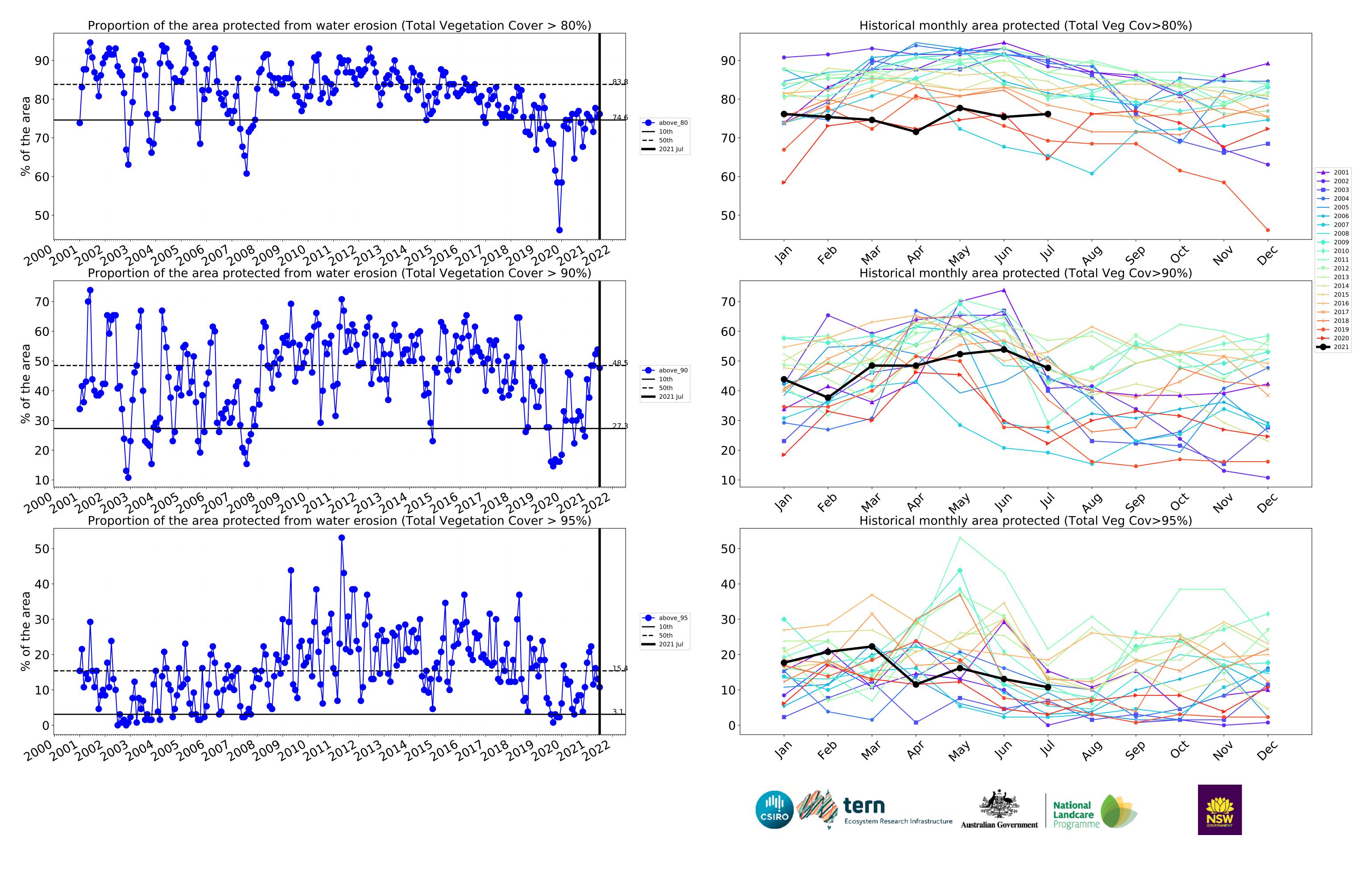




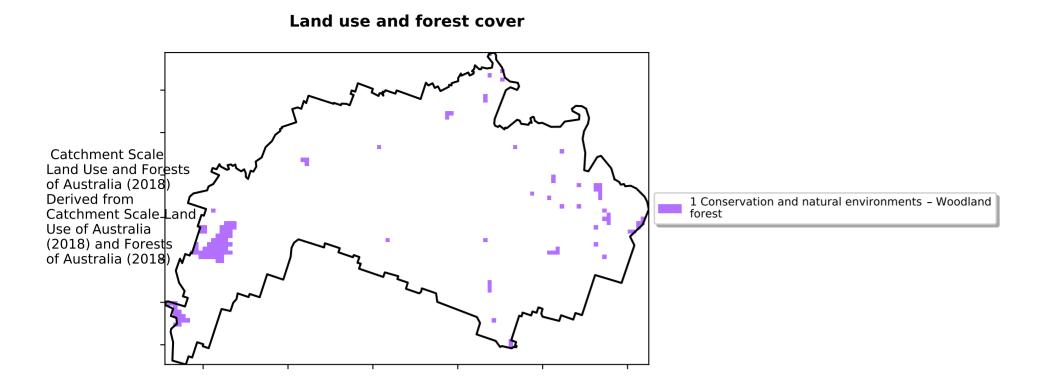
month

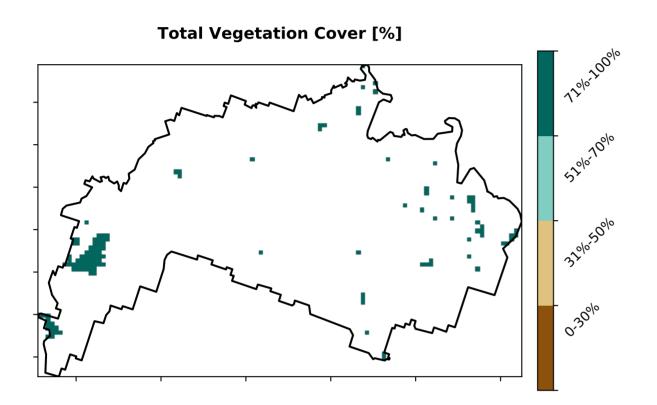




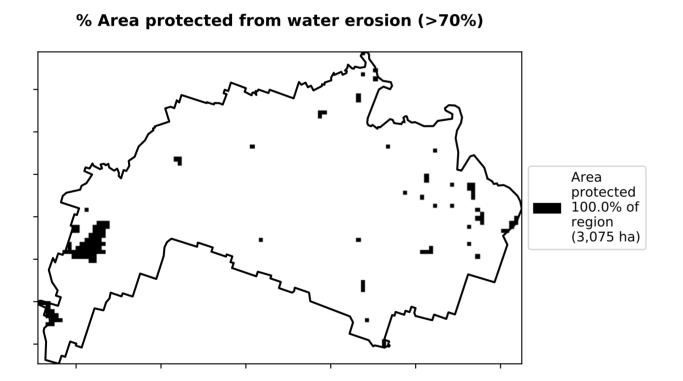


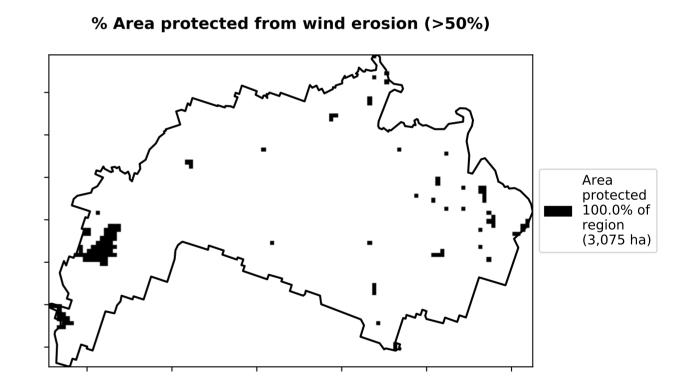
Conservation and natural environments Woodland forest

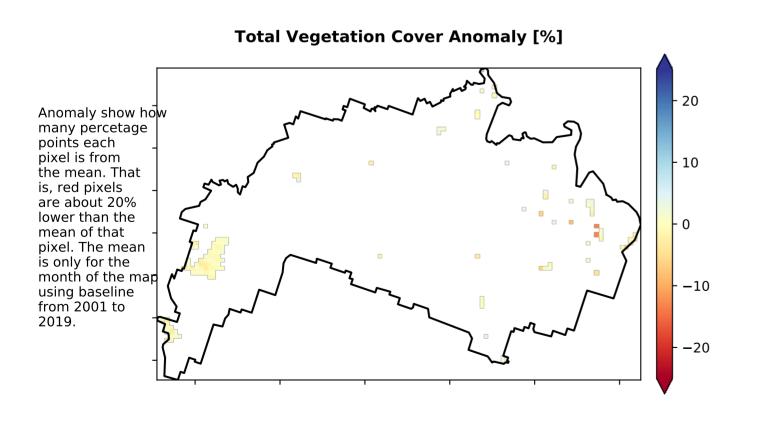


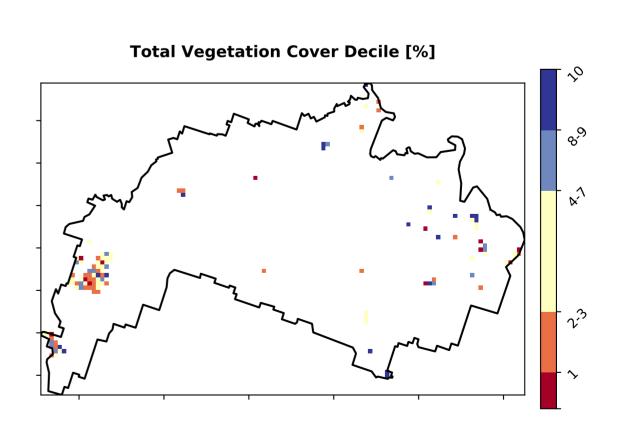


Proportion of vegetation cover class in area 100 - 100.0% 80 - 20 - 20 - 20 - 0.0% 0-30% 31%-50% Total Vegetation Cover class









