Total vegetation cover soil protection Region:NRM Hunter NSW

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: November 2008

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







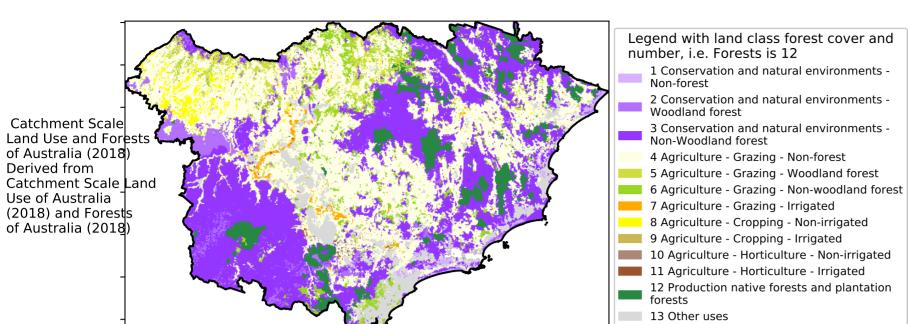




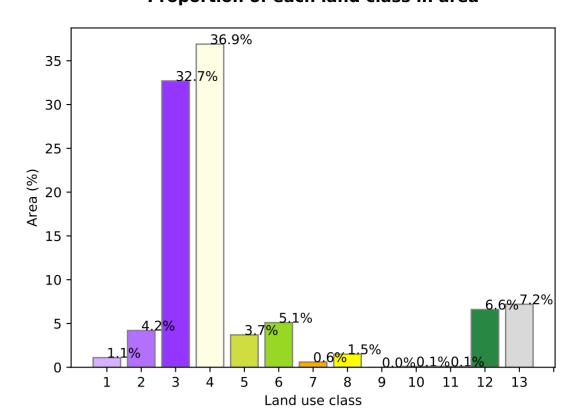


Vegetation Cover Nov 2008

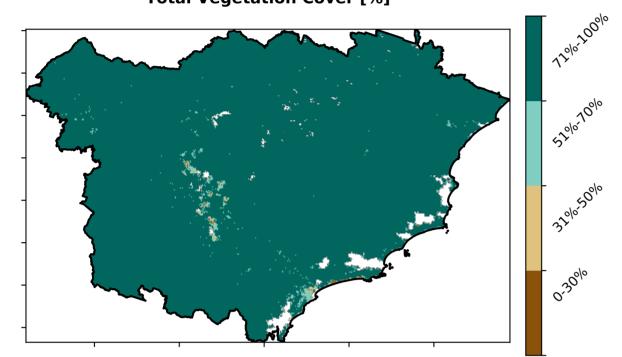
Land use and forest cover



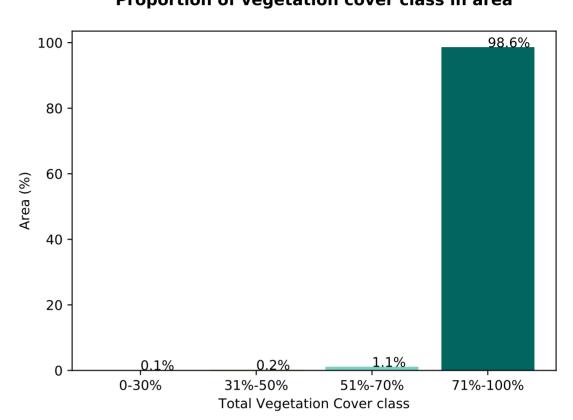
Proportion of each land class in area



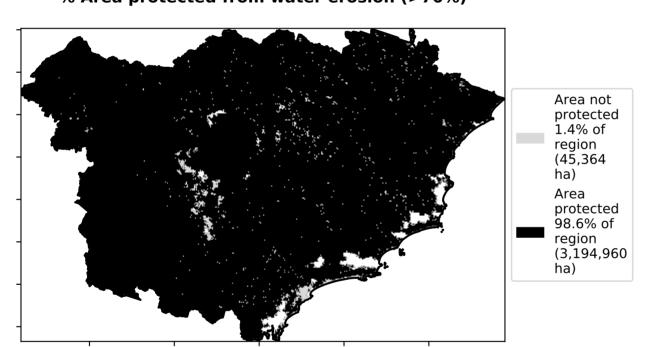
Total Vegetation Cover [%]



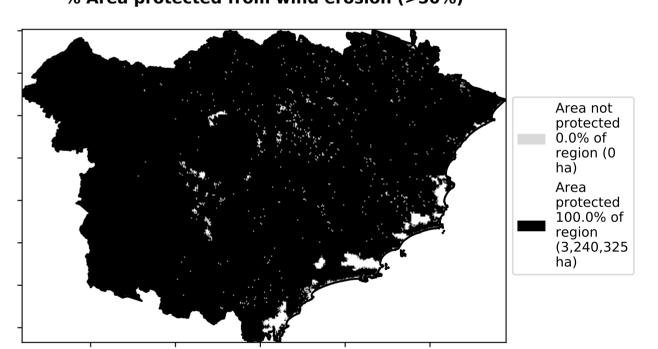
Proportion of vegetation cover class in area



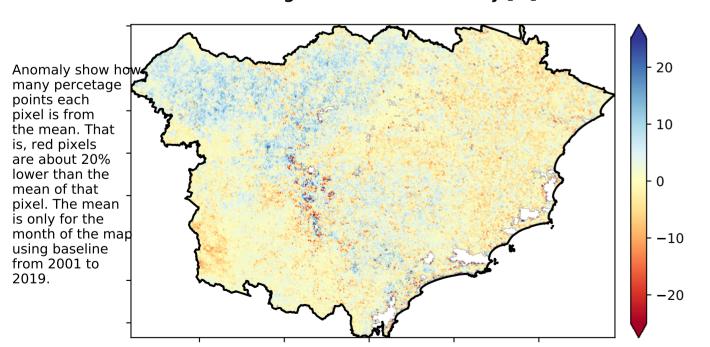
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

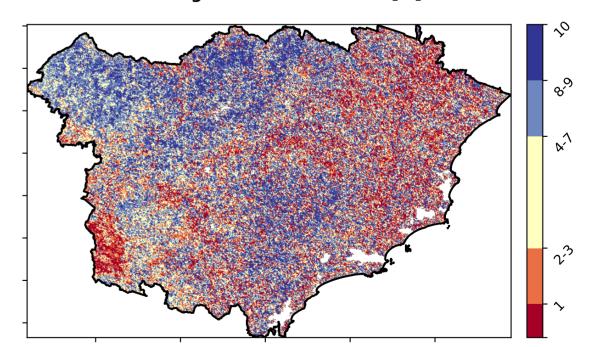


Total Vegetation Cover Anomaly [%]



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

Total Vegetation Cover Decile [%]





