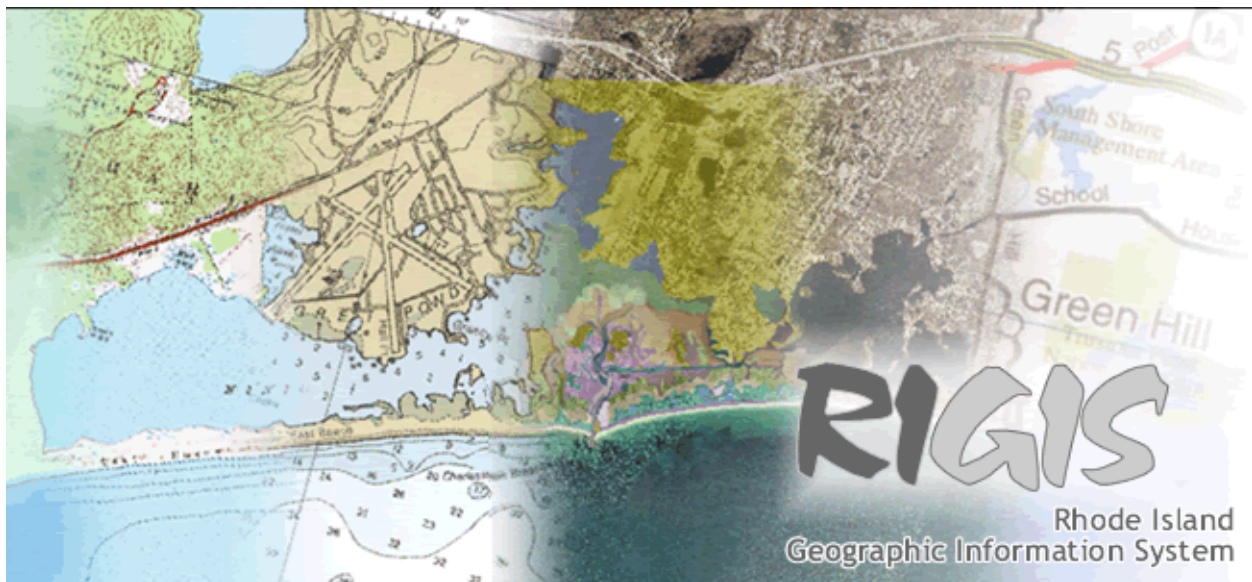


FY2017 - FY2021 STRATEGIC MANAGEMENT PLAN

FOR THE

RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM



**State of Rhode Island, Department of Administration,
Division of Planning - RIGIS
One Capitol Hill
Providence, Rhode Island 02908-5872**

As Reaffirmed by the RIGIS Executive Committee on June 30, 2016
As Approved by the State Planning Council on

EXECUTIVE SUMMARY

The purpose of this strategic planning document is to provide a direction for the future development and use of Geographic Information Systems (**GIS**) in Rhode Island for the period from July 1, 2016 through June 30, 2021.

The document traces the background of the Rhode Island Geographic Information System (RIGIS) from its inception by the Director of the Rhode Island Department of Environmental Management and the University of Rhode Island in 1985 and the further evolution of the organization through increased participation by other public, private and academic organizations. The existence of a common GIS database and its management by the Department of Administration and the University of Rhode Island were recognized in state law in 1990. The same enabling legislation established the RIGIS Executive Committee (RIGIS EC) as an oversight management body for the system.

Procedures concerning the contribution of material into the RIGIS database as well as general policies regarding its maintenance and accessibility are recognized and have been detailed through the acceptance of standards and guidelines. Education and outreach activities within the state are continuing efforts by and for the GIS community. This includes participation in and contributions by RIGIS members in regional and national organizations.

An assessment of this document including a review and evaluation of its elements will be conducted on an annual basis to confirm that goals, objectives and strategies remain appropriate or that modifications or adjustments may be in order. Currently this plan outlines six goals and objectives related to the development and use of geospatial information in Rhode Island.

1. **RIGIS Administration:** Through the oversight of the Supervising Geographic Information System (GIS) Specialist (aka RIGIS Coordinator) within the Department of Administration, Division of Planning, strengthen RIGIS by supporting the RIGIS Executive Committee, the RI State Enterprise GIS, coordinating with Federal and State governments, collaborating with municipal governments, private and non-profit GIS partners, and exploring and increasing geospatial funding options.
2. **Database Management:** Improve the RIGIS database by developing and implementing procedures and methods for examining database contents, locating other data available, and soliciting high-quality geospatial data contributions.
3. **Technical Standards:** Improve existing and adopt new standards and best practices, and develop templates for standard key components.
4. **Database Access and Distribution:** Provide GIS users with free, user friendly, efficient access to RIGIS data and relevant derived products. Review and improve how RIGIS distributes data to both outside organizations and internal state agencies.
5. **Education & Training:** Support and promote geospatial curriculum and the use of geospatial technologies to teach and learn in existing curriculum areas within Rhode Island educational institutions. Encourage and facilitate geospatial training programs and learning opportunities throughout the state.
6. **Outreach:** Promote the use of geospatial technologies in Rhode Island by maintaining a RIGIS Community Directory, publicizing GIS and related geospatial technology training, workshops, and events, and promoting RIGIS through various media outlets.

FIVE YEAR STRATEGIC MANAGEMENT PLAN

STATEMENT OF PURPOSE

The purpose of this plan is to present a management strategy for the Rhode Island Geographic Information System (RIGIS) for the five year period from July1, 2016 through June 30, 2021 to align with the State of RI fiscal years (FY2017 – FY2021). It is intended to outline a direction for the comprehensive development, use and availability of Geographic Information Systems (GIS) technology and geospatial information in Rhode Island. This includes the interests of the present RIGIS participants as well as other organizations or special interest groups that are either currently involved with or might benefit from this technology in the future. A primary goal of the RIGIS is to coordinate common efforts among existing and potential participants in the state. In addition, RIGIS participants provide technical counsel on the implementation of GIS technologies and use of geospatial information.

INTRODUCTION

A geographic information system (GIS) is an organizational structure, a suite of technical tools, and a geographically related database used to assimilate, analyze and depict location-related or geospatial information. The Rhode Island Geographic Information System (RIGIS) is a consortium of government entities, academic institutions and private organizations that employ GIS technology and use geospatial information.

VISION

RIGIS will be the acknowledged coordinator of efforts to implement and employ GIS technology throughout the state and the accepted source for quality geospatial information in Rhode Island.

RIGIS MISSION

To monitor, coordinate, and provide leadership for activities related to the use of geographic information system technology in Rhode Island; to support initiatives that implement or use this technology; and to manage and provide access to a common and comprehensive database of geographically referenced information that conforms to RIGIS-accepted minimum standards for accuracy, completeness and documentation.

VALUES

The RIGIS and its participants will preserve and rely upon an open and honest exchange of knowledge related to the use of geospatial information in Rhode Island.

