GIS | opening the world to everyone

Tree Management Using GIS

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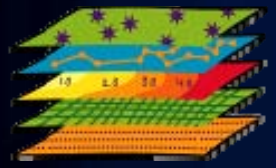
GIS for Tree Management

Textual Tree Attributes and Photos

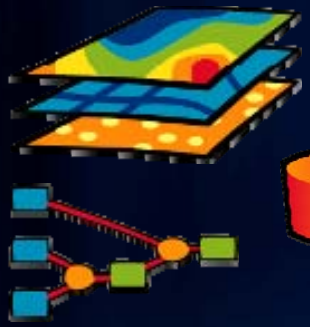
Public & Community Service

Decision-making Support



Map data

GIS



relationship

Analysis or Other applications

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GIS Applications for Tree Management

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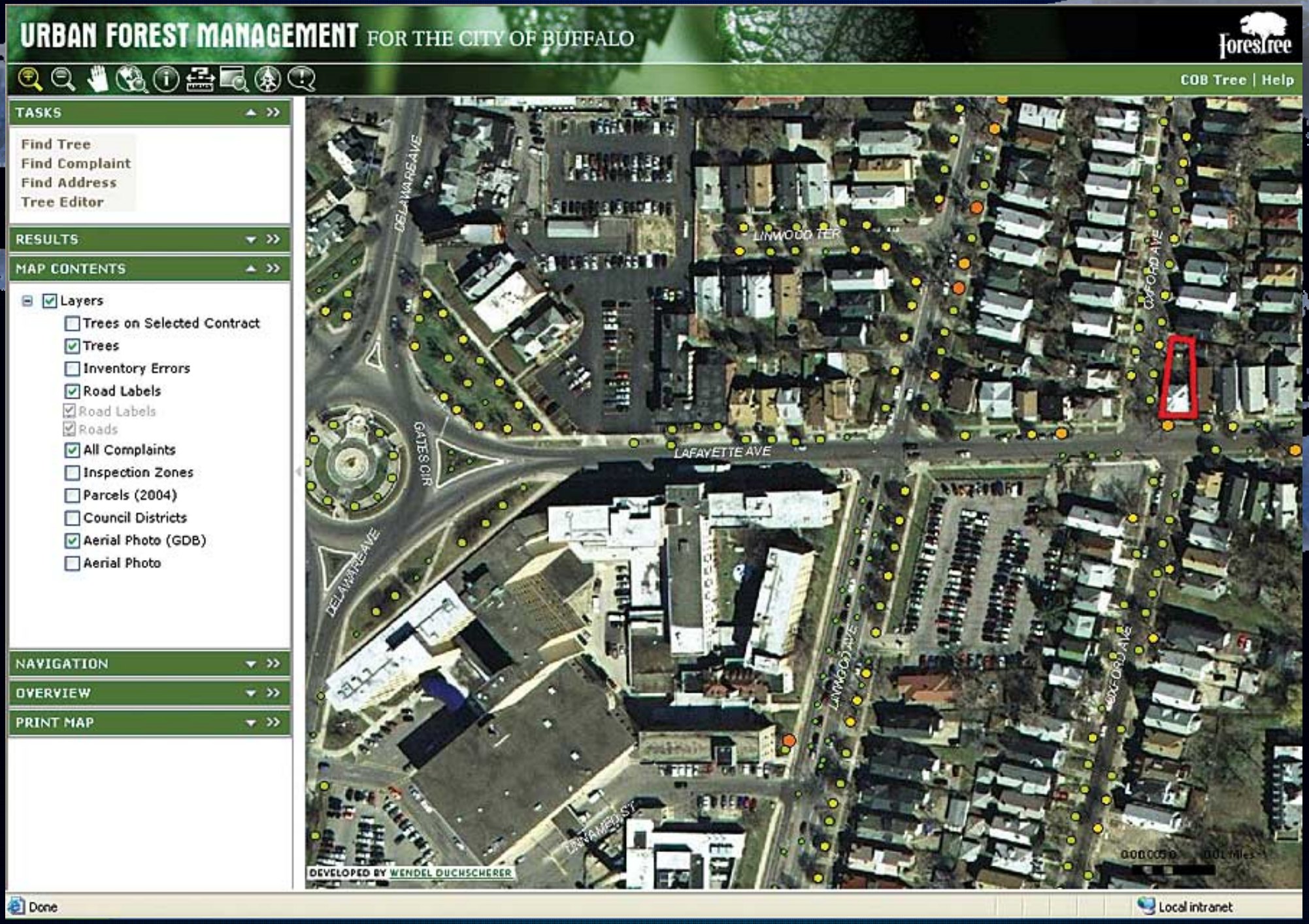
Buffalo, New York, Urban Tree Management Evolves from Surprise Storm

- "City of Trees," the city of Buffalo has maintained a complete urban forest inventory since 2001
- 68,000 trees and 108,000 locations included in the tree inventory
- includes the issuance and management of
  - annual trimming, planting, and removal contracts;
  - handling citizen complaints regarding street trees;
  - inspecting contractor work;
  - and inspecting and updating information on each individual street tree in the inventory

- "October 13, 2006, a historic lake-effect snowstorm
  - forest specialists and GIS professionals collaborated to develop a GIS-based tree management program to answer the urgent and comprehensive needs of the city resulting from the weather disaster.



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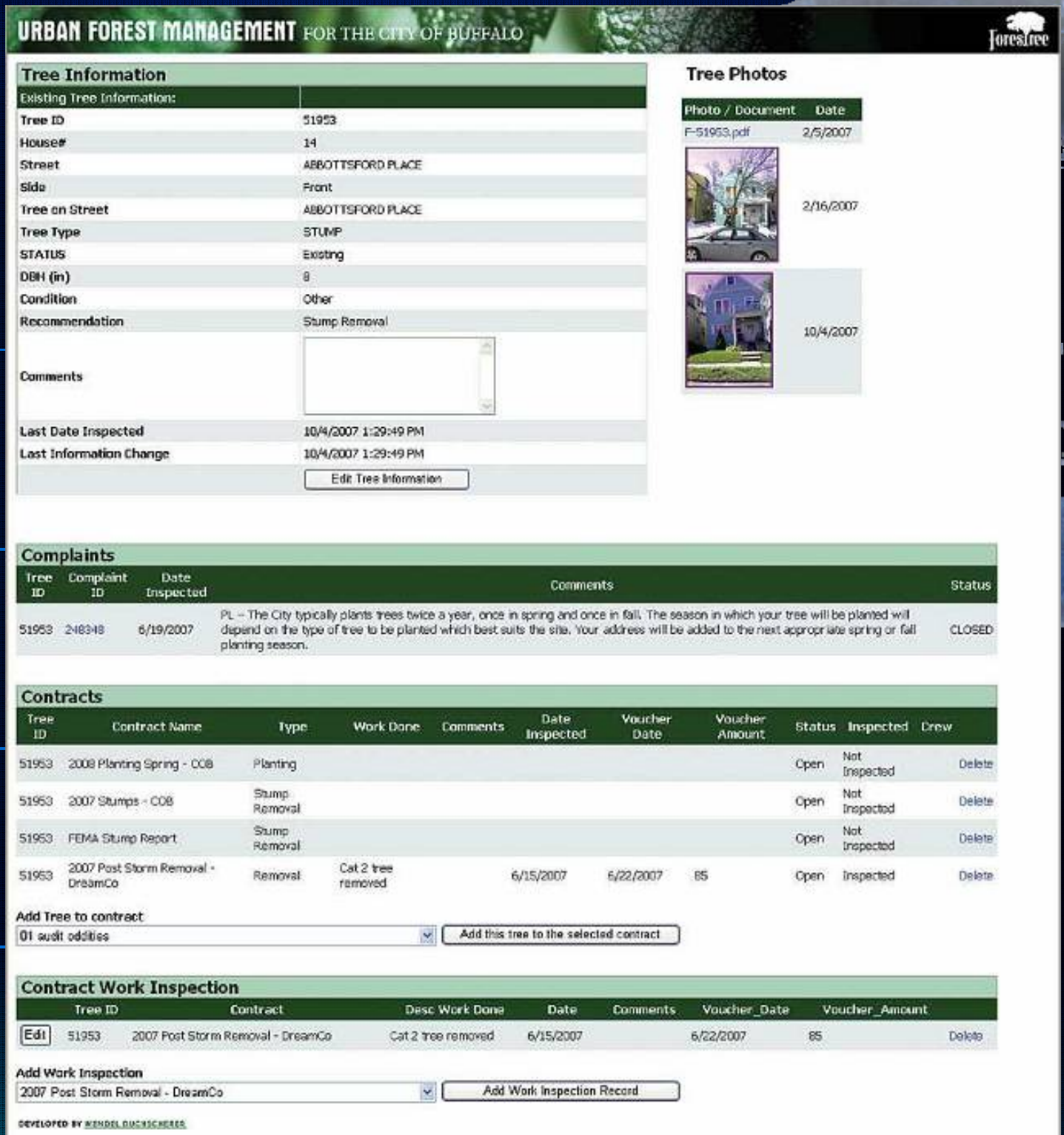
The tree management Web-based GIS allowed full editable access to instantly update tree records and complaint information.

