DIGITAL MAPPING TECHNIQUES 2013

The following was presented at DMT‘13
(June 2-5, 2013 - Colorado Geological Survey and Colorado School of Mines
Golden, CO)

The contents of this document are provisional

See Presentations and Proceedings from the DMT Meetings (1997-2013)

http://ngmdb.usgs.gov/info/dmt/
USGS TNM on Mobile

Brian Fox
USGS – National Geospatial Technical Operations Center (NGTOC)
USGS TNM on Mobile Devices!
Importance of Mobile...

"Charlie Regan, who runs the maps division for National Geographic, said the company has sold more paper map products in the past three years than it has ever sold since launching the division in 1915. He attributed it to customers learning to appreciate good map data — and also noted that sales of international maps have remained consistent, and that sales of recreational hiking maps are on the rise."
Strategic Thoughts…

- Business Example: Marvel Comics
  - Increased sales of traditional hard copy products
  - …through the offering and continued creation of live action media
- Similarly: Can geospatial data be an equivalent "driver" for our hard copy products, and vice versa?
  - Traditional products versus digital products…
    - USTOPO GeoPDFs enabling custom printed products as well as enabling GPS apps like Avenza
    - TNM tiles enabling viewers…desktop to mobile
USGS *TNM* on Mobile

- **What it took…**
  - While the Base Map Tile Caches were very intensive to build…
    - A “mountain of effort”
  - ...Outreach was easy

- Developing Geospatial Standards & Data Specifications
- Forging Data Partnerships
- Funding Data Acquisition Contracts
- Ensuring Data Quality Control
- Deriving geospatial data products
- Building National Geospatial Databases
- Applying USGS-style Cartographic Design
- Deploying data web services
- Outreach
### Background Maps

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>USGS Topo Base Map - Primary Tile Cache</td>
<td>tiled</td>
<td><a href="http://basemap.nationalmap.gov/ArcGIS/rest/services/USGSTopo/MapServer">http://basemap.nationalmap.gov/ArcGIS/rest/services/USGSTopo/MapServer</a></td>
</tr>
<tr>
<td>USGS Topo Base Map - Below 1K Scale Dynamic</td>
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<td><a href="http://services.nationalmap.gov/ArcGIS/rest/services/USGSTopoLarge/MapServer">http://services.nationalmap.gov/ArcGIS/rest/services/USGSTopoLarge/MapServer</a></td>
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<td>USGS ImageryOnly Base Map</td>
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<tr>
<td>Imagery - Large Scale Dynamic</td>
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<tr>
<td>Vector Fills - Small Scale</td>
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### Base Data Layers

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<tr>
<td>US Topo</td>
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</tr>
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The following services are used in the National Map 2.0 viewer. The 'Legend' column links to a page that displays the legend for the specified layer.
USGS *TNM* on Mobile

- **What was accomplished:**
  - TNM on two Android applications
  - TNM on Mobile Atlas Creator (MOBAC)
    - “Many birds with one stone”…
  - Provided MotionX GPS/Nike+ with our TNM map tiles and “raw data” (iOS)
    - Interested in hosting our data
USGS TNM on Android…
TNM on OruxMaps
TNM on AlpineQuest
TNM on AlpineQuest
**TNM: MOBAC**

- Map Tiles “hosted” locally on device
- **Benefit:**
  - Small files
    - ~218mb
  - “Roaming”
  - Faster viewing
TNM: MOBAC... 30+ apps supported!

- AFTrack (Symbian)
- AlpineQuest (Android)
- AndNav (Android)
- BackCountry Navigator (Android)
- CacheBox (Windows Mobile)

- Cachewolf
- Galileo Offline Maps (iOS)
- Garmin Custom Map – KMZ (GPS Handhelds)
- Etc…
**TNM: MOBAC**

- MOBAC is already the #2 consumer of TNM basemap (by browser)!
  - 17-25APR
TNM on Mobile: what was learned?

- Developers and Users love our data!
  - Getting more feedback on our map data
  - More people are getting access to our data
- Android environment is very fast and Agile!
  - Small development teams and organizations
  - ...From around the world!
  - Chaotic and quick!
- Role of Government and Private sector
Follow up actions…

- “Spreading the word”
  - Presentations
  - Technical Announcement
  - …essentially, a multi-faceted marketing campaign

- Working toward deploying data in iOS
  - MotionX GPS
  - Galileo Offline Maps (iOS) news release helping their users more easily access USGS data

- Collaboration with other Federal partners
  - Meeting with NGA’s lead on mobile development
Questions? Thoughts?