



URISA GIS Management Institute®
Glossary of Terms Used in the GIS Capability Maturity Model

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Introduction

This Glossary is intended for use with the URISA GIS Capability Maturity Model (GISCMM) and the Geospatial Management Competency Model (GMCM). Its purpose is to assist users of those models interpret the terminology used on a comprehensive basis. The Glossary makes reference to places in the GISCMM and GMCM where the term is cited:

- GISCMM references refer to a page where the term is used, or to an Enabling Capability (EC) or Execution Ability (EA) component of the model where it is used.
- GMCM references refer to the individual competency number where the term is used.

By referring to and applying definitions in the Glossary, individuals and organizations that complete GISCMM and/or GMCM assessments for the GIS Management Institute® will assist in consistent understanding, analysis, and comparison of assessments.

This Glossary is not intended to be a complete and authoritative document for the GIS profession.

For more information about the GIS Management Institute®, see: <http://www.urisa.org/main/gis-management-institute/>

- URISA GIS Capability Maturity Model: [http://www.urisa.org/clientuploads/directory/GMI/GISCMM-Final201309\(Endorsed%20for%20Publication\).pdf](http://www.urisa.org/clientuploads/directory/GMI/GISCMM-Final201309(Endorsed%20for%20Publication).pdf)
- URISA Geospatial Management Competency Model: <http://www.urisa.org/clientuploads/directory/GMI/Advocacy/GMCM%20final.pdf>

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URISA GIS Management Institute®

Glossary of Terms used in the GISCM

Introduction

This glossary defines the terms used in the GIS Capability Maturity Model. Because the GIS Capability Maturity Model refers to the Geospatial Management Competency Model, terms from that model are also included.

<i>Term</i>	<i>GISCM Reference</i>	<i>GMCM Reference</i>	<i>Definition_1</i>	<i>Source_1</i>	<i>Definition_2</i>	<i>Source_2</i>	<i>Definition_3</i>	<i>Source_3</i>
Accreditation			A conformity assessment process where an organization or agency uses experts in a particular field of interest or discipline to define standards of acceptable operation/performance for the purpose of general organizational improvement.	Hamm, Michael S. 1997. The Fundamentals of Accreditation. (Washington, DC: The American Society of Association Executives) p. 151 (the glossary of the book).				
Accrediting			To provide with credentials. For GISCM: to provide recognition for achieving acceptable levels in the maturity model assessment of the way a particular enterprise's GIS program is managed.					
Ad hoc Process	p.2, p.18		A solution designed for a specific problem or task, non-generalizable, and not intended to be able to be adapted to other purposes.		Ad hoc processes consist of a series of activities which cannot be predefined. In such processes, users must be able to decide what to do and when to do it, and also they must be able to assign work (activities) to other people, creating interactions among various users.	Bizagi Documentation Center. 2013. Bizagi Process Modeler Online resource		

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Application	EA5		Applications of GIS&T, includes the increasingly diverse uses of geospatial technology in government, industry, and academia. A few examples include near real-time analysis of service outages in electrical networks, applications in military intelligence and operations, homeland defense planning and operations, facilities siting, environmental impact assessment, property tax and land ownership records management, and truck route optimization for solid waste pickup in urban areas.	Di Biase, David, et al. 2006. Geographic Information and Science Body of Knowledge (1 st ed.), (Washington, DC: Association of American Geographers and University Consortium for Geographic Information science), p. 17.	1. The use of a GIS to solve problems, automate tasks, or generate information within a specific field of interest. For example, a common agricultural application of GIS is determining fertilization requirements based on field maps of soil chemistry and previous crop yields. 2 [computing] A computer program used for a specific task or purpose, such as accounting or GIS.	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 8.		
Application development	EA5		(Computing) development of specialized programs or sets of specialized programs and associated documentation designed to carry out a particular task	Collins English Dictionary. 2013.	The term application development is often used to refer to the activity of computer programming, which is the process of writing and maintaining the source code, whereas the broader sense of the term includes all that is involved between the conception of the desired application through to the final manifestation of that application. Therefore, application development may include research, new development, modification, reuse, re-engineering, maintenance, or any other activities that result in the finished application.	Cincom. 2013 "Glossary of Terms"		
Application maintenance	EC15		Application maintenance in software engineering is the modification of an application	Cincom. 2013 "Glossary of Terms"				

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			after delivery to correct faults, to improve performance or other attributes.					
Architectural Design	EC8	71	High level structures of a software system. It can be defined as the set of structures needed to reason about the software system, which comprise the software elements, the relations between them, and the properties of both elements and relations.	Wikipedia	The process of creating a software architecture. It is the second of four steps in architecture activities: Given the requirements determined in the first step (analysis), it implements the functional and business requirements, which is then evaluated and finally morphs into architecture evolution	Hofmeister et al., 2007. A general model of software architecture design derived from five industrial approaches. <i>Journal of Systems and Software</i> , 80 (1): 106-126.		
Assessing, assess, assessment		26	An evaluation measured against any predefined performance expectations resulting in a rating (of maturity). Also used in risk management, where the term describes the methods used to arrive at a risk score. For the GISCMM: assessment of an organization's GIS management maturity.					
Asset inventory	EC1, 2	74	One of the most important steps in IT management and IT security is understanding what physical and virtual IT assets an organization owns and manages. A good inventory provides information that is useful to daily system management, business office asset tracking, and security incident response.	http://www.computer-security-glossary.org/information_asset_inventory.html	IT asset management (also called IT inventory management) is an important part of an organization's strategy. It usually involves gathering detailed hardware and software inventory information which is then used to make decisions about hardware and software purchases and redistribution. IT inventory management helps organizations manage their systems more effectively and saves time and money by avoiding unnecessary asset purchases and promoting	Wikipedia		

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					the harvesting of existing resources. Organizations that develop and maintain an effective IT asset management program further minimize the incremental risks and related costs of advancing IT portfolio infrastructure projects based on old, incomplete and/or less accurate information.			
Asset lifecycle		74	The cycle from the creation of new assets to services that sustain and enhance assets, to the eventual decommissioning of said assets	Dianne Haley				
Asset management		5	Prudent administration of investable (liquid) assets, aimed at achieving an optimum risk-reward ratio.	Business Dictionary.com				
Audit	EC1, 2	74	Verification that a project is compliant with regulations and standards. <i>"A systematic and independent examination of data, records, operations, and performances of an enterprise for a stated purpose."</i>	Auditing and Assurance. Paper 6, Vol 1, Chapter 1, section 1.2 Definition of Auditing. Dehli, India: The Institute of Chartered Accountants of India.	A careful review of financial records to verify their accuracy.	Texas Women's University. 2013. Glossary of Accounting, Finance and Economic Terms; p. 2. Available online resource	1. Accounting: Systematic examination and verification of a firm's books of account, transaction records, other relevant documents, and physical inspection of inventory by qualified accountants (called auditors). See also external audit and internal audit. 2. Quality control: Periodic (usually every six months) onsite-verification (by a certification authority) to ascertain whether or not a documented quality system is being effectively implemented.	BusinessDictionary.com
Audit		70	An evaluation of a person, organization, system, process, enterprise, project or product. The term most commonly refers	Wikipedia				

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			to audits in accounting, quality management, water management, and energy conservation.					
Authoritative	EC7		The word authority is derived from the Latin word <i>auctoritas</i> , meaning invention, advice, opinion, influence, or command. The authority is typically given by law or by voluntary acceptance of peer review.	Dianne Haley	A recognized or official data production source with a designated mission statement or source/product to publish reliable and accurate data for subsequent use by customers. An authoritative data source may be the functional combination of multiple, separate data sources.	Department of Defense Data Services Environment		
Balancing minimal privacy with maximum data usage	EA21		Tradeoff between data risk and data utility. The maximum acceptable risk for data is determined by the legal mandate of the agency that collected the survey, the Privacy Act of 1974 (5 U.S.C. 552a), and under the Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA) by the agency's interpretation of taking "reasonable means" to protect data confidentiality. In order to craft a balance between beneficial uses of data and the protection of individual privacy, GIS managers must address some of the most fundamental concepts of privacy law, including the definition of "personally identifiable information," the role of consent, and the principles of purpose limitation and data minimization.	Duncan et al. 2001. Disclosure Limitation Methods and Information Loss for Tabular Data. In: Doyle P, et al., editors. <i>Confidentiality, Disclosure and Data Access: Theory and Practical Applications for Statistical Agencies</i> , pp. 135–166. Amsterdam: North Holland				
Benchmarking			The process of comparing one's business processes and	http://en.wikipedia.org/wiki/Benchmarking	A continuous, systematic process for evaluating the products,	Hamm, Michael S. 1997. The		

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			performance metrics to industry bests or best practices from other industries. Dimensions typically measured are quality, time and cost. In the process of best practice benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied (the "targets") to one's own results and processes. In this way, they learn how well the targets perform and, more importantly, the business processes that explain why these firms are successful.	<u>anking</u>	services, and work processes of organizations that are recognized as representing best practices for the purpose of organizational improvement.	Fundamentals of Accreditation. (Washington, DC: The American Society of Association Executives), p. 151		
Best practices			(1) Commercial or professional procedures that are accepted or prescribed as being correct or most effective. For GMI: A GIS Best Practice describes a process and criteria that have been successfully implemented in multiple organizations with repeated success.	URISA Professional Practice Division. April 2014. <i>GIS Best Practices: Identification and Development Guidelines</i> .	(2) Best practice describes the process of developing and following a standard way of doing things that multiple organizations can use. Best practices are used to maintain quality as an alternative to mandatory legislated standards and can be based on self-assessment or benchmarking. Best practice is a feature of accredited management standards such as ISO 9000 and ISO 14001.	http://en.wikipedia.org/wiki/best_practice		
Build vs. buy	EA5		The concept of building/developing a software solution using internal organizational resources rather than purchasing packaged software solutions.	Dianne Haley	Example for the rigor of the internal decision making process as part of GIS program management.			
Business case/Business		28	A business case captures the	Wikipedia				

