

# Introducing ...

Group name \_\_\_\_\_

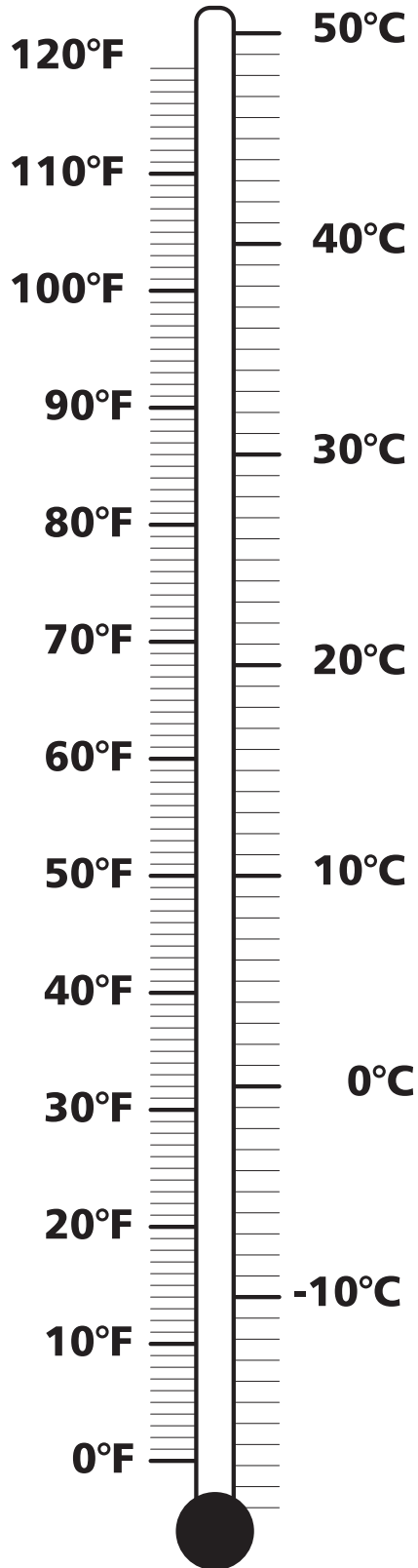
Your e-mail address: \_\_\_\_\_

Your partner class's e-mail address: \_\_\_\_\_

Subject \_\_\_\_\_

1. Introduce yourselves to your partner class by writing something about each person in your group.
2. Describe the location of your school so that your partner class can locate you on a map.
3. Tell something about your school and your community.
4. Describe your current weather and temperature.
5. Send a question for students in your partner class to answer.

# Reading a Thermometer



# Weather Log

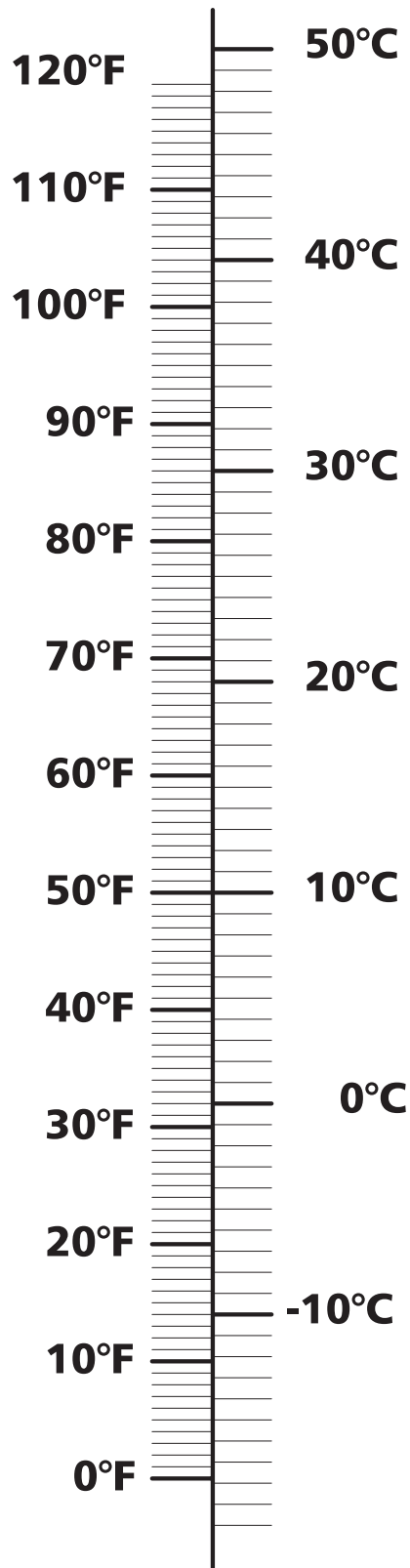
Date	Time	Temperature		Weather Observations	
		°F	°C		

# Welcome to Blue Skies

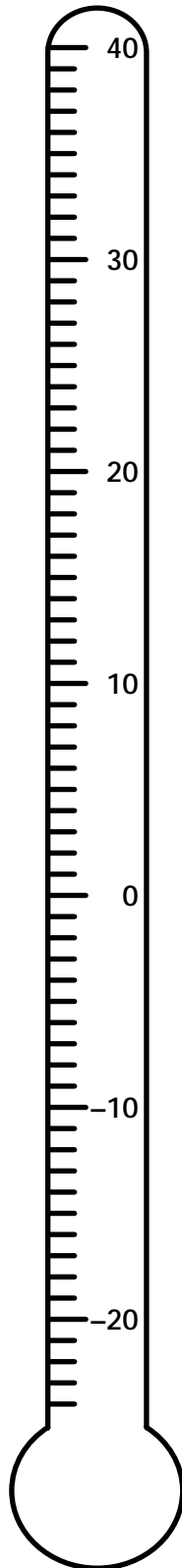


1. Where is the coldest temperature recording you can find on the Blue Skies map? Choose a color to mark the place and the temperature on the map above.
2. What about the place with the hottest temperature? With a different color, mark the place and the temperature on the map above.
3. With another color, mark as close as you can to the site of your partner class on the map above. What is the latest recording at the weather station closest to your partner class's site?
4. What are the temperature recordings at the sites closest to your classroom? Are those readings similar to yours?

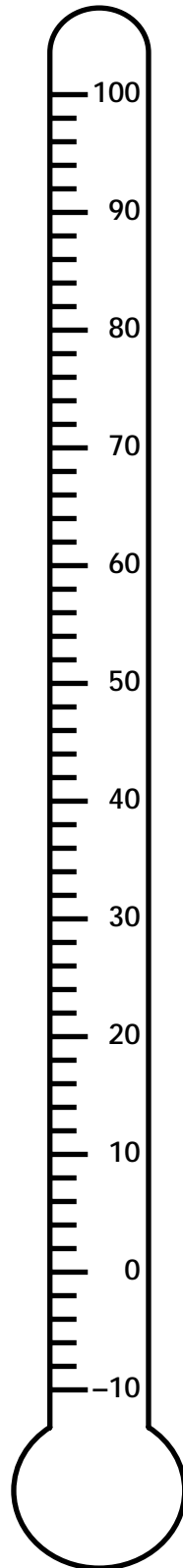
# Comparing Fahrenheit with Celsius



# Celsius Thermometer



# Fahrenheit Thermometer



# Matching Temperatures

1. Record the temperature on each thermometer.

#	Fahrenheit
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

#	Celsius
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

2. For each Fahrenheit temperature, find its match in Celsius.

Fahrenheit	Celsius



# What's the Temperature?

Use the scale to find the difference in temperature from high to low, from one time to another, or from one place to another. All temperatures are in degrees Fahrenheit.

