GIS: Enabling a Smarter World

Esri Canada User Conferences

2017

WELCOME

Sharing

Understanding

Transforming

Learning

PURPOSE

Connecting

Creating Relationships

Inspiring



Interests

Organizations



Disciplines

YOU A Global Community of GIS Professionals

Backgrounds

Here to Support You Ontario Region



Esri Canada Events App









Your event is **21** days away

Featured Products Environment

Science & Technology

Economic Development

YOUR WORK

Addressing All the World's Challenges

Natural Resources

Pollution

Transparent Government

Natural Disasters

Infrastructure

Water Resources

Urbanization & Development

Making A Difference

Agriculture **Business**

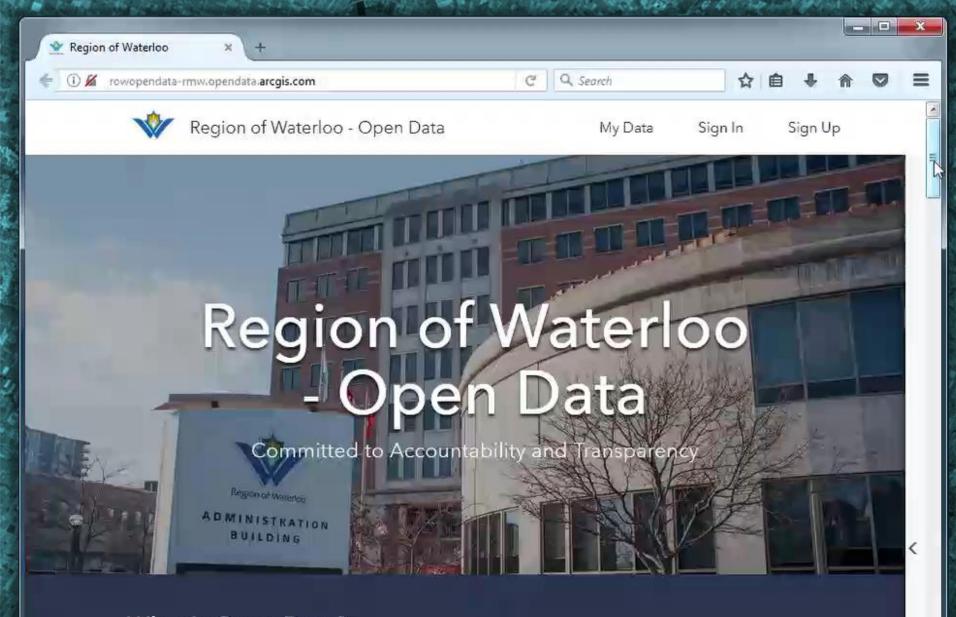
> National Security

Climate Change

Social Conflicts

Energy

Human Health

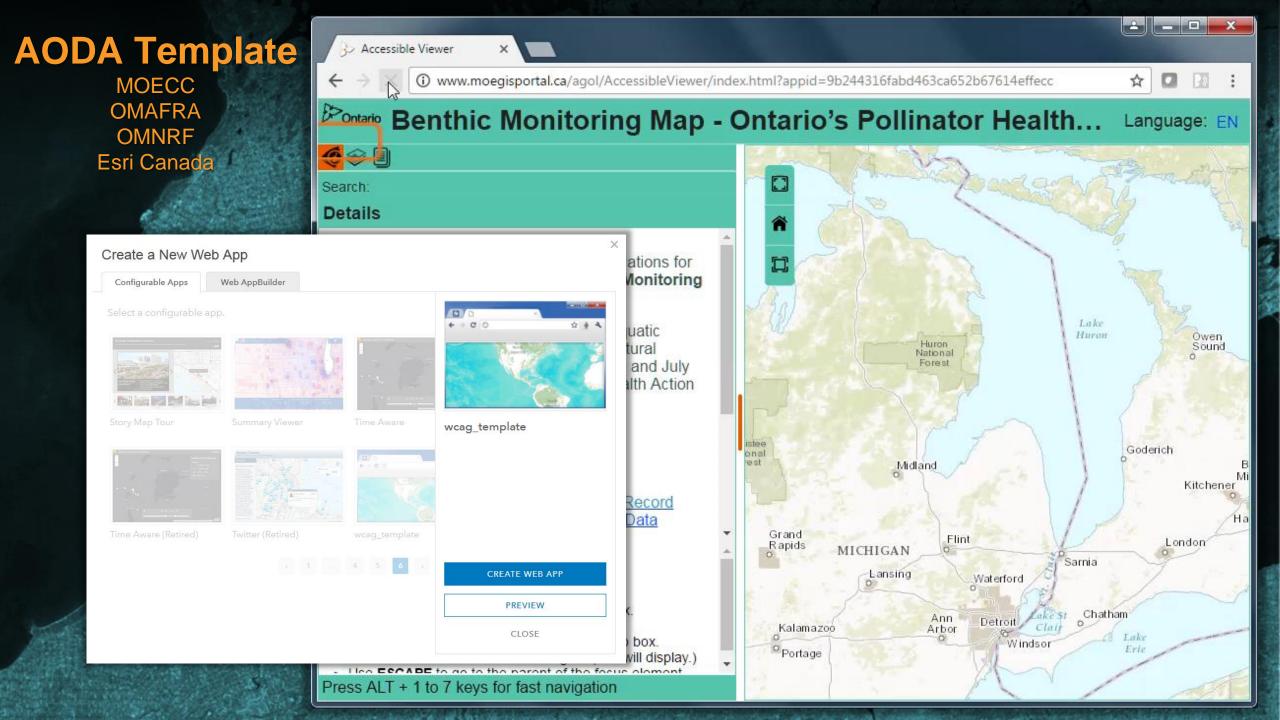


What is Open Data?

