

Title

Date

Name

Department

Etihad Airways



Agenda

Task Breakdown

Hypothetical Problem Statement

Insights

Conclusion/Demo

Recommendations



Task Breakdown



Explore The Data



Domain Knowledge



Problem Statement & Insights



Story Telling

Sample Data was provided to build insights story for a Problem Statement



Metro Political Data of 5 Cities from Australia

Available Data Metro political Data- 20 Attributes

*Minimum /Maximum
Temperature*

*Rain Fall
Quantity*

Evaporation

*Sunshine
Hours*

*9AM / 3PM
Wind Direction*

*Speed Of
Wind*

*Time of
Maximum Wind*

*9 AM / 3PM
Temperature*

*9AM / 3PM
Humidity*

*Cloud
Amount*

*Atmospheric
Pressure*

*Day
Month
Year*

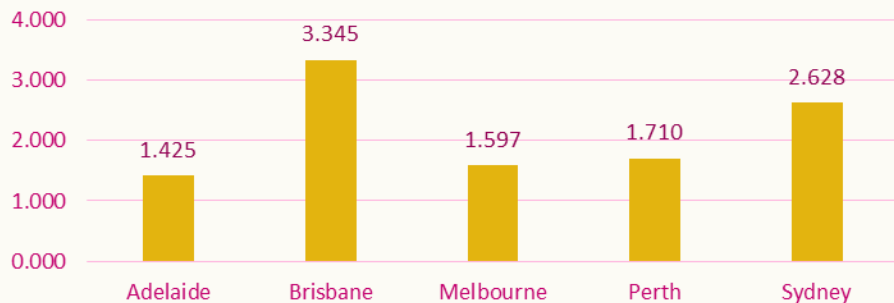
***Right Information
At
Right Time***

***Which City has best weather?
if
I am a Rain Lover and Visiting
in January***

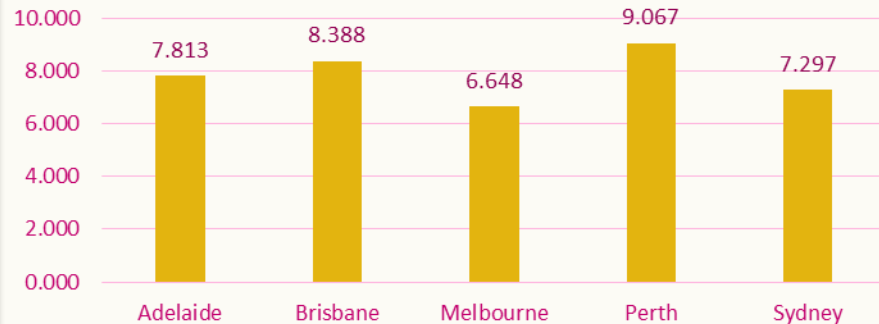
Build an insights catalogue to support a travel guide that which city should recommended as per tourists preference

Summary Statistics

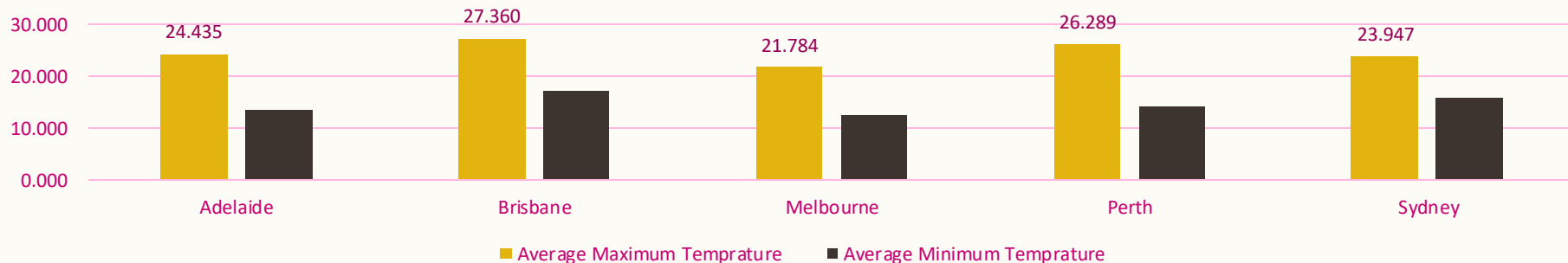
Average Rainfall (mm)



