# Warm-up #15

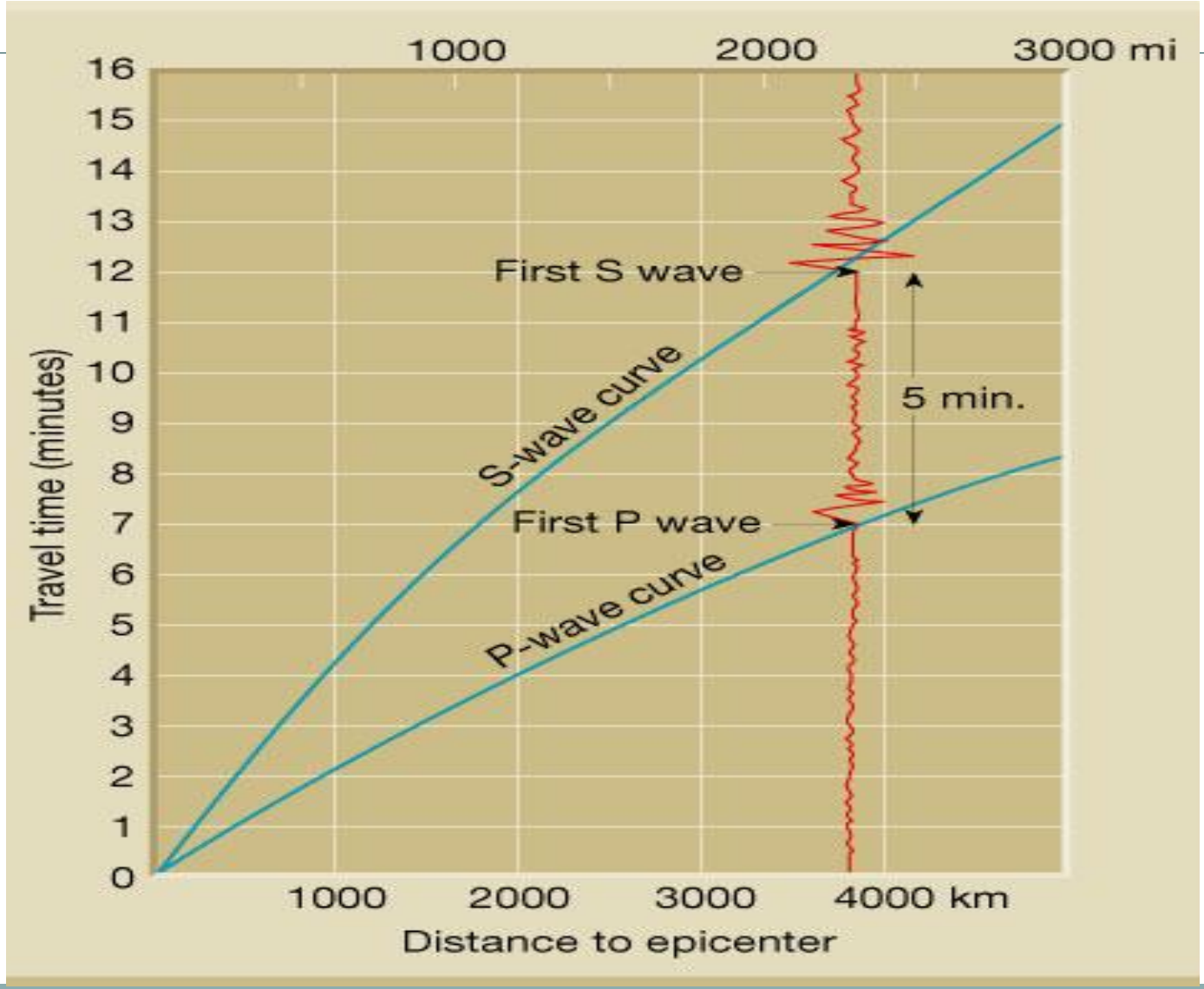
- **Draw a hypothetical seismograph of an earthquake. What three waves would be involved? Which could come first, second, and last?**
- **What two groups are the waves categorized into?**

