

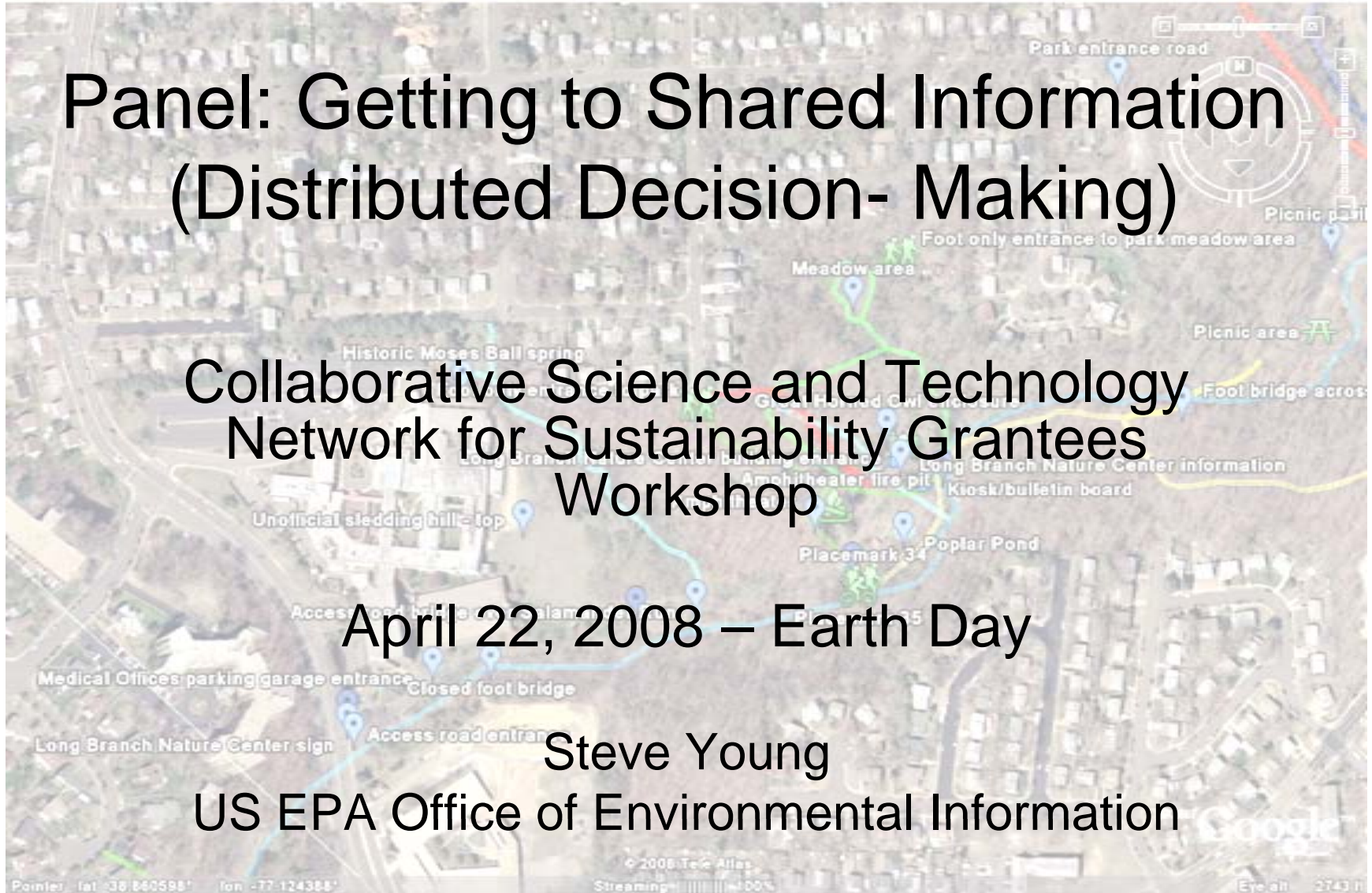
Panel: Getting to Shared Information (Distributed Decision- Making)

Collaborative Science and Technology Network for Sustainability Grantees Workshop

