

orchids



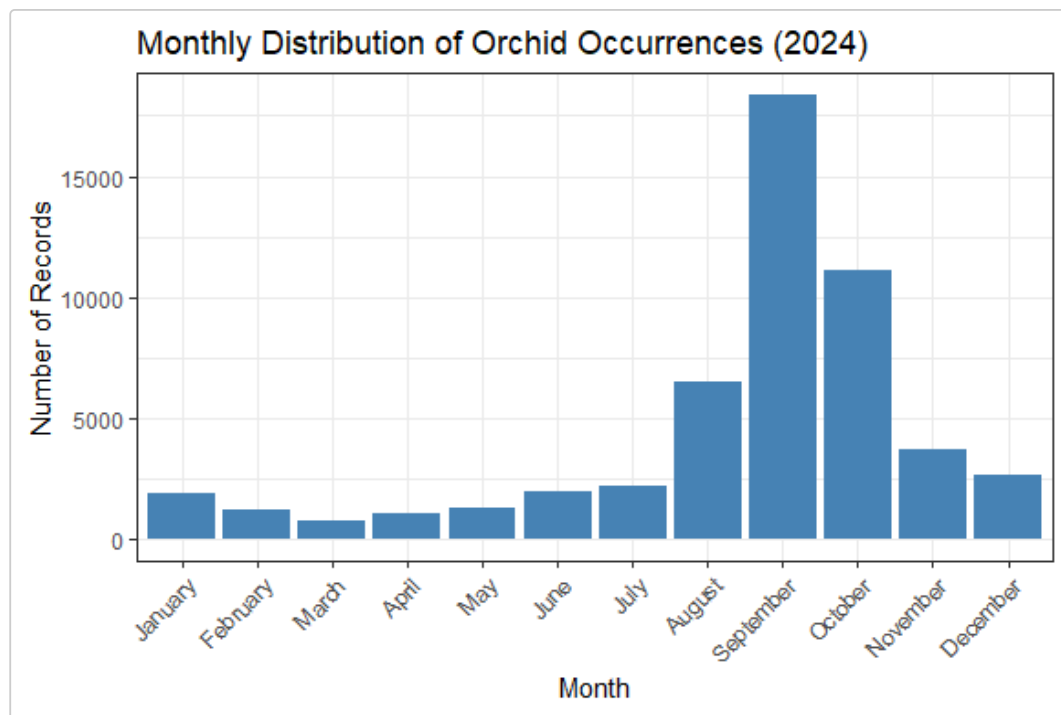
We are investigating occurrence data of [orchids\(Orchidaceae\)](#) in Australia from the **Atlas of Living Australia**, and make a map showing the spatial locations of sightings for 2024.

The head of **Orchids** dataset:

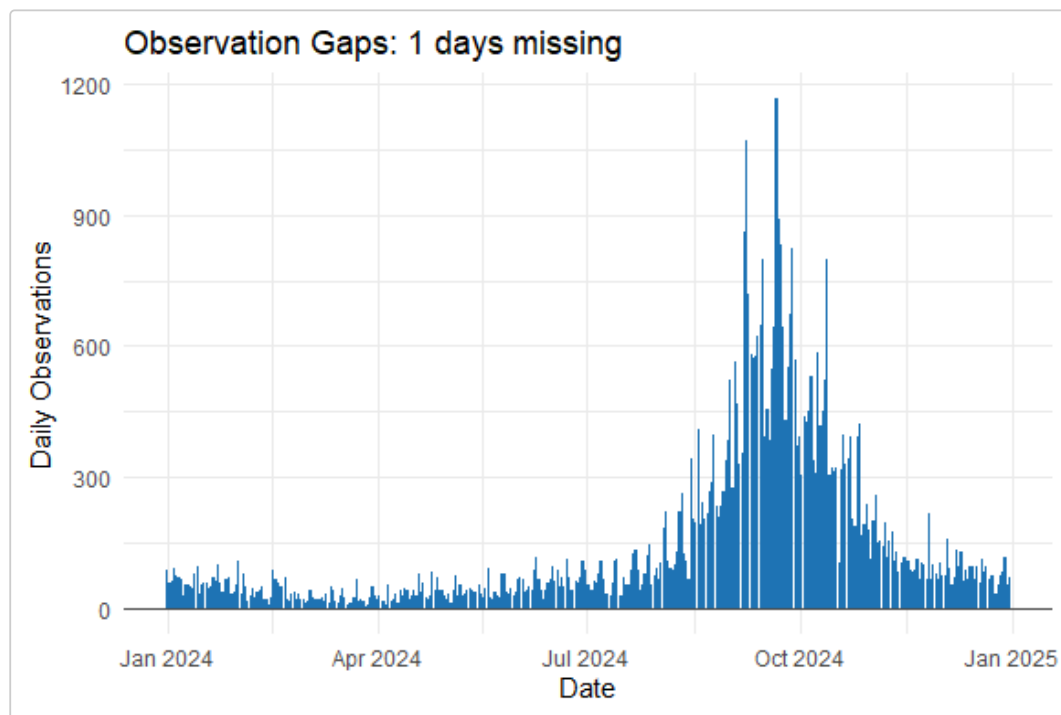
```
# # A tibble: 6 × 5
#   lat lon year eventDate      scientificName
#   <dbl> <dbl> <dbl> <dtm>      <chr>
# 1 -43.7 172. 2024 2024-01-24 00:00:00 Prasophyllum
# 2 -43.6 147. 2024 2024-02-10 12:13:58 Eriochilus cucullatus
# 3 -43.6 147. 2024 2024-01-11 12:01:14 Prasophyllum australe
# 4 -43.6 147. 2024 2024-02-10 11:55:18 Eriochilus cucullatus
# 5 -43.6 147. 2024 2024-11-18 11:59:25 Prasophyllum elatum
# 6 -43.6 147. 2024 2024-12-04 14:39:58 Chiloglottis
```

the length of the records is 52649

Monthly Distribution of Orchid Occurrences (2024)