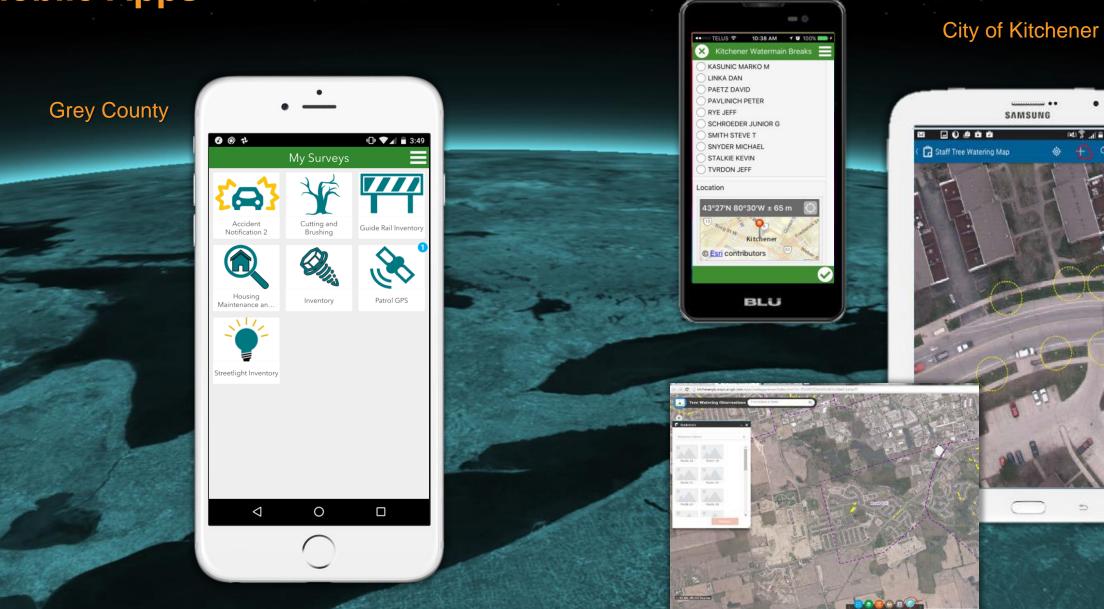
Open data allows the public to access the Region's data more easily and encourages innovation in the community. Open data is the idea that

Open Data

Region of Waterloo City of Waterloo City of Kingston City of Cambridge



Mobile Apps



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5

148 🕈 🔐 🖬 12:05 PM

Parcel Look-up Haldimand County



① haldimand.maps.arcgis.com/apps/MapAndAppGallery/index.html?appid=2ea C Q. Search Image: Comparison of the search of the

Haldimand Mapping Group

😵 Haldimand County Online ... 🗴

+

Tags

Clerks Economic Development Emergency Management Engineering Fire Division Haldimand County Infrastructure Planning Division Public Map Roads Division Solid Waste Staff Mapping Version Six



Census Data

Web Mapping Application

Clerks Map Web Mapping Application

☑ ()





Economic Development (Field Data Collection)

- - X

Web Map

A map for collecting data in ArcGIS Collector

20

Elevation Analysis

Web Mapping Application

An interactive map to display elevations across a user defined line.

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Education and training are a vital component to every successful geographic information system implementation. Our training solutions ensure that you not only protect your investment in GIS technology, but also enhance it.

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With GIS becoming ever more important in every area of business, government and education, a clear understanding of the technologies that you are working with is vital. Your success is the focus of everything we do at Esri Canada.

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Course Catalogue





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1. First Name:

2. Last Name:

3. Email Address:

4. Based on your reasons for attending, please rate the overall value of this event:

GIS: Enabling a Smarter World

Esri Canada User Conferences

2017

Vision

GIS

Enabling a Smarter World

Our World Is Evolving

Undergoing a Massive Digital Transformation

GIS and Mapping Are Becoming Essential

A Fundamental Language for Understanding and Managing Our World

> Providing Content and Context

> > About Everything



GIS Provides the Framework and Process

For Enabling a Smarter World



GIS Is Getting Smarter

Integrates and Leverages Many Innovations



Smart GIS Integrates Real-Time Data

Providing Dynamic Information About Everything

Built Environment

Natural Environment

0

GIS Connects Everyone

Creating a System of Engagement



GIS Engages Communities

"Community GIS" Is a Cloud-Based New Pattern



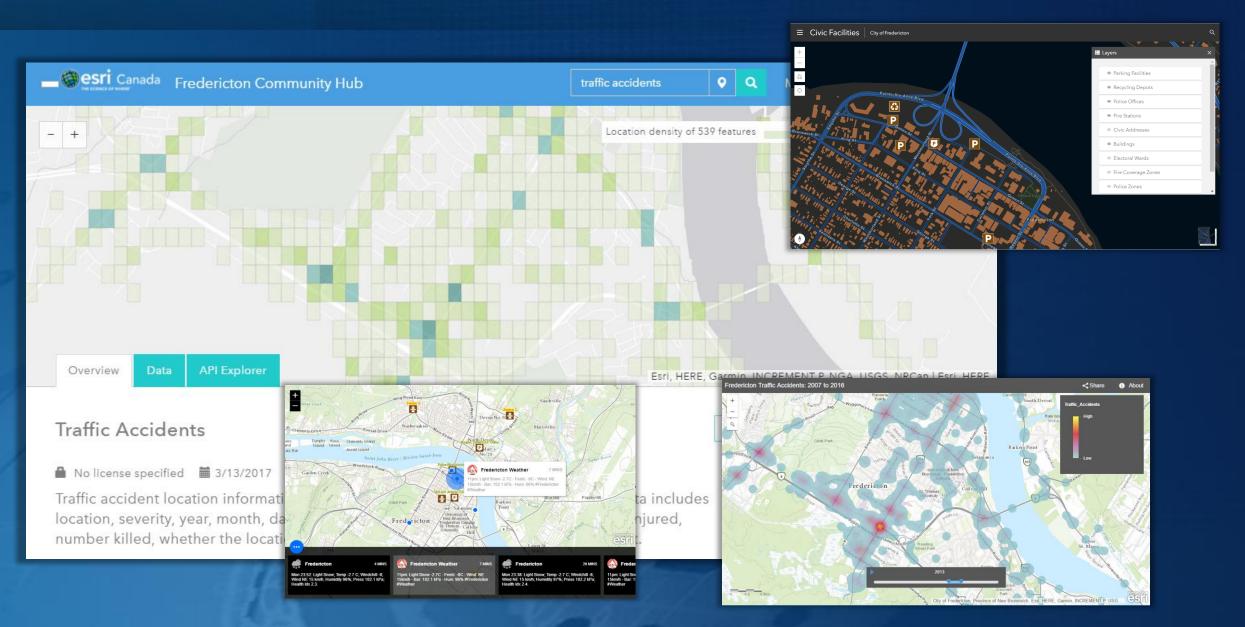
Engaging All Citizens

Providing a Platform for

Enabling Smart Communities . . .

