The Depleting Ozone

Project Personnel

Angela Whitt

Mandy Storm

Julie Jones

Dangers of UV-B Radiation

The ozone layer absorbs some of the UV-B radiation that enters through the atmosphere. If the ozone layer is depleted then higher levels of UV-B radiation are emitted to the surface of the Earth, which is very dangerous to our planet. These dangers include:

Dangers to the eye; cataracts and eye cancer

Dangers to the skin; including different types of skin cancer

Suppresses the immune system; many viruses are activated or reactivated by UV-B

Disrupts the food supply, the quality of the air, contributes to the greenhouse effect and deteriorates plastic and other materials

Reduces the production of phytoplankton, which is the base of the aquatic food chain

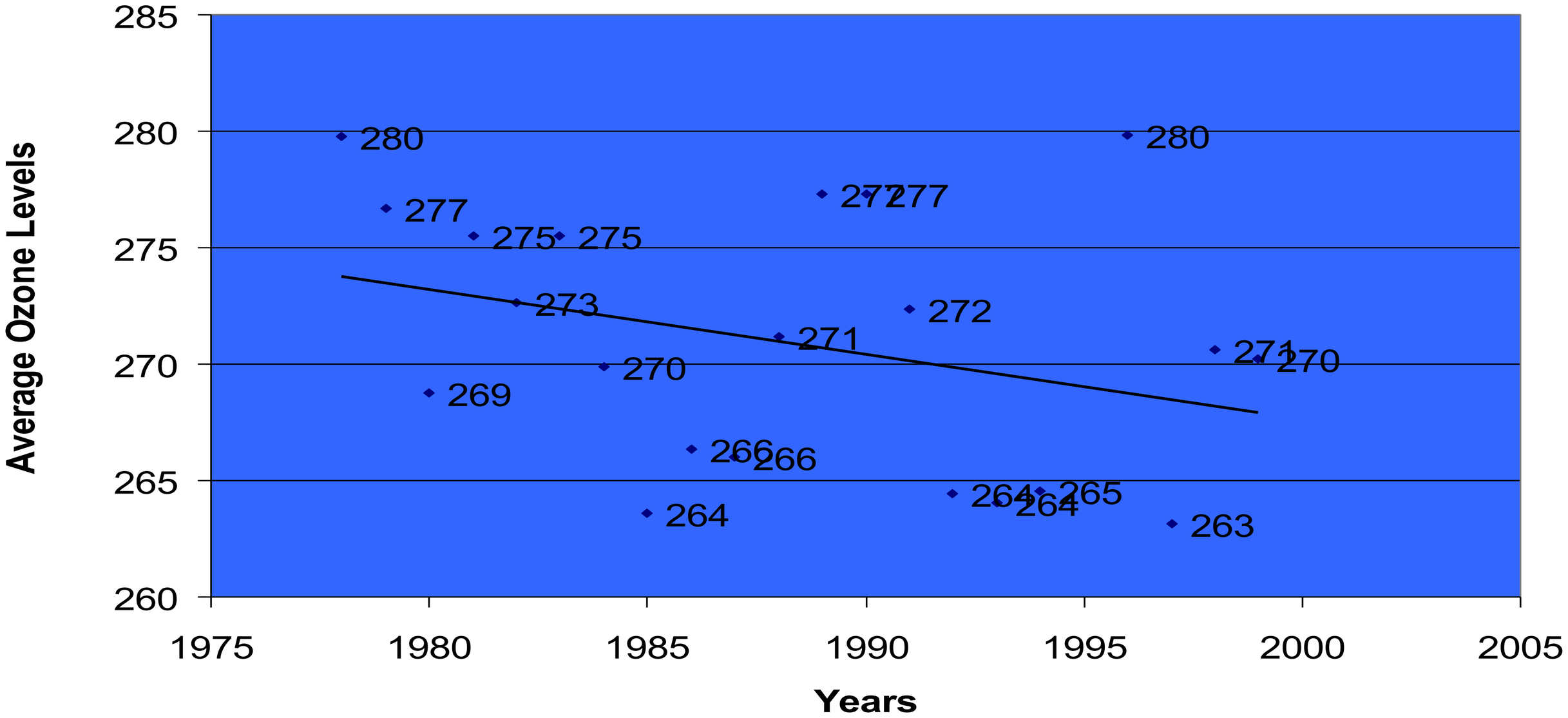
Influences climate and weather

Our Data

NASA TOMS Data

$y = -0.277x + 821.69$

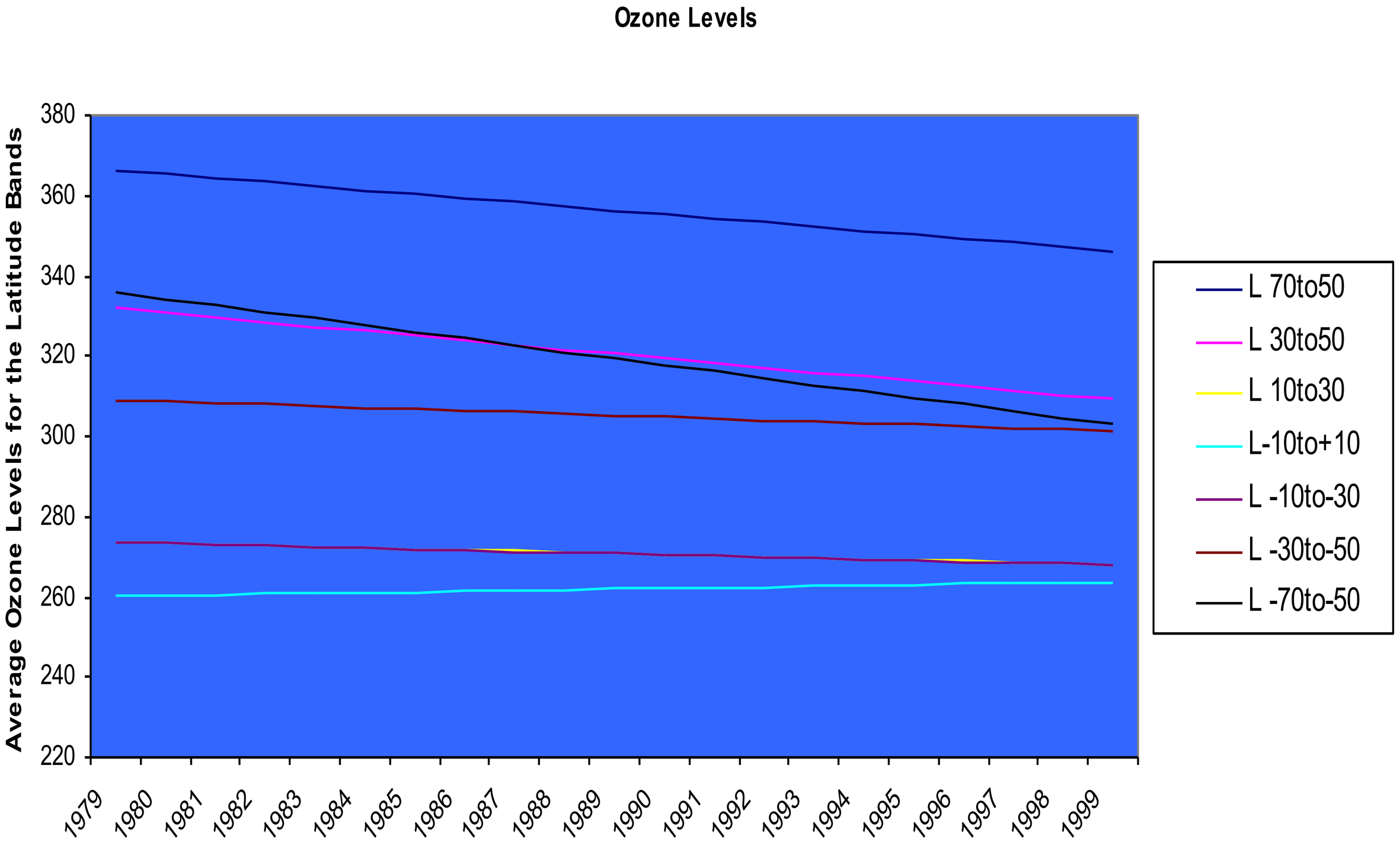
$R^2 = 0.1053$



Our latitude band was –10 to –30. This is in the Southern Hemisphere. As you can see by our graph the ozone in our area is depleting. The slope of our line is –0.277 which is the rate in which the ozone is depleting each year. By using our formula which is y=-0.277x + 821.69 (x=year) we determined the ozone level in 1979, which is the first year our data was taken, which was 273.507. We also took the ozone level of 1999, which is the last year of our data, this level was 268.244. By subtracting the ozone level from 1979 to 1999 you can see that the ozone level has decreased by 5.263 in 20 years.

Ozone Depletion Around the World

Latitude Bands	Formula
50 to 70	Y= 1.0078x+2360.8
30 to 50	Y= -1.1366x+2581.2
10 to 30	Y= -0.2795x+826.75
-10 to 10	Y= 0.1796x-95.279
-10 to -30	Y= -0.277x+821.69
-30 to -50	Y= -0.3837x+1068.4
-70 to -50	Y= -1.65x+3601.3



As you can see by the formulas and the chart, ozone is depleting in all areas except for one, which is at the equator.