Data Regularity & Temporal Gaps



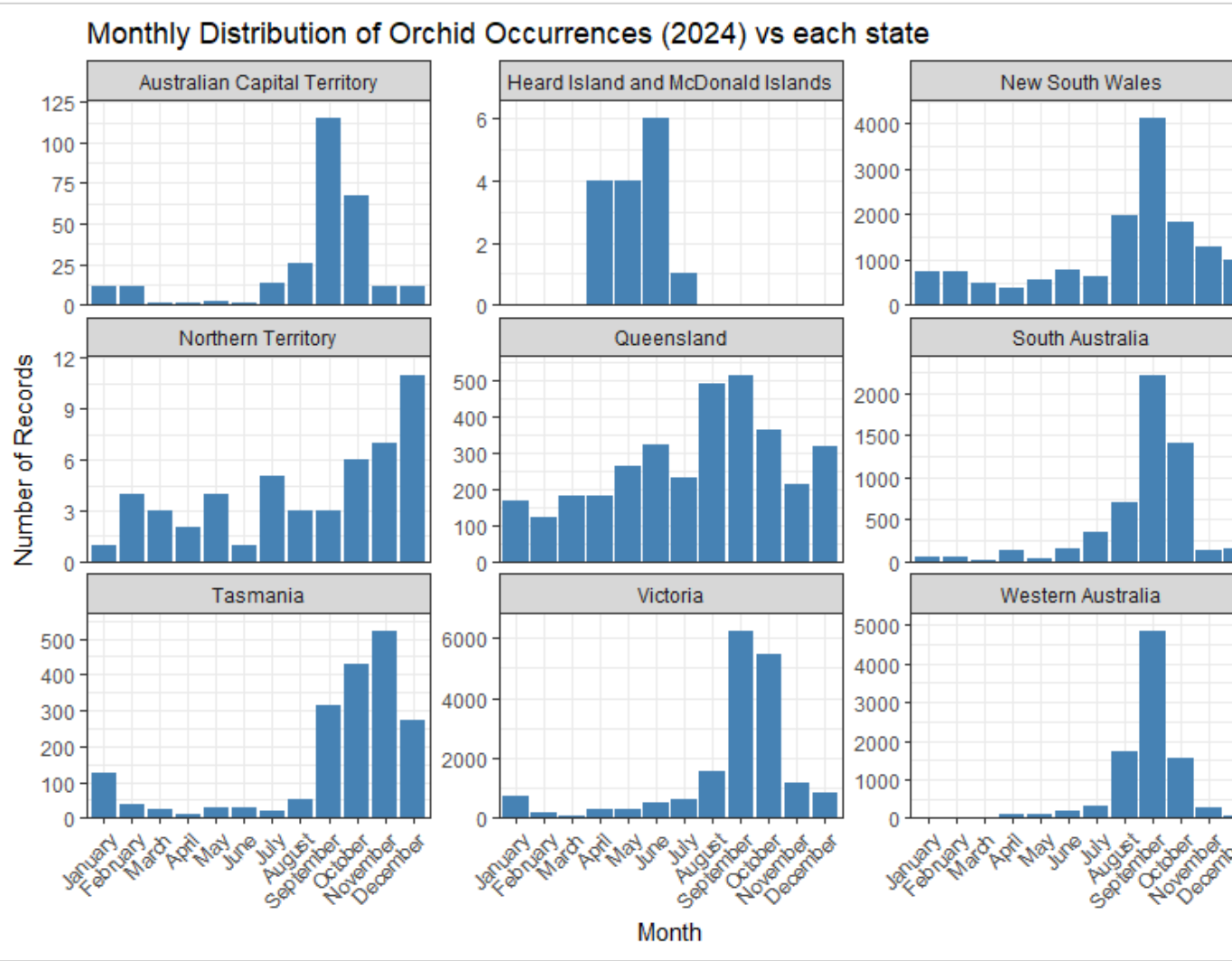
In this section we want to find nearest weather station for each occurrence of Orchids

```
# # A tibble: 3 × 12
#   lat.x lon.x year eventDate      scientificName weather_station_id stname
#   <dbl> <dbl> <dbl> <dtm>      <chr>          <chr>          <chr>
# 1 -43.7  172.  2024 2024-01-24 00:00:00 Prasophyllum  949980-99999  MACQU...
# 2 -43.6  147.  2024 2024-02-10 12:13:58 Eriochilus cu... 949670-99999  CAPE ...
# 3 -43.6  147.  2024 2024-01-11 12:01:14 Prasophyllum ... 949670-99999  CAPE ...
```

