Innovative Data Usage in a Digital World

In with the New & the Old?

A Data Explosion!

A Digital Data Explosion
Global digital information created and shared

Source: KPCB, IDC

techandinnovationdaily.com
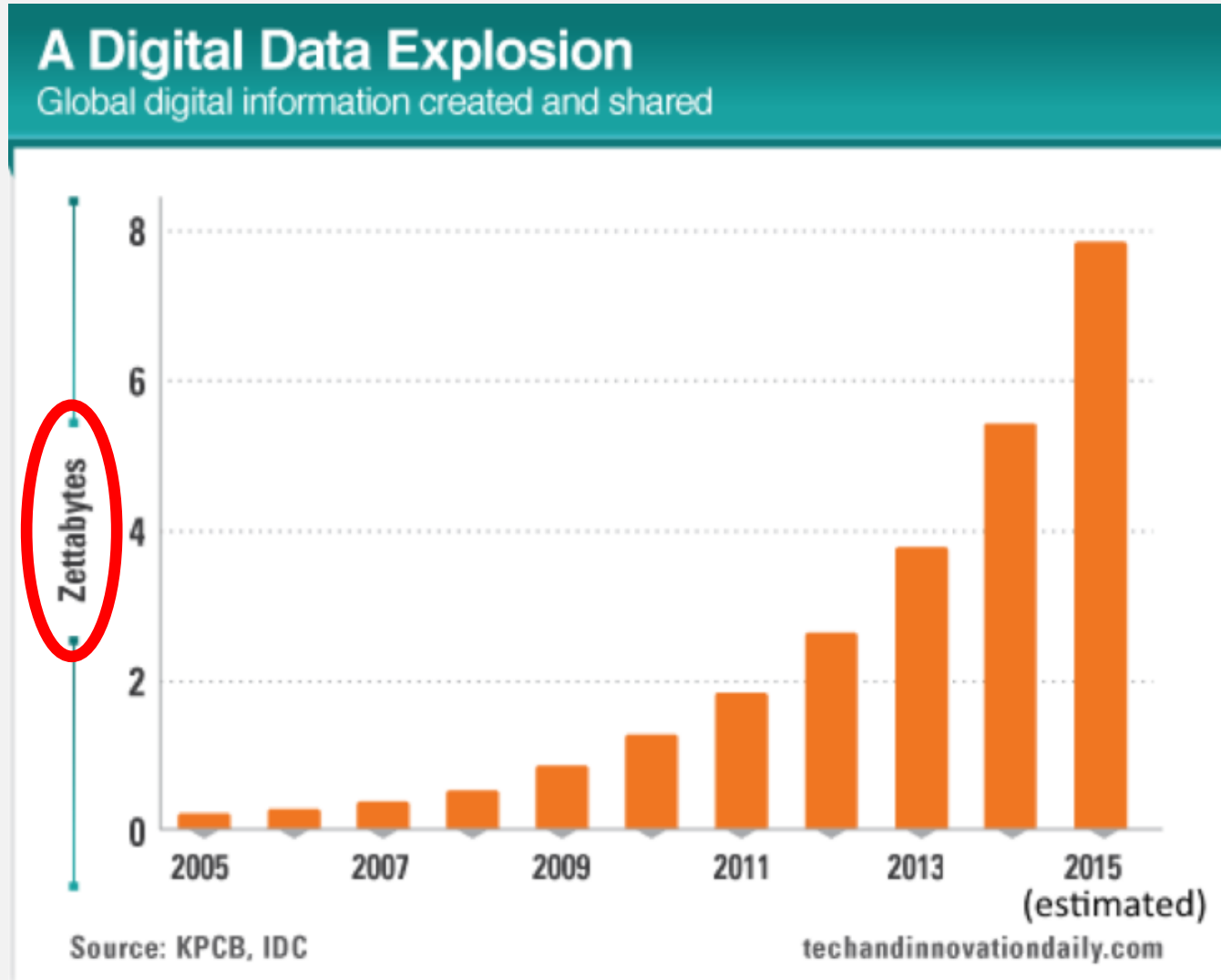
- A **zettabyte** is expressed as 10^{21} or 1 sextillion bytes.
- One **zettabyte** is approximately equal to a thousand exabytes **or**

a billion terabytes.

Old Technology vs. New Technology?

- Was it Innovating Technology"?
- They both captured Energy!
- *It was really a "Re-Direction" of an old Innovation!**

* The World According to John!