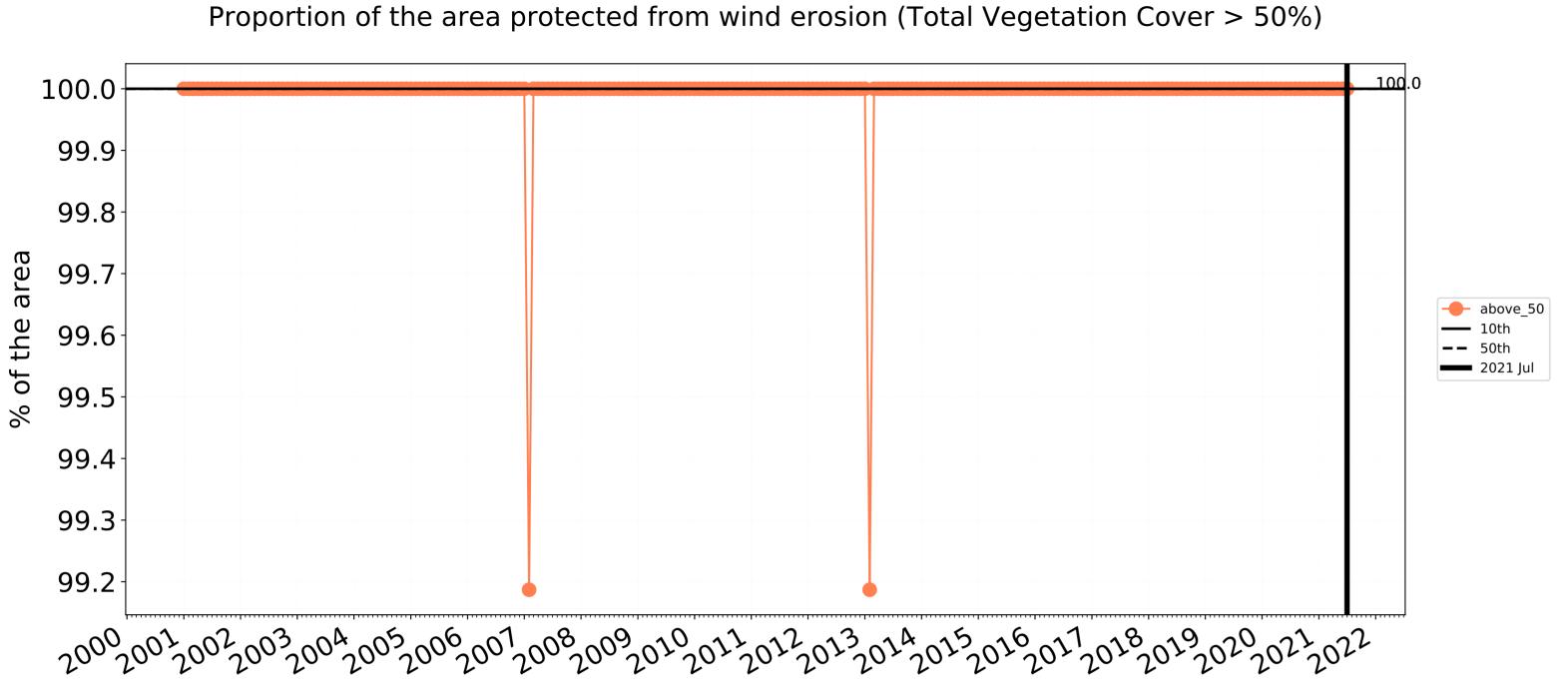


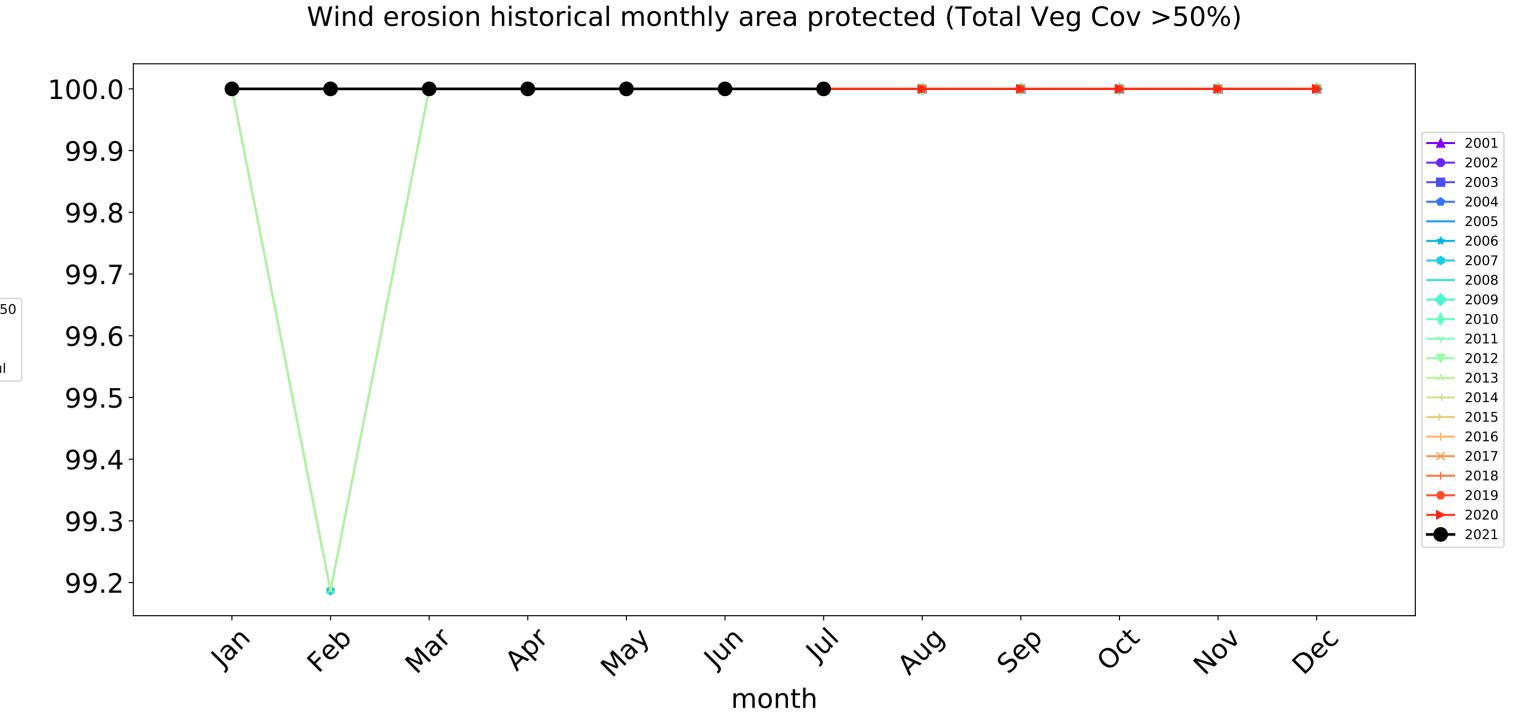


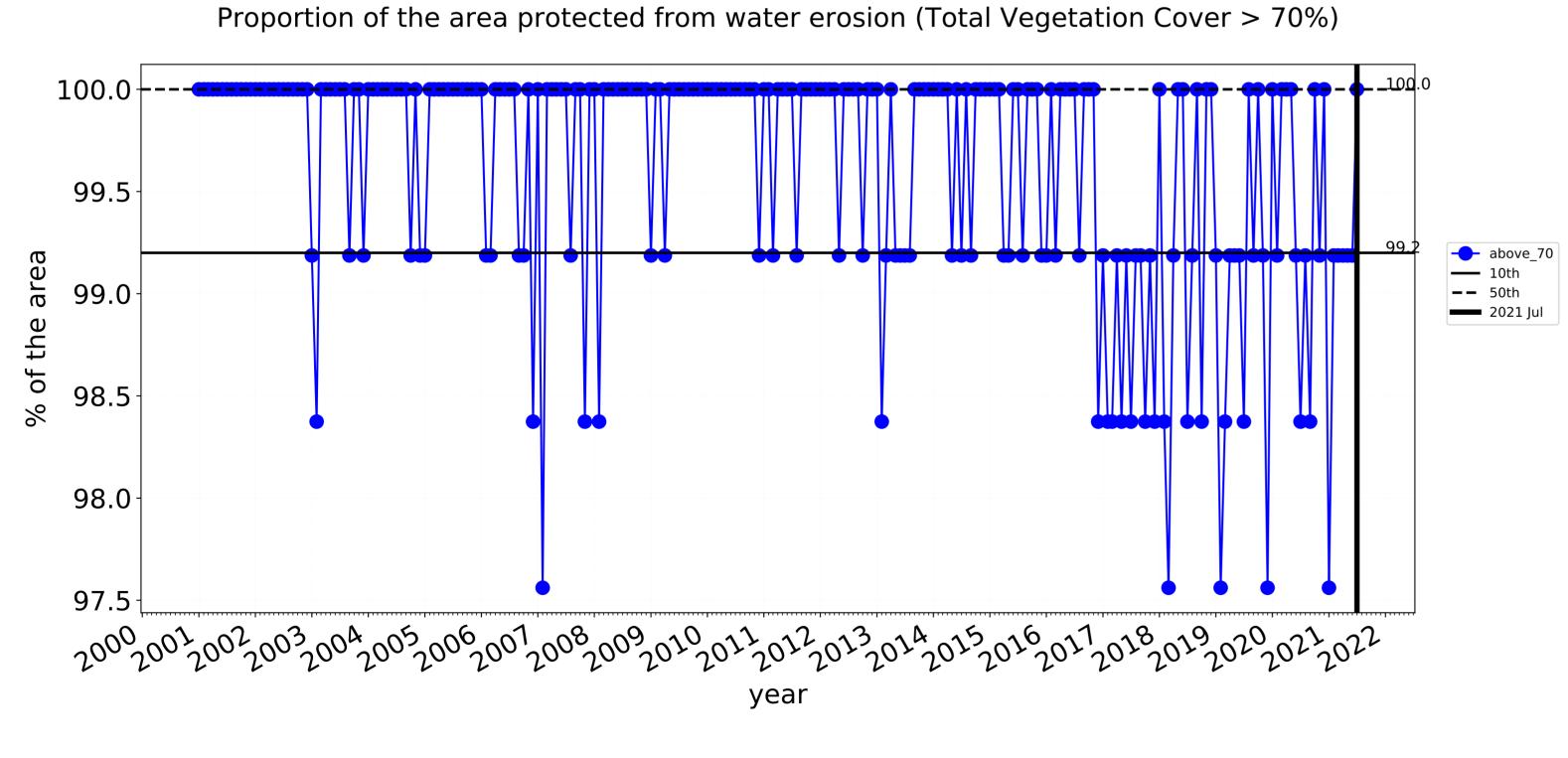


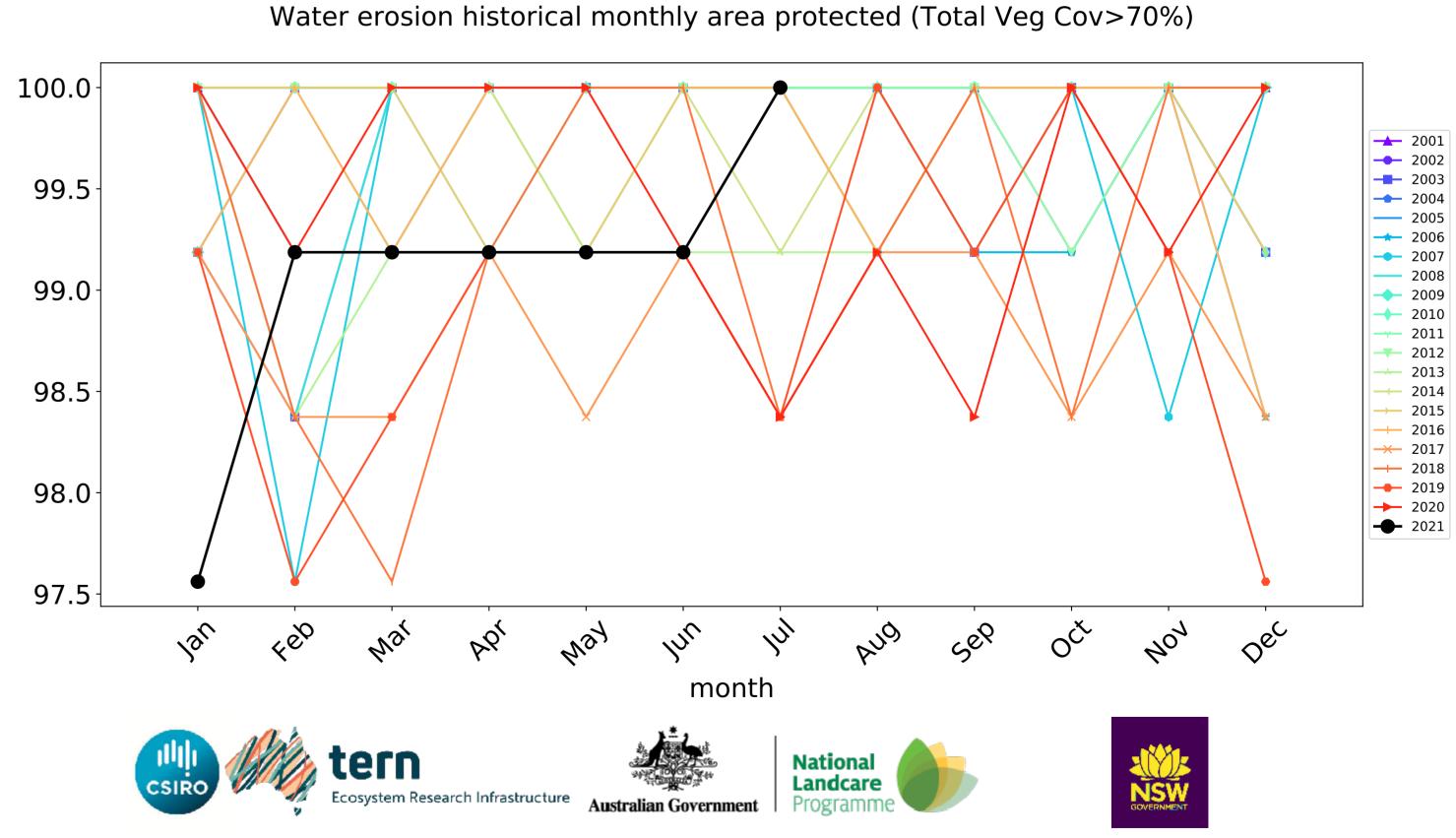


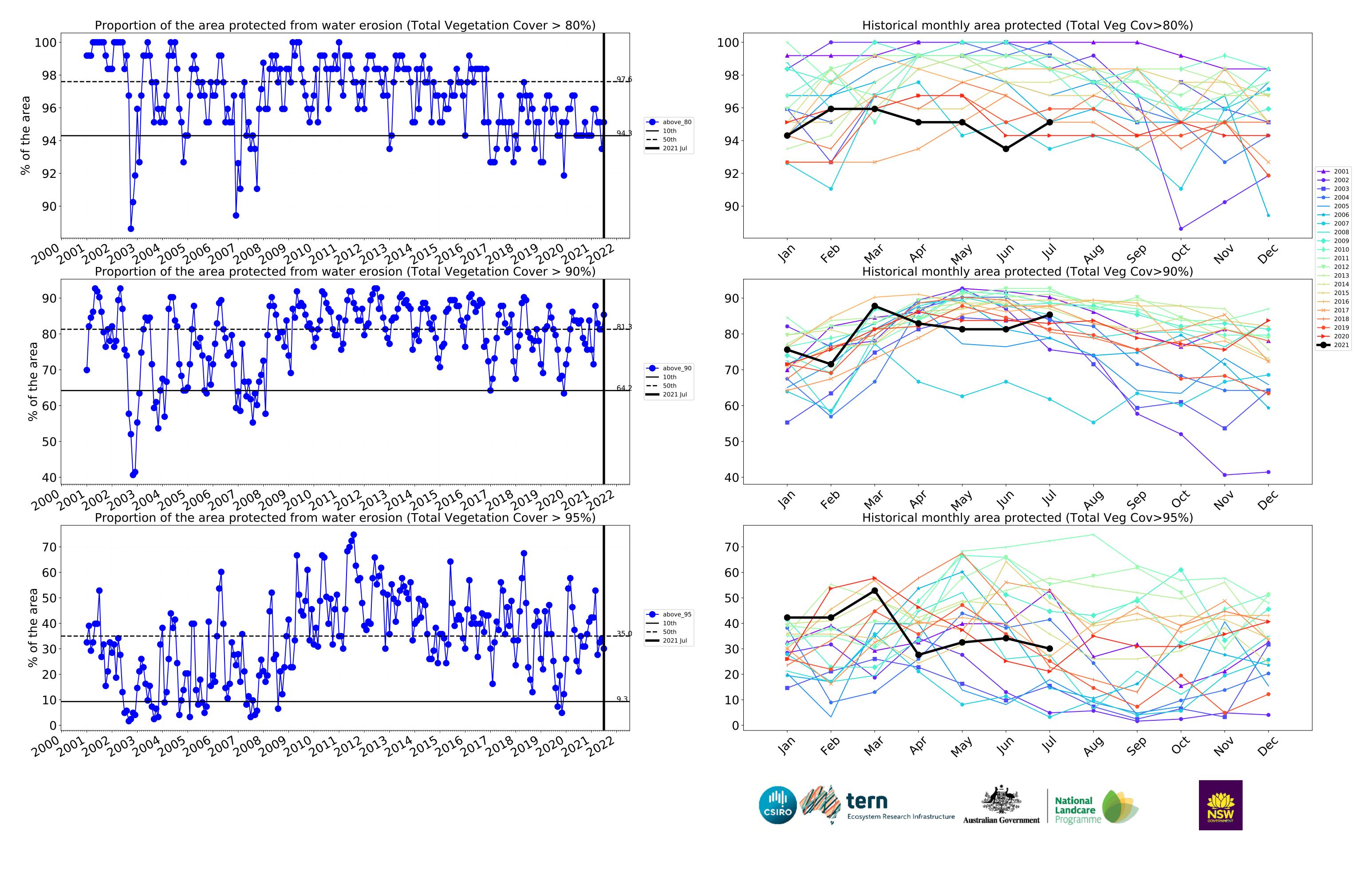
Conservation and natural environments Woodland forest timeseries







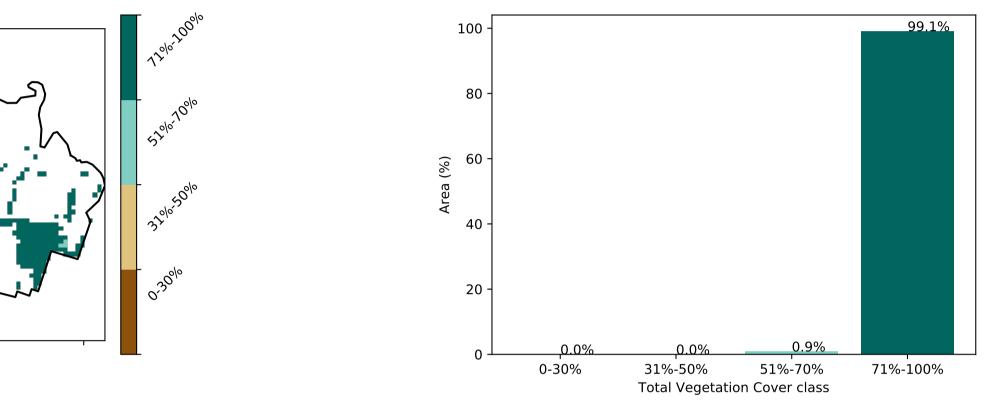


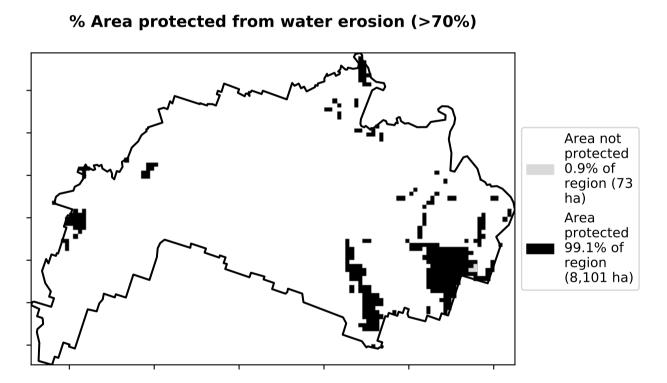


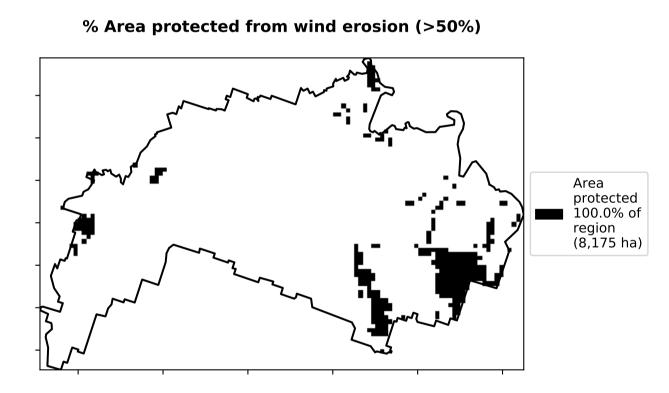
Conservation and natural environments Forest (non woodland)

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)

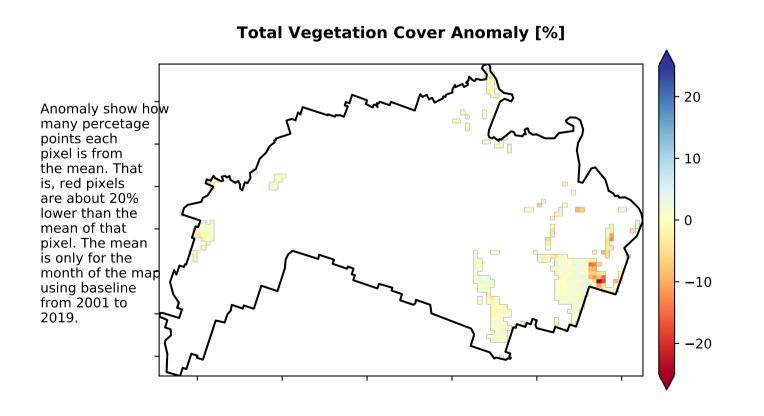
Total Vegetation Cover [%]