BACKGROUND

1985

The Director of the State of Rhode Island Department of Environmental Management (RIDEM) started the precursor to the RIGIS through an agreement with the University of Rhode Island (URI). That agreement established a GIS for the management and analysis of environmental data in Rhode Island. The Rhode Island Department of Transportation (RIDOT), the Rhode Island Department of Administration - Division of Planning (RIDOP), and the RI Solid Waste Management Corporation (RISWMC, now RIRRC) joined this effort shortly thereafter. Each supported the concept of a unified, centrally-managed database of geospatial information. An informal committee of top-level management from each of these five organizations met on an ad hoc basis to provide overall coordination. The University of Rhode Island provided technical management of the database.

From the beginning, GIS in the State of Rhode Island involved four state government organizations plus the URI Environmental Data Center (URI-EDC) supporting their own internal GIS efforts through various forms of funding including contractual awards or grants. These efforts included the purchase of computer hardware and software, the assignment of operating personnel, and funding for the development of information applicable to their own agencies' or institution's needs. Realizing the benefits of an open, accurate, and accessible information resource, these partnering organizations contributed considerable data into a common RIGIS database. Early on, the Rhode Island office of the USDA-SCS (now NRCS) and the Narragansett Bay Commission (NBC) also significantly contributed to the database building effort. Initially this RIGIS database was housed at the URI-EDC. Until 1991 the URI-EDC used internal staff to perform all database management functions including assimilation of data, cataloging and distribution.

1989

RIGIS database copyright privileges under U.S. law were applied for and established in 1989.

1990

In 1990, legislation was enabled to amend the *General Laws of Rhode Island* to include language pertaining to a statewide geographic information system.

Chapter 42-11-2

- (20) The Department of Administration shall have the power and duty “To devise, formulate, promulgate, supervise, and control a comprehensive and coordinated statewide information system designed to improve the database used in the management of public resources, to consult and advise with other state departments and agencies and municipalities to assure appropriate and full participation in this system, and to encourage the participation of the various municipalities of this state in this system by providing technical or other appropriate assistance toward establishing,

within those municipalities, compatible information systems in order to obtain the maximum effectiveness in the management of public resources;

- (i) The comprehensive and coordinated statewide information system may include a Rhode Island geographic information system of land-related economic, physical, cultural and natural resources.
- (ii) In order to ensure the continuity of the maintenance and functions of the geographic information system, the general assembly may annually appropriate such sum as it may deem necessary to the department of administration for its support.”

Chapter 42-11-10

- (f) (6) Pertaining to the Statewide Planning Program, the State Planning Council will "establish and appoint members to an executive committee consisting of major participants of a Rhode Island geographic information system with oversight responsibility for its activities."
- (g) (3) "The Division of Planning shall manage and administer the Rhode Island geographic information system of land related resources, and shall coordinate these efforts with other state departments and agencies, including the University of Rhode Island, which shall provide technical support and assistance in the development and maintenance of the system and its associated database."

Chapter 16-32-30

Language was added for the University of Rhode Island whereby, it was “authorized and empowered to establish in connection with the University and within the Department of Natural Resource Sciences a geographic information system laboratory with suitable facilities for developing and maintaining a level of scientific and technical expertise in the use of computer technology in the management of land-related natural resources. This will include maintaining a statewide database of land related economic, physical, cultural, and natural resources and providing for controlled access of this database to the university community; other state, municipal and federal departments and agencies; and the general public.” ... “The University shall cooperate with and provide technical assistance to the Division of Planning of the Department of Administration in the management of the statewide geographic information system and shall advise other state, municipal and federal departments and agencies and the general public in its use.”

Chapter 16-32-31

This next section of the General Laws addressed the University of Rhode Island's authorization to fund the GIS laboratory: "The general assembly may annually appropriate such sum as it may deem necessary for maintaining the geographic information system laboratory within the department of natural resource sciences, and the state controller is hereby authorized and directed to draw his or her orders upon the general treasurer for the payment of said sum, or so much thereof as may

from time to time be required, upon receipt by the controller of properly authenticated vouchers."

1991

The RIDOP assumed responsibilities for database administration and external data distribution in 1991. RIGIS data was exchanged between participants and made available to the public on magnetic tape media.

1996

In 1996 a computer data server was established at the URI-EDC for electronic data download over the Internet for RIGIS participants and the general public.

1997-2007 (The Next Decade)

Rapid development and use of GIS in Rhode Island and participation in the RIGIS occurred over the years. This was due not only to the realization of the benefits and advantages of using GIS tools, but also to the efforts of the GIS community at large in showcasing this technology. In this state, RIGIS has always been a proponent of this effort and has sponsored or participated in many technical assistance efforts and outreach activities. As a result, the use of GIS technology permeated into all levels of government and was heavily employed by many private sector companies and organizations. This was accompanied by rapid expansion and heavy use of the spatial information in the RIGIS database.

In its desire to foster the development and use of GIS, the RIGIS EC expanded its membership to include GIS users from many different disciplines and organizations including public and private educational institutions, health and public safety, and a rapidly expanding interest by municipal government.

2008

To back up enacted legislation set for the URI-EDC to support the RIDOP with the development, distribution and support of the RIGIS database, an annually-renewed contractual funding agreement was established. To-date, these funds have been sufficient to cover roughly 50% of the salary and expenses of one staff person at the URI-EDC for the purpose of maintaining the RIGIS website, database and map services.

2009

In response to a long-term desire of GIS users in Rhode Island to be able to view the RIGIS database information without first having to download its layers and load them into a GIS software viewer, the Rhode Island Digital Atlas was created. Using this online tool through the RIGIS website, along with map services developed to support it, GIS users can view the latest version of key RIGIS data sets before choosing to download them.

The RIGIS website was enhanced to include a blog, and an event calendar. As an augmentation to the RIGIS-L listserv, these two other tools are utilized to inform the RIGIS community of changes to the database and of key dates of upcoming events.

Working groups were created for the RIGIS EC. These working groups were formed from the four major tenets of RIGIS: database maintenance, data distribution, standards creation and outreach. Each group was tasked with identifying goals and establishing priorities coordinated with this document. It was decided that action items created from this process would be presented at RIGIS EC meetings for discussion, and when appropriate, subcommittees would be created to focus on their completion.

The RIGIS User Group (RIGIS UG) was reestablished to give RIGIS members an opportunity to show off their accomplishments to their peers, and to give the opportunity for vendors to highlight recent accomplishments in RI. Both the RIGIS EC and RIGIS UG meetings occur quarterly so that both sets of meetings fall approximately 1.5 months apart. RIGIS EC meetings are held at a constant location, while RIGIS UG meetings rotate around the state to encourage local participation.

A Memorandum of Understanding between the RIGIS Executive Committee and the Rhode Island Board of Registration for Professional Land Surveyors (PLS) was established to define the term “Authoritative”, identify the most common examples of authoritative PLS work products and GIS derived non-authoritative products, and describe actions necessary to minimize misuse of geospatial data.

2010

Due to a lack of sustainable funding for the urgent ongoing maintenance needs of the RIGIS database, including its many data sets, a need was identified to focus on a sustainable funding mechanism for RIGIS. Current funding mechanisms are primarily used to create new snapshots for the most requested statewide datasets for the RIGIS database. This leaves the majority data sets in the RIGIS database without a regular, business-process driven (and therefore operating budget funded) update mechanism.