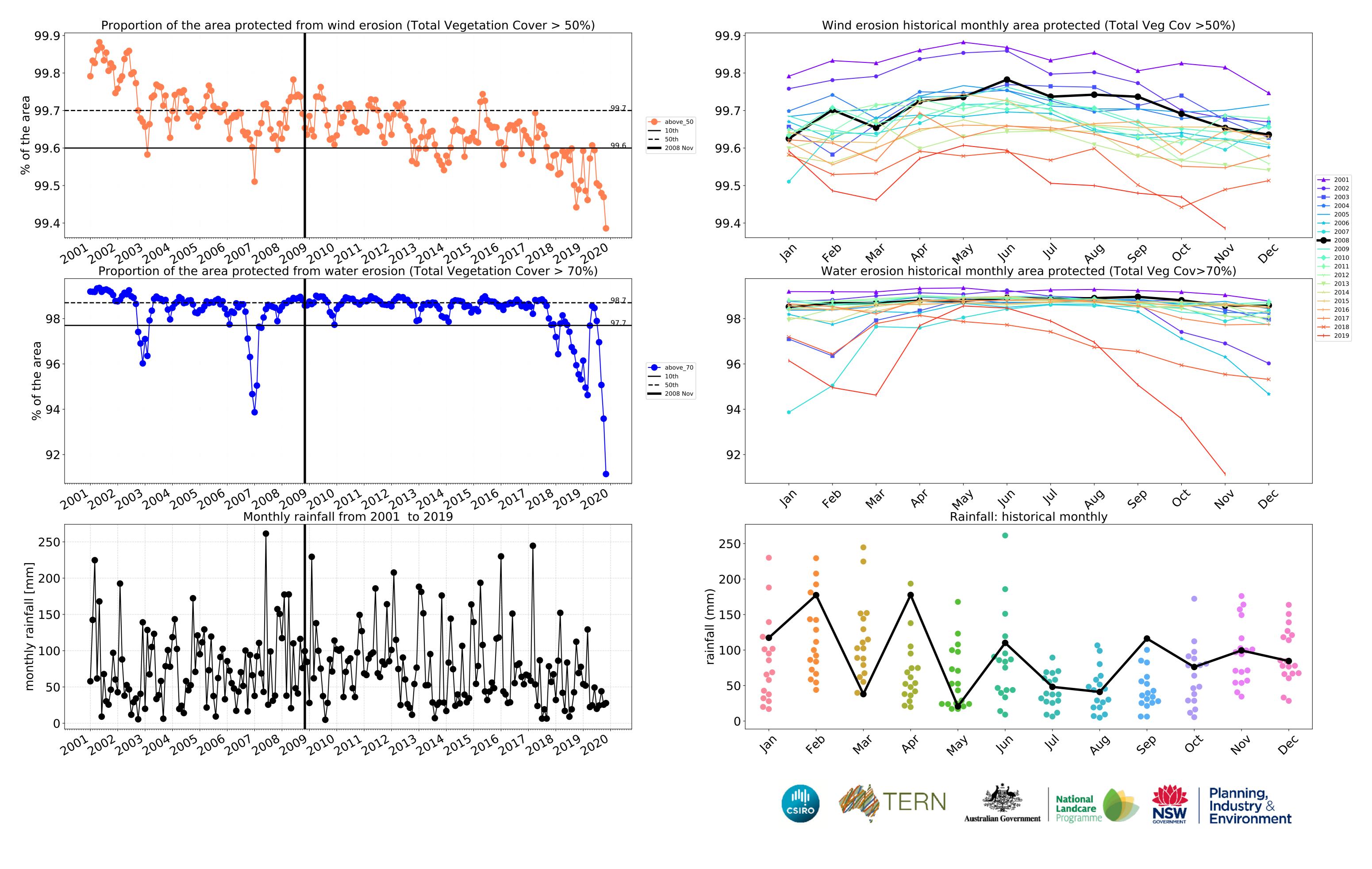


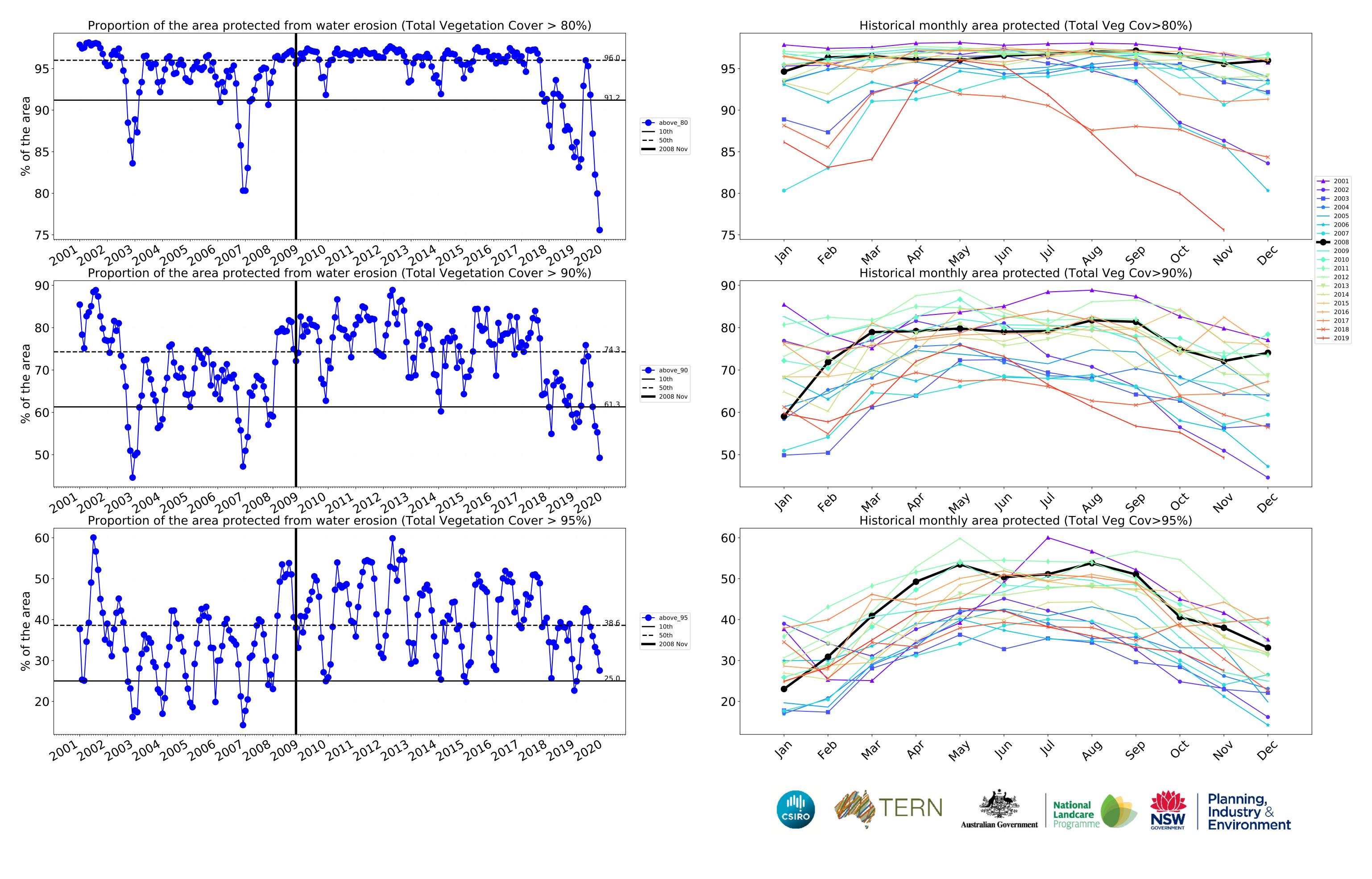




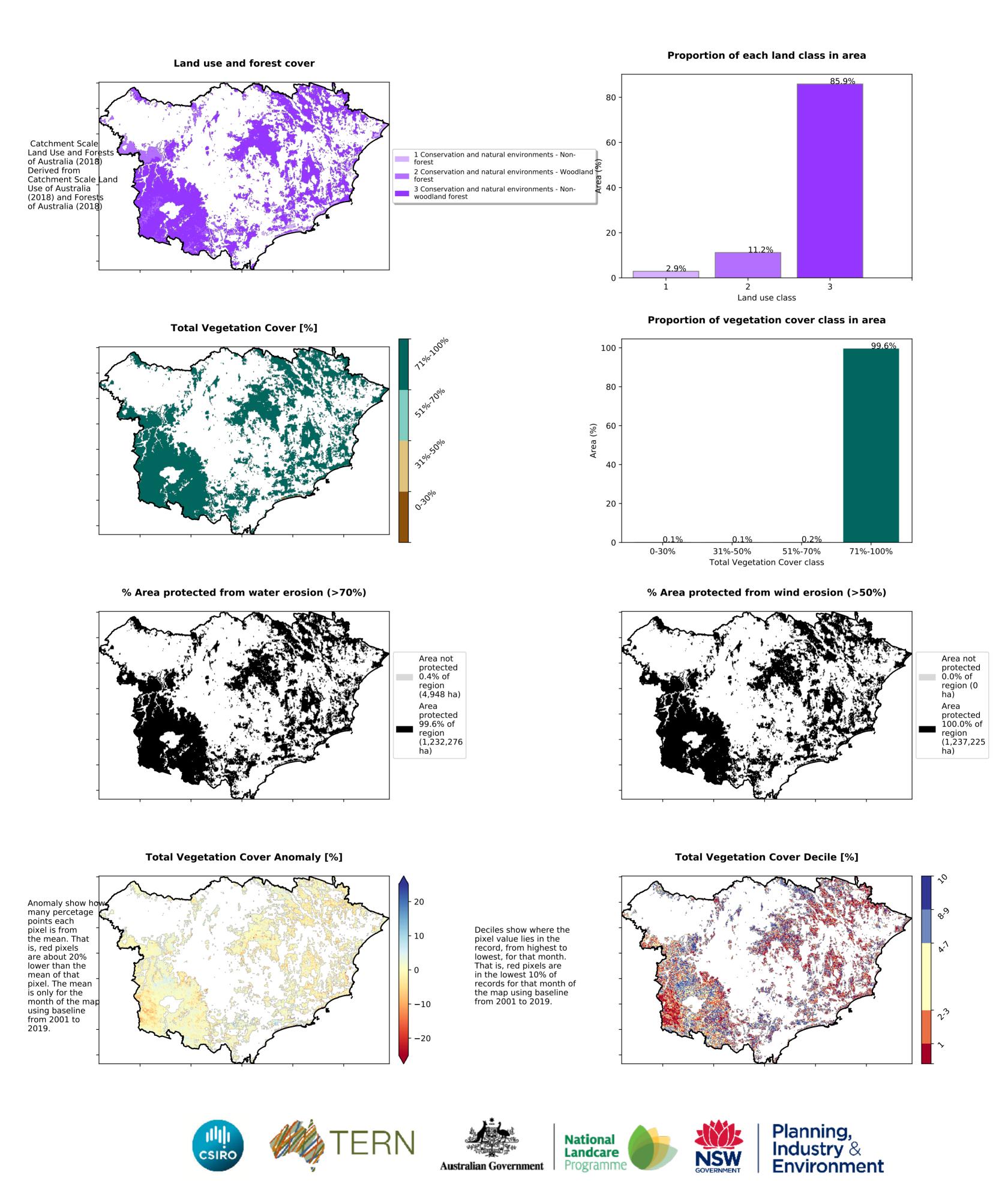




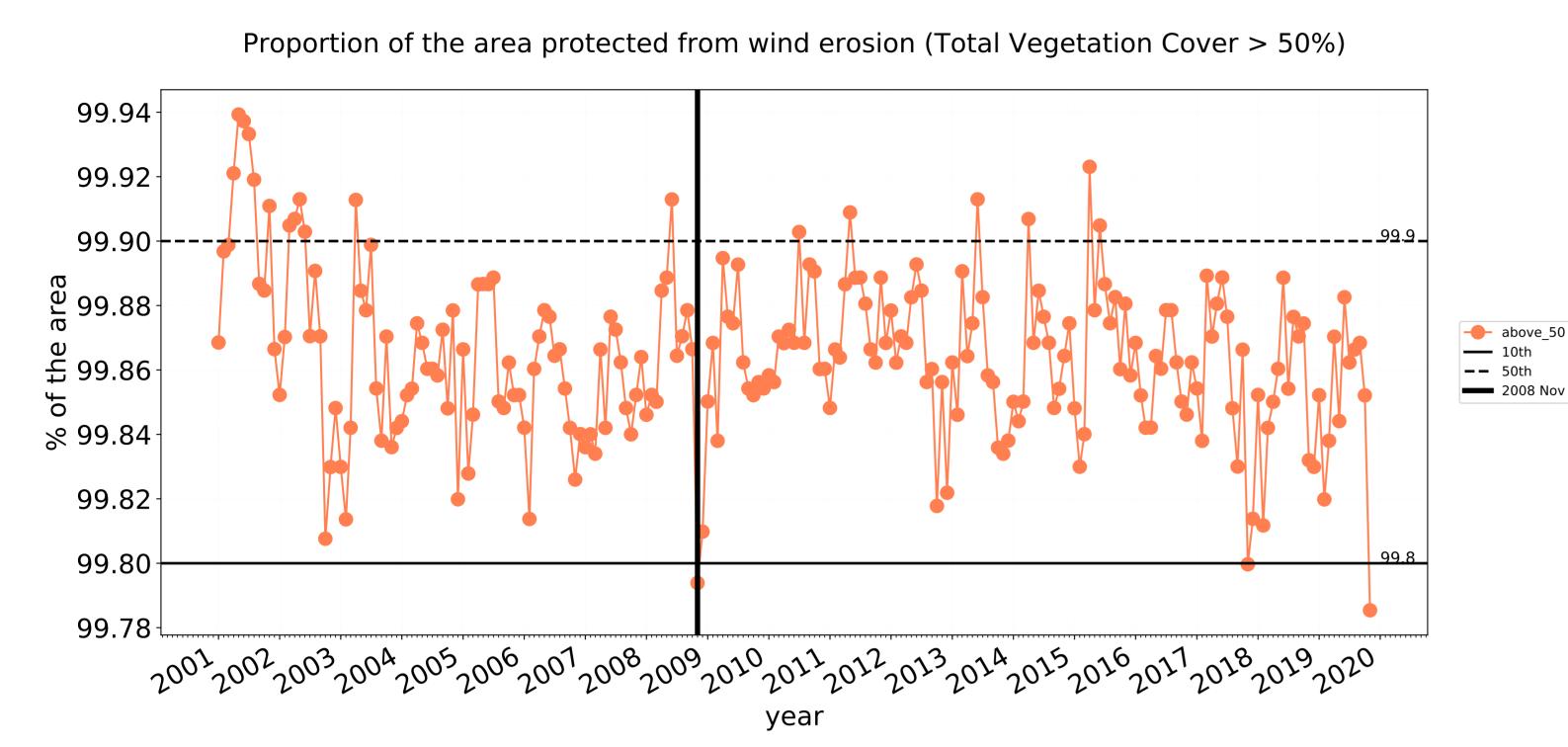




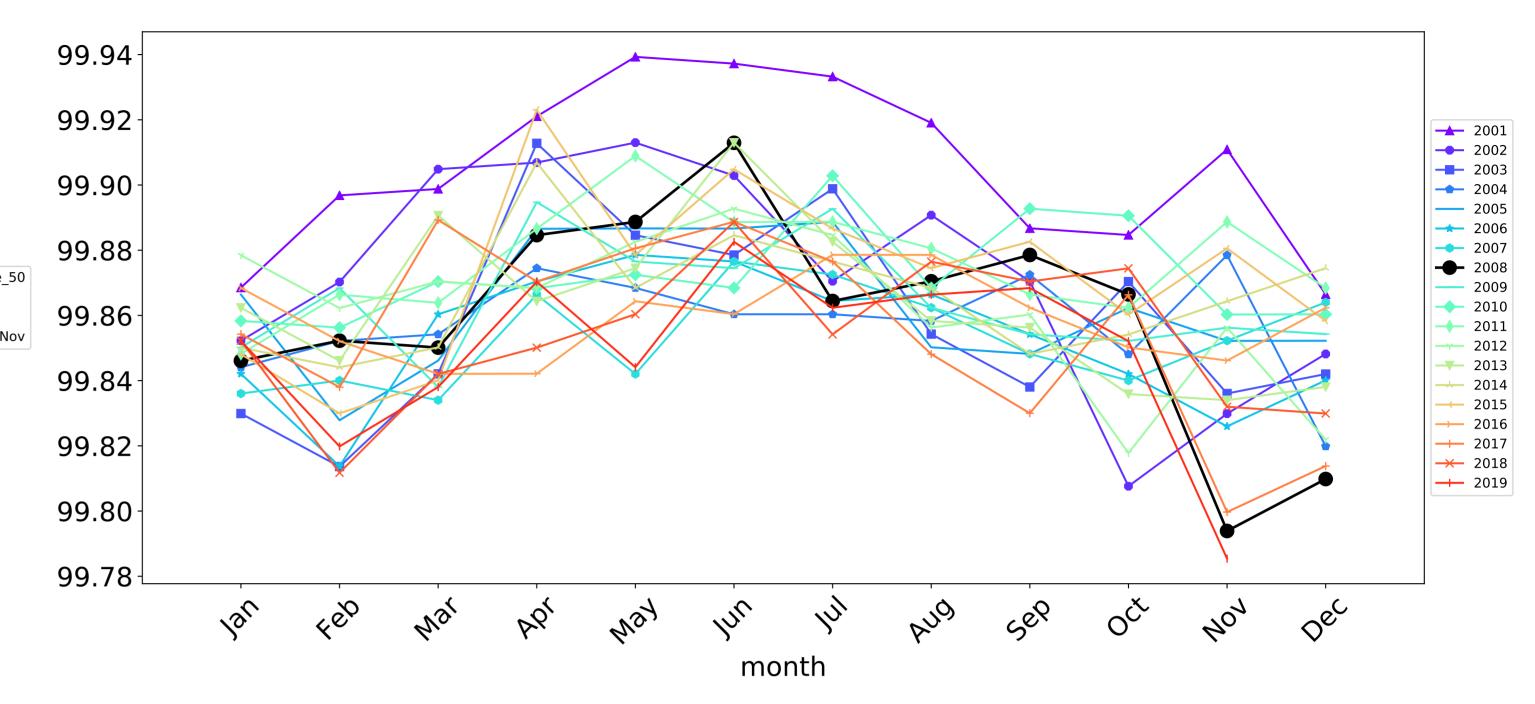
Conservation and natural environments

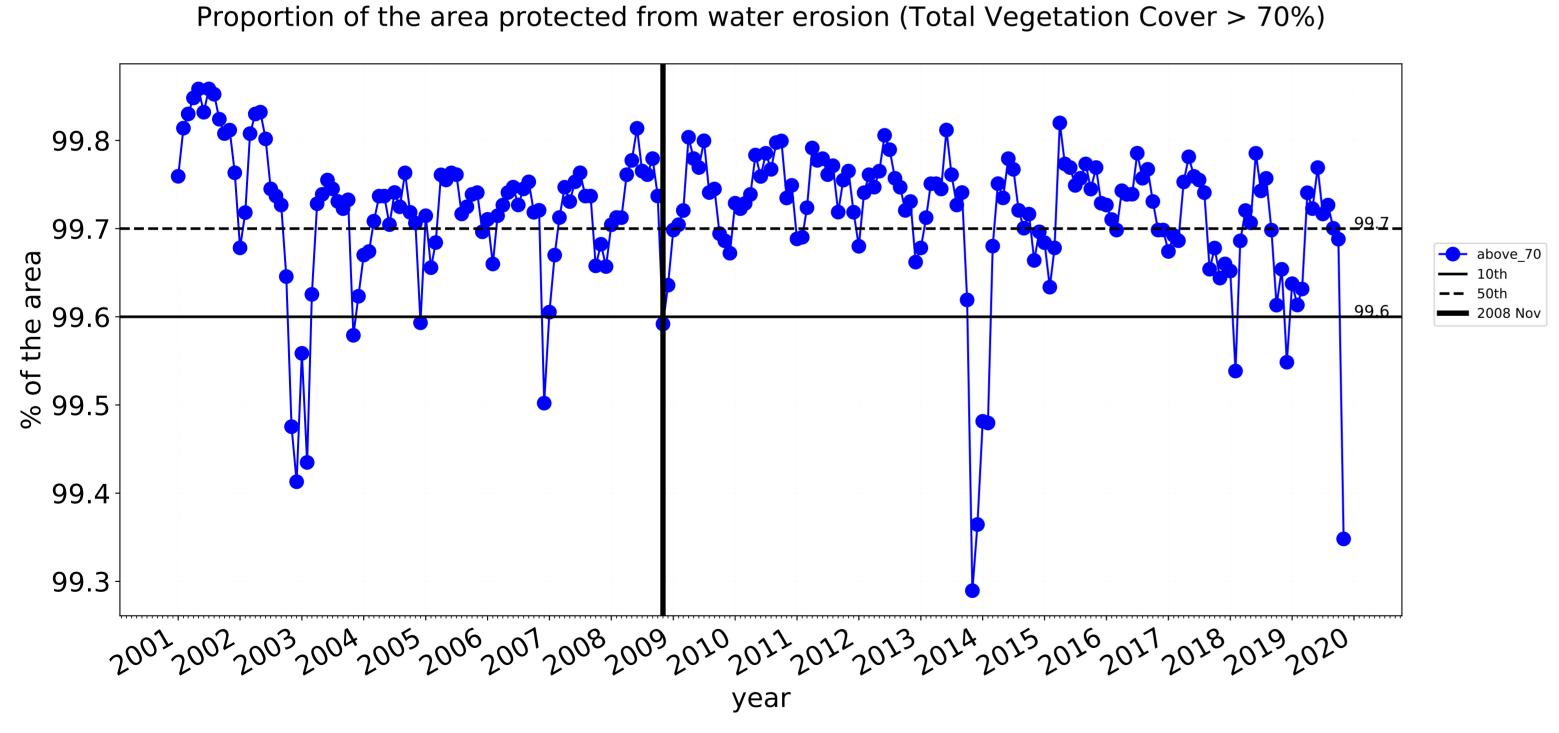


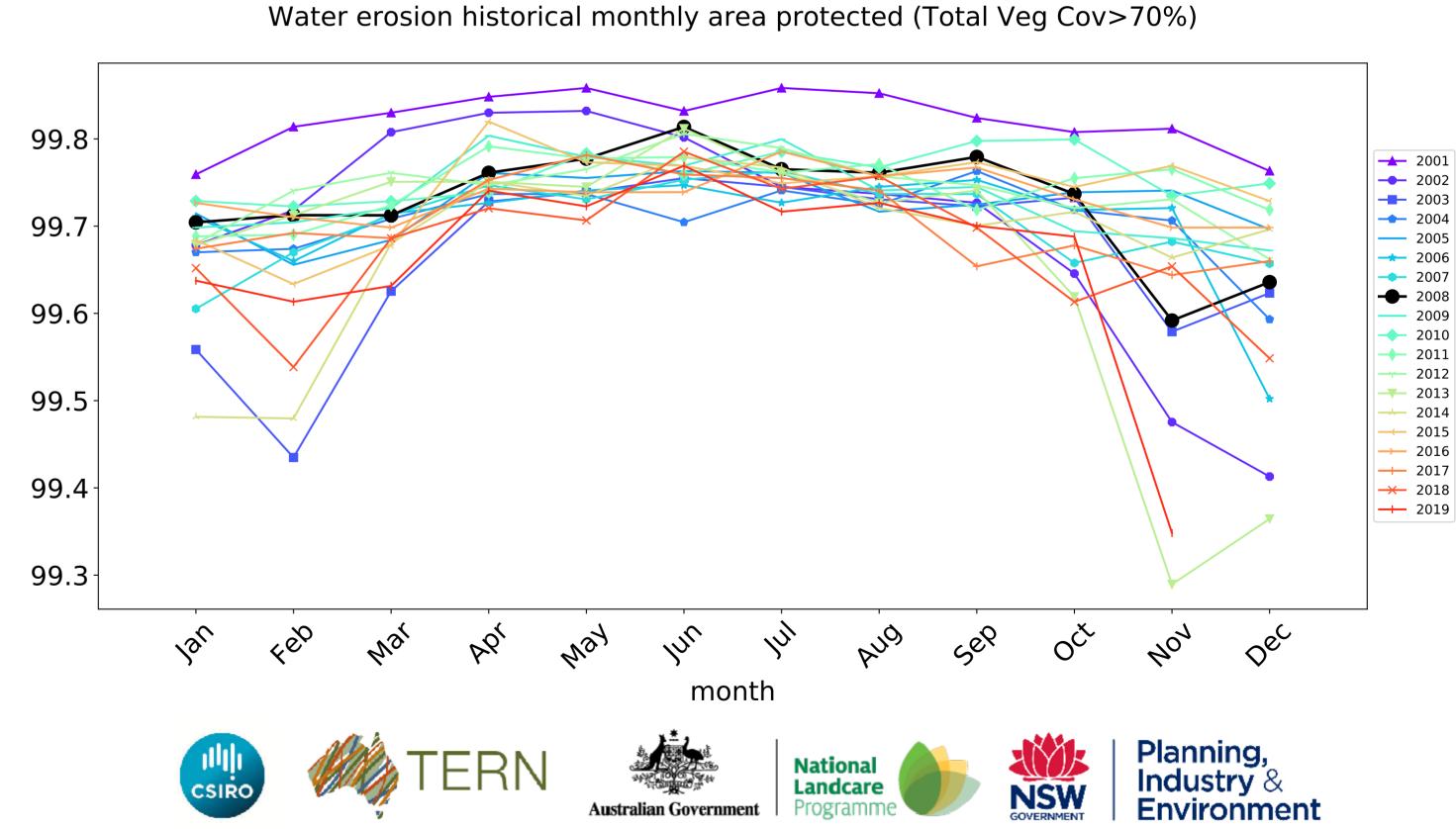
Conservation and natural environments timeseries

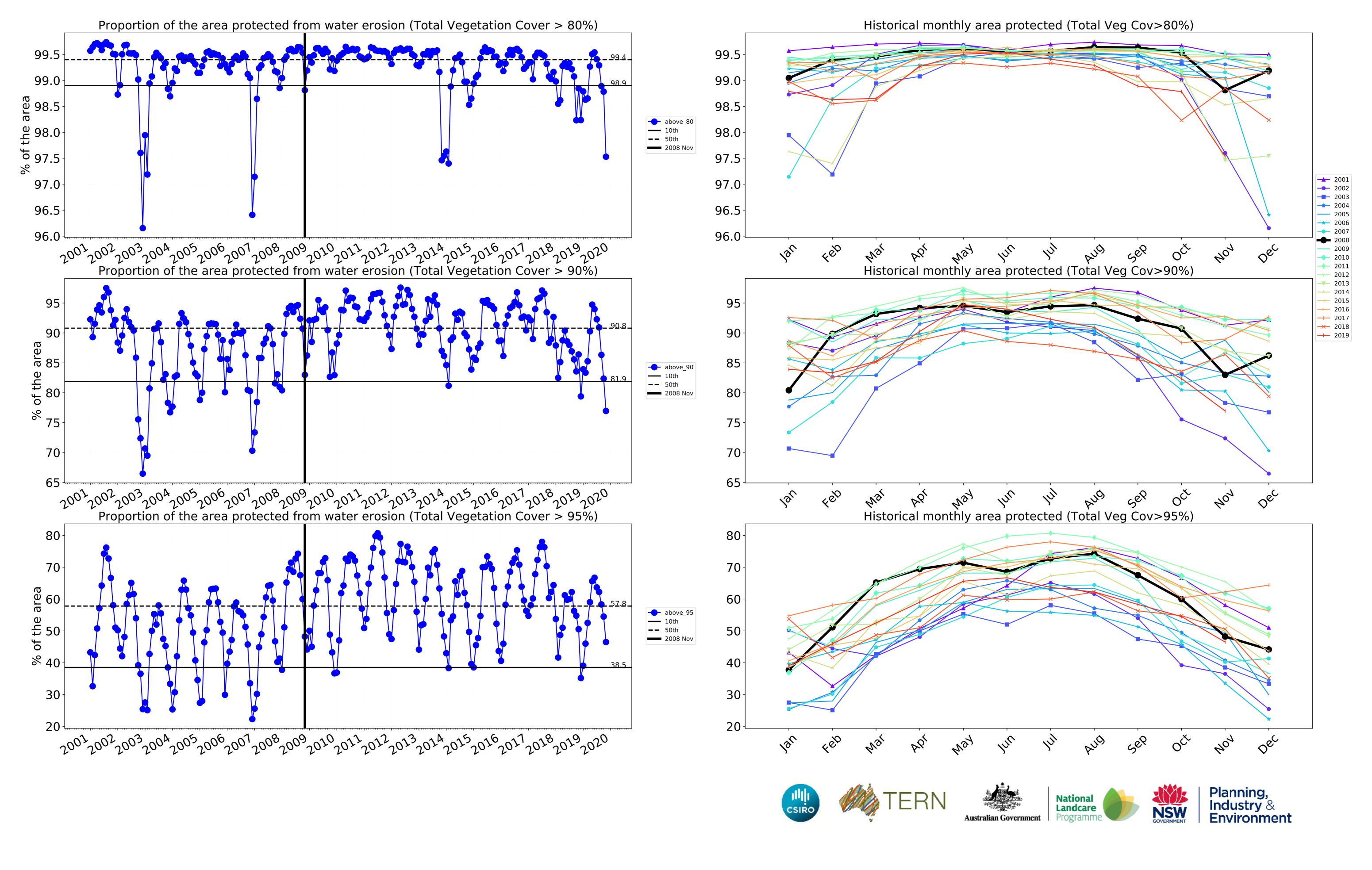


Wind erosion historical monthly area protected (Total Veg Cov >50%)





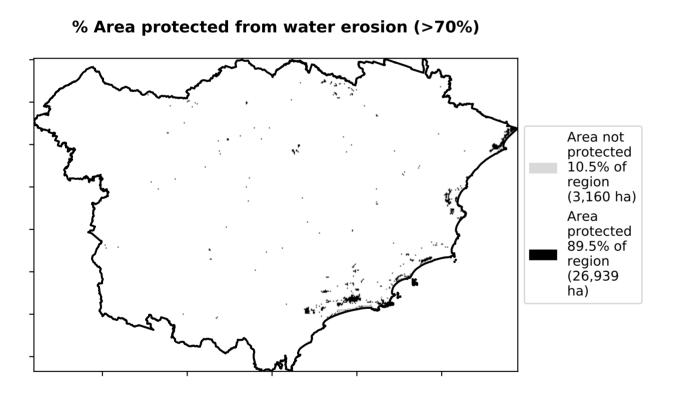


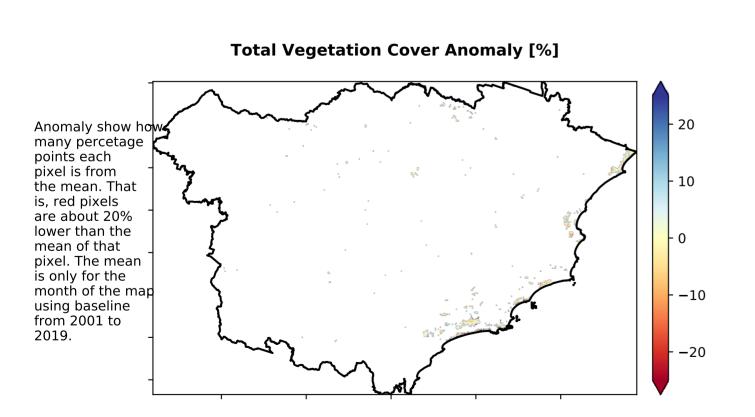


Conservation and natural environments non forest

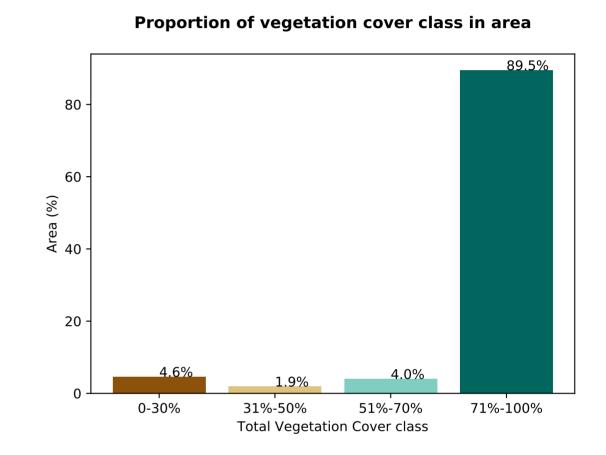
Catchment Scale Land Use and Forests of Australia (2018) Catchment Scale Land Use and Forests of Australia (2018) 1 Conservation and natural environments - Nonforest 1 Conservation and natural environments - Nonforest

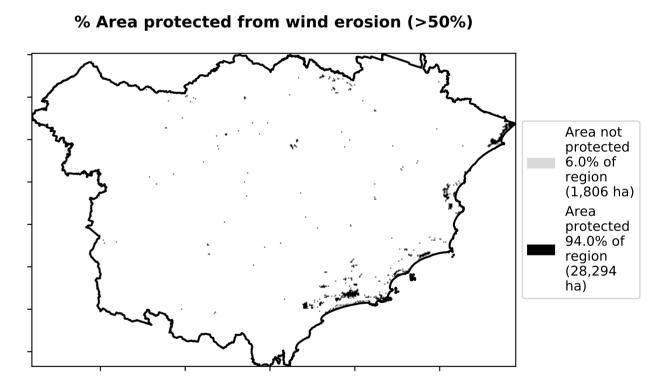
Total Vegetation Cover [%] Talestage Tales

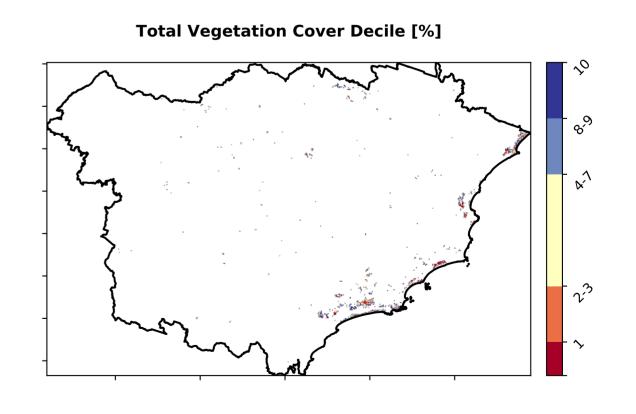




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.











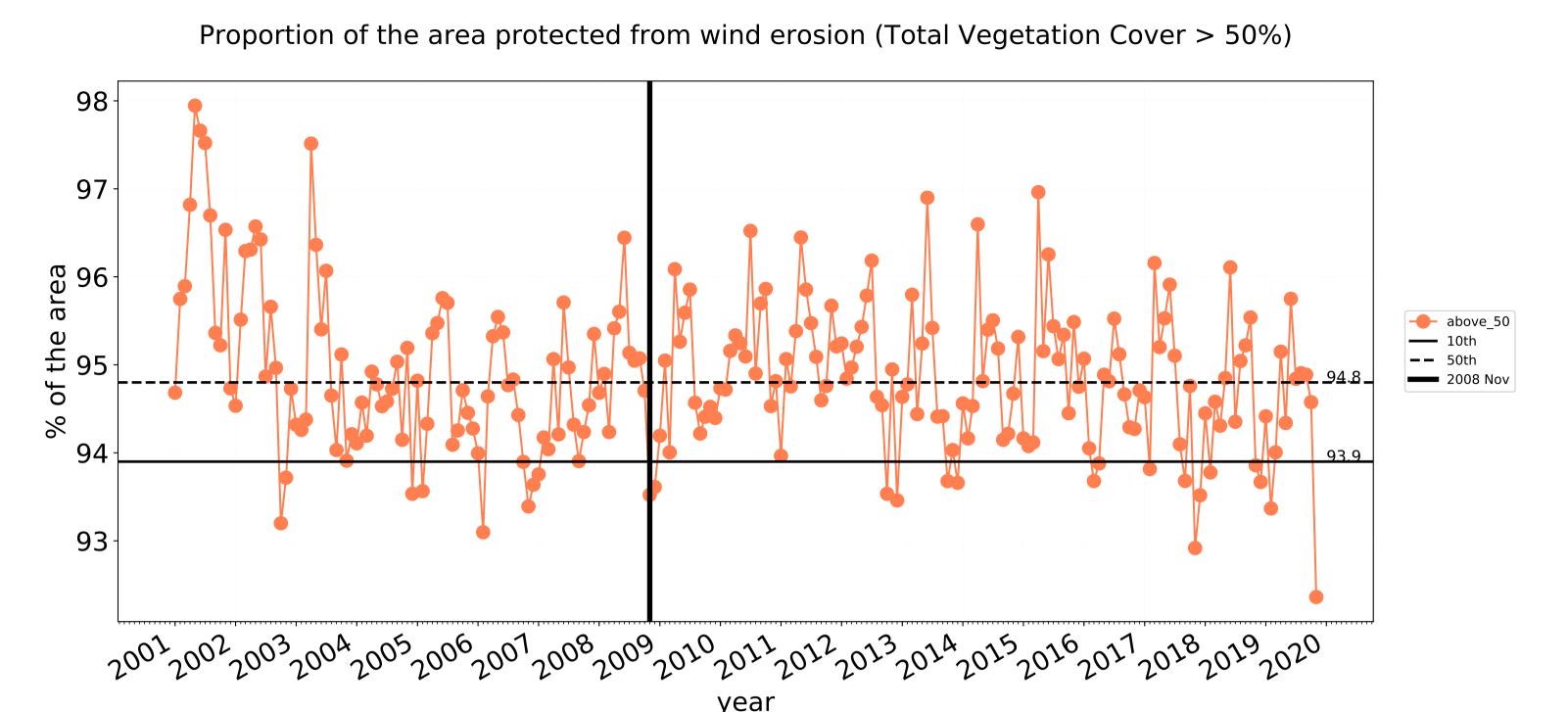




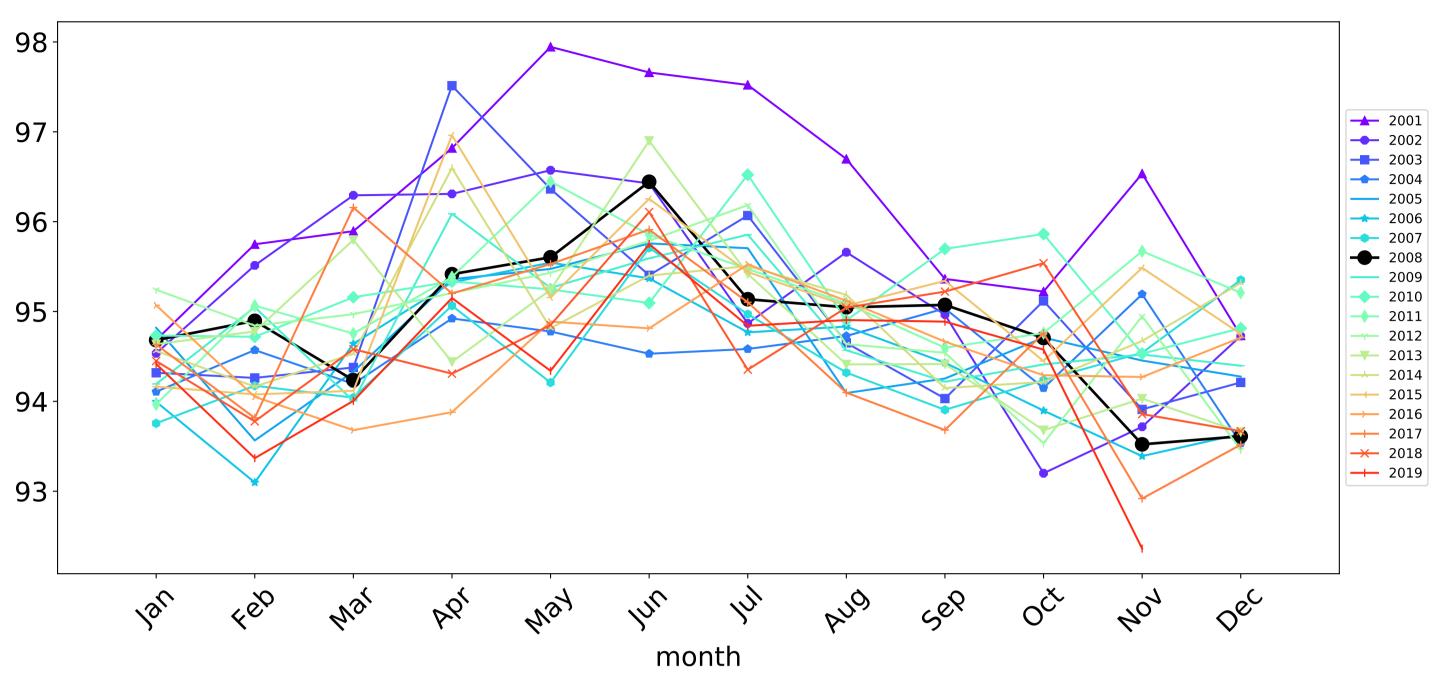




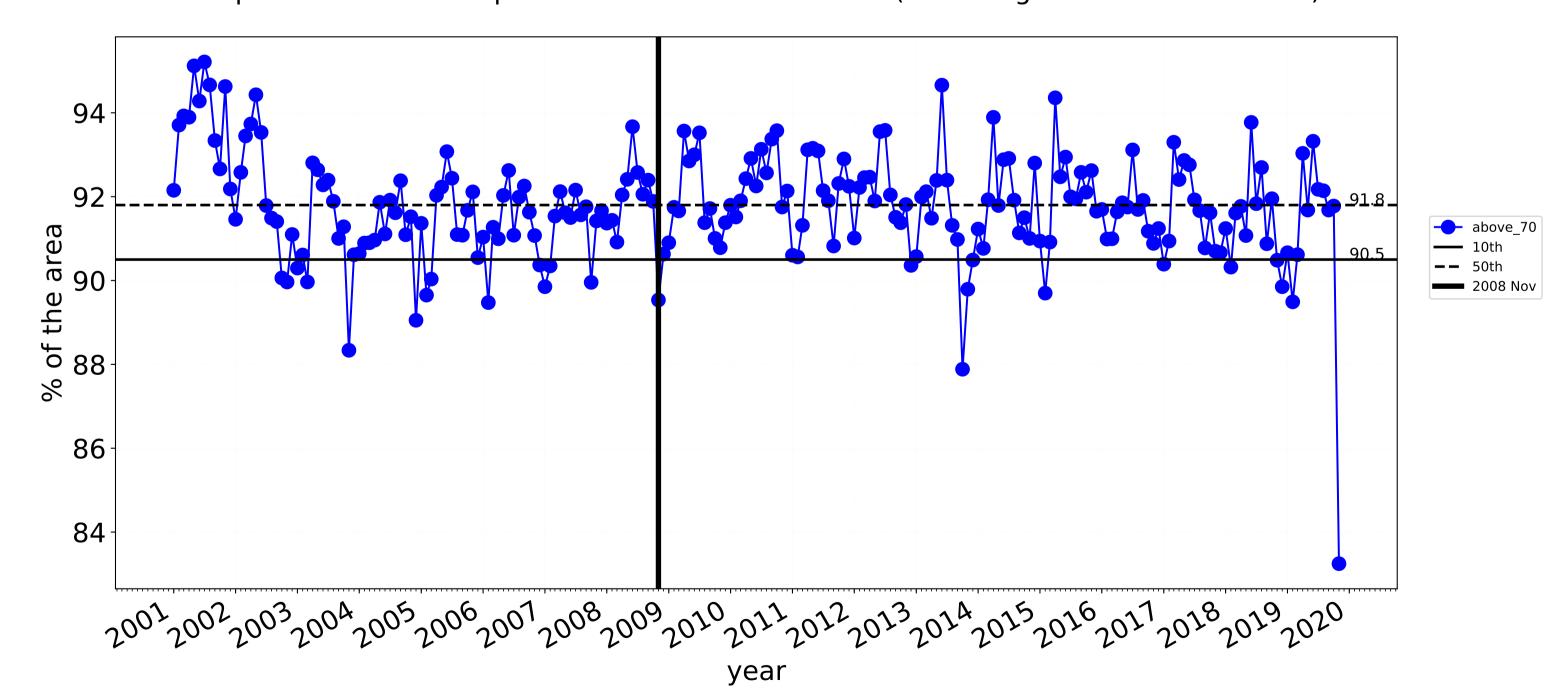
Conservation and natural environments non forest timeseries



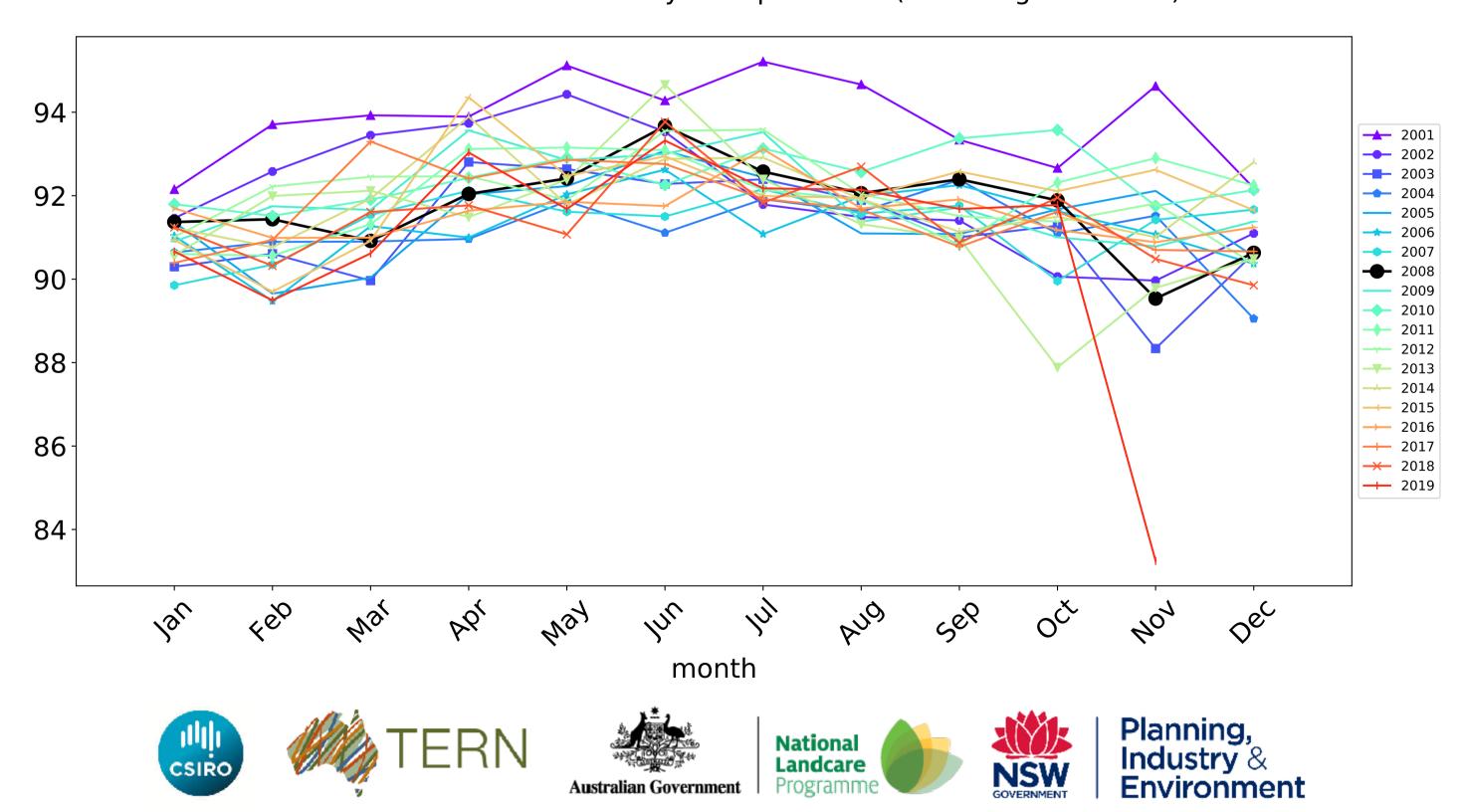


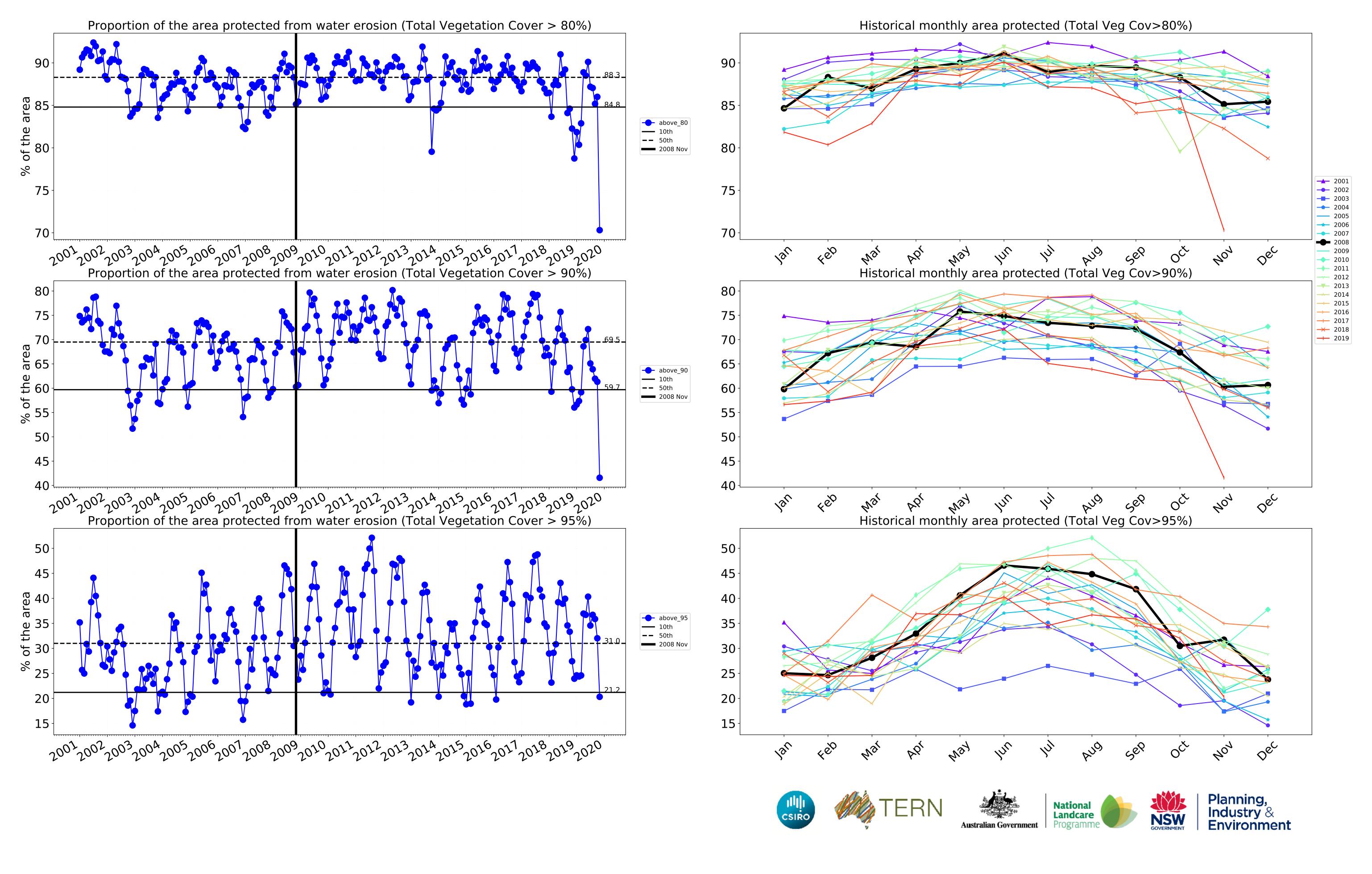


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)

