

Total vegetation cover soil protection

Region:LGA Jerramungup_(S) WA

Date: May 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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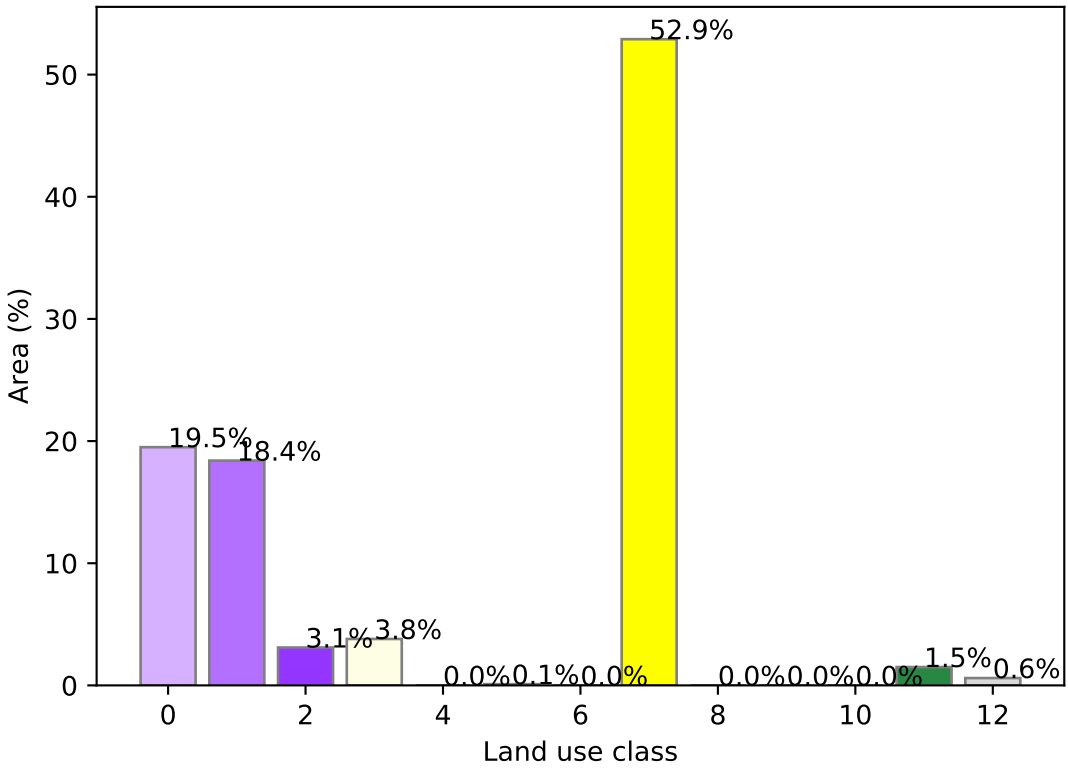
Vegetation Cover May 2025

Land use and forest cover

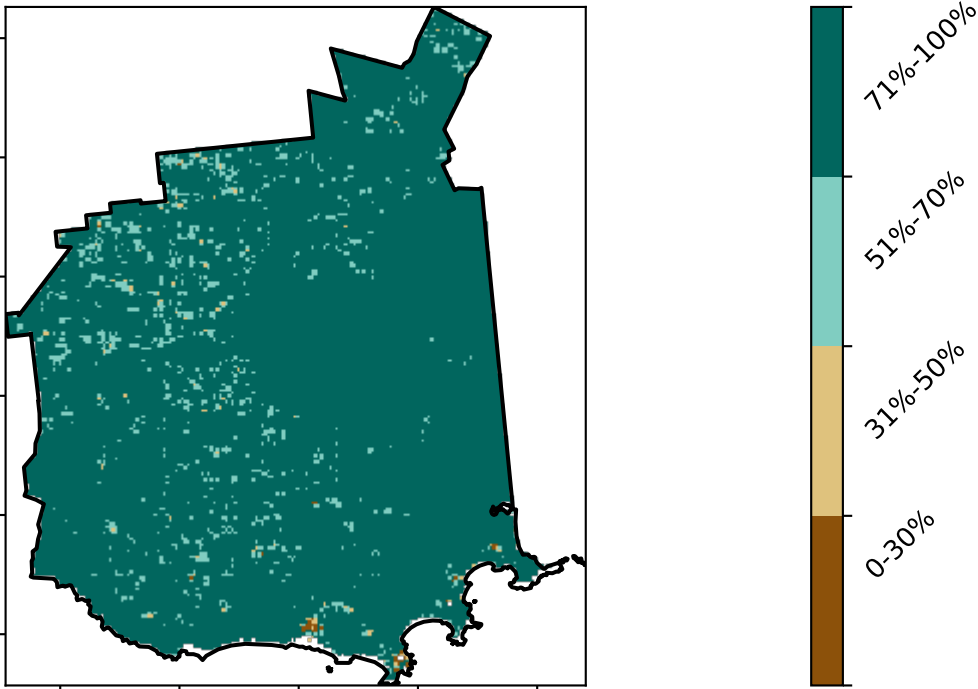


Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
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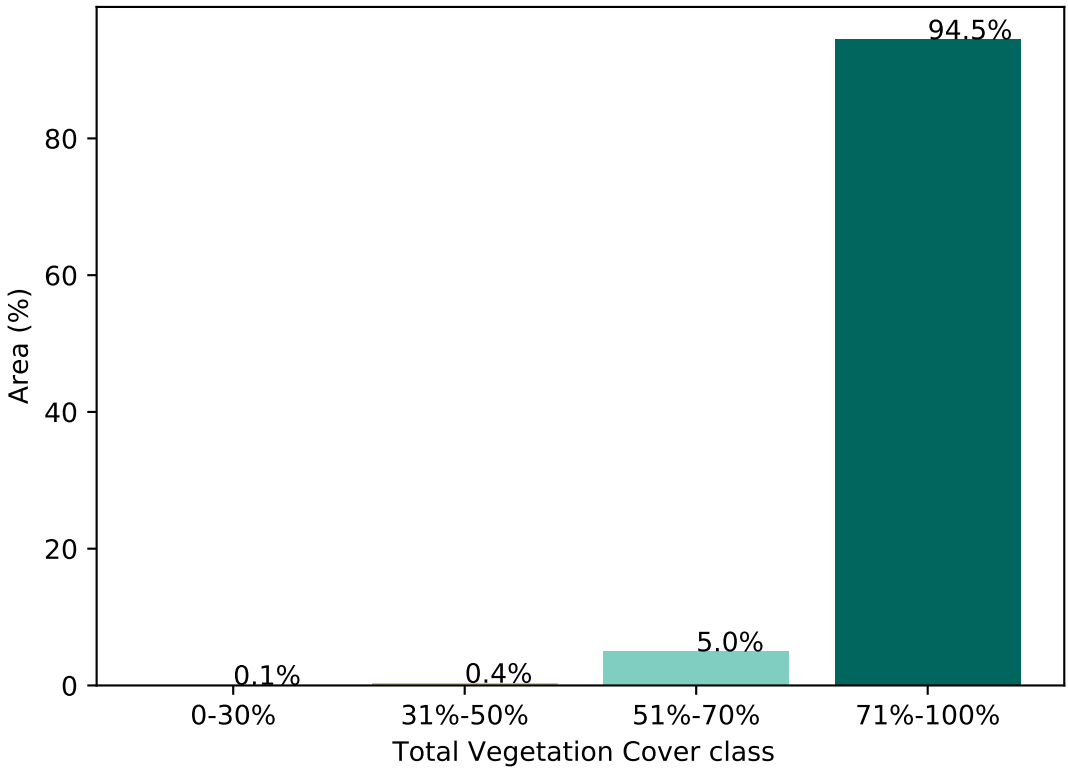
Proportion of each land class in area



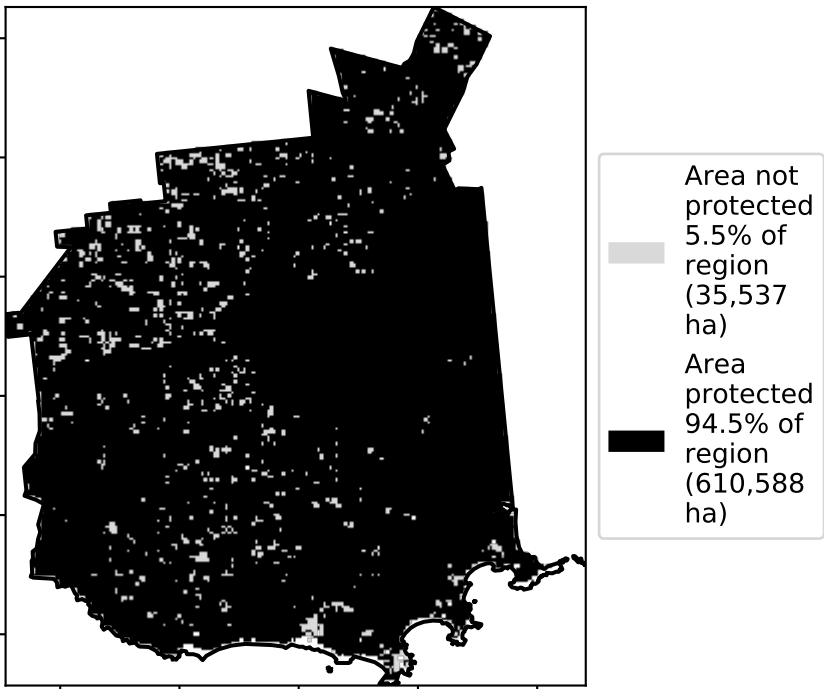
Total Vegetation Cover [%]



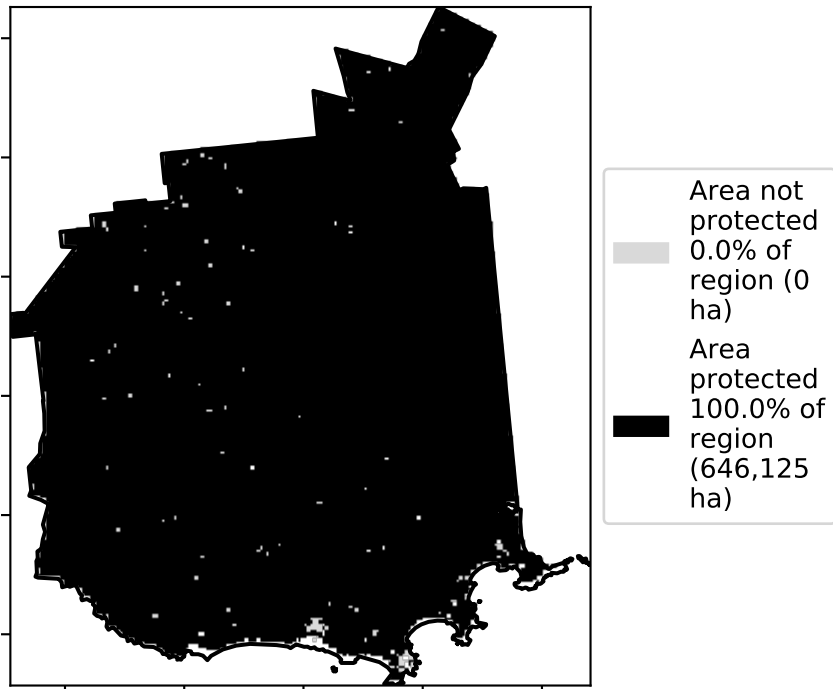
Proportion of vegetation cover class in area



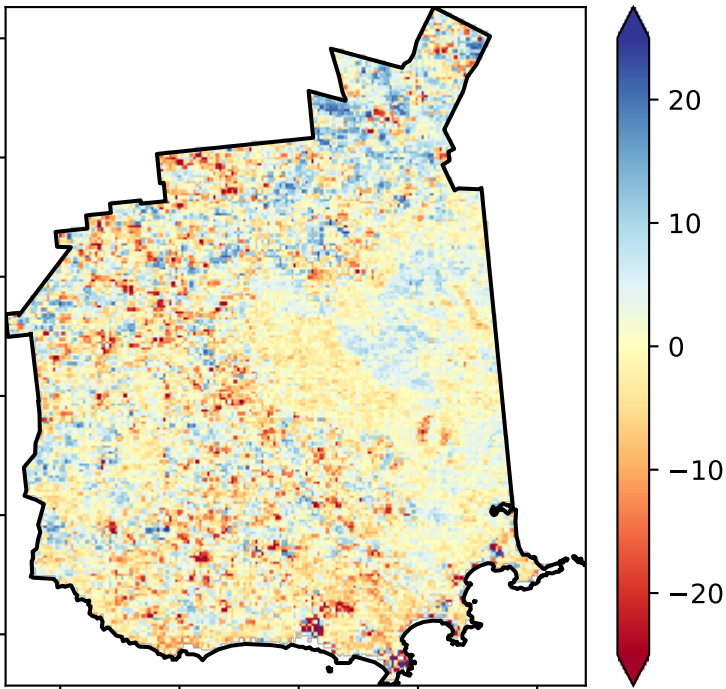
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



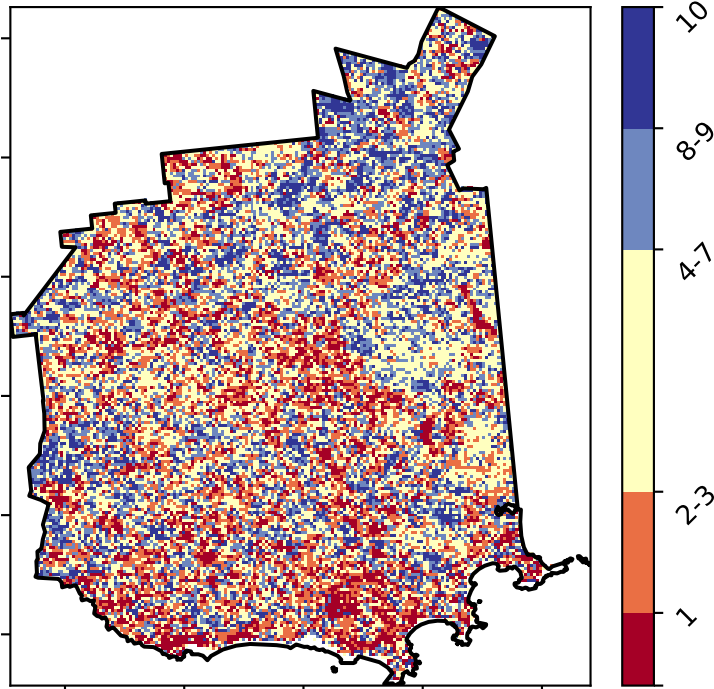
Total Vegetation Cover Anomaly [%]



Anomaly show 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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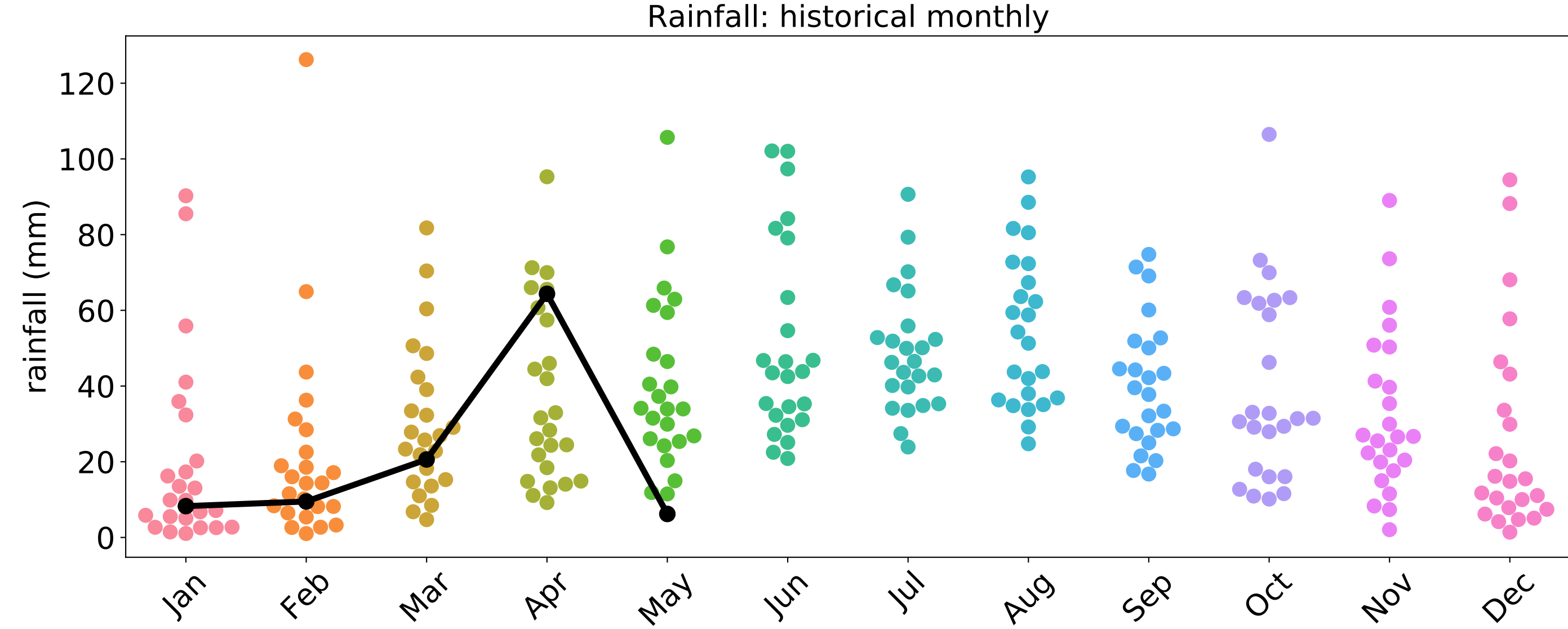
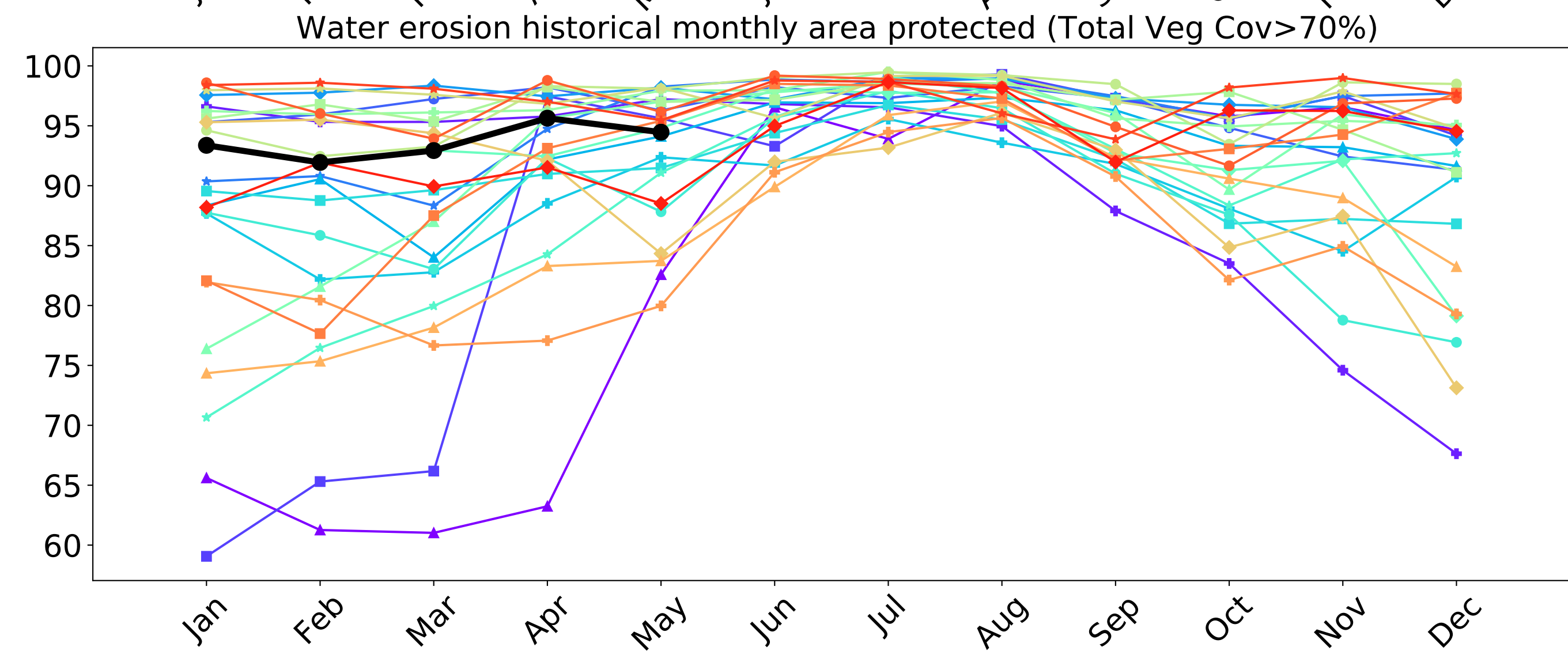
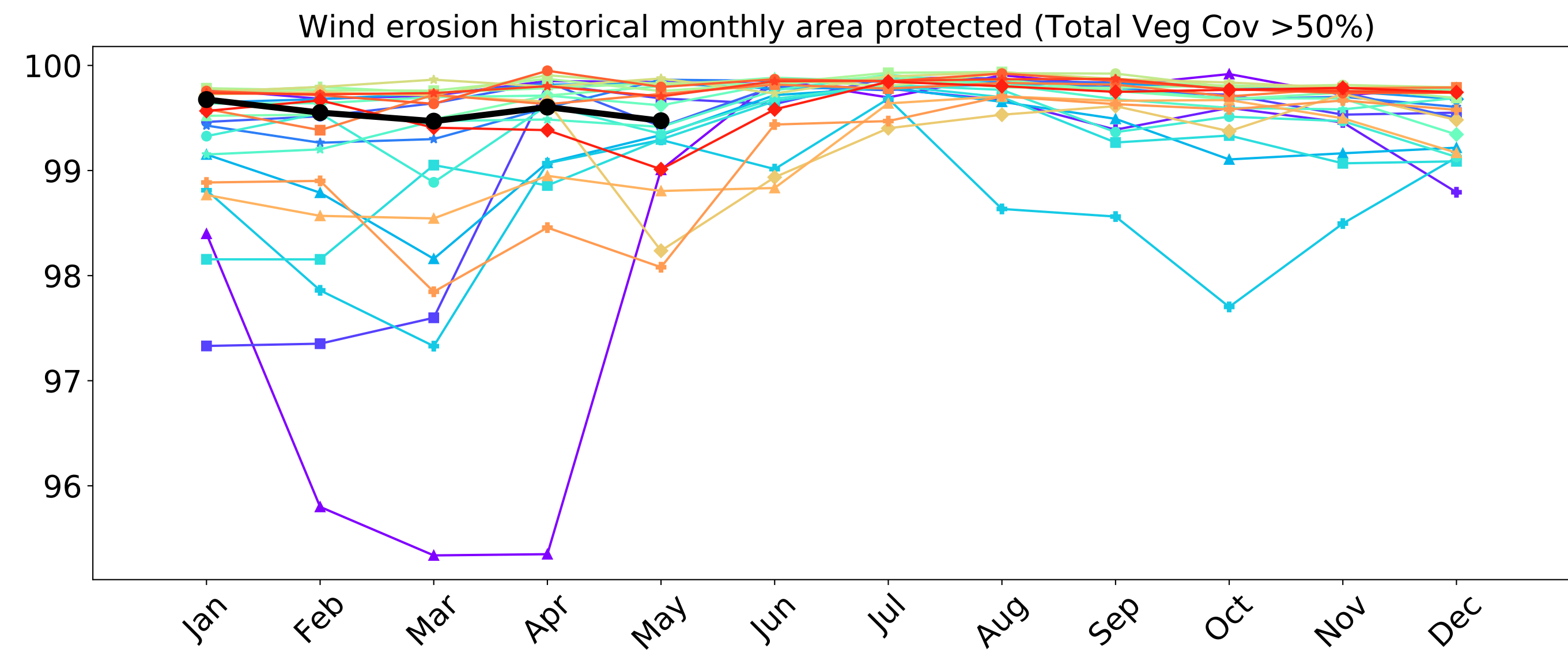
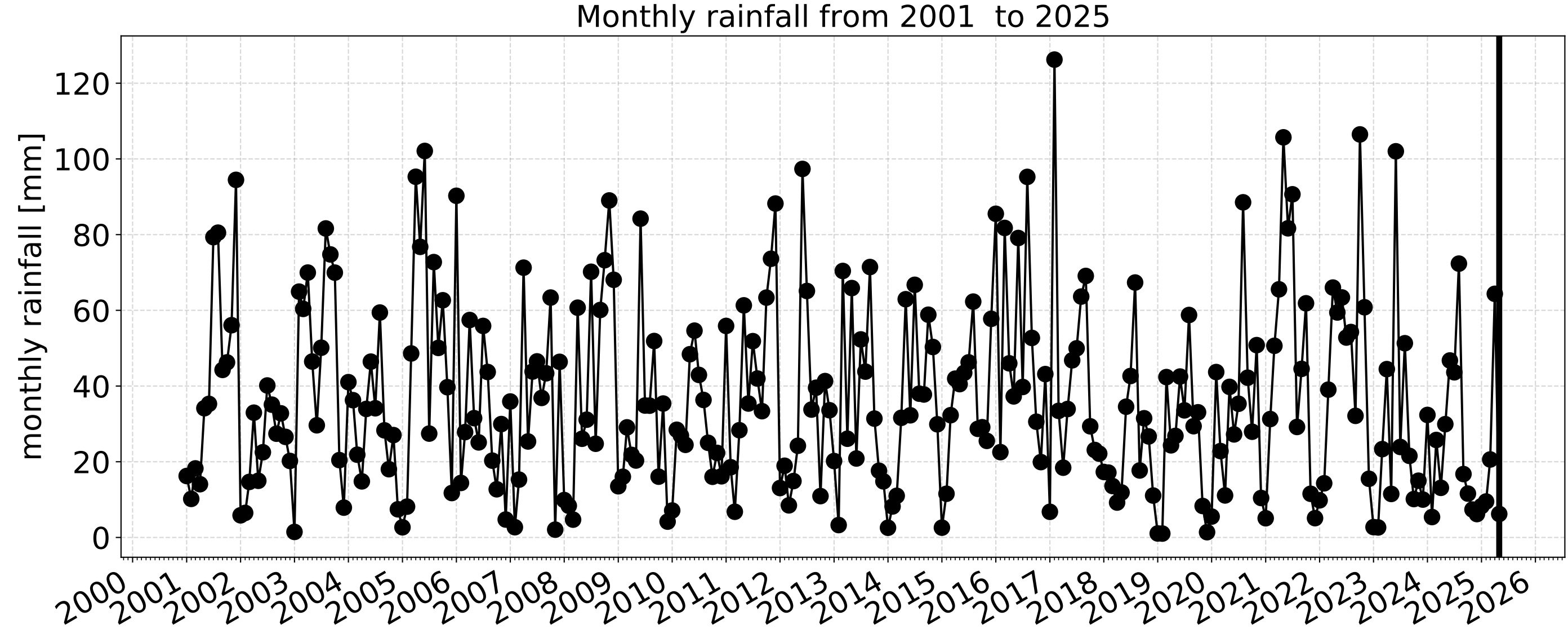
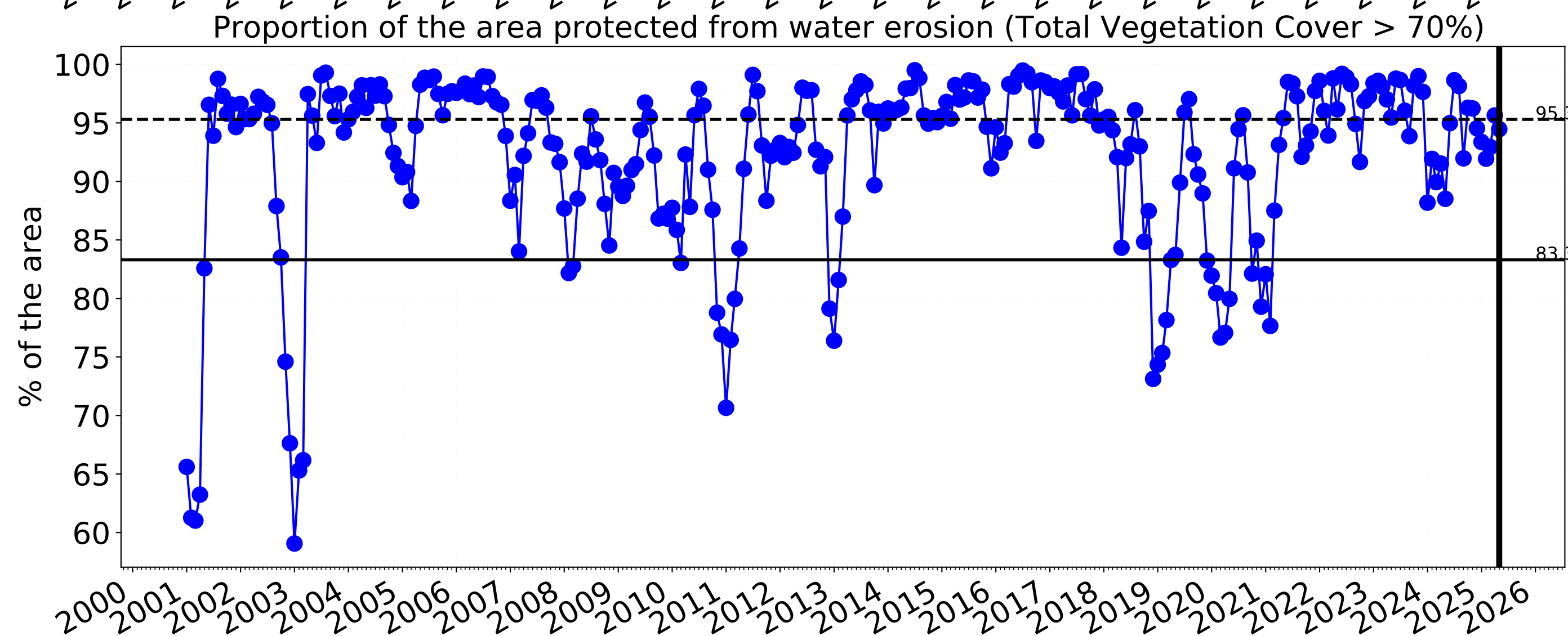
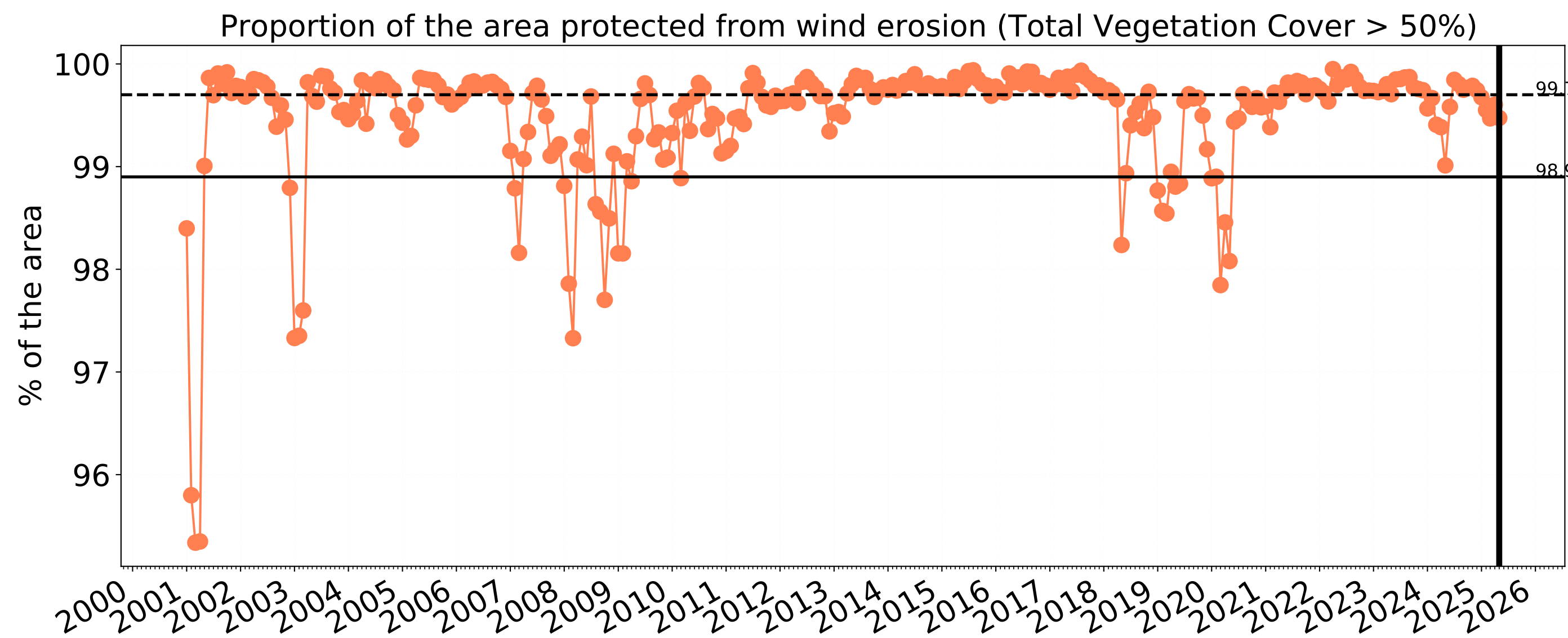
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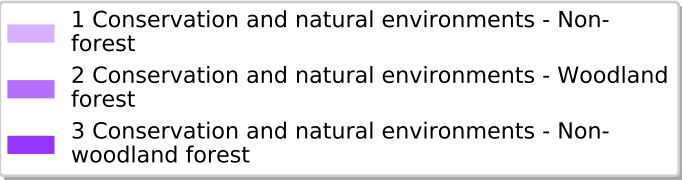
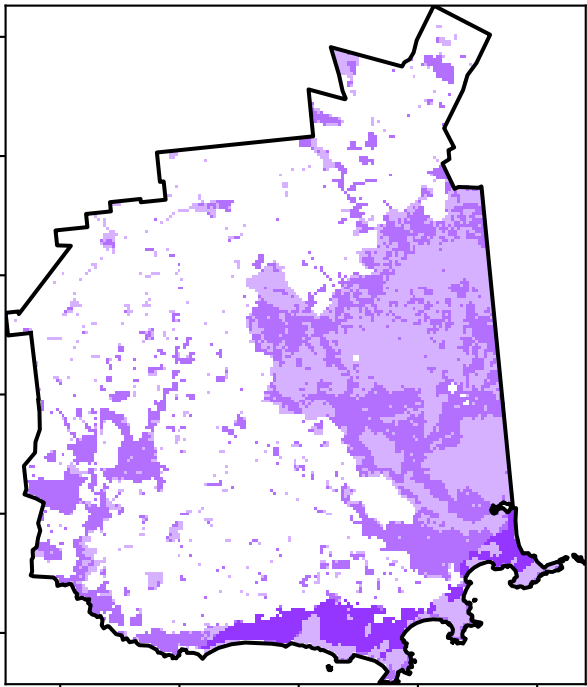
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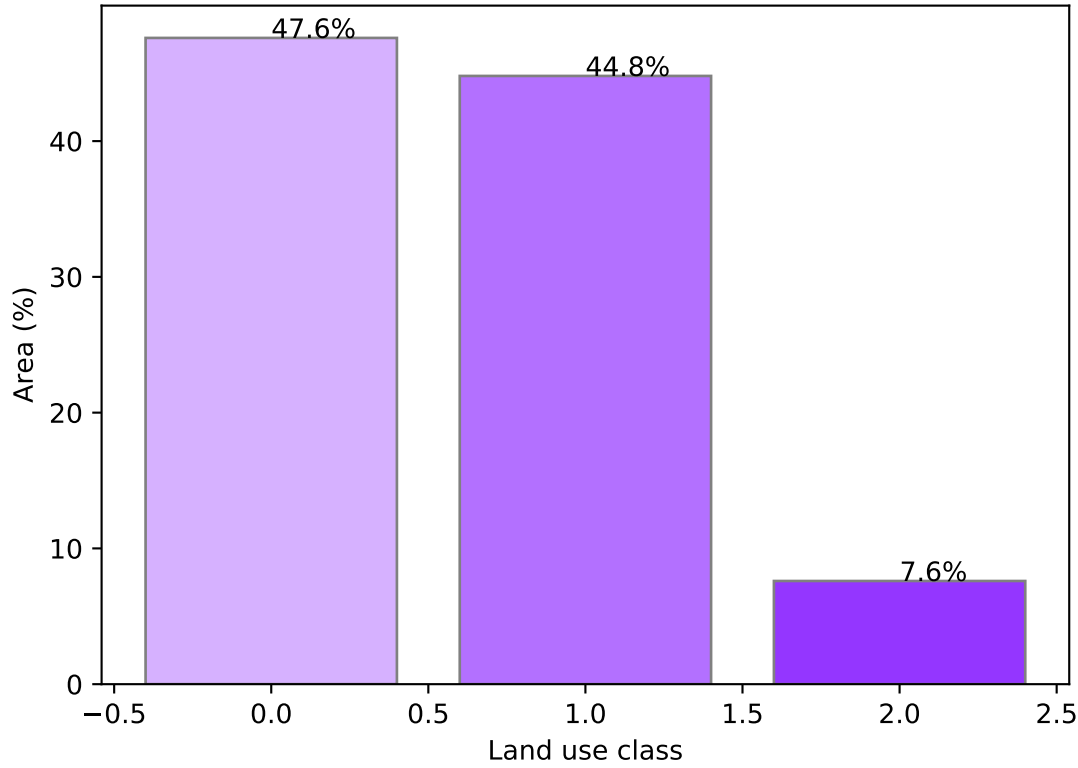