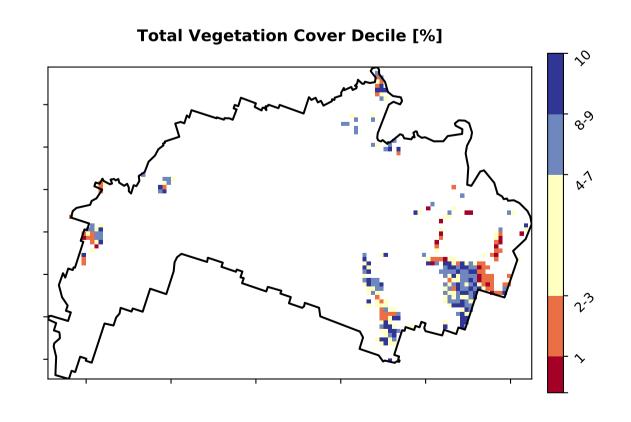






Proportion of vegetation cover class in area



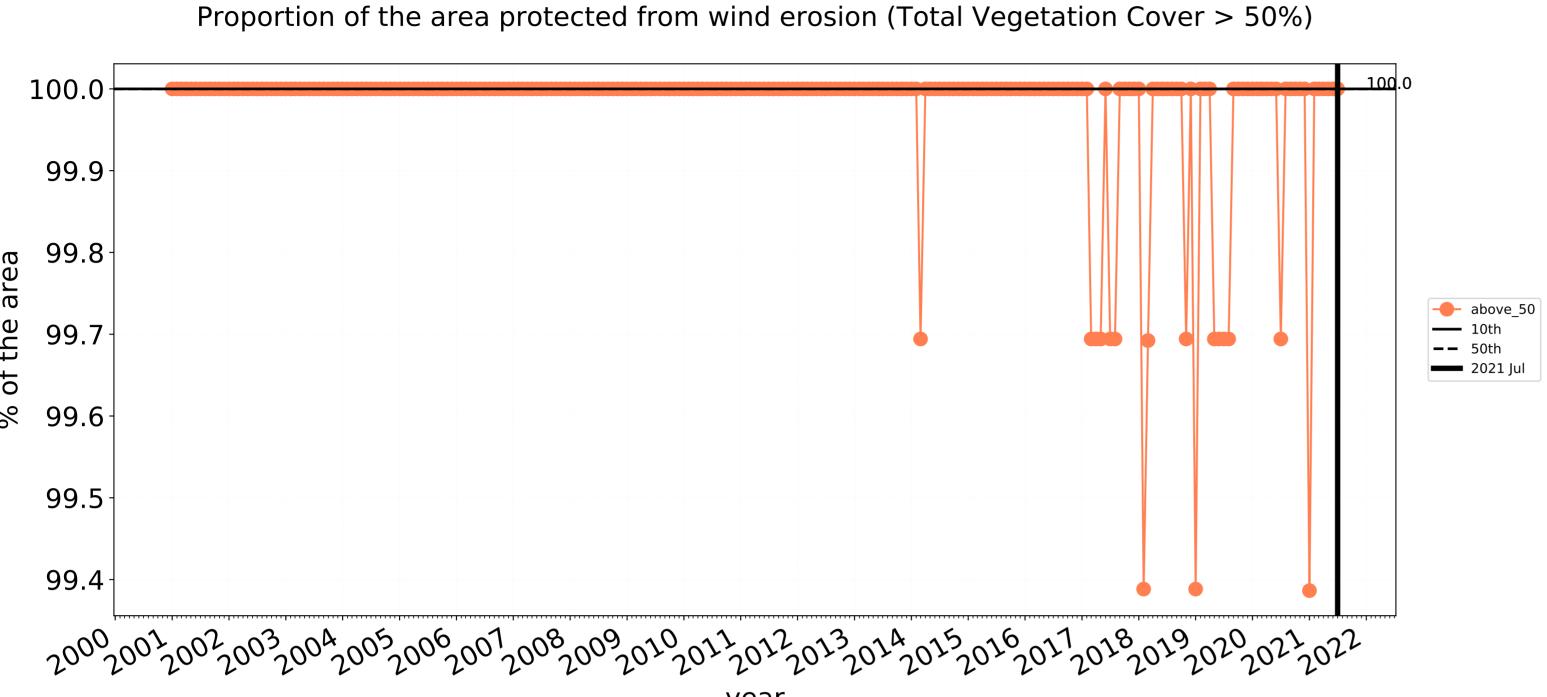


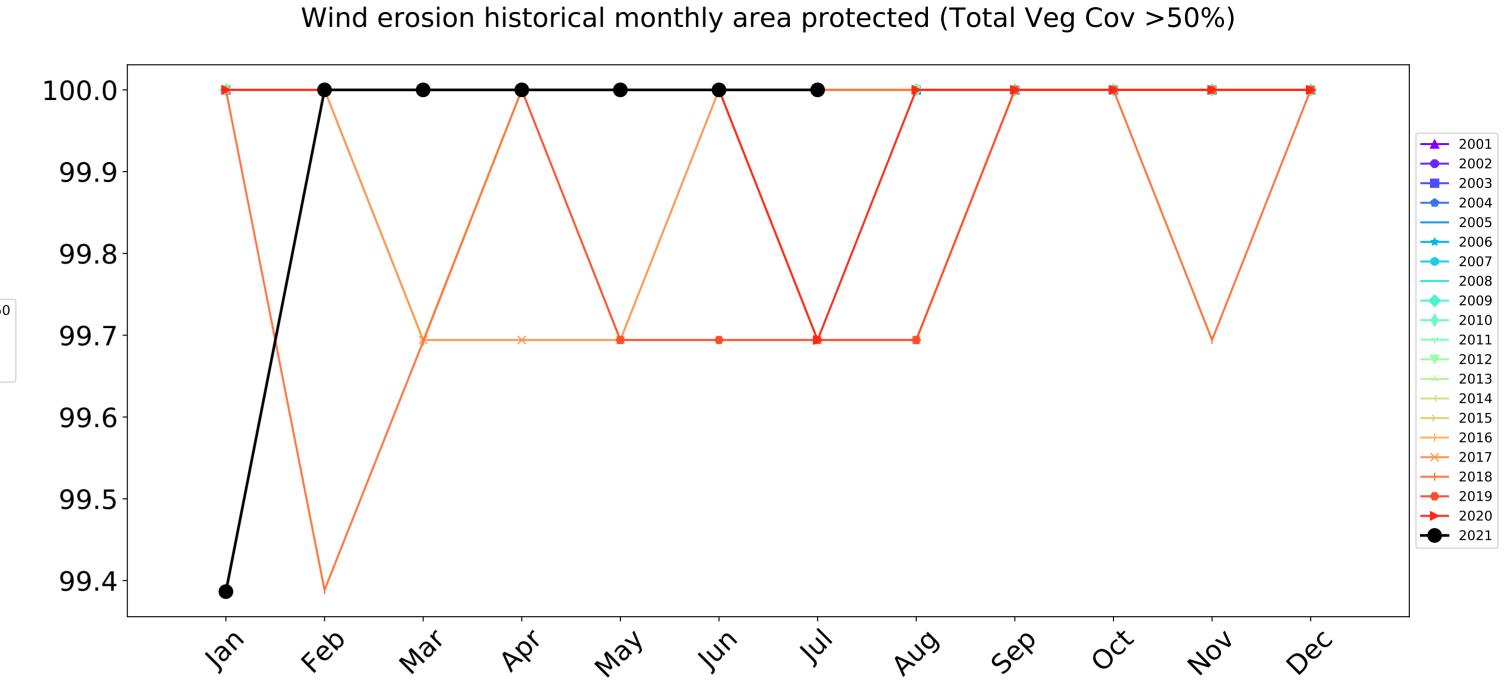




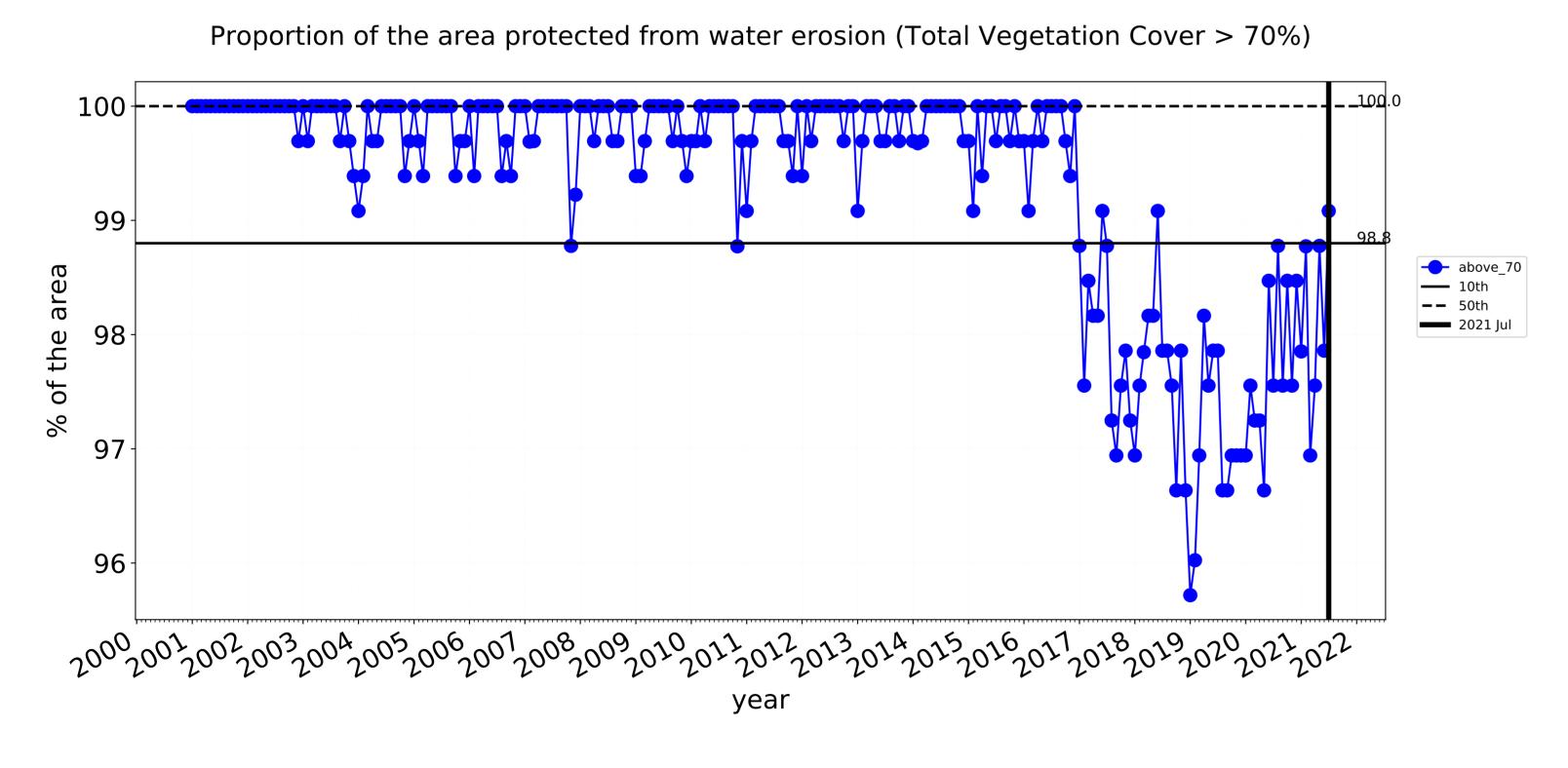


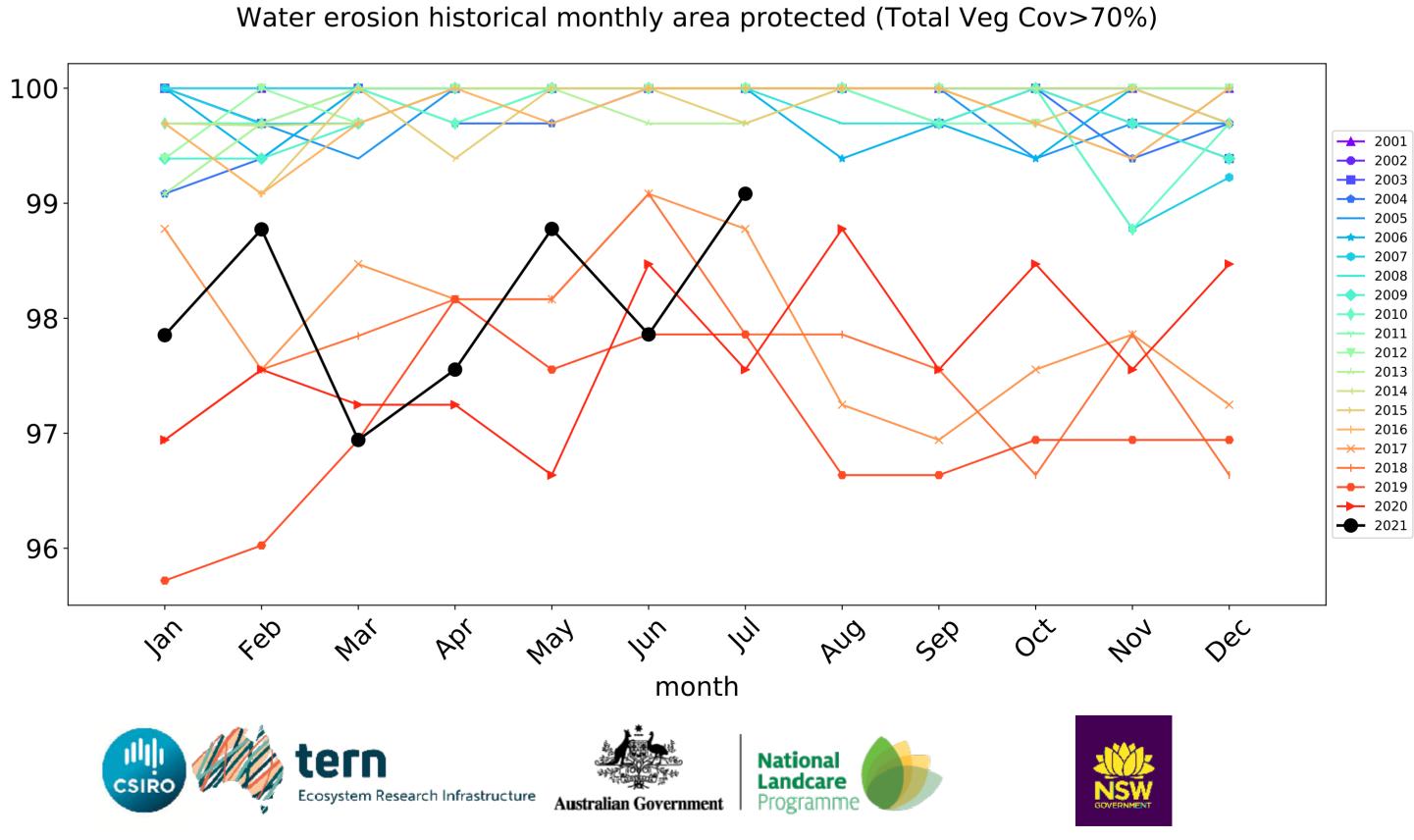


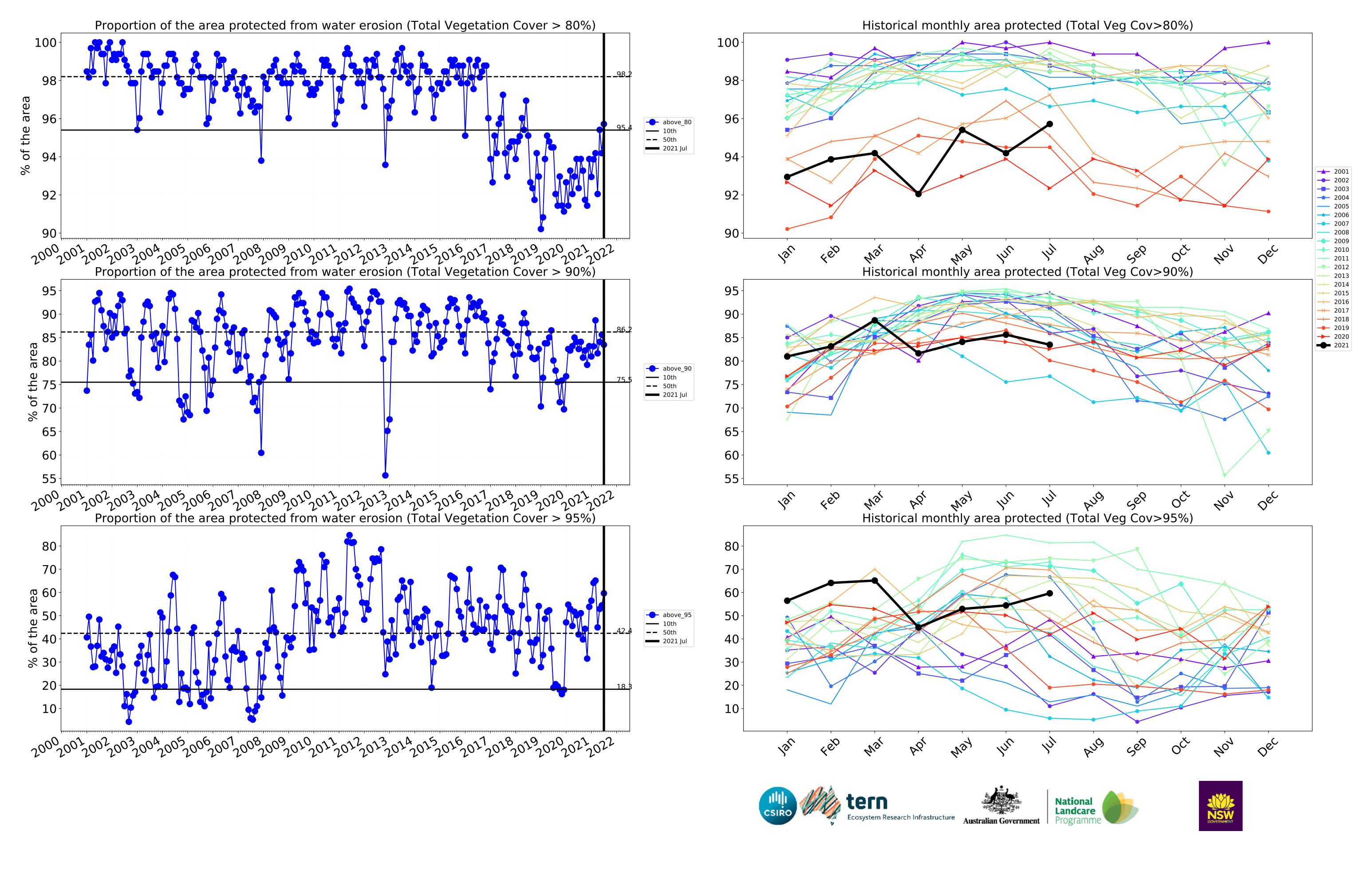




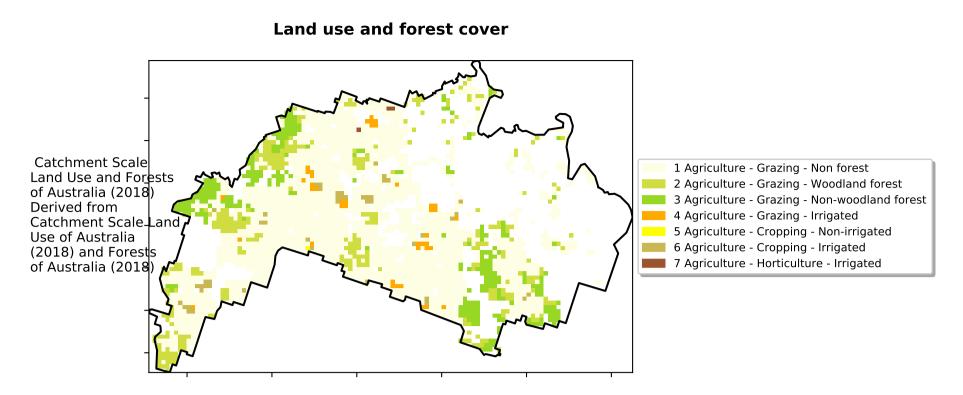
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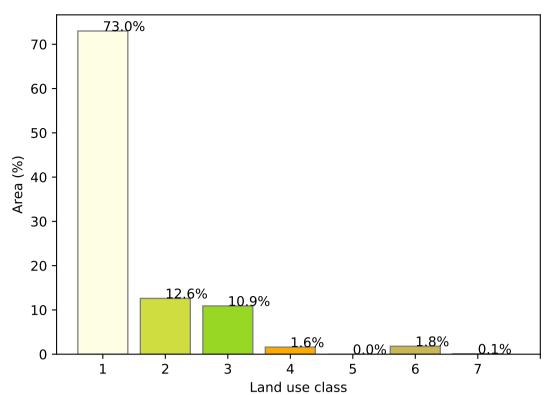




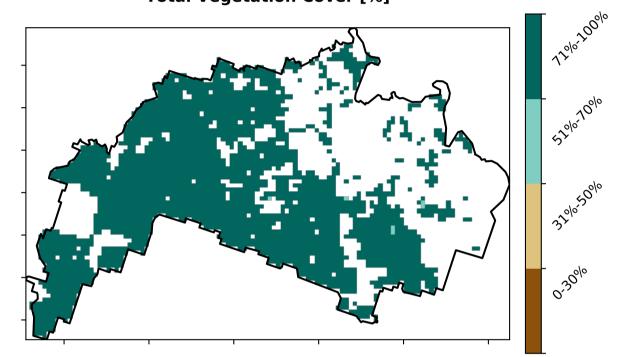
Agriculture



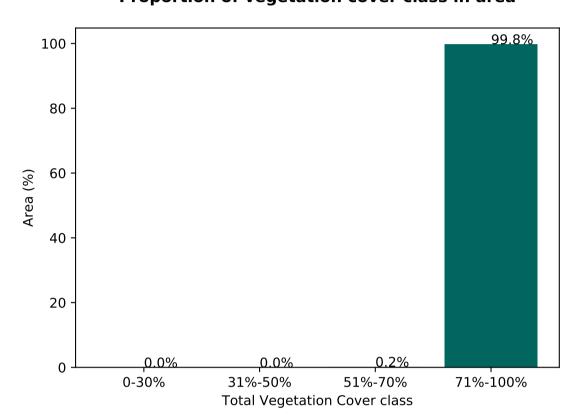
Proportion of each land class in area



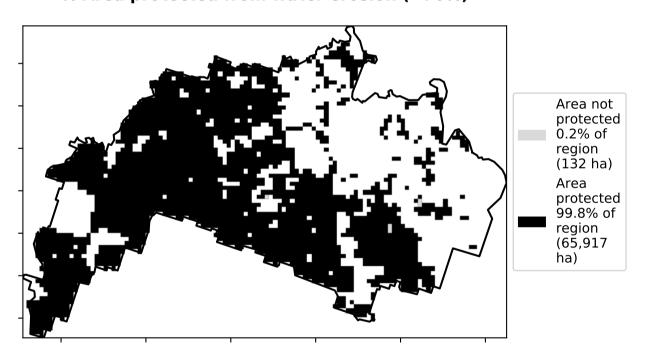




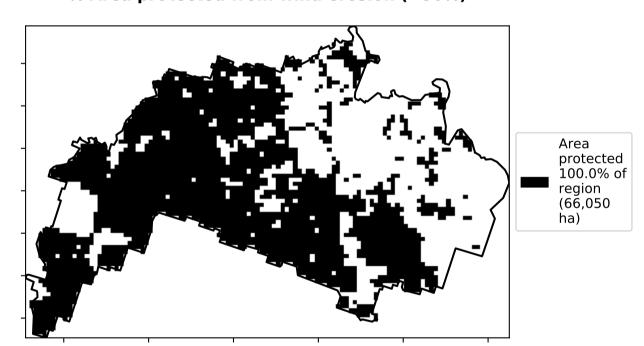
Proportion of vegetation cover class in area



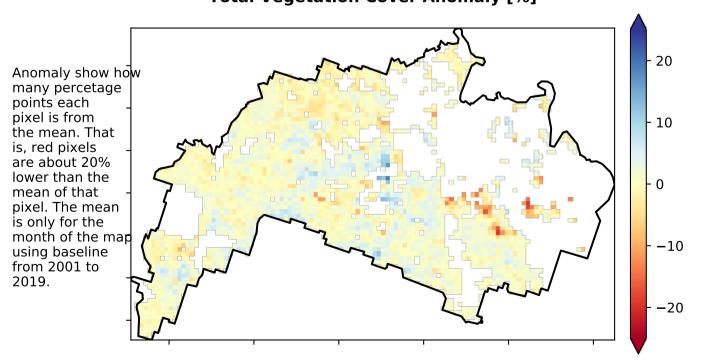
% Area protected from water erosion (>70%)



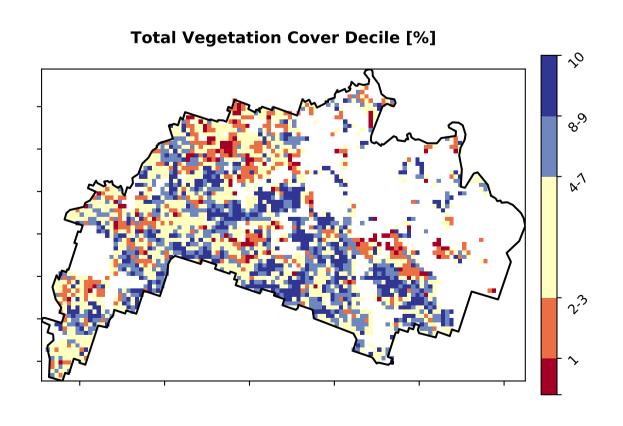
% Area protected from wind erosion (>50%)



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.





