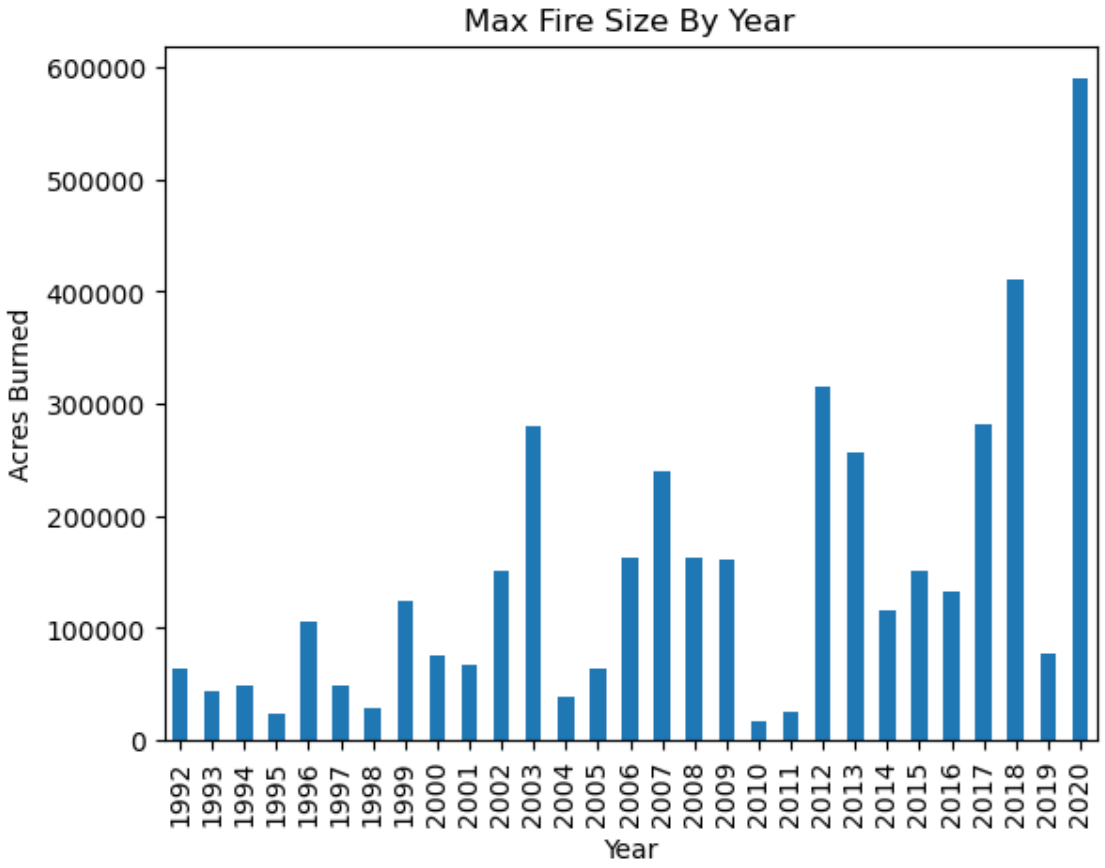
0.0.1 Question 3a (i): Maximum Fire Size by Year for California

For the state of California(CA), what was the **maximum** fire size for each year? Create a **barplot** with the year on the x-axis and the fire size(`acres_burned`) on the y-axis. Add/Change the titles and labels to what you deem appropriate.

```
In [24]: # Fill-in ___ and ...
         fires.query('state == "CA"') \
              .groupby('fire_year') \
              .acres_burned.max()\
              .plot(kind='bar',title='Max Fire Size By Year',ylabel='Acres Burned',xlabel='Year');
```