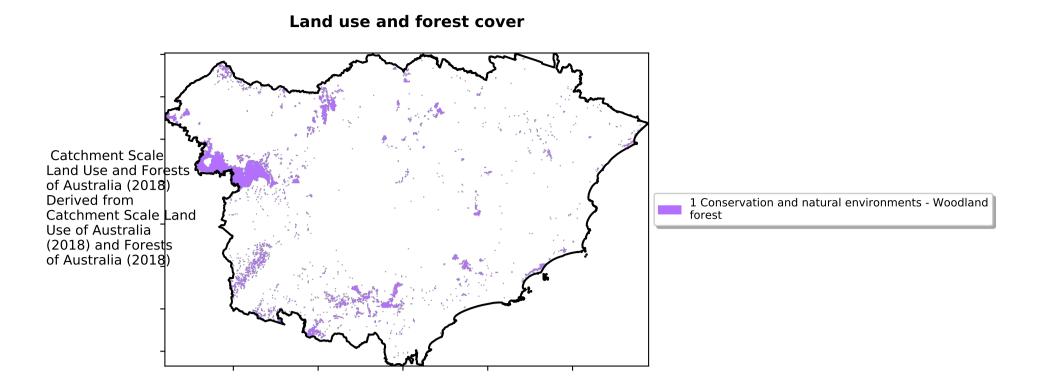


Water erosion historical monthly area protected (Total Veg Cov>70%)

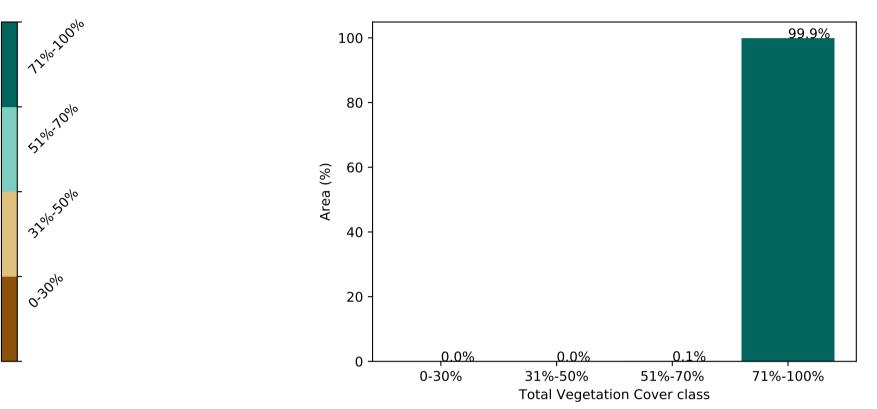


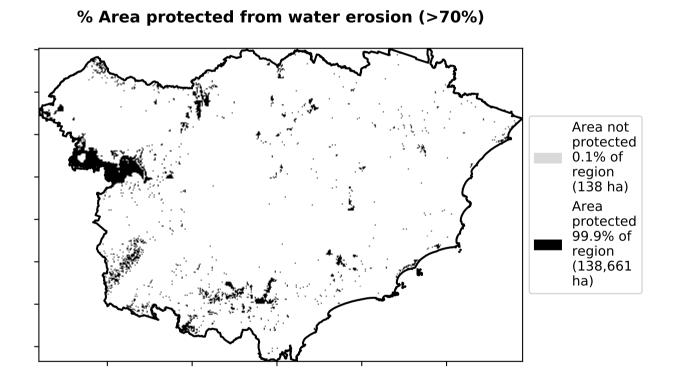


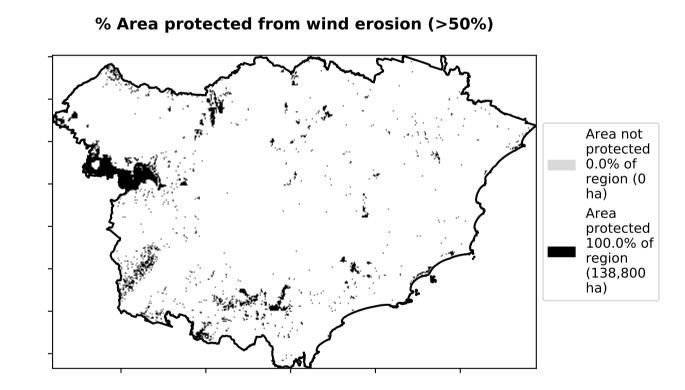
Conservation and natural environments Woodland forest



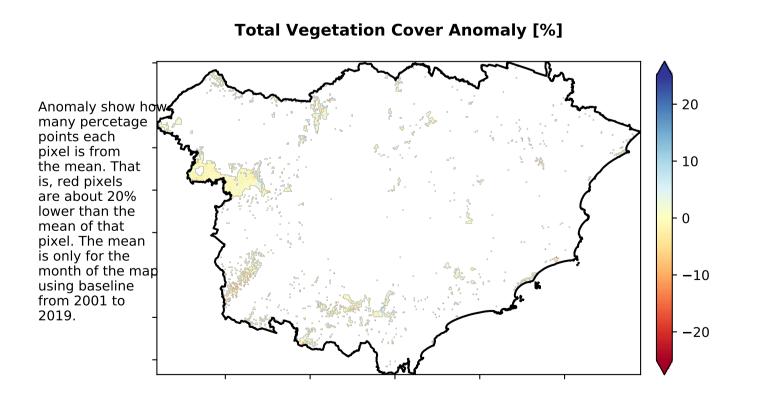
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]



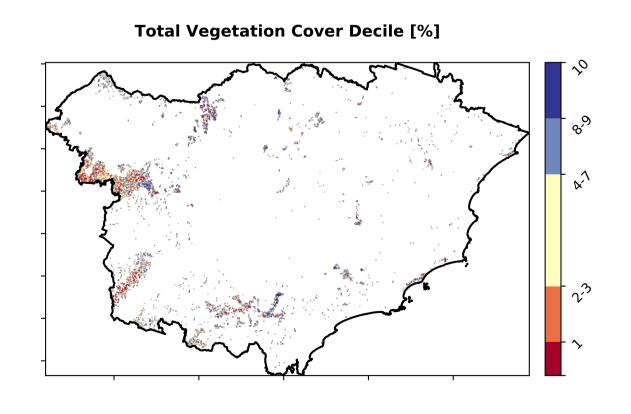




Proportion of vegetation cover class in area



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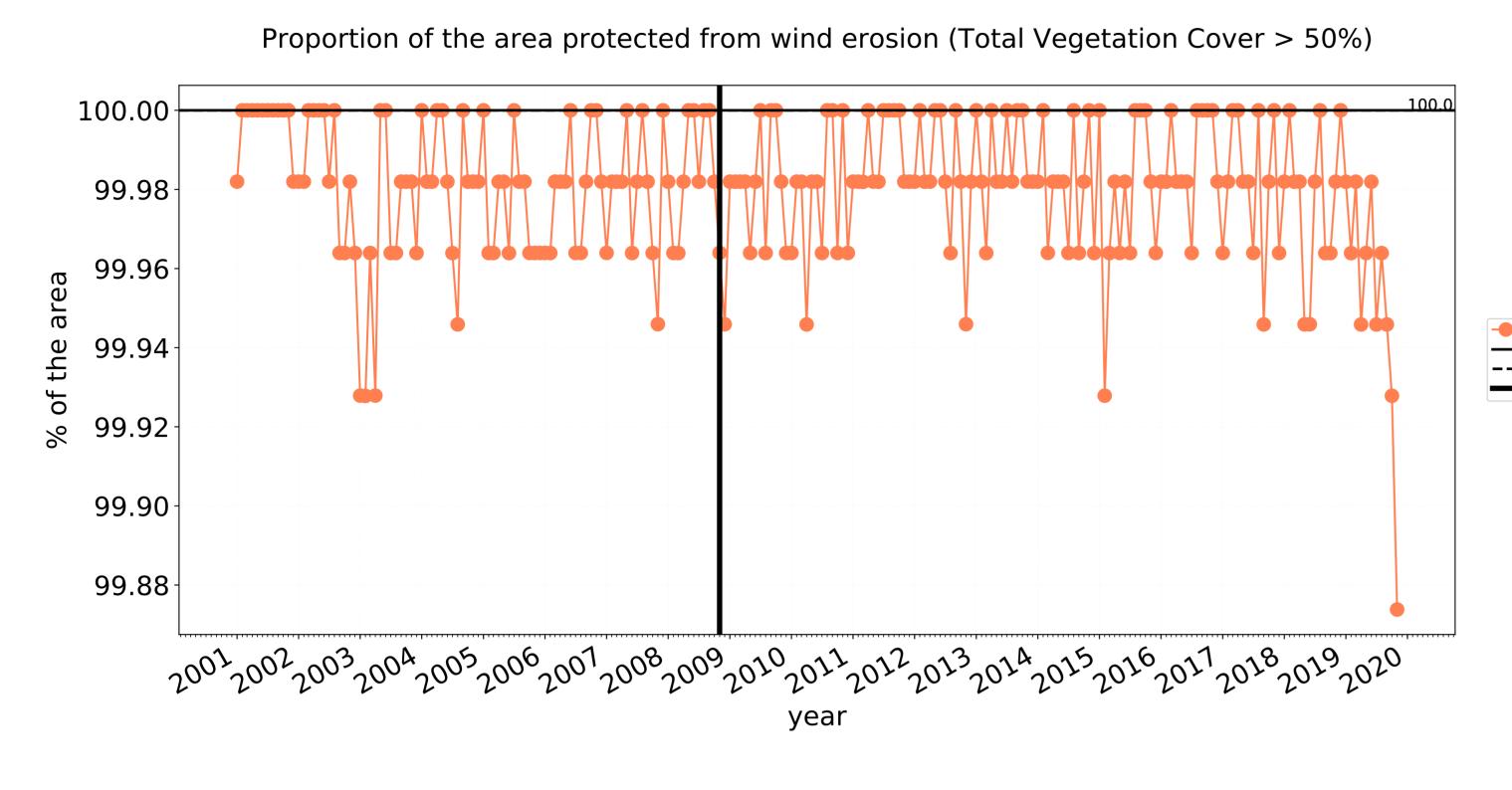


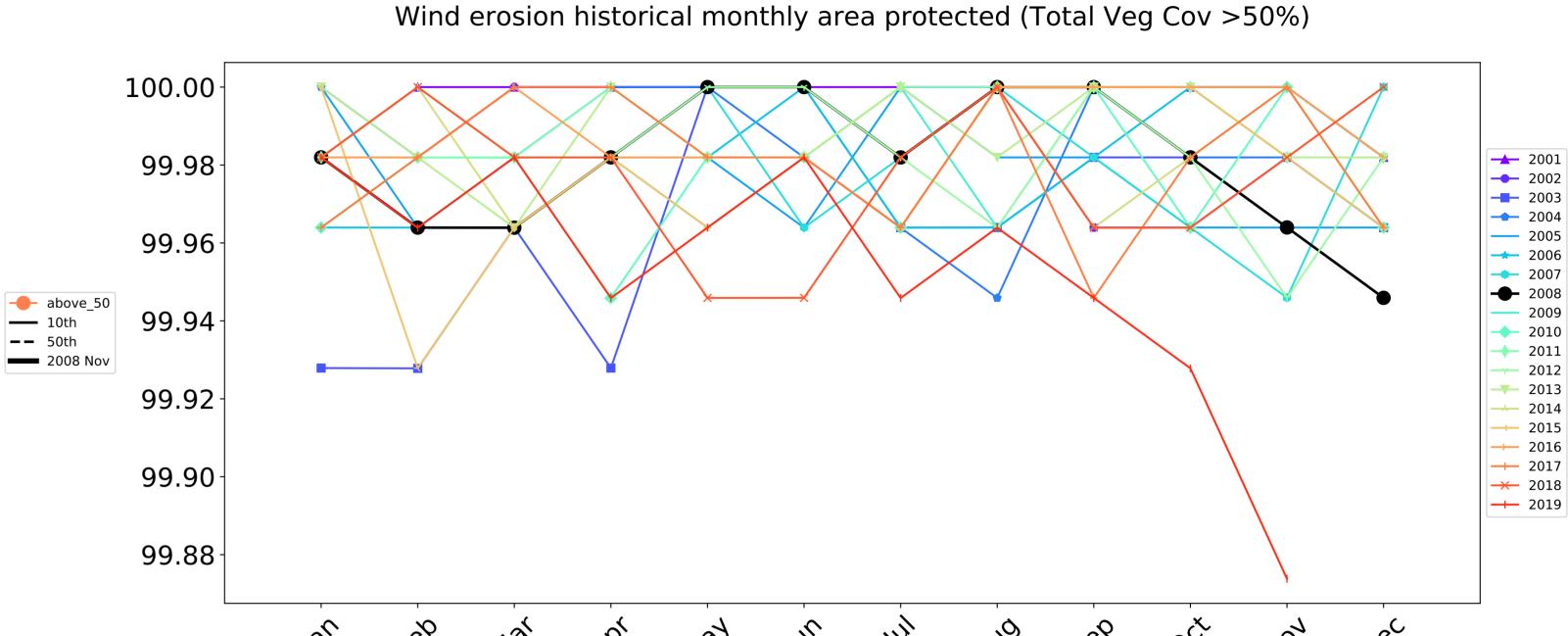




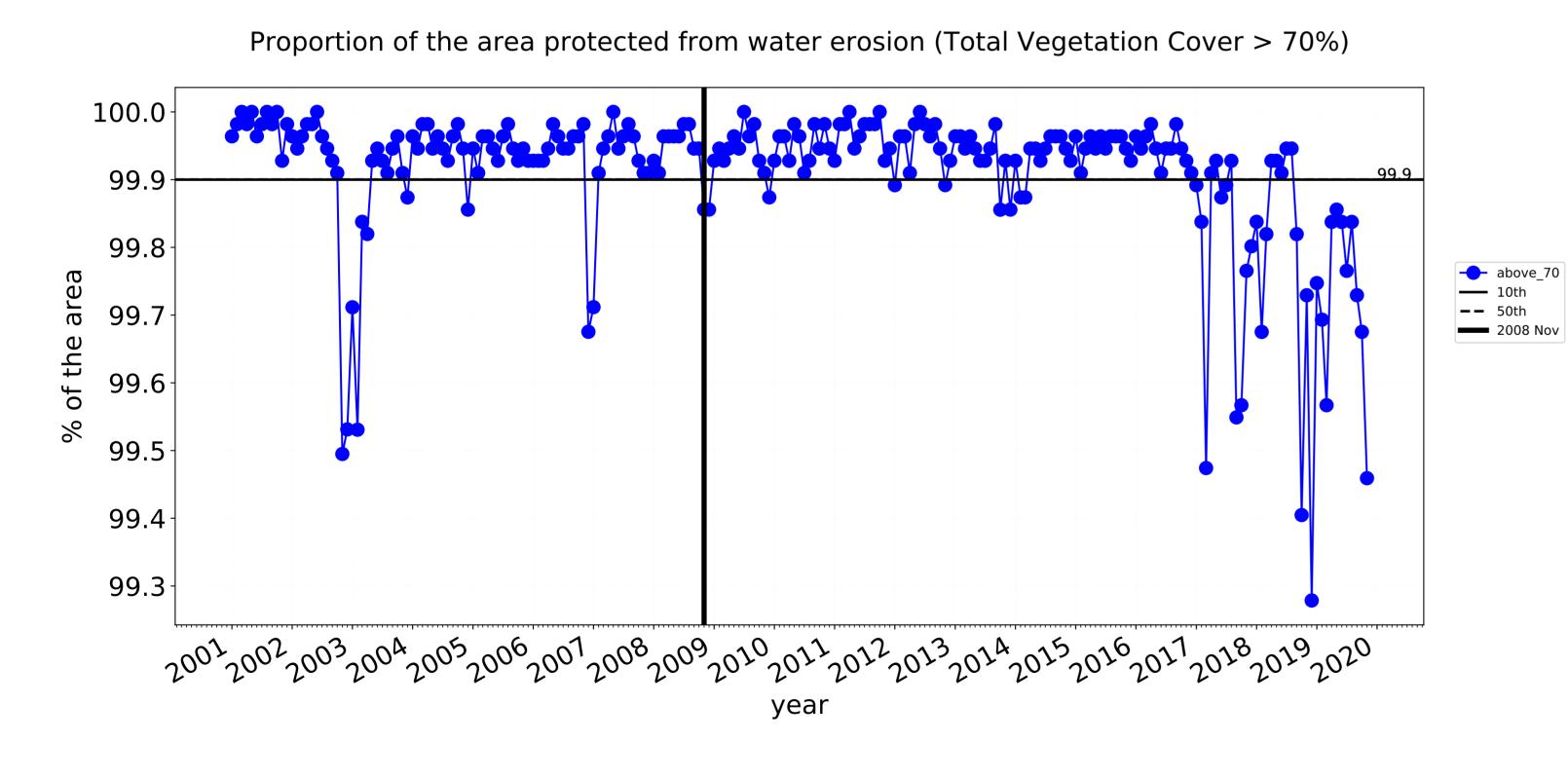


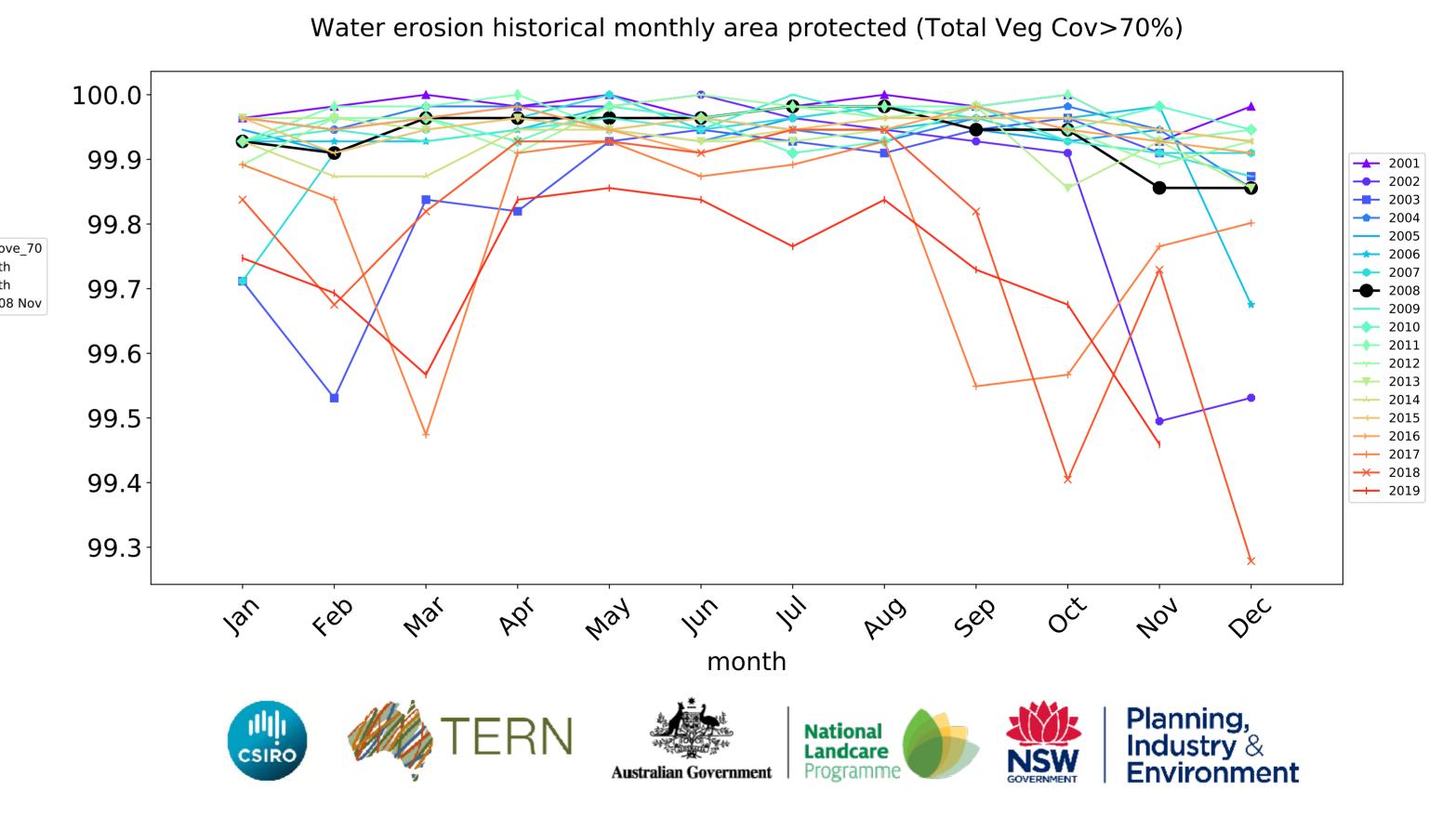
Conservation and natural environments Woodland forest timeseries

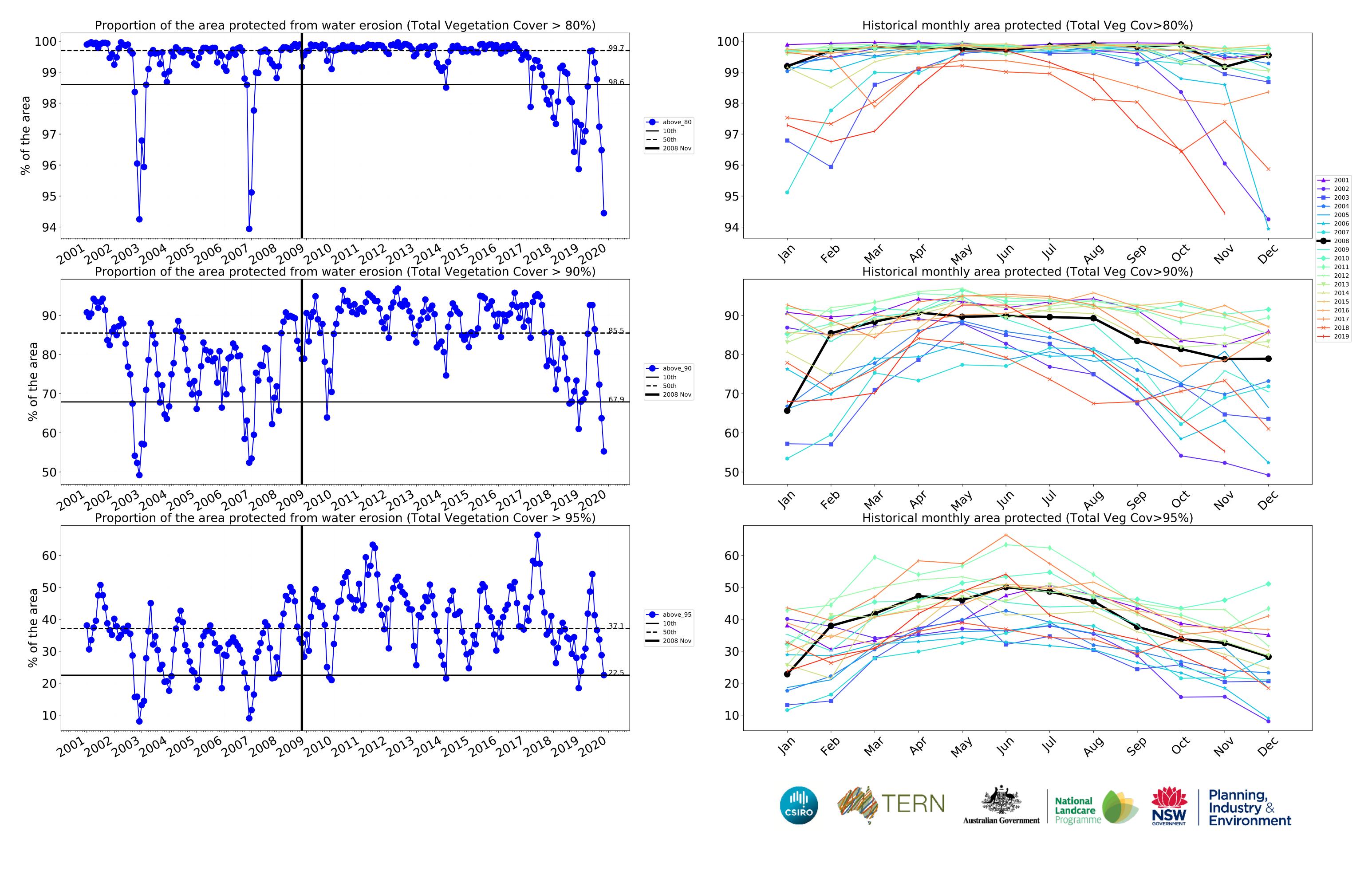




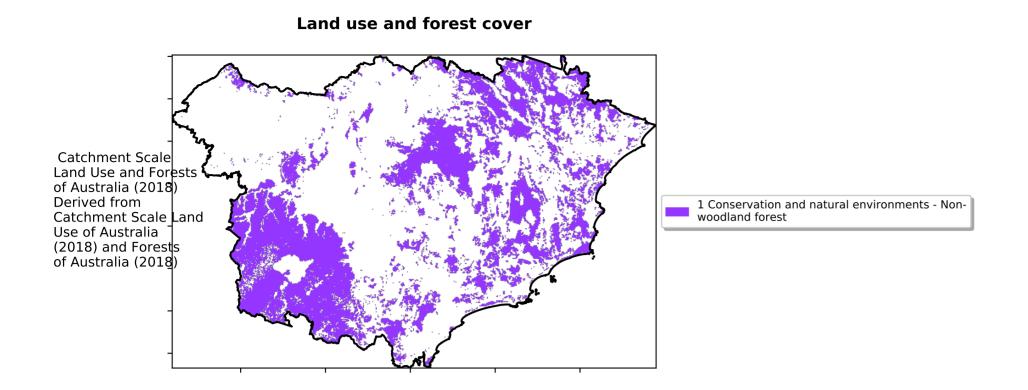
month



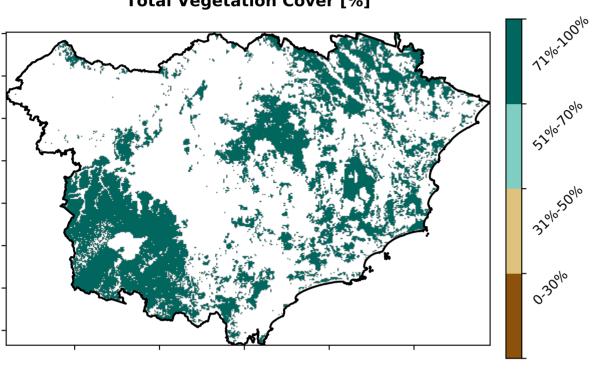


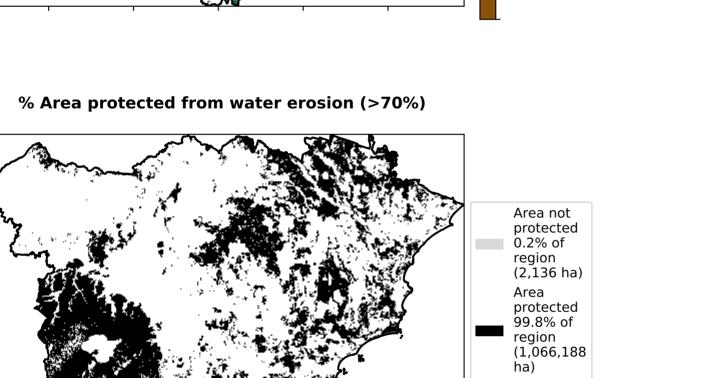


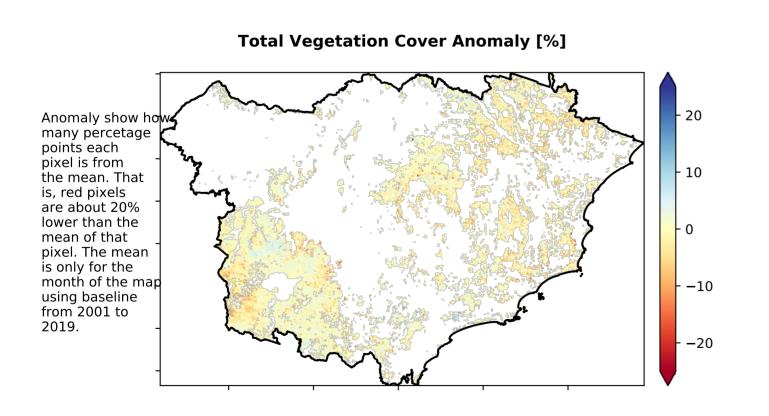
Conservation and natural environments Forest (non woodland)



