ESRI® GIS Partner Solutions for Agriculture
### Agricultural Business Partner Catalogue Index

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Advanced Resource Technologies, Inc. (ARTI), has been providing GIS application solutions to private, state, and federal clients since 1998. It offers customized GIS desktop, Internet, and enterprise application development under the full range of ESRI® products including ArcGIS®, ArcIMS®, ArcSDE®, and RouteMAP® IMS. ARTI has specialized experience in silvicultural, agricultural production, ecological, and environmental management GIS systems. In addition, ARTI offers a state-of-the-art data center for GIS and database hosting. With specialists not only in GIS and GPS technologies but also in Oracle® and SQL™ database administration, network engineering, IT security, and program management, ARTI is recognized for providing its clients with “total solutions.”

AgriData’s flagship product is Crop Insurance Manager (CIM), a customized online mapping solution based on the Surety™ mapping system. By utilizing both ArcIMS and ArcSDE, Surety enables CIM to accurately integrate Farm Service Agency (FSA) borders and crop insurance data into PDF map-based reports. This allows farmers, insurance agents, adjusters, and insurance companies to share information quickly, conveniently, and most important, accurately.

With just a few clicks, entire farms can be mapped. CIM allows field borders to be overlaid with aerial imagery for online viewing or printing. Customizing field borders is simple, and the user-friendly interface makes accurate reporting easy.

CIM now accepts planted acreage and production by field and summarizes it into crop insurance units. CIM is an unbeatable tool for both crop insurance companies and independent insurance agents. Plus there is no software—CIM is 100 percent online and can work with your current Web site. Find out more at www.agridatainc.com.

Ag Application Manager (AAM) from AgriData utilizes the Surety mapping system to streamline the exchange of data for those dealing with agriculture and land management. By utilizing both ArcSDE and ArcIMS software, Surety allows AAM users to combine FSA Common Land Unit borders with aerial imagery, resulting in accurate, printable PDF maps and reports.

AAM can be customized for the accurate management of fertilizer and chemical applications, the identity-preserved tracking of crops by field, field activity, and land management. AAM guarantees that everyone involved understands each parcel of a land’s size, location, and makeup. In addition, customized map-based reports can include a wealth of data such as planting information, soil content, or special instructions.

Best of all, there is no software—AAM is entirely online and can work with your existing Web site. Turn confusing data into easy-to-read, map-based reports with Ag Application Manager. Call AgriData today to learn more, or visit www.agridatainc.com.
AgTerra Technologies, Inc., is an information systems technology business primarily serving the agriculture and natural resource industries. Its domestic and international clients include large agricultural cooperatives, food processors, seed companies, agrichemical companies, and crop consultants. As a leading developer of turnkey agricultural information systems, it focuses on delivering easy-to-use, field ready applications at an affordable price that are competitive with an organization’s internal IT department. The company’s spatial solutions are built integrating ESRI products with Internet, Pocket PC, and server driven platforms. Its secure applications help clients improve real-time and near real-time data collection, dissemination, and interpretation. Agricultural applications include improving crop production and quality, developing risk assessments, generating documentation, improving identity preservation processes, and visual modeling of data. Its natural resource applications include field data collection, customized mapping, image analysis, and user-friendly delivery systems for wildland fire and other natural resource-based entities. Read more about AgTerra online at www.agterra.com.
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Air-Trak.com, Inc.’s Cloudberry™ is built on core ESRI technology (MapObjects® and RouteMAP IMS) interfaces with ESRI GIS products including ArcLogistics® Route and ArcPad®. Custom basemaps and ArcGIS data can overlay live tracking maps for improved management control of mobile assets. With any Web-enabled phone or Web browser, you have access to location and vehicle status data.

Air-Trak for Nextel, Cloudberry’s inexpensive mobile tracking application, allows government agencies and fleets of all sizes to track and communicate with their mobile workers and assets from any desktop PC with an Internet connection.

Products Available

Cloudberry Wireless AVL and Messaging Services offer an affordable, easy-to-use, Internet-based solution for GPS Automatic Vehicle Location (AVL), graphical real-time fleet tracking, and two-way messaging. Companies operating agribusiness fleets can increase driver safety and the productivity of their mobile workforce and assets. Cloudberry’s ASP services are a management tool for fleet operators to monitor compliance with schedules and record position logs documenting routes driven, vehicle position history, and driver performance.

