AGI’s GeoWebinar Series

Salary Trends and Employment Projections for Geoscience Careers

Monday, October 3, 2011
1:00 pm – 1:30 pm (EDT)

http://www.agiweb.org/workforce/webinars.html
Salary Trends for Geoscience-related Occupations

Mean Annual Salaries of Geoscience Professions (1999-2010)

- Engineering Managers
- Petroleum Engineers
- Natural Science Managers
- Environmental Engineers
- Atmospheric and Space Scientists
- Geoscientists
- Mining and Geological Engineers
- Hydrologists
- Environmental Scientists
- Life, Physical, and Social Science Occupations
- Geographers

Change in Mean Annual Salaries (2009-2010)

Percent Change in Mean Annual Salary (2009-2010)

- Petroleum Engineers: 4.6%
- Mining and Geological Engineers: 4.3%
- Hydrologists: 1.3%
- Atmospheric and Space Scientists: 1.3%
- Environmental Engineers: 1.0%
- Engineering Managers: 0.5%
- Geographers: 0.1%
- Geoscientists: -0.2%
- Environmental Scientists: -0.9%
- Life, Physical, and Social Science Occupations: -1.3%

Salaries adjusted for inflation and normalized to 2010 US dollars.
Change in Mean Annual Salaries (2001-2010)

Percent Change in Mean Annual Salary (2001-2010)

Salaries adjusted for inflation and normalized to 2010 US dollars.
2010 Salaries by Industry
Geoscience-related Occupations

Mean Annual Salaries for
Aggregated Geoscience-related Occupations by Industry
(2010)

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Engineering Managers

<table>
<thead>
<tr>
<th>Industry</th>
<th>Mean Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Government</td>
<td>$88,280</td>
</tr>
<tr>
<td>Junior Colleges</td>
<td>$92,260</td>
</tr>
<tr>
<td>Health Care</td>
<td>$102,640</td>
</tr>
<tr>
<td>K-12 Schools</td>
<td>$103,750</td>
</tr>
<tr>
<td>Local Government</td>
<td>$107,690</td>
</tr>
<tr>
<td>Real Estate</td>
<td>$109,150</td>
</tr>
<tr>
<td>Metal Ore Mining</td>
<td>$111,470</td>
</tr>
<tr>
<td>All Mining</td>
<td>$113,250</td>
</tr>
<tr>
<td>Non-metallic Mineral Mining</td>
<td>$113,470</td>
</tr>
<tr>
<td>Construction</td>
<td>$113,490</td>
</tr>
<tr>
<td>Coal Mining</td>
<td>$114,580</td>
</tr>
<tr>
<td>Utilities</td>
<td>$118,710</td>
</tr>
<tr>
<td>Non-Profits</td>
<td>$120,870</td>
</tr>
<tr>
<td>College &amp; Universities</td>
<td>$121,130</td>
</tr>
<tr>
<td>Waste Management</td>
<td>$125,320</td>
</tr>
<tr>
<td>Mgmt, Sci., Tech. Consulting</td>
<td>$127,700</td>
</tr>
<tr>
<td>Architect. &amp; Eng. Svcs.</td>
<td>$127,900</td>
</tr>
<tr>
<td>Federal Government</td>
<td>$130,100</td>
</tr>
<tr>
<td>Information</td>
<td>$130,310</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$134,000</td>
</tr>
<tr>
<td>Support Activities for Mining</td>
<td>$134,400</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>$141,210</td>
</tr>
<tr>
<td>Scientific R&amp;D Svcs.</td>
<td>$146,560</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>$148,620</td>
</tr>
</tbody>
</table>

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Petroleum Engineers

- State Government: $79,200
- Federal Government: $92,550
- Wholesale Trade: $106,210
- Support Activities for Mining: $106,410
- Utilities: $110,270
- Architect. & Eng. Svcs.: $119,850
- Scientific R&D Svcs.: $131,230
- Oil and Gas: $138,130
- Finance and Insurance: $179,610

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Mining and Geological Engineers

<table>
<thead>
<tr>
<th>Industry</th>
<th>Mean Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonmetallic Mineral Mining</td>
<td>$76,090</td>
</tr>
<tr>
<td>Coal Mining</td>
<td>$80,060</td>
</tr>
<tr>
<td>All Mining</td>
<td>$80,930</td>
</tr>
<tr>
<td>Utilities</td>
<td>$83,600</td>
</tr>
<tr>
<td>Metal Ore Mining</td>
<td>$83,650</td>
</tr>
<tr>
<td>Mgmt, Sci., Tech. Consulting</td>
<td>$84,170</td>
</tr>
<tr>
<td>Support Activities for Mining</td>
<td>$85,150</td>
</tr>
<tr>
<td>Architect. &amp; Eng. Svcs.</td>
<td>$86,030</td>
</tr>
<tr>
<td>State Government</td>
<td>$87,420</td>
</tr>
<tr>
<td>Federal Government</td>
<td>$88,220</td>
</tr>
<tr>
<td>Oil and Gas Extraction</td>
<td>$116,280</td>
</tr>
</tbody>
</table>

