

# Gouldian finch



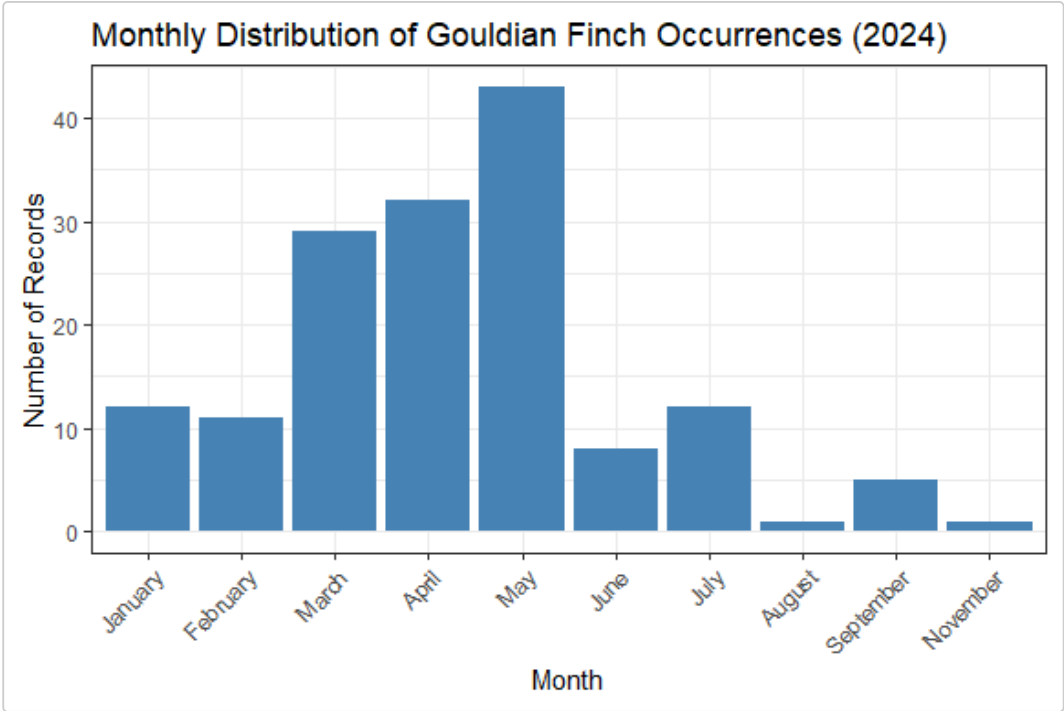
We are investigating occurrence data of [Gouldian finch](#) in Australia from the **Atlas of Living Australia**, and make a map showing the spatial locations of sightings for 2024.

The head of dataset:

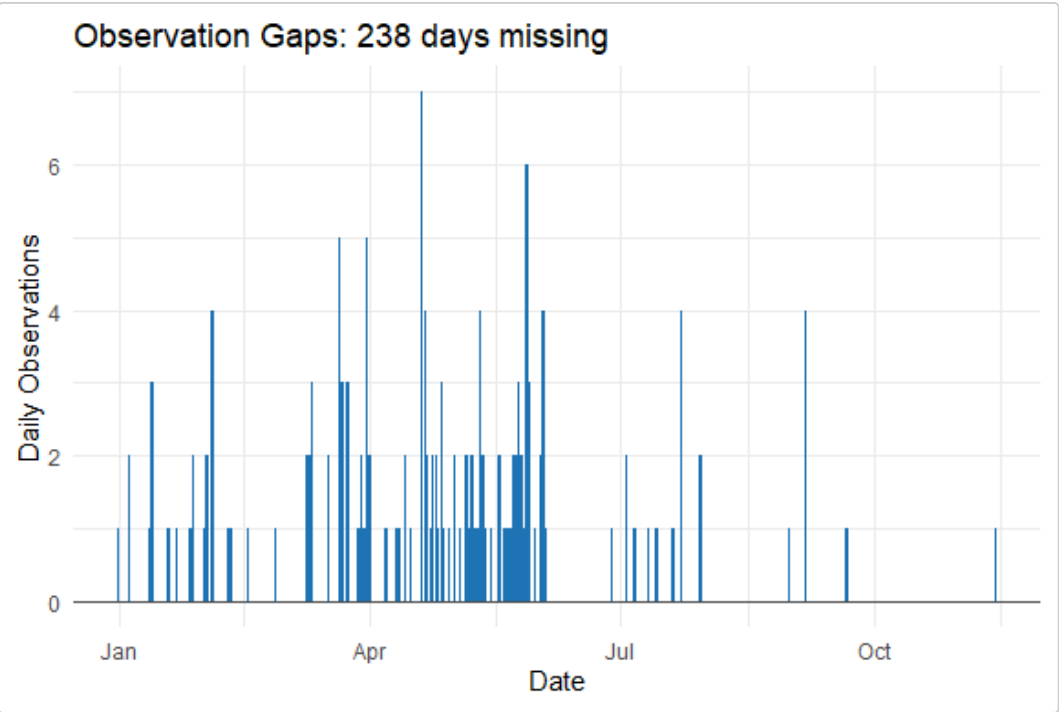
```
#> # A tibble: 6 × 5
#>   lat lon year eventDate      scientificName
#>   <dbl> <dbl> <dbl> <dtm>      <chr>
#> 1 -17.9 125. 2024 2024-01-12 05:51:00 Chloebia gouldiae
#> 2 -17.7 125. 2024 2024-05-18 05:22:00 Chloebia gouldiae
#> 3 -17.5 126. 2024 2024-04-20 06:35:00 Chloebia gouldiae
#> 4 -17.5 126. 2024 2024-05-08 06:36:00 Chloebia gouldiae
#> 5 -17.5 126. 2024 2024-03-24 07:00:00 Chloebia gouldiae
#> 6 -17.5 128. 2024 2024-05-09 06:19:00 Chloebia gouldiae
```

