

Whales



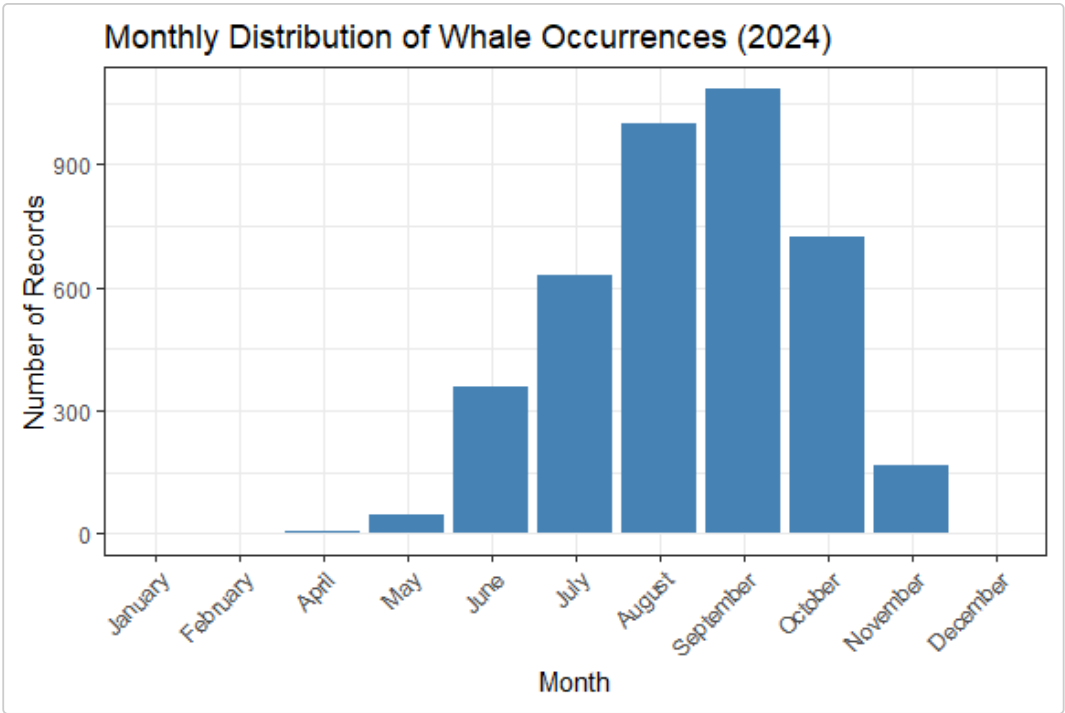
Whale

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

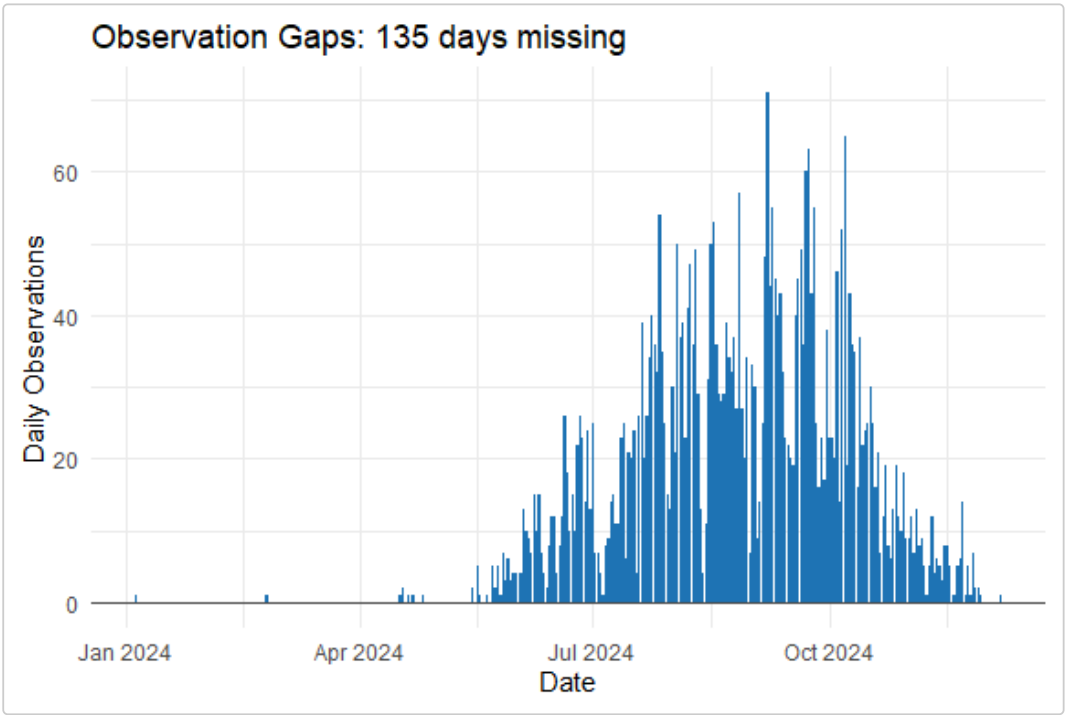
```
#> # A tibble: 6 × 5
#>   lat lon year eventDate scientificName
#>   <dbl> <dbl> <dbl> <dtm>      <chr>
#> 1 -43.4 147. 2024 2024-09-19 00:00:00 Megaptera novaeangliae
#> 2 -43.4 147. 2024 2024-10-21 11:58:00 Megaptera novaeangliae
#> 3 -43.4 147. 2024 2024-10-21 11:57:00 Megaptera novaeangliae
#> 4 -43.3 148. 2024 2024-10-03 00:00:00 Megaptera novaeangliae
#> 5 -43.2 148. 2024 2024-11-24 13:00:00 Megaptera novaeangliae
#> 6 -43.2 148. 2024 2024-09-19 00:00:00 Megaptera novaeangliae
```

