

Executive Summary

AcuGIS Cloud

Deterministic GIS Pipelines and Spatial Operations

Transform Spatial Data into Operational Intelligence

Executive Summary

Organizations today face growing demands to collect, manage, publish, and analyze spatial information. Yet many GIS environments remain fragmented, relying on disconnected tools for data acquisition, field collection, database management, map publishing, and reporting.

The result is increased complexity, duplicated effort, delayed updates, and reduced operational visibility.

AcuGIS Cloud provides a unified spatial operations platform that connects the complete lifecycle of spatial information:

Acquire → Sync → Transform → Store → Publish → Report

By combining deterministic GIS pipelines, operational field synchronization, dataset lifecycle management, publishing infrastructure, and integrated reporting, AcuGIS Cloud enables organizations to move more efficiently from raw data to actionable intelligence.

The platform is designed to help organizations:

- Reduce operational complexity
- Improve data consistency
- Automate repetitive workflows
- Accelerate publication and reporting
- Support field operations
- Deliver spatial intelligence to decision makers

Whether supporting municipal operations, environmental monitoring, infrastructure management, or public data initiatives, AcuGIS Cloud provides a modern foundation for operational GIS.

The Challenge: Fragmented GIS Operations

Most organizations do not suffer from a lack of GIS tools.

They suffer from too many disconnected tools.

A typical workflow often involves:

- Data imports from multiple sources
- Field collection applications
- Spatial databases
- Publishing platforms
- Reporting systems
- Custom scripts and manual processes

Each system may perform its function effectively, but together they create operational friction.

Common challenges include:

Manual Workflows

Repeated imports, exports, and data preparation activities consume valuable time.

Data Silos

Information becomes distributed across multiple systems and teams.

Delayed Updates

Field-collected information may take days or weeks to become operationally available.

Inconsistent Processes

Transformation and publication workflows vary between projects and personnel.

Limited Visibility

Maps, reports, and dashboards often operate against different versions of the same data.

Organizations need a more integrated approach.

The AcuGIS Cloud Approach

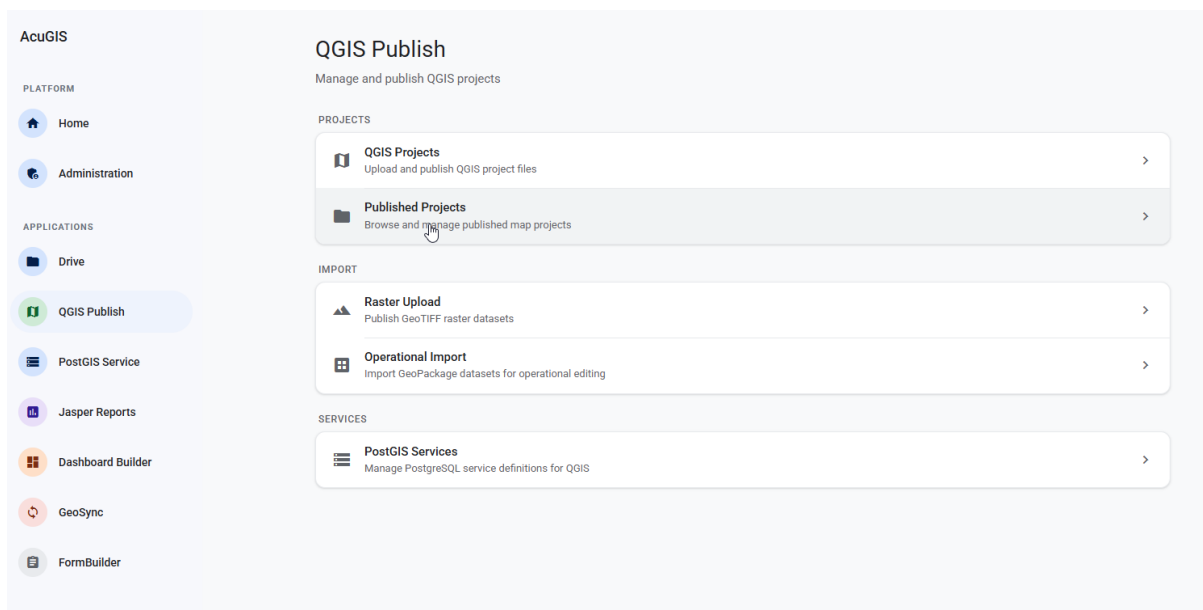
AcuGIS Cloud was designed to support the complete lifecycle of operational spatial information.

