Preparing for "what3words" as True Big Data Meets Unique Pixels - an NLCD Pixel Grid Index for Kentucky

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ABSTRACT
Pixel identity is relevant to current efforts such as unique addressing and place-centric GIS (http://what3words.com/), and citizen science initiatives (https://ita.cr.usgs.gov/adopt_a_pixel).


The resulting one hundred sixteen million 30-meter pixels were coded as belonging to three different types:
1. wholly inside Kentucky;
2. intersecting the boundary but with center inside Kentucky; and
3. intersecting the boundary but with center outside Kentucky.

Background
• Growing 'Citizen Scientist' Movement
• Array of mobile devices and apps utilize geolocation and geographic contextualization for science teaching/learning purposes – the "crowdsourcing" and "volunteered geographic information" crowd
• Bold initiatives: "Adopt a Pixel" (https://ita.cr.usgs.gov/adopt_a_pixel) and what3words (http://what3words.com/) are examples of 'hyperlocal' geographic/spatial/placial' awareness
• 'Big Data' are pervasive in geospatial science and technology
• Sensor data derivatives are codified as arrays of square pixels on projected map space
• Map projections are problematic concepts to communicate and are implicit in mapping accuracy
• Mapping standards of individual agencies are disparate
• Pixel-based indexing is rare – in favor of more popular tile-based indices

References

Example: SPCS KY Single Zone

Attributes
- Pixel Centroids
- Pixel Polygons
- Coded Pixels

NLCD 2011 – USGS – Contiguous Albers Equal Area Conic

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