the length of the records is 4015

Monthly Distribution of organism (2024)



Data Regularity & Temporal Gaps



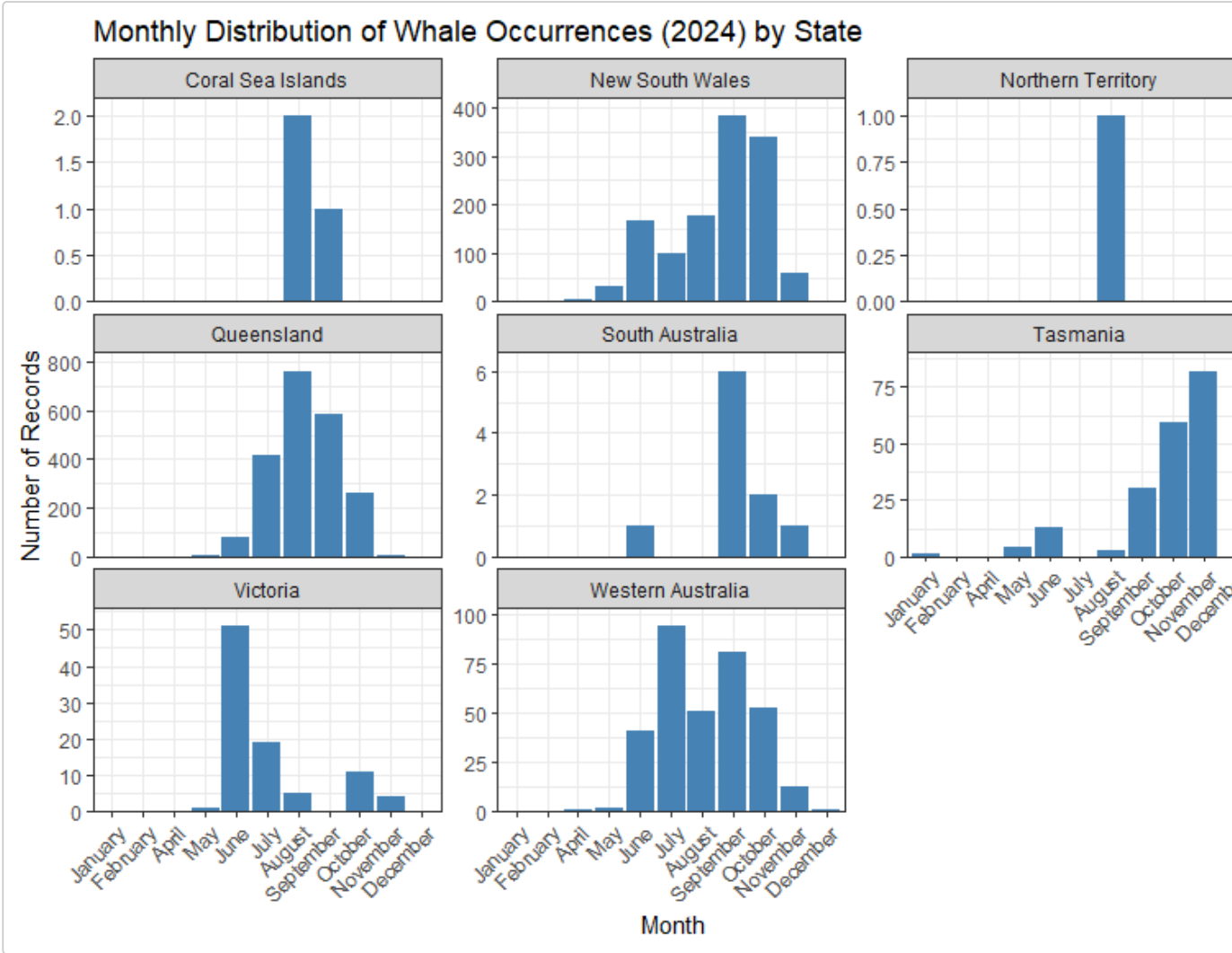
Nearest Weather Station Mapping

```
#> # A tibble: 3 x 12
#>   lat.x lon.x year eventDate      scientificName weather_station_id sname
#>   <dbl> <dbl> <dbl> <dtm>         <chr>          <chr>          <chr>
#> 1 -43.4  147.  2024 2024-09-19 00:00:00 Megaptera nov... 959670-99999 CAPE ...
#> 2 -43.4  147.  2024 2024-10-21 11:58:00 Megaptera nov... 959670-99999 CAPE ...
#> 3 -43.4  147.  2024 2024-10-21 11:57:00 Megaptera nov... 959670-99999 CAPE ...
```

