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Data Evaluation and Control of Pollutants in the Air

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Data Evaluation and Control of Pollutants in the Air

Hassaan Fahim

Advisor: Dr. Sarwan S. Sandhu, Ph.D., D.I.C.

Introduction:

- The severe air pollution problem arose in the metropolitan area in LA in 1955
- In 1955, U.S Govt. made an act named as “Air Pollution Control Act”

Formation of an EPA:

- EPA was established on December 2, 1970.
- It has 10 different zones for the U.S.

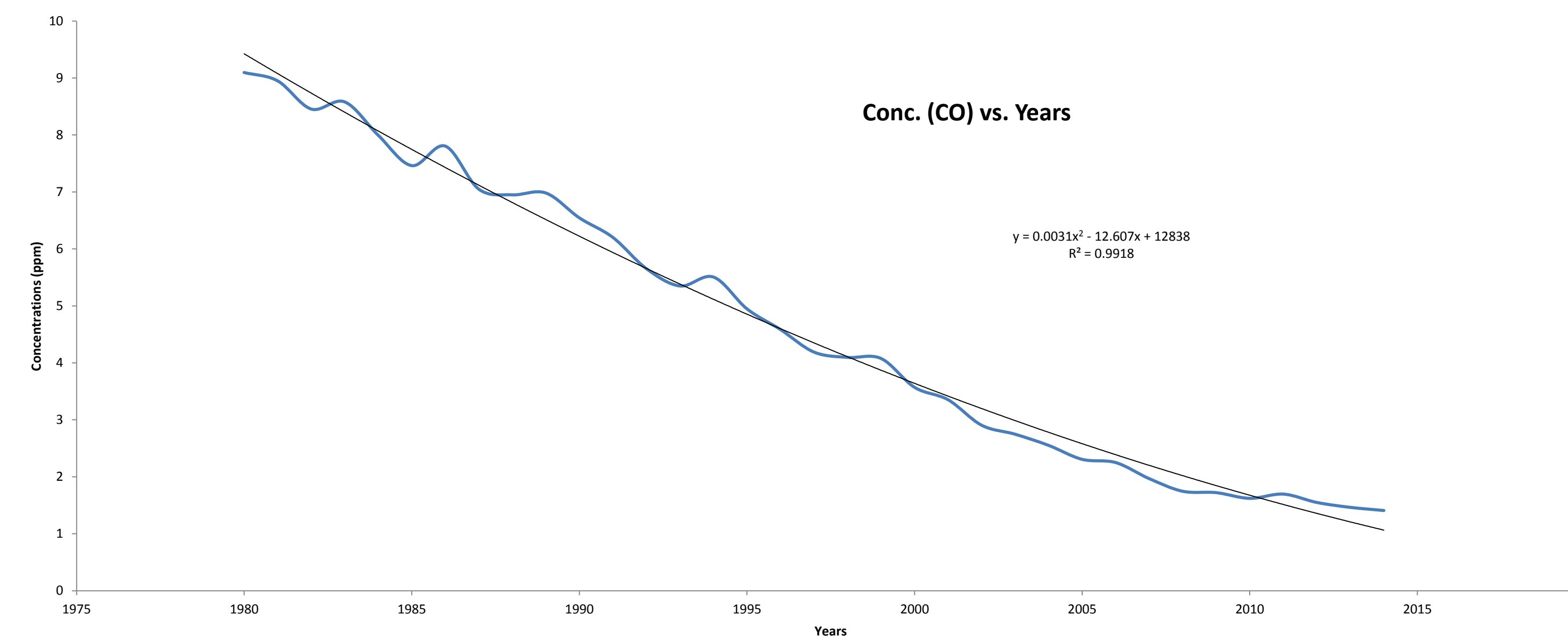
Pollutants:

Main pollutants are:
Carbon Monoxide, NO_x, SO_x and Particulate matter

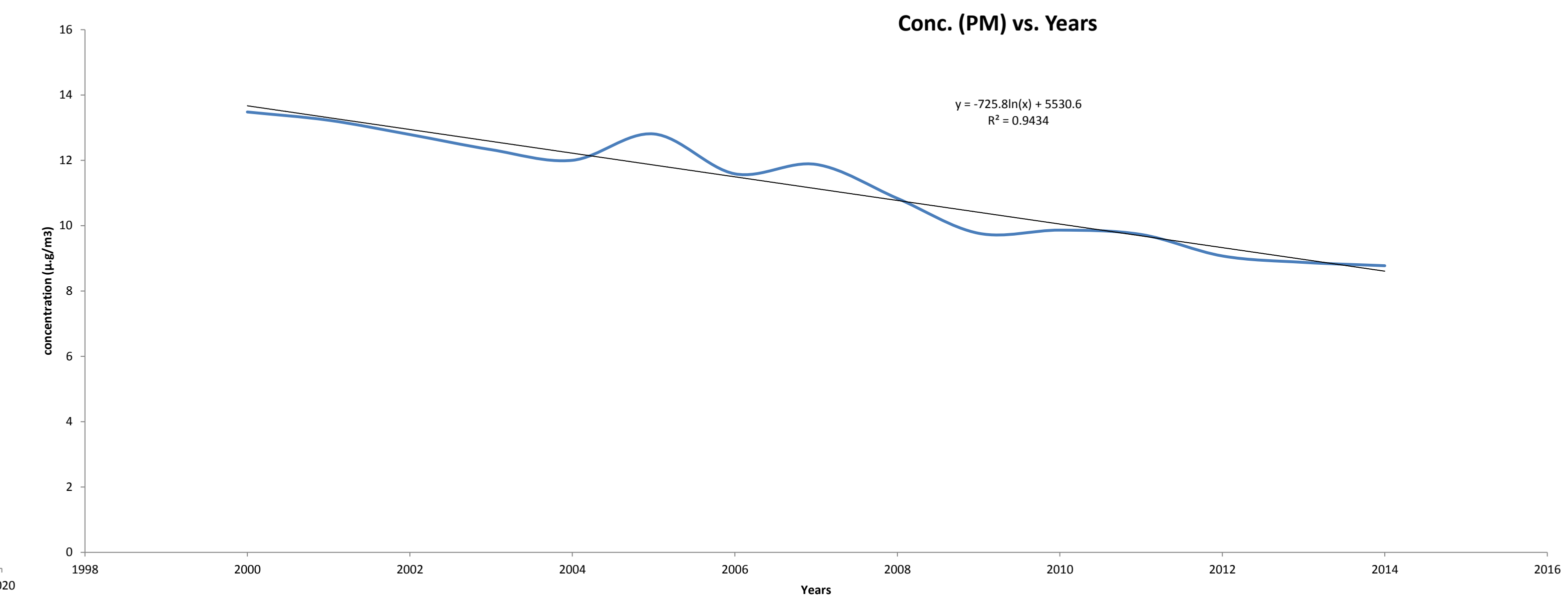
Air Quality Index Chart:

Air Quality Index (AQI) Values	Levels of Health Concern	Colors
<i>When the AQI is in this range:</i>	<i>...air quality conditions are:</i>	<i>...as symbolized by this color:</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

