

Total vegetation cover soil protection

Region:LGA Gwydir_(A) NSW

Date: December 2025

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:

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>



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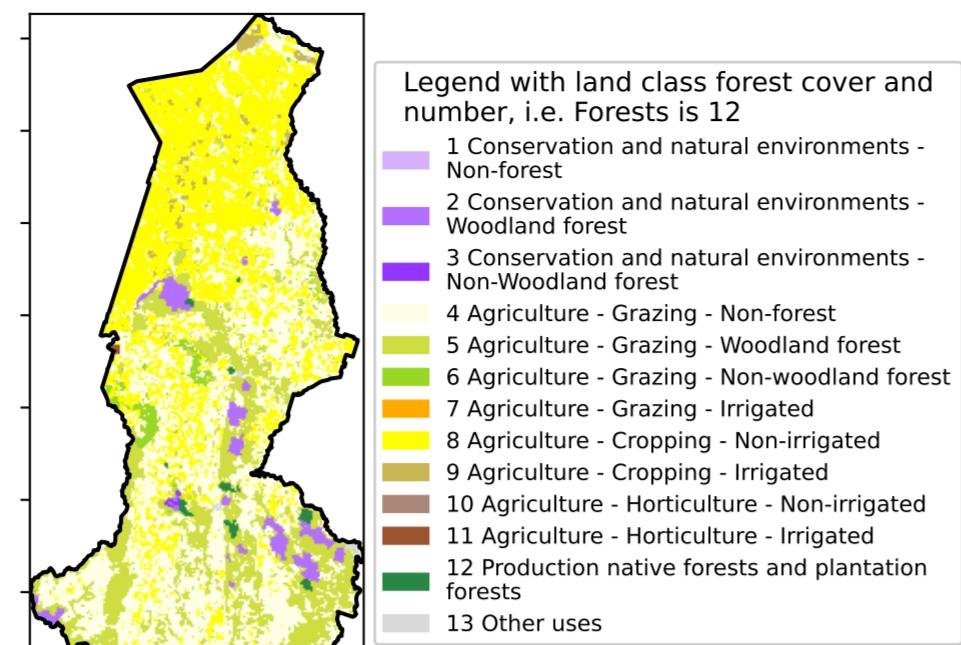
**National
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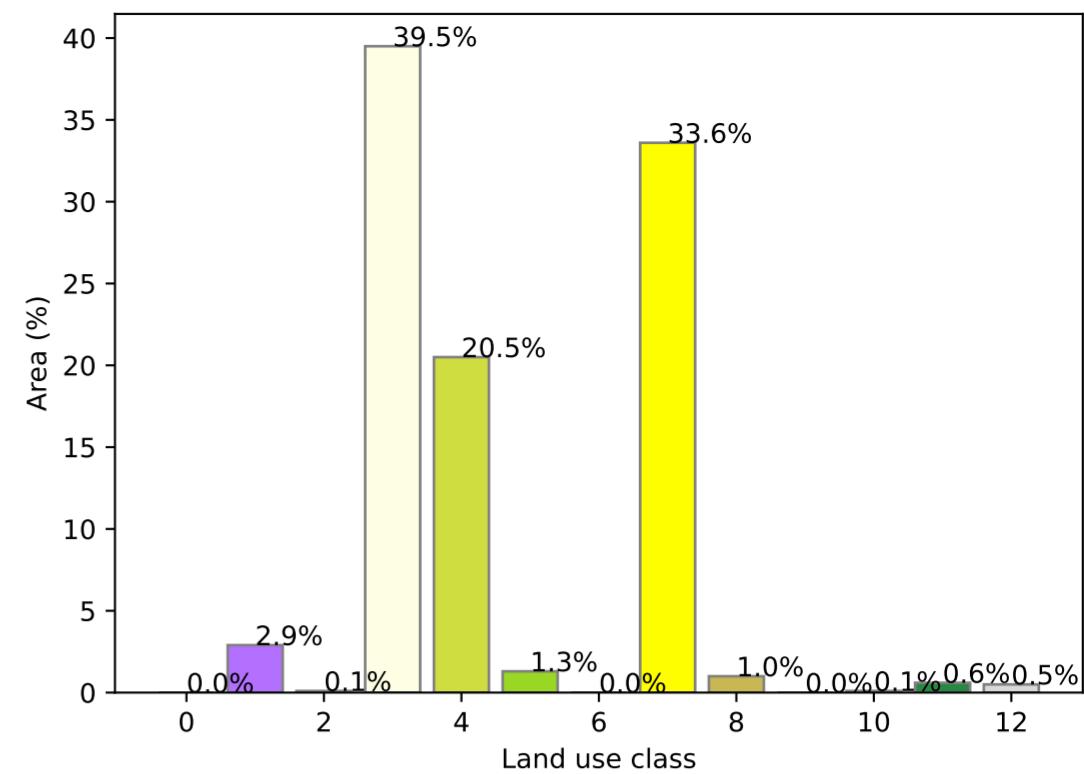
Vegetation Cover Dec 2025

Land use and forest cover

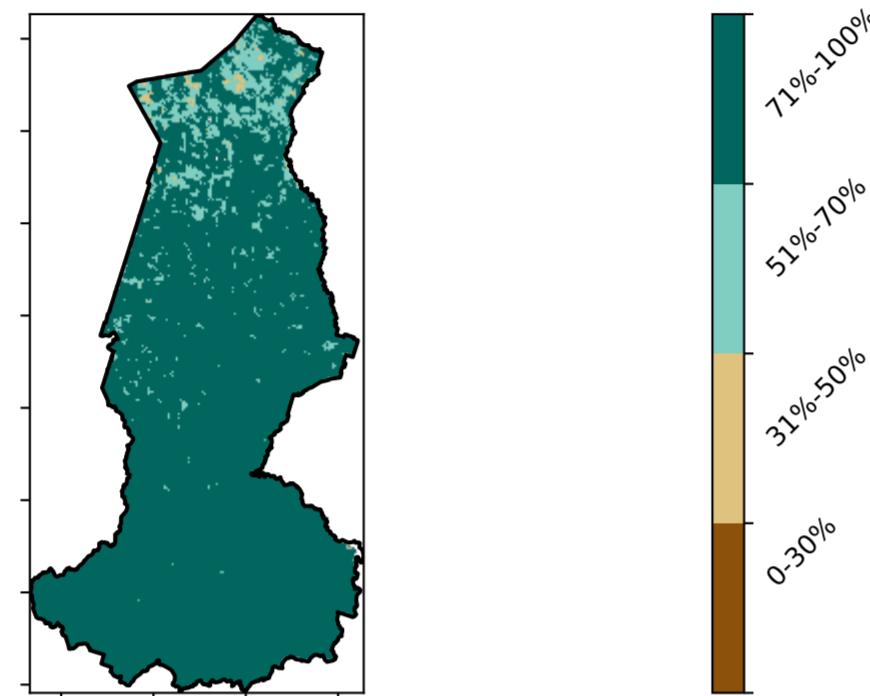
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
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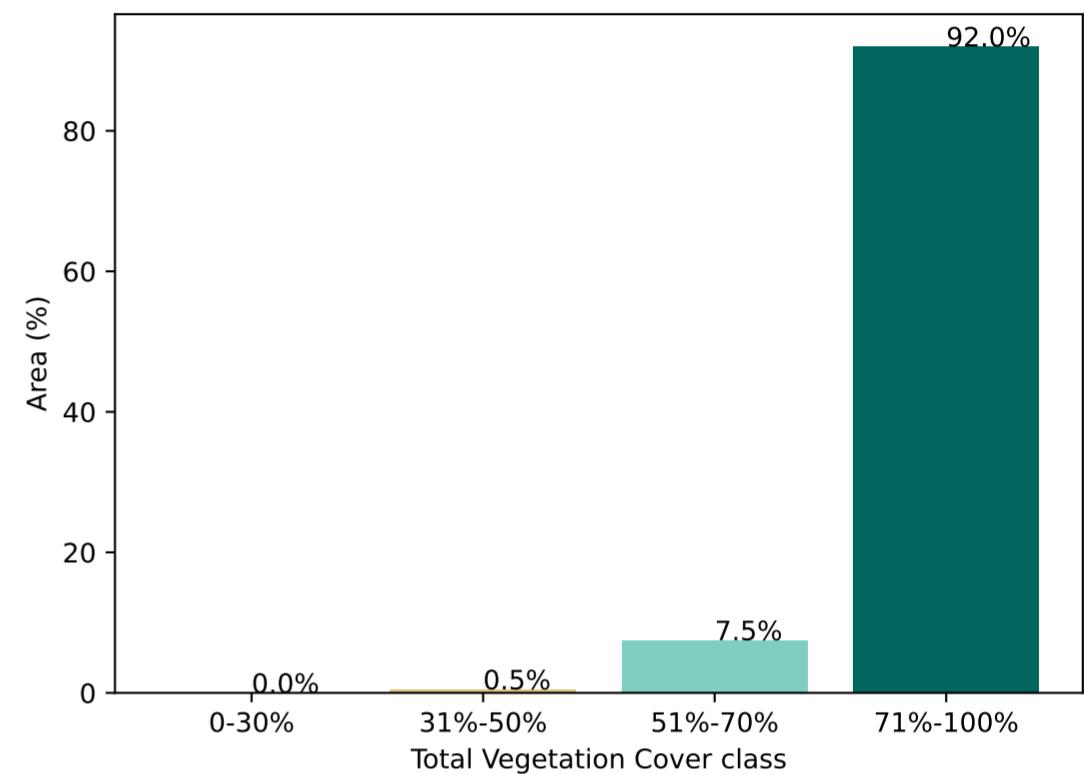
Proportion of each land class in area



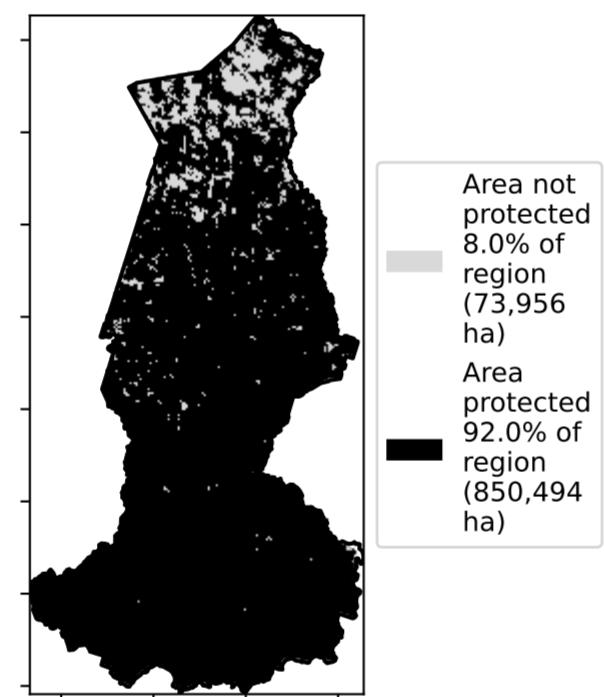
Total Vegetation Cover [%]



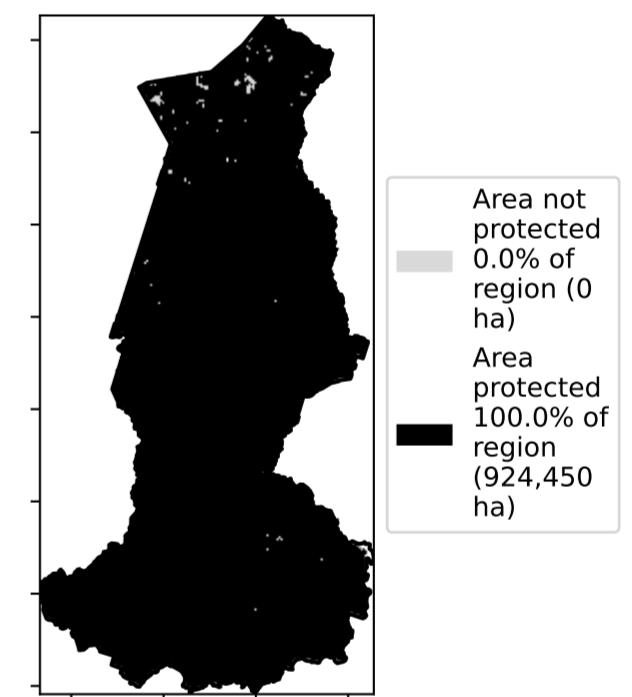
Proportion of vegetation cover class in area



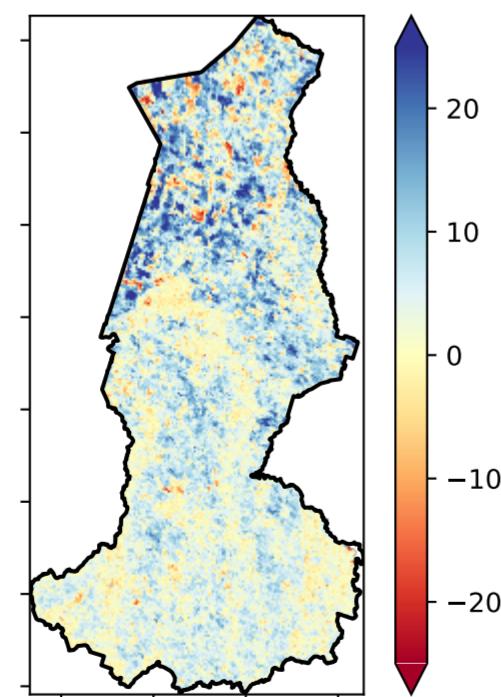
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



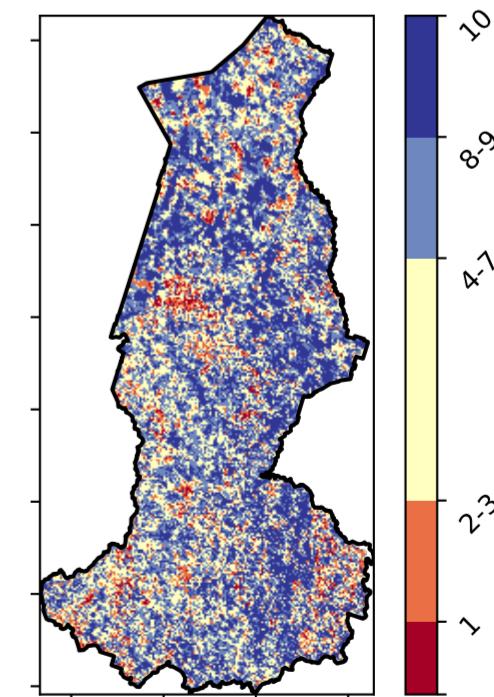
Total Vegetation Cover Anomaly [%]



Anomaly shows how many percentage points each pixel is from the mean. That 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.

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Total Vegetation Cover Decile [%]

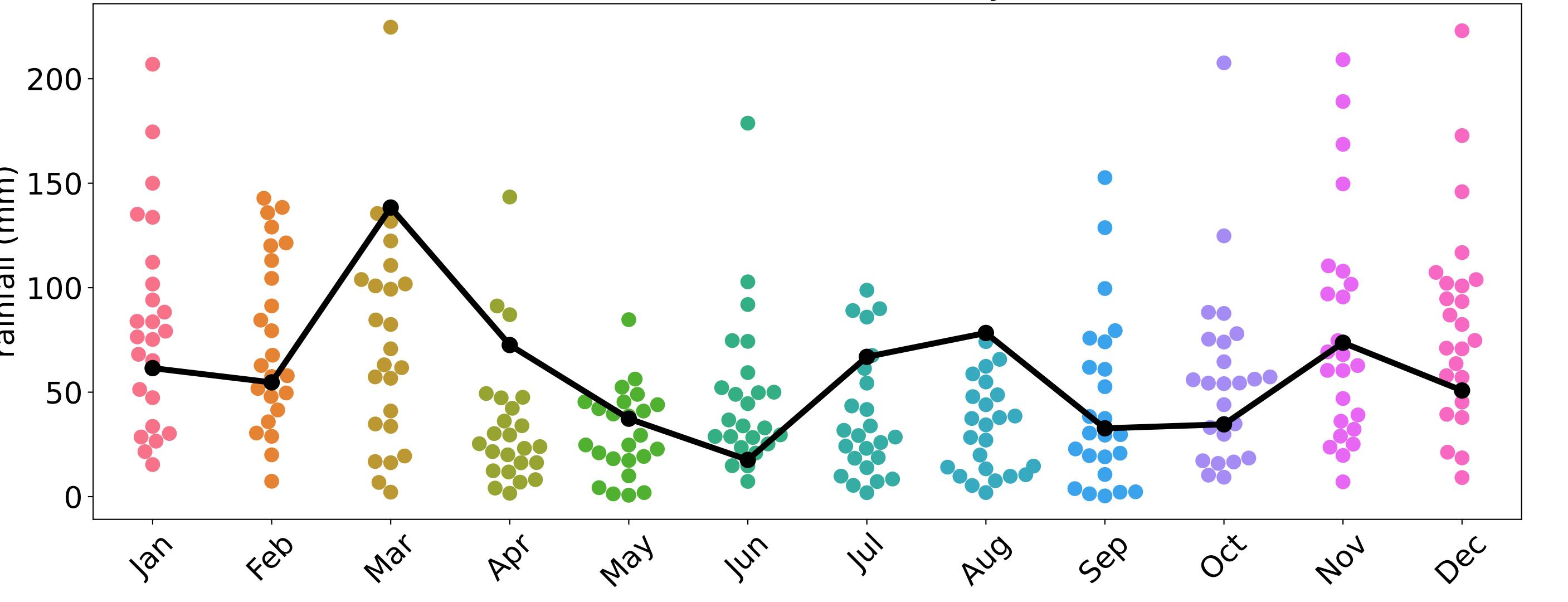
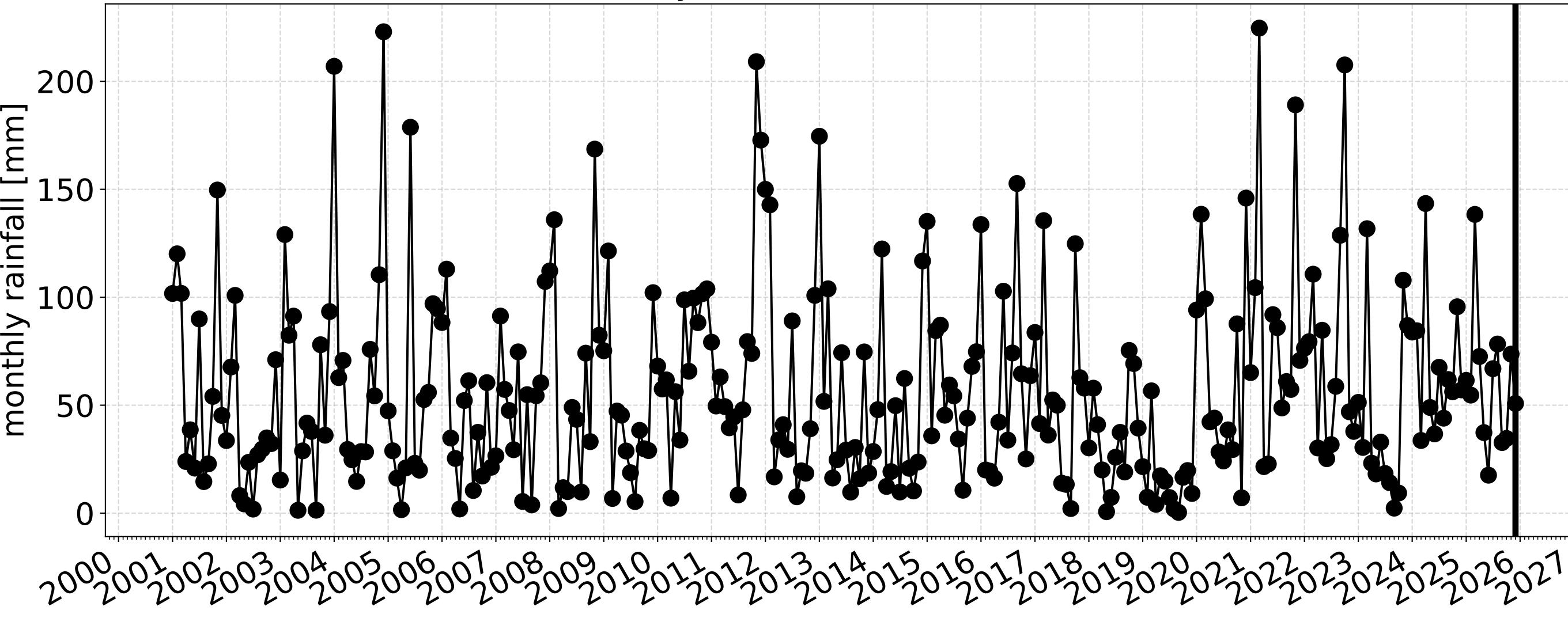
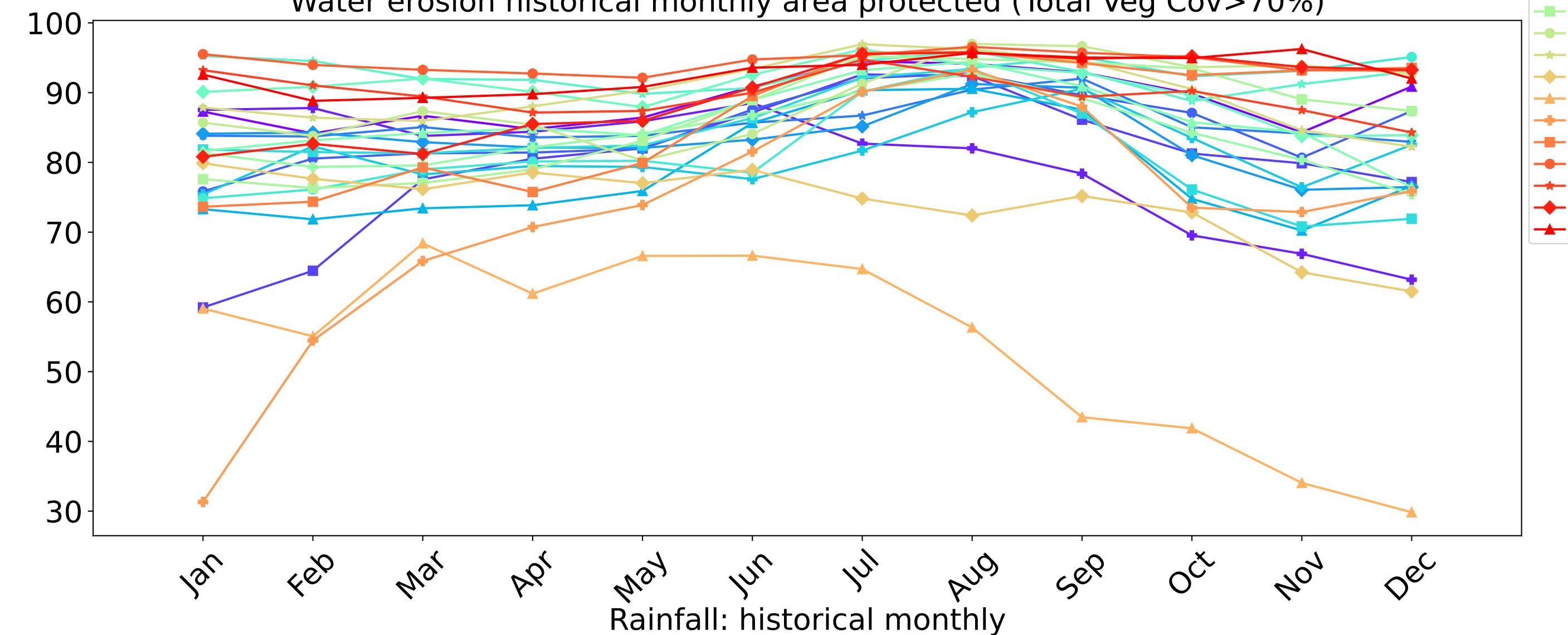
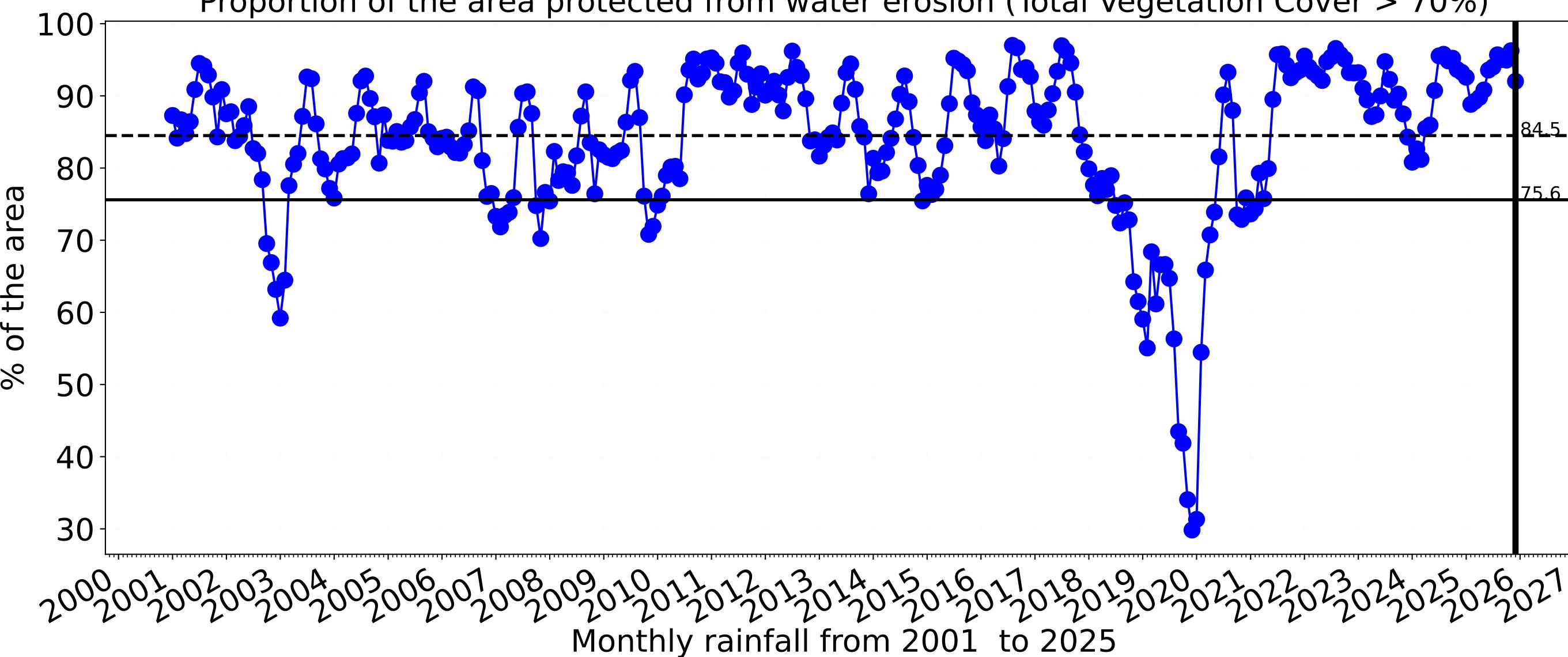
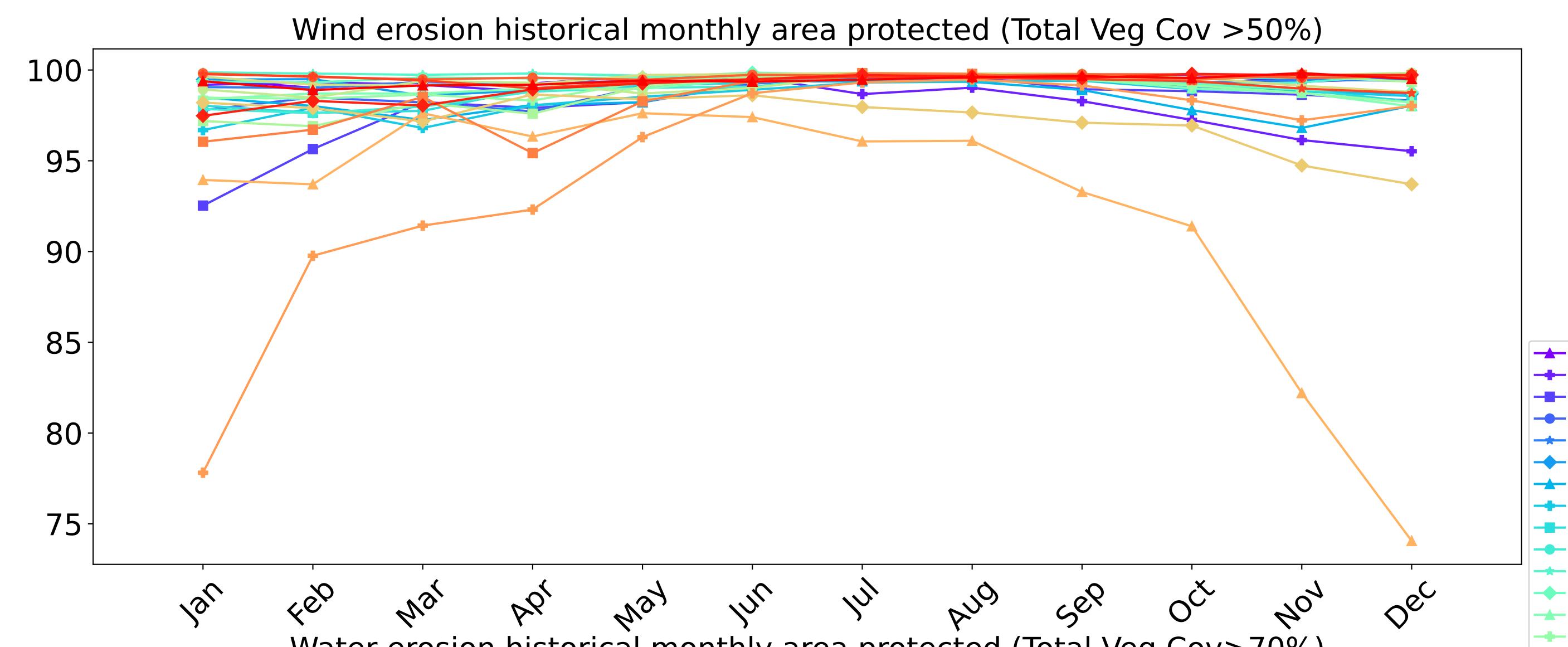
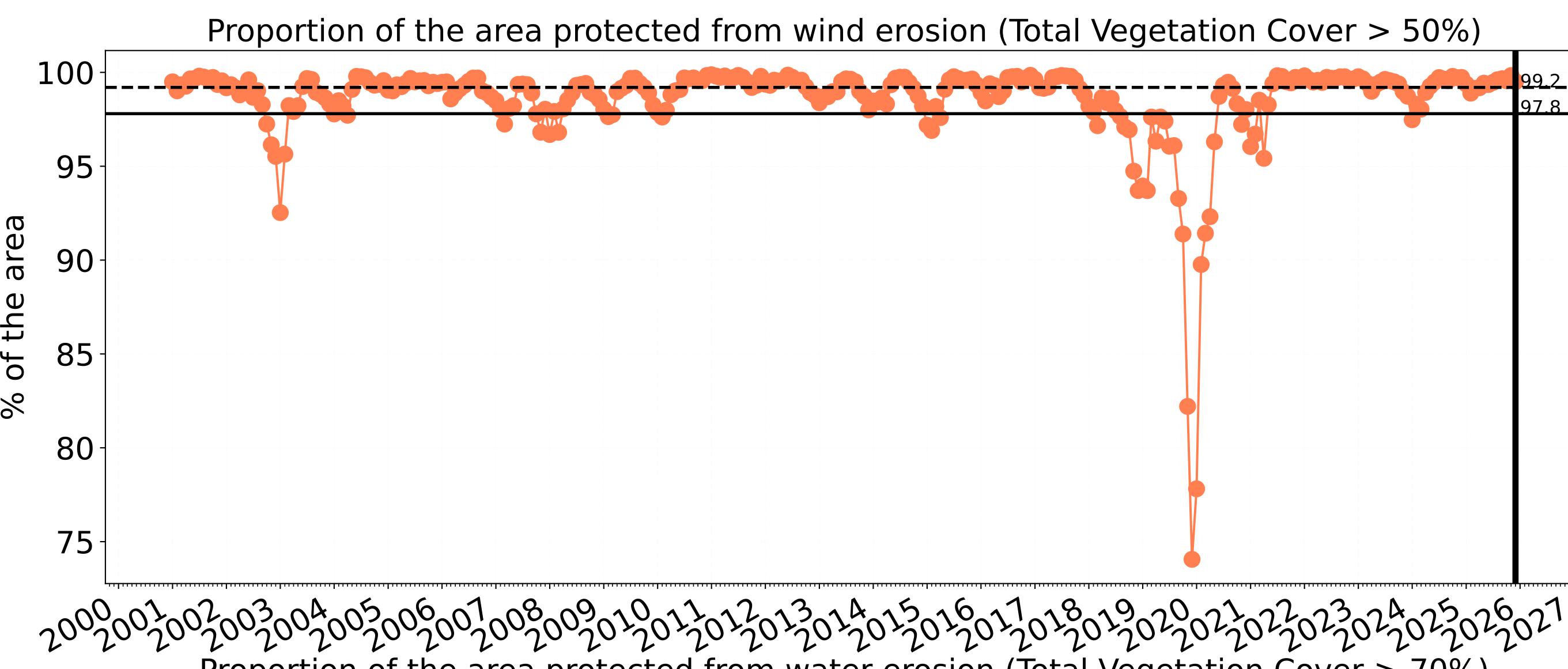


