Welcome!

Progress on the Visual Globe and Space-Aid Matrix

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Center for Multidisciplinary Studies
Rochester Institute of Technology

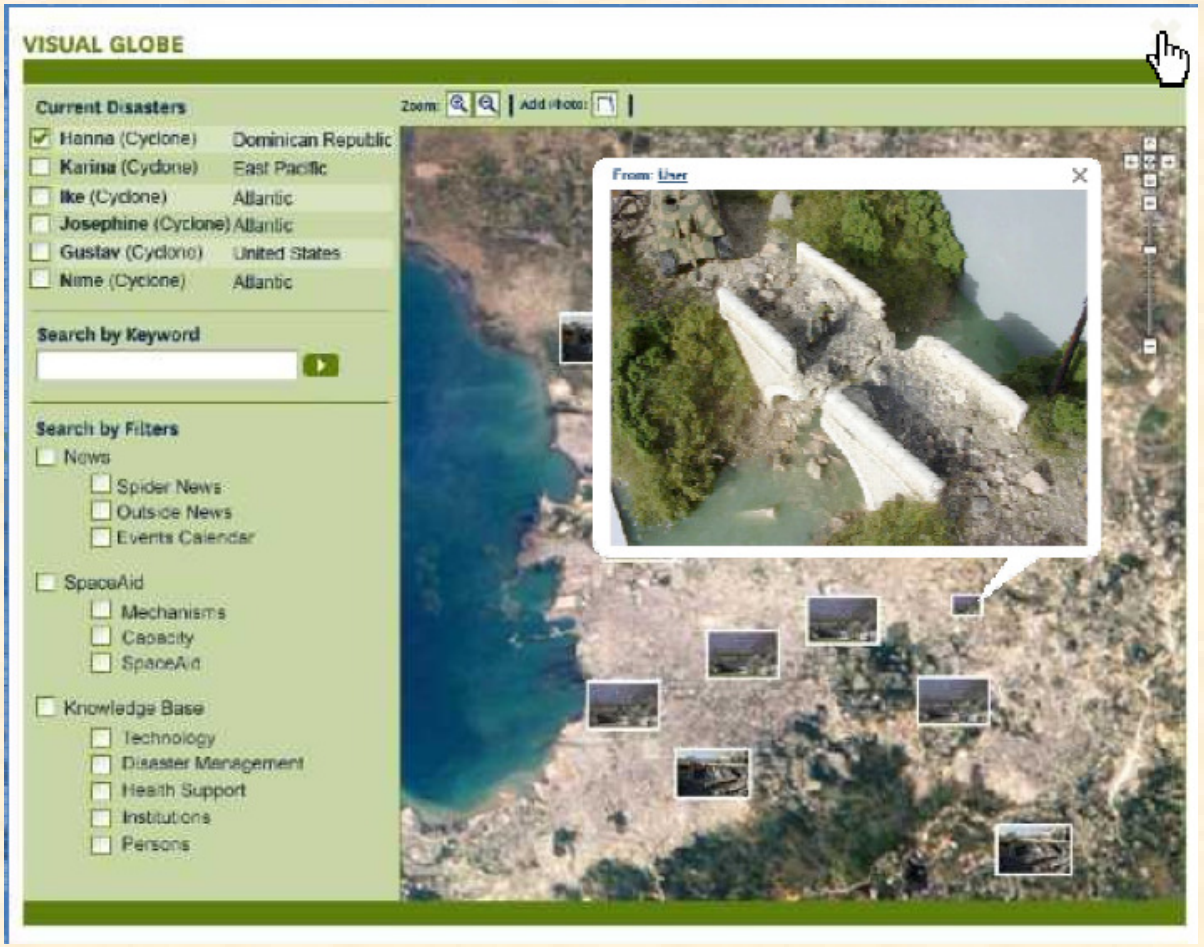
Third United Nations International UN-SPIDER Bonn Workshop
"Disaster Management and Space Technology - From Concepts to Application"
21 October, 2009

The Center for Multidisciplinary Studies

R·I·T

VG Objectives

- Communication and information platform
- Searching, retrieving, and filtering place-based disaster information and disaster management knowledge
  - UN-SPIDER KP archives, Technology guides, disaster reports, published maps, regional project initiatives, expert profiles, etc.
  - View-based search
- Information found - planning and decision making about relevant space-based services needed to manage a disaster phase

