

Thorny Devil



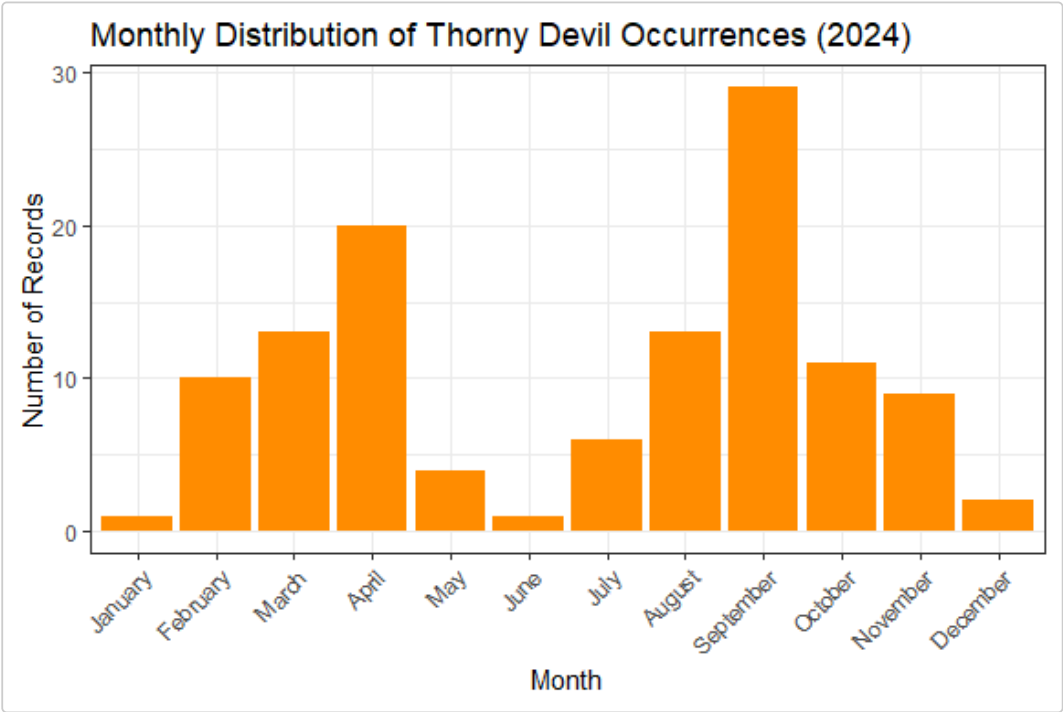
Thorny Devil

We are investigating occurrence data of the [Thorny Devil](#) in Australia from the **Atlas of Living Australia**, and make a map showing the spatial locations of sightings for 2024.