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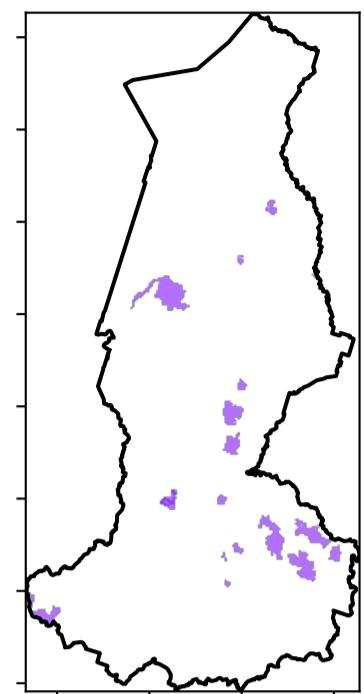




Conservation and natural environments

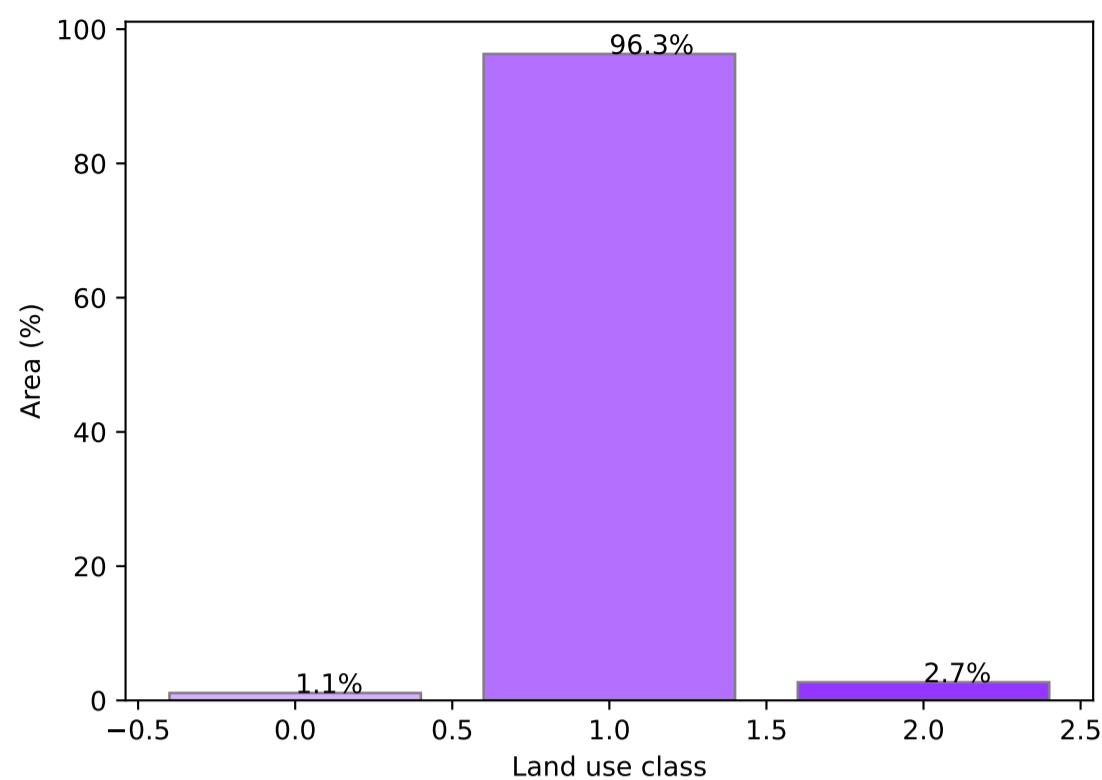
Land use and forest cover

Catchment Scale
Land Use and Forests
of Australia (2018)
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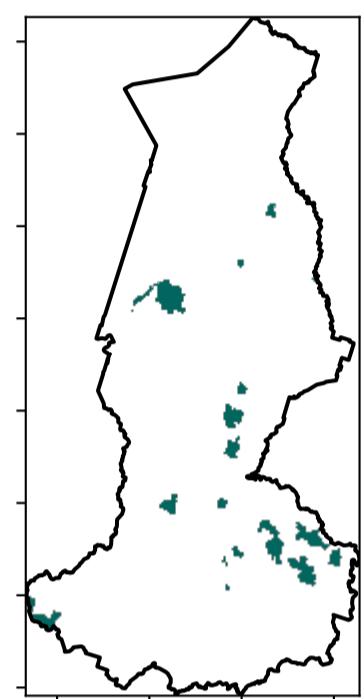


- 1 Conservation and natural environments - Non-forest
- 2 Conservation and natural environments - Woodland forest
- 3 Conservation and natural environments - Non-woodland forest

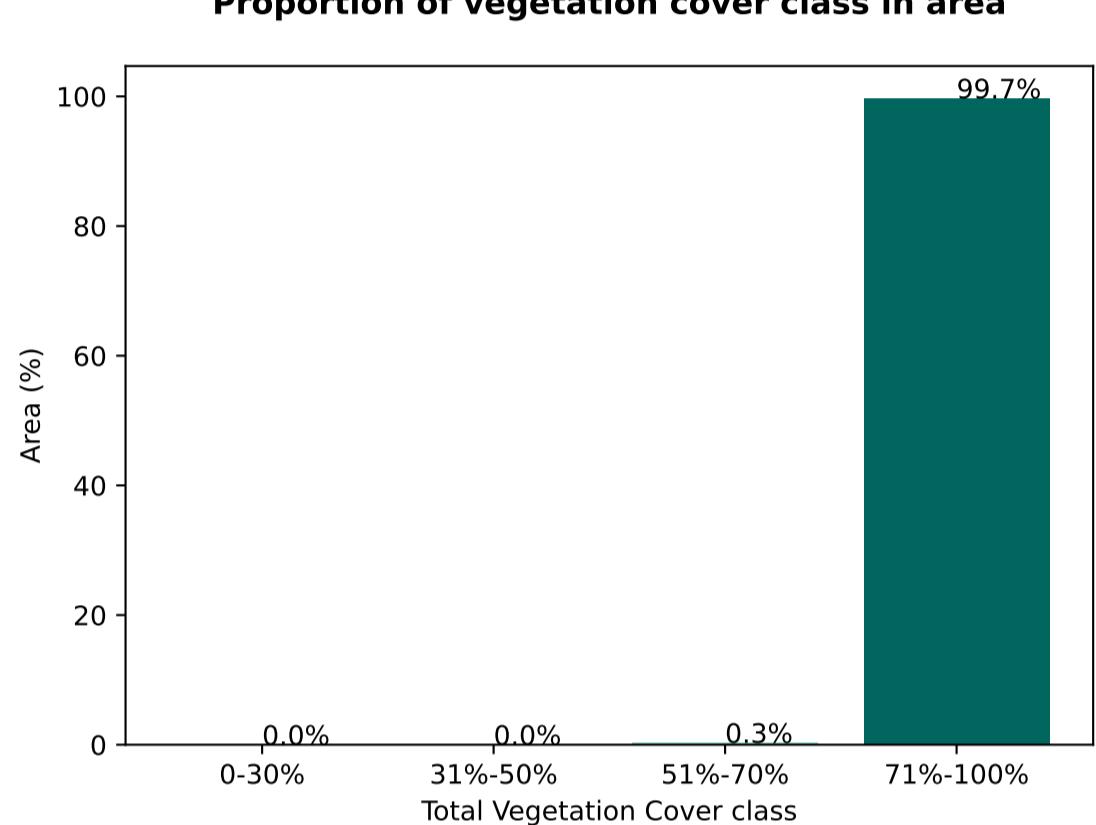
Proportion of each land class in area



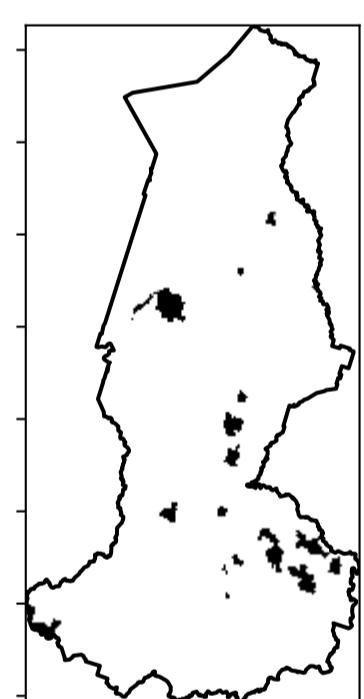
Total Vegetation Cover [%]



- 0-30%
- 31-50%
- 51-70%
- 71-100%

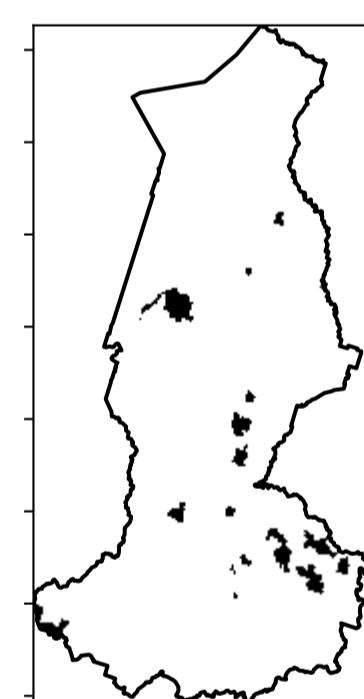


% Area protected from water erosion (>70%)



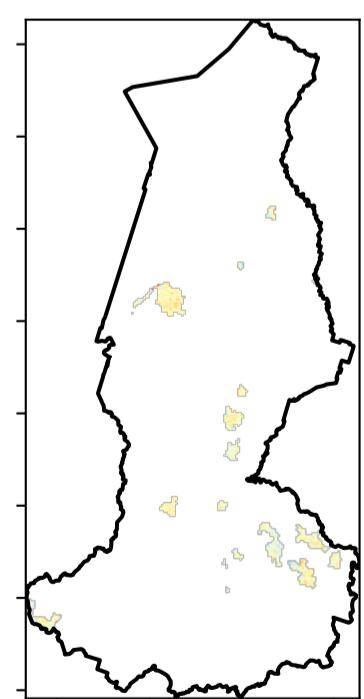
- Area not protected 0.3% of region (84 ha)
- Area protected 99.7% of region (28,041 ha)

% Area protected from wind erosion (>50%)

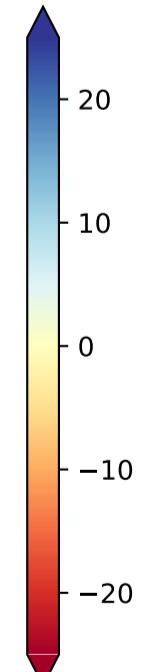


- Area protected 100.0% of region (28,125 ha)

Total Vegetation Cover Anomaly [%]

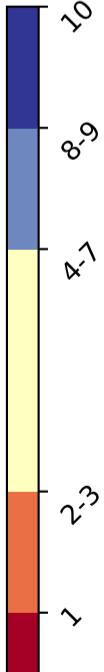
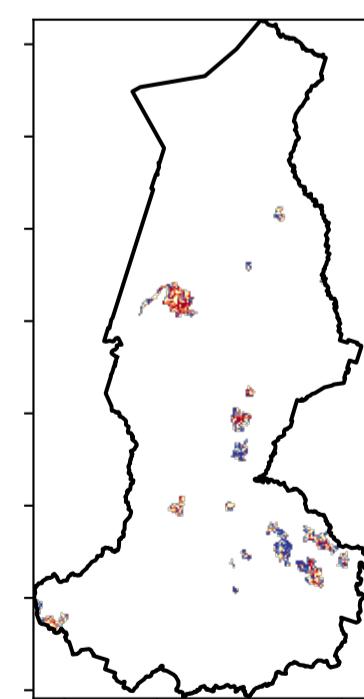


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Total Vegetation Cover Decile [%]



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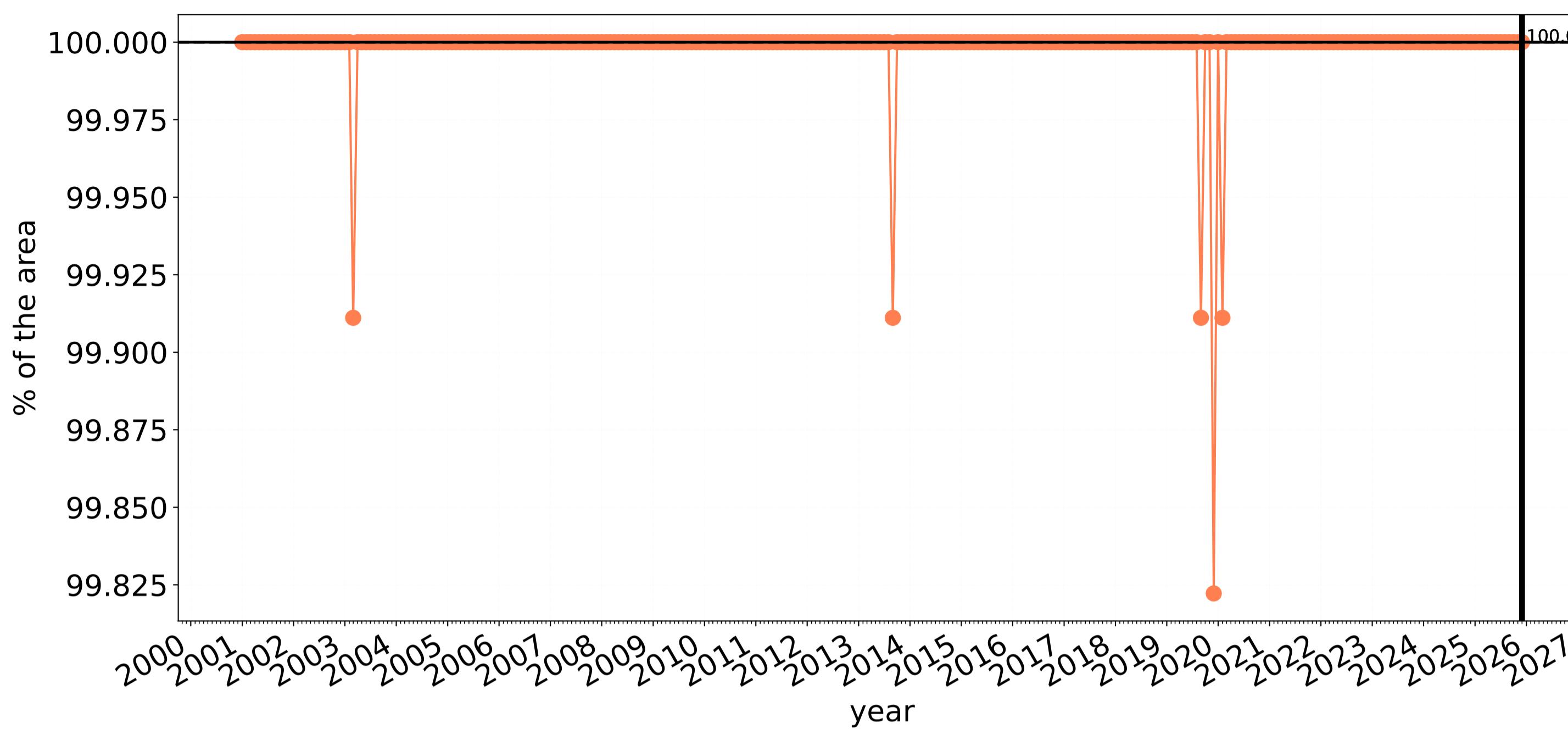


Australian Government

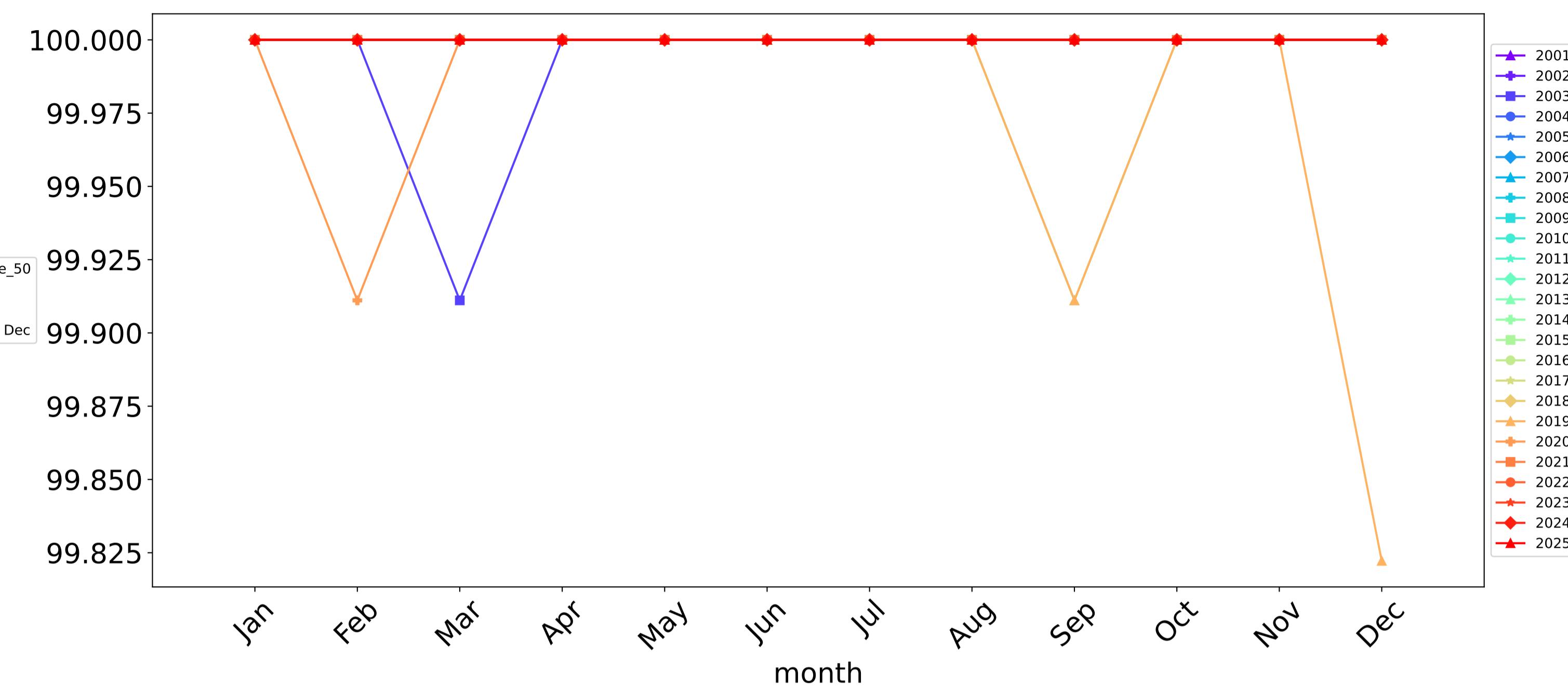


Conservation and natural environments timeseries

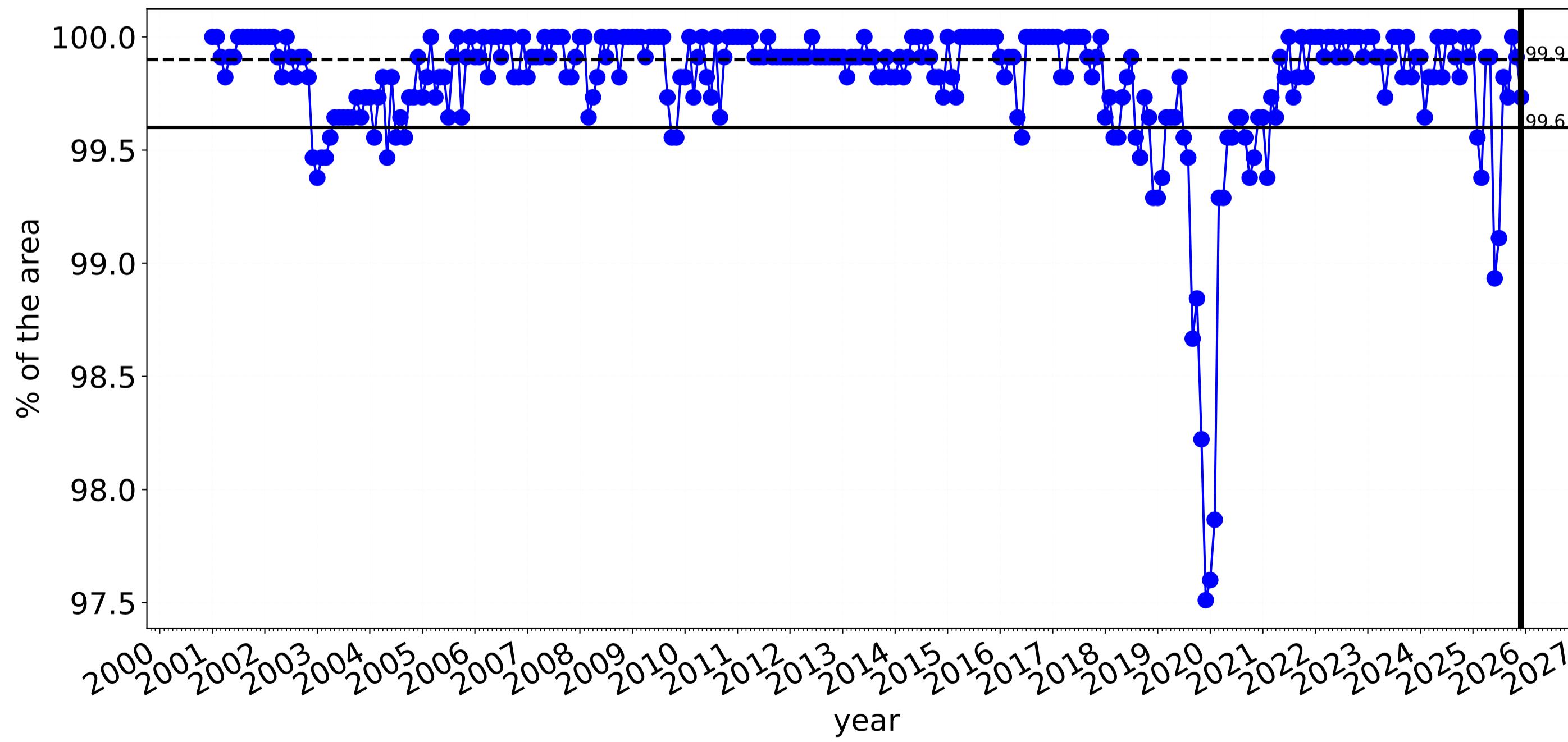
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



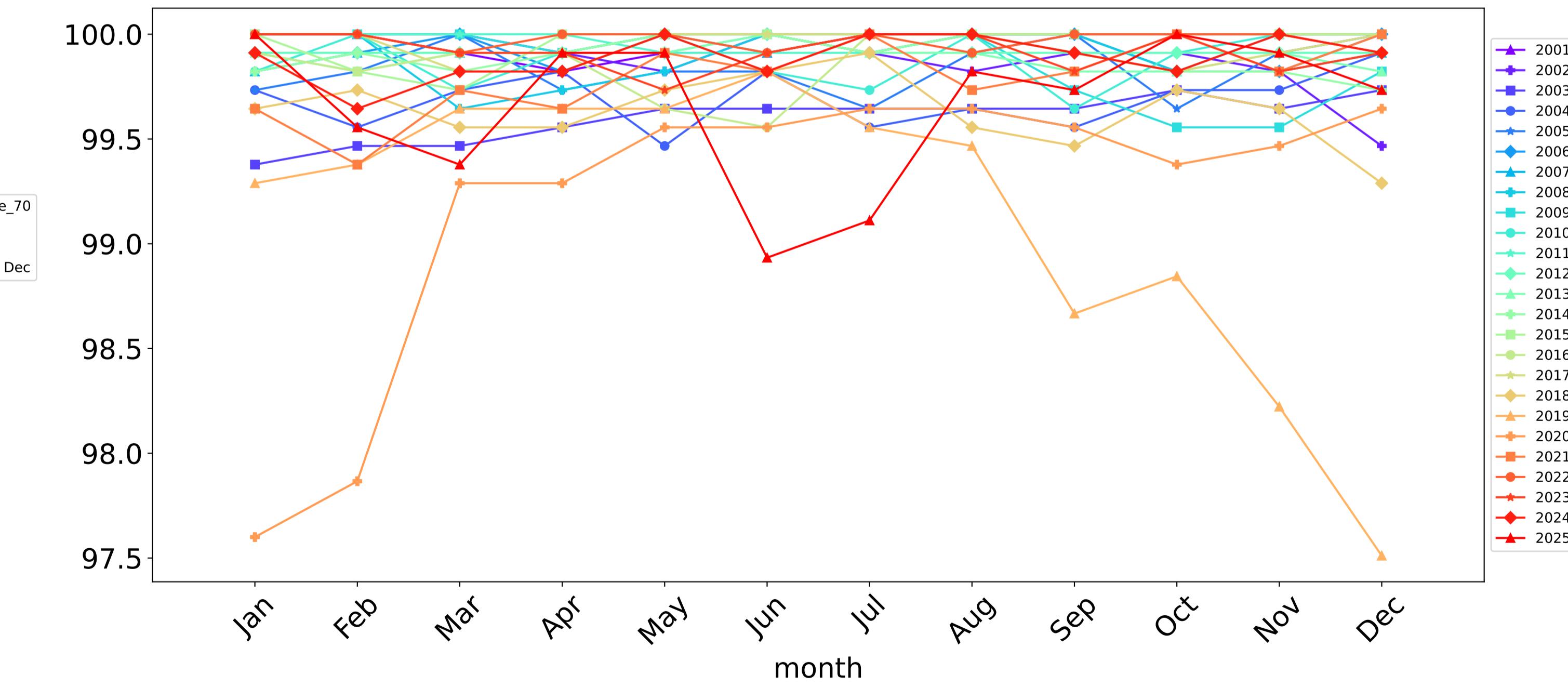
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



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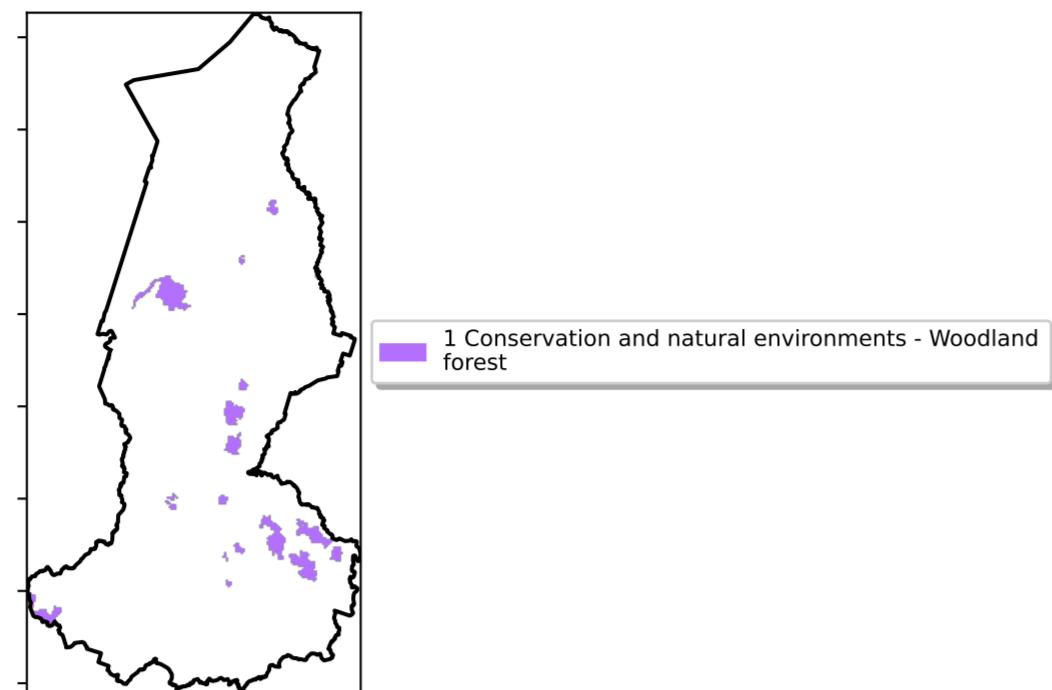
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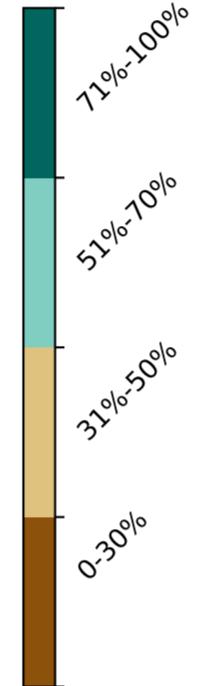
Conservation and natural environments Woodland forest

Land use and forest cover

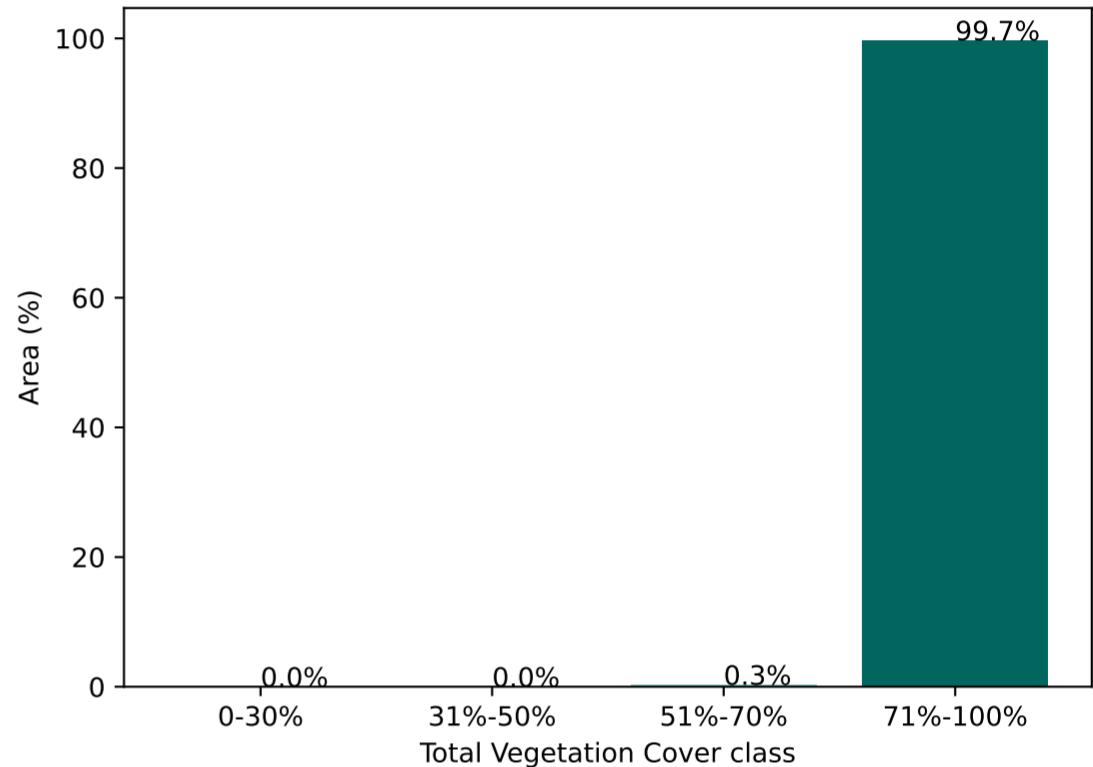
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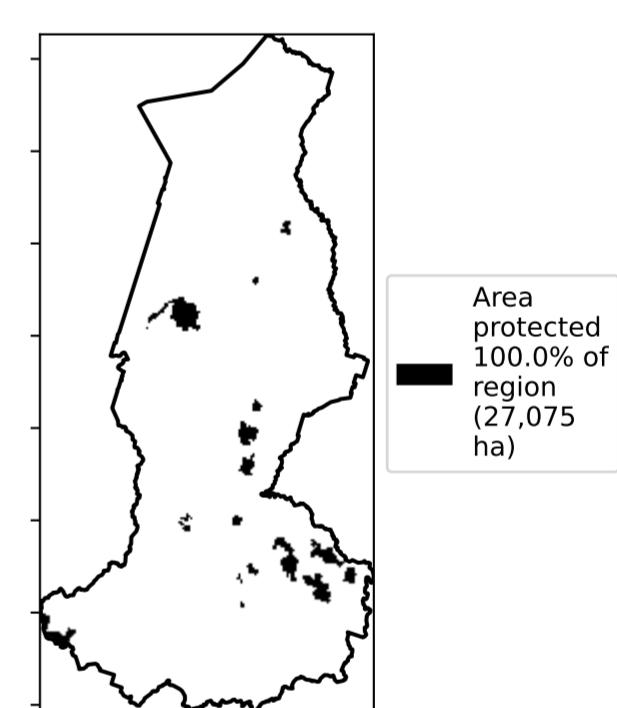
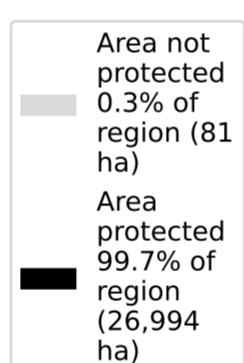
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