Detailed view of customized ASP Web forms allowing updates while out in the field.



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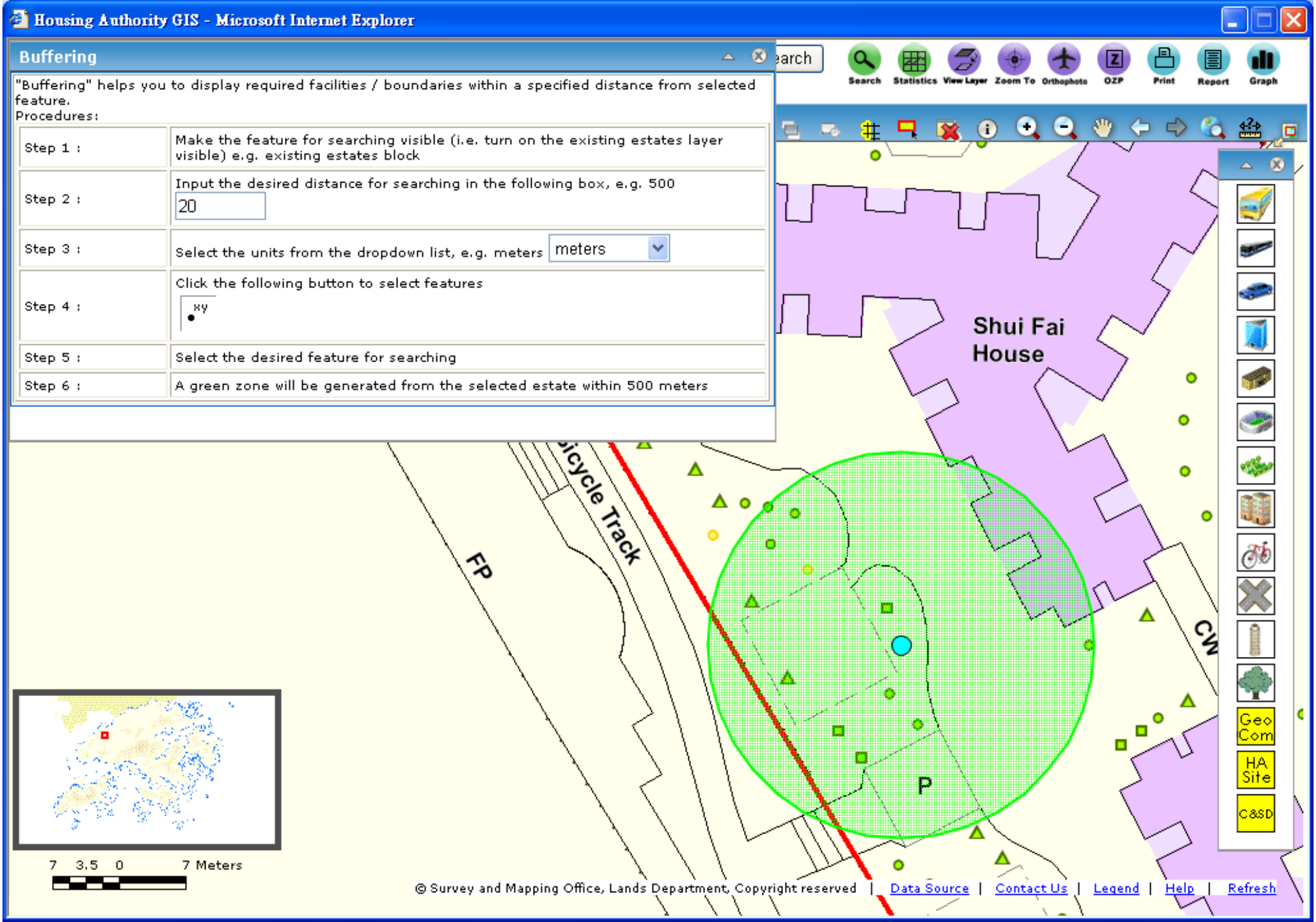
Housing Authority GIS - Microsoft Internet Explorer
Buffering
"Buffering" helps you to display required facilities / boundaries within a specified distance from selected feature.
Procedures:
Step 1 : Make the feature for searching visible (i.e. turn on the existing estates layer visible) e.g. existing estates block
Step 2 : Input the desired distance for searching in the following box, e.g. 500
20
Step 3 : Select the units from the dropdown list, e.g. meters
meters
Step 4 : Click the following button to select features
xy
Step 5 : Select the desired feature for searching
Step 6 : A green zone will be generated from the selected estate within 500 meters
Search
Statistics
View Layer
Zoom To
Orthophoto
OZP
Print
Report
Graph
Shui Fai House
FP
Cycle Track
CW
P
Geo Com
HA Site
C&SD
7 3.5 0 7 Meters
© Survey and Mapping Office, Lands Department, Copyright reserved
Data Source
Contact Us
Legend
Help
Refresh
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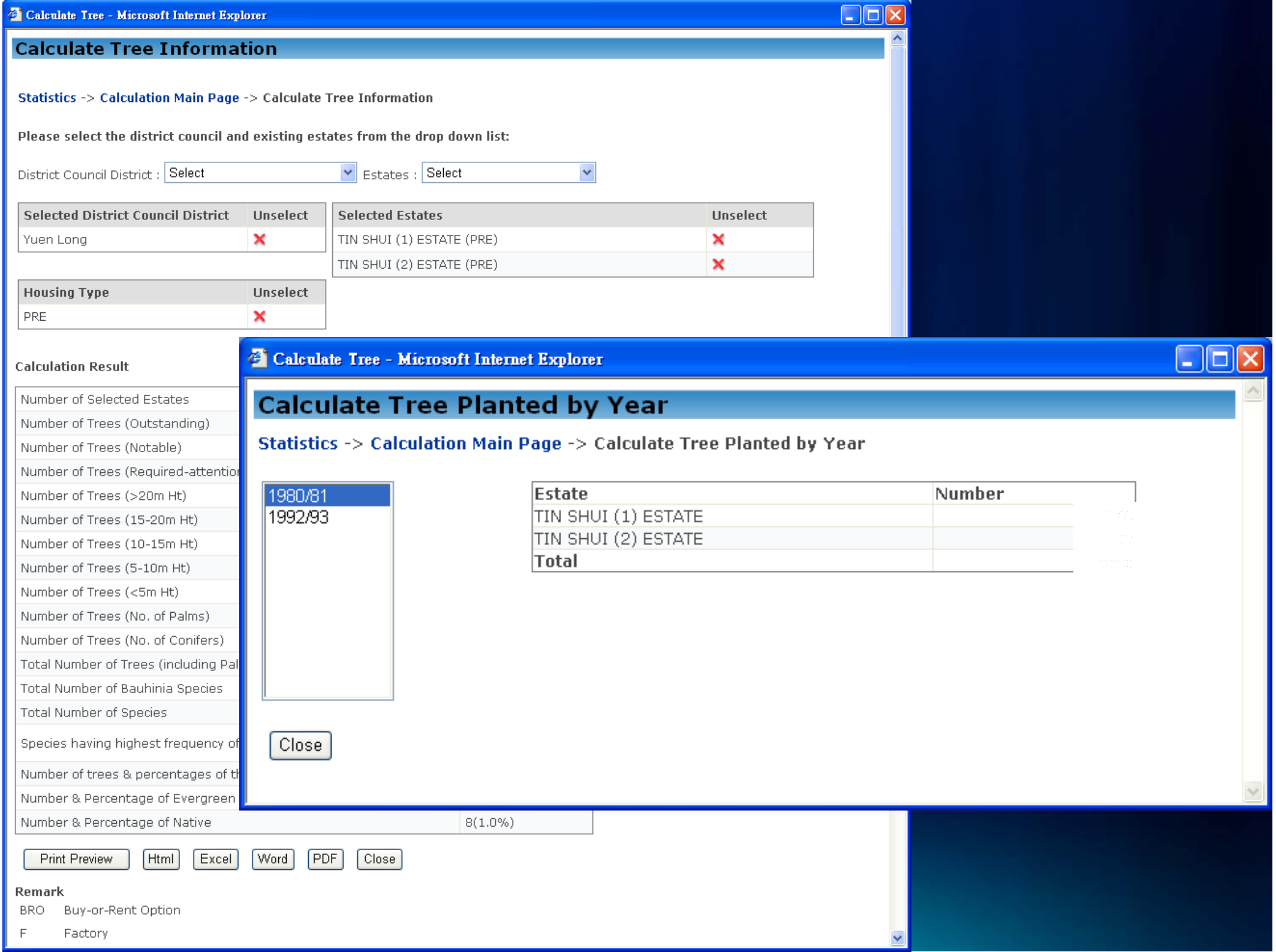
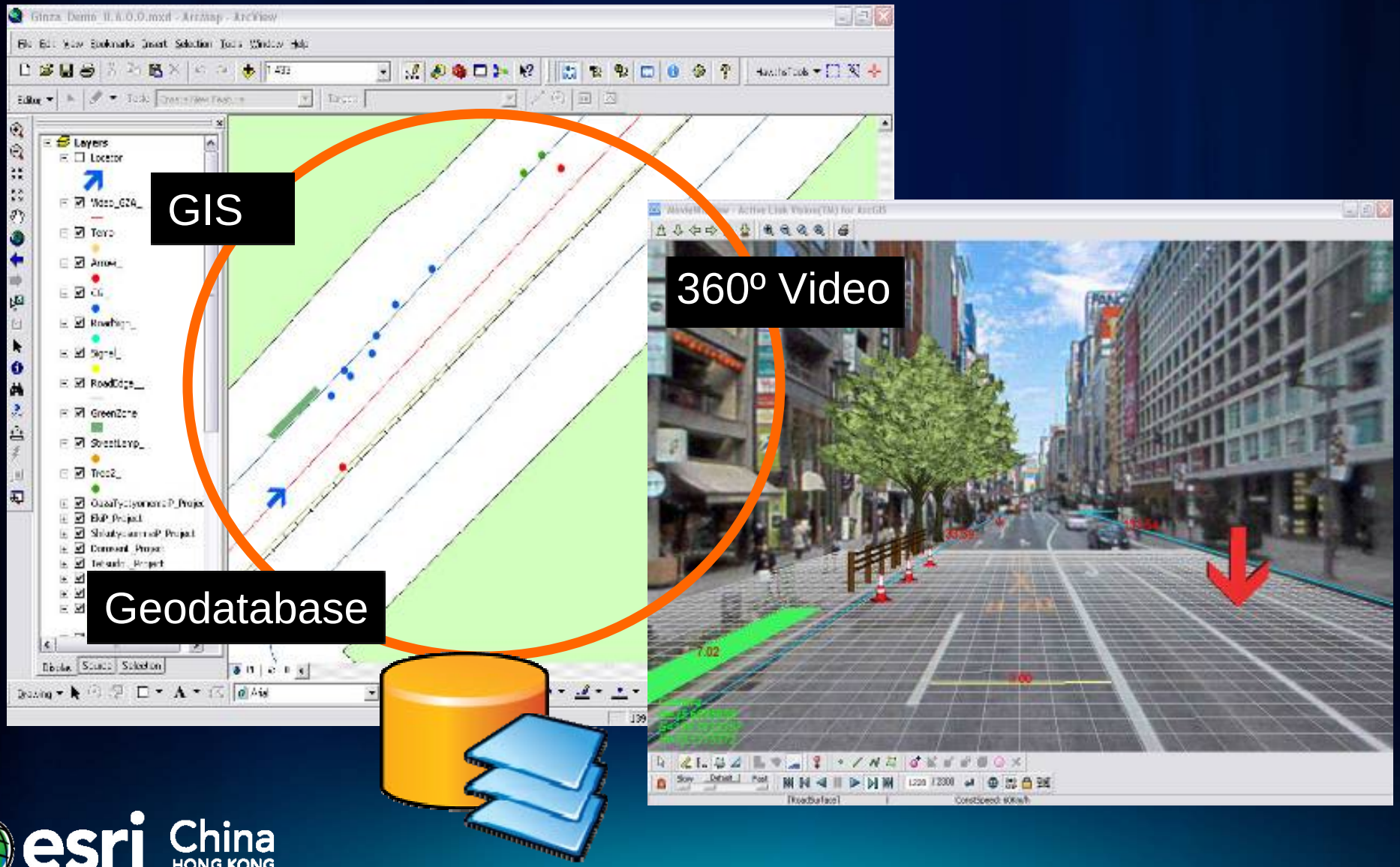

