Aussie Travel

Preparing you for optimal weather conditions for your adventures down under.

What do you like to see when you travel?

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Let us guide you in planning your trip with the perfect weather conditions!

With our system, you will have monthly data for the top 49 locations in Australia regarding:

- Temperatures to expect
- Average numbers of rainy days and amount of rain
- Humidity
- Wind Speeds

How we achieved this?

- Initial data in Excel file
- Organized tables in PostgresSQL
- Exported data to a json file
- Imported to javascript

Postgres to json

- Created the Table.
- Made a few views from the table.

```
-- view 1
CREATE VIEW weatherAUS_view AS
SELECT
    "Date",
    "Location" AS "Location",
    CASE "Location"
        WHEN 'Hobart' THEN 'Tasmania'
        WHEN 'Launceston' THEN 'Tasmania'
        WHEN 'Uluru' THEN 'Northern Territory'
        WHEN 'BadgerysCreek' THEN 'New South Wales'
        WHEN 'Albany' THEN 'Western Australia'
        WHEN 'Walpole' THEN 'Western Australia'
        WHEN 'Katherine' THEN 'Northern Territory'
        WHEN 'SalmonGums' THEN 'Western Australia'
        WHEN 'Melbourne' THEN 'Victoria'
        WHEN 'NorfolkIsland' THEN 'Norfolk Island'
        WHEN 'Perth' THEN 'Western Australia'
```

- Postgres is able to make json files for you.

```
    SELECT json_agg(json_build_object(
    'State', "State",
    'Month', "Month",
    'Avg_MinTemp', "Avg_MinTemp",
    'Avg_MaxTemp', "Avg_MaxTemp",
    'Avg_Rainfall', "Avg_Rainfall",
    'Avg_Evaporation', "Avg_Evaporation",
    'Avg_Sunshine', "Avg_Sunshine",
    'Avg_WindGustSpeed', "Avg_WindGustSpeed",
    'Avg_WindSpeed9am', "Avg_WindSpeed9am",
    'Avg_WindSpeed3pm', "Avg_WindSpeed3pm",
    'Avg_Humidity9am', "Avg_Humidity9am",
    'Avg_Humidity3pm', "Avg_Humidity3pm",
    'Avg_Pressure9am', "Avg_Pressure9am",
    'Avg_Pressure3pm', "Avg_Pressure3pm",
    'Avg_Cloud9am', "Avg_Cloud9am",
    'Avg_Cloud3pm', "Avg_Cloud3pm",
    'Avg_Temp9am', "Avg_Temp9am",
    'Avg_Temp3pm', "Avg_Temp3pm"
))
FROM public.weatheraus_state_summary_view;
```

Rainy days

Rainy days

Rain can be one of the fastest ways to ruin a vacation.

Rainy days

Rain can be one of the fastest way to ruin a vacation.

Use our easy precipitation guide to help avoid taking rainchecks.

Average Monthly Precipitation

Days	Location	Inches	Millimetres
14	Adelaide	30.4	70
14	Albany	37.5	87
13	Albury	22	51
2	AliceSprings	7	16

Rainy days

```
<table id="myTable" class="table table-borderless table-striped table-earning">
  <caption>Average Monthly Precipitation</caption>
  <thead>
    <tr class = "table-headers">
      <th class="col1">Days</th>
      <th class="col2">Location</th>
      <th class="col3">Inches</th>
      <th class="col4">Millimetres</th>
    </tr>
  </thead>
  <tbody>
  </tbody>
</table>
```

Code:

- Inserting table into html file

Rainy days

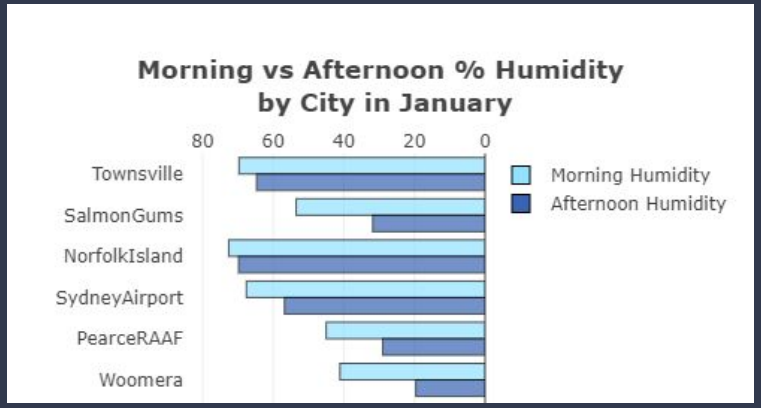
```html
<table id="myTable" class="table table-borderless table-striped table-earning">
  <caption>Average Monthly Precipitation</caption>
  <thead>
    <tr class = "table-headers">
      <th class="col1">Days</th>
      <th class="col2">Location</th>
      <th class="col3">Inches</th>
      <th class="col4">Millimetres</th>
    </tr>
  </thead>
  <tbody>
  </tbody>
</table>
```