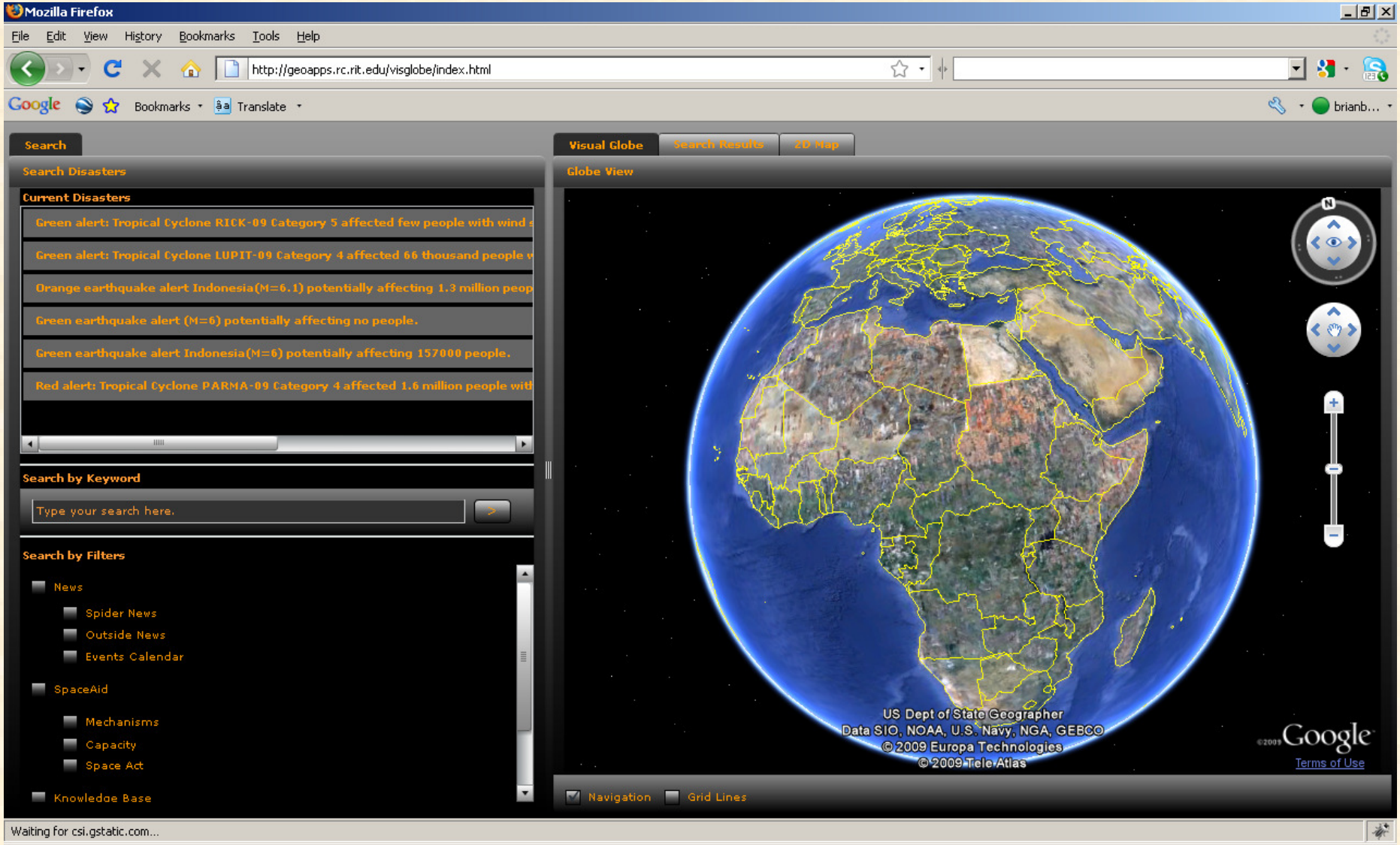


Visual Globe Mockup

Graphic from *"UN-SPIDER Knowledge Portal - Development of the UN-SPIDER Knowledge Portal"* available online at: http://www.oosa.unvienna.org/pdf/unspider/Bonn2008_presentations/LYU%20-%20UN-SPIDER%20Knowledge%20Portal_v5_211008%20.pdf