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Plan			reasoning for initiating a project or task. It is often presented in a well-structured written document, but may also sometimes come in the form of a short verbal argument or presentation. The <u>logic</u> of the business case is that, whenever resources such as money or effort are consumed, they should be in support of a specific business need. A business plan is a formal statement of a set of business goals, the reasons they are believed attainable, and the plan for reaching those goals. It may also contain background information about the organization or team attempting to reach those goals.					
Business development		5	Business development comprises a number of tasks and processes generally aiming at developing and implementing growth opportunities between multiple organizations.	Dianne Haley				
Business GIS Data	EC3, 4		Geospatial data related to a particular business function or business unit	Dianne Haley				
Business GIS Data Maintenance	EC4		The maintenance of geospatial data related to a particular business function or business unit.	Dianne Haley				
Business needs	EC1, 2,		Requirements that a private or public organization must follow, such as proper recording of its material activities and transactions, proper maintenance	BusinessDictionary.com				

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			and auditing of these records, and proper access to them by the authorized parties.					
Business opportunities		24	Ongoing opportunity to generate income as an independent representative of a network marketing company.	BusinessDictionary.com				
Capability Maturity Model	p.1		Capability Maturity Models are used to help organizations assess and improve performance. CMMs are used in many areas such as engineering, project management, and organizational development. CMMs are based on five stages of development ranging from almost no formal processes to the fifth stage, where a state of continuous, sustained improvements is reached.					
capable, capability	p.1		A capability is the resources an enterprise uses to create outcomes.					
Capital asset	EA8	73	Fixed asset employed as a means of generating income, generally the one on which depreciation is claimed	BusinessDictionary.com				
Centralized GIS Organizational Structure			Organizational model for GIS management and coordination in which one overall GIS manager and or unit proactively coordinates GIS activities across the organization. Sometimes called an "enterprise" model.	Somers, 1998, "Developing GIS Management Structures for an Organization"; Croswell, 2009, The GIS Management Handbook, Ch. 3				

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Change management	EA9		Change management is an approach to transitioning individuals, teams, and organizations to a desired future state.	Dianne Haley				
Client relationships	EA15	21	Interactions with clients/customers. The clients is the recipient of goods or services in return for monetary or other valuable considerations	Dianne Haley				
Client Satisfaction	EA15		The degree to which a client may be pleased or happy with the goods or services received	Dianne Haley				
Client Satisfaction Monitoring and Assurance	EA15							
Client services	EA1		Customer service is a series of activities designed to enhance the level of customer satisfaction – that is, the feeling that a product or service has met the customer expectation	Turban, Efraim (2002). <i>Electronic Commerce: A Managerial Perspective</i> . Prentice Hall. ISBN 0-13-185461-5.				
Client/server		27	A software system with a central processor (server) that accepts requests from multiple users (clients).	Kennedy, Heather (ed.) 2001. The Dictionary of GIS Terminology (Redlands, CA: ESRI Press) p. 17.				
Code of ethics	EA21	14	A written set of guidelines issued by an organization to its workers and management to help them conduct their actions in accordance with its primary values and ethical standards.	BusinessDictionary.com				
Collaboration	EA11, 17, 18	22, 51	Cooperative arrangement in which two or more parties (which may or may not have any	BusinessDictionary.com				

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			previous relationship) work jointly towards a common goal.					
Communications		5, 15, 16, 17, 33	1. All means of transport (roads, rails, rivers, canals, air, sea) that people use to trade or make physical contact with each other. 2. All means of symbolic or verbal communication (newspapers, mail, email, telephones, television, radio, etc.) that people and machines use to make contact and share information.	BusinessDictionary.com				
Competency	p.2	1	The capability of applying or using knowledge, skills, abilities, behaviors, and personal characteristics to successfully perform critical work tasks, specific functions, or operate in a given role or position.	McClelland, D. C. (1973). Testing for competence rather than for intelligence. American Psychologist, 28, 1-14.	A cluster of related abilities, commitments, knowledge, and skills that enable a person (or an organization) to act effectively in a job or situation. Competence indicates sufficiency of knowledge and skills that enable someone to act in a wide variety of situations. Because each level of responsibility has its own requirements, competence can occur in any period of a person's life or at any stage of his or her career.	BusinessDictionary.com		
Competition		26	A situation where businesses or companies are competing with each other.					
Conflict of interest		12	1. A situation that has the potential to undermine the impartiality of a person because of the possibility of a clash between the person's self-interest and professional interest or public interest.	BusinessDictionary.com				

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			2. A situation in which a party's responsibility to a second-party limits its ability to discharge its responsibility to a third-party.					
Consensus		34	Middle ground in decision making, between total assent and total disagreement. Consensus depends on participants having shared values and goals, and on having broad agreement on specific issues and overall direction. Consensus implies that everyone accepts and supports the decision, and understands the reasons for making it. See also collective responsibility	BusinessDictionary.com				
Continuity	EC8	45	The activities of individual departments and agencies and their subcompartments to ensure that their essential functions are performed	FEMA Continuity of Operations Planning Awareness training				
Continuity planning			A methodology is used to produce a plan to enable an organization to continue in operation in the face of some kind of interruption to its normal operation. The methodology needs to be scalable for an organization of any size and complexity. A continuity planning manual for a small organization may be simply a printed manual stored safely away from the primary work location, containing the names, addresses, and phone numbers for crisis management	http://en.wikibooks.org/wiki/Business_continuity_planning#Introduction				

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			<p>staff, general staff members, clients, and vendors along with the location of the off-site data backup storage media, copies of insurance contracts, and other critical materials necessary for organizational survival. At its most complex, a continuity planning manual may outline a secondary work site, technical requirements and readiness, regulatory reporting requirements, work recovery measures, the means to re-establish physical records, the means to establish a new supply chain, or the means to establish new production centers.</p> <p>Organizations should ensure that their continuity planning manual is realistic and easy to use during a crisis. As such, continuity planning sits alongside crisis management and disaster recovery planning and is a part of an organization's overall risk management.</p> <p>The development of a continuity planning manual has five main phases: analysis, solution design, implementation, testing and organization acceptance, and maintenance.</p>					
Continuity of geospatial operations	EA16	45	The ability to ensure geospatial operations continue regardless of the impacts of forces or elements from the outside (e.g.; budget cuts, leadership changes) or the inside (e.g., personnel changes)	Dianne Haley; Rebecca Somers				

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Contract and supplier management	EA10	5, 58	Vendor relationship management is a category of business activity that provide customers with both independence from vendors and better means for engaging with vendors.	Dianne Haley				
Contracts	EA10	58	In common law legal systems, a contract is an agreement having a lawful object entered into voluntarily by two or more parties, each of whom intends to create one or more legal obligations between them. The elements of a contract are "offer" and "acceptance" by "competent persons" having legal capacity who exchange "consideration" to create "mutuality of obligation."	Wikipedia				
Contributions to the Profession'	EA22	39	Professional contributions in the form of conference planning, publications, committee/board participation, outreach, and other related efforts are fundamental to the health of any profession. GISCI recognizes eight categories: I - GIS Publications (writing or reviewing certain GIS related materials). II - GIS-Related Professional Association Involvement (being a member of an organization with a focus on GIS activities or education) III - GIS Conference Participation (organizing or presenting at a state, local, or national GIS	<u>GISCI</u> – Applicants - About the Program - Contributions to the Professional				

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			<p>conference)</p> <p>IV - GIS Workshop Instruction (presenting a workshop at a state, local, or national event)</p> <p>V. GIS Conference Presentations (giving a presentation at a local, state, regional, national, or international event)</p> <p>VI - GIS Awards Received (awards for excellence in GIS proficiency that may be bestowed by a variety of sources)</p> <p>VII - GIS Volunteer Efforts (Any form of uncompensated GIS-related work performed in agreement with a service-oriented organization)</p> <p>VIII - Other GIS Contributions (includes GIS Day type event organization or participation and various community contributions)</p>					
Cooperate		53	Cooperation is the process of groups of organisms working or acting together for their common/mutual benefit, as opposed to working in competition for selfish benefit.	Dianne Haley				
Core Competency		See also <i>Competency</i> above	Those things that define what is special about an organization, what sets it apart from other organizations, Competencies are those things the company or organization does well. Core competencies are those things that are fundamental to the organization. Without those core competencies the organization would not be the same	Kamawi, Musa. 2011. Concise Dictionary of Management Terms. UNITAR (United Nations Institute for Training and Research). Online resource				

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			organization. Core competencies of organization provide the organization a competitive advantage in the marketplace. For example, Dell's efficient, just in time manufacturing system is a core competency that provides Dell a competitive advantage in the marketplace. Some define core competencies as "world class." That definition would mean many organizations have no core competencies. That seems to limit the usefulness of the concept. Some management consultants suggest organizations focus exclusively on their core competencies; and outsource other functions to other organizations. I can't say I agree with that as a rule. Often an organization is better off performing functions internally rather than outsourcing them even if the function is not a core					
Cost-effective	2		Economical in terms of the goods or services received for the money spent.		Cost-effectiveness: Relationship between monetary inputs and the desired outcome, such as between the expenditure on an advertising campaign and increase in sales revenue	BusinessDictionary.com		
Creative thinking		31			A way of looking at problems or situations from a fresh perspective that suggests unorthodox solutions (which may look unsettling at first). Creative thinking can be stimulated both by an unstructured process such as brainstorming, and by a	BusinessDictionary.com		