# Locating the Epicenter

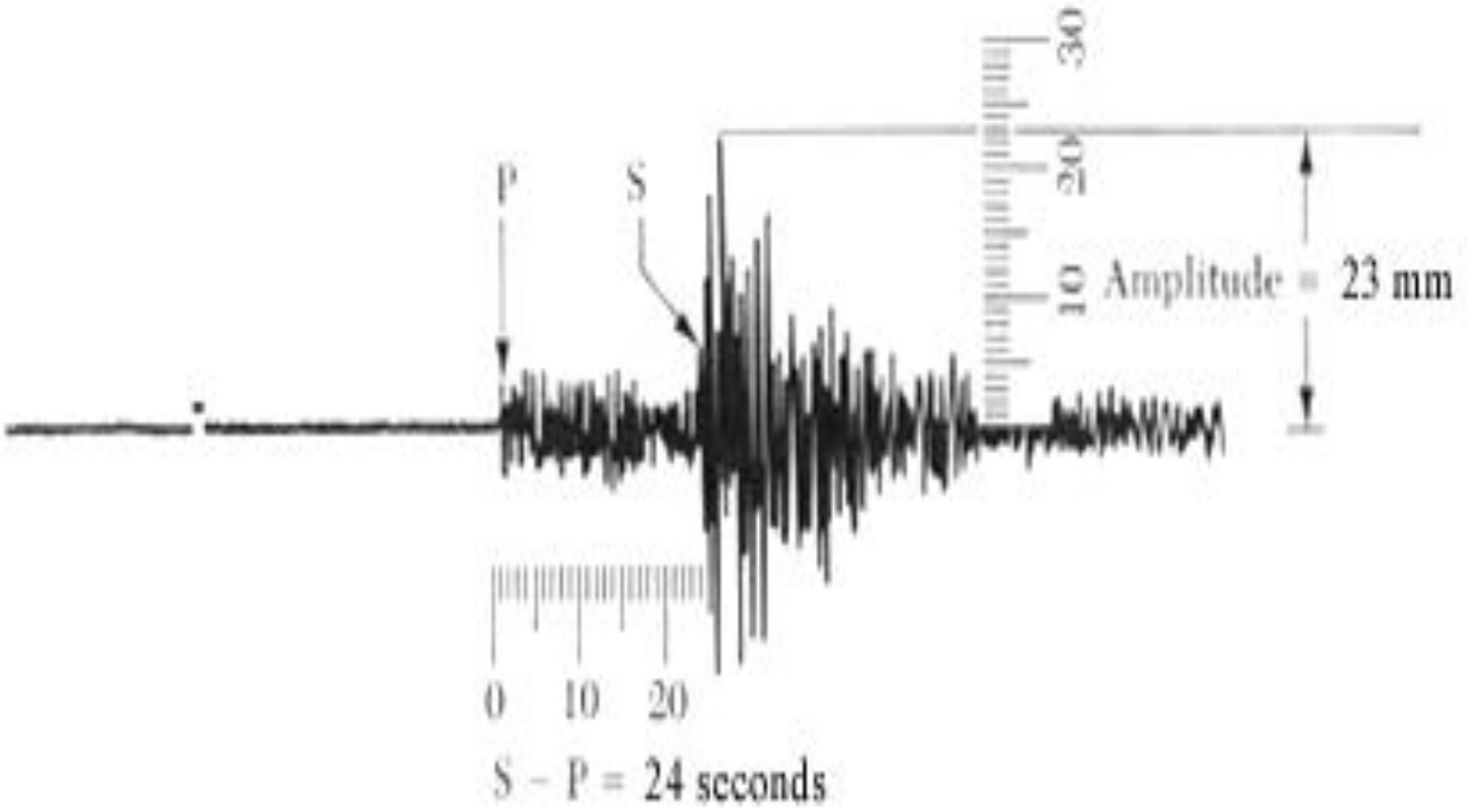
**Distance to the epicenter:**

1. Use the **difference** in the arrival times **between P & S wave** recordings (*in minutes*).

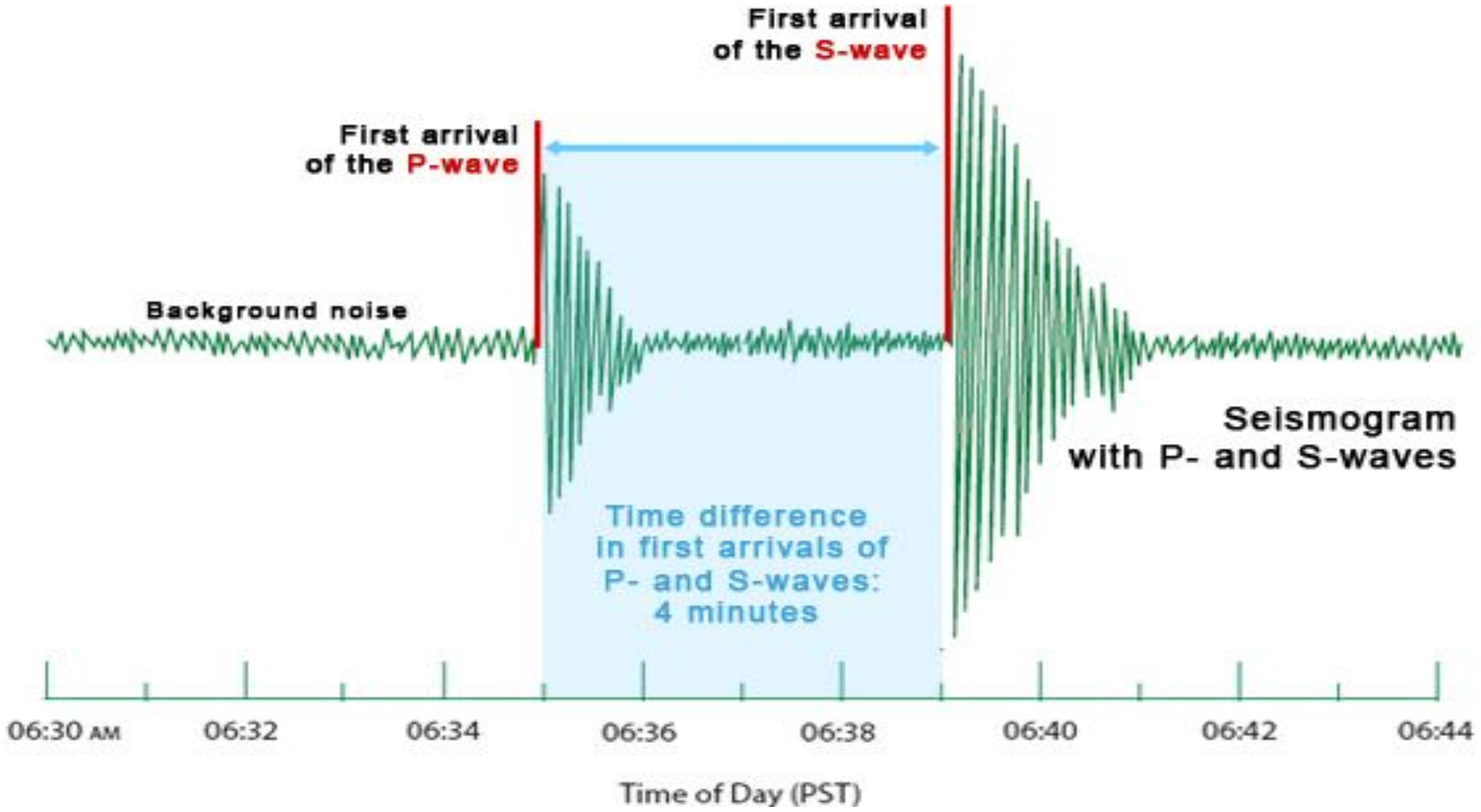
2. Then use the time-travel chart to find the **distance** (*miles or km*).