At NSGIC conferences, the majority of state GIS coordinators identified the lack of sustainable funding as their biggest concern. Collectively NSGIC, representing all state GIS programs, has identified several “For the Nation” (FTN) initiatives that focus on the standardization and national collection of geospatial information related to Imagery, Transportation, Addresses, Cadastral (Parcel) and Elevation. RIGIS fully supports these initiatives.

A vision was developed through which information would be created and maintained closest to its source (primarily by municipalities or state agencies) using industry standards and then incorporated into the RIGIS database to be consumed by federal government agencies. All future RIGIS activities will support this vision.

2011

Enterprise GIS System Architecture report was created by Esri to provide a GIS system design appropriate to state GIS business needs. These “needs emphasized the importance of creating a centralized system of shared GIS resources and capabilities, complemented by departmental resources. Key objectives included reducing data duplication, improving the currency and accuracy of information used in decision-making, and increasing the reliability of systems.”

2013

As of July, the RI Emergency Management Agency (RIEMA) had secured grant funding for the implementation of the RI State Enterprise GIS with ESRI through MPA230. This included RIEMA GIS Servers both for the agency as well as for asynchronous replication of the RI State Enterprise GIS. The ESRI Enterprise Advantage Program (EEAP) had been specified and designed to contain the co-management of the State’s Enterprise GIS for a one year period, the staff identification and formal matrix for GIS Learning and Services Credit blocks to support it, and the installation of server hardware and ArcGIS software. This EEAP was broken into Activities 1-4 and was able to provide for review of technology strategy, systems design, prototyping and other general technical consulting services to support activities. Activity 1 – Senior Consultant Support at EEAP Annual Planning Session was fully attended and documented resulting in the establishment of the RI State Enterprise GIS.

2014

The EEAP Activity 2, saw the establishment of the RI State ArcGIS Online Organizational Account or RI State GIS Data Portal through its’ WebGIS Jumpstart Launch Kit in January. (See <http://ristate.maps.arcgis.com>).

EEAP Activity 3, involved the initial prototype effort to leverage the new ArcGIS online portal to accommodate a mobile building inspections application. This need was based upon the RI State Hurricane Sandy event recovery efforts.

The last EEAP Activity 4, saw General Technical Consulting with GIS Staff interactively whiteboarding out data repository workflows. That process included proposing mechanisms and methodologies for performing desired RI State Enterprise GIS workflows.

In support of both Rhode Island state government and federal government open data initiatives, the RIGIS Executive Committee decided to rescind the RIGIS license agreement, as of August 31, 2014.

RIGIS Newsletter was established and will be submitted on an as needed basis to promote events, opportunities, geospatial projects, technology uses as well as RIGIS working group progress.

2015

The Chief Information Officer position in DOIT is merged into a dual role within the Chief Digital Officer (CDO). The RIEMA GIS Enterprise Servers are installed at the newly renovated State Emergency Operations Center (SEOC). Although mentioned as part of the 2013 EEAP, this installation was severely delayed due to staff turnover and re-assignments.

At the end of the year, the Director of Administration, the CDO, and the Director of Emergency Management came together under task by newly elected Governor Raimondo to further define the RI State Enterprise GIS. RIEMA to create a 2016 Business Plan/ Strategic Management Plan for RI State Enterprise GIS.

2016

RIEMA has shared an online draft outline with several agencies for the 2016 Business Plan/ Strategic Management Plan for RI State Enterprise GIS.

RIGIS and The RIDOA Statewide Planning Program developed the Geographic Information System Standard for Digital Parcel Data Sets with the ultimate goal of providing a framework by which parcel data is published at a municipal level for inclusion in a Statewide Parcel Dataset or to the RIGIS Data Clearinghouse.

RIGIS Minimum Metadata Requirements: A Guide to Creating FGDC-compliant Metadata for Data Submissions to RIGIS was created to guide data providers in creating and writing the minimum standard for FGDC-compliant metadata required for RIGIS data submissions.

The RIGIS website was updated with a more modern design and added features including a standalone Geodatabase (GDB) data download, additional data categories, new Maps section, search function, individual dataset description pages and a new blog accessible via the Homepage.

ORGANIZATION

RIGIS Executive Committee

Oversight policy and guidance of the collective efforts of RIGIS participants was formulated by an executive committee of representatives of organizations using GIS technology in Rhode Island. From its inception, the RIGIS EC was made up of representatives from federal, state and municipal government, academic institutions, non-profit, and the private sector. (See *Appendix A: RIGIS Executive Committee Membership – 2016*)

Members are appointed by the State Planning Council, the legislatively authorized central planning organization for the state. There are no specified term limits for its members. A member of the RIGIS EC selected by majority vote chairs this body at quarterly meetings held throughout the year in public session. The RIGIS Coordinator (aka Supervising GIS Specialist), an employee from the Rhode Island Department of Administration's Division of Planning, provides staff support for this body and acts as the principal liaison among participants and with outside organizations within the state, the Northeastern US, and nationally. Additional staff support for the Executive Committee is provided on a voluntary basis by its individual members and their organizations.

The Executive Committee deliberates on policy issues pertaining to the content and maintenance of a common and consolidated GIS digital database and sets distribution policy for RIGIS database products. There is no binding authority for its individual members to conform to Committee decisions or actions. Neither the RIGIS organization, nor its participants are currently funded as a separate state entity or governmental unit to carry out the functions of this Executive Committee.

RIGIS Database

The RIGIS database consists of *several hundred* individual spatial databases, or data sets, in vector (point, line, polygon) and raster image format. Although originally conceived and built as an information system for the state's coastal and terrestrial natural resource data, it presently includes extensive data in many disciplines.

These include:

- Base Maps
- Biology and Ecology
- Boundaries
- Cultural and Historical
- Elevation and Bathymetry
- Environment and Conservation
- Geology
- Hydrography
- Imagery
- Planning and Cadastral

- Society and Demography
- Soil
- Structures and Facilities
- Transportation
- Utilities and Communications

Contributors and users have and continue to add information to the RIGIS database through formal and informal data sharing agreements, data exchange transactions, and in-house enhancements of existing data sets.

Overall database management is performed jointly by the ***RIGIS Coordinator*** at the RI Statewide Planning Program and the ***RIGIS Data Manager*** at the University of Rhode Island. New additions submitted by individuals or groups are assimilated, and a preliminary check of their data integrity and completeness is performed. (Note: The contributing organization is relied upon to provide metadata and quality assurance procedures prior to submission of data to the RIGIS.) The data documentation or metadata is inspected, and if found acceptable, the data set is added to the list of RIGIS data. Maintenance of data in the form of updates and corrections is left to the organization that originally developed it. Custodial responsibility or stewardship of individual data sets resides with the organization developing those data and with a primary interest and expertise in its thematic content. For instance, the RI Department of Transportation maintains highway infrastructure information and the RI Department of Environmental Management maps wetland resources.

