



## Five Themes of Geography: Location

### Absolute and Relative Locations of Minor League Baseball Teams

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**Purpose:** This exercise applies the concepts of absolute and relative location to the position of Minor League Baseball teams in North America. As a result, students will increase familiarity with latitude and longitude, the locations of major cities, and directional relationships among them.

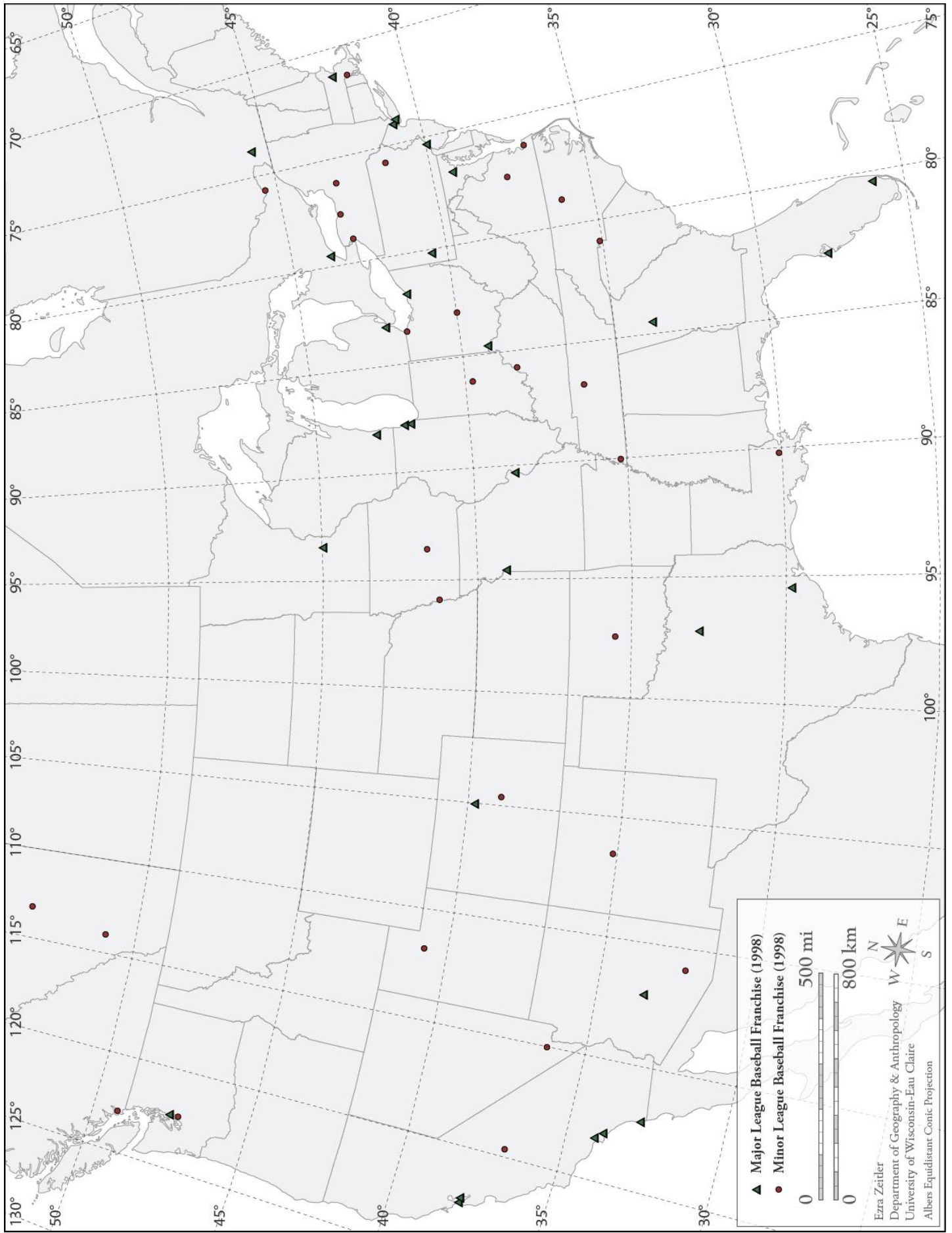
**Supplies:** To complete this exercise, students will need a pen or pencil, colored pencils (preferably red, orange, and yellow), and a calculator

**Data:** Primary data for this exercise was obtained from Minor League Baseball Online, Baseball Reference Online, and the websites of individual Minor League Baseball franchises. Data analysis required to design this exercise was completed by the author.

### Part A: Determining the Absolute and Relative Locations of Triple-A Franchises in 1998 and 2011

1. Use the latitude and longitude coordinates listed below and the map on the next page to locate the Triple-A affiliates of Major League Baseball teams in 1998 (when the Tampa Bay Rays and Arizona Diamondbacks joined the league).