Average Sunshine Hours



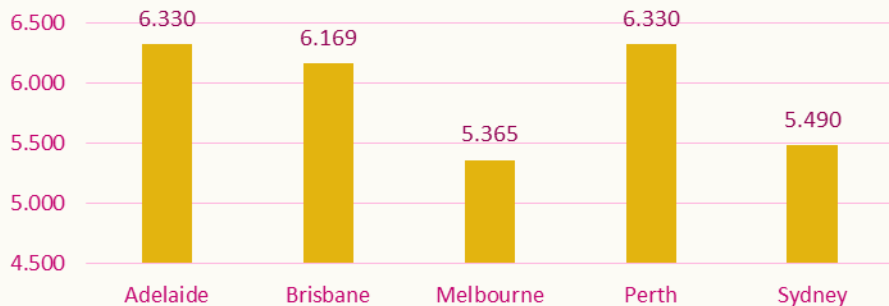
Minimum vs Maximum Temperature



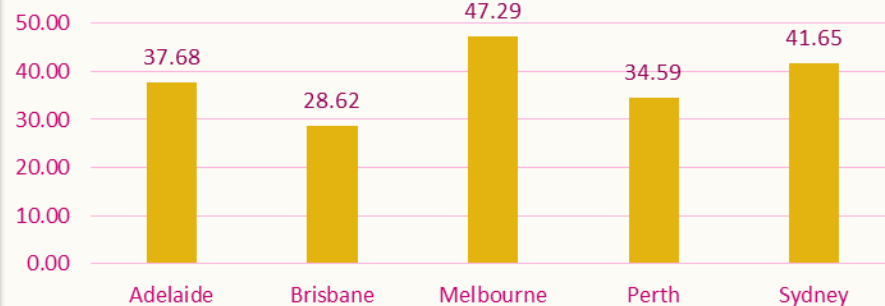
Brisbane have relatively Higher Rainfall, Higher Temperatures & Higher sunshine hours

Summary Statistics

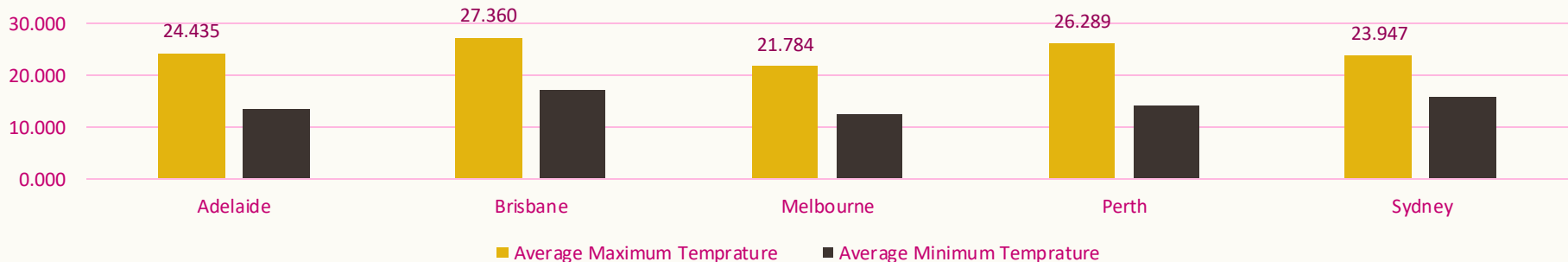
Average Evaporation (mm)