All contributors to the RIGIS database are encouraged to follow standards, and when available, specifications for developing data. Standards and specifications for digital data entry and the writing of metadata files have been accepted by RIGIS members, and are in general use. National Map Accuracy Standards are generally referred to in data development proposals. In the absence of formally accepted specifications, manufacturers' guidelines for hardware and software products are commonly followed. As resources are made available, RIGIS members continue to develop or adopt standards and specifications for use with GIS tools and related technology. (See ***Appendix B: RIGIS Documents, Standards and Guidelines***)

The consolidated RIGIS database is stored and maintained at the Environmental Data Center at the University of Rhode Island and is provided 'as is.' The producer(s) of this dataset, contributors to this dataset, the Rhode Island Geographic Information System (RIGIS) consortium, the State of Rhode Island, and the University of Rhode Island do not make any warranties of any kind for this dataset, and are not liable for any loss or damage however and whenever caused by any use of the dataset.

Information from the RIGIS database is distributed through electronic download from a server maintained by the Environmental Data Center at the University of Rhode Island. The downloading of individual data sets, standalone Geodatabase (GDB), and metadata by electronic transfer is accomplished at no cost using commercial Internet.

Outreach Through Education

The RIGIS Consortium believes that institutions of higher education should offer introductory or advanced courses in geospatial technology and its application as part of regular departmental curricula.

The University of Rhode Island offers a number of courses in the use of geospatial technologies for matriculated students. In addition to traditional undergraduate and graduate courses of study, URI offers a Graduate Certificate in GIS and Remote Sensing.

The URI Environmental Data Center also offers short courses and seminars to the general public in the use of a variety of GIS tools. These courses and events generally concentrate on the usage of desktop and online mapping products and resources, and their applications to various disciplines. In addition, the URI Environmental Data Center assists its URI Cooperative Extension partners with geospatial technology support for a number of outreach and education activities such as the Watershed Watch and Nonpoint Education for Municipal Officials programs.

As it is a virtual requirement for employment these days, RIGIS participants at the state and municipal agency levels consistently support internship programs offered for students. RIGIS participating agencies at the state government level offer internship opportunities for undergraduate and graduate students from Brown University, Bryant University, Johnson and Wales University, Rhode Island College, the University of Rhode Island, as well as Clark University in Worcester, MA.

Short conferences and seminars are offered in the state by RIGIS participants on a special interest basis from time to time. Brown University has offered workshops for organizations not affiliated with that university.

RIGIS members regularly participate and actively support regional conferences such as the Northeast Arc (NEARC) Users Group, the NorthEast chapter of the Urban and Regional Information Systems Association (NEURISA), the Geospatial Information & Technology Association – NorthEast chapter (GITA-NE). RIGIS members regularly participate in national organizations concerned with geospatial issues such as the AAG, ACSM, ASPRS, Esri Users Conference, GITA, NSGIC, and URISA. Rhode Island GIS users often contribute to these events by giving presentations, providing graphic displays, or otherwise assisting their organization.

FIVE YEAR STRATEGIC MANAGEMENT PLAN

GOALS AND OBJECTIVES (GO-) (*What we want to do*)

STRATEGIES (S-) (*How we're going to get there*)

ACTIONS (A-) (*What are we going to do*)

GO-1: RIGIS Administration: Through the oversight of the Supervising Geographic Information System (GIS) Specialist (aka RIGIS Coordinator) within the Department of Administration, Division of Planning, strengthen RIGIS by supporting the RIGIS Executive Committee, the RI State Enterprise GIS, coordinating with Federal and State governments, collaborating with municipal governments, private and non-profit GIS partners, and exploring and increasing geospatial funding options.

S-1: Support the RIGIS Executive Committee (EC) administrative responsibilities by maintaining and encouraging membership, scheduling, developing and posting quarterly agendas, recording and summarizing quarterly meetings, maintaining a digital document inventory, produce an annual report, and update the RIGIS Strategic Management Plan.

A-1: *Maintain membership* representation by soliciting, documenting, and proposing a membership list to the current RIGIS EC for vote and obtaining final approval through the State Planning Council.

A-2: *Encourage membership* participation by sending meeting reminders, encouraging membership and involvement in working groups of interest, and requiring attendance to at least one RIGIS EC meeting per year.

A-3: *Schedule* and secure regular quarterly meetings and space.

A-4: *Develop quarterly agendas* based on RIGIS geospatial needs, advancements, and trends relating to RIGIS coordination and working group topics such as database management, technical standards and best practices, database access and distribution, education and training, and outreach activities.

A-5: *Post quarterly agendas* on the Rhode Island Secretary of State's website following open government guidelines.

A-6: *Record quarterly meetings* to document discussion, votes, action items, and future agenda items.

A-7: *Summarize quarterly meeting minutes* to be reviewed by EC members and approved at the following scheduled meeting.

A-8: *Maintain digital inventory* of all documents viewed and distributed at RIGIS EC meetings.

A-9: *Produce and annual report* highlighting accomplishments or failing of the actions taken over the past year. The successive annual reports will be considered addendums to the Strategic Plan.

A-10: *Update the RIGIS Strategic Management Plan* on a five-year basis by reconfirming and/or revising the overall Strategic Plan including the Background timeline, Organization, Goals & Objectives, Strategies, and Actions, and Appendix's.

S-2: Support the Rhode Island State Enterprise GIS, by inventorying, modeling, prioritizing, and implementing an enterprise GIS system within the State's IT enterprise.

A-1: *Inventory* current, needed, and planned geospatial hardware, software, applications, networking, and databases within State government departments, agencies, and institutions including but not limited to the following information.

Hardware: Server name, function, capacity, installed software, type of security, operating system used, etc.

Software: Type of software and vendor, number and utilization of licenses, and maintenance cost and schedule, etc.

Applications: Platform (web, desktop, mobile, etc.), database technology, and development environment, etc.

Networking: Internet connection and availability, data transfer rate, and type of security, etc.

Databases: Theme, contents, size, source organization, database software, completeness, sensitivity and restrictions, intended use, etc.

A-2: *Model geospatial inventory* to identify necessary acquisitions or improvements to hardware, software, applications, networking, and databases, and determine where resources can be pooled, reallocated, and purchased.

A-3: *Prioritize needs and resources* by consulting with appropriate geospatial vendors and working with state stakeholders to enhance the capabilities of storing, sharing, and accessing geospatial data and resources within Rhode Island State government.

A-4: *Implement an enterprise GIS* based on needs and resources, in the order of priority and feasibility, to establish a common data repository and recovery system, server systems for core RIGIS and State agency geospatial applications and services, and a common geospatial enterprise architecture within the State's IT Enterprise

S-3: Coordinate with Federal government liaisons and agencies through engaging, researching then implementing, bidirectional sharing, collaborating, entering, and assisting with common needs and goals.

A-1: *Engage in liaison activities* (NSGIC, DHS, FGDC, etc) through attendance and participation in national conferences, seminars, and workshops.

A-2: *Research then implement* federal standards, models, and best practices of geospatial uses most appropriate for RI needs.

A-3: *Bi-directionally share* existing data and associated metadata between appropriate Federal and State agencies.

A-4: *Collaborate on joint ventures* with Federal agencies and geospatial experts to acquire common interest data utilizing federal funding when available.