Rather than focusing on a single aspect of GIS, the platform connects acquisition, synchronization, transformation, storage, publication, and reporting through a unified architecture.

Platform Lifecycle

Acquire → Sync → Transform → Store → Publish → Report

This lifecycle enables organizations to manage spatial information through repeatable and operationally consistent workflows.



Core Platform Components

GeoVault

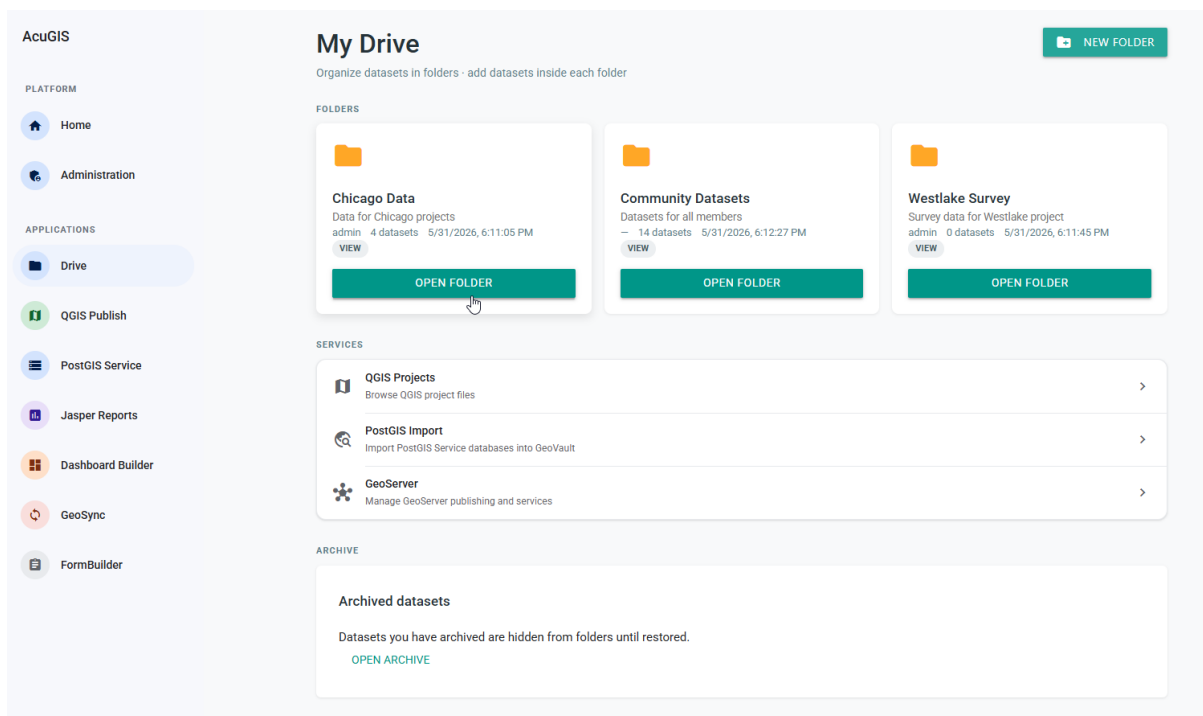
Operational Dataset Management

GeoVault serves as the operational center of the platform.

Capabilities include:

- Dataset cataloging
- Folder-based organization
- Version management
- Metadata management
- Browser-based editing
- Publication integration

GeoVault transforms datasets into managed operational assets.



GeoETL

Deterministic Spatial Pipelines

GeoETL simplifies data preparation through repeatable transformation workflows.

Capabilities include:

- Data inspection
- Schema normalization
- Attribute transformations
- Validation
- Pipeline reuse
- LLM-assisted workflow generation

Every transformation remains visible, reviewable, and reproducible.