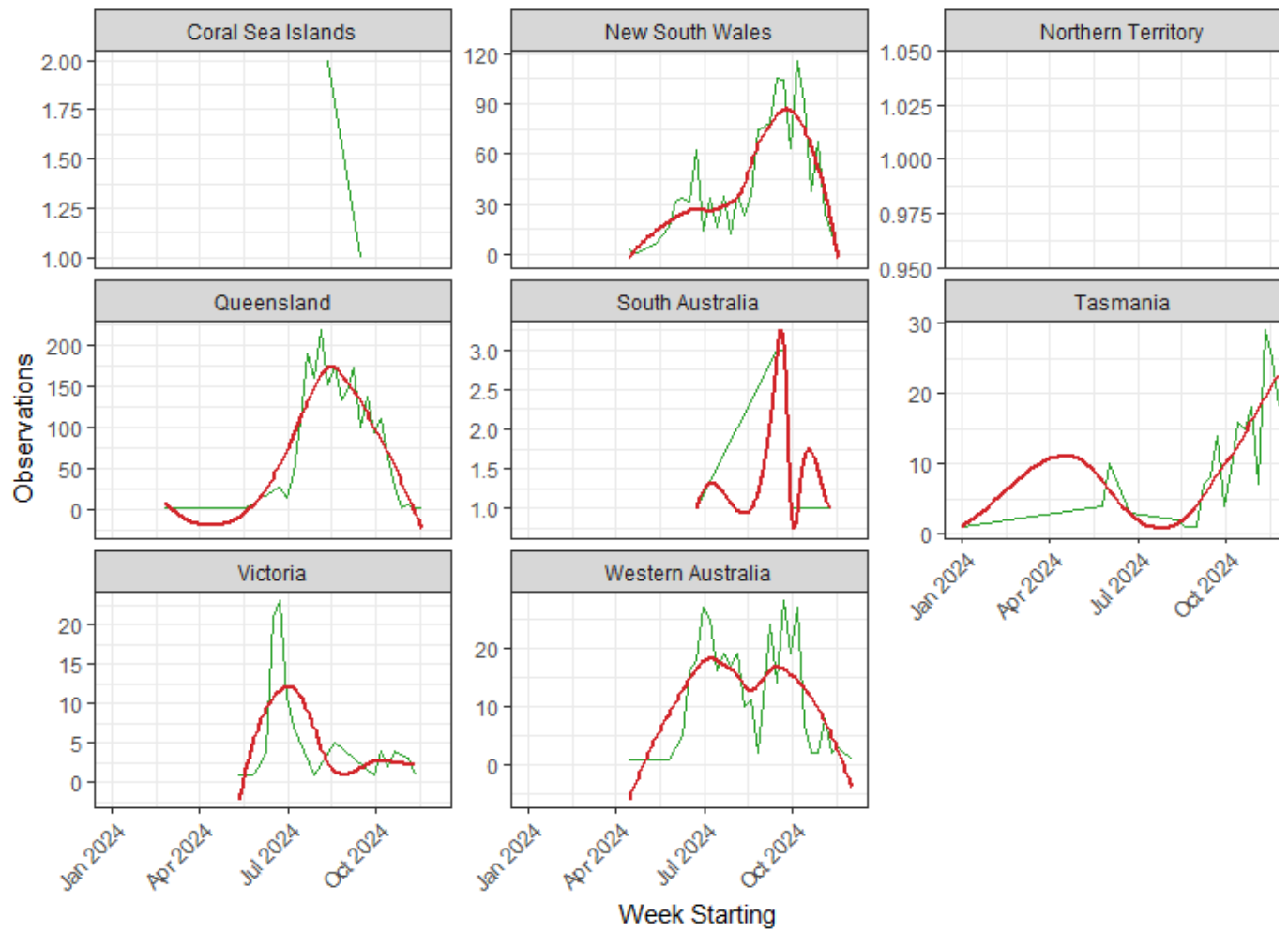
```
#> # i 5 more variables: lat.y <dbl>, lon.y <dbl>, address <chr>, city <chr>,  
#> #   state <chr>
```

