



Lesson: Graphics

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Basic Graphics

- ◆ The Homework Questions
 - HoffmanHWQuestGraph.pdf
- ◆ The Sample Code
 - graphSimple.R
 - graphDetailedSimple.R

Lattice and ggplot Graphics

- ◆ The Homework Questions
 - HoffmanHWLatggplot.pdf
- ◆ The Sample Code
 - latticeSimple.R
 - ggplot.R

Data Sets

- ◆ Data Files

- AirQualitySanFraciscoData.csv
- AirQualitySanDiegoData.csv

- ◆ Data Set

- state

Web Site as seen in February 2015

http://www.arb.ca.gov/aqmis2/ozone_annual.php

California Environmental Protection Agency
Air Resources Board

Search ARB
Google Advanced

Home Reducing Air Pollution Air Quality Business Assistance Laws & Regulations Health

Sunday, February 15, 2015

AQMIS

UP LINKS

- Air Quality (AQ) & Emissions
 - Air Quality and Meteorological Information System

PROGRAM LINKS

- Background
- District Responsibilities
- Maps
 - Ozone or PM2.5
 - Google
- Ozone
 - Latest Ozone
 - Latest Week's Ozone
 - Latest Year's Ozone
- Query Tools

Latest Year's (Annual) Ozone Summaries for Selected Regions (PST)

Data on this page extracted on February 15, 2015 at 12:37:10

Year 2012, 2013 and 2014 are whole years
Year 2015 data are through 2/15/2015
[Click Here](#) to view data for all years through yesterday

Note: The AQMIS Ozone pages reflect the 2008 National 8-Hour Ozone Standard of 0.075 ppm.

Region	Year	Exceedance Days**			Maximum Concentration (ppm)		National Design value (ppm) 8-hour****
		1-hr	8-hr	National 8-hr	1-hour	8-hour***	
Sacramento Metropolitan Area*****	2012	21	82	49	0.125	0.106	0.095
	2013	6	30	16	0.117	0.087	0.090
	2014*	11	54	29	0.107	0.090	N/A
	2015*	0	0	0	0.054	0.044	N/A
San Diego Air Basin	2012	2	25	10	0.101	0.083	0.081
	2013	2	28	7	0.095	0.082	0.080
	2014*	3	36	12	0.100	0.087	N/A
	2015*	0	0	0	0.081	0.064	N/A
San Francisco Bay Area Air Basin	2012	3	8	4	0.102	0.090	0.073
	2013	3	3	3	0.096	0.079	0.071
	2014*	3	10	5	0.097	0.080	N/A
	2015*	0	0	0	0.044	0.041	N/A

San Diego Air Basin ending in 2015 Parts Per Million (ppm)

www.arb.ca.gov/aqmis2/display.php?year=2015&report=AREAMYR&o3pa8=SD¶m=OZONE&type=aqd

Multiyear Ozone for San Diego Air Basin ending in 2015 Parts Per Million (ppm)					
Year	Exceedance Days			Maximum Concentration	
	State		National		
	1-hr	8-hr	8-hr	1-hr	8-hr
<u>2015*</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.081</u>	<u>0.065</u>
<u>2014*</u>	<u>3</u>	<u>36</u>	<u>12</u>	<u>0.100</u>	<u>0.088</u>
2013	2	28	7	0.095	0.083
2012	2	25	10	0.101	0.084
2011	5	33	10	0.114	0.093
2010	7	21	14	0.107	0.088
2009	8	47	24	0.119	0.098
2008	18	69	35	0.139	0.110
2007	21	50	27	0.134	0.092
2006	23	68	38	0.121	0.100
2005	16	51	24	0.113	0.090
2004	12	43	23	0.129	0.096
2003	24	59	38	0.125	0.104
2002	15	56	31	0.121	0.100

San Francisco Air Basin Parts Per Million (ppm)

00001.jp... Sign in to... CARS - Cente... Are You ... 14 Google C... Inbox (27... Google C... CRAN - P... International ... Stanfor ... UCI Machine ... MRG... x MRGDAR... Search

www.arb.ca.gov/aqmis2/display.php?year=2015&report=AREAMYR&o3pa8=SF¶m=OZONE&ptype=aqd

Most Visited Getting Started Google Scholar Inbox (25,484) - hoffm... Welcome to More.Star...

Data after 2013 may be preliminary
AQMIS data are in PST

Multiyear Ozone for San Francisco Bay Area Air Basin ending in 2015 Parts Per Million (ppm)					
Year	Exceedance Days			Maximum Concentration	
	State		National		
	1-hr	8-hr	8-hr	1-hr	8-hr
<u>2015*</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.044</u>	<u>0.042</u>
<u>2014*</u>	<u>3</u>	<u>10</u>	<u>5</u>	<u>0.097</u>	<u>0.081</u>
2013	3	3	3	0.096	0.080
2012	3	8	4	0.102	0.090
2011	5	10	4	0.115	0.085
2010	8	11	9	0.150	0.098
2009	11	13	8	0.113	0.095
2008	9	20	12	0.141	0.111
2007	4	9	2	0.120	0.091
2006	18	22	17	0.127	0.106
2005	9	9	5	0.120	0.090
2004	7	13	7	0.113	0.085

Screenshot Added
Screenshot was added to your Dropbox.

9:13 AM
2/16/2015

States Data Set

- ◆ states {datasets}
 - state.abb
 - state.area
 - state.center
 - state.division
 - state.name
 - state.region
 - state.x77
- ◆ U.S. Department of Commerce, Bureau of the Census (1977) *Statistical Abstract of the United States*.
- ◆ U.S. Department of Commerce, Bureau of the Census (1977) *County and City Data Book*.

state.x77

matrix with 50 rows and 8 columns giving the following statistics in the respective columns.

- ◆ Population:

- population estimate as of July 1, 1975

- ◆ Income:

- Per capita income (1974)

- ◆ Illiteracy:

- illiteracy (1970, percent of population)

state.x77

- ◆ Life Exp:
 - life expectancy in years (1969–71)
- ◆ Murder:
 - murder and non-negligent manslaughter rate per 100,000 population (1976)
- ◆ HS Grad:
 - percent high-school graduates (1970)
- ◆ Frost:
 - mean number of days with minimum temperature below freezing (1931–1960) in capital or large city
- ◆ Area:
 - land area in square miles