A-5: *Enter existing RIGIS database metadata* into federal GIS inventory systems (NSGIC GIS Inventory, USGS - The National Map, Data.gov, etc.)

- A-6: Assist Federal agencies** with GIS related needs in emergency planning, response and recovery efforts for drills and events affecting Rhode Island.
- S-4: Coordinate State government and regional GIS activities** by collaborating, engaging, inventorying, supporting, coordinating resources, and providing a Master Price Agreement for geospatial technology and services.
- A-1: Collaborate with other states** through joint project ventures relating to common data themes, applications, standards and best practices.
- A-2: Engage in liaison activities** through attendance and participation in regional (NEARC, NEURISA, GITA-NE, etc.) and state (RISPLS, RIGIS User Group, etc.) conferences, seminars, and workshops.
- A-3: Inventory Rhode Island State government agencies, commissions and boards** actively using or seeking to take advantage of GIS technology by collecting and adding appropriate information (GIS and/or technical contacts, department, geospatial focus, etc) to an on-line RIGIS Community Directory.
- A-4: Support Rhode Island State government** with establishing and implementing GIS capabilities through policy guidance, technical support, standards and best practices, involvement with the RIGIS community, updating their inventory, and other GIS resources.
- A-5: Coordinate State government GIS resources and activities** to maximize advantageous cooperative ventures, minimize redundancy of effort, and increase efficiency with respect to the development, contribution, and updating of geospatial information and applications utilizing the RIGIS database.
- A-6: Provide and encourage the use of Master Price Agreements** for geospatial technology and service offerings through the Rhode Island Department of Administration, Division of Purchasing.
- S-5: Collaborate with Municipal government** by engaging, inventorying, providing, informing, supporting, and assisting with GIS activities, efforts, and resources.
- A-1: Engage in liaison activities** (RILOCAT, RIAAO, RI-GMIS, etc.) through attendance and participation in local conferences, seminars, workshops, and meetings.
- A-2: Inventory Municipal government departments** actively using or seeking to take advantage of GIS technology. Including but not limited to the following information: primary geospatial and subject area contacts (parcels, zoning, addressing, land use, etc.), software and database technology, stage of GIS development, number of GIS users, and resources available (desktop, mobile, web applications, etc.)
- A-3: Provide an online GIS resource library** for Municipalities to make their geospatial data and capabilities known, and add department contact information to the RIGIS Community Directory.
- A-4: Inform existing and interested municipalities** of available GIS resources including the RIGIS Community Directory of state and municipal contacts, statewide initiatives, regional data acquisition efforts, online mapping tools and

training, applications, standards and best practices, etc.

A-5: *Support GIS activities* in Rhode Island municipalities by providing technical guidance, implementation ideas, letters of support, and best practices.

A-6: *Support the Municipal GIS User Group* by helping coordinate on issues of concern, encourage data sharing, promote training opportunities, collaborative opportunities, and present information on current events.

A-7: *Assist Municipalities with comprehensive plan mapping needs* by providing mapping guidelines and best practices, map templates and layerfiles, technical support, and web mapping applications that utilize RIGIS data.

S-6: *Collaborate with private and non-profit GIS partners* by engaging, providing, exploring, and facilitating GIS ventures, activities and efforts.

A-1: *Engage in liaison activities* (ESRI, Pictometry, etc.) through attendance and participation in private and non-profit conferences, seminars, workshops, and meetings.

A-2: *Provide an online GIS resource library* for private and non-profit companies, organizations, and individuals to make their geospatial data and capabilities known in a fair and unbiased manner, and add company contact information to the RIGIS Community Directory.

A-3: *Explore and engage in the assimilation or incorporation of data* developed by private and non-profit partners, to maximize the use of existing efforts and products. Include the results of this effort to the online GIS resource library.

A-4: *Facilitate cost sharing ventures and partnering opportunities* between public, private, and non-profit organizations with mutual interests in performing GIS related projects such as data and application development, implementation planning, etc.

S-7: *Exploring and increasing geospatial funding* options by establishing, exploring, facilitating, and identifying and publicizing availability of cost-sharing and funding opportunities.

A-1: *Establish long term funding* of RIGIS at RIDOA and continued support from the URI-EDC.

A-2: *Explore cost-sharing opportunities* with Federal, State, and Municipal government entities, and private and non-profit partners with mutual interests in developing GIS related capabilities, data, or products.

A-3: *Facilitate partnering opportunities* with Federal, State, and Municipal government entities, and private non-profit partners to develop cost-sharing ventures.

A-4: *Identify and publicize the availability of grants and other funding sources* (Grants.gov, RI SPP Challenge Grants, EPA Exchange Network Grant Program, etc.) open to RIGIS participants to encourage the adoption of standards, GIS needs assessment, implementation planning, data development and to improve the GIS curriculum within educational institutions.

GO-2: Database Management: Improve the RIGIS database by developing and implementing procedures and methods for examining database contents, locating other data available, and soliciting high-quality geospatial data contributions.

S-1: Develop and implement procedures and methods for cataloging, identifying, and reviewing RIGIS database contents.

A-1: *Catalog the RIGIS database* based on date last modified, sources, custodial responsibility, and priority need; to determine which datasets might need updates and who to contact for more recent information.

A-2: *Identify missing datasets and attributes* by comparing the RIGIS database to the NSGIC GIS Inventory, and industry accepted data models, to determine what kinds of data could be out there but hasn't been added to RIGIS yet.

A-3: *Review each RIGIS dataset*, with feedback from users, to determine its quality based upon its respective metadata, particularly attribute completeness, currentness, positional accuracy, and accepted data standards.

S-2: Locate other data sources and datasets available by identifying, reviewing, cataloging, publishing, and displaying other available data.

A-1: *Identify* local, regional, and private sector datasets.

A-2: *Review data* for minimum quality and accuracy standards.

A-3: *Catalog local, regional, and private sector datasets* with a brief description, date last modified, fees, and contact information.

A-4: *Publish catalog* to the RIGIS website for user reference to other data available outside of the RIGIS data catalog.

A-5: *Display maps or graphics* showing what types of data are available by source and location.

S-3: Solicit high-quality geospatial data contributions for the RIGIS database by collaborating, acquiring, encouraging, and establishing procedures and methods for database maintenance.

A-1: *Collaborate* on funding, specifications, or development of missing or outdated RIGIS datasets with interested stakeholders.

A-2: *Acquire existing data and encourage development* of new data from local, regional, and private sources into the RIGIS database.

A-3: *Establish procedures and methods for database maintenance* usable by RIGIS participants, including the ability to directly transfer updated data into the RIGIS database.

GO-3: Technical Standards: Improve existing and adopt new standards and best practices, and develop templates for standard key components.

S-1: Improve existing and adopt new standards and best practices by compiling, identifying and prioritizing, exploring, comparing, and developing standards related to GIS data and metadata development, data distribution, web applications, cartography, and other related technologies (GPS, CAD, etc.).

A-1: *Compile* a list of existing standards and best practices in RI.

A-2: *Identify and prioritize* which new standards and best practices are needed in RI by polling the RI GIS community.