1. On December 25, 1995, the highest U.S. temperature was 86, in Honolulu, Hawaii. The lowest temperature was 108 degrees lower, in West Yellowstone, Montana. What was the temperature in West Yellowstone?
2. On December 29, 1995, one of the lowest U.S. temperatures was  $-25$ , at West Yellowstone, Montana. It was 15 degrees lower in Ugnu Kaparuk, Alaska. What was the temperature in Ugnu Kaparuk?
3. On November 23, 1995, the high temperature for the United States was 90, in Van Nuys and Riverside, California. The lowest temperature for the United States was 127 degrees lower, in Fort Yukon, Alaska. What was the temperature in Fort Yukon?
4. In a 24-hour period on January 23 and 24, 1916, in Browning, Montana, the temperature went from 44 to  $-56$ . How much did it change?
5. On December 24, 1924, the temperature in Fairfield, Montana, went from 63 at noon to  $-21$  at midnight. How much did it change?
6. In two hours on January 12, 1911, the temperature in Rapid City, South Dakota, changed from 49 at 6:00 AM to  $-13$  at 8:00 AM. How much did it change?
7. On January 22, 1943, the temperature in Spearfish, South Dakota changed from  $-4$  at 7:30 AM to 54 at 9:00 AM. By 9:27 PM, the temperature was back down to  $-4$ . How much did the temperature change? When did it change most rapidly?
8. In Barrow, Alaska, the normal daily minimum temperature for March is about  $-22$ ; for April, it is about  $-9$ ; and for May, it is about 14. How does the temperature change from March to April? From April to May?
9. The record high temperature for the United States, 134, was set in Death Valley, California, on July 10, 1913. The record low temperature for the United States,  $-80$ , was set in Prospect Creek Camp, Alaska, on January 23, 1971. What is the difference between the two?
10. Write at least four equations of your own that involve addition and subtraction of temperatures above and below zero. Describe in one or two sentences what happened to the temperature in each case.

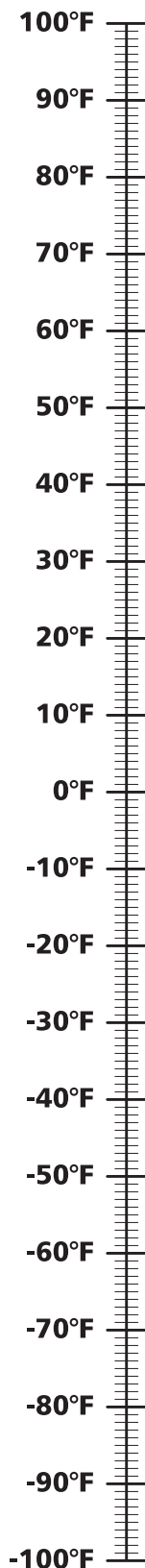
Examples:

$$-30 + 5 = -25$$

It was 30 below. It got 5 degrees warmer, and so then it was only 25 below.

$$-30 - 5 = -35$$

It was 30 below. When it got 5 degrees colder, the thermometer read 35 below.



# Make Your Own Scale



# What's the Relationship? Part 1

Ms. Martinez's class is doing a mathematics unit on temperature. The classroom has one Fahrenheit thermometer on the wall. Ms. Martinez bought four more thermometers, one for each student team. The students noticed right away that none of the new thermometers agreed with the one on the wall. In fact, some of them were very different!

The students collected a lot of data, using the new thermometers and the classroom thermometer, and began to find patterns in the different readings. They used the patterns to work out rules so that each group could change the reading on their thermometer to an equivalent reading on the classroom thermometer.

The rules have been entered into four spreadsheets. Each time you enter a temperature in the "Classroom Thermometer" column, you will see the corresponding reading in the "New thermometer" column. Record your results in the tables. Can you determine the rule for each new thermometer?

Thermometer 1

Classroom Thermometer	New Thermometer (°F)

Describe the patterns and relationships.

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# What's the Relationship? Part 2

Describe the patterns and relationships.

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Thermometer 2

Classroom Thermometer	New Thermometer (°F)

Thermometer 3

Classroom Thermometer	New Thermometer (°F)

Describe the patterns and relationships.




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Thermometer 4

Classroom Thermometer	New Thermometer (°F)

Describe the patterns and relationships.

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# Sampling Temperatures

- Write the temperatures for City A on a set of 52 index cards. Shuffle the cards and draw a random sample of 3 cards. Record the statistics in the table below. Replace the cards in the deck and draw a new random sample, this time of 10 cards. Record these statistics. Draw a third random sample, of 26 cards. Again, record the statistics.

	City A		
	Sample Size = 3	Sample Size = 10	Sample Size = 26
Minimum			
Maximum			
Range			
Mode			
Median			
Mean			

- As the sample size increases, how do the statistics compare with the statistics you obtained for the 52 data points of City A?
- Repeat this process of random sampling for City B.

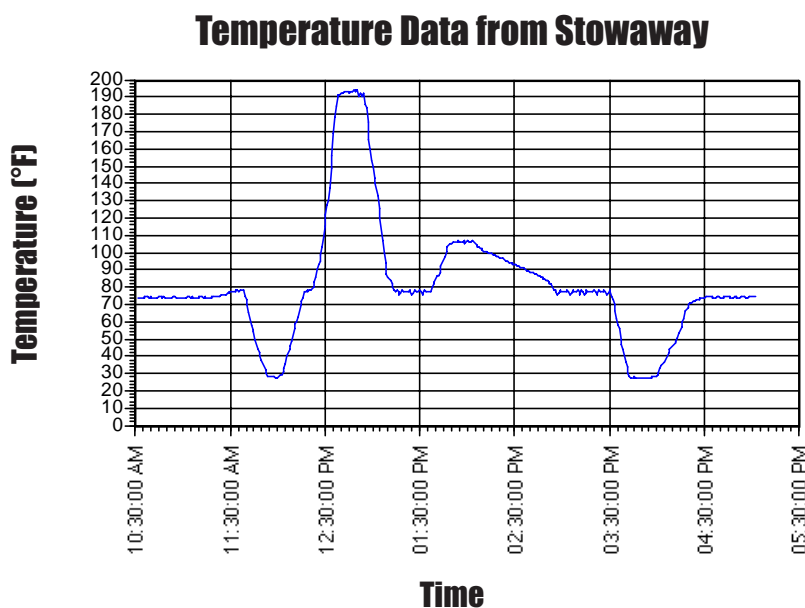
	City B		
	Sample Size = 3	Sample Size = 10	Sample Size = 26
Minimum			
Maximum			
Range			
Mode			
Median			
Mean			

- As your sample size increases, how do the statistics compare with the statistics you obtained for the 52 data points of City B?

# Learning About Line Graphs

1. Today I went on a shopping trip around town with my friends José and Ariel. It was a beautiful, sunny warm day, so we rode our bikes. I brought my Stowaway™ data logger with me to keep a record of the temperature throughout the trip. To make the data more interesting, I placed the Stowaway™ in some odd locations. At the end of the day, I printed a line graph of the temperature data in degrees Fahrenheit.

Can you label the places the Stowaway™ went on the graph?