Average Maximum Speed Wind Gust km/h



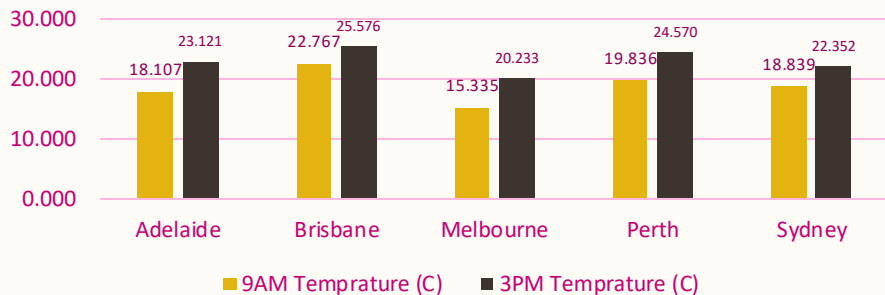
Minimum vs Maximum Temperature



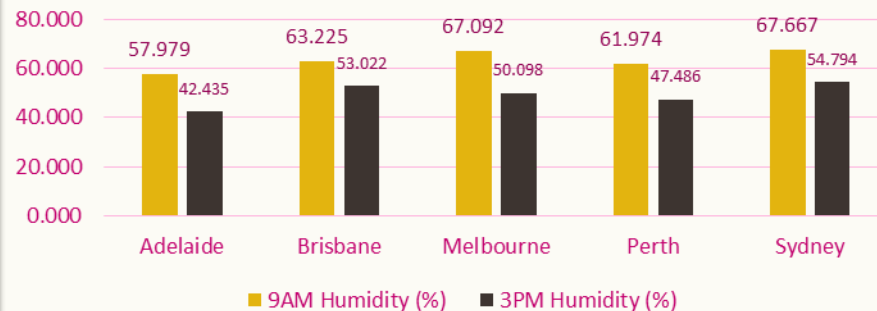
A direct correlation between Wind speed, Temperature & Evaporation of City (Brisbane & Melbourne)

Summary Statistics

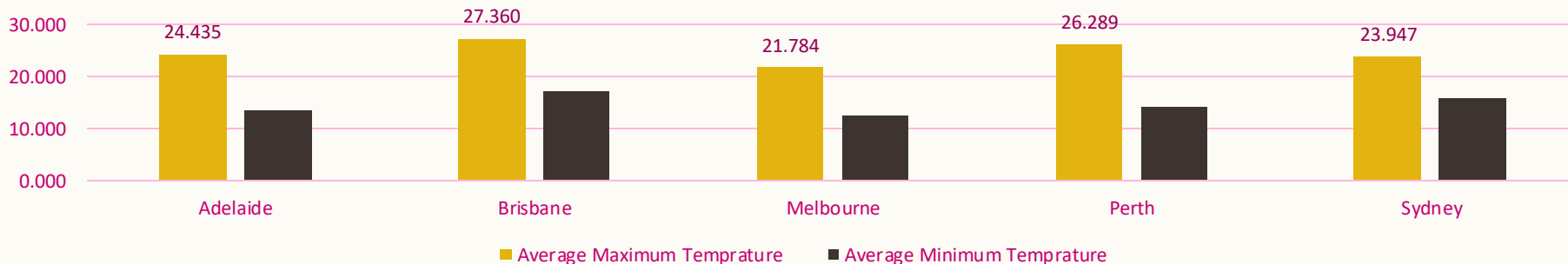
Temperature Reading Instances (C)



Humidity Reading Instances (%)