Conservation and natural environments

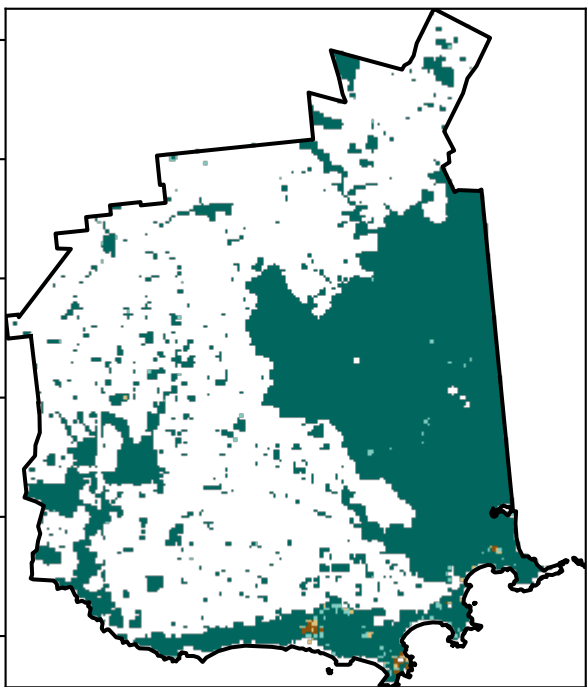
Land use and forest cover



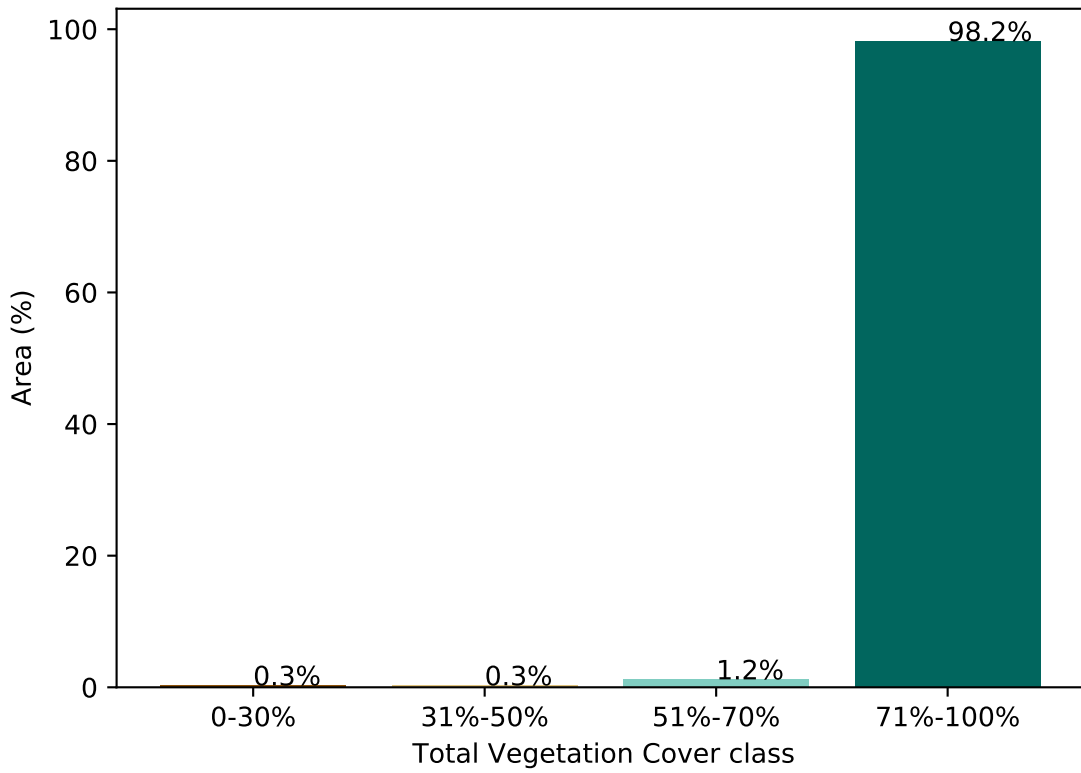
Proportion of each land class in area



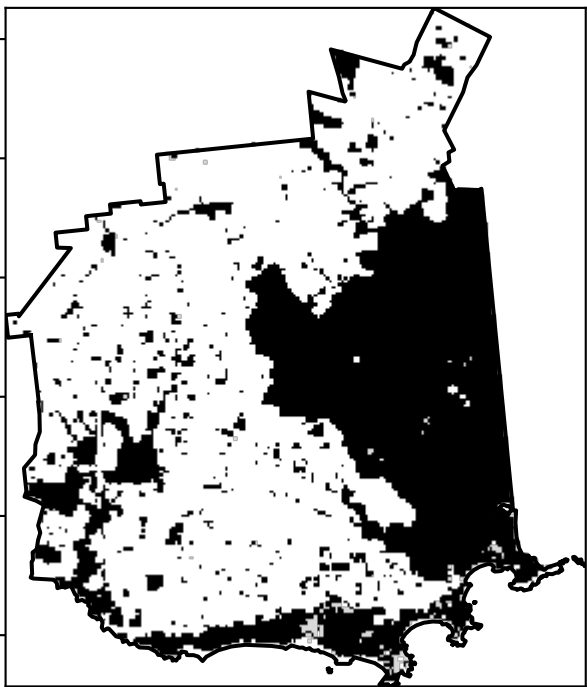
Total Vegetation Cover [%]



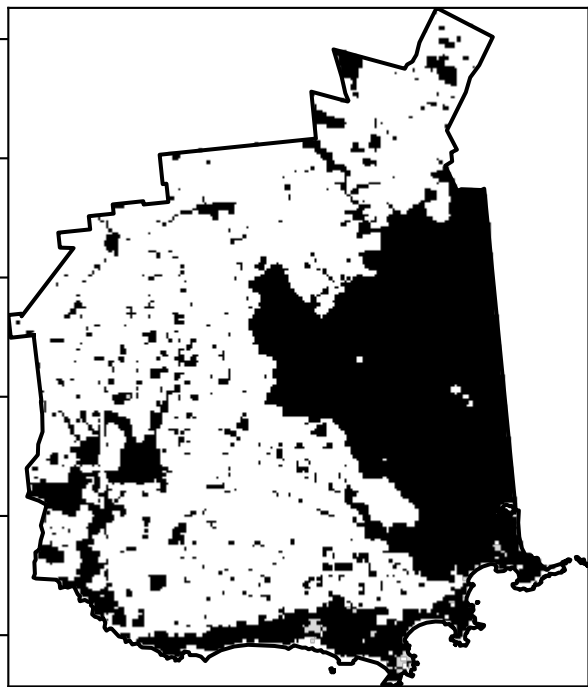
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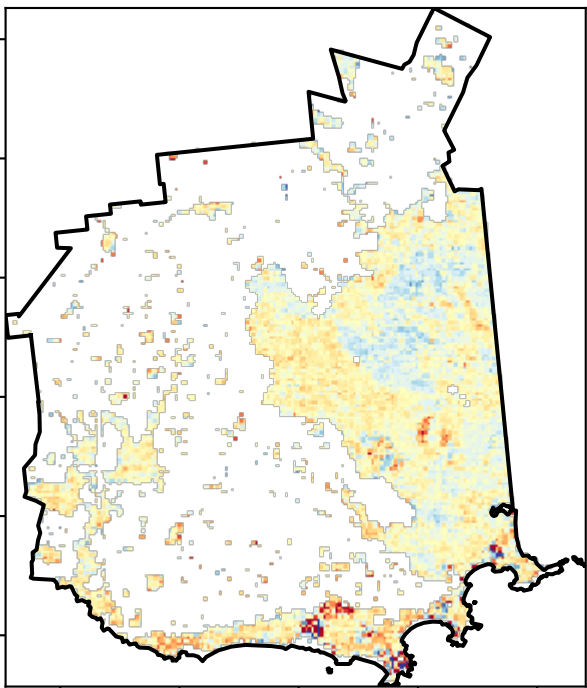
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

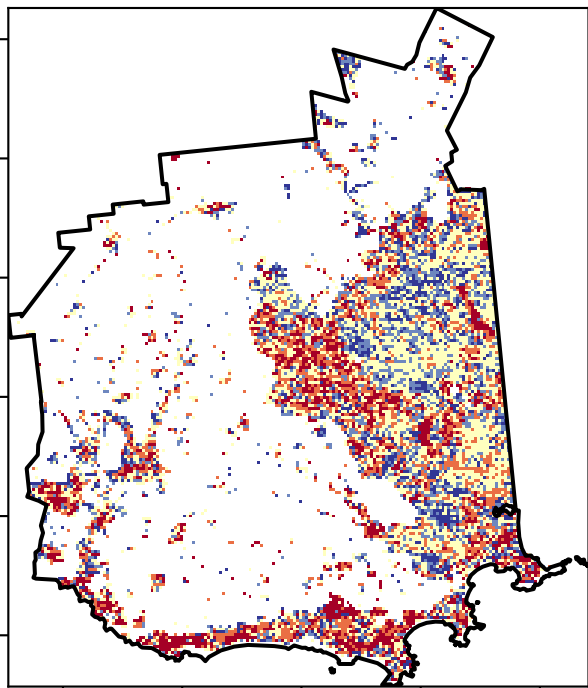


Total Vegetation Cover Anomaly [%]



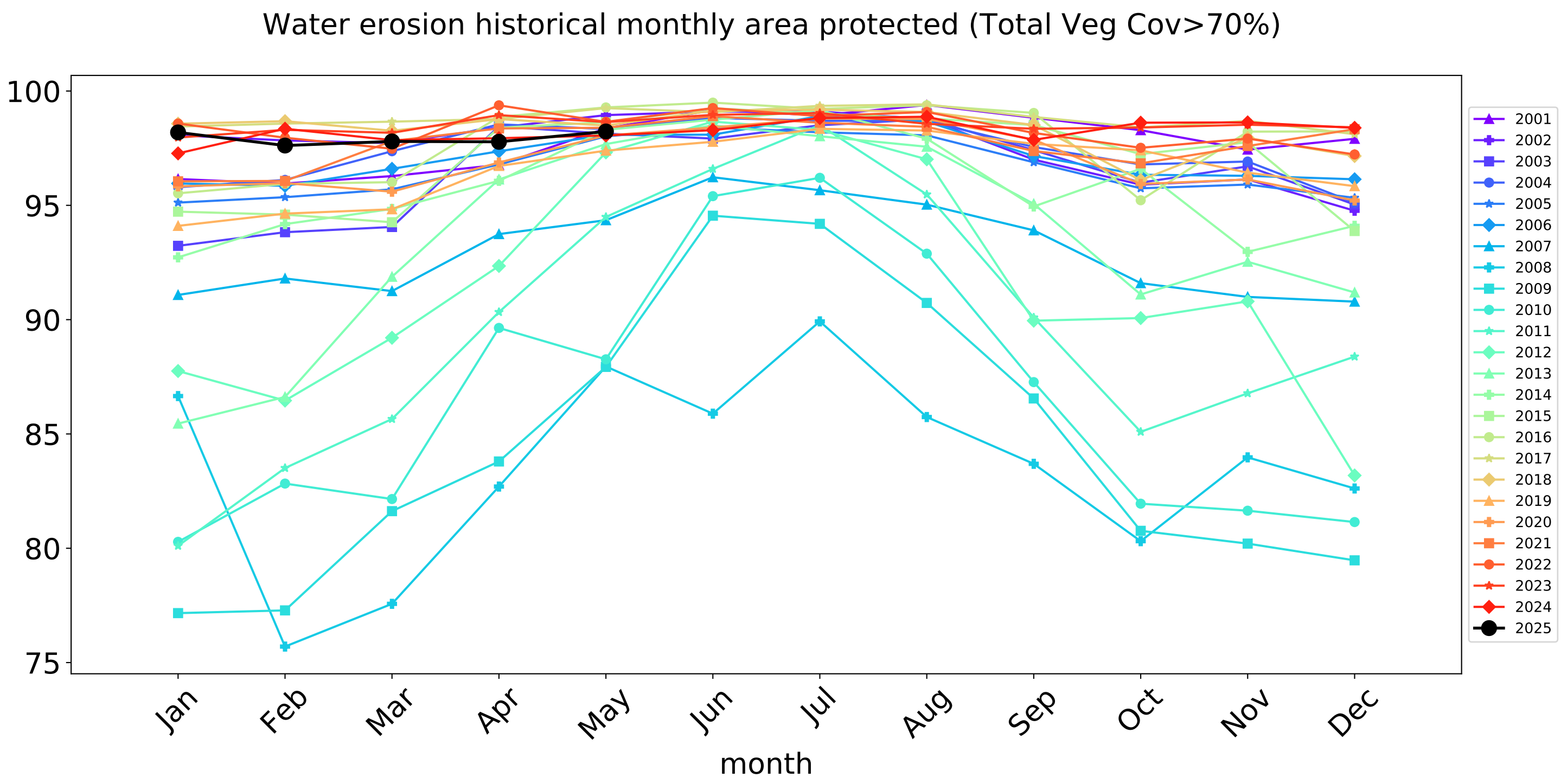
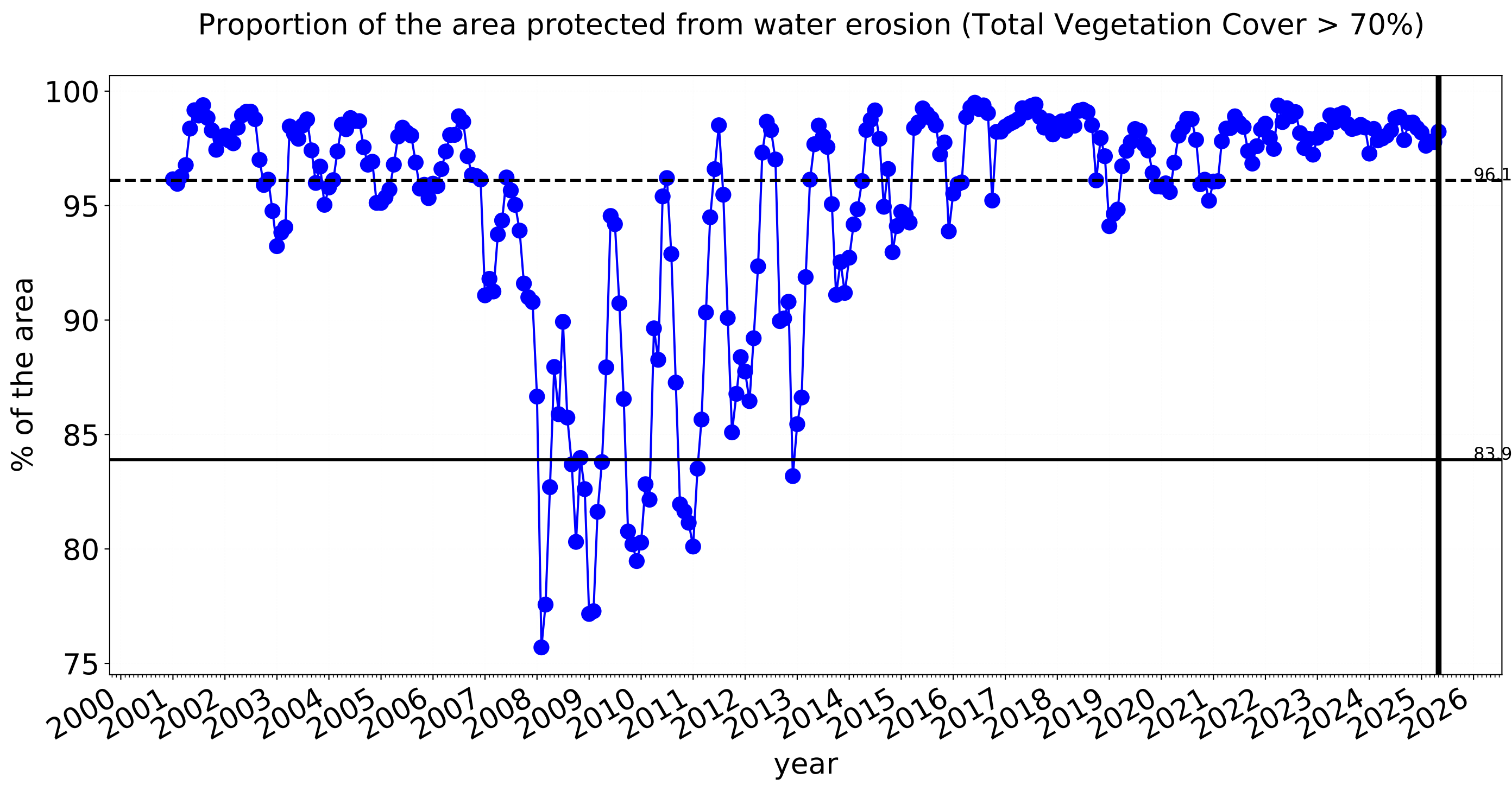
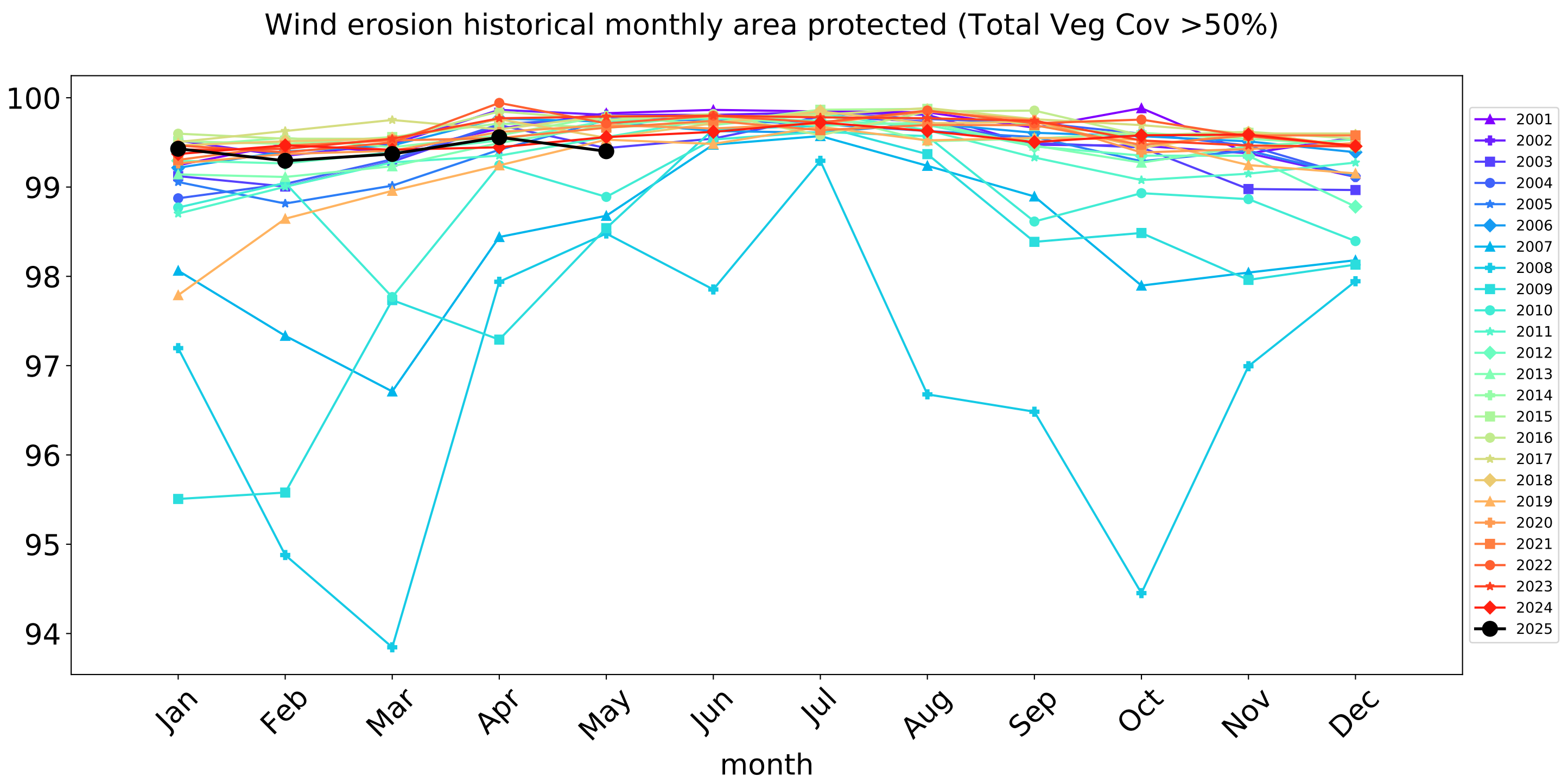
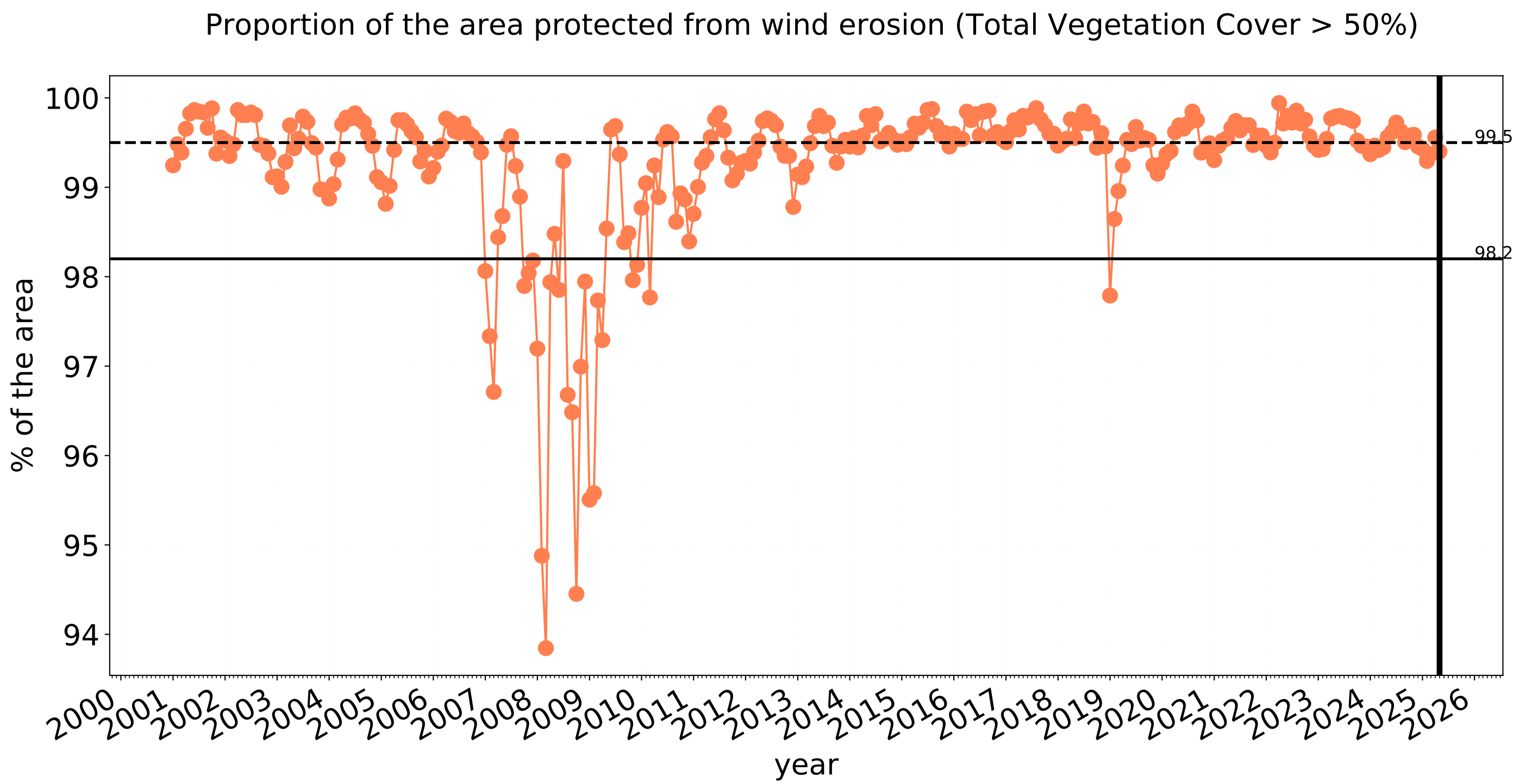
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Total Vegetation Cover Decile [%]



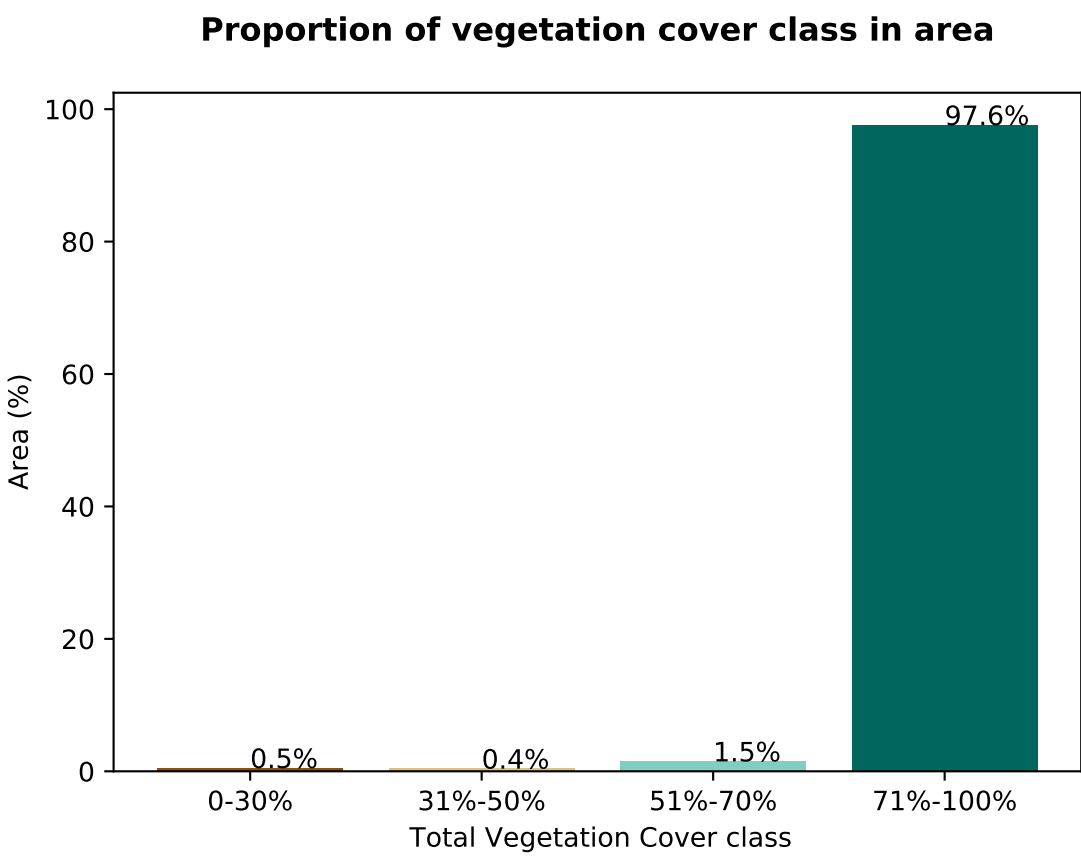
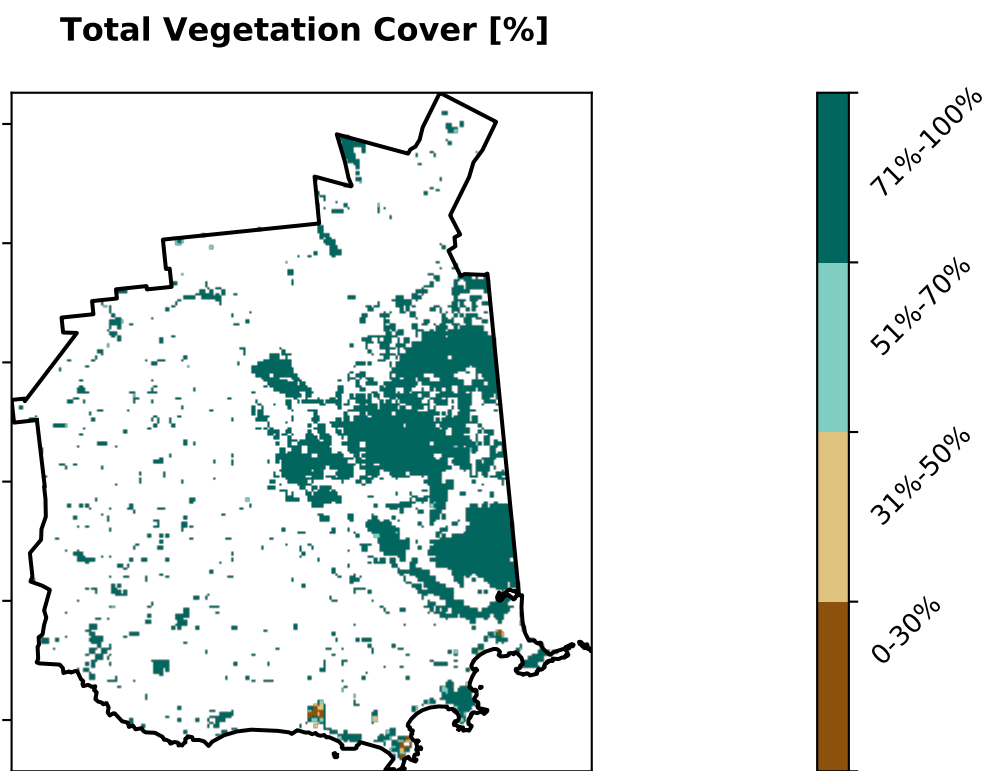
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Conservation and natural environments timeseries

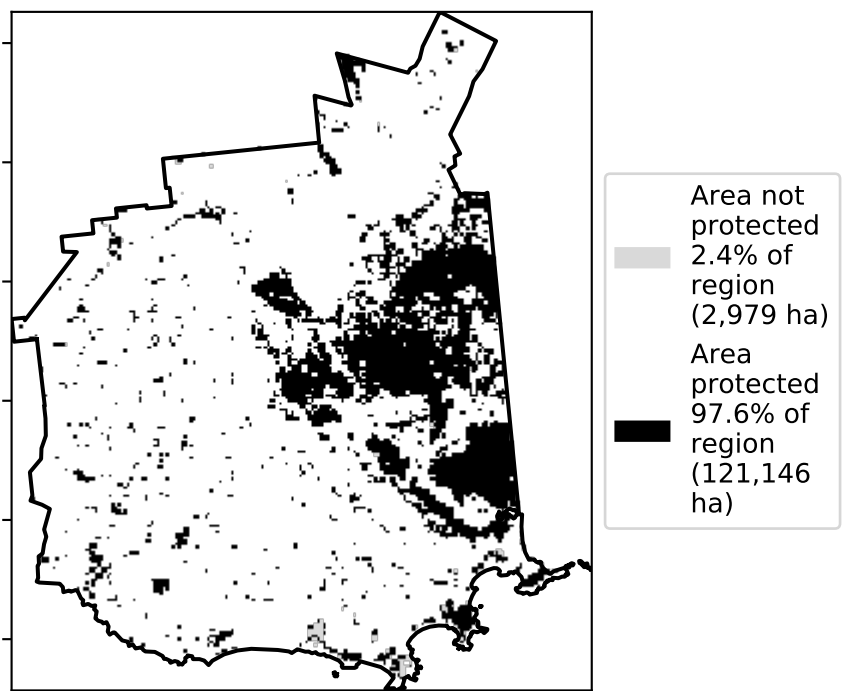


Conservation and natural environments non forest

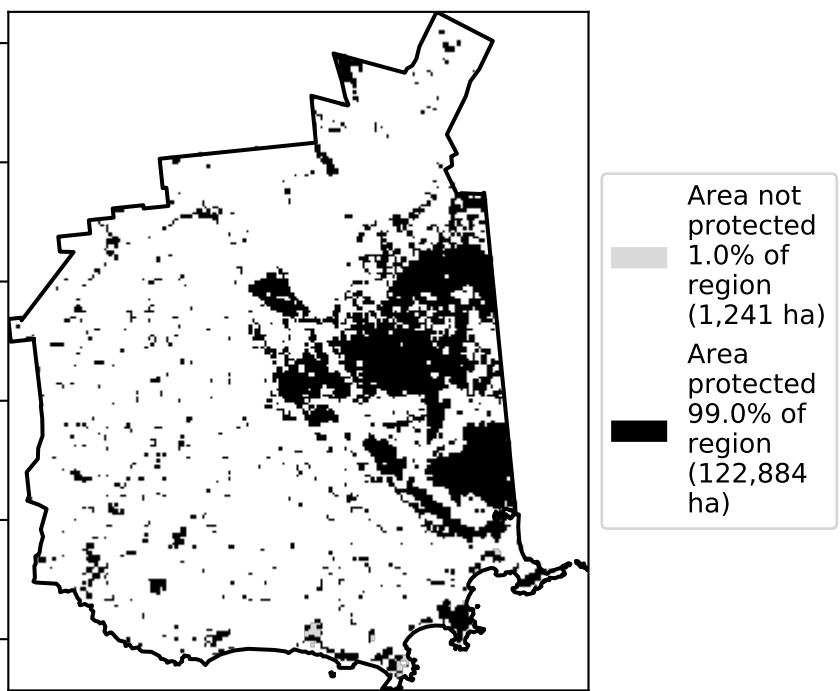
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% Area protected from water erosion (>70%)