Prototype Implementation - Technologies

- Open Source and Open APIs
  - Adobe Flex
  - Google Earth API
- ArcGIS Server
  - OGC Web services
- Information Retrieval/Web services
  - Open Source Information
  - GeoRSS, RSS, Google Search APIs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Search
Search Disasters
Current Disasters
Green alert: Tropical Cyclone RICK-09 Category 5 affected few people with wind
Green alert: Tropical Cyclone LUPIT-09 Category 4 affected 66 thousand people
Orange earthquake alert Indonesia(M=6.1) potentially affecting 1.3 million peop
Green earthquake alert (M=6) potentially affecting no people.
Green earthquake alert Indonesia(M=6) potentially affecting 157000 people.
Red alert: Tropical Cyclone PARMA-09 Category 4 affected 1.6 million people with
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Search by Filters
News
Spider News
Outside News
Events Calendar
SpaceAid
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Capacity
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Knowledge Base
Visual Globe
Search Results
2D Map
Globe View
US Dept of State Geographer
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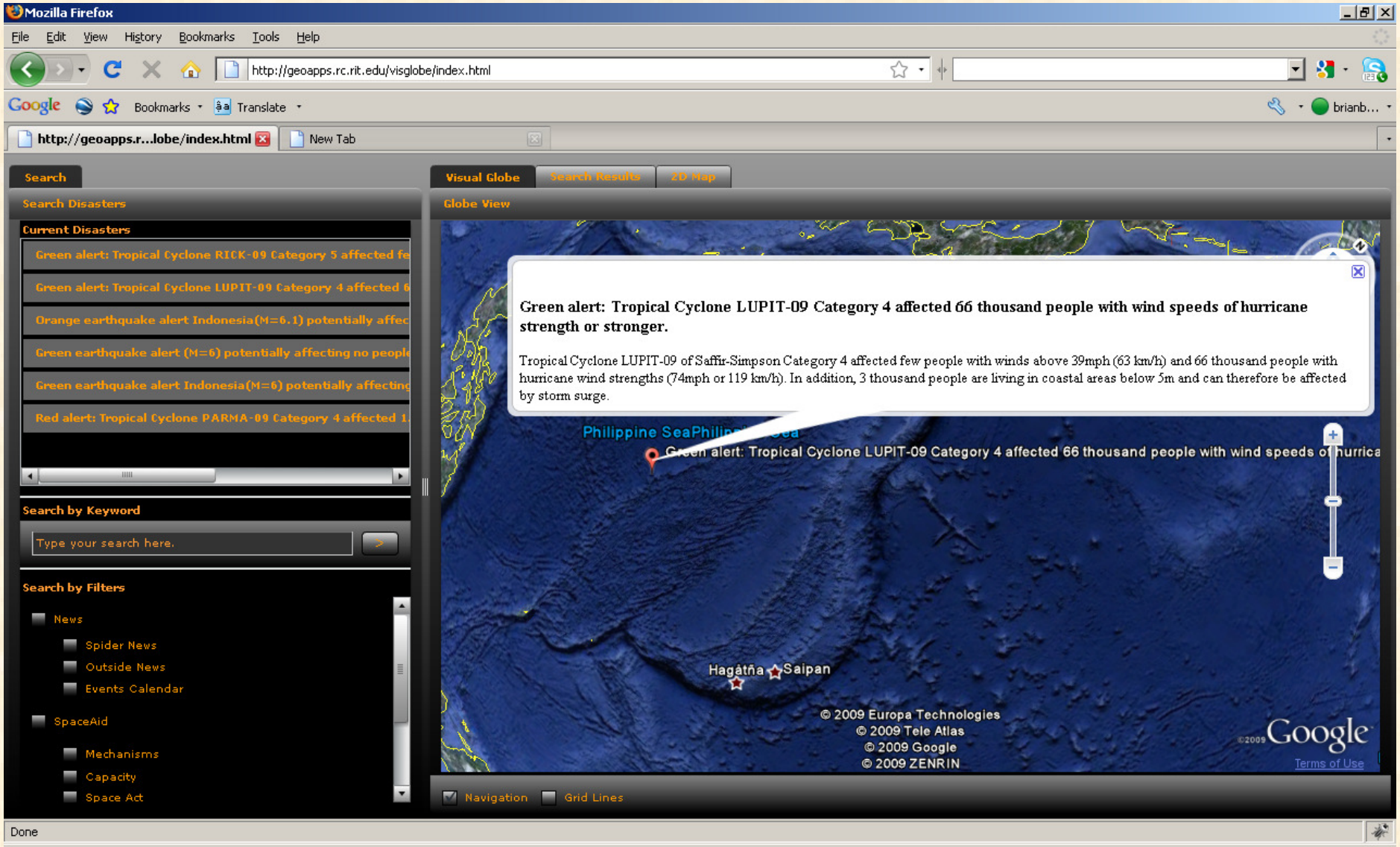
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Red alert: Tropical Cyclone PARMA-09 Category 4 affected 1
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Search by Filters
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Outside News
Events Calendar
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Mechanisms
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Search Results
2D Map
Globe View
Green alert: Tropical Cyclone LUPIT-09 Category 4 affected 66 thousand people with wind speeds of hurricane strength or stronger.
Tropical Cyclone LUPIT-09 of Saffir-Simpson Category 4 affected few people with winds above 39mph (63 km/h) and 66 thousand people with hurricane wind strengths (74mph or 119 km/h). In addition, 3 thousand people are living in coastal areas below 5m and can therefore be affected by storm surge.
