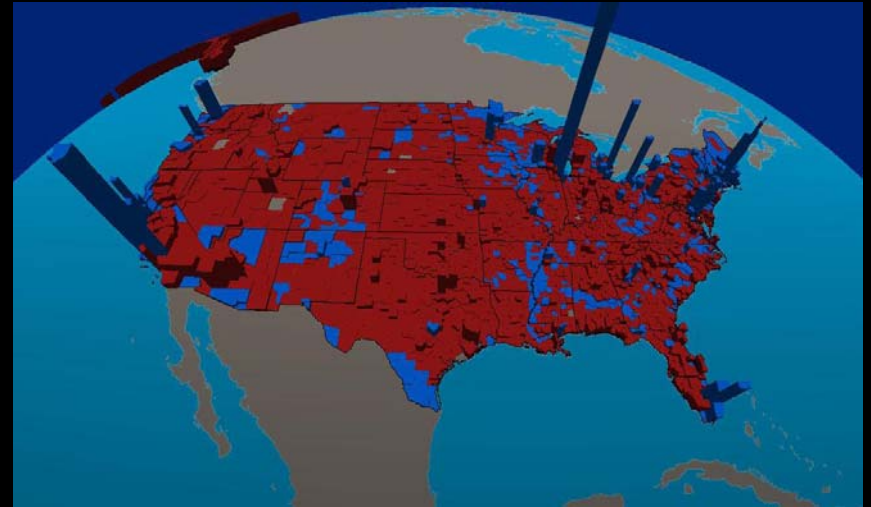*What does this say about the job opportunities using geospatial technology?*

GIS and Other Geospatial Technologies Are Pervasive

- 80% of data are spatial in nature

- New geospatial technologies are emerging every week; access for all users

- Adoption of tools and mindset for decision-making and planning

The Geospatial Job Market is Growing Rapidly

"In a period of nationwide economic downturn, the geospatial industry offers hope. …tens of thousands of trained workers are needed to fill positions that are going begging."

Stover DeRocco, head of the US Labor Department's Employment and Training Administration, 2003

Annual revenue in the US from the spatial information market is currently $2.8 million, and will continue to grow in upcoming years.

$$

14.2% per year compounded annual growth
(IDC, October 2008)

time
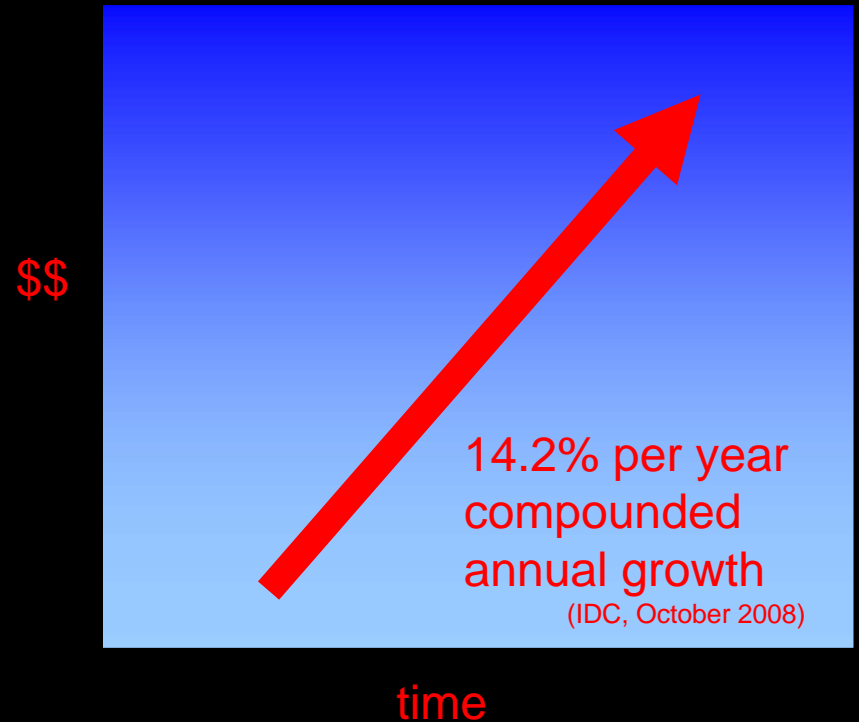
National Salary Trend from Indeed.com