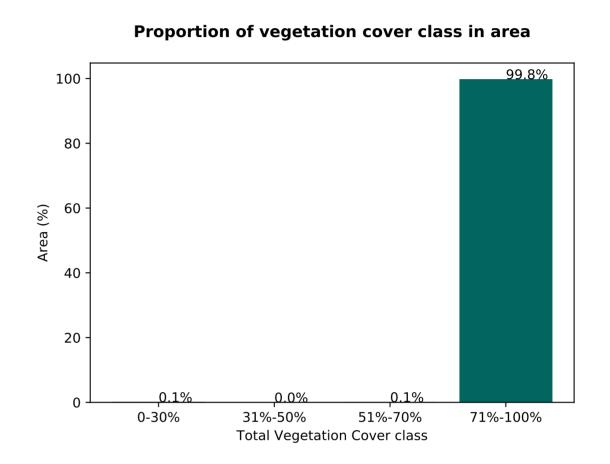
Total Vegetation Cover [%]

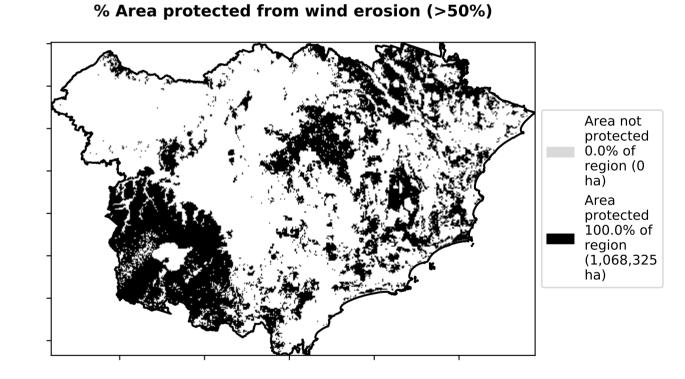


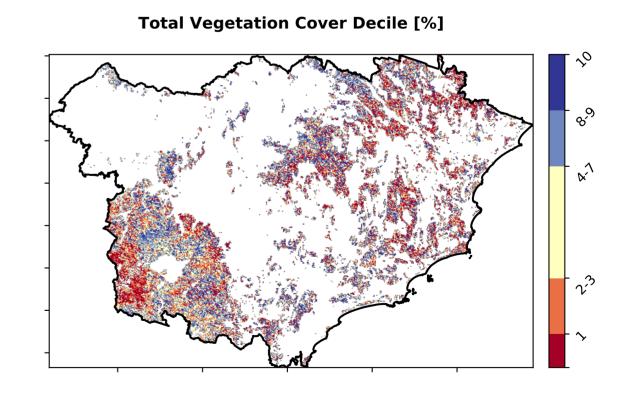




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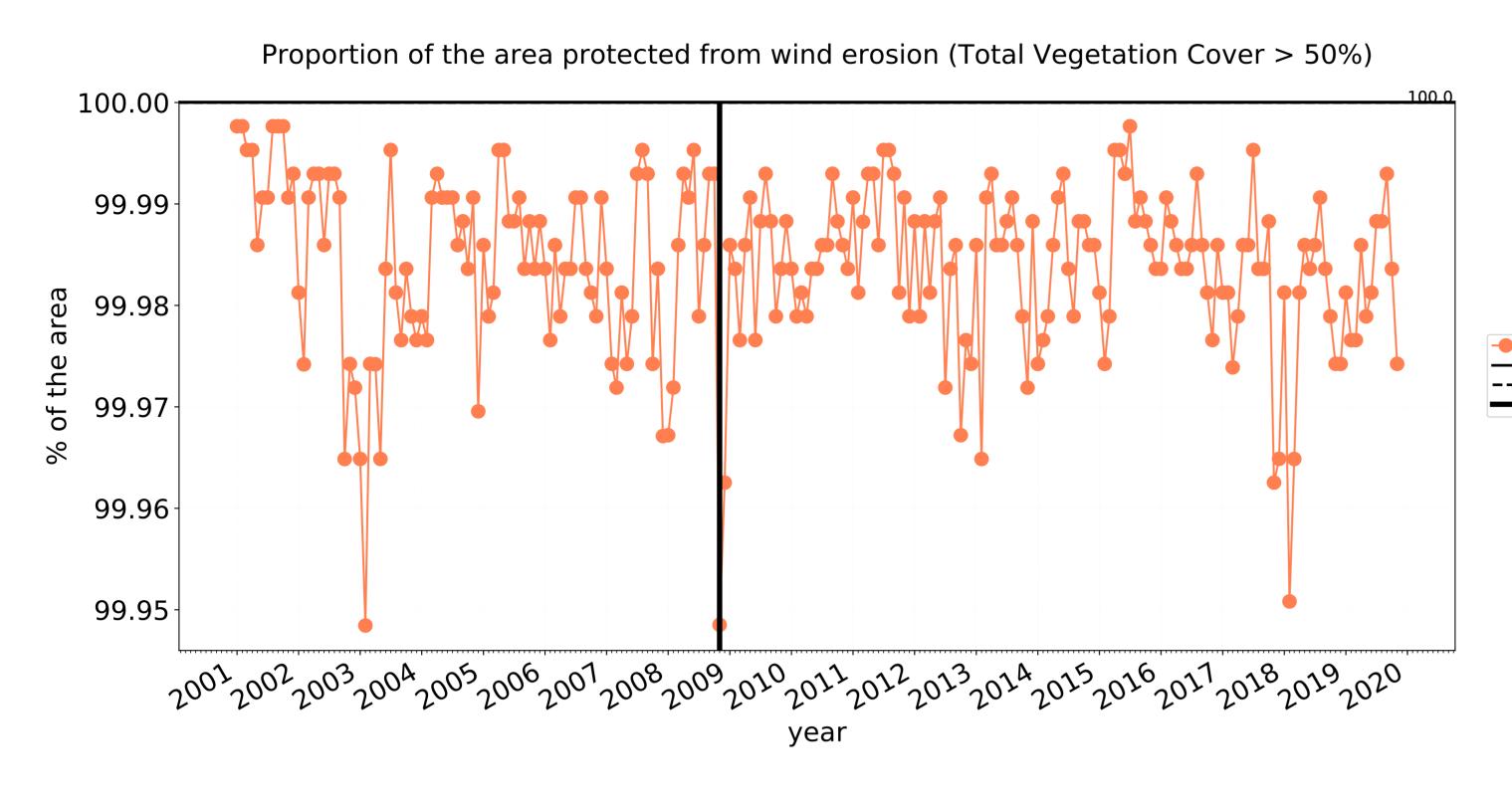


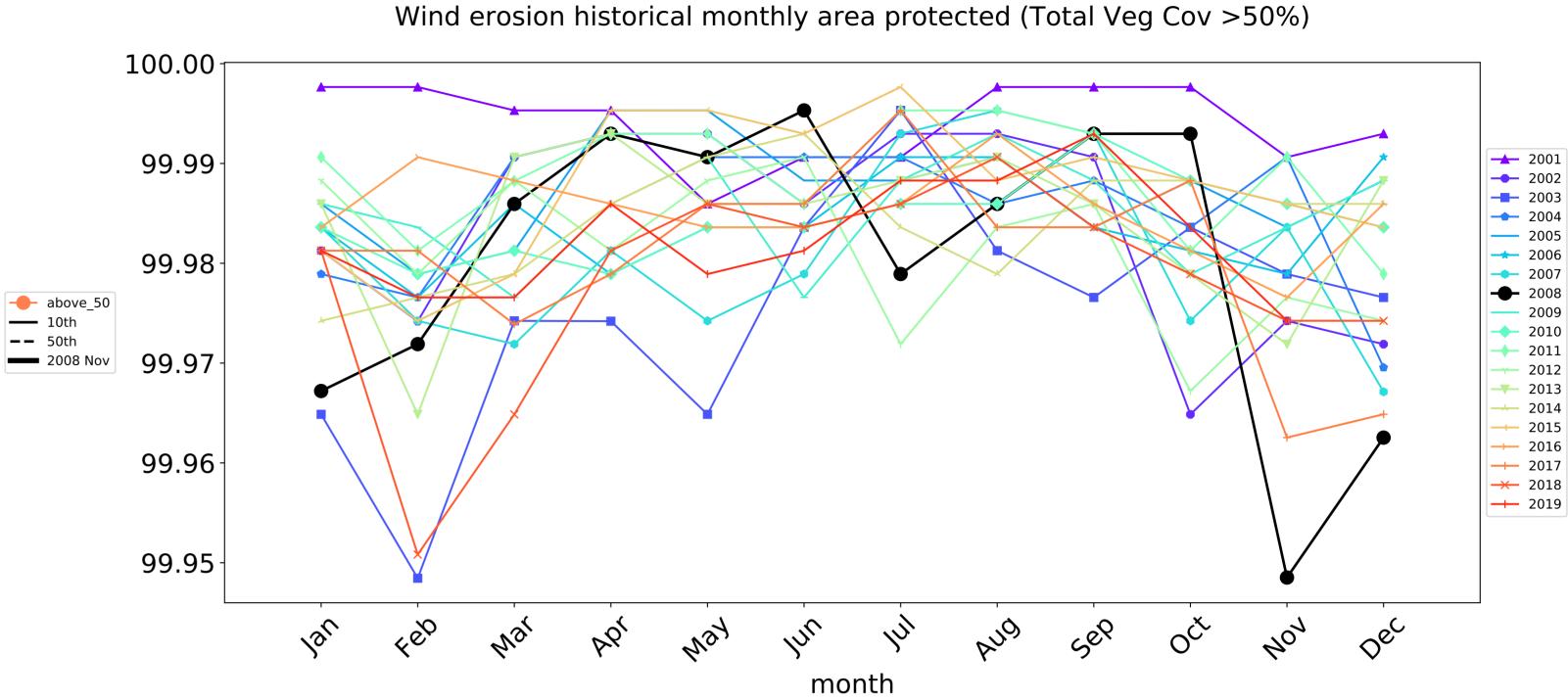


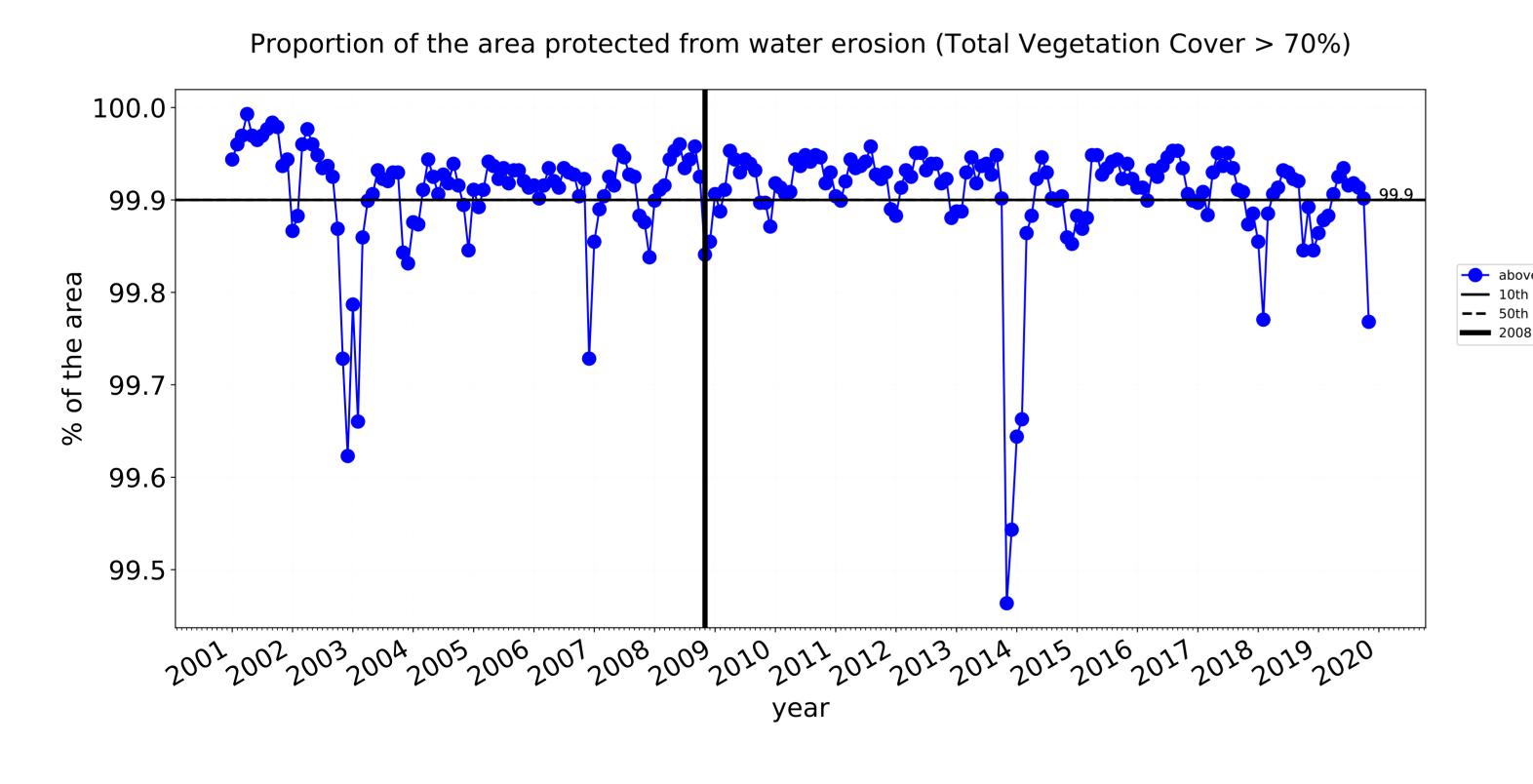


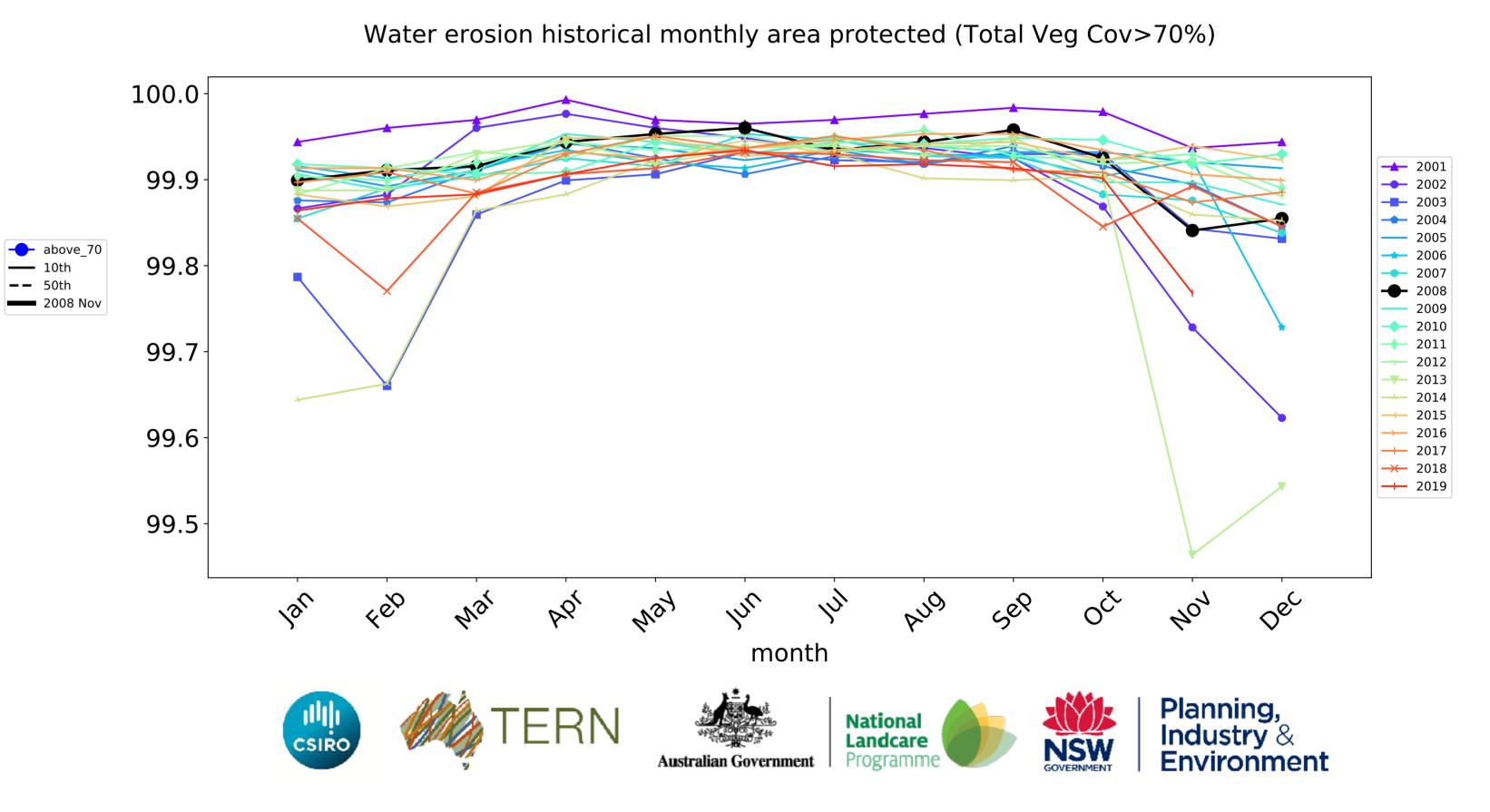


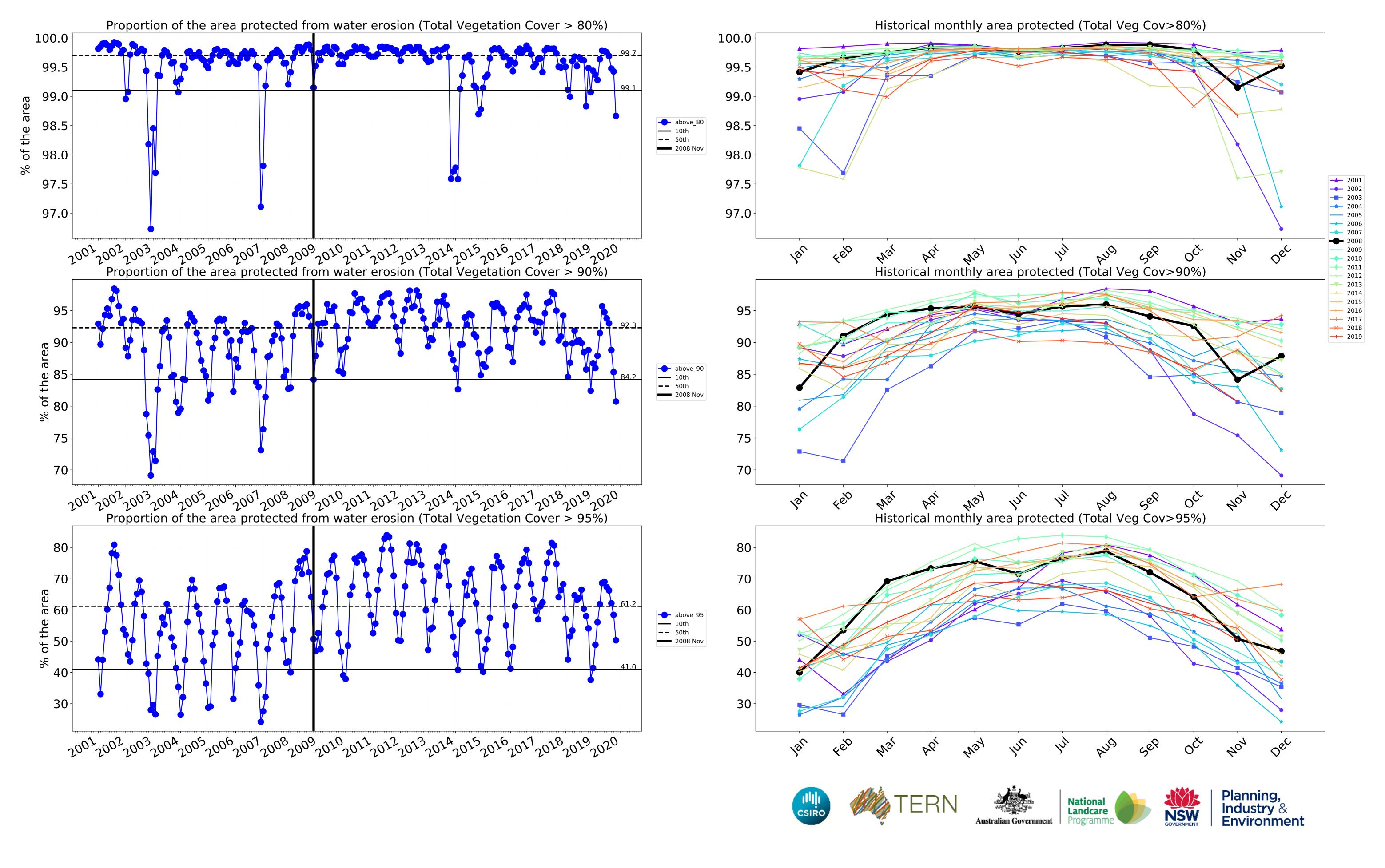
Conservation and natural environments Forest (non woodland) timeseries