Philippine Sea
Green alert: Tropical Cyclone LUPIT-09 Category 4 affected 66 thousand people with wind speeds of hurrica
Hagåtña
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© 2009 Europa Technologies
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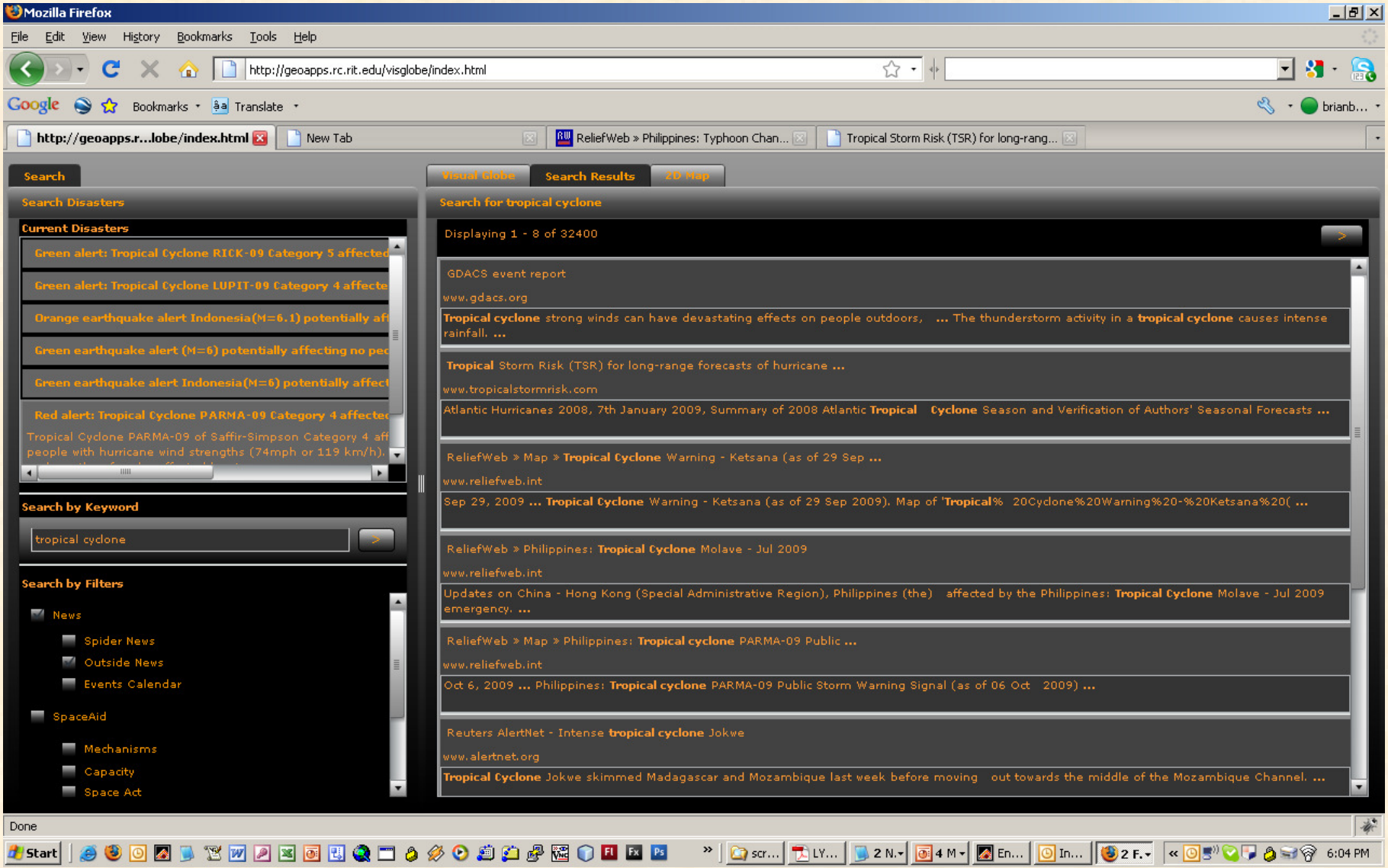
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Search for tropical cyclone
Displaying 1 - 8 of 32400
GDACS event report
www.gdacs.org
Tropical cyclone strong winds can have devastating effects on people outdoors, ... The thunderstorm activity in a tropical cyclone causes intense rainfall. ...
Tropical Storm Risk (TSR) for long-range forecasts of hurricane ...
www.tropicalstormrisk.com
Atlantic Hurricanes 2008, 7th January 2009, Summary of 2008 Atlantic Tropical Cyclone Season and Verification of Authors' Seasonal Forecasts ...
ReliefWeb » Map » Tropical Cyclone Warning - Ketsana (as of 29 Sep ...
www.reliefweb.int
Sep 29, 2009 ... Tropical Cyclone Warning - Ketsana (as of 29 Sep 2009). Map of 'Tropical%20Cyclone%20Warning%20-%20Ketsana%20(...
ReliefWeb » Philippines: Tropical Cyclone Molave - Jul 2009
www.reliefweb.int
Updates on China - Hong Kong (Special Administrative Region), Philippines (the) affected by the Philippines: Tropical Cyclone Molave - Jul 2009 emergency. ...
ReliefWeb » Map » Philippines: Tropical cyclone PARMA-09 Public ...
www.reliefweb.int
Oct 6, 2009 ... Philippines: Tropical cyclone PARMA-09 Public Storm Warning Signal (as of 06 Oct 2009) ...
Reuters AlertNet - Intense tropical cyclone Jokwe
www.alertnet.org
Tropical Cyclone Jokwe skimmed Madagascar and Mozambique last week before moving out towards the middle of the Mozambique Channel. ...
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Start
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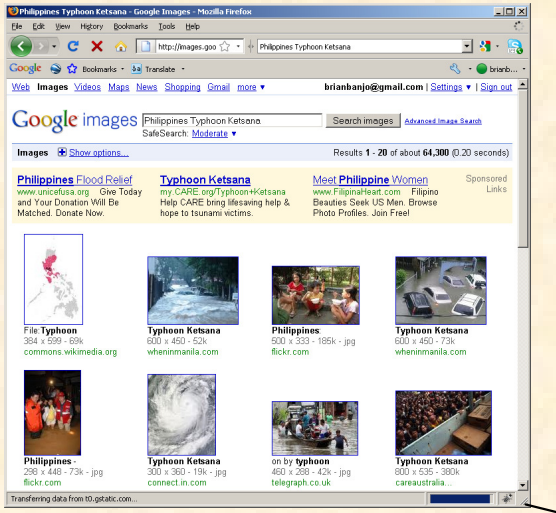
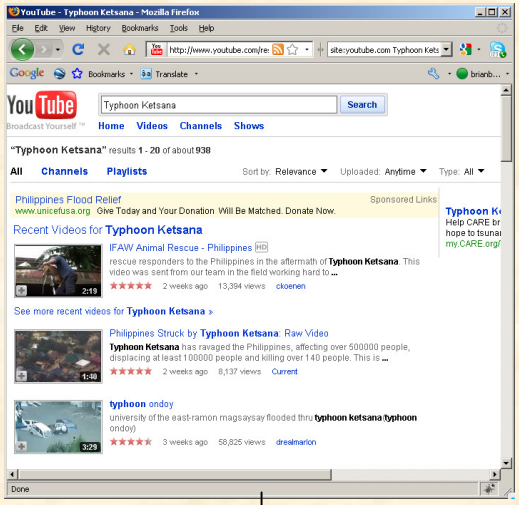
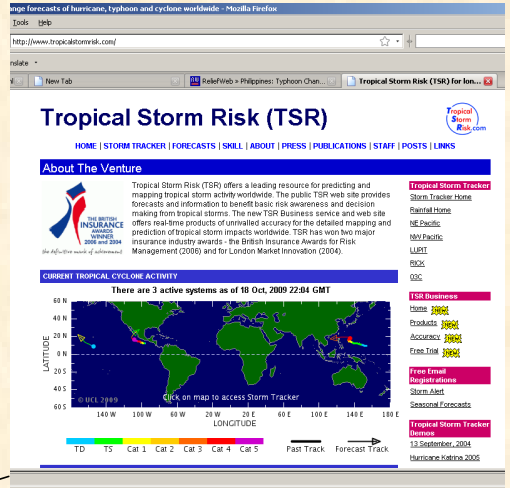
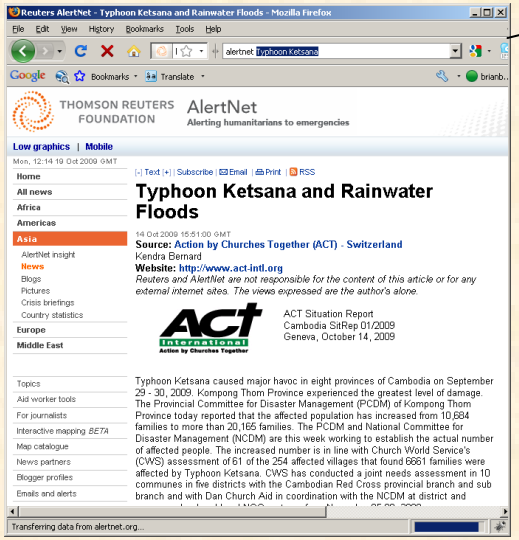