Civic Engagement . . .

Demonstration Community Engagement with Smart GIS



GIS Is Revolutionizing How We Plan and Design

Integrating and Making Available Everything We Know

Business & Development

Urban and Regional Planning

Green Infrastructure Urban Design

Geodesign

Transportation

GIS Integrates Everything

Connecting People, Processes, Things and Data About Them

Improving Efficiency, Engagement **Collaboration and** Communication Helping Organizations Understand . . . System of System of Record Insight Supports Multiple Types of Systems . And Be Aware, Alert, and Responsive



New Types of Collaboration Are Emerging

Connecting Individuals, Organizations and Communities



Demonstration Organization Collaboration with ArcGIS Online



Nakhon Pathom

Our Work

Creating Useful Technology and Supporting Our Users



Spatial Analysis Content Mapping 3D Solutions **Data Management** ArcGIS Editing Apps Usability Security Cloud **Big Data** Open Data Developers Quality **Real Time** Performance **Enterprise Integration** Identity Geodesign Standards Administration Interoperability Imagery

Open

Content

Data Management ArcGIS Capabilities Are Advancing

Spatial Analysis

Mapping

Apps

Imagery

Data Exploration

GIS Innovation

3D

Big Data



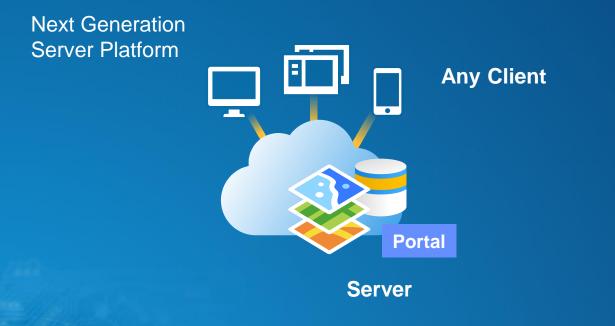
Deployable On-Premises, **Online and Hybrid** Desktop Apps Η Enterprise Online Services Based **Servers**

Supporting Individuals, Organizations and Communities

Open

ArcGIS Enterprise

ArcGIS In Your Own Infrastructure



Enterprise Data Management, Analysis, and Mapping

What's New (10.5)

- Simplified Administration
- Automated Deployment (Chef)
- Python Web Scripting
- Better Scalability/Security
- Portal Replication
- Improved Smart Mapping
- OGC Enhancements (WFS, WMS, WMTS)
- Distributed Architecture





... Improved Quality and Performance

ArcGIS Online

ArcGIS Available as SaaS



Created On 2/11/2014		Renewal Date 2/24/2017			Credits Remaining 33,163.21		
Quick Date Selec	a •	Start	5/24/2016		End: 6/	7/2016 •	
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Tags in Items		6					
vector control .sd ArcCIS per infectious Social Media vector cont Vector Control feel mar	disease surveillance not offering						

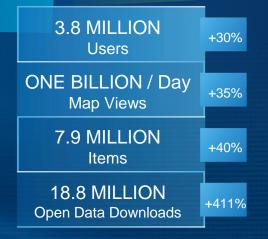
Complete Cloud-Based Mapping Platform with Apps and Content

New and Improved

- Smart Mapping and 3D
- Analysis Tools
- Vector Tiles
- Credit Allocation
- Enhanced OGC Support
- Administration
- Social Logins
- UI/UX

Coming

- Improved Search & Data Management
- Org-to-Org Collaboration
- Raster Analysis
- More Smart Mapping & 3D
- More Content
- Interactive Data Analysis



... Enabling Sharing and Collaboration

ArcGIS Enables Multiple Types of Systems

System of Engagement

System of Record

System of Insight

Field GIS

Taking GIS Beyond the Office



ArcGIS Desktop

Professional GIS



Advanced Mapping, Visualization, Editing and Analysis

New and Improved

- Smart Mapping
- Editing
- KML/WFS
- Map Series
- Charting
- Grids & Graticules
- **Big Data Integration**
- Point Clouds

What's Coming

- Parcels Fabric
- Parcel Editor
- Utility Network
- Full-Motion Video



. . Simplifying and Improving

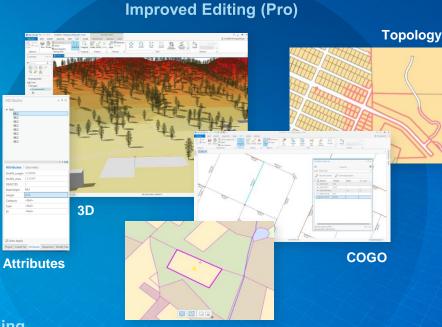
Data Management and Editing

Advancing Workflows and New Tools

Roads and

Highways (LRS)





Shared Edge Snapping

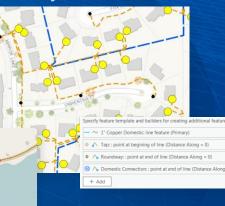
Workflow Management



Enhanced Geodatabase and DBMS Support

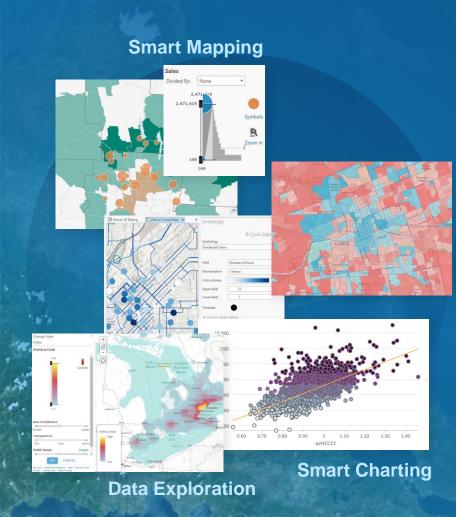
Expanded Data Integration SAP HANA Hadoop Teradata