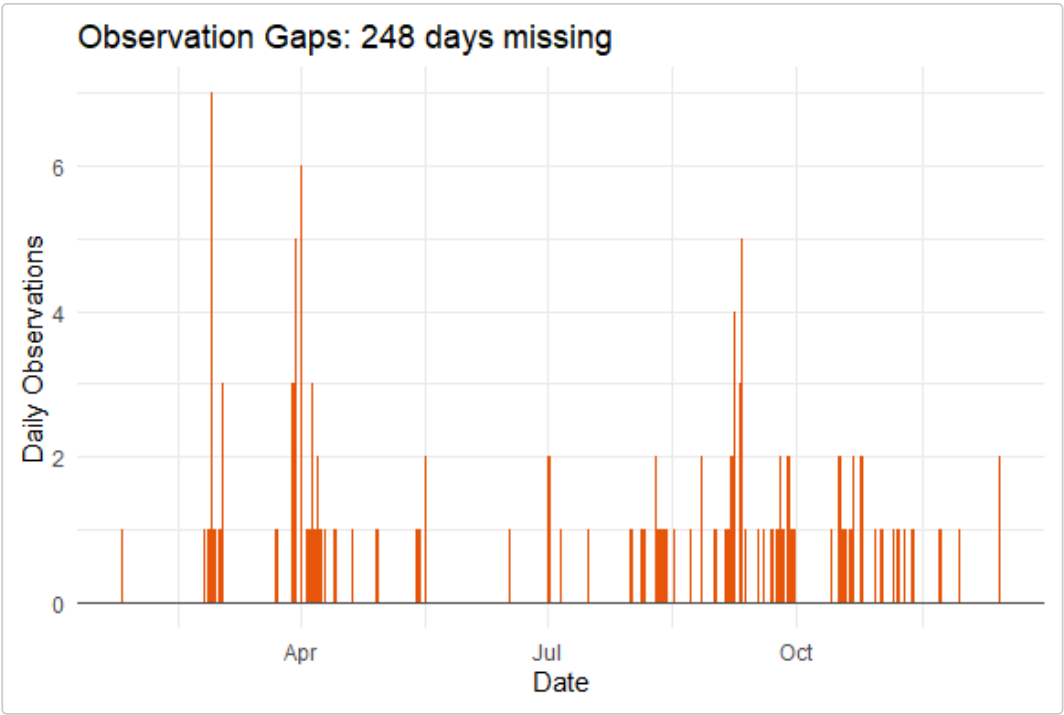
```
#> # A tibble: 6 × 5
#>   lat lon year eventDate      scientificName
#>   <dbl> <dbl> <dbl> <dtm>      <chr>
#> 1 -33.2 137. 2024 2024-03-30 00:00:00 Moloch horridus
#> 2 -33.2 137. 2024 2024-03-30 14:46:00 Moloch horridus
#> 3 -33.2 137. 2024 2024-03-30 00:00:00 Moloch horridus
#> 4 -33.2 137. 2024 2024-04-01 00:00:00 Moloch horridus
#> 5 -33.2 137. 2024 2024-03-30 00:00:00 Moloch horridus
#> 6 -33.2 137. 2024 2024-03-29 00:00:00 Moloch horridus
```

the length of the records is 119

Monthly Distribution of organism (2024)