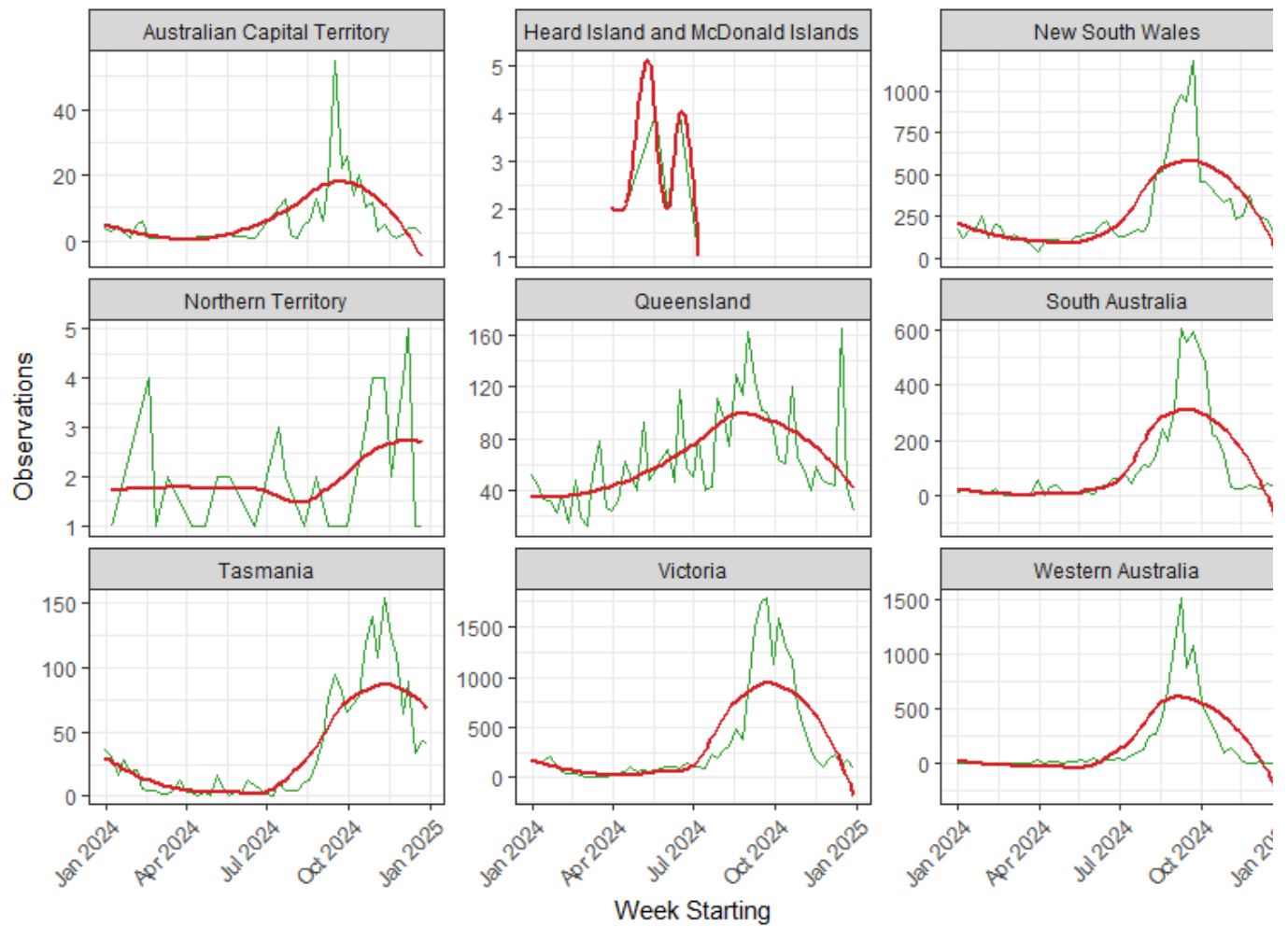
```
# # i 5 more variables: lat.y <dbl>, lon.y <dbl>, address <chr>, city <chr>,  
# # state <chr>
```

