



How to Fit 5 kg of Software Into a 1.3 kg Box



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2006-09-14 FOSS4G2006



Vision: Geospatial Server Appliance

- Small, easy to manage box
- As easy as plugging in a router (or maybe easier?)
- Works with or without Internet connection
- Can be used in an office LAN or standalone
- Provides a means of organizing geospatial data
- Enables geo-collaboration with others

(An extension of the binary stack idea)



Users

- Small NGOs.
- NGO field offices.
- Other places where there might not be geographic experts around.



Some things it should do

- Be able to crawl local disks to find geodata
- Generate metadata automatically
- Generate mapfiles or SLDs automatically
- Generate initial views of data files
- Publish metadata and other geo information to a wider audience (assuming it's connected)
- Allow users to create simple features & publish them



Crawl Local Disks

- Scripts that can find data files
 - ogrinfo + gdalinfo + Python
- Store the results
- Generate initial 19115 metadata
 - 19115 XML template + local configuration + per-file data



Manage Downloaded Data

- Scripts that can find data files
 - ogrinfo + gdalinfo + Python
- Store the results
- Generate initial 19115 metadata
 - 19115 XML template + local configuration + per-file data

(Yes, basically the same as with local data...)



Store metadata

- And share it if possible!
- Use GeoNetwork to harvest locally generated metadata
- GeoNetwork also provides ability to edit metadata via Web interface
- Store bboxes, etc. in local inventory



Develop Mapfiles and/or SLD

- Use results from ogrinfo/gdalinfo scripts to generate mapfiles or SLD
- Use SLD editor (Geoserver?) or Mapfile editor (MapStorer?) to allow users to edit maps
- (QGIS WMS project seems very promising!)

Provide initial views of data

- “Quicklooks” - use OpenLayers to generate initial views
- Generate a tree of “static” web pages with results of ogrinfo/gdlainfo/19115/etc.
- --> could be crawlable by Google if connected

Preloaded data

- Before delivery to end users:
 - Load up useful global data sets
 - World boundaries, GTOPOxx, etc.
 - Load useful regional data sets
 - Landsat, higher-resolution data, perhaps (!) non-free data (at least for now)



Data bundles

- Something for the OSGeo GeoData activity:
- Think about not just “data sharing”, but also about how to package the metadata, mapfiles, SLDs, etc. that make the data usable



Data creation & Collaboration

- Allow creation of simple feature data (points, lines, polygons with attributes)
 - MapBuilder
- Produce GeoRSS feeds describing data as it is loaded or changed

1.3 kg Box

Mac Mini - 1.3 kg



LaCie 250 GB Drives (x2)
- somewhat heavier

5 kg of Software

- **Mac OS X Software**
 - Apache-1.3 (comes with Mac OS X)
 - MacPython (Python 2.4.3)
 - OSXvnc
- **Python packages**
 - ElementTree
 - EasyInstall
 - Atomixlib
- **DarwinPorts based packages**
 - DarwinPorts
 - Apache-2.2
 - Subversion
 - vncserver
- **Plone and its packages**
 - Plone
 - Zope
 - ZWiki

Geo packages

● Server-side packages

- GeoNetwork
- GeoServer
- KyngChaos versions of the following
 - GraphicsLibs
 - GisLibs
 - PHP4
 - PostgreSQL + PostGIS
 - MapServer