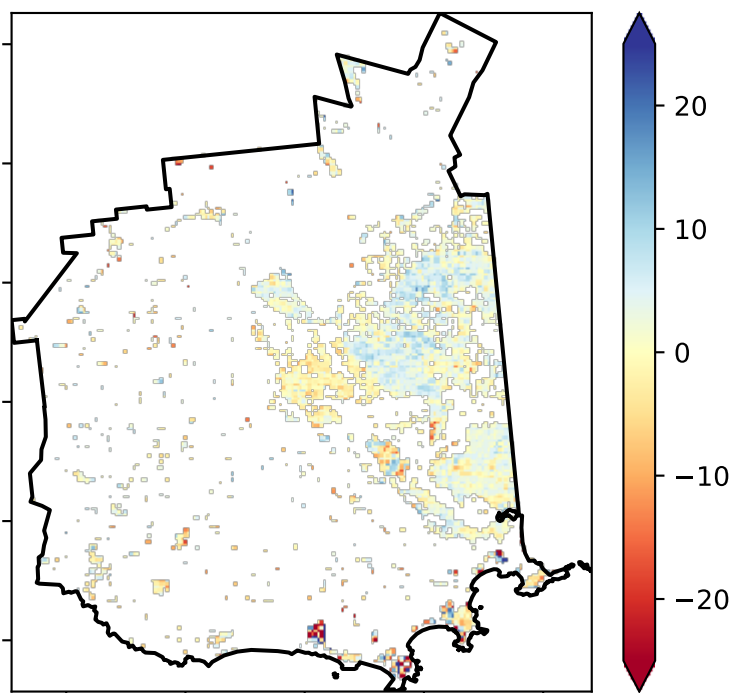


% Area protected from wind erosion (>50%)



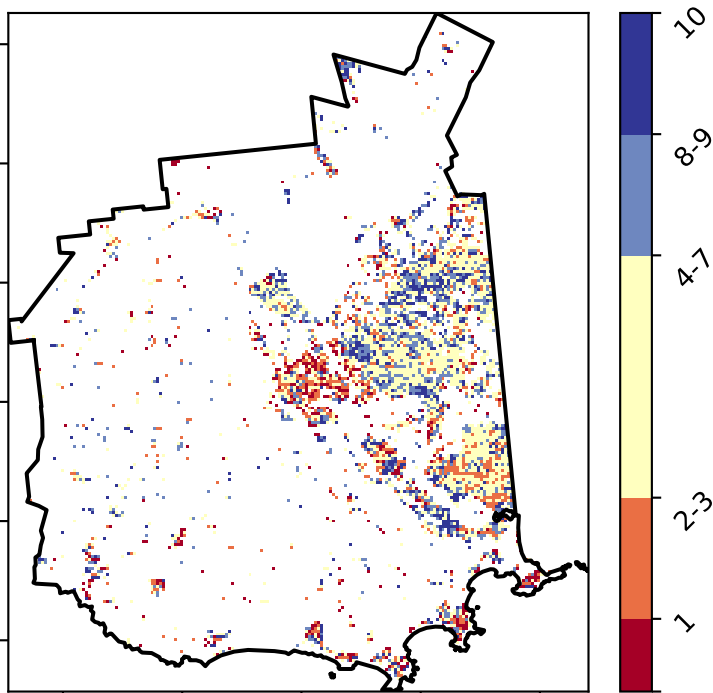
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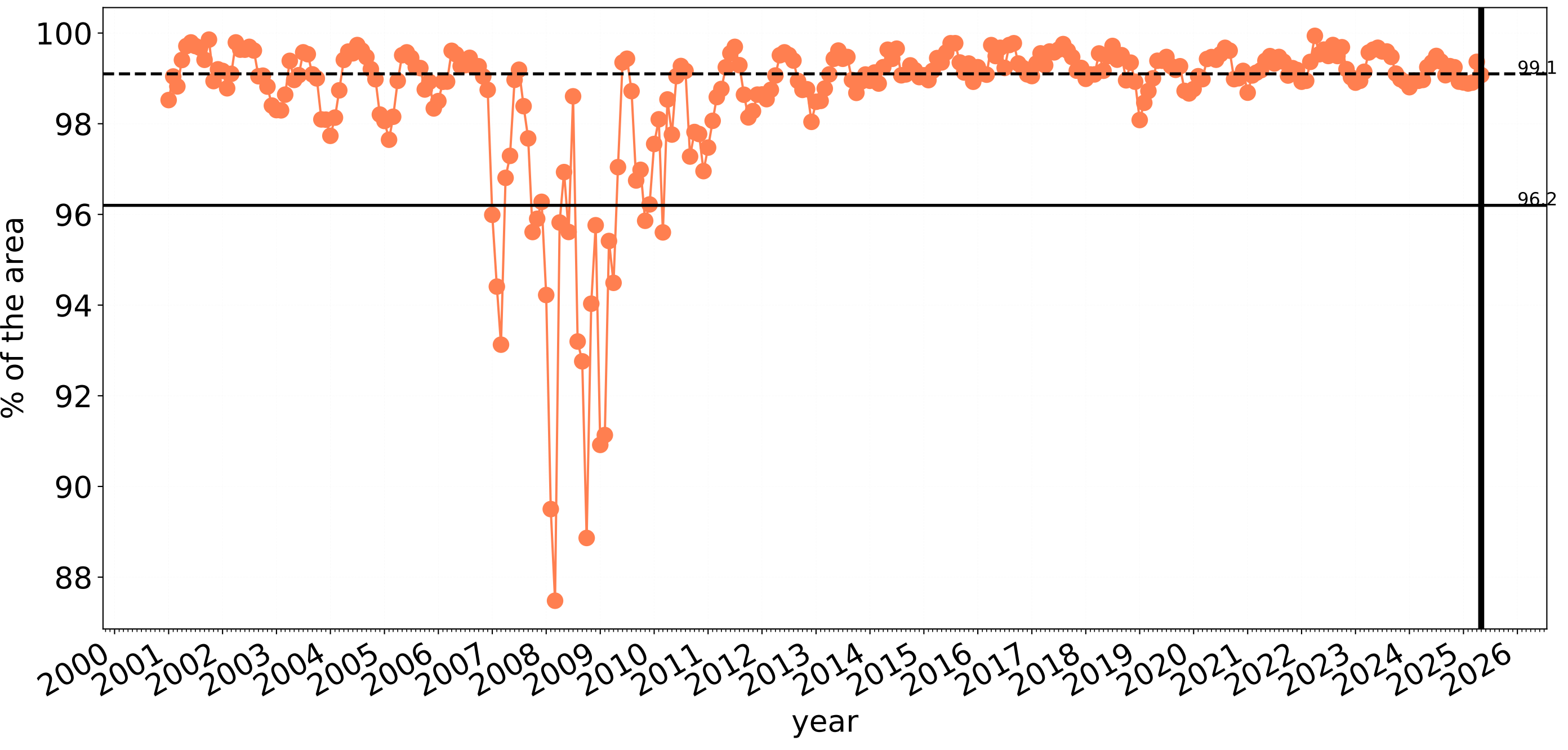
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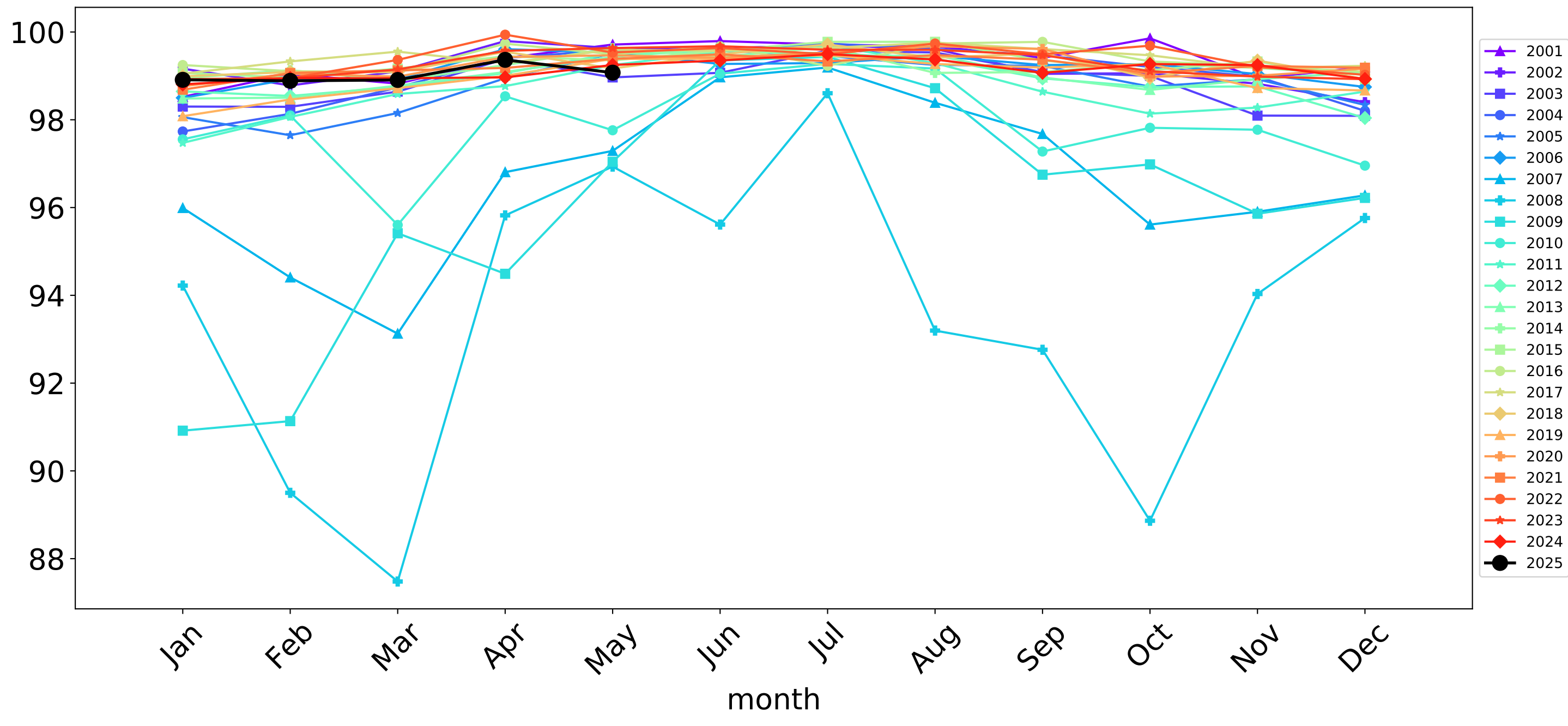


Conservation and natural environments non forest timeseries

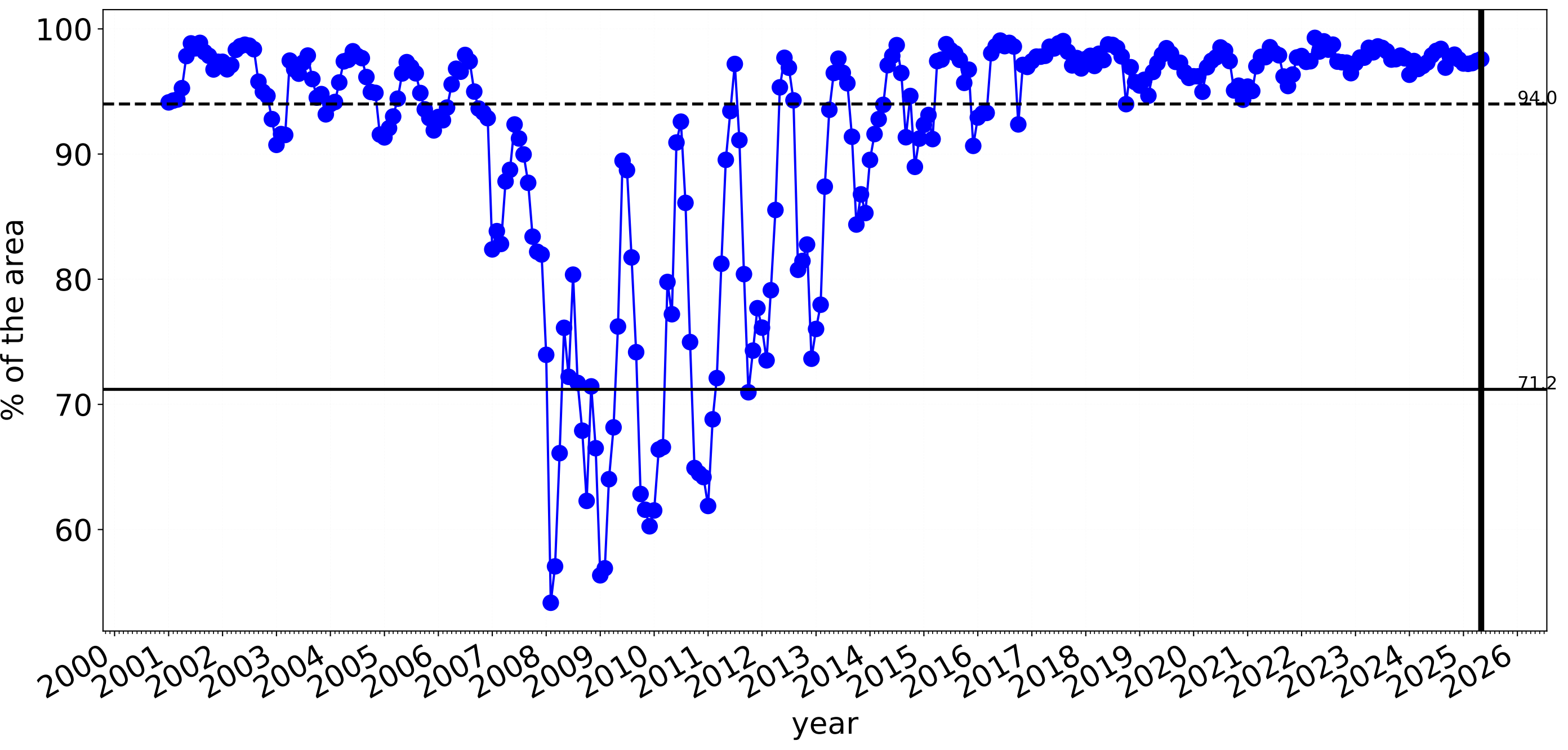
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



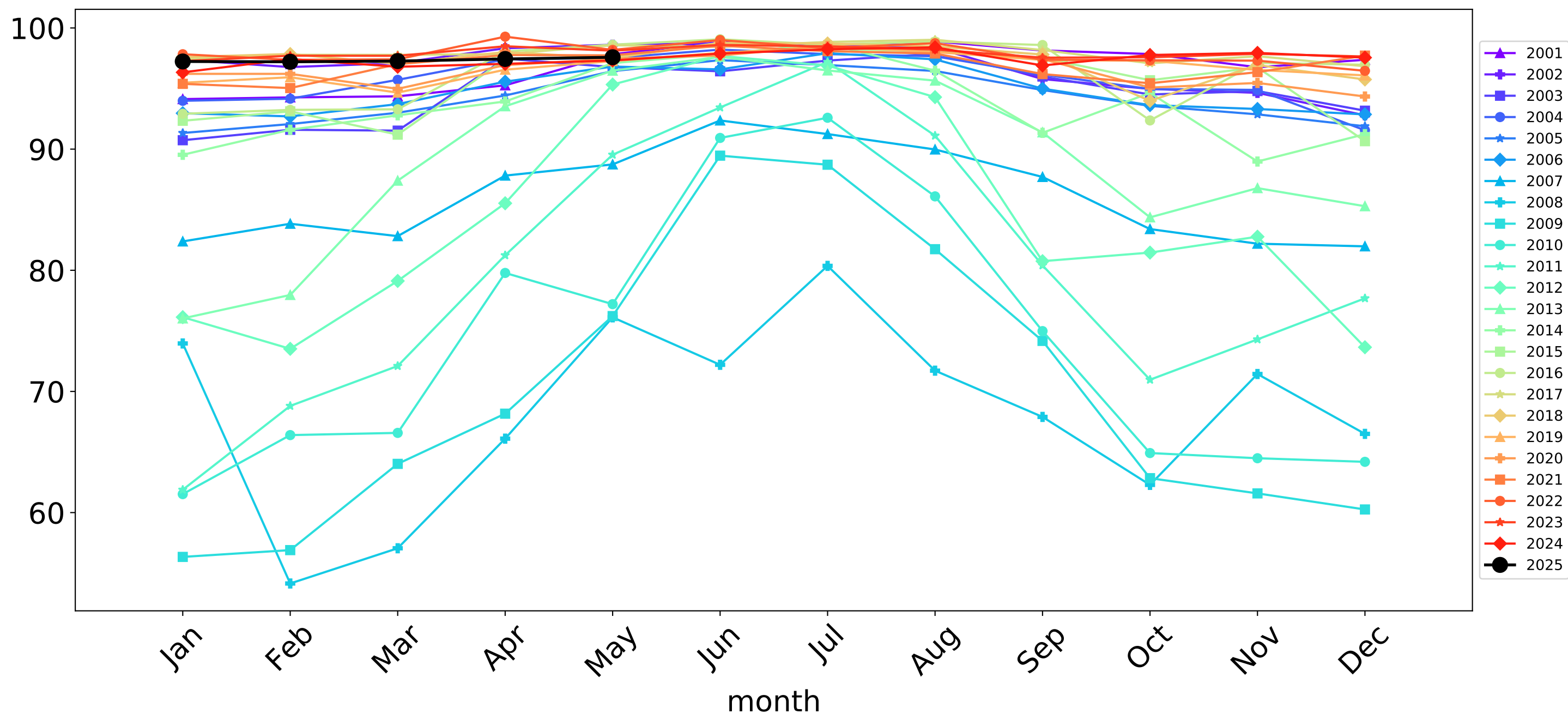
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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

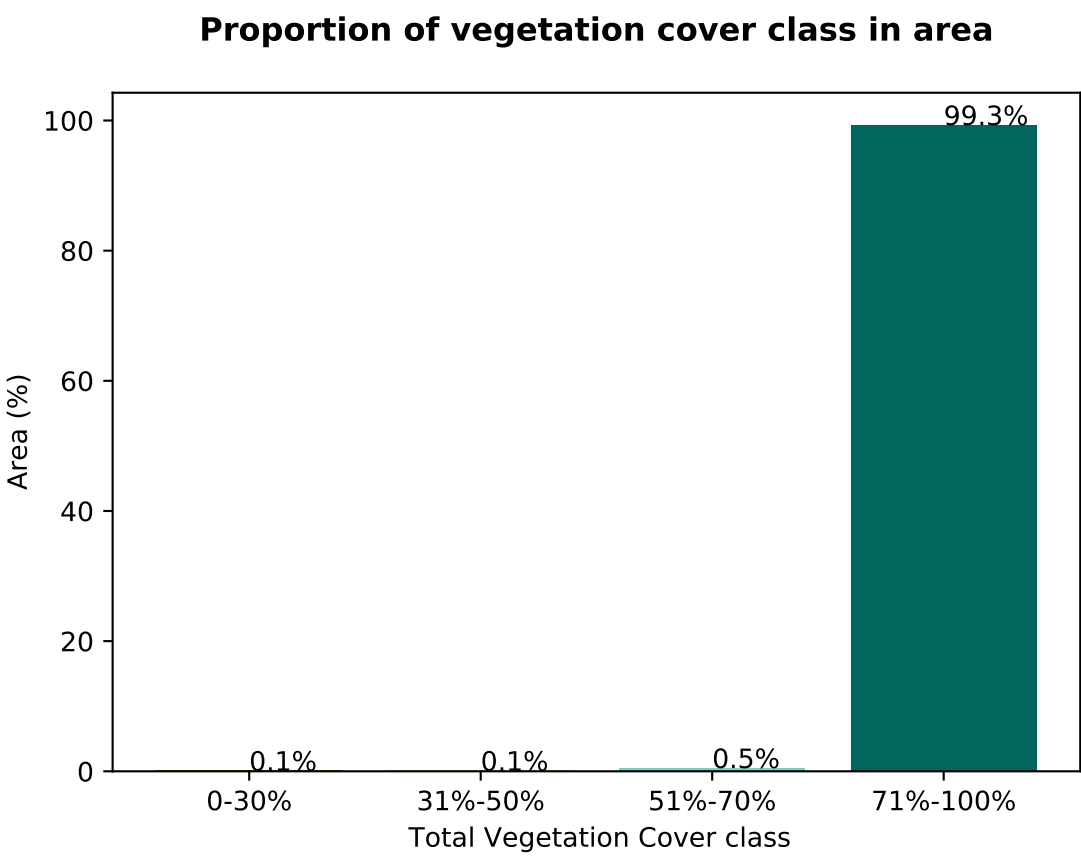
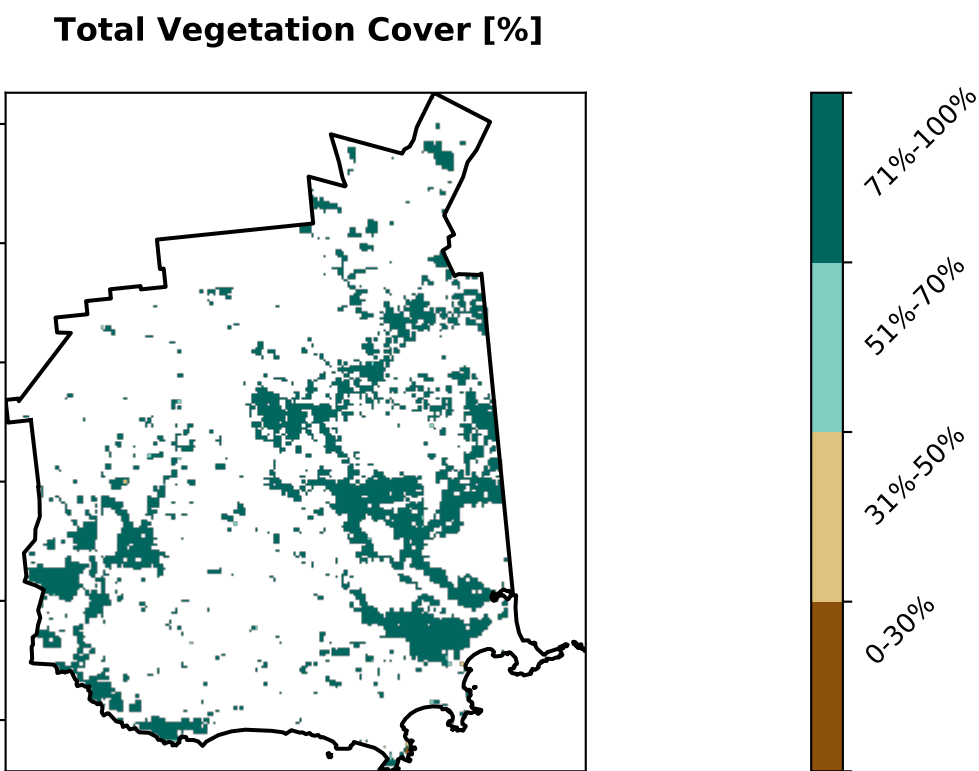
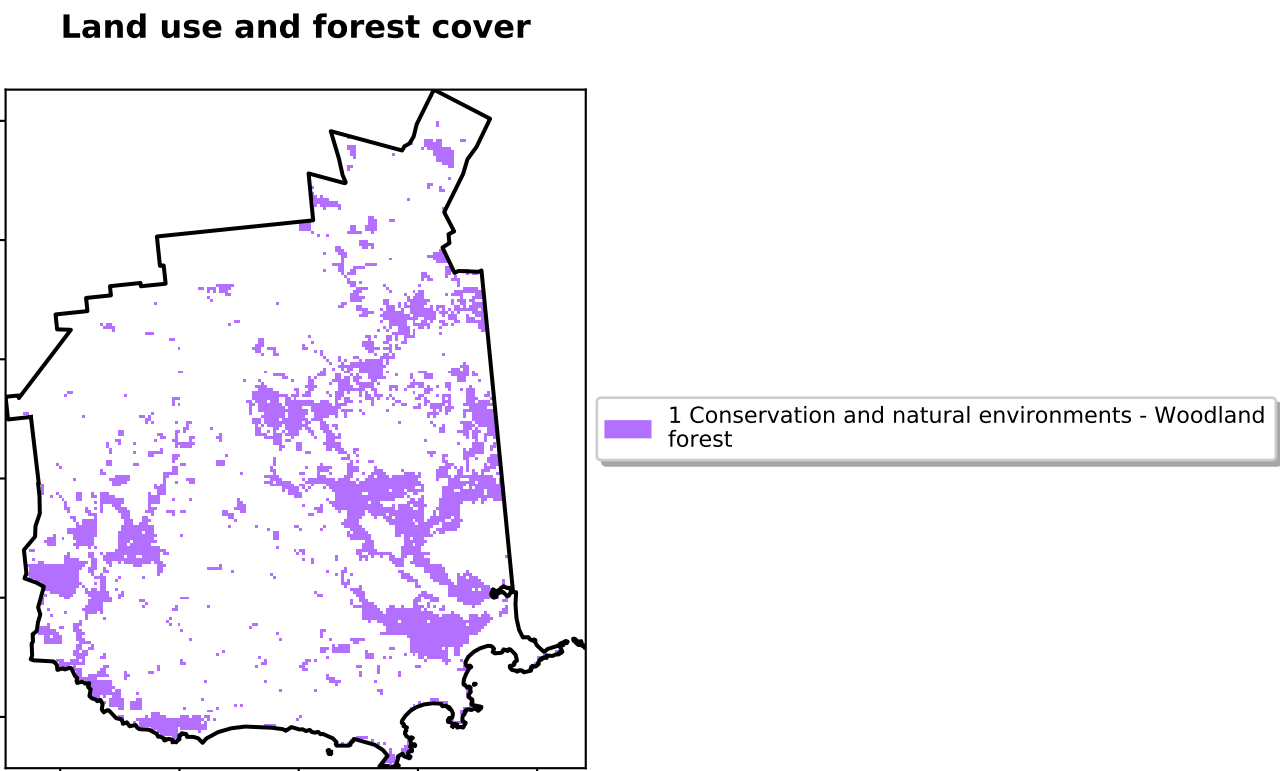


Water erosion historical monthly area protected (Total Veg Cov>70%)

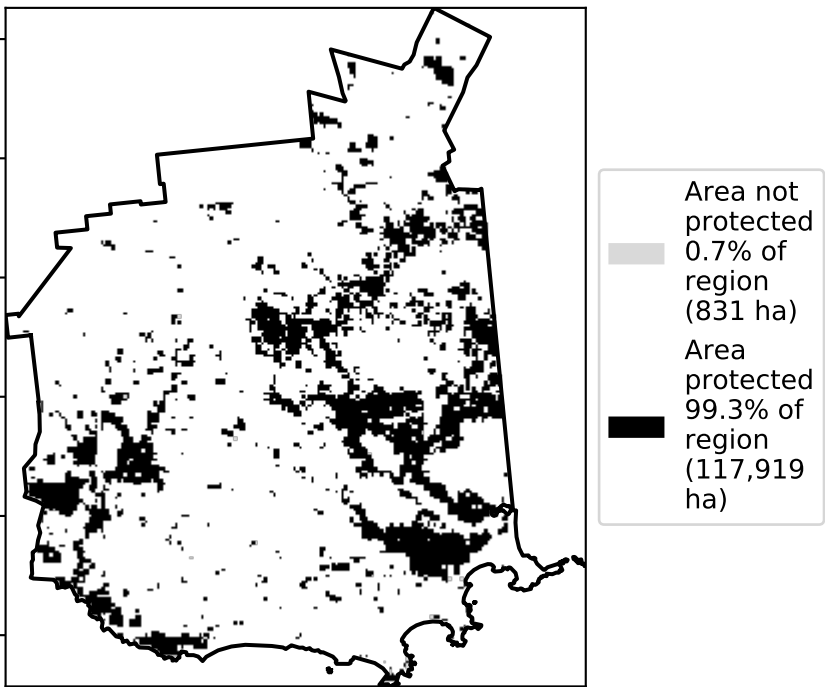


Conservation and natural environments Woodland forest

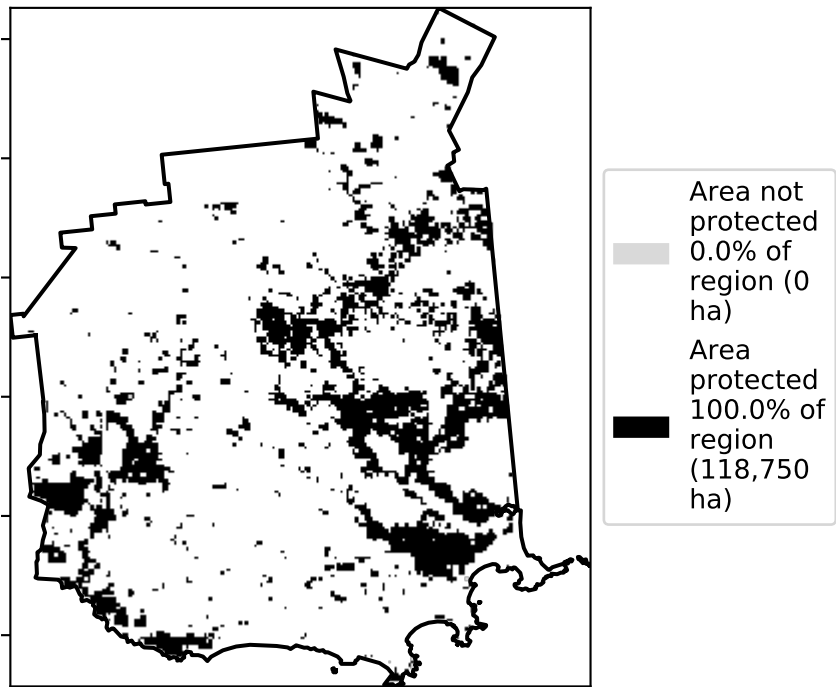
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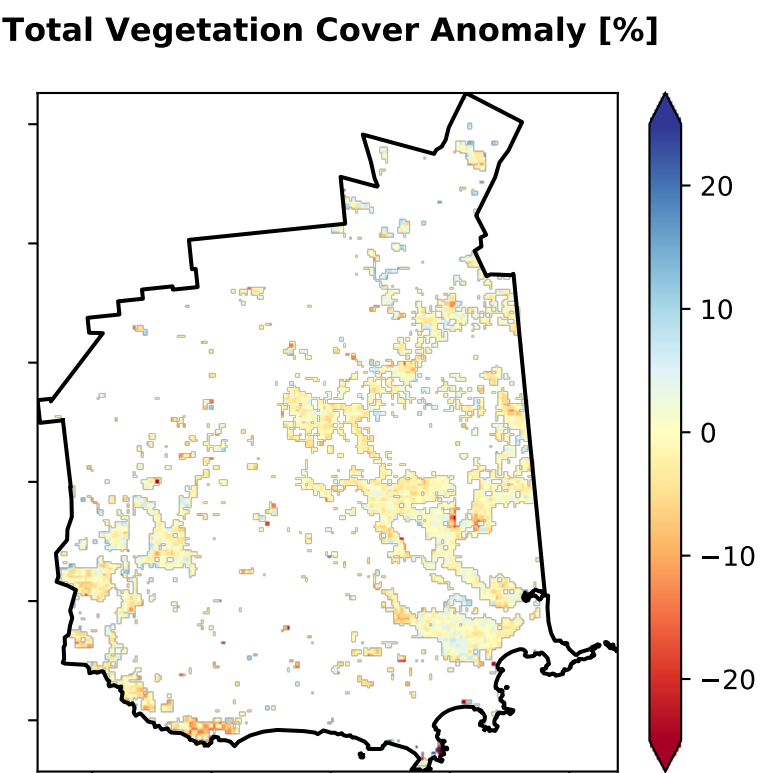
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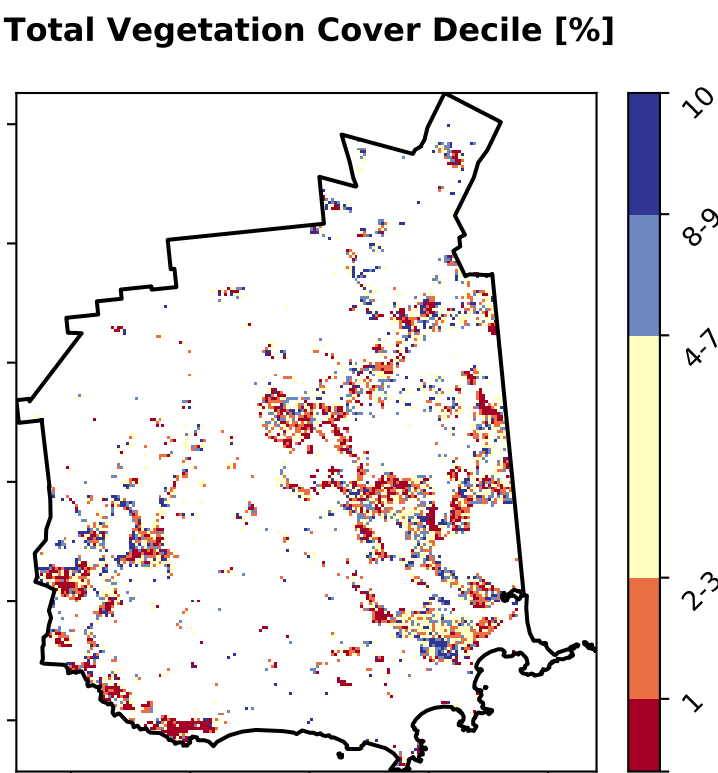
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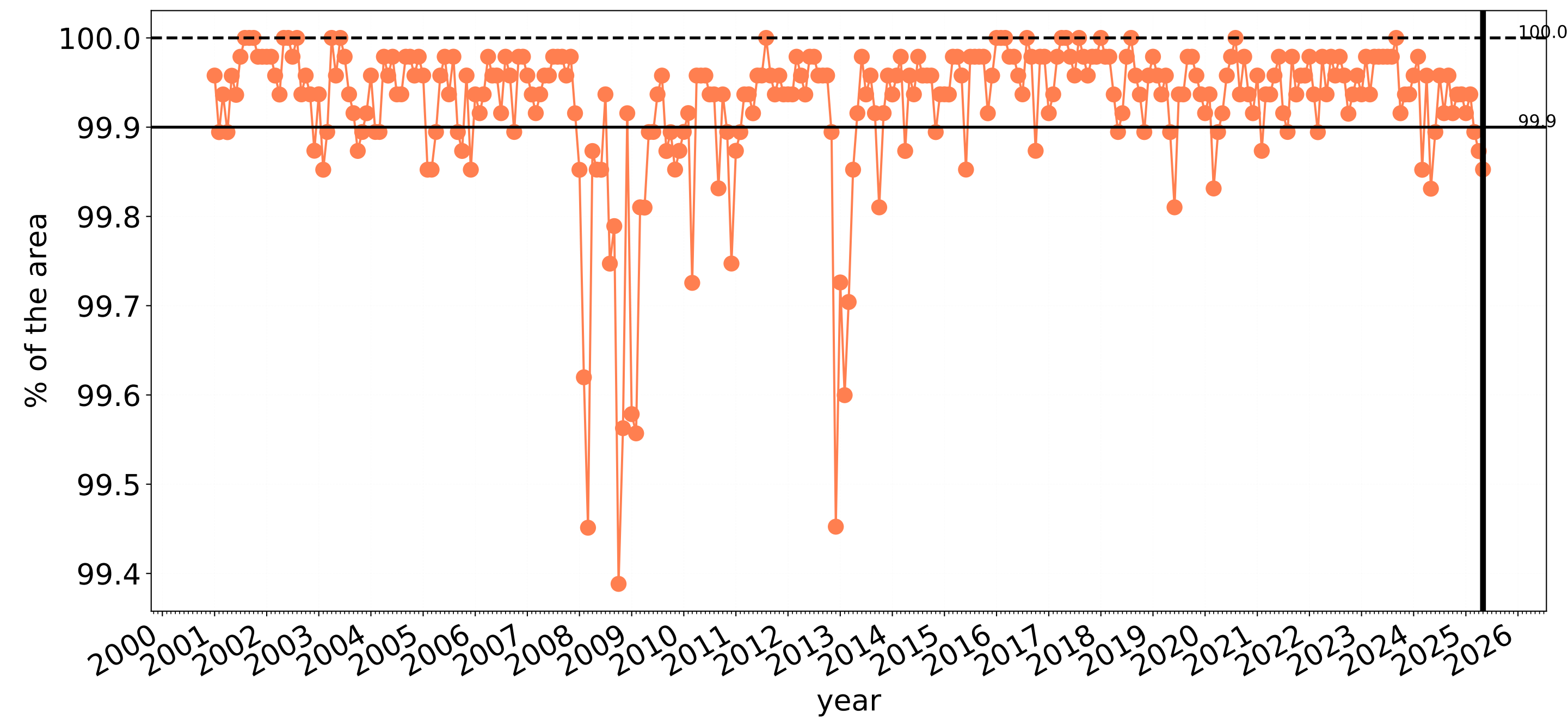
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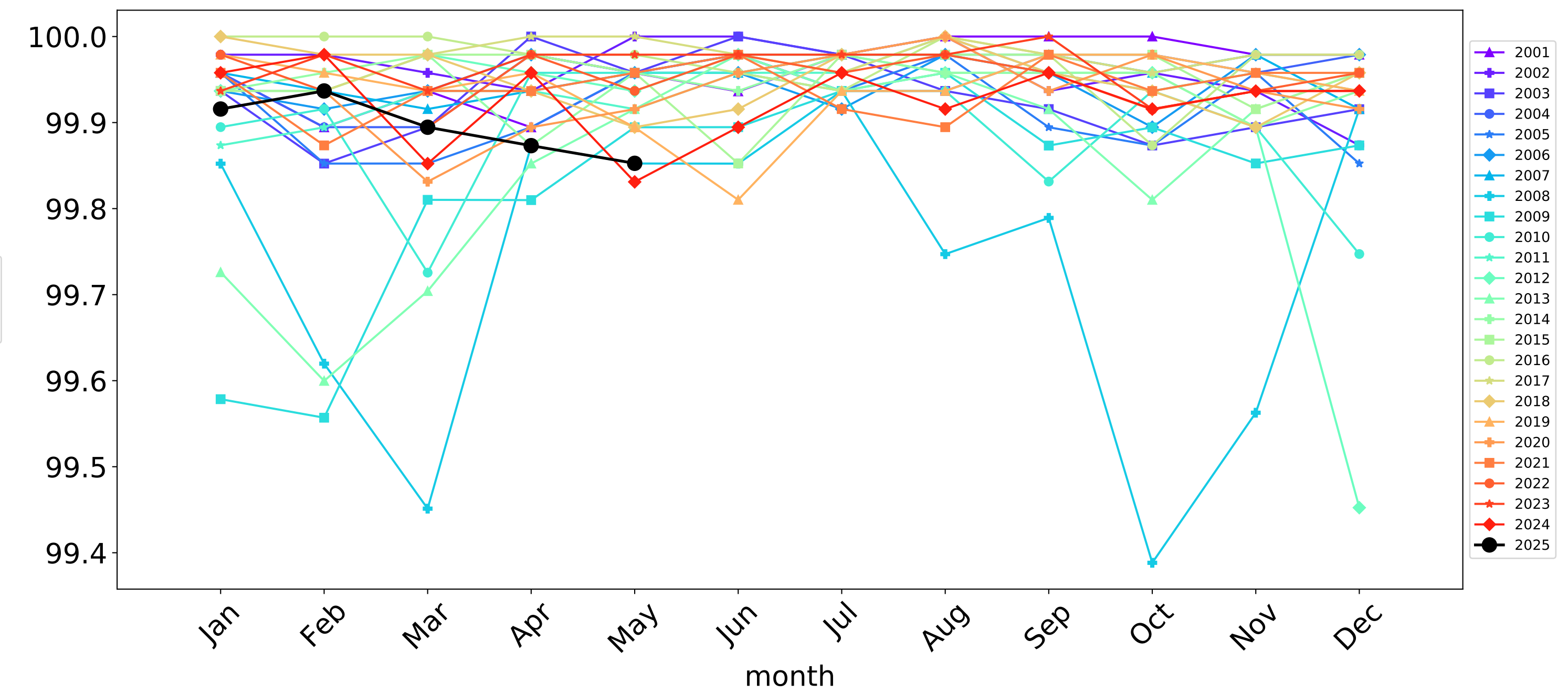