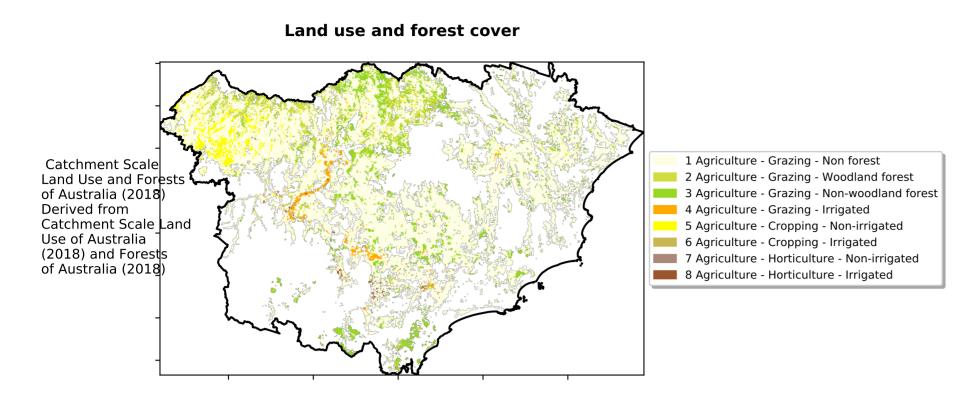


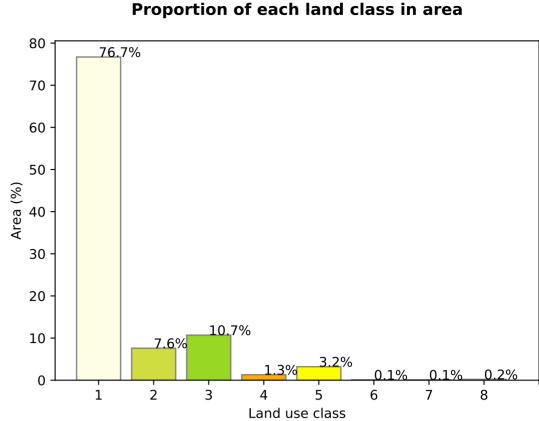




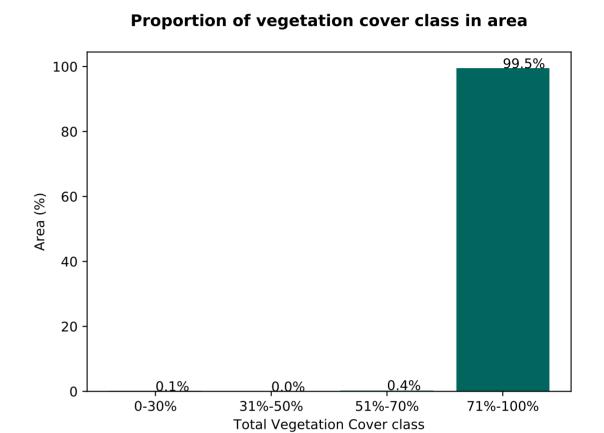


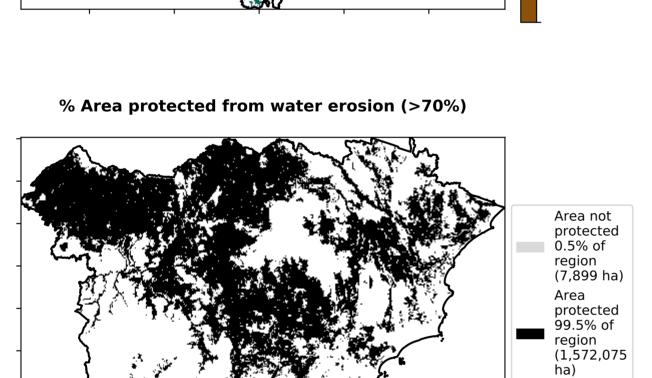
Agriculture

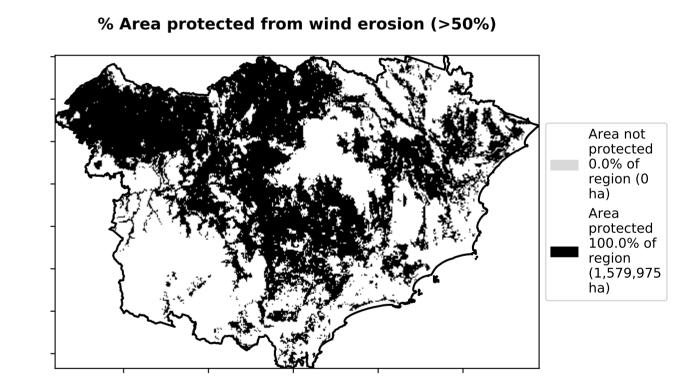


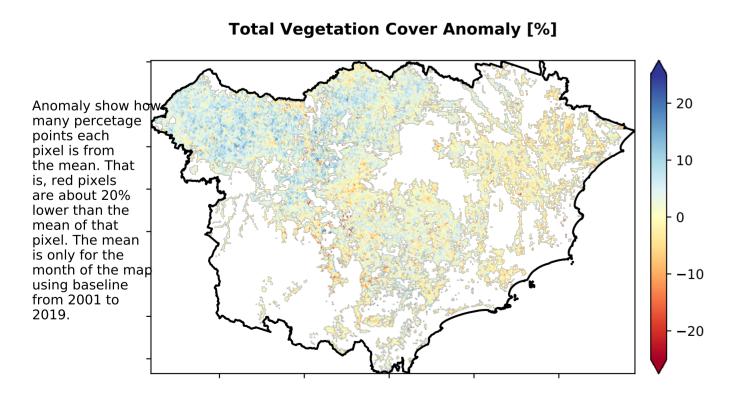


Total Vegetation Cover [%] Talk policy of the state of t

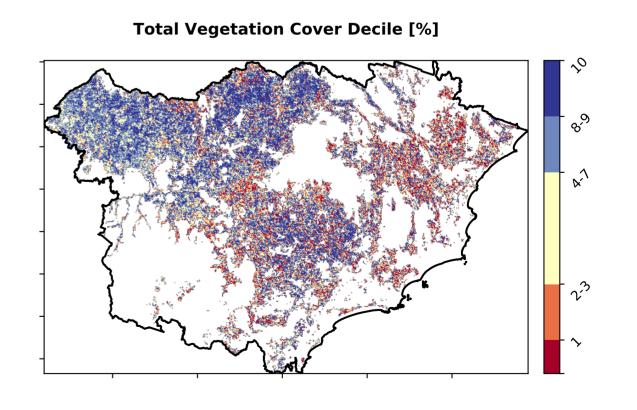








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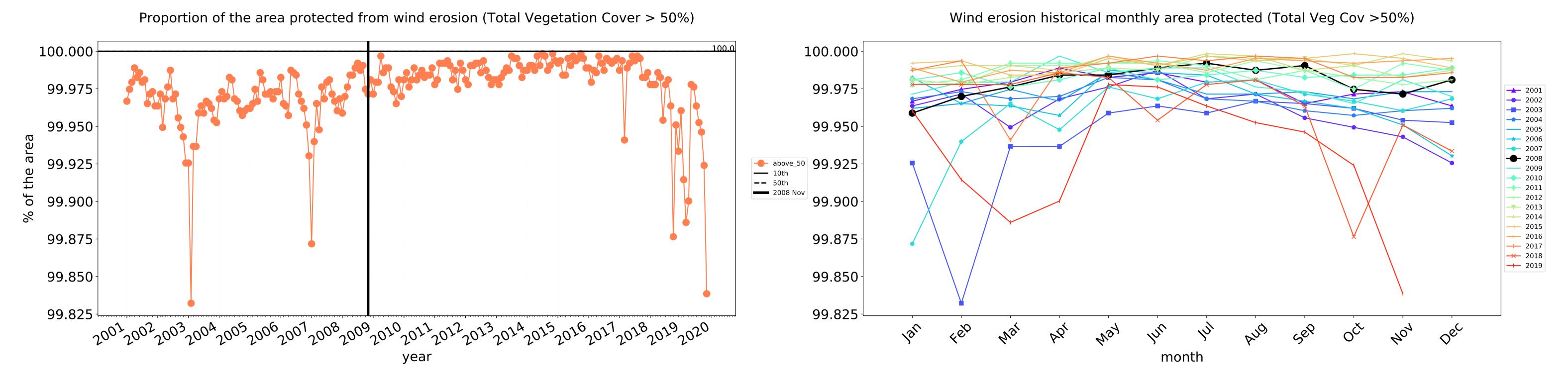


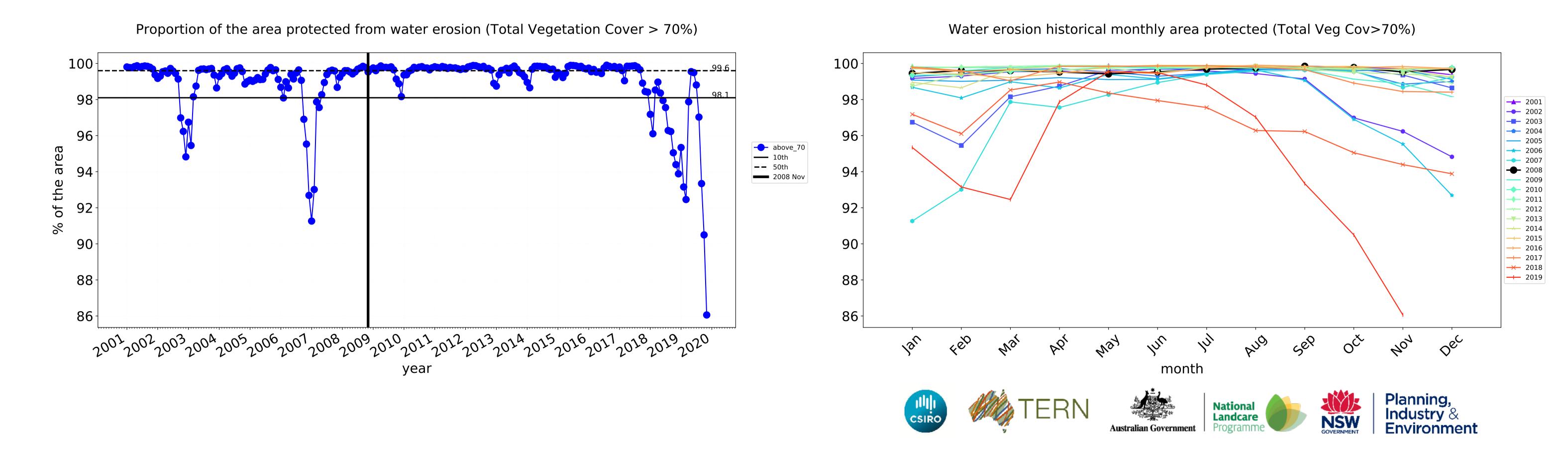


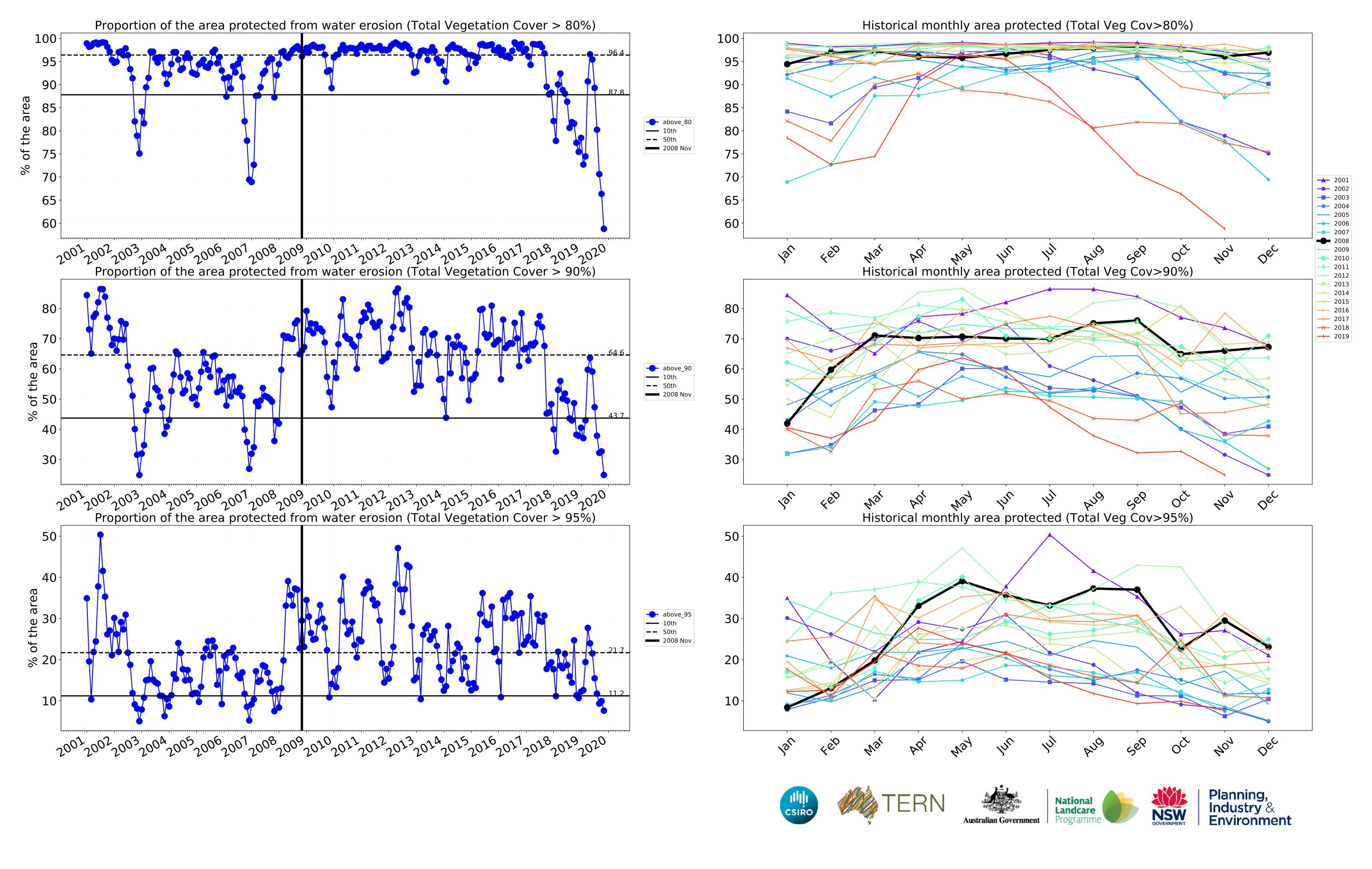




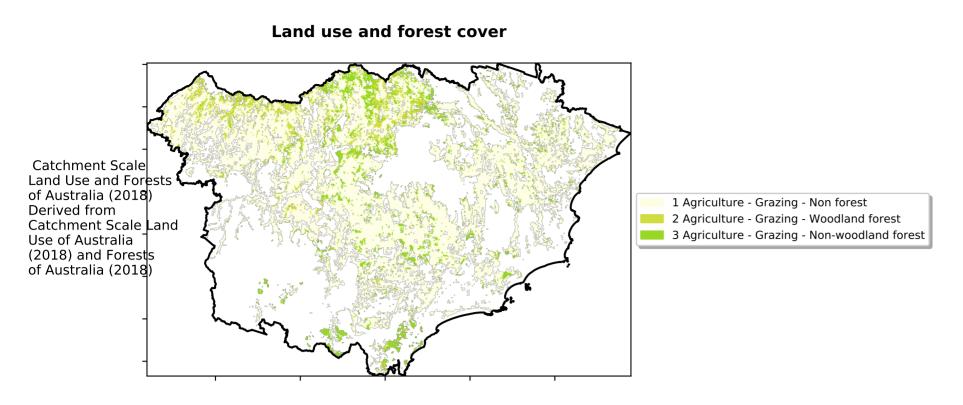
Agriculture timeseries



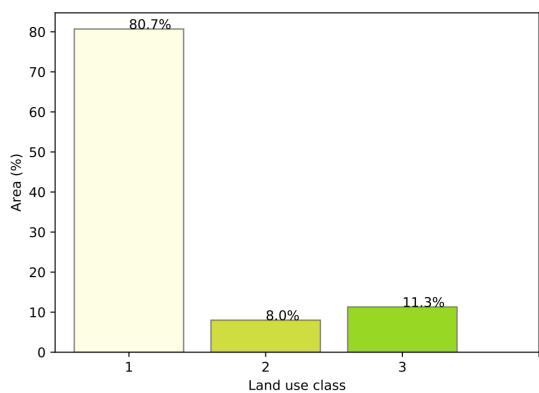




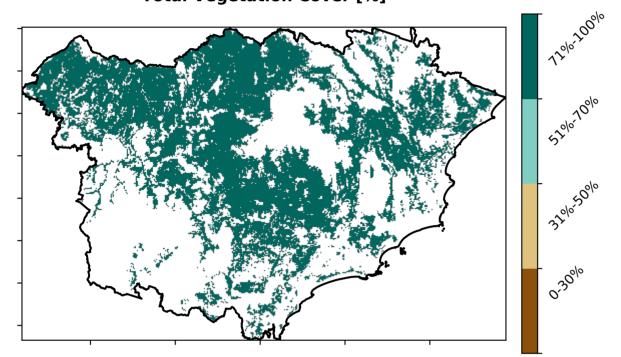
Grazing



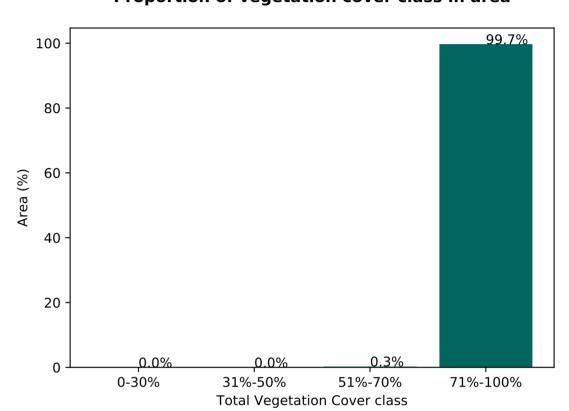
Proportion of each land class in area



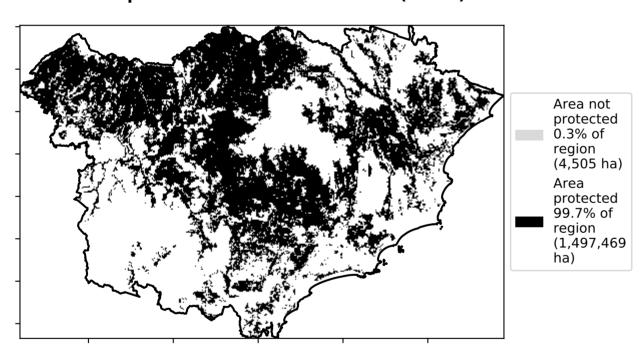
Total Vegetation Cover [%]



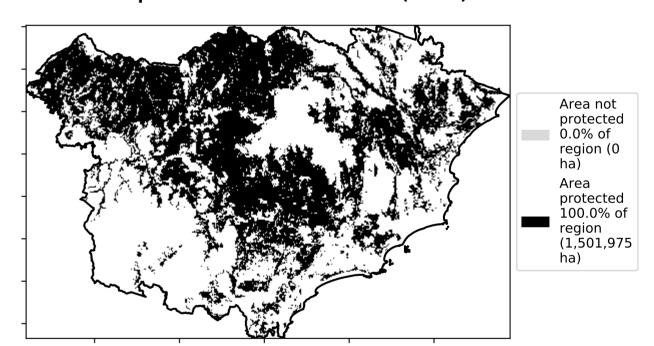
Proportion of vegetation cover class in area



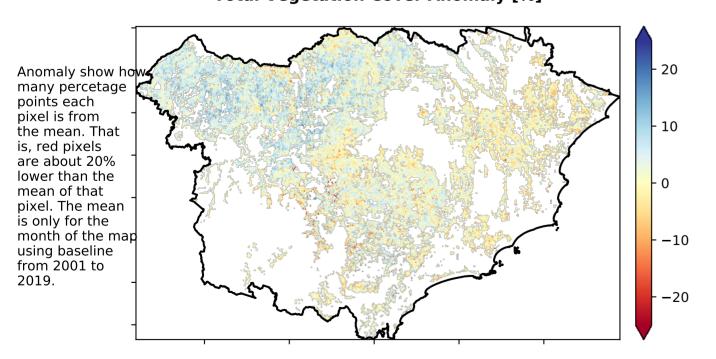
% Area protected from water erosion (>70%)



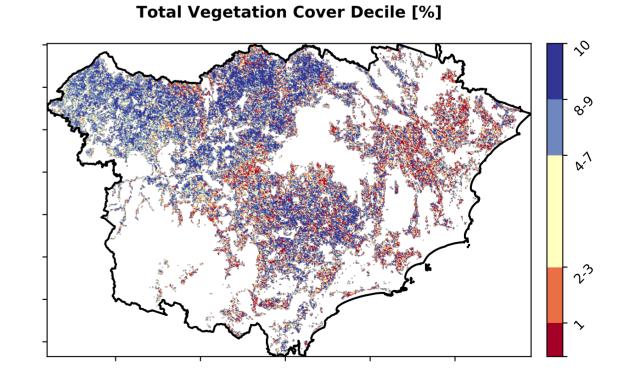
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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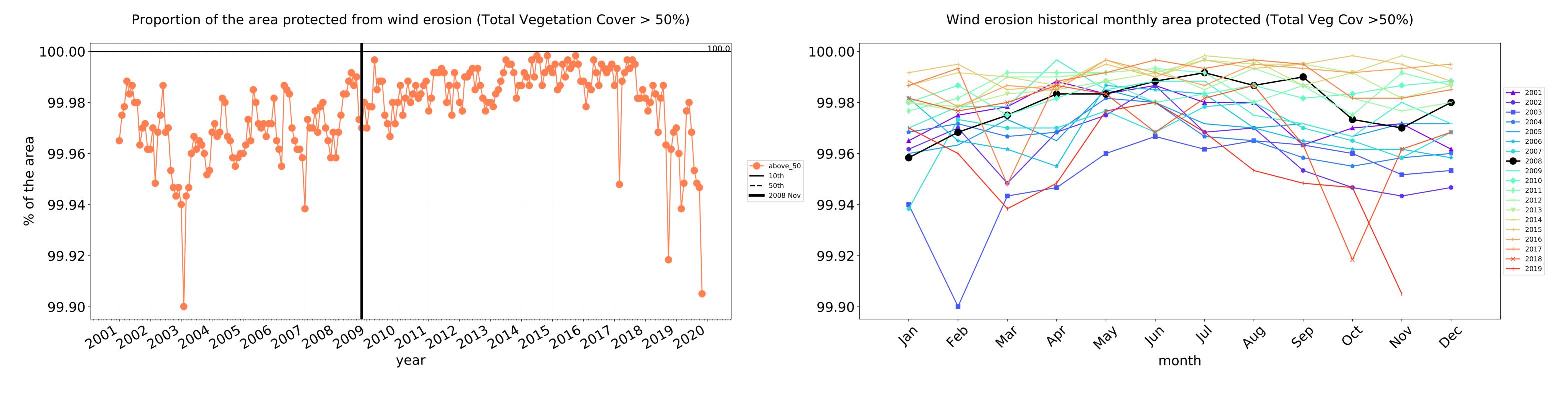


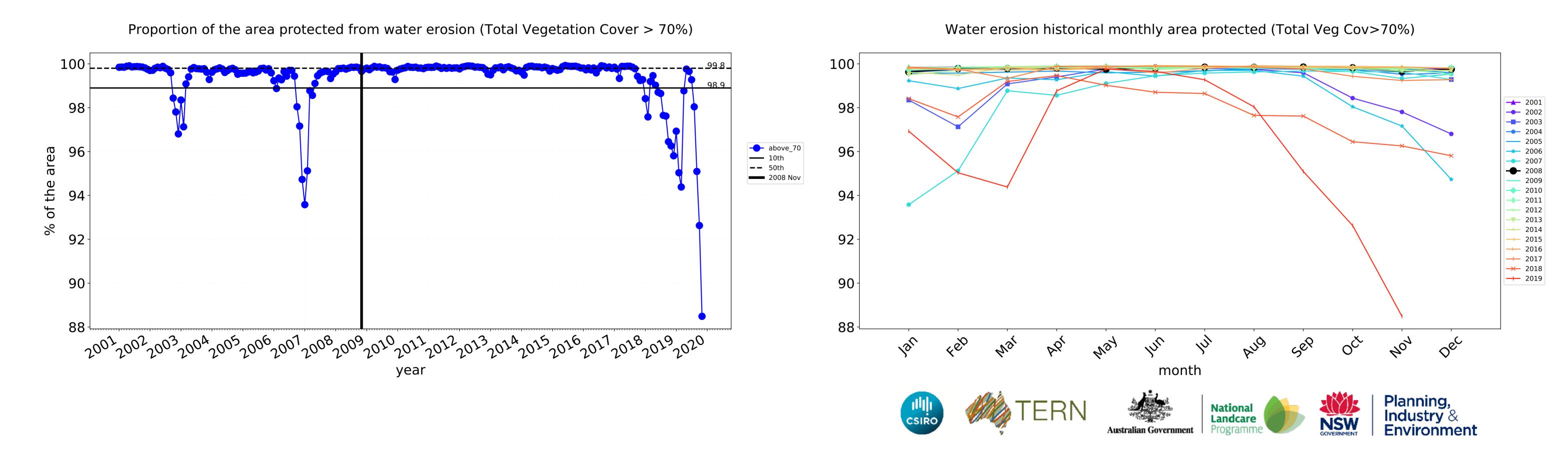


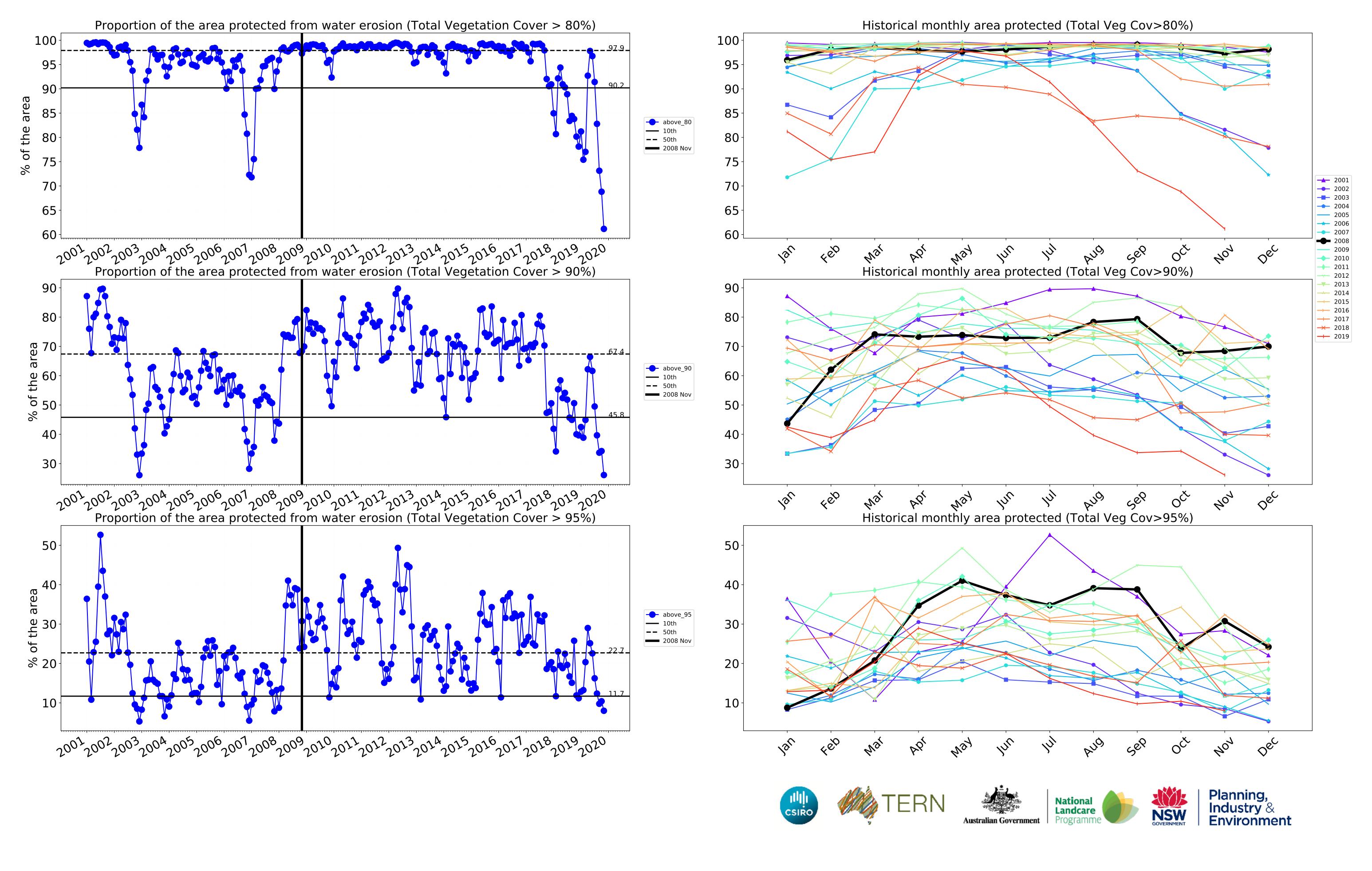




Grazing timeseries

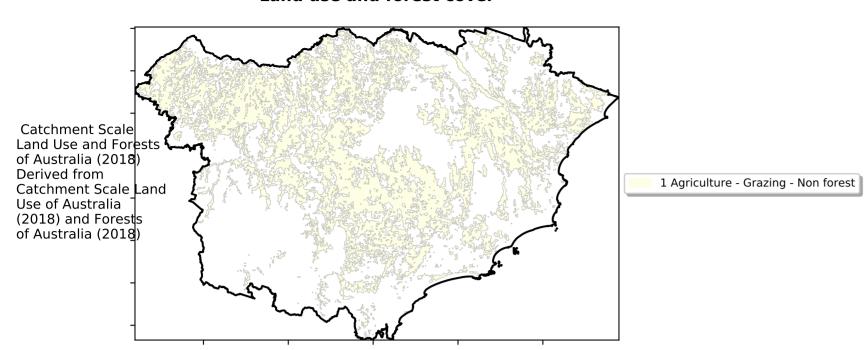




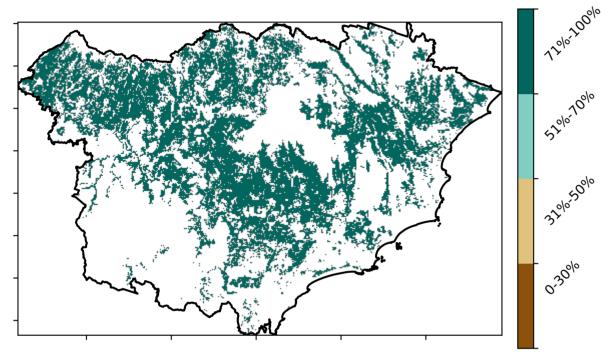


Grazing non forest

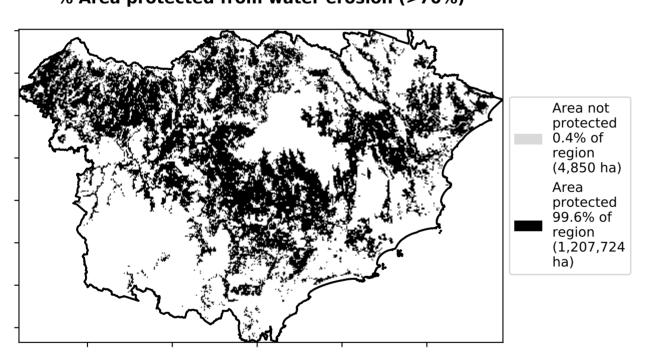
Land use and forest cover



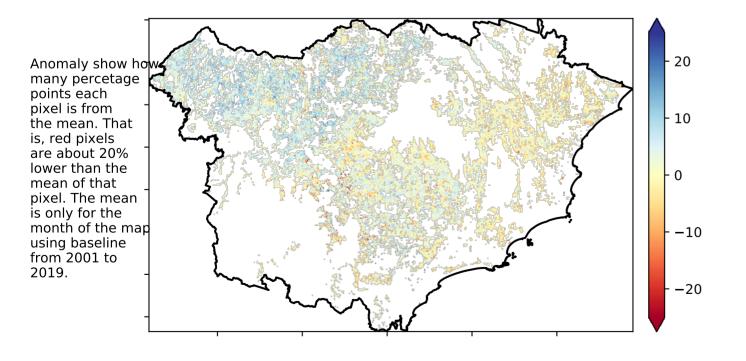
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

