San Bernardino County

INFORMATION SERVICES DEPARTMENT

APPLICATION DEVELOPMENT DIVISION

GEOGRAPHIC INFORMATION SYSTEM (GIS)

GEOGRAPHIC INFORMATION MANAGEMENT SYSTEM (GIMS)

Sharing Imagery

http://gis.sbcounty.gov/default.aspx

COUNTY GIS OVERVIEW

- ISD-GIS is the County's primary GIS group to assist county departments and non-county users with GIS use and implementation
- GIS has been used in San Bernardino County for 33 years
- Over 120 data layers available for use
- The software products used are ArcGIS, ArcGIS Server, ArcSDE, ArcIMS, ArcImage Server, Google Earth EC and GlobalMapper, .NET, Silverlight, Flex and more
- Enterprise GIS allows county departments to efficiently access County's GIS data assets via multiple avenues (desktop client, web, mobile)

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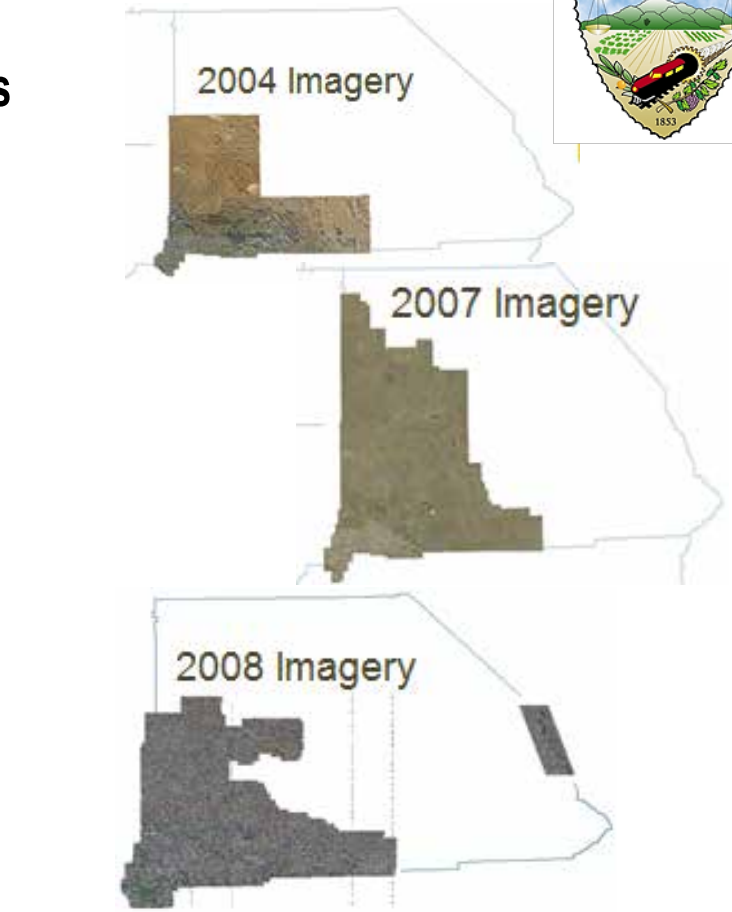
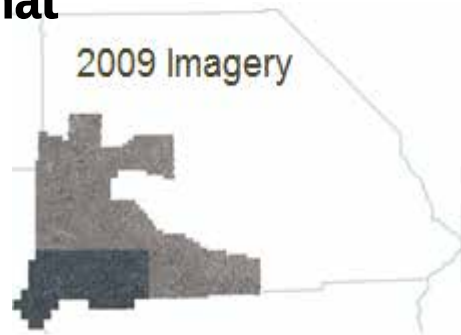
HISTORY OF GIS IMAGERY ACQUISITIONS

- 2004 through 2006 – Imagery acquisitions were off-the-shelf
- 2007 – SB County joined a Multi-County consortium to acquire imagery
- 2008 – SB County goes it alone, creates RFP and acquires imagery
- 2009 – SB County GIS team decides to restructure the RFP and contract.
  - Obtained resale rights to the imagery
  - Included penalties for non-delivery
  - Included specific technical requirements
  - Developed quote charts per imagery format
  - Contracted two (2) vendors
  - Three(3) year contractual commitment