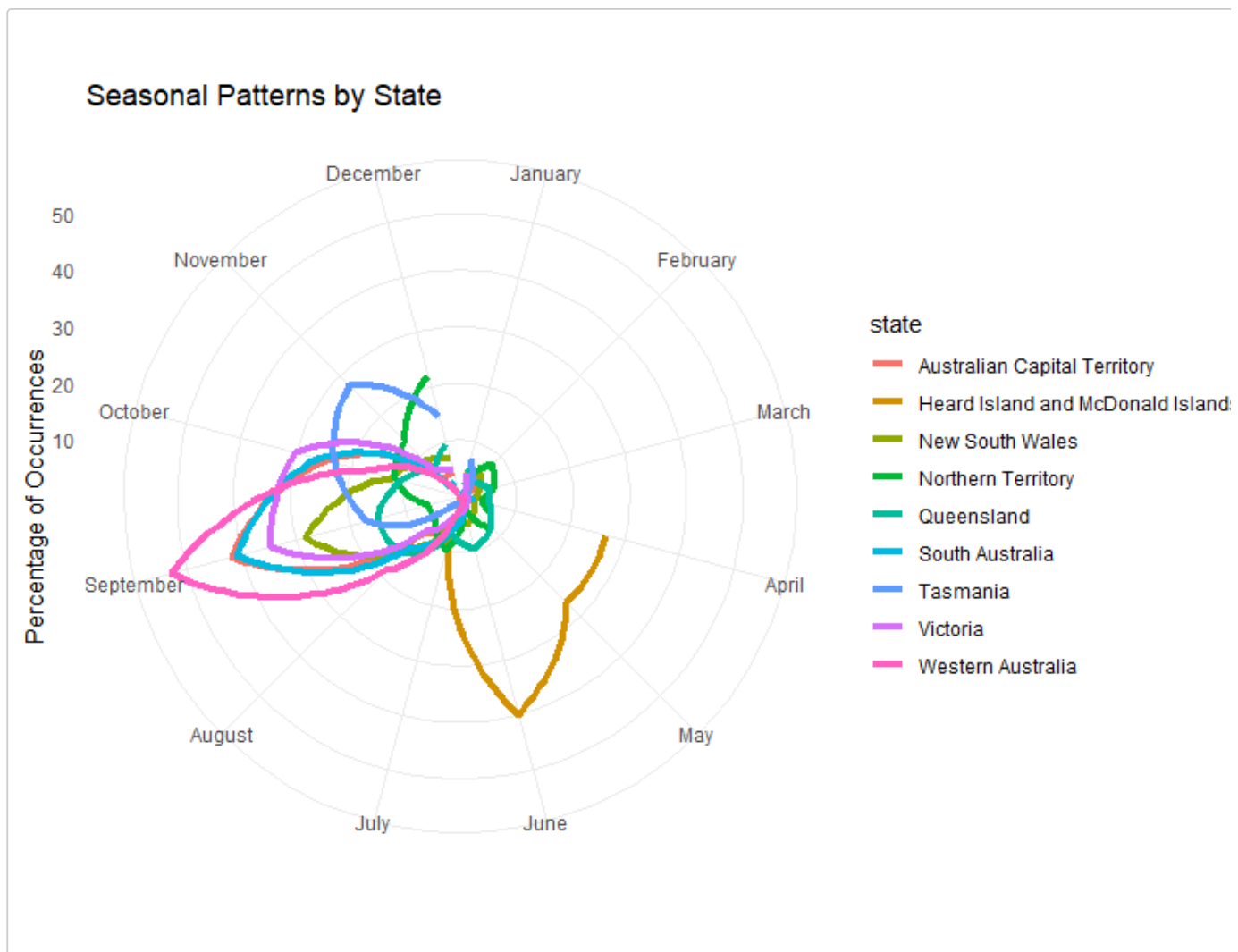
#	State	Frequency
# 1	Victoria	17953
# 2	New South Wales	14501
# 3	Western Australia	9161
# 4	South Australia	5459
# 5	Queensland	3366
# 6	Tasmania	1869
# 7	Australian Capital Territory	275
# 8	Northern Territory	50
# 9	Heard Island and McDonald Islands	15

Pattern Analysis



Weekly Occurrence Patterns with Trend Lines





Datasets Overview

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

- `orchids_2024.rda` Contains orchid occurrence records across all states in Australia.
- `orchids_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 (stname)

--Geographic details (lat.y, lon.y, address, city, state)
```

- `orchids_top_weather.rda` Focuses on weather data from the top 3 most frequently recorded stations associated with orchid occurrences.
- `weather_stations.rda` A standalone dataset of all unique weather stations in Australia, providing reference metadata for cross-referencing.