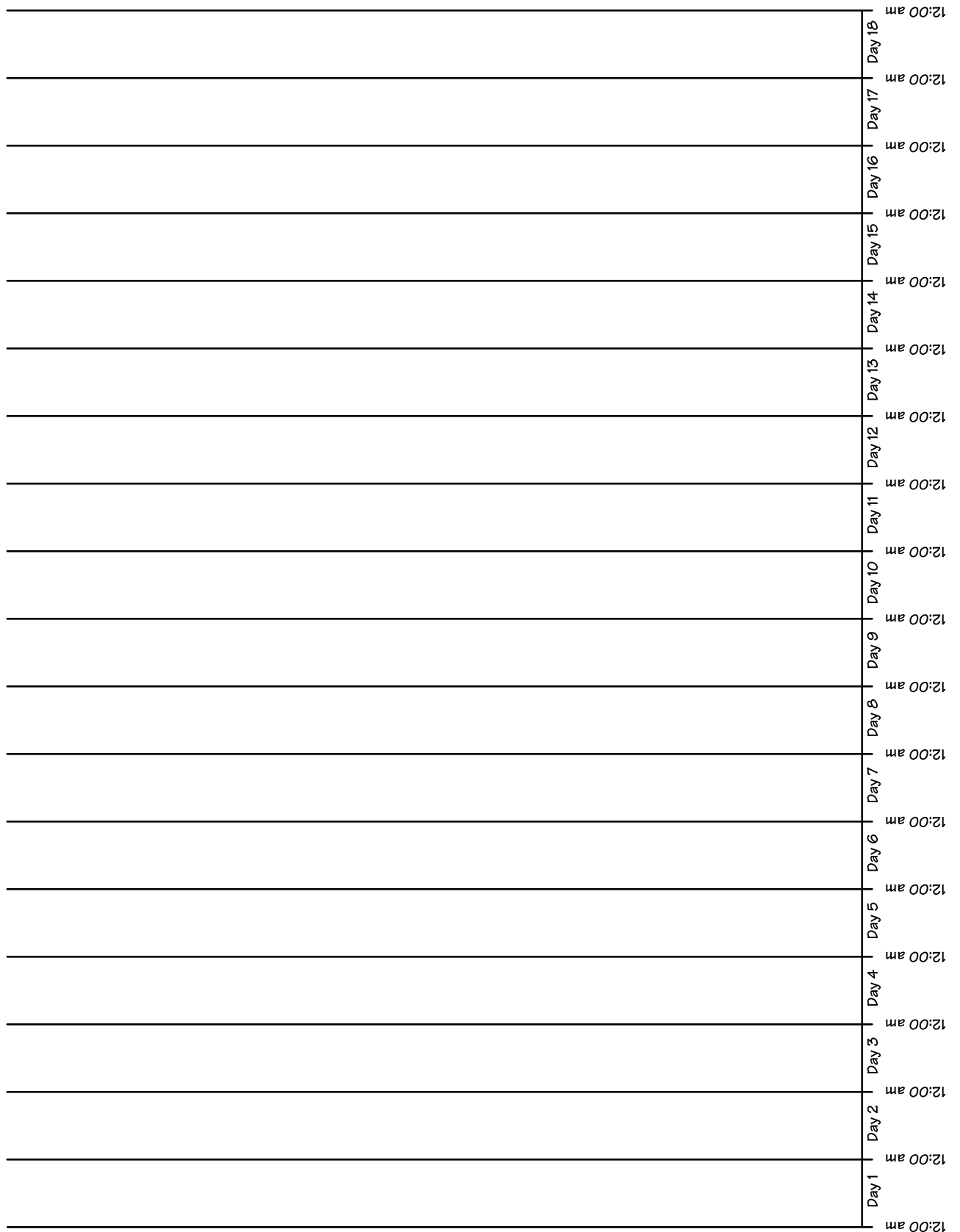
These are the places I went to:

- A. We had lunch at the Pizza Place. We put the Stowaway™ on top of the pizza oven.
- B. At the grocery store, I put the Stowaway™ in the freezer where the frozen food is stored.
- C. We spent a lot of time shopping at a sidewalk sale. The Stowaway™ stayed in my backpack.
- D. At the flower store, I put the Stowaway™ inside the greenhouse.
- E. We stopped for ice cream before going home. I put the Stowaway™ in the ice cream freezer while we ate our cones.
- F. At the toy store, the Stowaway™ rode around in an electric train.