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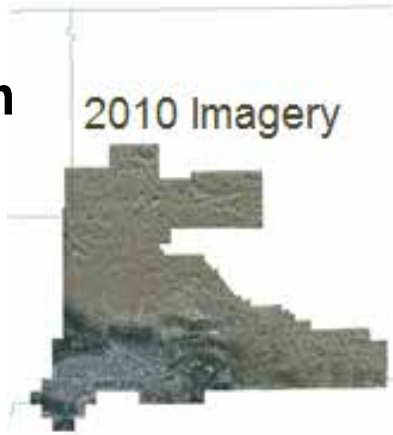
HISTORY OF GIS IMAGERY ACQUISITIONS

- **2009 – Imagery acquisition results**
  - **Sale of Geo-Tiff and Jpeg2000 imagery at a fraction of the cost**
  - **Several cities and entities used our One-Off Vendor to acquire better than 1 foot imagery including LiDAR and Oblique**
  - **County shares imagery with ESRI and others**
- **2010 – Improved the imagery acquisition process**
  - **GIS team decides to create partnerships**
  - **Selected only one (1) vendor to perform both primary and One-off acquisitions**
  - **Included ECW format imagery in delivery**



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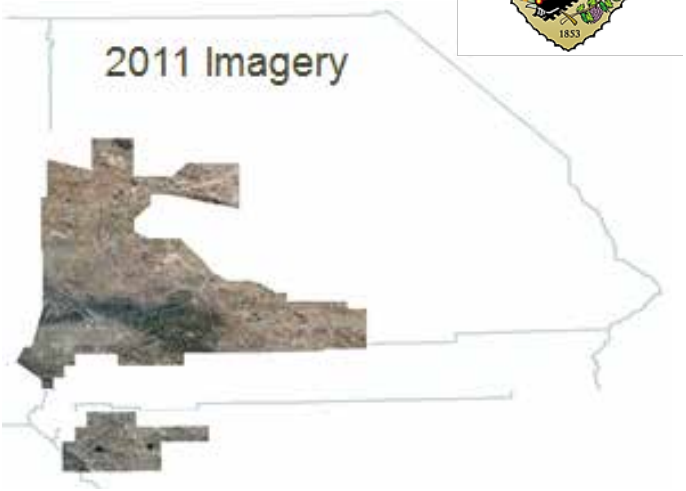
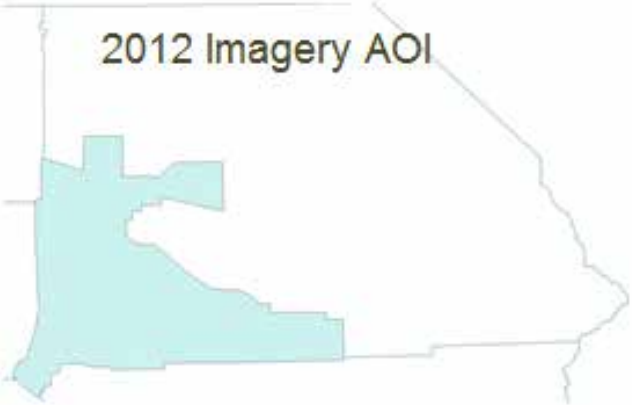
Current GIS IMAGERY ACQUISITIONS

- **2011 – Current imagery acquisition**
  - **Lost aerial vendor**
  - **Created new RFP and Expanded the AOI**
  - **Developed new partnerships to spread the cost**
    - **USGS, NGA, County of Riverside**
  - **Added Mr.Sid format to delivery**



- **2012 to Future – Imagery acquisition**
  - **Decision to share our current contract and vendor for better than 1 foot imagery acquisitions**
    - **Saved RFP and contract costs**
    - **In-Kind-Trade for imagery**



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WHY FLY Vs. BUY OFF-THE-SHELF

- Buying imagery off-the-shelf
  - Pros
    - Low cost
    - No RFP or contract costs
  - Cons
    - No control over AOI, fly time, quality
    - Limited ownership of purchased imagery

- Flying – Imagery acquisition
  - Cons
    - Higher imagery costs, yet negotiable
    - RFP and contract costs
  - Pros
    - Define AOI and resolution
    - Select the newest technology
    - Select your partners
    - Negotiate new acquisition conditions
    - Obtain complete ownership of imagery

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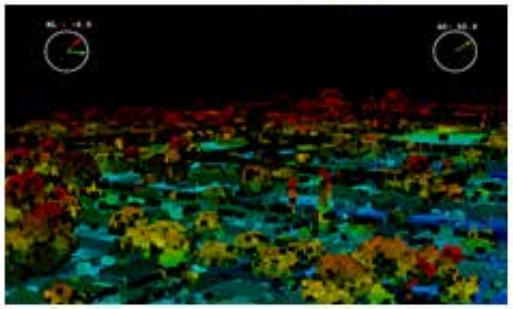
WHY SHARE IMAGERY