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					structured process such as lateral thinking			
Culture		35	Broadly, social heritage of a group (organized community or society). It is a pattern of responses discovered, developed, or invented during the group's history of handling problems which arise from interactions among its members, and between them and their environment. These responses are considered the correct way to perceive, feel, think, and act, and are passed on to the new members through immersion and teaching. Culture determines what is acceptable or unacceptable, important or unimportant, right or wrong, workable or unworkable. It encompasses all learned and shared, explicit or tacit, assumptions, beliefs, knowledge, norms, and values, as well as attitudes, behavior, dress, and language. See also organizational culture.	BusinessDictionary.com				
Customer service	EA2	48	All interactions between a customer and a product provider at the time of sale, and thereafter. Customer service adds value to a product and builds enduring relationship.	BusinessDictionary.com				
Customer service orientation	EA1, EA15	48	A group of actions taken by a business to support its sales and service staff in considering client	http://www.businessdictionary.com/definition/customer-				

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			needs and satisfaction their major priorities. Business strategies that tend to reflect a customer orientation might include: developing a quality product appreciate by consumers; responding promptly and respectfully to consumer complaints and queries; and dealing sensitively with community issues.	orientation.html				
Data back-up and security	EC12		Steps must be taken to protect data from accidental data loss, corruption, and unauthorized access. This includes routinely making additional copies of data files or databases that can be used to restore the original data or for recovery of earlier instances of the data. Making backups of collected data is critically important in data management and the data lifecycle. Backups protect against human errors, hardware failure, virus attacks, power failure, and natural disasters. Backups can help save time and money if these failures occur.	USGS Data Management				
Data backup steps	EA8	74	Backup Policies 1. Understand the existing backup policies within your office. 2. If there is no established policy, create a backup policy. 3. Clarify who is responsible for performing backups. Specify where the backup data are to be located.	USGS Data Management				

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			<p>Establish how to access the files.</p> <p>Define how often backups must be done.</p> <p>Describe policies for moving the data or how the format may change.</p> <p>4. Perform backups of digital data but also consider digitizing physical documents.</p> <p>5. Automate your backups.</p> <p>6. Back up the metadata along with the data.</p> <p>7. Backup data in a designated repository, on an external disk, or a network drive. Place backups in a location that is different from the original data source to avoid a double loss.</p> <p>7. Check the files to make sure the data have been copied and there are no errors in opening the files.</p>					
Data security and restore processes	EA8	74	<p>Security Policies</p> <p>1. Physical security and computer security of data must be considered in good data management.</p> <p>2. Share metadata but keep confidential or sensitive information unavailable.</p> <p>3. Create codes to make data anonymous. Keep the data dictionary secure.</p> <p>4. When transferring sensitive data to another party, encrypt the data.</p>	USGS Data Management				
Data layer	EC2		Refers to data having similar characteristics being contained in	Association of Bay Area Governments'	In most GIS software data is organized in themes as data	Buckey D 1997. Biodiversity GIS		

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			the same plane or overlay (e.g., roads, rivers). Usually information contained in a data layer is related and is designed to be used with other layers.	Earthquake and Hazards Program	layers. This approach allows data to be input as separate themes and overlaid based on analysis requirements. This can be conceptualized as vertical layering the characteristics of the earth's surface. This concept is also used to logically order data in most GIS software. The terminology may differ between GIS software, but the approach is the same. A variety of terms are used to define data layers in commercial GIS software. These include themes, coverages, layers, levels, objects, and feature classes. Data layer and theme are the most common and the least proprietary to any particular GIS software.			
data management	EA8	74	Administrative process by which the required data is acquired, validated, stored, protected, and processed, and by which its accessibility, reliability, and timeliness is ensured to satisfy the needs of the data users.	BusinessDictionary.com				
Data/Service Center GIS Organizational Structure			GIS organizational model in which a GIS center provides GIS data and/or services to other departments in the organization, as needed to support their operations, but does not necessarily direct or manage GIS standards or resources across the organization.	Somers, 1998, "Developing GIS Management Structures for an Organization"				
Data stewards	EC2		Data steward is a person that is responsible for maintaining a data element	Dianne Haley				

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Database maintenance	EA7		Database maintenance includes backups, column statistics updates, and defragmentation of data inside the database files.	Dianne Haley				
Database software solution			See "build vs. buy", in this case applied/restricted to database software. Typical questions involve price, customizability, and user friendliness.	Jochen Albrecht				
Decision makers		17	The individual(s) using a cognitive process resulting in the selection of a course of action among several alternative scenarios.	Dianne Haley				
Defined process	2, 18		Level 3 of the Capability Maturity model characterizing processes that are sets of defined and documented standard processes established and subject to some degree of improvement over time. These standard processes are in place and used to establish consistency of process performance across the organization.					
Departmental GIS Organizational Structure			A GIS organizational model in which each department or business unit independently operates their own GIS with no requirements to follow standards set by a central or organizational GIS manager or unit.	Somers, 1998, "Developing GIS Management Structures for an Organization"				
Documentation	2		Supporting information for software data and tools. Documentation may be descriptive or instructional, and is published in a variety of formats, including user's guides	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 60.				

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			and manuals, desktop help systems, embedded or context-sensitive help, tutorials, reports, and metadata.					
Documented	2		The act of describing processes and standards as a first step to move beyond level 0 of the Capability Maturity Model. It is a necessary component to communicate the Enterprise Architecture.					
Efficiency		47	Getting the most out of the resources used.	The Economist. 2013. Economics A-Z Terms. Online resource				
Enabling capability	4		The technology, data, resources, and related infrastructure that can be bought, developed, or otherwise acquired to support typical enterprise GIS operations.		That helps an <i>entity</i> , program, or project get off the ground and up to the speed, but does not necessarily ensure its success.	BusinessDictionary.com		
Enabling technology	4				Equipment and/or methodology that, alone or in combination with associated technologies, provides the means to generate giant leaps in performance and capabilities of the user. For example, the coming together of telecommunication technologies, internet, and groupware has leveled the field so that even smaller firms are able to compete in areas where they otherwise could not.	BusinessDictionary.com		
End user	EA2		Person or organization that actually uses a product, as opposed to the person or organization that authorizes, orders, procures, or pays for it.	BusinessDictionary.com				

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Enterprise GIS	EA7		A GIS that is centrally controlled but maintained and used by many departments within the enterprise		An Enterprise GIS is a geographic information system that is integrated through an entire organization so that a large number of users can manage, share, and use spatial data and related information to address a variety of needs, including data creation, modification, visualization, analysis, and dissemination.	Wade, T. and Sommer, S. 2006. <i>A to Z GIS: An Illustrated Dictionary of Geographic Information Systems</i> , Redlands, CA: ESRI Press.		
Enterprise GIS assessments			A set of procedures administered by the GMI Accreditation Division to determine the maturity of an enterprises GIS program.					
Executive GIS Placement			GIS management and main support resides within the executive level, such as the City Manager's office, or CEO's office.	Somers, 1998, " <i>Developing GIS Management Structures for an Organization</i> "; Croswell, 2009, <i>The GIS Management Handbook</i> , Ch 3				
Execution ability	4, 5		Execution capability is the degree to which an enterprise achieves faster, better and/or cheaper products/ services through clarity in planning. It ensures that the investment decisions, financial returns and project deliverables are connected and monitored for sustainable business results. Execution capability is dependent on having the right people who has the ability to implement the right process, equipped with the right tools in order to attain the right business results.					

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External/Independent GIS Placement.			GIS management and main support are located outside the regular organizational structure. For example, it may be handled by a contractor or independent organization.	Crowell, 2009, The GIS Management Handbook, chapter 3.				
Financial accounting		69	A field of accounting that treats money as a means of measuring economic performance instead of as a factor of production. It encompasses the entire system of monitoring and control of money as it flows in and out of an organization as assets and liabilities, and revenues and expenses. Financial accounting gathers and summarizes financial data to prepare financial reports such as balance sheet and income statement for the organization's management, investors, lenders, suppliers, tax authorities, and other stakeholders.	BusinessDictionary.com				
Financial analysis		68	Assessment of the (1) effectiveness with which funds (investment and debt) are employed in a firm, (2) efficiency and profitability of its operations, and (3) value and safety of debtors' claims against the firm's assets. It employs techniques such as 'funds flow analysis' and financial ratios to understand the problems and opportunities inherent in an investment or financing decision.	BusinessDictionary.com				
Financial management		5	The planning, directing,	BusinessDictionary.com				