1998 MLB Team	Coordinates	1998 Triple-A Affiliate	Answer Bank
Arizona	32°11'58"N, 110°55'49"W	_____	Albuquerque
Atlanta	37°35'7"N, 77°27'15"W	_____	Buffalo
Baltimore	43°7'14"N, 77°34'21"W	_____	Calgary
Boston	41°51'36"N, 71°17'52"W	_____	Charlotte
Chicago Cubs	41°32'46"N, 93°41'47"W	_____	Colorado Springs
Chicago White Sox	51°2'16"N, 113°56'17"W	_____	Columbus
Cincinnati	39°44'46"N, 86°9'17"W	_____	Durham
Cleveland	42°51'4"N, 78°49'58"W	_____	Edmonton
Colorado	38°55'23"N, 104°44'36"W	_____	Fresno
Detroit	41°42'9"N, 83°33'39"W	_____	Indianapolis
Florida	34°59'10"N, 80°53'27"W	_____	Iowa (Des Moines)
Houston	29°57'51"N, 90°14'26"W	_____	Las Vegas
Kansas City	41°10'0"N, 95°55'6"W	_____	Louisville
Los Angeles Dodgers	35°2'51"N, 106°35'35"W	_____	Memphis
L.A. Angels of Anaheim	49°16'31"N, 123°7'22"W	_____	Nashville
Milwaukee	38°16'7"N, 85°44'16"W	_____	New Orleans
Minnesota	40°42'7"N, 111°57'16"W	_____	Norfolk
Montréal	45°25'12"N, 75°34'16"W	_____	Oklahoma City
New York Mets	36°48'51"N, 76°16'10"W	_____	Omaha
New York Yankees	39°59'27"N, 82°57'18"W	_____	Ottawa
Oakland	53°28'42"N, 113°22'5"W	_____	Pawtucket
Philadelphia	41°20'28"N, 75°43'42"W	_____	Richmond
Pittsburgh	36°7'56"N, 86°42'41"W	_____	Rochester
San Diego	36°11'21"N, 115°10'20"W	_____	Salt Lake City
San Francisco	36°47'45"N, 119°44'6"W	_____	Scranton/Wilkes-Barre
Seattle	47°15'47"N, 122°32'23"W	_____	Syracuse
St. Louis	35°10'21"N, 89°59'16"W	_____	Tacoma
Tampa Bay	36°2'19"N, 78°56'8"W	_____	Toledo
Texas	35°25'3"N, 97°28'42"W	_____	Tucson
Toronto	43°6'51"N, 76°8'16"W	_____	Vancouver



List the cities according to the following characteristics:

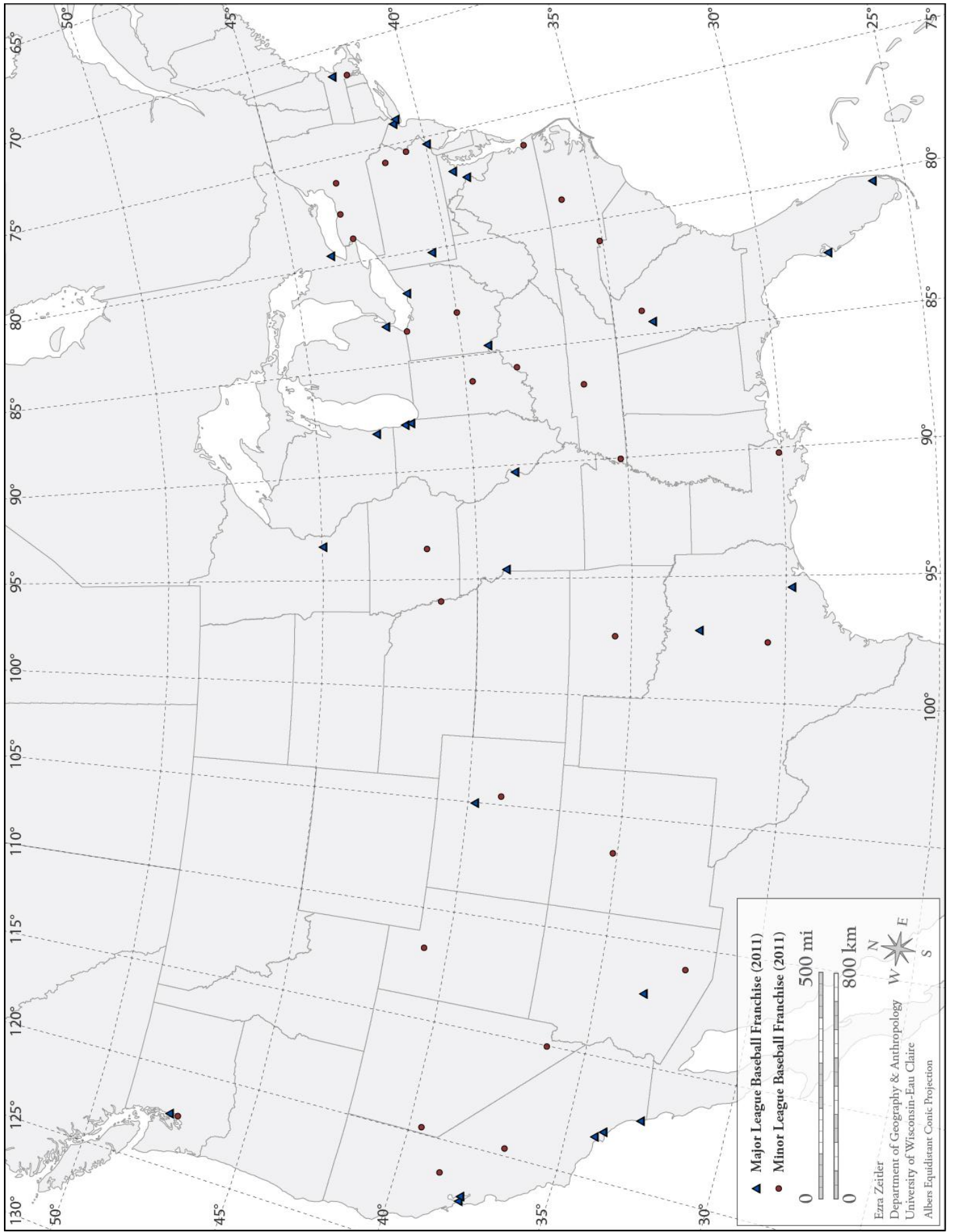
- \_\_\_\_\_ Most southern city with a Triple-A franchise
- \_\_\_\_\_ Most western city with a Triple-A franchise
- \_\_\_\_\_ Most northern city with a Triple-A franchise
- \_\_\_\_\_ Most eastern city with a Triple-A franchise

