GIS and Geo-Literacy

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Stop and Think…

What are the major challenges that society will face over your students' lives…

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Economic …

- Competitive global marketplace
- Flow of jobs overseas
- Growing trade deficits
- Increasingly diverse American workforce
- Global credit crunch

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Security…

- Terrorism
- Violence in the community
- Spread of ethnic conflict
- Conflict over resources

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Environmental…

- Global climate change
- Decreasing freshwater supplies
- Depleted fisheries
- Dwindling fossil fuel reserves
- Toxicity of air, water, soil
- Irreversible loss of biodiversity

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Social welfare…

- Hunger
- Lack of clean water and sanitation
- Infectious diseases
- Persistent patterns of poverty
- Unsustainable population growth
- Livable communities

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Challenges our students will face…

For the present:

- Safe food, water, & air
- Shelter
- Economic well-being
- Healthcare
- Security from violence
- Quality of community life

For the future:

- Protection of natural resources
- Protection of environmental richness
- Protection of cultural richness

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Where in the curriculum are we teaching our children to address these challenges?

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Introducing Geo-Literacy

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Introducing Geo-Literacy

1. Understanding how human and earth systems function and interact:
   - ecosystems,
   - geophysical systems (atmosphere, water, solid earth)
   - social systems (cultural, political, economic
2. Understanding how location influences events and how cause and effect play out across space
3. Being able to interpret, analyze, and generate geographic information
4. Being able to plan and make decisions that take location and interconnections among places into account.

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Geo-literacy

Geo-literacy describes a set of skills and understanding that are required for success in today's complex, interconnected world.

Geo-literacy supports personal, civic, and professional decision-making.

Geo-literacy is a true *literacy.* It is not just something that would be good thing to have. Geo-literacy is a necessity.

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Where should geo-literacy be taught?

Social studies
- Geography
- History

Science
- Earth science
- Environmental Science
- Ecology

Careers and Technology
- Geographic Information Systems (GIS)
- Agriculture

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Relationship to Geography

For anyone who understands what geography really is, geo-literacy is just old wine in a new bottle.

For people who have misconceptions about what geography is, geo-literacy is something new…

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You would think things would be different…

The lesson of Sputnik…

[Image: Sputnik]

What's going on?

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The Blindspot Theory

[Image: Car blindspot]

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Geo-Literacy: Cinderella Before the Ball

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Our Job

[Image: Cinderella riding pumpkin carriage to the ball]

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That makes us…

[Image: Fairy godmother getting Cinderella ready for the ball.]

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National Geographic's Geo-Literacy Initiative

Mission:

To provide young people with the skills and understanding they will need to live comfortable and fulfilling lives while protecting Earth's rich cultural, biological, and physical resources for others.

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Our Vision

The vision that drives the National Geographic Society's geography education programs is:

A society of individuals who understand that caring for the planet and all of its inhabitants is an important part of caring for themselves.

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Our Strategies

Citizens prepared for decisions about:
Physical resources
Social systems
Ecosystems
Citizens prepared to participate in:
Social and Economic Activities

Increase *Quantity and Quality* of Geographic Learning Experiences

Increase Demand

Increase Supply

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Increase Supply

Develop Learning Resources

Develop Educator Capacity

Develop Organizational Capacity

	Formal Schooling	Informal Institutions	Community	Family
Pre-K				
K-12				
Post-secondary				
Lifelong				

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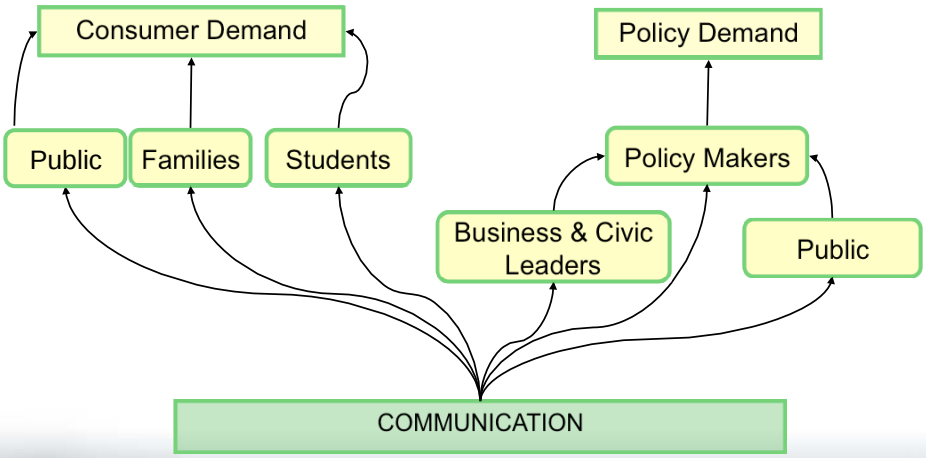
Increase Demand



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Communicating About Geo-Literacy

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Communicating About Geo-Literacy

We need a clear and compelling way to present what geo-literacy is.

We need to be able to show compelling cost to society of an inadequate supply of:

- Experts in geography to fill need for professionals
- Geo-literate citizens who will make sound personal and political decisions

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Why is geo-literacy important?

To prepare students to make decisions that will affect…

- People
  (themselves, their communities, others around the world, present and future)
- Earth's ecosystems
- Earth's physical environment

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Uses of Geo-literacy

Decisions about location

- Where to open a business
- Where to live
- Where to put a power plant, hospital school, landfill, military fortification

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Uses of Geo-literacy

Decisions about land use:

- zoning
- conservation and outdoor resources planning
- regional transportation planning
- crop selection and rotation

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Uses of Geo-literacy

Decisions about resource extraction, consumption, and cultivation:

- fossil fuels
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- livestock
- crops
- water

Decisions about waste:

- sanitation and water treatment
- Incineration, burial, composting, recycling

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Uses of Geo-literacy

Decisions about transportation and travel:

- trip planning
- supply chain management
- perishable foods
- military troops and weapons
- humanitarian relief supplies

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Uses of Geo-literacy

Interactions across culture or distance:

- marketing to other countries
- negotiating deals with foreign businesses,
- traveling abroad
- addressing cultural differences in a diverse workplace
- interacting with civilians in a military posting overseas

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Making the Case for Geo-literacy

These uses of geo-literacy are like a job description for life in the modern world.