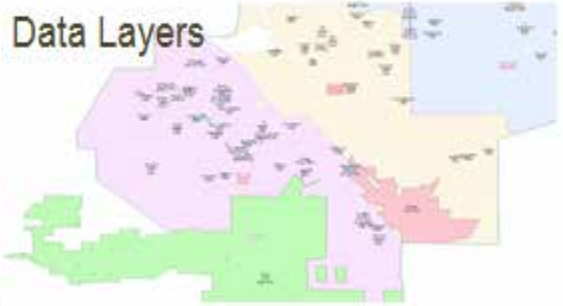
- Spread the cost of imagery
- Obtain imagery normally not acquired
- Obtain imagery at better resolution(s)
- Obtain imagery of different formats
- Set a good example for other GIS Groups/Users
  - Offer imagery to all
  - Develop GIS relationships and partnerships
  - Offer assistance and expertise
  - Offer our other resources
    - Data Layers (120)
    - Map Services
    - GIS Server Web Services
    - Geocoding and Geometric Services
    - GIS Server Cache Services

3" Imagery

LiDAR



Data Layers



Multipoint

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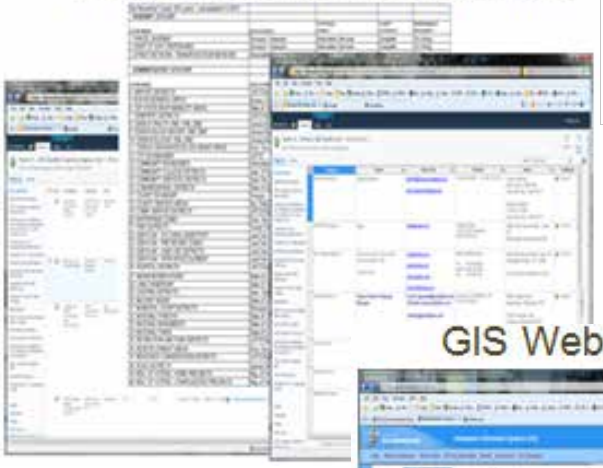
HOW TO START SHARING

- Take an inventory of imagery products
- Create a list of imagery you need/want
- Create customer contact lists
- Create imagery provider contact lists
- Post these lists on you GIS web site
- Seek out those acquiring Imagery
- Propose partnerships or consortiums
- Propose in-kind Trades
- Join in when opportunities are presented
- Better define the details of GIS contracts
- Offer assistance and expertise to developing GIS programs
  - Small agencies and groups
  - Schools and clubs

Data/Customer/Provider List



GIS Web site

GIS Contract

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AERIAL IMAGERY ACQUISITION PARTNERSHIPS

USGS Drew Decker
Carol Ostergren

ESRI Jan Cunningham

Google Deborah Hafford

County of Riverside Damian Laning

SAWPA Celeste Cantu

MWA Kimberly Cox, Div. 1
Beverly Lowry, Div.6

SANBAG Cameron Brown

Big Bear Municipal Water District Mike Stephenson

AERIAL IMAGERY ACQUISITION SUPPORTER

LAFCO

Economic Development Agency

Surveyor

CONFIRE

Sheriff

Transportation

Office of the Assessor

Land Use & Planning

Facilities Management

Flood Control

Solid Waste Management

Treasurer

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SB COUNTY'S AVAILABLE IMAGERY

2011 Aerial Imagery

5,350 square miles of Urban Imagery - 1' natural color is available
Geo Tiff format of urban imagery - $19.29 /square mile
(Minimum order $36.00 to cover handling and processing)

In ECW or JPG2000 format - $288.00
Entire 2010 San Bernardino County NAIP 1 meter natural color in ECW format - $144.00
JPEG Compressed TIFF Imagery (1:10 compression) is also available. Please call.
Please call or email for details on areas that were covered
Custom areas can be accommodated - contact us for more information or call 909 388-5500 ask for GIMS

2010 Aerial Imagery

Geo Tiff format of urban imagery - $15.26 / square mile
4,735 Square miles of Urban Imagery - 1' natural color in ECW or JPG2000 format - $144.00
(Minimum order $36.00 to cover handling and processing)

2009 Aerial Imagery

Geo Tiff format of urban imagery - $14.82/ square mile
(Minimum order $36.00 to cover handling and processing)
4,735 Square miles of Urban Imagery - 1' natural color in ECW or JPG2000 format - $144.00
(KMZ of Coverage for 2009 Urban Imagery)
Entire 2009 San Bernardino County NAIP 1 meter natural color in ECW format - $144.00