Cloudberry TerraTrak™ Terrestrial-Based GPS/AVL System is a complete out-of-the-box, low-cost, easy-to-use entry solution for graphical fleet management including AVL using GPS technology and real-time map displays on the desktop. TerraTrak provides a turnkey solution with feature rich desktop software, street-level maps, mobile software/hardware, installation and user documentation, telemetry to monitor onboard sensors, ASP services, and Web access. ESRI’s ArcPad can display vehicle location using onboard streaming GPS. TerraTrak records and stores position logs and provides VCR-like replays of vehicle activity. Custom ArcGIS data can be added to map displays rendered by MapObjects.

Cloudberry TerraTrak+™ Terrestrial-Based GPS/AVL and Two-Way Messaging System is a seamless upgrade to TerraTrak by adding a messaging module Pocket PC or Windows laptop. This complete out-of-the-box solution for graphical fleet management offers wireless two-way mobile messaging.

Cloudberry DualTrak+™ Dual Mode GPS/AVL and Two-Way Messaging System is a seamless upgrade to TerraTrak+ by adding a SatCom module for complete North American coverage. Through the display of real-time fleet activity rendered by MapObjects, operators can monitor mobile workforce performance and safety, receive alerts from onboard sensors to indicate high-risk conditions, and navigate to specific remote locations. Low-cost “blended” service plans offer cost advantages over satellite only systems.

Bluegrass GIS, Inc., is an industry leading provider of professional GIS implementation and technical services in the agriculture market as well as natural resources and environmental agencies; federal, state, and local governments; businesses; and utilities. Its team of experienced GIS professionals provides system and database design, application development, needs and situation assessments, implementation planning, data conversion, quality control, corporate database integration, training, technical support, project management, and contract staffing. Bluegrass GIS specializes in the implementation of enterprisewide ArcGIS, relational database management systems (RDBMS), and Internet solutions that support a wide range of agricultural applications.

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CEDRA-AVcad™ is an extension that works with ArcGIS and ArcView®, which provides more than 100 menu, button, and tool commands for creating and editing point, line, polyline, polygon, and curve features and text strings in a CAD-like environment. Because of its robustness, CEDRA-AVcad can be thought of as a “lite” COGO or parcel mapping product. Functionality includes but is not limited to:

- Point snapping across visible themes and control snapping tolerance
- Working in feet, meters, or varas and bearings, azimuths, or Cartesian directions
- Creating tangents, projections, and offset features and intersect lines, curves, and polygons
- Creating irregular buffer zones and ring/sector polygons emanating from a point
- Mass importing of points, lines, curves, and polygons from various ASCII file formats

CEDRA-AVland™ is an ArcGIS and ArcView extension for road and site engineering development, which enables the user to extract GIS database information, produce fully automated topographic maps, and conduct a design project from start to finish within a true GIS environment. Functionality includes, but is not limited to, the following:

- Utilize geodatabases.
- Access survey information in spot, radial, and/or cross sectional format.
- Extract OG sections.
- Compute earthwork tables.
- Account for shrinkage, swell, and muck in earthwork computations.
- Create building envelopes.
- Mass annotate lot metes, bounds, areas, and so forth.
- Annotate plan and profile drawings.
- Interface with ArcGIS 3D Analyst™.

CEDRA-AVparcel™ is an ArcGIS and ArcView extension enabling the user to create, edit, and manage three-dimensional topological polygons of parcels for tax (cadastral) mapping, parcel maintenance, and other applications that involve the manipulation of polygons and/or boundary information. All functionality of CEDRA-AVcad and CEDRA-DataEditor™ is included. Functionality includes but is not limited to:

- Geometric layout of parcel corner and circular and spiral curvature points, boundary sides, polygons, multicourse tie lines, and automatic determination of centroids and areas in State Plane, UTM, latitudes–longitudes, and other coordinates
- Creation of parcel ownership, political boundary, and various types of districts and support of associated tables
- Mass conversion of polygon parcels
- Database query and editing and parcel location by number and area range
- Polygon splitting, joining, and editing of vertices

CEDRA-AVSand™ is an ArcGIS and ArcView extension that enables the engineer to create the geometric model of a storm water, wastewater, or combined system and impose associated loads, applying custom peaking factors to average daily contributions in U.S. or SI units. Open channel and closed conduit flows may be computed, system adequacy determined, flow hydrographs generated, and stage–storage curves developed.