New Utility Framework

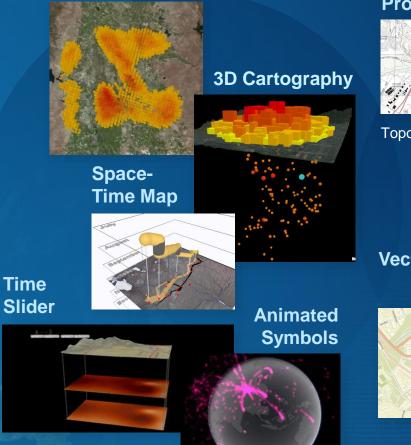


Mapping and Visualization

Advancing Tools for 2D and 3D



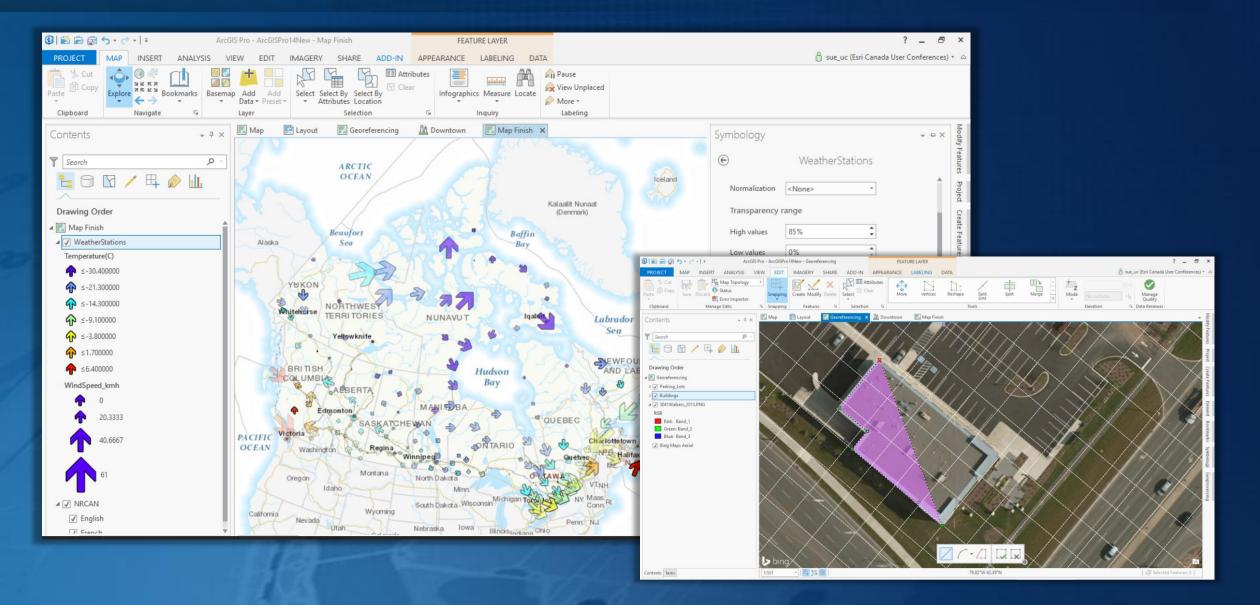
Spatiotemporal (4D) Exploration



Production Mapping and Charting



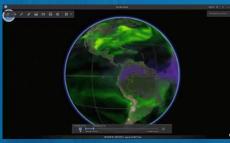
Demonstration Mapping, Visualization and Data Management with ArcGIS Pro



New and Improved Capabilities Across the Platform



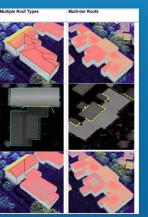
3D



Urban and Landscape Visualization



Lidar Building Extraction



Point Clouds

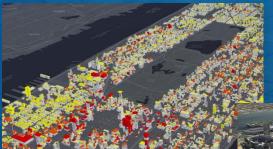


Integrated Mesh

Complete 3D Web GIS



Desktop, Web, Device, Story Maps . . . Everywhere



Rules-Based Extrusion (CityEngine)





Building Models (BIM)

Tools and Workflows for Analysis, Management, and Ortho Mapping

Supporting Production and Research

- Powerful Analysis (100+ tools)
- All Major Sensors

Imagery

Desktop and Web

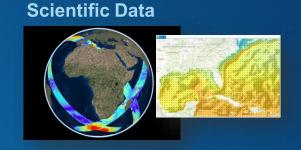


Image Classification and Segmentation



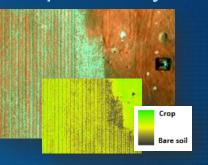
Change Analysis



COMPACT OF STREET

Orthophoto Generation

Multispectral Analysis



Dynamic **Processing** Chains



Oblique Imagery and Measurement



Processing Single Scenes and Massive Collections . .