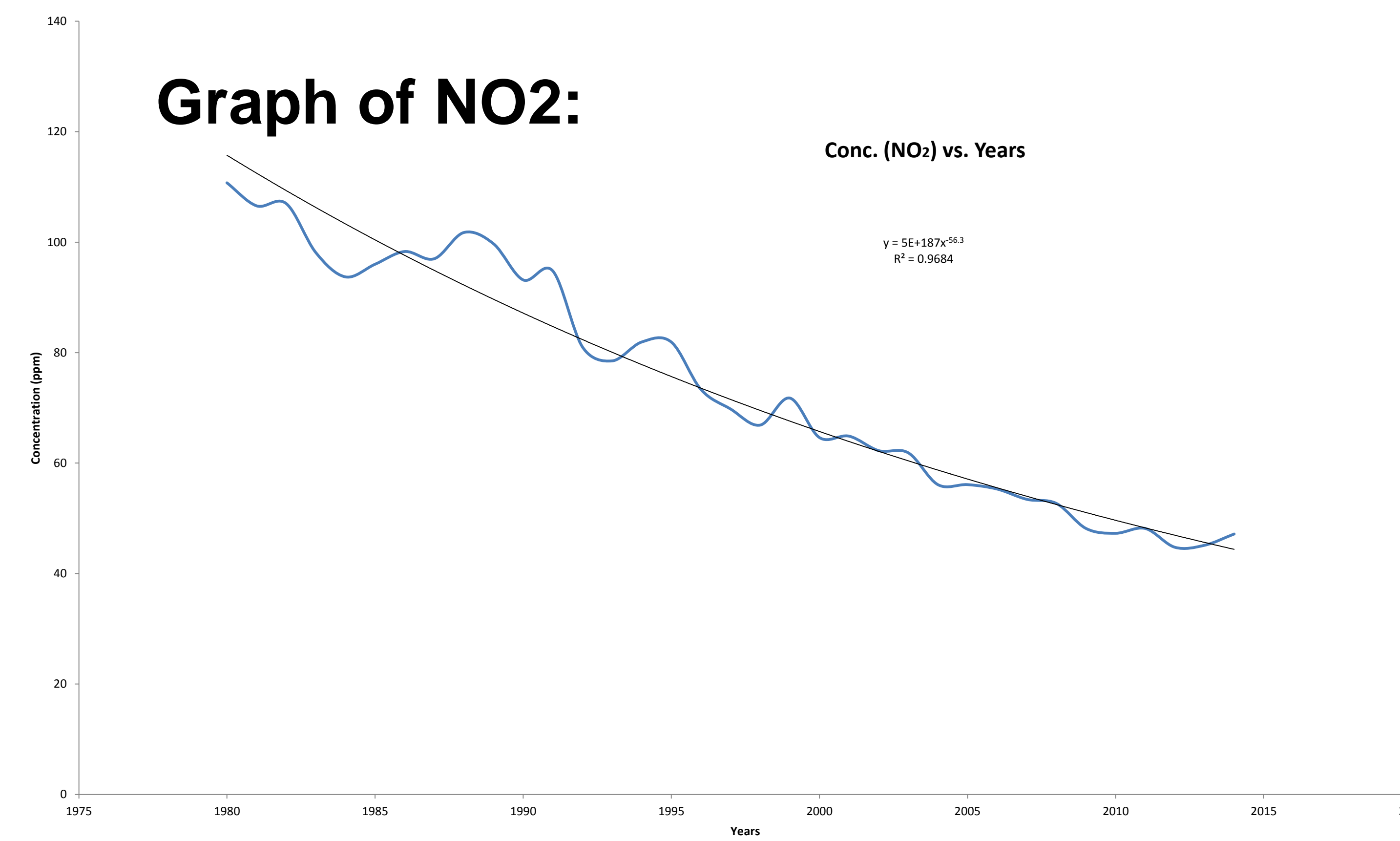
Graph of CO:



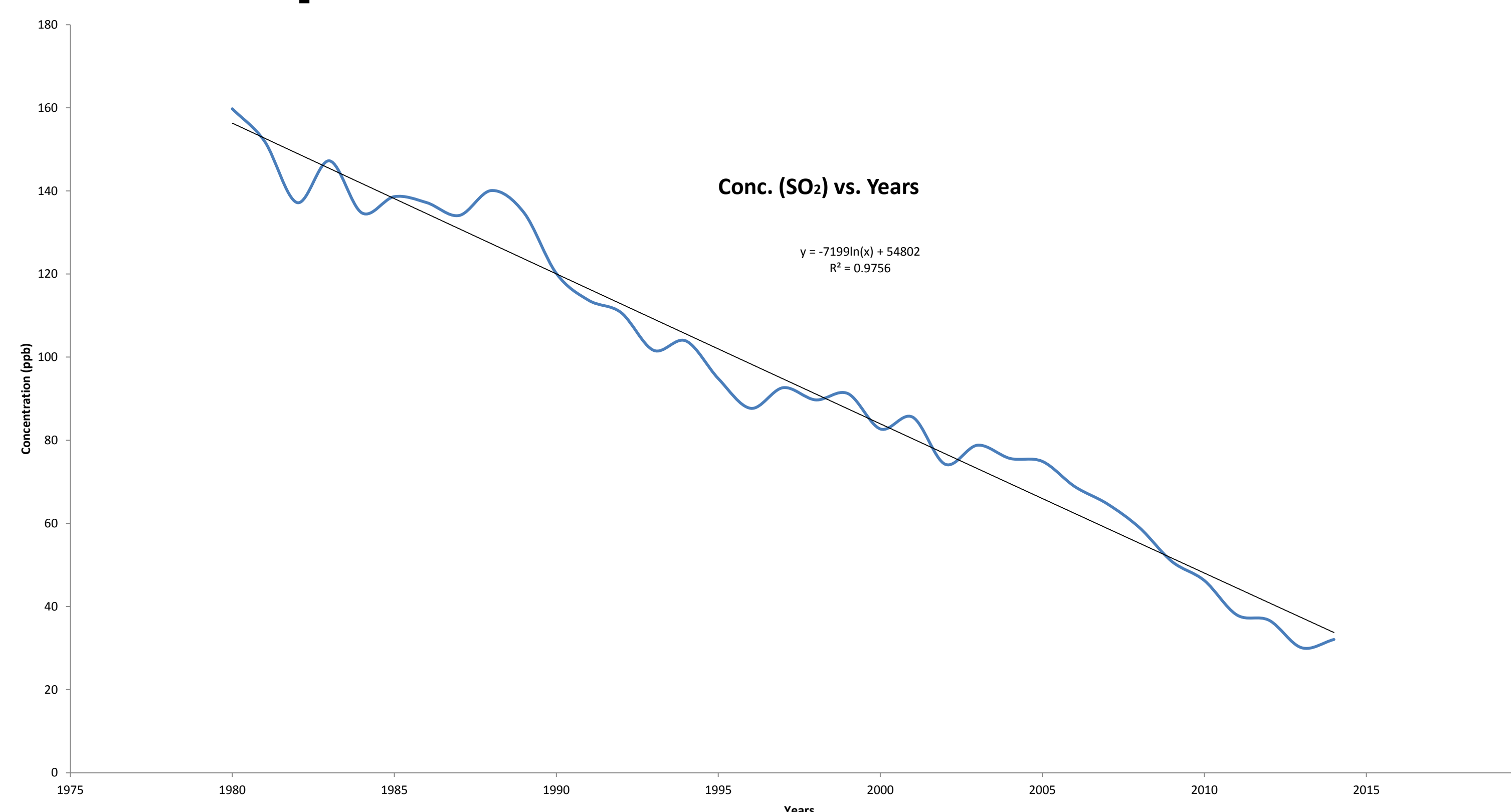
Graph of Particulate Matter:



Graph of NO₂:



Graph of SO₂:



Requirements of Reducing Pollutants as Per EPA Regulations:

- A monitoring program for identifying whether an area is meeting the standards
- Air quality calculations and computer modeling
- Emission inventories describing the sources and categories of emission
- Periodic review and evaluation

Conclusion:

- This work shows the empirical equations generated by plotting curves between concentration versus time (years) in order to predict the approximate (not accurate) values of pollutants for upcoming years
- In spite of control, check and balance must be done in order to keep the emission values in limits as per EPA regulations because until today, some pollutant emission values are slightly higher than the required magnitude