Deep Maps and Timelines for Coastal Stewardship

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Presentation Outline

- Background
  - The power of story
  - Data-driven journalism, spatial narratives, and deep maps

- Spatial Narratives and Coastal Stewardship
  - Some tools to build spatial narratives
  - Projects to construct spatial narratives that promote coastal stewardship

Does anyone know who won the $1M TED Prize this year?
The Power of Story

StoryCorps, The Moth and other media have helped promote a resurgence of storytelling.

Can stories help build empathy and lead people to find common ground?

http://ted.com/
http://storycorps.org/
http://themoth.org/
The Power of Story

The why and how of using stories to communicate science by a master storyteller / oceanographer.

http://www.kendallhaven.com/
Data-Driven Journalism

- Emergence of data-driven and multimedia journalism.
- Enhanced visualization tools.
- Data Science programs.

http://projects.propublica.org/louisiana/
PrairyErth (A deep map)

• An epic history of the Tallgrass Prairie country in eastern Kansas.
• Very little use of maps, but through quotes and narrative, promotes a deep understanding of the landscape.
Spatial Narratives and Deep Maps

• Published February 2015.
• Arose from a National Endowment of the Humanities-funded collaboration in 2012 to explore topics in the spatial humanities.
What is a Spatial Narrative? (landscape research edition)

The spatial narrative is a conceptual framework to bring the qualitative experience of “place” together with the analytic geo-science of “space.”

- Silbernagel, 2005. Bio-regional patterns and spatial narratives for integrated landscape research and design.
Can “Deep Maps” Promote Stewardship?

The Lakeshore Nature Preserve Interactive Map promotes exploration of a precious and unique campus natural resource.

Can a “deep map” promote preservation and stewardship of campus natural areas and can the idea be applied at the scale of the Great Lakes?

http://www.lakeshorepreserve.wisc.edu/
Some tools to build spatial narratives

http://storymaps.arcgis.com/
http://knightlab.northwestern.edu/

David Hart, October 2014
Spatial Narrative Projects at WISG

- Story Maps @ Wisconsin Sea Grant
  - Favorite Coastal Parks of Wisconsin Sea Grant
  - The Edge of the Lake - Green Bay's Coastal Resources
  - ICAN and the Wisconsin Coastal Atlas: Joining a Global Network

- Story Map Training
  - Urban Hydrology Tutorial (WLIA 2014 workshop, UPRL 622 lab)
  - ASFPM workshop 6/1/15

http://wicoastalatlas.net/ [Learn]

Building a Story Map Tour (a tutorial)

David Hart, October 2014
Spatial Narrative Projects at WISG

- Story Map Mentorship – Undergraduate Research Scholars
  - The Impact of Wisconsin Sea Grant – Research, Outreach and Education (Joel Villarreal-tellez)
  - People of the Sturgeon (Rachel Berglund)

- Google Lit Trips
  - Paddle-to-the-Sea (David and Noah Hart)
  - The Big Two-Hearted River (David and Madeleine Hart)

http://www.googlelittrips.com/
Spatial Narrative Projects at WISG

- St. Louis River Estuary - the Stories and the Science
  - Website
  - Deep Map
  - Place-based Learning (ARIS, geocaching)
  - Story Map Outreach for Coastal Restoration

- Wisconsin GeoTools Project (Green Bay)
  - Author, Explorer, Surfer

http://www.stlouisriverestuary.org/
http://arisgames.org/
http://maps.aqua.wisc.edu/geotools/
Story Map – Favorite Coastal Parks

http://maps.aqua.wisc.edu/storymaps/uwsgparks/
ICAN and the Wisconsin Coastal Atlas: Joining a Global Network

Wisconsin Sea Grant, representing the Wisconsin Coastal Atlas, has been an active member of the International Coastal Atlas Network. This story map shares the growth and accomplishments of ICAN and how Wisconsin has collaborated to build an interoperable coastal web atlas. The story map was first developed as a presentation at the Esri Ocean GIS Forum in November 2014.