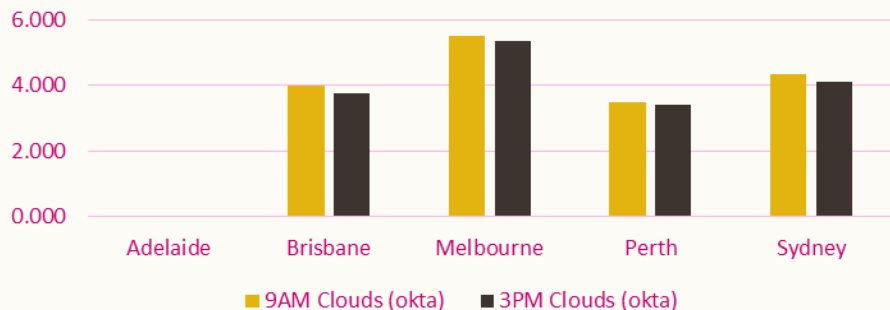
Minimum vs Maximum Temperature



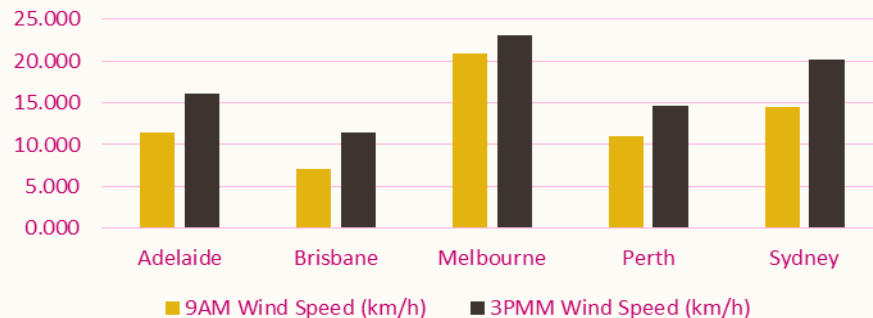
Higher the Temperature lower the humidity 9 AM vs 3PM

Summary Statistics

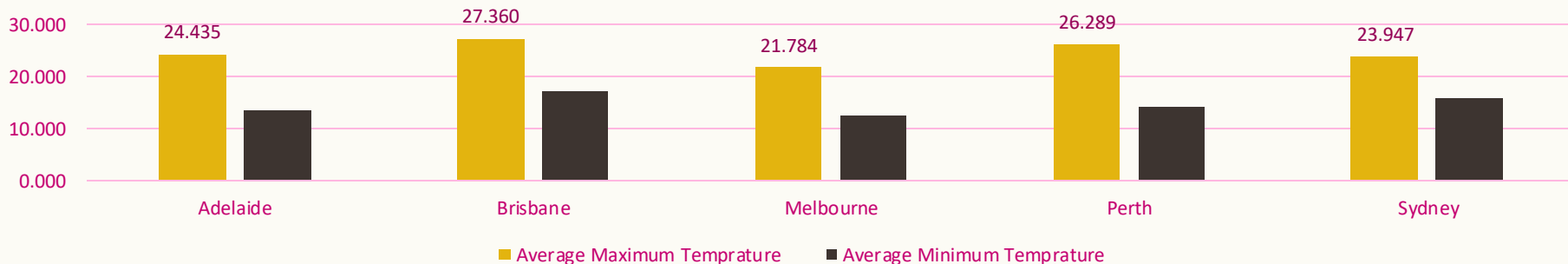
Clouds Reading Instances (Okta)



Wind Speed Reading Instances (km/h)