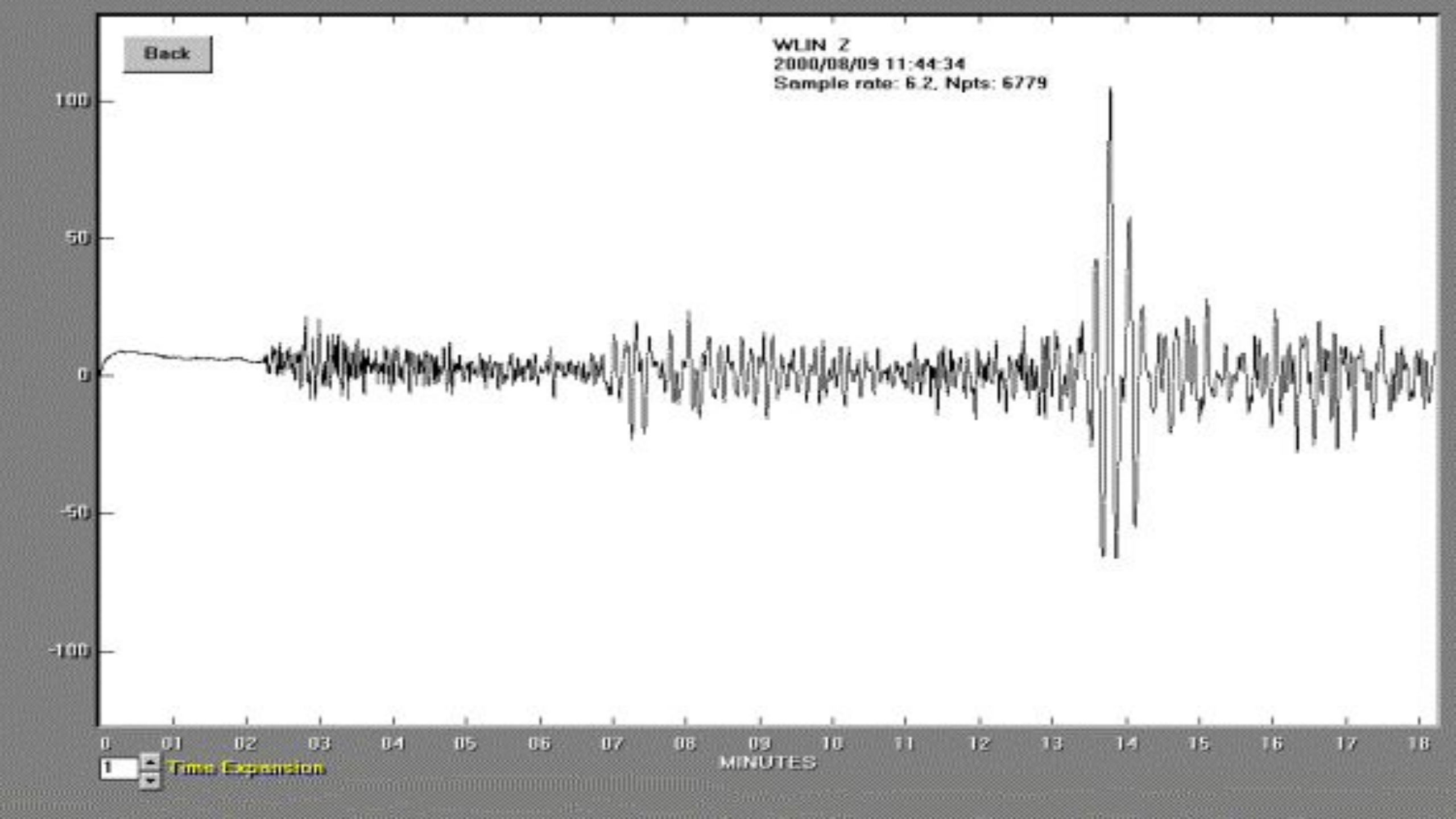


# Let’s Practice!



# Let’s Practice!



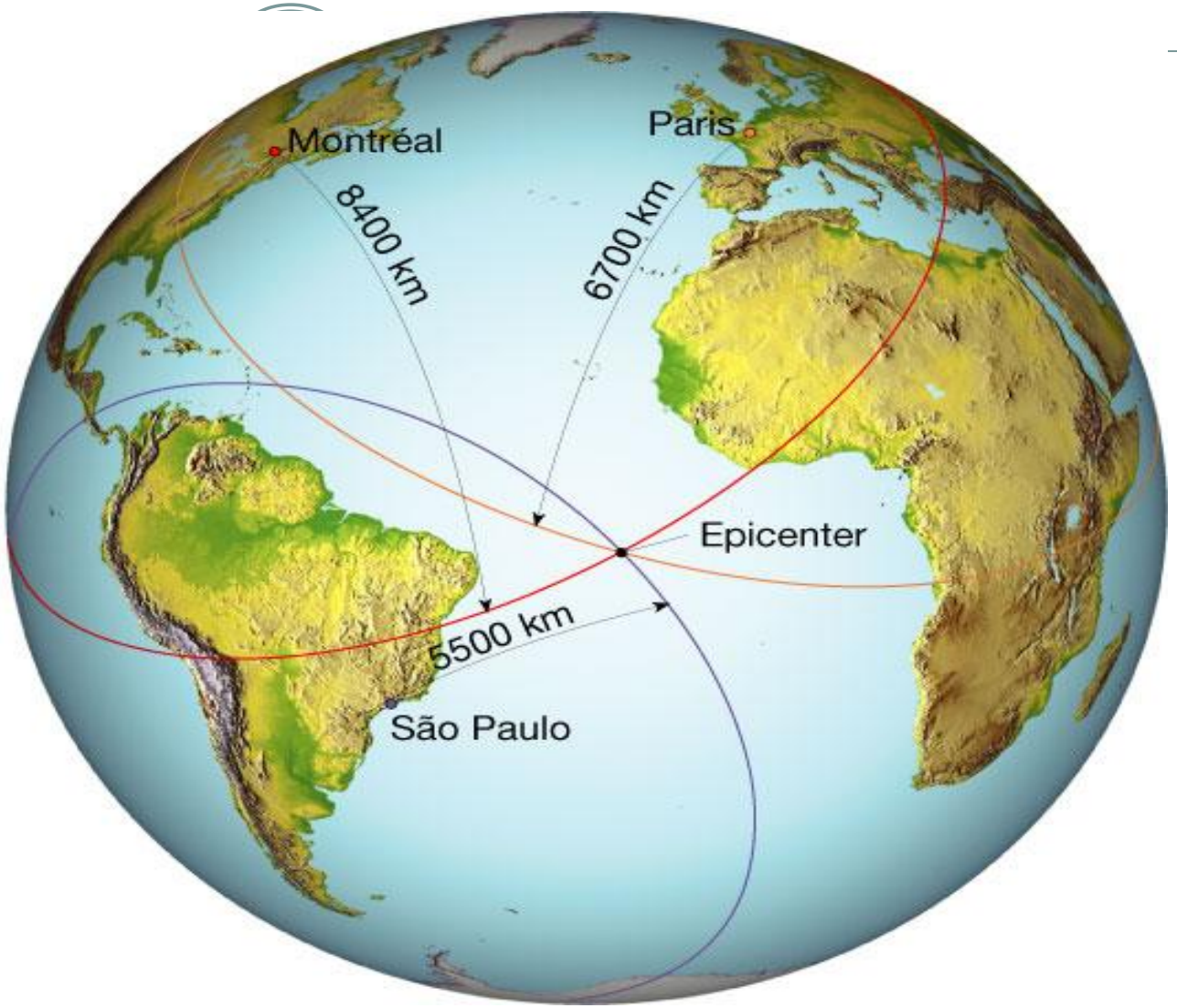

Back
WLIN Z
2000/08/09 11:44:34
Sample rate: 6.2, Npts: 6779
100
50
0
-50
-100
0
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
MINUTES
1
Time Expansion