Magery ArcGIS Can Process Massive Imagery in the Cloud

Dynamically Processed Imagery Served Directly into ArcGIS



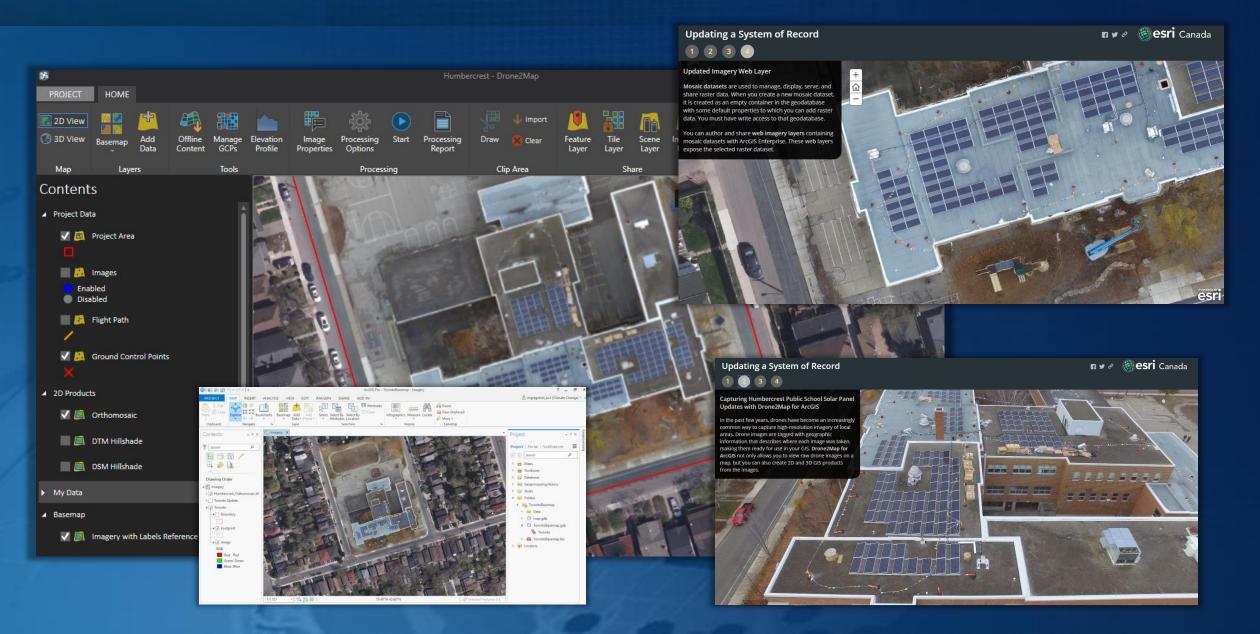
Processing is Performed Next to the Data

Enabling

- Image Services
- Raster Analytics
- Content Access
 and Management

... Fully Integrated with the ArcGIS Platform

Demonstration Imagery Workflows with ArcGIS



Real-Time

Integrating Sensor Networks and the IoT

- High-Velocity Data Streams
- Monitoring and Alerting
- Dynamic and Big Data Analytics



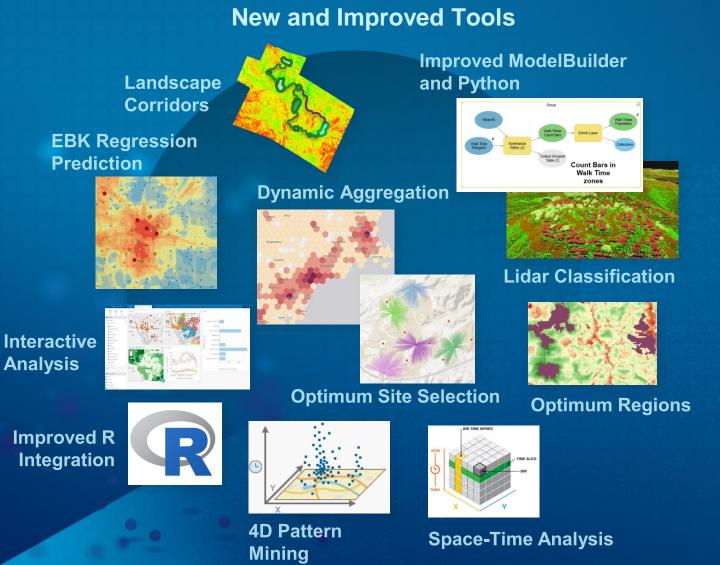


Dashboard

Supporting Real-Time GIS Applications Enabling Smarter Organizations

Spatial Analysis

Introducing New Techniques and Methods



Big Data Analytics Raster

Suitability

Raster Analysis

Summarize Data

 $\mathbf{\times}$ Derive Aspect

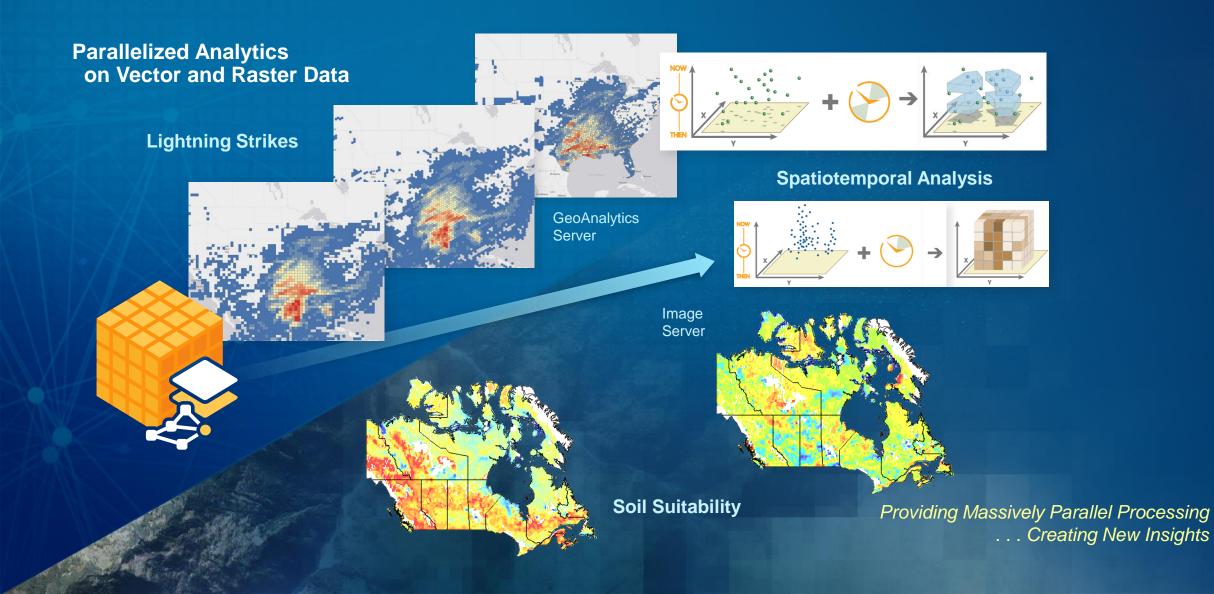
Calculate Slop

Suitability	Density
Corridors	Distance
Торо	Proximities
Classify	Interpolatio
Difference	

