In [1]:

```
from google.cloud import bigquery
client = bigquery.Client()
```

In [2]:

```
sql = """
  SELECT
  fog,
  COUNT(1) AS fog_vis,
  AVG(mean_visibility) AS avg_visibilty
FROM
  publicdata.samples.gsod
WHERE
  year >= 2000 AND year <= 2010
GROUP BY
  fog
"""
df = client.query(sql).to_dataframe()
df.head()
```

Out[2]:

	fog	fog_vis	avg_visibilty
0	True	2015687	6.974599
1	False	29278686	10.569680

In [4]:

```
sql1 ="""SELECT
  fog,
  year,
  COUNT(1) AS fog_vis,
FROM
  publicdata.samples.gsod
WHERE
  year >= 2000 AND year <= 2010
GROUP BY
  fog,year
ORDER BY fog, year desc"""
df = client.query(sql1).to_dataframe()
df.head()
```

Out[4]:

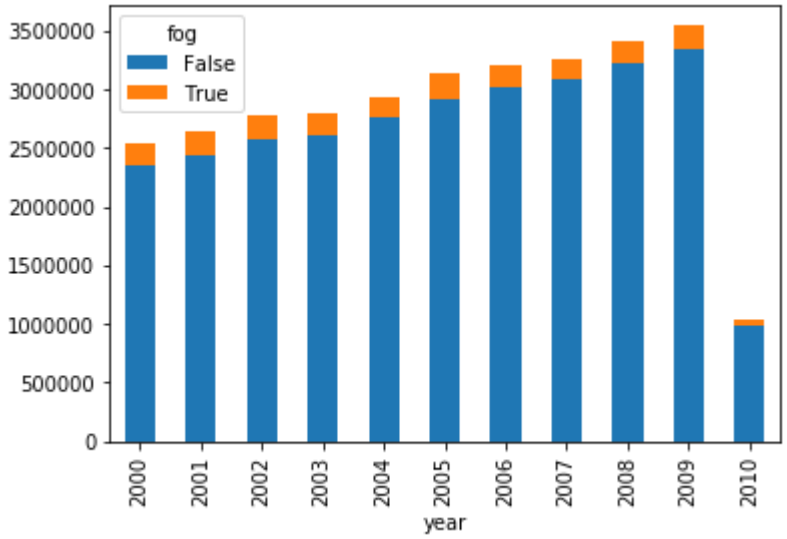
	fog	year	fog_vis
0	False	2010	980285
1	False	2009	3334594
2	False	2008	3227511
3	False	2007	3081257
4	False	2006	3023726

In [11]:

```
import pandas as pd
pivot_table = df.pivot(index='year', columns='fog', values='fog_vis')
pivot_table.plot(kind='bar', stacked=True)
```

Out[11]:

```
<matplotlib.axes._subplots.AxesSubplot at 0x7fc70121b128>
```



In [17]:

```
sql2="""
SELECT
  fog,
  AVG(mean_temp) as avg_mean_temp
FROM
  publicdata.samples.gsod
WHERE
  year >= 2000 AND year <= 2010
GROUP BY
  fog
"""
```

In [18]:

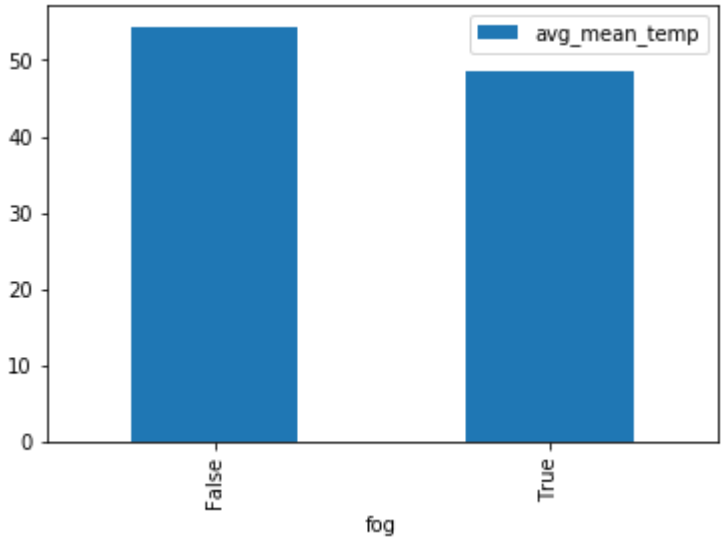
```
df = client.query(sql2).to_dataframe()
df.head()
```

Out[18]:

	fog	avg_mean_temp
0	False	54.437800
1	True	48.501095

In [20]:

```
df.plot(x='fog', y='avg_mean_temp', kind='bar');
```



In [21]:

```
sql = """
   SELECT
  month,
  AVG(max_sustained_wind_speed) AS avg_max_sustained_wind_speed
FROM
  publicdata.samples.gsod
WHERE
  year >= 2000 AND year <= 2010
GROUP BY
  month
"""
```

In [22]:

```
df = client.query(sql).to_dataframe()
df.plot(x='month', y='avg_max_sustained_wind_speed', kind='bar');
```