Conservation and natural environments Woodland forest timeseries

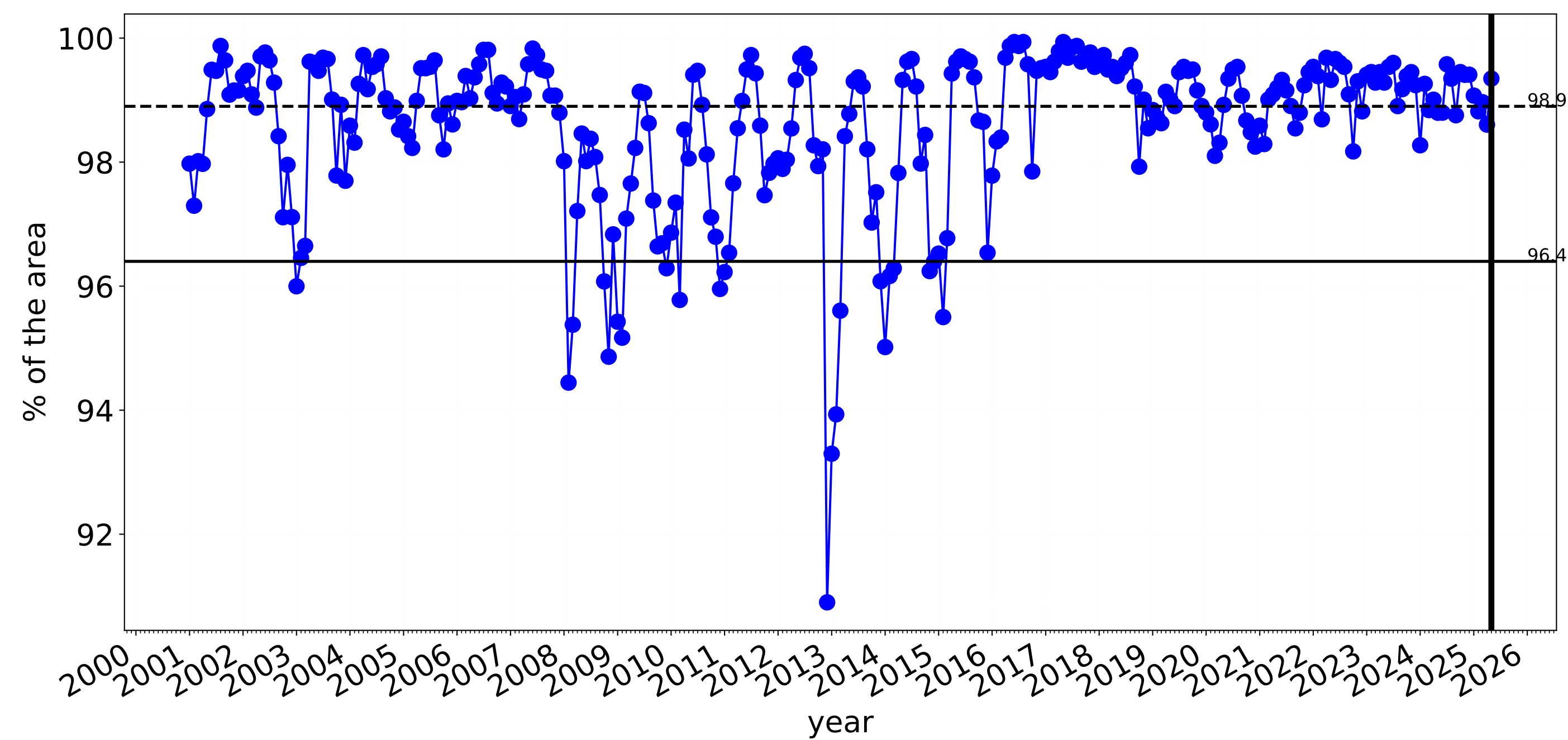
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



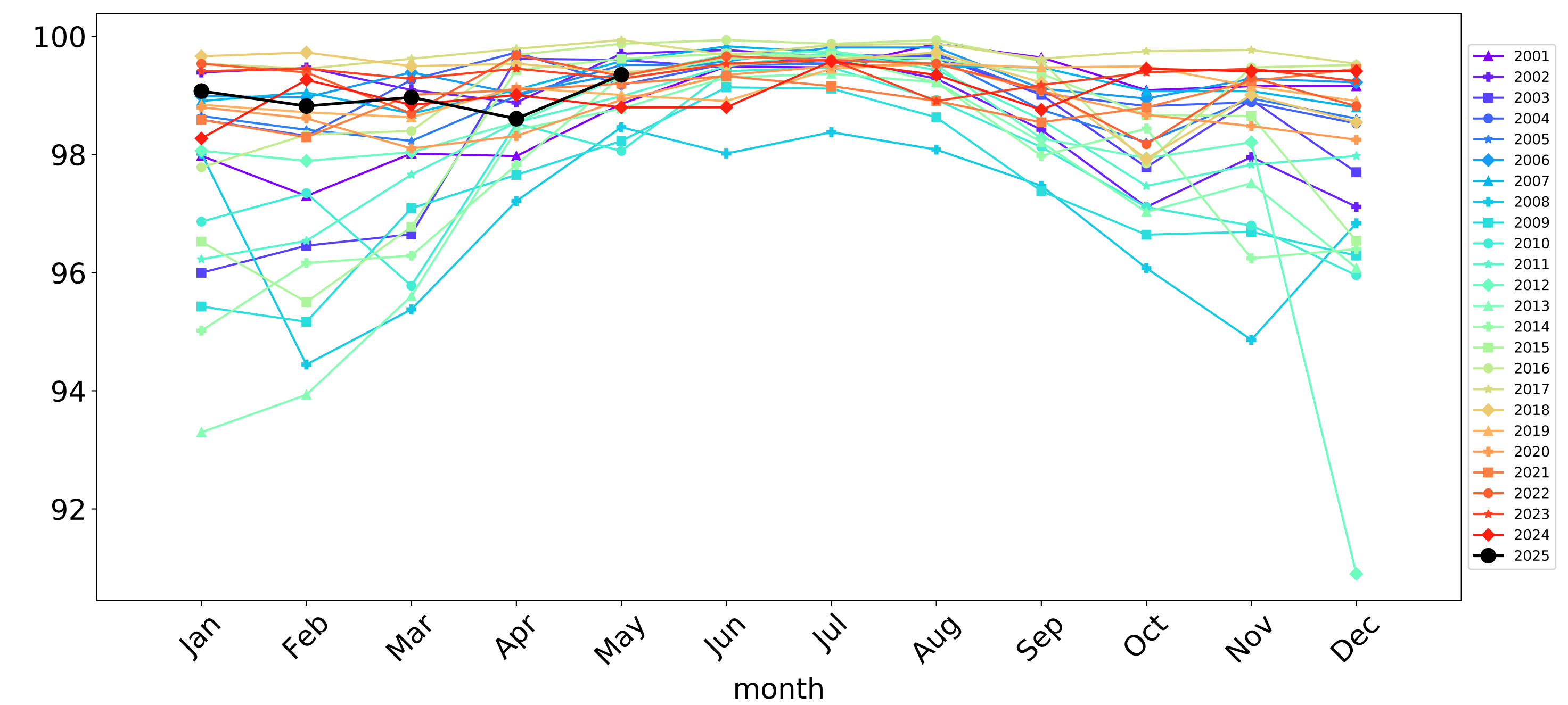
Wind erosion historical monthly area protected (Total Veg Cov > 50%)



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



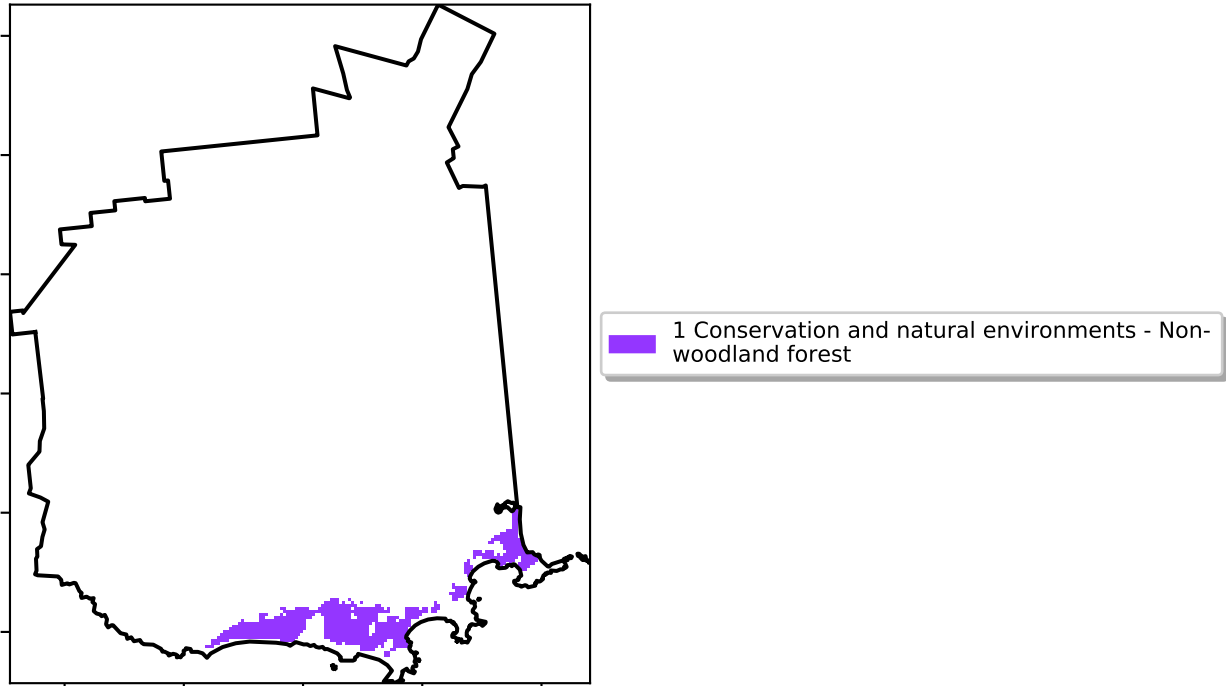
Water erosion historical monthly area protected (Total Veg Cov > 70%)



Conservation and natural environments Forest (non woodland)

Land use and forest cover

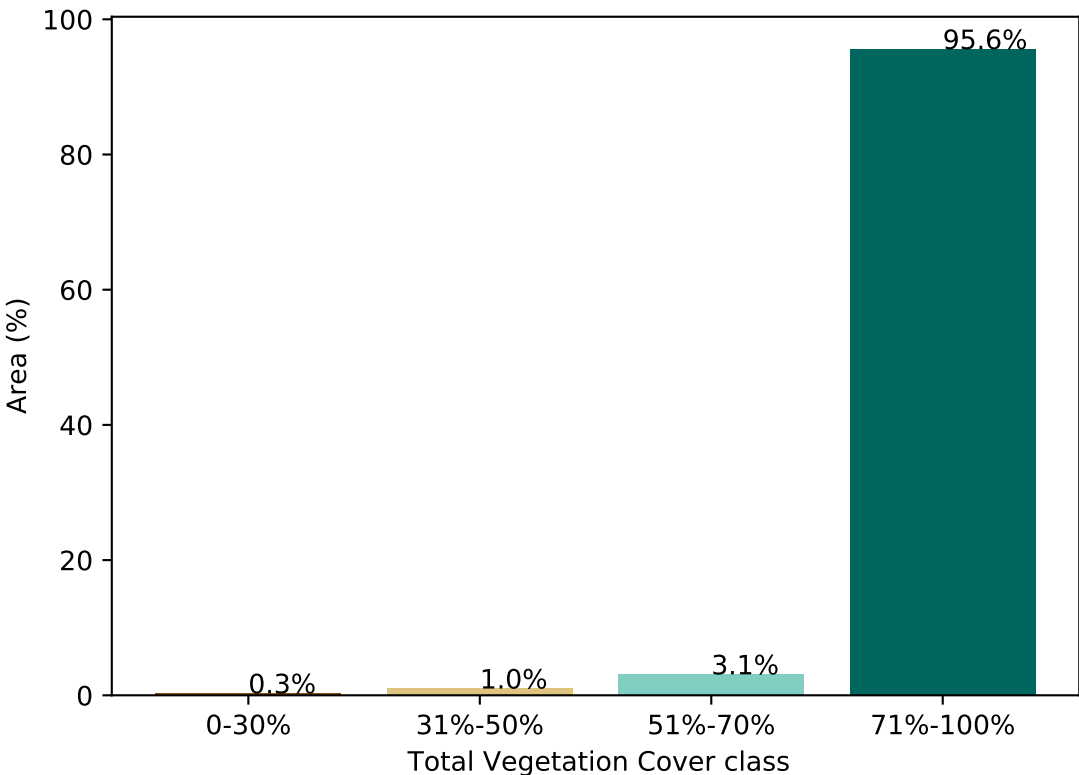
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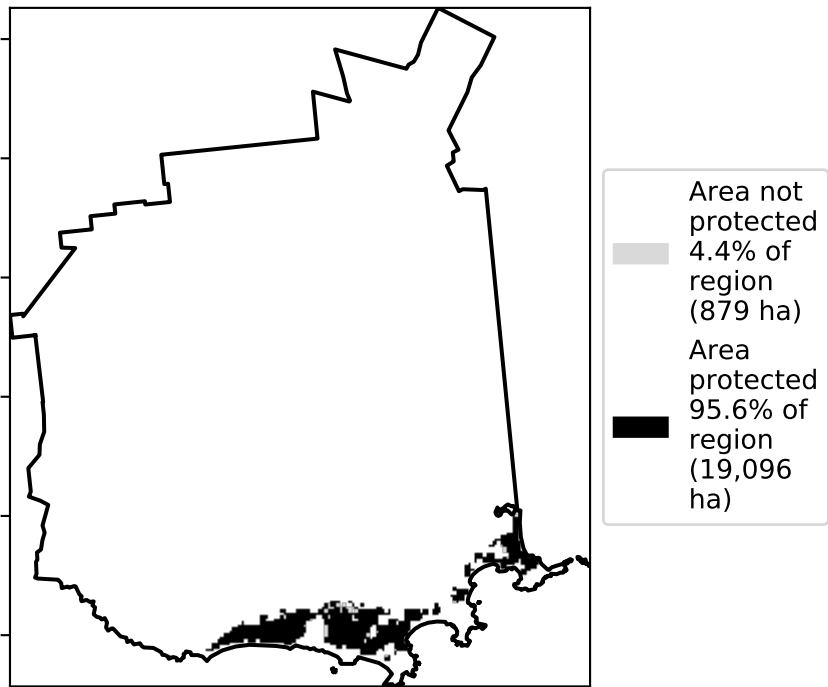
Total Vegetation Cover [%]



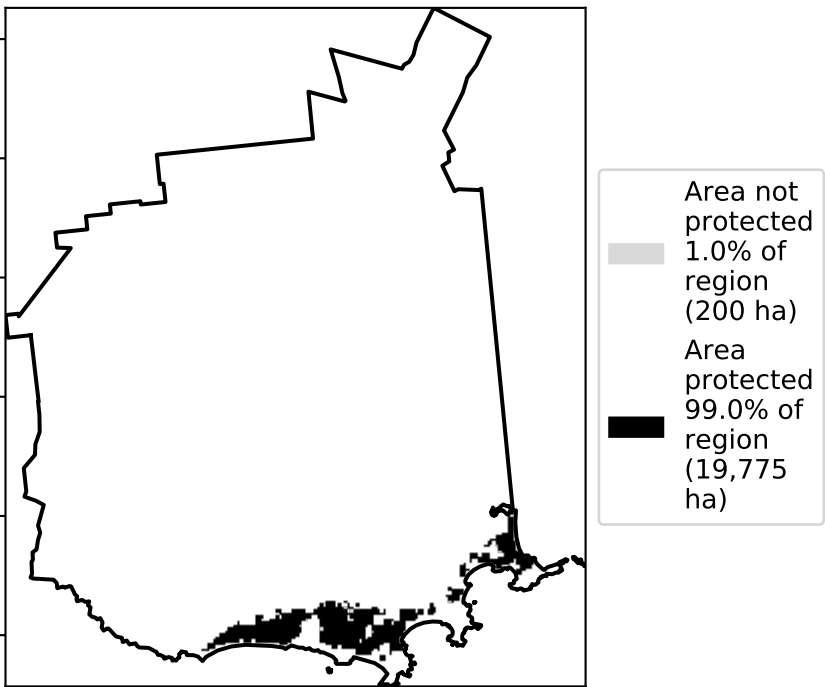
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

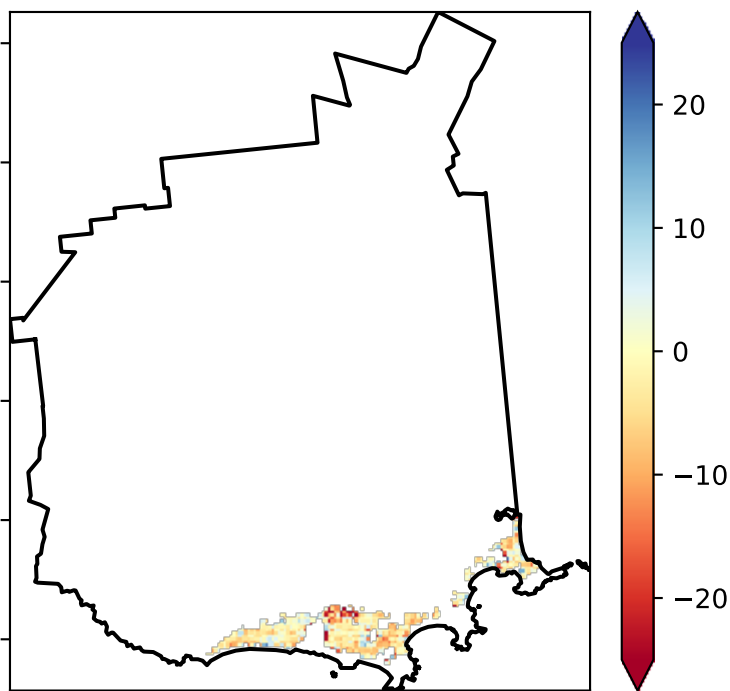


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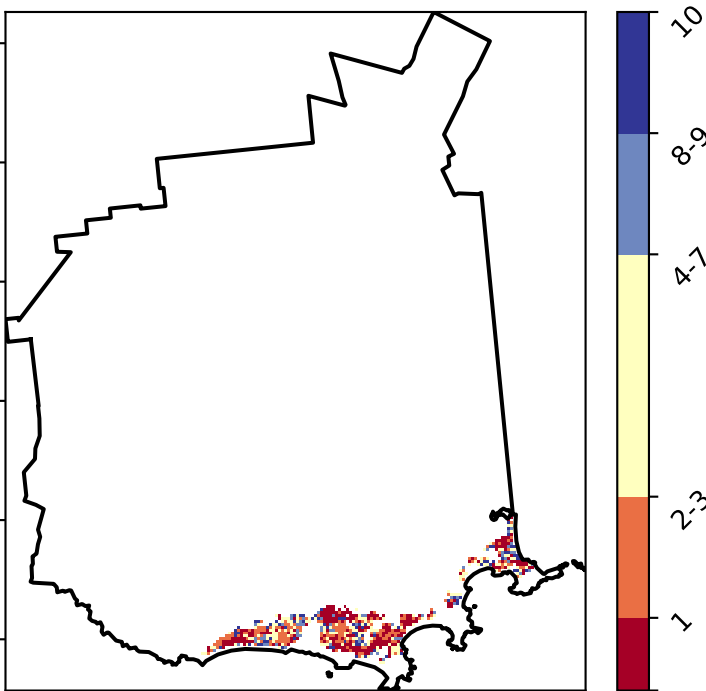
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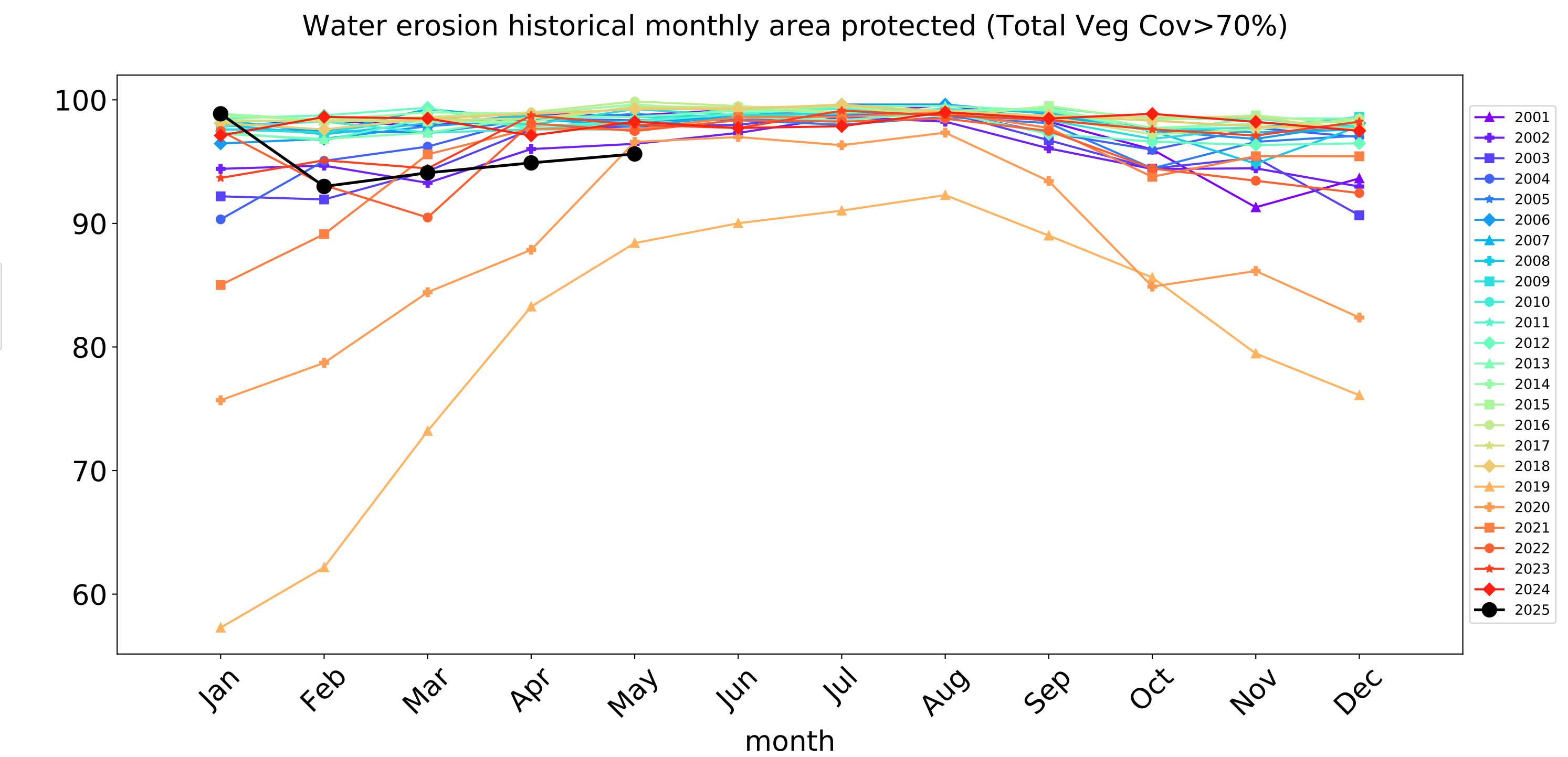
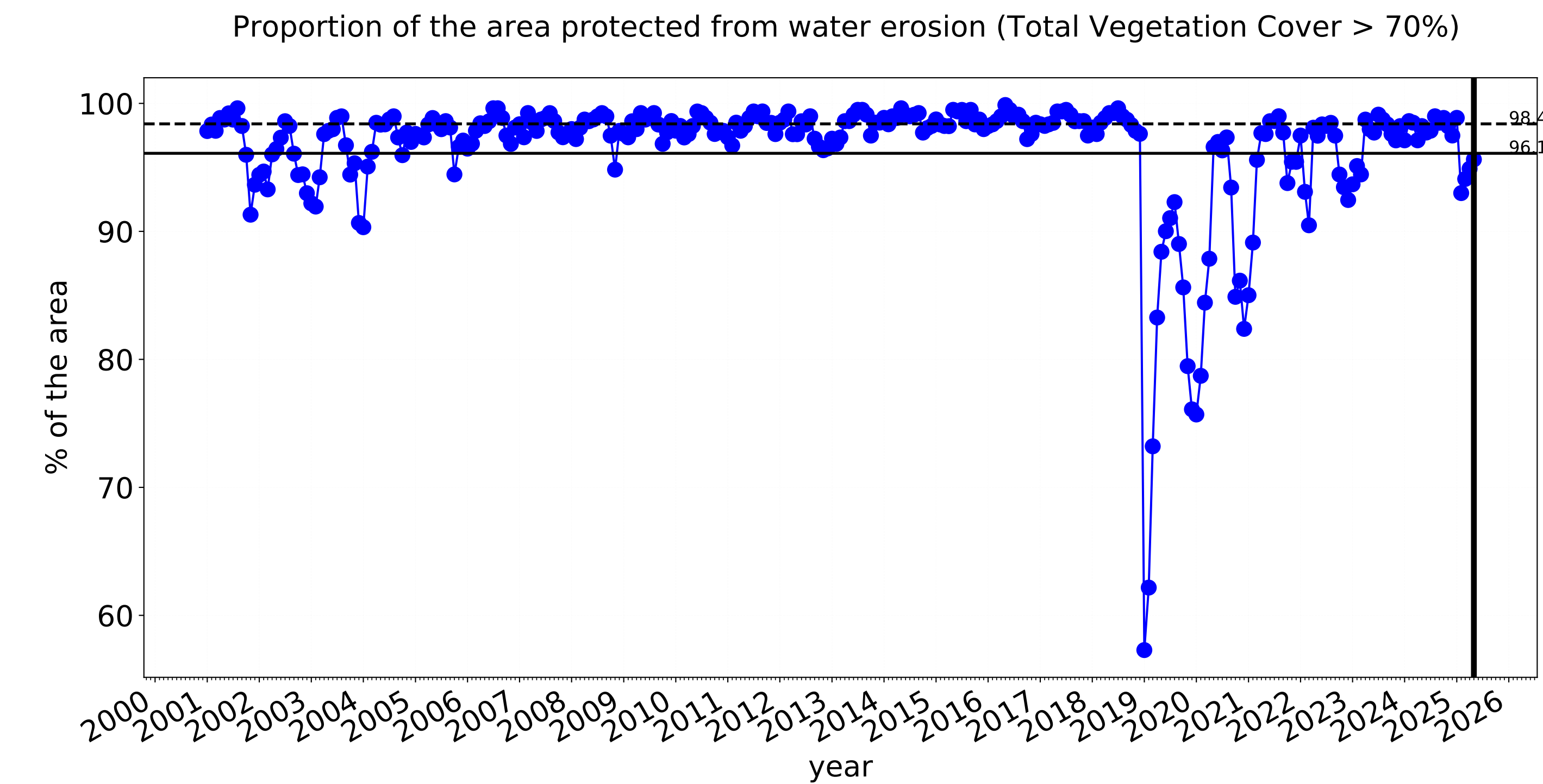
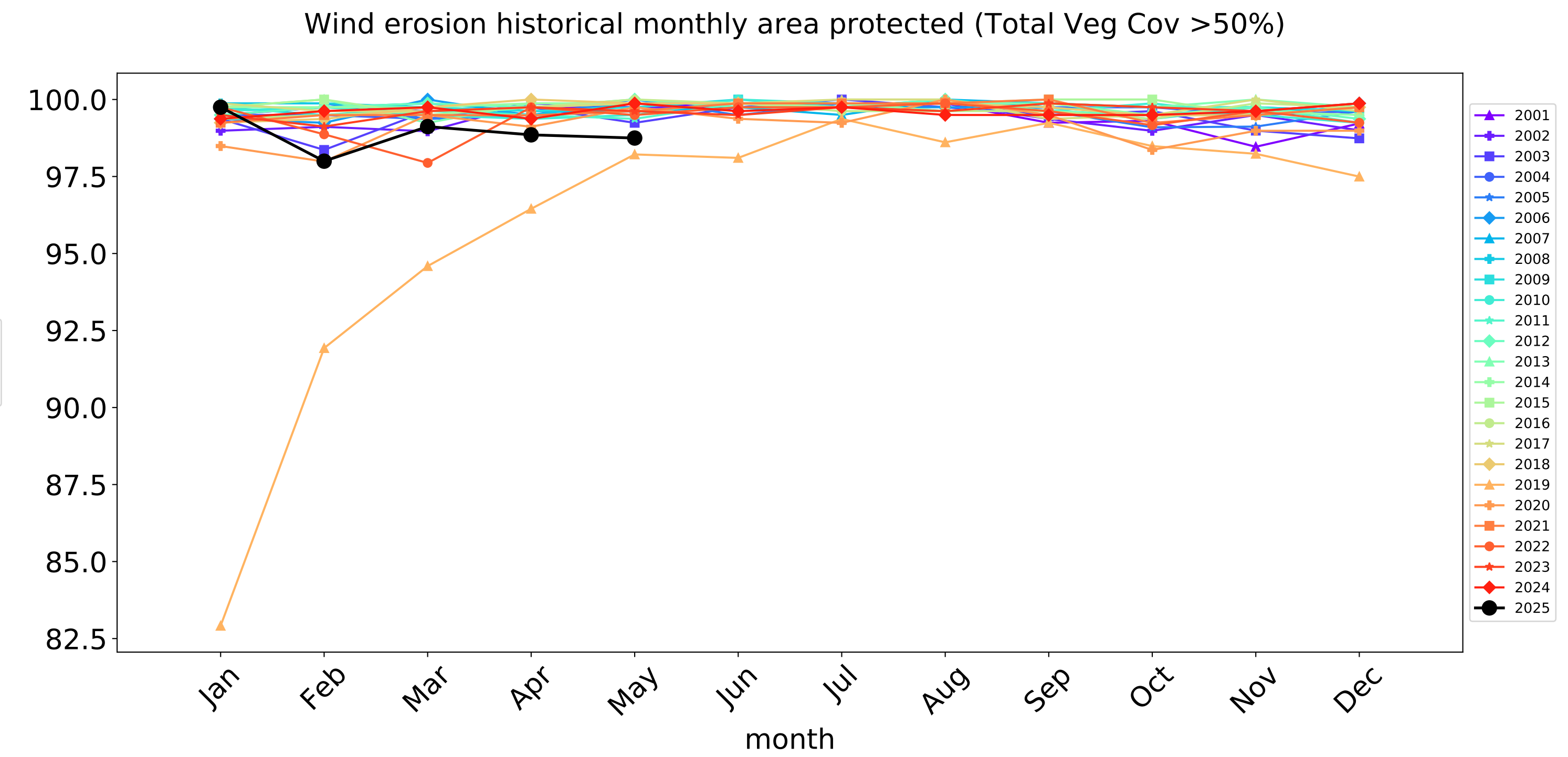
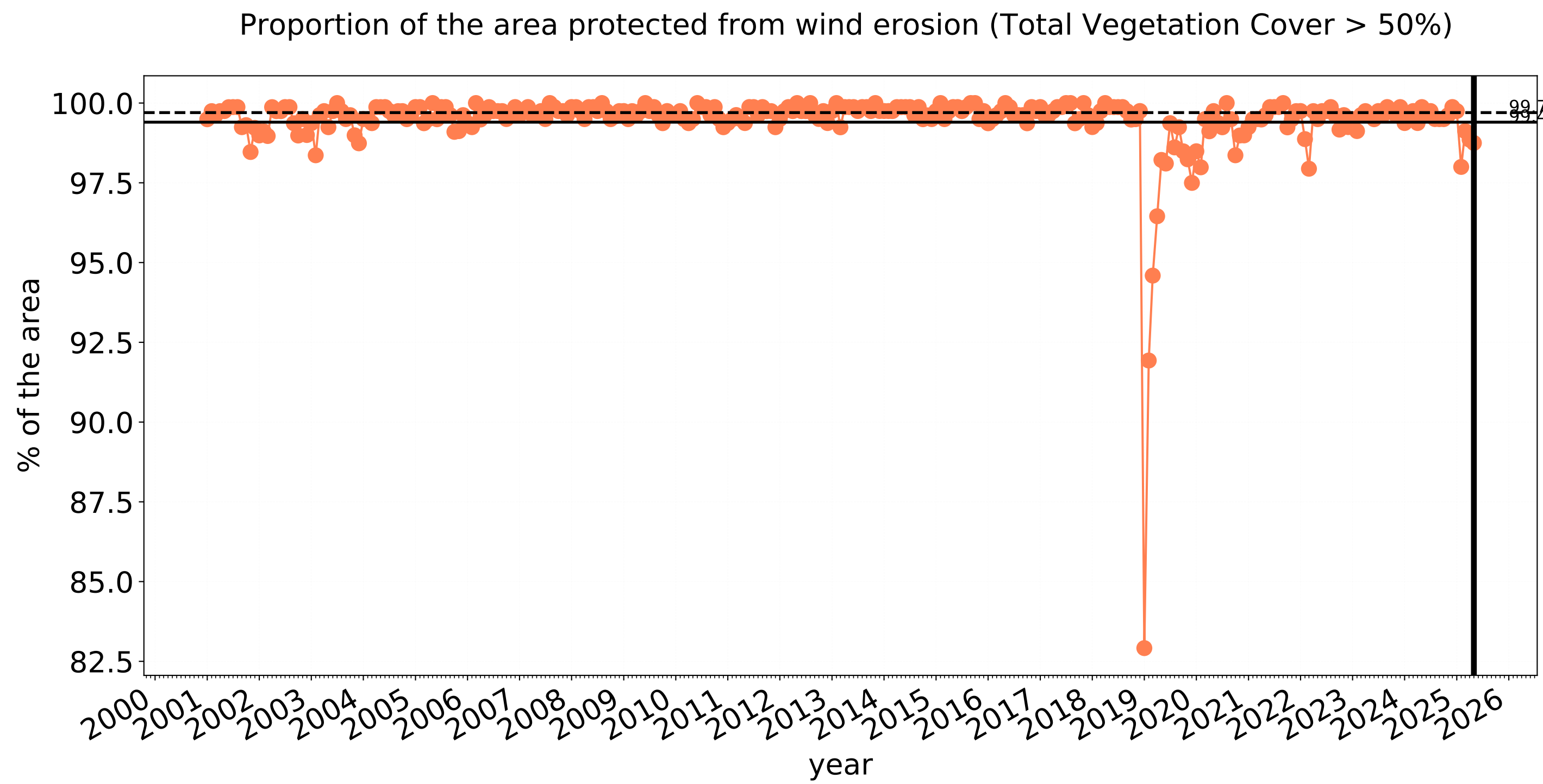