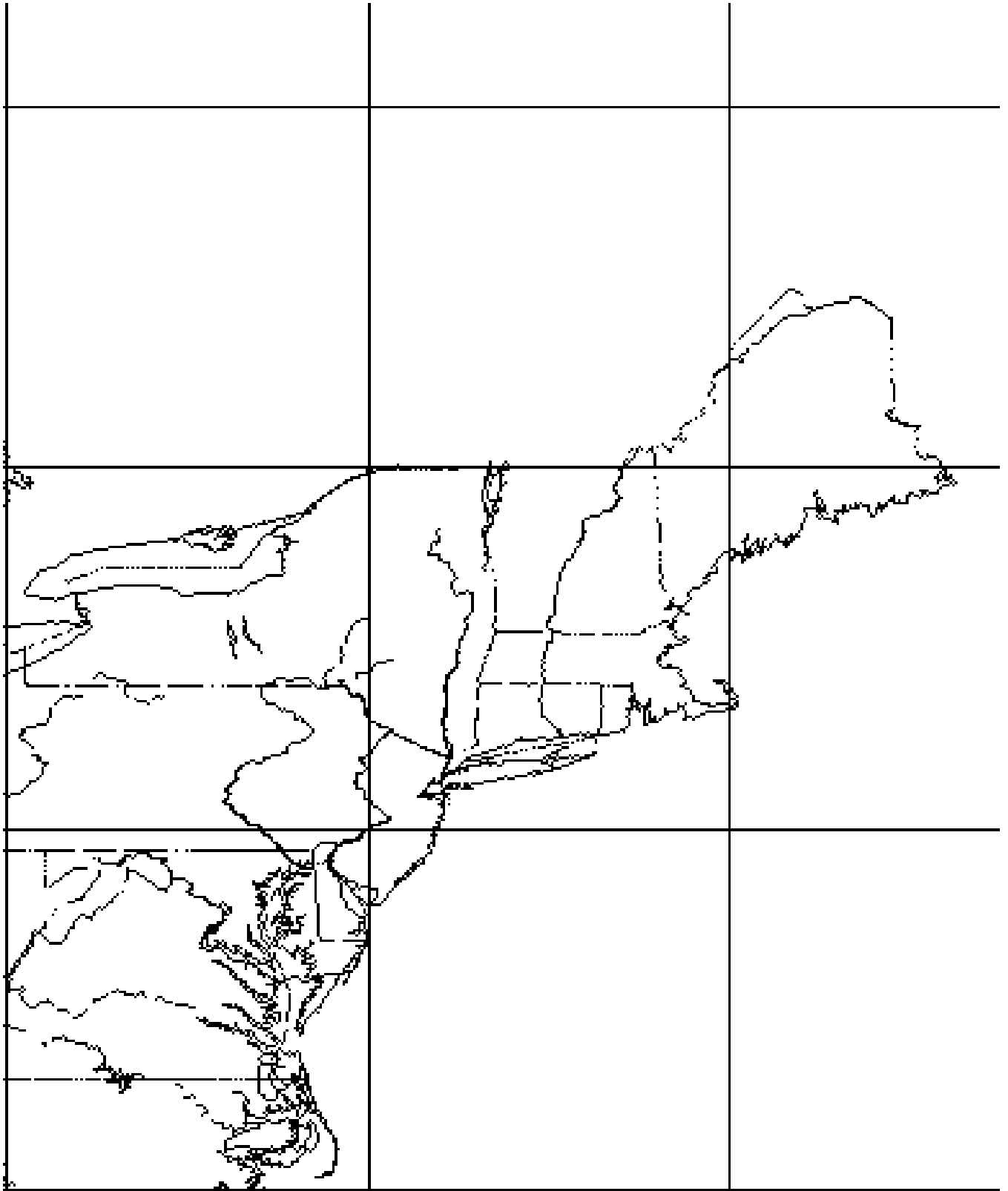




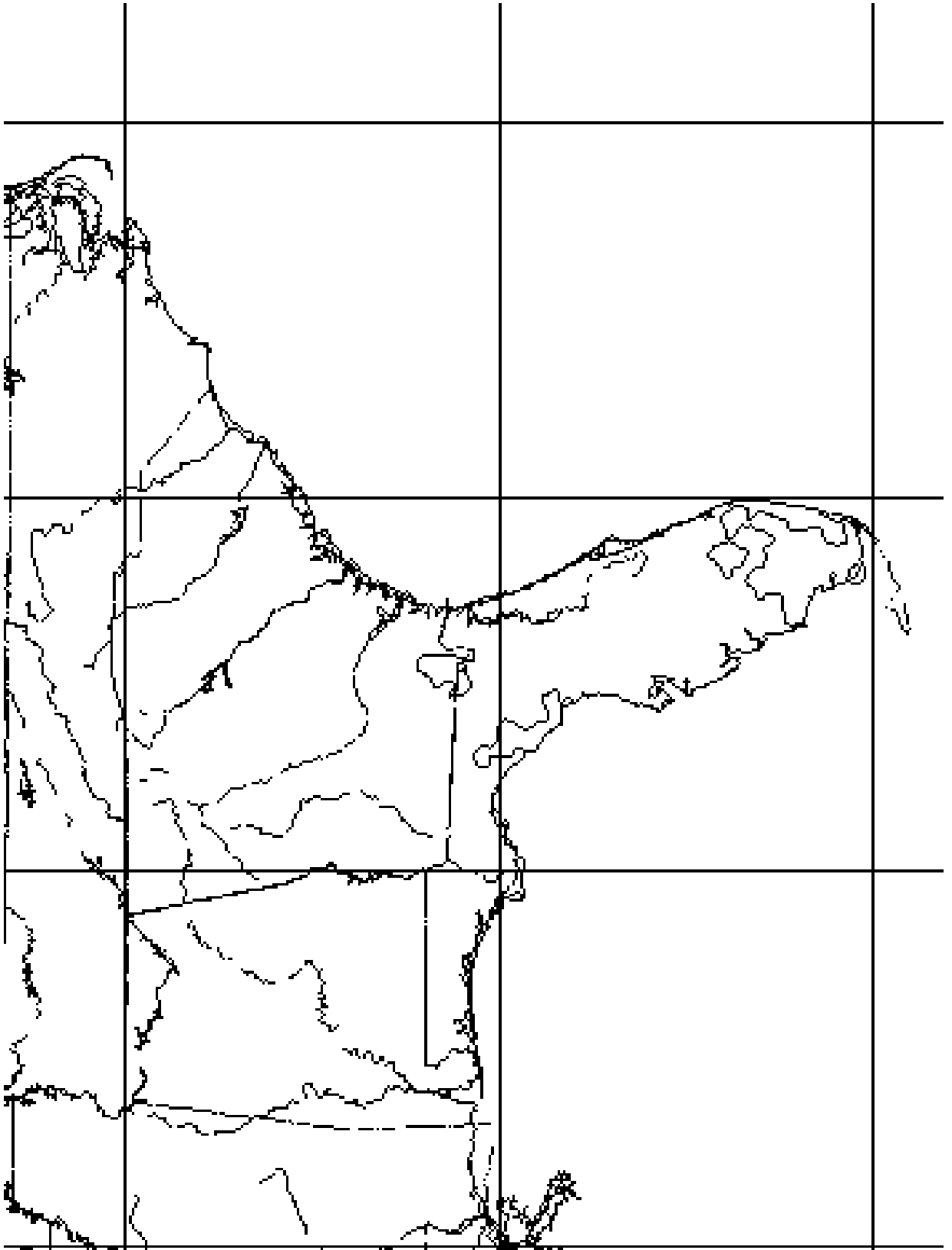
# LogBook® Graph Overlay



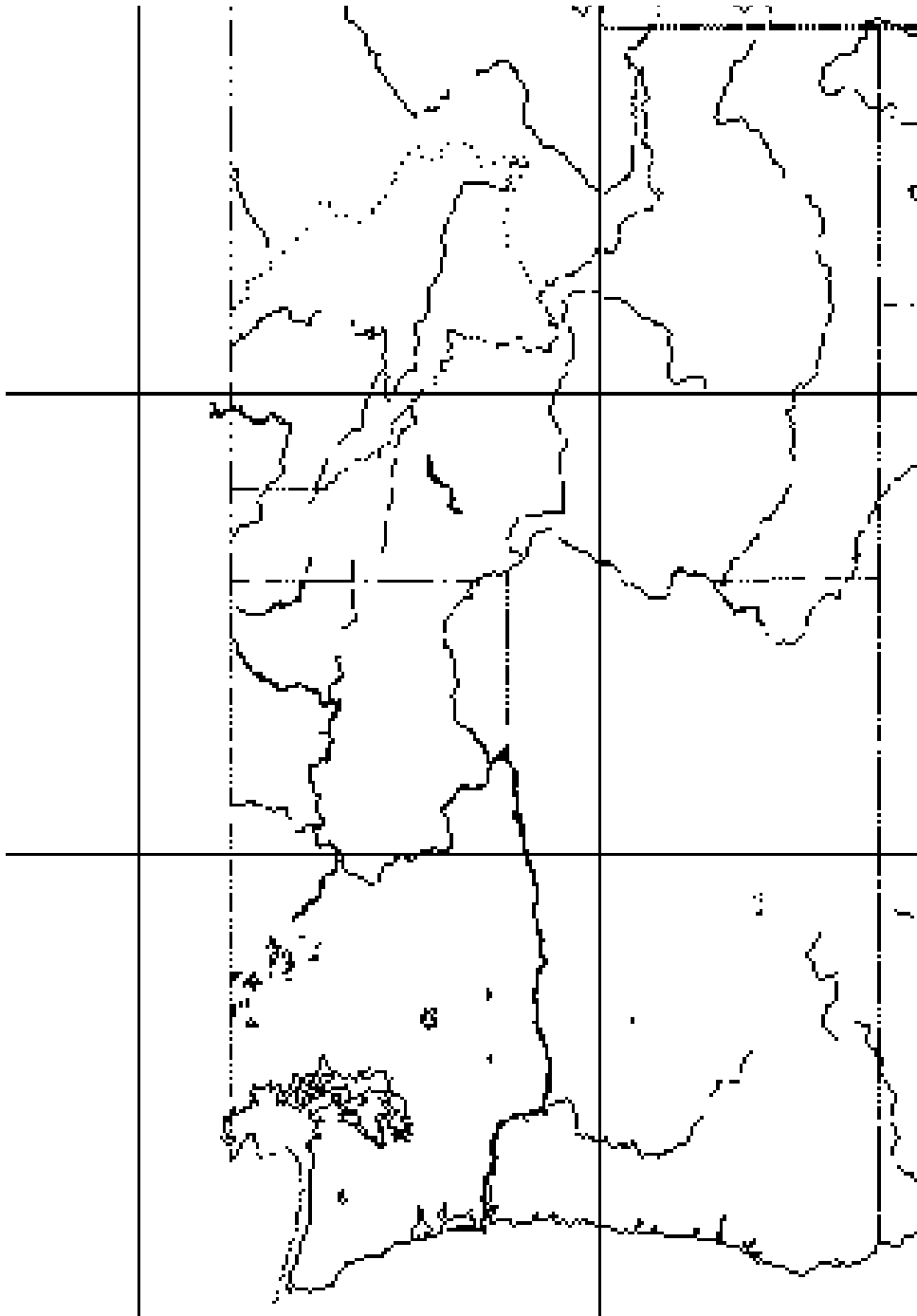
# Northeastern United States



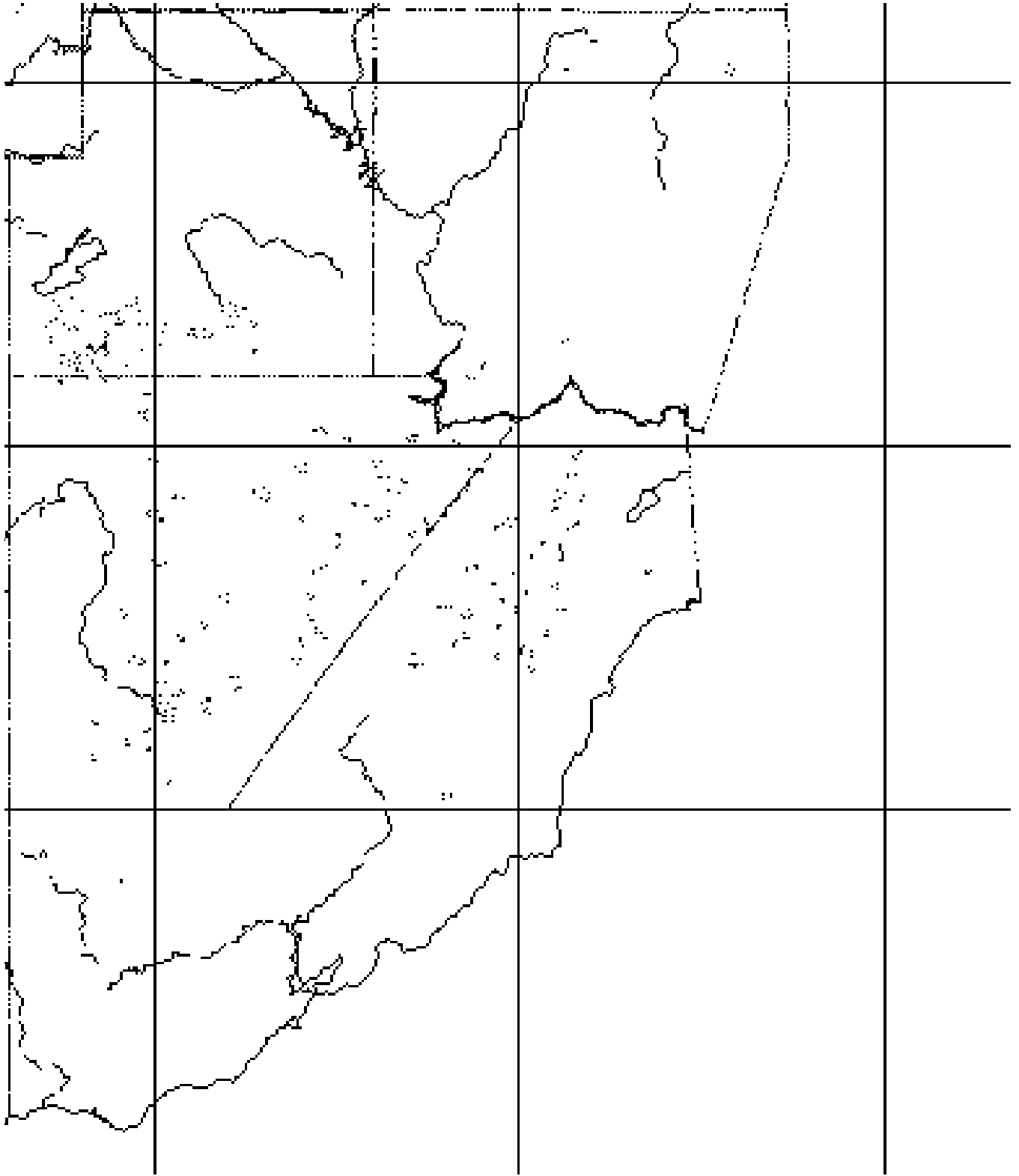
# Southeastern United States



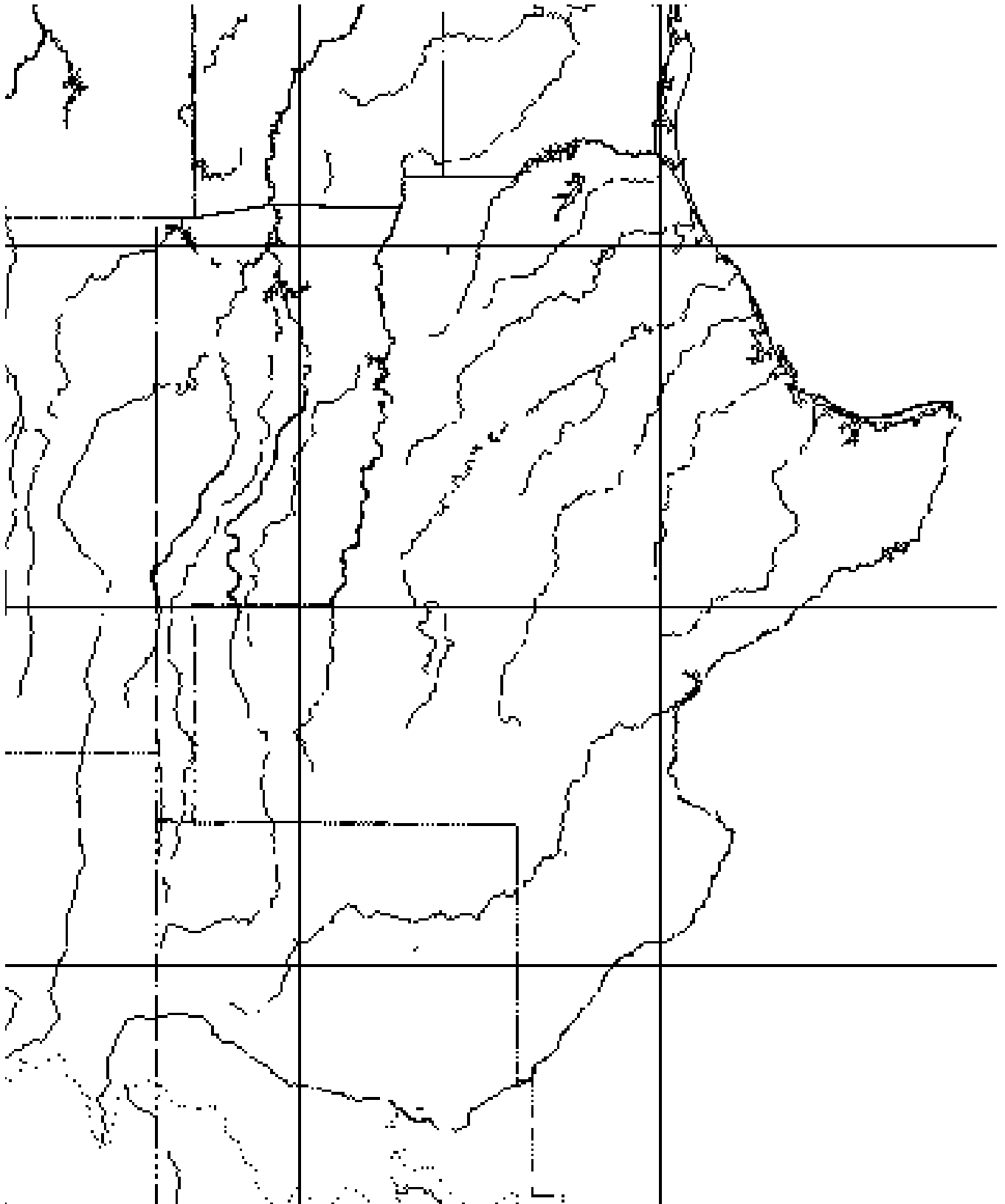
# Northwestern United States



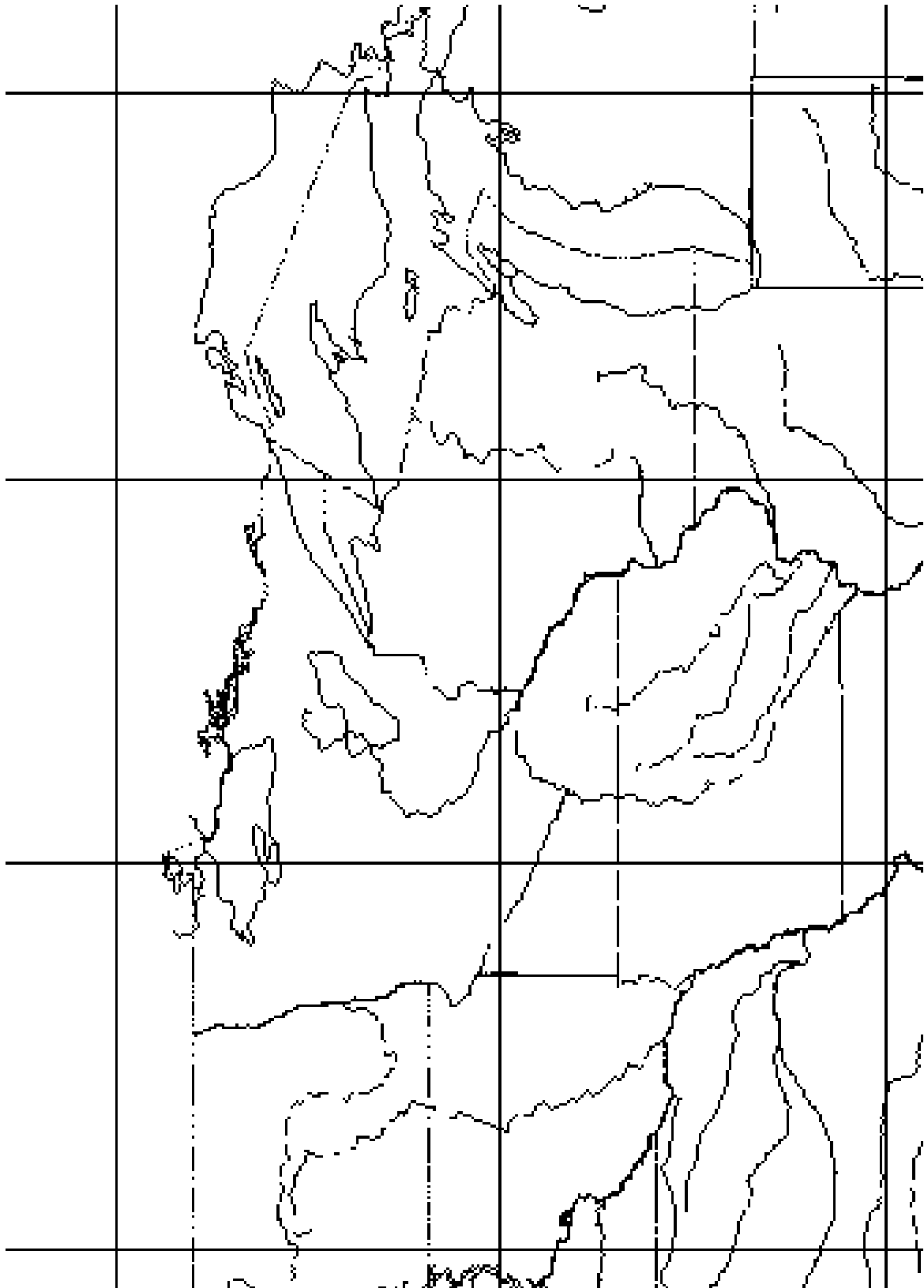
# Southwestern United States



# Southern Plains



# Midwest





# City Codes 1

State Code	State Name	City Code	City Name
AK	Alaska		
		ANC	<b>Anchorage</b>
		BRW	Barrow
		FAI	<b>Fairbanks</b>
		JNU	<b>Juneau</b>
		KTN	Ketchikan
		ADQ	Kodiak
		MCG	McGrath
		OME	<b>Nome</b>
		VWS	Valdez
		YAK	Yakutat
AL	Alabama		
		ANB	Anniston
		BHM	<b>Birmingham</b>
		DHN	Dothan
		HSV	Huntsville
		MOB	<b>Mobile</b>
		MGM	<b>Montgomery</b>
		MSL	Muscle Shoals
		TCL	Tuscaloosa
AR	Arkansas		
		ELD	El Dorado
		FYV	Fayetteville
		FSM	<b>Fort Smith</b>
		HRO	Harrison
		HOT	Hot Springs
		JBR	Jonesboro
		LIT	<b>Little Rock</b>
		PBF	Pine Bluff
		TXK	Texarkana
AZ	Arizona		
		DUG	Douglas
		FLG	<b>Flagstaff</b>
		GCN	Grand Canyon
		PGA	Page
		PHX	<b>Phoenix</b>
		PRC	Prescott
		SOW	Show Low
		TUS	<b>Tucson</b>
		INW	Winslow
		NYL	<b>Yuma</b>

State Code	State Name	City Code	City Name
CA	California		
		S11	Alturas
		BFL	<b>Bakersfield</b>
		BIH	Bishop
		BLU	Blue Canyon
		BLH	Blythe
		BUR	Burbank
		CEC	Crescent City
		DAG	Daggett
		ACV	<b>Eureka/Arcata</b>
		FAT	<b>Fresno</b>
		IPL	Imperial