Calculate Tree - Microsoft Internet Explorer
Calculate Tree Information
Statistics -> Calculation Main Page -> Calculate Tree Information
Please select the district council and existing estates from the drop down list:
District Council District : Select
Estates : Select
Selected District Council District
Unselect
Yuen Long
Selected Estates
Unselect
TIN SHUI (1) ESTATE (PRE)
TIN SHUI (2) ESTATE (PRE)
Housing Type
Unselect
PRE
Calculation Result
Number of Selected Estates
Number of Trees (Outstanding)
Number of Trees (Notable)
Number of Trees (Required-attentio
Number of Trees (>20m Ht)
Number of Trees (15-20m Ht)
Number of Trees (10-15m Ht)
Number of Trees (5-10m Ht)
Number of Trees (<5m Ht)
Number of Trees (No. of Palms)
Number of Trees (No. of Conifers)
Total Number of Trees (including Pal
Total Number of Bauhinia Species
Total Number of Species
Species having highest frequency of
Number of trees & percentages of th
Number & Percentage of Evergreen
Number & Percentage of Native
8(1.0%)
Print Preview
Html
Excel
Word
PDF
Close
Remark
BRO Buy-or-Rent Option
F Factory
Calculate Tree - Microsoft Internet Explorer
Calculate Tree Planted by Year
Statistics -> Calculation Main Page -> Calculate Tree Planted by Year
1980/81
1992/93
Estate
Number
TIN SHUI (1) ESTATE
TIN SHUI (2) ESTATE
Total
Close

Mobile Mapping System with GIS for Tree Planting Planning



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Demonstration

Mobile Mapping System with GIS

for Tree Planting Planning

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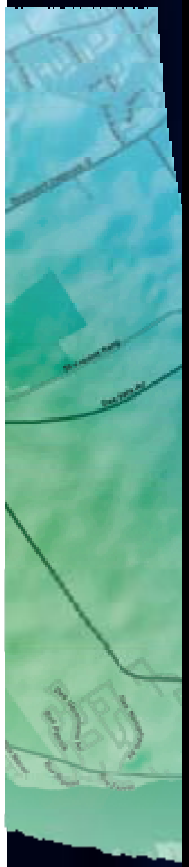