the length of the records is 154

## Monthly Distribution of organism (2024)



Data Regularity & Temporal Gaps



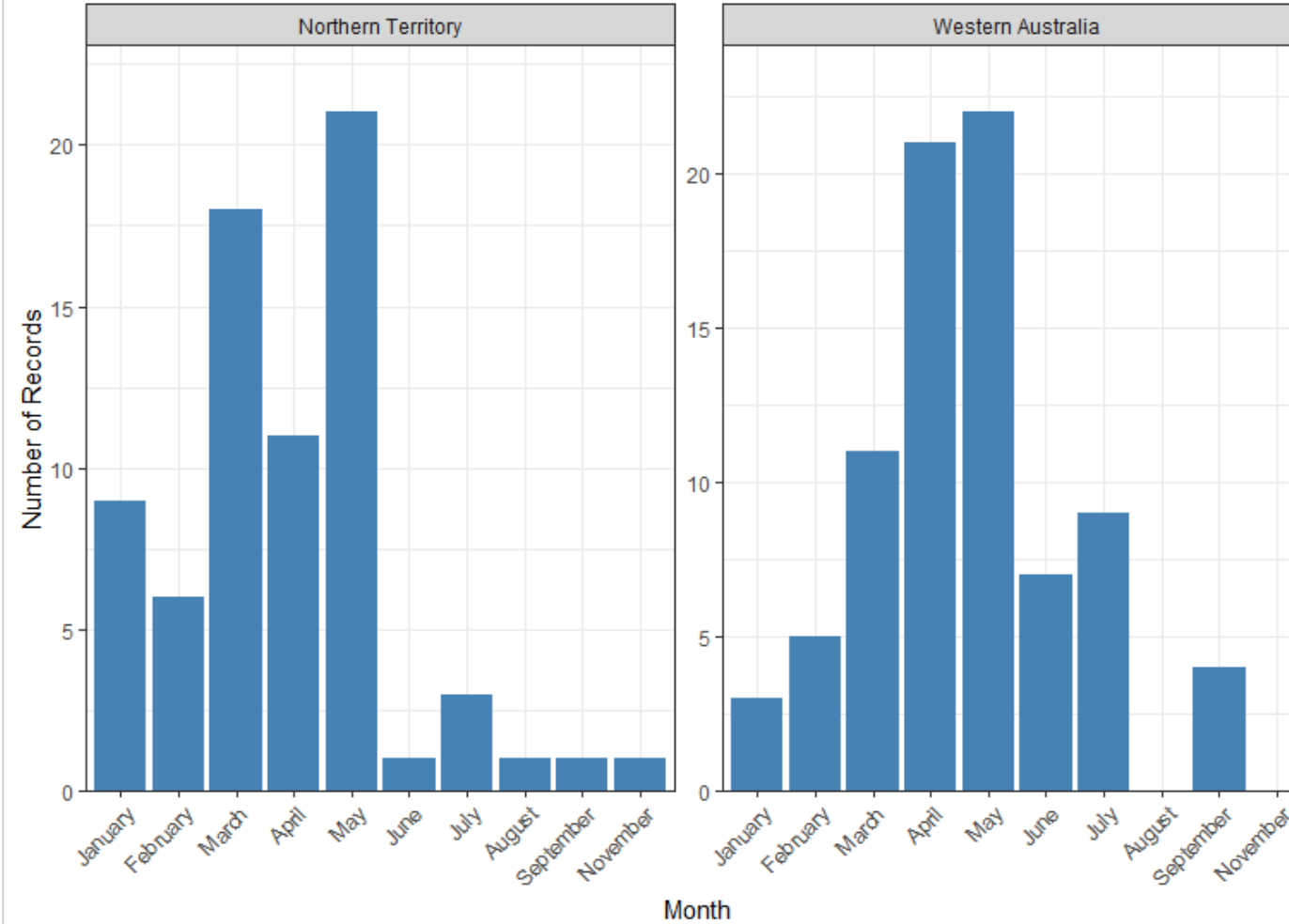
In this section we want to find nearest weather station for each occurrence of organism

```
#> # A tibble: 3 × 12
#>   lat.x lon.x  year eventDate      scientificName weather_station_id stname
#>   <dbl> <dbl> <dbl> <dtm>          <chr>          <chr>          <chr>
#> 1 -17.9  125.  2024 2024-01-12 05:51:00 Chloebia goul... 942060-99999 FITZR...
#> 2 -17.7  125.  2024 2024-05-18 05:22:00 Chloebia goul... 942060-99999 FITZR...
#> 3 -17.5  126.  2024 2024-04-20 06:35:00 Chloebia goul... 942060-99999 FITZR...
#> # i 5 more variables: lat.y <dbl>, lon.y <dbl>, address <chr>, city <chr>,
#> #   state <chr>
```

