

Geospatial Data Quality Survey

Open Geospatial Consortium Data Quality Working Group

Results of survey on geospatial data quality open to both OGC and non-OGC members between October 2007 and March 2008

4. Are you a consumer or supplier of spatial data? Or both?				
			Response Percent	Response Count
Consumer			33.3%	250
Supplier			8.5%	64
Both			58.2%	437
			<i>answered question</i>	751
			<i>skipped question</i>	22

5. Are you a member of the Open Geospatial Consortium (OGC)?				
			Response Percent	Response Count
Yes			16.6%	123
No			83.4%	620
			<i>answered question</i>	743
			<i>skipped question</i>	30

6. What is your job title?

		Response Percent	Response Count
CAD Drafter/Technician		1.9%	14
Database Administrator		1.6%	12
Database Programmer		0.3%	2
Geospatial Analyst		3.0%	22
GIS Administrator		2.7%	20
GIS Analyst		5.7%	42
GIS Coordinator		3.8%	28
GIS Developer		2.4%	18
GIS IT Specialist		3.5%	26
GIS Manager		7.1%	52
GIS Production Manager		1.6%	12
GIS Specialist		6.8%	50
GIS Technician		2.6%	19
IMS Manager		0.4%	3
IT Director		2.2%	16
Mapping Analyst		1.9%	14
Mapping Technologist		1.8%	13
Marketing		0.9%	7
President/CEO/Manager		8.1%	60
Product Engineer		1.9%	14
Sales		0.9%	7
Software Developer		2.7%	20
Surveyor		7.5%	55
Web Programmer		0.4%	3
Other		28.2%	208

	answered question	737
	skipped question	36

7. What country is your company or organization headquartered?			
		Response Percent	Response Count
Afghanistan		0.1%	1
Albania		0.1%	1
Algeria		0.1%	1
American Samoa		0.1%	1
Andorra		0.1%	1
Angola		0.1%	1
Anguilla		0.1%	1
Antarctica		0.0%	0
Antigua and Barbuda		0.0%	0
Argentina	▒	1.2%	9
Armenia		0.1%	1
Aruba		0.0%	0
Ashmore and Cartier Islands		0.0%	0
Australia	▒▒▒	8.0%	58
Austria		0.3%	2
Azerbaijan		0.0%	0
Bahamas, The		0.0%	0
Bahrain		0.0%	0
Baker Island		0.0%	0
Bangladesh		0.0%	0
Barbados		0.0%	0
Bassas da India		0.0%	0
Belarus		0.0%	0

Belgium		0.7%	5
Belize		0.1%	1
Benin		0.0%	0
Bermuda		0.0%	0
Bhutan		0.0%	0
Bolivia		0.1%	1
Bosnia and Herzegovina		0.1%	1
Botswana		0.1%	1
Bouvet Island		0.0%	0
Brazil		1.1%	8
British Indian Ocean Territory		0.0%	0
British Virgin Islands		0.0%	0
Brunei		0.0%	0
Bulgaria		0.1%	1
Burkina Faso		0.0%	0
Burma		0.0%	0
Burundi		0.1%	1
Cambodia		0.0%	0
Cameroon		0.1%	1
Canada		5.8%	42
Cape Verde		0.0%	0
Cayman Islands		0.1%	1
Central African Republic		0.0%	0
Chad		0.0%	0
Chile		0.8%	6
China		0.4%	3
Christmas Island		0.0%	0
Clipperton Island		0.1%	1

Cocos (Keeling) Islands		0.0%	0
Colombia	▯	0.7%	5
Comoros		0.0%	0
Congo, Democratic Republic of the		0.0%	0
Congo, Republic of the	▯	0.1%	1
Cook Islands		0.0%	0
Coral Sea Islands		0.0%	0
Costa Rica	▯	0.1%	1
Cote d'Ivoire		0.0%	0
Croatia	▯	0.7%	5
Cuba	▯	0.3%	2
Cyprus	▯	0.1%	1
Czech Republic	▯	0.7%	5
Denmark	▯	0.8%	6
Djibouti		0.0%	0
Dominica		0.0%	0
Dominican Republic		0.0%	0
East Timor		0.0%	0
Ecuador	▯	0.1%	1
Egypt	▯	0.3%	2
El Salvador		0.0%	0
Equatorial Guinea		0.0%	0
Eritrea		0.0%	0
Estonia	▯	0.1%	1
Ethiopia	▯	0.1%	1
Europa Island		0.0%	0
Falkland Islands (Islas Malvinas)		0.0%	0
Faroe Islands		0.0%	0