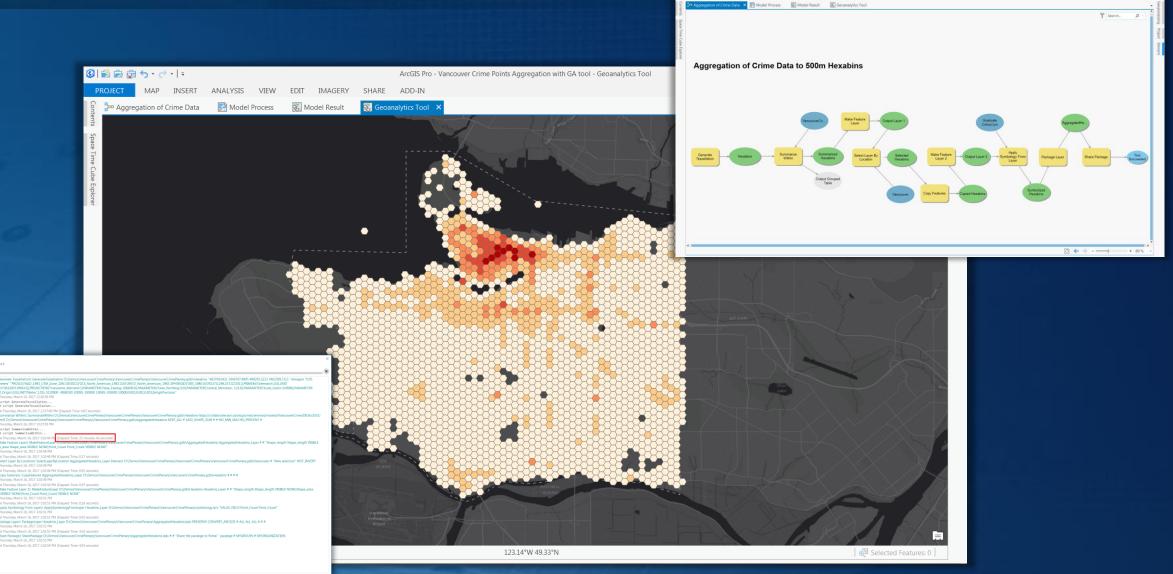
Feature Analysis	4	Vector	
Standard Tools Big Data To	ools		
▼ Summarize Data	0	Density	Hot Spots
Aggregate Points	0		
Summarize Nearby	0	Buffer	Construct Tracks
Summarize Within	0	•	Einal Oimiler
Reconstruct Tracks	0	Summarize	Find Similar
Create Panel	0	Aggregation	Spatial Join
 Find Locations Analyze Patterns 	0	о т :	
 Vise Proximity 	0	Space-Time	
Manage Data	0	Analytics	

Big Data

GeoAnalytics and Visualization of Massive Data



Demonstration Big Data with GeoAnalytics



iver Crime Points Appregation with GA tool - Appregation of Crime Data

NODELBUILDER INSERT ANALYSIS VIEW SHARE ADD-IN

Insights Transforming Understanding with Exploratory Analysis

Card 5

ASSAULT W/DAN

THEFT F/AUT

ARSON

SEX ABUSE

BURGLARY

THEET/OTHER

ROBBE

MOTOR VEHICLI

A New App

• Visual, Intuitive, Responsive

(D Locati

di SHIFT

I WARD

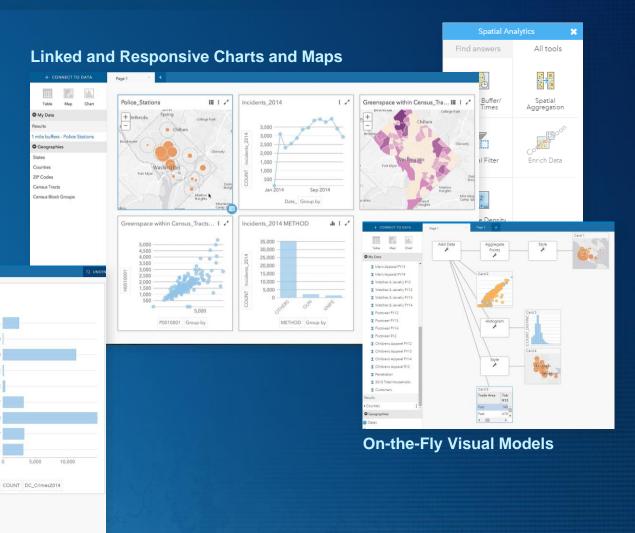
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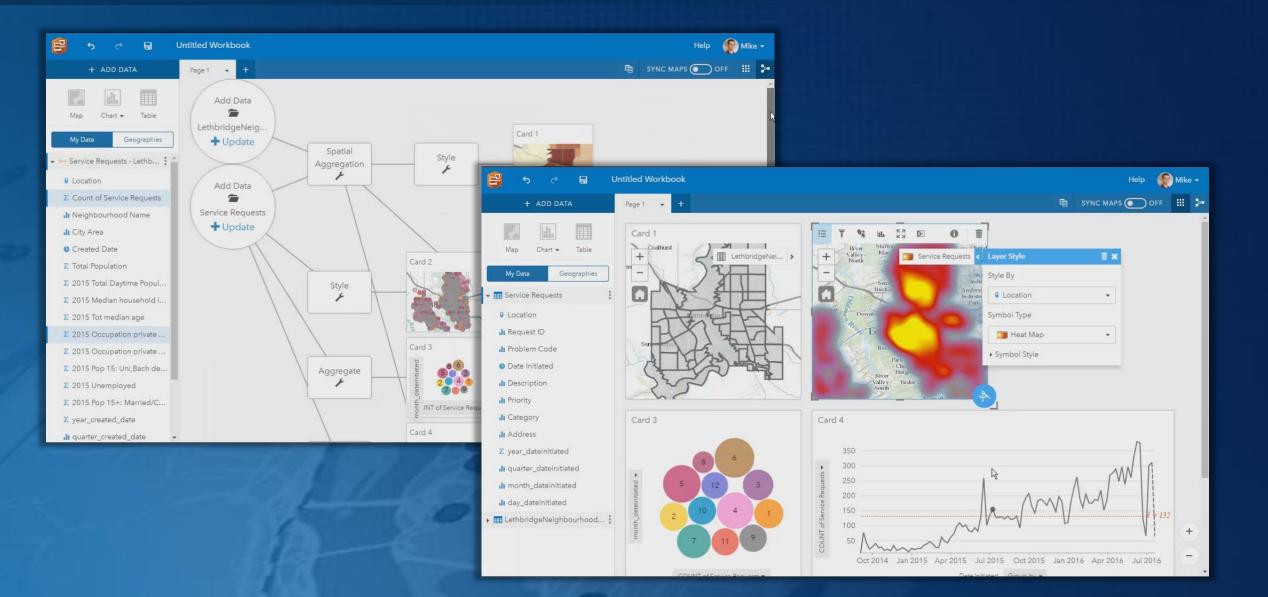
- Dynamic Spatial Analytics and Visualizations
- Very Fast