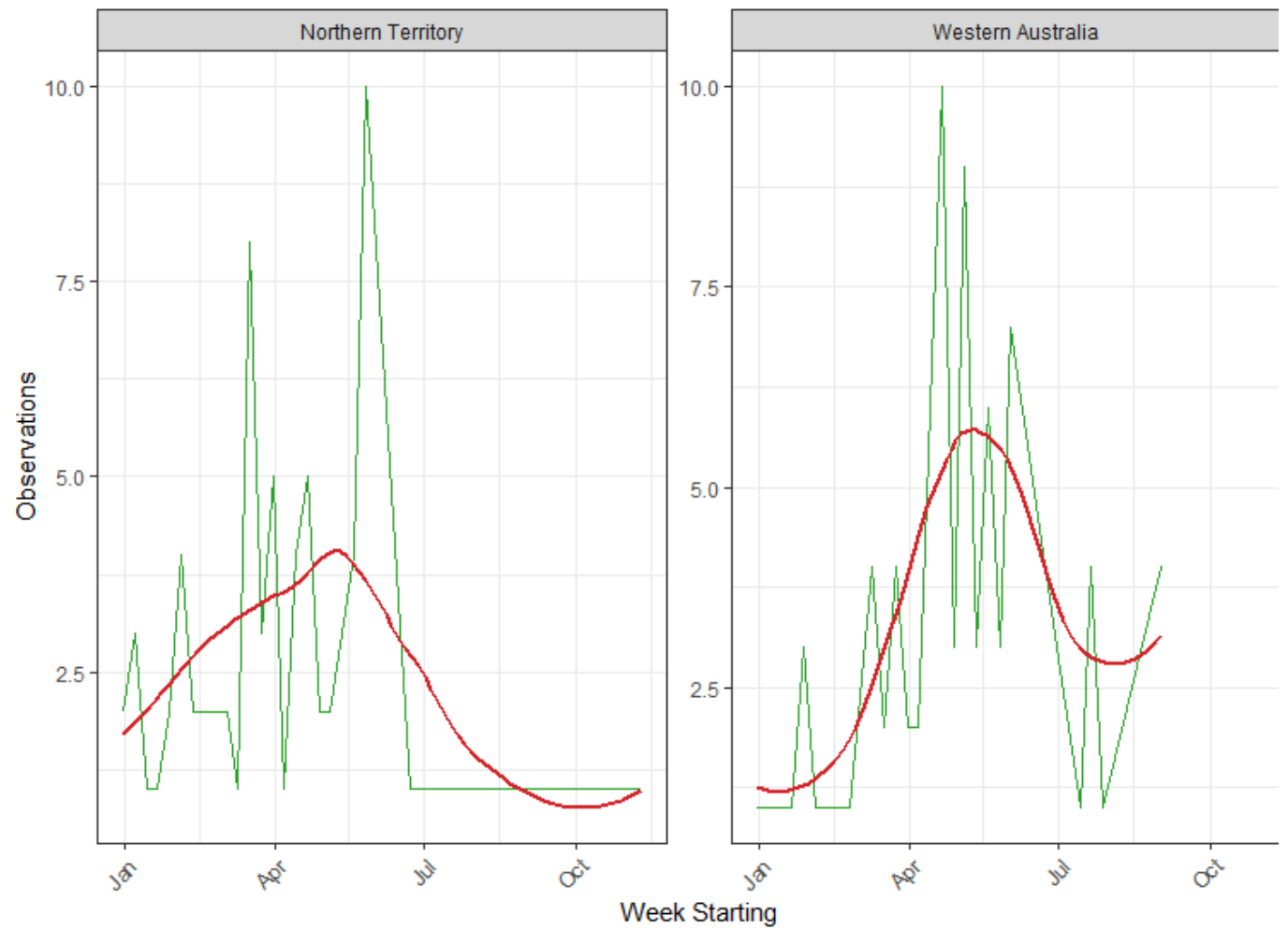
```
#>           State Frequency
#> 1 Western Australia      82
#> 2 Northern Territory     72
```