		TVL	Lake Tahoe
		LAX	<b>Los Angeles</b>
		MMH	Mammoth Lakes
		MMH	Mammoth Lakes
		MYV	Marysville
		MRY	Monterey
		MHS	Mount Shasta
		EED	Needles
		PMD	Palmdale
		PRB	Paso Robles
		RDD	<b>Redding</b>
		SAC	<b>Sacramento</b>
		SNS	Salinas
		SAN	<b>San Diego</b>
		SFO	<b>San Francisco</b>
		SJC	<b>San Jose</b>
		SBA	Santa Barbara
		SMX	<b>Santa Maria</b>
		STS	Santa Rosa
		SAU	Saugus
		SCK	Stockton
		TRM	Thermal
		UKI	Ukiah
		VNY	Van Nuys
		VIS	Visalia
CO	Colorado		
		AKO	Akron
		ALS	Alamosa
		ASE	<b>Aspen</b>
		COS	<b>Colorado Springs</b>
		CEZ	Cortez
		DEN	<b>Denver</b>
		DRO	Durango
		EGE	Eagle
		FCL	Fort Collins
		GJT	<b>Grand Junction</b>
		GUC	Gunnison
		LHX	La Junta
		LXV	Leadville
		LIC	Limon
		MTJ	Montrose
		PUB	Pueblo
		TAD	Trinidad
CT	Connecticut		
		BDR	Bridgeport
		GON	Groton
		BDL	<b>Hartford</b>
DC	Washington DC		
		DCA	<b>Washington</b>

# City Codes 2

State Code	State Name	City Code	City Name
DE	Delaware		
		DOV	Dover
		ILG	Wilmington
FL	Florida		
		AQQ	Apalachicola
		CEW	Crestview
		DAB	Daytona Beach
		<b>FMY</b>	<b>Fort Myers</b>
		GNV	Gainesville
		<b>JAX</b>	<b>Jacksonville</b>
		<b>EYW</b>	<b>Key West</b>
		LAL	Lakeland
		MLB	Melbourne
		<b>MIA</b>	<b>Miami</b>
		APF	Naples
		<b>MCO</b>	<b>Orlando</b>
		PFN	Panama City
		PNS	Pensacola
		SRQ	Sarasota
		<b>TLH</b>	<b>Tallahassee</b>
		<b>TPA</b>	<b>Tampa</b>
		TIX	Titusville
		VRB	Vero Beach
		<b>PBI</b>	<b>West Palm Beach</b>
GA	Georgia		
		ABY	Albany