Old Data and New data

- Wasn't the primary "data" created for a telephone for communication ?
- Mobile Devices "re-invented" the original data usage *

I know that they do so much more now!

It isn't an Either / Or!

Old Way Vs. New Way

Intersection of Old and New Can be Technology Innovation!

You hold the Key to Technology Innovation DATA

Lets first look at "Old Data"

- Look around and see what data already exists

- Your Organization has invested a lot creating it

- It may:
  - Have been created for a specific purpose
  - At or near end of life
  - May be In older formats

- **What new uses could my customers (citizens) use ?**

"Old Data" with "New Technology (a DNR Example) !

Camp Lawton Augmented Reality

What we did at DNR

- **Problem Statements**
  - Aging Customers
  - Need a Digital Presence to Attract "younger" customers
  - Data not available a consistent reliable, digital format
  - Millions spent in Existing data (photographs, video, paper, structured data)

- **Solutions Over the last 4 years!**
  - Georgia Outdoor Map
  - Beach Water Clarity Map
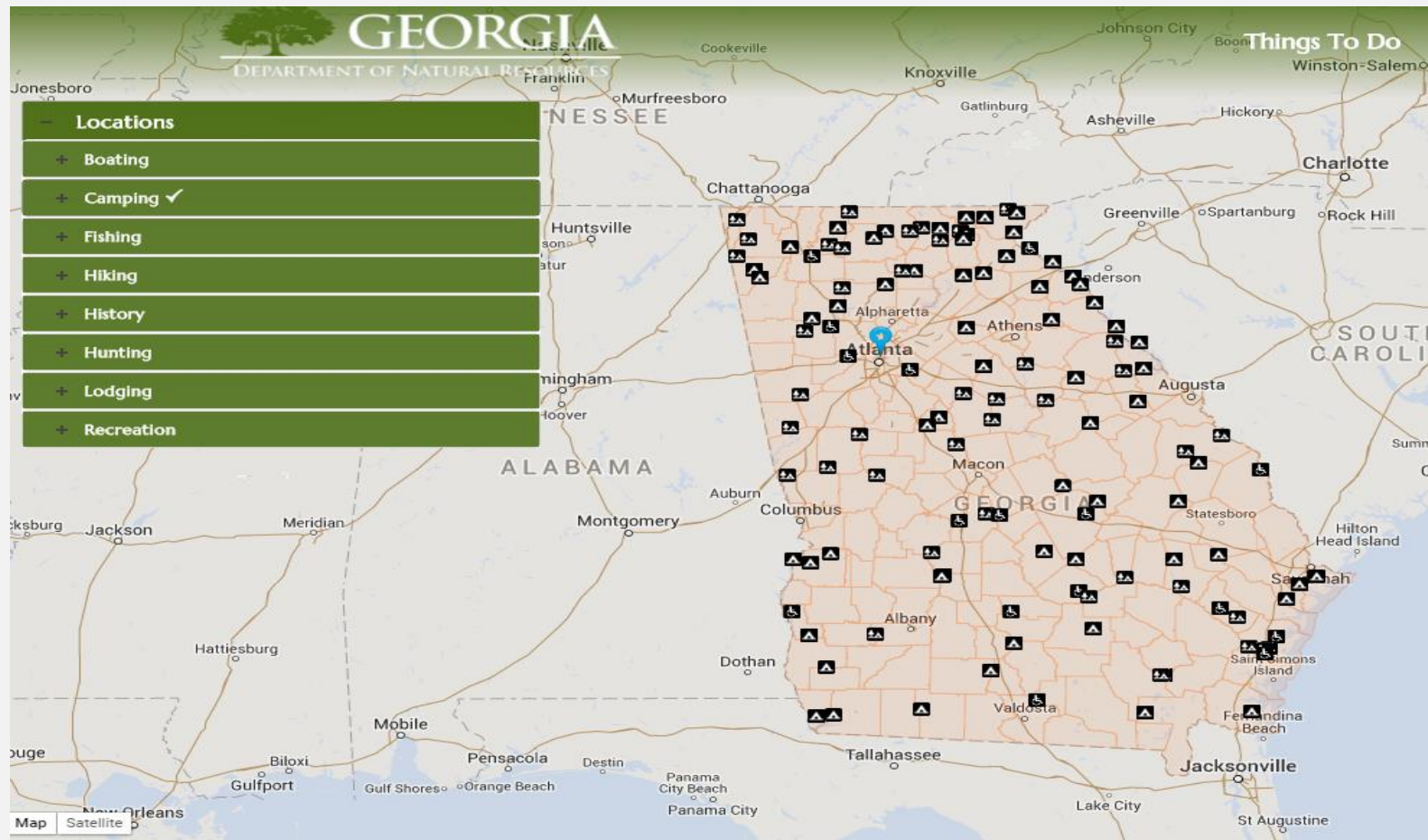 - Camp Lawton Augmented Reality Program