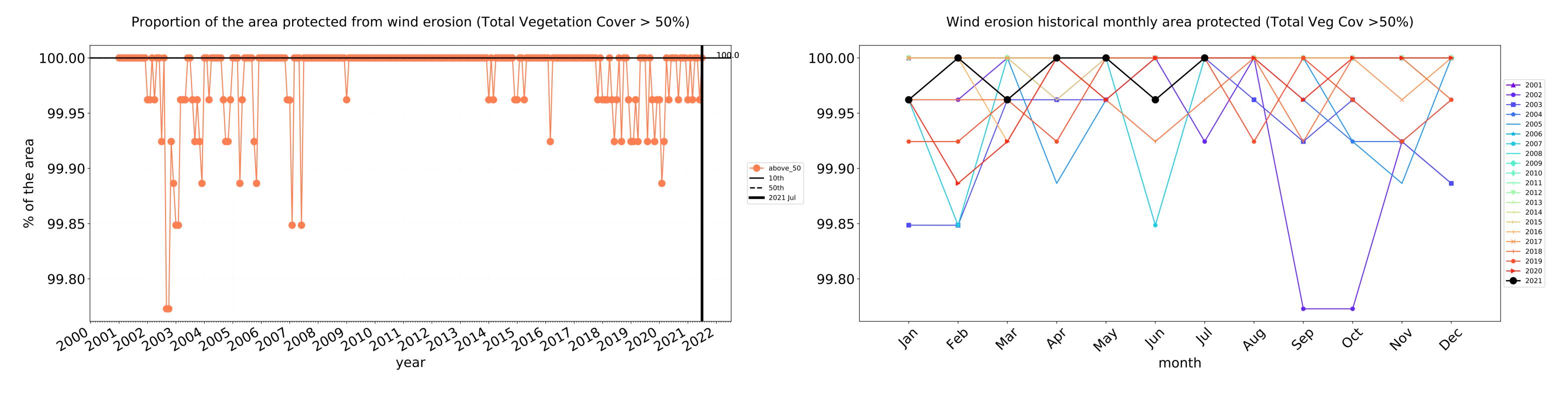


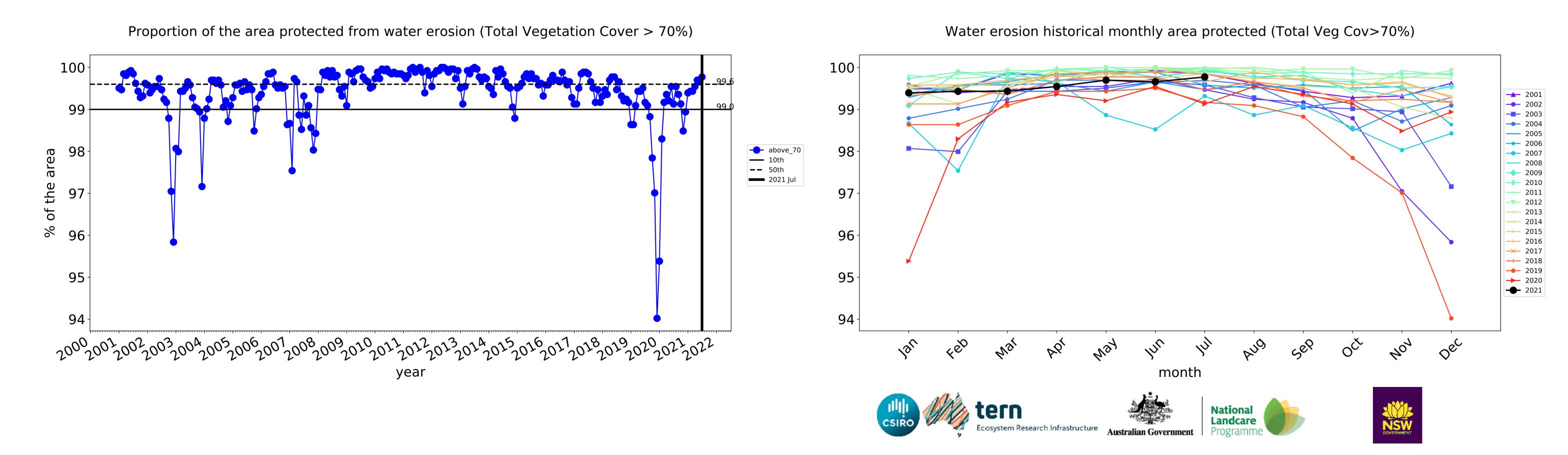


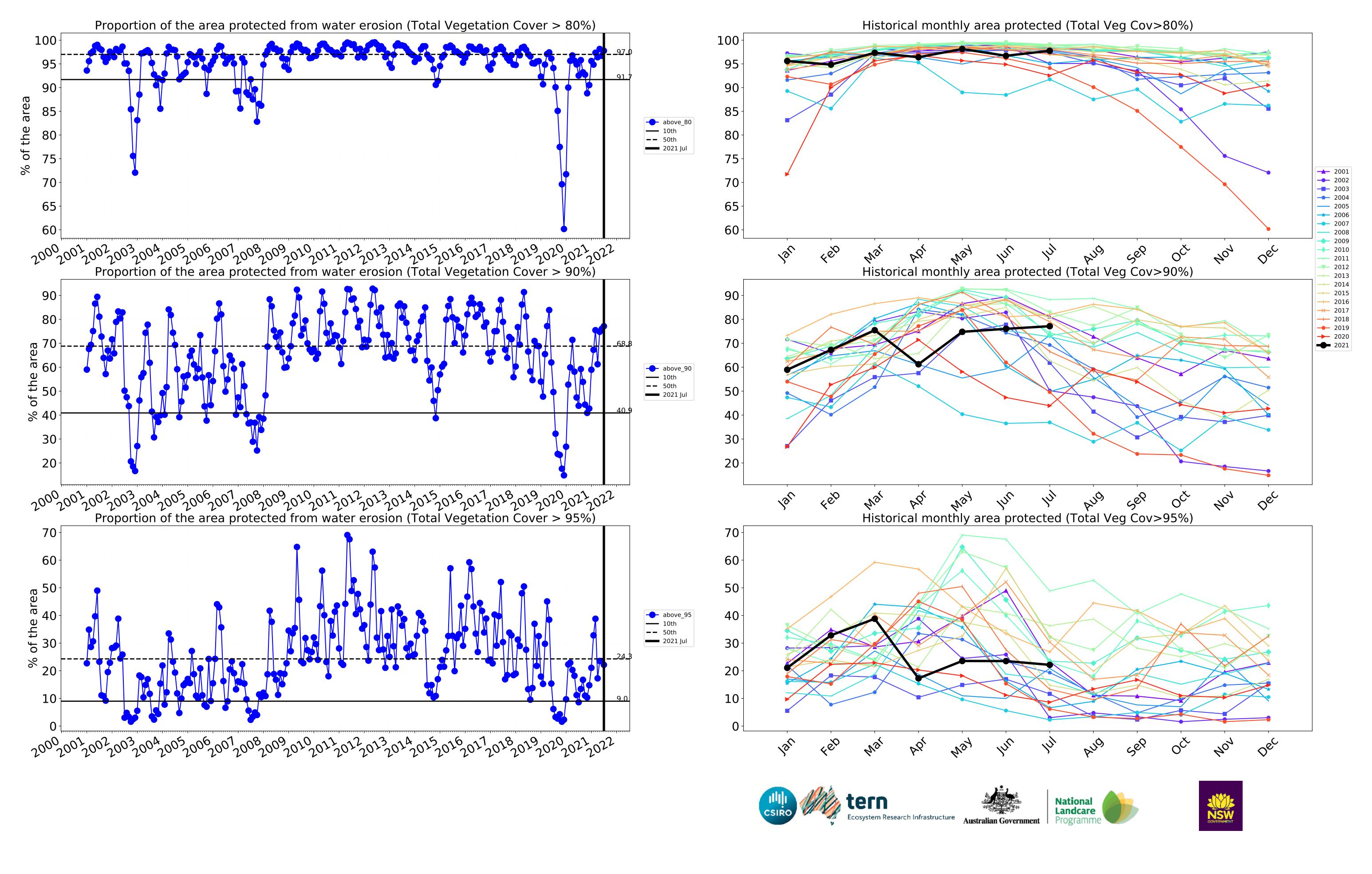




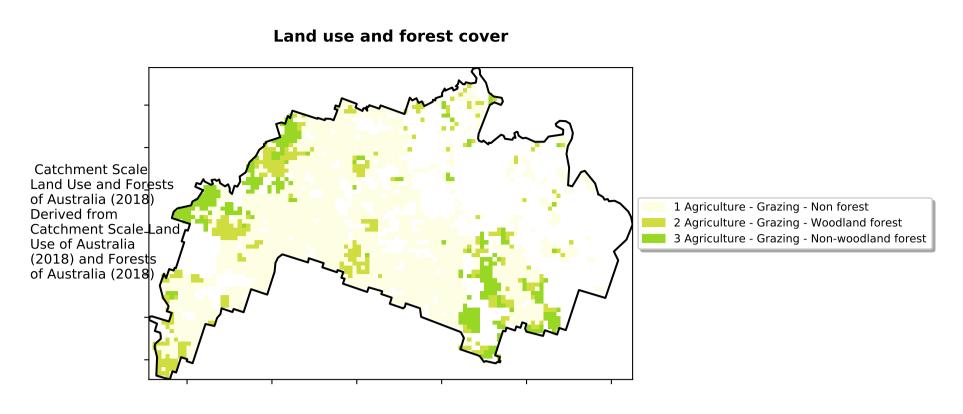
Agriculture timeseries



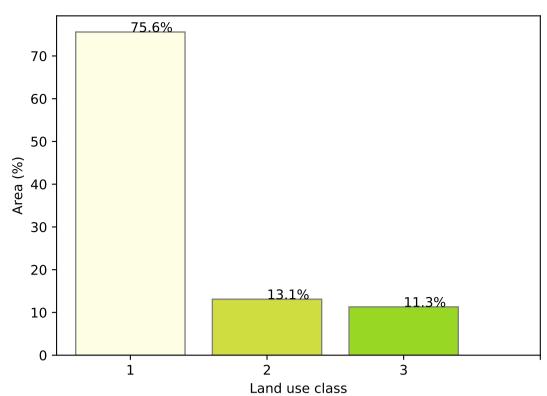




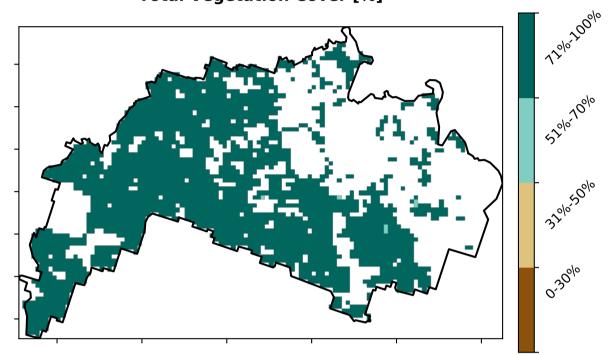
Grazing



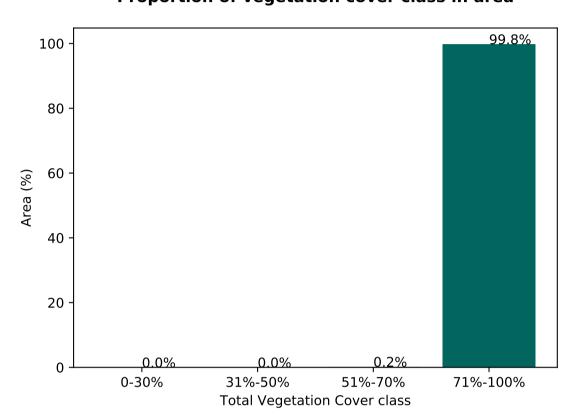
Proportion of each land class in area



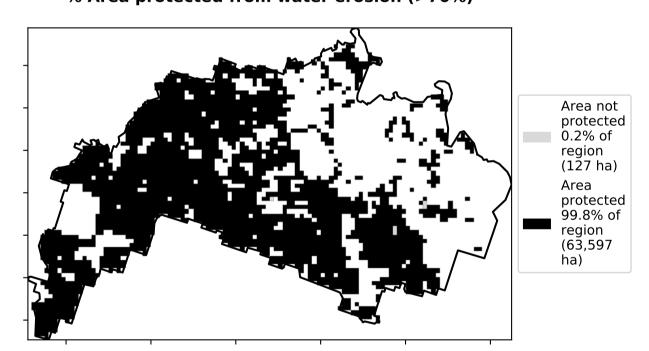




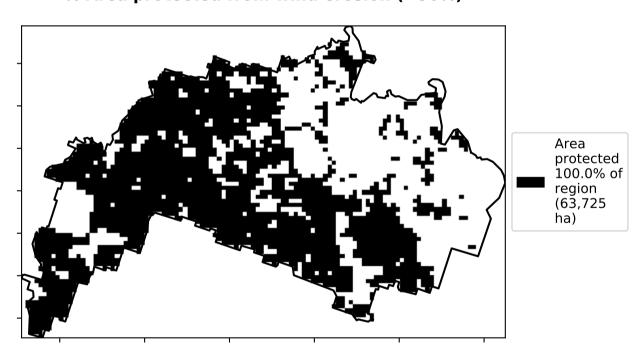
Proportion of vegetation cover class in area



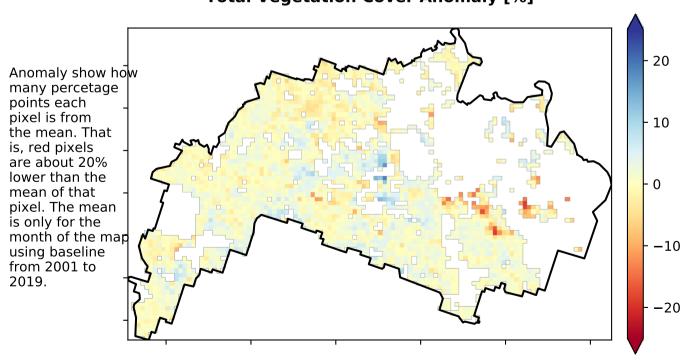
% Area protected from water erosion (>70%)



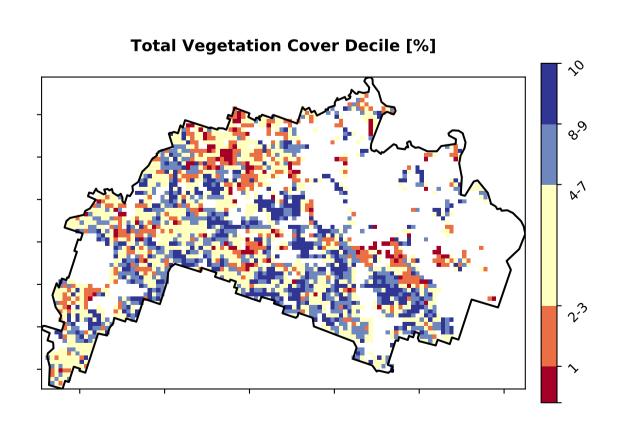
% Area protected from wind erosion (>50%)



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.