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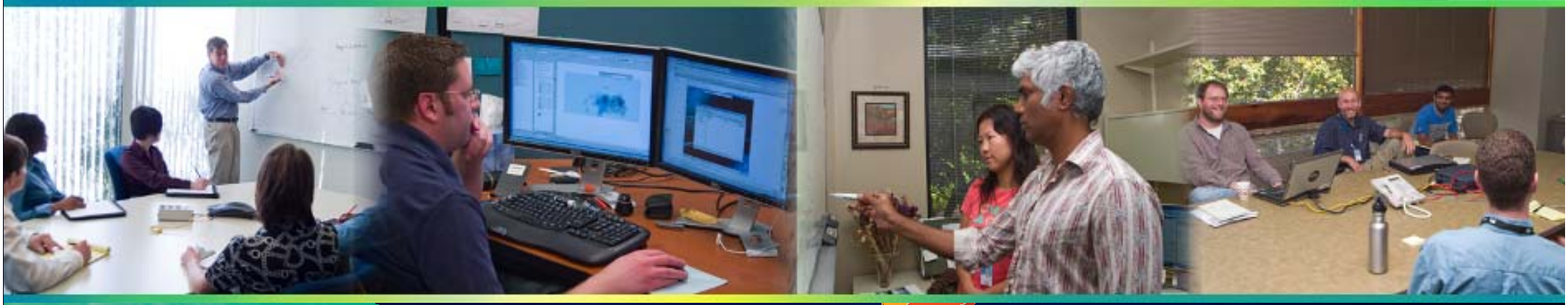
GIS Technology



Different GIS Platform for Tree Management

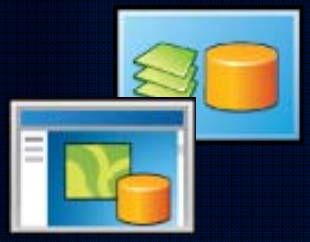
Lets you use geographic information everywhere

Desktop

- Professional GIS
- Free ArcGIS Explorer client

Server

- Services
- Applications



Mobile

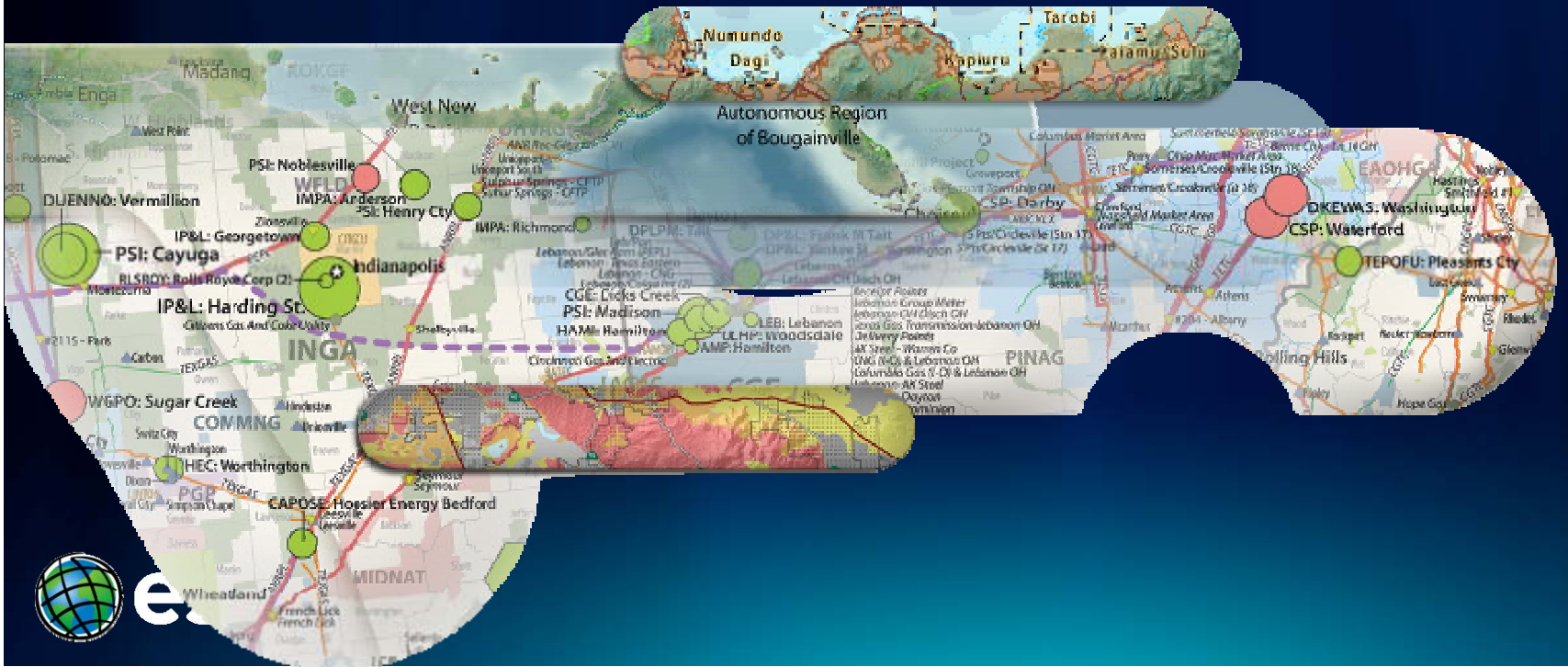
- Knowledge Worker
- Field Data Collection

Online

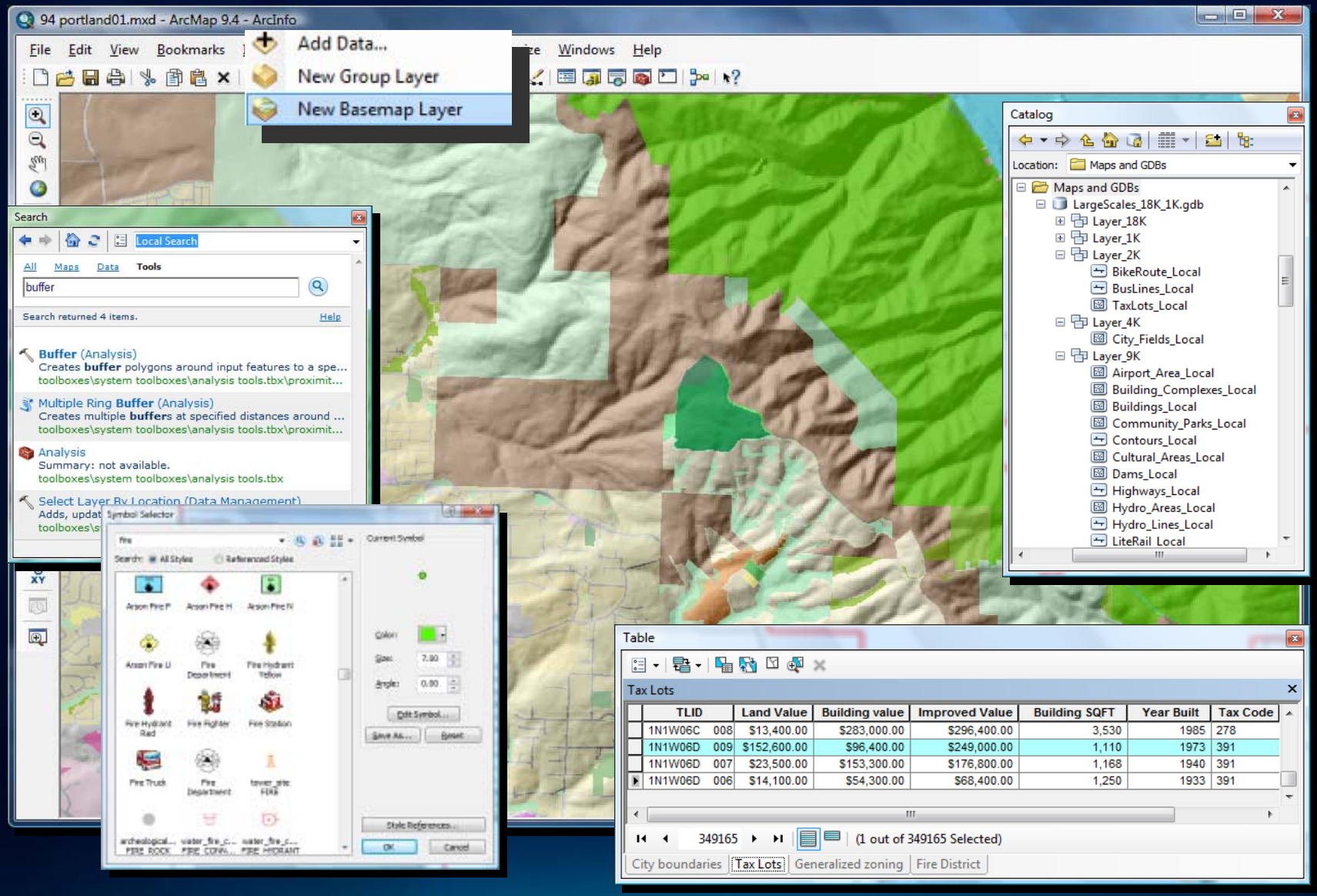
- Platform
- Services
- Sharing
- Browsers