Demonstration Understanding Patterns with Insights for ArcGIS



ArcGIS Is Open and Interoperable

Product Integration

Open Standards and Formats

WCS KML GMI WMS SQL WFS IFC Web Scene (I3S) **OPeNDAP** SI D LERC SOAP JSON WMTS REST **WaterML INSPIRE NetCDF** $|\mathbf{SO}|$ **WPS** LAS OneGeology Shapefiles **OGC*** CSW **CityGML** GeoPackage Principal Member

Adobe Creative Cloud Azure AutoCAD MS Office Teradata Netezza AWS SAP HANA IBM Cognos Oracle

SQL Server

Open Software

Open APIs & SDKs Open Data Access Open-Source

Extensible Architecture Embeddable

Components

Contributions (300+)

Open-Source Integration



... Successfully Integrated into Thousands of Systems

Hundreds of Ready-to-Use Maps & Apps

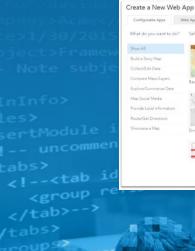
Open-Source Solutions



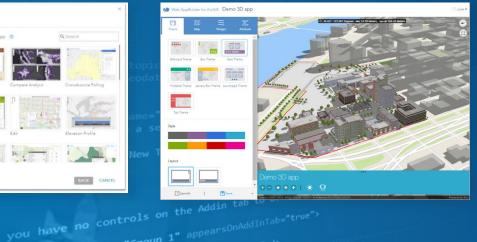
App Builders

Easy-to-Configure and Create Apps

Configurable Web Apps

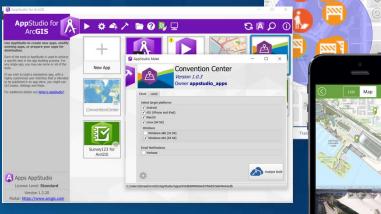


Web AppBuilder



"Group 1" appears0 Based Browser

AppStudio



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* 🕶 🖌 🔾 2:40

Native Devices

In the Last Year . . . Over 500,000 Web Apps Created and Deployed . . .

Development and Scripting Tools For Extending, Customizing and Embedding



- Python Web Scripting
- Pro Customization
- Arcade Expressions



HTML5 **Python** C# .NET Java Xamarin Qt C++ JavaScript REST Swift **Objective-C**

ArcGIS Shared Code

codesharing.arcgis.com

Living Atlas

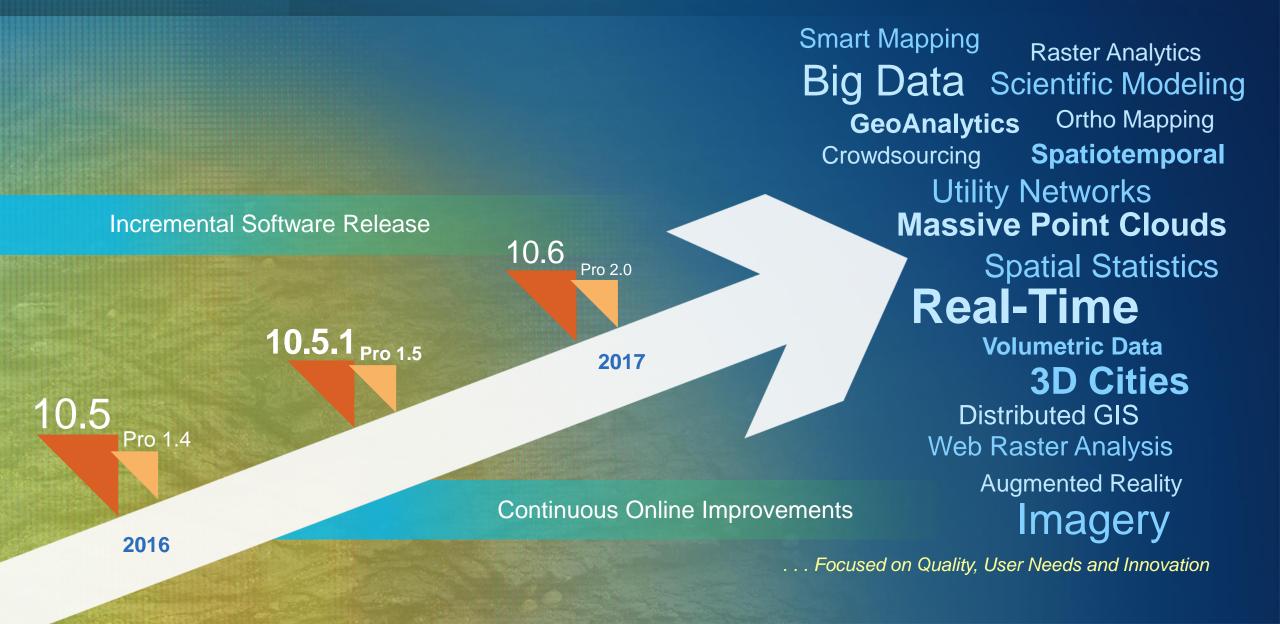
Ready-to-Use Maps and Data

Compiled from the Best Available Sources
Basemaps | Imagery | Demographics | Landscape