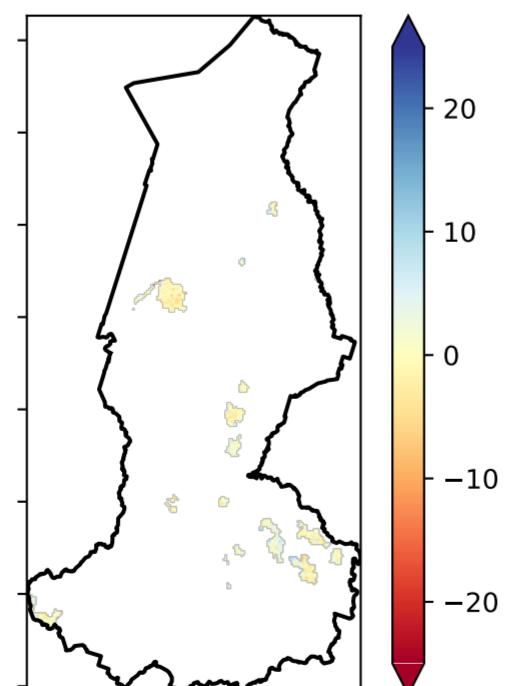


% Area protected from water erosion (>70%)

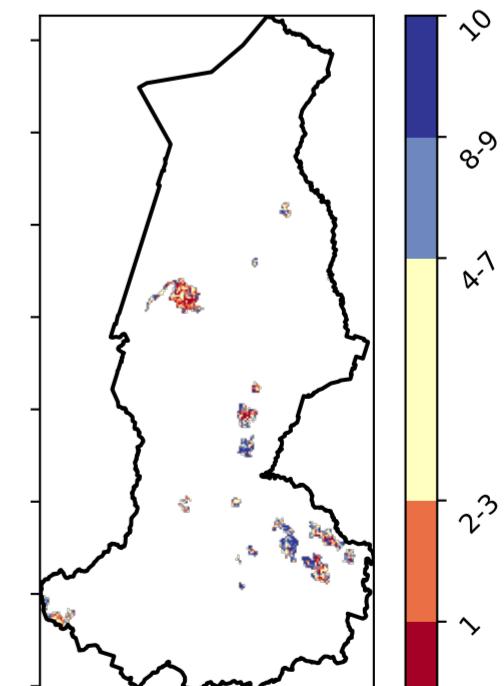


Total Vegetation Cover Anomaly [%]

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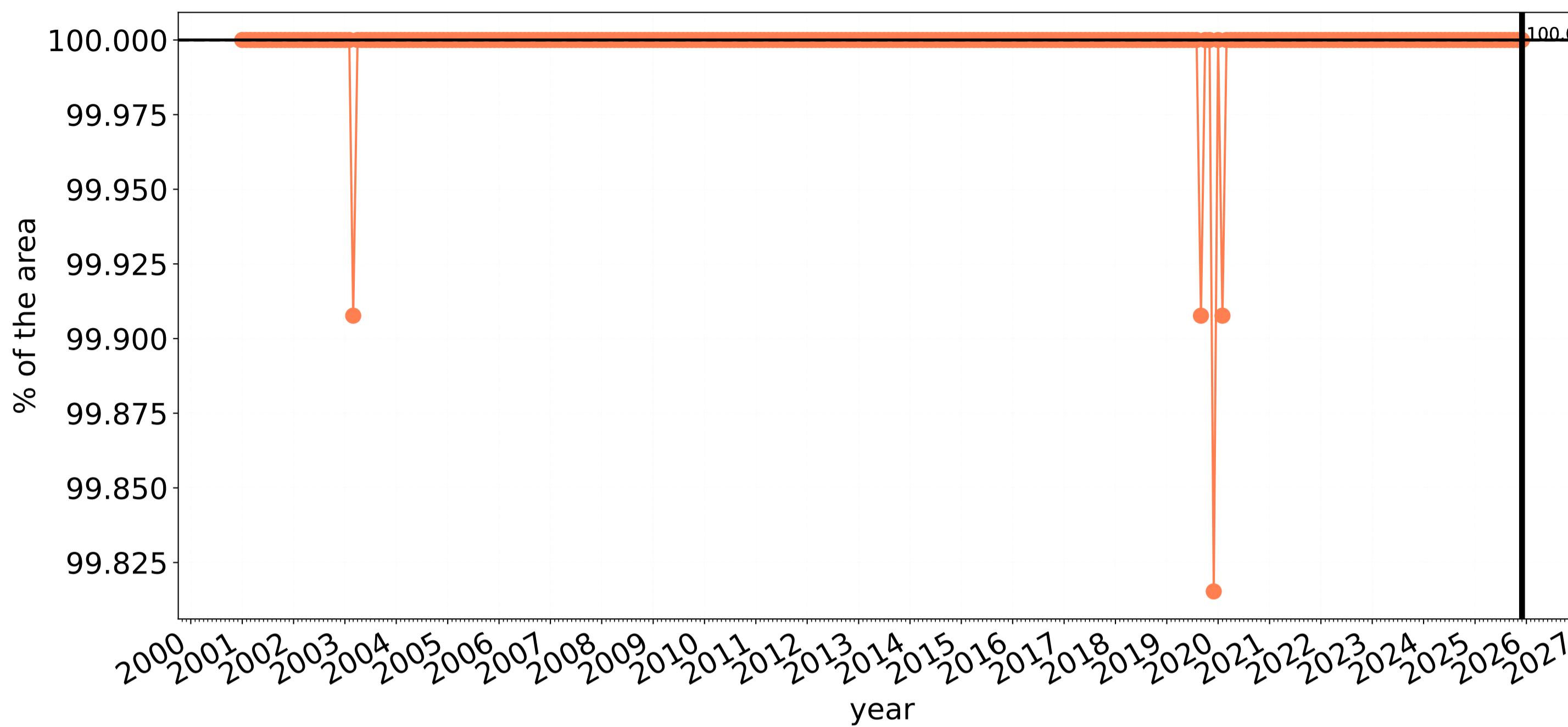
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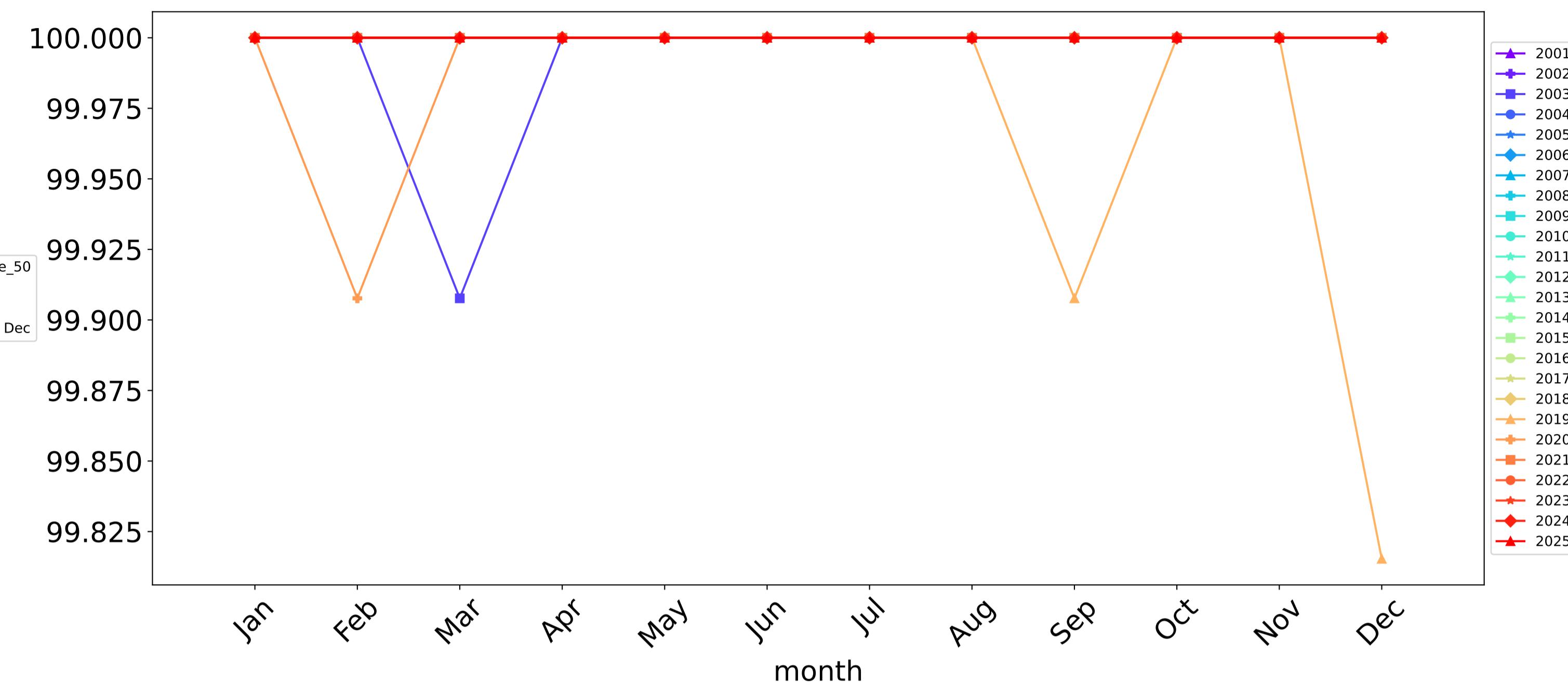


Conservation and natural environments Woodland forest timeseries

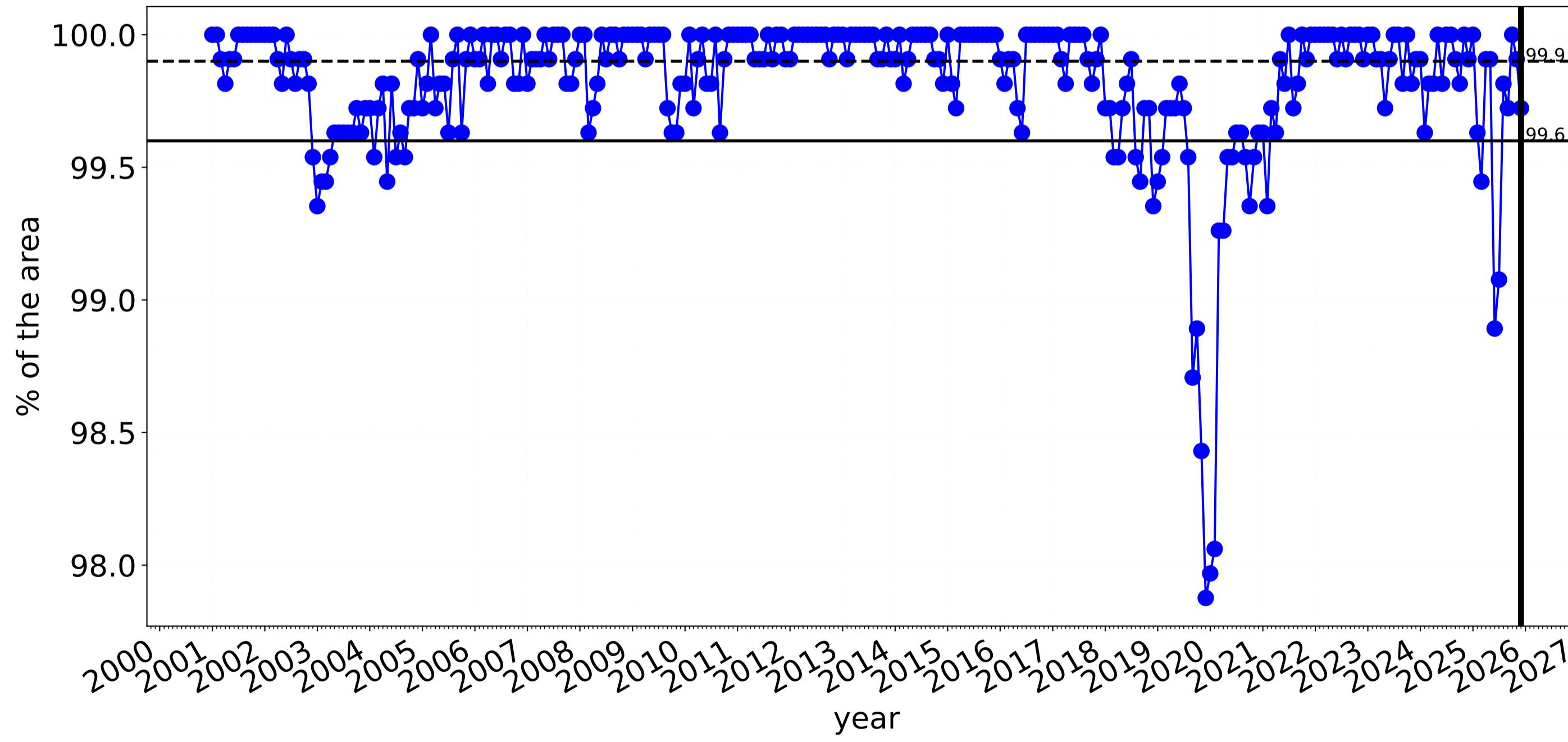
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



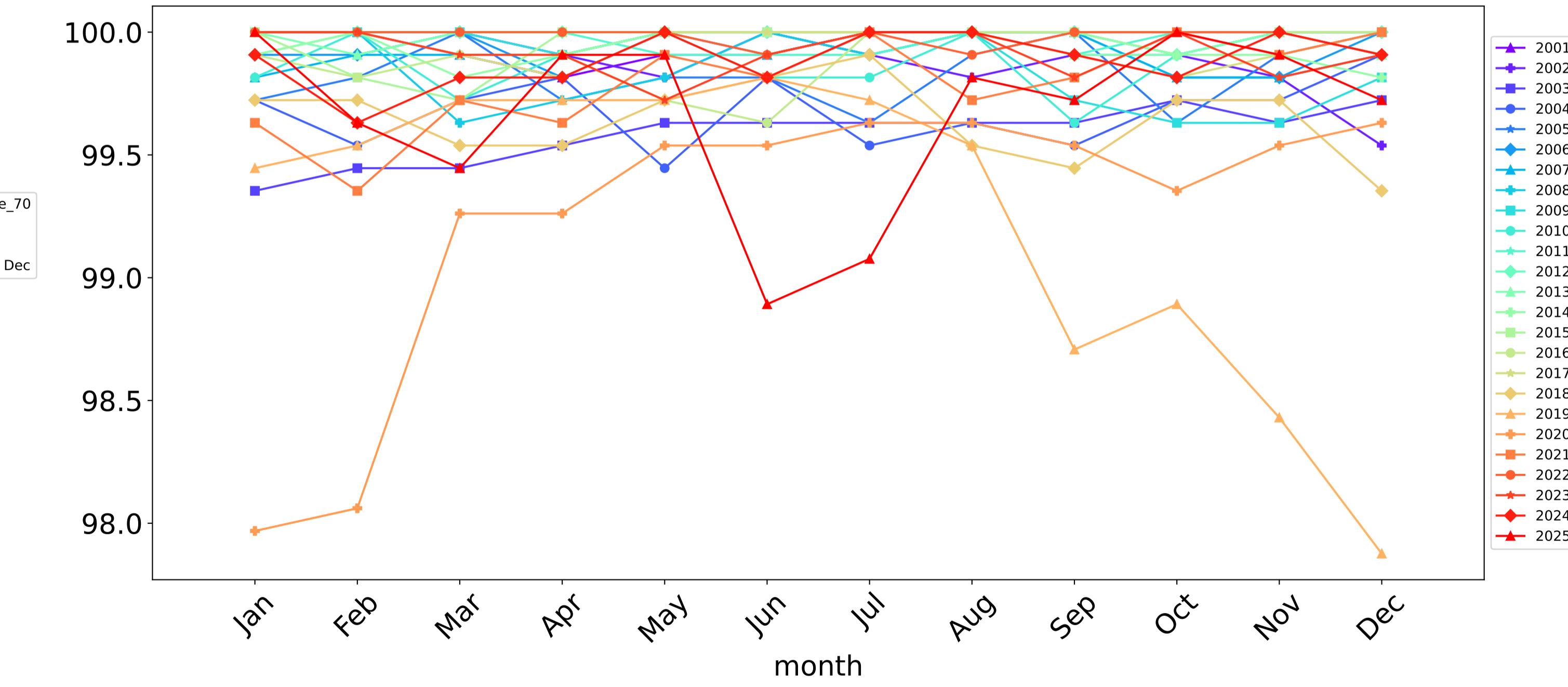
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



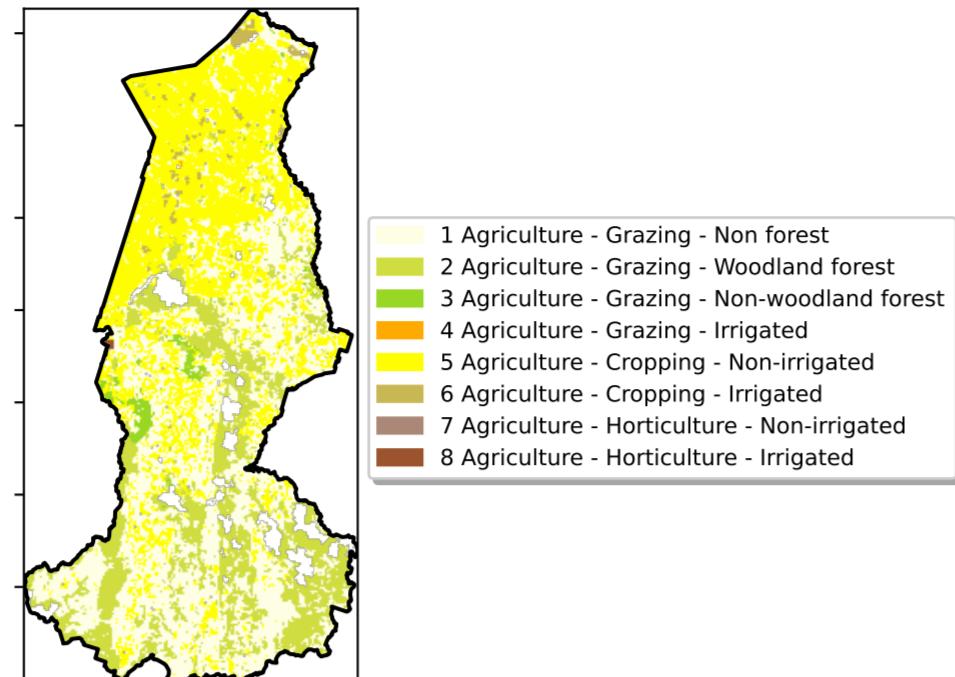
Water erosion historical monthly area protected (Total Veg Cov >70%)



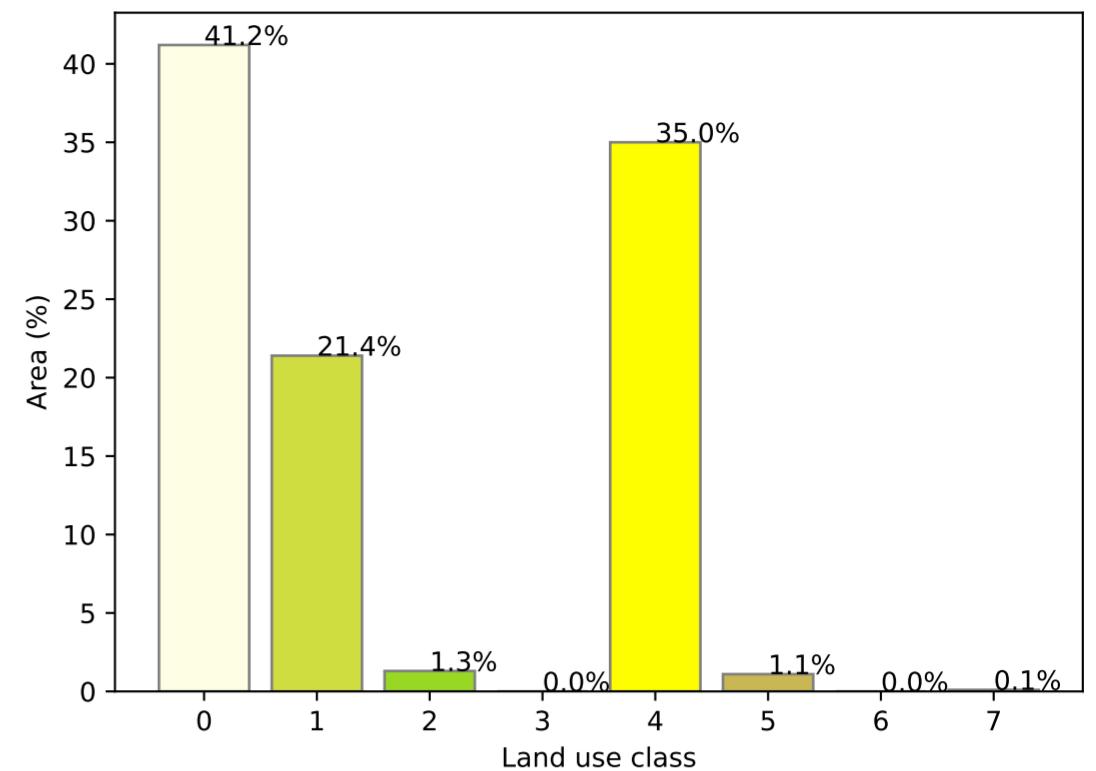
Agriculture

Land use and forest cover

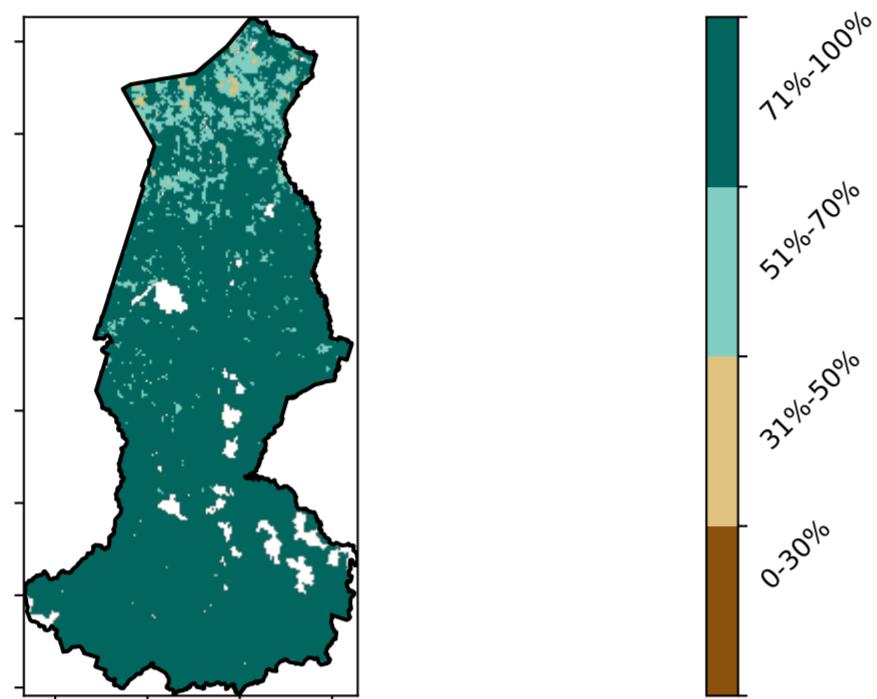
Catchment Scale Land Use and Forests of Australia (2018)
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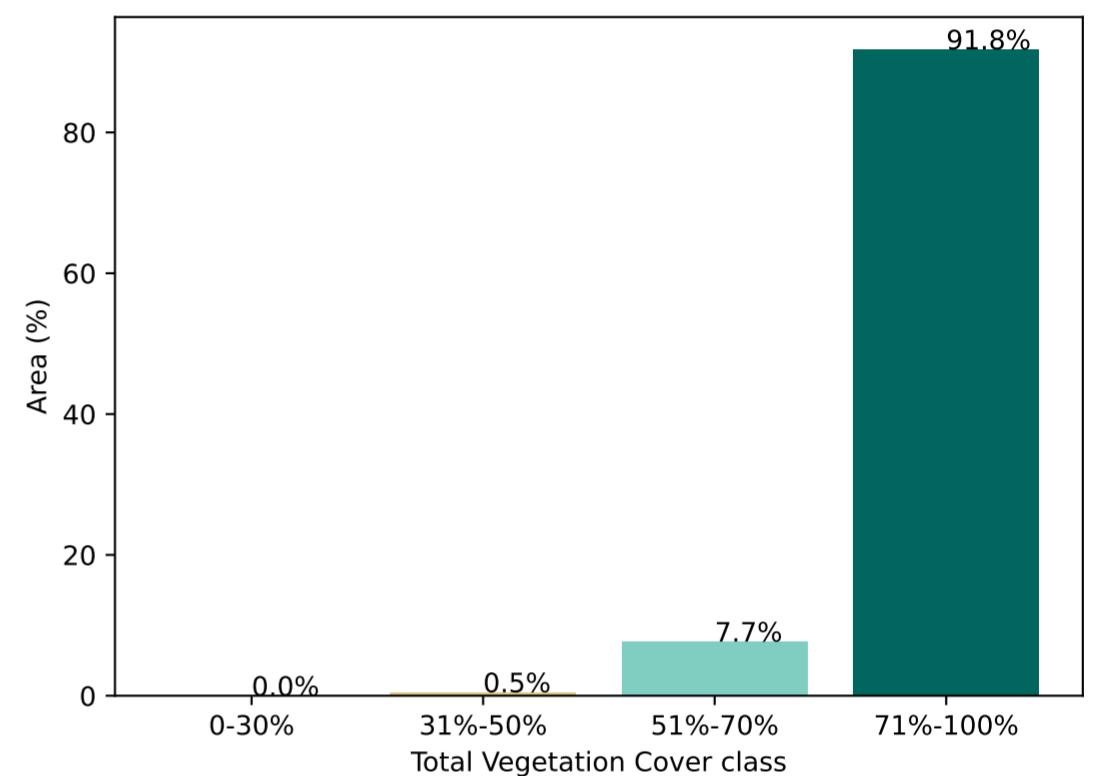
Proportion of each land class in area



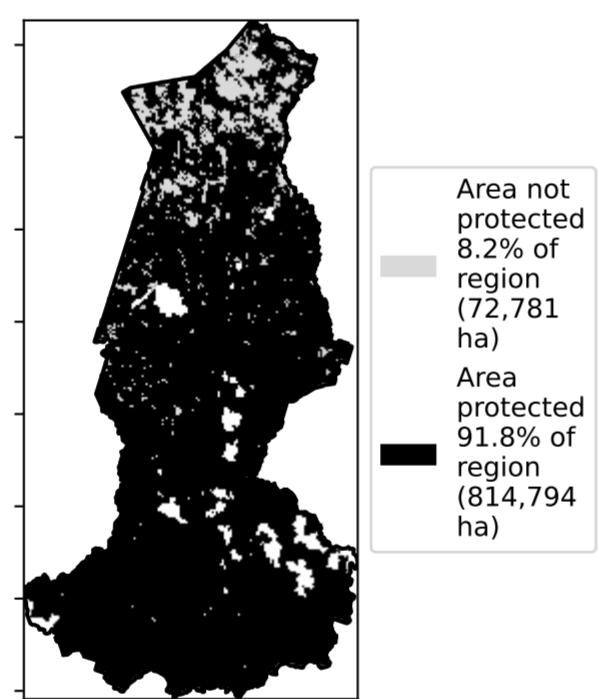
Total Vegetation Cover [%]



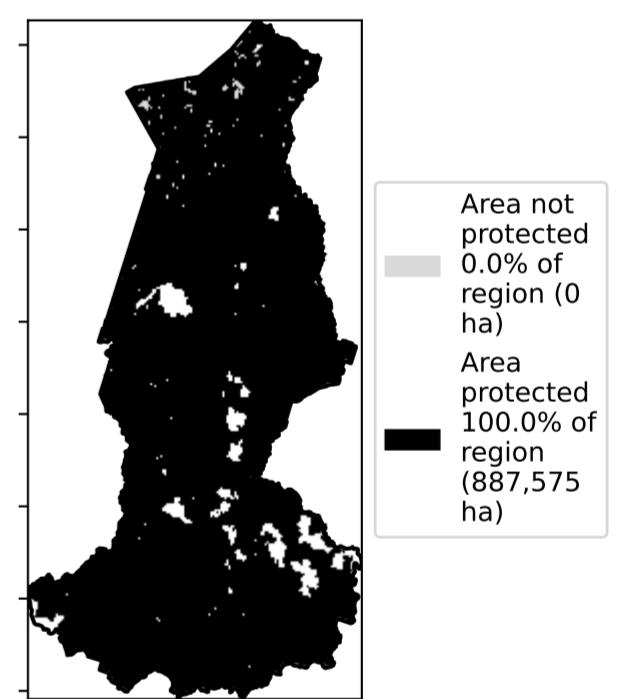
Proportion of vegetation cover class in area



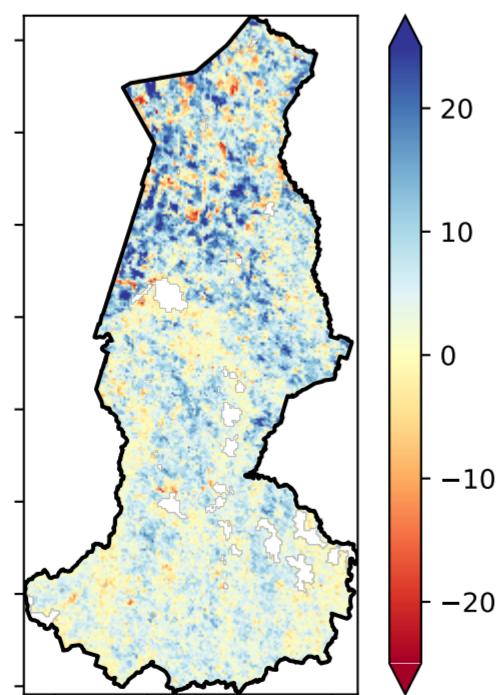
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



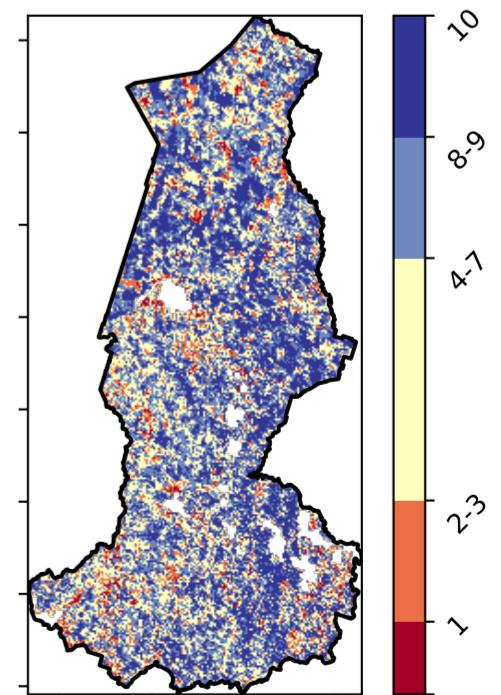
Total Vegetation Cover Anomaly [%]