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			monitoring, organizing, and controlling of the monetary resources of an organization.	.com				
Financial management		65	The efficient and effective management of money (funds) in such a manner as to accomplish the objectives of the organization.	Dianne Haley				
Framework GIS Data	EC1, 2, EA1		The Geospatial data considered a basic requirement for most business functions within an organization. For example, parcel and road network geospatial data may be considered Framework data in most municipal organizations.	Dianne Haley	Framework data as defined by the FGDC. Data sets include geodetic control, orthoimagery, elevation, transportation, hydrography, governmental units, and cadastral information	https://www.fgdc.gov/framework/frameworkintroguide		
Framework GIS Data Maintenance	EC2		The spatial data maintenance of the Framework GIS data.	Dianne Haley				
Funding sources		66	Sources that provide funds for particular initiatives.	Dianne Haley				
Geospatial	1		Relating to or denoting characteristics of a particular location					
Geospatial activities		42	Coordination of geospatial activities can identify, consolidate, and reduce or eliminate redundant geospatial investments. Most of these are about data acquisition in one form or another.	US Government Accountability Office report on geospatial information				
Geospatial architecture	EA8	71, 72	A geospatial architecture is a strategic blueprint that is developed, implemented, maintained, and used to explain and guide how geospatial technology and management elements work together to efficiently accomplish the					

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			mission. Broadly, geospatial architecture effort addresses the following views: Business processes, system structures including data sets and information flows, technical framework, and product technologies.					
Geospatial Collaboration	2		Cooperation between interested parties within and beyond the realm of an enterprise.					
Geospatial Coordination	2		Institutionalized top-down planning in form of a GIO or Council that has a written mandate to produce strategic and business implementation plans.					
Geospatial data	EC1, 2, EA8	73	Geospatial data is information that identifies the geographic location and characteristics of natural or constructed features and boundaries on the earth, typically represented by points, lines, polygons, and/or complex geographic features. Such features are usually stored as coordinates and topology. Geospatial data can be original or interpreted geospatial, such as those derived through remote sensing including, but not limited to, images and raster data sets, aerial photographs. Spatial data is often accessed, manipulated or analyzed through GIS.	EPA Frequent Questions about Geospatial Data and Records				
Geospatial Management Competency Model (GMCM)			The 9 th Tier of DOLETA's Geospatial Technology Competency Model (GTCM), it specifies 74 essential	http://www.careeronestop.org/competencymodel/pyramid.aspx?GEO=Y				

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			competencies and 18 competency areas that characterize the work of most successful managers in the geospatial industry.					
Geospatial managers		1	Person in charge of a multiple members of the geospatial workforce of an organization.					
Geospatial program		33	Any coordinated effort to manage geospatial data, information, applications, policies and agreements within an organization and in cooperation with partner organizations. Initially instituted by some federal agencies, most states and metropolitan area governments as well authorities now have such programs "at least on paper".	<u>EPA's national geospatial program</u> ; <u>USGS' National Geospatial Program</u> ;				
Geospatial project management		5	Project management is a broad discipline that encompasses both technical methods such as system design and analysis, and interpersonal factors that affect professional relationships. Project management is also a discipline that has matured outside of, but can be incorporated into, geospatial technology. When projects include requirements in specific technical areas such as geospatial technology, consideration of project success must encompass all areas of knowledge related to geospatial technology and project management simultaneously. This is facilitated by reference					

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			frameworks such as the GIS&T and GIS-PM bodies of knowledge respectively.					
Geospatial staff competency plan	EA16	37 5	(a) Identification of tasks that are part of the organization's geospatial program and their matching to the skills of the organization's staff (b) Development of a continuing education plan to improve the match described in (a) and adapt to continuing changes in the operating environment.	Jochen Albrecht				
Geospatial technology		5, 17, 50	Geospatial technologies capture, store, manage, integrate, display, analyze and otherwise assist in the interpretation of geospatial data in its entire context for better decision-making. This definition recognizes that legacy engineering data from CAD systems, billing information from ERP systems, facilities management and many other types of enterprise content must be brought together with the traditional spatial data from a GIS to efficiently make decisions.	Schnittger, M (2005). GIS Becomes Geospatial: Issues Affecting the Evolution of Geospatial Technology. <i>Electric Light and Power</i> , 10 (4).	A set of technological approaches, such as GIS, photogrammetry, and remote sensing, for acquiring and manipulating geographic data.	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 89.		
Geospatial technology Vision		32	The vision statement of the strategic plan of a geospatial organization.					
Geospatial work functions		7	"A competency is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform 'critical work functions' <i>or tasks</i> in a defined work setting."	DOLETA Competency Model FAQ .				

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			These tasks are identified in a process known as Job Task Analysis, which is based on core knowledge areas, essential work functions, and skills for workers in that field. i.e., our GMCM.					
GIS	1		Decision support system involving the integration of spatially referenced data in a problem solving environment.	Cowen 1998	<i>Acronym for geographic information systems. An integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed.</i>	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 90.		
GIS Analysts			A GIS Analyst at a minimum assist in the maintenance and administration of the day-to-day operations of a unit's GIS and ideally designed and developed GIS applications aimed to conduct analytical modeling in support of planning functions.	Jochen Albrecht (based on an amalgamation of several formal job announcements)				
GIS application	EC13, 14, 15		The implementation of a set of geospatial tasks to fulfill a particular business function.	Jochen Albrecht (this is a tough one to define because the spectrum is virtually unlimited)	"The planned use of GIS software and data to generate a product or result that meets users' needs. [...] An effective GIS application definition includes.. Name, Description, Target user group, Business processes affected, Software and host computer environment, Access environment, Data required, Requirements for integration	Croswell p.29		

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					with existing systems, and Products or results generated from the application.			
GIS Application Portfolio	EC13, 14, 15		A portfolio of custom or commercial off-the-shelf GIS applications is available to meet the business needs of GIS clients.					
GIS Application Portfolio Management	EC14		The agency's GIS application portfolio is managed to a common design and development framework.					
GIS Application Portfolio O&M	EC15		The agency's GIS application portfolio is kept viable via ongoing support and application maintenance.					
GIS Budget	EC21	64	Current or short-term implementation of a GIS financial plan. Budgets are supposed to match revenues against planned expenditures and comply with budget development and reporting requirements.	Jochen Albrecht				
GIS Capability Maturity Model			Framework for assessing the capability of an enterprise GIS operation, as well as the process maturity of those who manage and operate the GIS.					
GIS Cartographers			GIS operators skilled in visual communication of geospatial phenomena and processes.					
GIS competencies,	EA12		A competency is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform "critical work functions" or tasks in a defined work setting. The GTCM is a competency model for geospatial	Employment and Training Administration (ETA) Geospatial Competency Model				

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			competencies, organizing the competencies into tiers. The GTCM Tiers 4 (GIS Core Technical Competencies), 5 (Industry Sector Competencies—Positioning and Data Acquisition, Analysis and Modeling, and Software and Application Development), and 9 (GIS Management competencies) comprise the GIS competencies.					
GIS data archiving	EC12		Preservation of geospatial data. Appraisal and selection of geospatial data are critical because of the limited resources that most collecting and stewardship organizations have for preservation. Given the very large (and growing) volume of geospatial data, it is a practical necessity to choose only the most important for long-term management. This management may involve resource intensive attention such as metadata augmentation, file format conversion, storage media migration, and ongoing repository hardware and software maintenance. While appraisal and selection are crucial, they present a fundamental challenge to creating and collecting institutions. Volume is a major issue; in some circumstances the scope and depth of geospatial information may be so great that knowledge of what even exists	NDSA 2013. <i>Issues in the appraisal and selection of geospatial data.</i>				

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			can be difficult. Other challenges include: Complex data structure and proprietary file formats; Difficulty in describing data to provide for broad secondary use; Institution-specific, siloed management policies and practices; Uncertainty regarding the effectiveness of existing policies and practices; Stewardship resources are not keeping up with the volume of data, making it even more necessary to make decisions about what to keep.					
GIS Data Coordination	EC5		Key element of any geospatial program that consists of (a) cataloging of existing data (b) designation of primary custodians (c) setting of standards and consistent practices (d) coordination of future GIS data acquisitions; and (e) long-lasting professional relationships around common interests and mutual goals	Jochen Albrecht				
GIS data interoperability	EA19		Three dimensions: (a) technical; can data formats be consumed across different platforms and with what degree of information loss? (b) semantic; standardization of the meaning of what is stored (c) shareability of data processing routines (geoprocessing models)	Jochen Albrecht				

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GIS data sharing	EA17		Subset or second phase of GIS data coordination. Beyond technological and methodological issues, it entails political, institutional, commercial dimensions.	Wellar, B (2010). Issues in GIS data sharing. Geospatial Today (9)5: 42-47.				
GIS database administration	EA8		Creating and revising tables, queries, forms, and reports pertaining to geospatial data.	Jochen Albrecht				
GIS DBA			GIS Database Administrator					
GIS development	2		The continuous process of an enterprise GIS of striving towards maturity	Jochen Albrecht				
GIS Financial Plan	EC23	67	(a) In a narrow sense, a 3-year plan summarizing the hardware/software costs and revenues of an enterprise GIS (b) In a wider sense, the same but applied to the whole geospatial program and including personnel.	Jochen Albrecht				
GIS Funding, funding	EC22	66	Identification of funding sources and obtaining funding, including collaborative opportunities. Stable funding is critical not just for data creation, but also for continuing maintenance as information quickly becomes out of date and useless for most business applications.					
GIS Governance Structure	EC19, EA1	54	Organizational structure, policies, and procedures by which the GIS is managed and stakeholders are involved.	Somers, 1998, "Developing GIS Management Structures for an Organization"				
GIS is Linked to Agency Strategic Goals	EC20		"A summary of the organization's mission and goals is a good place to start and help ensure that GIS	Croswell, The GIS Management Handbook, p. 35				