— GIS

Payback in the Job Market

Years of Post-HS Education With GIS Training	Annual Salary
1-2 - Associates Degree	$25K-35K
4 - Bachelors Degree	$35K-50K
5-8 - Masters Degree	$45K-70K
6-10 - Doctoral Degree	$70K+

Average salary in 2006 was $60,000/year according to a poll by the Urban and Regional Information Systems Association (URISA)
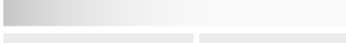
Median Salary by Years Experience
Certification: Certified Geographic Information Systems (GIS)
Professional (GISP)

© PayScale, Inc. @ www.payscale.com

Less than 1 year | 1-4 years | 5-9 years | 10-19 years | 20 years or more
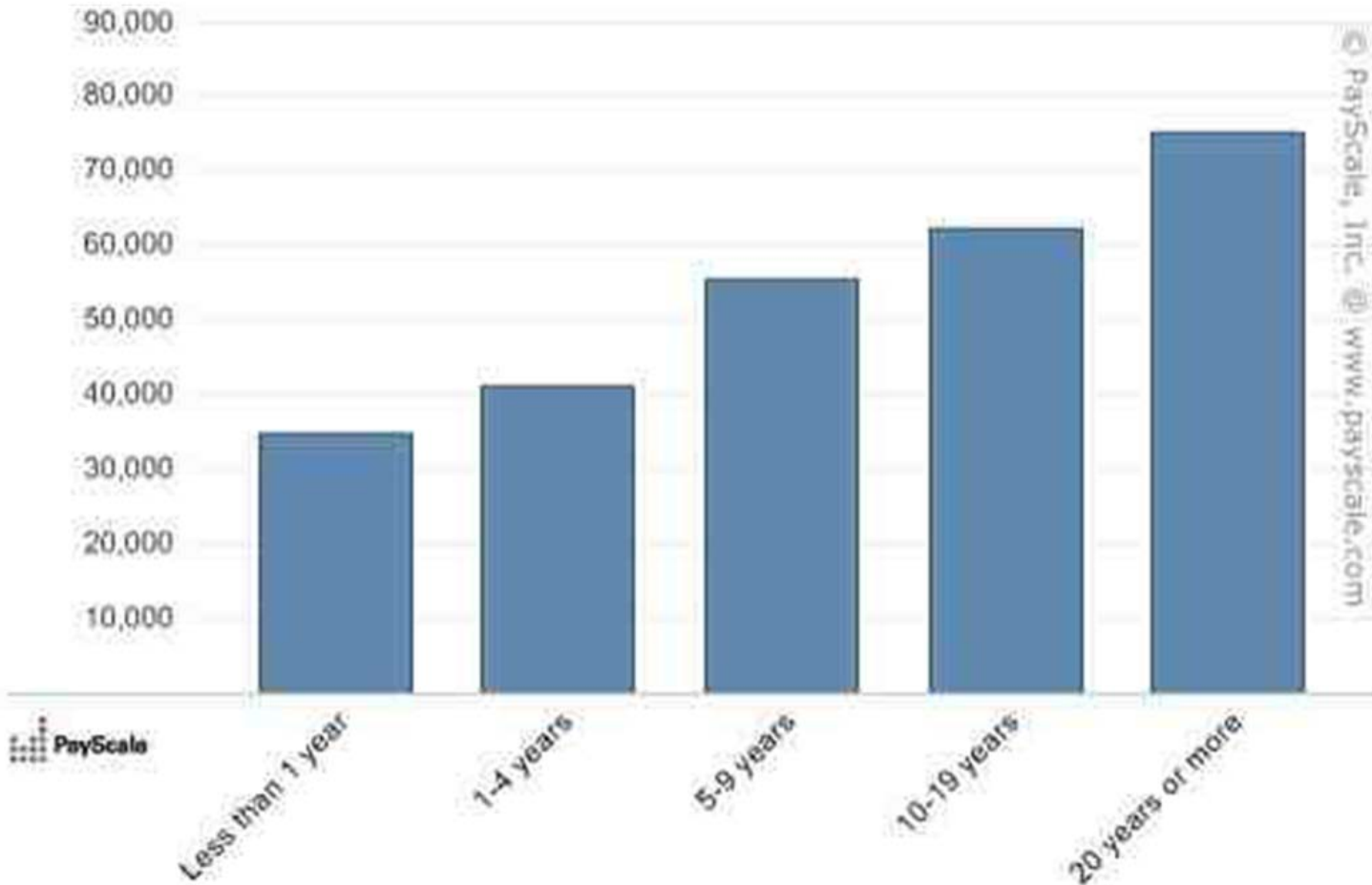
Country: United States | Currency: USD | Updated: 3 Nov 2009 | Individuals Reporting: 252