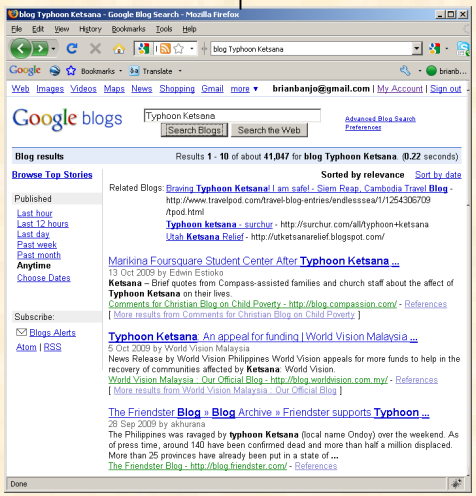


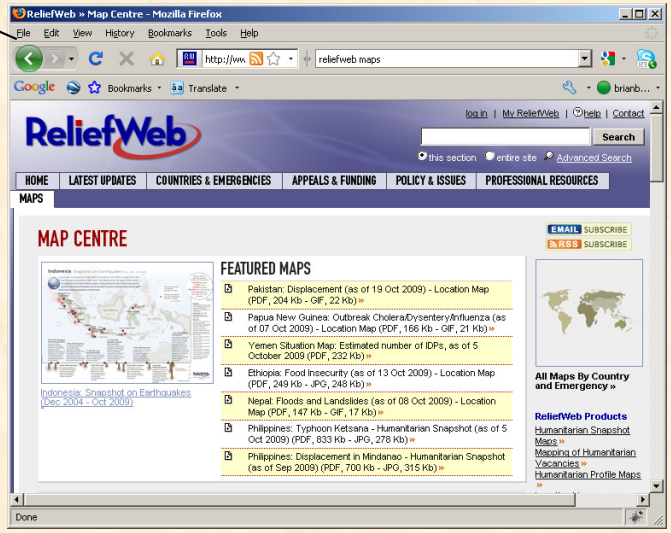


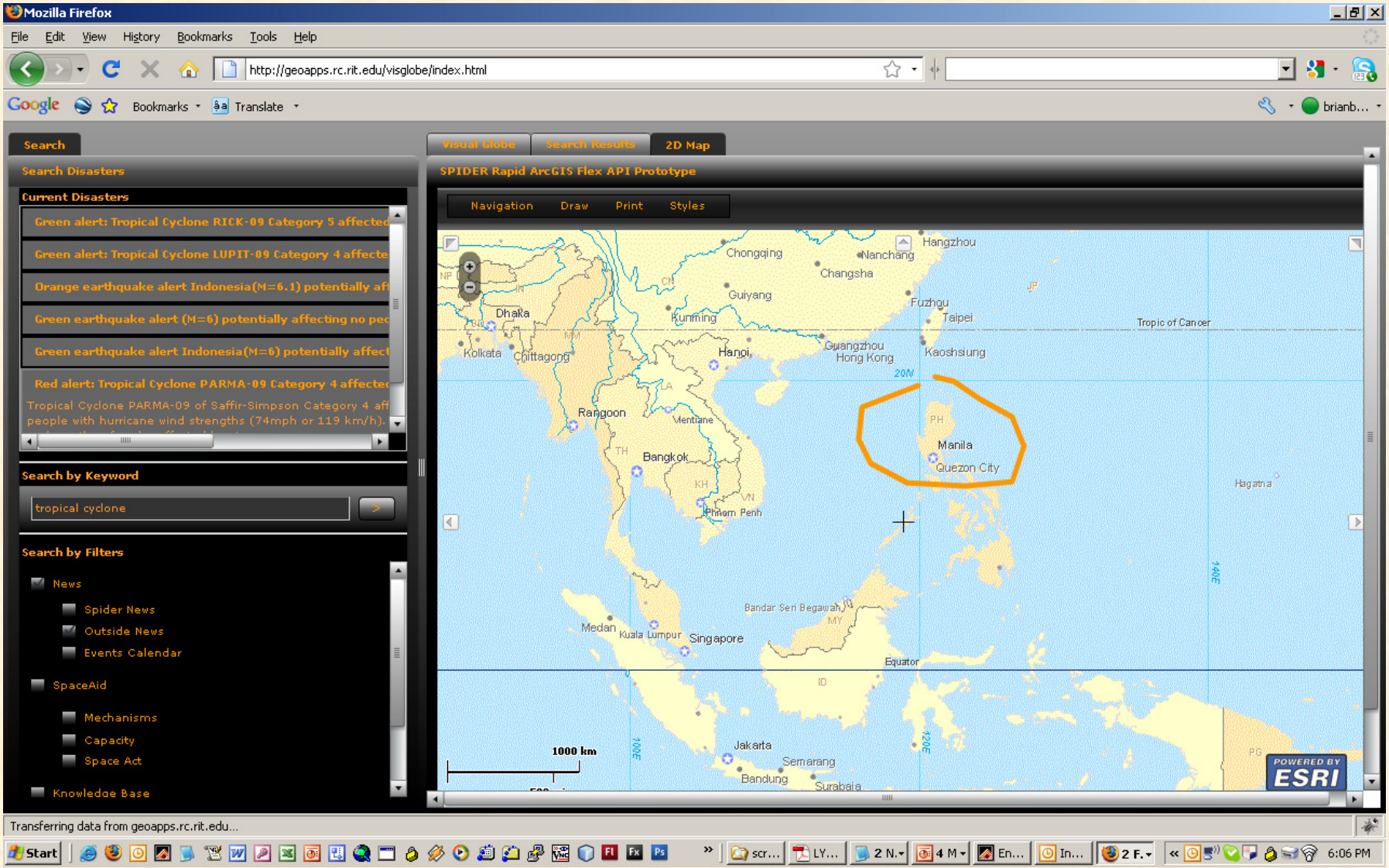
Space Aid

Knowledge Base





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Taipei
Dhaka
Kunming
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Kolkata
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Hanoi
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Kaoshsiung
Rangoon
Mentiane
Manila
Quezon City
Bangkok
Hagatna
Phnom Penh