CEDRA-DataEditor is an ArcGIS and ArcView extension that facilitates the editing of feature attribute data and is an ideal tool for those involved with facility maintenance and/or data capture applications or those who wish to enhance ArcView software’s native table editing functionality.
Founded in Corvallis, Oregon, in September 2000, The Climate Source, Inc. (TCS), is dedicated to providing high-quality spatial climate data sets to GIS users around the world.

TCS data sets have become the official standard for most federal agencies (including USDA) and many regional and state organizations. Among the many uses of TCS data for agriculture-related decision making are

- Crop and cultivar selection
- Integrated pest management
- Harvest planning
- Determination of potential native vegetation
- Water management

TCS climate data sets cover the entire United States as well as western Canada, China, Taiwan, Mongolia, and Puerto Rico. Of particular interest for agriculture are

- Monthly and annual precipitation
- Monthly and annual maximum, minimum, and mean temperature
- Extreme monthly and annual maximum and minimum temperature
- Monthly and annual mean dew point and relative humidity
- Monthly and annual total growing degree days, base 50°F
- Mean/Median/Extreme date of last 32°F temperature in spring
- Mean/Median/Extreme date of first 32°F temperature in autumn
- Mean/Median length of freeze free period

Any ESRI software capable of reading ArcInfo™ ASCII GRID format can import Climate Source climate data sets. Climate Source specifically supports ESRI software and has developed guides to help users download Climate Source data into ESRI GIS packages.
FORMA Systems has designed a GIS solution to help nurseries further understand their complex inventories that can span thousands of square feet.

This GIS solution helps nursery staff better understand the spatial layout of their inventory at any given time. By utilizing ArcView 8.3 technology, it allows a user to retrieve current inventory data for an entire, or any geographic part of a, nursery’s property. The user queries the actual inventory data itself, which resides in a separate DBMS, and has the results displayed spatially on a map of the nursery’s facilities.

Some common items that existing nurseries use this application for include:
- Showing where certain orders are located on the nursery grounds
- Displaying all orders contained in a particular growing unit (bed)
- Highlighting all beds containing orders that will be ready on a particular date
- Thematically mapping all beds by a factor such as total retail value

This GIS solution provides a user-friendly interface to nursery staff who wish to see their inventory data displayed on a map. Understanding where inventory is located geographically has helped nurseries manage their inventory more effectively and efficiently, which results in both cost savings and better customer service.

TheIrrigationBridge

From the meter to the bill, there is only one solution. TheIrrigationBridge is the only fully integrated turnkey solution for water management. By linking Easy Reader International’s H₂OProfessional field measurement and management solution to Continental Utility Solutions, Inc., Continental Billing System for Windows® customer billing and accounting solution to Geo-Spatial Solutions, Inc.’s geoIrrigation GIS solution, TheIrrigationBridge streamlines and automates internal processes while managing water resources. GeoIrrigation’s departmental modules contain map-centric functionality for water districts throughout the western states. All geoIrrigation modules are built on and integrated with ESRI’s ArcGIS, ArcPad, and ArcIMS core technology.
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Springfield, IL 62704
Phone: 217-726-1503
E-mail: lbitner@gis-solutions.com
Web: www.gis-solutions.com

GIS Solutions, Inc. (GSI), has been working in the agriculture market for nearly 10 years. Originally working with the agricultural industry in the Midwest region, GSI has expanded its agricultural GIS implementation services to Florida. Over the past year, GSI has implemented an enterprise GIS for a large citrus operation using ArcSDE, ArcIMS, and ArcEditor™. Farmers, administrative personnel, and executives throughout the citrus operation now have access to a wealth of geospatial data through ArcIMS. The solutions that the company is currently building include tracking of daily farming activities using mobile GIS and rendering real-time caretaking (e.g., pesticide/herbicide application, picking, and harvesting) in digital map form.