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Total Vegetation Cover Decile [%]



Conservation and natural environments Forest (non woodland) timeseries



Agriculture

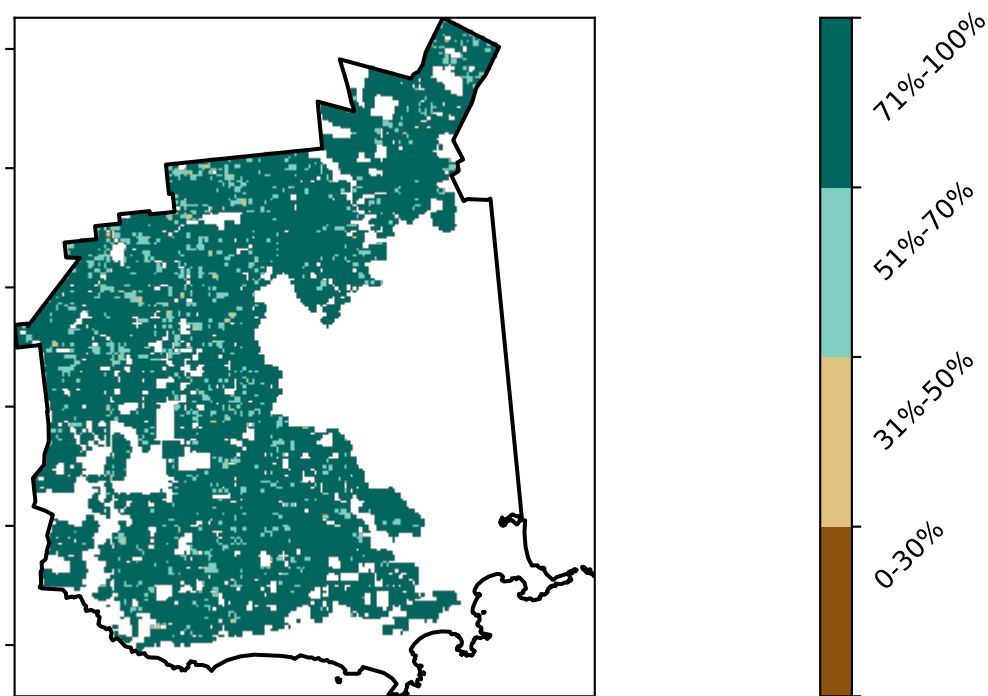
Land use and forest cover



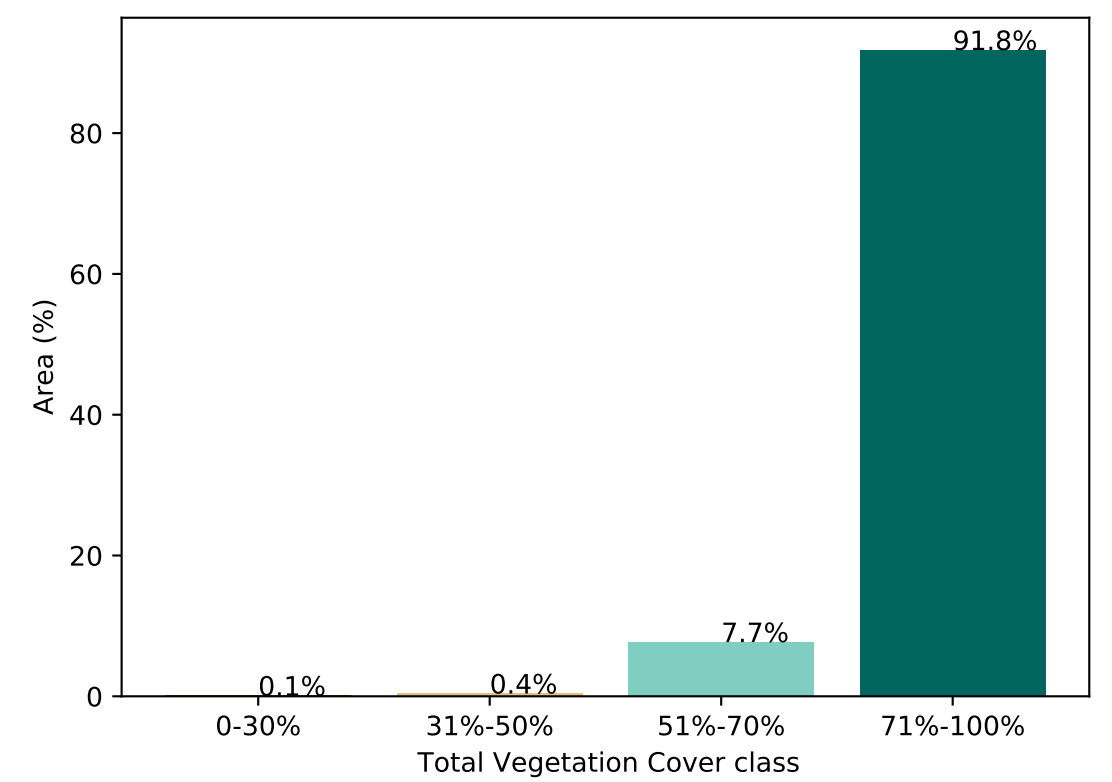
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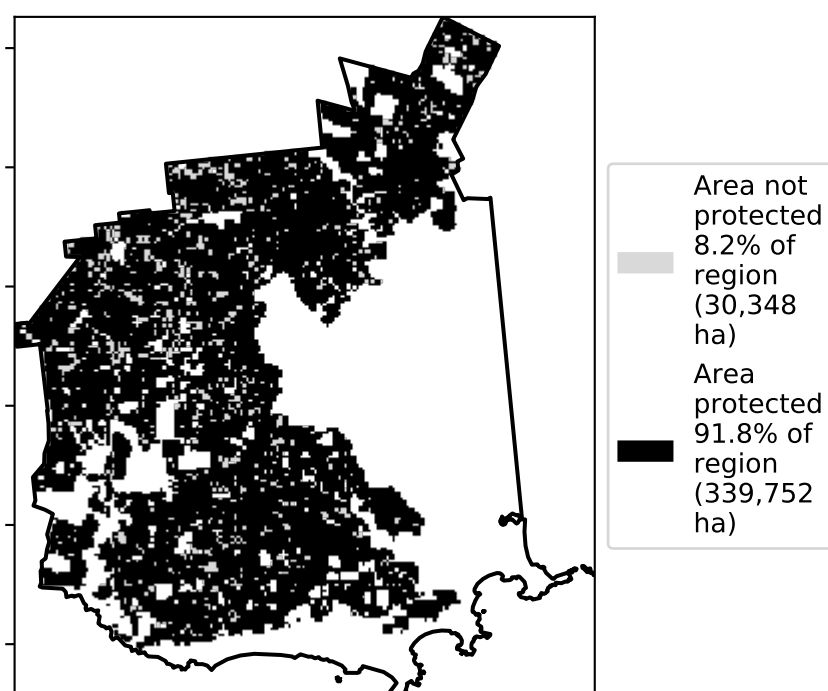
Total Vegetation Cover [%]



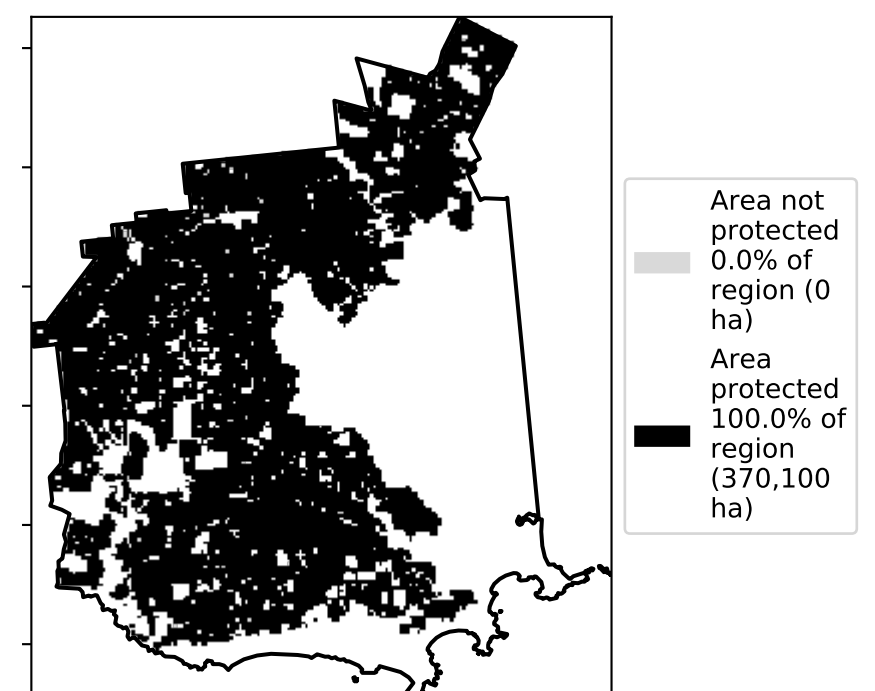
Proportion of vegetation cover class in area



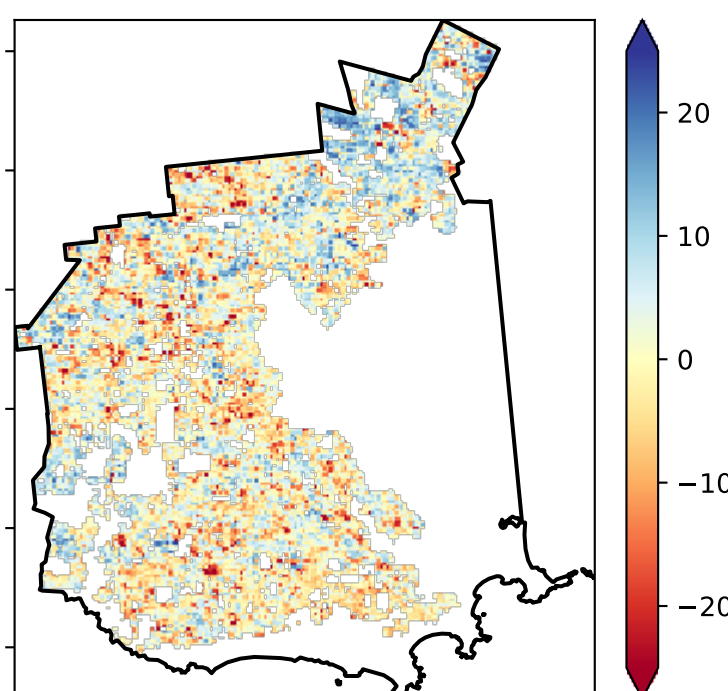
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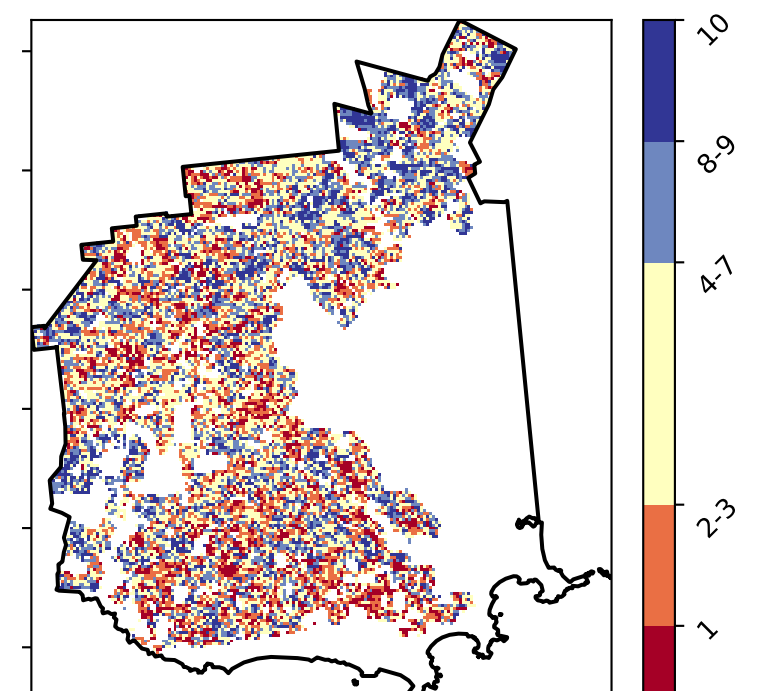
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



Total Vegetation Cover Decile [%]



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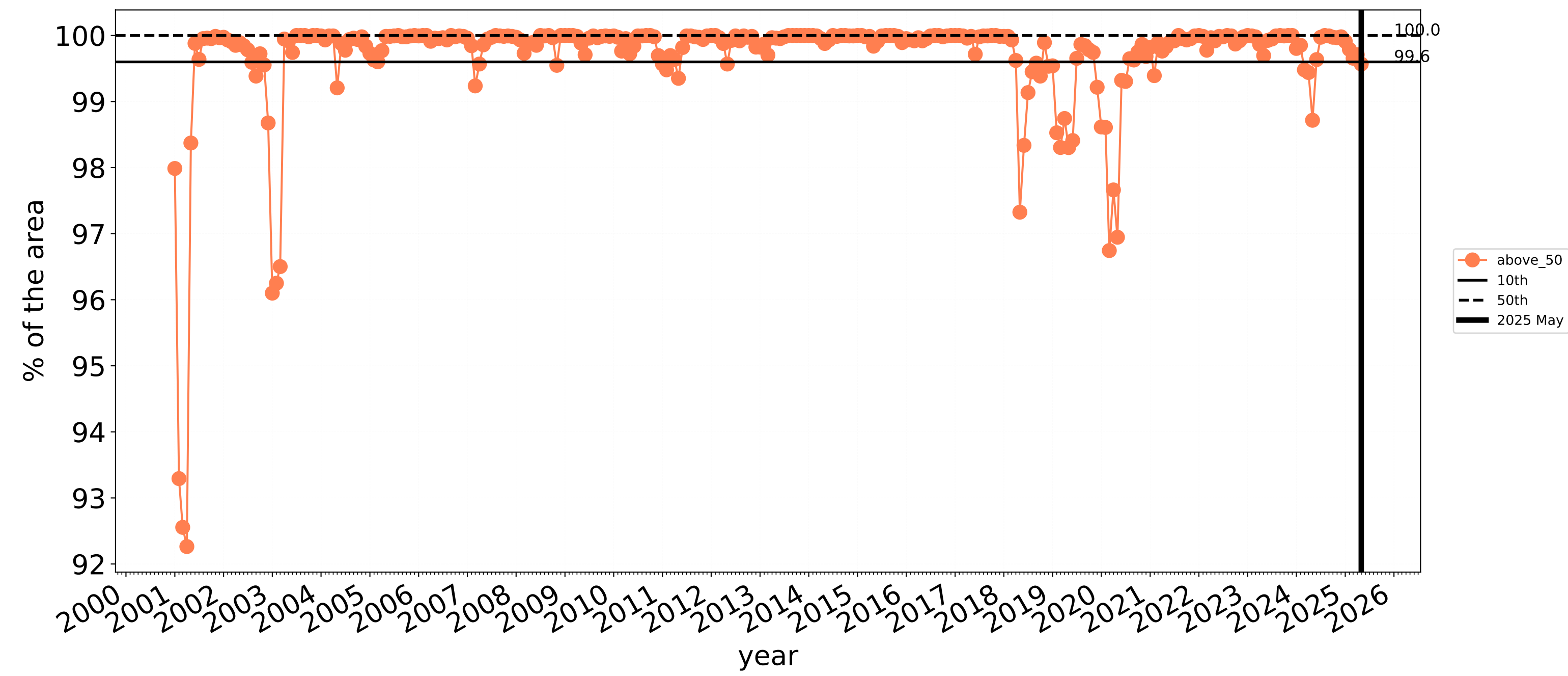
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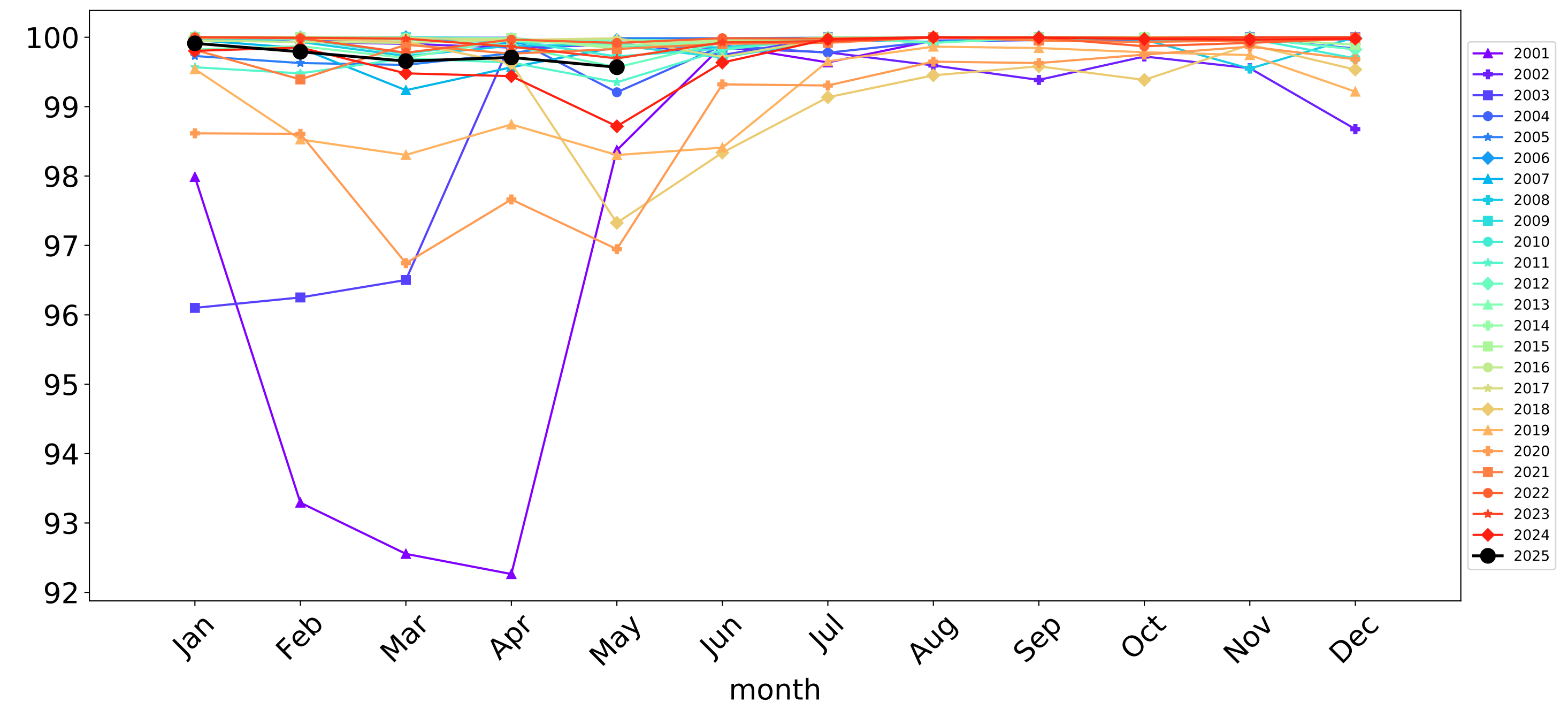


Agriculture timeseries

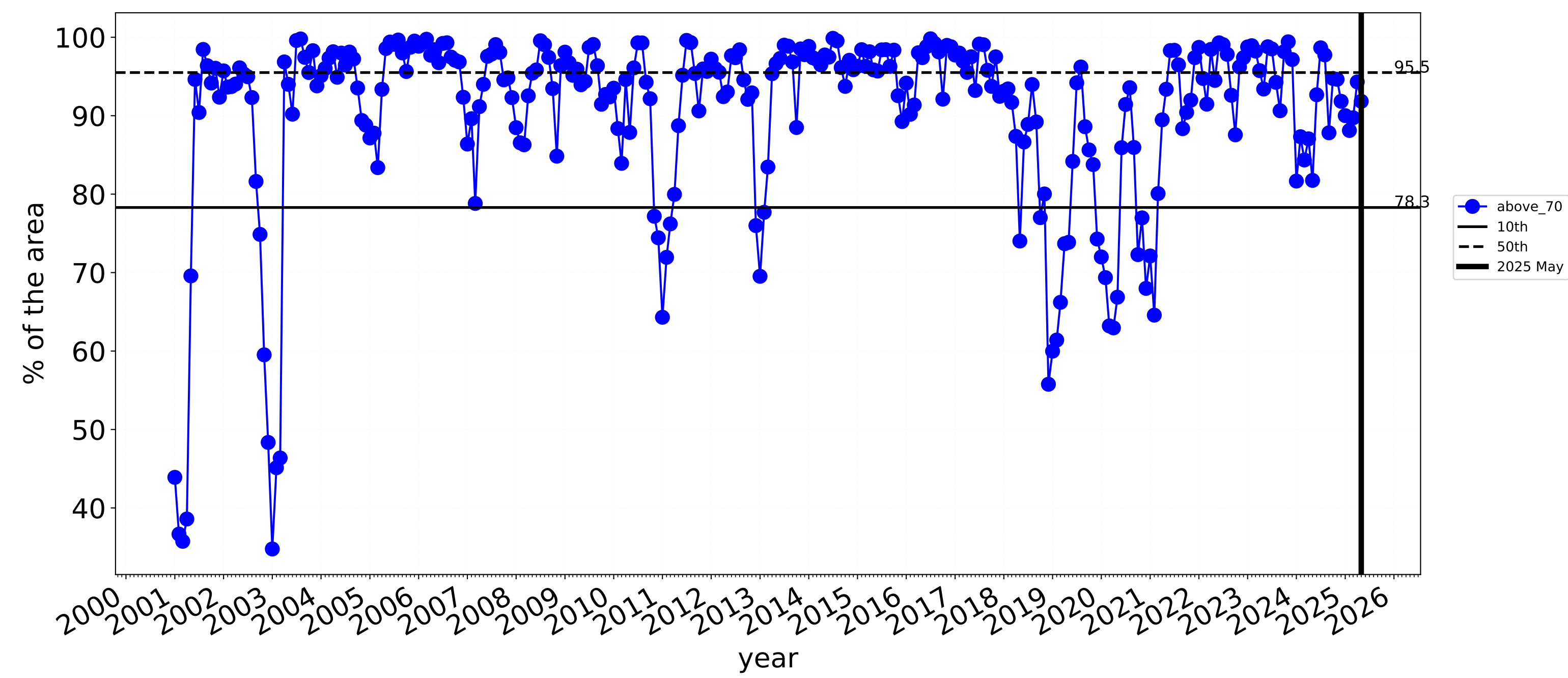
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



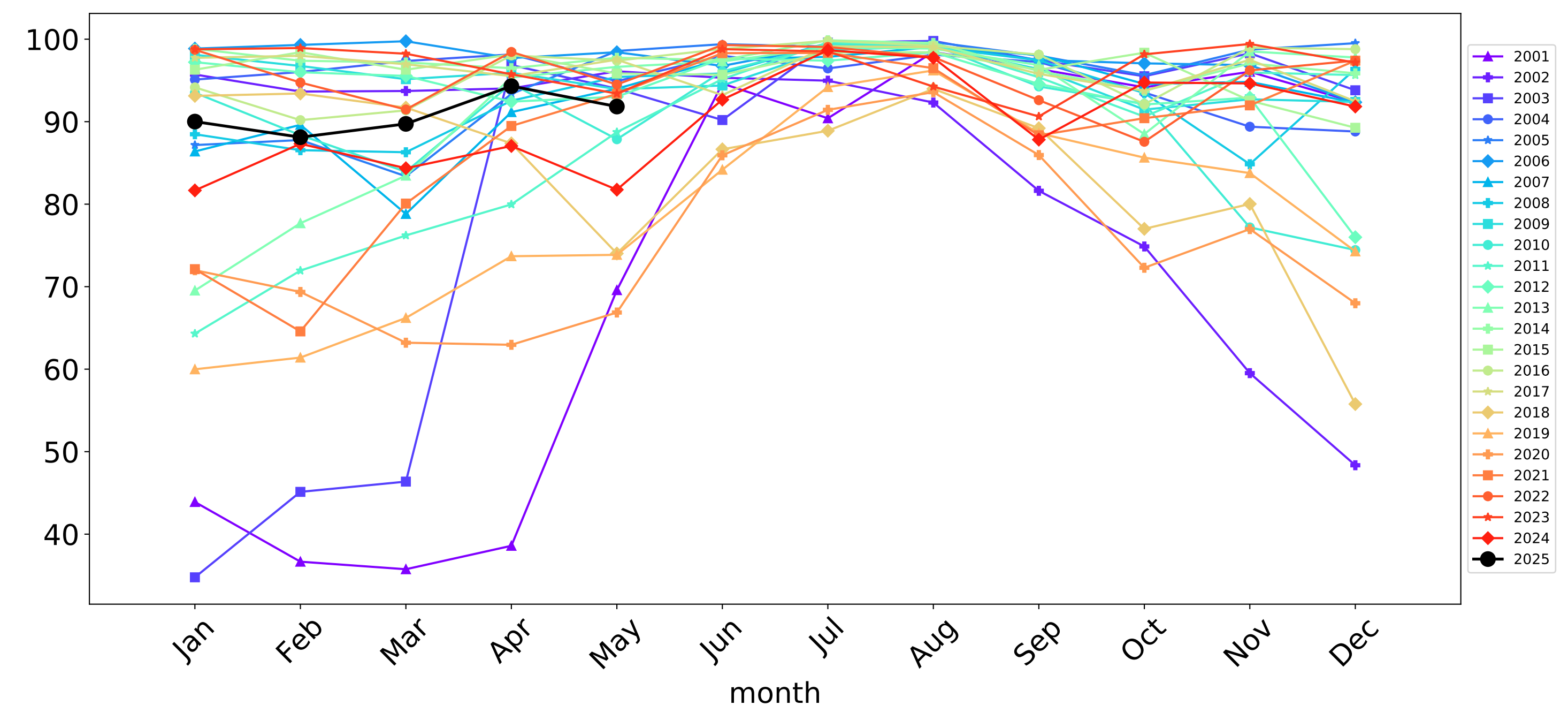
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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



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



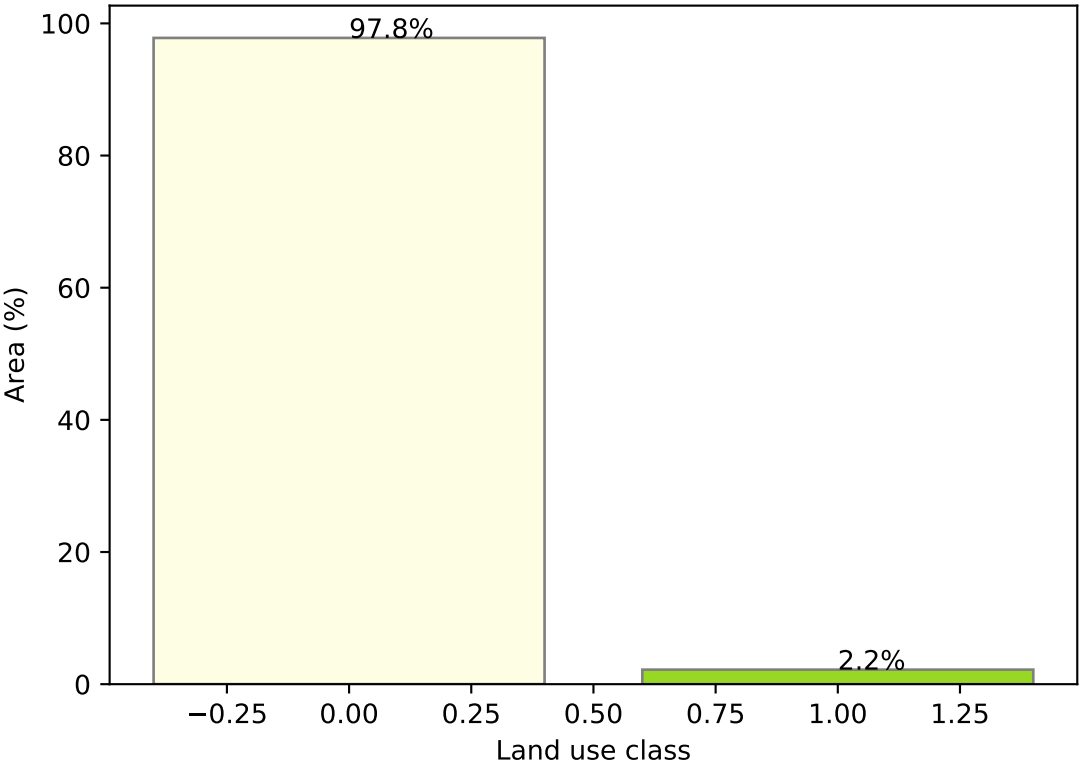
Grazing

Land use and forest cover

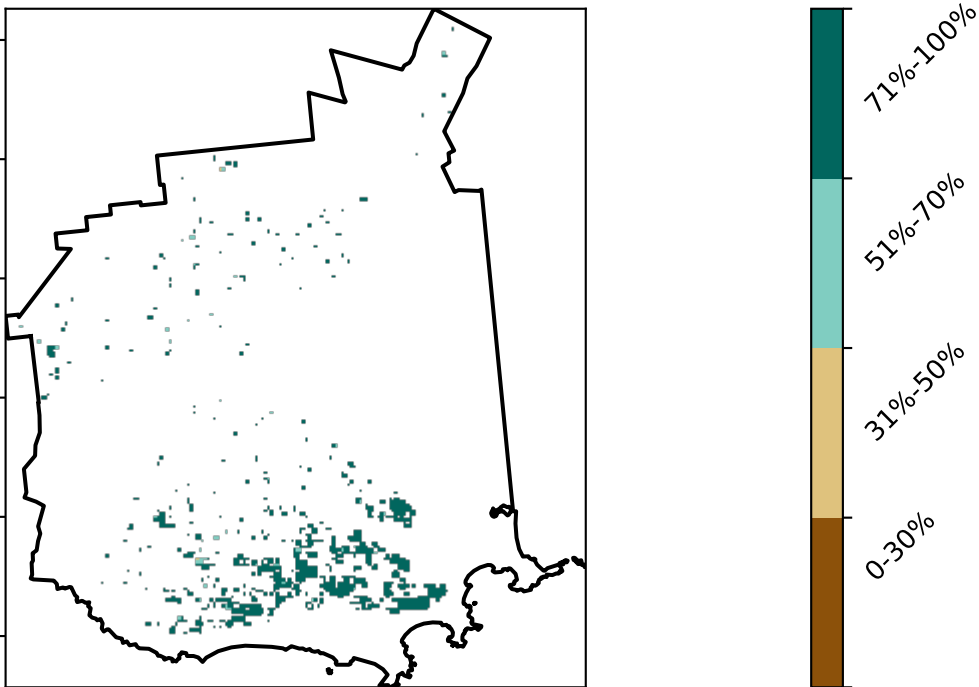
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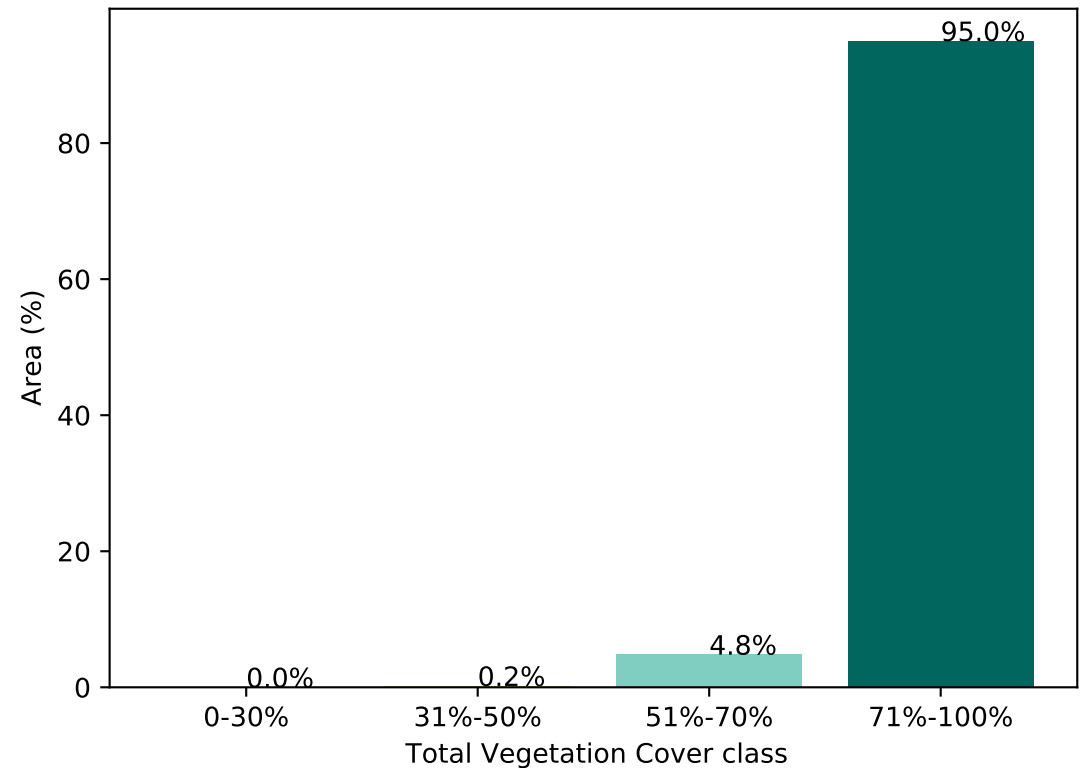
Proportion of each land class in area