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			objectives are linked to the overall organization's needs."					
GIS Management Body of Knowledge			Compilation of best practices for each of the capability and maturity components of the GIS Capability Maturity Model. Under Development.					
GIS Managers			A GIS manager is responsible for directing the GIS unit of an organization. The position requires an understanding of not only GIS, but of effective communication and leadership methods. A GIS manager provides oversight, ensures that all the team members have the resources to complete projects, tracks budgets, and ensures adherence to organizational protocol.	Jochen Albrecht				
GIS Operation, geospatial operations	EA5, 8, 9	45	GIS Operation = GIS (operational) unit	Jochen Albrecht based on usage in GISCOM	(1) Geospatial operations = the day-to-day functions of the GIS unit. The term operations describes here the processes and resources necessary to produce the highest quality products or services as efficiently as possible.	Jochen Albrecht (cobbled together from a myriad of Internet sources)	(2) Geospatial operations = basic GIS functions, including those that handle geospatial features in statistical, database management or visualization software	Jochen Albrecht
GIS organization	EC22, 23		Model by which GIS management and organization is structured. See <i>GIS Organizational Structure</i> .	Somers, 1998, "Developing GIS Management Structures for an Organization"				
GIS Organizational Structure			Organizational model used to manage and coordinate GIS activities across the organization. See <i>Centralized GIS Organizational Structure, Departmental GIS Organizational Structure, and Data/Service</i>	Somers, 1998, "Developing GIS Management Structures for an Organization"				

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			<i>Center GIS Organizational Structure.</i>					
GIS professional staff, geospatial staff	2, EA13	37	Staff member who has completed formal education and training in GIS and adheres to the code of ethics defined by the GISCI.					
GIS Programmer			Staff member who knows GIS operations and at a minimum can write scripts to automate their use and ideally can add to the functionality of desktop and/or web-based GIS applications.	Jochen Albrecht (based on a number of job ads for GIS programmer (/analyst)				
GIS Software	EC11		Originally synonymous with GIS in the narrow definition of the word, this term has now expanded to any kind of software that is natively or through add-on modules capable of handling geospatial data.					
GIS Software License Sharing	EA18		The very cause for the demise of commercial GIS software in the long run.	Jochen Albrecht	Depending on the manufacturer's / vendor's contractual constraints, the ability of larger organizations or consortia to borrow software use permissions. This may pertain to add-on modules, web services, and as well as desktop clients.	Jochen Albrecht, paraphrasing from ESRI, Calipher, and Manifold license fine print.		
GIS Software Maintenance	EC11		(1) A perpetuity agreement between a software vendor and a purchasing organization that guarantees continuous software upgrades.	FGDC SLA example	(2) Technical requirement to check for and warrant against any interference between/among different software packages due to non-cooperation among different manufacturers and developers. This is of particular importance in an open software environment.	Jochen Albrecht		
GIS Staff Training and	EC18		Essential recruitment, retention	Jochen Albrecht				

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Professional Development			and productivity tool of a GIS program manager. It assures staff competency, motivates the GIS professional, is a necessary component in the certification of GIS staff and facilitates their promotion.					
GIS System	EA8, 9		Synonym for Enterprise GIS	Jochen's interpretation of the use in GISCOM EA8, 9				
GIS System administration	EA8		The technically highest level of the enterprise GIS implementation. It now includes integration with the organization's database administration and web services.	Jochen Albrecht (who could not find a single reference anywhere)	Top tier of (enterprise) GIS functionality.	City of Tigard GIS Strategic Plan , 2006		
GIS System Administrators			Individuals with system administration privileges and responsibilities					
GIS analyst			GIS professionals and users who specialize in geoprocessing models and complex queries to provide answers to questions originating from an organization's management level.					
GIS System Management	EA8		GIS system management includes system administration, database administration, network administration, system security, data backup, security, and restore processes, etc.	GISCOM EA8				
GIS (system) operation	EA7	45	See GIS Operation; in this case with more of an emphasis on the enterprise aspects of the operation					
GIS Technicians			GIS professionals whose work is limited to standard data input and output, basic queries, and					

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			production of simple maps and standard reports.					
Help desk	EA2		Call center designed to provide users with assistance, often with computer-related or other technical issues. A help desk is usually operated by individuals that have an extensive background of the appropriate system, so that they can walk users through step-by-step solutions for their problems. Various help desks exist for a single product; for example, a college student who has a computer question may call Dell's help desk directly, or try their university computer department's help desk instead.	BusinessDictionary.com				
Human resources management		5	The responsibility of making the best use of an organization's employees. One of the major functions of personnel management.	Kamawi, Musa. 2011. Concise Dictionary of Management Terms. UNITAR (United Nations Institute for Training and Research), p. 16. Available online resource				
Imagery	Do we need to define this?		Imagery encompasses a wide range of graphical products that convey information about natural phenomena and human activities occurring on Earth's surface. The term can include color and panchromatic (black and white) aerial photographs, as well as	Answers.com History, Politics & Society > Intelligence & Security Encyclopedia > Geospatial imagery				

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			multi- or hyperspectral digital imagery.					
Individual GIS Staff Performance Management	EA14		Not specific to GIS staff: The purpose of performance management (which includes the performance evaluation) is to optimize the talent employees in support of the mission and vision of the institution. Performance management focuses on the supervisor's basic responsibility, encouraging results through the efforts of other individuals.	Texas Tech University Health Sciences Center's <i>Supervisor's Guide to Staff Performance Management</i>				
IT Department GIS Placement			GIS management and main support are placed in the organization's IT department.	Somers, 1998, " <i>Developing GIS Management Structures for an Organization</i> "; Croswell, 2009, Chapter 3.				
IT standards	EC8	1	Defined as part of the enterprise GIS architecture, the organization sets these standards internally. They usually are an adaptation of industry standards (IEEE, ISO, FGDC, etc.) and best practices (see that glossary entry).	Jochen Albrecht's interpretation of the use of this phrase in the GISCMM and GMCM.				
Jurisdictional responsibility		56	The authority to act under the terms of the organization's charter within a territorial boundary.	Used a million times but not defined anywhere. This is Jochen's cobbling together.				
Leadership		5	A widely applied term that usually refers to the personality characteristic and the behavior of people with authority and influence and responsibility for	Kamawi, Musa. 2011. <i>Concise Dictionary of Management Terms</i> . UNITAR				

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			lead	(United Nations Institute for Training and Research), p. 20. Available online resource				
learning objectives			Learning objective contains a verb (an action) and an object (usually a noun). The verb generally refers to [actions associated with] the intended cognitive process. The object generally describes the knowledge students are expected to acquire or construct. The cognitive process dimension represents a continuum of increasing cognitive complexity—from remember to create. The knowledge dimension represents a range from concrete (factual) to abstract (metacognitive).	Bloom et al. 1956. Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain New York, Longmans, Green	Statement describing what a student is expected to learn from the lesson. The learning objective provides a detailed description of what the student will be able to do when the instruction ends. A teacher uses a learning directive to help students understand how to make practical use of information learned during the lesson.	BusinessDictionary.com		
Legal and policy affairs management	EA20	5	Degree to which the GIS unit either has its own legal counsel or is working hand-in-hand with the organization's legal counsel.					
Legal compliance	EA21	13	The process or procedure to ensure that an organization follows relevant laws, regulations and business rules.	New Mexico School for the Blind & Visually Impaired. Records Management Program Definitions.				
Lidar			A remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light.	NOAA Facts.				
Managed process	2, 18		Level 4 of the Capability Maturity model characterizing processes					

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			that management can effectively control the process using process metrics. In particular, management can identify ways to adjust and adapt the process to particular projects without measurable losses of quality or deviations from specifications. Process Capability is established from this level.					
Maturity	1		The term "maturity" relates to the degree of formality and optimization of processes, from <i>ad hoc</i> practices, to formally defined steps, to managed result metrics, to active optimization of the processes.		Time to completion of a project or program, or the period for which a contractual agreement, financial instrument, guaranty, insurance policy, loan, or offer is issued or is in force.	BusinessDictionary.com		
Measured, measurement	2		The application of metrics to determine the progress against Enterprise Architecture plans.		Measurement: An observed numerical value that is an appraisal of size, extent, or amount according to a set criteria.	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 132.		
Mentor		36	Mentoring: Employee training system under which a senior or more experienced individual (the mentor) is assigned to act as an advisor, counselor, or guide to a junior or trainee. The mentor is responsible for providing support to, and feedback on, the individual in his or her charge.	BusinessDictionary.com				
Metadata	EC6		Information about a data set. Metadata for geographical data may include the source of the data; its creation date and format; its projection, scale, resolution, and accuracy; its reliability with regard to some	Kennedy, Heather (ed.) 2001. The Dictionary of GIS Terminology (Redlands, CA: ESRI Press) p. 65.	Information that describes the content, quality, condition, origin, and other characteristics of data or other pieces of information. Metadata for spatial data may describe and document its subject matter; how, when,	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 134.		