GSI is an industry leader in agriculture GIS with more than 10 years of experience in developing GIS applications that provide an agricultural return on investment.

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GlobeXplorer has developed a unique application that merges aerial and satellite imagery with mapping information within ESRI software. GlobeXplorer’s ImageConnect extension for ESRI mapping applications delivers orthorectified JPEG images from its multiterabyte online library with a click of a button. GlobeXplorer has partnered with leading aerial and satellite data providers throughout the world to compile the world’s largest online earth imagery database. With ImageConnect, your ESRI application now has immediate access to hundreds of terabytes of imagery covering virtually the entire contiguous United States and metropolitan areas throughout the world.

With a GlobeXplorer account, the time to research, order, or manage huge raster files is minimized as GlobeXplorer’s extension delivers imagery of any resolution on demand. Users can create a custom image library from a wide range of data sets including Citipix six-inch high-resolution aerials, extensive aerial imagery from AirPhotoUSA, satellite imagery from DigitalGlobe, and the entire set of USGS DOQQs. Visit www.globexplorer.com, or contact a sales representative for a free 30-day trial.
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Meteorlogix, the world’s leading supplier of weather solutions, provides GIS ready data, forecast services, turnkey solutions, and weather display systems to more than 20,000 businesses. Meteorlogix has developed a system that provides an extensive suite of value-added weather data in ESRI GIS data formats. With this reliable, consistent, and quality-controlled weather data, ESRI GIS decision support systems can now easily become “weather-enabled.” This represents the first time that a comprehensive suite of high-quality, commercial grade weather information from worldwide sources has been made available to GIS users, making it possible to immediately integrate live weather information into their custom applications.

i-cubed’s premier product ADAPT, Agriculture Development and Planning Tool, is GIS software that enables land use management by integrating agronomic, economic, and environmental modeling algorithms. ADAPT is an application integrated into the ArcGIS framework. It can be customized to specific resource applications. Special studies may be made using any number of iterations of the major calculation options.

- Soil loss modeling
- Estimated crop yields (grains, range, horticultural, dairy, timber)
- Estimated production cost modeling
- Transportation or cost/distance modeling
- Estimated profitability modeling
- Revised land use model/crop placement for maximum profitability

Rangeland ADAPT is also available. This version can be used to
- Model livestock carrying capacity.
- Cost/Distance model access to watering sources.
- Model potential profitability.
- Map best grazing sites.
- Model remediation projects for probable success and cost-effectiveness.
- Map environmentally sensitive areas.
- Cost/Distance model access to grazing sites.

ADAPT is scalable to any project area size, has multiuser support and security systems, and has a utility for region creation to help assure that the necessary data layers are available and properly organized for successful running of ADAPT.

ADAPT may be customized to user requirements including multilingual, user knowledge level, and administrator level.
Michael Baker, Inc., markets the patented GeoLink® GPS/GIS Mapping System. GeoLink is the premier integrated GPS/GIS mapping and data management software package. Since 1988, GeoLink has been the state-of-the-art GPS/GIS field mapping and mobile computing solution, which imports directly into the ArcGIS, ArcInfo, ArcInfo Workstation, ArcView 3.x, and ArcView 8.x environment. GeoLink technology promotes enterprisewide GPS/GIS use in a single, open system environment. GeoLink 6.2 is available for GPS/GIS data collection and map display or with add-on modules including Raster, GeoPhoto™, Sketching, eXternal Data Sensor (XDS), Laser XDS, SketchMapper, Methane Gas Survey, and PowerTrak™ vehicle tracking. GeoLink Mapping to Manage™ enables organizations to create geographic databases, update existing databases, and use GIS data sets for field maintenance and verification; and with the upcoming release of version 6.3, the support of geo-databases and ArcIMS Internet-served maps is right around the corner.