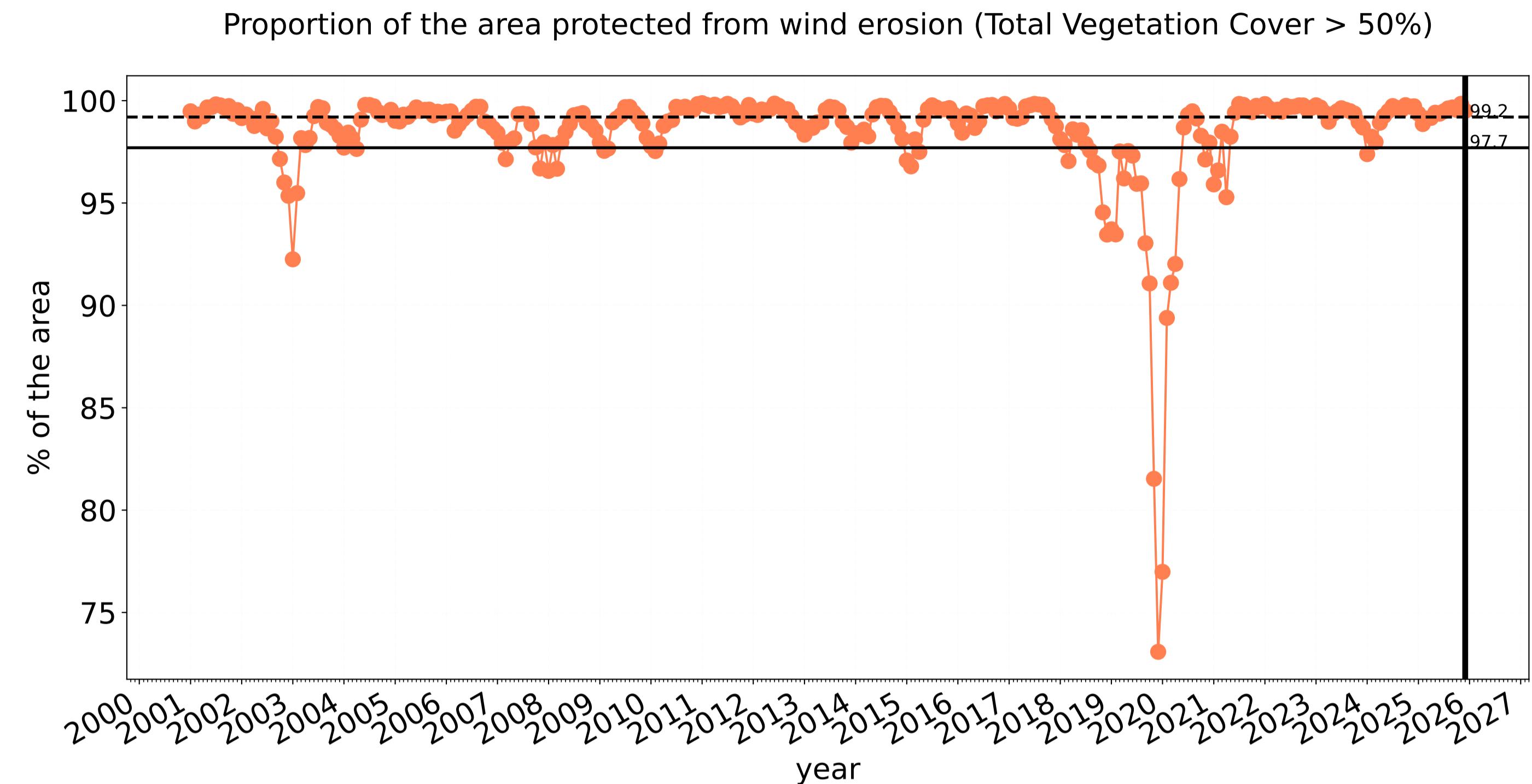
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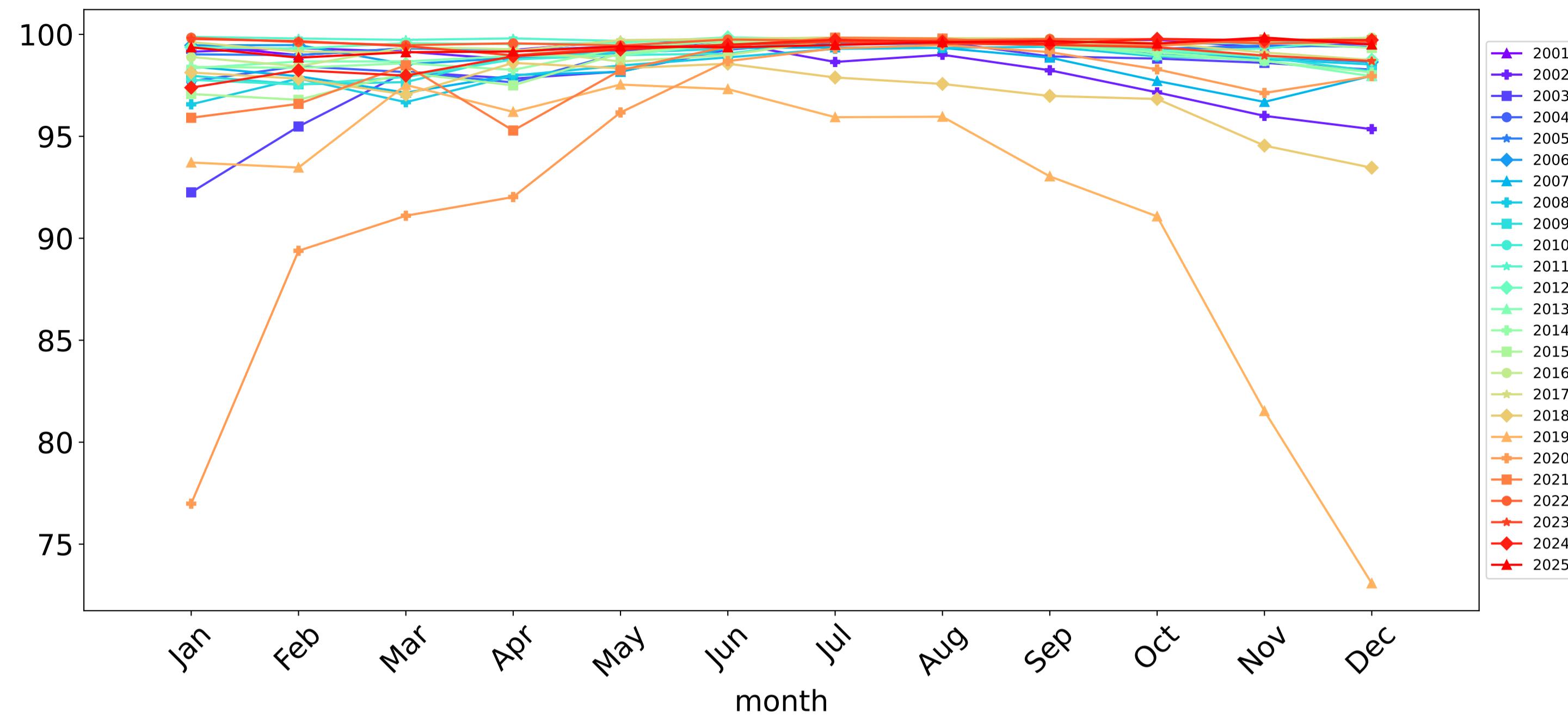
Total Vegetation Cover Decile [%]



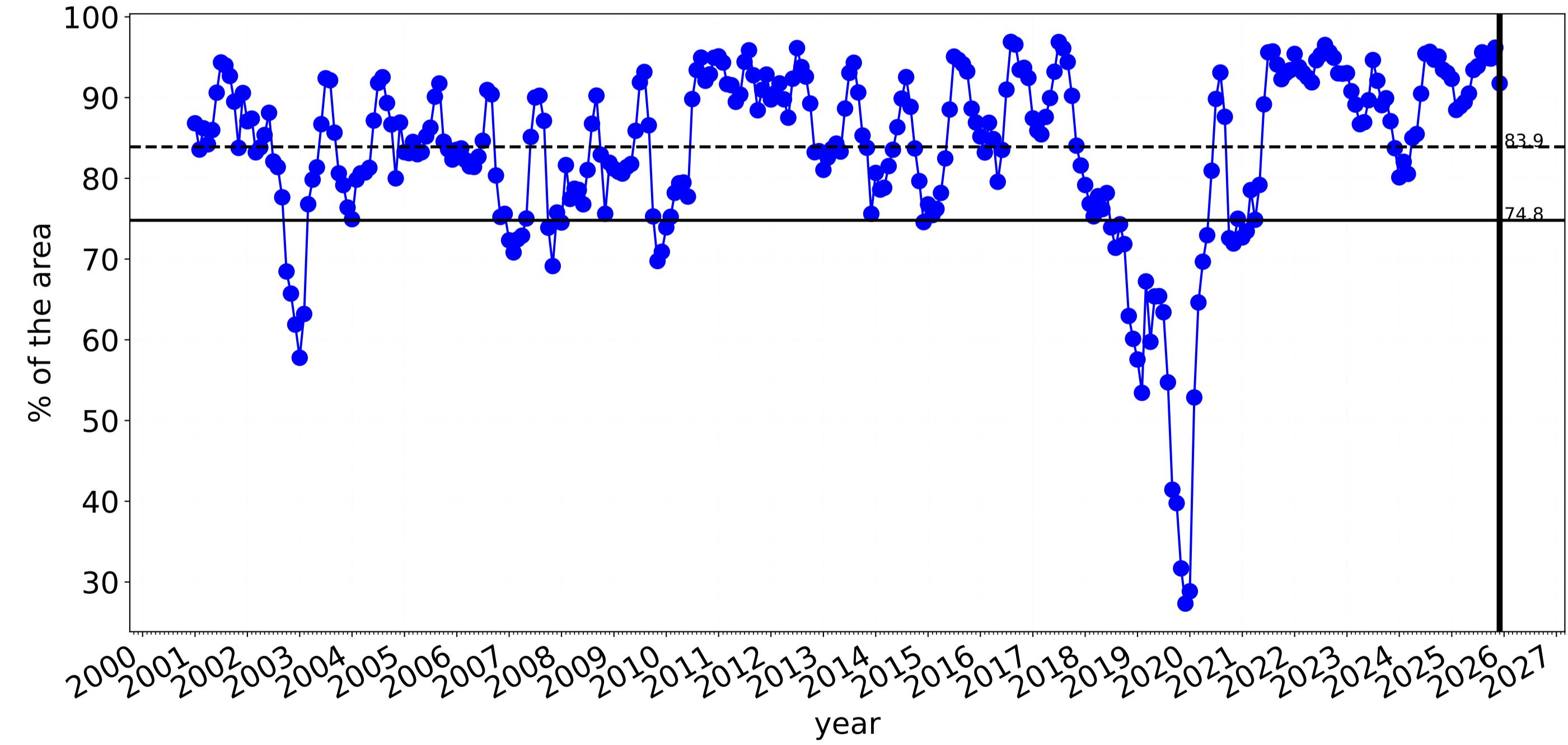
Agriculture timeseries



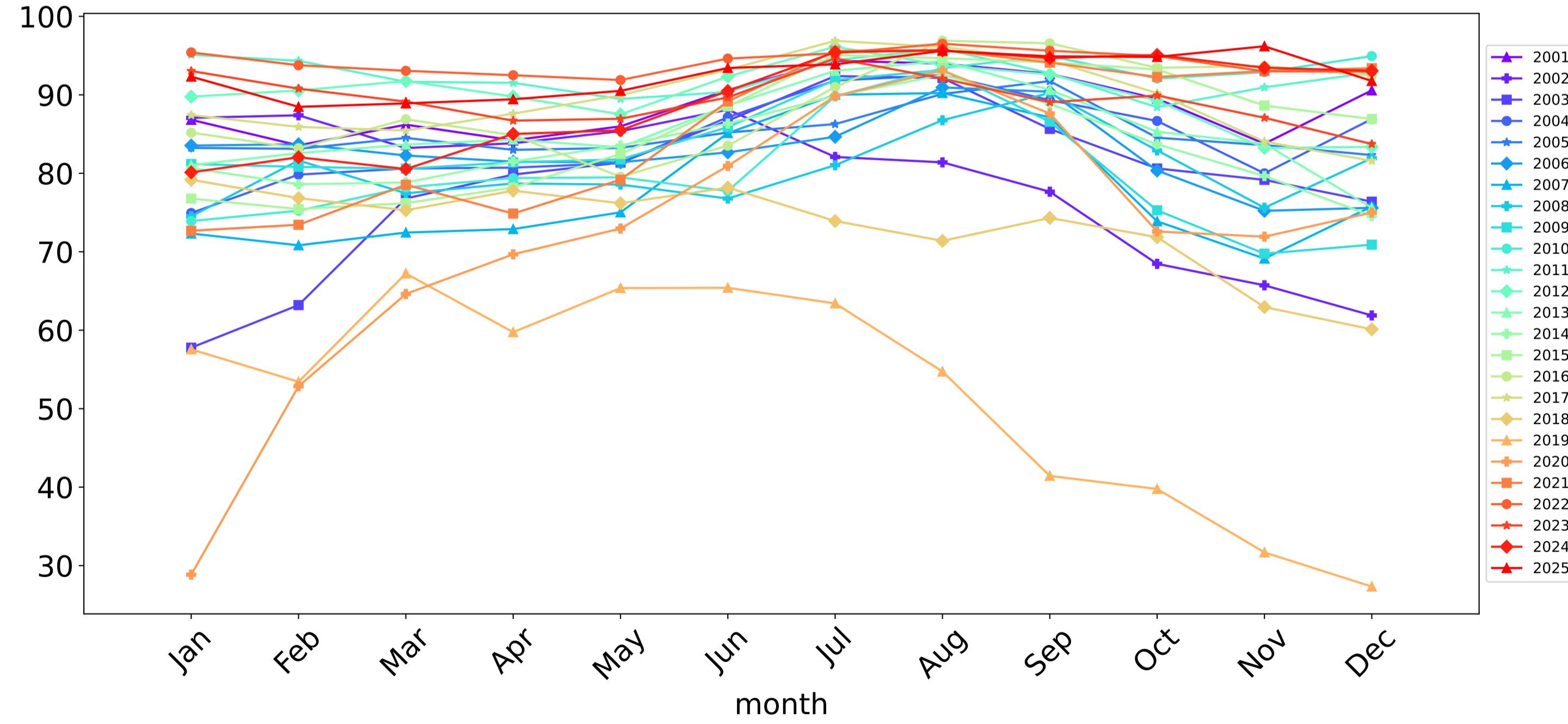
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



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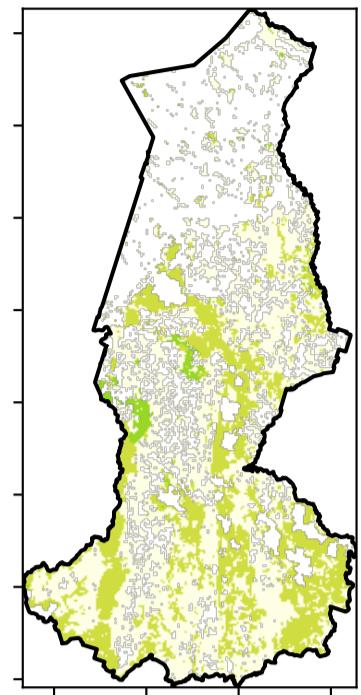
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Grazing

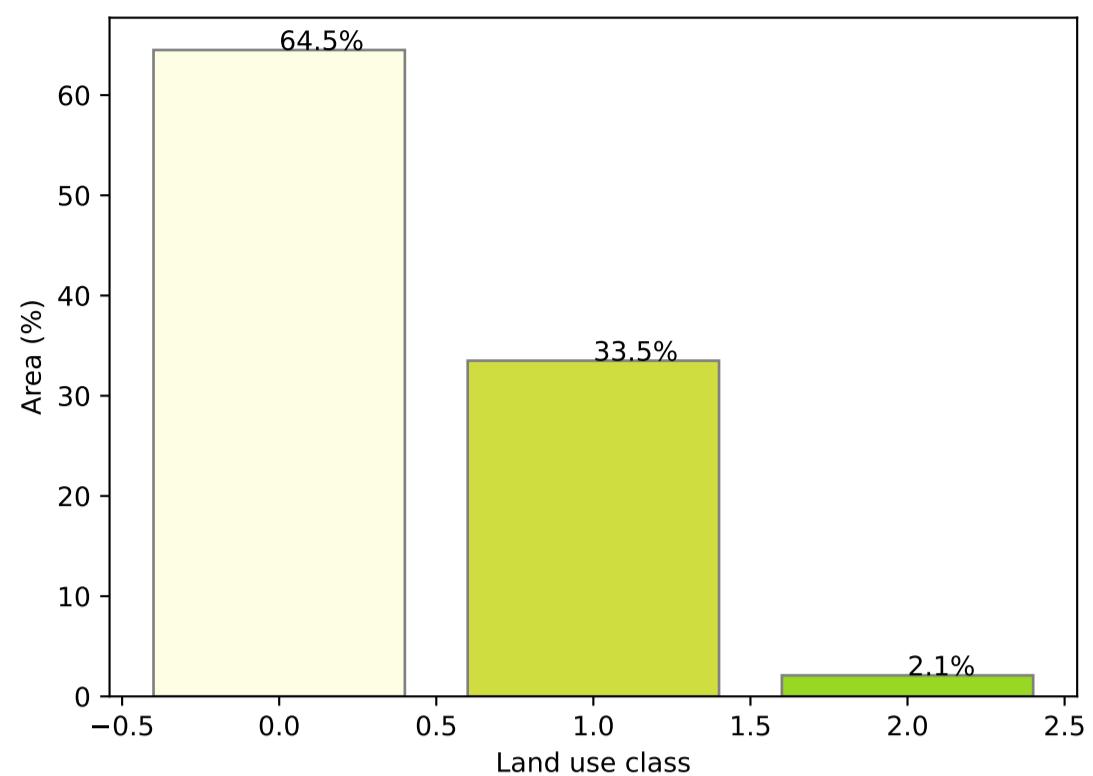
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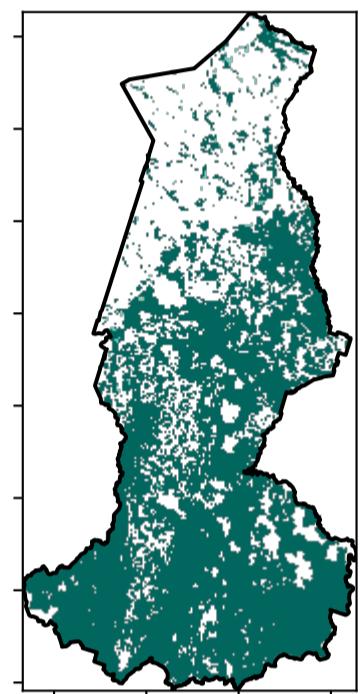


- 1 Agriculture - Grazing - Non forest
- 2 Agriculture - Grazing - Woodland forest
- 3 Agriculture - Grazing - Non-woodland forest

Proportion of each land class in area

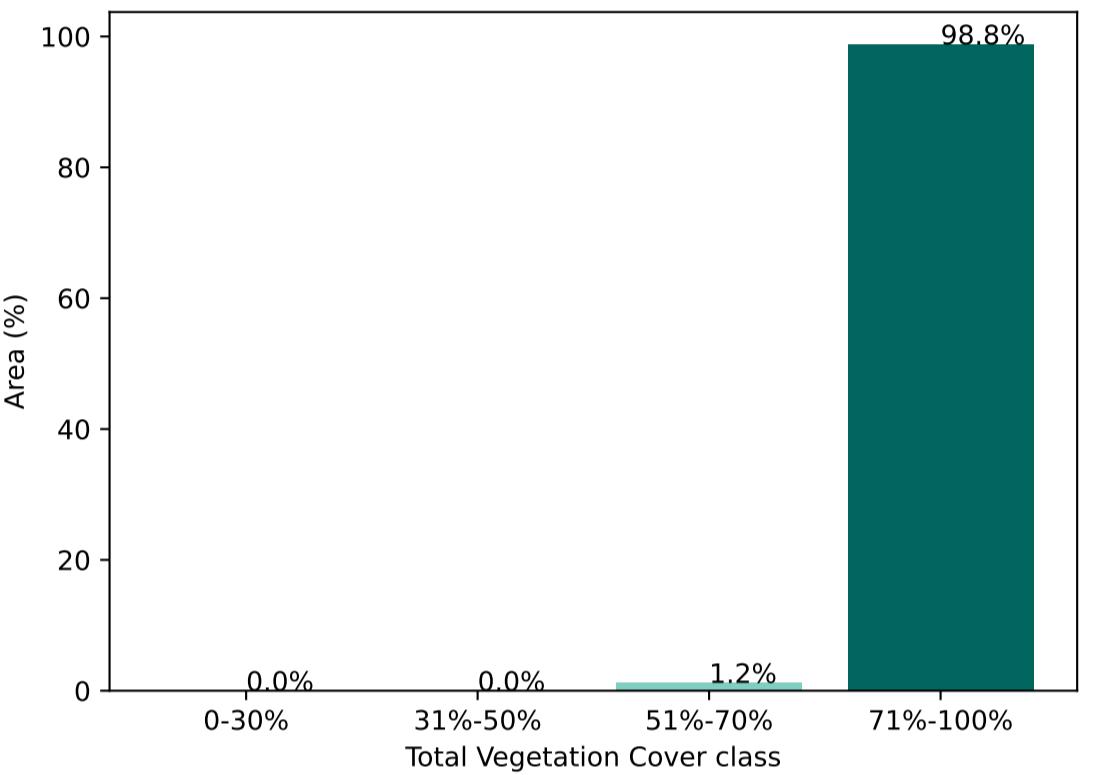


Total Vegetation Cover [%]

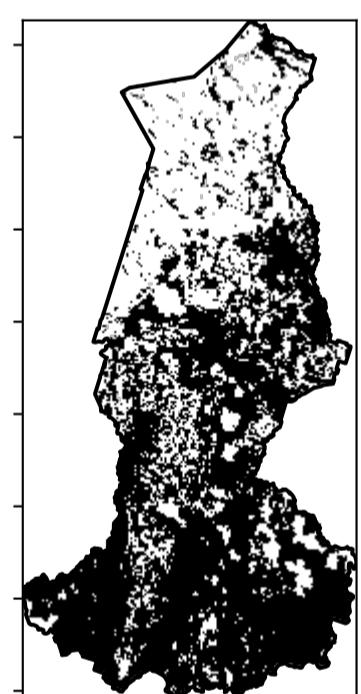


- 0-30%
- 31-50%
- 51-70%
- 71-100%

Proportion of vegetation cover class in area

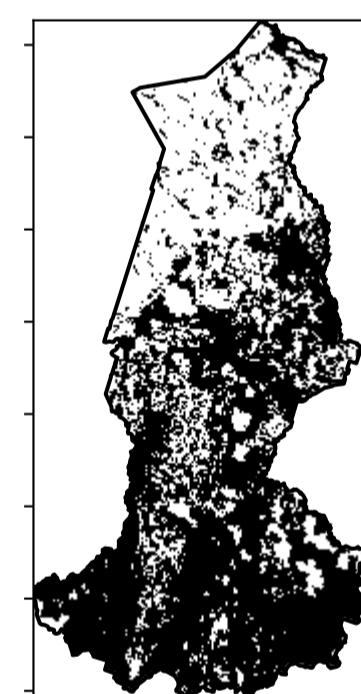


% Area protected from water erosion (>70%)



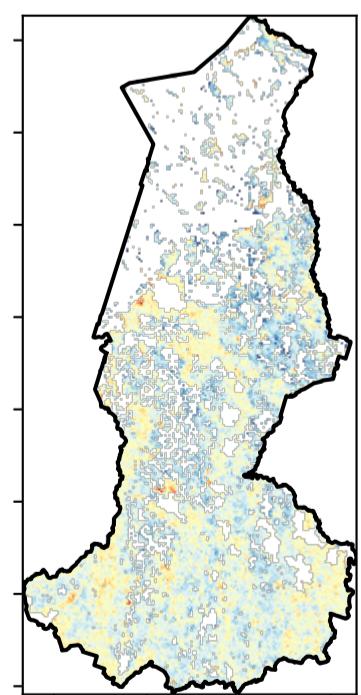
- Area not protected
1.2% of region
(6,804 ha)
- Area protected
98.8% of region
(560,171 ha)

% Area protected from wind erosion (>50%)



- Area not protected
0.0% of region (0 ha)
- Area protected
100.0% of region
(566,975 ha)

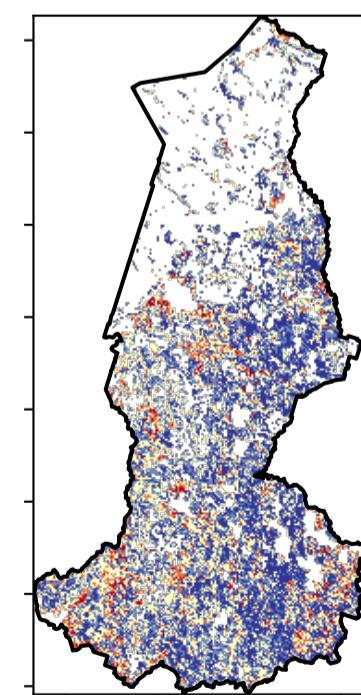
Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10



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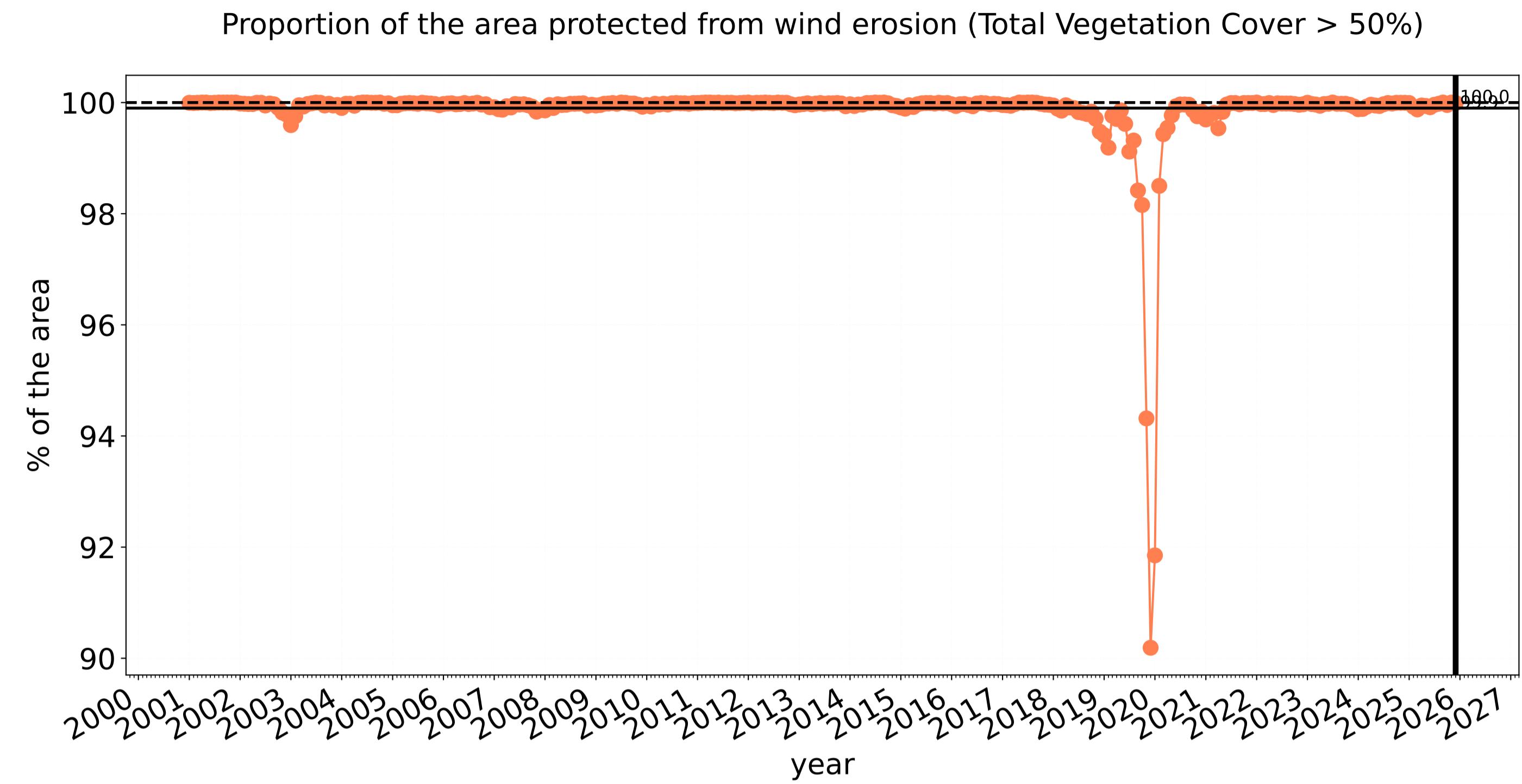
Ecosystem Research Infrastructure



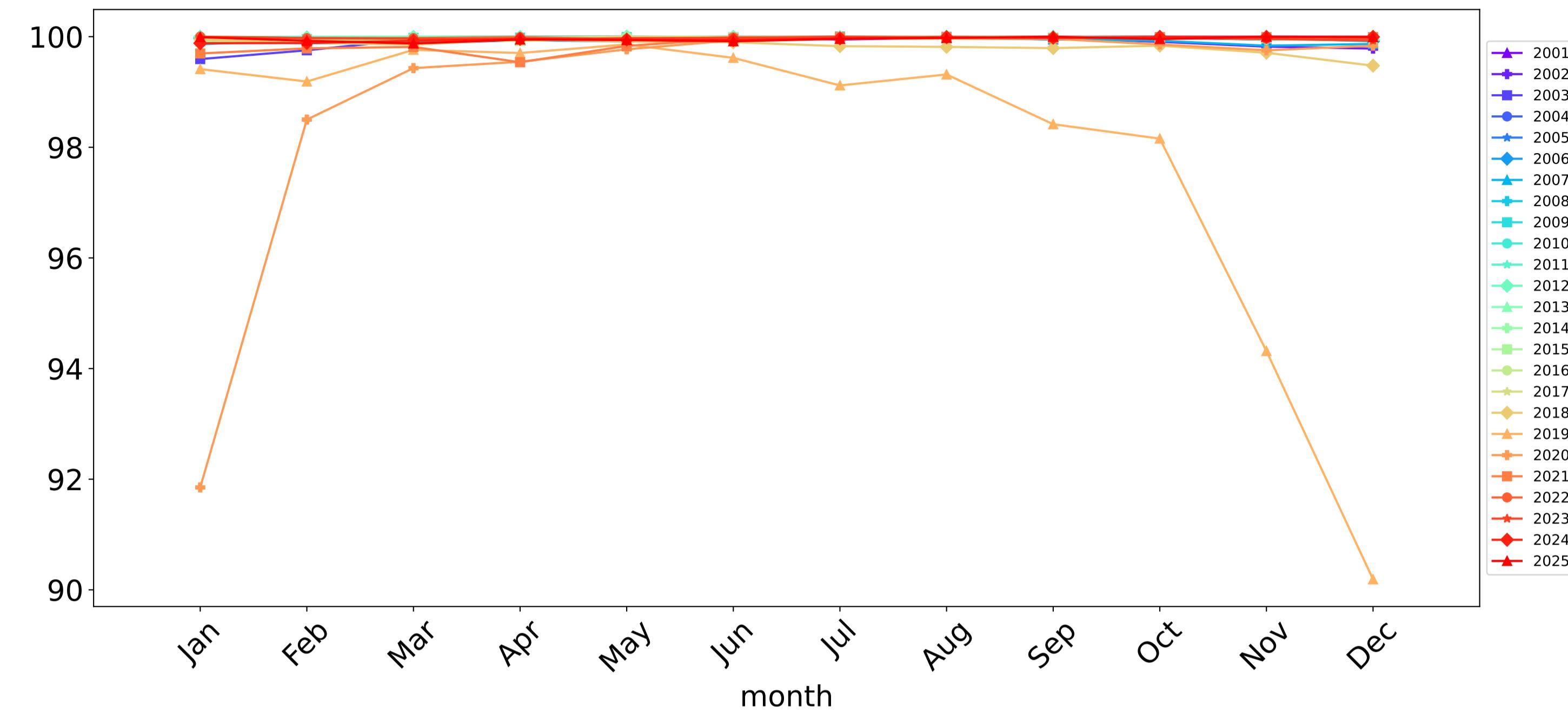
Australian Government



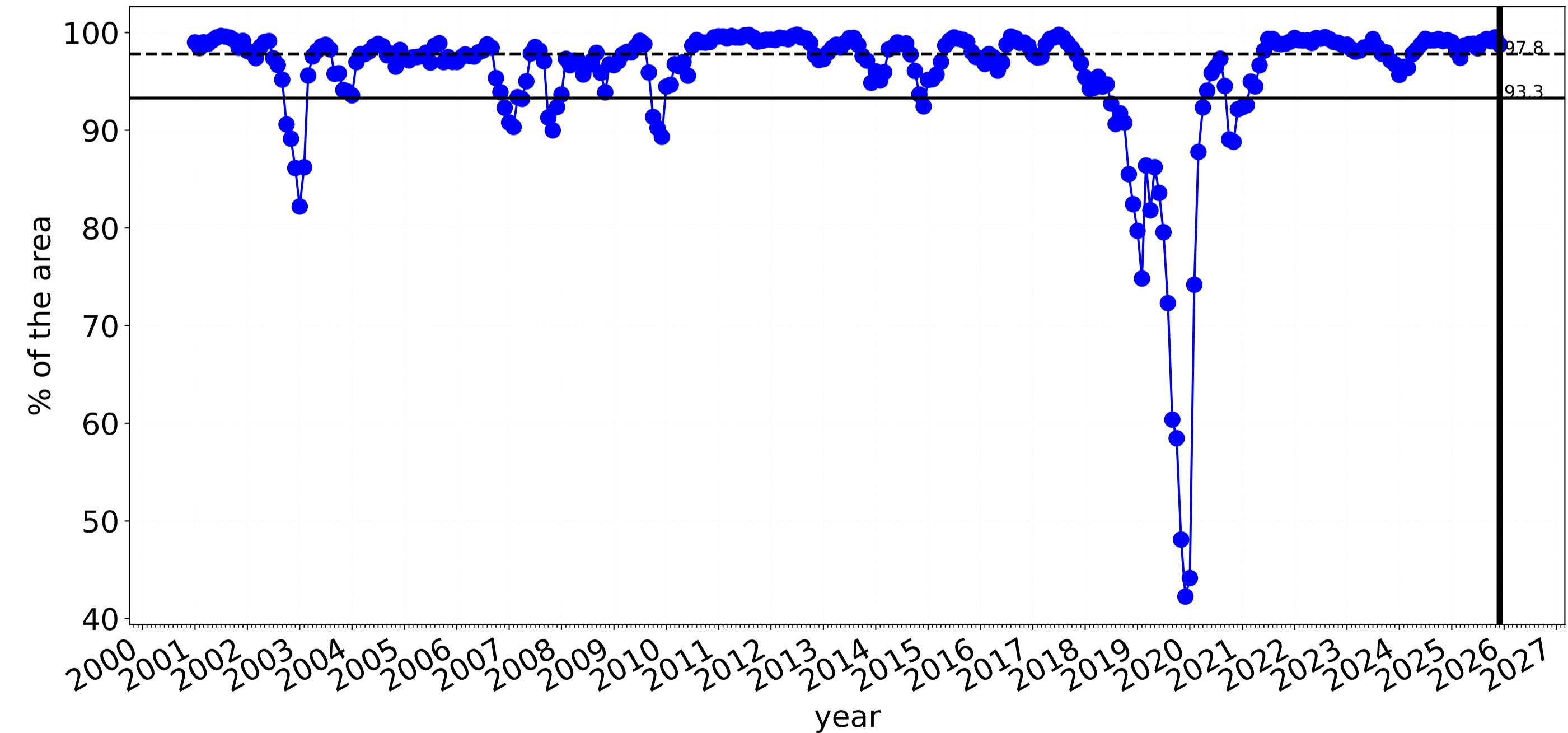
Grazing timeseries



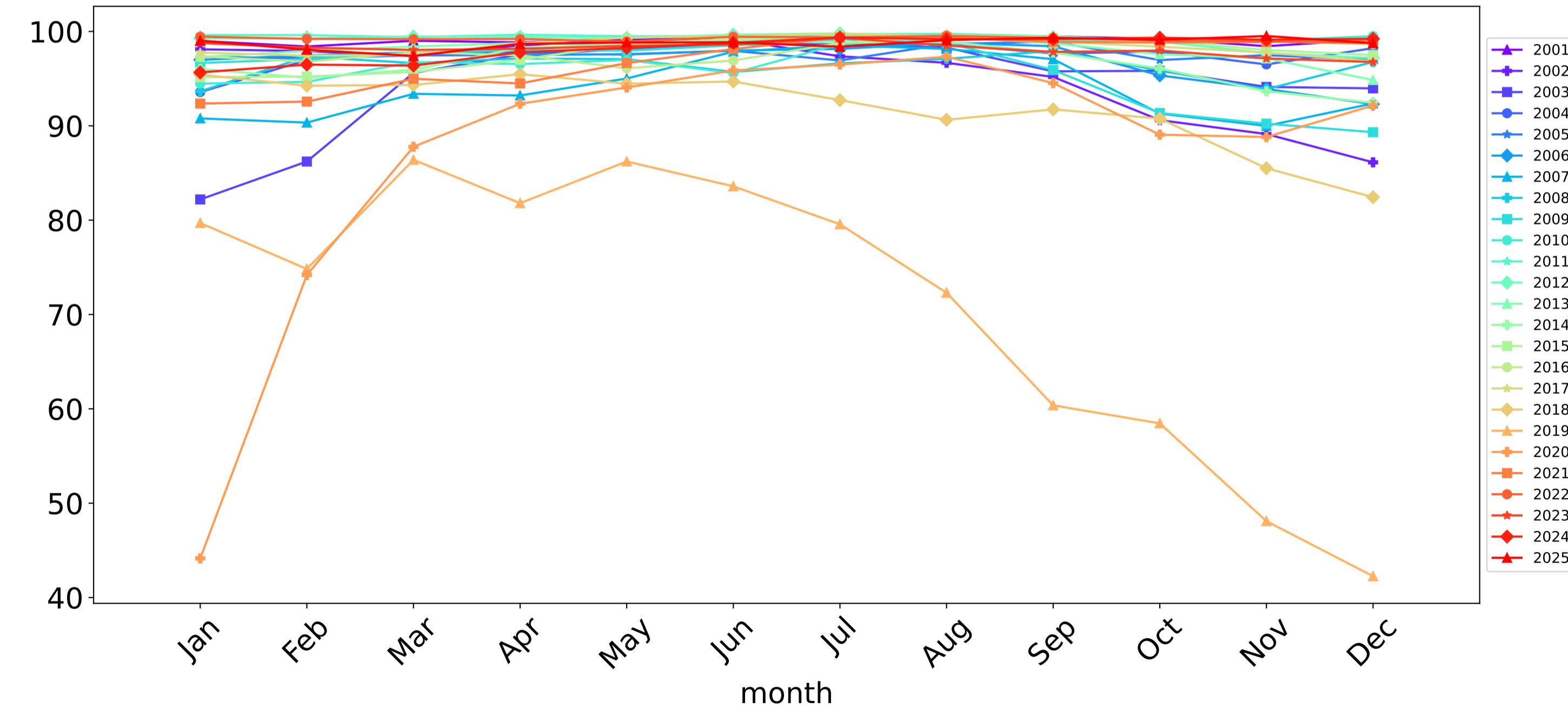
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