Bandar Seri Begawan
Medan
Kuala Lumpur
Singapore
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Semarang
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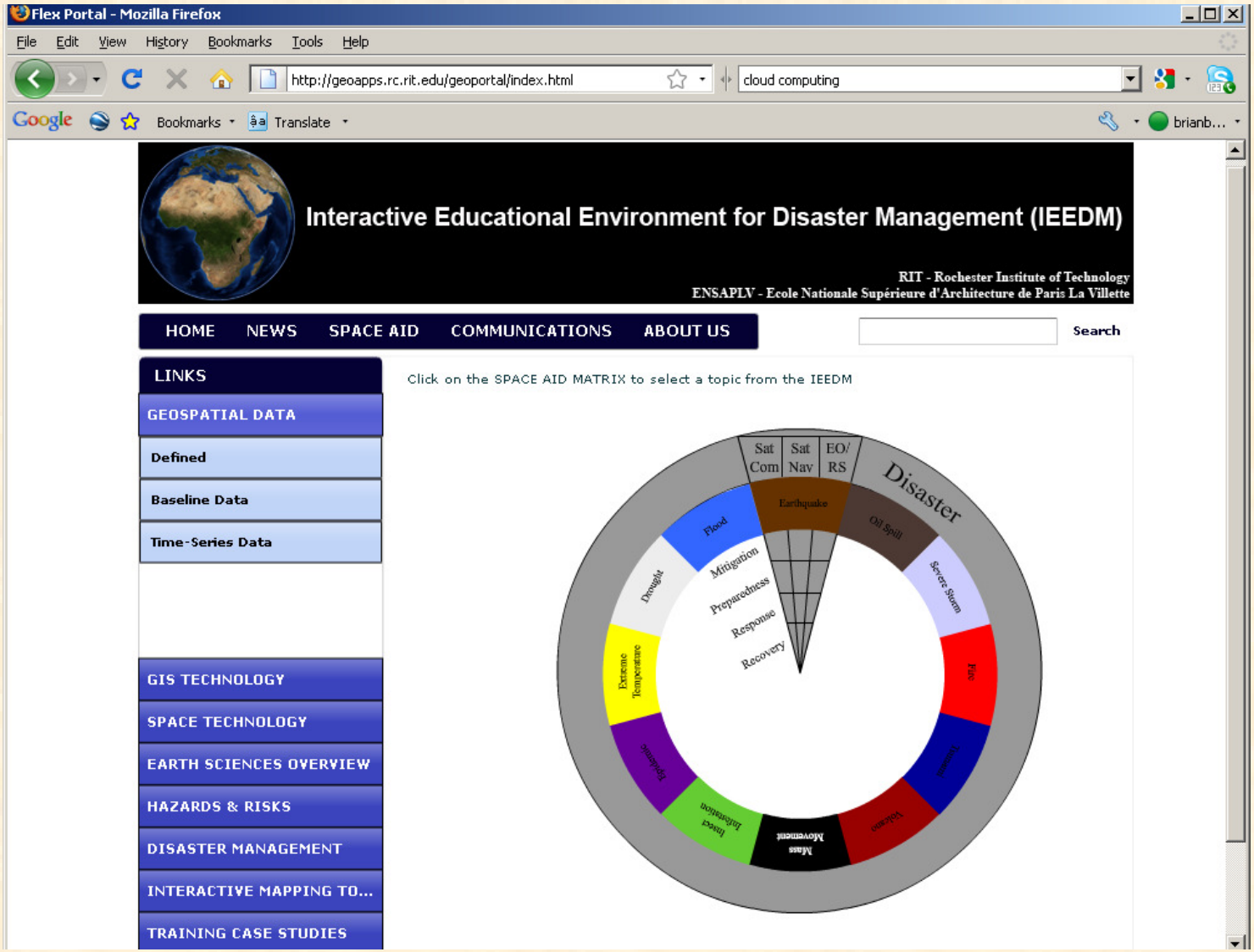
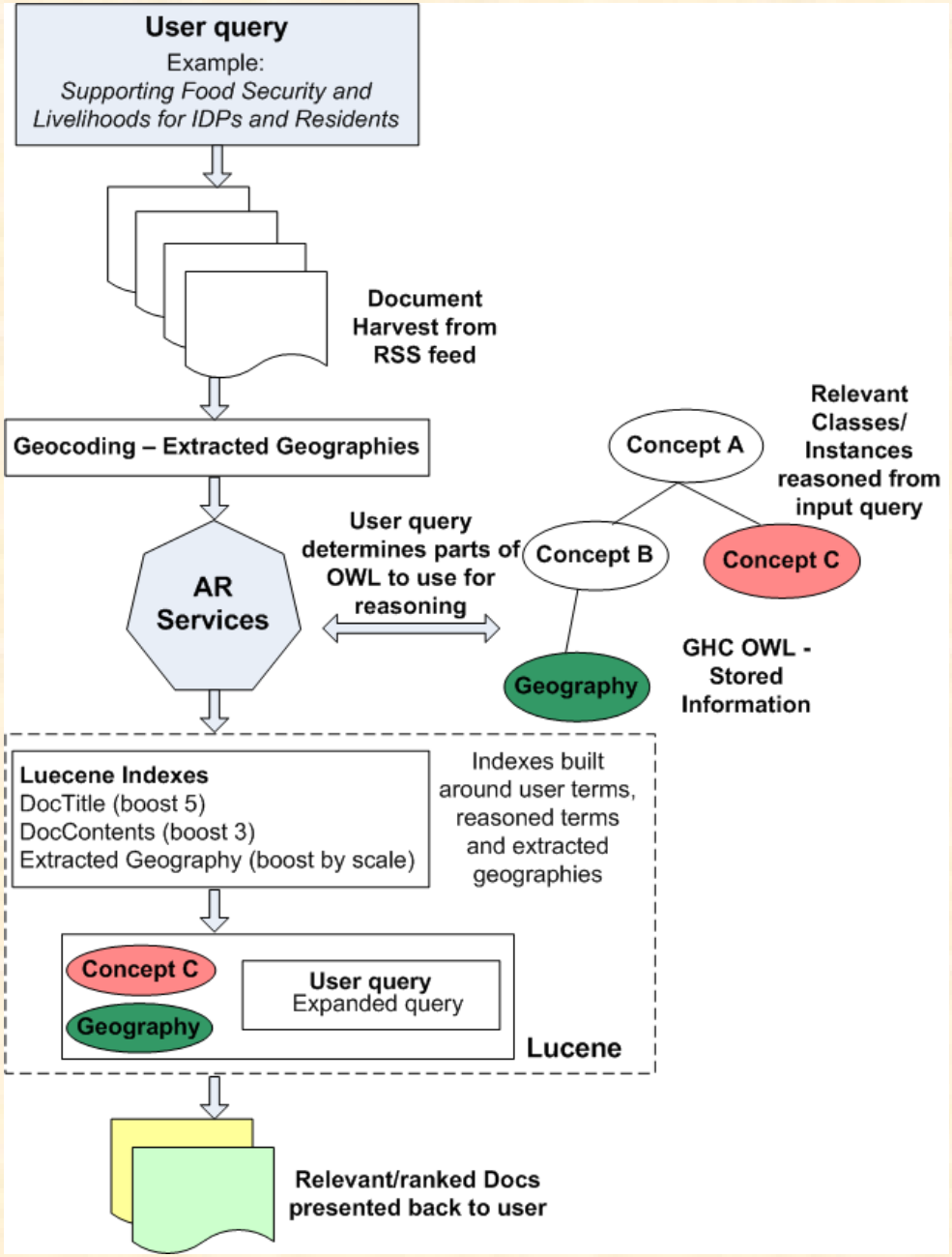
Connecting Space-Aid Matrix Queries to VG



SAM Next Steps

- Engineering SAM into KP
- “Re-skin” – different themes of 3 dimensions
  - Human Aspects
  - Ex- health, critical infrastructure, humanitarian aid, security
- Usability testing