The GeoLink SketchMapper System is a sketch-based mapping package that provides superior results for mapping activities requiring fast, accurate feature location and attributing. This product incorporates many raster image and vector coverage processing features designed to facilitate navigation against background coverages while moving. During translation to GIS, the sketches and sketch attributes are output to the target GIS platform of choice such as shapefile format for ESRI’s ArcGIS, ArcInfo, ArcInfo Workstation, ArcView 3.x, or ArcView 8.x. Drawing a feature replaces the need to survey the feature’s boundary/path using the GPS positions.

The Raster Background Map Module is an add-on expansion module for the GeoLink GPS/GIS Mapping System. This powerful, user-friendly raster map display and image processing package allows a raster image to be displayed by GeoLink in its native format or converted to a software specific format (GOR), which dramatically decreases screen regeneration time (10–100 times faster).

The GeoLink GPS/GIS Mapping Go-Kit is an all-in-one hardware/software solution designed to meet all your mapping needs. Jointly developed by Baker, the Federal Emergency Management Agency, and the National Geospatial-Intelligence Agency (formerly known as National Imagery and Mapping Agency), the Go-Kit, which can be used for aerial, driving, or foot surveys, contains all the hardware and software needed to display, capture, and maintain data sets. The system includes the GeoLink SketchMapper software with GeoPhoto Module, “ruggedized” computer, meter accuracy GPS unit, fanny pack, batteries, chargers, USB mass storage device, and collapsible antenna pole, all conveniently packaged in a hard-sided, water resistant carry case. Because the GeoLink Mapping System powers the Go-Kit’s GPS/GIS functionality, importing and exporting data to ESRI ArcGIS, ArcInfo, ArcInfo Workstation, ArcView 3.x, and ArcView 8.x is a breeze.
Mud Springs Geographers provides products and services to integrate geographical information with time series data into powerful spatial/temporal decision support systems for organizations in agribusiness, natural resource management, and international development. The company builds Spatial/Temporal Information Systems that can be fully customized to clients' needs and specifications. It specializes in application development for the desktop utilizing software such as ESRI’s ArcObjects™ and MapObjects incorporated in Microsoft’s Visual Basic. Its flagship product is AWhere®.
Enhance ESRI’s ArcLogistics Route software with live tracking capabilities from Navtrak, Inc. Navtrak provides real-time vehicle monitoring, mapping, and reporting for both government and private sector uses.

View live vehicle movements on maps with Navtrak or choose to import daily routes calculated from ArcLogistics Route and view vehicles in real-time as they traverse routed courses. Alerts signal vehicles off course either by location or time. Set boundaries (geofencing) around hot zones for notification of vehicle entrance or exit. View reports showing vehicle speeds, miles traveled, start and stop times, stop lengths, stop locations, and more. Monitor custom vehicle events such as lights on/off, door open/closed, and lift up/down. All reports are easily downloaded to database programs for future analysis. Ask for more information on how Navtrak can assist in fuel tax recovery. Communications and data transfer options are also available.

Northwest Economic Associates (NEA) is a natural resource economic consulting firm formed in 1977 with offices in Vancouver, Washington, and Fair Oaks, California. The firm employs 15, including three GIS staff members and 10 economists. The staff includes experienced agricultural professionals with specialties and experience in economic analysis, litigation and negotiation support, agricultural production and irrigation, water right claims, GIS/GPS mapping, and water resource development. Their expertise is often applied to land use and recreation planning, natural resource planning, and socioeconomic analysis as well as technical writing, editing, and exhibit preparation. NEA’s GIS staff members use ArcInfo and ArcView.

NEA often works in multidisciplinary team settings that include hydrologists, engineers, soil and crop scientists, and biologists to successfully complete projects for its clients. NEA’s mission is to provide clients with expert, objective analysis and accurate results in a timely and responsive manner.
Solution Name: RiverTrak
ESRI Product Dependency: MapObjects, ArcIMS, ArcGIS
RiverTrak® is an integrated framework for data management and hydrologic modeling. It is intended for use with real-time data collection systems for climate and hydrologic data and can also be used to manage historical data. The data collection framework can be supplemented by hydrologic modeling and time series analysis to provide forecasts of stream flow for use in emergency management, reservoir operations, recreation, water supply, and other areas. RiverTrak utilizes ESRI's MapObjects to provide an interactive interface including displays of radar precipitation. Maps, graphs, and report data can be generated automatically for distribution, for example, on Web sites. Advanced features include generation of flood inundation maps. An optional ArcIMS Web interface can be implemented. ArcGIS tools are used to prepare data for the RiverTrak interface and modeling components.