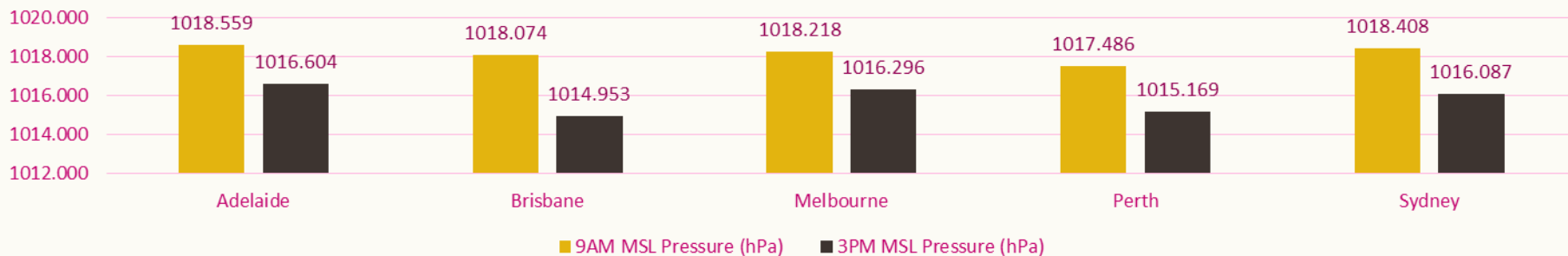
Minimum vs Maximum Temperature



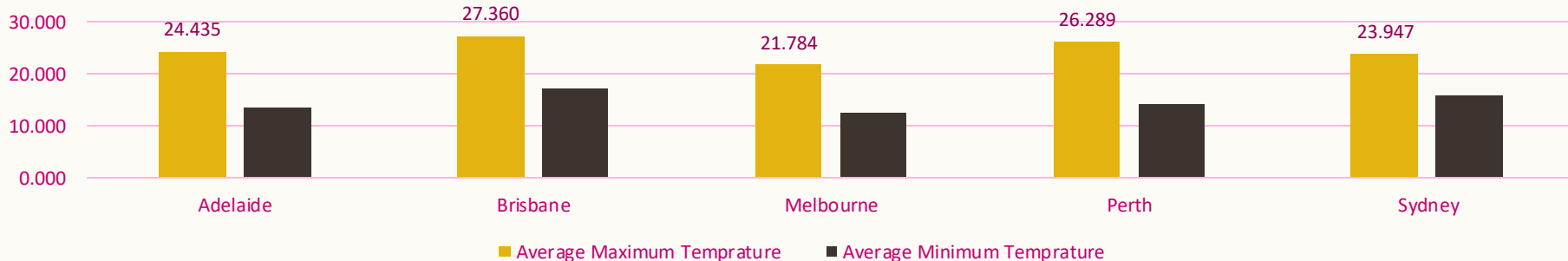
Clouds, Wind & Temperature have direct correlation (Brisbane & Melbourne)

Summary Statistics

MSL Pressure Reading Instances (hPa)



Minimum vs Maximum Temperature



Higher MSL Pressure means weather would remain fair and calm

Suggestions for Tourist Guide

Adelaide

*Should be Recommended to those
Who don't like Rain & are looking
For a Fair and Calm Weather
& have less interest in windy Weather*

Brisbane

*Should be Recommended to those
Who like Rain & Higher Temperature
& have inclination towards sunny weather*

Melbourne

*Should be Recommended to those
Who like don't Rain & Higher Temperature
& have inclination towards windy weather
& don't like sunny weather & inclined
toward cloudy weather*

Perth

*Should be Recommended to those
Who don't like Rain & likes
Sunny Weather*






Sydney

Should be recommended to those who likes mediocre weather from all aspects

We Still haven't Answered January part

Now we will analyze the time part that how weather impact

Weather Data Analysis (Summary)

Avg. Sunshine(Hrs)	Avg. Rainfall(mm)	Avg. WindSpeed(km/h)	Avg. Temperature	Avg. humidity
 7.842	 2.175	 15.08	 21.15	 56.5

	Adelaide	Brisbane	Melbourne	Perth	Sydney
1/1/2014	10.810	8.381	8.987	12.332	8.119
2/1/2014	9.700	8.557	8.525	12.229	6.454
3/1/2014	8.303	7.639	6.468	9.055	6.394
4/1/2014	6.838	8.360	4.650	8.490	5.437
5/1/2014	5.457	7.210	4.258	4.687	7.526
6/1/2014	3.693	7.437	3.277	6.440	6.373
7/1/2014	3.565	8.929	4.484	5.877	7.448
8/1/2014	7.752	7.471	5.245	6.910	6.374
9/1/2014	7.570	9.383	6.797	7.370	8.200
10/1/2014	9.377	10.255	7.374	9.781	8.342
11/1/2014	9.537	9.810	8.397	10.537	8.553
12/1/2014	10.267	8.048	8.665	12.055	7.143
1/1/2015	9.294	7.735	8.284	11.484	8.310
2/1/2015	-	8.414	8.177	10.032	7.405

For further correlation findings between Time and Temperature using Tablue

Month vs Sunny Hours in a Day

Month ID

	Adelaide	Brisbane	Melbourne	Perth	Sydney
1/1/2014	10.810	8.381	8.987	12.332	8.119
2/1/2014	9.700	8.557	8.525	12.229	6.454
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Average Sunny Hours a Day