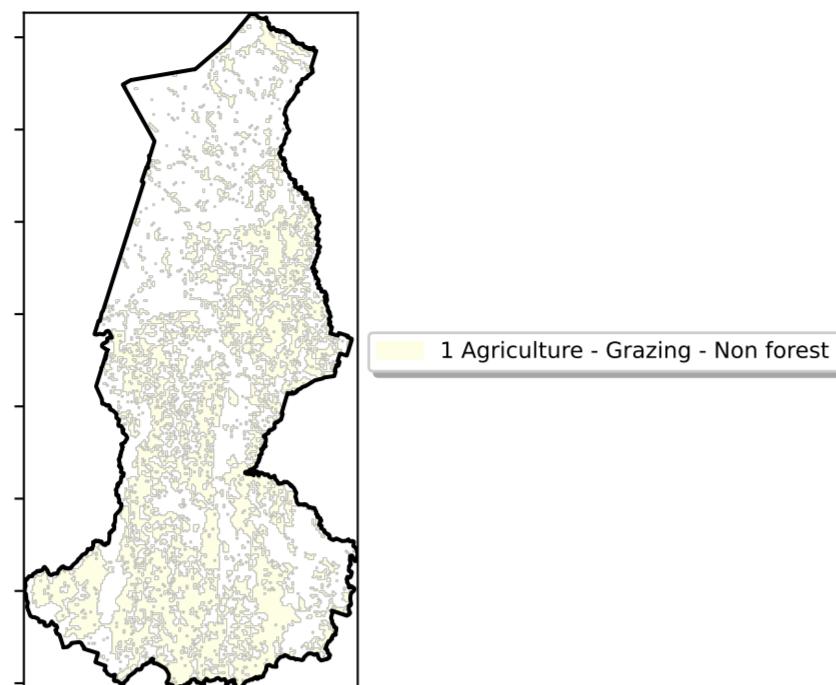
Water erosion historical monthly area protected (Total Veg Cov>70%)



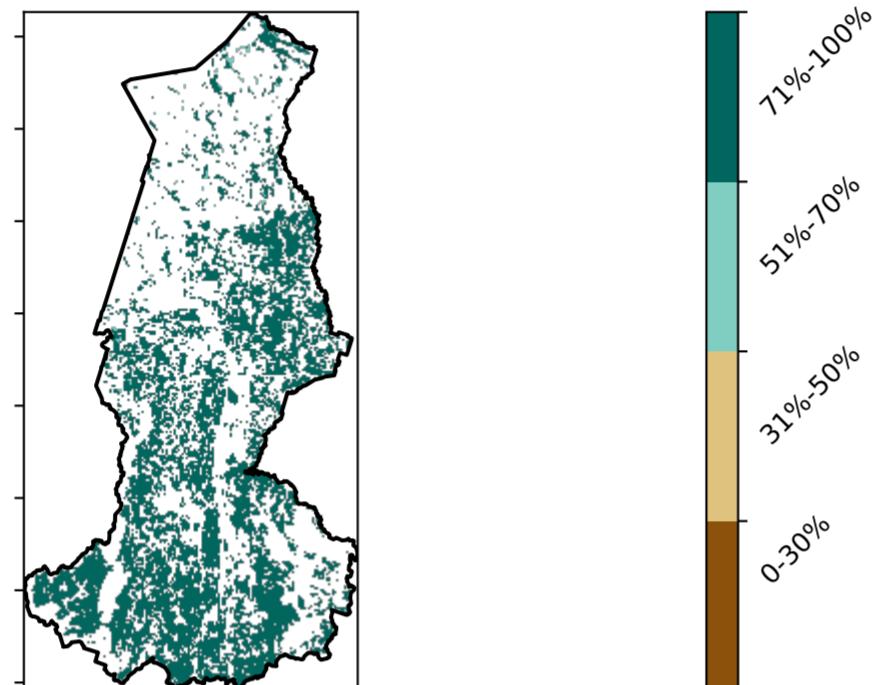
Grazing non forest

Land use and forest cover

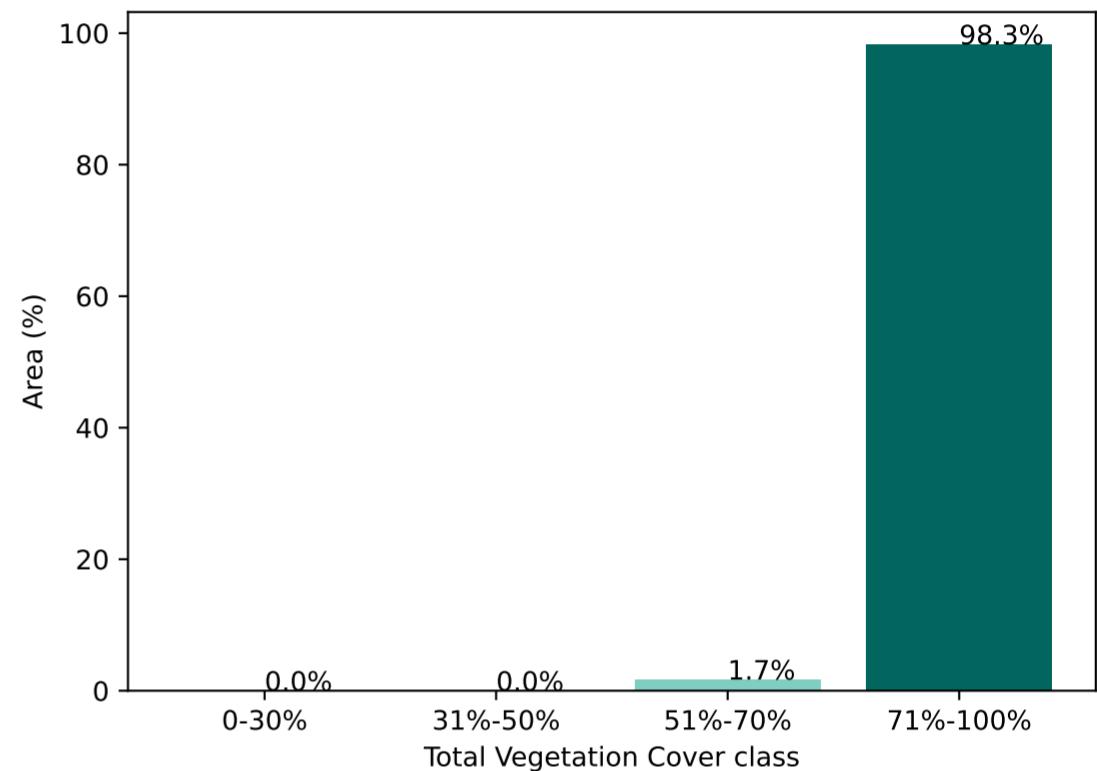
Catchment Scale Land Use and Forests of Australia (2018)
Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



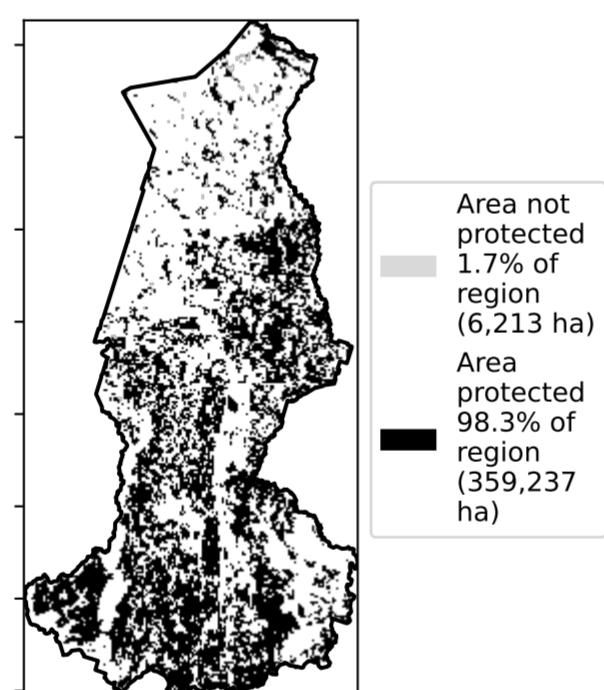
Total Vegetation Cover [%]



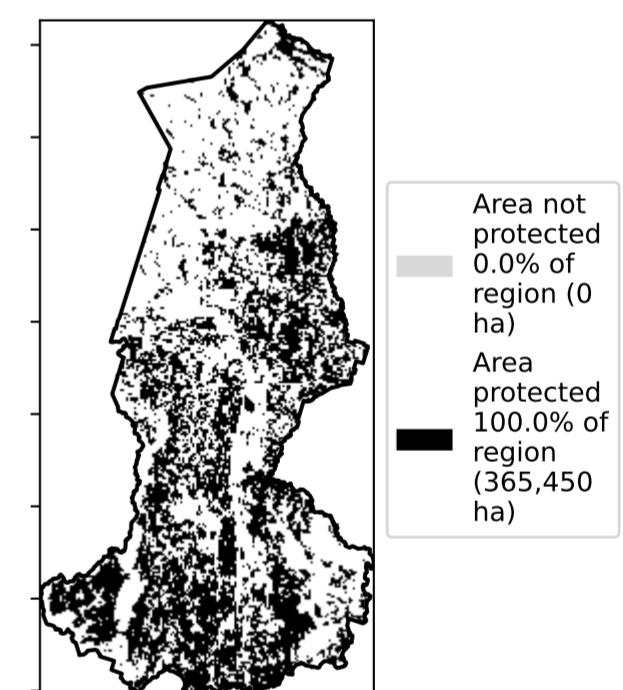
Proportion of vegetation cover class in area



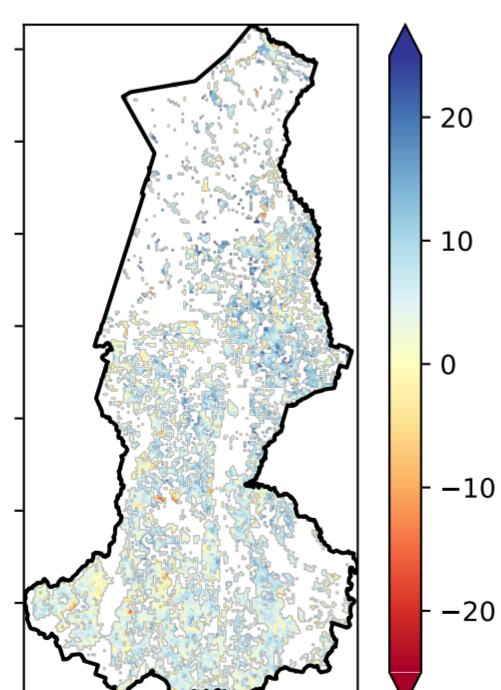
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



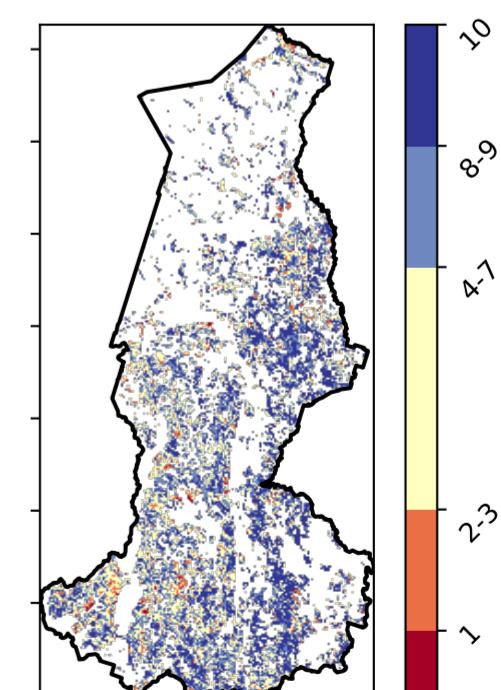
Total Vegetation Cover Anomaly [%]



Anomaly shows how many percentage points each pixel is from the mean. That 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.

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 [%]

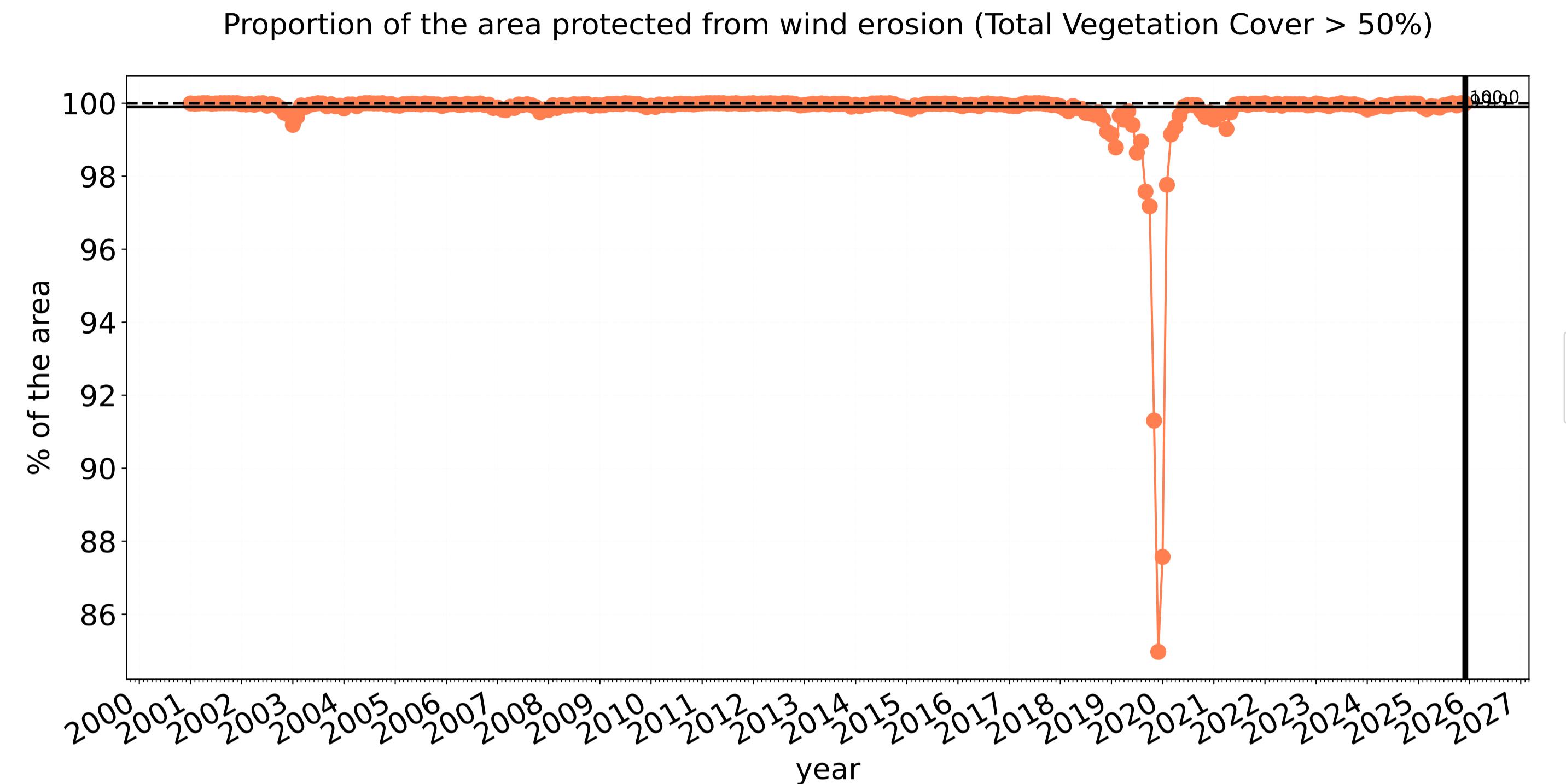


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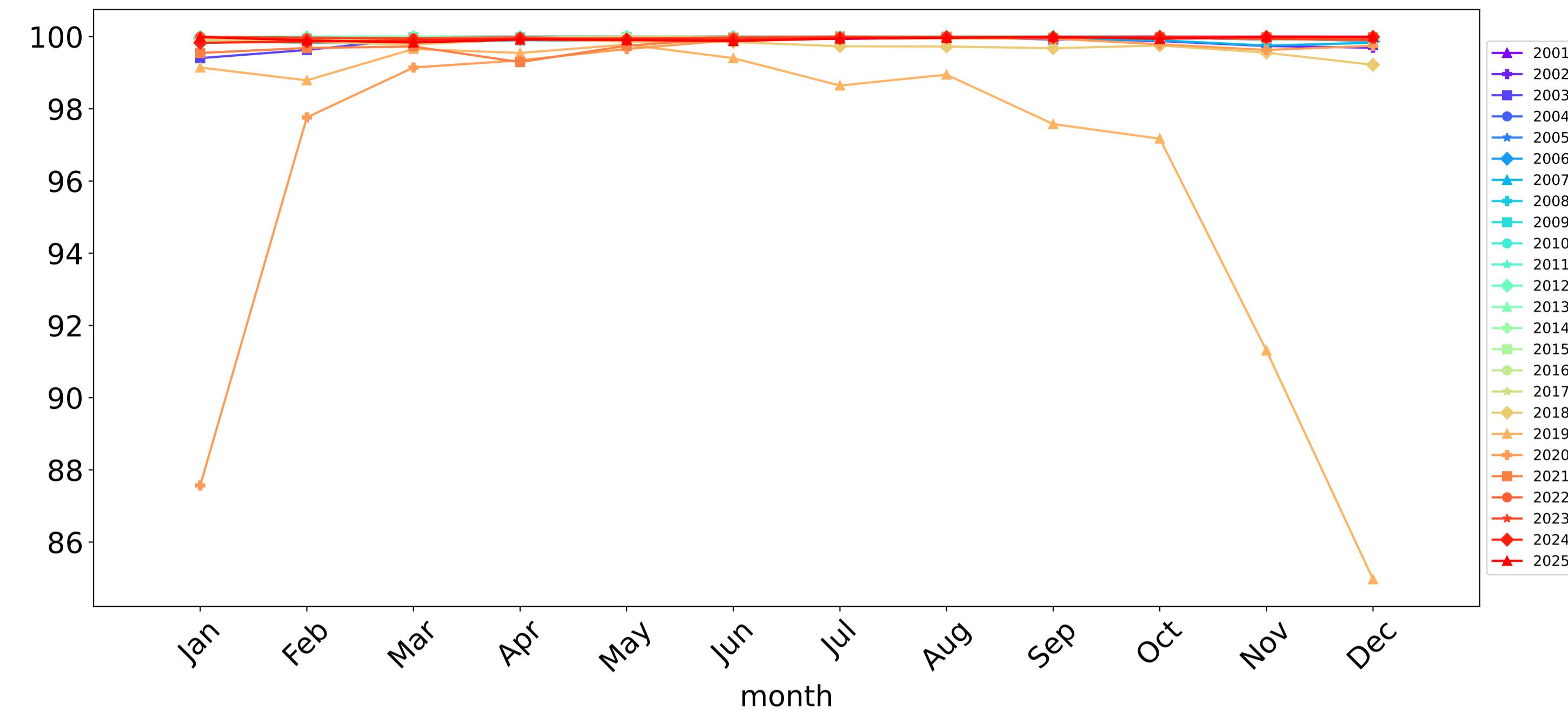
Ecosystem Research Infrastructure



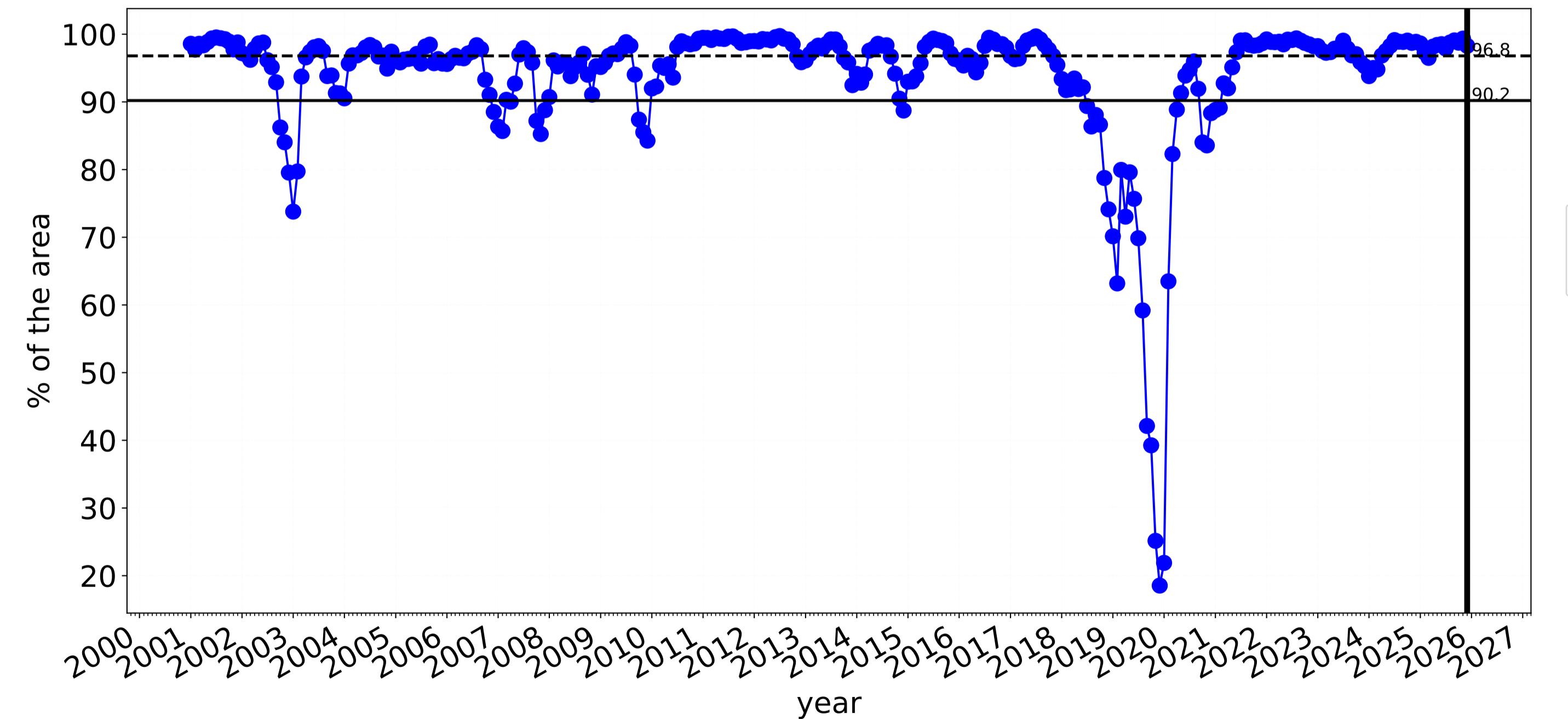
Grazing non forest timeseries



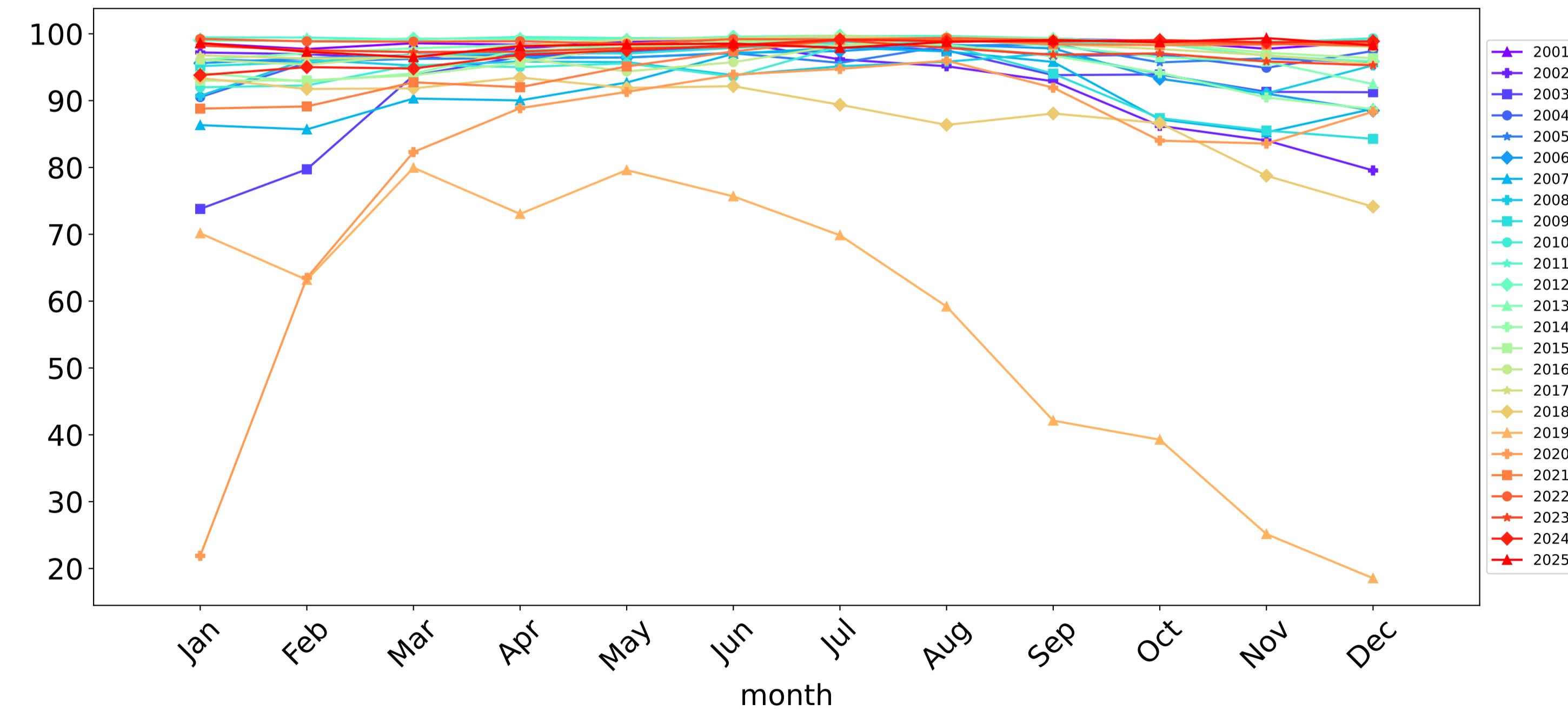
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



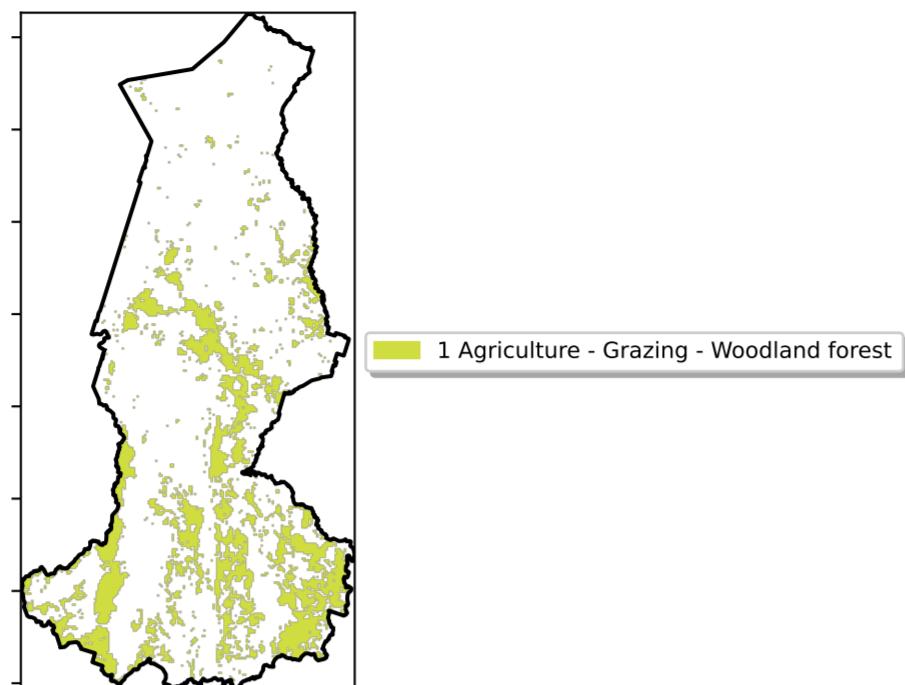
Water erosion historical monthly area protected (Total Veg Cov>70%)