Solution Name: Irrigated Lands Analysis
ESRI Product Dependency: ArcGIS
Riverside Technology, inc. (RTi), has developed comprehensive GIS database and spatial analysis tools to analyze irrigated lands. The GIS database includes a seamless, high-resolution, digital orthophoto base. This image base is prepared in a compressed digital format to allow archive and rapid display of the images, which have a ground resolution of less than two meters. Using ESRI ArcGIS, the high spatial resolution digital orthophoto base is combined with multiple multitemporal/multispectral satellite images to map irrigated lands. The results can be used to estimate the consumptive water use for each irrigation diversion and well in the data set.

Solution Name: Integrated Water Resources Modeling Using GIS
ESRI Product Dependency: ArcGIS
RTi provides hydrologic and hydraulic modeling solutions that it has developed as well as models that have been developed by others (e.g., HEC-RAS, NWSRFS, RiverWare). RTi's familiarity with multiple solutions and in-house capability to implement integration using C++, Java®, Visual Basic®, and so forth, on Windows, UNIX®, and Linux® platforms has resulted in the development of standard procedures and tools for the analysis of spatial data and time series. A toolkit has been developed to perform spatial analysis for hydrology above and beyond the features available in other tools. Depending on the needs of the client, RTi can provide a proven, integrated solution or build on existing solutions. ArcGIS, ArcIMS, and other ESRI products are utilized, as appropriate, to prepare data and as part of the solution framework.
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Web: www.soilteq.com

Safe Software Inc. is the world’s leading supplier of spatial extract, transform, and load (spatial ETL) technology. Founded in 1993, the company is focused on enhancing access to spatial data resources by providing software solutions that deliver seamless application and data translation.

The Safe Software Feature Manipulation Engine (FME) ESRI suite is a spatial ETL tool with added support for ESRI products, including ArcInfo, ArcGIS, and ArcSDE, supporting formats such as ArcInfo coverages, ArcSDE, shapefiles, and geodatabases. SpatialDirect for ESRI ArcIMS is the company’s Web-based (Intranet/Internet) tool for exporting data from ESRI ArcIMS. ArcIMS users can specify an output data format from dozens of GIS, CAD, and database formats and have the data clipped, zipped, and shipped to them. The FME extension for ArcGIS is an application extender for ArcGIS, enabling users to directly import more than 100 vector formats.

SOILTEQ’s SGIS mapping and data management software provides agricultural service professionals with tools for collecting and managing information necessary for making practical, economical, and environmentally sound crop production decisions. At its core, SGIS is utilized to convert agricultural data from a variety of sources into georeferenced maps that are integrated with local agronomic recommendations to create variable rate product application maps.

Based on ESRI’s ArcObjects and ArcSDE technology, SGIS redefines how spatial agricultural data is managed. Detailed field data from yield monitors and product application controllers, fertility information, and agronomy are accumulated in a spatially enabled relational database. SOILTEQ’s years of collective knowledge and experience provided by a rich management history are the foundation for better decision making.
DitchWorks™ is fast becoming the standard for automating drainage assessing.

DitchWorks is an ideal tool to use with ESRI ArcView for reducing the labor hours and turnaround time associated with calculating petition and maintenance drain assessments while increasing your ability to communicate and defend your assessment values. DitchWorks calculates individual landowners’ benefit assessment values in a matter of minutes as opposed to manual calculations that can take weeks or months.

Unlike a spreadsheet that you may be currently using, DitchWorks harnesses the power of ArcView by using your standard GIS map coverages and allowing you to integrate watersheds and ditch locations.

Let DitchWorks do the work for you. Automatically determine the acreage within the watershed. Precisely break down each parcel according to soils and land use. Automatically determine distance without time-consuming measuring. For more information, visit www.DitchWorks.com. The software is available for ArcView 3.x and 8.x.

