Explore Weather Trends

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SQL queries

- Verifying available data for my location in Ireland:

```
select * from city_list where country='Ireland'
```

- Dublin being the only available city, query temperature data for Dublin:

```
select * from city_data where city='Dublin'
```

- Query global temperature data:

```
select * from global_data
```

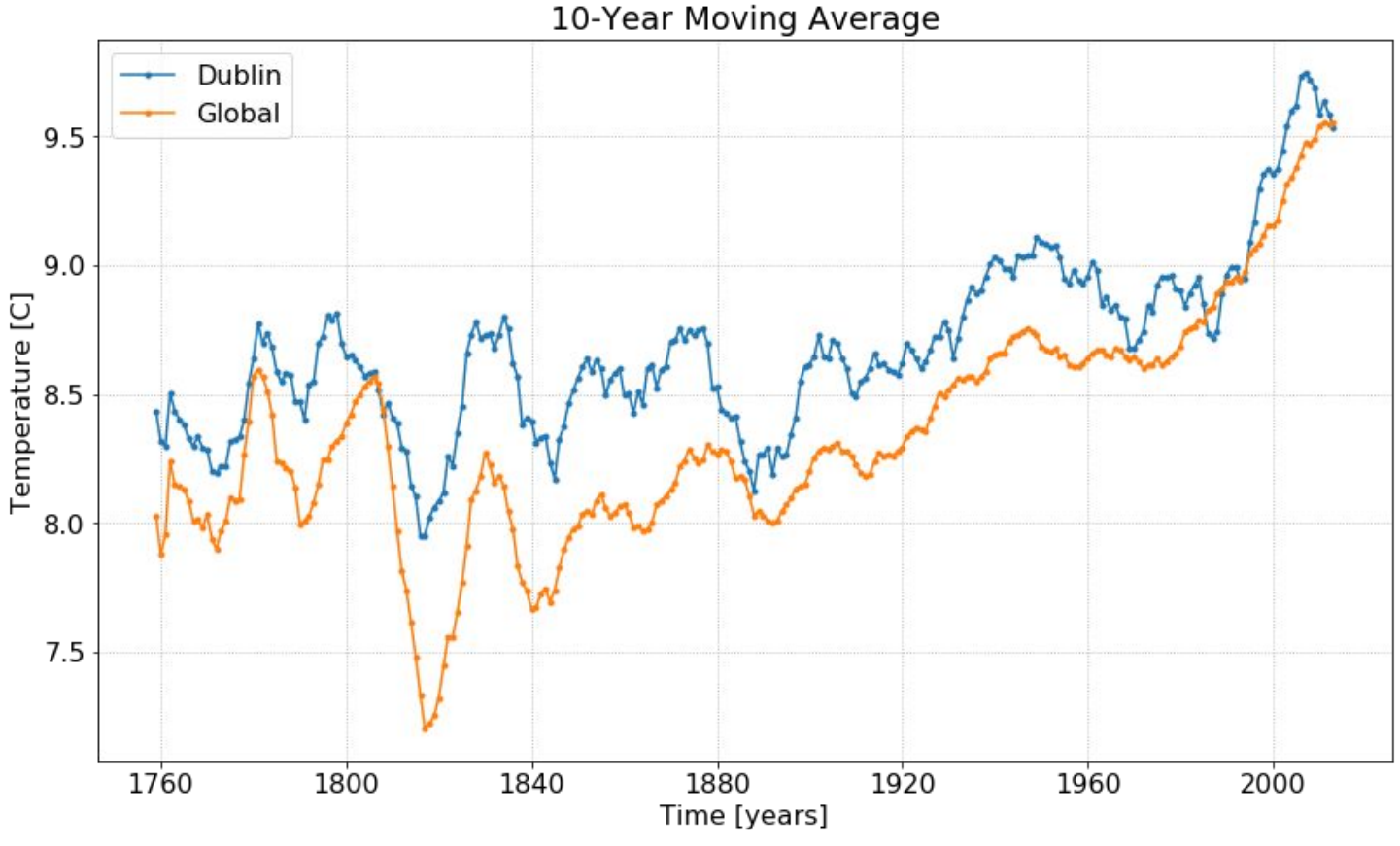
Data Processing

- Import data into pandas dataframe using python
- Merge global and local temperatures based on the year

```
city=pd.read_csv('city.csv')
global_temp=pd.read_csv('global.csv')
df=city.merge(global_temp,on='year',how='inner',suffixes=('_city','_glob'))
df.year=pd.to_datetime(df.year, format='%Y')
df=df.set_index('year')
df.head()
```

year	city	country	avg_temp_city	avg_temp_glob
1750-01-01	Dublin	Ireland	9.32	8.72
1751-01-01	Dublin	Ireland	9.12	7.98
1752-01-01	Dublin	Ireland	6.28	5.78
1753-01-01	Dublin	Ireland	8.63	8.39
1754-01-01	Dublin	Ireland	8.59	8.47

Local and global temperature trends



Observations on local and global temps

- Dublin presents higher temperatures on average compared to the global average from 1760 to 2000s.
- Global and local temperatures follow similar trends. A clear temperature increase of about 1.5C is noticeable from 1900 to 2000s.
- The global and local temperature averages show a stationary behaviour from 1750s to 1900s.
- The average temperature difference between Dublin and global reduced since the 1950s.