Sunny hours in a Day are different for different Cities & Perth have extreme monthly variation i.e. Summer vs Winter. In January Brisbane have the Sydney have the lowest sunny hours

Month vs Rain in a Day

Month ID

	Adelaide	Brisbane	Melbourne	Perth	Sydney
1/1/2014	0.35	4.64	0.59	0.01	0.56
2/1/2014	3.51	0.59	1.07	0.00	2.08
3/1/2014	0.73	5.30	1.05	0.24	3.31
4/1/2014	1.69	0.47	3.49	0.82	4.03
5/1/2014	2.39	0.95	1.41	4.92	0.88
6/1/2014	3.47	0.54	2.43	3.12	2.27
7/1/2014	3.21	0.46	0.86	4.88	0.53
8/1/2014	0.67	3.11	1.55	3.45	6.94
9/1/2014	1.05	0.92	1.27	2.57	1.74
10/1/2014	0.16	0.19	1.68	1.19	2.79
11/1/2014	0.84	4.73	3.14	0.79	0.59
12/1/2014	0.23	4.01	1.36	0.00	3.81
1/1/2015	1.34	10.75	0.93	0.60	5.35
2/1/2015	0.00	12.37	-	1.02	1.20

Average Rain in a Day

Brisban have completely different rain cycle as compared to other cities i.e. in most of the cities usually rain happens in Mid of year but in Brispane its at the end of the year or at the start of the year.

Month vs Wind Speed in a Day

Month ID

	Adelaide	Brisbane	Melbourne	Perth	Sydney
1/1/2014	14.16	11.65	24.98	15.53	17.68
2/1/2014	14.25	11.13	21.59	14.45	17.43
3/1/2014	12.42	9.95	19.68	14.17	14.41
4/1/2014	13.29	7.10	21.62	10.92	15.52
5/1/2014	11.31	8.05	22.10	9.87	16.15
6/1/2014	14.04	7.59	23.66	9.73	17.70
7/1/2014	14.49	7.67	24.80	10.97	18.50
8/1/2014	11.77	9.07	16.80	11.27	18.68
9/1/2014	16.49	9.08	23.25	12.47	17.90
10/1/2014	14.10	10.03	22.45	13.40	18.31
11/1/2014	14.21	10.05	22.45	14.13	18.70
12/1/2014	14.44	8.64	19.50	15.68	18.26
1/1/2015	14.90	9.62	23.93	14.31	17.05
2/1/2015	13.43	10.53	20.76	12.73	16.40

Average Wind Speed in a Day

Wind speeds in Melbourne are the highest across all the cities & Brisbane with lowest wind speed. And there doesn't exit any particular monthly cycle w.r.t. wind speed in a day

