

Activity Two: Cartesian Coordinates and Remote Sensing Images

Before you begin this activity, be sure to read the file in this folder entitled *Using Coordinates in the Study of Remote Sensing Images*. It will give you a good background in the use of both Cartesian Coordinates and geographic coordinates in determining the location of features on remote sensing images. If you are using a topographic map with your images, the information on geographic coordinates will be very useful. In this activity, we will be using Cartesian Coordinates and scale measurement.

First, print copies of each of the following:

- Copy of photo 241890 of downtown Boston from the *Photos* folder printed on 8.5 x 11 photo paper. You might also want to laminate the photo after you run it off.
- The *Old Scalebar* printed from the *Photos* folder.
- The 8x10 Cartesian Coordinates Template printed on an 8.5x11 clear transparency paper. I have also included a 5x7 template for smaller photos.
- The file *Using Coordinates in the Study of Remote Sensing Images*. Read this first to get a good background in the use of Cartesian Coordinates to determine location.

Set the photo on the viewing surface in landscape mode. The bridge and river should be in the top center of the photo. Then lay the template over the image.

Use the Cartesian Coordinate Grid Template to help you identify the physical or cultural feature found at the intersection of the squares on the grid:

_____ 1.	(9,8)	Cultural Feature
_____ 2.	(2,12)	Cultural Feature
_____ 3.	(11,13)	Coastal Landform
_____ 4.	(16,13)	Coastal Landform
_____ 5.	(5,15)	Geographic Landform
_____ 6.	(0,7)	Transitional Landform
_____ 7.	(1,17)	Cultural Feature
_____ 8.	(0,4)	Waterway

- _____ 9. (9,3) Category of Land Use
- _____ 10. (4,14) Waterway

Computation of Area Using a Cartesian Coordinates Grid

Use the *Old Scalebar* to measure the height and width of a cell on the 8x10 Cartesian Coordinates Template. What is the area in square meters of a single cell on the grid?

Write your answer here _____

Now measure the amount of square meters in an area of the image from (4,7) to (4,9) and upwards to (2,7) to (2,9).

Write your answer here _____

What could be located in this area? Explain your answer.

(2,7)	(2,8)	(2,9)
(3,7)	(3,8)	(3,9)
(4,7)	(4,8)	(4,9)

Scale Measurement of Remote Sensing Images

Use the *Old Scalebar* to measure the distance between given **points** on the Cartesian Grid.

- _____ 1. Distance across the bridge in **feet** from (4,11) to (1,14).
- _____ 2. Distance from the football field in **feet** (11,8) to the baseball diamond at (7,4).
- _____ 3. Begin at the house located at (6,16). What is the distance in feet to the building located at (8,8)
- _____ 4. If you begin at the house located at (4,4). If you walked 270° and 200 feet, where would you be?