Fiji		0.0%	0
Finland		0.7%	5
France		2.9%	21
French Guiana		0.0%	0
French Polynesia		0.0%	0
French Southern and Antarctic Lands		0.0%	0
Gabon		0.0%	0
Gaza Strip		0.0%	0
Georgia		0.0%	0
Germany		2.1%	15
Ghana		0.0%	0
Gibraltar		0.0%	0
Glorioso Islands		0.0%	0
Greece		0.7%	5
Greenland		0.0%	0
Grenada		0.0%	0
Guadeloupe		0.0%	0
Guam		0.0%	0
Guatemala		0.3%	2
Guernsey		0.0%	0
Guinea		0.0%	0
Guinea-Bissau		0.0%	0
Guyana		0.0%	0
Haiti		0.0%	0
Heard Island and McDonald Islands		0.0%	0
Holy See (Vatican City)		0.0%	0
Honduras		0.1%	1

Hong Kong		0.0%	0
Howland Island		0.0%	0
Hungary	█	0.1%	1
Iceland	█	0.1%	1
India	█	1.9%	14
Indian Ocean Islands (French)		0.0%	0
Indonesia	█	0.4%	3
Iran	█	0.4%	3
Iraq	█	0.3%	2
Ireland	█	0.4%	3
Israel	█	0.8%	6
Italy	█	1.9%	14
Jamaica	█	0.1%	1
Jan Mayen		0.0%	0
Japan	█	0.3%	2
Jarvis Island		0.0%	0
Jersey		0.0%	0
Johnston Atoll		0.0%	0
Jordan		0.0%	0
Juan de Nova Island		0.0%	0
Kazakhstan		0.0%	0
Kenya	█	0.1%	1
Kingman Reef		0.0%	0
Kiribati		0.0%	0
Korea, North		0.0%	0
Korea, South	█	0.7%	5
Kuwait		0.0%	0
Kyrgyzstan		0.0%	0

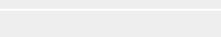
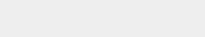
Laos		0.1%	1
Latvia		0.0%	0
Lebanon		0.0%	0
Lesotho		0.0%	0
Liberia		0.0%	0
Libya		0.3%	2
Liechtenstein		0.0%	0
Lithuania		0.1%	1
Luxembourg		0.1%	1
Macau		0.0%	0
Macedonia, The Republic of		0.1%	1
Madagascar		0.0%	0
Malawi		0.0%	0
Malaysia		0.1%	1
Maldives		0.0%	0
Mali		0.0%	0
Malta		0.3%	2
Man, Isle of		0.0%	0
Marshall Islands		0.0%	0
Martinique		0.0%	0
Mauritania		0.0%	0
Mauritius		0.1%	1
Mayotte		0.0%	0
Mexico		0.5%	4
Micronesia, Federated States of		0.0%	0
Midway Islands		0.0%	0
Moldova		0.1%	1
Monaco		0.0%	0

Mongolia		0.0%	0
Montenegro		0.0%	0
Montserrat		0.0%	0
Morocco	🇲🇦	0.1%	1
Mozambique		0.0%	0
Myanmar		0.0%	0
Namibia		0.0%	0
Nauru		0.0%	0
Navassa Island		0.0%	0
Nepal	🇳🇵	0.1%	1
Netherlands	🇳🇱	1.1%	8
Netherlands Antilles		0.0%	0
New Caledonia		0.0%	0
New Zealand	🇳🇿	1.0%	7
Nicaragua	🇳🇮	0.1%	1
Niger		0.0%	0
Nigeria	🇳🇮	0.1%	1
Niue		0.0%	0
Norfolk Island		0.0%	0
Northern Mariana Islands		0.0%	0
Norway	🇳🇴	1.0%	7
Oman	🇴🇲	0.1%	1
Pakistan	🇵🇰	0.8%	6
Palau		0.0%	0
Palmyra Atoll		0.0%	0
Panama	🇵🇦	0.3%	2
Papua New Guinea		0.0%	0
Paracel Islands		0.0%	0