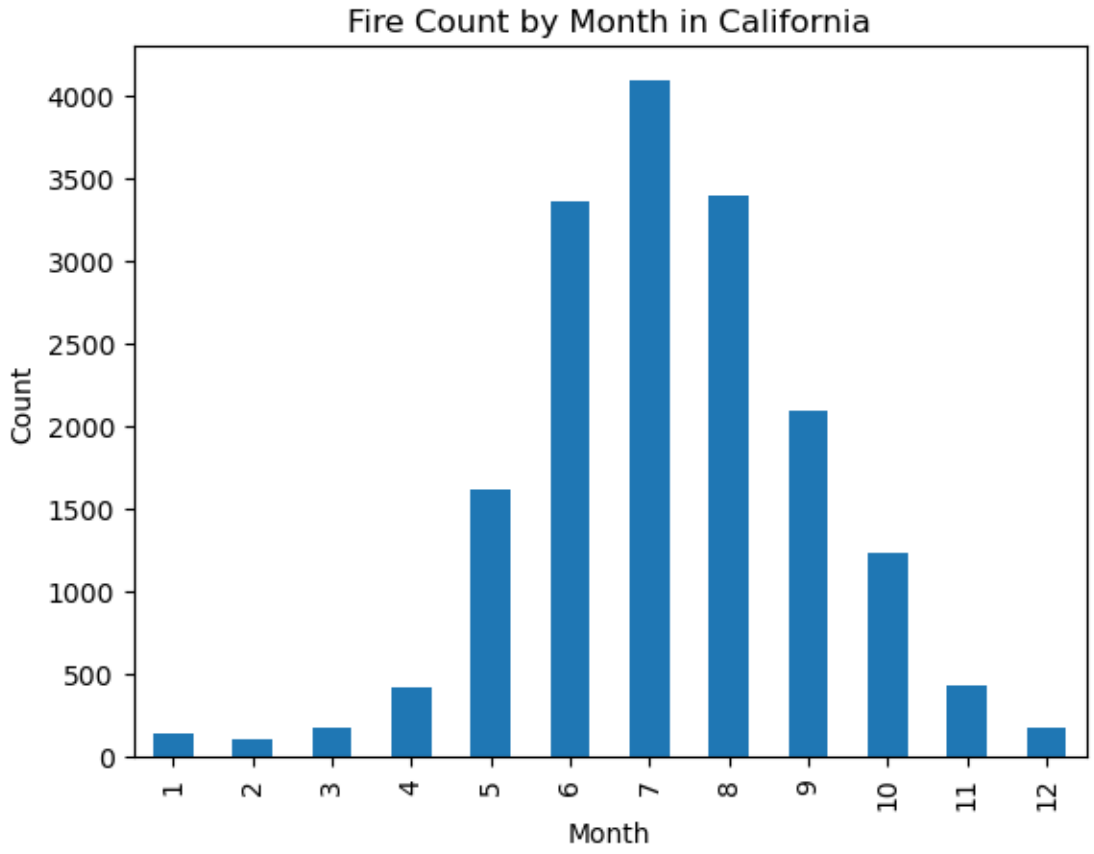


0.0.2 Question 3a (ii): Fire Count By Month in California

Create a barplot of the number of fires by month in California. The x-axis, as before, should be the year and the y-axis is the count of fires. Do you notice any patterns? Which months have the most fires? Does this make sense? For these free-resposne questions, type you answer after the **SOLUTION** cell.

Type your answer here, replacing this text.

```
In [25]: # Fill-in ___ and ...
         fires.query('state == "CA"') \
              .groupby('fire_month') \
              .size()\
              .plot(kind='bar',title='Fire Count by Month in California',ylabel='Count',xlabel='Month')
```