ICAN Mission

The long-term strategic goal of ICAN is to encourage and help facilitate the development of digital atlases of the global coast based on the principle of distributed, high-quality data and information.

Origin of ICAN - 2004

While on a Fulbright in Ireland in 2004, Dr. Dawn Wright forged a partnership between Oregon State University, the Oregon Coastal Management Program, Ecotrust and Dr. Valerie Cummins with the Marine Irish Digital Atlas at University College Cork.

ICAN 1 - Cork, Ireland - July 2006

The theme of ICAN 1 was "Potentials and Limitations
Google Lit Trips – Paddle-to-the-Sea

- Paddle-to-the-Sea is an illustrated book for children written by Holling Clancy Holling in 1941 about the journey of a carved wooden boat through the Great Lakes.
- Many of us who grew up in the Great Lakes region fondly remember this book from story time in elementary school.
- The Paddle-to-the-Sea Google Lit Trip was developed with assistance from my son in 2007 and simulates Paddle’s journey to the sea.

http://www.googlelittrips.com/
During August 2010, my daughter and I developed a Google Lit Trip illustrating Ernest Hemingway’s travels in the Upper Peninsula of Michigan.

- A family vacation on the Fox River
- Science & management supporting trout fishing
SLRE Stories and Science Website

• Stories
• Science
• GeoQuests
• Deep Map

http://www.stlouisriverestuary.org/
“Contested issues” in the St. Louis River estuary/watershed.
Three stories featured per vignette.

Provide multiple perspectives on the issue.

Audio clip with transcript pulled from longer interview.

Text includes hooks to locations on the deep map.
“My dad’s family grew up on Allouez Bay. They were poor so hunting and fishing, gardening and canning, sewing their own clothes was their lifestyle. My dad remembers... he’s a big duck hunter, the rice was great out there, just beautiful and the ducks tasted very good.”

– researcher

“The reason why there is no rice on the river today is because of the carp.”

– long-time local ricer

“On reaching the mouth of the St. Louis River ...we here saw in plenty the folle avoine, or wild rice...” wrote Henry Schoolcraft in 1820
Multiple science topics covered in each vignette.

As with stories, text includes hooks to locations on the deep map.

Text also includes links to related science articles and external documents.
SLRE GeoQuests

Augmented reality quests on iPhones using the ARIS platform.

Educational geocaching.

Learning through design.

GeoQuests reinforce vignette science and stories.
• Story layers with icons by vignette.
• Icon click displays text panel with consistent style as the website and links back to appropriate vignette.
• Custom base map, additional layers.
SLRE Website Trajectories

**Stories**: three featured per vignette, provide multiple perspectives, audio clips, photos, narrative text with hooks, transcripts

**Deep Map**: vignette layers and map icons with hooks to website, consistent style, custom base map, other reference layers

**Science**: articles arranged by vignette, supported by multimedia e.g. interactive timelines, games

**GeoQuests**: educational geocaching, augmented reality quests, learning through design, support vignettes
Sixth vignette on restoration added at request of St. Louis River Area of Concern coordinators to communicate progress and cumulative benefit of restoration.

Profiles 9 restoration projects.

Minnesota PCA to NRRI, Univ. of Minnesota-Duluth.
Restoration Timelines

Recovery Milestones in the St. Louis River
http://stlouisriverestuary.org/timeline_2.php

Beneficial Use Impairment Removal
http://stlouisriverestuary.org/timeline.php
Community-Generated Story Maps

- New project updates progress on existing restoration projects.
- Includes new interviews, additional restoration profiles and a community-generated story map.
- Wisconsin DNR to Wisconsin Sea Grant.
A Convergence?

The Wish: take StoryCorps global with an app anyone can use

"...inviting a loved one, a friend or a stranger to record a meaningful interview might just turn out to be one of the most important moments in that person’s life — and in yours“ – Dave Isay

The Wish (Blue): Protect the Ocean - Galvanize global support for marine protected areas

The Wish (Green): Allow citizens anywhere to participate in the creation of the City 2.0
Thank You!

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