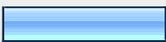
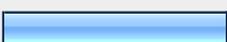
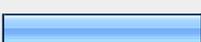
Paraguay		0.0%	0
Peru		0.0%	0
Philippines	▮	0.5%	4
Pitcairn Islands		0.0%	0
Poland	▮	0.7%	5
Portugal	▮	0.5%	4
Puerto Rico	▮	0.1%	1
Qatar	▮	0.1%	1
Reunion		0.0%	0
Romania	▮	1.0%	7
Russia	▮	1.6%	12
Rwanda		0.0%	0
Saint Helena		0.0%	0
Saint Kitts and Nevis		0.0%	0
Saint Lucia		0.0%	0
Saint Pierre and Miquelon		0.0%	0
Saint Vincent and the Grenadines		0.0%	0
Samoa		0.0%	0
San Marino		0.0%	0
Sao Tome and Principe		0.0%	0
Saudi Arabia	▮	1.2%	9
Senegal		0.0%	0
Serbia	▮	0.4%	3
Seychelles		0.0%	0
Sierra Leone		0.0%	0
Singapore	▮	0.1%	1
Slovakia	▮	0.1%	1
Slovenia	▮	0.5%	4

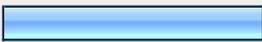
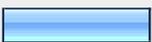
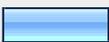
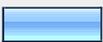
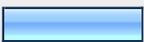
Solomon Islands		0.0%	0
Somalia		0.0%	0
South Africa		1.2%	9
South Georgia and the Islands		0.0%	0
Southern Ocean		0.0%	0
Spain		3.2%	23
Spratly Islands		0.0%	0
Sri Lanka		0.0%	0
Sudan		0.0%	0
Suriname		0.1%	1
Svalbard		0.0%	0
Swaziland		0.0%	0
Sweden		1.6%	12
Switzerland		0.5%	4
Syria		0.1%	1
Taiwan		0.0%	0
Tajikistan		0.0%	0
Tanzania		0.4%	3
Thailand		0.4%	3
The Gambia		0.0%	0
Togo		0.0%	0
Tokelau		0.0%	0
Tonga		0.0%	0
Trinidad and Tobago		0.0%	0
Tromelin Island		0.0%	0
Tunisia		0.3%	2
Turkey		0.7%	5
Turkmenistan		0.0%	0

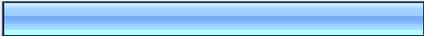
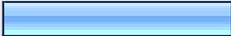
8. Which industry best describes the main line of business of your company or organization?

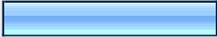
		Response Percent	Response Count
Agriculture, Forestry, Fishing and Hunting		5.4%	39
Mining, Quarrying, and Oil and Gas Extraction		9.7%	70
Utilities		5.4%	39
Construction		2.8%	20
Manufacturing		1.0%	7
Wholesale Trade		0.3%	2
Retail Trade		0.3%	2
Transportation and Warehousing		1.5%	11
Information		8.7%	63
Finance and Insurance		0.0%	0
Real Estate and Rental and Leasing		0.3%	2
Professional, Scientific, and Technical Services		23.5%	170
Management of Companies and Enterprises		0.6%	4
Administrative and Support and Waste Management and Remediation Services		0.6%	4
Educational Services		8.0%	58
Health Care and Social Assistance		0.7%	5
Arts, Entertainment, and Recreation		0.3%	2
Accommodation and Food Services		0.0%	0
Other Services (except Public Administration)		9.3%	67
Public Administration (Government or Military)		21.9%	158

	<i>answered question</i>	723
	<i>skipped question</i>	50

9. How many employees at your company or organization?			Response Percent	Response Count
Less than 20			25.1%	179
21-100			17.7%	126
101-250			10.9%	78
250-2000			24.5%	175
More than 2000			21.7%	155
			<i>answered question</i>	713
			<i>skipped question</i>	60