GeoETL Data Shaping

Pipelines Upload → Inspect → Transform → Preview → Import

4

Natural language transformations

Examples: drop column cars · multiply column cats by 3 · rename parcel id to parcel_number · filter rows where status != inactive
What should change in this dataset?

Create column actual_amount as (bee_amount)*3. Remove columns x and z

PARSE WITH LLM

NO LLM REQUIRED

BACK

Planned transformations

Review, edit, reorder, or remove steps before previewing.

^

Σ

Compute column

bee_amounts * 3 → actual_amount

⌵

✎

✖

^

🗑️

Remove column

x

⌵

✎

✖

^

🗑️

Remove column

z

⌵

✎

✖

↔

ADVANCED — SHOW OPERATION JSON

👁️

REVIEW TRANSFORMATION PREVIEW

GeoSync

Operational Field Synchronization

GeoSync connects field collection environments with enterprise spatial databases.

Supported workflows include:

- QField
- Mergin Maps
- Survey123

GeoSync automates the movement of field-collected information into operational systems.

The screenshot shows the 'Express Project Setup' window. At the top, a purple header contains the title and a logo. Below the header, a light purple section titled 'Select project' includes a progress bar and a 'Step 4 of 5' indicator. A instruction line reads: 'Choose a project, confirm Sync Interval, then click Create.' The main area has a 'Provider: Existing Service' label with a 'Change' link. Below this are two dropdown menus: 'Project' (selected: ghedini/Finches) and 'Sync Interval' (selected: 10 min). At the bottom left are 'BACK' and '+ CREATE' buttons, with a mouse cursor pointing at the '+ CREATE' button. At the bottom right is a 'CANCEL' button.