April 22, 2008 – Earth Day

Steve Young

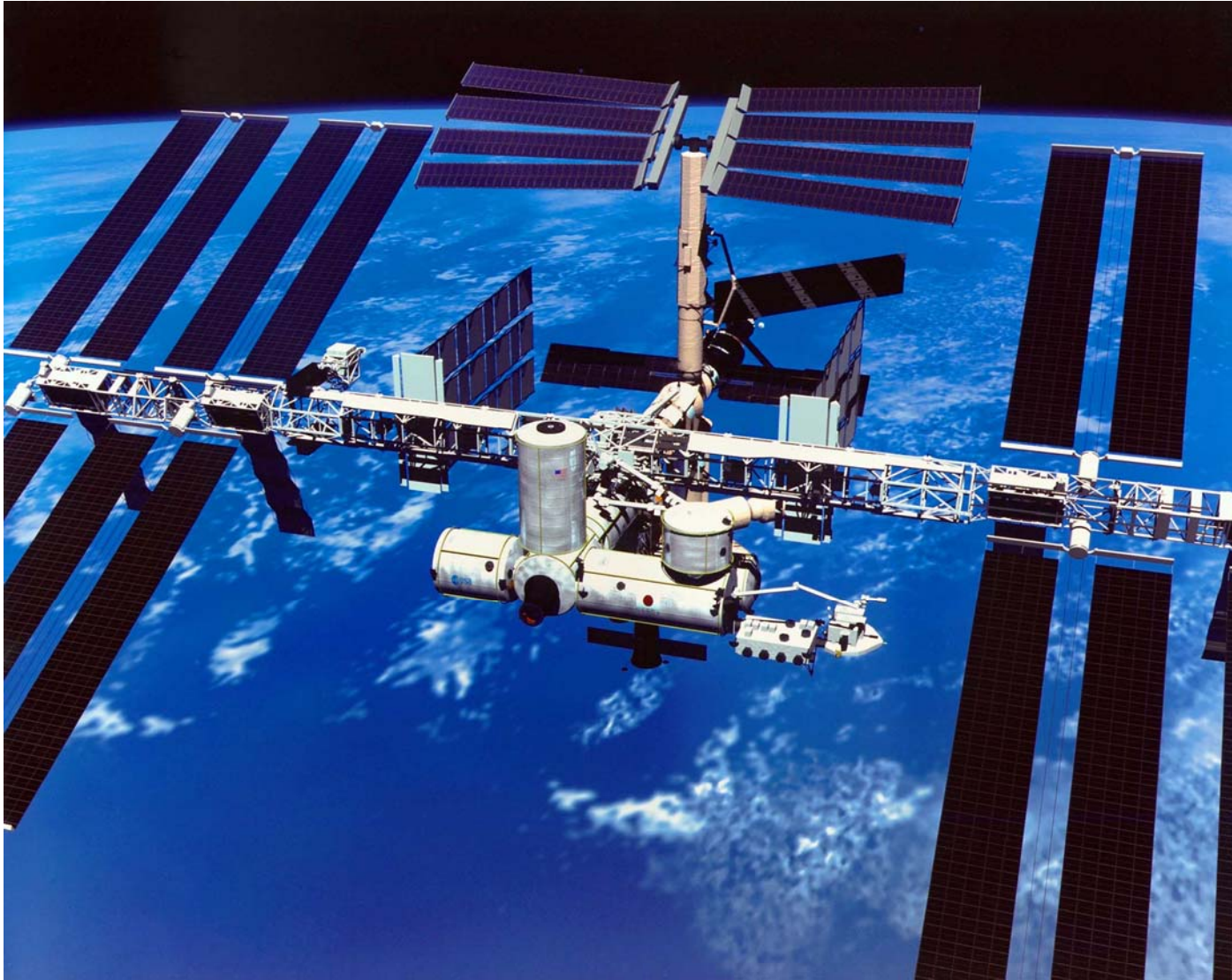
US EPA Office of Environmental Information