True or False (circle your answer). Use the coordinate data and the map for assistance.

- T    F    Tacoma is south of Ottawa.
- T    F    Ottawa is east of Scranton/Wilkes-Barre.
- T    F    Scranton/Wilkes-Barre is north of Des Moines.
- T    F    Des Moines is approximately six degrees north of Memphis.

2. Use the latitude and longitude coordinates listed below and the map on the next page to locate the Triple-A affiliates of Major League Baseball teams in 2011. Note: most of the cities that hosted a Triple-A team in 1998 also hosted a Triple-A team in 2011.

2011 MLB Team	Coordinates	2011 Triple-A Affiliate	Answer Bank
Arizona	39°30'54"N, 119°47'2"W	_____	Albuquerque
Atlanta	34°2'7"N, 84°0'7"W	_____	Buffalo
Baltimore	36°48'51"N, 76°16'10"W	_____	Charlotte
Boston	41°51'36"N, 71°17'52"W	_____	Colorado Springs
Chicago Cubs	41°32'46"N, 93°41'47"W	_____	Columbus
Chicago White Sox	34°59'10"N, 80°53'27"W	_____	Durham
Cincinnati	38°16'7"N, 85°44'16"W	_____	Fresno
Cleveland	39°59'27"N, 82°57'18"W	_____	Gwinnett
Colorado	38°55'23"N, 104°44'36"W	_____	Indianapolis
Detroit	41°42'9"N, 83°33'39"W	_____	Iowa (Des Moines)
Florida	29°57'51"N, 90°14'26"W	_____	Las Vegas
Houston	35°25'3"N, 97°28'42"W	_____	Lehigh Valley (Allentown)
Kansas City	41°10'0"N, 95°55'6"W	_____	Louisville
Los Angeles Dodgers	35°2'51"N, 106°35'35"W	_____	Memphis
L.A. Angels of Anaheim	40°42'7"N, 111°57'16"W	_____	Nashville
Milwaukee	36°7'56"N, 86°42'41"W	_____	New Orleans
Minnesota	43°7'14"N, 77°34'21"W	_____	Norfolk
New York Mets	42°51'4"N, 78°49'58"W	_____	Oklahoma City
New York Yankees	41°20'28"N, 75°43'42"W	_____	Omaha
Oakland	38°33'58"N, 121°32'55"W	_____	Pawtucket
Philadelphia	40°37'0"N, 75°28'48"W	_____	Reno
Pittsburgh	39°44'46"N, 86°9'17"W	_____	Rochester
San Diego	32°11'58"N, 110°55'49"W	_____	Round Rock
San Francisco	36°47'45"N, 119°44'6"W	_____	Sacramento
Seattle	47°15'47"N, 122°32'23"W	_____	Salt Lake City
St. Louis	35°10'21"N, 89°59'16"W	_____	Scranton/Wilkes-Barre
Tampa Bay	36°2'19"N, 78°56'8"W	_____	Syracuse
Texas	30°30'18"N, 97°37'26"W	_____	Tacoma
Toronto	36°11'21"N, 115°10'20"W	_____	Toledo
Washington	43°6'51"N, 76°8'16"W	_____	Tucson



List the cities according to the following characteristics:

- \_\_\_\_\_ City on west coast of Lake Erie with a Triple-A franchise
- \_\_\_\_\_ City on east coast of Lake Erie with a Triple-A franchise
- \_\_\_\_\_ Most northern city with a Triple-A franchise
- \_\_\_\_\_ Most western city with a Triple-A franchise

True or False (circle your answer). Use the coordinate data and the map for assistance.

