Using Geospatial Technologies to study Geology

2D GIS

1. Can use ArcMap with hotlinks to pictures you have.

2. ArcMap with internet connection to shaded relief maps:
      A. State geologic maps as shapefiles
NY (as e00 files): http://www.nysm.nysed.gov/gis/#state
NJ (be sure to check metadata because no .prj file with this
    file): http://www.state.nj.us/dep/njgs/geodata/
WV: http://wvgis.wvu.edu/data/dataset.php?action=search&ID=43
VA: purchase Publication 174.
PA: from CD, or (as e00 or shapefiles) at
    http://www.dcnr.state.pa.us/topogeo/map1/bedmap.aspx
MD: MD Geo-Ed CD from <mschmidt@umbc.edu>.
All states from USGS - as shapefiles or .kmz files at <http://tin.er.usgs.gov/geology/state/>

      B. National Elevation Dataset (NED) from USGS ArcIMS server at
<http://seamless.usgs.gov>. Or use ArcGIS Online directly from ArcMAP File menu to get topography.

3. Can also use free software do this: ArcExplorer Java Edition for Education (AEJEE) from
<http://www.esri.com/software/arcexplorer/download-education.html>, but AEJEE won't work with Windows 7.
Or use MapWindow GIS from <http://www.mapwindow.org/>.

3D Virtual Earth

4. ArcGIS Explorer - can directly overlay a shapefile.
Download at <http://www.esri.com/software/arcgis/explorer/index.html>.

5. Google Earth

A. Google Earth will overlay geologic map if it's a .kmz file. Geology .kmz's from
<http://tin.er.usgs.gov/geology/state/>

B. Moving lat-long tables into GE
(1) Make table and save as .dbf; then read in with DNR Garmin downloadable from
<http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html>.
or GPS Utility: <http://www.gpsu.co.uk/>.
(2) Make table (text file OK) - read in with EarthPlot, from EarthPlot & EarthPaint:
<http://www.earthplotsoftware.com/>.

C. GE placemarks - with picture or picture separate

Some commands for inserting picture into GE placemark -

<CENTER>   [centers the contents of the placemark]
<IMG SRC="Pathname to photo">   [adds a photo - the pathname could also be a complete URL for a photo online]

    [inserts a line break]
Any text you type in with no < > or quotes will simply appear as text in the placemark window.
To alter the size of an image, add to above with:
<IMG SRC="Pathname" WIDTH="width in pixels" HEIGHT="height in pixels"> [you can also just give the width or height and the other one will be scaled.]

D. A source of geologic Google Earth placemarks and information: Download "Geotours.kmz" from <http://www.wwnorton.com/earth/>, which is a website to accompany the textbook Earth: Portrait of a Planet by Stephen Marshak.