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			standard.		where, and by whom the data was collected; availability and distribution information; its projection, scale, resolution, and accuracy; and its reliability with regard to some standard. Metadata consists of properties and documentation. Properties are derived from the data source (for example, the coordinate system and projection of the data), while documentation is entered by a person (for example, keywords used to describe the data).			
minimum domain of restricted confidential data	EA21		Access to restricted confidential data needs to be planned in advance. Access groups can be set up in virtually all IT environments, which will allow the GIS manager to designate users with different levels and types of rights. GIS units should specify who has access to various data, under what circumstances, and how the identity of users are authenticated. For example, they might stipulate that identifiable data should be accessed only from a properly secure network server rather than from local workstations. Isolated segments or domains can be implemented, which limits access to those in selected groups.	US Center for Disease Control. <u>Data Security and Confidentiality Guidelines</u> . Standards to Facilitate Sharing and Use of Surveillance Data for Public Health Action.				
Model	1		A system or thing used as an example to follow or imitate.		1. An abstraction of reality. 2. A set of rules and procedures for representing a phenomenon or	Kennedy, Heather (ed.) 2001. The Dictionary of GIS		

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					predicting an outcome. The terms modeling and analysis are often interchanged, although modeling implies simulation or prediction while analysis refers to the larger process of identifying a question and using the results of a model to answer it. 3. A data representation of reality (for example, vector data model, TIN data model, raster data model).	Terminology (Redlands, CA: ESRI Press) p. 65.		
Needs evaluation		27	Needs evaluation is typically used in program planning. This evaluation helps determine which program aspects or activities are most needed. Generally, this method is used to help develop new programs or justify existing program components.	University of Texas Instructional Assessment Resources .	GIS needs assessment services provide a foundation for GIS project and program planning. GIS needs evaluation and conceptual design projects can include the following main components: <ul style="list-style-type: none"> • GIS technology orientation sessions for management and staff • Inventory of current systems, data resources, software, and applications • Evaluation of business drivers and organizational mandates for GIS • Evaluation of technical deficiencies and gaps • Review of organizational structure, policies and practices, staffing, and GIS governance • Definition of technical needs (system, data, applications) 	Croswell 2013. GIS Requirements Evaluation and Planning Services .		
network administration	EA8		Network management refers to the activities, methods, procedures, and tools that pertain to the operation, <i>administration</i> , maintenance, and	Wikipedia, Network management				

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			provisioning of networked systems.					
New venture		25	The inaugural GIS project in an organization.	Nancy Obermeyer				
Objective, objectivity	5		<p>1. A specific result that a person or system aims to achieve within a time frame and with available resources.</p> <p>In general, objectives are more specific and easier to measure than goals. Objectives are basic tools that underlie all planning and strategic activities. They serve as the basis for creating policy and evaluating performance. Some examples of business objectives include minimizing expenses, expanding internationally, or making a profit.</p> <p>2. Neutral (bias free), relating to, or based on verifiable evidence or facts instead of on attitude, belief, or opinion. Opposite of subjective.</p>	BusinessDictionary.com				
Open data sharing	EA21		<p>Data sharing: The practice of making data for scholarly research available to other investigators.</p> <p>Open Data: the idea that certain data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control</p>	<p>Wikipedia (1 and 2; For "Open Data," Wikipedia further cites [△] Auer, S. R.; Bizer, C.; Kobilarov, G.; Lehmann, J.; Cyganiak, R.; Ives, Z. (2007). "DBpedia: A Nucleus for a Web of Open Data". <i>The Semantic Web</i>. Lecture</p>				

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				Notes in Computer Science 4825 . p. 722. doi:10.1007/978-3-540-76298-0_52 . ISBN				
Open-source	EC11		Open source describes practices in production and development that promote access to the end product's source materials. Opening the source code enabled a self-enhancing diversity of production models, communication paths, and interactive communities. Subsequently, a new, three-word phrase "open source software" was born to describe the environment that the new copyright, licensing, domain and consumer issues created.	Cincom. 2013 "Glossary of Terms" available online at: http://mantis.cincom.com/glossary/				
Operation Performance Management Business Dictionary.com refers to this as Operational (not Operation) Performance Management (OPM)	EA13		Operational Performance Management: The alignment of the various business units within a company in order to ensure that the units are helping the company achieve a centralized set of goals. This is done by reviewing and optimizing the operations of the business units.	BusinessDictionary.com				
Operating/Line Department GIS Placement			GIS management model in which GIS management and main support resides within a line or operating department, such as Engineering, Planning, or Public Works	Somers, 1998, "Developing GIS Management Structures for an Organization"				
Optimized process	2, 18, EA1		Level 5 of the Capability Maturity Model, where the focus is on continually improving process					

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			performance through both incremental and innovative technological changes/improvements.					
Organization's Brand		30	Branding by definition is the coherent outward expression projected by an organization. A corporate brand is a product of an organization's corporate strategy, mission, image, and activities. Corporate brands distinguish organizations from their competitors, orient the organization in the minds of customers and employees, and create a perception of what an organization stands for.	Matrixamc.com http://www.matrixamc.com/content/services/org/org1.shtml				
Organization's strategic plan		42	The overall organization's strategic plan, as opposed to a specific GIS strategic plan.		A broadly-defined plan aimed at creating a desired future. See also long term plan, short term plan, strategic business plan.	BusinessDictionary.com		
Organizational cultures	EA1	54	The values and behaviors that contribute to the unique social and psychological environment of an organization. Organizational culture includes an organization's expectations, experiences, philosophy, and values that hold it together, and is expressed in its self-image, inner workings, interactions with the outside world, and future expectations. It is based on shared attitudes, beliefs, customs, and written and unwritten rules that have been developed over time and are considered valid. Also called	BusinessDictionary.com				

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			<p>corporate culture, it's shown in</p> <p>(1) the ways the organization conducts its business, treats its employees, customers, and the wider community,</p> <p>(2) the extent to which freedom is allowed in decision making, developing new ideas, and personal expression,</p> <p>(3) how power and information flow through its hierarchy, and</p> <p>(4) how committed employees are towards collective objectives. It affects the organization's productivity and performance, and provides guidelines on customer care and service, product quality and safety, attendance and punctuality, and concern for the environment. It also extends to production-methods, marketing and advertising practices, and to new product creation. Organizational culture is unique for every organization and one of the hardest things to change.</p>					
Organizational Placement of GIS Management and main Support			<p>Organizational unit or department in which the main GIS management and support are located. See <i>Operating/Line Department GIS Placement, Executive GIS Placement, Support Department GIS Placement, IT Department GIS Placement</i> and <i>External/Independent GIS Placement</i>.</p>	<p>Somers, 1998, "Developing GIS Management Structures for an Organization"</p> <p>Croswell, 2009, The GIS Management Handbook, Ch 3.</p>				
Partnerships	EA11, 17,	23	A form of business that is an	Kamawi, Musa.				

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	18		association of two or more persons acting as co owner of a business	2011. Concise Dictionary of Management Terms. UNITAR (United Nations Institute for Training and Research), p. 26. Available online resource				
Peer review	2		Peer review is the evaluation of a product, process, or operation by qualified professionals in the same field in order to evaluate, maintain or enhance the quality of the work or performance in that field.	URISA Professional Practice Division. April 2014. <i>GIS Best Practices: Identification and Development Guidelines</i> .	A technique by which peers secure observations associated with the behavior of equals	Hamm, Michael S. 1997. <i>The Fundamentals of Accreditation</i> . (Washington, DC: The American Society of Association Executives) p. 152 (the glossary of the book).		
Performance Accountability	EA13, 14	9	An integrated system of planning, budgeting and reviewing results. It is used to judge policies and programs by measuring progress toward agreed-upon performance targets (preferably outcomes). Performance accountability systems have three components- defining performance measures, measuring performance and reporting results.	California Performance Review http://cpr.ca.gov/CPR_Report/Issues_and_Recommendations/Appendix/Glossary_of_Terms.html				
Performance Achievement	EA13, 14	10	A means to measure the extent to which an organization has accomplished its goals based on the standards that it set for itself. These standards include measurable goals with set due	Nancy Obermeyer				

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			dates.					
Performance criteria	EC9		An established set of standards that include both measurable goals and specified due dates by which the goals will be reached. Similar to performance expectations.	Nancy Obermeyer				
Performance expectations	EA6, 13, 14	8	Similar to performance criteria. An established set of shorter-term standards or benchmarks that include both measurable goals and specified due dates by which the goals will be reached.	Nancy Obermeyer				
Performance management	EA12	5	An assessment of an employee, process, equipment or other factor to gauge progress toward predetermined goals. See also organizational development (OD), performance appraisal, application performance management (APM), business performance management (BPM), operational performance management (OPM)	BusinessDictionary.com				
Performance shortfalls	EA13, 14	11	Performance gap: The difference between the current situation and the intended situation. Performance gap analysis helps a business identify how far it has come toward reaching its goals and how far it still needs to go to attain them, with the objective of developing a concrete strategy to close any existing gap.	BusinessDictionary.com				
Political champion		55	An individual, especially one who holds public office, who will help pursue the goals and objectives of a public organization through	Nancy Obermeyer				

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			the use of his or her political persuasiveness. The political champion will seek to pass legislation that will promote the needs of the organization in question.					
Political skills		5	The ability to influence others in such a way as to enhance one's objectives.	Pearson Education: http://wps.pearsoned.co.uk/ema_uk_he_robbins_orgb_euro_1/151/38825/9939244.cw/content/index.html				
Portfolio	EC13, 14, 15	52	Pool of investments, collection of samples of an artist or other creative person, or group of complementary or supplementary products marketed together.	BusinessDictionary.com				
Primary GIS software solution			The basic software used as the foundation for collecting, storing, processing, analyzing, and displaying geographic information.	Nancy Obermeyer				
Process Event	EA9		Events that occur through the <u>IT</u> infrastructure. It allows for normal operation and also detects and escalates exception conditions.	Information Technology Infrastructure Library: http://en.wikipedia.org/wiki/ITIL				
Process Event management	EA9		Event Management is the process that monitors all events that occur through the <u>IT</u> infrastructure. It allows for normal operation and also detects and escalates exception conditions.	Information Technology Infrastructure Library: http://en.wikipedia.org/wiki/ITIL				
Process improvement		35	Business process improvement is	http://en.wikipedia.org/wiki/ITIL	Systematic approach to the	BusinessDictionary.com		