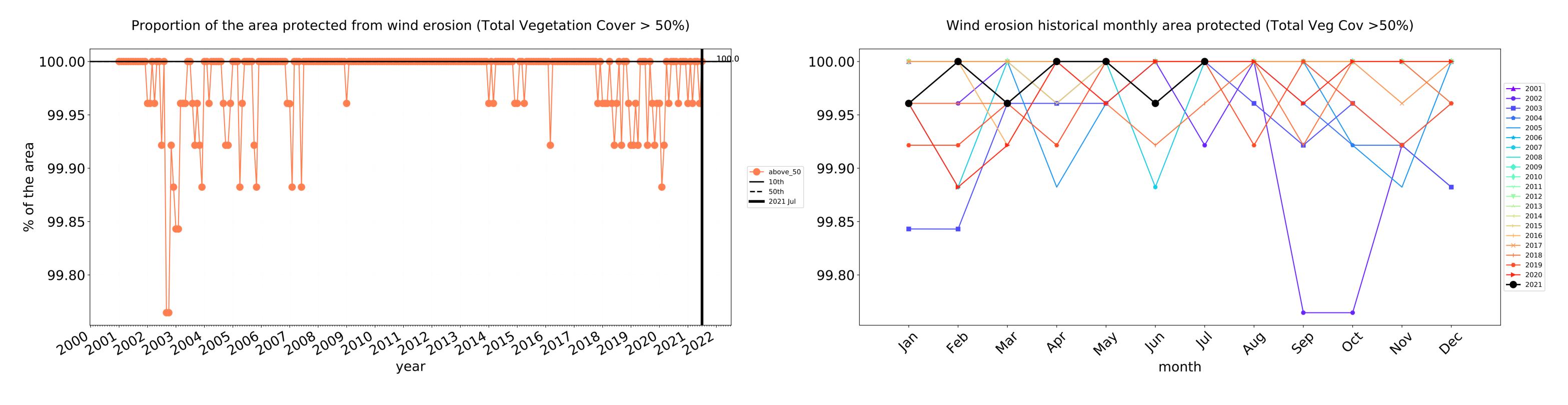


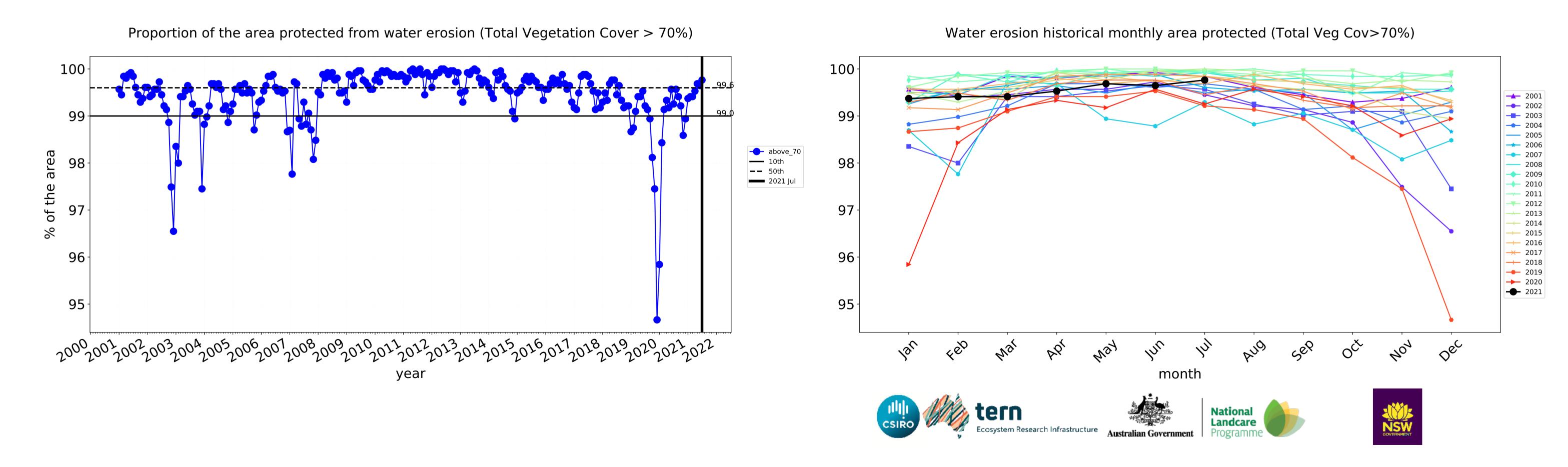


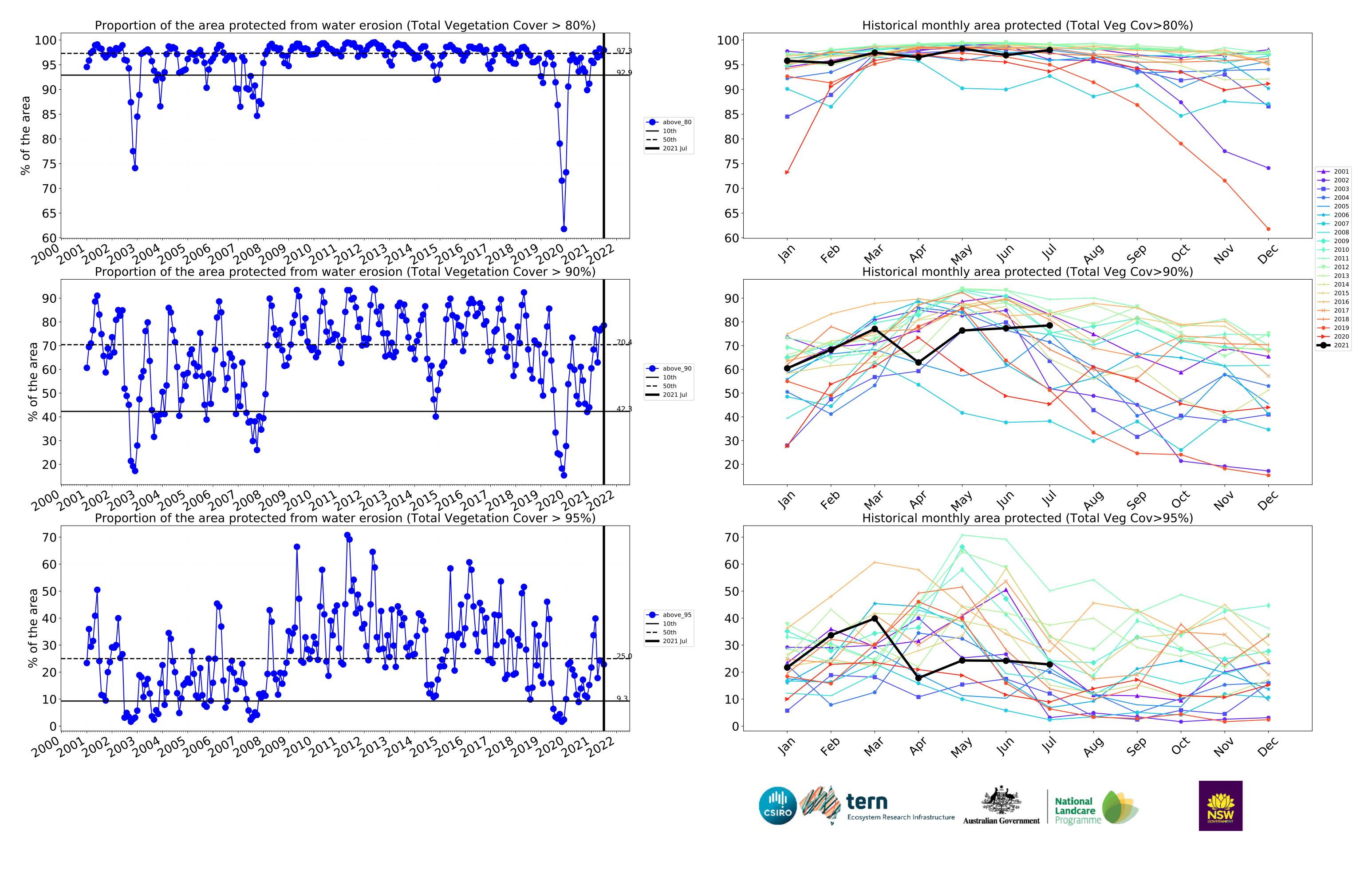




Grazing timeseries

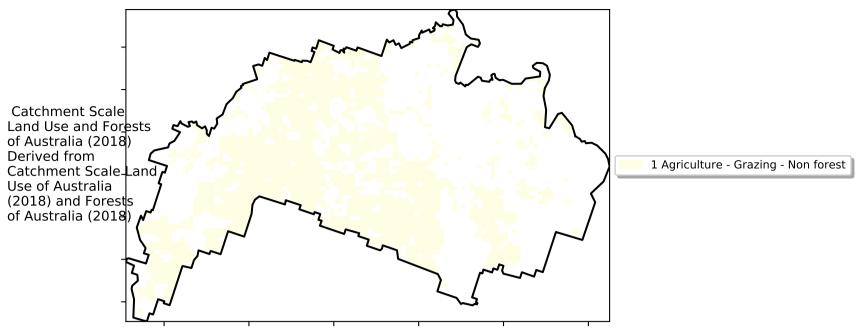




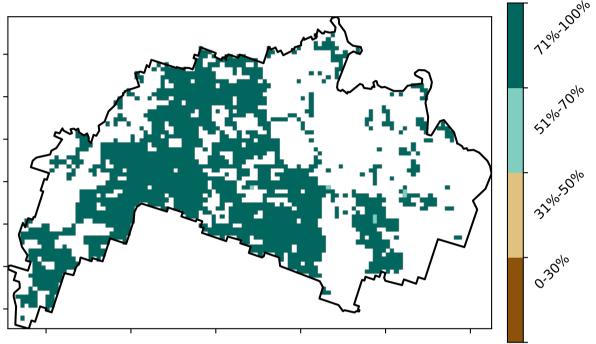


Grazing non forest

Land use and forest cover

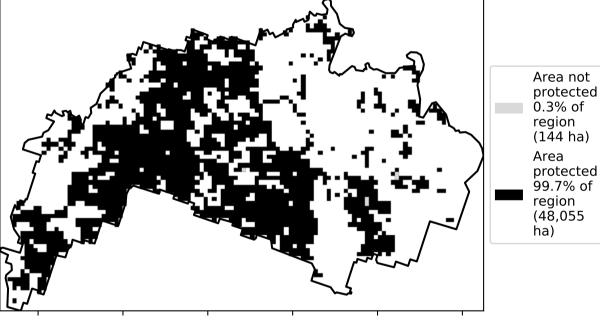


Total Vegetation Cover [%]

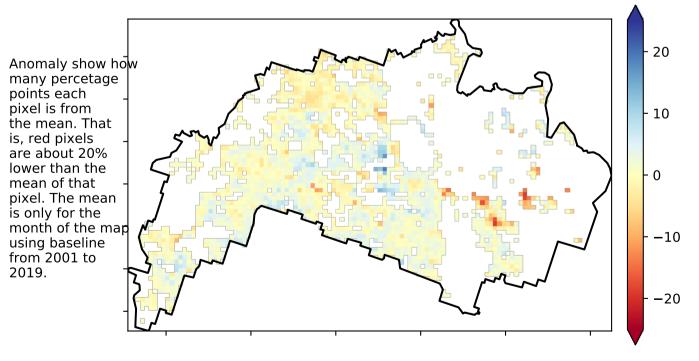


% Area protected from water erosion (>70%)

Area not protected 0.3% of region (144 ha) Area protected 99.7% of region (48,055 ha)

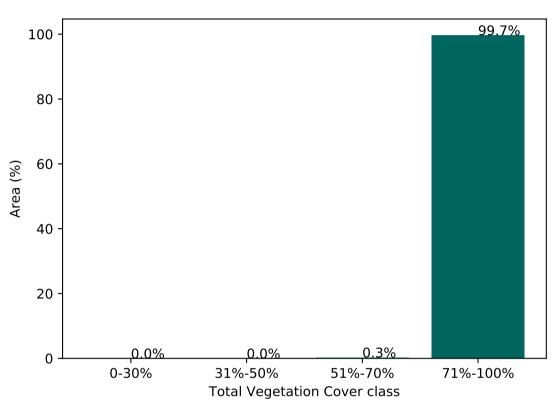


Total Vegetation Cover Anomaly [%]

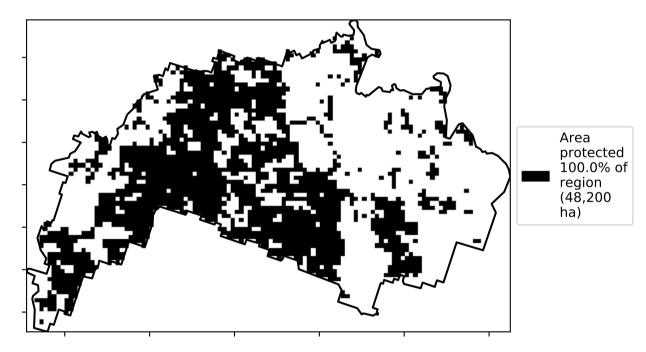


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

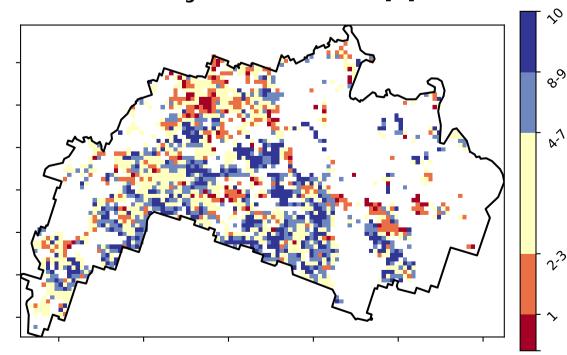
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]





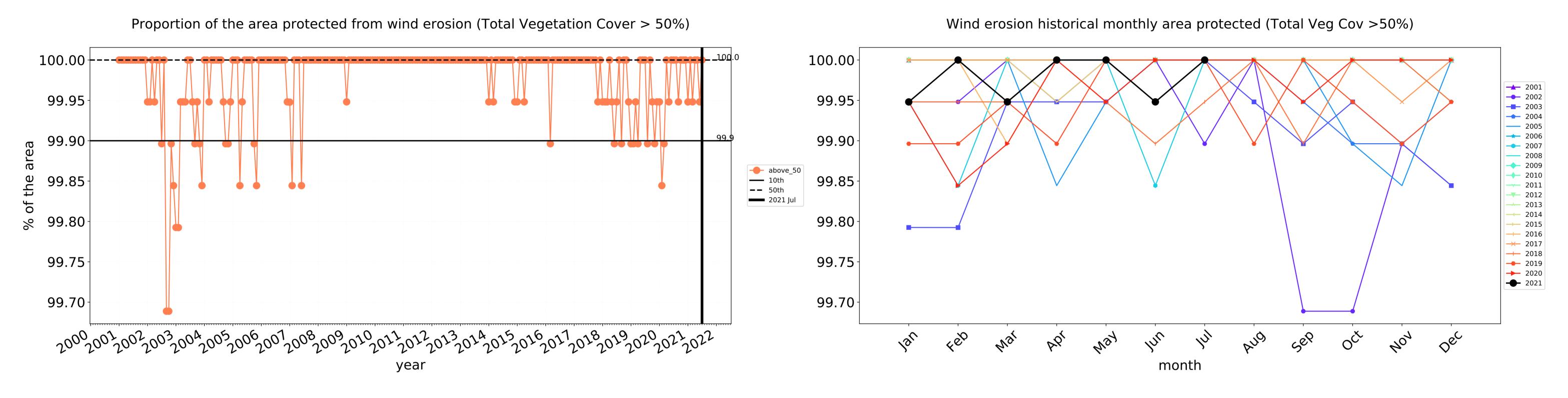


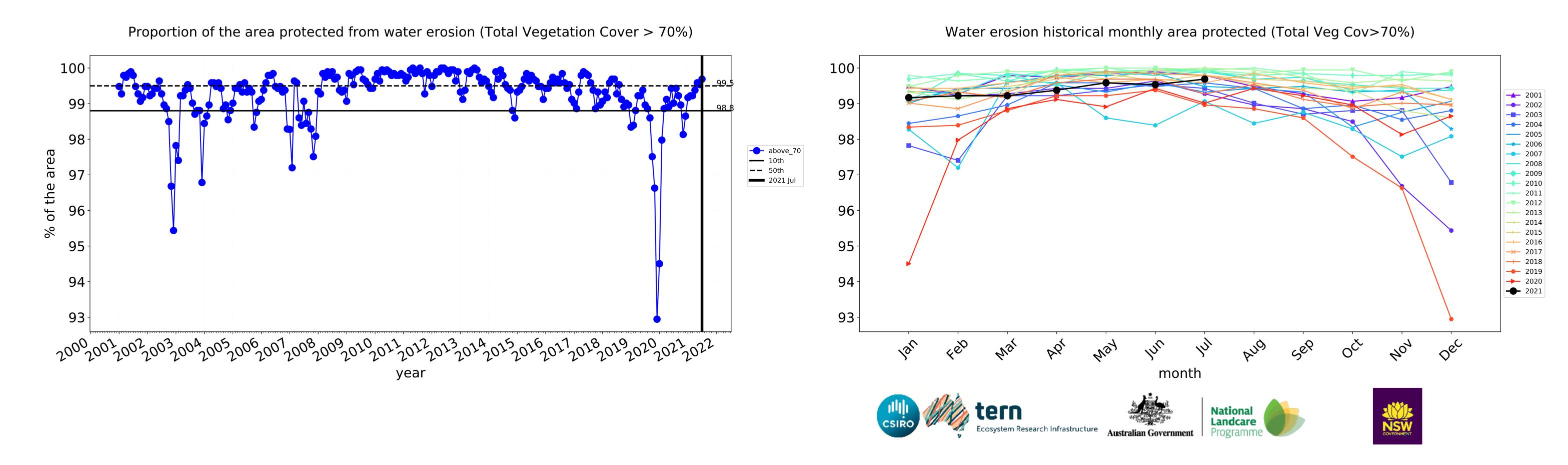


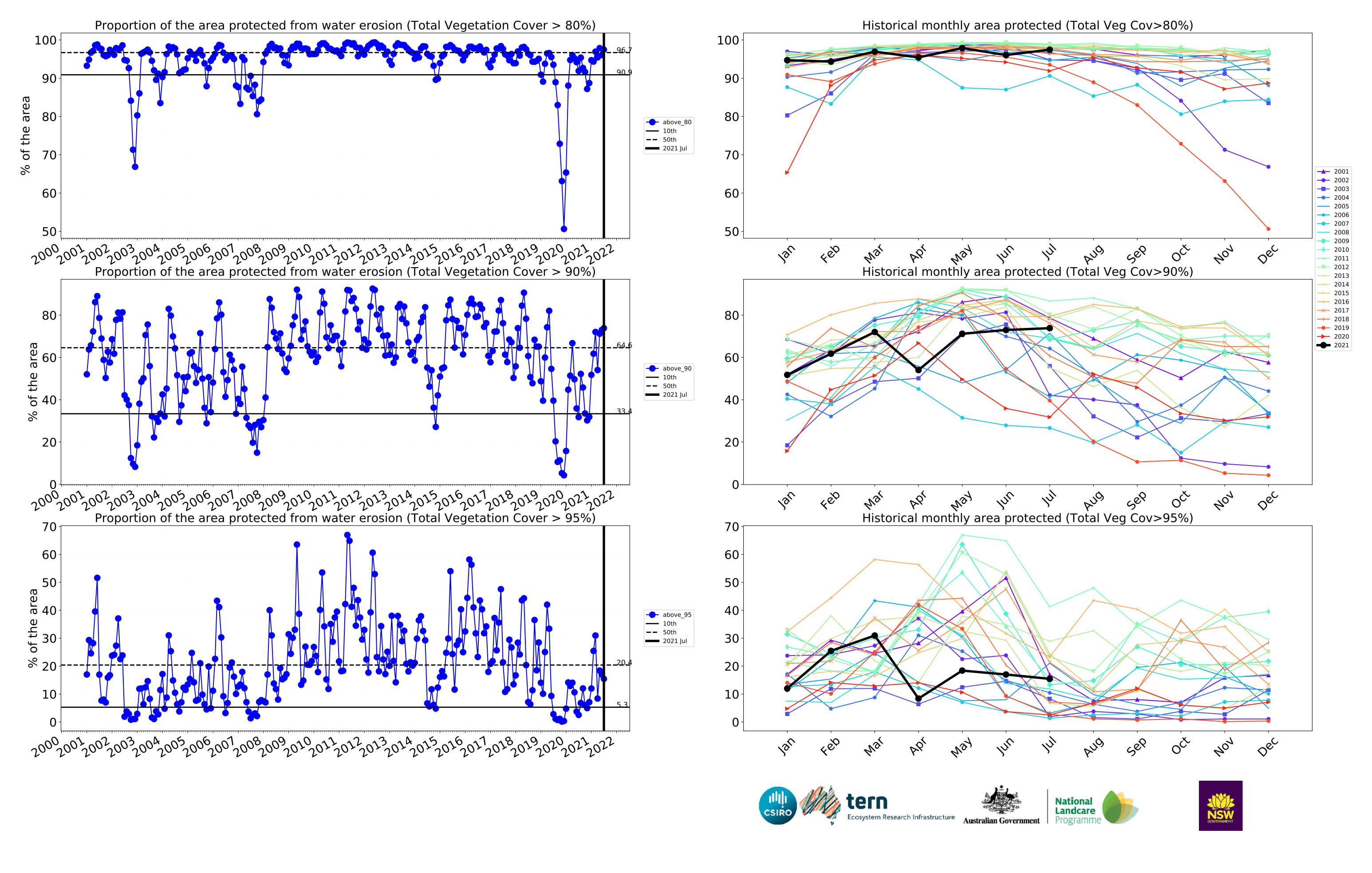




Grazing non forest timeseries



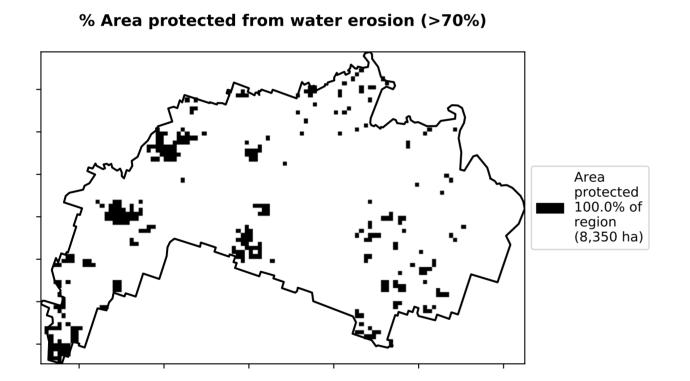


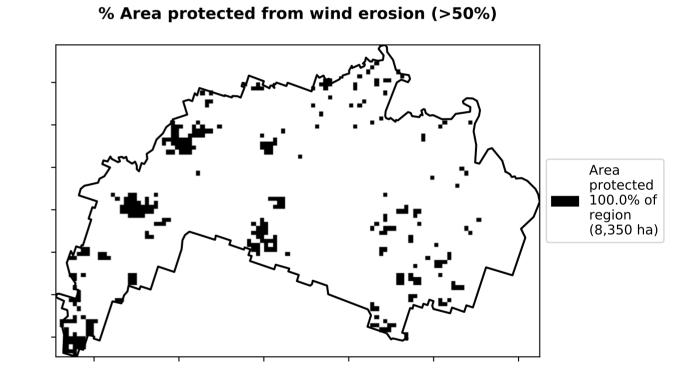


Grazing Woodland forest

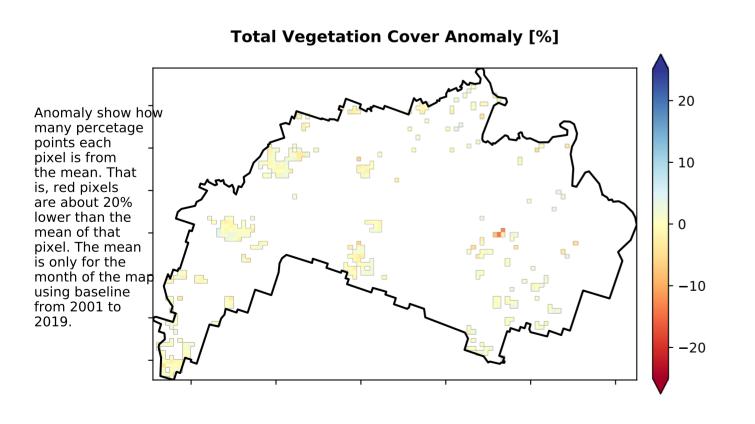
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale and Use of Australia (2018) and Forests of Australia (2018) Of Australia (2018)