A Complete Integrated System

Desktop GIS


Numundo
Dagi
Kapiura
Tarobi
Autonomous Region
of Bougainville
West New
PSI: Noblesville
IMPA: Anderson
PSI: Henry Cty
DUENN0: Vermillion
IP&L: Georgetown
PSI: Cayuga
Indianapolis
IP&L: Harding St.
IMPA: Richmond
CGE: Licks Creek
PSI: Madison
HAMI: Hamilton
LEB: Lebanon
AMP: Hamilton
WGPO: Sugar Creek
HEC: Worthington
CAPOSE: Hoosier Energy Bedford
CSP: Darby
CSP: Waterford
TEPOFU: Pleasants Cty
INGA
COMMNG
MIDNAT
PINAG
EAOHG

Making Desktop GIS easier and more productive



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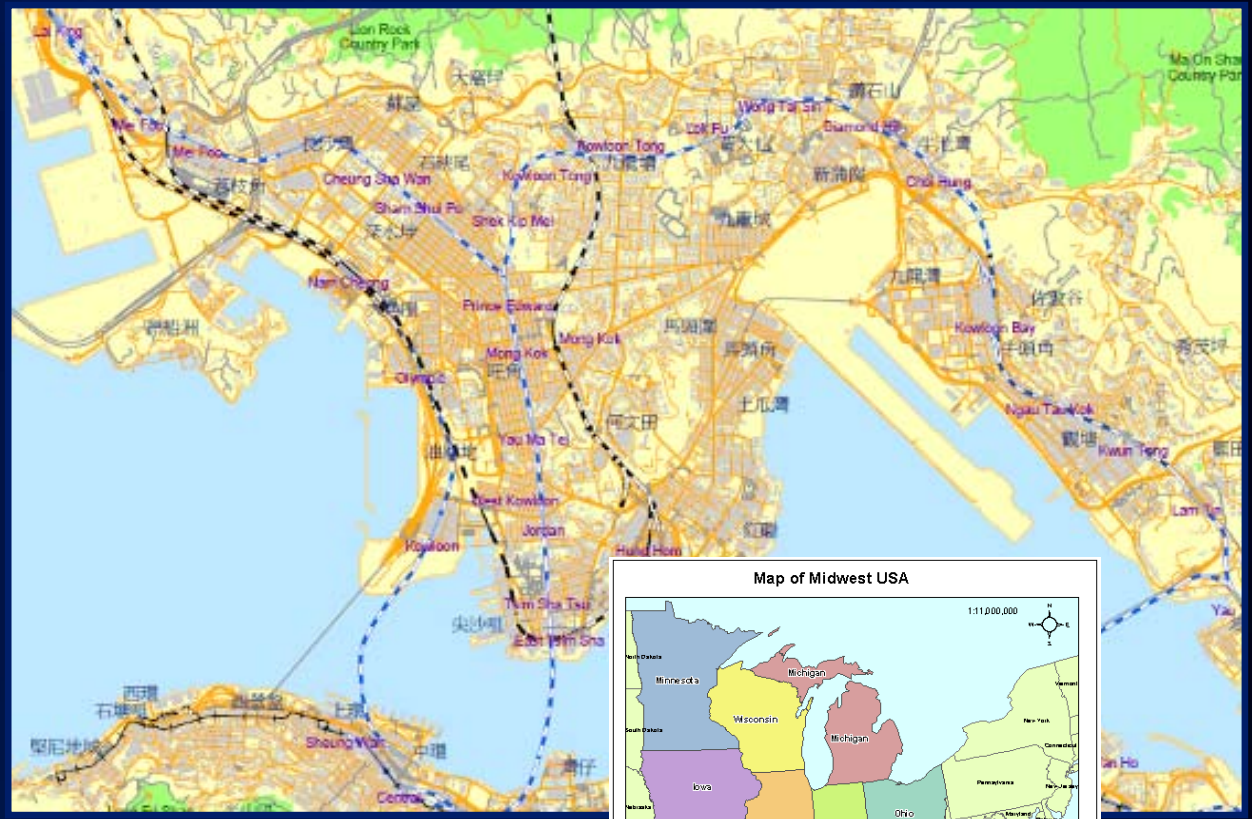
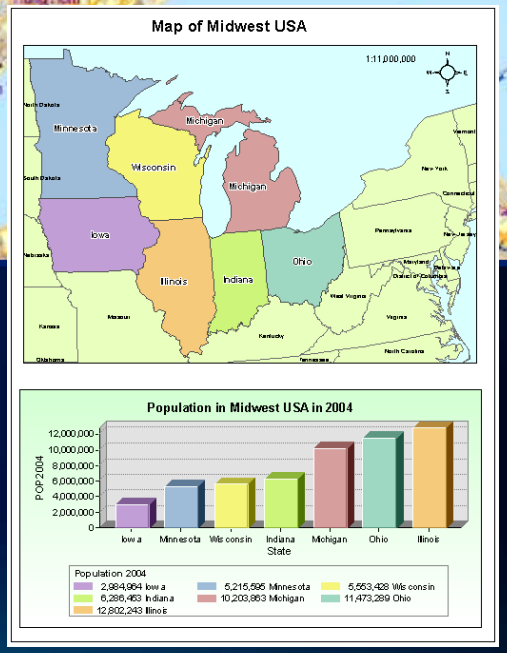
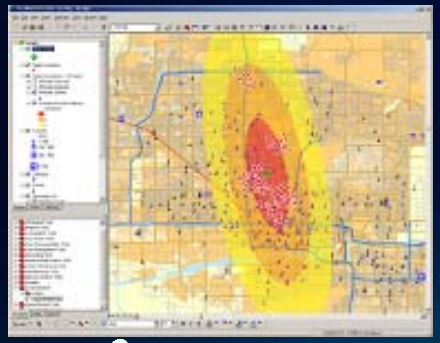
Focused On Enabling Your Success...

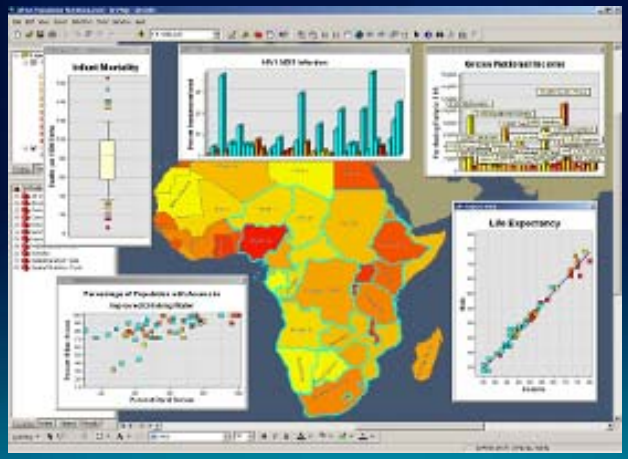
Desktop GIS *Author Data and Advanced Analysis*

- Built-in Read and Write for HK Lands Dept Topographic Map Data
- Ad hoc GIS Tasks
  - Create, integrate and edit
  - Analyze and model
  - Map and visualize
- Charting and Reporting
- Productivity tools for GIS professionals









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Demonstration

Using the GIS System to help on Tree Inspection

(Create the Map Document using Desktop GIS)

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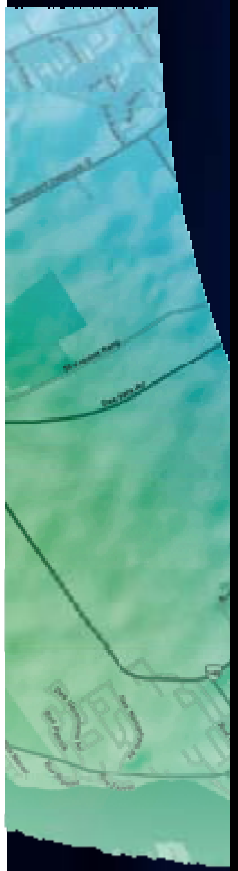