		AMG	Alma
		AHN	Athens
		ATL	Atlanta
		AGS	Augusta
		SSI	Brunswick
		CSG	Columbus
		MCN	Macon
		SAV	Savannah
		VLD	Valdosta
HI	Hawaii		
		ITO	Hilo
		HNL	Honolulu
		OGG	Kahului
		LIH	Lihue
IA	Iowa		
		BRL	Burlington
		CID	Cedar Rapids
		DSM	Des Moines
		DBQ	Dubuque
		EST	Estherville
		FOD	Fort Dodge
		MCW	Mason City
		OTM	Ottumwa
		SUX	Sioux City
		3SE	Spencer
		ALO	Waterloo
ID	Idaho		
		BOI	Boise
		COE	Coeur D'alene
		IDA	Idaho Falls
		LWS	Lewiston
		MLD	Malad City
		PIH	Pocatello
		SUN	Sun Valley
		TWF	Twin Falls

State Code	State Name	City Code	City Name
IL	Illinois		
		BMI	Bloomington
		MDH	Carbondale
		CMI	Champaign
		ORD	Chicago
		DEC	Decatur
		MLI	Moline
		PIA	Peoria
		UIN	Quincy
		RFD	Rockford
		SPI	Springfield
IN	Indiana		
		BMG	Bloomington
		EVV	Evansville
		FWA	Fort Wayne
		GYG	Gary
		IND	Indianapolis
		LAF	Lafayette
		MIE	Muncie
		GUS	Peru
		SBN	South Bend
		HUF	Terre Haute
KS	Kansas		
		CNU	Chanute
		CNK	Concordia
		DDC	Dodge City
		EMP	Emporia
		GCK	Garden City
		GLD	Goodland
		HYS	Hays
		HLC	Hill City
		HUT	Hutchinson
		MHK	Manhattan
		OJC	Olathe
		RSL	Russell
		SLN	Salina
		TOP	Topeka
		ICT	Wichita
KY	Kentucky		
		BWG	Bowling Green
		FTK	Fort Knox
		HOP	Hopkinsville
		JKL	Jackson
		LEX	Lexington
		LOZ	London
		SDF	Louisville
		PAH	Paducah
LA	Louisiana		
		ESF	Alexandria
		BTR	Baton Rouge
		POE	Fort Polk
		HUM	Houma
		LFT	Lafayette
		LCH	Lake Charles
		MLU	Monroe
		PTN	Morgan City
		MSY	New Orleans
		SHV	Shreveport