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Environmental Engineers

<table>
<thead>
<tr>
<th>Industry</th>
<th>Mean Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>$59,570</td>
</tr>
<tr>
<td>State Government</td>
<td>$69,260</td>
</tr>
<tr>
<td>Support Activities for Mining</td>
<td>$71,400</td>
</tr>
<tr>
<td>Construction</td>
<td>$72,170</td>
</tr>
<tr>
<td>Local Government</td>
<td>$76,310</td>
</tr>
<tr>
<td>Health Care</td>
<td>$76,390</td>
</tr>
<tr>
<td>Non-Profits</td>
<td>$76,650</td>
</tr>
<tr>
<td>Colleges &amp; Universities</td>
<td>$77,990</td>
</tr>
<tr>
<td>Nonmetallic Minerals Mining</td>
<td>$79,080</td>
</tr>
<tr>
<td>Metal Ore Mining</td>
<td>$79,390</td>
</tr>
<tr>
<td>All Mining</td>
<td>$80,610</td>
</tr>
<tr>
<td>Mgmt, Sci., Tech. Consulting</td>
<td>$82,620</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>$82,650</td>
</tr>
<tr>
<td>Waste Management</td>
<td>$82,900</td>
</tr>
<tr>
<td>Coal Mining</td>
<td>$85,340</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$85,580</td>
</tr>
<tr>
<td>Utilities</td>
<td>$85,800</td>
</tr>
<tr>
<td>Architect. &amp; Eng. Svcs.</td>
<td>$86,310</td>
</tr>
<tr>
<td>Scientific R&amp;D Svcs.</td>
<td>$90,060</td>
</tr>
<tr>
<td>Federal Government</td>
<td>$97,080</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>$123,320</td>
</tr>
</tbody>
</table>

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Atmospheric and Space Scientists

- Information: $81,470
- State Government: $83,950
- Colleges & Universities: $87,450
- Scientific R&D Svcs.: $90,490
- Federal Government: $95,760
- Architect. & Eng. Svcs.: $99,850

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry Geoscientists

- State Government: $62,880
- Waste Management: $71,290
- Mgmt, Sci., Tech. Consulting: $73,990
- Colleges & Universities: $76,750
- All Mining: $78,910
- Metal Ore Mining: $79,400
- Local Government: $80,380
- Architect. & Eng. Svcs.: $80,460
- Utilities: $85,350
- Wholesale Trade: $87,850
- Scientific R&D Svcs.: $92,390
- Federal Government: $95,580
- Support Activities for Mining: $106,380
- Information: $108,650
- Finance and Insurance: $119,690
- Oil and Gas: $132,210

Mean Annual Salary

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry

Hydrologists

- State Government: $66,320
- Scientific R&D Svcs.: $70,570
- Local Government: $71,720
- Colleges & Universities: $74,730
- Architect. & Eng. Svcs.: $81,760
- Mgmt, Sci., Tech. Consulting: $82,300
- Federal Government: $82,900

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry
Environmental Scientists

- Colleges & Universities: $56,030
- State Government: $56,940
- K-12 Schools: $57,290
- Local Government: $61,290
- Waste Management: $64,710
- Non-Profits: $65,990
- Architect. & Eng. Svcs.: $66,390
- Support Activities for Mining: $68,550
- Construction: $70,360
- Mgmt, Sci., Tech. Consulting: $71,450
- Wholesale Trade: $74,030
- Health Care: $76,440
- All Mining: $76,720
- Scientific R&D Svcs.: $80,460
- Utilities: $81,460
- Metal Ore Mining: $83,950
- Oil and Gas: $87,520
- Federal Government: $95,680

Mean Annual Salary

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
2010 Mean Annual Salaries by Industry Geographers

- Colleges & Universities: $53,780
- Mgmt, Sci., Tech. Consulting: $61,650
- State Government: $62,830
- Architect. & Eng. Svcs.: $72,990
- Federal Government: $76,770
- Scientific R&D Svcs.: $84,360

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
Comparison of Science Salaries (1999-2010)

Mean Annual Salaries for Science Occupations (1999-2010)

Change in Science Salaries (2009-2010)

Percent Change in Mean Annual Salary (2009-2010)

- Physicists: 3.6%
- Chemists: -1.3%
- Biologist / Life Scientists: -1.0%
- Geoscience-related Occupations: -1.3%
- Environmental Scientists: -5.8%
- Petroleum Engineers: 4.6%

Change in Science Salaries (2001-2010)

Percent Change in Mean Annual Salary (2001-2010)

- Petroleum Engineers: 27.2%
- Biochemists: 14.1%
- Biophysicists: 16.5%
- Environmental Engineers: 7.9%
- Foresters: -3.7%

Geoscience Employment Trends (1999-2010)

Employment Trends for Geoscience-related Occupations (1999-2010)

- Environmental Scientists
- Environmental Engineers
- Geoscientists
- Petroleum Engineers
- Geoscience Engineering Managers
- Atmospheric and Space Scientists
- Hydrologists
- Mining and Geological Engineers
- Geoscience Natural Managers
- Geographers