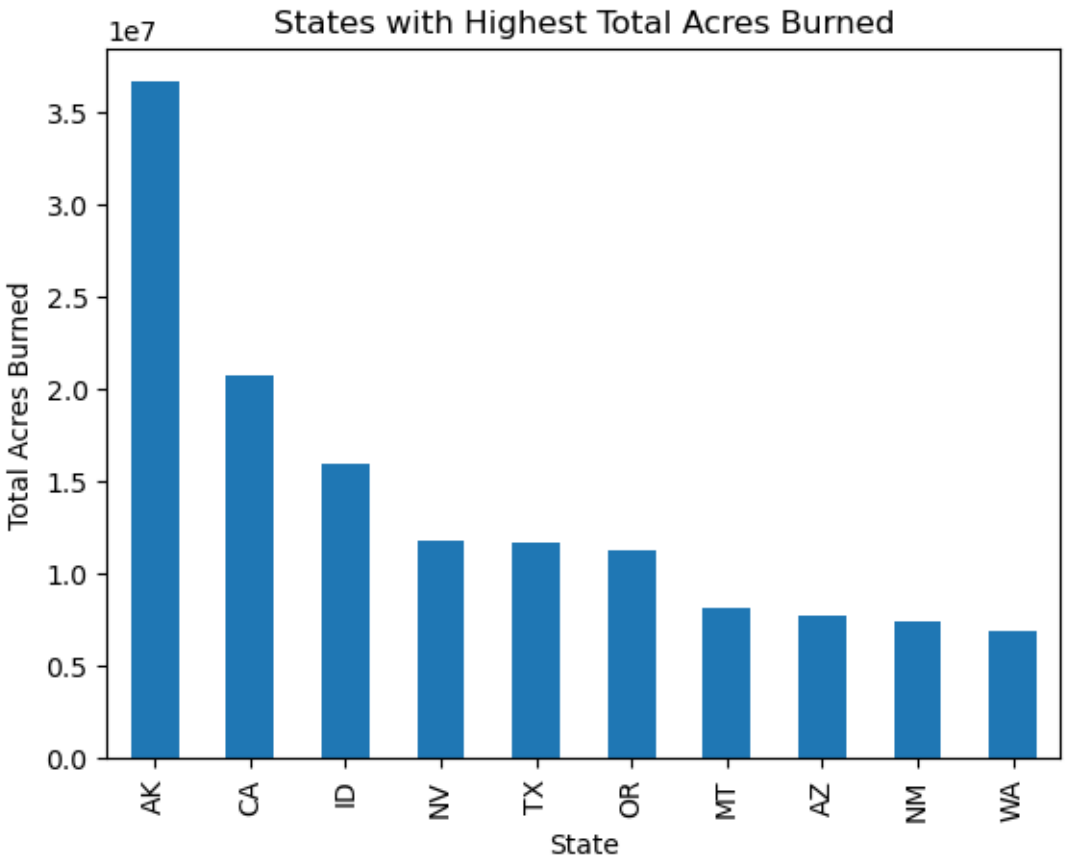


The months that have the most fires are the hottest months in California. During the summer months, mainly June - August, are the hottest months and have the highest counts for fires.

0.0.3 QUESTION 3b (ii)

Using the 'fires_states' from the previous question, for the top 10 ranking states, create a barplot with the state on the x-axis and the total acres burned on the y-axis. Add appropriate titles and labels.

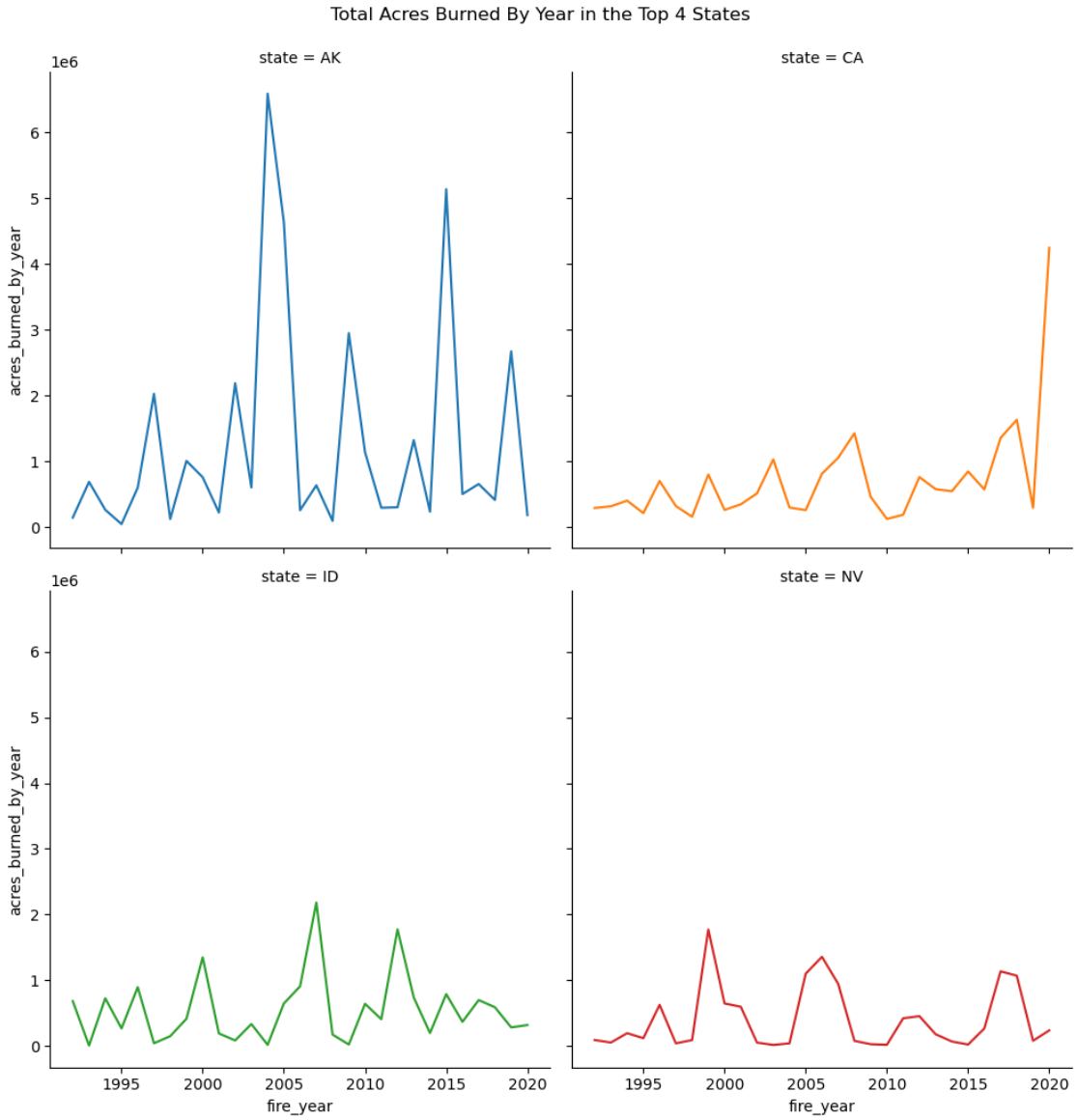
In [28]:
```
# Fill-in ...
fires_states[:10].plot(y='acres_burned',kind='bar',legend=False,title='States with Highest Tota
```