source:
payscale.com

Average Salary of Jobs with Related Titles

Job Title	Salary
Senior GIS Analyst in New York	$91,000
Data Services Specialist GI in New York	$64,000
Geography GIS Technician in New York	$47,000
Geographic Information Systems Specialist in New York	$78,000
GIS Software Engineer in New York	$107,000
GIS Programmer in New York	$99,000
GIS Manager in New York	$89,000
Geographic Information System Specialist in New York	$76,000
GIS Specialist in New York	$63,000
Lmr Psmr Engineer in New York	$159,000
Nepa Planner in New York	$79,000
GIS Technician in New York	$51,000
GIS Analyst in New York	$68,000
Cartographer in New York	$87,000
Project Environmental Engineer in New York	$79,000

In USD as of Nov 10, 2009   55k   110k   165k

~1 million+ people in the US using GIS… TODAY

- Full-time GIS "geeks"
  - e.g., county government level
- GIS programmers

10%

- Applied users
  - Ecologists, demographers, planners, health care professionals, finance and marketing specialists, tourism, power utilities, communications, public safety, etc.
- Casual users

90%

  - Mapquest, Google Earth, Bing Maps

How many jobs involve GIS?

- Academic Research
- Advertising Management & Sales
- Advertising Analysis
- Aerial Photographic Services
- Aerial Survey Flight Planning
- Aeronautical Charting Services
- Air Quality Analysis & Smog Warning Services
- Airborne Digital Video Imagery Services
- Airborne Hyperspectral Imaging Services
- Airborne Laser Topographic Mapping Systems
- Airborne Lidar Mapping Services
- Airborne Radar Imaging Services
- Aircraft Noise Analysis & Reporting Services
- Airspace & Airport Planning Support
- Animal Feeding Operations (AFO) Siting & Management
- Animal Inventory Management Support
- Animated Walkthrough & Flyby Design Services
- Aquatic Remote Sensing Services
- Archaeological Policies Studies Support
- Archaeological Site Conservation Support
- Archaeological Site Distributions Modeling
- Architectural Visualization Services
- Artificial Neural Network Applications Services

- Augmented Reality Support Services
- Automated Map/Chart Production Services
- Automated Mapping/Facilities Management Automated
- Vehicle Tracking Services
- Avalanche Warning Services
- Aviation Weather Nowcasting & Forecasting
- Bathymetric Charting Services
- Benthic or Deep Sea Ecology Studies
- Biodiversity Gap Analysis
- Biological Community Assessments
- Biological Impacts & Ecological Risk Modeling
- Biomass, Biofuels & Waste Energy Applic. Studies
- Bird's Eye (Axiometic) View Support Services
- Business-Domain Expert (BDE) Consulting
- Cadastral Mapping Services
- CADD Integrated Facilities Design Services
- Cartographic Services
- Change Detection Analysis
- City Guide Support Services
- Climate Analysis/Reporting
- Close Range Photogrammetric Services
- Coastal & Littoral Zone Management
- Coastal Habitats Studies

LOTS!