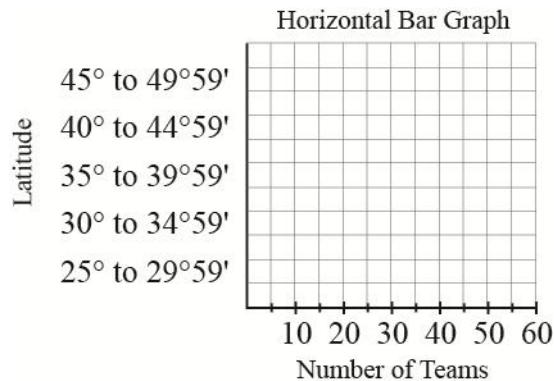
- T    F    Round Rock is west of Oklahoma City.
- T    F    Oklahoma city is north of Albuquerque.
- T    F    Albuquerque is south of Charlotte.
- T    F    Charlotte is north of Memphis.

**Part B: Visualizing the Locations of Minor League Baseball Franchises in 2011**

1. Use the lists of 2011 all Minor League Baseball team coordinates on pages 7-9 to determine the number of teams falling within the predetermined latitudinal and longitudinal zones below. Afterwards, use a colored pencil to create bar graphs visualizing these data.

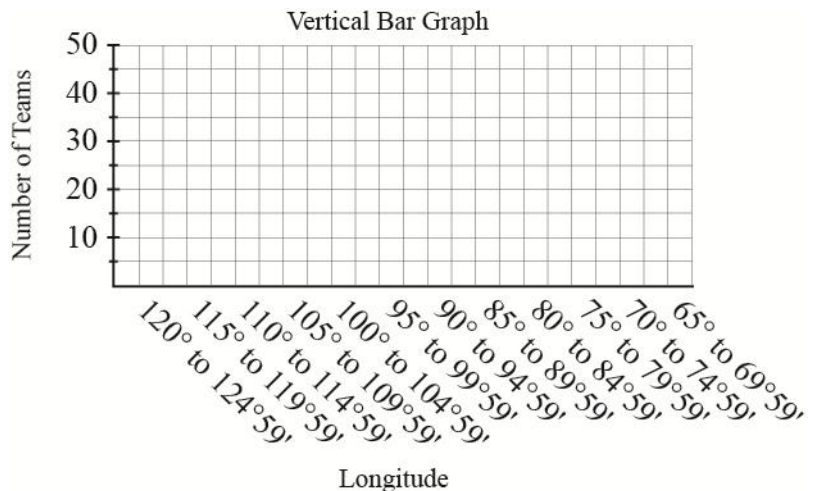
Number of Minor League Baseball Teams by Zone of Latitude

- \_\_\_\_\_ 25°00'00"N to 29°59'59"N
- \_\_\_\_\_ 30°00'00"N to 34°59'59"N
- \_\_\_\_\_ 35°00'00"N to 39°59'59"N
- \_\_\_\_\_ 40°00'00"N to 44°59'59"N
- \_\_\_\_\_ 45°00'00"N to 49°59'59"N



Number of Minor League Baseball Teams by Zone of Longitude

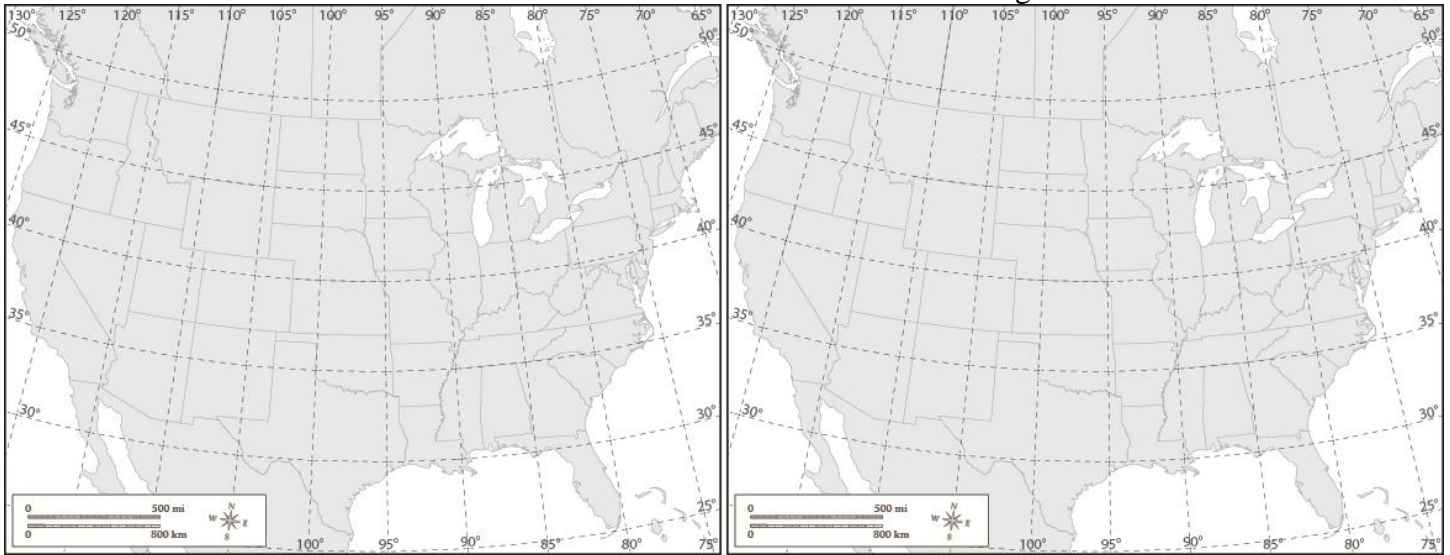
- \_\_\_\_\_ 65°00'00"W to 69°59'59"W
- \_\_\_\_\_ 70°00'00"W to 74°59'59"W
- \_\_\_\_\_ 75°00'00"W to 79°59'59"W
- \_\_\_\_\_ 80°00'00"W to 84°59'59"W
- \_\_\_\_\_ 85°00'00"W to 89°59'59"W
- \_\_\_\_\_ 90°00'00"W to 94°59'59"W
- \_\_\_\_\_ 95°00'00"W to 99°59'59"W
- \_\_\_\_\_ 100°00'00"W to 104°59'59"W
- \_\_\_\_\_ 105°00'00"W to 109°59'59"W
- \_\_\_\_\_ 110°00'00"W to 114°59'59"W
- \_\_\_\_\_ 115°00'00"W to 119°59'59"W
- \_\_\_\_\_ 120°00'00"W to 124°59'59"W