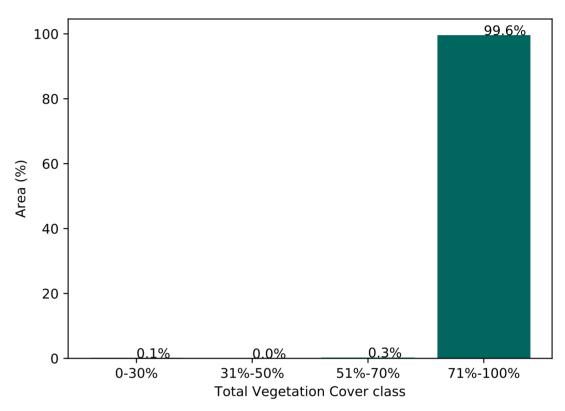


Total Vegetation Cover Anomaly [%]

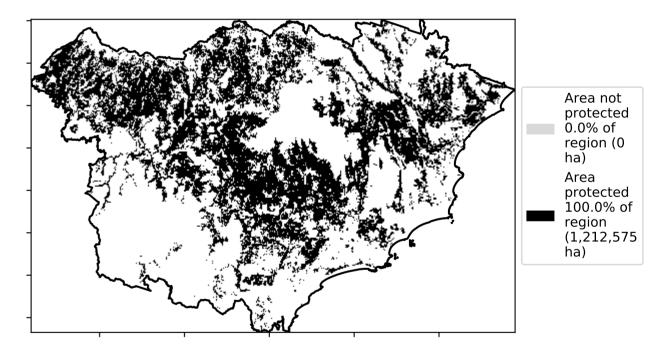


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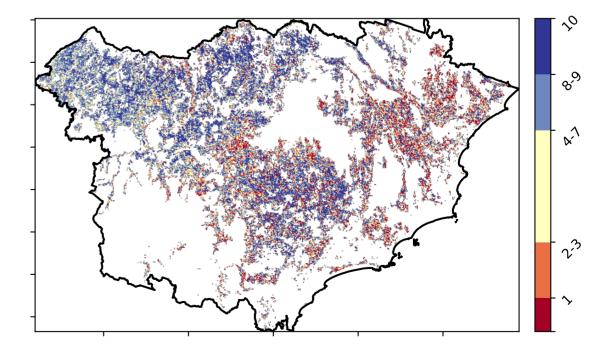
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







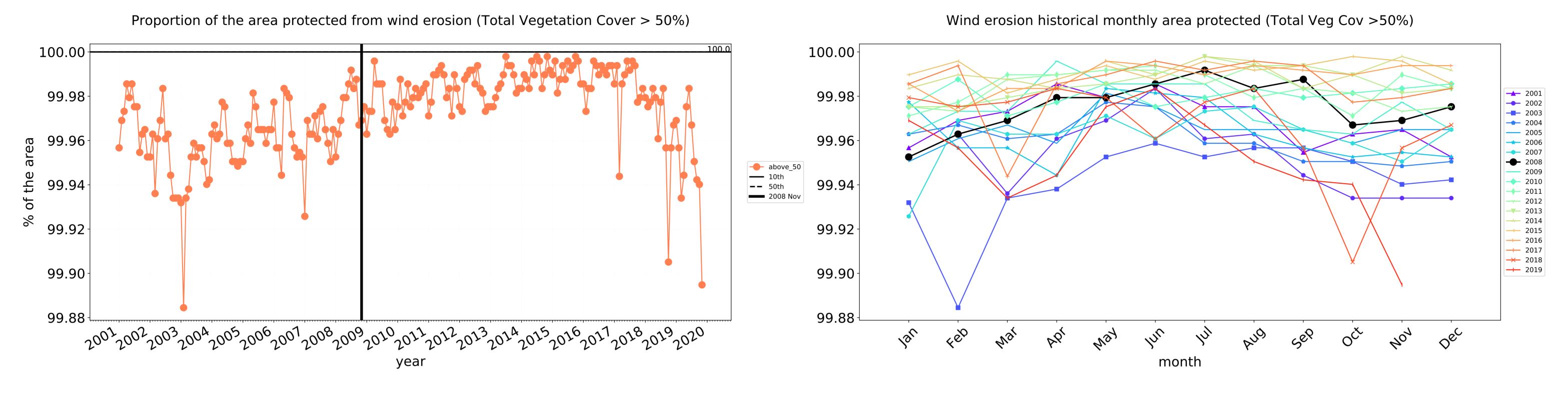


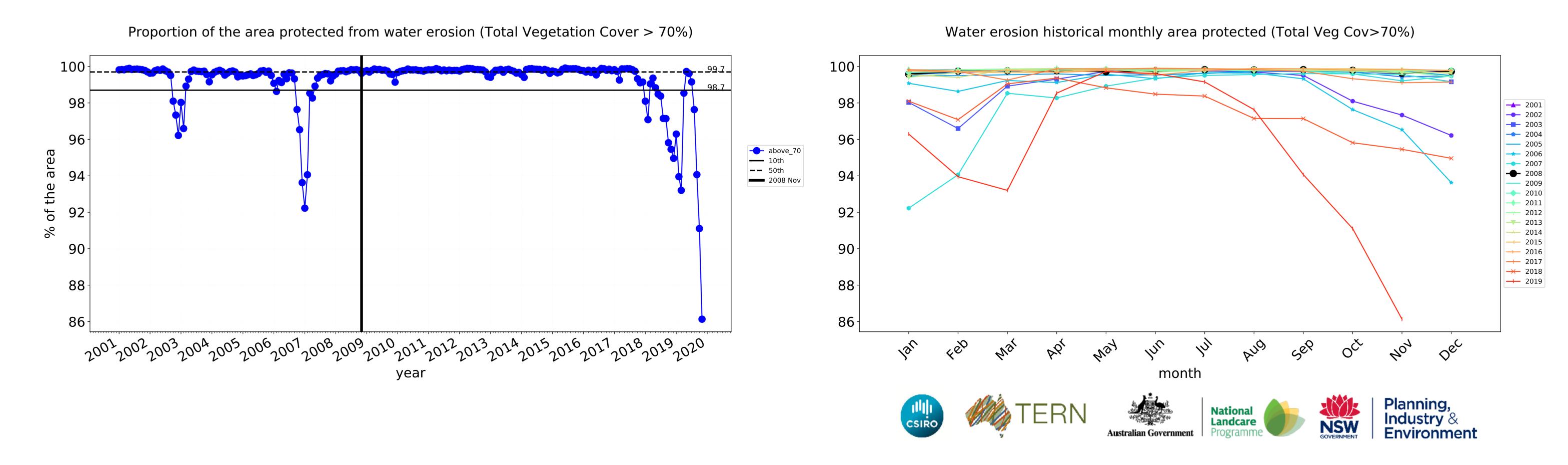


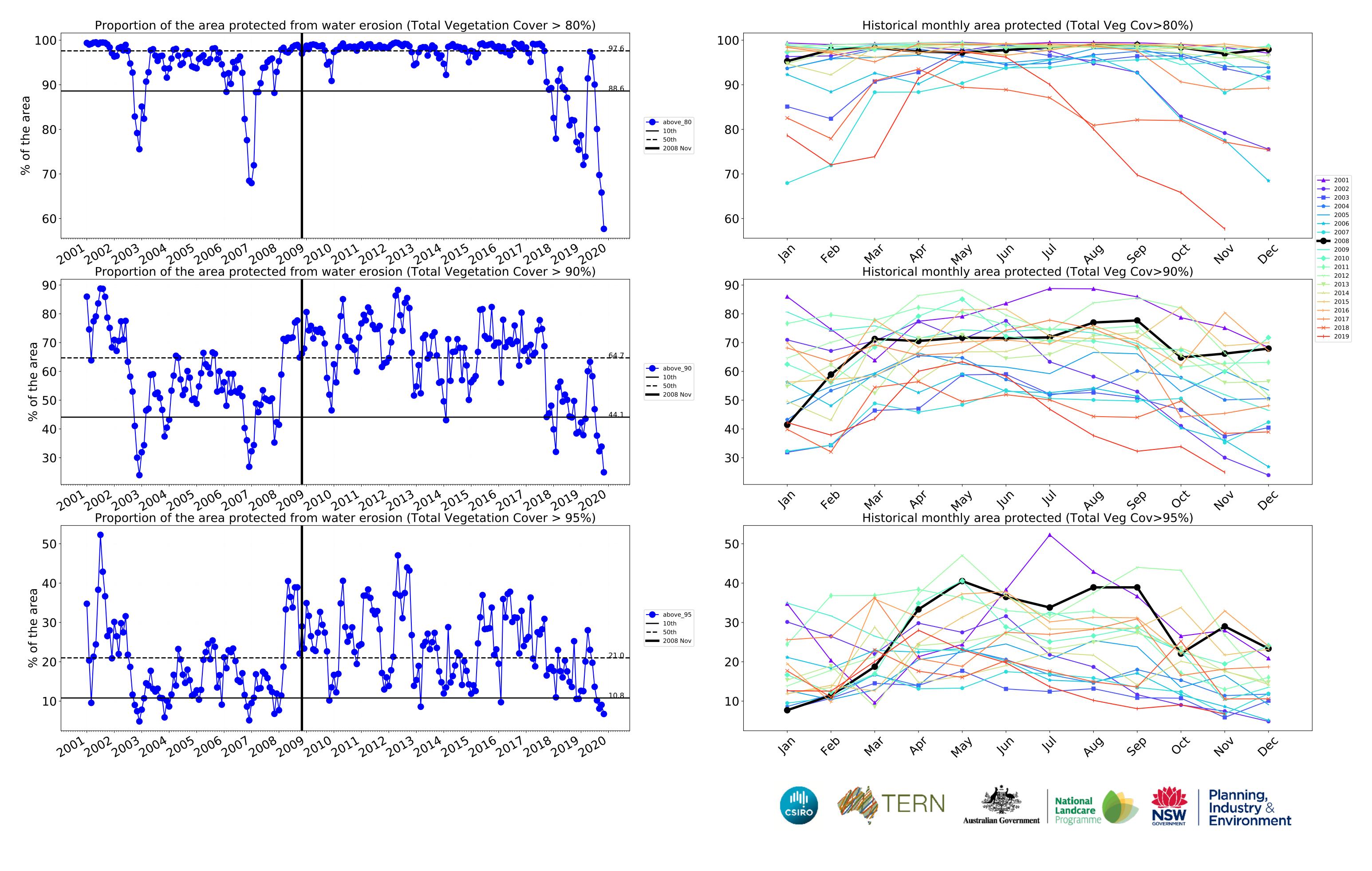




Grazing non forest timeseries







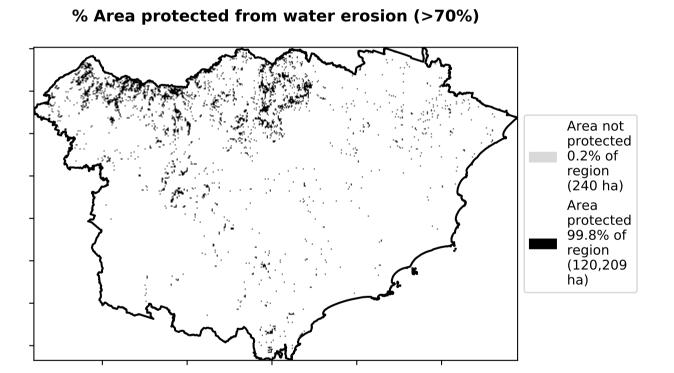
Grazing Woodland forest

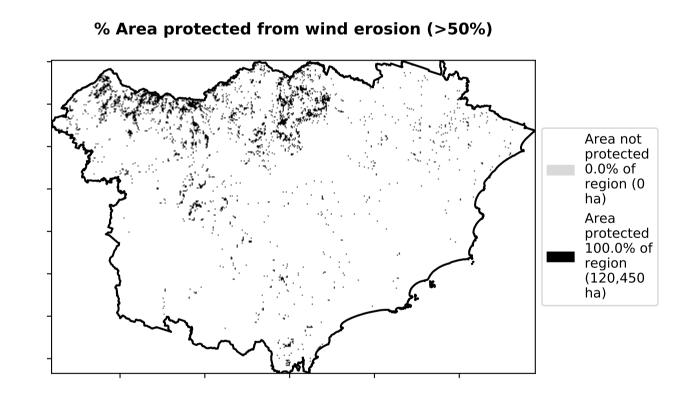
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Of Australia (2018)

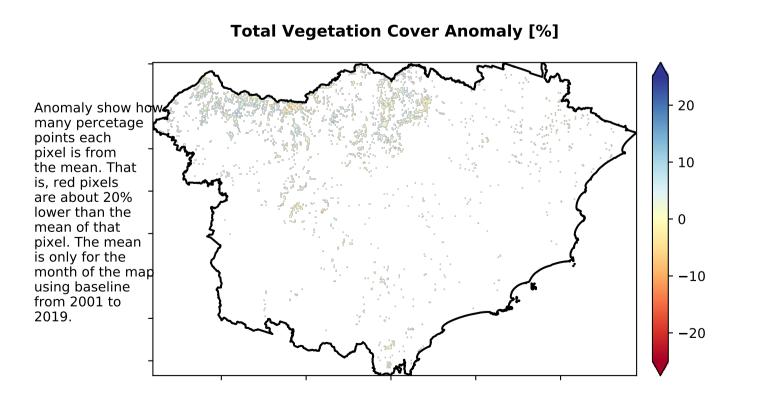
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]

100 - 99.8% 80 - 60 - 20 - 20 - 0.1% 0.0% 0.1% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class

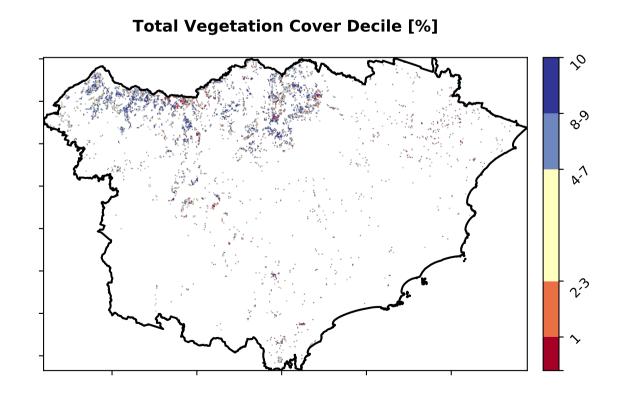
Proportion of vegetation cover class in area







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.