- **Working on**
  - First Interactive online K-12 Ecology/History Book (Georgia Southern, and Apple)

Georgia Outdoor & Beach Water Advisory Maps

- **Large amount of budget spent on Geo-Spacial Data development over the last 20 years**

- *What problem are we trying to solve?* *Easy citizen access to information!*
  - Provides a reliable, convenient, easy-to-find way to access consolidated information about what services DNR provides in the state.
  - Currently, many disparate data sources and formats are distributed across many screens that are not only difficult to find but almost impossible to correlate.
  - In addition, the information that was currently available on our websites was not "Mobile Enabled."

- *How did we get to this solution?*
  - After reviewing all of the available options, we decided to use existing data presented in a more Citizen Centric (Mobile) way that will increase facilities usage.

- *What is the "Value" proposition to DNR?*
  - With a relatively modest investment, DNR has provided technology solutions that will reduce the need for informational calls to DNR headquarters and each of the 5 divisions.
  - The solutions will serve as an ongoing platform for information-sharing.
  - Providing this information in such a customer-friendly format should help to increase usage of our facilities, thereby raising revenue.

Georgia Outdoor Map

http://georgiaoutdoormap.com/

Georgia Advisory Map
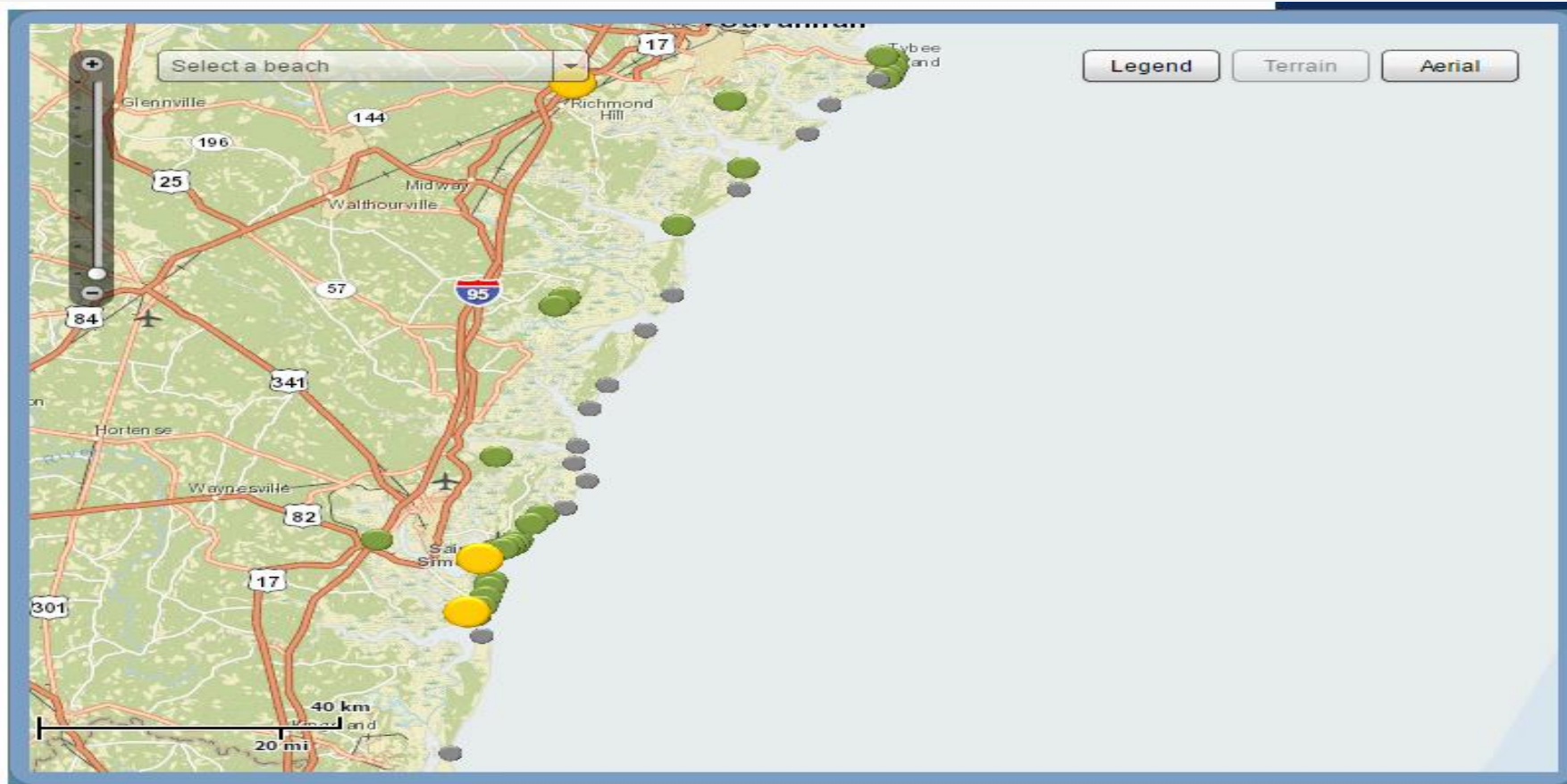
Beach Water Advisory Map