- Coastal Monitoring Services
- Cogeneration Energy Applications Studies
- Collaborative Spatial Decision Support
- Community Network Support
- Community Outreach & Case Mngmt. Support
- Comparable Sales Analysis
- Competitive Intelligence Support
- Competitor Analysis
- Computer-Aided Dispatch Support
- Consumer Spending Analysis
- Corridor Mapping Services
- Crime Pattern Analysis
- Crop Inventory Management Support
- Crop Scouting Support Services
- Crop/Soil Spatial Analysis
- Cultural & Archaeological Tourism Support
- Cultural Landscape Analysis
- Cultural Preservation Studies
- Cultural Resources Management Support
- Customer Acquisition & Retention Support
- Customer Base Determination Studies
- Customer Buying Trend Analysis
- Customer Information Systems (CIS)
- Customer Profiling Services

- Customer Relationship Management (CRM)
- Customer Service Support
- Data Acquisitions & Systems Maintenance
- Data Collection & Analysis
- Data Conversion Services
- Data Vendor Services
- Datalogging Services
- Delivery/Service Route Planning
- Demand Forecasting Analysis
- Demographic Analysis
- Development Impact Assessments
- DGPS Reference Station Services (Int. Broadcast)
- DGPS Reference Station Services (Wide Area
- Augmentation Systems –WAAS)
- DGPS Reference Station Services (Wireless)
- Digital Airborne Topographic Imaging Systems
- Digital Terrain Modeling (DTM/DEM)
- Diorama & Scale Model Production Services
- Direct Mail Marketing Support
- Disaster Management/Damage Assessment
- Disaster Mitigation Studies
- Disaster Planning/Response Support

…and more

- Distance Education Support
- Document Management Systems Support
- Drive-time Analysis/Modeling
- Drought Measurement & Forecasting Services
- Dust & Hail Storm Warning Services
- Dynamic Event Modeling
- E911 Dispatch Support
- Earthquake & Tsunami Warning Services
- Eco-Tourism Support
- Economic Base Analysis
- Economic Development Studies
- Education Administration Support
- Ekistics Studies
- Election Campaign Management Support
- Electronic Atlas Publishing
- Embedded Spatial Applications (ASIC) Services
- Emergency Response Management Support
- Employee Ridesharing Support
- Engineering Network Analysis
- Enterprise Resource Planning (ERP)
- Enterprise Spatial Application Integration (ESAI)
- Environmental Impact Studies
- Environmental Monitoring & Protection Support
- Environmental Remediation Support
- Environmental Risk Assessment
- Epidemiological Research Support
- Expert Systems Integration Services
- Exploratory Cartographic Visualization Research
- Exploratory Spatial Data Analysis (ESDA)
- Facility & Asset Management
- Facility Mix Analysis
- Facility Model analysis/Planning Support
- Facility Performance Modeling
- Feasibility Studies Support
- Field Automation Support Services
- Financial Analysis Support
- Fire Growth Modeling
- Fire Insurance Risk Analysis
- Fleet & Logistics Management Support
- Flooding & Mudslide Monitoring & Forecasting
- Forest Fire Tracking & Forecasting Services
- Forest Preservation & Harvesting Support
- Freedom of information (FOIA) Initiatives
- Geo-indexed Statistical Reporting Services
- Geo-Targeted Marketing Services
- Geodata Collection & Production Services

…and more

- Geographic Information Systems (GIS) Services
- Geographic Risk Analysis Services
- Geography Education (K-12) Support Services
- Geologic Surveys & Analysis Services
- Geospatial Data Modeling (Entity-Relationship-ER)
- Geospatial Domain Modeling (Unified Modeling Language-
- UML)
- Geospatial Independent Software Vendor
- Geospatial Project Management
- Geospatial Services Marketing Support
- Geospatial Services Pattern Language Initiatives
- Geothermal Energy Applications Studies
- GIS Applications Programming Services
- Global Change Research Studies
- Government (Public Administration) Market Visualization
- Support
- GPS Integration Services
- Ground Control/Truth Services
- Ground Penetrating Sensing Services
- Harbors, Jetties & Piers Planning & Maint Support
- Hardware Sales, Integration & Maint Services
- Hazard Management & Emer.Planning Studies
- Hazardous Materials Management Support