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			a systematic approach to help an organization optimize its underlying processes to achieve more efficient results. The methodology was first documented in H. James Harrington's 1991 book Business Process Improvement.	.org/wiki/Process improvement	closing of process or system performance gaps through streamlining and cycle time reduction, and identification and elimination of causes of below specifications quality, process variation, and non-value-adding activities.	.com		
Procurement	EA5		The act of obtaining or buying goods and services. The process includes preparation and processing of a demand as well as the end receipt and approval of payment. It often involves (1) purchase planning, (2) standards determination, (3) specifications development, (4) supplier research and selection, (5) value analysis, (6) financing, (7) price negotiation, (8) making the purchase, (9) supply contract administration, (10) inventory control and stores, and (11) disposals and other related functions. The process of procurement is often part of a company's strategy because the ability to purchase certain materials will determine if operations will continue. A business will not be able to survive if it's price of procurement is more than the	BusinessDictionary.com				

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			profit it makes on selling the actual product.					
Production database	EC7		An operational database stores information about the activities of an organization, for example customer relationship management transactions, in a computer database.	http://en.wikipedia.org/wiki/Production_database				
Professional development	EA12, 16	1, 5, 38	Process of improving and increasing capabilities of staff through access to education and training opportunities in the workplace, through outside organization, or through watching others perform the job. Professional development helps build and maintain morale of staff members, and is thought to attract higher quality staff to an organization. Also <u>called</u> staff development.	BusinessDictionary.com				
Professional GIS	EC16, 17		A Geographic Information System implementation that follows standards of the GIS profession.	Nancy Obermeyer				
Professional GIS Management	EC16		Management of a GIS implementation that follows the standards established by qualified organizations relying on recognized standards.	Nancy Obermeyer				
Professional GIS Operations Staff	EC17		Individuals who are employed taking care of the day-to-day tasks required to make and keep the GIS functional.	Nancy Obermeyer				
Professional qualifications	EC17		A range of qualifications that are specifically linked to certain career choices, and recognized by the relevant professional bodies (such as the GIS	Bournemouth University http://www.bournemouth.ac.uk/futurestudents/glossar				

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			Certification Institute (GISCI))*. (Nancy added GISCI as the example, replacing an example from the original definition.)	y.html				
Programming	EA5		The action or process of writing computer programs.	https://www.google.com/#q=Programming+definition				
Project Management	EA6, 9, 13, 16	49	The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.	Project Management Institute (PMI). 2013. PMI Lexicon of Project Management Terms. Online resource				
Proposals	EA10	61	Solicited or unsolicited submission by one party to supply (or buy) certain goods or services to (or from) another. Unlike an offer, a proposal is not a promise or commitment but, if accepted by the other party, its proposer is expected to follow through and negotiate for the creation of a binding contract. If submitted in response to a request for proposals (RFP), it normally constitutes a bid.	BusinessDictionary.com				
Public review	2		Release of a draft document with the request for comments by interested parties and the general public, usually for a period of 60-90 days.					
Purchasing and contracting processes	EA10	60, 61	Purchasing: The activity of acquiring goods or services to accomplish the goals of an organization. The major objectives of purchasing are to (1) maintain	BusinessDictionary.com	Subcontracting: A business practice where main contractor hires additional individuals or companies called subcontractors to help complete a project. The main contractor is	BusinessDictionary.com		

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			the quality and value of a company's products, (2) minimize cash tied-up in inventory, (3) maintain the flow of inputs to maintain the flow of outputs, and (4) strengthen the organization's competitive position. Purchasing may also involve (a) development and review of the product specifications, (b) receipt and processing of requisitions, (c) advertising for bids, (d) bid evaluation, (e) award of supply contracts, (f) inspection of good received, and (g) their appropriate storage and release.		still in charge and must oversee hires to ensure project is executed and completed as specified in contract.			
Quality	EA1, 5, 7	50	The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.	Hamm, Michael S. 1997. The Fundamentals of Accreditation. (Washington, DC: The American Society of Association Executives) p. 152 (the glossary of the book).				
Quality assurance	EA4		The procedures and resources an organization uses to control variables in product/service design and operation in order to produce a product/service of consistent quality meeting defined specifications or standards.	Hamm, Michael S. 1997. The Fundamentals of Accreditation. (Washington, DC: The American Society of Association Executives) p. 152 (the glossary of the book).				

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Quality Assurance and Quality Control (QA/QC)	EC1, 2, EA2, 3, 7	44	Quality assurance: A process used to verify the quality of a product after its production. Quality control: A process used during production of a product to ensure its quality.	Wade, Tasha and Shelly Sommer. 2006. A to Z GIS. (Redlands, CA: ESRI Press), p. 172.				
Quality Management Plan			A component of the project or program management plan that describes how an organization's quality policies will be implemented.	Project Management Institute (PMI). 2013. PMI Lexicon of Project Management Terms. Online resource				
Recognition			GMI will grant recognition to organizations who achieve acceptable levels in their GISCOM assessment.					
Recognized professional standards			Standards of performance that people are expected to achieve in their work, and the knowledge and skills they need to perform effectively. These standards are developed by practitioners with expertise in the field.	http://en.wikipedia.org/wiki/Professional_standards (modified by Nancy Obermeyer)				
Regional	EA11		A geographic area spanning more than a single jurisdiction.		Pertaining to a small geographical area. "He liked to listen to the regional news to get an idea of what events were happening in his hometown."	BusinessDictionary.com		
Regional Collaboration	EA11		Cooperation between and among organizations within a specified geographic region. This collaboration may include sharing of software, data, and/or staff.	Nancy Obermeyer				
Relationship management		5	Working with a wide variety of people within an organization and in the broader GIS community. It is crucial to	Based on definition by https://www.google.com/#q=relation				

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			effectively balance these relationships and keep things running smoothly.	ship+management +skills+definition				
Repeatable process	2, 18		Level 2 of the Capability Maturity model characterizing processes that are repeatable, possibly with consistent results. Process discipline is unlikely to be rigorous, but where it exists it may help to ensure that existing processes are maintained during times of stress.					
Replacement Plan	EC10		A process for identifying a potential candidate to replace core individual employees either known to be leaving the firm at some point in the future and/or whose sudden departure would pose a risk to the operation of the firm.	https://www.google.com/#q=replacement+planning+definition http://www.hrnorge.no/?action=Article.publicShow:id=1768:module=Articles				
Requirements development	EA5		The process of defining a project's scope, identifying user classes and user representatives, and eliciting, analyzing, specifying, and validating requirements. The product of requirements development is a requirements baseline that defines the product to be built	https://www.google.com/#q=requirements+development+definition http://www.processimpact.com/UC/Module_3/data/downloads/glossary.html				
Resource Allocation			The planning step that determines where the resources will come from (for instance, borrowing versus internally generated funds) and how the resources will be deployed to achieve the agreed on objectives	Kamawi, Musa. 2011. Concise Dictionary of Management Terms. UNITAR (United Nations Institute for				

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				Training and Research). Online resource				
Resource Allocation Management	EA16	50	Managing the assignment and distribution of the available resources in an economic way. It is part of resource management. In project management, resource allocation is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time.	Based on Wikipedia: http://en.wikipedia.org/wiki/Resource_allocation				
Resource-commitment	5		<i>Resource commitment</i> refers to the level of dedicated assets – physical or human.	http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.9608&rep=rep1&type=pdf				
Resource/Service Center GIS Organizational Structure			An organizational model in which one (or more) GIS units provide data and services to other parts of the organization on an on-demand basis, without organization-wide proactive coordination of GIS standards or operations.	Somers, 1998, "Developing GIS Management Structures for an Organization"				
Risk		25	An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.	Project Management Institute (PMI). 2013. PMI Lexicon of Project Management Terms. Online resource				
ROI	1, EA1		A performance measure used to evaluate the efficiency of an investment (potential or existing) or to compare the efficiency of a		(ROI) a measure comparing training programs monetary benefits with its	Kamawi, Musa. 2011. Concise Dictionary of Management		

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			number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment, factoring in time and discount rate.			Terms. UNITAR (United Nations Institute for Training and Research). Online resource		
Schedule	EA5	50	1. Auxiliary, explanatory, or supplemental document that forms part of a principal document, such as a list of individual items (with their descriptions and values) covered by an insurance policy, or a depreciation schedule that provides supporting details to a financial statement. 2. Timetable for a program or project showing how activities and milestone events are sequenced and phased over the allotted period. 3. Written or printed catalog or list of charges, items, prices, etc., arranged or organized in alphabetical, chronological, magnitudinal, or any other classification or order	BusinessDictionary.com				
Scope (scope of work)	EA1, 10, 16	50, 59	The division of work to be performed under a contract or subcontract in the completion of a project, typically broken out into specific tasks with deadlines.	BusinessDictionary.com				
Secondary GIS software solution			Additions to the primary GIS software to improve its performance.	Nancy Obermeyer				
Security	EC1, 2	74	Protecting a database from destructive forces and the unwanted actions of	http://en.wikipedia.org/wiki/Data_security				