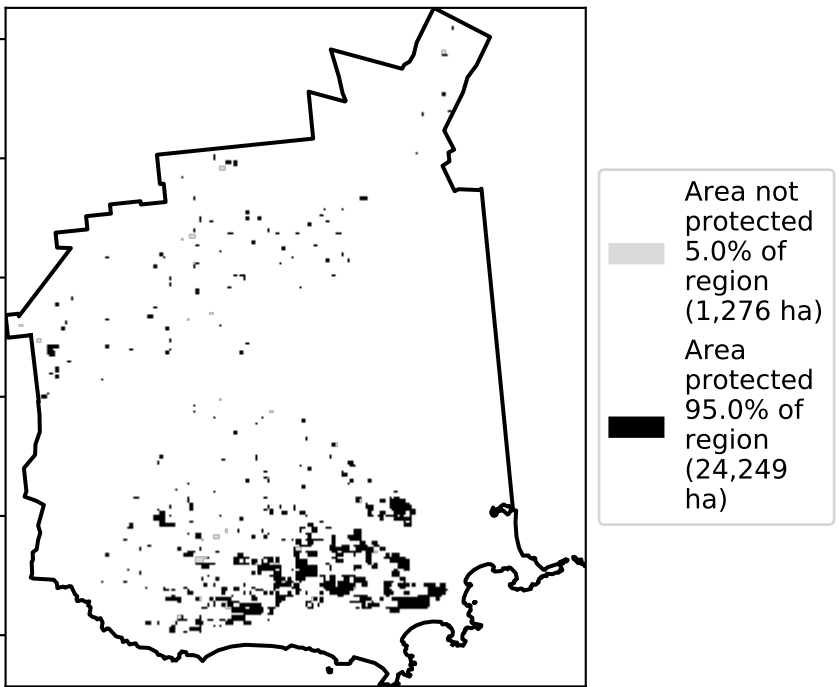
Total Vegetation Cover [%]



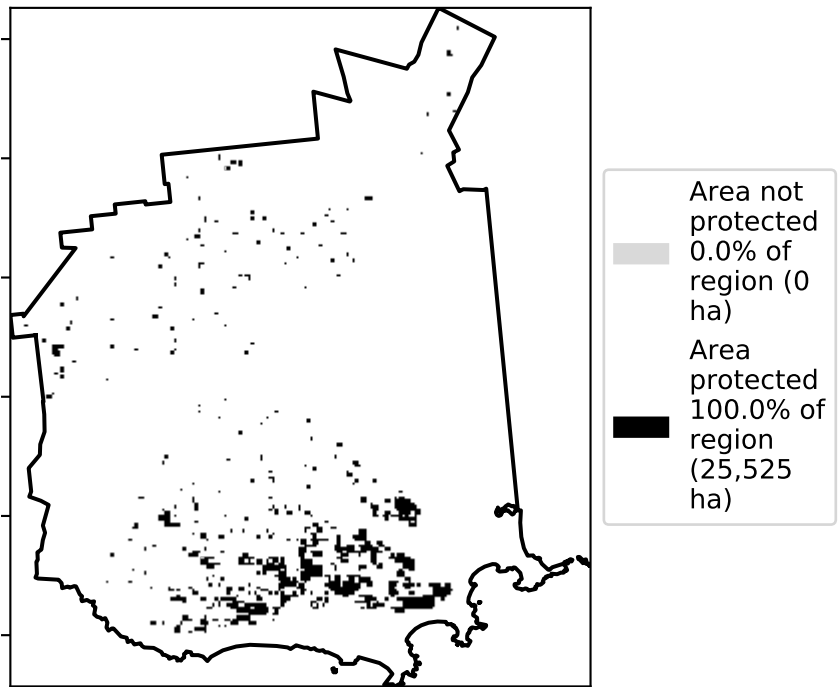
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

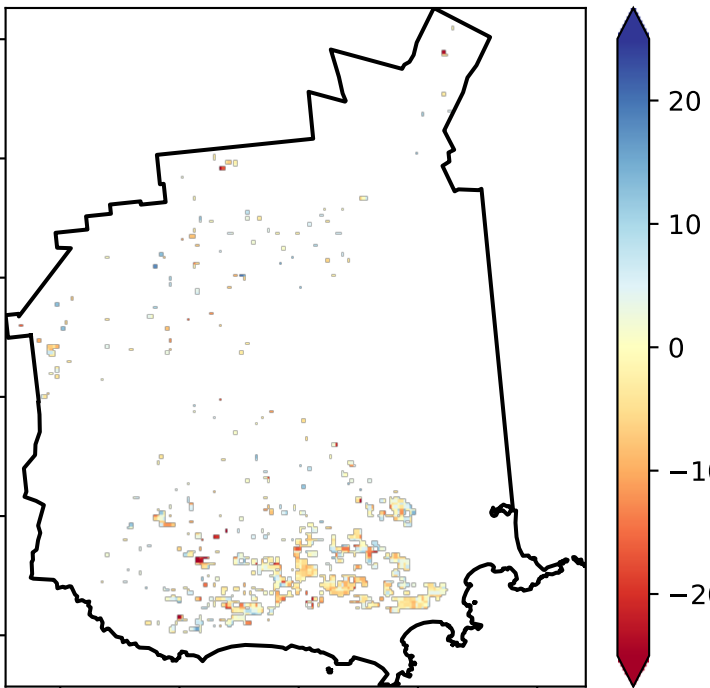


% Area protected from wind erosion (>50%)



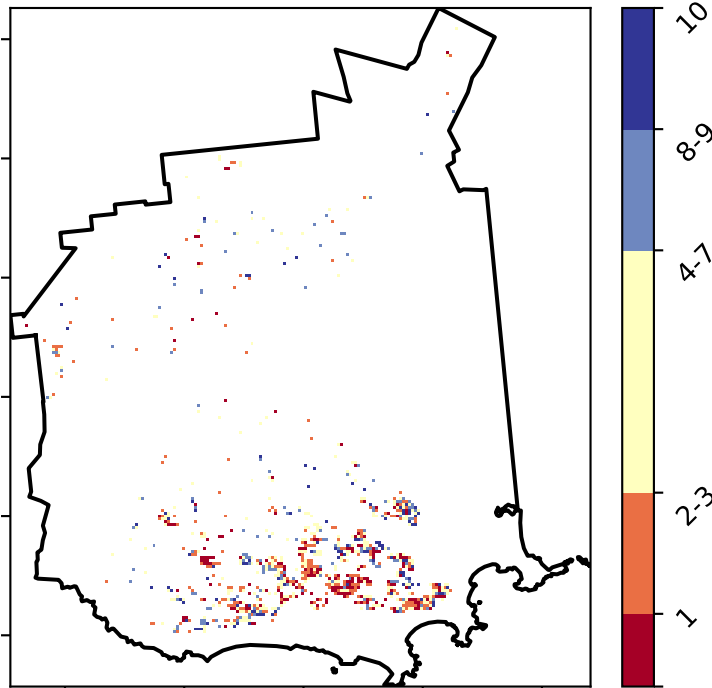
Total Vegetation Cover Anomaly [%]

Anomaly show 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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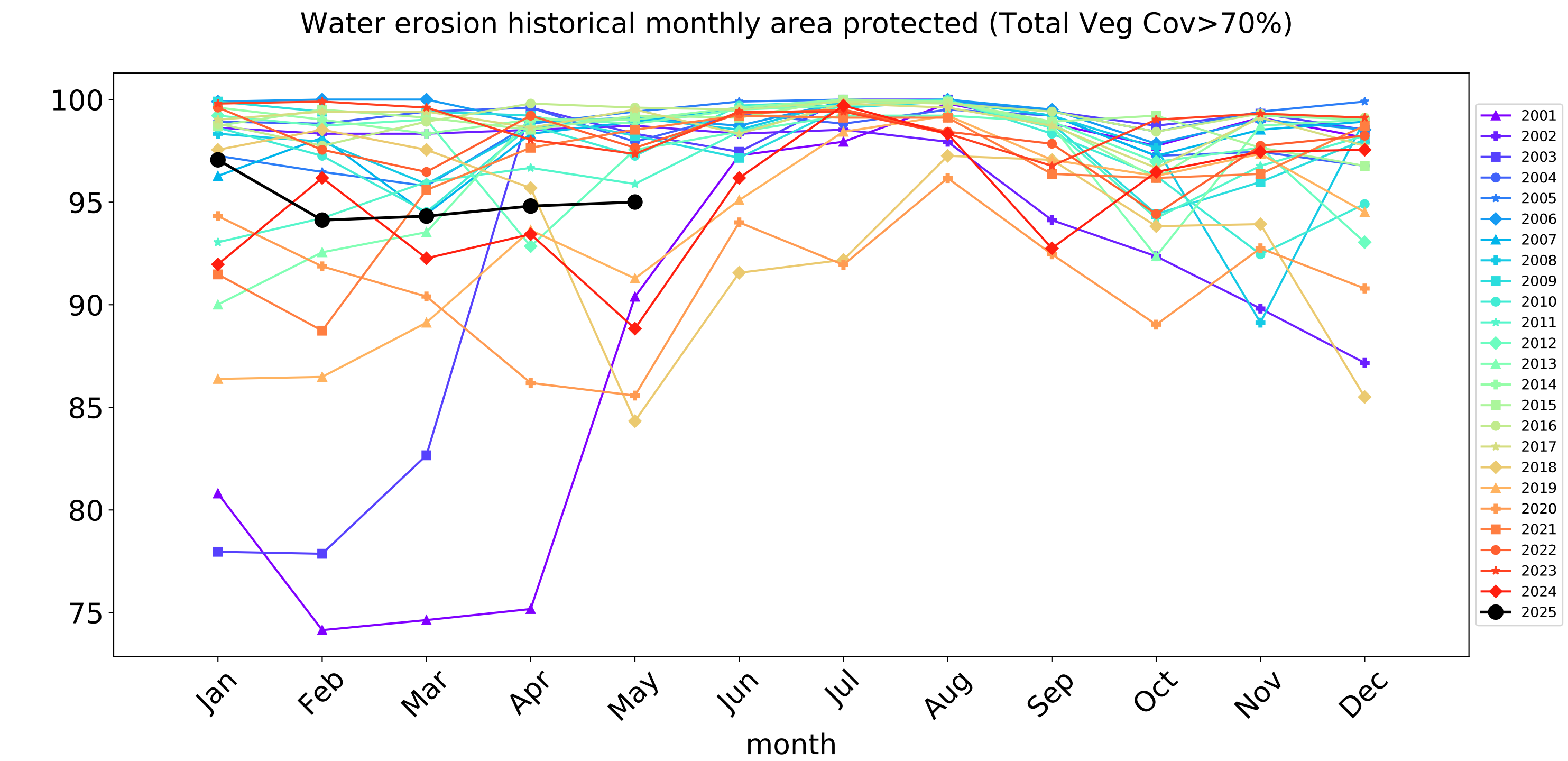
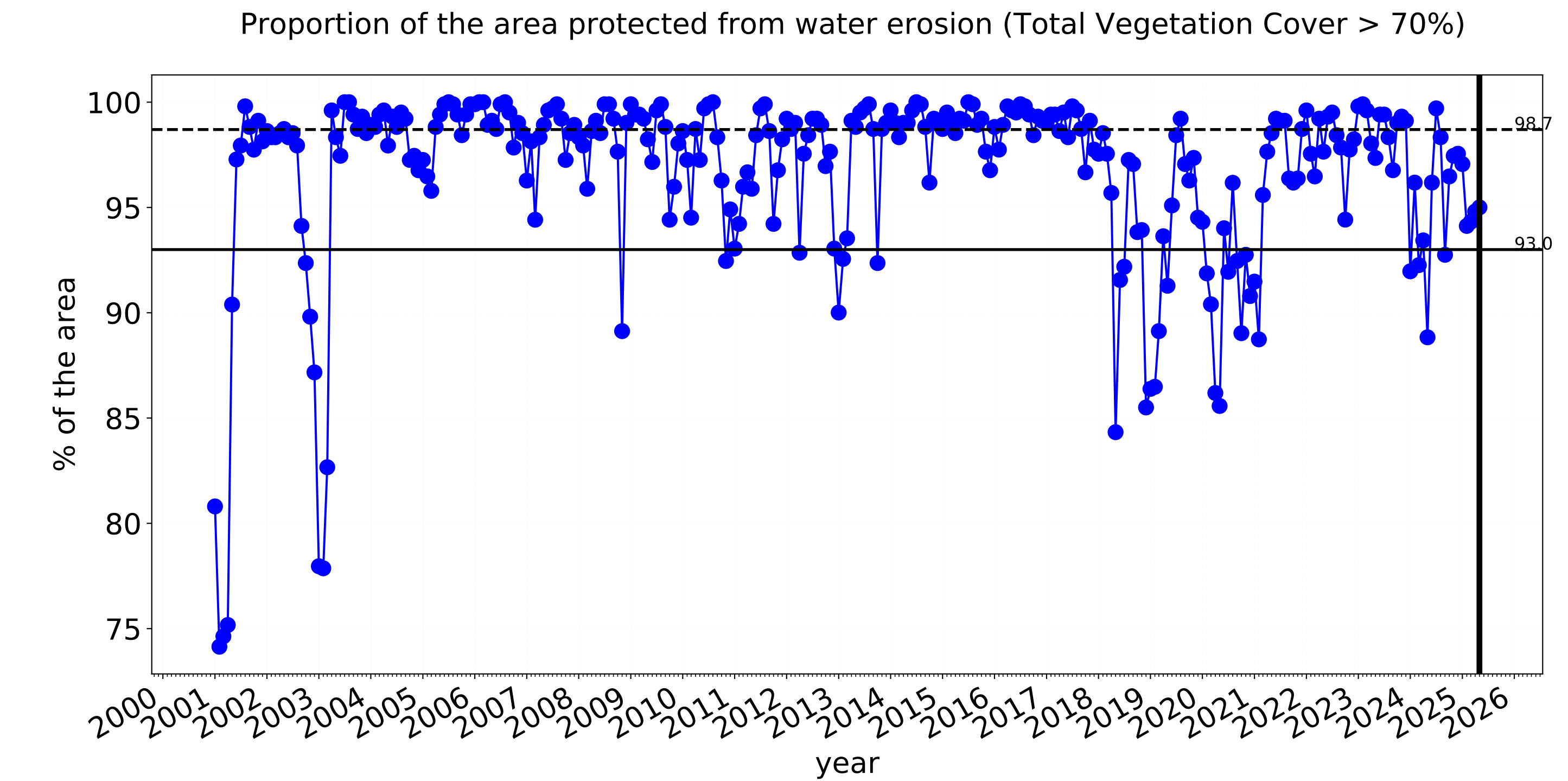
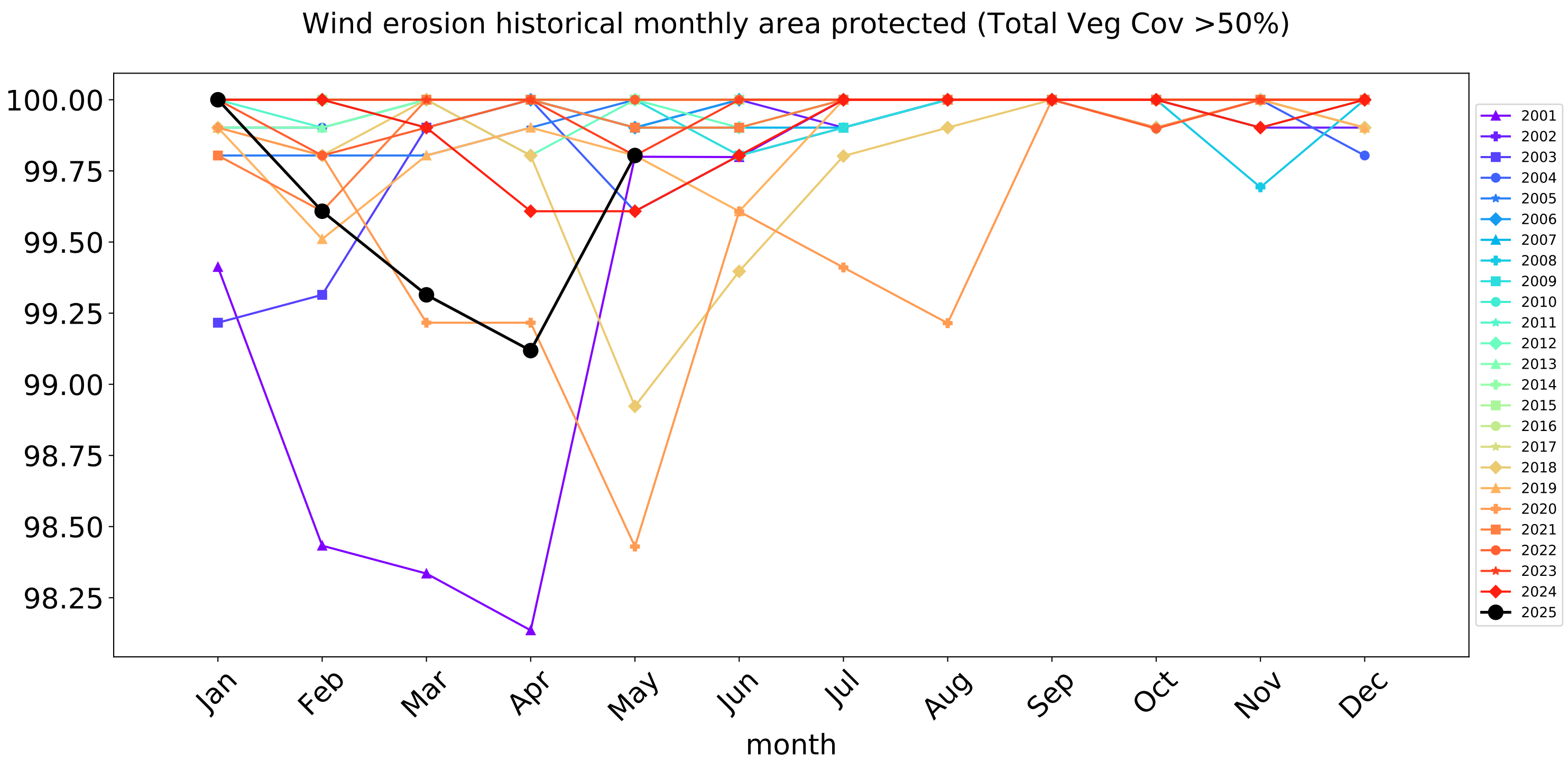
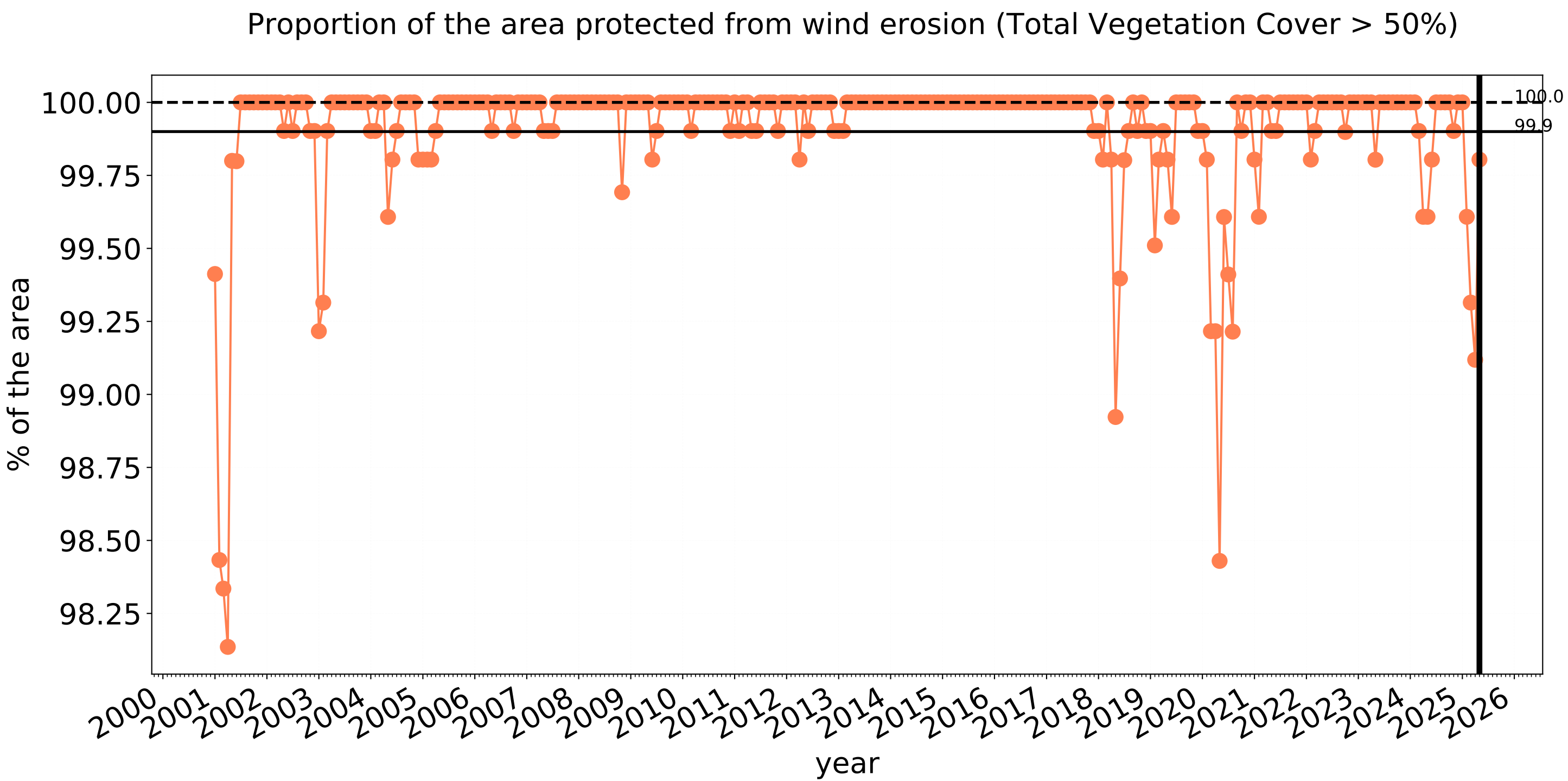


Australian Government

National Landcare Programme



Grazing timeseries



Ecosystem Research Infrastructure



National Landcare Programme



Grazing non forest

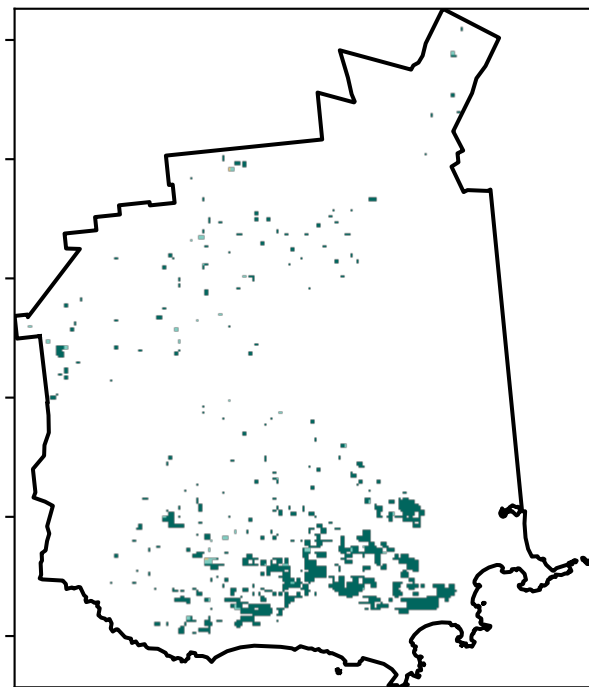
Land use and forest cover



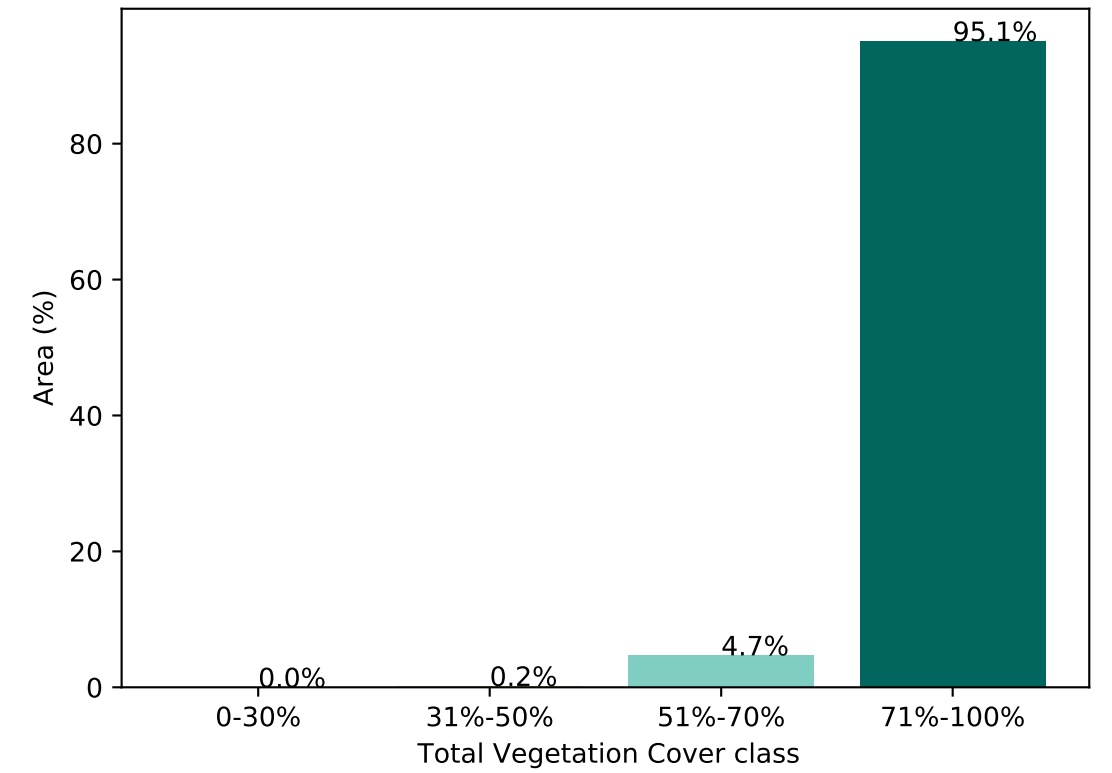
1 Agriculture - Grazing - Non forest

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

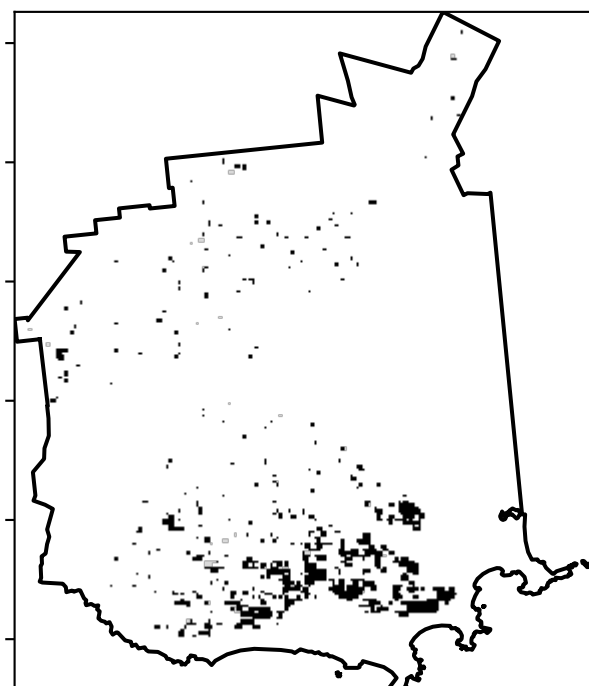
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

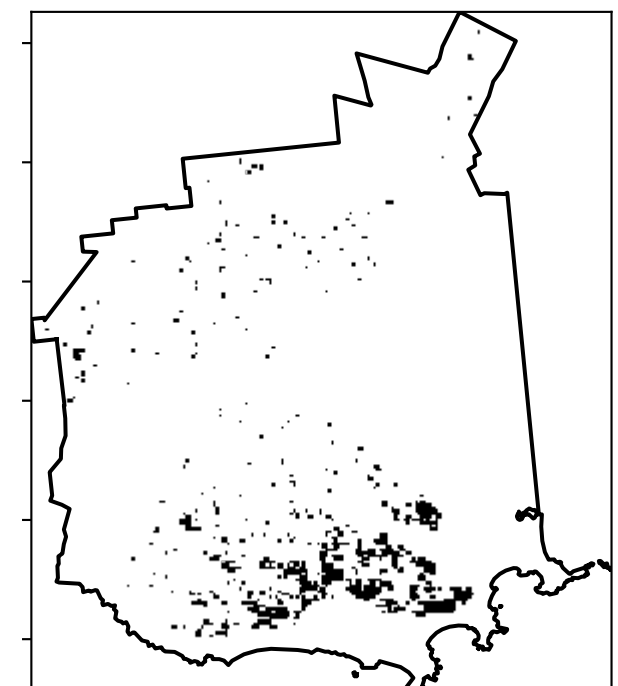


% Area protected from water erosion (>70%)



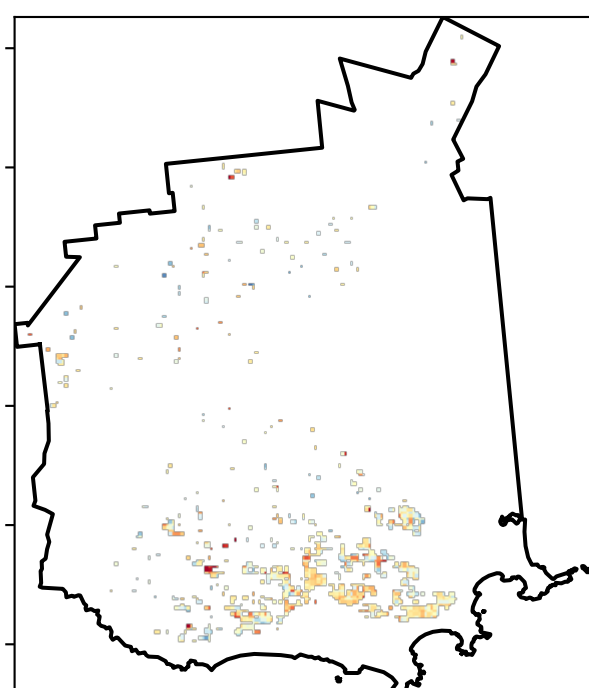
Area not protected
4.9% of region
(1,224 ha)
Area protected
95.1% of region
(23,751 ha)

% Area protected from wind erosion (>50%)



Area not protected
0.0% of region (0 ha)
Area protected
100.0% of region
(24,975 ha)

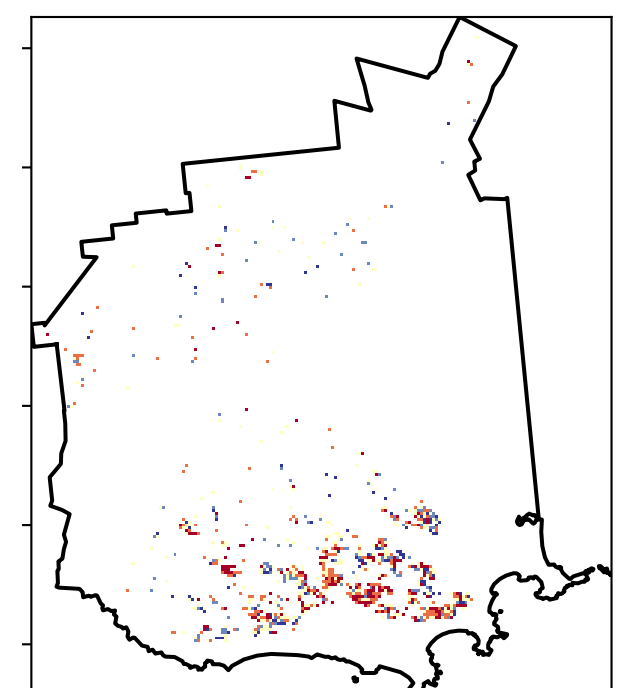
Total Vegetation Cover Anomaly [%]