ArcGIS Explorer - My Default Map
Display
Find
Directions
Route
Measure
Folder
View
Link
Notes
Target
Line
Point
Area
Basemap
Add Content
Contents Window
Copy to Clipboard
Calcoashatchee
Clewiston
Harlem
South Bay
Belle Glade
Royal Palm Beach
Wellington
Glant Group
Oblong Geyser
Beauty Pool
Solitary Geyser
Milk Cauldron
Grand Group
Spasmodic Geyser
Fissure Spring
Pine Springs
Orange Spring
Black Sand Pool
Iron
Black
Sand
RIVER
Geyser Hill
San Bernardino
Riverside

Server GIS

Rich Internet Applications (RIA)

New era of Web maps

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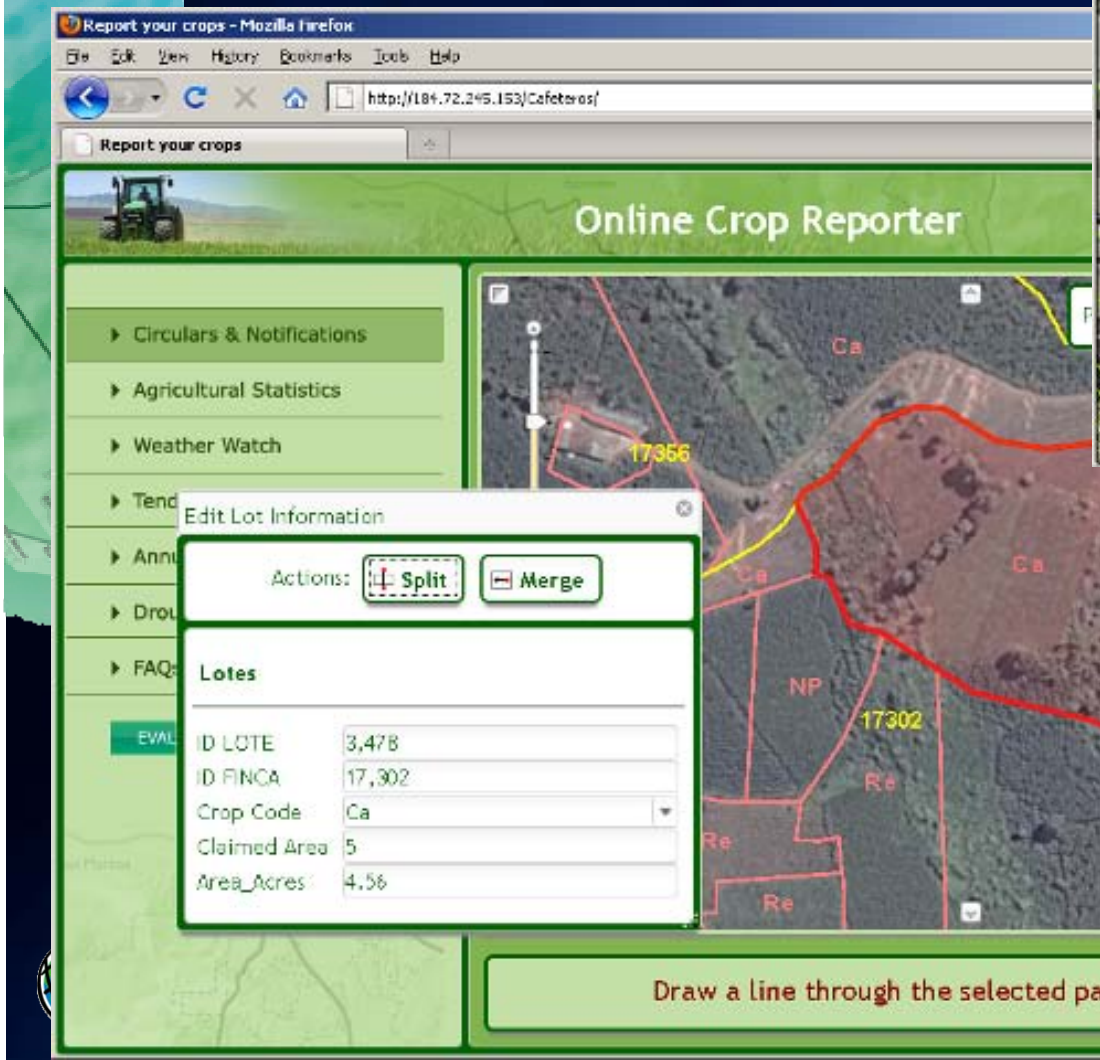
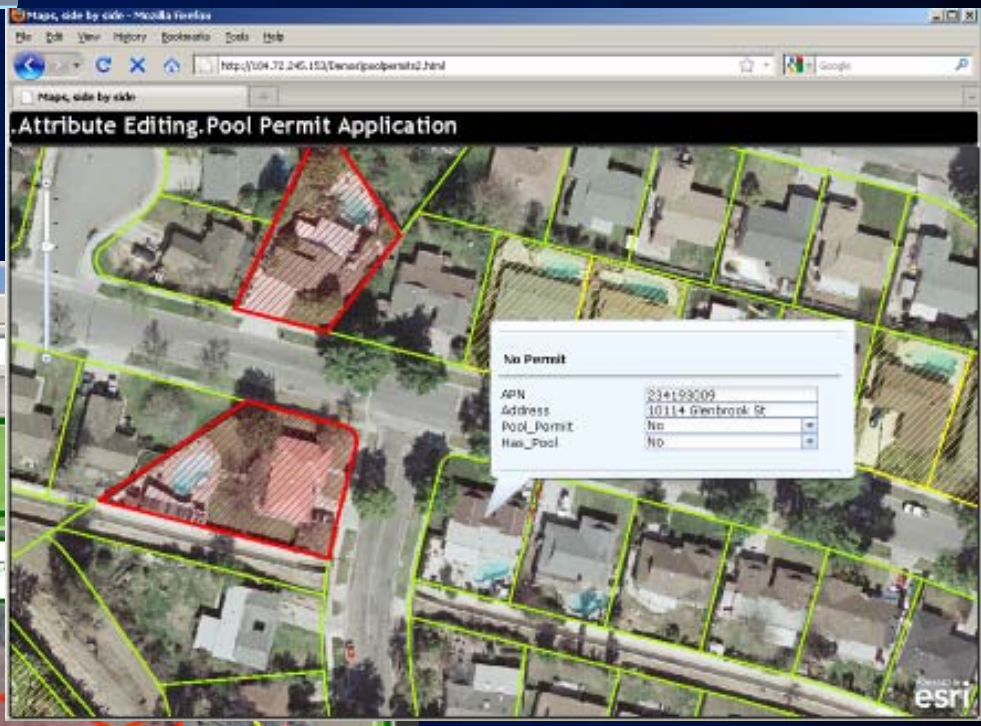
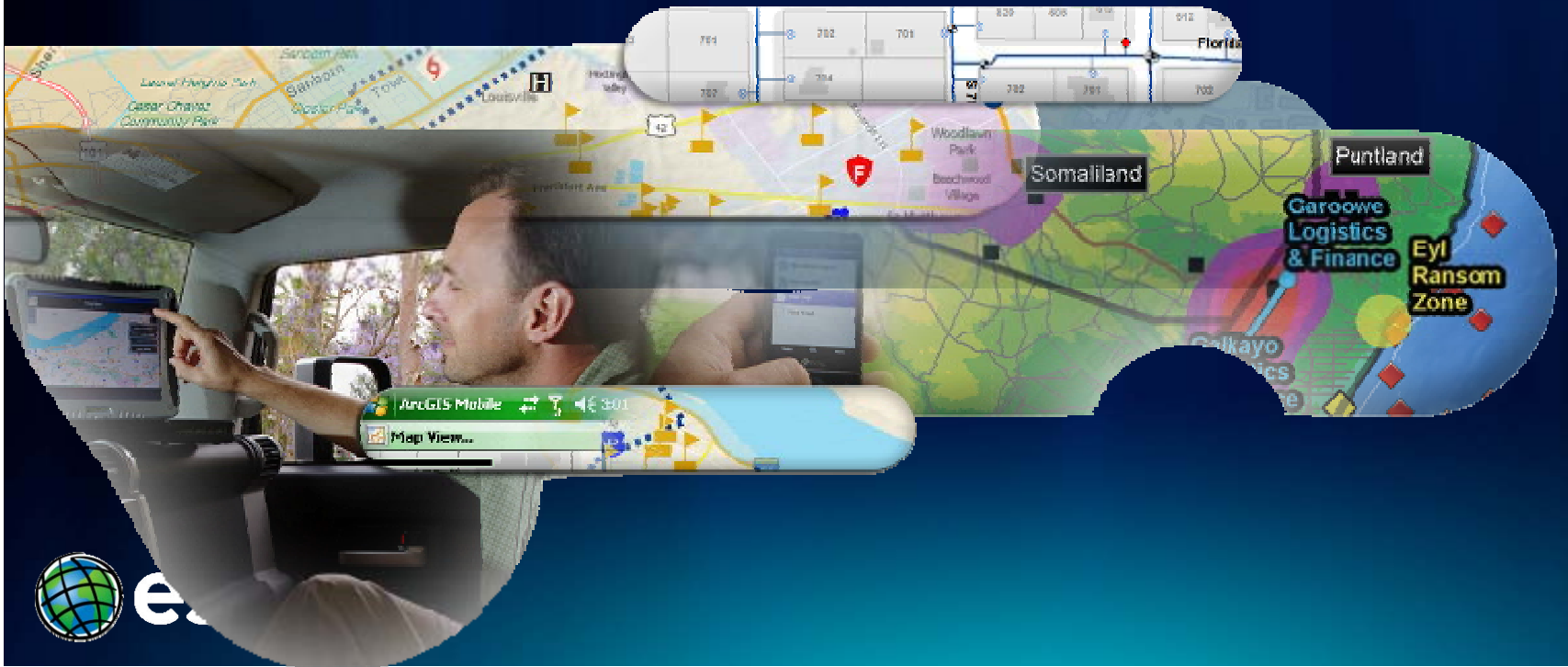
Sophisticated Web Editing