2. Use the team frequency information gathered on the previous page and colored pencils to map the number of Minor League Baseball teams by their latitudinal and longitudinal zone. Below each map are six boxes with labels that refer to the number of teams assigned to it. Using colored pencils, leave the first box (0) uncolored, the second box (1-9) light yellow, the third box (10-19) dark yellow, the fourth box (20-29) orange, the fifth box (30-39) light red, and the sixth box (>40) dark red. Use these colors to fill in the latitudinal and longitudinal zones.

Latitudinal Zones

Longitudinal Zones



0  1-9  10-19  20-29  30-39  >40  0  1-9  10-19  20-29  30-39  >40

Which latitudinal zones had the highest number of Minor League Baseball teams in 2011? Which latitudinal zone had the fewest number of Minor League Baseball teams in 2011? What environmental and human factors may play a role in these patterns?

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Which longitudinal zones had the highest number of Minor League Baseball teams in 2011? Which zones had the fewest number of teams? What environmental and human factors may play a role in these patterns?

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## Appendix: List of Latitudinal and Longitudinal Coordinates for All Major League Affiliated Minor League Baseball Teams in 2011

### Sorted by Latitude (South to North)

List continues in left column of subsequent pages

Minor League Team	Latitude	Longitude
Fort Myers	26°32'45"N	81°48'50"W
Jupiter	26°50'54"N	80°9'38"W
Palm Beach	26°52'10"N	80°4'41"W
Charlotte	26°57'56"N	82°10'0"W
St. Lucie	27°19'41"N	80°24'59"W
Bradenton	27°25'20"N	82°33'21"W
Corpus Christi	27°44'4"N	97°22'18"W
Clearwater	27°58'30"N	82°44'45"W
Brevard County	28°10'51"N	80°40'49"W
Tampa	28°1'20"N	82°29'27"W
Dunedin	28°1'28"N	82°46'32"W
Lakeland	28°7'19"N	81°57'34"W
Daytona	29°10'33"N	81°0'7"W
San Antonio	29°20'56"N	98°37'56"W
New Orleans	29°57'51"N	90°14'26"W
Jacksonville	30°17'0"N	81°40'36"W
Round Rock	30°30'18"N	97°37'26"W
Mobile	30°46'20"N	88°8'57"W
Midland	31°55'32"N	102°0'59"W
Tucson	32°11'58"N	110°55'49"W
Savannah	32°1'36"N	81°2'36"W
Mississippi	32°14'8"N	90°8'43"W
Montgomery	32°22'34"N	86°21'24"W
Charleston	32°51'45"N	79°58'59"W
Birmingham	33°23'17"N	86°48'42"W
Augusta	33°26'1"N	81°58'58"W
Lake Elsinore	33°39'31"N	117°17'34"W
Myrtle Beach	33°45'35"N	78°55'27"W
Frisco	33°7'11"N	96°50'48"W
Rome	34°13'21"N	85°12'37"W
Gwinnett	34°2'7"N	84°0'7"W
High Desert	34°33'31"N	117°26'8"W
Huntsville	34°40'49"N	86°36'5"W
Rancho Cucamonga	34°4'27"N	117°38'11"W
Lancaster	34°43'54"N	118°8'55"W
Arkansas	34°44'1"N	92°17'34"W
Greenville	34°50'23"N	82°26'19"W
Charlotte	34°59'10"N	80°53'27"W
Inland Empire	34°6'15"N	117°17'49"W
Chattanooga	35°0'3"N	85°15'50"W
Memphis	35°10'21"N	89°59'16"W
Kinston	35°15'19"N	77°35'31"W
Albuquerque	35°2'51"N	106°35'35"W
Oklahoma City	35°25'3"N	97°28'42"W
Bakersfield	35°26'4"N	118°57'11"W
Kannapolis	35°29'5"N	80°33'49"W
Asheville	35°35'27"N	82°30'40"W
Jackson	35°40'23"N	88°46'21"W
Hickory	35°43'15"N	81°20'45"W
Carolina	35°48'45"N	78°19'43"W
Greensboro	36°1'1"N	79°44'16"W
Las Vegas	36°11'21"N	115°10'20"W
Tennessee	36°1'14"N	83°39'30"W