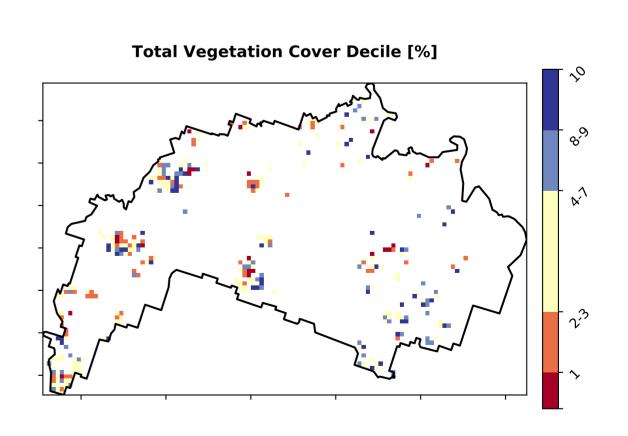
Total Vegetation Cover [%]





Proportion of vegetation cover class in area





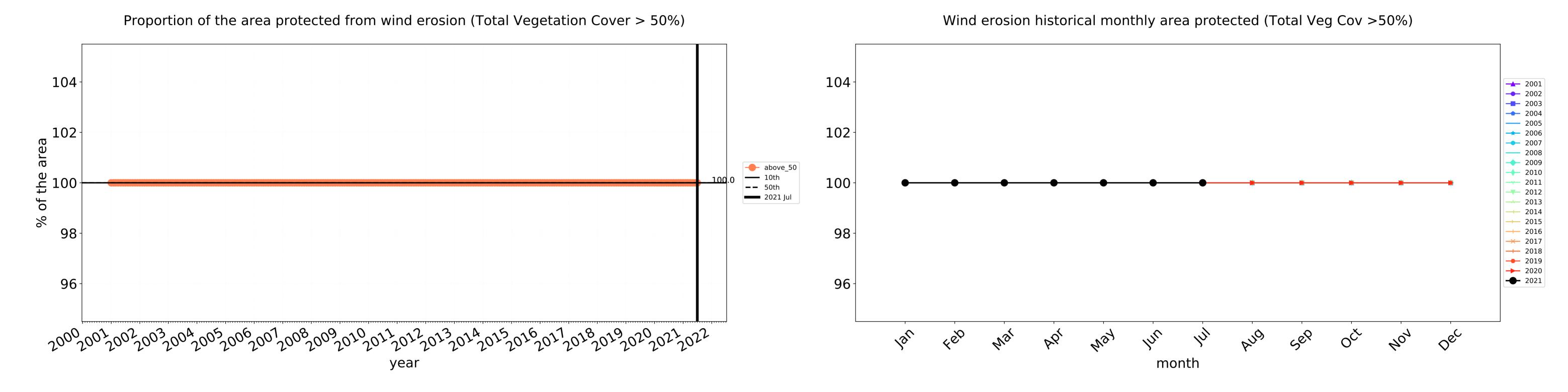


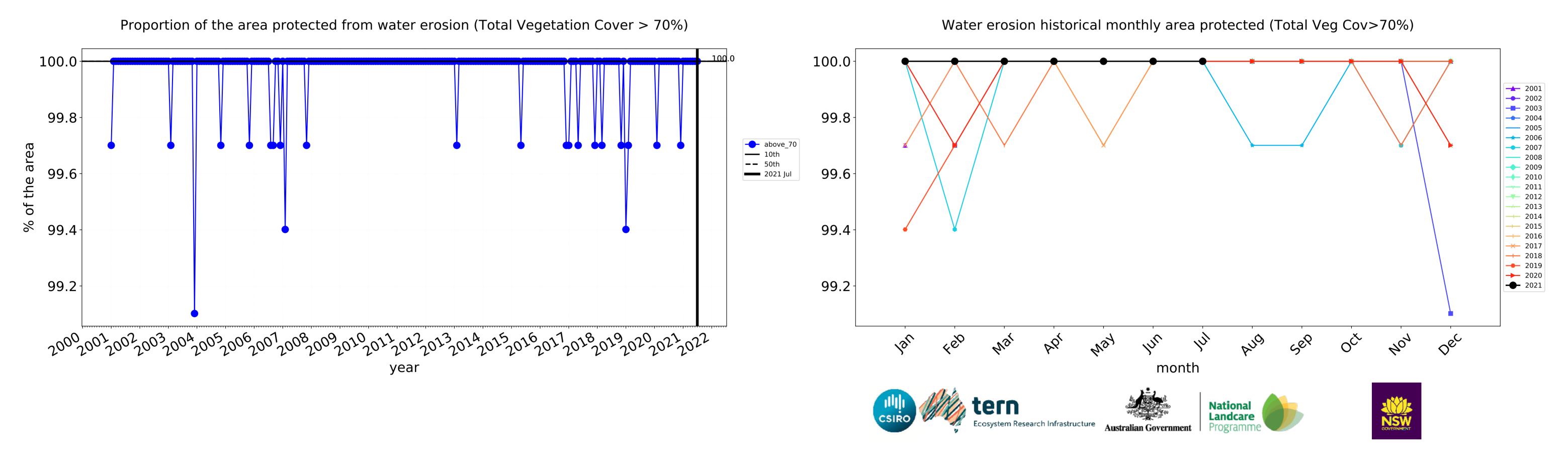


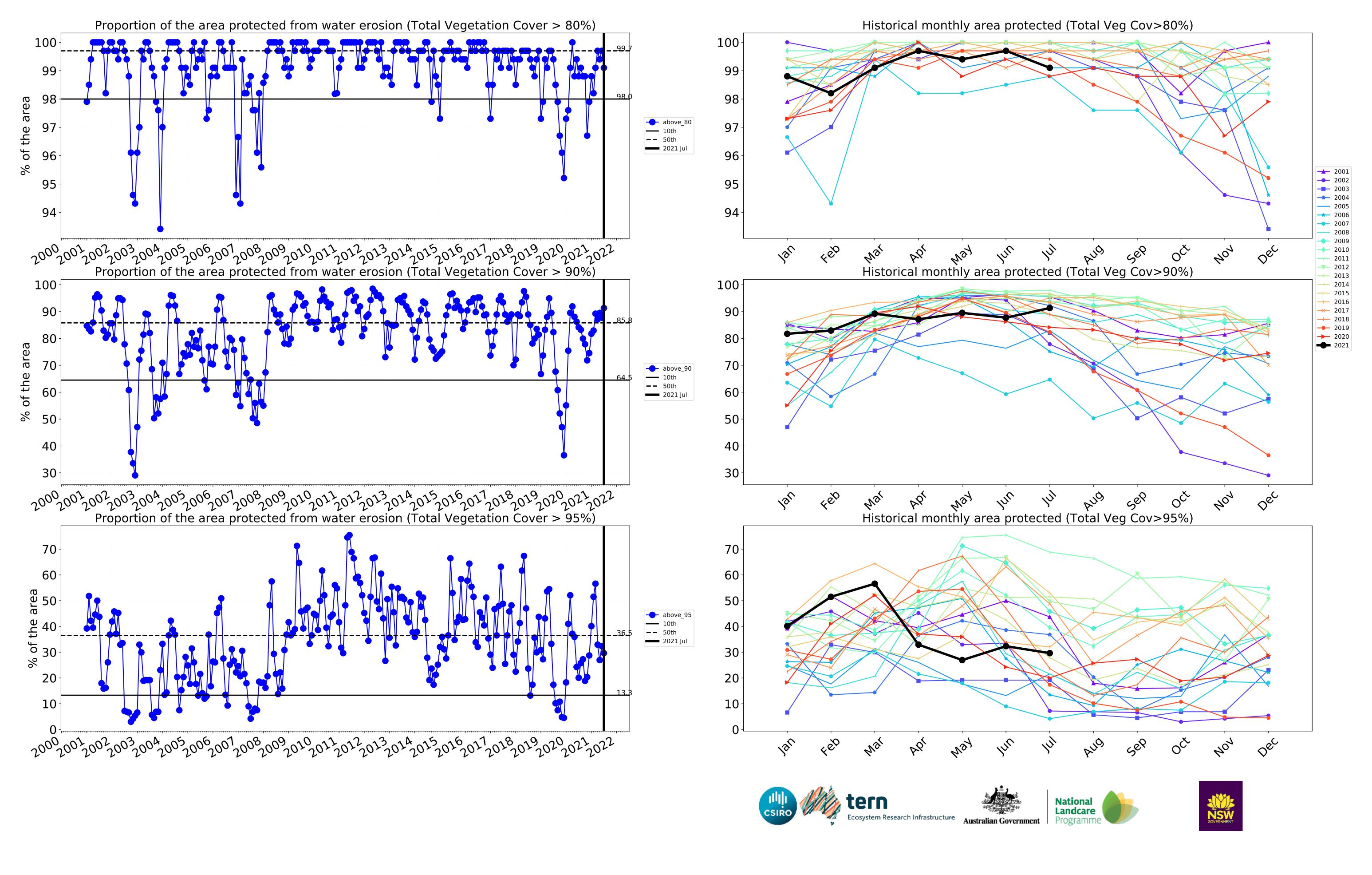




Grazing Woodland forest timeseries







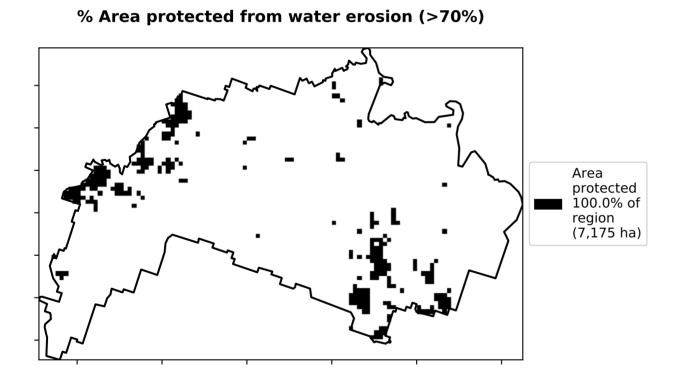
Grazing - Forest (non woodland)

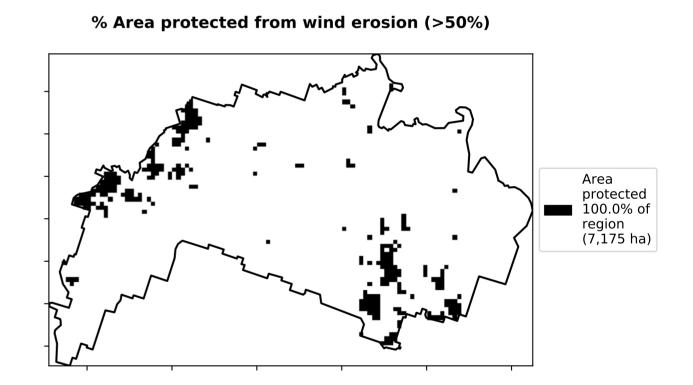
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale and Forests of Australia (2018) Use of Australia (2018) Australia (2018)

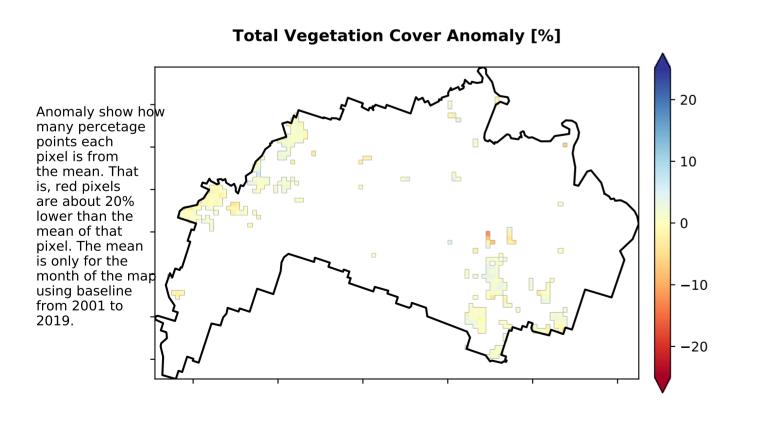
Total Vegetation Cover [%]

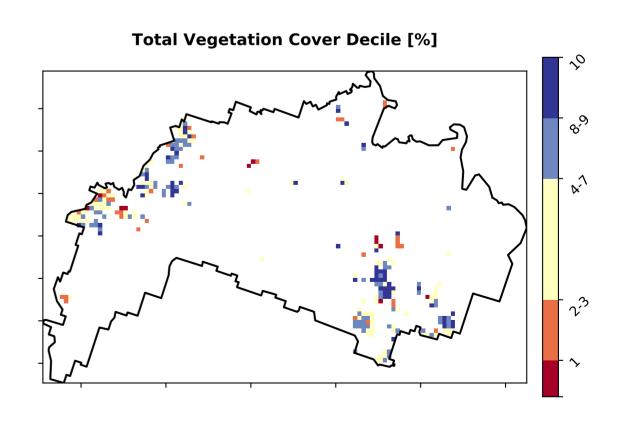
100 - 100.0% 80 - 20 - 20 - 0.0% 0.0% 0.0% 0-30% 31%-50% 51%-70% Total Vegetation Cover class