- Health Care Planning & Delivery Support
- Heat Recovery Applications Studies
- Heritage Management & Historic Preserv. Support
- Highway Maintenance Support
- Housing Search Services
- Human Resources Management Support
- Hurricane & Tornado Warning & Alert Services
- Hydro-Electric Power Studies
- Hydrodynamic Modeling
- Hydrographic Survey Services
- Ice Charting Services
- Ice Storm Monitoring & Forecasting Services
- Inertial Survey Services
- Information Architecture Design Support
- Infrastructure Management Support
- Insurance Risk Analysis
- Integrated Forestry Database (IFDB) Management
- Integrated Hydrographic Survey Systems
- Integrated Maritime Surveillance
- Integrated Marketing Segmentation System
- Integrated Pest Management Studies
- Integrated Waste Management (IWM) Systems
- Intelligent Route Planning Services

…and more

- Intelligent Transportation Systems (ITS)
- Intelligent Vehicle Highway Systems (IVHS)
- Interactive Dynamic Event Modeling
- Interactive (3D) Dynamic Event Modeling Services
- Interactive (Plan View) Dynamic Event Modeling
- Interactive Decision Mapping Services
- Internet Geographic White & Yellow Pages
- Internet Map & Information Services
- Internet Multi-player Gaming Support
- Internet Spatial Marketplace Services
- Intranet Map & Information Services
- Isochronic Mapping Services
- Isothermal Contour Mapping Services
- Knowledge Management Services
- Land Information Systems (LIS)
- Land Irrigability Mapping
- Land Ownership Tracking Services
- Land Use Analysis
- Land Valuation/Tax Management Support
- Landscape Design Services
- Lifestyle Clustering Analysis
- Lifestyle Resources Mapping Services
- Lightning Strike Analysis
- Litigation/Forensic Support Services

- Location Based Data Management
- Locational Quotient Analysis
- Location Scouting Services (Film & Video)
- Location Services
- Location-Allocation Modeling
- Location-Based Billing Support Services
- Location-based Mobile Game Support Services
- Locks & Canals Management Support
- m-Commerce Support Services
- Map & Chart Publishing
- Map Accuracy Assessment Studies
- Map Animation Services
- Map Digitizing/Scanning Services
- Marine Buoys Support & Maintenance Support
- Marine Navigation & Pilotage Support
- Marine Remote Sensing Services
- Marine Weather, Wind/Current Nowcasting & Forecasting
- Services
- Market Optimization Analysis
- Market Research & Segmentation Services
- Market Selection Analysis
- Market Survey Analysis

…and more

- Market Visualization Support
- Marketing Automation Support
- Mass Transit Management Support
- Master Community Planning
- Media Planning Support
- Mortgage Lending Pattern Analysis
- Multimedia Map Design Services
- Natural Resource Damage Assessment
- Natural Resource Extraction Support
- Network Modeling
- Nautical Charting Services
- Ocean Dumping Detection Services
- Oil Spill Impact & Risk Assessment Modeling
- Oil Spill Monitoring Services
- Oil Spills Response & Contingency Planning
- Online Spatial Services
- Open Source Initiatives Support
- Open Standards Initiatives Support
- Operations & Maintenance Applications Services
- Orthographic Mapping Services
- Outdoor Advertisement Placement Support
- Panoramic Photographic Services
- Parking Lot Management Support

- Permit Application Management Support
- Personal Navigation Services
- Petroleum Distribution Management Support
- Petroleum Finding/Drilling Support
- Petroleum Price Tracking Research
- Petroleum Well Management Support
- Photogrammetric Services
- Photovoltaics Applications Studies
- Physiographic Mapping Services
- Pipeline information Systems (PIS)
- Planimetric Mapping Services
- Political Boundary Analysis/Redistricting
- Population Studies
- Precision Farming Support
- Prescription Mapping Services
- Private Land Use Planning
- Product Sales & Distribution Analysis
- Productivity/Yield Analysis
- Professional Engineering Services
- Professional Survey Mapping Services
- Promotion Testing Support
- Property Inventory Analysis
- Property Valuation Services