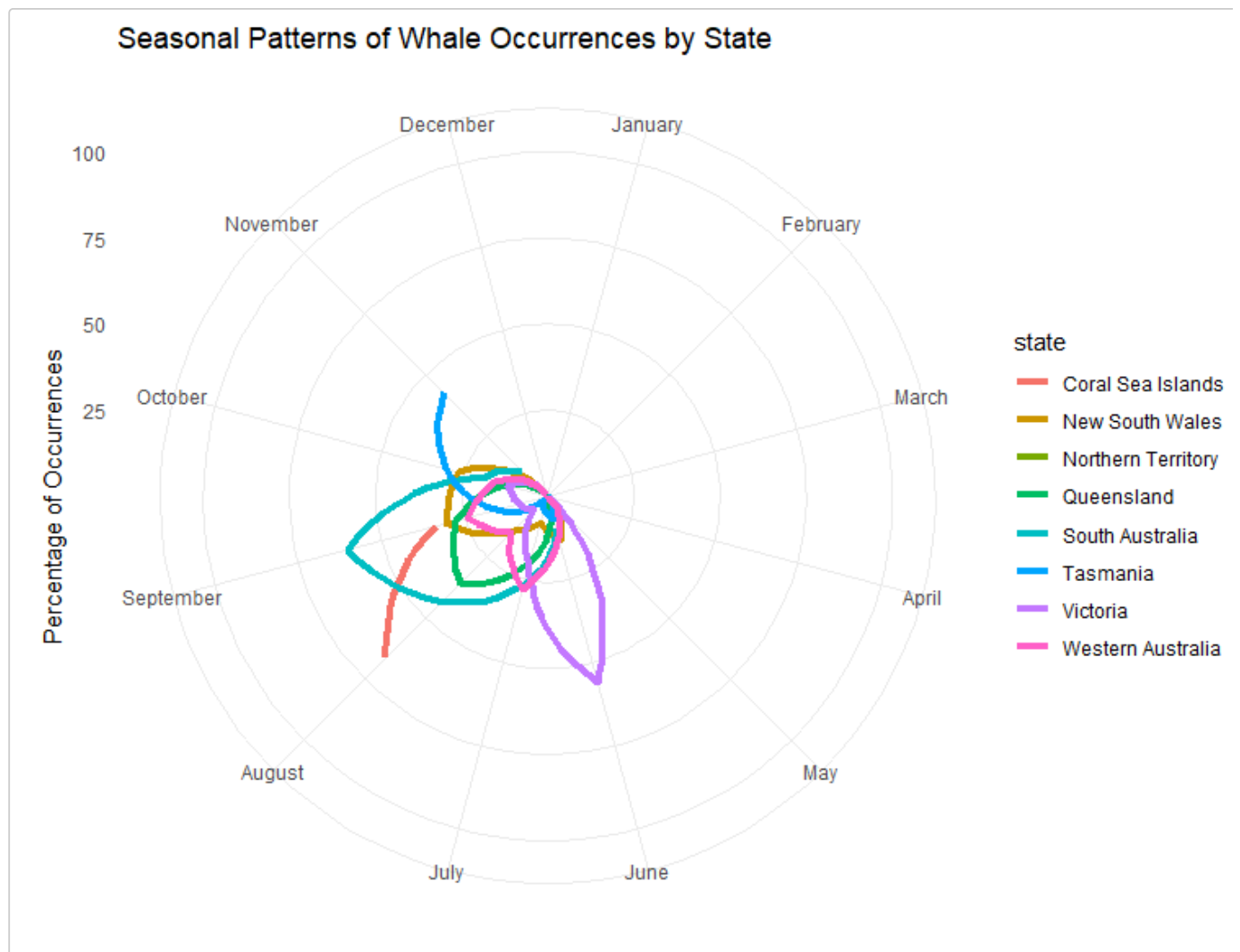
```
#>           State Frequency  
#> 1      Queensland      2121  
#> 2   New South Wales     1260  
#> 3 Western Australia      337  
#> 4         Tasmania      192  
#> 5         Victoria       91  
#> 6   South Australia       10  
#> 7 Coral Sea Islands        3  
#> 8 Northern Territory      1
```

Pattern Analysis



Weekly Occurrence Patterns of Whales (2024) with Trend Lines





Datasets Overview

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

- `whales_2024.rda`
Contains whale occurrence records across all states in Australia.
- `whales_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)
```
- `whales_top_weather.rda`
Focuses on weather data from the top 3 most frequently recorded stations associated with whale occurrences.
- `weather_stations.rda`
A standalone dataset of all unique weather stations in Australia, providing reference metadata for cross-referencing.