<i>Term</i>	<i>GISCOM Reference</i>	<i>GMCM Reference</i>	<i>Definition_1</i>	<i>Source_1</i>	<i>Definition_2</i>	<i>Source_2</i>	<i>Definition_3</i>	<i>Source_3</i>
			unauthorized users.					
Security procedure	EA8	4	"Security procedure" means a procedure employed for the purpose of verifying that an electronic signature, record or performance is that of a specific person or for detecting changes or errors in the information in an electronic record. "Security procedure" includes a procedure that requires the use of algorithms or other codes, identifying words or numbers, encryption, or callback or other acknowledgment procedures.	OregonLaws.org http://www.oregonlaws.org/glossary/definition/security_procedure				
Selection criteria	EA10	62	Categories of qualification, capabilities or experiences (academic or other), which can provide the basis for screening and choosing which elements to accept and which to reject.	Modified from http://alis.alberta.ca/ps/ep/aas/ta/faq/glossary.html				
Self-assessment	5		Continuing process through which managers at all levels evaluates the effectiveness of their performance in all areas of responsibility, and determine what improvements are required.	BusinessDictionary.com				
Self-management		5	The act of administrating funds conducted directly by the owner of the funds instead of through a professional money or business manager. In both business and investing, the typical self-management process generally involves acting on behalf of one's personal account.	BusinessDictionary.com				
Service Delivery	EA3		Service a public organization gives to his or her customers.	Based on: http://www.ask.com/question/definiti				

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				on-of-service-delivery				
Service level agreement (SLA)	EA1, 8, 10, 15	63	Contract between a service provider and a customer, it details the nature, quality, and scope of the service to be provided. Also called service level contract.	BusinessDictionary.com				
Service to the community and to the profession	EA22	14, 39	Contribution of skills and work without remuneration to one's neighborhood, city, or other geographical location OR to one's profession.	Nancy Obermeyer				
Solicitations	EA10	60	Act or instance of requesting or seeking bid, business, or information. Unlike an offer, a solicitation is not a clear indication of the intention to enter into a binding agreement.	BusinessDictionary.com				
Spatial Data Warehouse	EC7		A subject-oriented, integrated, time variant, nonvolatile collection of spatial data that support a company's decision making process. In essence, a data warehouse is a large database organizing operational data in a repository for easy query and analysis. It is a well conceived and well designed environment containing data that are key to an organization's decision making process. By definition, a data warehouse is a large database designed to support the decision making needs of an organization.	ESRI: http://spatialnews.geocomm.com/whitpapers/datawarehouse1.pdf				
Staff / Staff Resources	EA12		1. The entire group of employees who work at a company.	BusinessDictionary.com				

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			2. Those employees who work under a given supervisor. 3. The act of holding a position at a company.					
Staff Development	EA12		The acquisition of skills and knowledge both for personal development and for career advancement.	Wikipedia http://en.wikipedia.org/wiki/Staff_development	The processes, programs and activities through which every organization develops, enhances and improves the skills, competencies and overall performance of its employees and workers.	e-how http://www.ehow.com/facts_5059005_definition-staff-development.html		
Staff effectiveness	EA12		The degree to which employees in an organization achieve the stated objectives and the extent to which targeted problems are solved.	BusinessDictionary.com				
Staff productivity	EA12		A measure of the efficiency of a person, in converting inputs into useful outputs. Productivity is computed by dividing average output per period by the total costs incurred or resources (capital, energy, material, personnel) consumed in that period. Productivity is a critical determinant of cost efficiency.	BusinessDictionary.com				
Stakeholder satisfaction	EA15	46	The extent to which a person or group with an interest in the outcome of an organization's work is pleased with the results of that organization's work. The stakeholder may be a financial stakeholder, a customer, a member of the organization's staff, an elected official, or other individual or group with something to gain or lose as a result of the organization's	Based on http://www.trst.com/art-ant-cam.htm Nancy Obermeyer				

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			actions.					
Stakeholders	EC19, EA1, 11	17, 33, 46	All the parties that have an interest in a program, project, or operation such as GIS.	Somers	All the parties that have an interest, financial or otherwise, in a company, including shareholders, CREDITORS, bondholders, employees, customers, management, the community and GOVERNMENT.	BusinessDictionary.com		
Statements of Work (SOW)	EA1	59	Generally, statements of work define requirements in clear, concise language identifying specific work to be accomplished. Statements of work must be individually tailored to consider the period of performance, deliverable items, and the desired degree of performance flexibility.	Department of General Services Bureau of Procurement				
Strategic Goals	EC20		The planned objectives that an organization strives to achieve. Most senior managers will take the time to develop and articulate appropriate strategic goals for their business in order to demonstrate to subordinate employees what their plans and vision for the company are. Such strategic goals should be achievable and should reflect a realistic assessment of the current and projected business environment.	BusinessDictionary.com				
Strategic partner			Party with which a long-term agreement is reached for sharing of physical and/or intellectual resources in achievement of defined common objective.	BusinessDictionary.com				
Strategic Partnership		29	A strategic partnership is a	Wikipedia				

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			formal alliance between two commercial enterprises, usually formalized by one or more business contracts but falls short of forming a legal partnership or, agency, or corporate affiliate relationship.	http://en.wikipedia.org/wiki/Strategic_partnership				
Strategic plan	EA1	40	A strategic plan in is the written result of strategic planning. (See <i>Strategic Planning</i> .)		A broadly-defined plan aimed at creating a desired future. See also long term plan, short term plan, strategic business plan.	BusinessDictionary.com		
Strategic planning		5	Strategic planning determines where an organization is going over the next year or more, how it's going to get there and how it'll know if it got there or not.	McNamara, All About Strategic Planning	Strategic Planning: the basis of a corporate plan or other broad based and long term assessment of an organization's future	Kamawi, Musa. 2011. Concise Dictionary of Management Terms. UNITAR (United Nations Institute for Training and Research). Online resource		
Strategic planning cycle		41	Planning that prioritizes ideas, assesses their relevance and potential, and documents the steps in the work you are going to do. The best way to start is to work with a written plan template and put down all your ideas. This helps in Improving Project Planning and Practices is comprehensive and practical.	Ask.com http://www.ask.com/question/what-is-a-planning-cycle				
Strawman Draft	2	2	"Alpha" version of the Geospatial Management Competency Model					
Succession planning	EA12		Identification and development of potential successors for key positions in an organization, through a systematic evaluation process and training. Unlike replacement planning (which	BusinessDictionary.com				

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			grades an individual solely on the basis of his or her past performance) succession planning is largely predictive in judging an individual for a position he or she might never have been in.					
Support Department GIS Placement			GIS management and main support are placed in a department that provides other support to the entire organization (Such as a technology or operations research support department)	Somers, 1998, "Developing GIS Management Structures for an Organization"				
System security	EA8		Control of access to a computer system's resources, specially its data and operating system files.	BusinessDictionary.com				
Team management		5	The administration of a group of people assembled to work on a particular project or to perform a particular function within an organization. Team management typically involves setting team priorities and performance objectives, reviewing performance and methods employed, and spearheading the team's decision making process	BusinessDictionary.com				
Teamwork	EA13, 14	18	The process of working collaboratively with a group of people in order to achieve a goal. Teamwork is often a crucial part of a business, as it is often necessary for colleagues to work well together, trying their best in any circumstance. Teamwork means that people will try to cooperate, using their individual	BusinessDictionary.com				

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			skills and providing constructive feedback, despite any personal conflict between individuals.					
Technical Infrastructure	EC9, 10, EA8	72	The integrated framework upon which digital networks operate. This infrastructure includes data centers, computers, computer networks, Database Management devices, and a regulatory system. In information technology, and on the Internet, infrastructure is the physical hardware used to interconnect computers and users. Infrastructure includes the transmission media, including telephone lines, cable television lines, and satellites and antennas, and also the routers ^[1] that transfer data between disparate transmission technologies	Wikipedia, http://en.wikipedia.org/wiki/Information_technology_infrastructure				
Technology standards		1	A type of command-and-control regulation that requires firms to use a particular technology to achieve their goals.	Based on McGraw-Hill Higher Ed: http://highered.mcgraw-hill.com/sites/0073511358/student_view0/glossary.html				
Technology trends		1	The general course or prevailing tendency in the development and use of technology.	Based on Dictionary.com http://dictionary.reference.com/browse/trend				
The Model	1		Originally conceived for software development, The Model started as a set of best practices that was formalized in form of the Quality Management Maturity	Crosby, P. B. (1979). <i>Quality is Free</i> . New York: New American Library. ISBN 0-				

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			Grid (Crosby, 1979). Humphrey transformed it into what then became known as the Capability Maturity Model.	451-62247-2. Humphrey, W. S. (March 1988). "Characterizing the software process: A maturity framework". <i>IEEE Software</i> b (2): 73-79. doi:10.1109/52.2014.				
User Support	EA2		Access to additional help for users of GIS software to ensure the smooth and uninterrupted operation of the enterprise. Individuals providing user support must be qualified to deal with emergencies as well as with day-to-day operations.	Nancy Obermeyer				
Work functions		1	The roles, responsibilities, activities and interactions expected of a worker.					
Work management		5	Techniques applied to the organization and conduct of work for purposes of maintaining efficiency or effecting improvement.	Project Management Dictionary	A set of software products and services that apply workflow structure to the movement of information as well as to the interaction of business processes and human worker processes that generate the information. Work management streamlines and transforms crucial business processes and thus can improve results and performance.	Gartner IT Glossary		
Work teams	EA13, 14, 16	19	A group of employees that works semiautonomously on recurring tasks. Work teams are most useful where job content changes frequently and employees with limited skills and	BusinessDictionary.com				

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			a specific set of duties are unable to cope.					