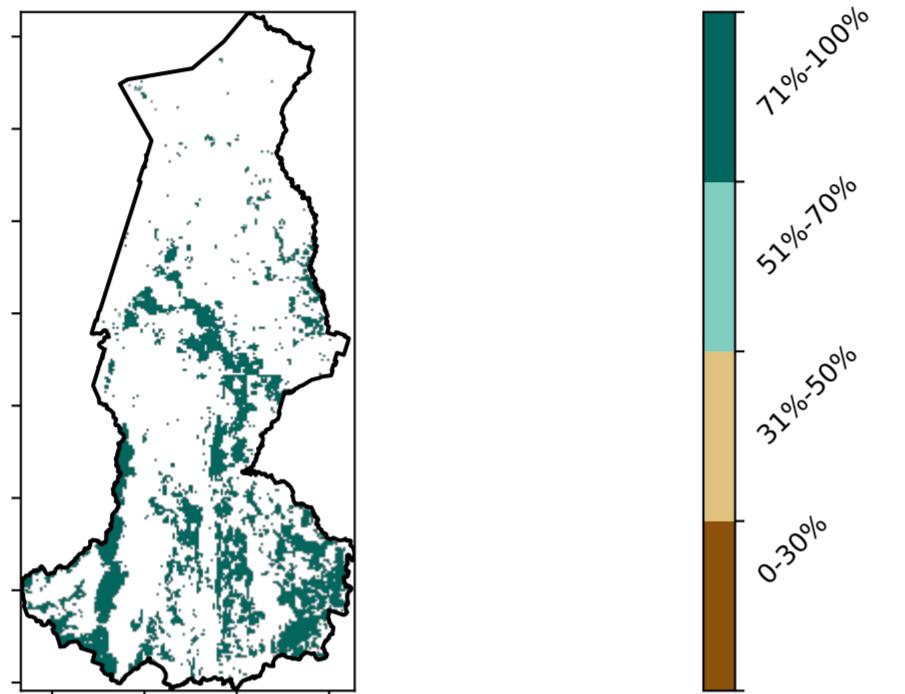
Grazing Woodland forest

Land use and forest cover

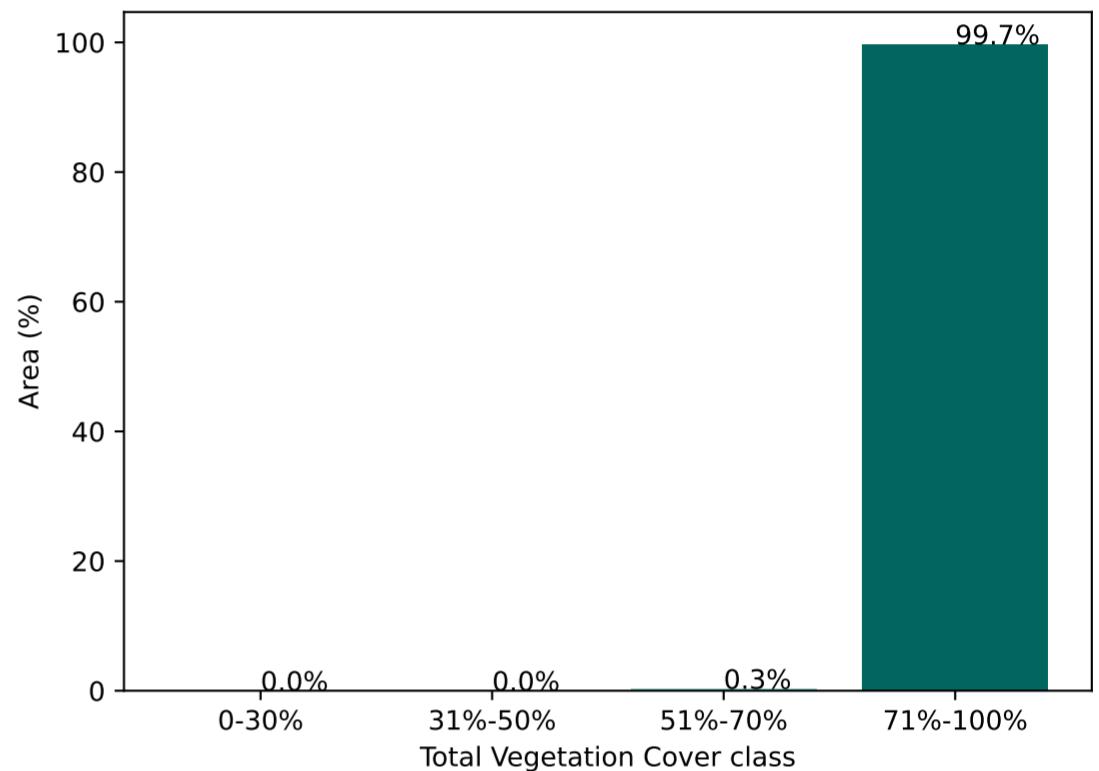
Catchment Scale Land Use and Forests of Australia (2018)
Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



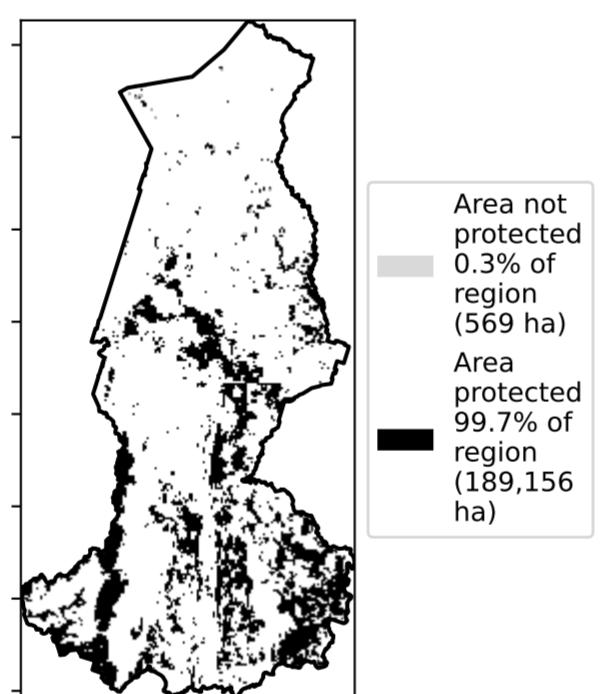
Total Vegetation Cover [%]



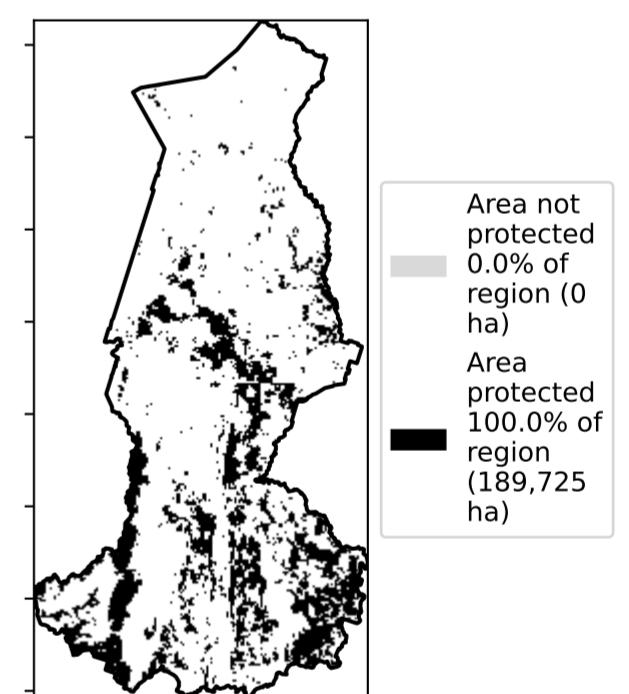
Proportion of vegetation cover class in area



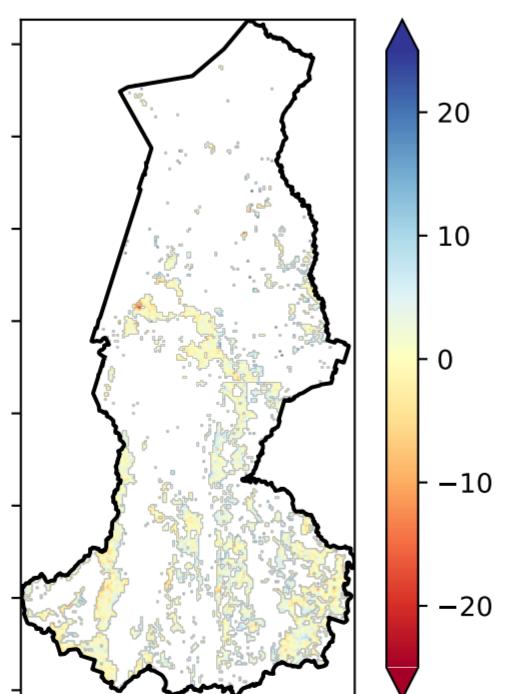
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



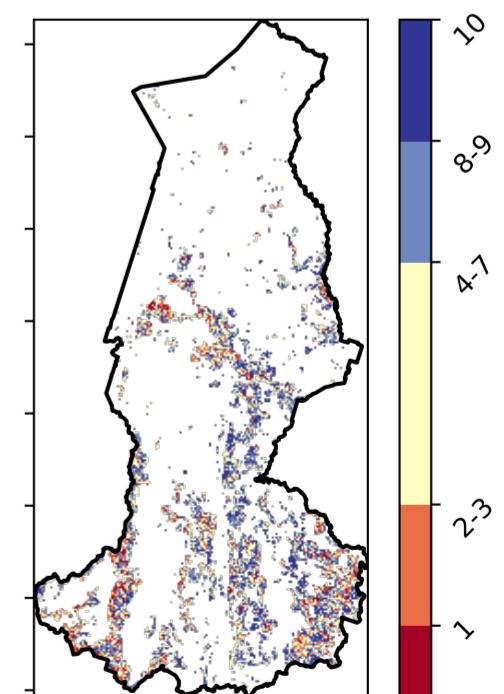
Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



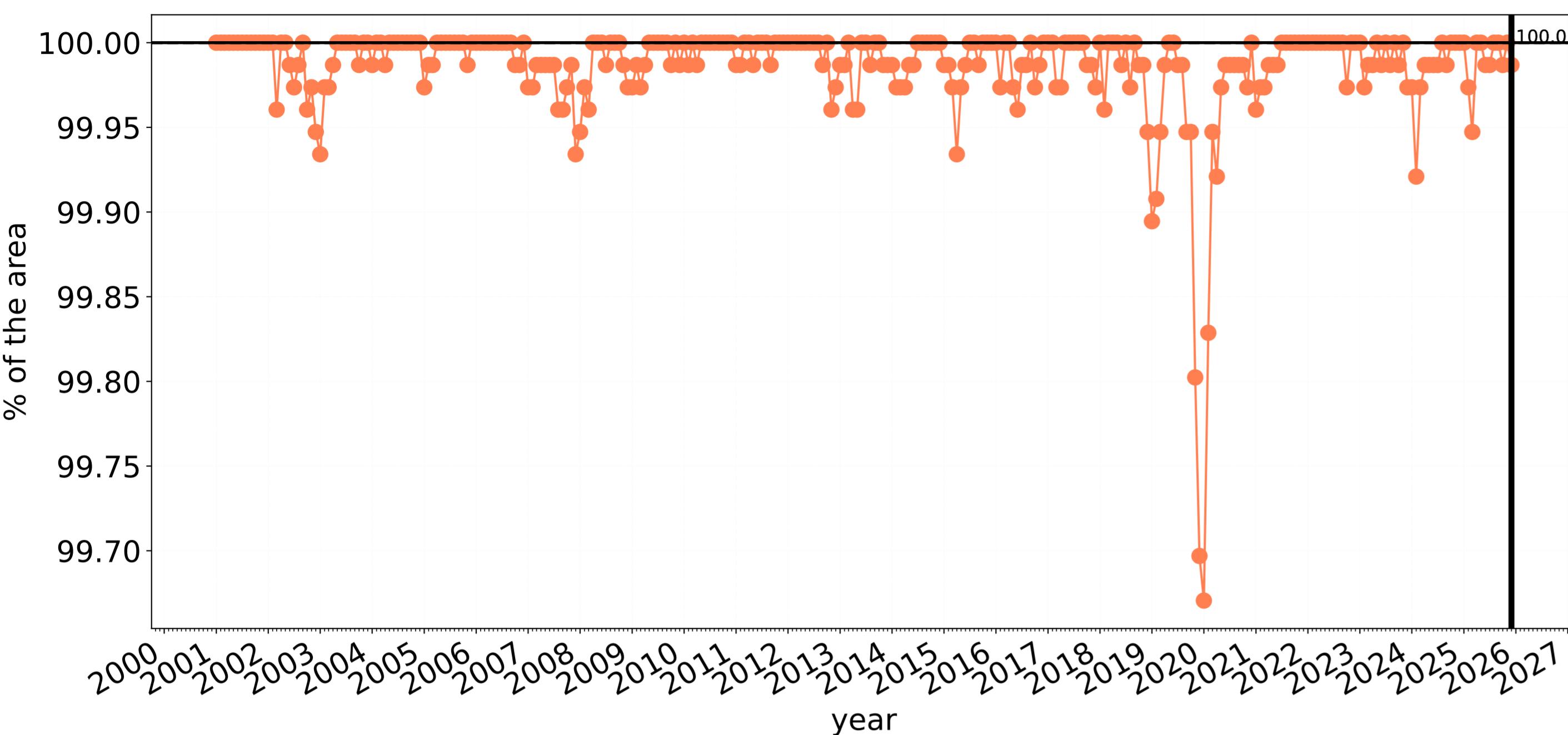
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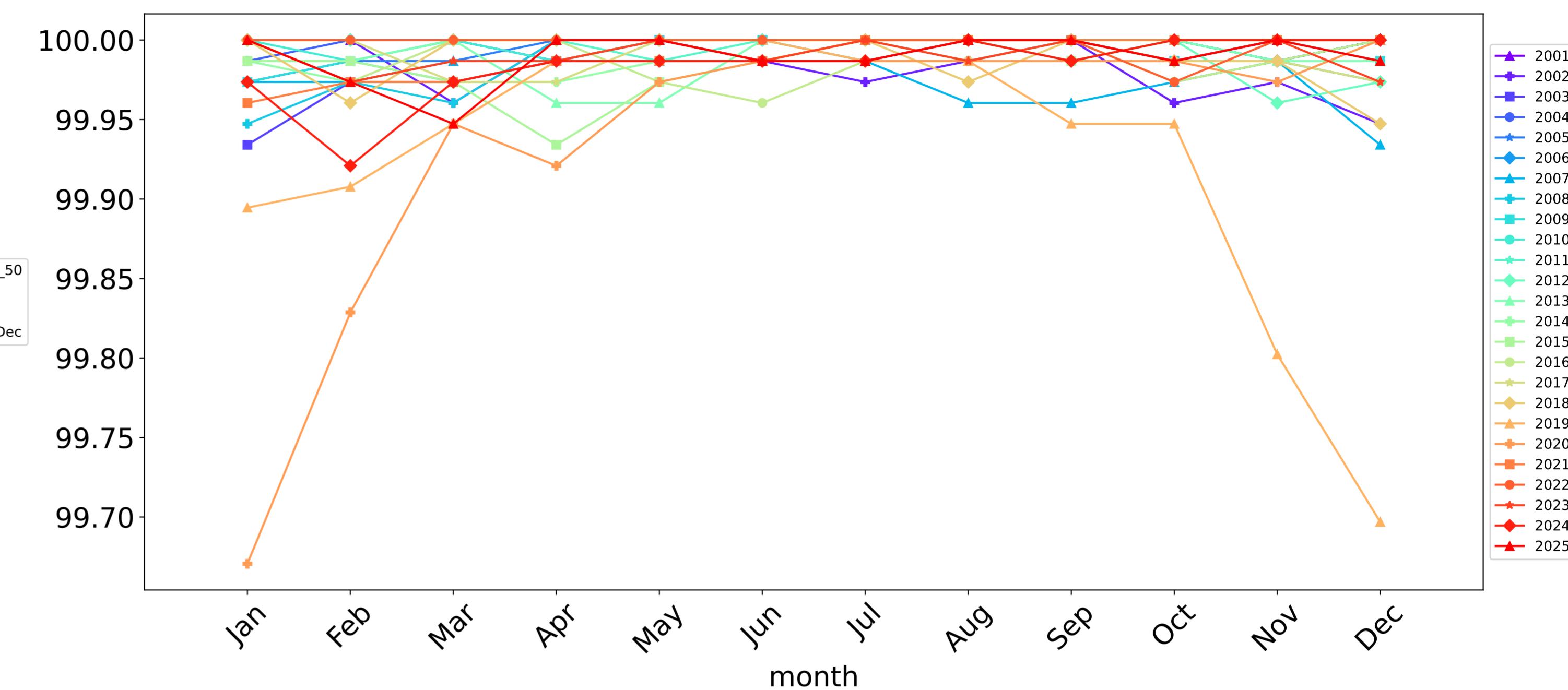


Grazing Woodland forest timeseries

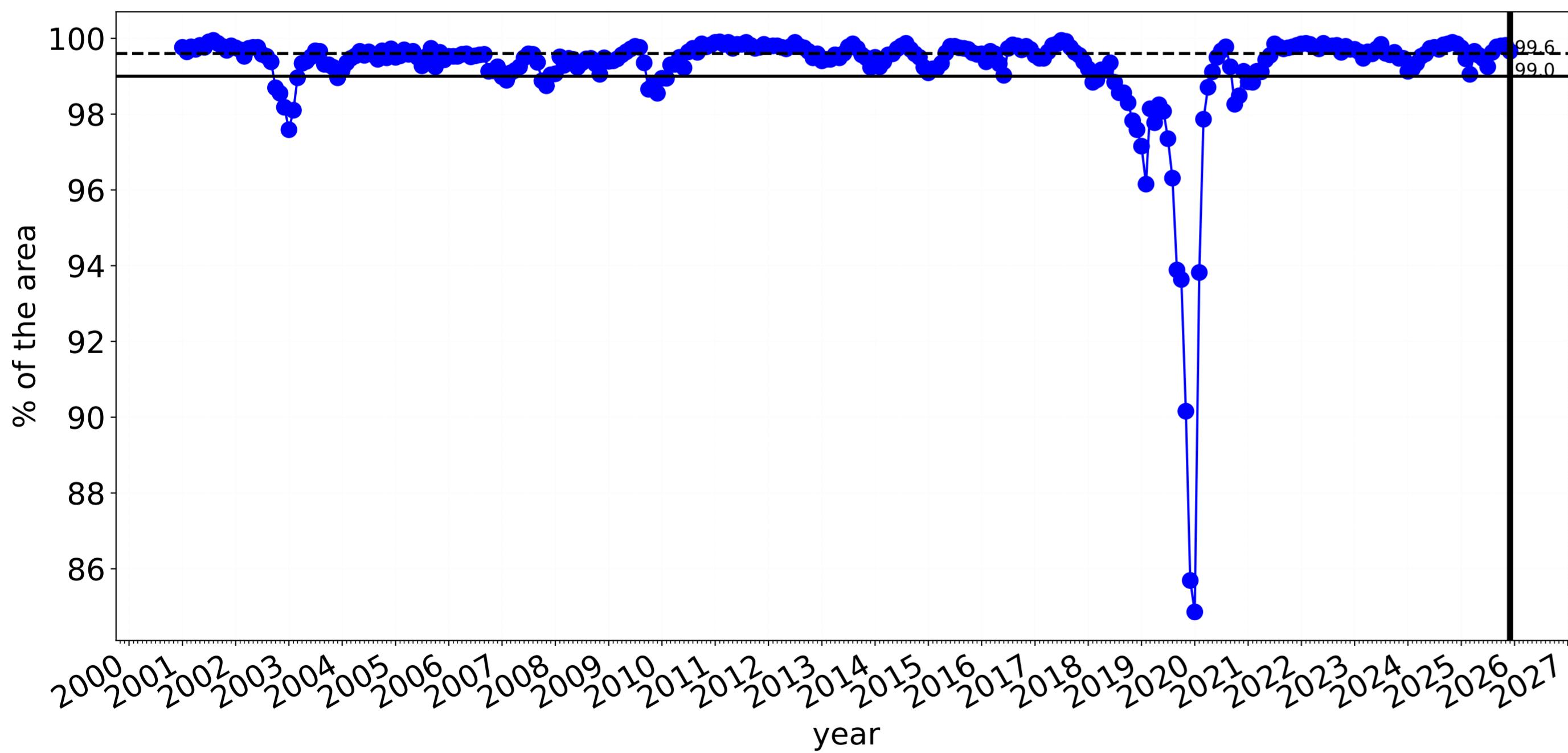
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



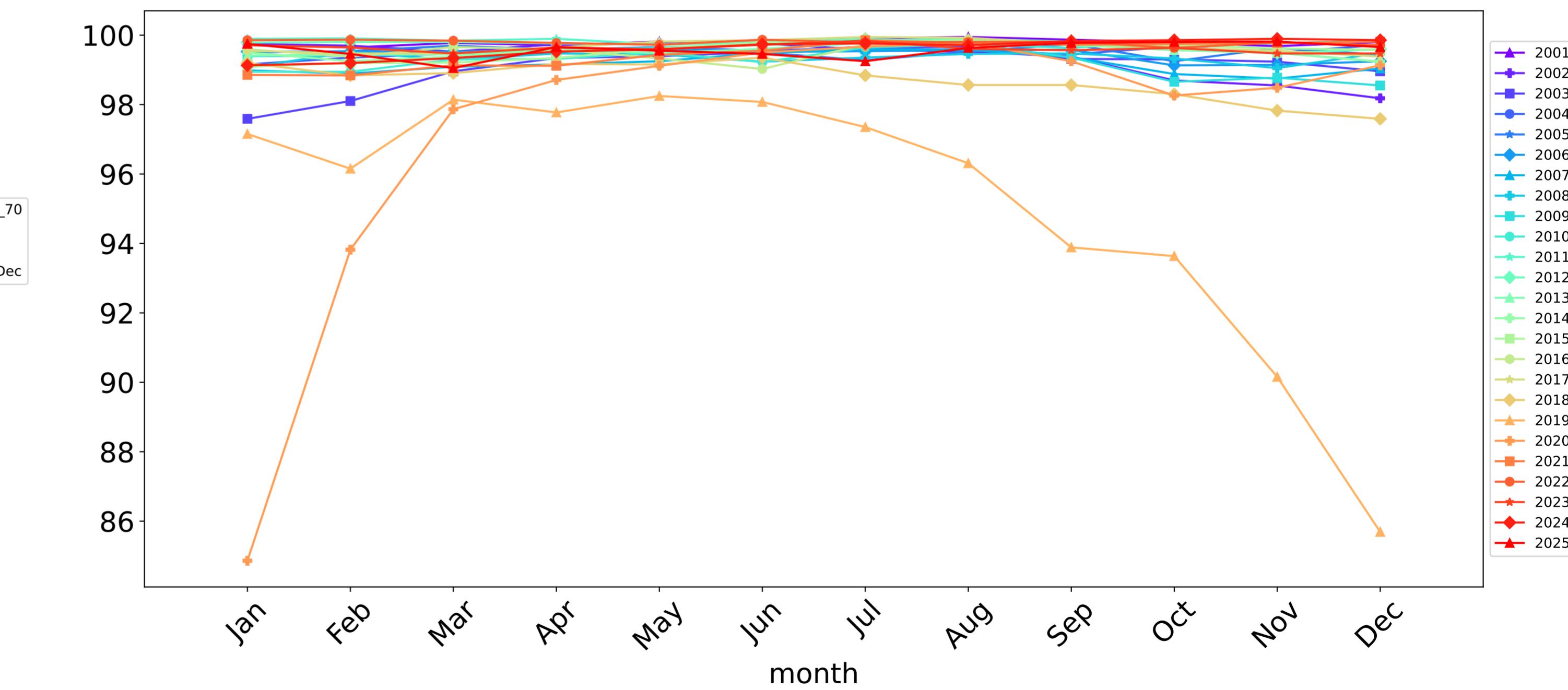
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



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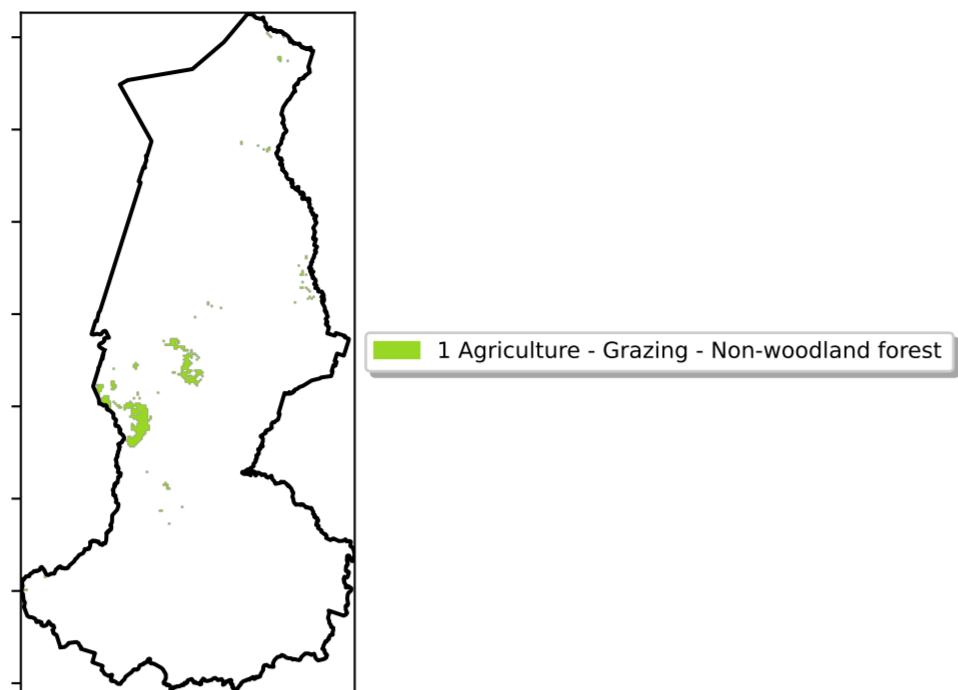
National Landcare Programme



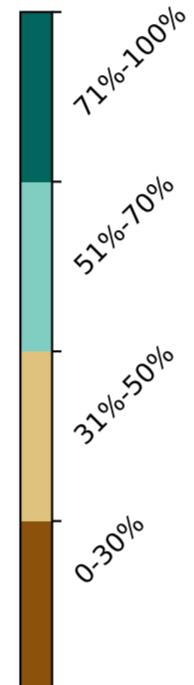
Grazing - Forest (non woodland)

Land use and forest cover

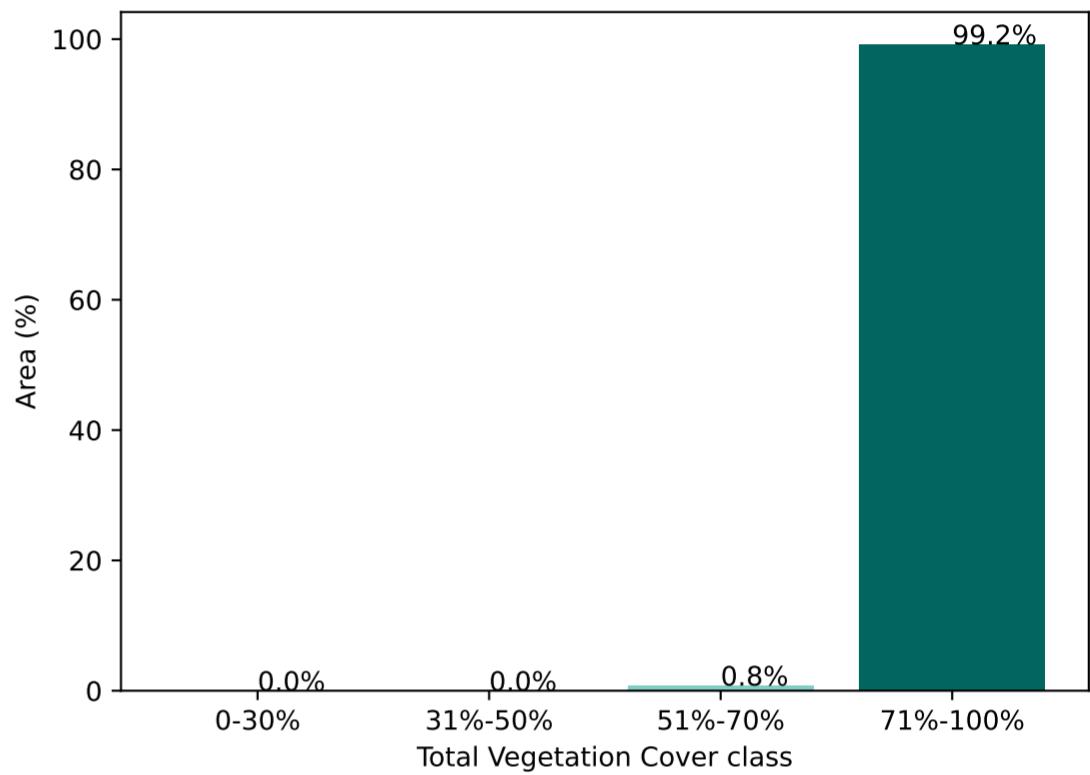
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)



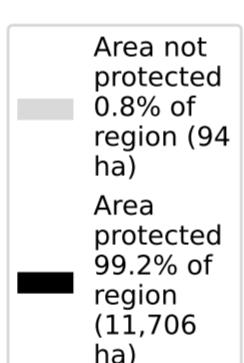
Total Vegetation Cover [%]



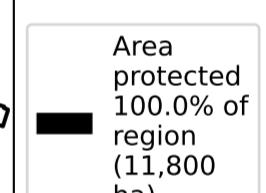
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

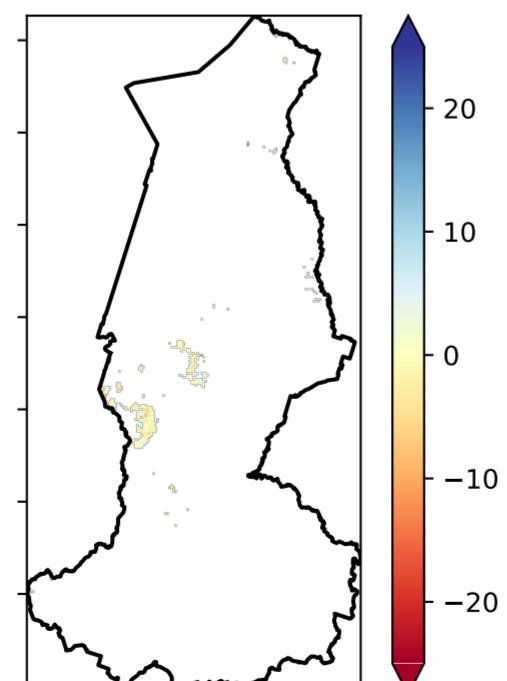


% Area protected from wind erosion (>50%)



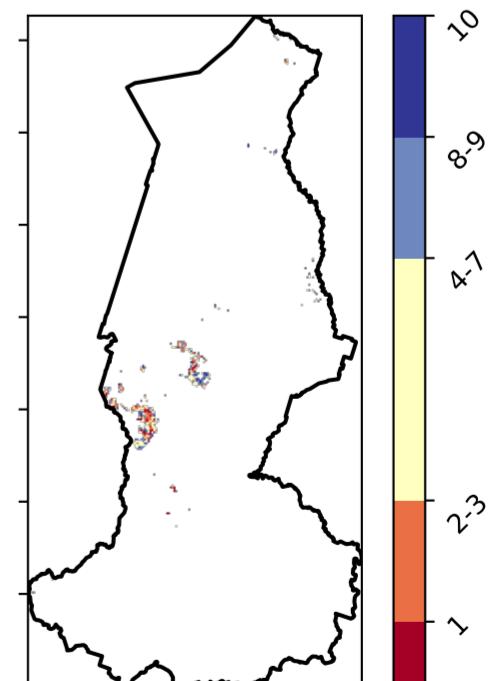
Total Vegetation Cover Anomaly [%]

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Total Vegetation Cover Decile [%]



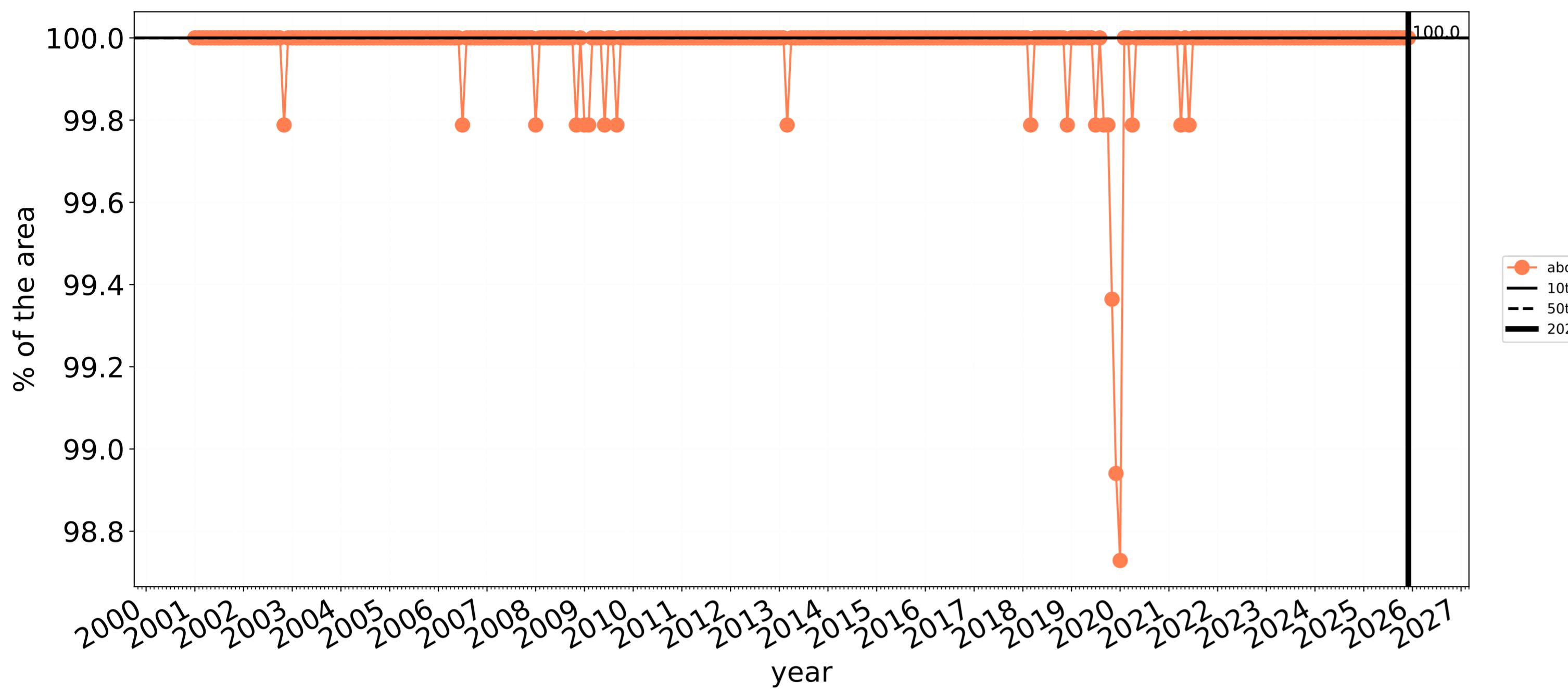
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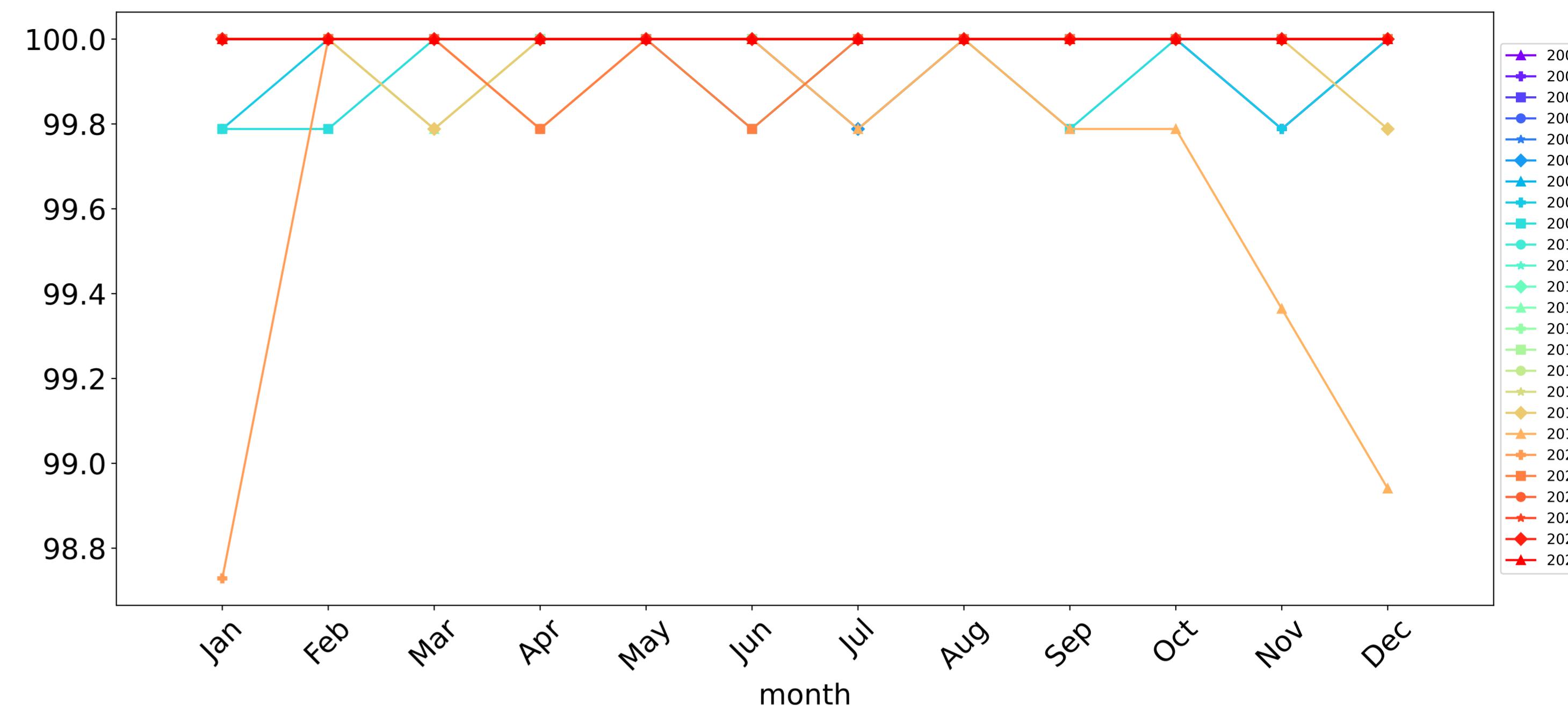