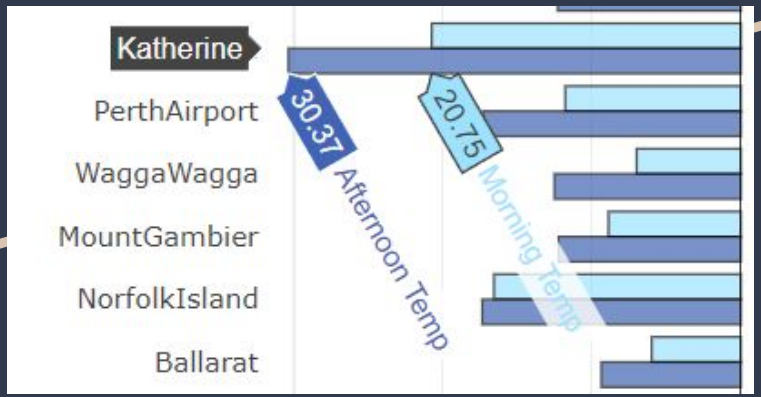
Code:

- Inserting table into html file
- Create a function with a for loop to populate the table

```
47      for (let i = 0; i < months.length; i++) {
48        let row = body.append('tr');
49        row.append('td').text(months[i].RainyDaysPerYear);
50        row.append('td').text(months[i].Location);
51        row.append('td').text(months[i].TotalRainfall_inch);
52        row.append('td').text(months[i].TotalRainfallPerYear_mm);
53      }
```

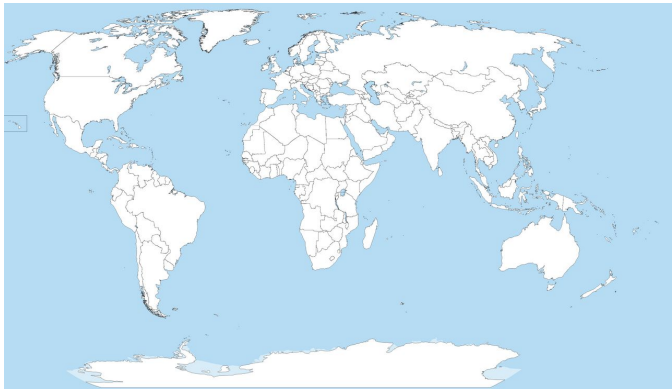
Charts Temp, Humidity, Wind





- Charts display the data to make it easier to compare and contrast by preference:
  - For example: Woomera has a much lower afternoon humidity than morning humidity, so it might be better to go out in the afternoon in January.
  - Likewise, it is significantly less humid it Woomera than Coffs Harbour in January.
- Charts compare morning versus afternoon temperature, humidity, and wind to help travelers determine whether they can expect favorable conditions when they are most likely to be outside
  - For example, Katherine averaged 21 °C (70 °F) in the morning in July, but 30 °C (86 °F) in the afternoon, so it may be preferable to do strenuous activities in the morning, or plan time near water in the afternoon