Anomaly show 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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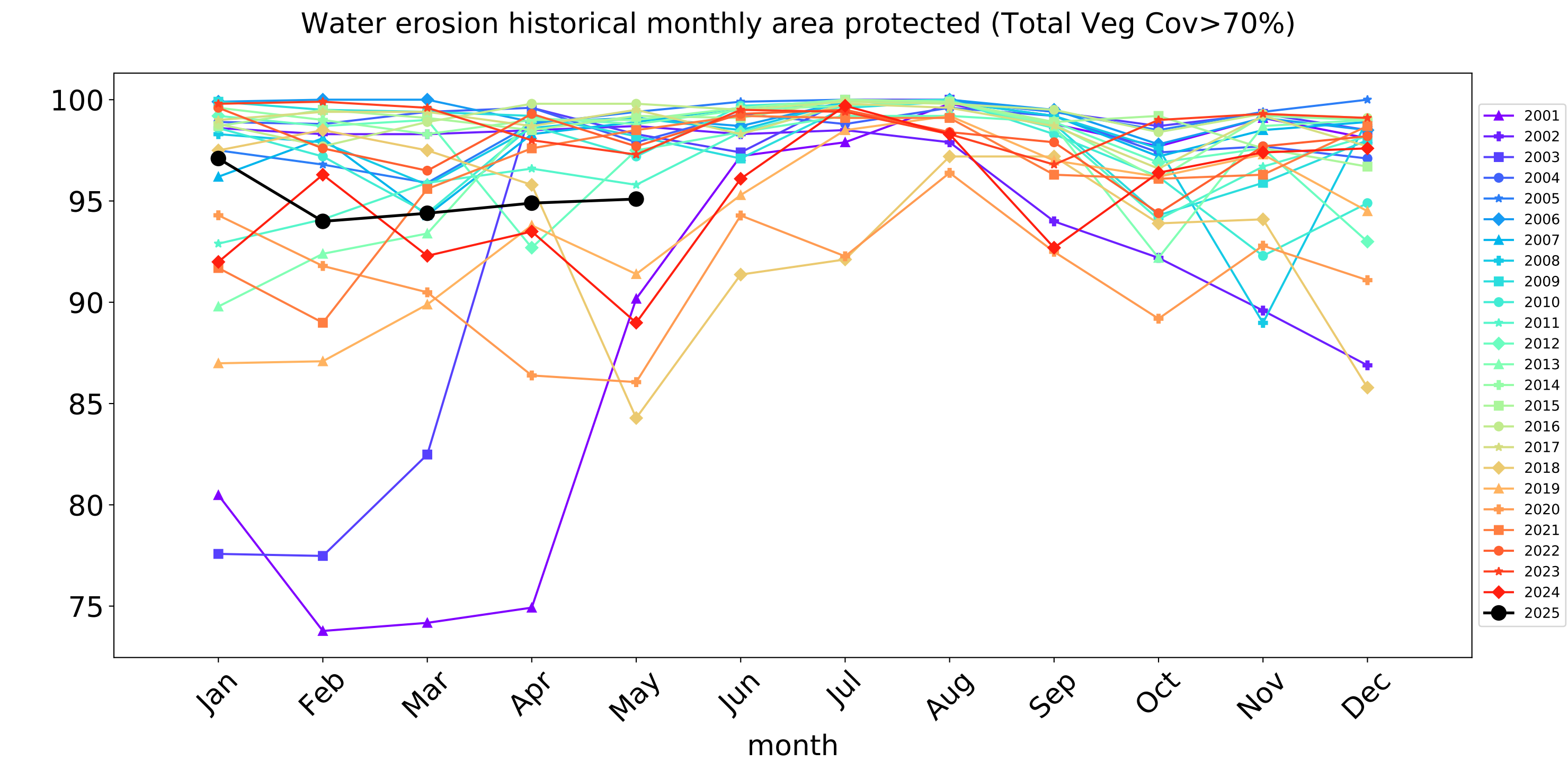
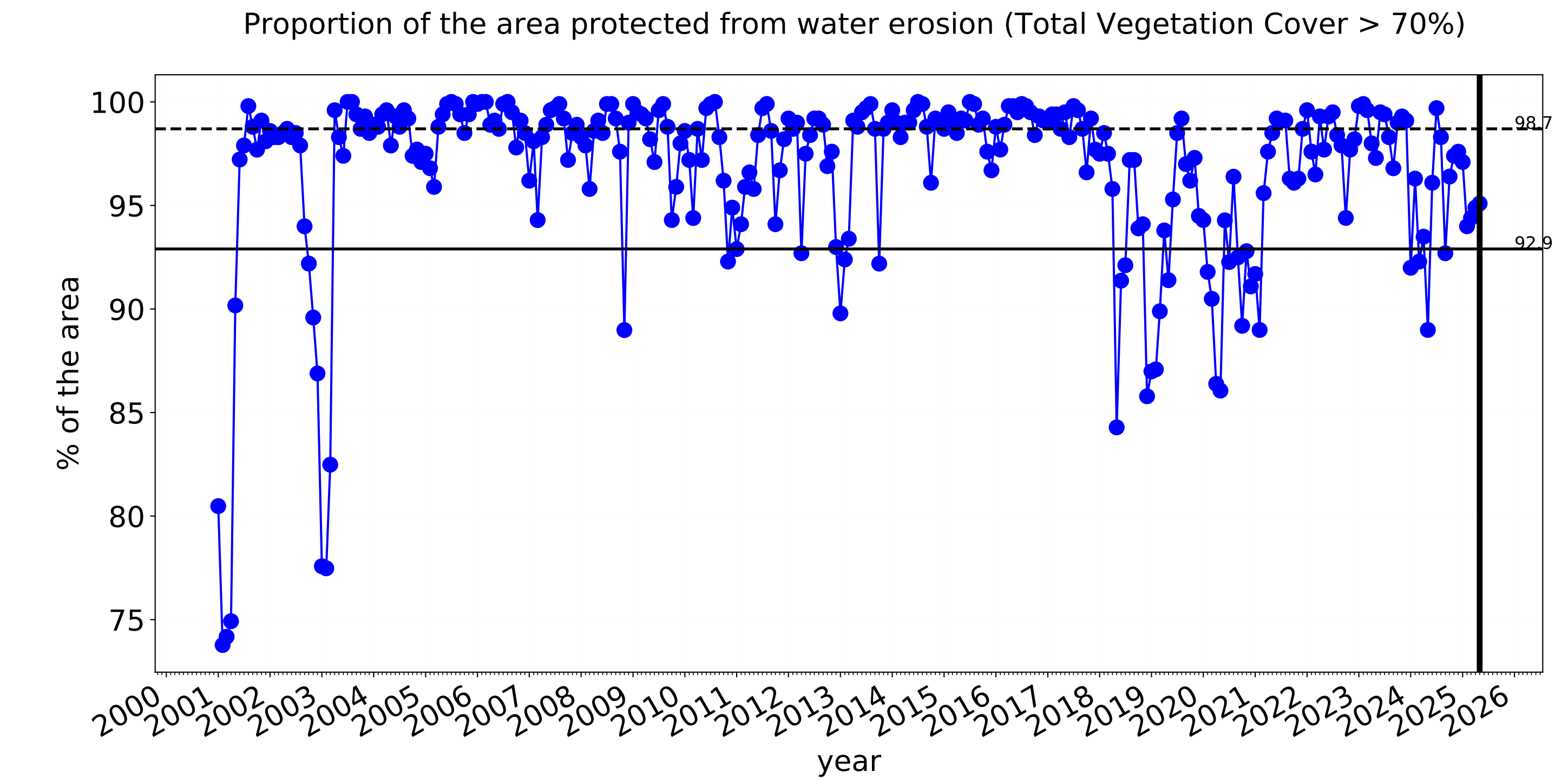
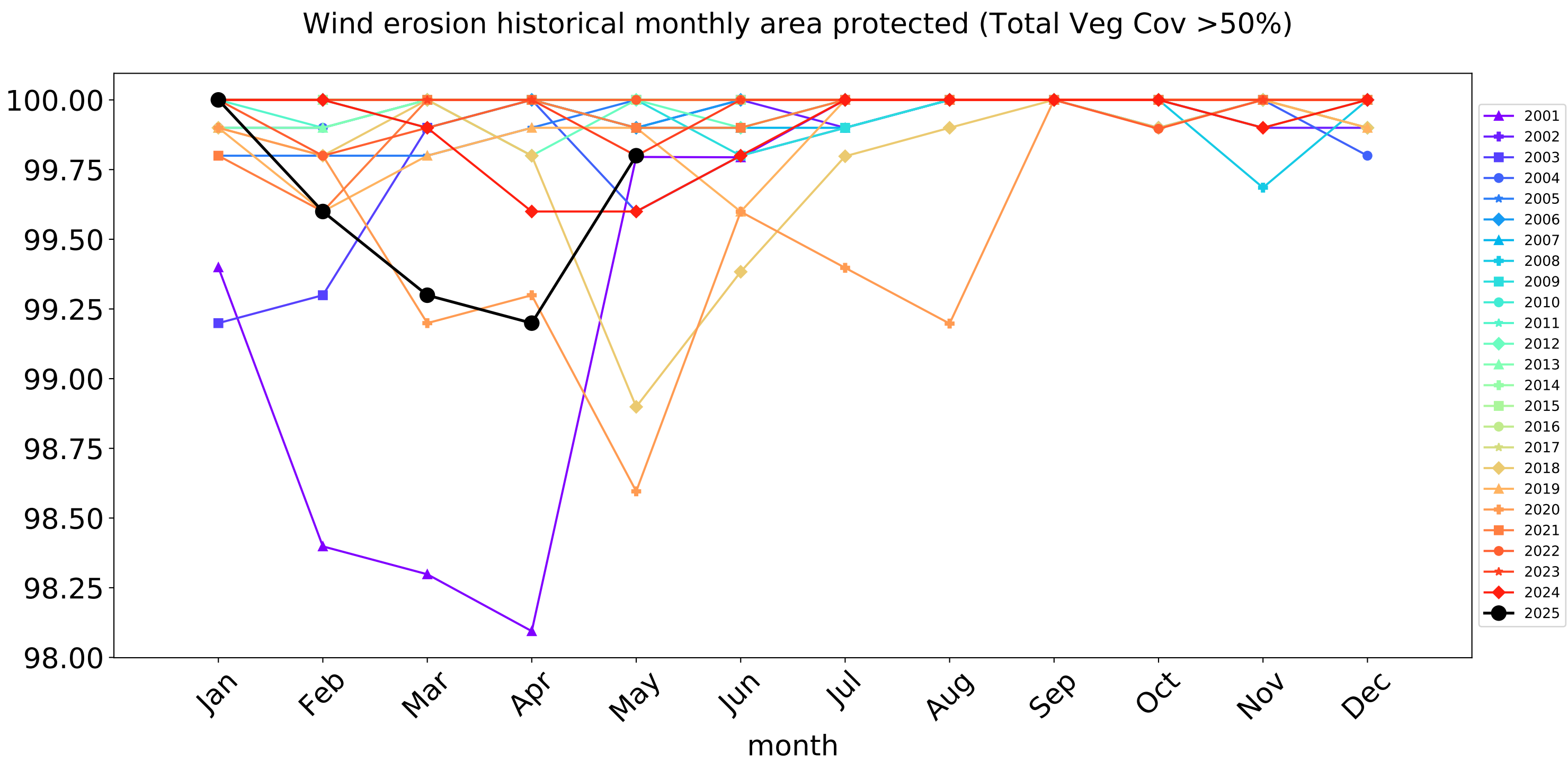
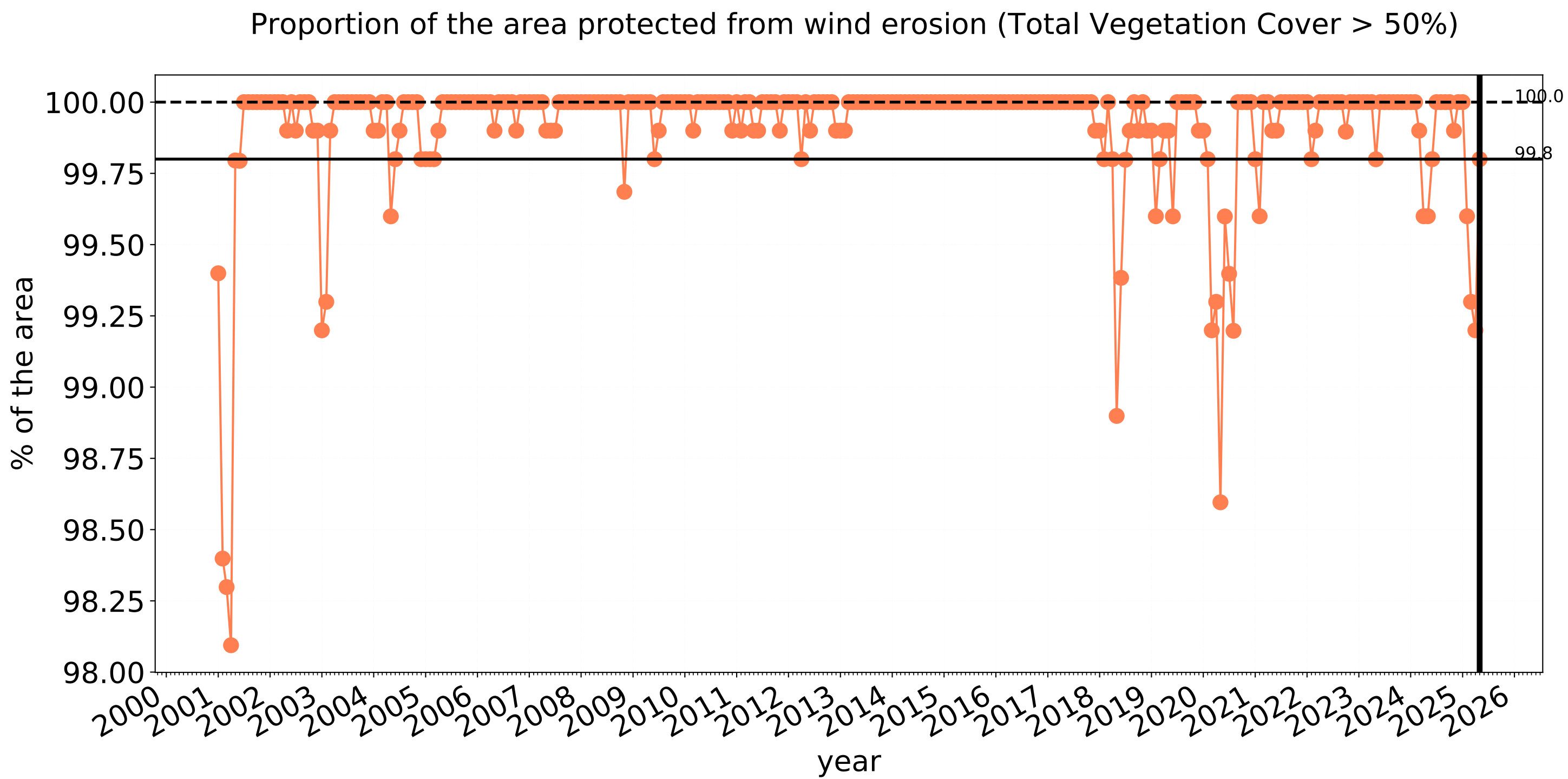


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Grazing non forest timeseries



Ecosystem Research Infrastructure

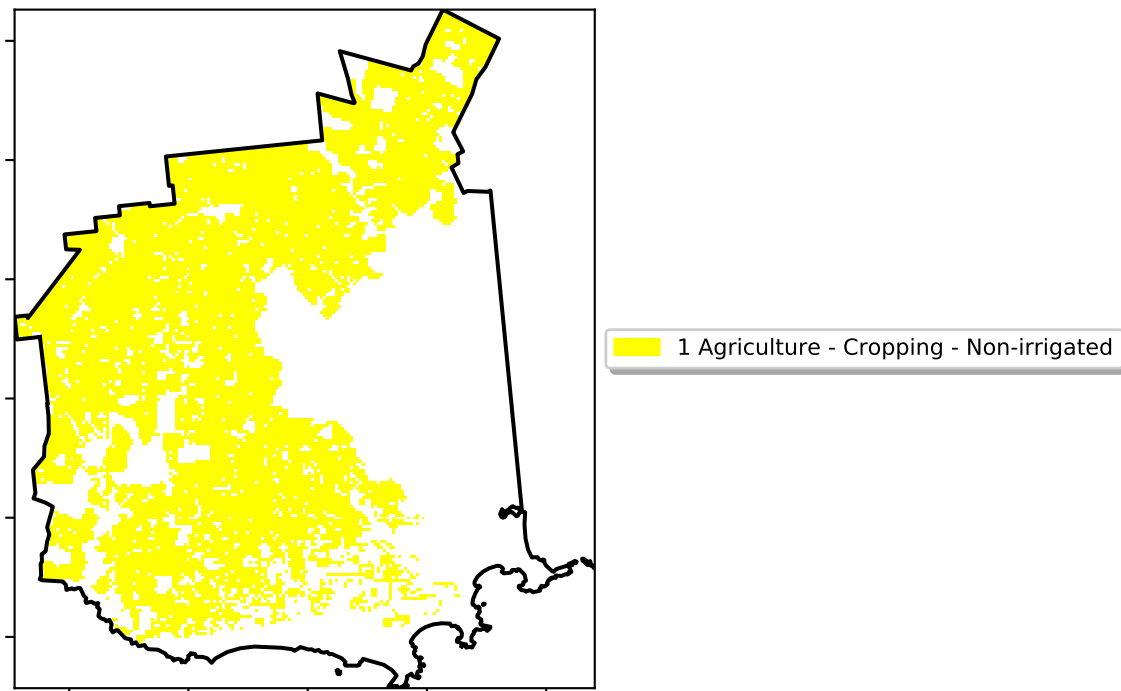


National Landcare Programme



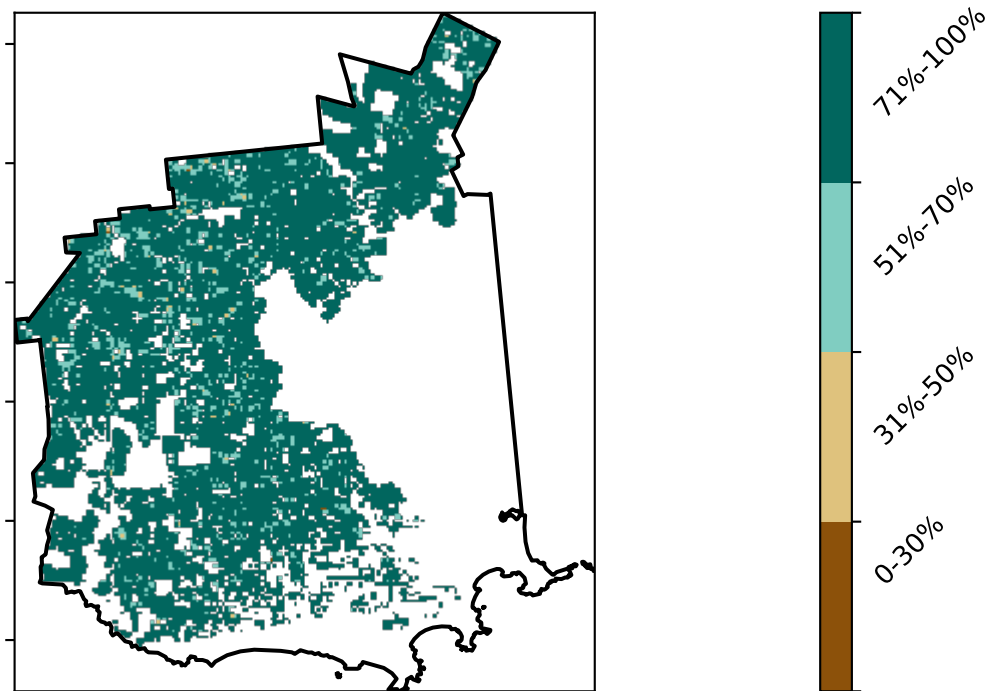
Cropping

Land use and forest cover

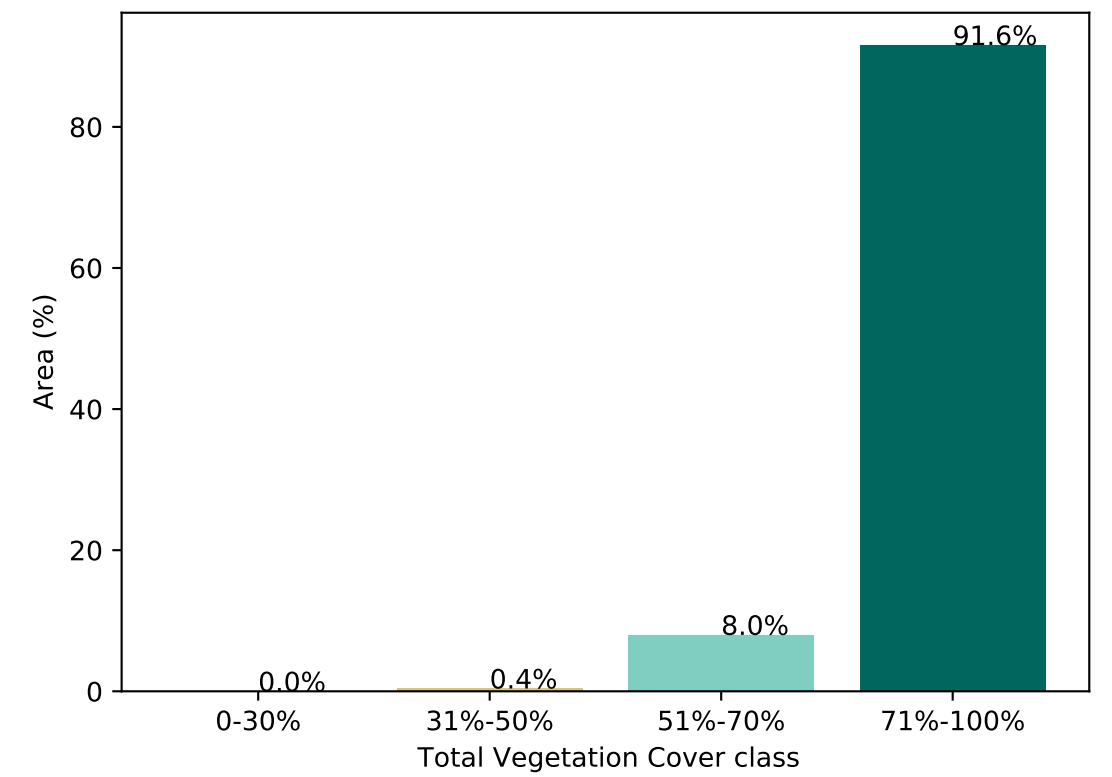


Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)

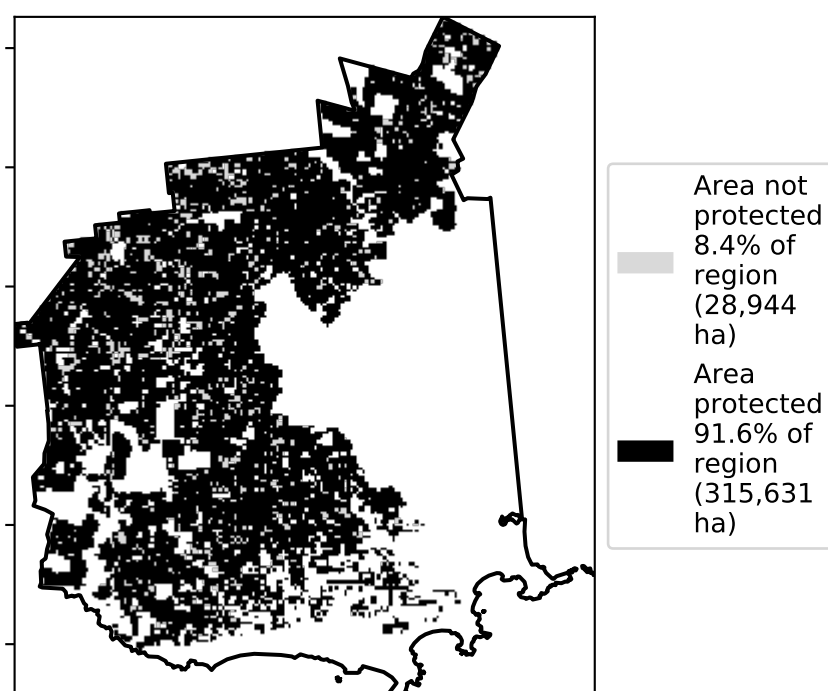
Total Vegetation Cover [%]



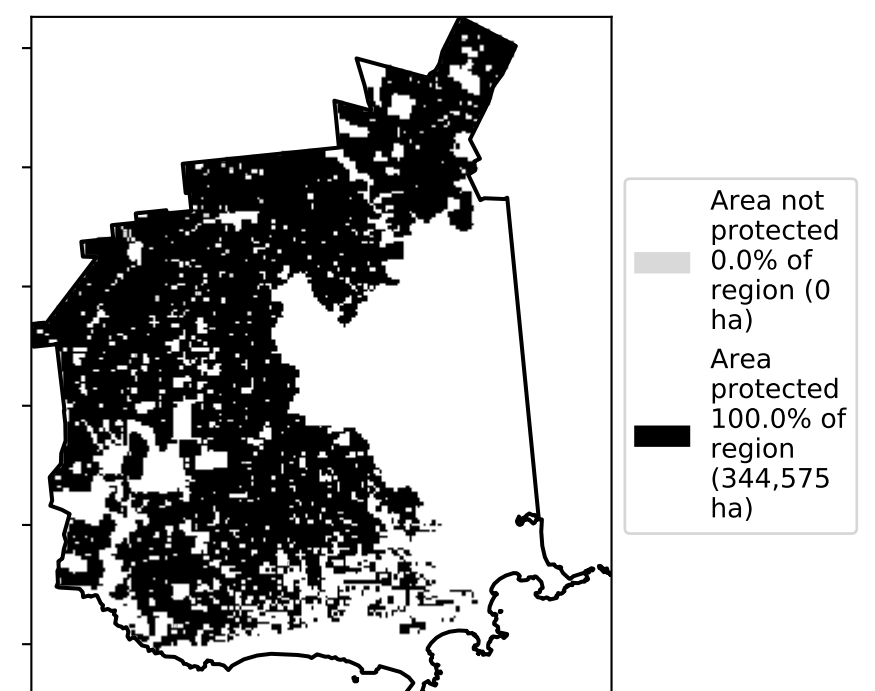
Proportion of vegetation cover class in area



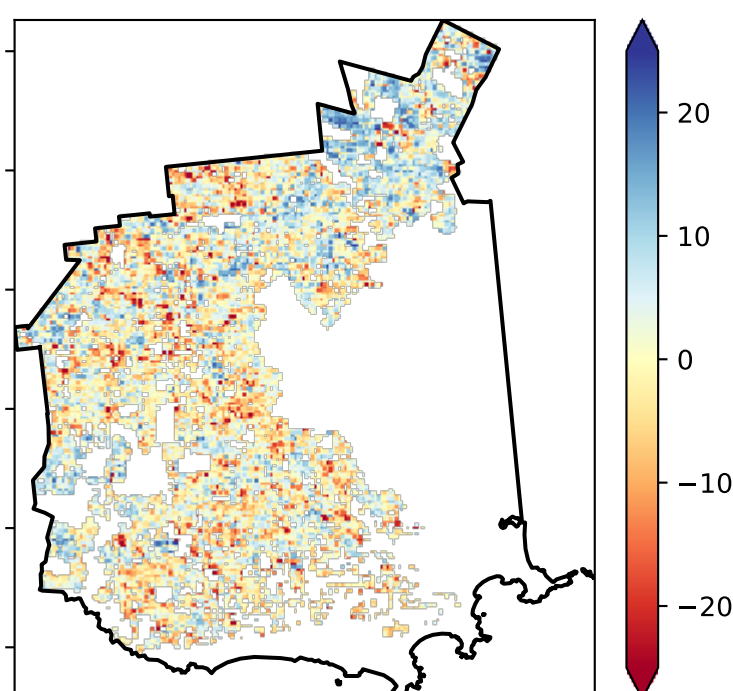
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



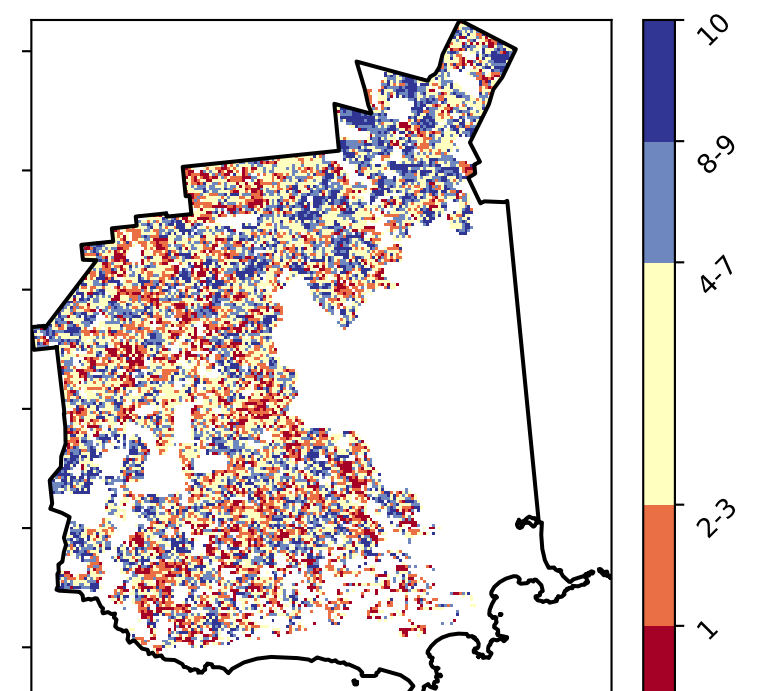
Total Vegetation Cover Anomaly [%]



Anomaly show 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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Ecosystem Research Infrastructure