10. What are the average annual revenues of your company in US Dollars?			Response Percent	Response Count
Less than \$1,000,000			28.5%	194
\$1,000,001 - \$5,000,000			16.0%	109
\$5,000,001 - \$20,000,000			11.5%	78
\$20,000,001 - \$100,000,000			11.6%	79
\$100,000,001 - \$1 Billion			10.4%	71
Greater than \$1 Billion			7.0%	48
Not Applicable			15.0%	102
			<i>answered question</i>	681
			<i>skipped question</i>	92

11. Is your organization currently involved in any spatial data quality projects?			Response Percent	Response Count
Yes, for more than 6 months			46.2%	311
Yes, but only at initial stage			9.2%	62
Yes, but only at planning stage			5.2%	35
Currently under consideration			9.8%	66
No, but maybe in the future			25.0%	168
No we will never do this			4.8%	32
			answered question	673
			skipped question	100

12. In what capacity are you involved in these spatial data quality projects? (Select all that apply)			Response Percent	Response Count
As an end user of spatial data			51.4%	320
As a software systems supplier			23.3%	145
As an independent consultant			25.8%	161
As a systems integrator			28.7%	179
As an academic researcher			20.9%	130
Other (please describe)			18.9%	118
			answered question	623
			skipped question	150

13. How would more accurate or more consistent spatial data help your organization or your customers? (Select all that apply)

		Response Percent	Response Count
Provide consistent results		71.0%	447
Increase revenues		19.5%	123
Reduce operational costs		50.8%	320
Increase profitability		22.2%	140
Improve my organization's understanding of business problems		27.0%	170
Better meet customer expectations		52.7%	332
Deliver higher quality products		64.3%	405
Improve the decision making process relating to spatial data		62.7%	395
Improve the importance of spatial data		55.7%	351
Other (please explain)		7.8%	49
	answered question		630
	skipped question		143

14. Is data in your organization used by your end customers fit for its intended purpose? For example are you using the same data once collected for cartographic map printing for online analysis?

		Response Percent	Response Count
Yes – fit for purpose		57.5%	358
No – far from original purpose		17.3%	108
Unsure due to lack of origin information on said data		25.2%	157
	answered question		623
	skipped question		150

15. Do you have a means to quantitatively measure your spatial data quality?			Response Percent	Response Count
Yes			42.5%	262
No			33.2%	205
Unsure			24.3%	150
			<i>answered question</i>	617
			<i>skipped question</i>	156

16. How do you measure your data quality?		Response Count
		254
		<i>answered question</i>
		254
		<i>skipped question</i>
		519

17. How do you communicate the quality of your spatial data to your users?		Response Count
		247
		<i>answered question</i>
		247
		<i>skipped question</i>
		526

18. How do you assess the quality of spatial data that you are a consumer of?		Response Count
		558
		<i>answered question</i>
		558
		<i>skipped question</i>
		215

19. How do you store your spatial data? (Select all that apply)

		Response Percent	Response Count
In a spatial database		70.9%	395
In a flat file system on my computer		53.0%	295
In a flat file system on an external drive		42.2%	235
Via a remote web server but not in a database		20.1%	112
On paper or hardcopy		20.6%	115
Other (please specify)		8.6%	48
	answered question		557
	skipped question		216

20. Who is responsible for spatial data quality in your organization?

		Response Percent	Response Count
Whoever enters the data		25.0%	138
The GIS Manager		19.2%	106
The Data Quality Manager		11.6%	64
The IT Manager/Director/CIO		6.7%	37
No person currently responsible		20.3%	112
Other (please describe their position)		17.4%	96
	answered question		552
	skipped question		221

21. If you currently manage your spatial data quality manually, how much of your current workflow is taken up with manual processes?			
		Response Percent	Response Count
Up to 25%		52.7%	260
Up to 50%		23.9%	118
More than 50%		14.2%	70
100% (entirely manual)		9.1%	45
answered question			493
skipped question			280

22. Are you aware of any current legislation that mandates the way in which data are to be stored or maintained?			
		Response Percent	Response Count
Yes		23.3%	127
No		76.7%	419
answered question			546
skipped question			227