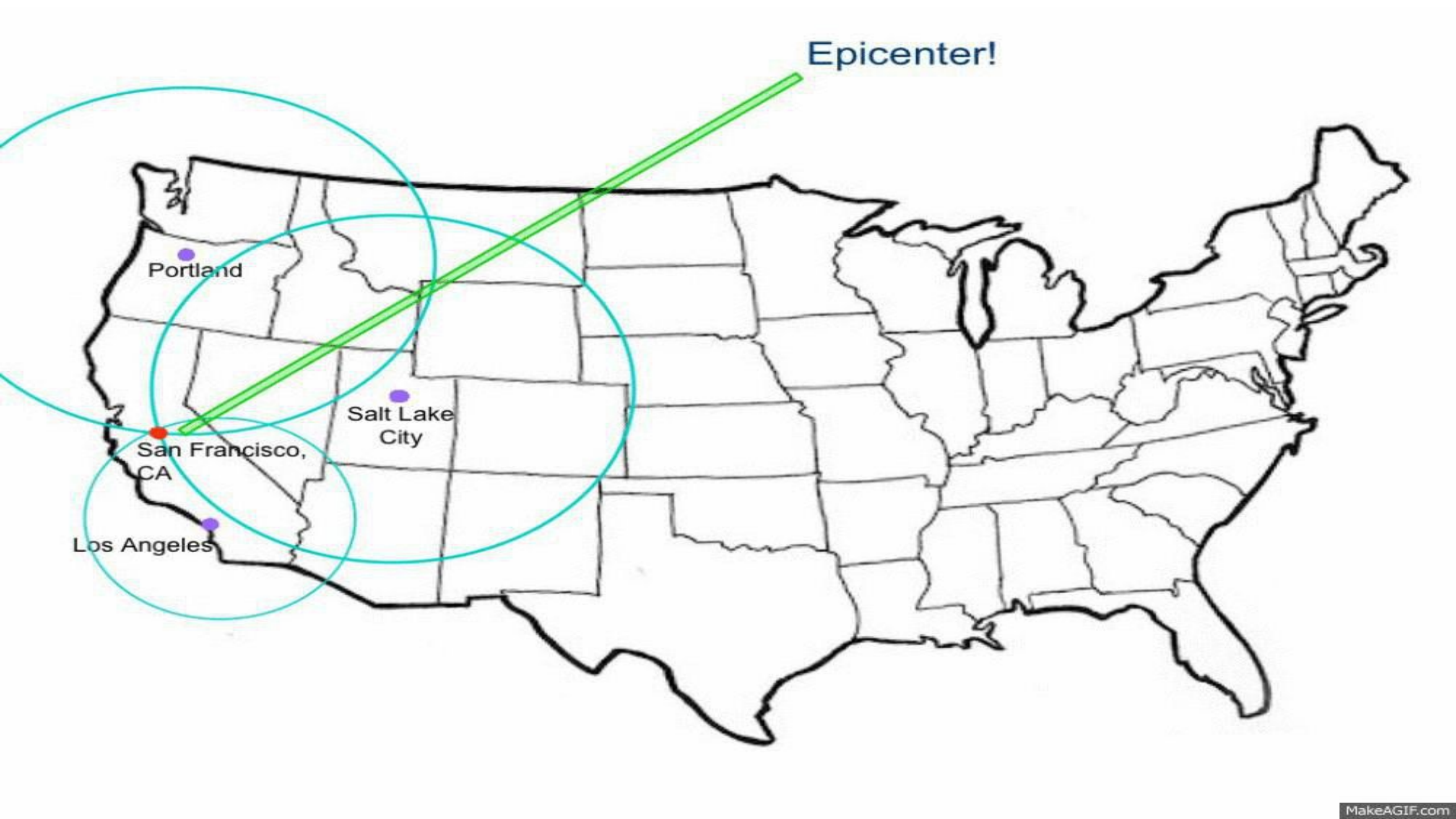
# Locating the Epicenter

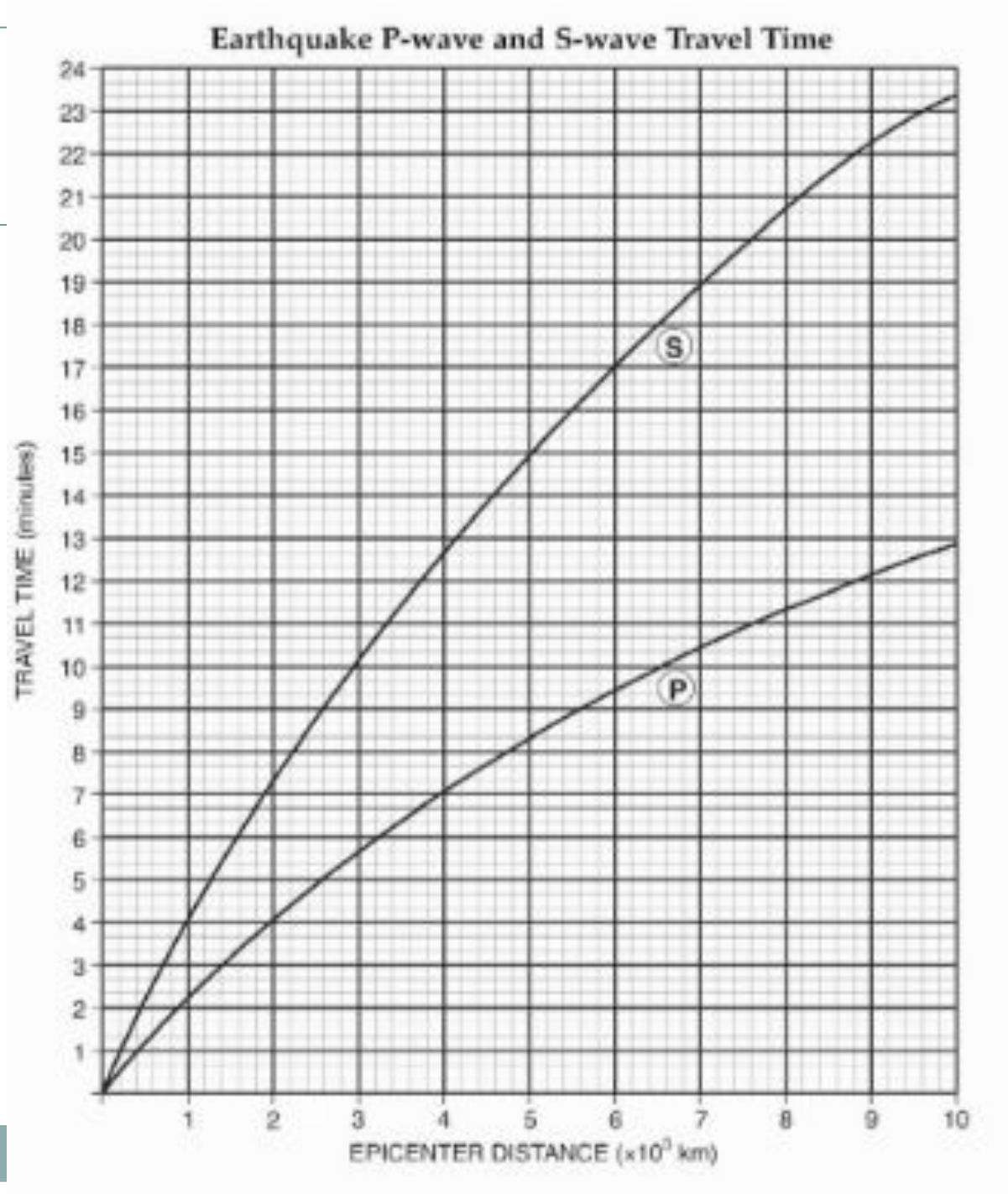
**Direction of the epicenter:**

**Triangulation:**

Once you know the **distance** to the epicenter, you would need **3 or more seismographs** to find the exact location of an earthquake.






Earthquake P-wave and S-wave Travel Time
TRAVEL TIME (minutes)
EPICENTER DISTANCE (×10³ km)
S
P
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

# Closure