Mobile GIS


Somaliland
Puntland
Garoowe
Logistics
& Finance
Eyl
Ransom
Zone
ArcGIS Mobile
Map View...

When Choosing your Mobile GIS Device…

Capabilities
GPS
Camera
Range Finder
Bluetooth

3G

Bluetooth

GPS

Connectivity
Always connected
Sometimes connected
Offline

Form Factor
Phone
Handheld
Tablet
Laptop

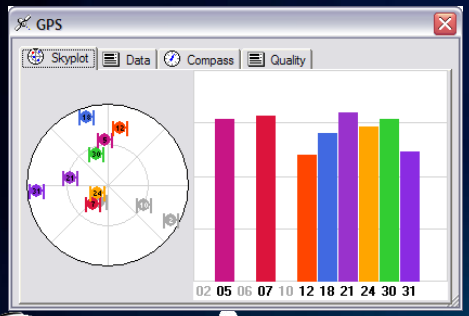
Windows Mobile

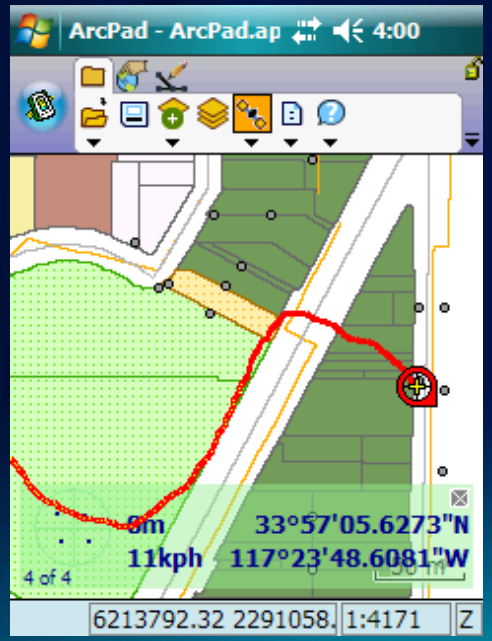
Platforms
Windows
Windows Mobile
Apple iOS
Android

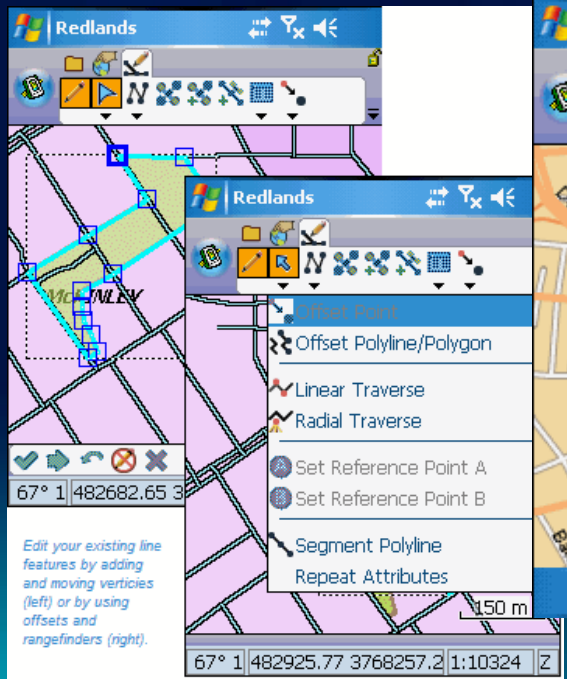
GIS with GPS for Mobile Data Collection

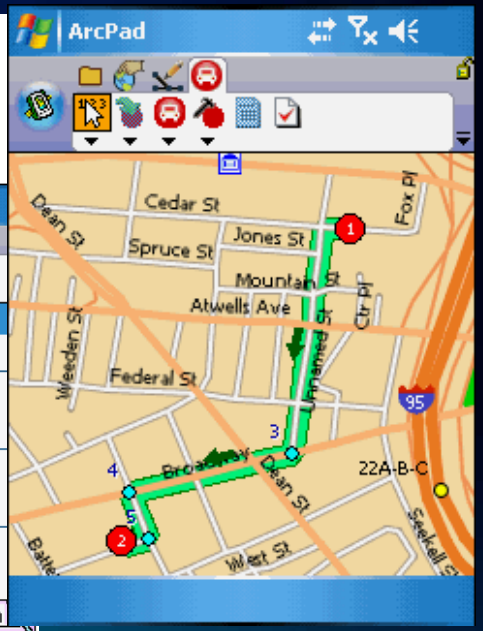
- Data collection utilizing automated date and time stamps
- Forms with data validation - Reduction of errors in field data entry
- NO NEED transcribe handwritten field notes
- Use data capture devices
  - **GPS, rangefinder, and camera**