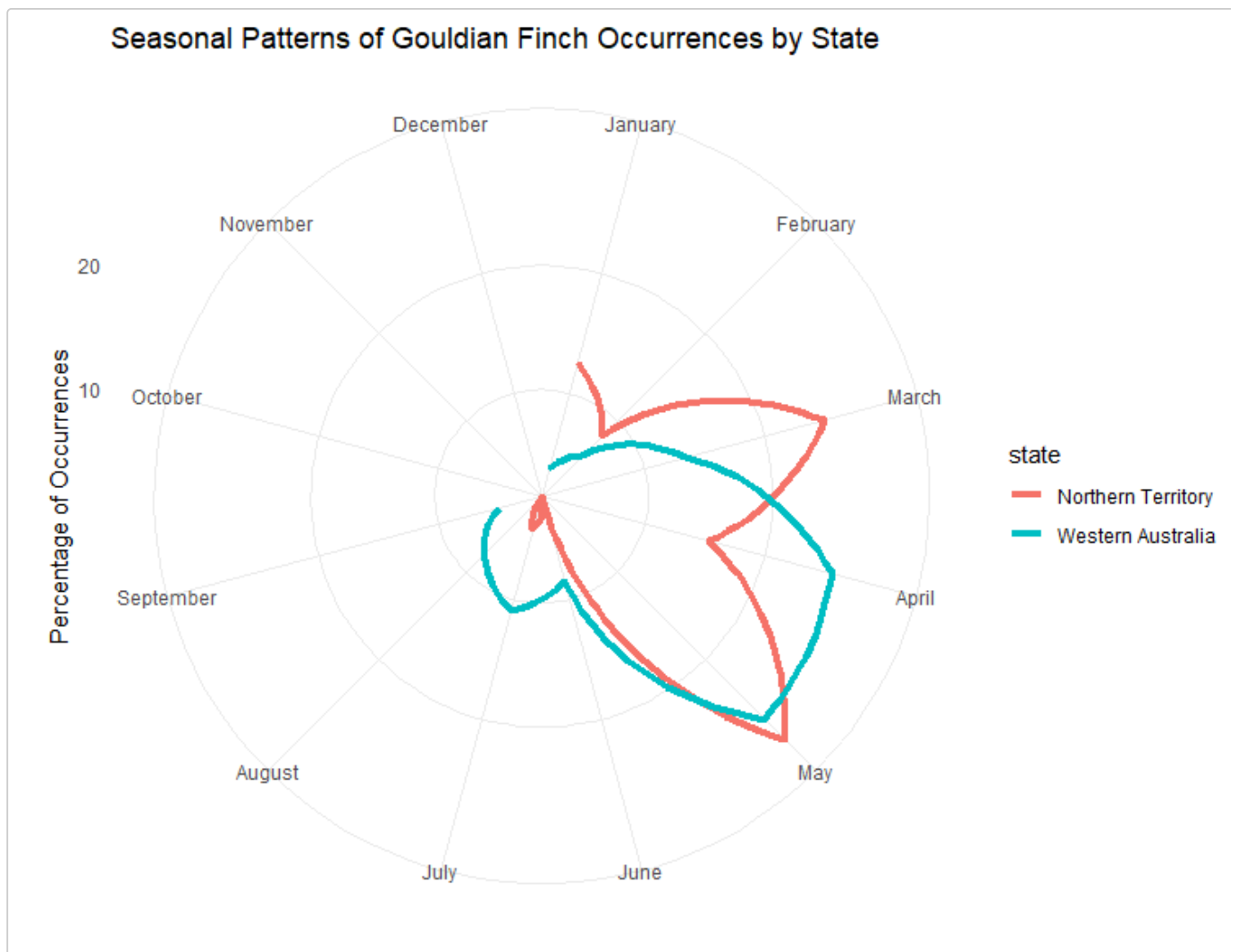
Pattern Analysis

Monthly Distribution of Gouldian Finch Occurrences (2024) by State



## Weekly Occurrence Patterns of Gouldian Finch (2024) with Trend Lines





## Datasets Overview

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

- `gouldian_finch_2024.rda`  
Contains Gouldian finch occurrence records across all states in Australia.
- `gouldian_finch_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)
```
- `gouldian_finch_top_weather.rda`  
Focuses on weather data from the top 3 most frequently recorded stations associated with Gouldian finch occurrences.
- `weather_stations.rda`  
A standalone dataset of all unique weather stations in Australia, providing reference metadata for cross-referencing.