Music 220A: HW4 (Sonification) datasets description

These following datasets are available for download at http://www.stat.pitt.edu/stoffer/tsa2/ under "Data Files".
Please cite the textbook if you decide to use one of the datasets:
Shumway, Robert H., and David S. Stoffer. Time Series Analysis and Its Applications: With R Examples. Second Edition. New York: Springer, 2006.

CHAPTER 1
eq5exp6.dat - [p. 10-11] Seismic recordings of an earthquake versus an explosion. 4096 data points: The first 2048 are for an earthquake and the next 2048 are for an explosion. Within each group, the amplitude ratio of the first 1024 samples to the second 1024 should be smaller for earthquakes than for explosions.
fmri.dat - [p. 9] fMRI data recorded from various locations in the brain, sampled every 2 seconds for 256 seconds. 128x9 matrix: First column is time; 2nd-8th columns are BOLD signal at various locations.
globtemp.dat - [p.5] Yearly average global temperature deviations in degrees centigrade, from 1856-1997. 142 data points
jj.dat - [p.4] Quarterly earnings per share for the U.S. company Johnson & Johnson. 84 data points.
nyse.dat - [p. 7] Daily value weighted market returns of the New York Stock Exchange. 2000 data points in a 400x5 matrix (need to concatenate the columns).
recruit.dat - [p. 8] Monthly number of new fish. 453 data points. Related to soi.dat
soi.dat - [p. 8] Southern Oscillation Index (SOI), measuring monthly changes in air pressure, related to central Pacific sea surface temperatures. 453 data points. Related to recruit.dat
soiltemp.dat - [p. 36] Soil temperature measurements taken from a 64x36 grid on an agricultural field. 2304 data points; data is in single columns so needs to be reshaped (probably columnwise).
speech.dat - [p. 6] Speech recording of the syllable *aaa...hhh* sampled at 10,000 points per second. 1020 data points.

CHAPTER 2
cmort.dat - [p. 55] Cardiovascular Mortality column from LApollution.dat. 508 data points.
gas.dat - [p. 82] Monthly wholesale U.S. gas prices from July 1973 to December 1987. 180 data points. Can use with oil.dat
oil.dat - [p. 82] Monthly wholesale U.S. oil prices from July 1973 to December 1987. 180 data points. Can use with gas.dat
part.dat - [p. 55] Particulates column from LApollution.dat. 508 data points.
temp.dat - [p. 55] Temperature column from LApollution.dat. 508 data points.
varve.dat - [p. 63] Yearly glacial varve (sedimentary deposit) thickness from Massachusetts, beginning ~11,834 years ago. 634 data points.
LApollution.dat - [p. 54] Pollutant and mortality data. Appears to be a 508x11 matrix with comments at the top. Columns are: (1) Total Mortality; (2) Respiratory Mortality; (3) Cardiovascular Mortality; (4) Temperature; (5) Relative Humidity; (6) Carbon Monoxide; (7) Sulfur Dioxide; (8) Nitrogen Dioxide; (9) Hydrocarbons; (10) Ozone; (11) Particulates.

CHAPTER 3

ar1boot.dat - [p. 140] Autoregressive bootstrap data. 100 data points.

birth.dat - [p. 172] U.S. Live Birth Series. 373 data points.

globtemp2.dat - [p. 171] Annual global temperature deviationsi from 1880-2004. 125x3 matrix: First column is year number, second column is annual mean, third column is 5-year mean. Comments at top of file.

gnp96.dat - [p. 147] U.S. quarterly GNP. 223x2 matrix: First column is the quarter, second is the GNP.

prod.dat - [p.160] Monthly Federal Reserve Board Production Index, 1948-1978. 372 data points. Can use with unemp.dat

so2.dat - [p. 172] Sulfur Dioxide column from LApollution.dat (Chapter 2). 508 data points.

unemp.dat - [p. 160] Monthly unemployment, 1948-1978. 372 data points. Can use with prod.dat

CHAPTER 4

salt.dat - [p. 261] Levels of salt concentration known to have occurred for each row of soiltemp.dat (Chapter 1). 128 data points: First 64 are temperature series, second 64 are levels of salt concentration.

sunspots.dat - [p. 261] Smoothed 12-month sunspot numbers from 1700-1987. 288x2 matrix: First column is year number, second column is number of sunspots.

CHAPTER 5

flu.dat - [p. 289] Monthly pneumonia and influenza deaths per 10,000 for 11 years, 1968-1978. 132 data points.

fracdiff.dat - [p. 320] 1000 simulated observations from a fractionally differenced ARIMA (1,1,0) model. 200x5 matrix that needs to be reshaped by column.

lead.dat - [p. 321] Leading indicator. 150 data points. Can use with sales.dat

prob513.dat - [p. 323] Five quarterly economic series from 1948-III to 1988-II. 161x5 matrix. Columns are (1) Unemployment; (2) GNP; (3) Consumption; (4) Government Investment; and (5) Private Investment.

sales.dat - [p. 321] Monthly sales data. 150 data points. Can use with lead.dat

sdyr.dat - [p. 320] Monthly returns of a stock dividend yield from January 1947 to May 1993. Taken from Hamilton and Lin 1996. 558x2 matrix: First column is year, second column is return.