Camp Lawton Augmented Reality Program

Business Problem Addressed:

- One of the critical challenges facing historical sites and museums is an aging constituency!
- Younger visitors expect an interactive experience as opposed to a passive one, and are drawn to interactions that are mediated through technology. So, how does DNR engage our younger more "tech-savvy" citizens to discover a significant historical event in our country's past.
- Needed a format that will not only maintain their attention, but to also get them excited discovering more of the history that exists around them every day?

Solution:

- While viewing the Camp Lawton exhibits in the History Center, visitors will encounter QR codes.
- Using a smartphone/tablet and a "QR Reader" app, guests can access information beyond the scope of the traditional museum displays.
- In outdoor areas of the park adjacent to the museum, visitors can use the camera on most smart devices and immerse themselves in an "augmented" world: a 3D reconstruction of a corner of the Camp Lawton prison stockade situated in the real world.

Results:

- Over 30 "new" school groups visited in last 9 months
- Overall visitors count up 28% (Over 400% in age group 18 and under)

Camp Lawton Augmented Reality Program

Original Markers

New Interpretive Products

Images of Camp Lawton from Robert Knox Sneden.

Now Lets look at Innovating with "New Data"

- One way to do it!
  - **R**each out to your customers and see what they want (town halls)
  - Keep an **E**ye on new Technologies
  - Continue to **e**volve your thinking and your Infrastructure
  - What new Ideas and Technologies can "fit" into your space?
    - Legally
    - Politically
    - Socially
    - Budget

DNR's UAV Program

- **Business Objectives**
  - To find a more Efficient/ Effective way
    - Capture new Geo-Spacial Data
    - "Fact Check" old data with newly collected Data
    - Integrated and rationalize old data with new data
    - Created a New "Golden Record" for Geo-Spacial Data

- **Advantages:**
  - Greater Accuracy (down to about 1"!)
  - More "Up to Date" Data (Mission Schedule vs. Yearly Satellite Photography)
    - Litigation
    - Permitting
  - Reduced Staff Field Time!

DNR's UAV Program Use Cases

- **Compliance and Enforcement**
  - Permit and Revocable License compliance (often difficult to measure between structures)
  - Unauthorized activities such as commercial use of recreational dock, marsh driving, etc.
  - Sunken and derelict vessels – location and documentation

- **Permitting**
  - Determination of dockable lots (line of sight)
  - Confirm measurements/distances/information presented in dock applications
  - Document existing impacts (inventory)
  - Provide bird's eye view of proposed project sites (substitute/in addition to helicopter flights)

- **Other**
  - Pre-disaster documentation and post-disaster recovery
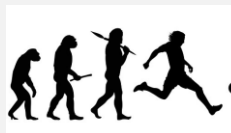 - Research and Surveys
  - Outreach and Education

Innovating with Data (Rough "**Sees**" ahead)

- **S**can Ahead to see what your customers may be wanting

- Keep an **E**ye on emerging Technologies

- Continue to **E**volve your thinking & your Infrastructure

- What new Ideas and Technologies are "**S**uitable"?