From Kansas to the Carolinas, Minnesota to Florida, people are performing agricultural assessments with RedSilo, the leading farmland GIS assessing software for ESRI ArcView. RedSilo is a powerful application that makes agricultural assessment calculations push-button easy. RedSilo reduces long, drawn out labor hours and turnaround time for agricultural assessments by allowing you to calculate soils and land use breakdowns of agricultural parcels in minutes—a task that could otherwise take hours to perform.

RedSilo end users are government agencies tasked with the job of assessing agricultural land use by soils type and land use category. RedSilo is the tool you need to get this job done quickly and accurately. With its completely automated “point and click” user interface, anyone can use RedSilo, even those users who do not have a working knowledge of GIS software. For more information, visit www.RedSilo.org. The software is available for ArcView 3.x and 8.x.
MapImager™, an extension to ArcGIS, adds powerful yet affordable and easy-to-use geographic imaging and visualization capabilities to the ArcGIS desktop. MapImager includes intuitive tools that empower novice and experienced GIS users to quickly and interactively compare scanned maps, aerial photos, satellite imagery, and vector GIS data layers to identify changes or differences in real time. Specific functions include one-button toggle and slider bar controls for fast and efficient interactive swipe overlay, blend and merge data fusion, morphing, and band substitution operations. The resulting custom image products can then be saved and/or added into the current ArcMap™ document. MapImager works with any geospatial data that can be ingested and displayed within the ArcGIS environment, whether the data resides on the user’s local disk as a personal geodatabase, is being served to the user’s desktop as an ArcSDE data layer, or is being accessed from Internet GIS resources.

Maplicity™, an extension to ArcIMS, is a powerful, cost-effective, off-the-shelf solution that transforms any ArcIMS site into a complete Web-distributed collaborative mapping system including innovative browser-based tools specifically designed to facilitate improved intra- and intergovernmental coordination, broader data sharing, enhanced situational awareness, and expanded interactive public participation in the assessment and update of critical spatial data infrastructure. Features include lightweight (335 kb), seamless integration with existing ArcIMS map services; scalable and easily configurable desktop-like GIS interfaces; unique image analysis tools enabling interactive change detection; real-time map redlining and annotation; map authoring; GIS data creation; custom image and vector data distribution (download); user GIS upload and automated sharing of data; and the ability to collaborate, save, and share projects among any distributed group(s) of Web browser-based users. Simple and affordable Web server licensing allows for an unlimited number of online users and an outstanding return on investment.
The rugged AgGPS® 170 Field Computer running AgGPS FieldManager software is a top-of-the-line field information management solution that adds the power of record keeping, field mapping, variable rate management, and soil sampling to AgGPS EZ-Guide lightbar guidance systems and AgGPS Autopilot. The AgGPS 170 system includes ESRI ArcExplorer software for viewing and printing fields and features and material coverage.

**Key Features**

- 5.5-inch color display, readable in direct sunlight or at night
- Rugged design for extreme temperatures and humidity
- Field and on-the-go point, line, and area feature mapping
- Variable rate management and as-applied logging
- Soil sampling
- Application coverage logging
- Compatibility with AgGPS EZ-Guide and AgGPS Autopilot.

Trimble's AgGPS EZ-Map software is easy to use and runs on handheld Pocket PCs such as the Compaq iPAQ. The EZ-Map kit includes ESRI ArcExplorer™ software for viewing and printing fields and features and material coverage.

**Key Features**

- Coverage logging shows you skips in material application.
- Fix skips before leaving the field to increase crop yields and avoid costly call-backs.
- Automatically control coverage logging with an external switch.
- Map precise areas and locations of weeds, pests, tile lines, or other features.
- Create your own personalized data dictionary of features and attributes for point, line, and area mapping.
- Display background shapefiles and georeferenced BMP/JPEG files.
- Save data in industry-standard ESRI shapefile format.
- The software is compatible with most GPS receivers and guidance systems.
GIS Support for Vineyard Operations
VESTRA Resources, Inc., pioneered the use of GIS for organizing and analyzing information for vineyard managers wanting to improve the quality and efficiency of their operations. Using ArcGIS Desktop software and high-resolution aerial images of your property, VESTRA can digitally capture features such as block boundaries, wells, and soil pits to create GIS data layers. It can then integrate your tabular data with the location data. VESTRA’s design process ensures that vineyard information in spreadsheets and other databases is properly linked with the GIS data so you can access vital information by clicking on a map.