…and more

- Public Event Management Support Services
- Public Transit Operations Management
- Real Estate Acquisitions Support
- Real Estate Appraisal Services
- Real Estate Atlas Publishing
- Real Estate Listings Management
- Real Estate Locator Services
- Real Estate Management Support
- Real Estate Market Modeling
- Real Time Tidal Atlas Services
- Real-time Vehicle Tracking
- Red Tide Mapping Studies
- Regional Planning Analysis
- Regional Transportation Planning
- Regulatory Analysis & Reporting
- Regulatory Compliance Support
- Remote Collaboration Support
- Resource Allocation Analysis
- Response Time Analysis
- Retail Competitive Analysis
- Retail Drive Time Analysis
- Retail Predictive Modeling
- Retail Product Placement Analysis
- Retail Site Selection Support

- Retail Trade Area Analysis
- Risk Management & Analysis
- River Crest Forecasting & Flood Assessment Road Map
- Publishing Services
- Route/Delivery Support
- Rural Studies & Design Services
- Sales Force Automation (SFA) Support
- Sales Ratio Studies
- Sales Territory Analysis
- Satellite Radar Imaging Services
- Satellite Remote Sensing/Image Analysis
- Satellite-based Fisheries monitoring
- Scientific Data Publishing Services
- Seafloor Classification Studies
- Search & Rescue Support
- Sensor Monitoring Support
- Service Provider Trade Area Analysis
- Site Design Services
- Site Evaluation & Modeling
- Site Location Planning
- Site Selection Strategic Support
- Site-Specific Agriculture Support Services

…and more

- Site-Specific Nowcasting & Forecasting Weather
- Social Policy Analysis
- Social Sector Organization Membership Management
- Support
- Social Sector Pro Bono Spatial Services
- Soil Series Mapping Services
- Solar Thermal Applications Studies
- Space Inventory Allocation Support
- Spatial Application Usability Testing Services
- Spatial Applications Content Provider
- Spatial Behavior Data Mining
- Spatial Cognition Research Studies
- Spatial Content Provider Services
- Spatial Data Analysis Services
- Spatial Database Management Services
- Spatial Decision Support Systems (SDSS)
- Spatial Modeling & Simulation
- Store Optimization Analysis
- Strategic Loan Planning Support
- Strategic Planning & Marketing Implementation
- Street & Highway Construction Management
- Target Marketing Services
- Teaching/Training Support

- Technical Writing & Documentation Services
- Tele-Presence Support
- Telecommunication Infrastructure Management
- Thermal Monitoring Studies
- Time Series Mapping Studies
- Title Insurance Support Services
- Toxic Plume Forecasting
- Trade Area Definition/Evaluation
- Traffic Management Support
- Traffic Route & Flow Optimization Analysis
- Transportation Network Modeling
- Transportation Planning & Research
- Traveler Information System Support
- Tree Height and Stand Density Studies
- Trouble/Outage Management Support
- Urban Crisis Management Support
- Urban Studies & Design Services
- Utilities Planning & Research Services
- Vacant Land Studies
- Vegetation Vigor Classification Studies
- Vehicle Tracking Services
- Video Logging Support Services
- Virtual Reality Modeling Services (realistic)

…the list could go on, but you get the point

- Visual Impact & Landform Analysis (Viewshed)
- Volcano Monitoring Services
- Volumetric Modeling Services
- Voyage Risk Assessment Support
- Wastewater/Stormwater Systems Hydraulic Modeling
- Water Distribution Systems Management Support
- Water Quality Assessment Services
- Water Quality/Pollutant Transport Studies
- Wave & Tidal Energy Applications Studies
- Web-based GIS Services
- Wetlands Classification Studies
- Wildfire Ecology Studies
- Wildlife Habitat Suitability Studies
- Wildlife Tracking Studies
- Wind Energy Applications Studies
- Wind Farm Development Support
- Wireless Cell Locations Siting/Modeling
- Wireless Location-Based Services (LBS)
- Work Management Support
- Zoological Research and Analysis

Source: ESRI 2001