Publishing Services

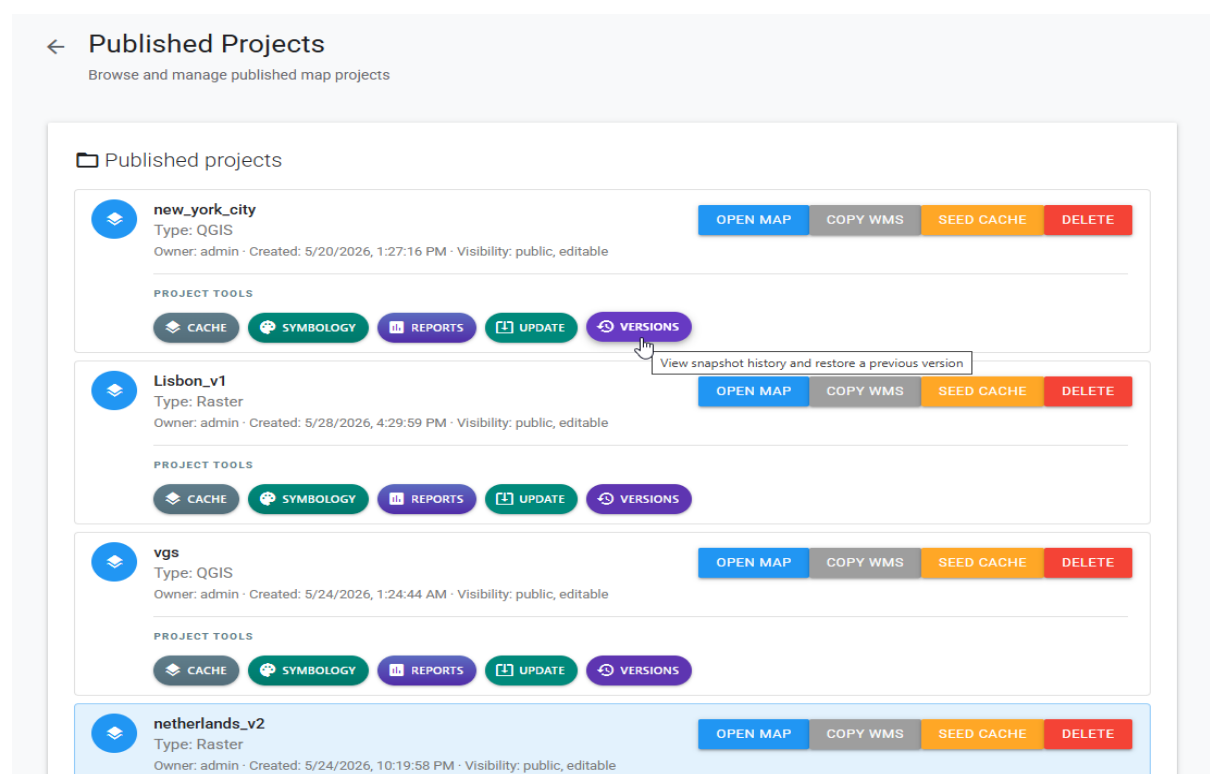
Maps, Applications, and Services

AcuGIS Cloud supports multiple publishing models.

Capabilities include:

- QGIS project publishing
- Web map applications
- OGC services
- Raster publishing
- Vector publishing
- Tile services

Organizations can deliver information through applications, services, and portals using a common operational foundation.



Reporting and Dashboards

Spatial Intelligence and Decision Support

Integrated reporting capabilities enable organizations to transform operational data into actionable information.

Capabilities include:

- Parameterized reports
- Scheduled reporting
- Dashboards
- Analytics
- PDF and spreadsheet exports

Maps, reports, and dashboards operate together to support informed decision-making.

Parameters

Confidence Factor

Optimistic

Minimum Deal Size

>\$1,000

Apply

Reset

Report Viewer

PDF

Excel (XLSX)

Sales Scenario Analysis

Select Confidence Factor and Minimum Deal Size

Deals	Pipeline	Expected Revenue
South		
85	\$333,222.03	\$203,576.92
Midwest		
81	\$275,547.03	\$176,884.24
Northeast		
73	\$295,619.51	\$160,792.75
West		
59	\$209,444.8	\$108,321.39

Example Use Cases

Municipal Open Data

Import datasets from external sources, standardize schemas, publish applications, and provide dashboards for stakeholders.

Benefits:

- Faster publication
- Improved transparency
- Reduced manual effort

Field Operations

Synchronize inspections and field observations from mobile applications into operational databases.

Benefits:

- Near real-time updates
- Improved operational awareness
- Reduced data-entry overhead

Environmental Monitoring

Collect observations, manage datasets, publish results, and generate regulatory reports.

Benefits:

- Consistent workflows
- Improved reporting
- Better data governance

Infrastructure and Asset Management

Track assets, inspections, maintenance activities, and operational performance through integrated maps and reports.

Benefits:

- Improved visibility
- Better decision support
- Operational efficiency

Why AcuGIS Cloud

Traditional GIS Environment

Multiple disconnected tools
Manual imports and exports
Separate reporting systems
Limited field integration
Ad hoc data preparation
Fragmented publishing
Multiple data copies

AcuGIS Cloud

Unified platform
Automated workflows
Integrated reporting
GeoSync synchronization
Deterministic pipelines
Unified publishing
architecture
Shared operational datasets

AcuGIS Cloud helps organizations reduce complexity while improving operational consistency.

Open Architecture

AcuGIS Cloud is built upon widely adopted open technologies.

Key technologies include:

- PostgreSQL
- PostGIS
- QGIS
- GeoServer
- Apache
- Linux

This open architecture provides flexibility, interoperability, and long-term sustainability.

Organizations retain control over their infrastructure, data, and operational workflows.

Delivering Operational Spatial Intelligence

The value of GIS is not measured by the amount of data collected or the number of maps published.

Its value is measured by how effectively spatial information supports decisions and operations.

AcuGIS Cloud enables organizations to move beyond fragmented GIS workflows and toward deterministic spatial operations.

By integrating acquisition, synchronization, transformation, storage, publication, and reporting within a single platform, AcuGIS Cloud transforms spatial information into operational intelligence.

AcuGIS Cloud

Deterministic GIS Pipelines and Spatial Operations

Acquire. Sync. Transform. Store. Publish. Report.