A-3: *Explore* applicable and advantageous national (NSDI, FGDC, etc.), local (MassGIS, NSGIC, etc.), and industry (OGC, ISO, etc.) open standards and best practices for geospatial data to determine the best source.

A-4: *Compare* local standards and best practices to the national level.

A-5: *Develop* and adopt new standards and best practices as appropriate in the order of priority by amending existing national standards as necessary to meet RI's needs.

S-2: Develop templates for the following key components of every database standard identified above: coordinate system, positional measurement, database models, spatial topology, metadata, and RI map content.

A-1: *Coordinate System:* Determine what the RIGIS standard coordinate system should be based on emerging coordinate systems and state agency mapping requirements.

A-2: *Positional Measurement Categories:* Research, then develop, a list of positional measurement accuracy levels based on unique combinations of data source, map scale, device, measurement accuracy, survey level, and license certification.

A-3: *Database Models:* Research, then develop, database models for the most highly utilized geospatial data layers (hydrography, transportation, parcels, etc.). Include file and field naming, and coding standards.

A-4: *Spatial Topology:* Determine appropriate data layer topology rules (no gaps or overlaps, must be covered by endpoint, must not intersect, etc.) for each type of geospatial database model.

A-5: *Metadata:* Periodically research the most current geospatial metadata standards. Endorse a geospatial metadata standard. Create and publish a template that may be used as the basis for new metadata records. Make sure to include process steps lineage, and feature level metadata.

A-6: *Map Content:* Determine required and recommended map contents such as north arrow, scale, date, appropriate legend, standard symbology, creator, file name, and RIGIS/source logos.

GO-4: Database Access and Distribution: Provide GIS users with free, user friendly, efficient access to RIGIS data and relevant derived products. Review and improve how RIGIS distributes data to both outside organizations and internal state agencies.

S-1: Data Access: Maintain and improve access to current and archived RIGIS data, online services, and other derived cartographic products by reviewing, researching, incorporating, adopting, amending, and streamlining how the RIGIS online data clearinghouse operates.

A-1: Review current web access methods and determine what works, what is missing, or needs improvement.

A-2: Research hardware and software solutions and security methods currently used by other organizations for accessing and displaying map products, and archiving historical data and information.

A-3: Incorporate, adopt, and/or amend hardware and software solutions and security methods that will provide the best end user experience given the resources available.

A-4: Streamline tasks essential to the RIGIS data distribution process such as by taking advantage of appropriate hardware and software solutions, and the Rhode Island State Government Enterprise GIS.

S-2: Data Distribution: Improve how RIGIS distributes data and derived products by reviewing, researching, investigating, improving, and contributing to the accessibility of data and online services available from RIGIS, RIGIS partners, and other websites.

A-1: Review current mechanisms and policies for how RIGIS distributes data and shares online services.

A-2: Research emerging software tools and technologies for data distribution and providing online services.

A-3: Investigate software tools and technologies for publicizing RIGIS data and online services through other resources such as Data.gov, GIS Inventory, and ArcGIS Online.

A-4: Improve the RIGIS data distribution website by incorporating appropriate software tools and technologies, and referencing other data clearinghouses such as NarrBay.org, and Data.gov.

A-5: Contribute to the FGDC National Spatial Data Infrastructure (NSDI) by providing new and ongoing data updates from the RIGIS database.

GO-5: Education & Training: Support and promote geospatial curriculum and the use of geospatial technologies to teach and learn in existing curriculum areas within Rhode Island educational institutions. Encourage and facilitate geospatial training programs and learning opportunities throughout the state.

S-1: Support, and promote geospatial curriculum and the use of geospatial technologies to teach and learn in existing curriculum areas within Rhode Island public and private educational institutions by encouraging the creation and expansion of geospatial curriculum, involvement of educators, researchers, geospatial practitioners, and GIS professionals (GISP), and geospatial technology internship/mentor opportunities.

A-1: *Encourage the creation and expansion of geospatial curriculums* at institutions of higher education and K-12 schools by presenting RIGIS talks in classrooms on real world project examples, and offering projects to school classrooms for more involvement and added interest.

A-2: *Encourage the involvement of educators, educational institution researchers, geospatial practitioners, and GIS Professionals (GISP)* in geospatial projects of public or private sector entities, guest speakers, workshops, and programs such as the Geography Education Alliance, Annual Geography Bee, K-12 Career Day, the ConnectEd initiative and GIS Day.

A-3: *Encourage geospatial technology internship and mentor opportunities* to supplement knowledge acquired through formal course work with that gained through project work experiences.

S-2: Encourage and facilitate geospatial training programs and learning opportunities throughout the state by encouraging the introduction of GIS concepts and the use of geospatial information, and by facilitating the collaborative design of workshops and presentations.

A-1: *Encourage the introduction of GIS concepts and the use of geospatial information throughout the state* by giving an Introduction to GIS presentation as requested, to state/local governments, and educational facilities interested in learning more about the uses of geospatial technologies and how it can be incorporated into work processes.

A-2: *Facilitate the collaborative design of workshops and presentations* to encourage and promote the use of RIGIS data, web services, pilot projects, technical standards and best practices established by RIGIS.

GO-6: Outreach Activities: Promote the use of geospatial technologies in Rhode Island by maintaining a RIGIS Community Directory, publicizing GIS and related geospatial technology training, workshops, and events, and promoting RIGIS through various media outlets.

S-1: Maintain the RIGIS Community Directory (RIGIS CD) by maintaining online geospatial surveys and creating new surveys as needed, encouraging the GIS community to register with the RIGIS CD, updating the RIGIS CD with survey results and other resources, and maintaining the Municipal GIS Map.

A-1: *Maintain the RIGIS Community Directory* (which includes the municipal contact list, the RIGIS Listserv and other resources) by annually requesting municipal GIS contacts, reviewing their Municipal GIS Status Survey responses, and editing the Community Directory as needed.

A-2: *Maintain the online geospatial surveys (Municipal GIS Status and RIGIS Audience) and create new surveys as needed*, in order to inventory the contact information for the Rhode Island geospatial community, understand their needs, technology use, expertise and activities, geospatial resources and data, possible contributions to the RIGIS data repository, and to determine how best to inform them about future activities. The results of the surveys can also target presentations for future events, and assist with the goals and needs of other RIGIS working groups

A-3: *Encourage the GIS community to register with the RIGIS Community Directory* by subscribing to the RIGIS List-Serv or responding to one of the RIGIS Surveys.

A-4: *Update the RIGIS Community Directory as new contacts and changes are made* from survey results; agencies, educational institutions, and service providers; and geospatial contact lists.

A-5: *Maintain the Municipal GIS Map* in both static and online dynamic formats.

S-2: Publicize GIS and related geospatial technology by organizing, promoting, and holding periodic GIS meetings, promoting, assisting, and participating in geospatial events, and publicizing training opportunities and workshop announcements.

A-1: *Organize, promote, and hold periodic GIS meetings* about geospatial information and applications for users and special interest groups, such as RIGIS User Group and municipal GIS meetings. Where appropriate provide proof of participation for professional credit.