### Sorted by Longitude (East to West)

List continues in right column of subsequent pages

Minor League Team	Latitude	Longitude
Portland	43°39'21"N	70°12'28"W
Lowell	42°36'41"N	71°14'44"W
Pawtucket	41°51'36"N	71°17'52"W
New Hampshire	42°57'47"N	71°27'16"W
New Britain	41°38'39"N	72°42'25"W
Connecticut	41°31'58"N	72°6'45"W
Tri-City	42°44'24"N	73°38'7"W
Brooklyn	40°29'28"N	73°56'34"W
Hudson Valley	41°35'28"N	73°56'48"W
Vermont	44°26'42"N	73°9'9"W
Lakewood	40°5'38"N	74°13'18"W
Trenton	40°12'44"N	74°42'20"W
Staten Island	40°33'48"N	74°9'27"W
Lehigh Valley	40°37'0"N	75°28'48"W
Delmarva	38°20'0"N	75°32'26"W
Wilmington	39°44'56"N	75°36'47"W
Scranton/Wilkes-Barre	41°20'28"N	75°43'42"W
Binghamton	42°10'51"N	75°50'51"W
Reading	40°26'26"N	75°52'11"W
Aberdeen	39°30'13"N	76°12'22"W
Norfolk	36°48'51"N	76°16'10"W
Auburn	42°51'50"N	76°30'52"W
Bowie	38°56'3"N	76°42'10"W
Harrisburg	40°15'53"N	76°55'15"W
Syracuse	43°6'51"N	76°8'16"W
Potomac	38°36'42"N	77°15'32"W
Richmond	37°35'7"N	77°27'15"W
Frederick	39°23'30"N	77°27'21"W
Williamsport	41°16'24"N	77°3'3"W
Rochester	43°7'14"N	77°34'21"W
Kinston	35°15'19"N	77°35'31"W
Hagerstown	39°38'5"N	77°42'53"W
State College	40°46'24"N	77°49'7"W
Batavia	42°55'54"N	78°10'15"W
Carolina	35°48'45"N	78°19'43"W
Altoona	40°31'4"N	78°24'45"W
Buffalo	42°51'4"N	78°49'58"W
Myrtle Beach	33°45'35"N	78°55'27"W
Durham	36°2'19"N	78°56'8"W
Lynchburg	37°21'56"N	79°11'16"W
Jamestown	42°8'4"N	79°19'12"W
Danville	36°38'37"N	79°21'55"W
Burlington	36°8'42"N	79°26'29"W
Greensboro	36°1'1"N	79°44'16"W
Charleston	32°51'45"N	79°58'59"W
Salem	37°16'34"N	80°1'15"W
Winston-Salem	36°5'13"N	80°15'7"W
St. Lucie	27°19'41"N	80°24'59"W
Kannapolis	35°29'5"N	80°33'49"W
Brevard County	28°10'51"N	80°40'49"W
Mahoning Valley	41°11'26"N	80°42'43"W
Palm Beach	26°52'10"N	80°4'41"W
Pulaski	37°4'17"N	80°47'11"W