VESTRA also helps distribute live maps and information throughout your organization. Using ArcIMS, VESTRA builds interactive mapping Web sites that let others without GIS software browse, query, and print maps by logging on to the Internet. VESTRA’s Web GIS team has developed both simple and highly customized sites ranging from statewide government systems to vineyard management solutions.

American Viticulture Area Mapping
Establishing product identity in the marketplace is important for maintaining a healthy return on quality wines. By successfully blending ArcGIS Desktop mapping and cartographic tools, VESTRA is nationally recognized for producing American Viticulture Area (AVA) maps that are geographically accurate and artistically notable.

VESTRA stays up-to-date with Alcohol and Tobacco Tax and Trade Bureau decisions pertaining to approval of new and revised AVAs. Every year VESTRA produces new statewide and regional AVA maps for California, Washington, and Oregon.

In addition, by adding your vineyard and winery locations to VESTRA’s AVA maps, it can create customized maps that function as unique marketing pieces, educational tools, or simply high-quality depictions of your vineyards or viticulture areas.

GIS Support for Vineyard Development
VESTRA Resources, Inc., has a history of successfully providing GIS support for vineyard development and redevelopment projects. ArcGIS Desktop software and VESTRA’s exclusive AgPlan for ArcGIS Desktop tools can help you design a vineyard that maximizes the unique characteristics of your property.

Using ArcInfo and ArcGIS Spatial Analyst, your survey CAD data is converted to elevation, slope, and aspect data layers. Combining topographic data with soil and weather data, VESTRA analysts build queries and perform complex analyses that help you determine the best places to grow your grapes.

In addition, VESTRA utilizes its exclusive AgPlan for ArcGIS Desktop tools so you can experiment with different row layouts. VESTRA analysts, working under your direction, quickly generate numerous scenarios for row layouts. By evaluating these “virtual vineyards,” you can determine such things as amount of trellis wire or number of vines you need and financially plan for such purchases.

For government agency and private sector organizations that use high-resolution imagery to support GIS applications, Feature Analyst® is a software extension for ArcGIS 8.x and ArcView 3.x that allows users to extract features from imagery cheaper, faster, and more accurately than existing image processing solutions. Unlike commercial image processing software systems, the product uses machine learning technology to learn from simple shapefiles how to recognize and extract natural features such as vegetation, roads and trails, land cover, and hydrologic features. Feature Analyst has a simple work flow that can be used by a GIS analyst or technician with little or no image processing experience. The software runs seamlessly in the ArcGIS and ArcView environments and is currently used by organizations such as the U.S. Forest Service, BLM, USGS, USDA, and several state and local natural resource departments. For more information, please contact Visual Learning Systems, Inc., at 406-829-1384, or e-mail sales@vls-inc.com.
WhiteStar helps companies create high-quality U.S. basemaps by providing georeferenced 1:24,000 scale Public Land Survey and Texas Land Survey data, oil and gas well locations, orthophotos, digital elevation models, enhanced county culture, and scanned USGS topo quads in a variety of ArcGIS formats and projections. Its seamless coverage, verified accuracy, and fast delivery help you make better maps faster.

WilsonMiller, Inc., has for many years provided its clients with new technologies to help manage their lands and optimize business opportunities. It provides an agricultural management system that utilizes ESRI's GIS tools to integrate the information created by its multidisciplinary firm. From engineering to surveying, WilsonMiller acts as a one-stop shop for data collection, value-added analysis services, and data management.

Services include
- Basemap development
- Acquisition of aerial photography
- Record management
- Water management
- Best management practices development
- Surveying
- Agricultural-related environmental services
- GIS implementation and training

These services are designed to specifically address issues and concerns that the land managers deal with in resource management decisions and regulations inherent to agriculture in the state of Florida. Think of all the data you collect, pertaining to your land, stored and accessed using maps from which you can extract and analyze information.

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