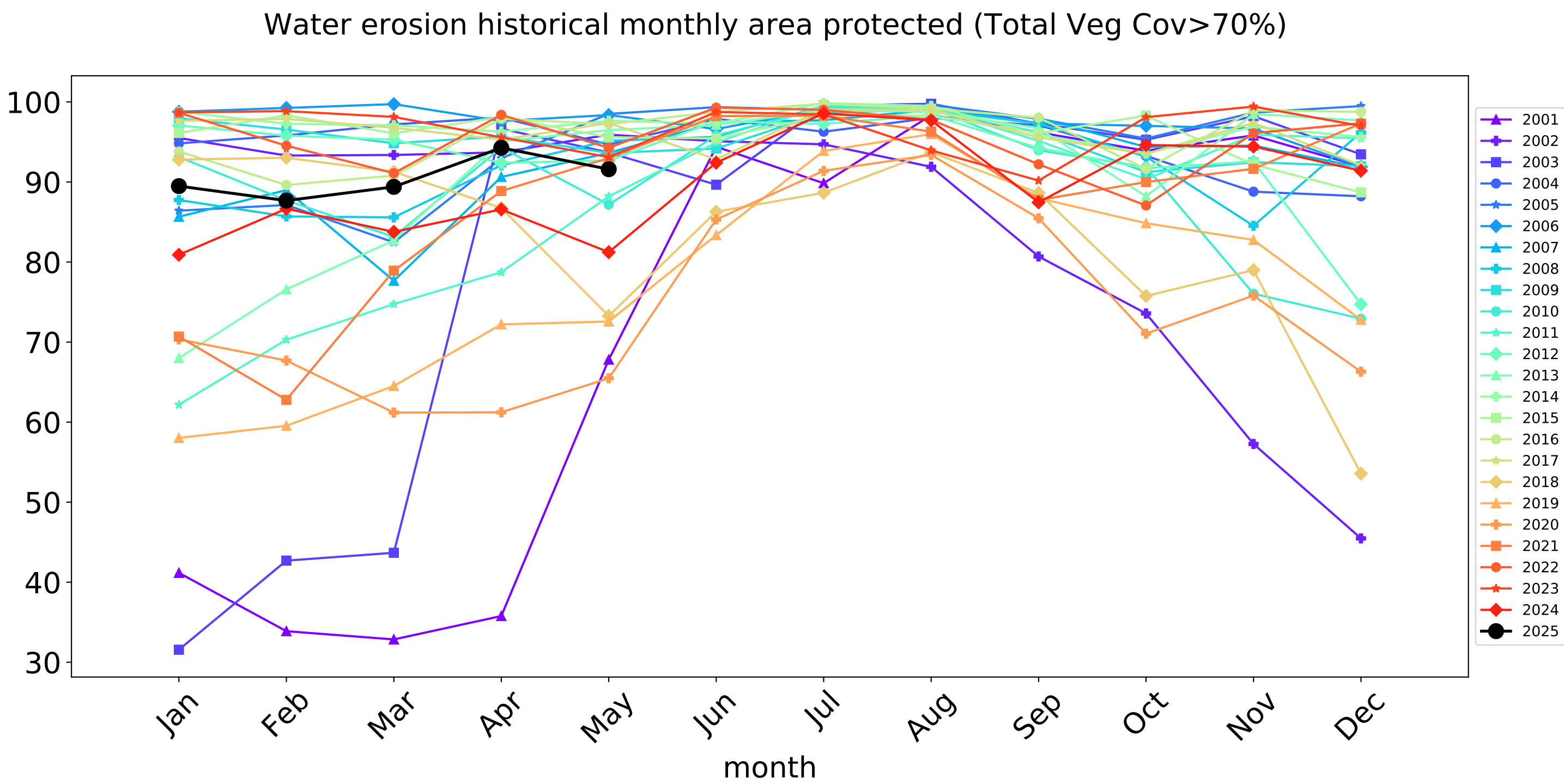
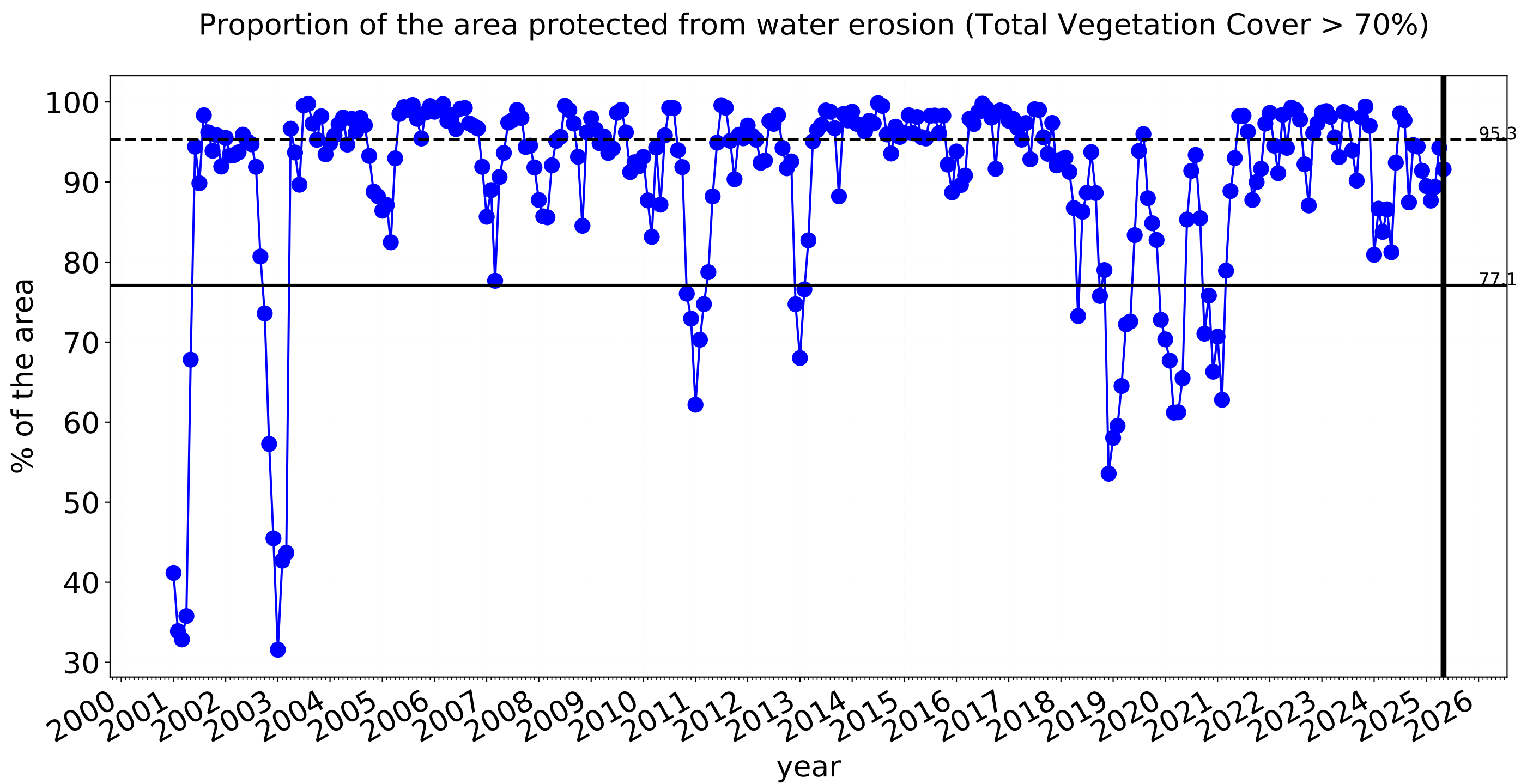
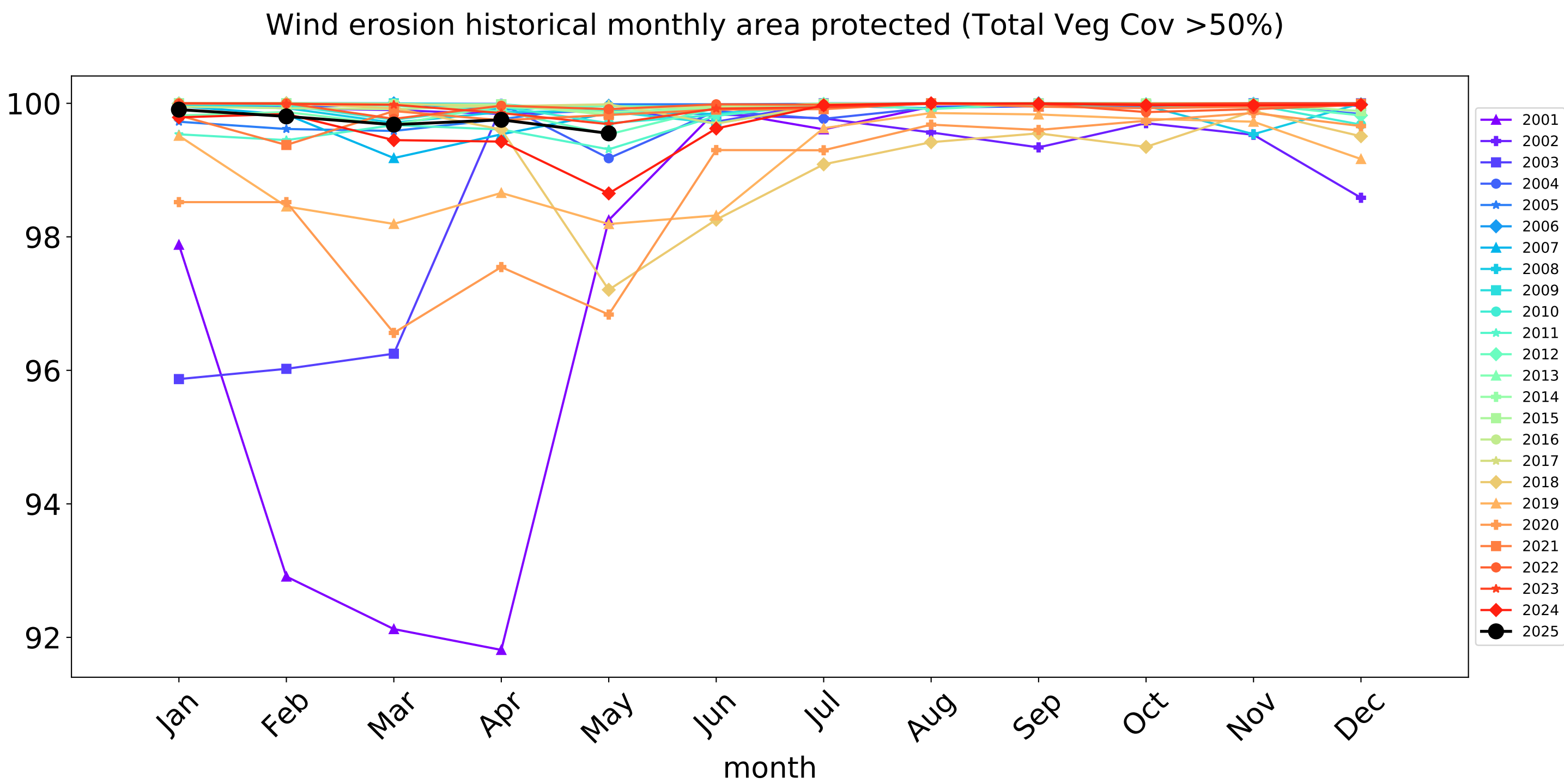
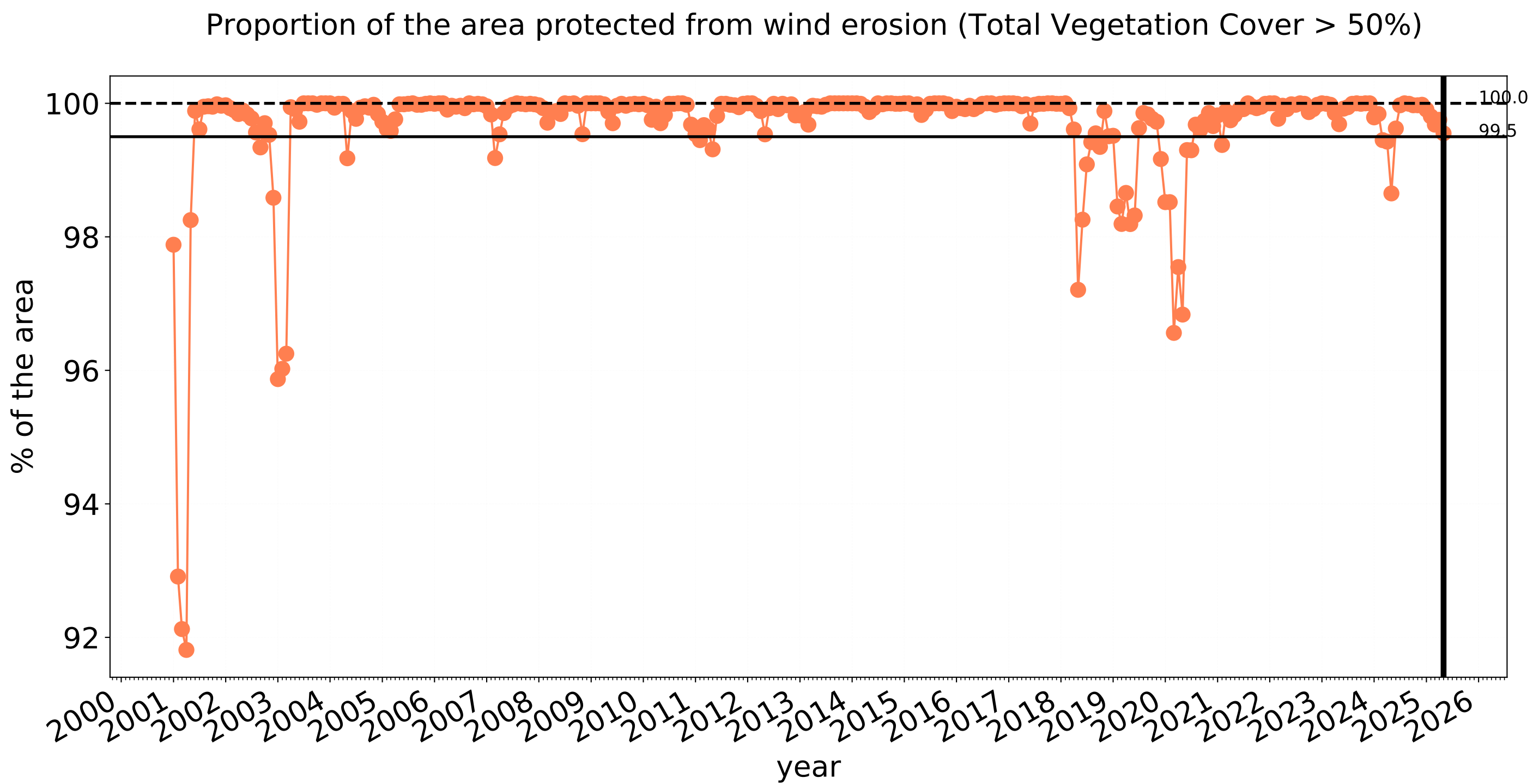


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Cropping timeseries



Production native forests and plantation forests

Land use and forest cover

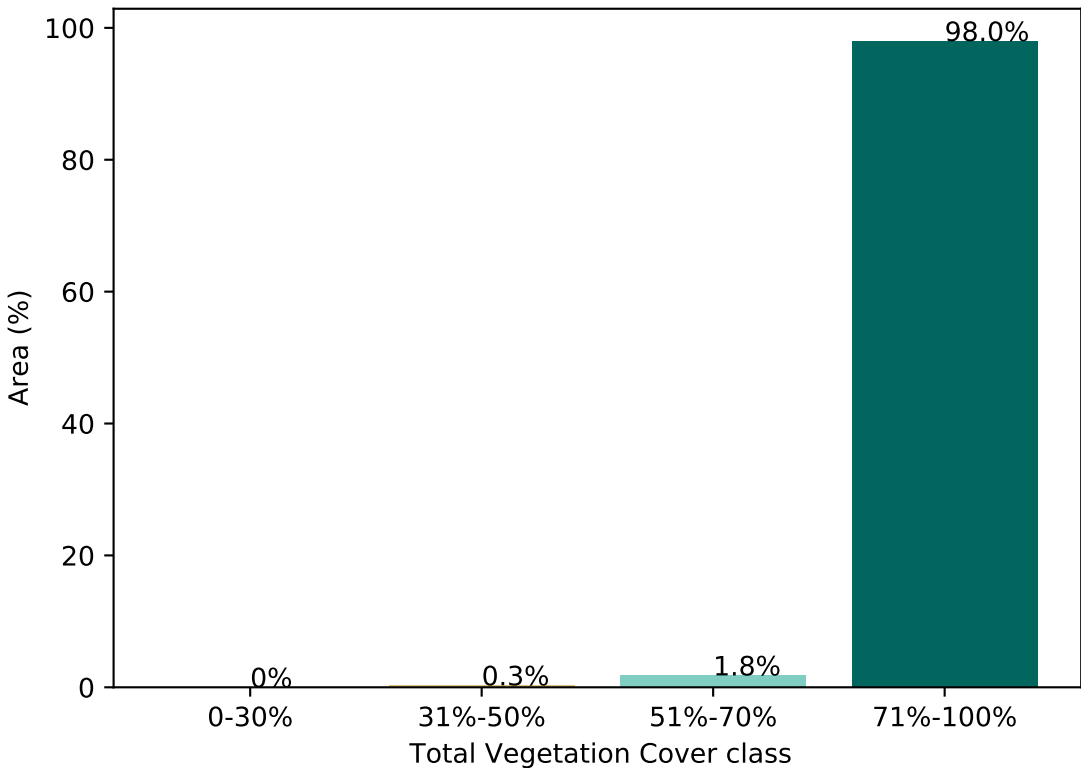
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)



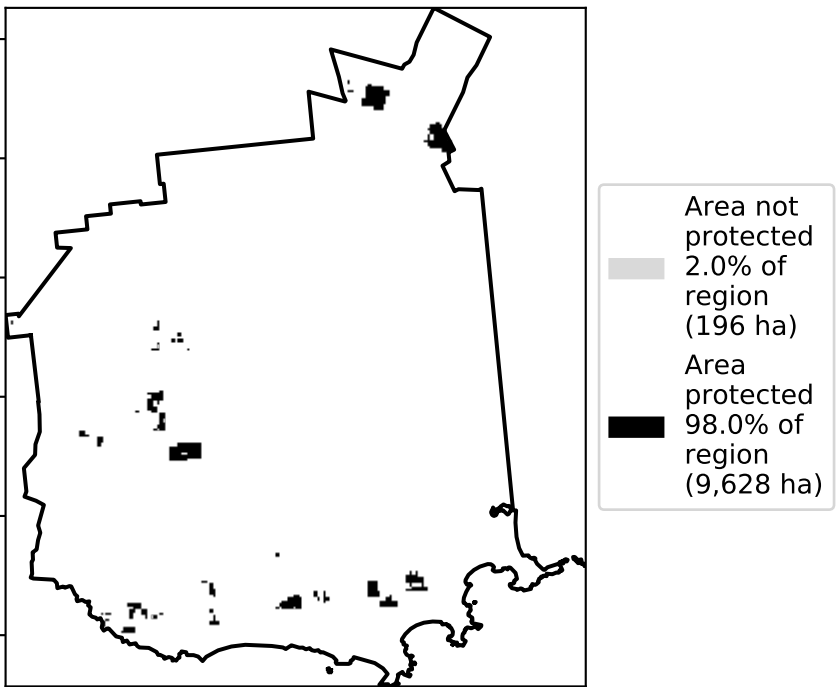
Total Vegetation Cover [%]



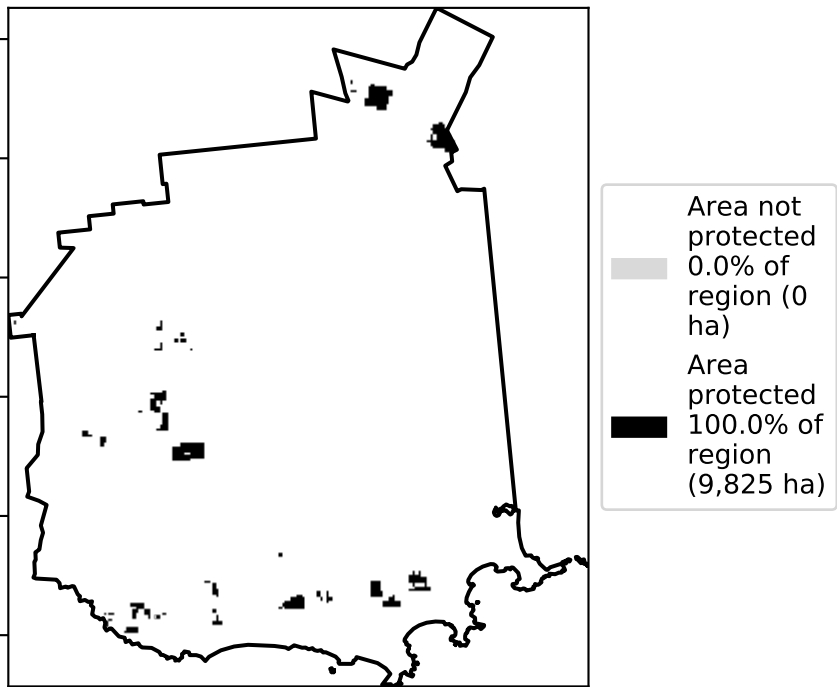
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

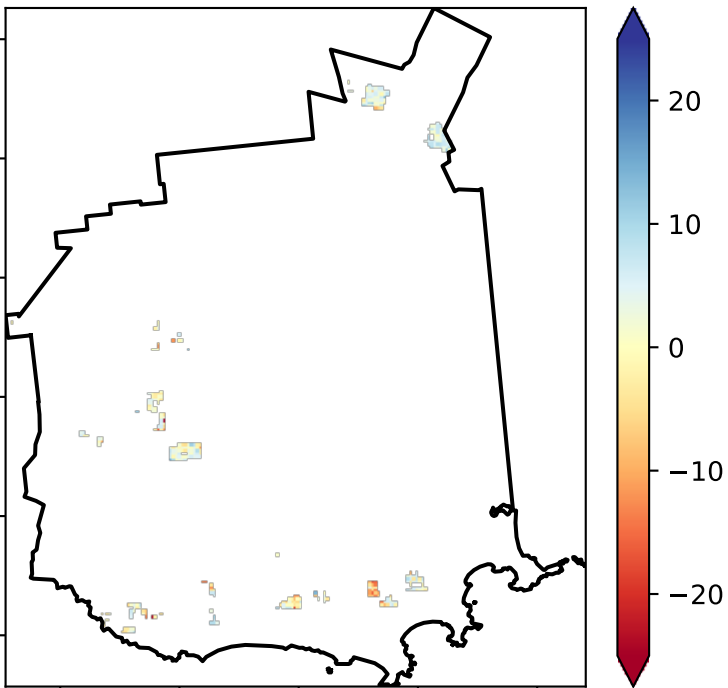


% Area protected from wind erosion (>50%)



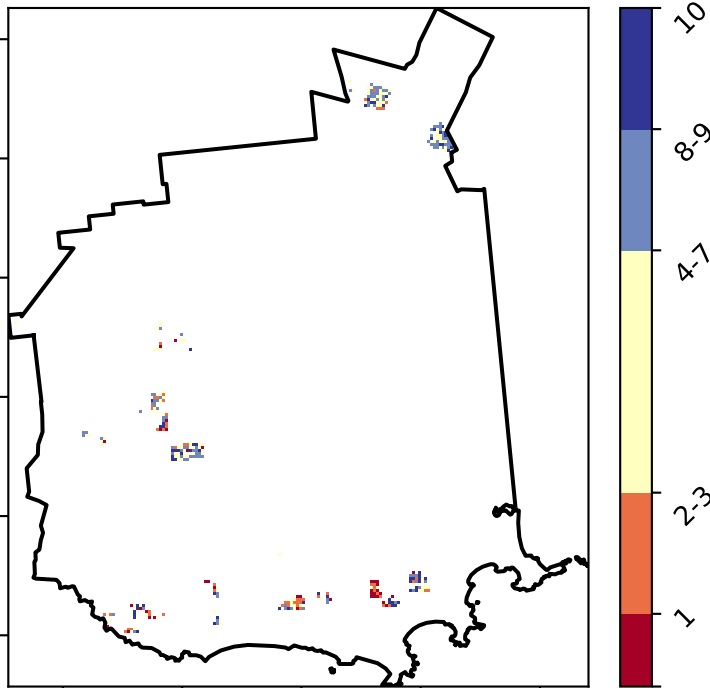
Total Vegetation Cover Anomaly [%]

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Total Vegetation Cover Decile [%]



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Ecosystem Research Infrastructure

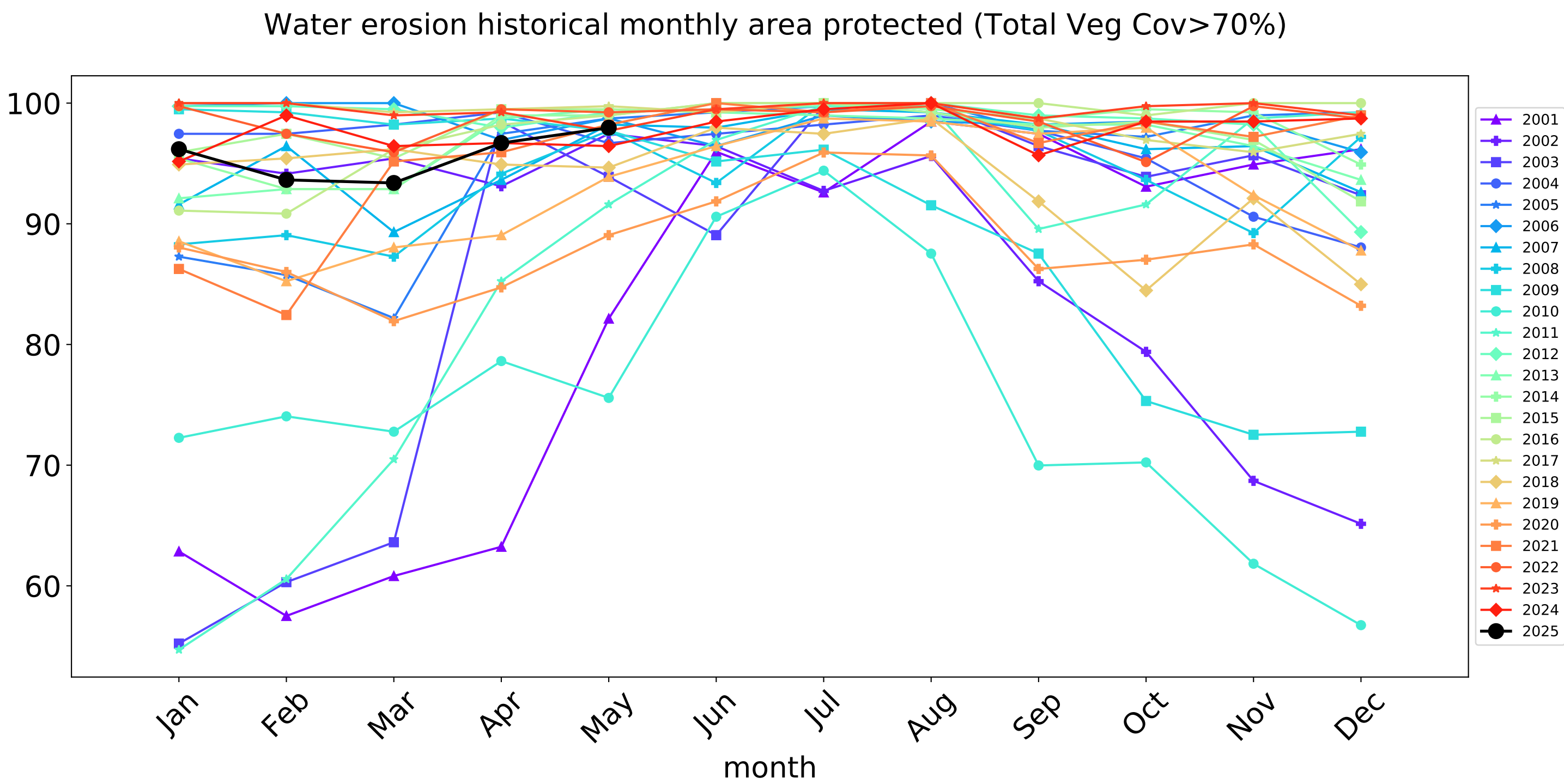
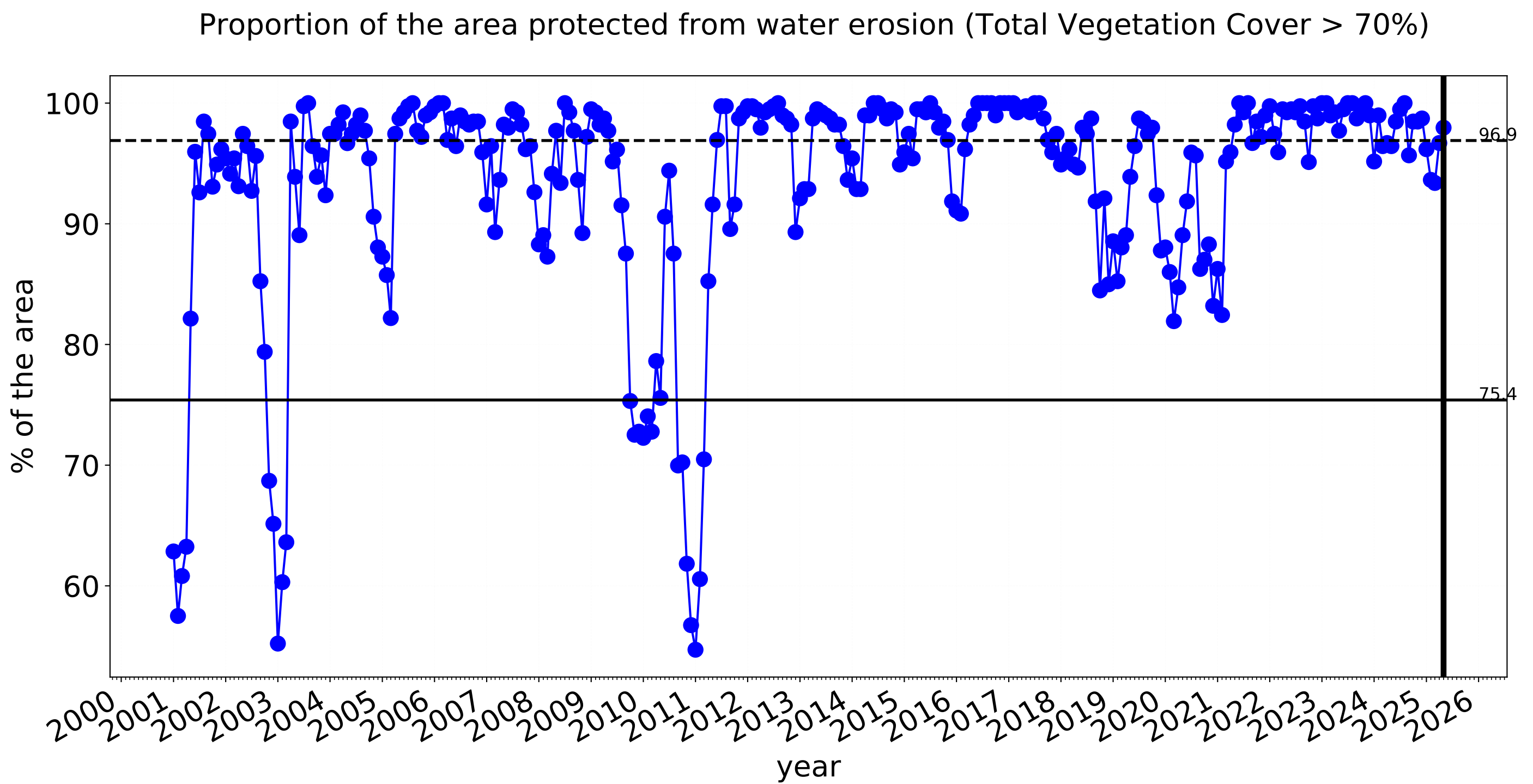
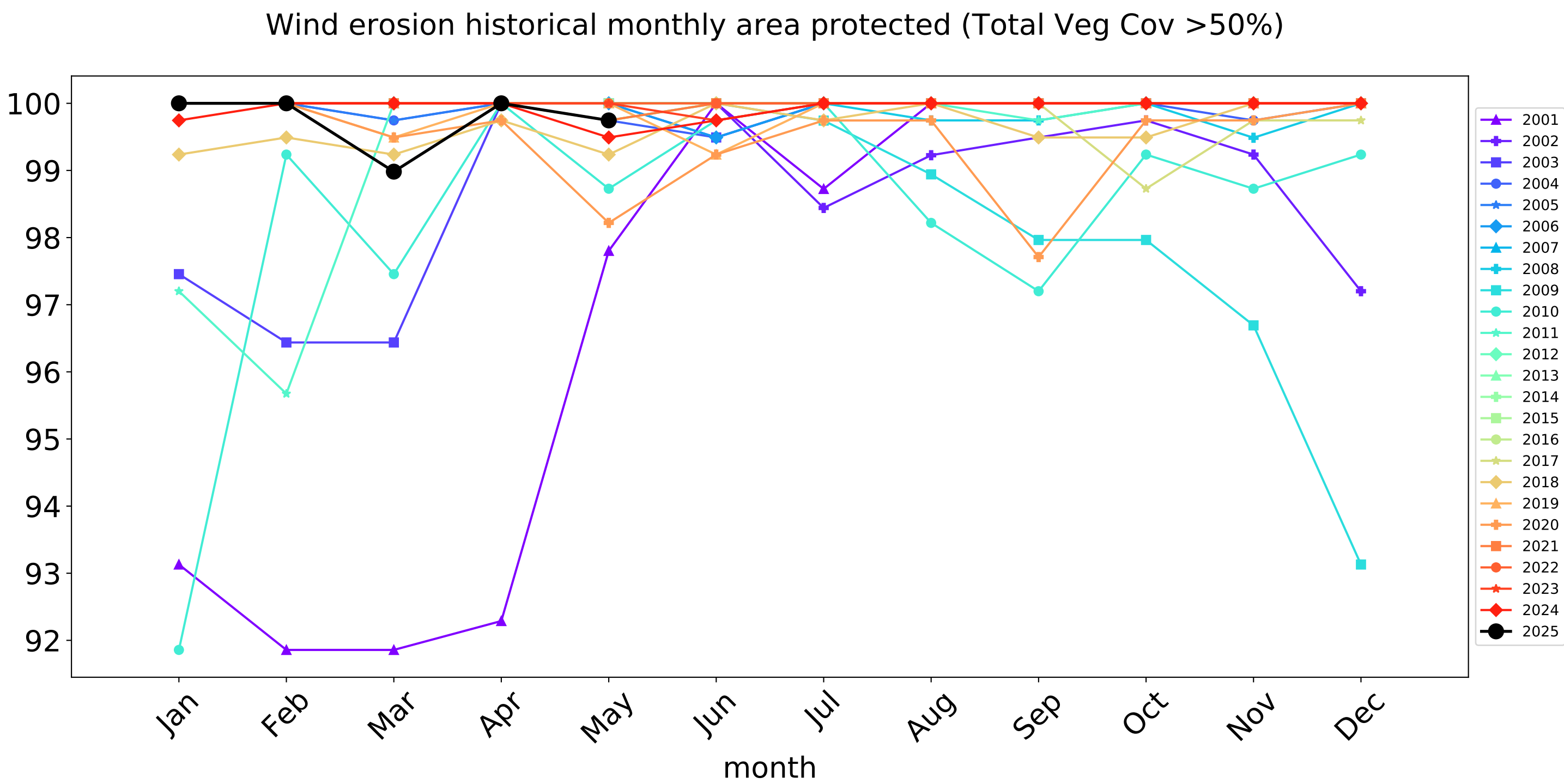
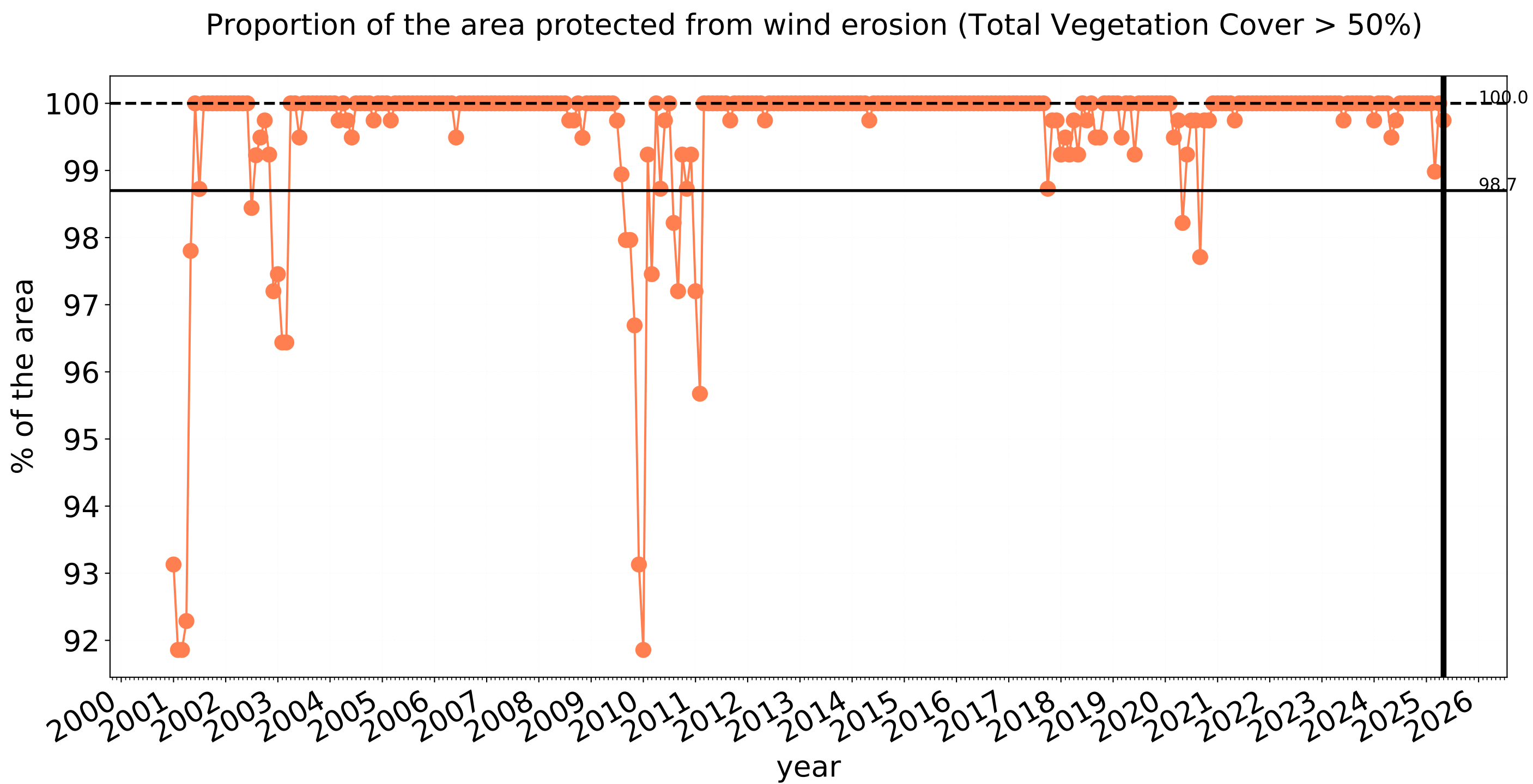


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Production native forests and plantation forests timeseries



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Jerramungup_(S) (646,125 ha and no data 4,782 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	646,125	99.8% 645,125	99.5% 642,725	94.5% 610,375	77.2% 498,700	22.6% 146,275	5.7% 37,100
Conservation and natural environments	262,850	99.7% 262,050	99.4% 261,275	98.2% 258,200	93.1% 244,750	26.1% 68,500	4.2% 11,075
Conservation and natural environments non forest	124,125	99.5% 123,450	99.1% 122,975	97.6% 121,125	92.1% 114,375	24.1% 29,950	3.8% 4,700
Conservation and natural environments Woodland forest	118,750	99.9% 118,675	99.9% 118,575	99.3% 117,975	95.0% 112,825	26.8% 31,875	4.0% 4,700
Conservation and natural environments Forest (non woodland)	19,975	99.7% 19,925	98.7% 19,725	95.6% 19,100	87.9% 17,550	33.4% 6,675	8.4% 1,675
Agriculture	370,100	100.0% 369,975	99.6% 368,500	91.8% 339,875	65.7% 243,175	19.9% 73,550	6.6% 24,525
Grazing	25,525	100.0% 25,525	99.8% 25,475	95.0% 24,250	80.5% 20,550	29.8% 7,600	10.2% 2,600
Grazing non forest	24,975	100.0% 24,975	99.8% 24,925	95.1% 23,750	80.6% 20,125	29.6% 7,400	10.1% 2,525
Cropping	344,575	100.0% 344,450	99.6% 343,025	91.6% 315,625	64.6% 222,625	19.1% 65,950	6.4% 21,925
Production native forests and plantation forests	9,825	100.0% 9,825	99.7% 9,800	98.0% 9,625	89.3% 8,775	35.4% 3,475	13.0% 1,275