Data Regularity & Temporal Gaps



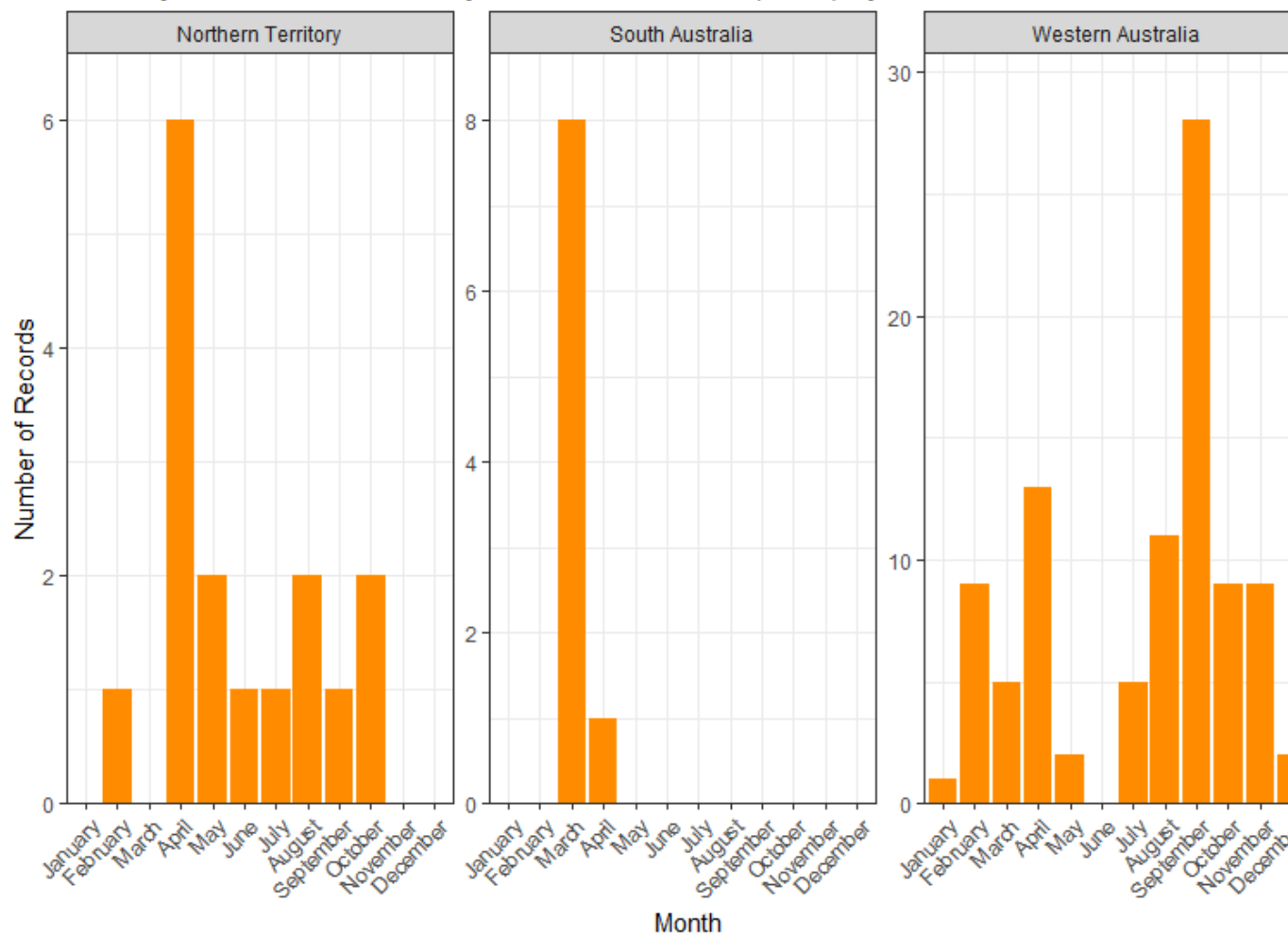
Nearest Weather Station Mapping

```
#> # A tibble: 3 × 12
#>   lat.x lon.x year eventDate      scientificName weather_station_id sname
#>   <dbl> <dbl> <dbl> <dtm>      <chr>          <chr>          <chr>
#> 1 -33.2  137.  2024 2024-03-30 00:00:00 Moloch horrid... 956640-99999 WHYAL...
#> 2 -33.2  137.  2024 2024-03-30 14:46:00 Moloch horrid... 956640-99999 WHYAL...
#> 3 -33.2  137.  2024 2024-03-30 00:00:00 Moloch horrid... 956640-99999 WHYAL...
#> # i 5 more variables: lat.y <dbl>, lon.y <dbl>, address <chr>, city <chr>,
#> #   state <chr>
```