Month vs Temperature in a Day

Month ID

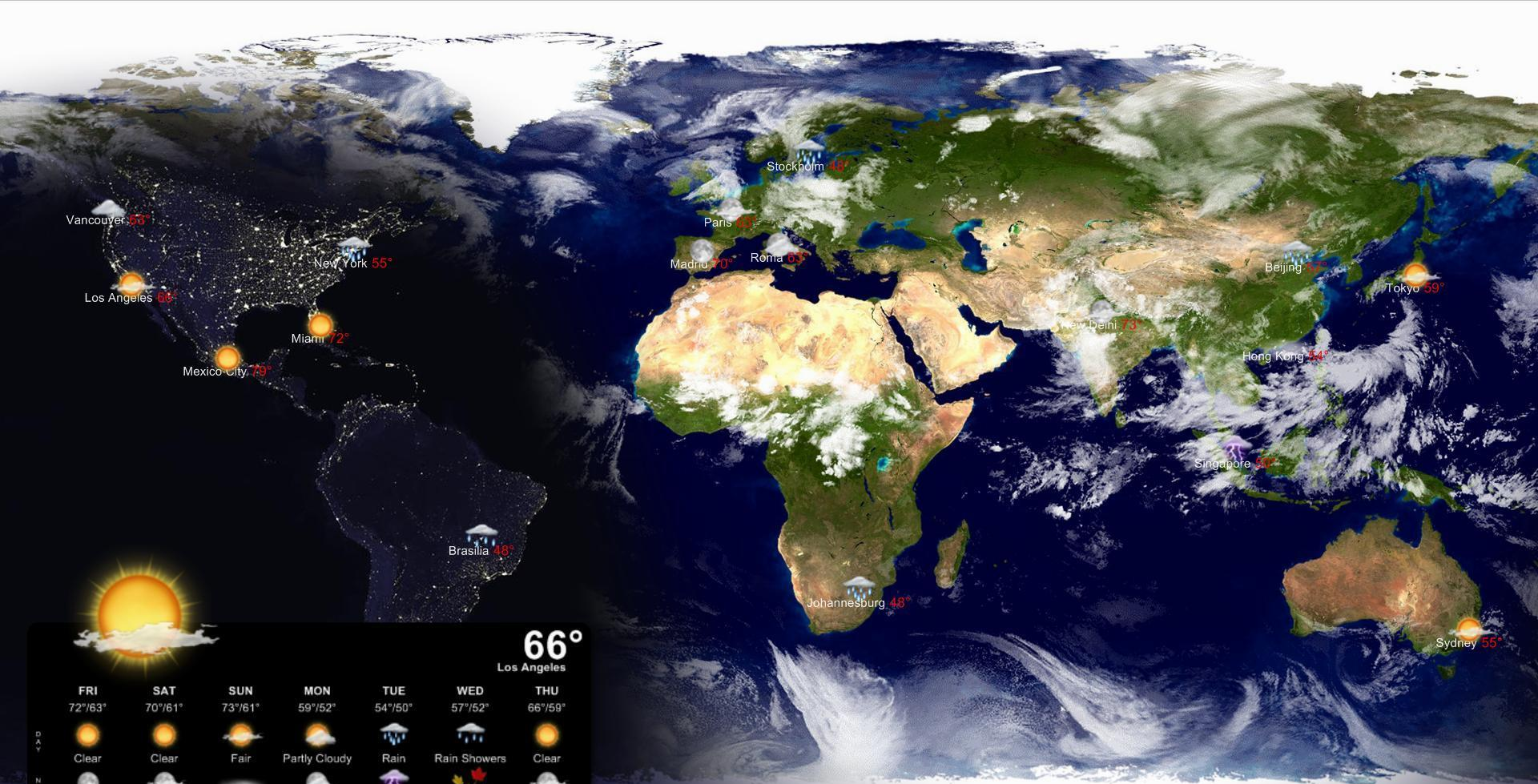
	Adelaide	Brisbane	Melbourne	Perth	Sydney
1/1/2014	25.52	26.09	22.84	25.59	23.33
2/1/2014	23.80	25.71	22.56	25.93	23.06
3/1/2014	21.27	24.66	20.36	23.99	22.76
4/1/2014	18.16	23.03	17.21	20.29	19.85
5/1/2014	16.42	19.72	15.21	16.91	18.12
6/1/2014	12.84	17.95	12.79	13.55	15.31
7/1/2014	11.75	15.45	11.52	13.72	13.93
8/1/2014	12.09	17.28	12.05	15.95	13.98
9/1/2014	15.85	19.05	14.68	16.67	17.11
10/1/2014	19.06	22.22	17.01	18.50	19.92
11/1/2014	20.64	25.12	18.56	20.09	21.90
12/1/2014	21.19	25.55	20.11	22.32	22.48
1/1/2015	23.10	26.47	22.57	25.61	23.98
2/1/2015	25.61	24.55	-	25.21	23.73

Average Temperature in a Day

Usually start and end of the year are the highest temperature seasons & Mid of the years are lowest temperature days across all the cities

***Which City I should Visit ?
If
I am a Rain Lover and Visiting
in January***

Brisbane is the city, which tourists should visit in January if they are a rain lovers



5 Cities Metrological Data