Northwest Arkansas	36°14'49"N	94°8'2"W	Erie	42°9'50"N	80°5'17"W
Johnson City	36°15'40"N	82°28'7"W	Charlotte	34°59'10"N	80°53'27"W
Visalia	36°19'20"N	119°20'36"W	Jupiter	26°50'54"N	80°9'38"W
Elizabethton	36°19'30"N	82°8'47"W	Daytona	29°10'33"N	81°0'7"W
Durham	36°2'19"N	78°56'8"W	Bluefield	37°14'9"N	81°17'18"W
Kingsport	36°36'22"N	82°32'1"W	Hickory	35°43'15"N	81°20'45"W
Danville	36°38'37"N	79°21'55"W	Savannah	32°1'36"N	81°2'36"W
Bristol	36°42'11"N	82°12'12"W	Akron	41°2'31"N	81°27'37"W
Fresno	36°47'45"N	119°44'6"W	Lake County	41°41'20"N	81°30'15"W
Norfolk	36°48'51"N	76°16'10"W	Princeton	37°26'41"N	81°3'46"W
Winston-Salem	36°5'13"N	80°15'7"W	West Virginia	38°23'50"N	81°40'16"W
Greeneville	36°5'50"N	82°48'32"W	Jacksonville	30°17'0"N	81°40'36"W
Bowling Green	36°56'54"N	86°25'25"W	Fort Myers	26°32'45"N	81°48'50"W
Tulsa	36°7'41"N	96°0'41"W	Lakeland	28°7'19"N	81°57'34"W
Nashville	36°7'56"N	86°42'41"W	Augusta	33°26'1"N	81°58'58"W
Burlington	36°8'42"N	79°26'29"W	Charlotte	26°57'56"N	82°10'0"W
Springfield	37°14'2"N	93°21'15"W	Bristol	36°42'11"N	82°12'12"W
Bluefield	37°14'9"N	81°17'18"W	Greenville	34°50'23"N	82°26'19"W
Salem	37°16'34"N	80°1'15"W	Johnson City	36°15'40"N	82°28'7"W
San Jose	37°18'32"N	121°53'51"W	Tampa	28°1'20"N	82°29'27"W
Lynchburg	37°21'56"N	79°11'16"W	Asheville	35°35'27"N	82°30'40"W
Princeton	37°26'41"N	81°3'46"W	Kingsport	36°36'22"N	82°32'1"W
Richmond	37°35'7"N	77°27'15"W	Bradenton	27°25'20"N	82°33'21"W
Modesto	37°40'52"N	120°58'34"W	Clearwater	27°58'30"N	82°44'45"W
Pulaski	37°4'17"N	80°47'11"W	Dunedin	28°1'28"N	82°46'32"W
Stockton	37°57'24"N	121°18'46"W	Greeneville	36°5'50"N	82°48'32"W
Louisville	38°16'7"N	85°44'16"W	Columbus	39°59'27"N	82°57'18"W
Delmarva	38°20'0"N	75°32'26"W	Elizabethton	36°19'30"N	82°8'47"W
West Virginia	38°23'50"N	81°40'16"W	Toledo	41°42'9"N	83°33'39"W
Sacramento	38°33'58"N	121°32'55"W	Tennessee	36°1'14"N	83°39'30"W
Potomac	38°36'42"N	77°15'32"W	Gwinnett	34°2'7"N	84°0'7"W
Colorado Springs	38°55'23"N	104°44'36"W	Great Lakes	43°37'3"N	84°15'32"W
Bowie	38°56'3"N	76°42'10"W	Dayton	39°41'1"N	84°16'4"W
Lexington	38°7'26"N	84°29'40"W	Lansing	42°41'45"N	84°28'49"W
Frederick	39°23'30"N	77°27'21"W	Lexington	38°7'26"N	84°29'40"W
Aberdeen	39°30'13"N	76°12'22"W	Rome	34°13'21"N	85°12'37"W
Reno	39°30'54"N	119°47'2"W	Chattanooga	35°0'3"N	85°15'50"W
Hagerstown	39°38'5"N	77°42'53"W	Fort Wayne	41°5'56"N	85°3'0"W
Dayton	39°41'1"N	84°16'4"W	West Michigan	42°59'54"N	85°41'27"W
Indianapolis	39°44'46"N	86°9'17"W	Louisville	38°16'7"N	85°44'16"W
Wilmington	39°44'56"N	75°36'47"W	South Bend	41°36'9"N	86°17'49"W
Columbus	39°59'27"N	82°57'18"W	Montgomery	32°22'34"N	86°21'24"W
Trenton	40°12'44"N	74°42'20"W	Bowling Green	36°56'54"N	86°25'25"W
Harrisburg	40°15'53"N	76°55'15"W	Huntsville	34°40'49"N	86°36'5"W
Orem	40°19'10"N	111°45'57"W	Nashville	36°7'56"N	86°42'41"W
Reading	40°26'26"N	75°52'11"W	Birmingham	33°23'17"N	86°48'42"W
Brooklyn	40°29'28"N	73°56'34"W	Indianapolis	39°44'46"N	86°9'17"W
Altoona	40°31'4"N	78°24'45"W	Wisconsin	44°13'3"N	88°21'36"W
Staten Island	40°33'48"N	74°9'27"W	Kane County	41°54'29"N	88°21'4"W
Lehigh Valley	40°37'0"N	75°28'48"W	Jackson	35°40'23"N	88°46'21"W
Peoria	40°38'6"N	89°31'46"W	Mobile	30°46'20"N	88°8'57"W
Salt Lake City	40°42'7"N	111°57'16"W	Peoria	40°38'6"N	89°31'46"W
State College	40°46'24"N	77°49'7"W	Beloit	42°33'7"N	89°5'31"W
Burlington	40°46'27"N	91°9'11"W	Memphis	35°10'21"N	89°59'16"W
Lakewood	40°5'38"N	74°13'18"W	Clinton	41°52'16"N	90°12'48"W
Omaha	41°10'0"N	95°55'6"W	New Orleans	29°57'51"N	90°14'26"W
Mahoning Valley	41°11'26"N	80°42'43"W	Quad Cities	41°31'17"N	90°37'25"W
Ogden	41°11'41"N	112°4'39"W	Mississippi	32°14'8"N	90°8'43"W
Williamsport	41°16'24"N	77°3'3"W	Cedar Rapids	41°57'31"N	91°35'13"W