A-2: *Promote, assist in the organization of, and participate* in special interest group meetings, events, conferences and seminars with geospatial themes/content using resources such as Listserves, web pages, and newsletters, whenever possible.

A-3: *Publicize training opportunities and workshop announcements* using resources such as Listserves, web pages, and newsletters.

S-3: Promote RIGIS (geospatial technologies, events, opportunities, etc.) by maintaining RIGIS social media outlets and brochure, creating and delivering a RIGIS newsletter, announcing opportunities, and assisting with outreach management and maintenance of the RIGIS Web Site.

- A-1: Maintain RIGIS social media outlets (Blog, Listserv, etc.)** with announcements, events, and website updates.
- A-2: Maintain and make available a printed RIGIS brochure** which can be distributed at various agency waiting areas, events, meetings, etc.
- A-3: Create and deliver a digital RIGIS newsletter** related to items such as events, opportunities, geospatial projects, and technology uses.
- A-4: Announce the availability of job opportunities, internships, and grants available** throughout southern New England utilizing various media.
- A-5: Assist with the outreach management and maintenance of the RIGIS Web Site**, in cooperation with the RI Geospatial Extension Specialist, to announce education, training, outreach activities, and related resources links.

APPENDIX A: RIGIS Executive Committee Membership – 2016

Educational Institutions

Brown University – Environmental & Remote Technologies Lab	Lynn Carlson, GISP
Rhode Island College – RI Geography Education Alliance (K-12)	Lyn Malone
The University of Rhode Island – Environmental Data Center	Gregory Bonyng, GISP

Federal Government Agencies

US Department of Agriculture – USDA - Natural Resource Conservation Service	James Turenne
US Department of the Interior – USDOJ - US Geologic Survey	Peter Steeves

Municipal Government

City of Cranston – Information Technology	Maria Giarrusso
Town of Charlestown – GIS Department	Stephen McCandless
Town of East Greenwich – Tax Assessor	Janice Peixinho
Town of Smithfield – Tax Assessor	Suzanne Kogut
Town of South Kingstown – GIS Department	Carol Baker

Non-Profit Organizations

The Nature Conservancy – Providence, RI	Kevin Ruddock
DataSpark – Providence, RI	Tim Harrigan

Private Enterprises and Organizations

Applied Geographics, Inc. – Boston, MA	Michele Giorgianni
Applied Science Associates – Narragansett, RI	Christopher Galagan
BETA Group, Inc – Lincoln, RI	Barry Lariviere
Hilltop Northeast Enterprises, LLC – Charlton, MA	Heidi Blank
Mapping and Planning Services – Jamestown, RI	Mary Hutchinson, GISP
RI Society of Professional Land Surveyors – East Greenwich, RI	Edward J. O'Brien, PLS

Public & Private Utility Service Providers

Kent County Water Authority	Shelby Southworth
Providence Water Supply Board – Providence, RI	Christopher Labossiere

Quasi-Public State Agency

Quonset Development Corporation, North Kingstown, RI	Antonio Ambrosio
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State Government

RI Department of Administration – Statewide Planning Program	Vinny Flood
RI Department of Environmental Management – Division of Planning and Development	Paul Jordan, GISP
RI Department of Health – Center for Health Data and Analysis	Steve Sawyer
RI Department of Transportation – Asset Information Systems	Shane White, GISP
RI Emergency Management Agency	Thomas Guthlein
RI Enhanced 911 Uniform Emergency Telephone System	Greg Scungio

APPENDIX B: RIGIS Documents, Standards and Guidelines

1. Geographic Information System Standard for Digital Parcel Data Sets, Version 2.1, Rhode Island Geographic Information System, RI Department of Administration, Statewide Planning Program, 2016
http://www.rigis.org/sites/default/files/master_files/docs/2016/RI_Standards_for_Digital_Parcel_s_v2.pdf
2. RIGIS Minimum Metadata Requirements – A Guide to Creating FGDC Compliant Metadata for Data Submissions to RIGIS, Rhode Island Geographic Information System, The University of Rhode Island Environmental Data Center, Erica Tefft, 2016
http://www.rigis.org/sites/default/files/master_files/docs/Metadata_Resources/RIGIS_Minimum_Metadata_Standard.pdf
3. RIGIS License Agreement Retirement Proclamation, Rhode Island Geographic Information System, 2014
http://www.rigis.org/sites/default/files/master_files/docs/2014/20140619-RIGISLicenseAgreementRetired-signed.pdf
4. RIGIS Initiative to Promote and Foster GIS Internships in RI, RIGIS Outreach and Education Working Group, 2013
http://www.rigis.org/sites/default/files/master_files/docs/2013/GIS_Internships_V2.doc.pdf
5. RIGIS Brochure, RIGIS Outreach Working Group, 2013
http://www.rigis.org/sites/default/files/master_files/docs/RIGIS_brochure_replaced_20140317.pdf
6. State of Rhode Island Enterprise GIS System Architecture, Esri, Danny Krouk, 2011
http://www.rigis.org/sites/default/files/master_files/docs/2011/RI_Ent_GIS_Architecture_20110926.pdf
7. Memorandum of Understanding between the RIGIS Executive Committee and the Rhode Island Board of Registration for Professional Land Surveyors, RIGIS Executive Committee, RI Board of Registration for Professional Land Surveyors, 2009
http://www.rigis.org/sites/default/files/master_files/docs/2009/RIGIS_PLS_1YearMOU.pdf
8. State of Rhode Island Enterprise GIS Business Plan, Applied Geographics, INC, 2007
http://www.rigis.org/sites/default/files/master_files/docs/2007/20070830-AppGeo-RIGISBusinessPlan.pdf

APPENDIX C: List of Acronyms

AAG – The Association of American Geographers is a nonprofit scientific and educational society which conducts educational and research projects that advance geographic understanding, geographic literacy, and geographic learning.

ACSM – The American Congress on Surveying and Mapping is a non-profit association dedicated to advancing the national interests of the surveying and mapping community.

ASPRS – The American Society for Photogrammetry and Remote Sensing is a non-profit national association dedicated to the interests of the photogrammetry and remote sensing community.

Blog – A journal or diary written for public viewing on a website and consisting typically of personal reflections, commentary on current events, etc. arranged chronologically

CAD – Computer-aided design, also known as computer-aided design and drafting (CADD) is the use of computer technology for the purpose of streamlining design processes; drafting, documentation, and manufacturing processes.

CDO – Chief Digital Officer, leads the Office of Digital Excellence to expand and improve the quality of services available to citizens online.

DHS – The Department of Homeland Security has a vital mission: to secure the nation from the many threats we face. This requires the dedication of more than 230,000 employees in jobs that range from aviation and border security to emergency response, from cybersecurity analyst to chemical facility inspector. Our duties are wide-ranging, but our goal is clear - keeping America safe.

Challenge Grants (RISPP) – Planning Challenge Grants are administered by the Statewide Planning Program and funded with Federal Highway Administration Metropolitan Planning funds. The purpose of the grant program is to provide funding for statewide, regional and local planning studies leading to the implementation of the State Guide Plan.

EDC – The Environmental Data Center is a research and GIS applications facility in the Department of Natural Resources Science at the University of Rhode Island.