Grazing - Forest (non woodland) timeseries

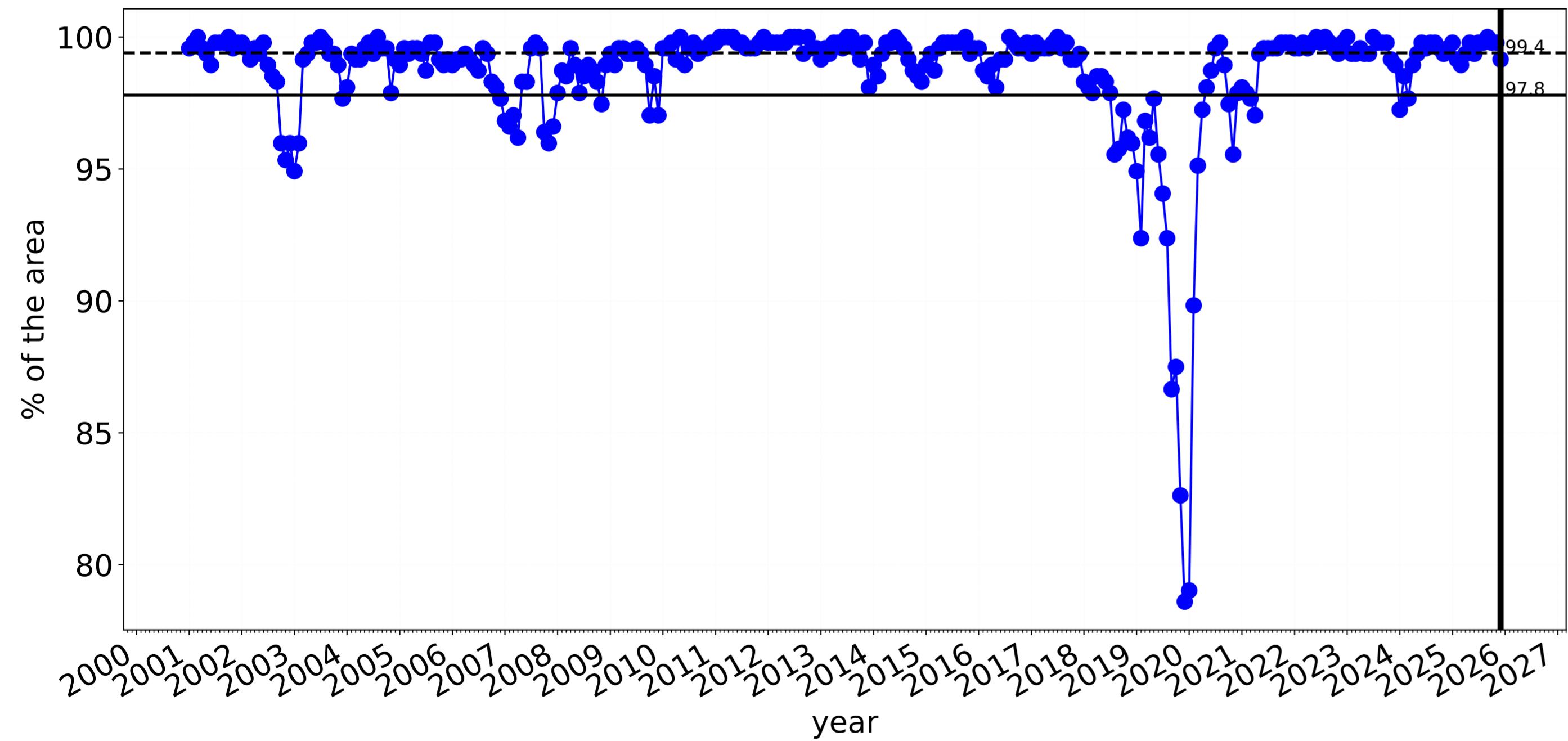
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



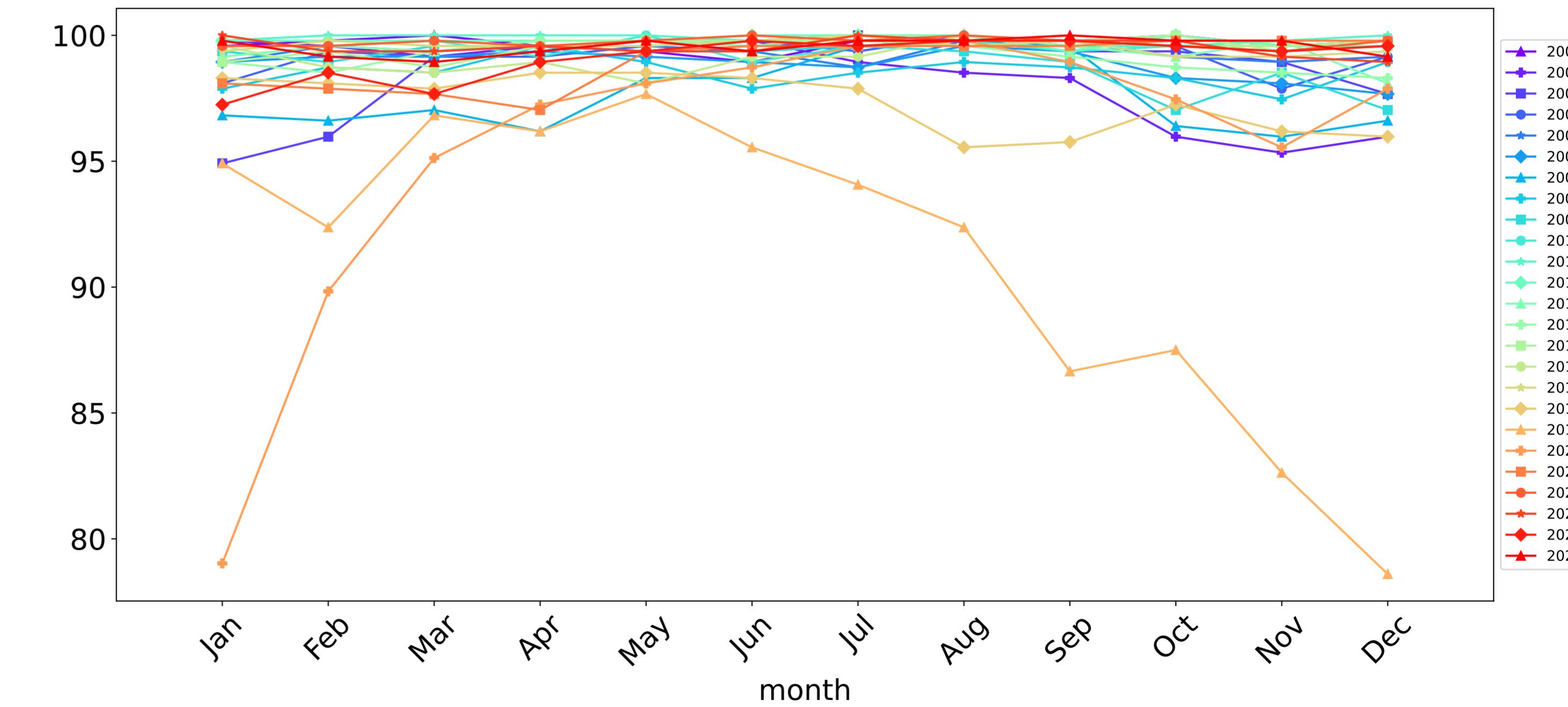
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



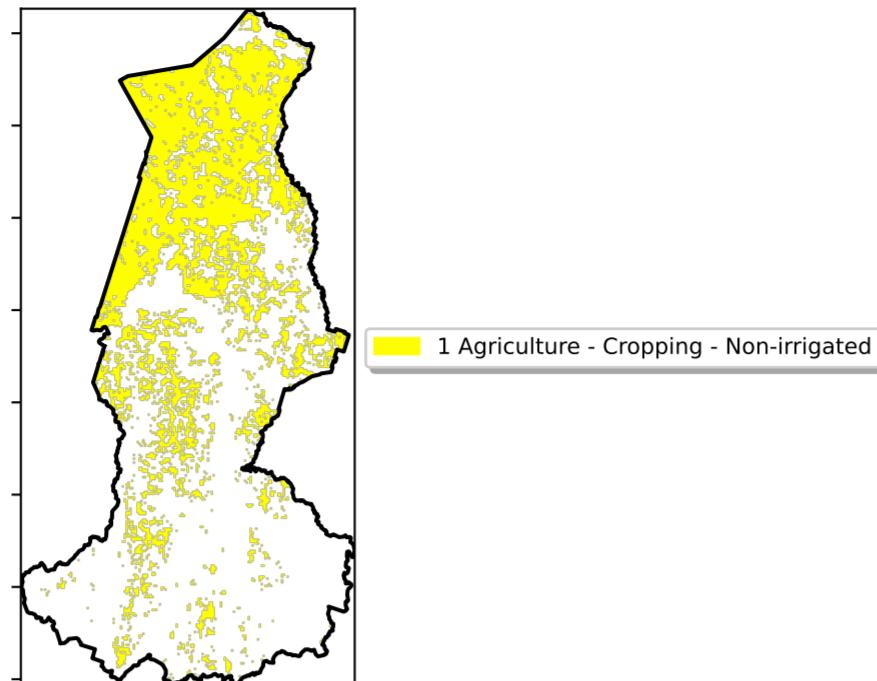
Water erosion historical monthly area protected (Total Veg Cov>70%)



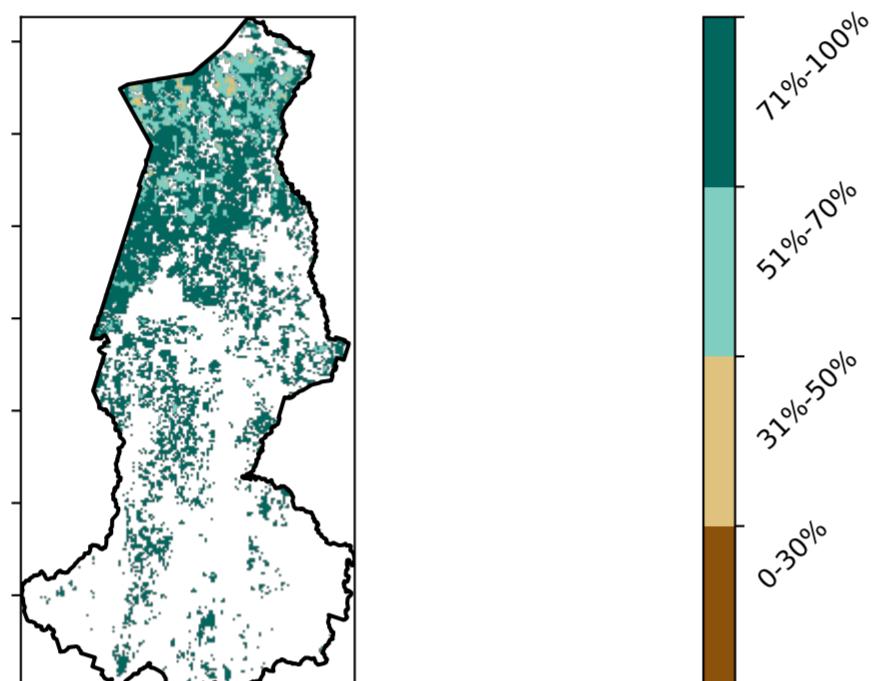
Cropping

Land use and forest cover

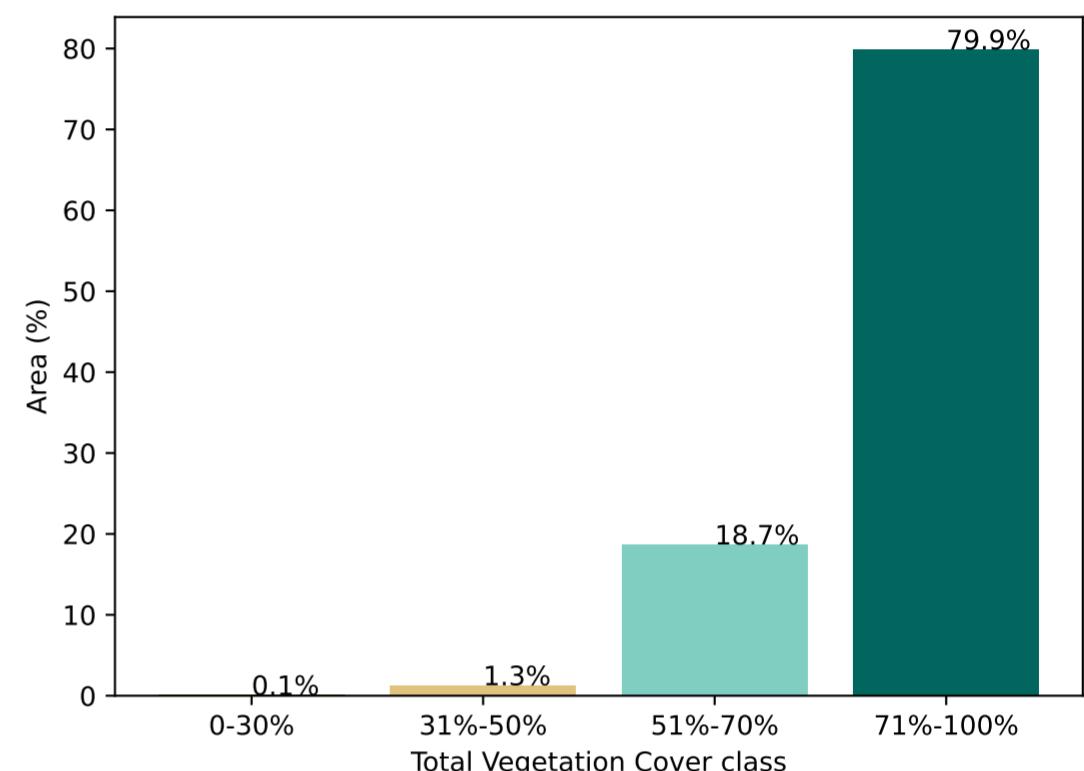
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia



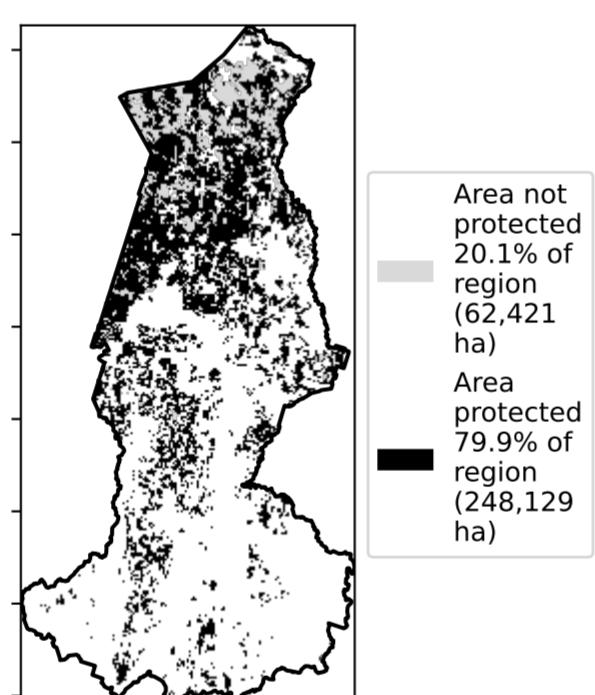
Total Vegetation Cover [%]



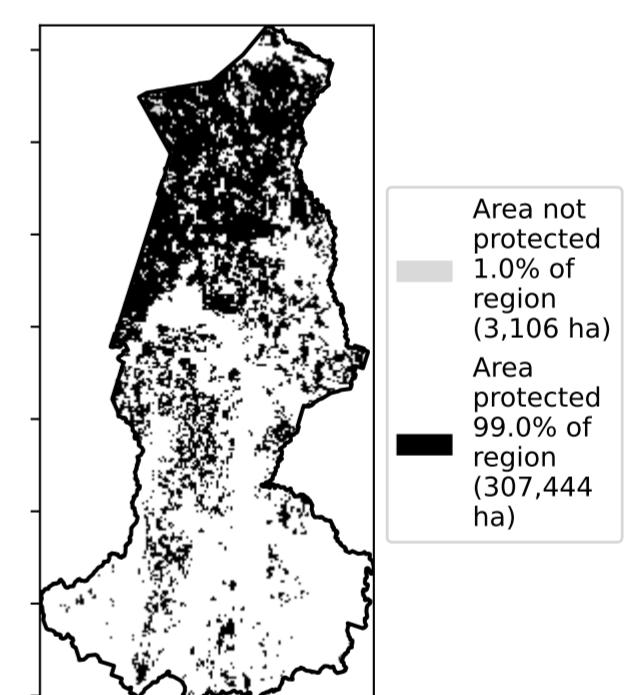
Proportion of vegetation cover class in area



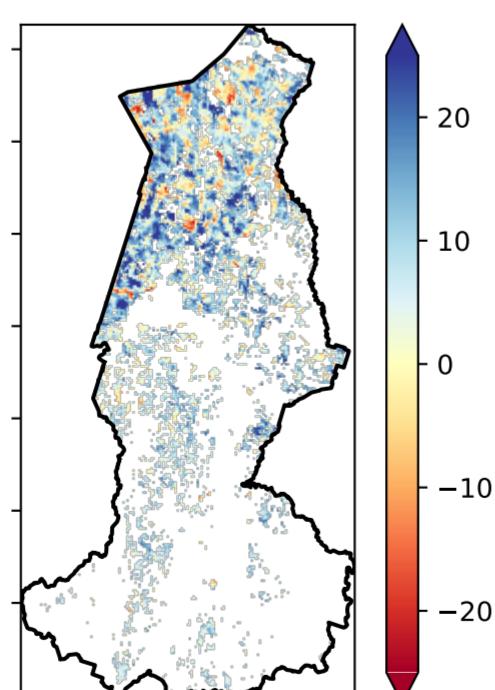
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



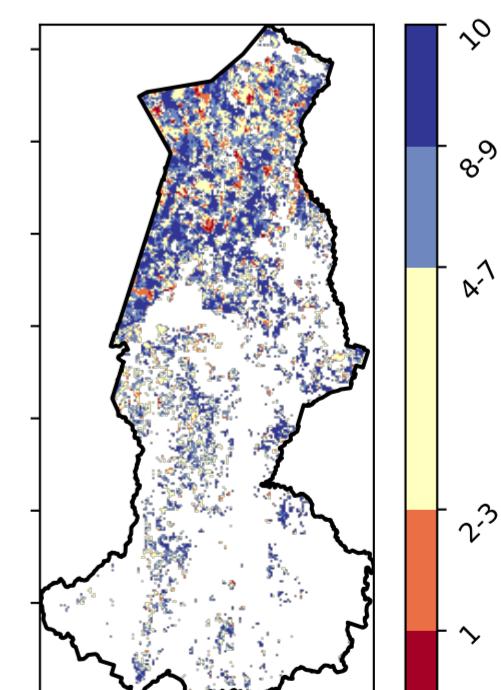
Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]

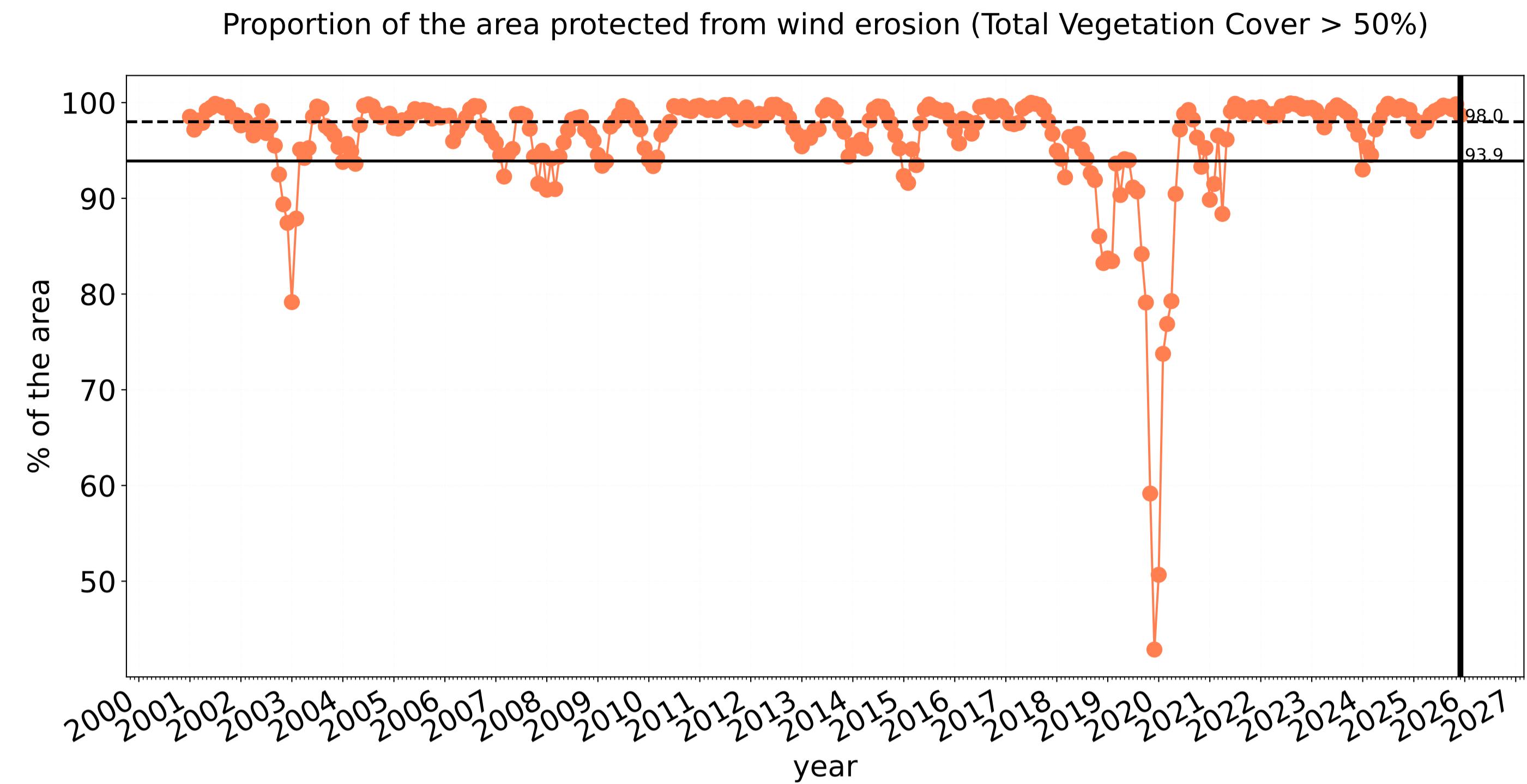


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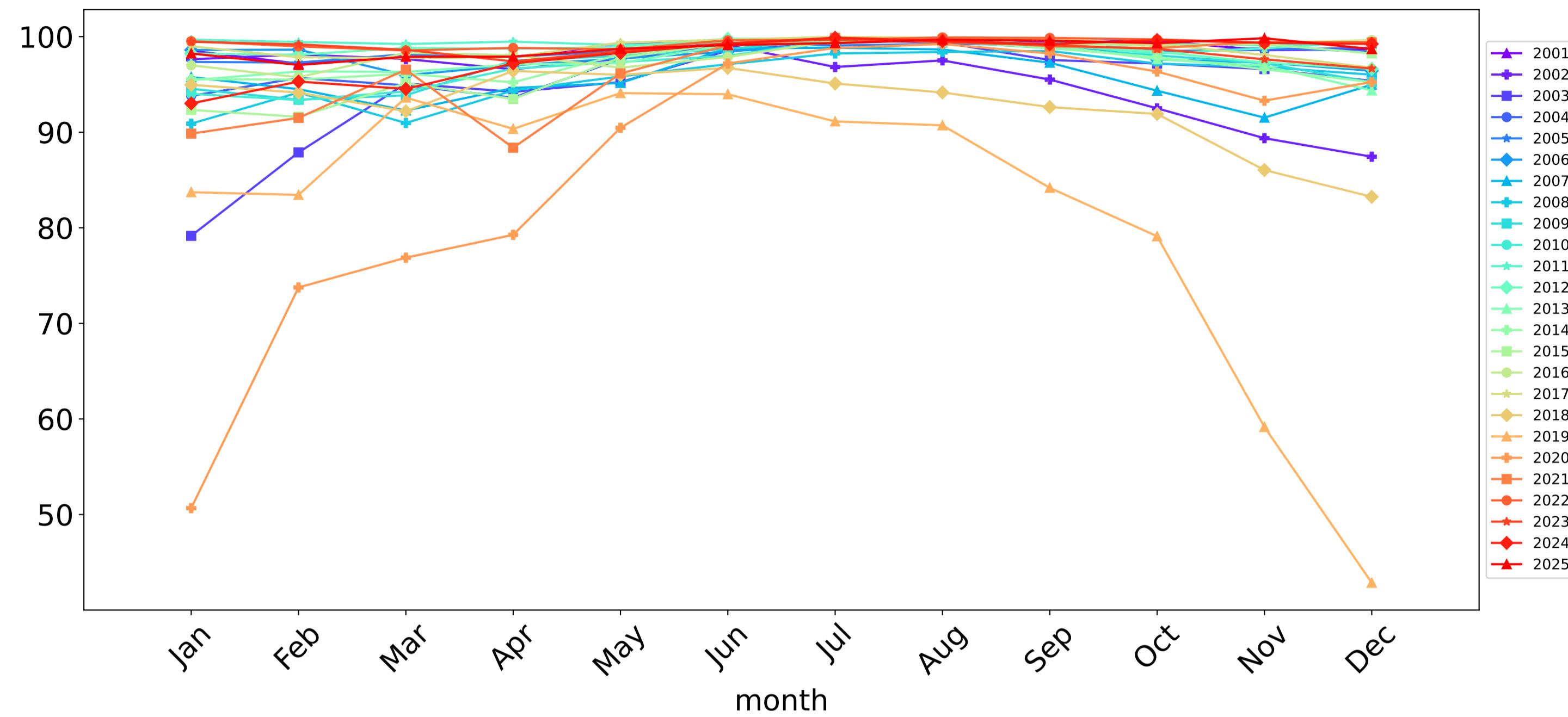
Ecosystem Research Infrastructure



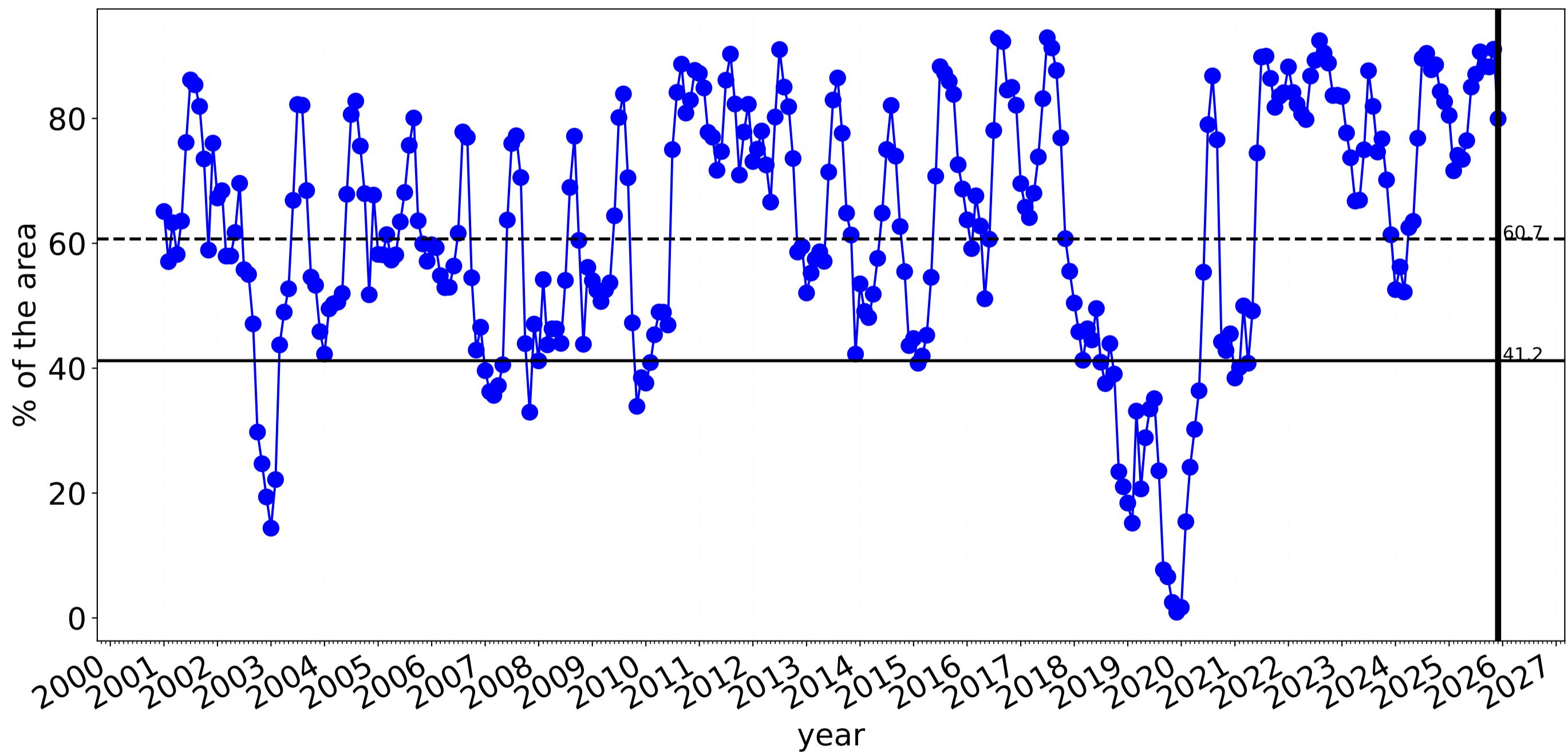
Cropping timeseries



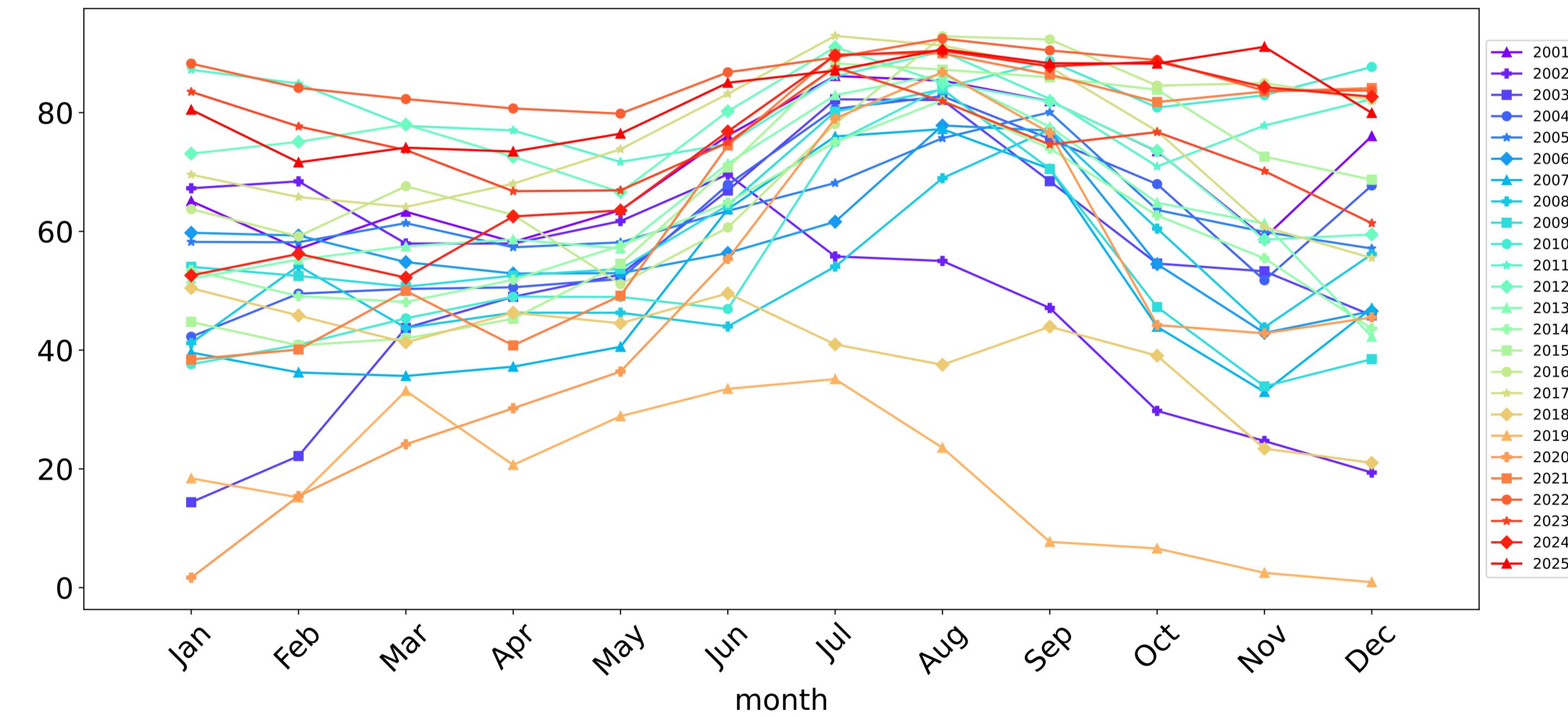
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