# City Codes 3

State Code	State Name	City Code	City Name
MA	Massachusetts		
		BOS	Boston
		HYA	Hyannis
		MVY	Marthas Vinyard
		ACK	Nantucket
		CEF	Springfield
		ORH	Worcester
MD	Maryland		
		BWI	Baltimore
		HGR	Hagerstown
		SBY	Salisbury
ME	Maine		
		AUG	Augusta
		BGR	Bangor
		BHB	Bar Harbor
		NHZ	Brunswick
		CAR	Caribou
		HUL	Houlton
		PWM	Portland
MI	Michigan		
		APN	Alpena
		BTL	Battle Creek
		BEH	Benton Harbor
		DTW	Detroit
		ESC	Escanaba
		FNT	Flint
		GRR	Grand Rapids
		CMX	Houghton
		HTL	Houghton Lake
		IMT	Iron Mountain
		IWD	Ironwood
		JXN	Jackson
		AZO	Kalamazoo
		CIU	Kinross
		LAN	Lansing
		MBL	Manistee
		MQT	Marquette
		MNM	Menominee
		MKG	Muskegon
		PLN	Pellston
		MBS	Saginaw
		Y62	Sault Ste Marie
		MTC	Selfridge
		TVC	Traverse City
MN	Minnesota		
		AXN	Alexandria
		BJI	Bemidji
		BRD	Brainerd
		DTL	Detroit Lakes
		DLH	Duluth
		ELO	Ely
		FRM	Fairmont
		FFM	Fergus Falls
		HIB	Hibbing
		INL	Intl Falls
		MKT	Mankato
		MSP	Minneapolis
		RWF	Redwood Falls
		RST	Rochester
		STC	St Cloud
		TVF	Thief River Falls
		OTG	Worthington

State Code	State Name	City Code	City Name
MO	Missouri		
		CGI	Cape Girardeau
		COU	Columbia
		TBN	Fort Leonard Woods
		JLN	Joplin
		MCI	Kansas City
		IRK	Kirksville
		SZL	Knob Noster
		SGF	Springfield
		STJ	St Joseph
		STL	St Louis
MS	Mississippi		
		GLH	Greenville
		GWO	Greenwood
		GPT	Gulfport
		JAN	Jackson
		MCB	Mccomb
		MEI	Meridian
		HEZ	Natchez
		PIB	Pine Belt Region
		TUP	Tupelo
MT	Montana		
		BIL	Billings
		BZN	Bozeman
		BTM	Butte
		CTB	Cut Bank
		GGW	Glasgow
		GTF	Great Falls
		HVR	Havre
		HLN	Helena
		FCA	Kalispell
		LWT	Lewiston
		LVM	Livingston
		MLS	Miles City
		MSO	Missoula
		WEY	West Yellowstone
NC	North Carolina		
		AVL	Asheville
		HAT	Cape Hatteras
		CLT	Charlotte
		FAY	Fayetteville
		GSO	Greensboro
		HKY	Hickory
		ISO	Kinston
		EWN	New Bern
		NCA	New River
		RDU	Raleigh-Durham
		RWI	Rocky Mount
		ILM	Wilmington
ND	North Dakota		
		BIS	Bismarck
		DVL	Devils Lake
		DIK	Dickinson
		FAR	Fargo
		GFK	Grand Forks
		JMS	Jamestown
		MOT	Minot
		ISN	Williston

# City Codes 4

State Code	State Name	City Code	City Name
NE	Nebraska		
		ANW	Ainsworth
		AIA	Alliance
		BBW	Broken Bow
		CDR	Chadron
		OLU	Columbus
		FNB	Falls City
		GRI	Grand Island
		HSI	Hastings
		EAR	Kearney
		LNK	Lincoln
		OFK	Norfolk
		LBF	North Platte
		OMA	Omaha
		ODX	Ord
		BFF	Scottsbluff
		VTN	Valentine
NH	New Hampshire		
		CON	Concord
		LCI	Laconia
		LEB	Lebanon
		MHT	Manchester
		MWN	Mount Washington
		PSM	Portsmouth
NJ	New Jersey		
		ACY	Atlantic City
		EWR	Newark
		TTN	Trenton
NM	New Mexico		
		ABQ	Albuquerque
		CNM	Carlsbad
		DMN	Deming
		FMN	Farmington
		GUP	Gallup
		HOB	Hobbs
		LVS	Las Vegas
		ROW	Roswell
		SAF	Santa Fe
		E23	Taos
		TCS	Truth/Consequences
		2C2	White Sands
NV	Nevada		
		EKO	Elko
		ELY	Ely
		LAS	Las Vegas
		LOL	Lovelock
		DRA	Mercury
		RNO	Reno
		TPH	Tonopah
		WMC	Winnemucca

State Code	State Name	City Code	City Name
NY	New York		
		ALB	Albany
		BGM	Binghamton
		BUF	Buffalo
		ELM	Elmira
		GFL	Glens Falls
		ISP	Islip
		ITH	Ithaca
		JHW	Jamestown
		MSS	Massena
		MSV	Monticello
		JFK	New York
		IAG	Niagara Falls
		PBG	Plattsburgh
		POU	Poughkeepsie
		ROC	Rochester
		SYR	Syracuse
		UCA	Utica
		ART	Watertown
		FOK	Westhampton
OH	Ohio		
		CAK	Akron
		CVG	Cincinnati
		CLE	Cleveland
		CMH	Columbus
		DAY	Dayton
		FDY	Findlay
		MFD	Mansfield
		TOL	Toledo
		YNG	Youngstown
		ZZV	Zanesville
OK	Oklahoma		
		LTS	Altus
		END	Enid
		GAG	Gage
		HBR	Hobart
		MLC	McAlester
		OKC	Oklahoma City
		PNC	Ponca City
		TUL	Tulsa
OR	Oregon		
		AST	Astoria
		BKE	Baker
		CVO	Corvallis
		EUG	Eugene
		LMT	Klamath Falls
		MFR	Medford
		OTH	North Bend
		PDT	Pendleton
		PDX	Portland
		RDM	Redmond
		RBG	Roseburg
		SLE	Salem
		SXT	Sexton Summit
		DLS	The Dalles

# City Codes 5

State Code	State Name	City Code	City Name
PA	Pennsylvania		
		ABE	Allentown
		AOO	Altoona
		BFD	Bradford
		DUJ	Dubois
		ERI	Erie
		FKL	Franklin
		CXY	Harrisburg
		JST	Johnstown
		LNS	Lancaster
		LBE	Latrobe
		PHL	Philadelphia
		PIT	Pittsburgh
		RDG	Reading
		UNV	State College
		AVP	Wilkes Barre
		IPT	Williamsport
PR	Puerto Rico		
		JSJ	San Juan
RI	Rhode Island		
		BID	Block Island
		PVD	Providence
SC	South Carolina		
		AND	Anderson
		NBC	Beaufort
		CHS	Charleston
		CAE	Columbia
		FLO	Florence
		GSP	Greenville
		MYR	Myrtle Beach
		SSC	Sumter
SD	South Dakota		
		ABR	Aberdeen
		BKX	Brookings
		HON	Huron
		MHE	Mitchell
		PIR	Pierre
		RAP	Rapid City
		FSD	Sioux Falls
		ATY	Watertown
TN	Tennessee		
		TRI	Bristol
		CHA	Chattanooga
		CSV	Crossville
		DYR	Dyersburg
		MKL	Jackson
		TYS	Knoxville
		MEM	Memphis
		BNA	Nashville

State Code	State Name	City Code	City Name
TX	Texas		
		ABI	Abilene
		ALI	Alice
		AMA	Amarillo
		AUS	Austin
		BPT	Beaumont
		BRO	Brownsville
		CDS	Childress
		CLL	College Station
		CRP	Corpus Christi
		COT	Cotulla
		DHT	Dalhart
		DFW	Dallas-Ft Worth
		DRT	Del Rio
		ELP	El Paso
		GLS	Galveston
		HDO	Hondo
		IAH	Houston
		LRD	Laredo
		GCG	Longview
		LBB	Lubbock
		LFK	Lufkin
		MRF	Marfa
		MFE	McAllen
		MAF	Midland
		MWL	Mineral Wells
		PSX	Palacios
		SJT	San Angelo
		SAT	San Antonio
		TPL	Temple
		TYR	Tyler
		VCT	Victoria
		ACT	Waco
		SPS	Wichita Falls
		INK	Wink
UT	Utah		
		CDC	Cedar City
		DPG	Dugway Proving
		OGD	Ogden
		PVU	Provo
		SLC	Salt Lake City
		VEL	Vernal
		ENV	Wendover
VA	Virginia		
		CHO	Charlottesville
		DAN	Danville
		LYH	Lynchburg
		ORF	Norfolk
		RIC	Richmond
		ROA	Roanoke
VT	Vermont		
		BTV	Burlington
		MPV	Montpelier