EEAP - Esri Enterprise Advantage Program is a flexible framework to help organizations reach their vision for broadly adopting ArcGIS to meet business objectives.

EPA – The US Environmental Protection Agency offers an Exchange Network Grant Program which provides funding to states, territories and federally recognized Indian tribes to support the development of the Environmental Information Exchange Network (EIEN) which improves access to , and the exchange of, high-quality environmental data from public and private sector sources.

ESRI – The Environmental Systems Research Institute is a private company with headquarters in Redlands, CA developing and supplying GIS applications software.

FGDC – The Federal Geographic Data Committee is a 19 member interagency committee composed of representatives from the Executive Office of the President, Cabinet-level and independent agencies.

FGDC NSDI CAP Grants – The Federal Geographic Data Committee (FGDC) National Spatial Data Infrastructure Partnership Program (NSDI) Cooperative Agreements Program (CAP) is an annual program to assist the geospatial data community through funding and other resources in implementing the components of the NSDI. This program is open to State, local and Tribal governments, academia, commercial, and non-profit organizations. This program provides small seed grants to initiate sustainable on-going NSDI implementations. The program emphasizes partnerships, collaboration and the leveraging of geospatial resources in achieving its goals

GDB – A Geodatabase is a spatial database that is optimized to store and query data that represents objects defined in a geometric space. It is a collection of geographic datasets of various types held in a common file system folder

GIS – A Geographic Information System(s) is a collective combination of computer hardware, specialized software, a managed database of spatial and related information, and a core of trained professionals versed in geospatial technology.

GITA – The Geospatial Information and Technology Association is a global nonprofit educational association serving the global geospatial community.

GITA-NE – The New England States chapter of GITA.

GPS – The Global Positioning System (GPS) is a space-based global navigation satellite system (GNSS) that provides location and time information in all weather, anywhere on or near the Earth, where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States government and is freely accessible by anyone with a GPS receiver.

IMS (WMS) – An Internet or Web Map Service is an application technology for providing access to GIS information through an interactive mapping interface via the World Wide Web electronic communications network.

ISO – International Organization for Standardization is a non-governmental organization (federation of approximately 163 countries) that develops high quality voluntary International Standards which facilitate international exchange of goods and services, support sustainable and equitable economic growth, promote innovation and protect health, safety and the environment

Listserv – List server, is a small program that automatically sends messages to multiple e-mail addresses on a mailing list.

MassGIS – MassGIS is the Commonwealth's Office of Geographic Information, within the Information Technology Division (ITD) of the Administration and Finance Secretariat. Through MassGIS, the Commonwealth has created a comprehensive, statewide database of geospatial information.

NarrBay – NarrBay.org is the one stop portal for researchers interested in Narragansett Bay, Rhode Island. NarrBay is home to specialized coastal and marine datasets which can be downloaded in a variety of formats.

NBC – The Narragansett Bay Commission (RI State) is a quasi-state government organization serving as a regional wastewater utility provider.

NEARC – The Northeast Arc (users group) is a regional organization of users of ESRI GIS software from New York, New Jersey, and the six New England states with some participation from Pennsylvania and Delaware. The organization is self-funded and is independent of ESRI for its support and operations.

NEURISA – The New England Chapter of the Urban & Regional Information Systems Association (NEURISA) is a not-for-profit professional organization that represents the interests of Geographic Information System (GIS) practitioners and Information Technology professionals across the New England region.

NRCS – The National Resources Conservation Service of the US Dept. of Agriculture (Formerly SCS) is an agency of the federal government that provides leadership in efforts to conserve, maintain and improve natural resources and the environment.

NSDI – The National Spatial Data Infrastructure is an initiative developed by the Federal Geographic Data Committee that encompasses policies, standards, and procedures for organizations to cooperatively produce and share geographic data.

NSGIC – The National States Geographic Information Council is a private nonprofit organization consisting of representatives from the fifty states committed to efficient and effective government through the prudent adoption of geospatial information technologies.

OGC – The Open Geospatial Consortium (OGC) is an international industry consortium of over 400 companies, government agencies and universities participating in a consensus process to develop publicly available interface standards.

RIAAO – The Rhode Island Association of Assessing Officers (RIAAO) is an organization of, for and by the Tax Assessors of each city and town in Rhode Island. It is a chapter of the IAAO.

RIDEM – The RI Department of Environmental Management is a department of the executive branch of Rhode Island state government.

RIDOA – The RI Department of Administration is a department of the executive branch of Rhode Island state government.

RIDOH – The RI Department of Health is a department of the executive branch of Rhode Island state government.

RIDOT – The RI Department of Transportation is a department of the executive branch of Rhode Island state government.

RIEMA – The RI Emergency Management Agency is a department of the executive branch of Rhode Island state government.

RIGIS – The Rhode Island Geographic Information System is a consortium of public, private and academic organizations jointly participating to further the knowledge and use of GIS in Rhode Island.

RIGIS EC – The Rhode Island Geographic Information System Executive Committee, which reports to the State Planning Council administered by the RISPP.

RI-GMIS – Established in 1971, GMIS International is the most inclusive Government IT Association worldwide. GMIS International fosters sharing among all levels of government involved in our endless world of technology. Not to be confused with other user groups, GMIS focuses solely on sharing situations related to government information processing. There is currently a Rhode Island chapter.

RILOCAT – The Rhode Island League of Cities and Towns. As a private, non-partisan membership association of local governments in Rhode Island, our mission is to represent the interests of municipal officials and to provide them services which enhance the effectiveness and efficiency of city and town services.

RIRRC – The RI Resource Recovery Corporation (formerly RISWMC) is a quasi-state organization responsible for management of solid waste in the state.

RISPP – The Rhode Island Statewide Planning Program within the State of Rhode Island, Department of Administration, Division of Planning.

RISPLS – The Rhode Island Society of Professional Land Surveyors exists to promote the profession of surveying, mapping, land information systems and related fields to support the advancement of technologies, and to help ensure that these professional activities provide for the safety and welfare of the general public.

RISWMC (see RIRRC) – Formerly known as the RI Solid Waste Management Corporation.

SEOC – State Emergency Operations Center provides a central location from which all state government can provide interagency coordination in support of any regional incident or local response.

URI-EDC – The University of Rhode Island, Environmental Data Center (EDC) is a geographic information system (GIS) laboratory in the URI Department of Natural Resources Science, College of Environmental and Life Sciences (CELS).

URISA – The Urban and Regional Information System Association is a non-profit international association furthering the use of GIS and other information systems technology for the improvement of decision-making in national, state, regional and municipal government. URISA is the founding member of the GIS Certification Institute and the GISCorps volunteer program.

USDA-NRCS – The US Department of Agriculture, Natural Resources Conservation Service (NRCS) works with landowners through conservation planning and assistance to benefit the soil, water, air, plants, and animals for productive lands and healthy ecosystems.

USDA-SCS (see USDA-NRCS) – Formerly known as the Soil Conservation Service of the US Dept. of Agriculture.

USGS – The US Geological Survey is a component of the US Department of the Interior, an agency of the federal government.