Visualizing Earth as a System We Need to Sustain

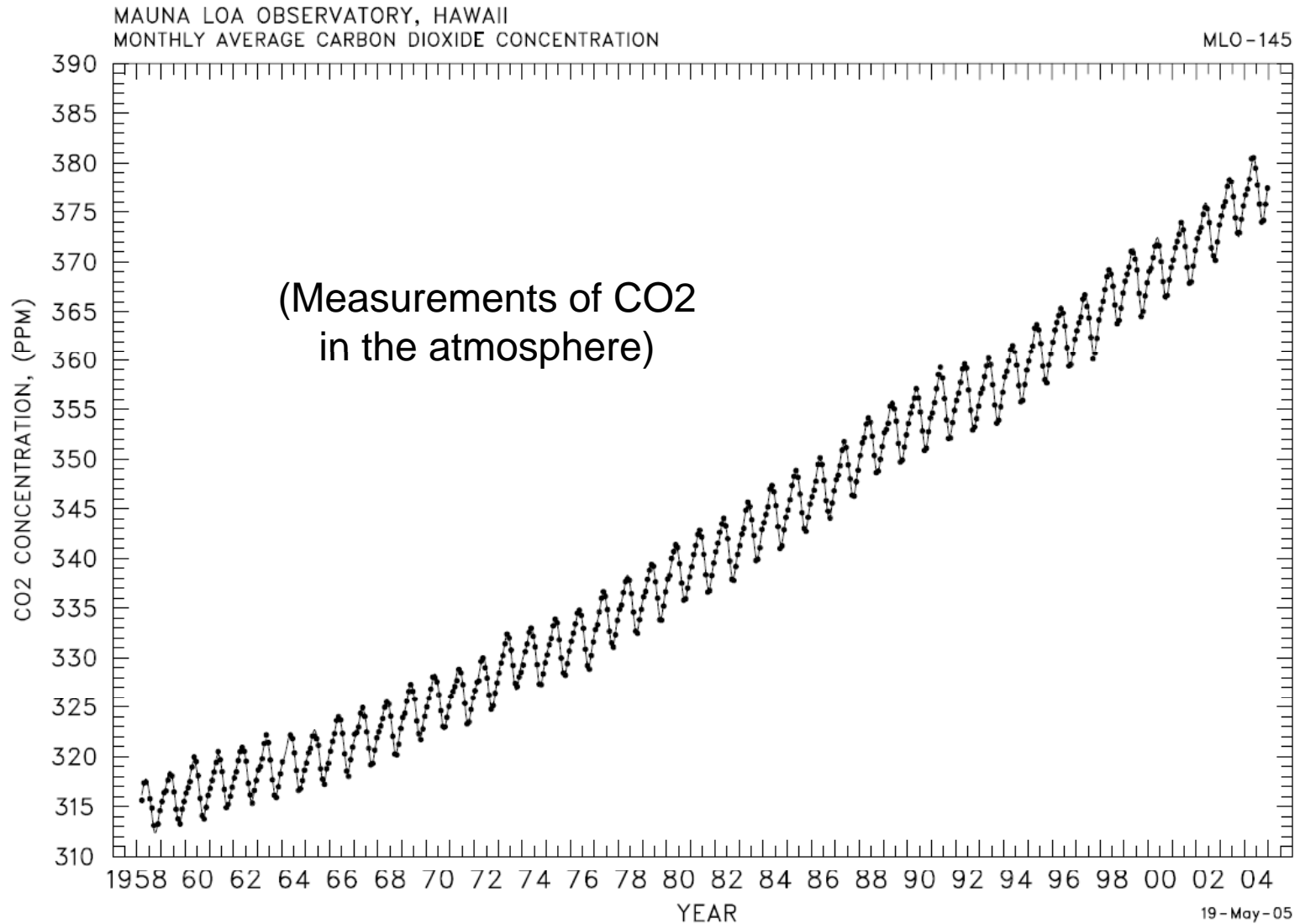


Earth as seen from lunar orbit, Apollo 8, December 24, 1968. NASA.



The International Space Station, NASA

The Keeling Curve



Source: cdiac.ornl.gov

Lights at Night from Space – Energy Waste?