0.0.4 Question 3c (ii): Preparing a DataFrame to total acres burned by year within each state

Using `fires_states_top_4` and `seaborn`, create four lineplots corresponding to each of the top 4 states showing the change in acres burned over the years. The result should be a plot with 2 rows and 2 columns, one lineplot for each state. The line color for each state/plot should be different.

```
In [31]: # Fill-in ... and ____
         g = sns.relplot(data=fires_states_top_4,kind='line',x='fire_year',y='acres_burned_by_year',hue=
         g.fig.suptitle('Total Acres Burned By Year in the Top 4 States',y=1.025); # Super Title For En
```

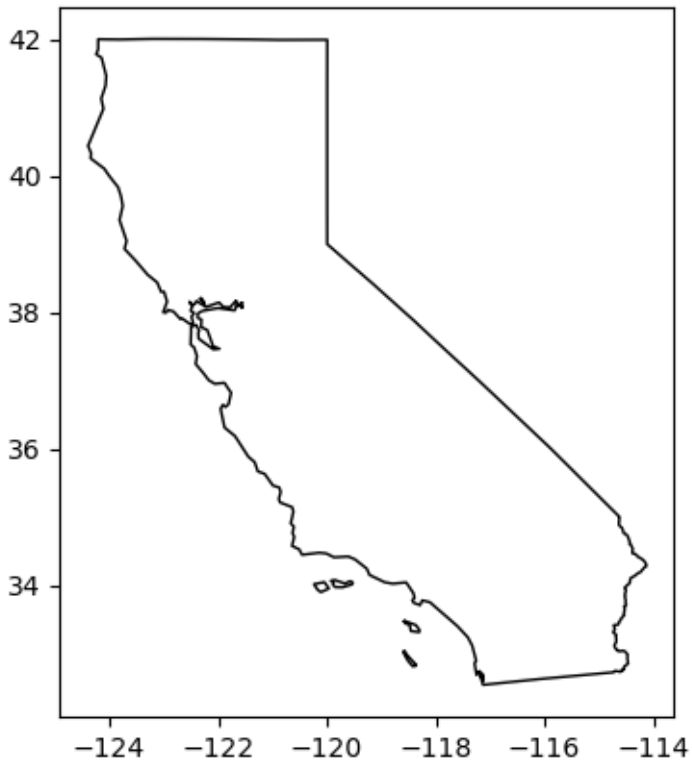


1 Question 4a Get and plot a map of California

Filter `usa` for the state of California and plot the corresponding map. Set the fill color(part inside boundary of state) to be `white` and the edgecolor to be `black`

In [34]:
```
# Fill-in ...
usa[usa['STATE_NAME']=='California'].plot(edgecolor = 'black', facecolor = 'white')
```

Out[34]: <Axes: >



2 Question 4d: Plot the fires in the continental United States.

Repeat the above procedure for all fires that burned more than 100,000 acres in the continental USA(ignore Hawaii and Alaska). Like before, fires that burned more acres should appear darker and bigger. Add an appropriate title. Your plot should be a map of the continental USA with points representing locations of fires.

In [38]:
```
# Fill-in ...
usa_map = usa.query('STATE_NAME not in ("Hawaii", "Alaska")')
usa_map.plot(edgecolor = 'black', facecolor = 'white')
fire_data = fires.query('state not in ("HI", "AK")')
ax = sns.scatterplot(data=fire_data[fire_data['acres_burned'] > 100000],x='longitude',y='latitu
ax.set(title='USA fires that burned over 100,000 acres' ,ylabel='',xlabel='')
```

Out[38]:
```
[Text(0.5, 1.0, 'USA fires that burned over 100,000 acres'),
 Text(46.972222222222214, 0.5, ''),
 Text(0.5, 76.7838550090192, '')]
```