Thousands of Maps & Layers Tens of Thousands of Open Datasets

Millions of User Contributions . . . Billions of Views per Week

Road Map



Professional Development

Online Courses Web Home Use Licensing **DevSummit** GIS Training SECOND EDITION ArcUser earn ArcGIS **Certification Program** ArcNews 1 - 11 - 11 **GeoNet Community** Arc**GIS** MOOCs Esri Press ArcGIS Imagery Book Young Professionals Network **User Conference** Self-Paced E-learning

Partner Ecosystem

Committed to Your Success

SAS MICROSOFT ORACLE SAP DELL CISCO **AMAZON WEB SERVICES** CITRIX IBM HP

BAYANAT WITT O'BRIEN CUTTING EDGE ELECDATA BRUCE HARRIS ASSOCIATES ETTECH XPLORE TECHNOLOGIES SEILER INSTRUMENT CLEARTERRA DAR AL-HANDASAH PALMETTO ENGHOUSE GEOCOMM 1SPATIAL UNCHARTED SOFTWARE CITYWORKS CYBERTECH LASER TECHNOLOGY ISOVIST PROWEST 3-GIS COLLINS BARTHOLOMEW CALAMP IDOX UDC WEBMAPSOLUTIONS AED-SICAD HANDHELD PCI GEOMATICS NEARMAP G2 PARTNERS OSISOFT LIZARDTECH GEOCUE WDT SIDWELL ACCELA PHOTOSAT LOCKHEED MARTIN BCS NT CONCEPTS HOLMANS DEWBERRY AIRBUS SAFE SOFTWARE GALIGEO ADCI DEIMOS IMAGING POWEL CLEVEST ORBIT GT IDMODELING DTS CITYVIEW NETWORKFLEET EXPRODAT PAVEMETRICS OCOM SHANGHAI HUANCE NAVIGATION BLUE RASTER ALLEN INSTRUMENTS BAF LMK RESOURCES NORTH WEST GEOMATICS NIPSA DECCAN CARTOPAC ASSETWORKS PIX4D SEPTENTRIO LEIDOS IWATER CGX.AERO ACCUWEATHER AMAN ENTERPRISES CANON EOS WSS SWECO ARC. GREENLAB E-RING CONTERRA EARTHANALYTIC AERYON NISC MDA TRITECH BLACKBRIDGE RIEGL DATA+ LTD NVIDIA MICHAEL BAUER HDR MAGNOLIA RIVER IP SYSCON SCHNEIDER ELECTRIC PLW MODELWORKS ATKINS NORTH AMERICA TOOLS COMSMITH TELEDYNE OPTECH FUGRO SUNGARD PUBILC SECTOR FIREWHAT MOTOROLA NORTHROP GRUMMAN LEICA GEOSYSTEMS GTG CARLSON SOFTWARE CSDS RMSI SYMOLOGY COMPASSCOM GEODECISIONS PENNWELL-MAPSEARCH R&K SOLUTIONS DIGITAL MAP PRODUCTS GEOMAPIMAGIS METRIA ROUTESMART FUTURA SYSTEMS CAPGEMINI DENIRAY SOLUTIONS CDC SOURCE GRAPHICS OCEANEERING PENBAY SOLUTIONS GBS LUCITY EAST VIEW TMA SYSTEMS QUANTUM SP NEW CENTURY TEXTRON JUNIPER SYSTEMS EPTISA TMA SYSTEMS QUANTUM SPATIAL EUROPA MICHAELBAKER JR GISINC OMEGA GROUP EKICSSON NEW CENTURY TEXTRON JUNIPER SYSTEMS EPTISA TRACASA SAIC BADELF GEONEXUS TOPOMAT RAYTHEON GISINC THALES KISTERS SMARTERBETTERCITIES DISPATCHR BARTLETT & WEST INC TRIMBLE GEOSOFT HART ENERGY NOVARA GEOSOLUTIONS SENSEFLY TYLER TECHNOLOGIES ARGIS SOLUTIONS VRICON DISPATCHR TLCENGINE NEW WORLD SYSTEMS VOYAGER DOWNER ACCENTURE HOUSEAL LAVIGNE VESTRA RESOURCES DHI BLUESCAPE WHAT3WORDS DRONEDEPLOY EARLY WARNING LABS DATASTORY GENEQ TETRA TECH CRITIGEN TOMTOM PAR GOVERNMENT SPARX SYSTEMS GIMBAL DATACAPABLE MAPTIKS NEOTREKS BLACK RABBIT LABS CYCLOMEDIA HERE 3DR SPATIAL DIMENSION MARKLOGIC WHITESTAR HARRIS TRUE NORTH ECHOSEC GROUNDVU GIS WEB TECH VALARM UTILISYNC FORMBUILDER DIG-SMART DATA EAST INNOVYZE TENSING GLOBAL INTEGRAL GIS POWER ENGINEERS UPSTREAM RESEARCH INDOOR REALITY SNAPTRENDS CAREVOYANCE EAGLEVIEW PICTOMETRY CORELOGIC LANDWORKS DATAMYNE EPOCH WDS SOCIALRADAR STREETSCAN QUORUM ANALYTICS ANTRIS INSPECTOOLS TELEFONICA IGA HYLAND LATITUDE GEOGRAPHICS TO TECHNOLOGY GEO JOBE NIT METROTECH VIZWORX SMARTNOTIFY MAPILLARY TERALYTICS CIVILMAPS PUFFERFISH

Education

Building the Next Generation

GIS Day: November 15, 2017

School Program

Advancing Geoliteracy

Higher Ed Program

STEM

Project-Based Learning

GIS Ambassador

TENNT SSIT

Margaret

GIS: Enabling a Smarter World

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