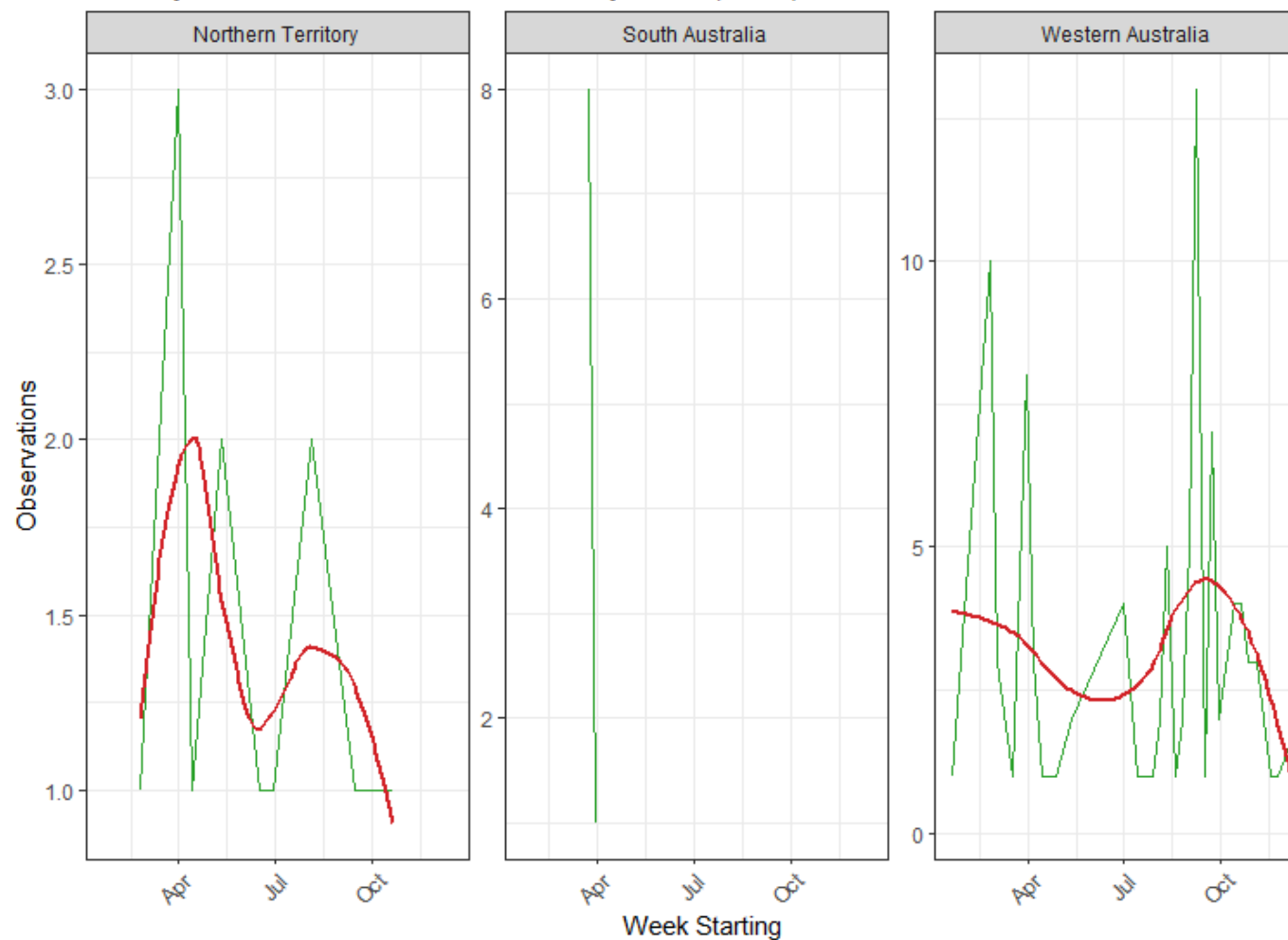
```
#>           State Frequency
#> 1 Western Australia      94
#> 2 Northern Territory     16
#> 3 South Australia        9
```