Proportion of vegetation cover class in area







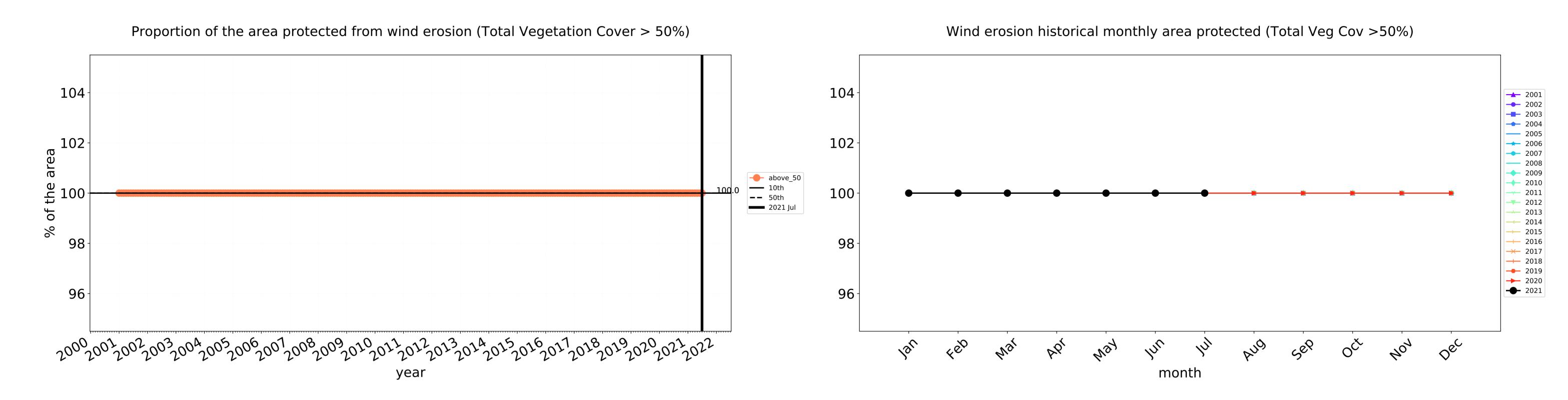


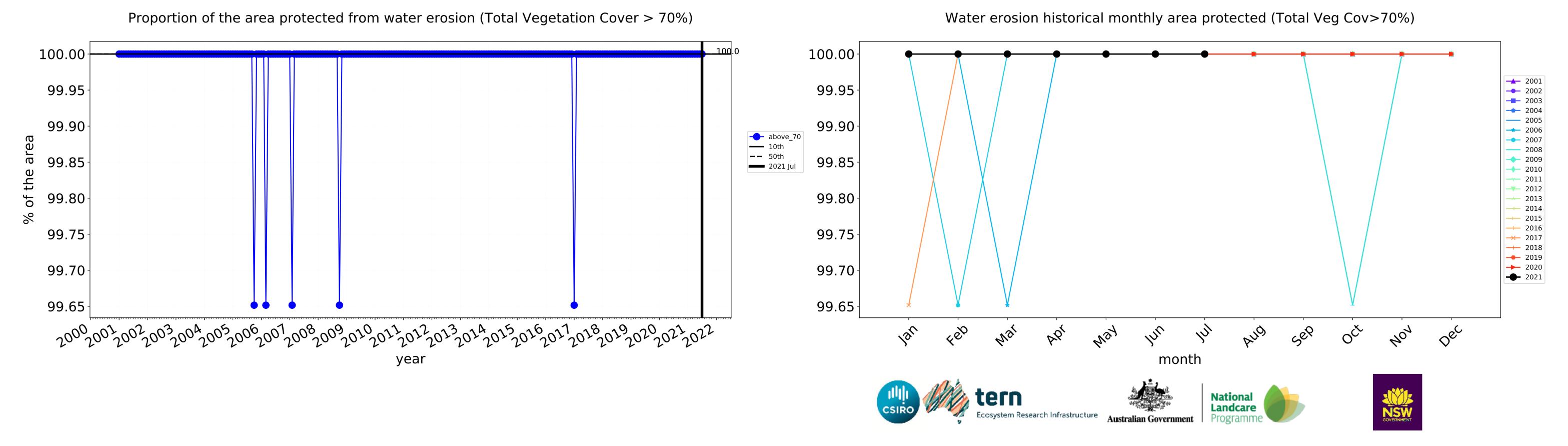


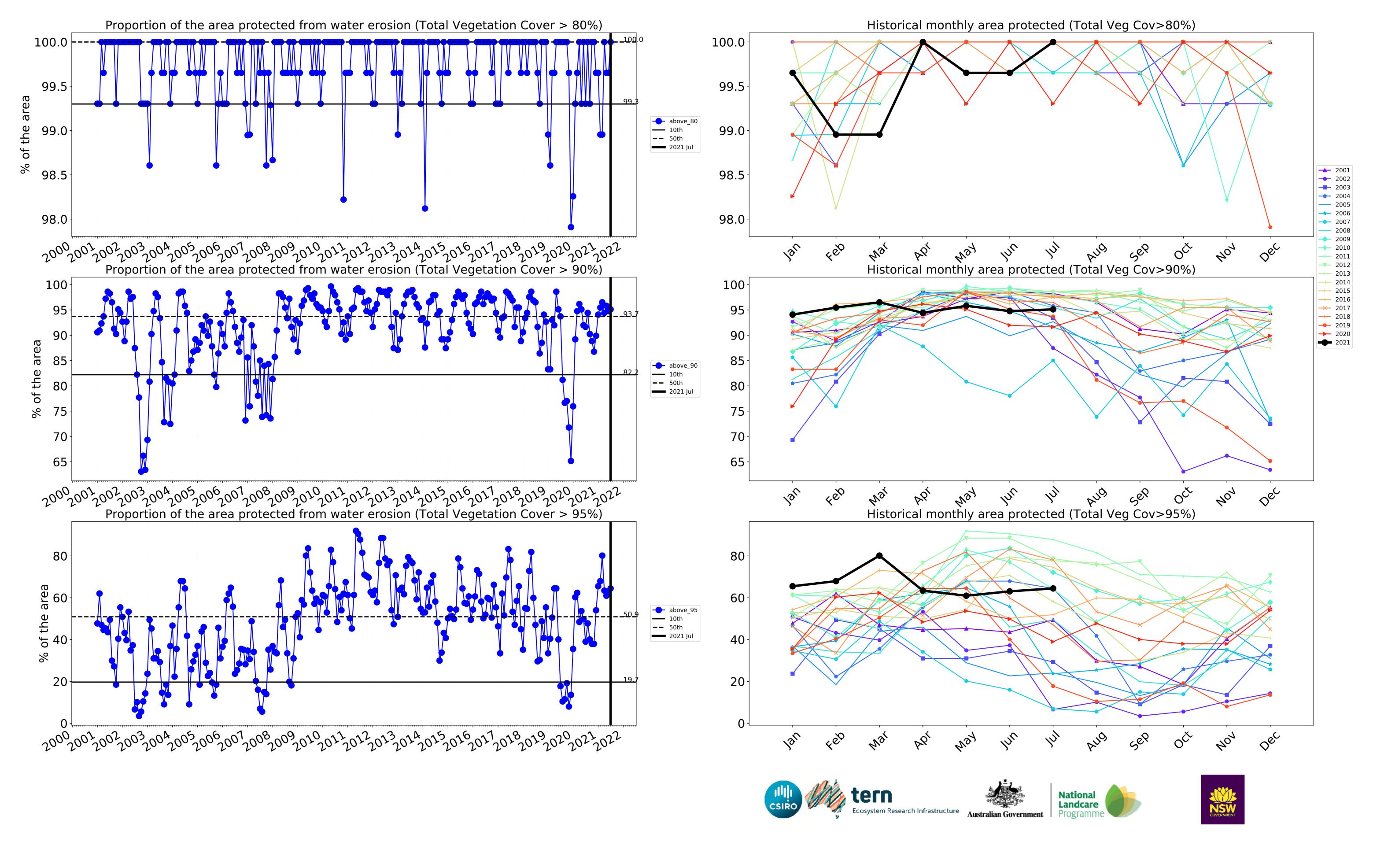




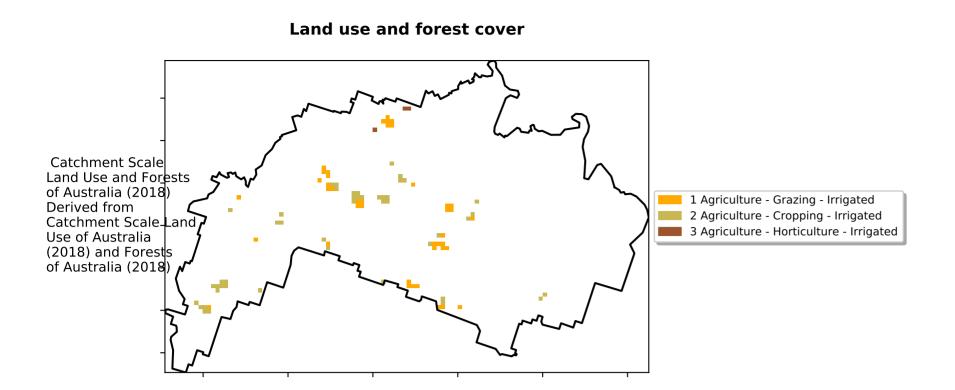






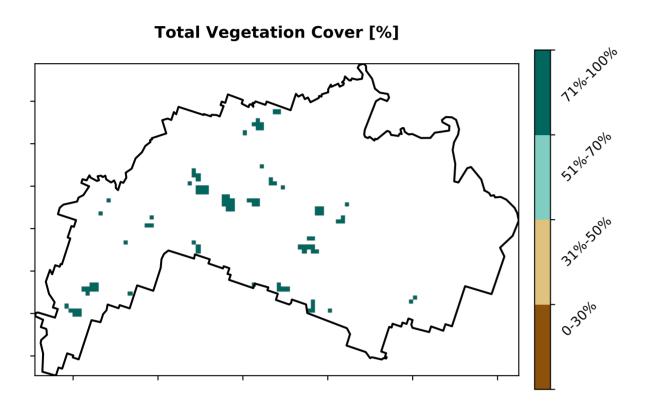


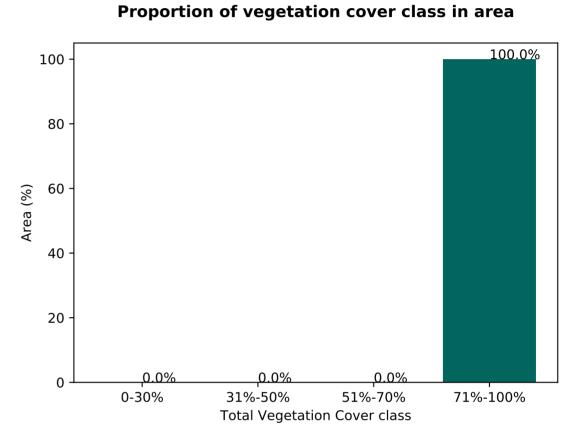
Irrigation

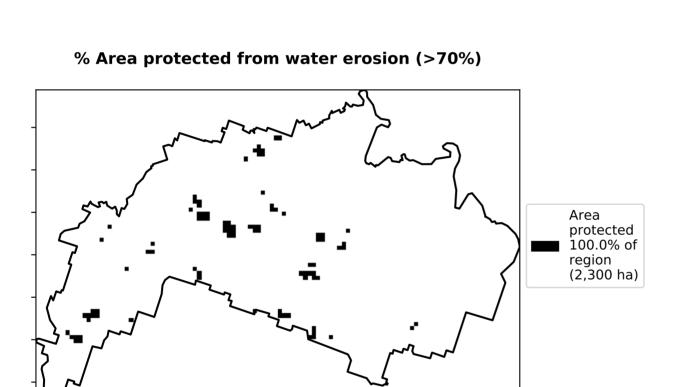


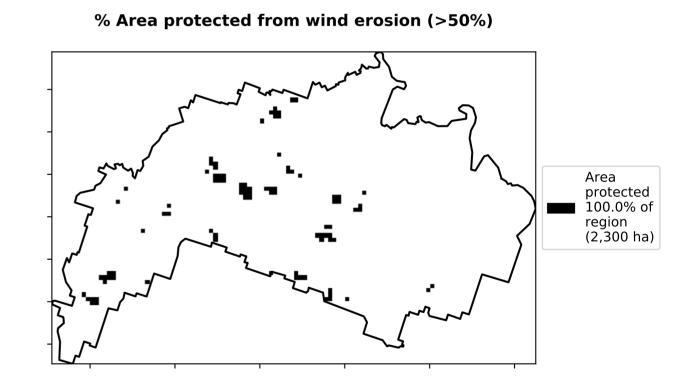
50 - 45.7% 40 - 45.7% 20 - 10 - 2 3 Land use class

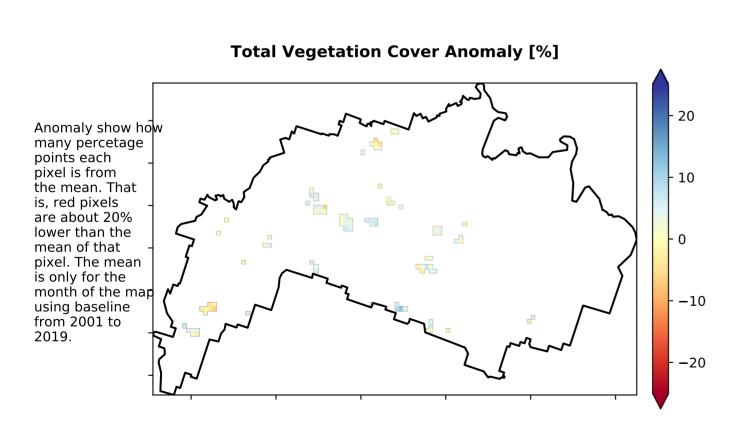
Proportion of each land class in area

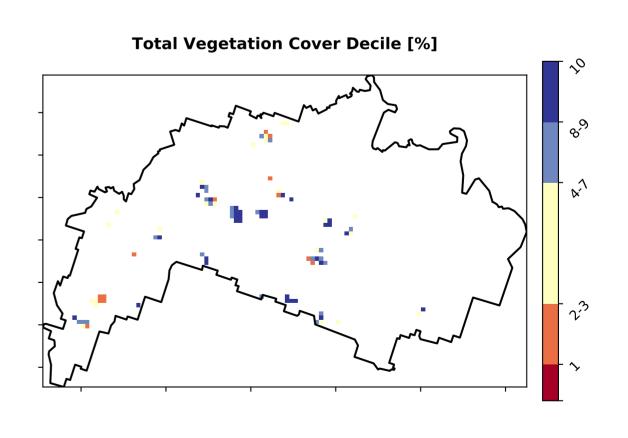












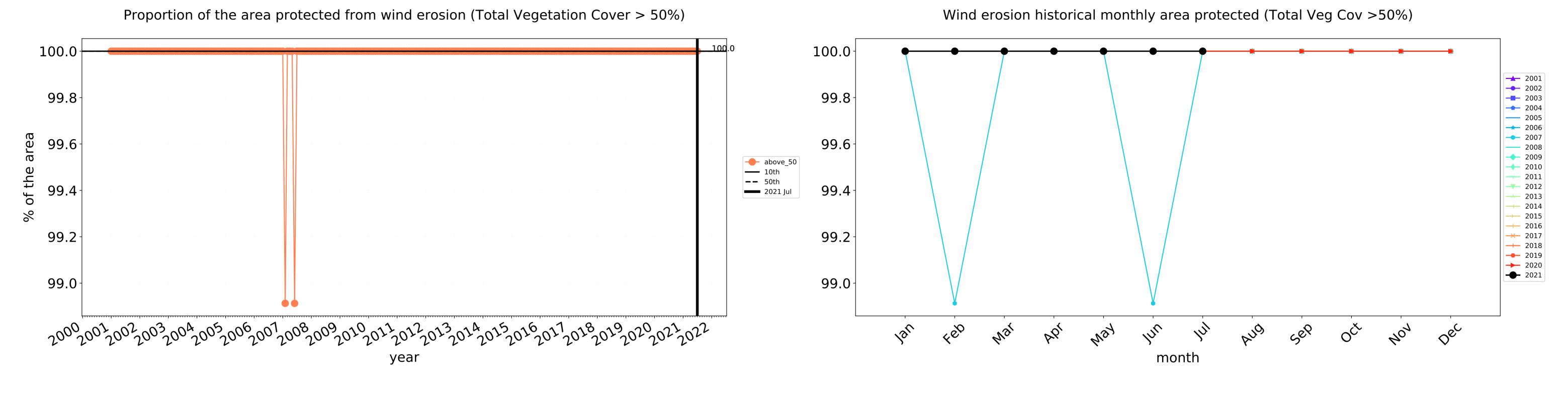


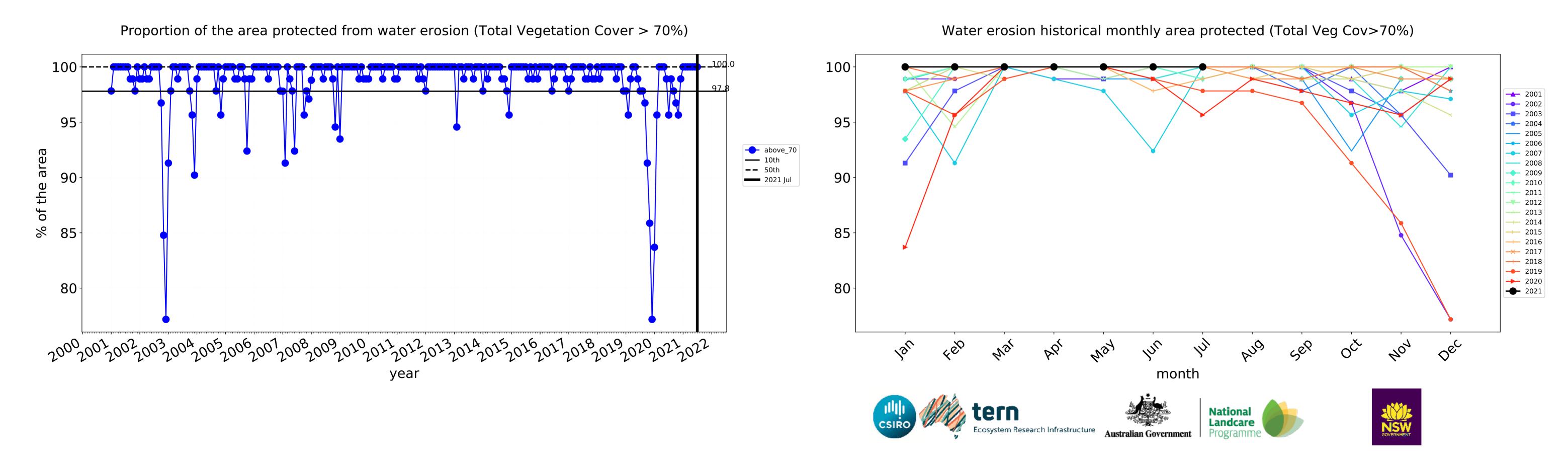


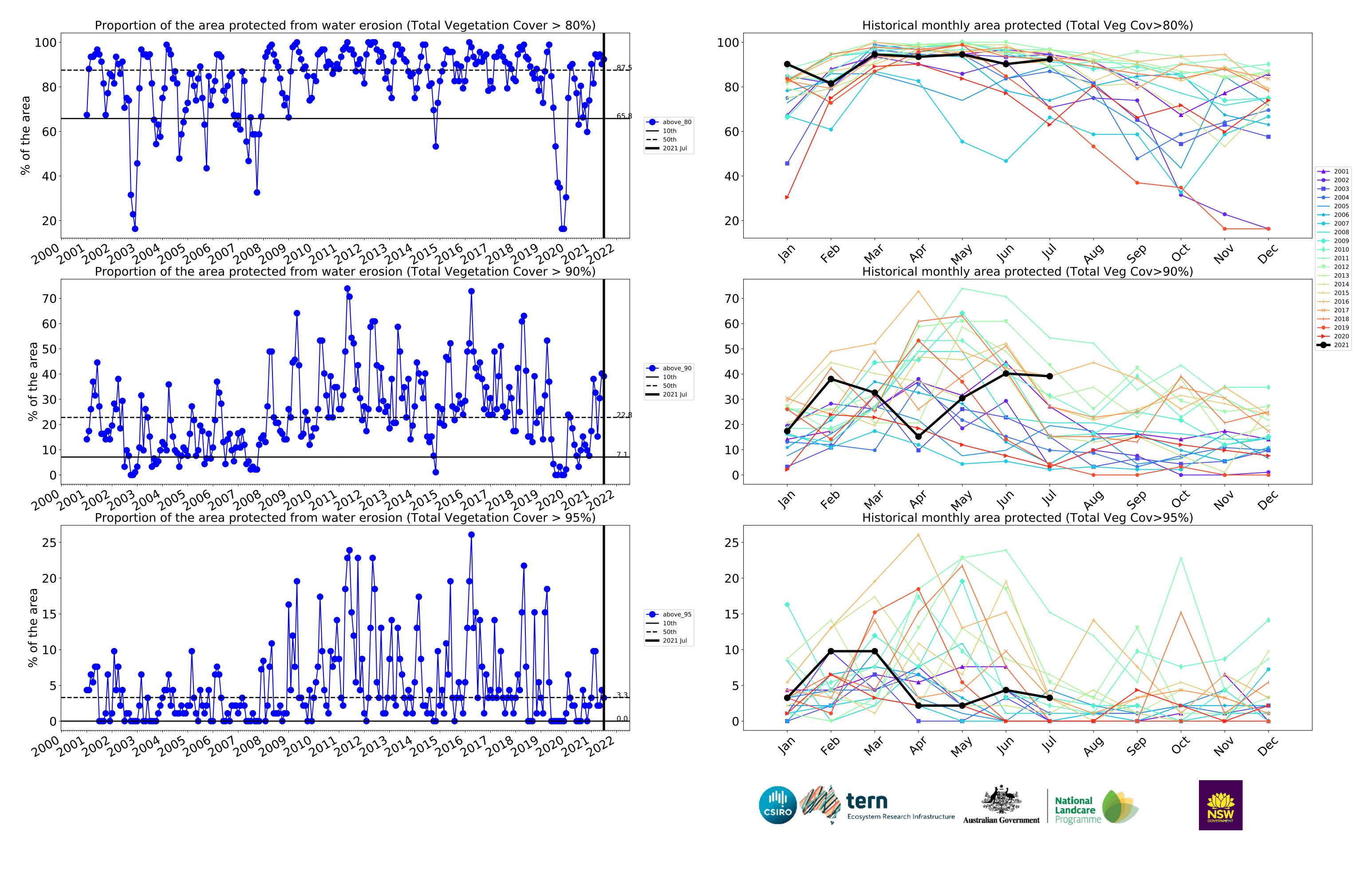




Irrigation timeseries







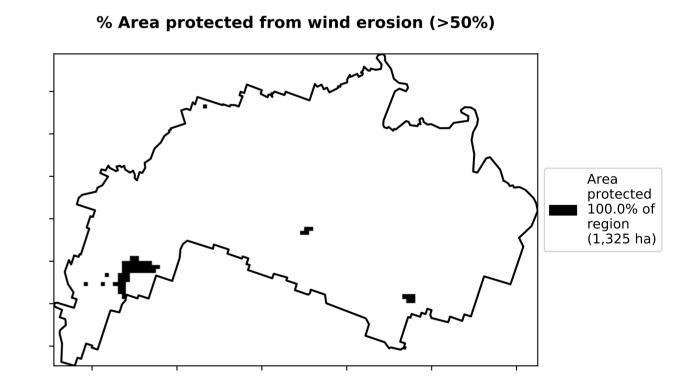
Production native forests and plantation forests

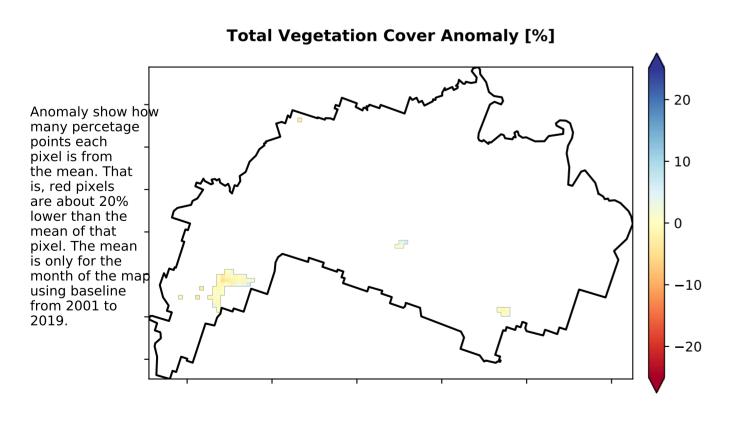
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Jand Forests of Australia (2018) Australia (2018) The Production native forests and plantation forests I production native forests and plantation forests Australia (2018)

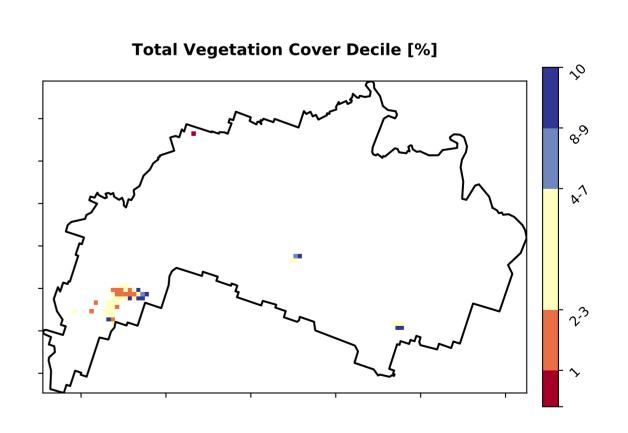
Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 100.0% 80 - 20 - 20 - 20 - 0.30% 0-30% 31%-50% Total Vegetation Cover class

% Area protected from water erosion (>70%) Area protected protected 100.0% of region (1,325 ha)