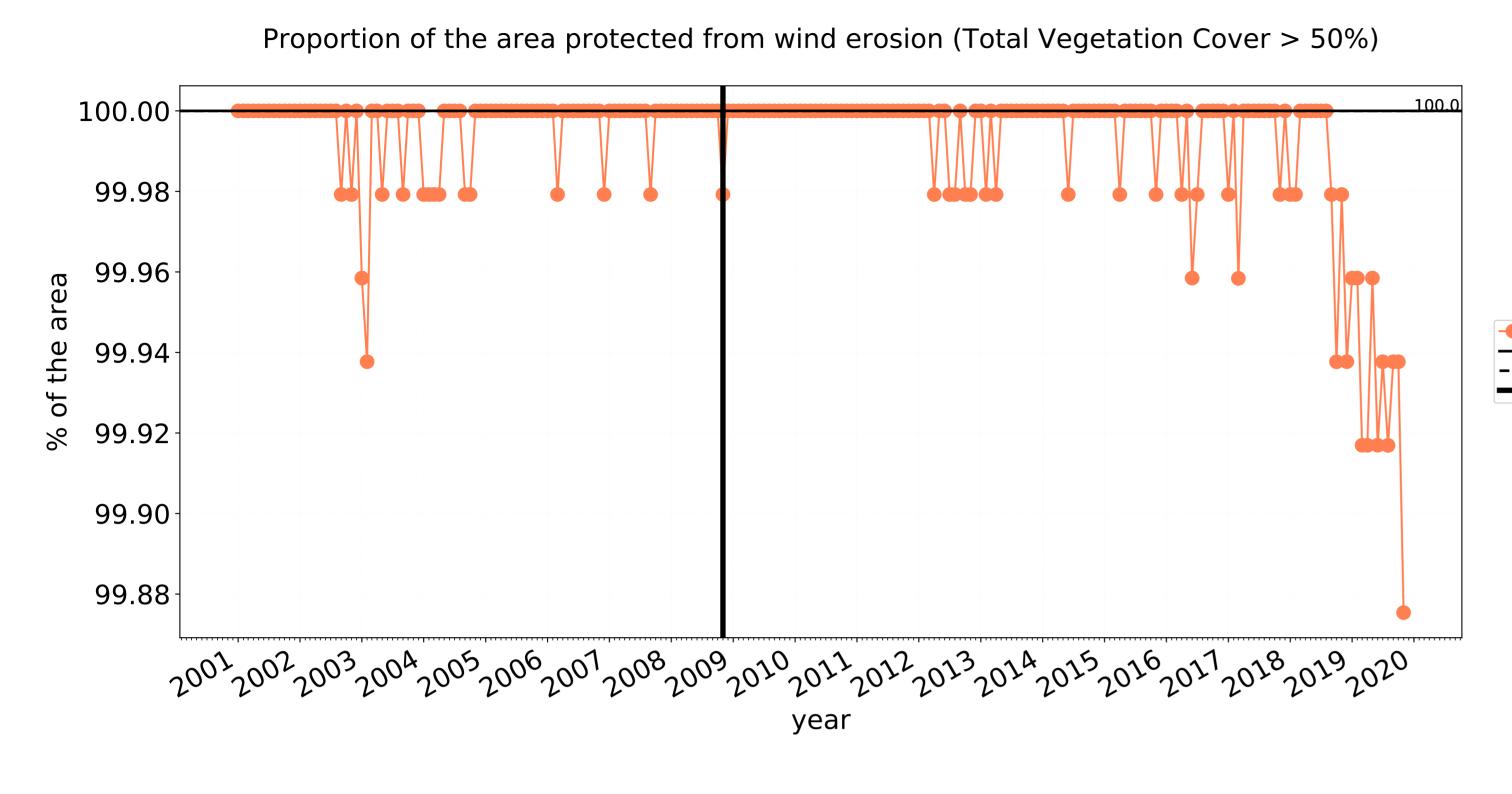


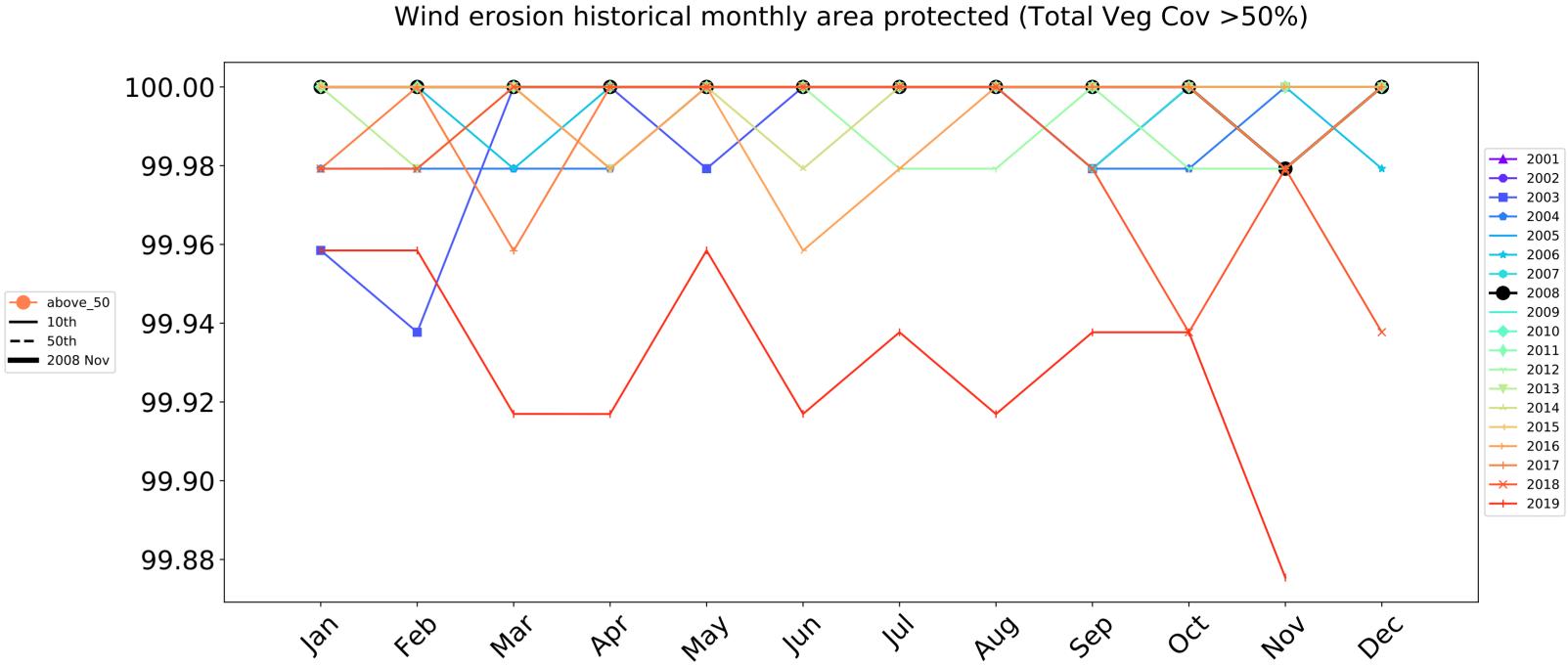




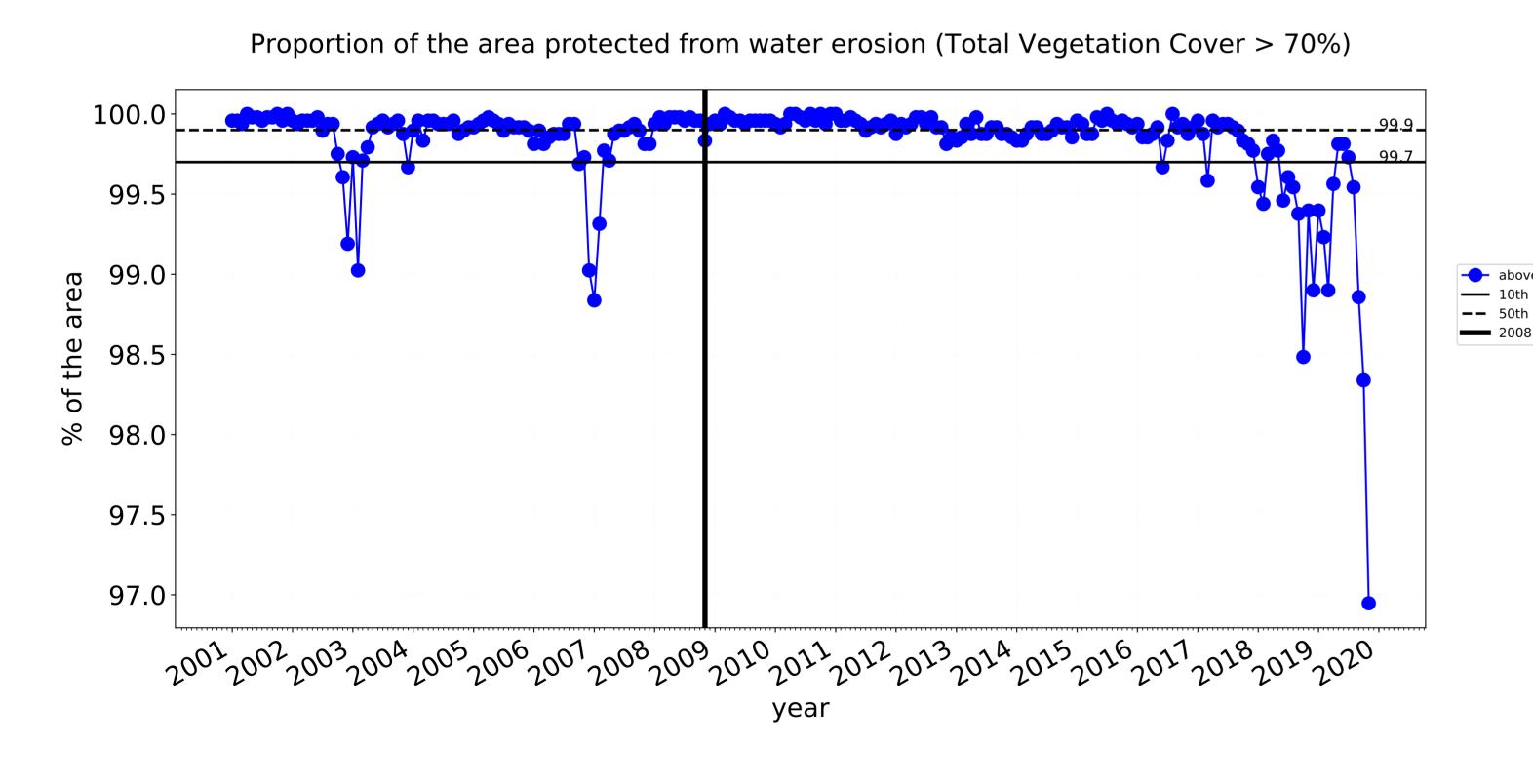


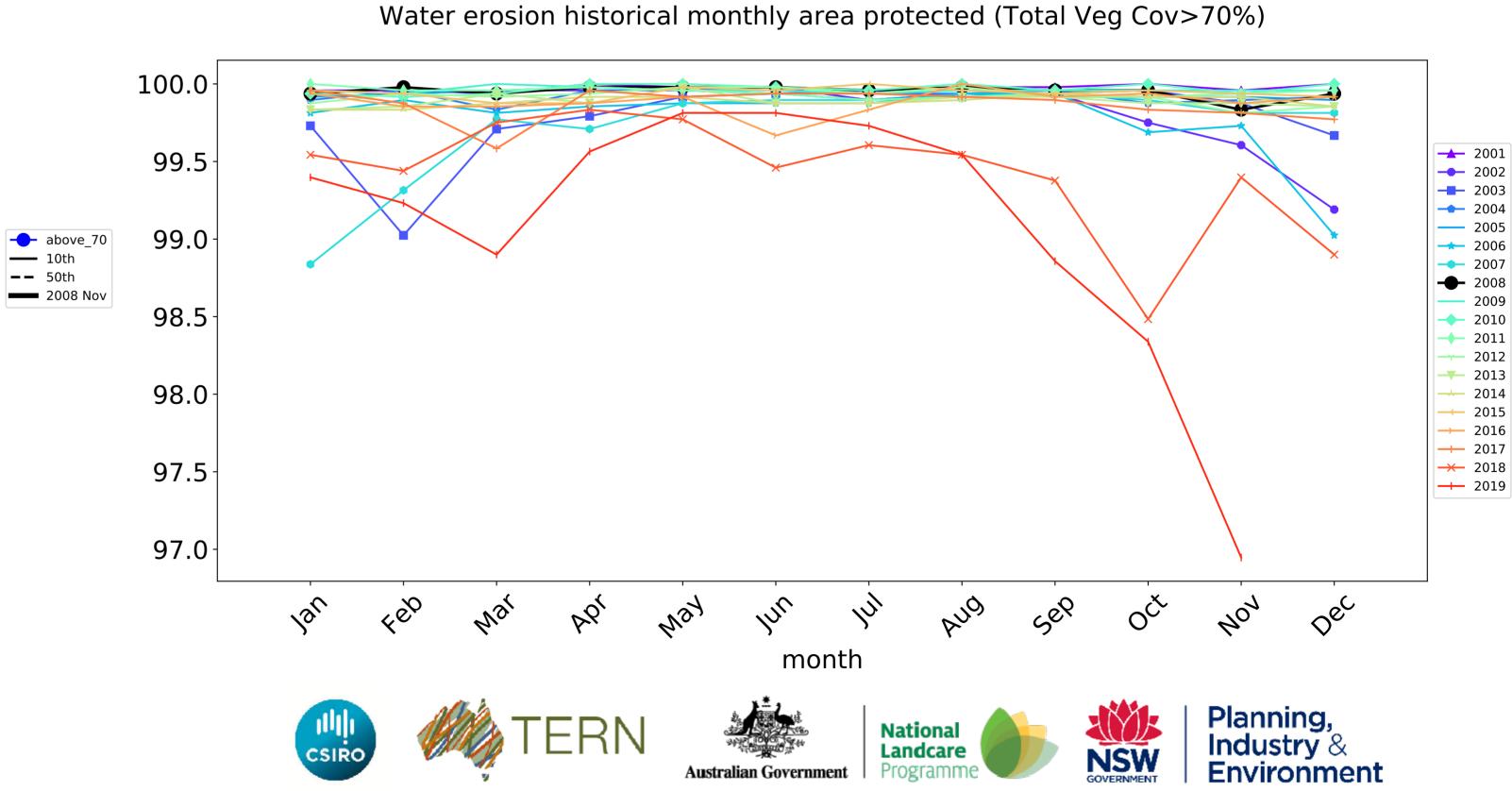
Grazing Woodland forest timeseries

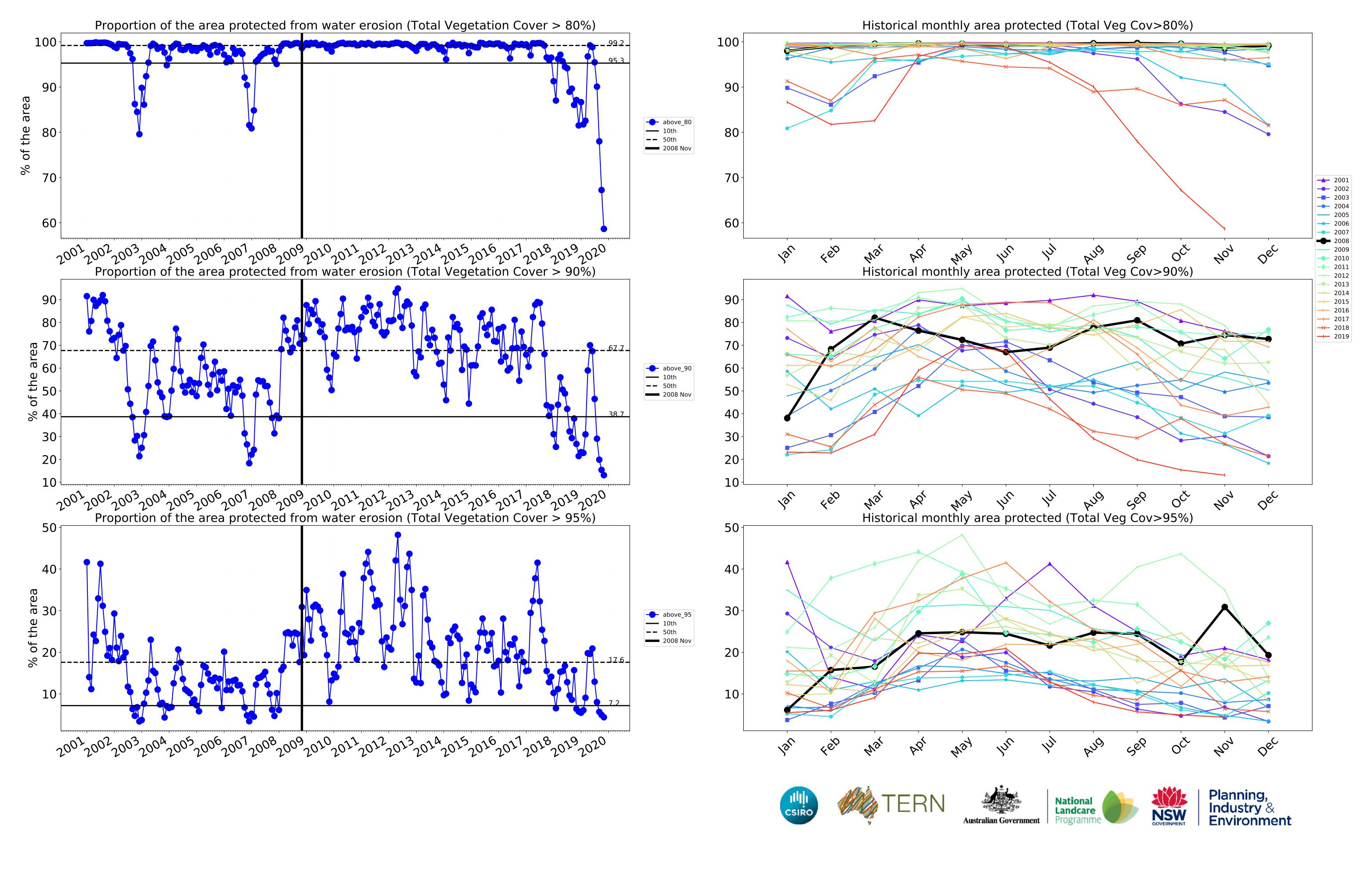




month





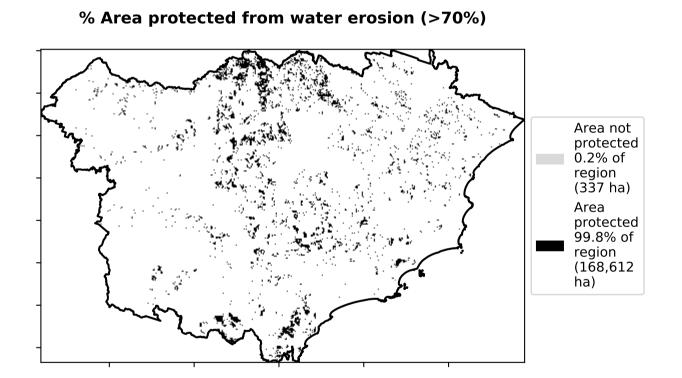


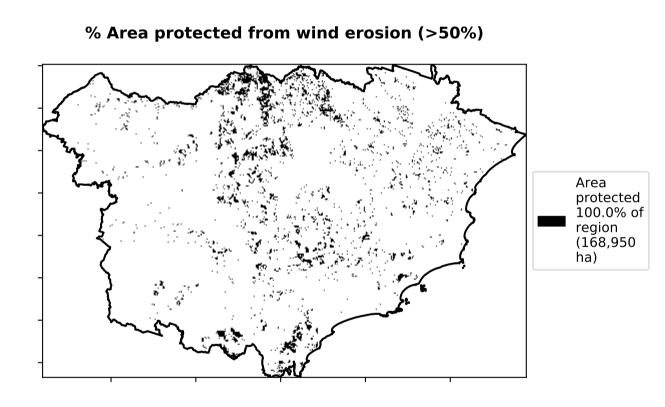
Grazing - Forest (non woodland)

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

Total Vegetation Cover [%]

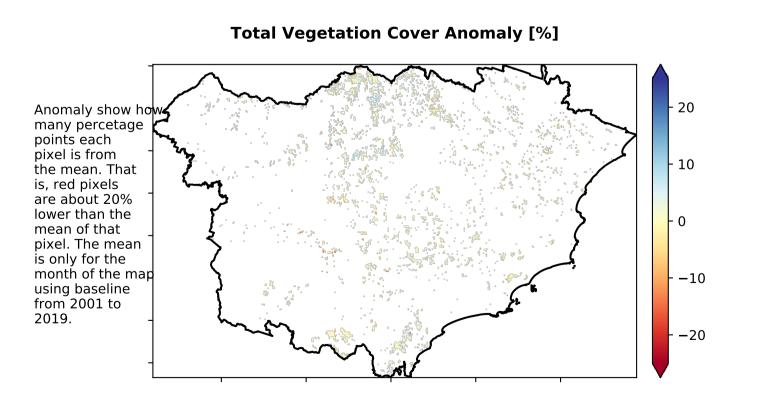
100 80 Area (%) 40 20 -0.2% 31%-50% 51%-70% 0-30% 71%-100% **Total Vegetation Cover class**



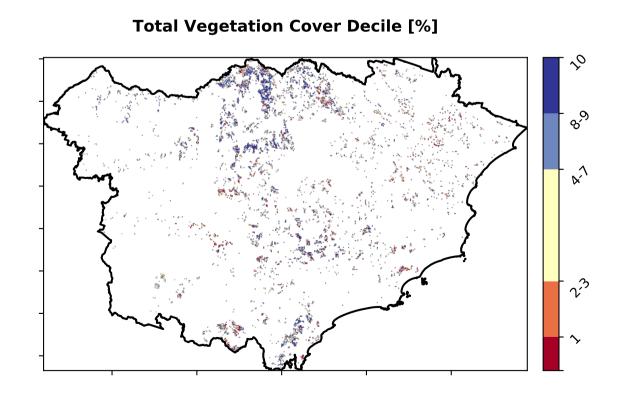


Proportion of vegetation cover class in area

99.8%



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.





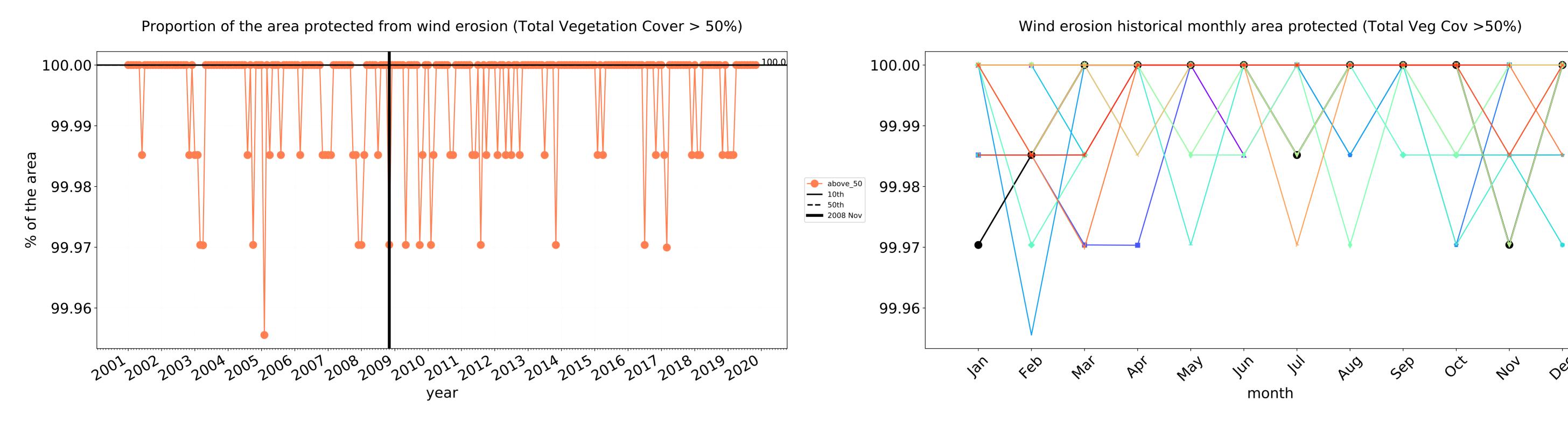


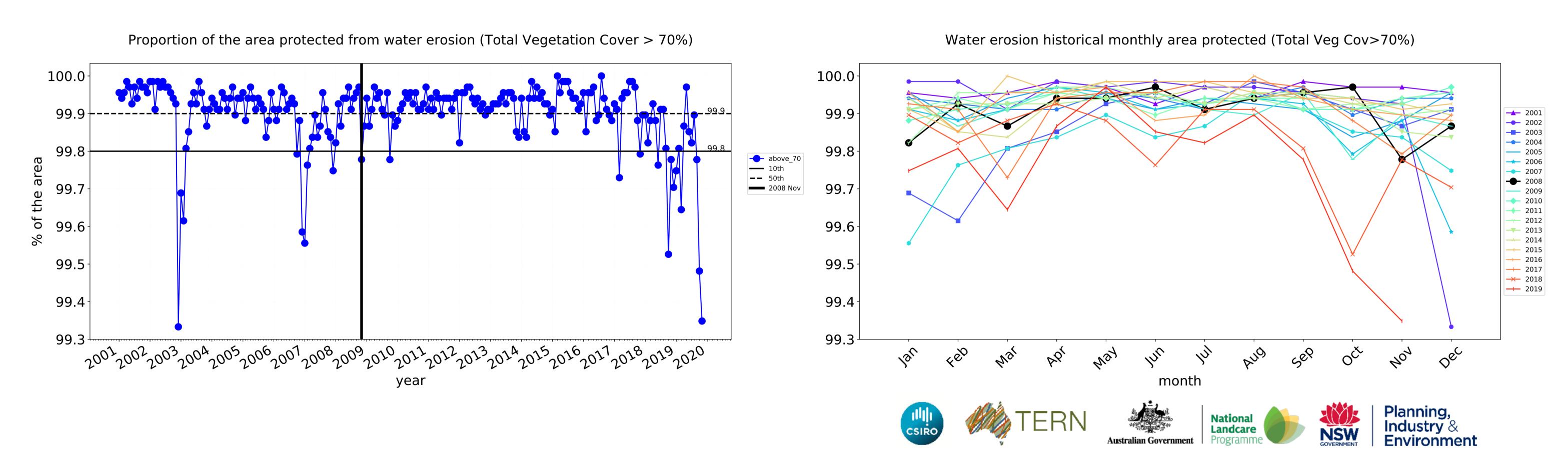












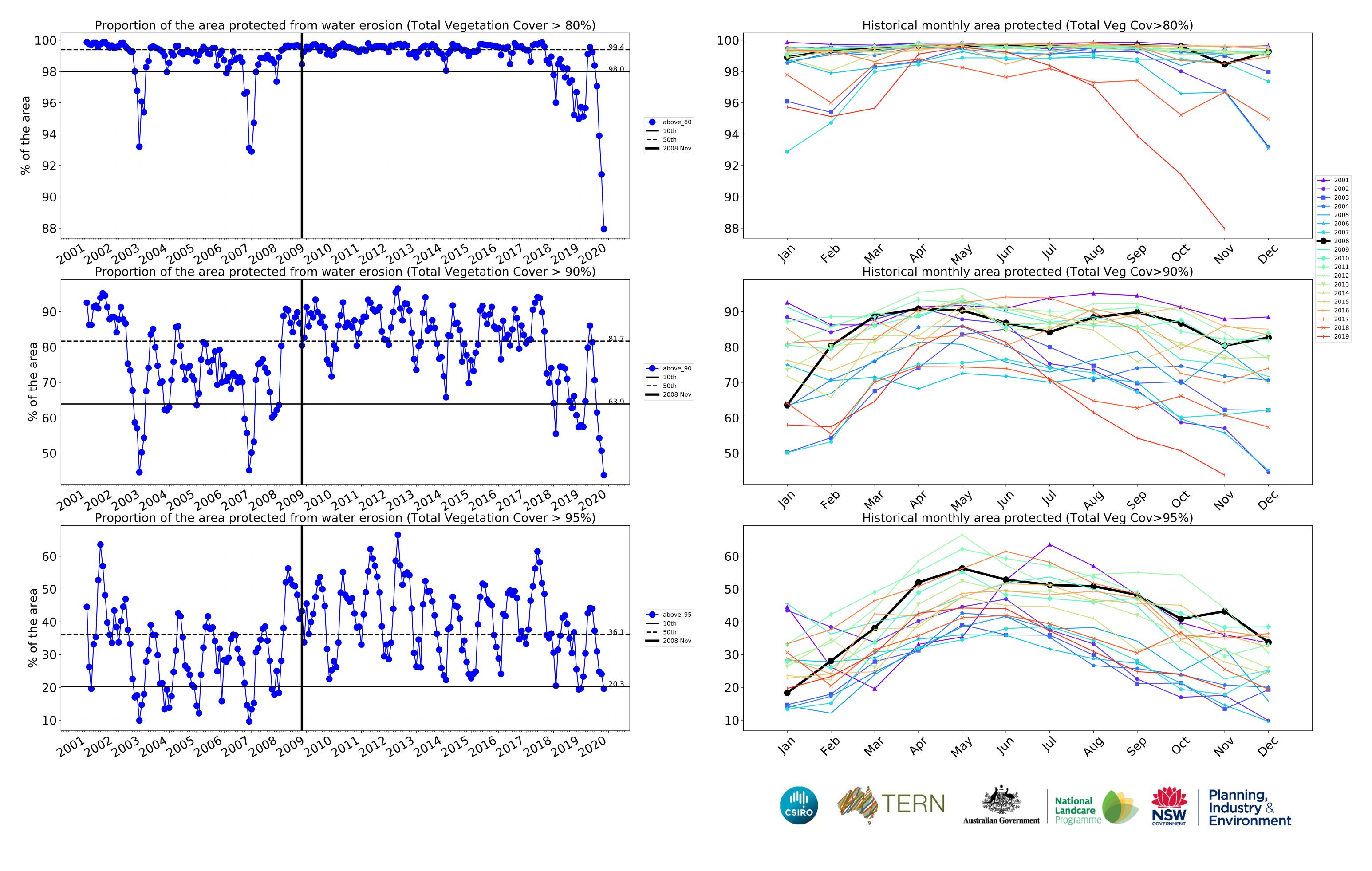
2001 2002

→ 2011

2012 2013 2014

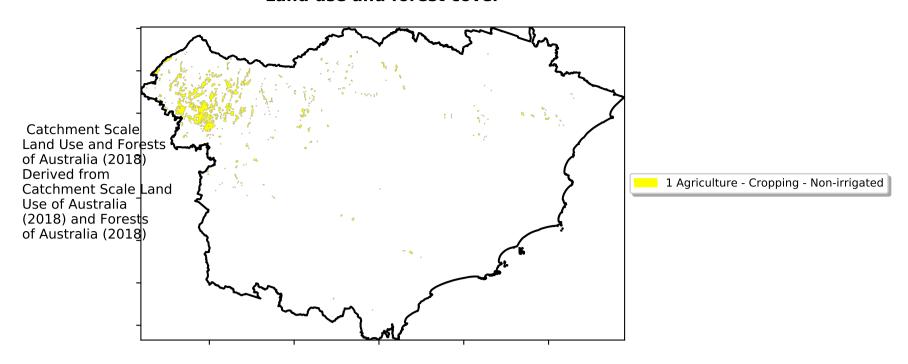
→ 2017 → 2018

---- 2019

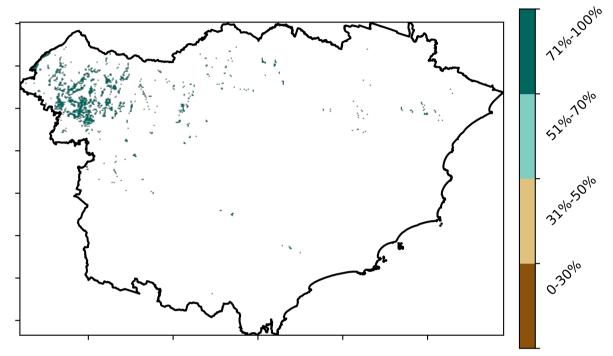


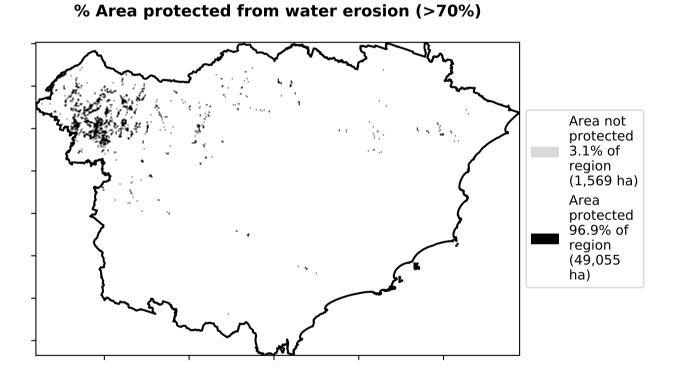
Cropping

Land use and forest cover

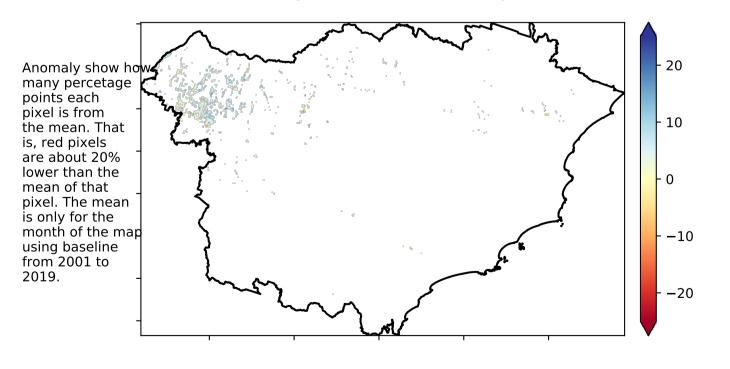


Total Vegetation Cover [%]



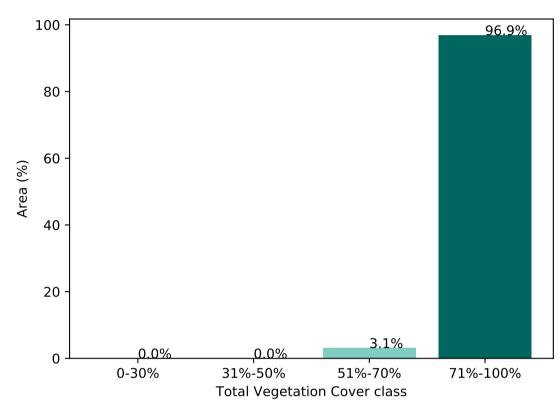


Total Vegetation Cover Anomaly [%]

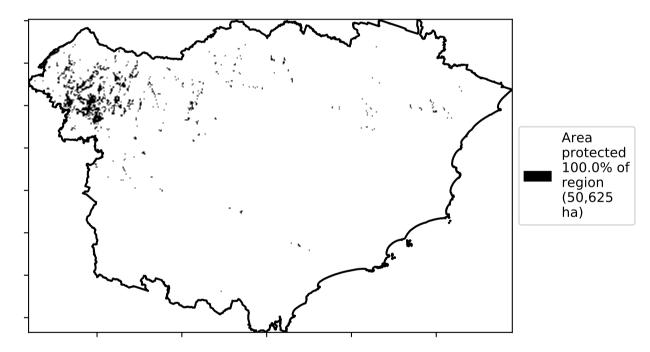


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

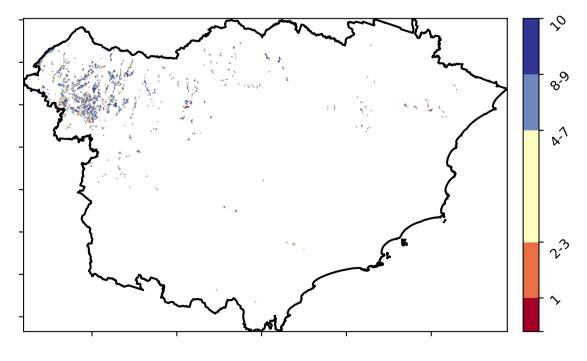
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