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SB COUNTY'S DATA SHEET

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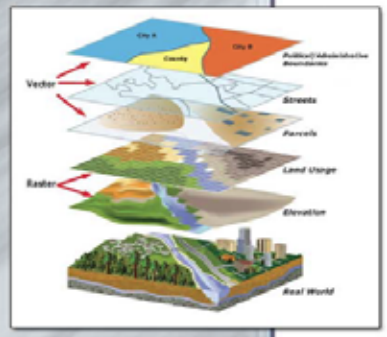
Information Services Department

"Delivering products and services that exceed expectations"



Geographic Information System Services

GIS is more than a map — it is a strategic direction.

GIS, at its core, is simply the graphical representation of tabular data that ties geographical information together with other kinds of information, such as census data and warehouse inventory lists. Proper utilization of a GIS can deliver helpful applications like the popular internet-based driving directions and interactive mapping systems widely available today.

The expanding capabilities and flexibility of GIS design will eventually make it an essential part of every commercial or government enterprise.

As a long-term partner with Environmental System Research Institute (ESRI), we at Information Services are committed to helping San Bernardino County serve its customers in the most effective way possible. We continue to meet that commitment through exploring and implementing GIS solutions based upon ESRI's industry-leading tools, software, and infrastructure.

As always, we strive to provide the solutions necessary to meet the requirements of today while proactively seeking the technology and methods that will be essential in solving the problems of tomorrow.

We invite you to talk with us and together we will find the perfect GIS solution for you.

Datasheet

GIS Services:

- Aerial Imagery
- Custom Maps
- Demographic Data
- GIS Web-Based Mapping Applications
- GIS Data/Custom Data Analysis
- GIS Data Hosting
- FTP Hosting
- Google Earth Enterprise Server
- Geocoding Client

Infrastructure:

- ArcGIS Server
- Google Earth Enterprise Server
- Mobile GIS
- ArcPad
- Oracle Spatial Database
- Microsoft Windows
- Internet Information Server
- Linux

ISD Application Development Division | 670 E Gilbert St, San Bernardino, CA 92415-0915
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SB COUNTY'S DATA SHEET

Geographic Information System Services Datasheet

Aerial Imagery
Entire San Bernardino County NAIP 1 meter natural color in ECW format
GeoTiff format of urban imagery
4,735 sq. miles of urban natural color - 1' resolution
Stereo Pair Imagery
Custom areas can be accommodated

Custom Maps
We produce beautiful, functional maps for virtually any project. Showcase your vision from over 130 available layers, in either electronic or hard copy formats.

Demographic Data
We offer comprehensive population and demographic reports, market research and profiles, business locators and summaries, mapping of major shopping centers, tapestry segmentation, traffic counts, and site maps with custom details.

GIS Web-Based Mapping Applications
Our development team can build rich Web GIS applications based on the newest technologies of ArcGIS Server and Silverlight that are highly scalable and Enterprise ready.

GIS Data/Custom Data Analysis
We offer essential GIS layers in the formats you need: Shapefiles, File Geodatabase, XML Workspace, and KML. We can provide specialized reports; data filters; advanced queries; data collection, automation, and maintenance; and we employ skilled GIS technicians who assist with GIS data automation needs.

GIS Data Hosting
Store your GIS data on an Enterprise infrastructure that is secure and regularly backed up, using our Oracle Spatial Database Engine and ArcGIS Server.

Scan QR code with smartphone to learn more about ISD

FTP Hosting
If data you share with your customers or the public requires a secure, publically-available storage site for an extended period of time, consider our FTP services. Most accounts can be set up in under a day.

Geocoding
From sets of data such as addresses, zip codes, latitude/longitude and cross streets, we offer custom reports, maps, and analysis designed to meet your specific business needs.

Google Earth Enterprise Client
We offer our County customers Google Earth Enterprise Client to access our custom data; for example, current imagery, parcel, street, political districts, earthquake faults, county building information, city and Supervisorial districts boundaries, and much more.

Future Direction: Mobile GIS Development
Our future direction is to develop Mobile GIS applications using ArcPad and Mobile GIS that run against our ArcGIS Servers. Using mobile devices such as Blackberry and other smart phones, customers will be able to collect GIS data in the field, then transmit data back to our servers in near real time.

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SBC IMAGERY MOTTO

"Fly It Once, Pay For It Once, And Share It With Everyone"®

http://gis.sbcounty.gov/default.aspx

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