Sleepwalking into the Future:
Why the Geographic Perspective
and Geospatial Technologies
Are Critical to 21st Century Education and Society

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Goals:

(1) “What is geography, really?”,
(2) “Why does geography matter?”
(3) “How can I use geographic tools to see the world in a new way?”
(4) “What are the implications for ignoring geography? Why is it like sleepwalking into the future?”
(5) “What does the future hold in terms of geographic technologies and literacy?”
What did your friends and family say when you announced that you were going to study geography?

Did you have a “watershed moment” that nudged you into pursuing geography as a career? For me it was reading *The Last Great Auk*, about the flightless birds that went extinct in 1842.

Whoa, Joseph! Isn’t everything already mapped? Don’t we already know everything about our own planet? Sigh.

Why is geography relevant to the 21st Century?
Name some key issues of our time.
Biodiversity Loss.
Sustainable Agriculture.
Population Change.
Human Health.
Energy.
Water Quality and Quantity.
Natural Hazards.
Political Instability.
Climate.
All of these issues have a geographic component and can be better understood and solved with the help of geographic content knowledge, skills, and the spatial perspective.
The world needs innovators!
Be bold.

Innovators who thought outside the box:

Eratosthenes
William Harrison.
William Smith.
The Beatles’ failed audition at Decca Records.

This is not entirely a digression.

Geography suffers from the same lack of recognition -- about what it is, and its contribution to 21st Century society.

Geography and the spatial perspective are relevant to 21st Century decision making, making the case that to ignore geography is like “Sleepwalking into the future”.
Continental Drift?
The Geographic Inquiry Process

1. Ask Geographic Questions
2. Acquire Geographic Resources
3. Explore Geographic Data
4. Analyze Geographic Information
5. Act on Geographic Knowledge

Repeat?
These skills are in demand.

US Department of Labor Report.

Geospatial Technology Competency Model

Learning to Think Spatially Report.
Quiz Time!

Using ArcGIS Online

Landmarks.
River Systems.
Mountains
Waterfalls
Canals
Urban Forms.
Tools to foster geoliteracy:

1. Change Matters Viewer
2. Urban Observatory
3. Worldmapper
4. Gapminder
5. ArcGIS Online:
   1. Temperature Extremes
   2. Serengeti Road and Ada Blackjack
   3. Population Change
   4. Land Cover Change
   5. Tornado Analysis
   6. Earthquake studies
   7. Storymaps
   8. Editable feature services
Citizen Science with Editable Feature Services

Simultaneous collection of data in the field by researchers.

Data is being fed in real time to 1 common web map.
Why the Time is Perfect for Spatial Thinking In Education and Society

The Convergence of 3 Trends:

1. Awareness of complex global issues
2. General public use of geotechnologies
3. The Internet of Things
Skills for the Geo-Enabled Future:

1. Curiosity
2. Ability to work with data.
3. Understanding geographic foundations.
4. Adaptability
5. Effective Communications
Study the Earth.

But enjoy it as well.

What we appreciate and love, we value.

What we value, we protect.
Now more than ever, we need people who think broadly and who understand systems, connections, patterns, and root causes ... how to think in terms of whole systems, how to find connections, how to ask big questions, and how to separate the trivial from the important.

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