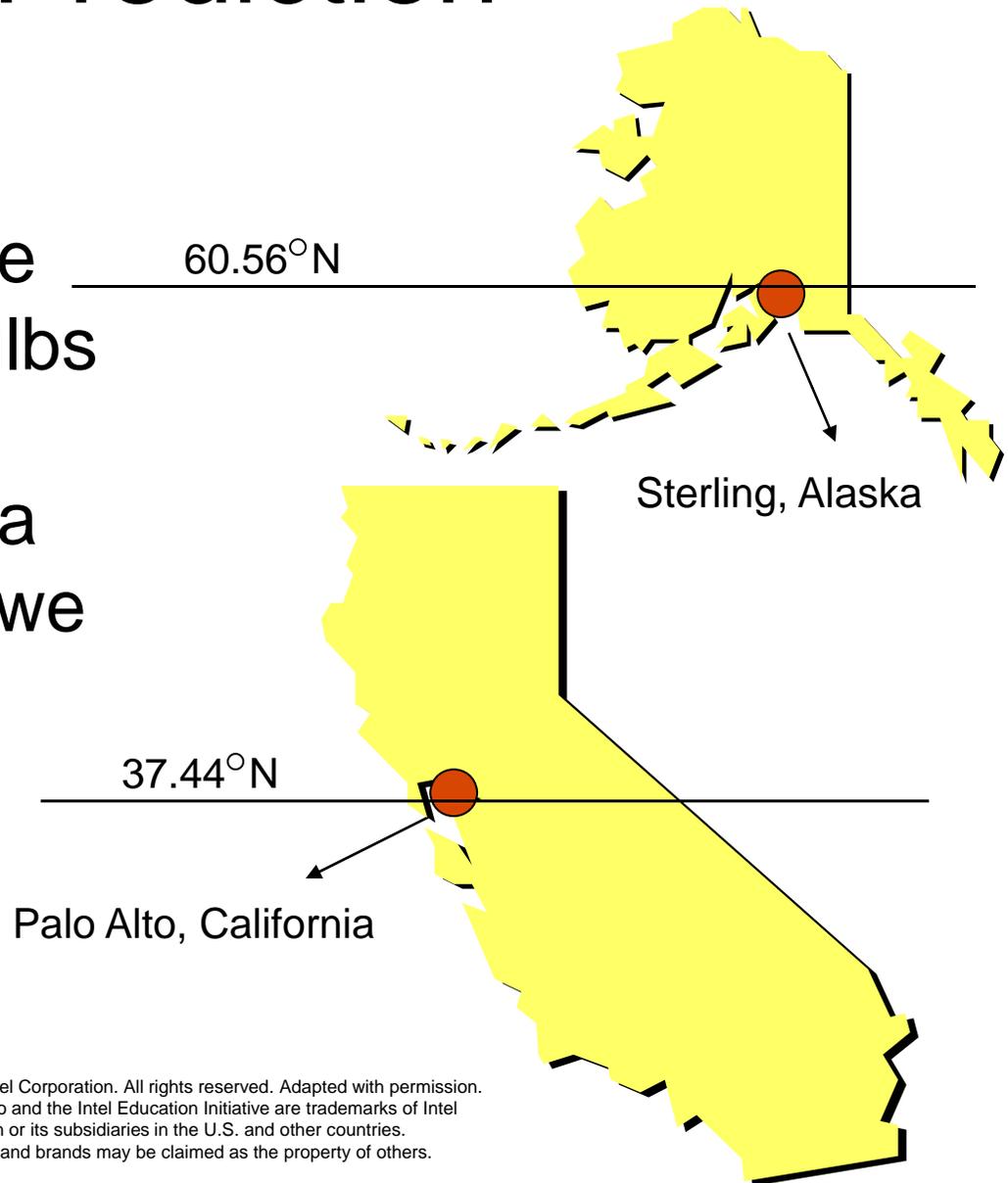# Wave of Spring

Planting and Observing Tulip Growth

Our Prediction

Our buddy class is in Sterling, Alaska. We thought our tulip bulbs would bloom first, because we are at a lower latitude, and we know that spring comes to the lower latitudes first.

60.56°N

Sterling, Alaska

37.44°N

Palo Alto, California

City Comparisons

Sterling, Alaska

- Latitude: 60.56 degrees North
- Longitude: 151.80 degrees West
- Average spring day length: 11 hours
- Average spring temperature: 44 degrees
- Month spring begins: June

Palo Alto, California

- Latitude: 37.44 degrees North
- Longitude: 122.14 degrees West
- Average spring day length: 12 hours
- Average spring temperature: 60 degrees
- Month spring begins: March

Growing a Tulip

These were the conditions on the day we planted our tulip bulbs in Palo Alto, California:

- Date: 11/26/03
- Temperature: 52 degrees
- Planting Depth: 7 inches
- Soil Conditions: damp
- Day Length: 9 hours 53 minutes

Prediction: We thought our tulips would bloom in March, because this is when spring begins in California.

What Happened?

We were right!

Our tulips emerged on February 11, 2004 and bloomed on March 8, 2004.

Our buddy class in Sterling, Alaska's tulips emerged on April 14, 2004, and they have not bloomed yet. We think they will bloom when the weather is warmer, in June or July.

Why Were We Right?

- In Sterling, Alaska the tulips did not bloom yet, because the ground was just starting to thaw. The average temperature was still very cold, because it is at a much higher latitude.

- In Palo Alto, California the tulips bloomed in March because of its location and because the day lengths were longer. Spring came earlier to Palo Alto than it did to Sterling, so our tulips bloomed first.

What Changes Did We See?

- In March, the day length was longer than it was in November, because the seasons had changed from winter to spring.

- We saw the emerging bulbs change into blooming flowers.

- When the seasons changed, the temperature became warmer, and the flowers began to bloom.