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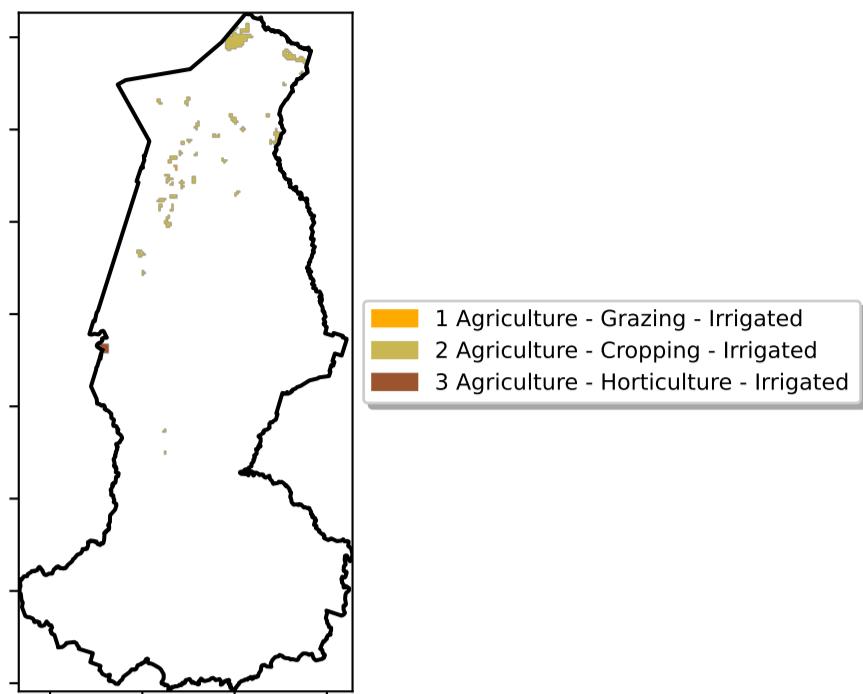
National
Landcare
Programme



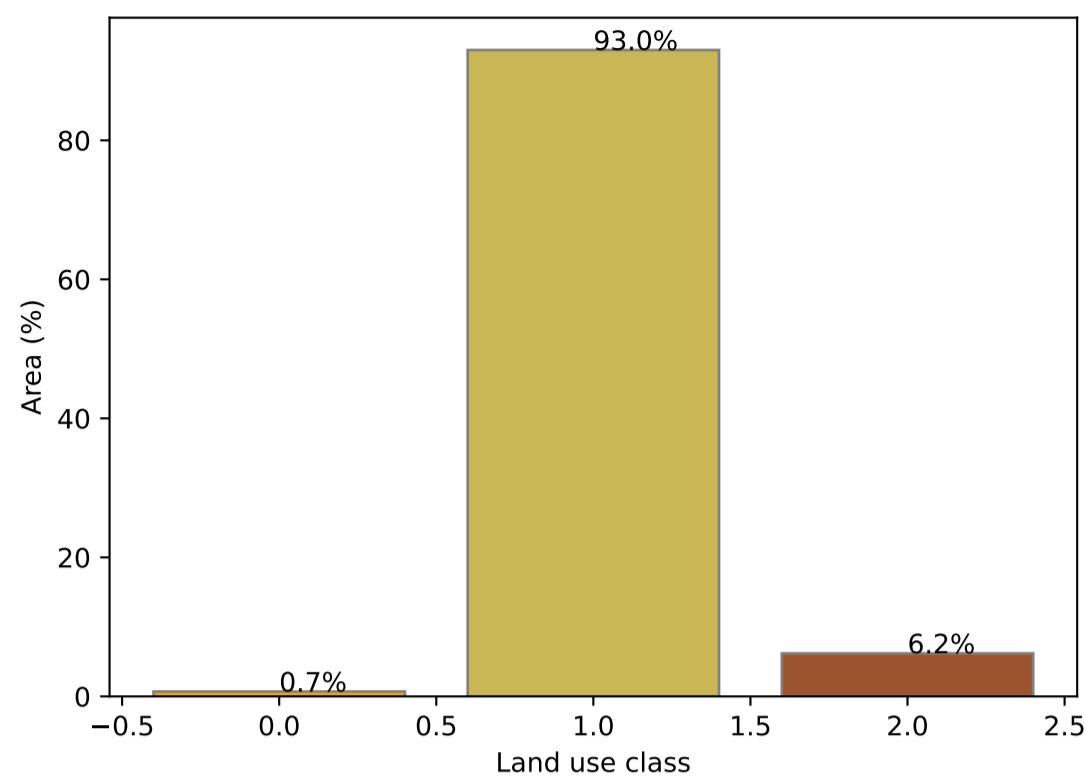
Irrigation

Land use and forest cover

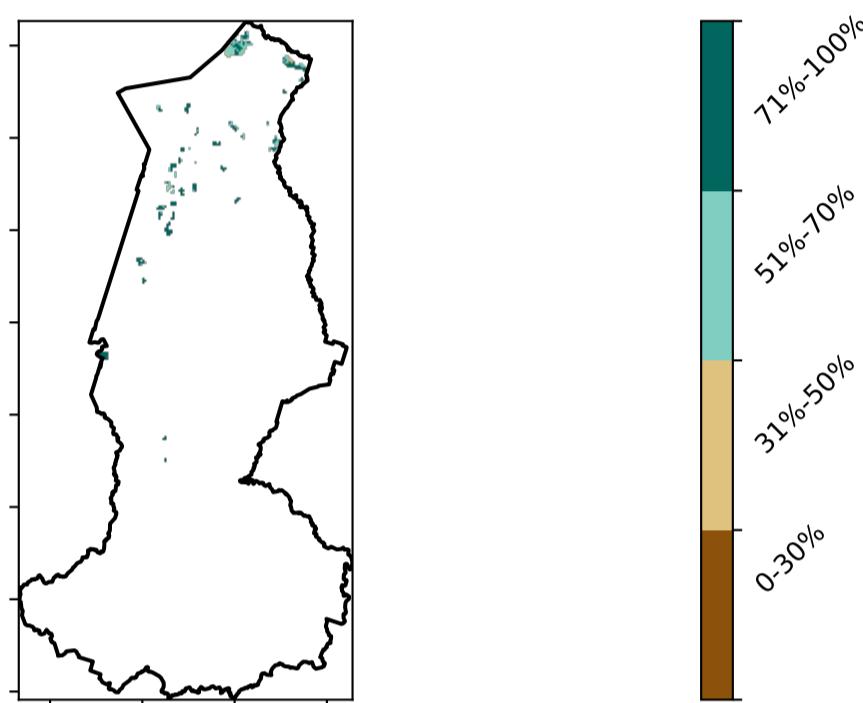
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
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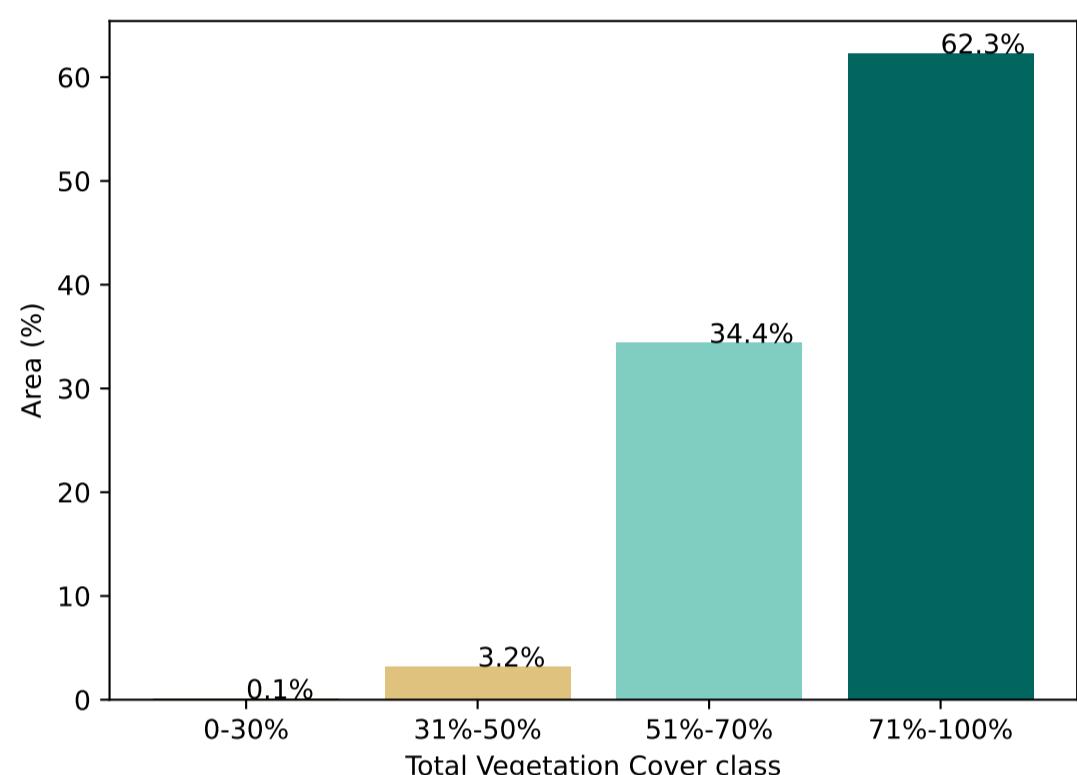
Proportion of each land class in area



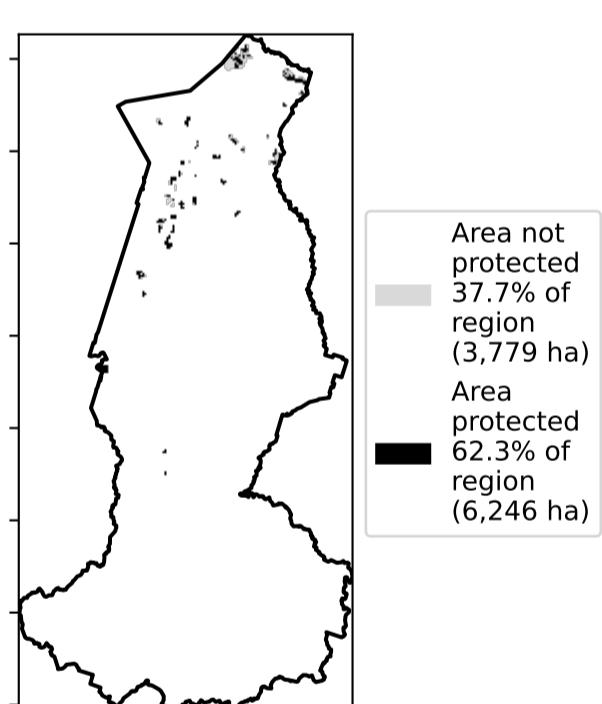
Total Vegetation Cover [%]



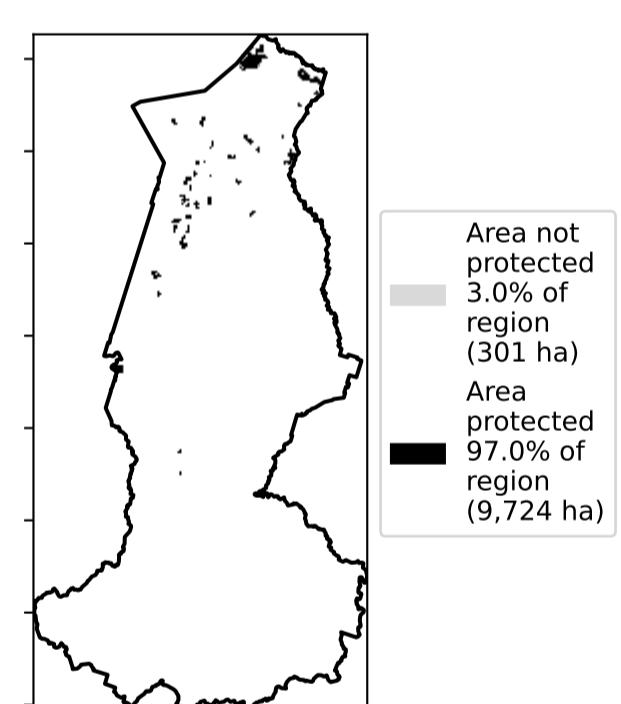
Proportion of vegetation cover class in area



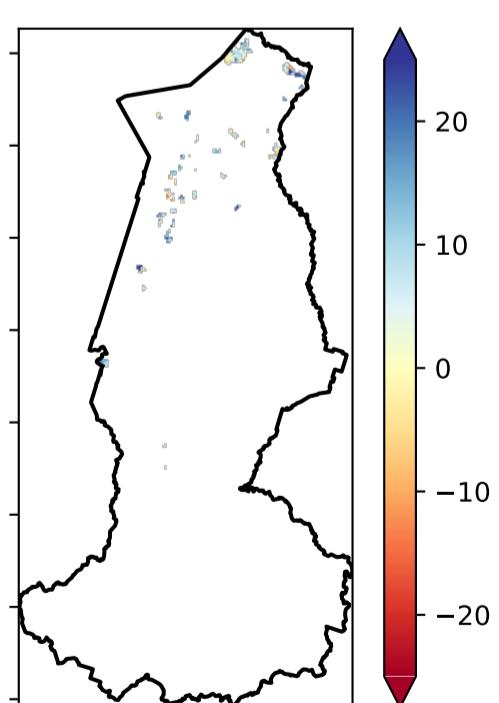
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



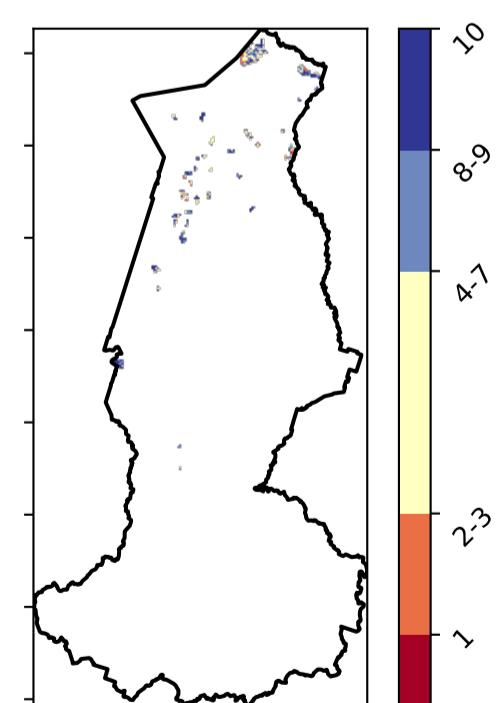
Total Vegetation Cover Anomaly [%]



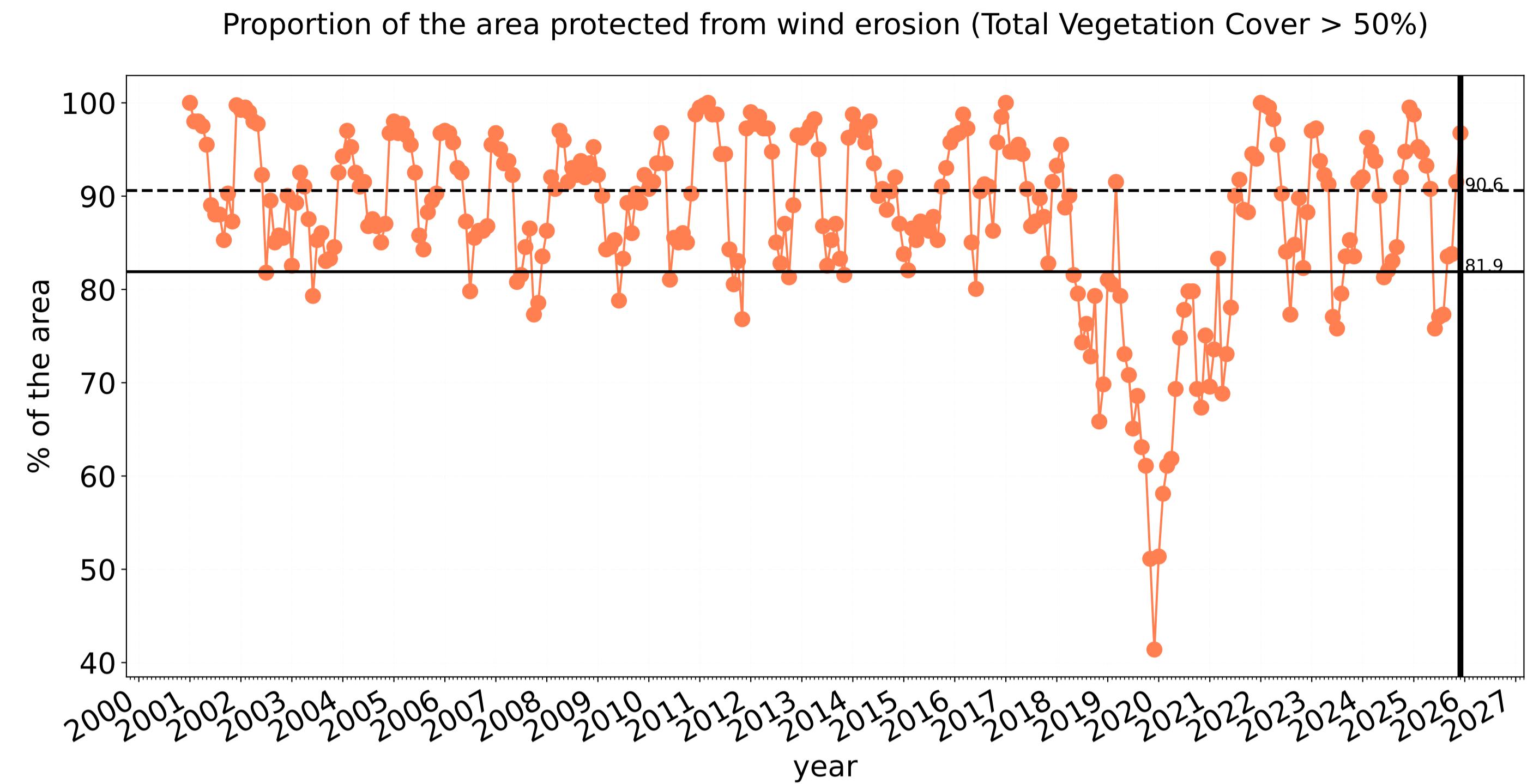
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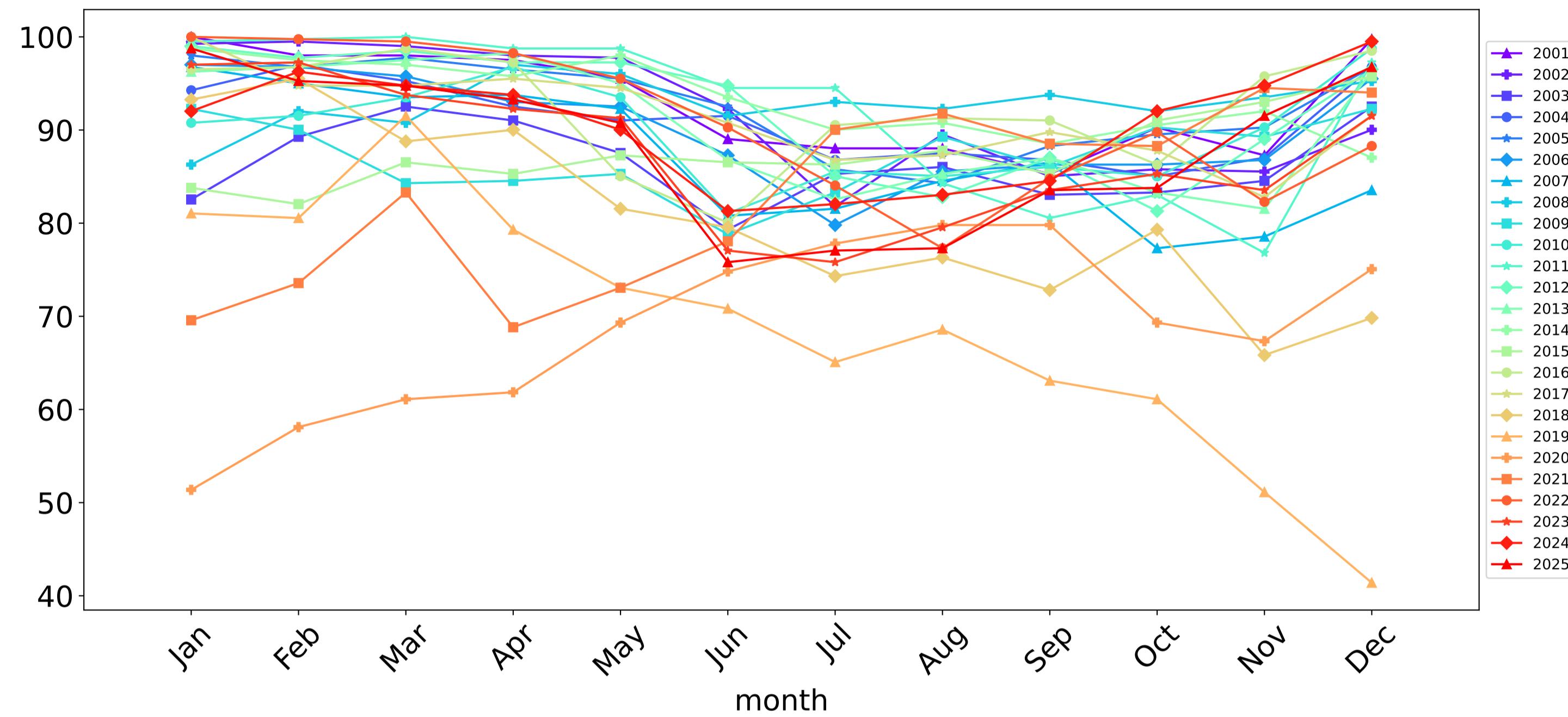
Total Vegetation Cover Decile [%]



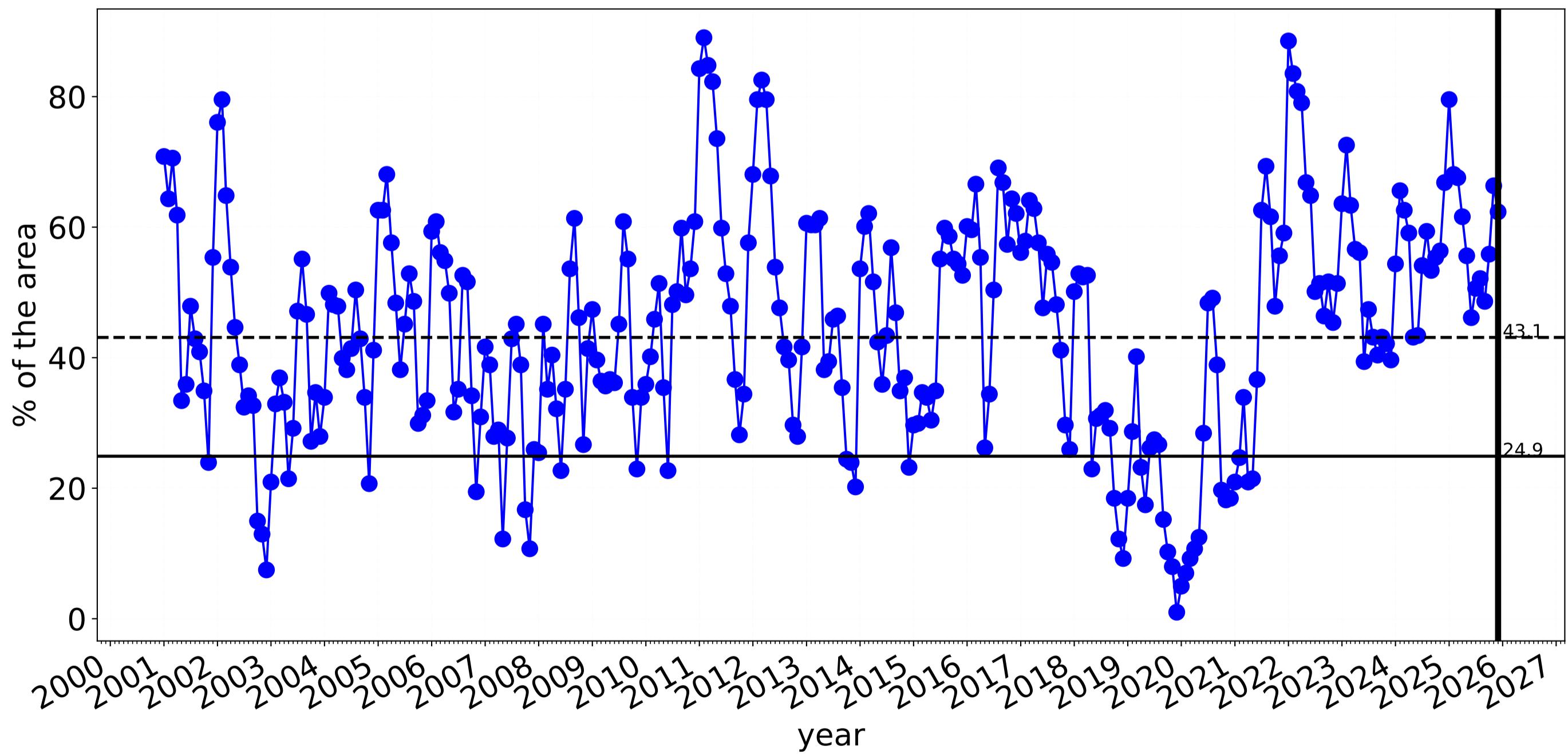
Irrigation timeseries



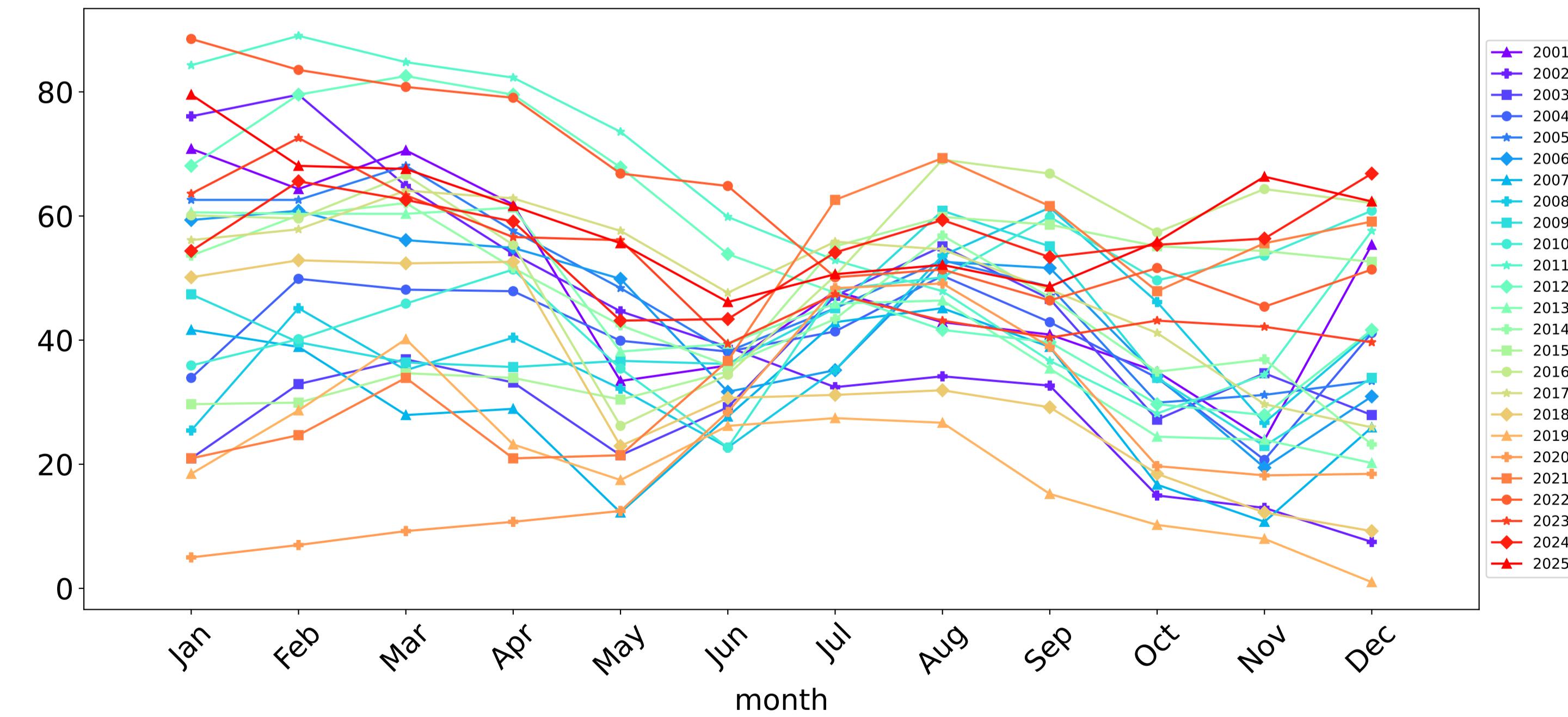
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



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Australian Government



Gwydir_(A) (924,450 ha and no data 1,470 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	924,450	100.0% 924,425	99.5% 919,875	92.0% 850,700	77.3% 714,575	40.4% 373,125	11.0% 101,325
Conservation and natural environments	28,125	100.0% 28,125	100.0% 28,125	99.7% 28,050	98.6% 27,725	66.8% 18,775	13.0% 3,650
Conservation and natural environments Woodland forest	27,075	100.0% 27,075	100.0% 27,075	99.7% 27,000	98.6% 26,700	68.6% 18,575	13.2% 3,575
Agriculture	887,575	100.0% 887,575	99.5% 883,150	91.8% 814,500	76.6% 679,875	39.5% 350,925	11.0% 97,375
Grazing	566,975	100.0% 566,975	100.0% 566,925	98.8% 559,950	91.5% 518,575	53.1% 301,000	14.3% 81,250
Grazing non forest	365,450	100.0% 365,450	100.0% 365,425	98.3% 359,175	88.3% 322,850	48.4% 177,050	14.8% 54,125
Grazing Woodland forest	189,725	100.0% 189,725	100.0% 189,700	99.7% 189,075	97.5% 184,925	63.4% 120,200	14.3% 27,050
Grazing - Forest (non woodland)	11,800	100.0% 11,800	100.0% 11,800	99.2% 11,700	91.5% 10,800	31.8% 3,750	0.6% 75
Cropping	310,550	100.0% 310,550	98.7% 306,500	79.9% 248,275	51.0% 158,400	15.8% 49,175	5.1% 15,800
Irrigation	10,025	100.0% 10,025	96.8% 9,700	62.3% 6,250	28.7% 2,875	7.5% 750	3.2% 325



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