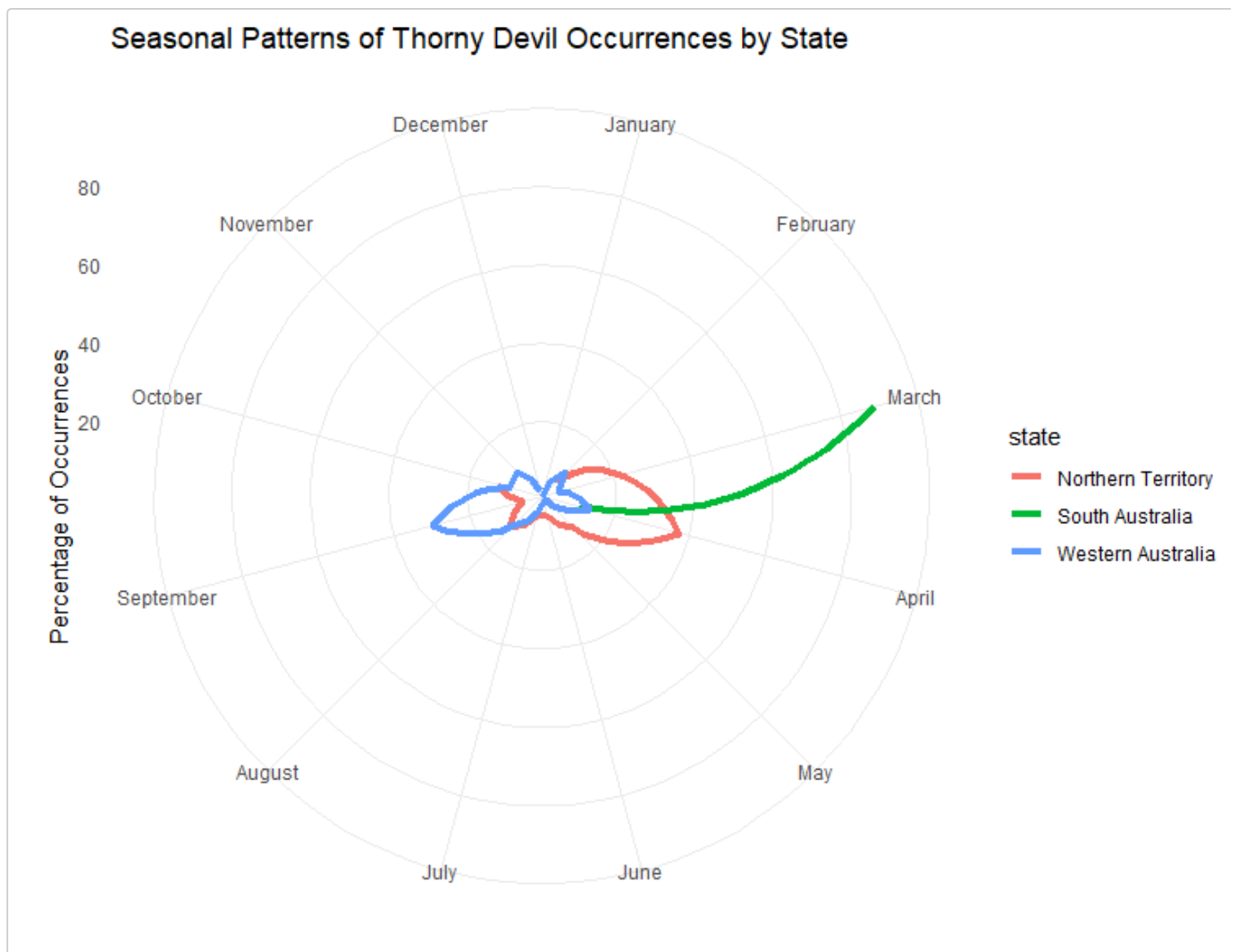
Pattern Analysis

Monthly Distribution of Thorny Devil Occurrences (2024) by State



Weekly Occurrence Patterns of Thorny Devil (2024) with Trend Lines





Datasets Overview

We have organized the thorny devil occurrence and weather station data into the following structured datasets, stored in the `data/` directory:

- `thorny_devil_2024.rda`
Contains thorny devil occurrence records across all states in Australia.
- `thorny_devil_2024_ws.rda`
An enhanced version of the occurrence data, merged with the nearest weather station information, including:

```
--Station ID (weather_station_id)
--Station name (sname)
--Geographic details (lat.y, lon.y, address, city, state)
```
- `thorny_devil_top_weather.rda`
Focuses on weather data from the top 3 most frequently recorded stations associated with thorny devil occurrences.
- `weather_stations.rda`
A standalone dataset of all unique weather stations in Australia, providing reference metadata for cross-referencing.