23. Please name the legal procedure or appropriate ruling.		Response Count
		125
answered question		125
skipped question		648

24. Do you follow any standards in relation to maintaining spatial data quality?			
		Response Percent	Response Count
Yes		44.2%	238
No		55.8%	300
answered question			538
skipped question			235

25. Please name the standard(s):		Response Count
		234
answered question		234
skipped question		539

26. Do you list spatial data quality requirements in contracts or request for proposals?			
		Response Percent	Response Count
Yes		47.7%	252
No		52.3%	276
answered question			528
skipped question			245

27. What are usually the requirements?		Response Count
		247
answered question		247
skipped question		526

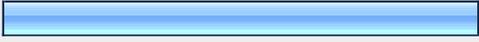
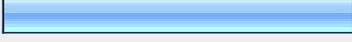
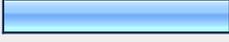
28. If you were to place a data project out for bid via an RFP or quote solicitation process, with all things being equal in vendor response to satisfying the terms of the RFP, if a vendor could assure a level of spatial data quality what value would your organization place on it?

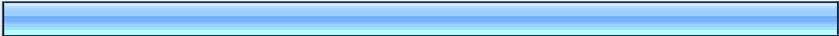
		Response Percent	Response Count
Zero – we would not be willing to pay more		26.5%	136
5% higher cost for a data quality guarantee of 100%		15.6%	80
10% higher cost for a data quality guarantee of 100%		25.3%	130
20% higher cost for a data quality guarantee of 100%		20.0%	103
50% or more higher cost for a data quality guarantee of 100%		12.6%	65
		answered question	514
		skipped question	259

29. What is most important to your organization in terms of spatial data quality?

		Response Percent	Response Count
Attribute information		14.8%	76
Data accuracy		35.9%	184
Meta Data		13.1%	67
Geometric		13.6%	70
Topological		10.1%	52
Other (please specify)		12.5%	64
		answered question	513
		skipped question	260

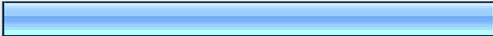
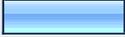
30. What do you find consistently missing in spatial data?		Response Count
		511
<i>answered question</i>		511
<i>skipped question</i>		262

31. Which of these spatial data quality management activities do you currently undertake in your organization or on behalf of customers:			
		Response Percent	Response Count
Data Augmentation - Enhance data using information from internal and external data sources		39.3%	199
Data Integration – Match, merge or link data from a variety of disparate sources		52.3%	265
Data Profiling – Inspect for errors, inconsistencies, redundancy and incomplete information		38.3%	194
Data Monitoring – Check and control data integrity over time		24.7%	125
Data Validation – Correct, standardize and verify data		41.2%	209
All of the above		36.5%	185
		<i>answered question</i>	507
		<i>skipped question</i>	266

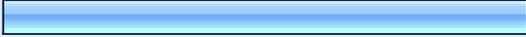
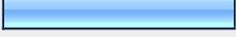
32. Content				
			Response Percent	Response Count
Important			92.1%	453
Not Important			3.3%	16
Unsure			4.7%	23
			Reason	78
			answered question	492
			skipped question	281

33. Scope				
			Response Percent	Response Count
Important			61.2%	301
Not Important			12.2%	60
Unsure			26.6%	131
			Reason	67
			answered question	492
			skipped question	281

34. Level of detail				
			Response Percent	Response Count
Important			85.8%	422
Not Important			7.9%	39
Unsure			6.3%	31
			Reason	75
			answered question	492
			skipped question	281

35. Composition				
			Response Percent	Response Count
Important			53.9%	265
Not Important			13.2%	65
Unsure			32.9%	162
			Reason	61
			answered question	492
			skipped question	281

36. Consistency				
			Response Percent	Response Count
Important			93.1%	458
Not Important			3.3%	16
Unsure			3.7%	18
			Reason	61
			answered question	492
			skipped question	281

37. Reaction to change				
			Response Percent	Response Count
Important			57.7%	284
Not Important			16.9%	83
Unsure			25.4%	125
			Reason	74
			answered question	492
			skipped question	281