Scranton/Wilkes-Barre	41°20'28"N	75°43'42"W	Burlington	40°46'27"N	91°9'11"W
Akron	41°2'31"N	81°27'37"W	Arkansas	34°44'1"N	92°17'34"W
Quad Cities	41°31'17"N	90°37'25"W	Springfield	37°14'2"N	93°21'15"W
Connecticut	41°31'58"N	72°6'45"W	Iowa	41°32'46"N	93°41'47"W
Iowa	41°32'46"N	93°41'47"W	Northwest Arkansas	36°14'49"N	94°8'2"W
Hudson Valley	41°35'28"N	73°56'48"W	Omaha	41°10'0"N	95°55'6"W
South Bend	41°36'9"N	86°17'49"W	Tulsa	36°7'41"N	96°0'41"W
New Britain	41°38'39"N	72°42'25"W	Frisco	33°7'11"N	96°50'48"W
Lake County	41°41'20"N	81°30'15"W	Corpus Christi	27°44'4"N	97°22'18"W
Toledo	41°42'9"N	83°33'39"W	Oklahoma City	35°25'3"N	97°28'42"W
Pawtucket	41°51'36"N	71°17'52"W	Round Rock	30°30'18"N	97°37'26"W
Clinton	41°52'16"N	90°12'48"W	San Antonio	29°20'56"N	98°37'56"W
Kane County	41°54'29"N	88°21'4"W	Midland	31°55'32"N	102°0'59"W
Fort Wayne	41°5'56"N	85°3'0"W	Colorado Springs	38°55'23"N	104°44'36"W
Cedar Rapids	41°57'31"N	91°35'13"W	Casper	42°51'50"N	106°18'45"W
Binghamton	42°10'51"N	75°50'51"W	Albuquerque	35°2'51"N	106°35'35"W
Beloit	42°33'7"N	89°5'31"W	Billings	45°49'50"N	108°33'45"W
Lowell	42°36'41"N	71°14'44"W	Tucson	32°11'58"N	110°55'49"W
Lansing	42°41'45"N	84°28'49"W	Great Falls	47°33'1"N	111°15'32"W
Tri-City	42°44'24"N	73°38'7"W	Orem	40°19'10"N	111°45'57"W
Buffalo	42°51'4"N	78°49'58"W	Salt Lake City	40°42'7"N	111°57'16"W
Casper	42°51'50"N	106°18'45"W	Idaho Falls	43°26'15"N	112°1'10"W
Auburn	42°51'50"N	76°30'52"W	Ogden	41°11'41"N	112°4'39"W
Batavia	42°55'54"N	78°10'15"W	Helena	46°34'37"N	112°5'53"W
New Hampshire	42°57'47"N	71°27'16"W	Missoula	46°52'59"N	114°1'11"W
West Michigan	42°59'54"N	85°41'27"W	Las Vegas	36°11'21"N	115°10'20"W
Jamestown	42°8'4"N	79°19'12"W	Boise	43°40'26"N	116°13'16"W
Erie	42°9'50"N	80°5'17"W	Lake Elsinore	33°39'31"N	117°17'34"W
Idaho Falls	43°26'15"N	112°1'10"W	Inland Empire	34°6'15"N	117°17'49"W
Great Lakes	43°37'3"N	84°15'32"W	Spokane	47°42'16"N	117°23'4"W
Portland	43°39'21"N	70°12'28"W	High Desert	34°33'31"N	117°26'8"W
Boise	43°40'26"N	116°13'16"W	Rancho Cucamonga	34°4'27"N	117°38'11"W
Syracuse	43°6'51"N	76°8'16"W	Bakersfield	35°26'4"N	118°57'11"W
Rochester	43°7'14"N	77°34'21"W	Lancaster	34°43'54"N	118°8'55"W
Wisconsin	44°13'3"N	88°21'36"W	Tri-City	46°16'55"N	119°10'33"W
Vermont	44°26'42"N	73°9'9"W	Visalia	36°19'20"N	119°20'36"W
Eugene	44°4'45"N	123°7'54"W	Fresno	36°47'45"N	119°44'6"W
Salem-Keizer	44°58'25"N	123°1'17"W	Reno	39°30'54"N	119°47'2"W
Billings	45°49'50"N	108°33'45"W	Yakima	46°36'25"N	120°28'30"W
Tri-City	46°16'55"N	119°10'33"W	Modesto	37°40'52"N	120°58'34"W
Helena	46°34'37"N	112°5'53"W	Stockton	37°57'24"N	121°18'46"W
Yakima	46°36'25"N	120°28'30"W	Sacramento	38°33'58"N	121°32'55"W
Missoula	46°52'59"N	114°1'11"W	San Jose	37°18'32"N	121°53'51"W
Tacoma	47°15'47"N	122°32'23"W	Everett	48°1'32"N	122°11'16"W
Great Falls	47°33'1"N	111°15'32"W	Tacoma	47°15'47"N	122°32'23"W
Spokane	47°42'16"N	117°23'4"W	Salem-Keizer	44°58'25"N	123°1'17"W
Everett	48°1'32"N	122°11'16"W	Vancouver	49°16'31"N	123°7'22"W
Vancouver	49°16'31"N	123°7'22"W	Eugene	44°4'45"N	123°7'54"W