# City Codes 6

State Code	State Name	City Code	City Name
WA	Washington		
		BLI	Bellingham
		PWT	Bremerton
		EPH	Ephrata
		PAE	Everett
		HMS	Hanford
		HQM	Hoquiam
		OLM	Olympia
		PSC	Pasco
		CLM	Port Angeles
		PUW	Pullman
		UIL	Quillayute
		SEA	Seattle-Tacoma
		GEG	Spokane
		SMP	Stampede Pass
		TDO	Toledo
		ALW	Walla Walla
		EAT	Wenatchee
		NUW	Whidbey Island
		YKM	Yakima
WI	Wisconsin		
		VOK	Camp Douglas
		EAU	Eau Claire
		GRB	Green Bay
		LSE	La Crosse
		LNR	Lone Rock
		MSN	Madison
		MKE	Milwaukee
		CWA	Mosinee
		OSH	Oshkosh
		RHI	Rhinelanders
		RIE	Rice Lake
WV	West Virginia		
		BKW	Beckley
		BLF	Bluefield
		CRW	Charleston
		CKB	Clarksburg
		EKN	Elkins
		HTS	Huntington
		LWB	Lewisburg
		MRB	Martinsburg
		MGW	Morgantown
		PKB	Parkersburg
		HLG	Wheeling
WY	Wyoming		
		CPR	Casper
		CYS	Cheyenne
		COD	Cody
		JAC	Jackson
		LND	Lander
		LAR	Laramie
		RWL	Rawlins
		RKS	Rock Springs
		SHR	Sheridan
		WRL	Worland

# Project Planner

Name(s): \_\_\_\_\_

1. What is your project?
2. What question do you want to answer?
3. Why do you want to know the answer to this question?
4. How will you answer your question?
5. What equipment will you need?
6. How will you report your results?

spreadsheet

pictures

table

text

graph

other \_\_\_\_\_

map





Name \_\_\_\_\_

## Section 1 Quiz

1. At home, take four temperature readings from the same location. Enter your temperature data in the table below.

Location:

Time	Temperature

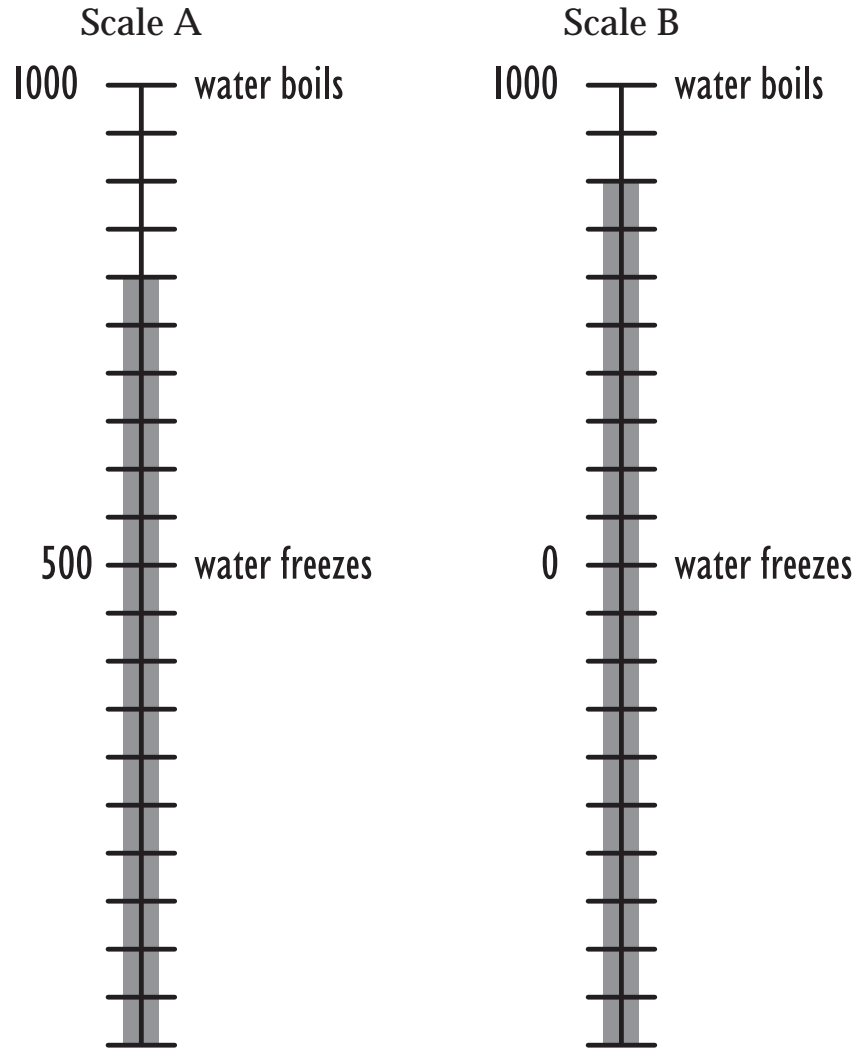
2. Display your temperature data in a graph.
3. What observations can you make about your temperature data?
4. How do you think mathematics relates to temperature and weather? List all the ways you can think of (continue your list on the back if you need to).

Name \_\_\_\_\_

## Section 2 Quiz

Scale A and Scale B both use 1,000 for the boiling point of water. On Scale A, the freezing point of water is 500. On Scale B, the freezing point of water is 0.

1. Label the intervals on Scale A and Scale B.



2a. What temperature is shown on Scale A?

2b. What is the equivalent (matching) temperature on Scale B?

Name \_\_\_\_\_

- 3a. What temperature is shown on Scale B?
- 3b. What is the equivalent (matching) temperature on Scale A?
- 4a. How many degrees are shown on Scale A?
- 4b. How many degrees are shown on Scale B?
- 5a. Which is bigger, 1 degree in Scale B or 1 degree in Scale A?
- 5b. How much bigger is it, compared with 1 degree in the other scale?
6. What pattern can you find in the relationship between the two scales?

For every  degrees of increase in Scale A, Scale B increases  degrees.

For every  degrees of increase in Scale B, Scale A increases  degrees.

- 7a. Complete this temperature table.
- | Scale A | Scale B |
|---------|---------|
| 1,000   |         |
|         | 700     |
| 775     |         |
|         | 450     |
| 700     |         |
| 500     |         |
|         | -100    |
| 250     |         |
|         | 1,000   |
- 7b. Show some different temperature pairs in this table.
- | Scale A | Scale B |
|---------|---------|
|         |         |
|         |         |
|         |         |
|         |         |
|         |         |
|         |         |
|         |         |
|         |         |
|         |         |

**For extra credit:**

8. Explain how to convert or write a formula for converting temperatures from one scale to the other. (*Hint:* What number might you use to multiply or divide a temperature? What number might you then add or subtract?)

Name \_\_\_\_\_

## Section 3 Quiz

The Building Improvement Committee has asked you to find the average indoor temperature for the entire school. Other students will help you by recording the temperature on a thermometer according to your instructions.

1. How many thermometers do you think you will need?

5            50            500            5,000            5,000,000

2. Where will you put them? Please give reasons for the locations you will use.

3. What instructions will you give the other students for reading the thermometers?

4. What do you think the range, mode, median, and mean are likely to be?

Range             Mode             Median             Mean

5. After you have the data, how will you decide what the average temperature is?

Name \_\_\_\_\_

## Section 4 Quiz

- 1a. Alma used a StowAway™ data logger to record the temperature inside the doghouse in her backyard on a May afternoon. A portion of the data she collected is shown in the adjacent table. Use graph paper to make a graph that shows how the temperature changed.

Time	Temperature (°F)
3:30	68
3:38	68
3:46	99
3:54	97
4:02	72
4:10	65
4:18	99
4:26	98
4:34	101
4:42	60
4:50	54

- 1b. Describe how the temperature changed between 3:30 and 4:50.

- 1c. What might have happened to cause the temperature to change as it did?

- 2a. Dana has friends in five different regions of the United States who share his interest in temperature and the weather. After an especially cold January, he wanted to compare the lowest temperature for the month in his part of the country with the monthly low temperature at each of his friends' locations. The data he collected are shown in the accompanying table. Use graph paper to make a graph that shows how the temperatures compare.

City	Temperature (°F)
Salsalito	5
Cugaville	25
Helixton	-30
Meltopolis	-2
Phoester	17

- 2b. Dana's friend Manolo lives in the town that had the second coldest low temperature. Which town is it?

- 2c. Dana's friend Edwina lives in the town that had the second warmest high temperature. Which town is it?