**Sea Level Rise**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| The table at the right shows the annually averaged change in the sea level since 1888. Let *x* be the number of years since 1900 and *y* be the increase in sea level between 1888 and year *x*. For example, in 1920 the sea level had risen 3 centimeters over what it was in 1888. Scientists warn that when the sea level reaches 50 centimeters above the 1888 level, catastrophic effects may occur to our seashores and low-lying cities. If present trends continue, when will this occur?   1. Why might we want to predict the sea level rise? Who might be affected? | |  |  |  | | --- | --- | --- | | Annually Averaged Sea Level Change  Since 1888 | | | | **Year**  **(Since 1900)**  ***x*** | **Sea Level Change since 1888 (in cm)**  ***y*** | **Year, Sea Level Change**  **(x, y)** | | 0 | 1.5 | (0, 1.5) | | 10 | 1 |  | | 20 | 3 |  | | 30 | 4.5 |  | | 40 | 7 |  | | 50 | 9 |  | | 60 | 11.5 |  | | 70 | 12.5 |  | | 80 | 13.5 |  | | 90 | 14 |  | | 100 | 17.5 |  | |

1. Graph the data on the coordinate axis at the right.
2. Does the data set appear linear or not? Explain.
3. Sketch a trend line on your scatter plot by

hand. Find a line that comes as close as

possible to the plotted points and has points

on both sides of the line. Use a straight

edge to draw your trend line.

1. From the graph of your trend line,

predict how much the sea level had risen

by 2010.

1. From the graph of your trend line, predict

how much the sea level will have risen by 2013.

1. Find two points on the trend line and label them A and B on the graph. Write their coordinates below.

A ( , ) B ( , )

1. Use the coordinates of A and B to find the slope of the trend line and an equation for the trend line.
2. Is your trend line equation similar to that of your classmates? Why or why not?
3. Use your equation to check your answers to questions 5 and 6.
4. Use your equation to make this prediction. By which year will the sea level have risen 23 centimeters above the sea level height in 1888?