Can you expect your students to be successful if they can't do these things?

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The Cost of Geo-illiteracy

The cost of geo-illiteracy is waste, inefficiency, and loss of irreplaceable resources

This cost is experienced in terms of

- Economic prosperity
- National security
- Health and welfare
- Environmental sustainability

This cost accumulates over time, as the impact of bad decisions compound.

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Making the Case for Geo-literacy

We are already paying an enormous cost for our geo-illiteracy:

- Every time a new business fails as a result of being in the wrong location or a government has to relocate a school, firehouse, or social service agency
- Every time a community floods or suffers catastrophic fires because of shortsighted planning
- Every time an American product fails in overseas marketplaces

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Creating Demand for Geo-literacy

Geo-literacy 2025

A national educational reform initiative led by National Geographic (public launch in 2010)

By 2025:

- 80% of 18 year olds to be functionally geo-literate (citizenship-ready)
- 50% of 18 year olds to be geo-proficient (college-ready)

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The Supply Side

This is about you…

You provide the opportunity for your students to become geographically literate.

You may be wondering…

What does education that builds geo-literacy look like?

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How do we build geo-literacy?

Since geo-literacy is about *doing…*

Geo-literacy education must teach students to *do.*

To learn *to do…*

Students *must do.*

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Doing: Observing the world

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Doing: Observing the World

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Doing: Organizing and analyzing information

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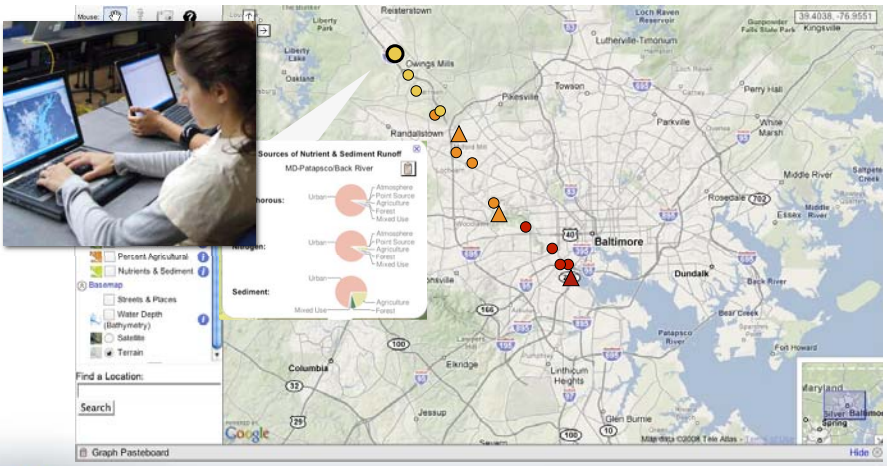
Doing: Organizing and Analyzing Information



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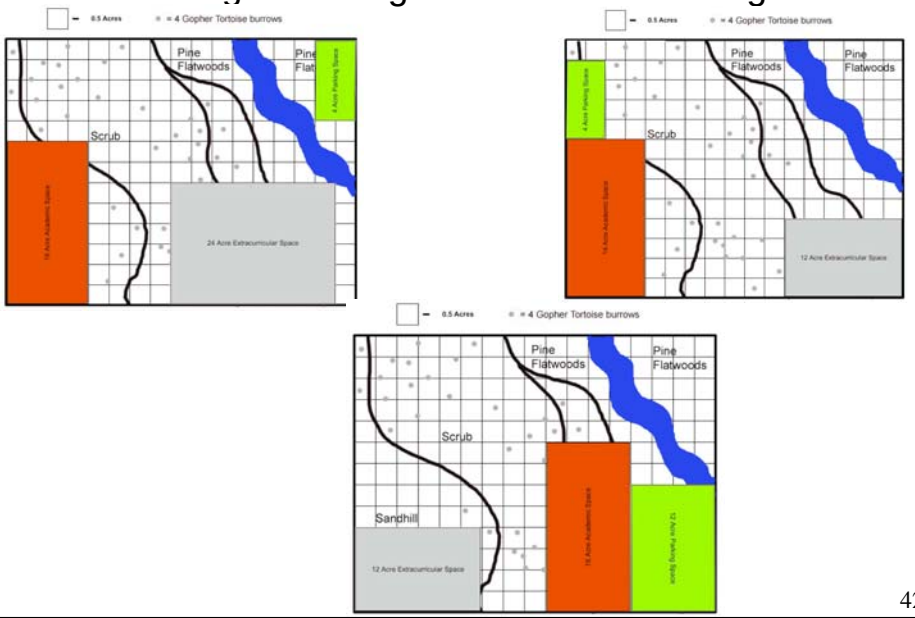
Doing: Planning and Decision-Making



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Doing: Planning and decision-making

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The Big Picture

How are we creating demand:

- Led at the national level
- Supported by grassroots participation

How are we establishing supply (quantity and quality):

- Led at the grassroots level
- Supported by national resources

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Where do you fit in?

You are *the critical component* of supply…

You provide the opportunity for your students' learning.

You also have an important role to play in demand…

Parent, student, community perceptions

State and district policies

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Happily ever after…

[Image: Cinderella dancing with the prince]

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