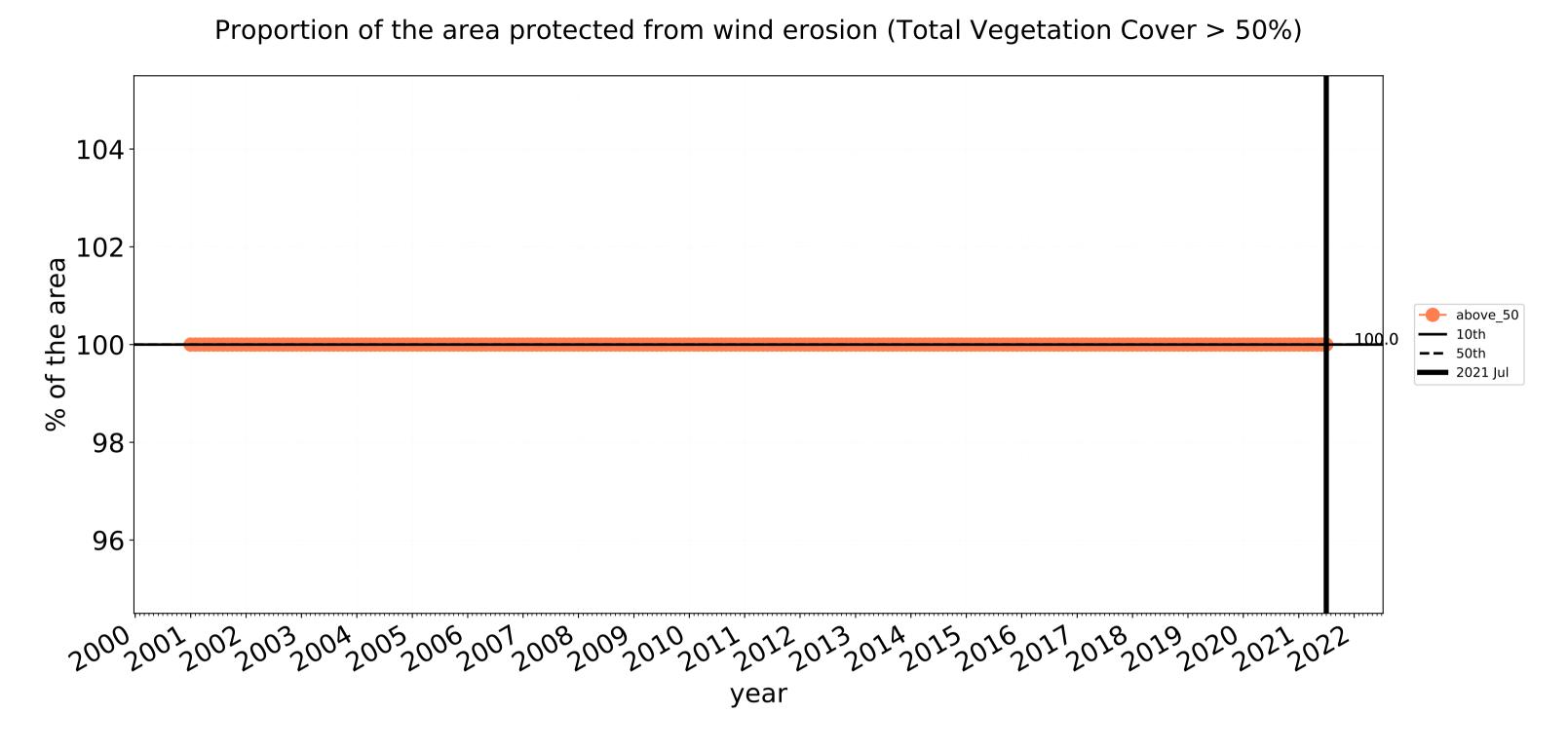




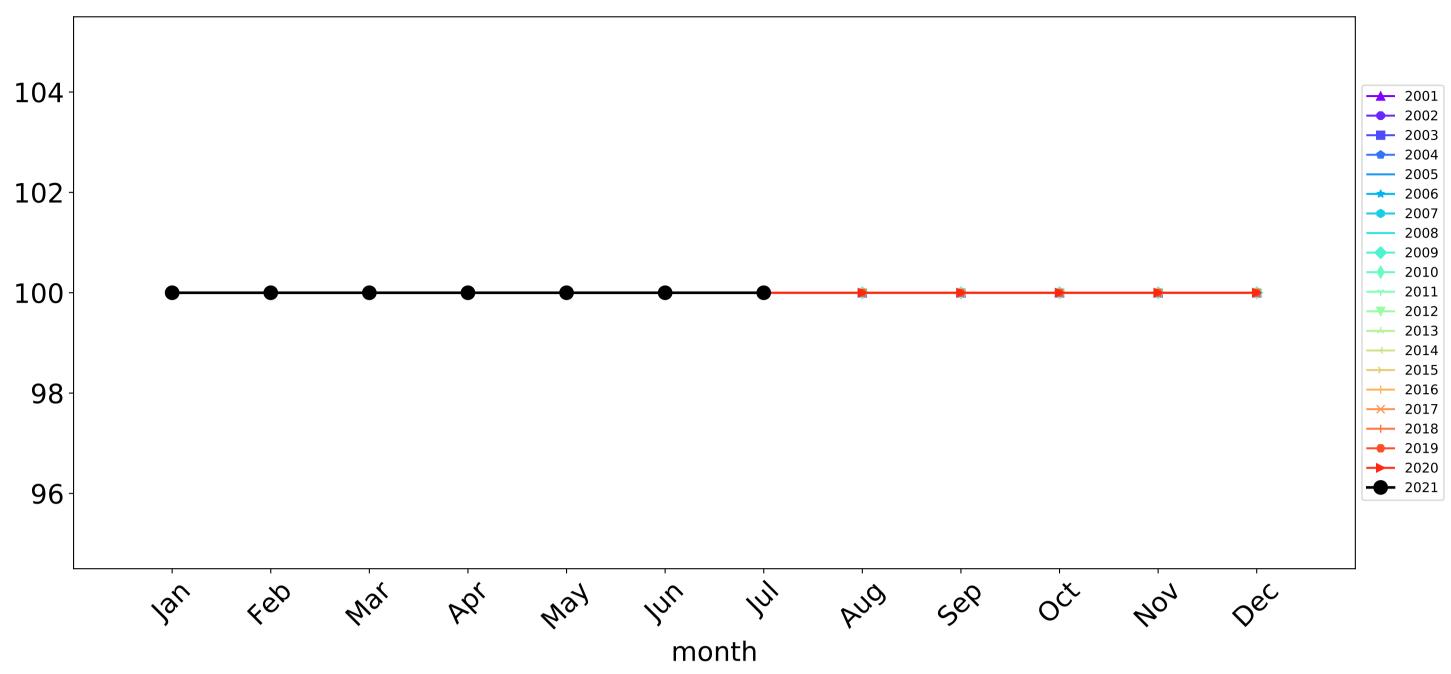


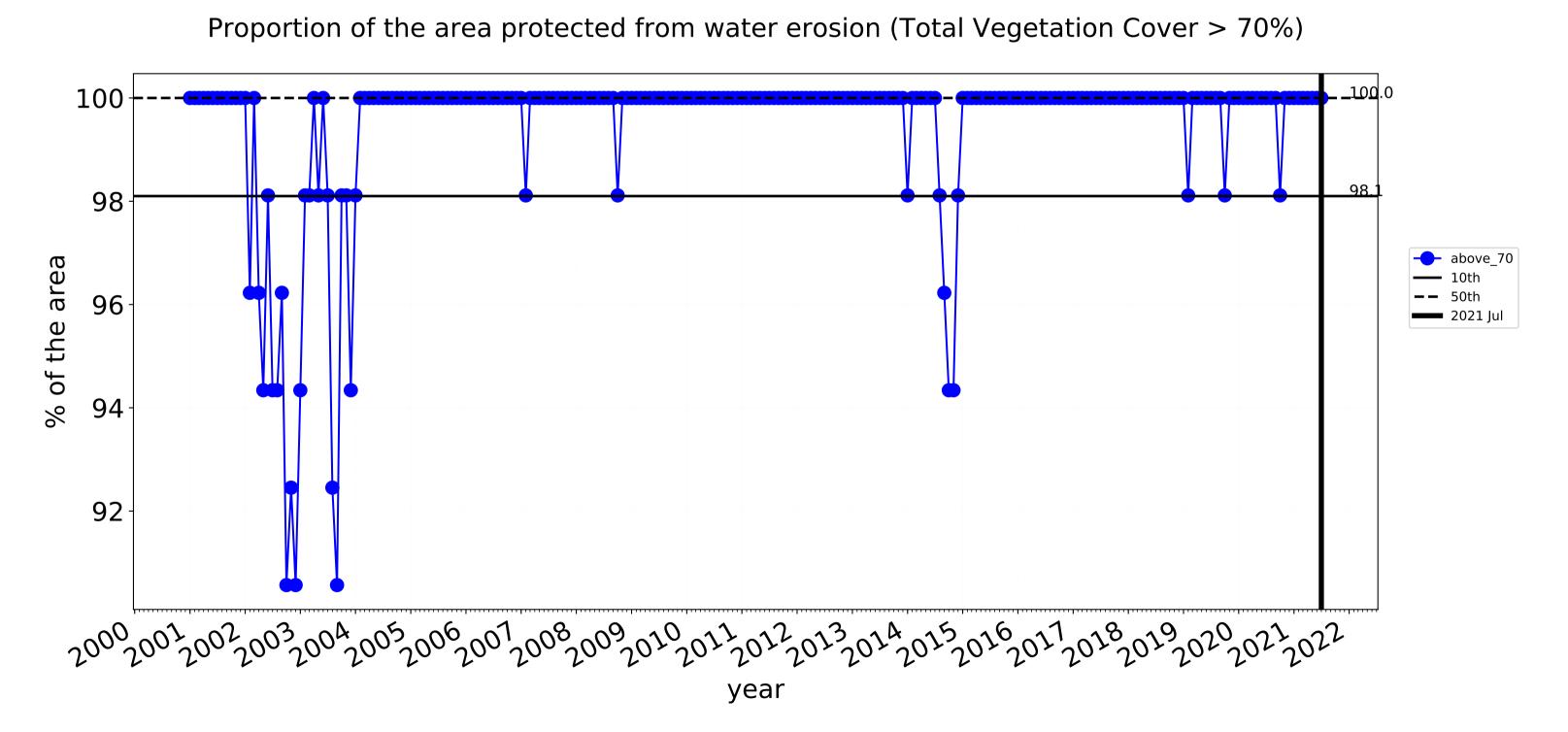


Production native forests and plantation forests timeseries

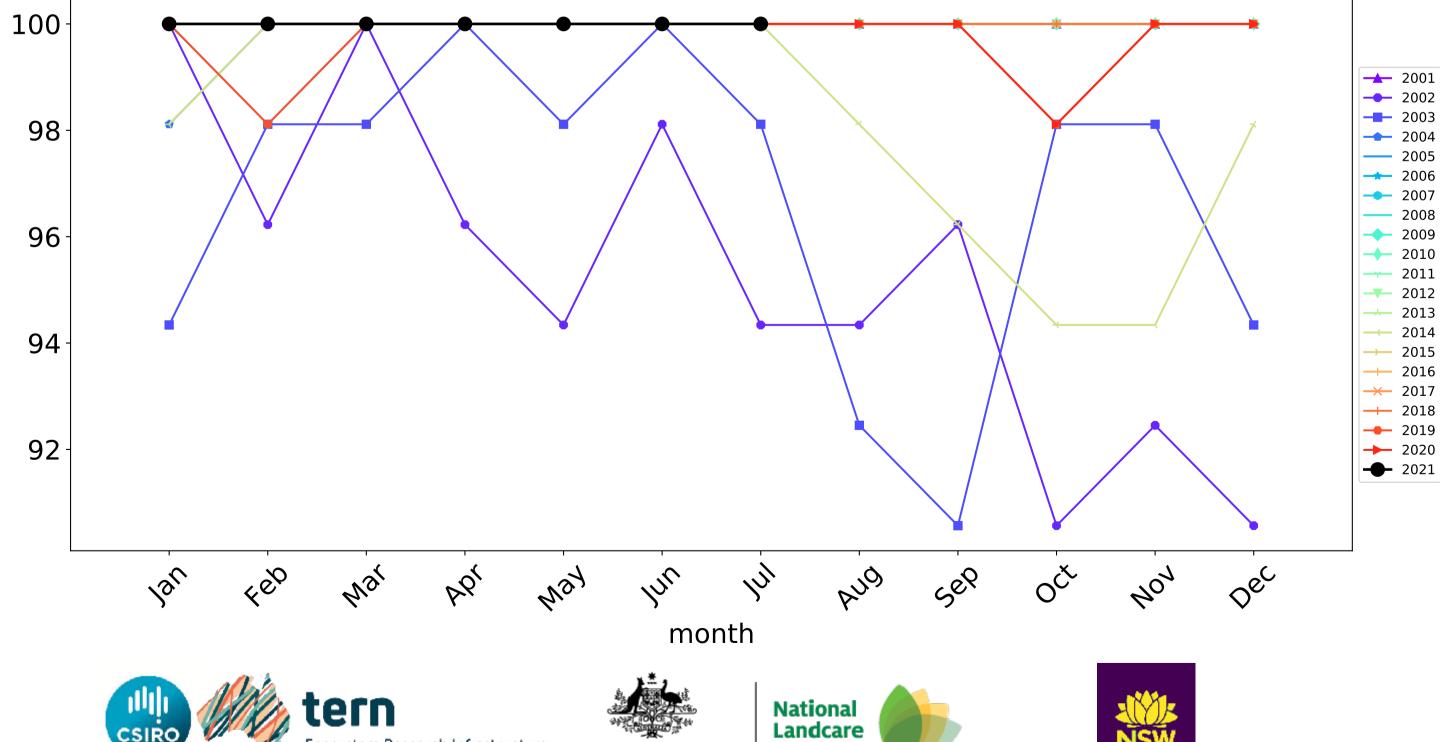


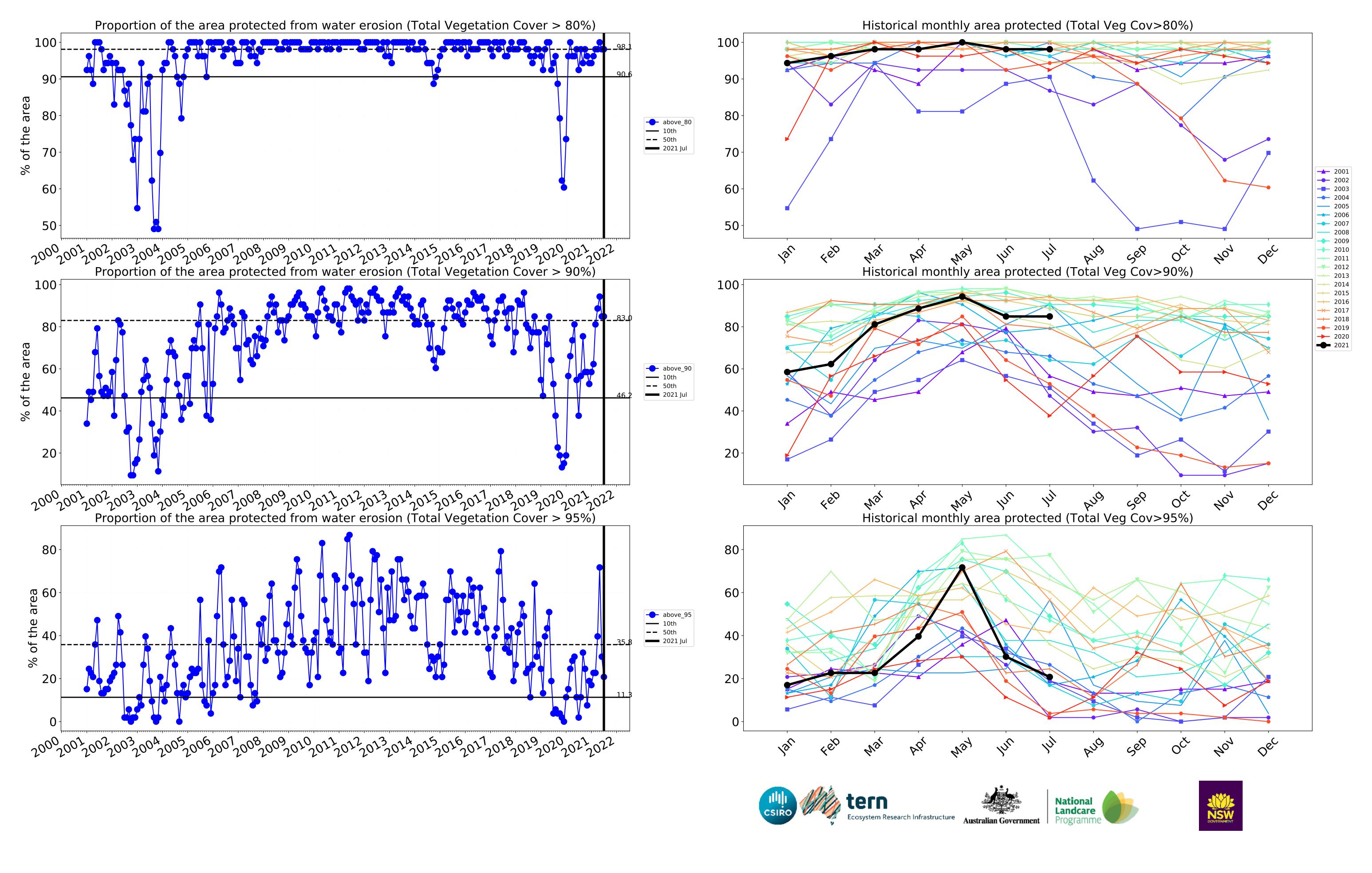
Wind erosion historical monthly area protected (Total Veg Cov >50%)





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





Ipswich_(C) (total 108,825 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	108,825	100.0% 108,825	100.0% 108,775	97.5% 106,075	88.8% 96,650	64.3% 70,000	20.0% 21,800
Conservation and natural environments	14,500	100.0% 14,500	100.0% 14,500	97.2% 14,100	91.2% 13,225	75.9% 11,000	42.4% 6,150
Conservation and natural environments non forest	3,250	100.0% 3,250	100.0% 3,250	90.0% 2,925	76.2% 2,475	47.7% 1,550	10.8% 350
Conservation and natural environments Woodland forest	3,075	100.0% 3,075	100.0% 3,075	100.0% 3,075	95.1% 2,925	85.4% 2,625	30.1% 925
Conservation and natural environments Forest (non woodland)	8,175	100.0% 8,175	100.0% 8,175	99.1% 8,100	95.7% 7,825	83.5% 6,825	59.6% 4,875
Agriculture	66,050	100.0% 66,050	100.0% 66,050	99.8% 65,900	97.8% 64,575	77.1% 50,950	22.1% 14,625
Grazing	63,725	100.0% 63,725	100.0% 63,725	99.8% 63,575	98.0% 62,425	78.5% 50,050	22.8% 14,550
Grazing non forest	48,200	100.0% 48,200	100.0% 48,200	99.7% 48,050	97.5% 46,975	73.9% 35,600	15.5% 7,450
Grazing Woodland forest	8,350	100.0% 8,350	100.0% 8,350	100.0% 8,350	99.1% 8,275	91.3% 7,625	29.6% 2,475
Grazing - Forest (non woodland)	7,175	100.0% 7,175	100.0% 7,175	100.0% 7,175	100.0% 7,175	95.1% 6,825	64.5% 4,625
Irrigation	2,300	100.0% 2,300	100.0% 2,300	100.0% 2,300	92.4% 2,125	39.1% 900	3.3% 75
Production native forests and plantation forests	1,325	100.0% 1,325	100.0% 1,325	100.0% 1,325	98.1% 1,300	84.9% 1,125	20.8% 275