Geoscience Employment Change (2009-2010)

Percent Change in Employment (2009-2010)

- All Occupations: -3%
- All Scientists: -19%
- All Engineers: -15%
- Geoscience-related Occupations: 3%
- Geoscience Engineering Managers: 8%
- Environmental Managers: 15%
- Mining and Geological Engineers: 10%
- Petroleum and Space Engineers: 4%
- Atmospheric and Soils Scientists: 10%
- Geoscientists: 11%
- Hydrologists: 11%
- Geographers: 11%

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
Geoscience Employment Change (2001-2010)

Source: AGI Geoscience Workforce Program. Data derived from U.S. BLS, Occupational Employment Statistics
## Employment Change In Science Occupations over the Past Decade

<table>
<thead>
<tr>
<th></th>
<th>Numeric Change</th>
<th>Percentage Change</th>
<th>Numeric Change</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009-2010</td>
<td>2009-2010</td>
<td>2001-2010</td>
<td>2001-2010</td>
</tr>
<tr>
<td>All Occupations</td>
<td>-3,550,450</td>
<td>-3%</td>
<td>-883,250</td>
<td>-1%</td>
</tr>
<tr>
<td>All Scientists</td>
<td>-243,870</td>
<td>-19%</td>
<td>-3,220</td>
<td>-0.3%</td>
</tr>
<tr>
<td>All Engineers</td>
<td>-27,680</td>
<td>-2%</td>
<td>269,380</td>
<td>23%</td>
</tr>
<tr>
<td>All Geoscience-related Occupations</td>
<td>788</td>
<td>0.3%</td>
<td>52,377</td>
<td>29%</td>
</tr>
<tr>
<td>All Biological / Life Scientists</td>
<td>-5,480</td>
<td>-2%</td>
<td>119,570</td>
<td>91%</td>
</tr>
<tr>
<td>Physicists</td>
<td>3,230</td>
<td>24%</td>
<td>5,980</td>
<td>55%</td>
</tr>
<tr>
<td>Chemists</td>
<td>270</td>
<td>0.3%</td>
<td>-4,690</td>
<td>-6%</td>
</tr>
</tbody>
</table>

### Geoscience-related Occupations

<table>
<thead>
<tr>
<th></th>
<th>Numeric Change</th>
<th>Percentage Change</th>
<th>Numeric Change</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Managers (Geoscience)</td>
<td>1,129</td>
<td>8%</td>
<td>-580</td>
<td>-4%</td>
</tr>
<tr>
<td>Natural Science Managers (Geoscience)</td>
<td>499</td>
<td>15%</td>
<td>837</td>
<td>27%</td>
</tr>
<tr>
<td>Environmental Engineers</td>
<td>-810</td>
<td>-2%</td>
<td>1,100</td>
<td>2%</td>
</tr>
<tr>
<td>Mining and Geological Engineers</td>
<td>-40</td>
<td>-1%</td>
<td>180</td>
<td>3%</td>
</tr>
<tr>
<td>Petroleum Engineers</td>
<td>2,670</td>
<td>10%</td>
<td>16,790</td>
<td>147%</td>
</tr>
<tr>
<td>Atmospheric and Space Scientists</td>
<td>320</td>
<td>4%</td>
<td>1,870</td>
<td>28%</td>
</tr>
<tr>
<td>Environmental Scientists</td>
<td>-1,840</td>
<td>-2%</td>
<td>24,260</td>
<td>42%</td>
</tr>
<tr>
<td>Geoscientists</td>
<td>-1,030</td>
<td>-3%</td>
<td>7,800</td>
<td>34%</td>
</tr>
<tr>
<td>Hydrologists</td>
<td>-240</td>
<td>-3%</td>
<td>-430</td>
<td>-6%</td>
</tr>
<tr>
<td>Geographers</td>
<td>130</td>
<td>11%</td>
<td>550</td>
<td>73%</td>
</tr>
</tbody>
</table>
Employment Projections for Geoscience-related Occupations


Data derived from U.S. Bureau of Labor Statistics, Employment Projections
Employment Projections for Geoscience-related Occupations

Employment Projections for All Industry Sectors for Geoscience-related Occupations (2008-2018)

Percent Change in Number of Jobs

- Environmental Engineers: 31%
- Environmental Scientists: 28%
- Geographers: 23%
- Geoscience Natural Science Managers: 20%
- Hydrologists: 19%
- Petroleum Engineers: 18%
- Geoscientists: 17%
- Mining and Geological Engineers: 15%
- Atmospheric and Space Scientists: 15%
- Geoscience Engineering Managers: 10%

Data derived from U.S. Bureau of Labor Statistics, Employment Projections
Employment Projections for Science Occupations


- Biologists / Life Scientists: 27%
- Geoscience-related Occupations: 23%
- Physicists: 16%
- Chemists: 2%

Data derived from U.S. Bureau of Labor Statistics, Employment Projections
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