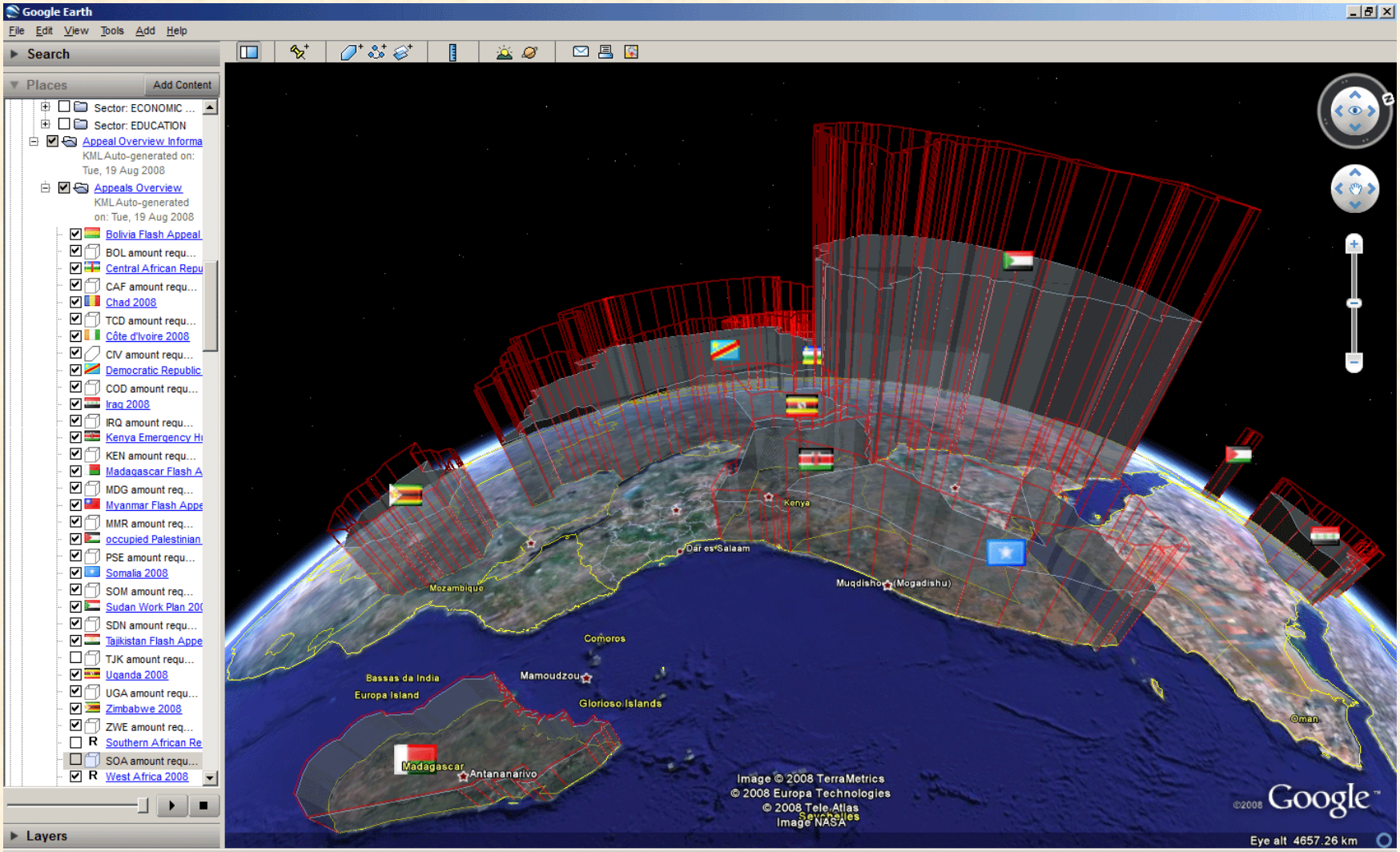
Future Plans/Ideas



Automated Reasoning and Document Ranking - Web 3.0

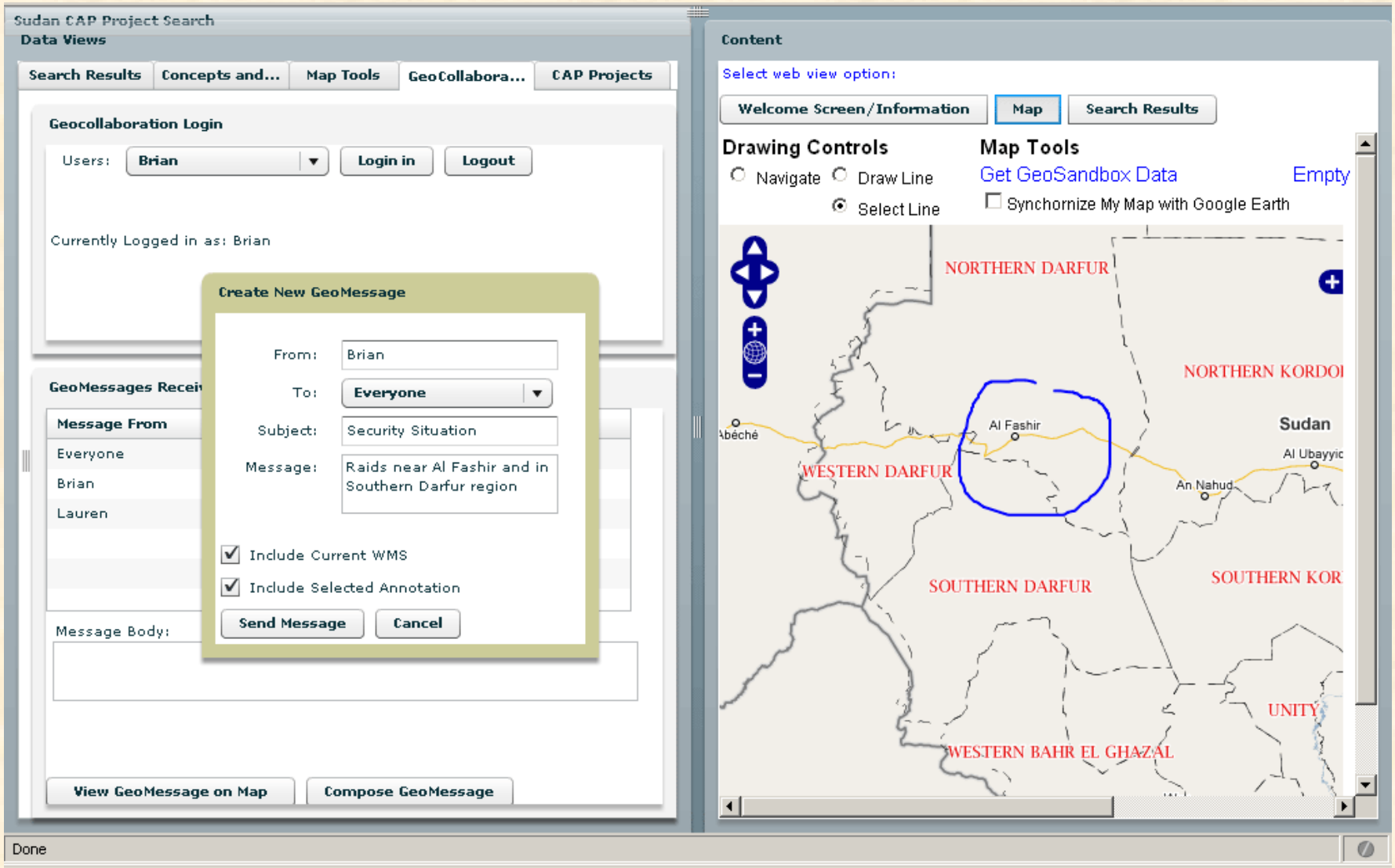
Tomaszewski, B. (2009) 'A Geovisual Analytics Approach for Producing Geo-Historical Context' *Doctoral Dissertation*, Department of Geography, Penn State University.