Source: NOAA.gov

monarch butterfly biosphere reserve

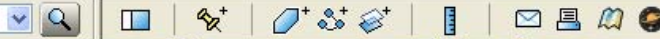


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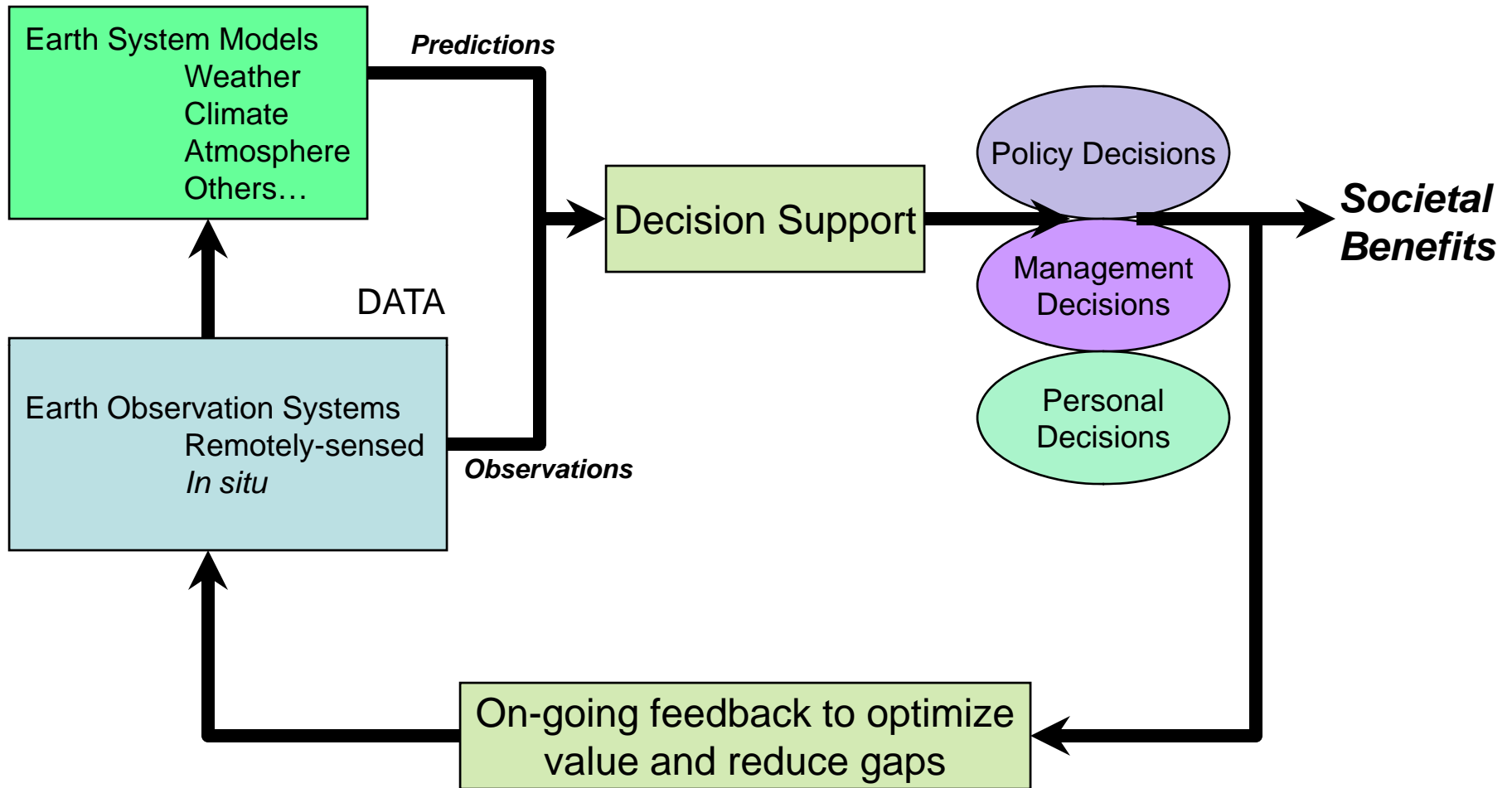
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Pointer lat 52.113559° lon 0.956399°

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Global Earth Observation System of Systems (GEOSS) Model



Linking Earth Observations to Societal Benefits (IEOS Strategic Plan, p. 17 Figure1)

Flows

- Material flows – yes
- Don't forget water (“virtual water”)
- Address energy
- Look for ways to integrate with economic data
- Address ecosystem service levels

The Promise of “Web 2.0”

- Wikis – such as Wikipedia, Encyclopedia of Earth – collaborative knowledge
- Social networks like Facebook and MySpace
- Video and images – YouTube and Flickr
- Tagging and related tools deli.cio.us, etc
- New-generation geospatial software such as Google Earth, Google Maps, Microsoft Virtual Earth, etc.
- Web-based collaboration software e.g. Google Sites

Final Thoughts

- Apply systems thinking and modeling
- Provide capabilities to simulate alternatives, explore scenarios
- Practice adaptive management to refine initial decisions based on early outcomes and adjust to the unexpected

Contacts and References

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maps.google.com

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<http://www.microsoft.com/virtualearth/>