Interactive map

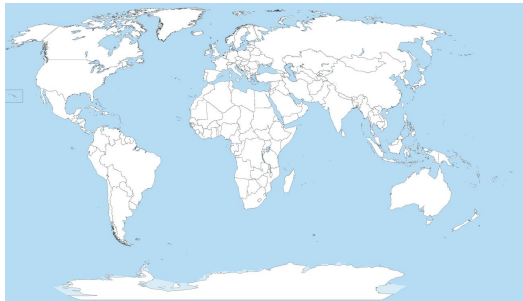


Interactive map

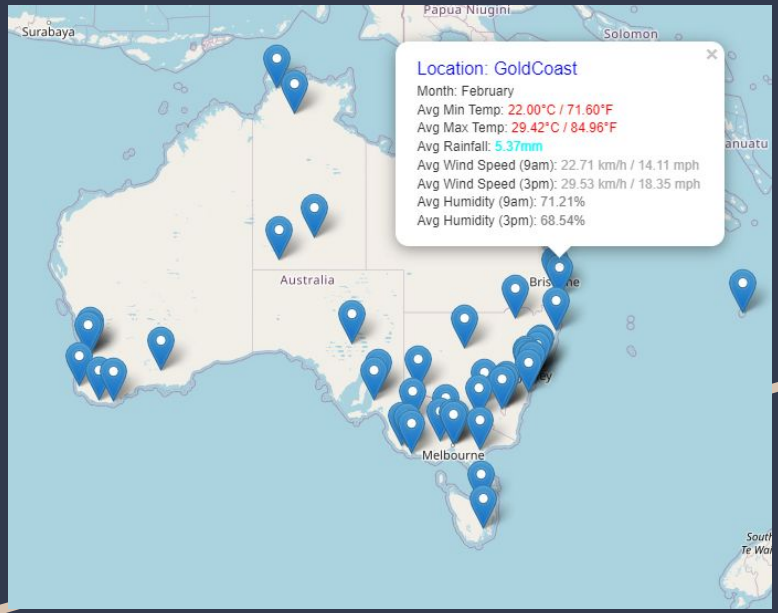
```
function updateMarkers(selectedMonth) {
    // Fetch the location summary data for markers
    d3.json("../Data/location_summary.json").then(function(locations) {
        // Clear existing markers
        map.eachLayer(function(layer) {
            if (layer instanceof L.Marker) {
                map.removeLayer(layer);
            }
        });

        // Filter locations based on the selected month
        let filteredLocations = locations.filter(location => location.Month === selectedMonth);

        // Iterate over the filtered locations
        filteredLocations.forEach(function(location) {
            // Extract relevant information
            var name = location.Location;
            var latitude = parseFloat(location.Latitude);
            var longitude = parseFloat(location.Longitude);
            var month = location.Month;
            var minTemp = location.Avg_MinTemp.toFixed(2) + "°C / " + (((location.Avg_MinTemp * 9 / 5) + 32).toFixed(2)) + "°F";
            var maxTemp = location.Avg_MaxTemp.toFixed(2) + "°C / " + (((location.Avg_MaxTemp * 9 / 5) + 32).toFixed(2)) + "°F";
            var rainfall = location.Avg_Rainfall.toFixed(2);
            var windSpeed9am = location.Avg_WindSpeed9am.toFixed(2) + " km/h / " + (location.Avg_WindSpeed9am * 0.621371).toFixed(2) + " mph";
            var windSpeed3pm = location.Avg_WindSpeed3pm.toFixed(2) + " km/h / " + (location.Avg_WindSpeed3pm * 0.621371).toFixed(2) + " mph";
            var humidity9am = location.Avg_Humidity9am.toFixed(2);
            var humidity3pm = location.Avg_Humidity3pm.toFixed(2);

            // Create a marker with a popup information
            var marker = L.marker([latitude, longitude])
            // make location name blue
            .bindPopup("<span style='color: blue; font-size: 16px;'>Location: " + name + "</span><br> Month: " + month + "<br> Avg Min Temp: <span
                .addTo(map);
        });
    });
}
```

The code does the following:

- Fetches location summary data from a JSON file based on the selected month.
- Clears existing markers on the map.
- Filters locations by the selected month.
- Creates markers on the map with popup information showing weather metrics for each location.
- Change color of information in popup for easy readability



Interactive map



With our interactive map you'll be able to:

- See the location of your destination
- Zoom in and see nearby cities
- Get a detailed list of information for your selected month and city
  - > Location name
  - > Average minimum and maximum temperatures
  - > Average rainfall
  - > Average wind speeds for morning and afternoon
  - > Average humidity for morning and afternoon

What is jQuery?

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

jQuery is primarily used for handling the quiz functionality within the modal popup.

Selecting Elements: jQuery selectors are used to select HTML elements within the document. For example:

- `$("#quiz")` selects the modal element with the ID "quiz".
- `$("input[name='answer']:checked")` selects the checked radio button input elements with the name "answer".

DOM Manipulation: jQuery methods are used to manipulate the DOM elements. For example:

- `$("#quiz").show()` and `$("#quiz").hide()` are used to show and hide the quiz modal respectively.
- `$("#question").text("...")` sets the text content of the element with the ID "question" to display the current quiz question.
- `$("#answers").html(answersHtml)` updates the HTML content of the element with the ID "answers" to display the quiz answer choices.

JQuery

Event Handling: jQuery simplifies event handling. For example:

- `$(document).on("click", "#submit", function() { ... })` attaches a click event handler to the document that triggers when the submit button is clicked, to check the user's answer.

Getting Values: jQuery is used to get the values of selected elements. For example:

- `$("input[name='answer']:checked").val()` retrieves the value of the selected radio button input element with the name "answer", which represents the user's chosen answer.

Setting Text: jQuery is used to set text content within elements. For example:

- `$("#result").text("...")` sets the text content of the element with the ID "result" to display the user's quiz score.

CSS Style

```css
.jumbotron{
    background-image: url("AustralianFlagHeader.jpg");
    background-repeat: no-repeat;
    background-size: cover;
    color: white;
    text-align: right;
}

.table-headers{
    background-color: royalblue;
    color: white;
}
```

Jumbotron

- Inserting image as the background
- Aligning text to fit with image
- Changing text to display with the image

Table

- Color table headers
- Changing text to display with background color

Start planning your next adventure today!