**U.S. Carbon Emissions: A Polynomial Fit**

| **U.S. Carbon (CO2) Emissions - Historical Data** | | |
| --- | --- | --- |
| **Year** | **Kilotons of Co2** | **Metric Tons Per Capita** |
| 2020 | 4,320,532.50 | 13.03 |
| 2019 | 4,817,710.40 | 14.67 |
| 2018 | 4,975,300.40 | 15.22 |
| 2017 | 4,819,365.10 | 14.82 |
| 2016 | 4,894,499.20 | 15.15 |
| 2015 | 4,990,703.70 | 15.56 |
| 2014 | 5,107,208.60 | 16.04 |
| 2013 | 5,092,097.20 | 16.11 |
| 2012 | 4,956,053.00 | 15.79 |
| 2011 | 5,173,591.20 | 16.60 |
| 2010 | 5,392,109.40 | 17.43 |
| 2009 | 5,156,424.90 | 16.81 |
| 2008 | 5,558,378.90 | 18.28 |
| 2007 | 5,736,319.30 | 19.04 |
| 2006 | 5,653,081.00 | 18.95 |
| 2005 | 5,753,493.20 | 19.47 |
| 2004 | 5,738,286.00 | 19.60 |
| 2003 | 5,658,992.00 | 19.51 |
| 2002 | 5,593,024.40 | 19.45 |
| 2001 | 5,748,261.80 | 20.17 |
| 2000 | 5,775,807.20 | 20.47 |
| 1999 | 5,609,017.30 | 20.10 |
| 1998 | 5,590,536.30 | 20.27 |
| 1997 | 5,543,349.40 | 20.33 |
| 1996 | 5,273,486.30 | 19.58 |
| 1995 | 5,117,036.90 | 19.22 |
| 1994 | 5,066,803.00 | 19.26 |
| 1993 | 4,995,209.50 | 19.22 |
| 1992 | 4,879,626.10 | 19.02 |
| 1991 | 4,807,496.50 | 19.00 |
| 1990 | 4,844,517.40 | 19.41 |

Source: <https://www.macrotrends.net/global-metrics/countries/USA/united-states/carbon-co2-emissions>

1. Copy and paste the data into Excel
2. Create a new “Years Since 1990” by subtracting 1990 from the year data.
3. Create a new “Gigatons of CO2” by dividing the emissions data by 1000000.
4. Make a plot of Gigatons of CO2 versus Years Since 1990.
5. Fit the data to a Polynomial of Order 2.
6. Paste the graph below.
7. Fill in the table for the fit parameters and their units.

Paste the plot here.

|  |  |  |
| --- | --- | --- |
|  | Fit parameter | Unit |
| Constant |  |  |
| Linear Coefficient |  |  |
| Quadratic Coefficient |  |  |