Mobile GIS









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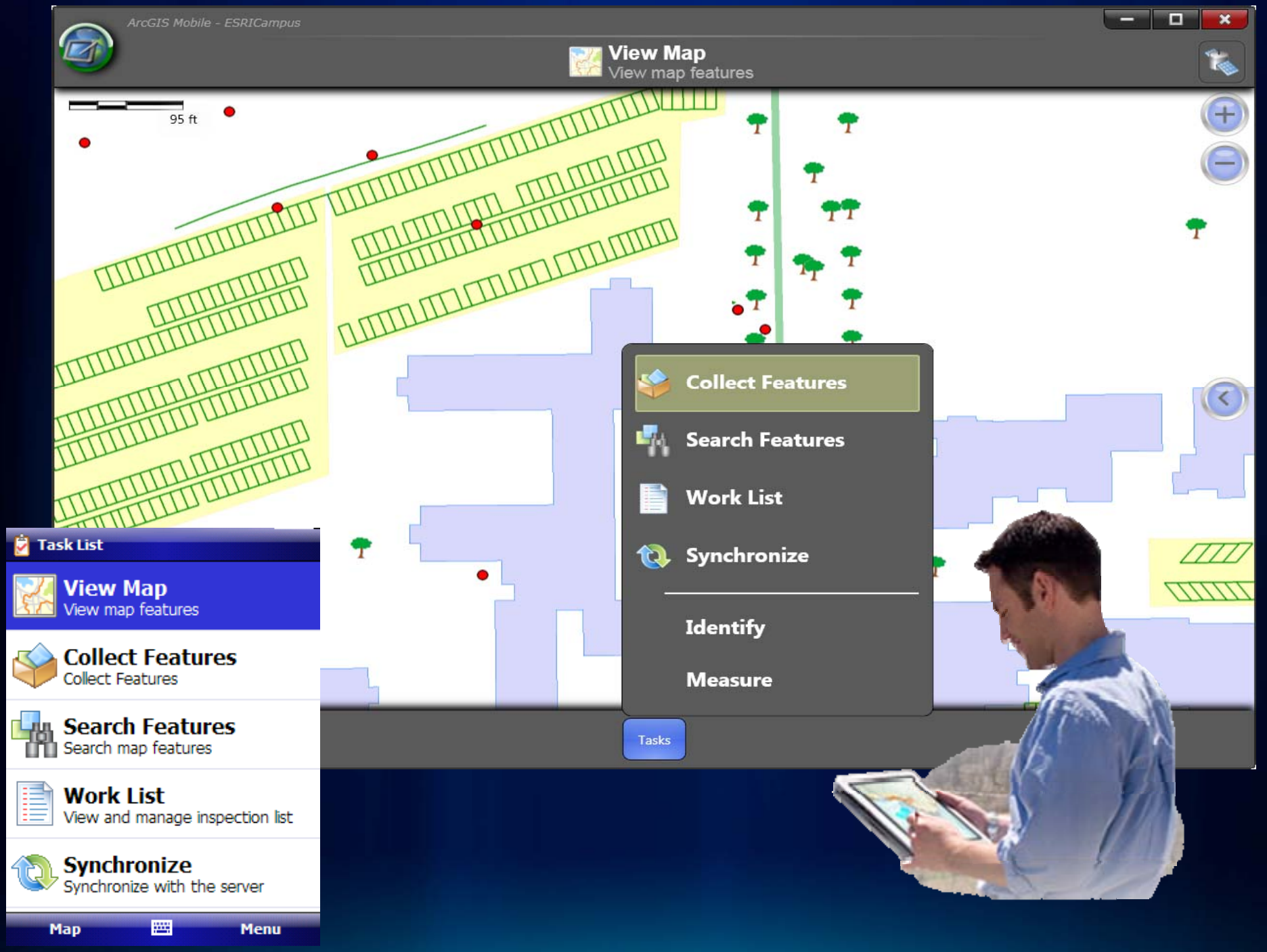

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Demonstration

Using the GIS System to help on Tree Inspection

(With aid of ArcGIS Mobile and ArcGIS Server)

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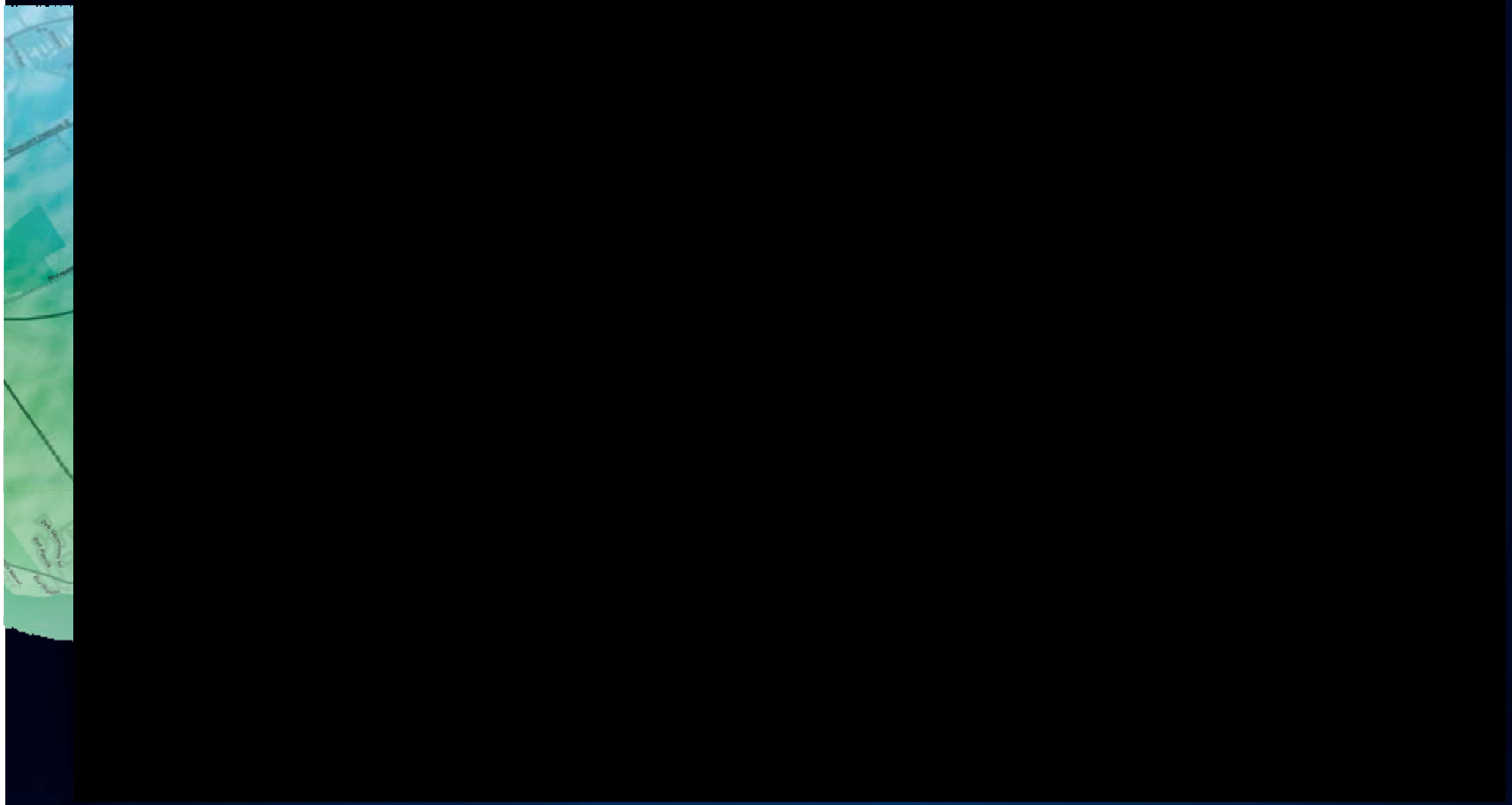

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GIS on consumer devices - GIS Apps for Smartphones

- iPhone/iPad (iOS) available now
- Access shared maps
- Explore, update, and share

- API for Windows Phone

- API for Android (later this year)

Available on the iPhone App Store

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opening the world to everyone

Demonstration

Tree Print Campaign (樹印計劃)

www.treeprint.hk

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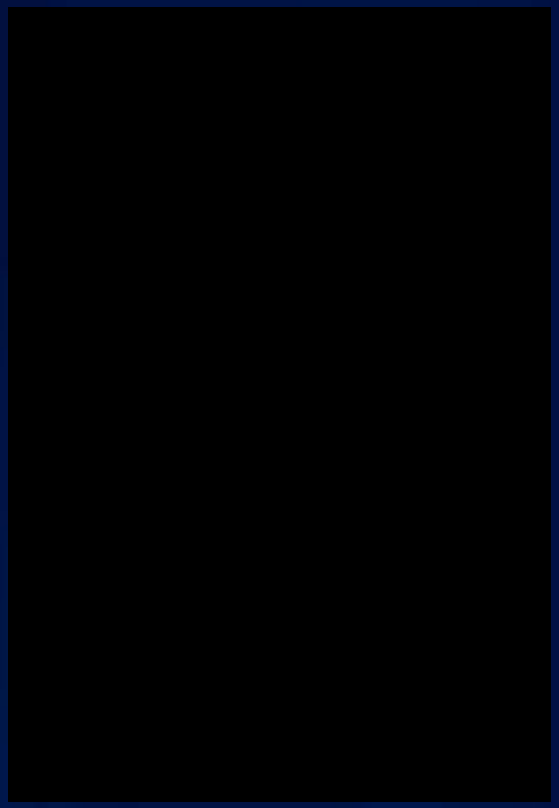

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Thank You!