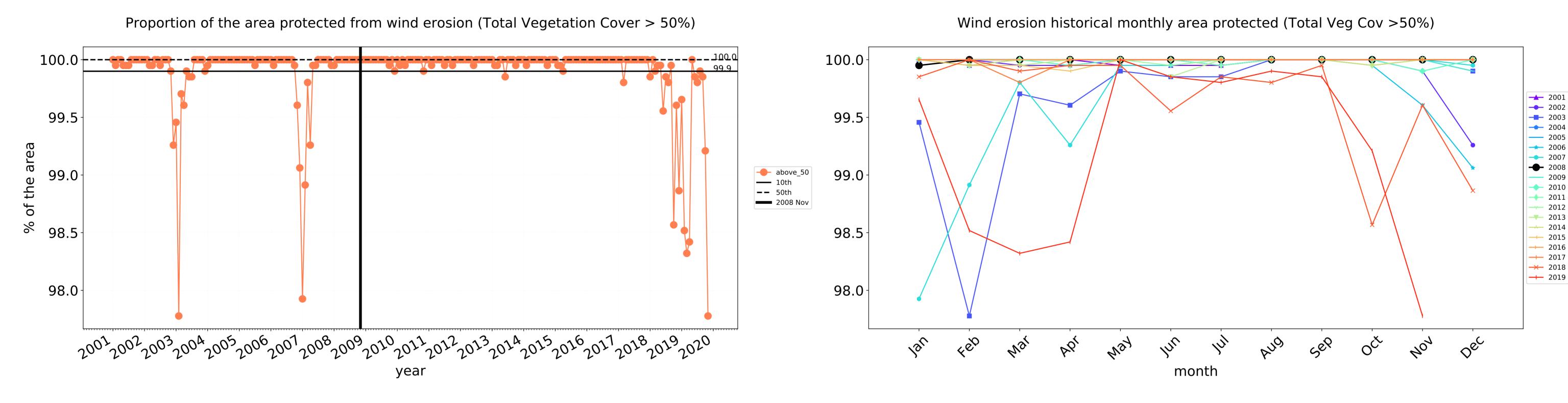


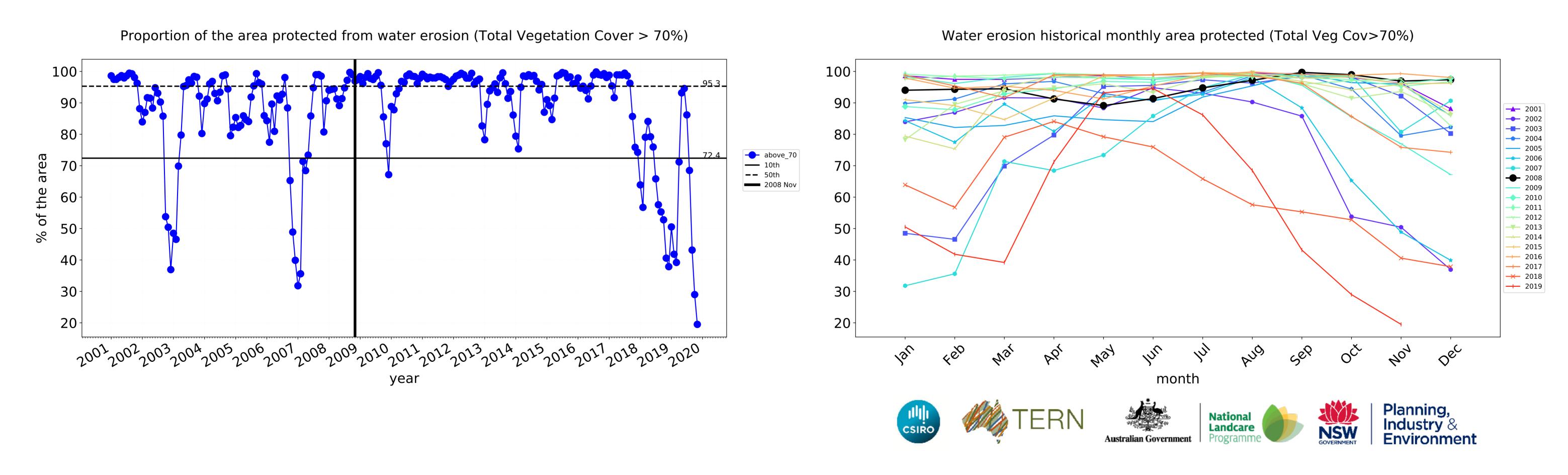


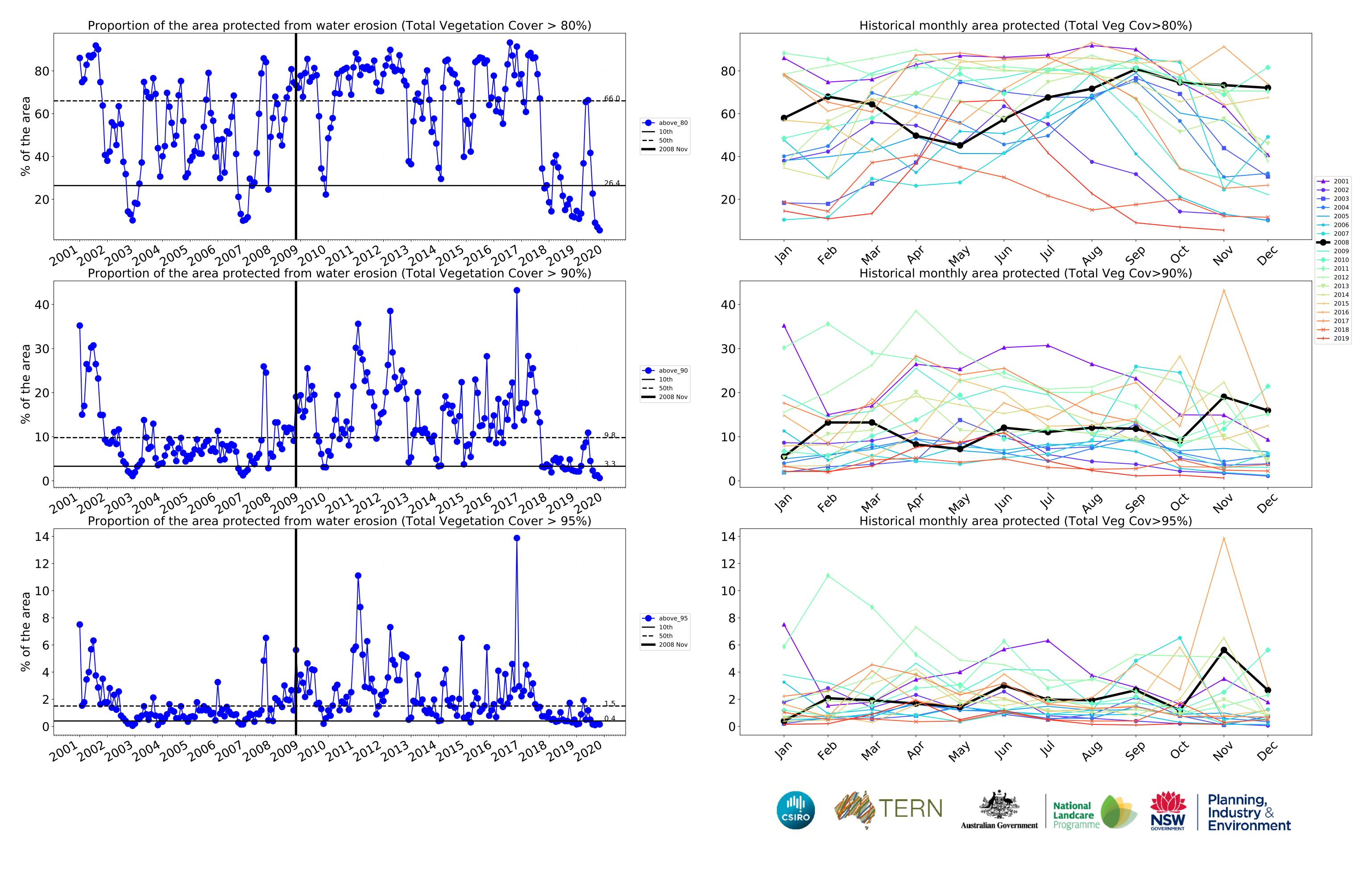




Cropping timeseries





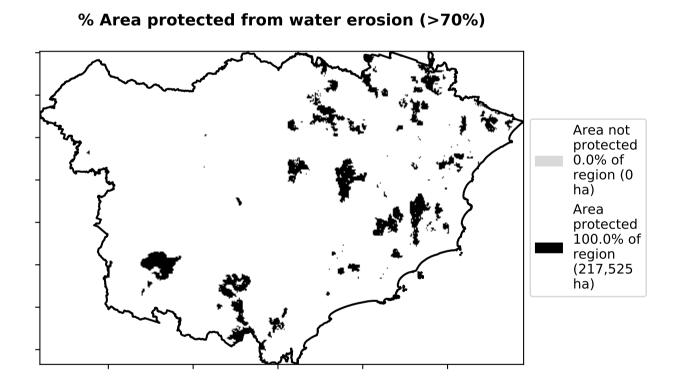


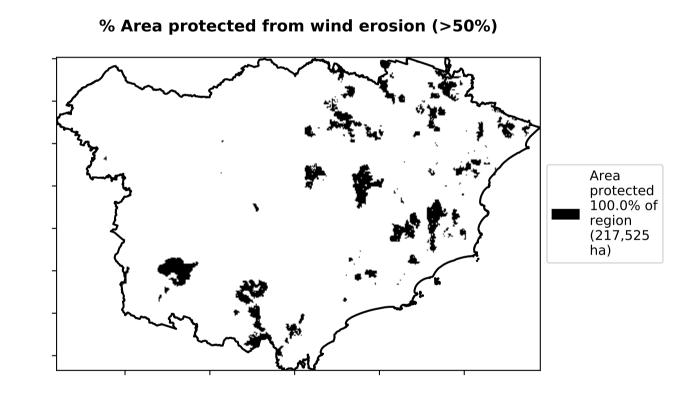
Production native forests and plantation forests

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

Total Vegetation Cover [%]

100 Area (%) 60 40 20 -0.0% 0-30% 31%-50% 51%-70% **Total Vegetation Cover class**

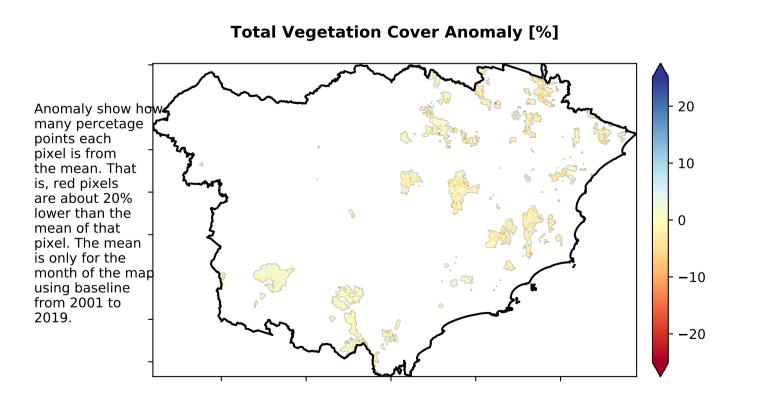




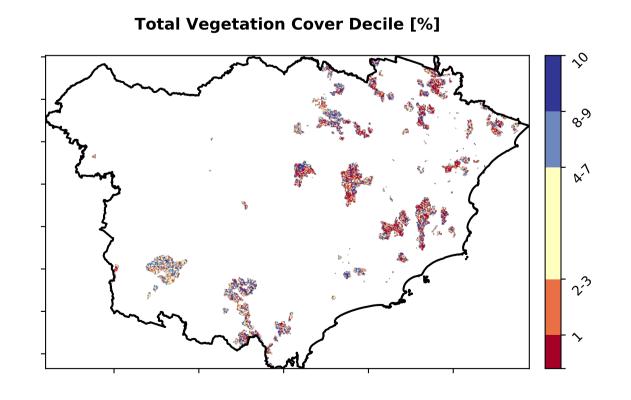
Proportion of vegetation cover class in area

100.0%

71%-100%



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.







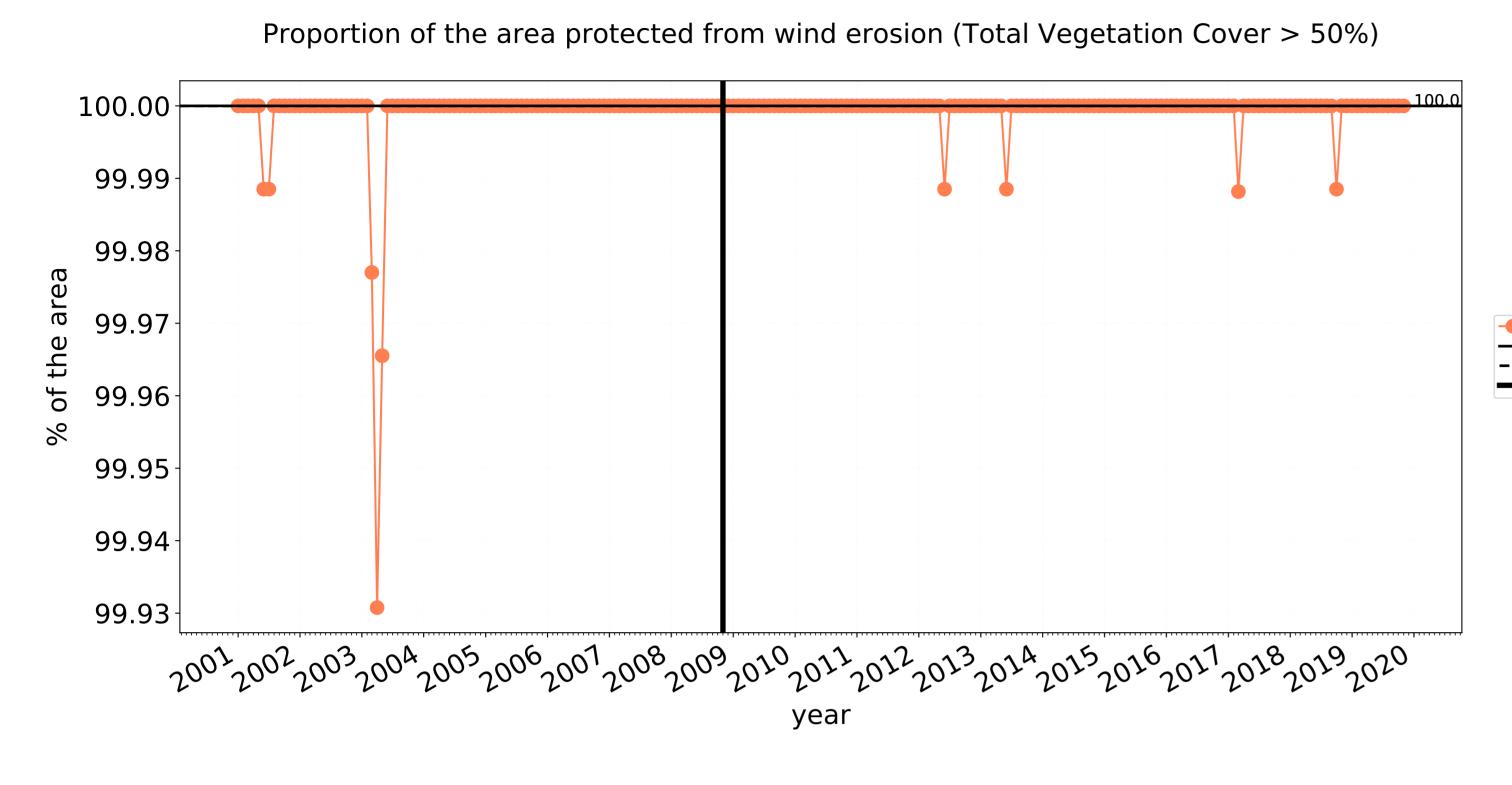


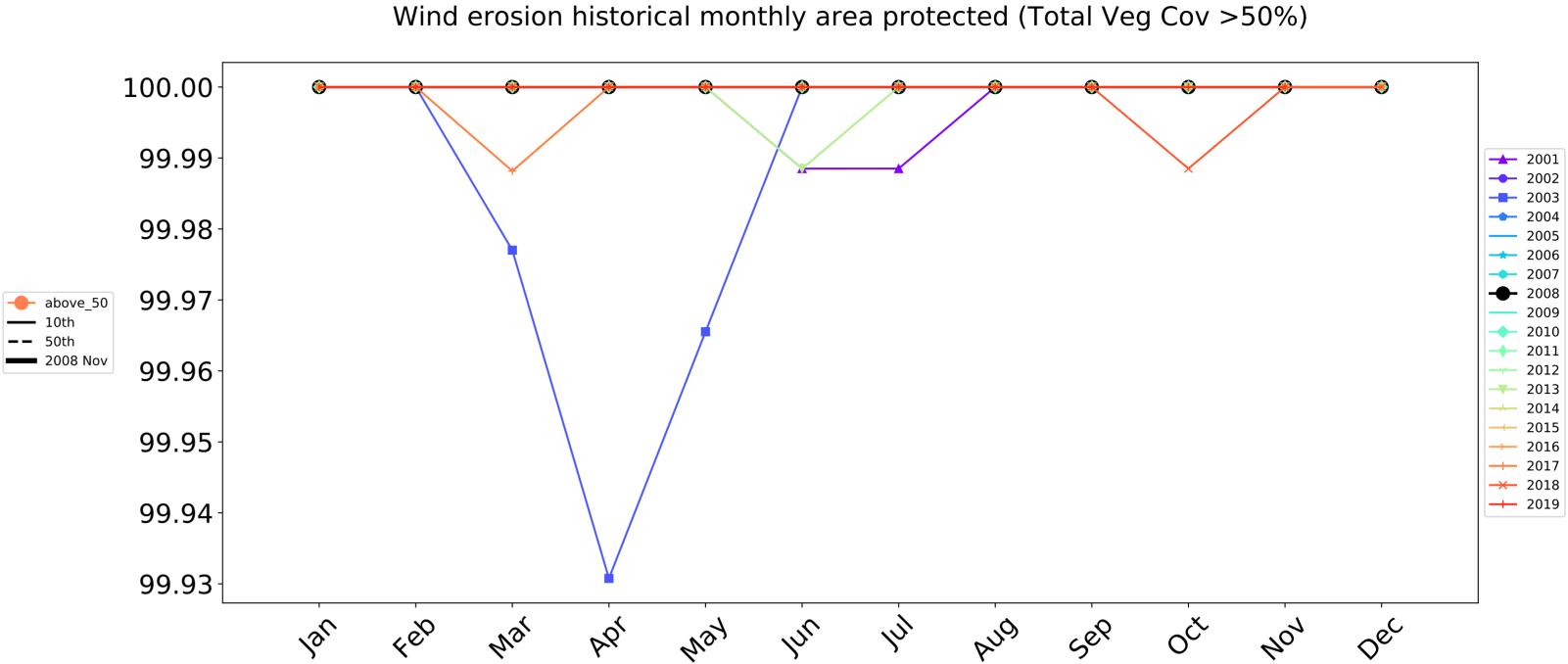




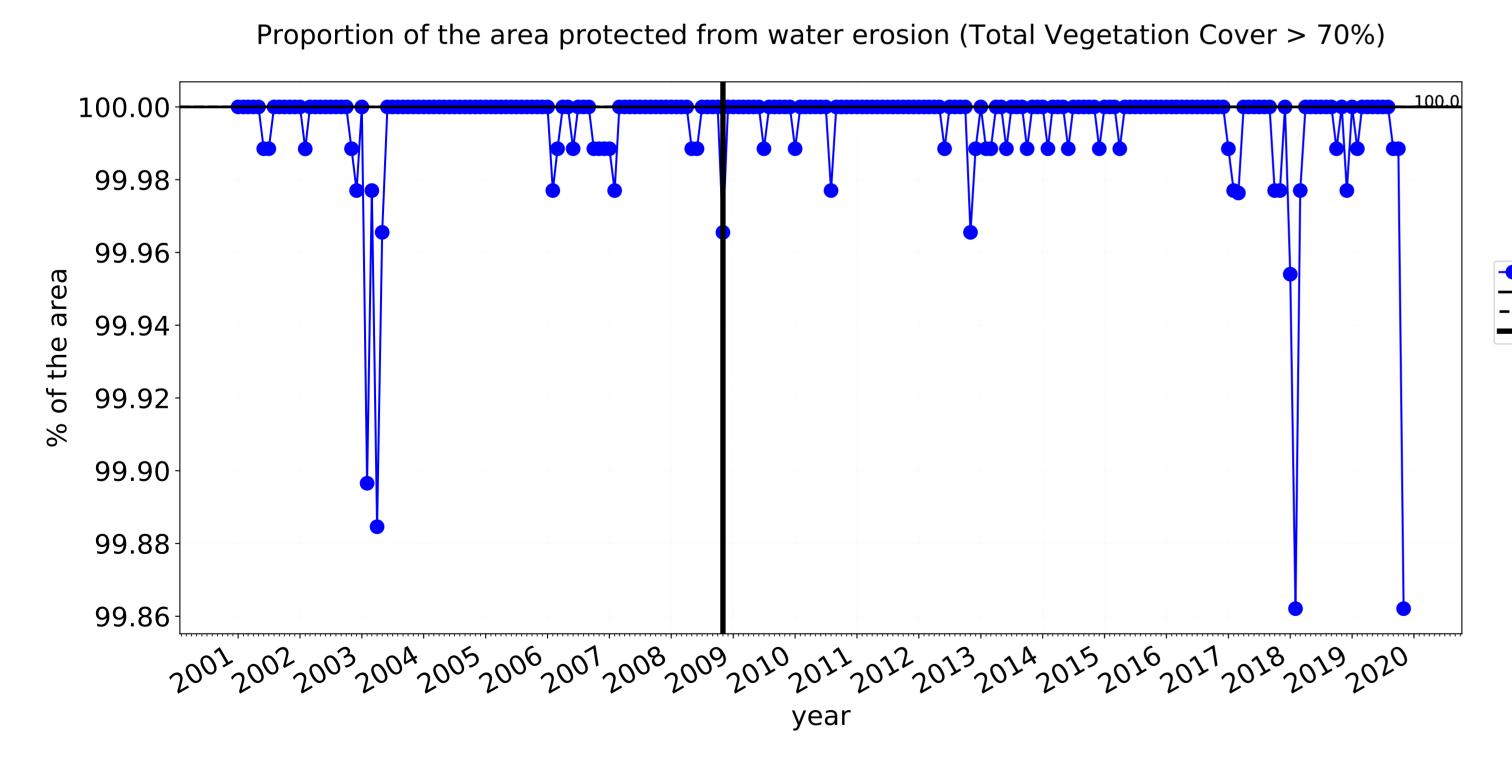


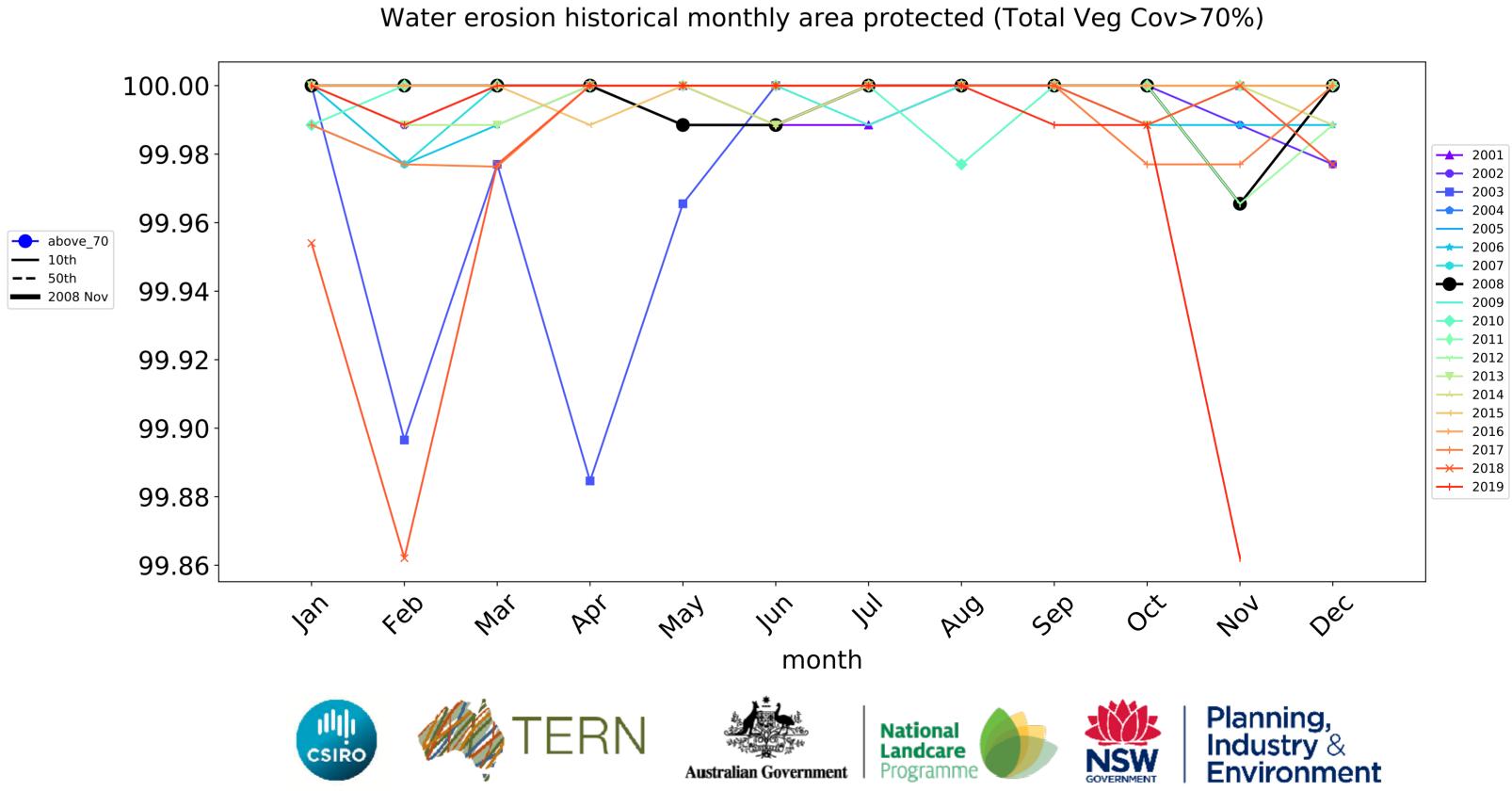
Production native forests and plantation forests timeseries

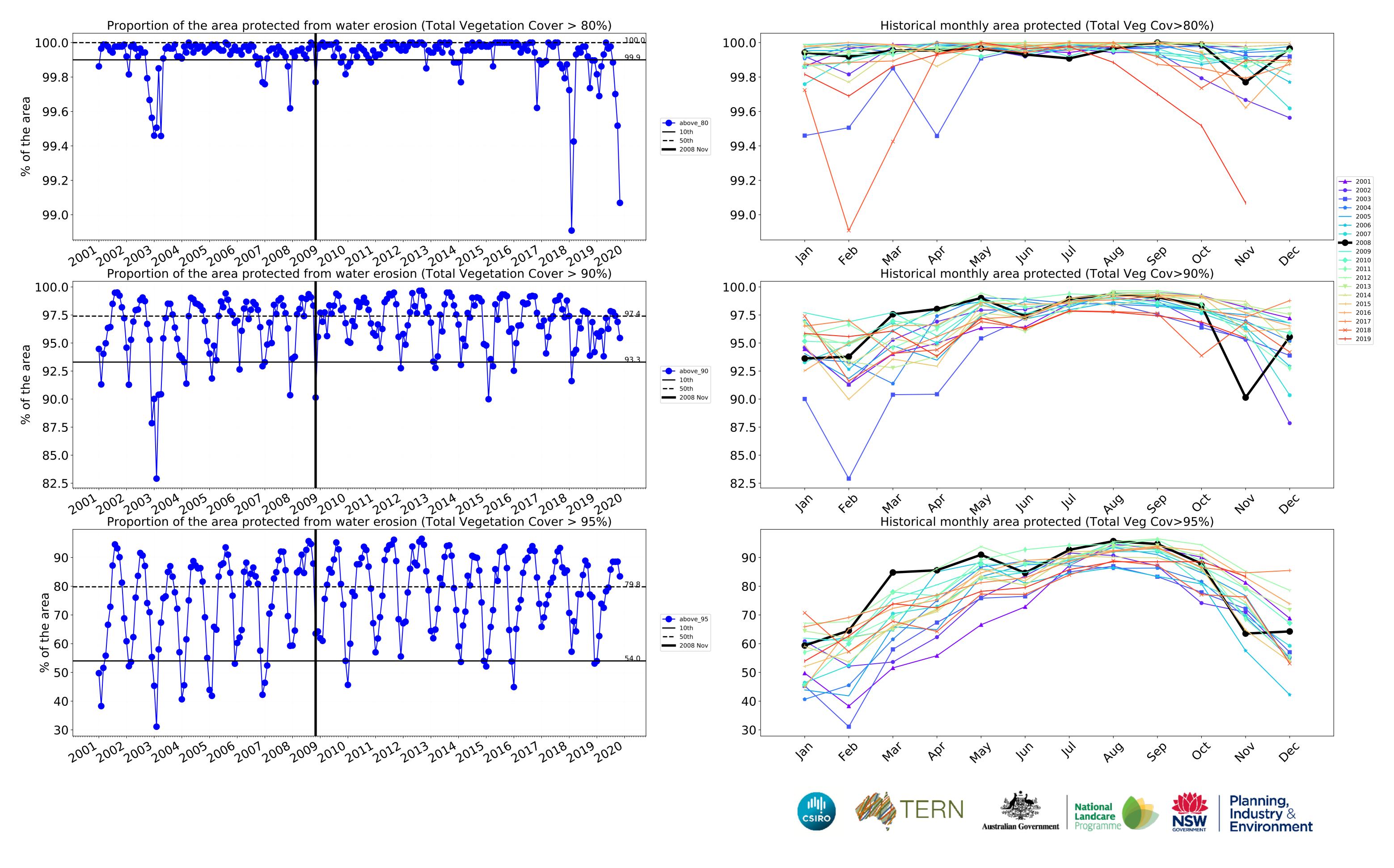




month







Hunter (3,240,325 ha and no data 60,100 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	3,240,325	99.9% 3,236,540	99.7% 3,229,098	98.6% 3,194,038	95.6% 3,096,680	72.1% 2,337,283	38.0% 1,231,504
Conservation and natural environments	1,237,225	99.9% 1,235,525	99.8% 1,234,675	99.6% 1,232,175	98.8% 1,222,525	83.0% 1,026,800	48.2% 596,550
Conservation and natural environments non forest	30,100	95.4% 28,725	93.5% 28,150	89.5% 26,950	85.1% 25,625	60.3% 18,150	31.7% 9,550
Conservation and natural environments Woodland forest	138,800	100.0% 138,750	100.0% 138,750	99.9% 138,600	99.2% 137,650	78.8% 109,425	32.6% 45,225
Conservation and natural environments Forest (non woodland)	1,068,325	100.0% 1,068,050	99.9% 1,067,775	99.8% 1,066,625	99.2% 1,059,250	84.2% 899,225	50.7% 541,775
Agriculture	1,579,975	100.0% 1,579,925	100.0% 1,579,525	99.5% 1,572,525	96.1% 1,518,350	66.0% 1,043,000	29.5% 465,975
Grazing	1,501,975	100.0% 1,501,925	100.0% 1,501,525	99.7% 1,496,850	97.3% 1,460,975	68.5% 1,028,125	30.8% 461,900
Grazing non forest	1,212,575	100.0% 1,212,550	100.0% 1,212,200	99.6% 1,208,025	97.0% 1,175,850	66.2% 802,500	29.0% 351,675
Grazing Woodland forest	120,450	100.0% 120,425	100.0% 120,425	99.8% 120,250	98.6% 118,775	74.5% 89,725	30.9% 37,200
Grazing - Forest (non woodland)	168,950	100.0% 168,950	100.0% 168,900	99.8% 168,575	98.5% 166,350	80.4% 135,900	43.2% 73,025
Cropping	50,625	100.0% 50,625	100.0% 50,625	96.9% 49,075	73.3% 37,125	19.1% 9,650	5.6% 2,850
Production native forests and plantation forests	217,525	100.0% 217,525	100.0% 217,525	100.0% 217,450	99.8% 217,025	90.1% 196,075	63.5% 138,175