Advocacy through mapping



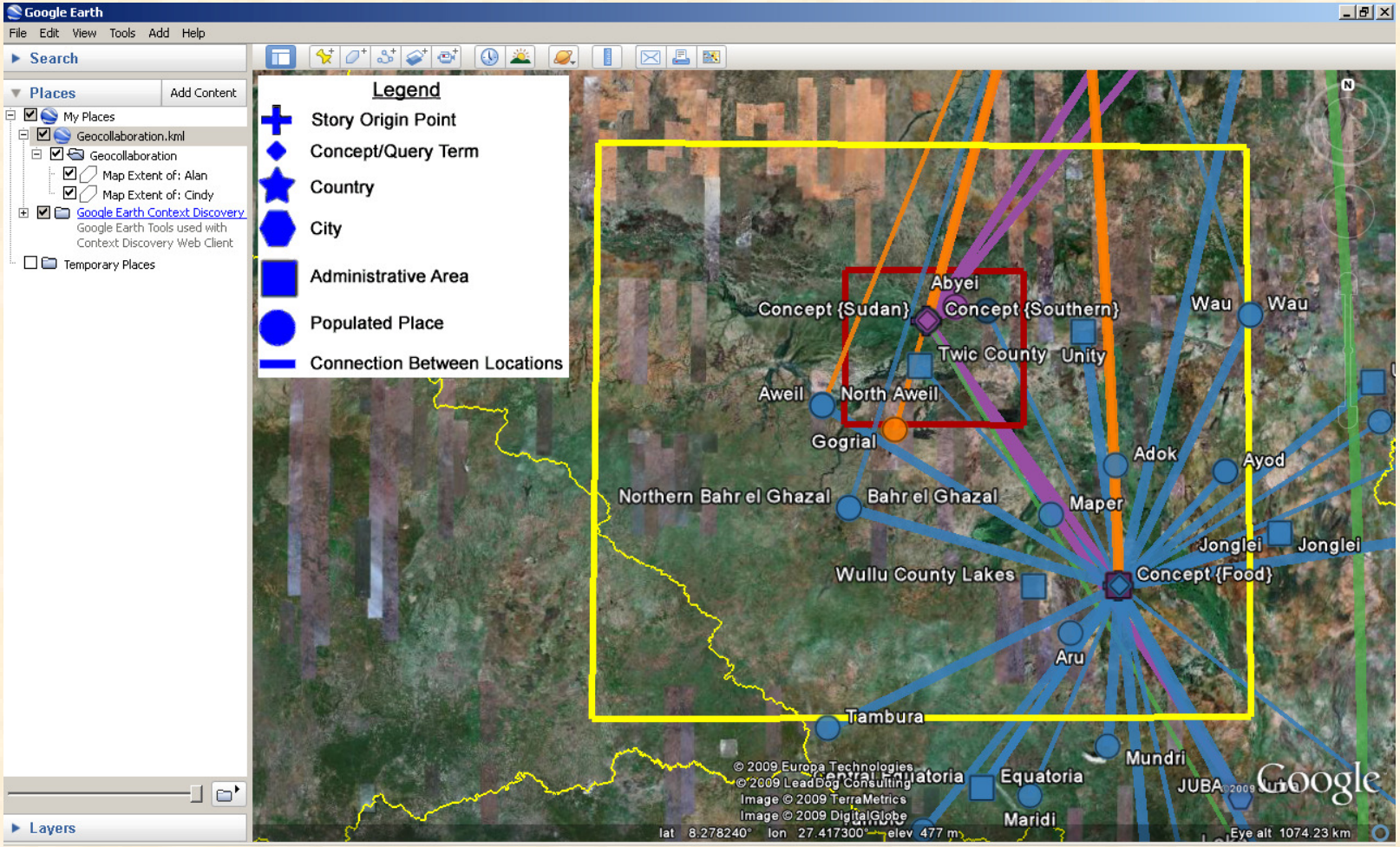
B. Tomaszewski and L. Czárán, "Geographically Visualizing Consolidated Appeal Process (CAP) Information," Proceedings of the 6th International ISCRAM Conference, Gothenburg, Sweden, 2009.

Asynchronous Geocollaboration



Tomaszewski, B. (2009) 'A Geovisual Analytics Approach for Producing Geo-Historical Context' *Doctoral Dissertation*, Department of Geography, Penn State University.

Synchronous Globe-based Geocollaboration



Tomaszewski, B. (accepted pending revisions) 'Situation Awareness and Virtual Globes: Applications for Disaster Management', *Computers and Geosciences*

Questions/Comments:

bmtski@rit.edu

Thank you!