● Client-side packages

- MapLab
- OpenLayers
- MapBuilder
- MapBender

● Desktop Clients


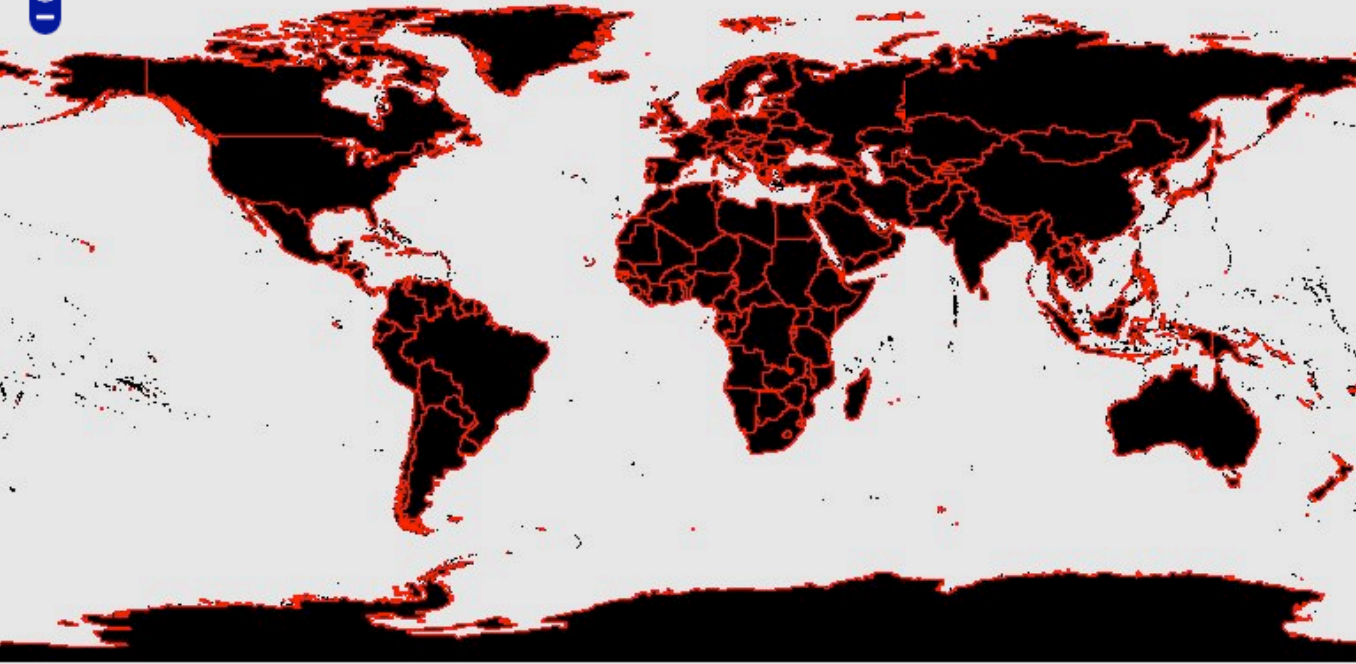
- QGIS
- uDig

FOSS4G Demo

http://mini.eogeo.org/~adoyle/test/docs/index.html

FOSS4G Demo

Permalink

Map navigation controls including a compass, a zoom-in (+) button, and a zoom-out (-) button.A world map showing the outlines of continents in red. The map is centered on the Atlantic Ocean, showing North America, South America, Europe, Africa, Asia, and Australia.

FOSS4G Demo

Click map to see more information below.



FOSS4G Demo

http://mini.eogeo.org/~adoyle/test/docs/index.html

Google

FOSS4G Demo

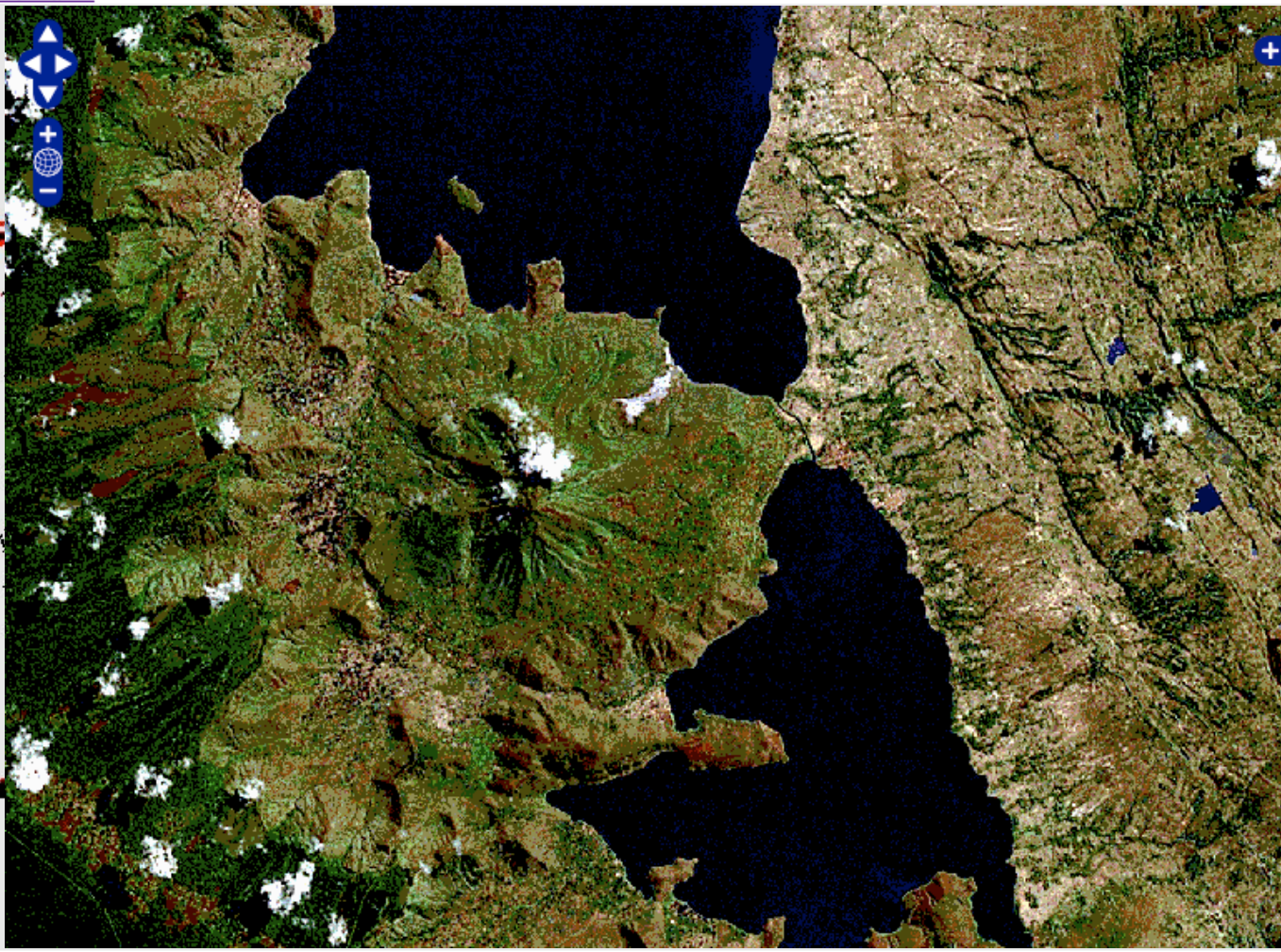
[Permalink](#)



FOSS4G Demo

Click map to see more information below.

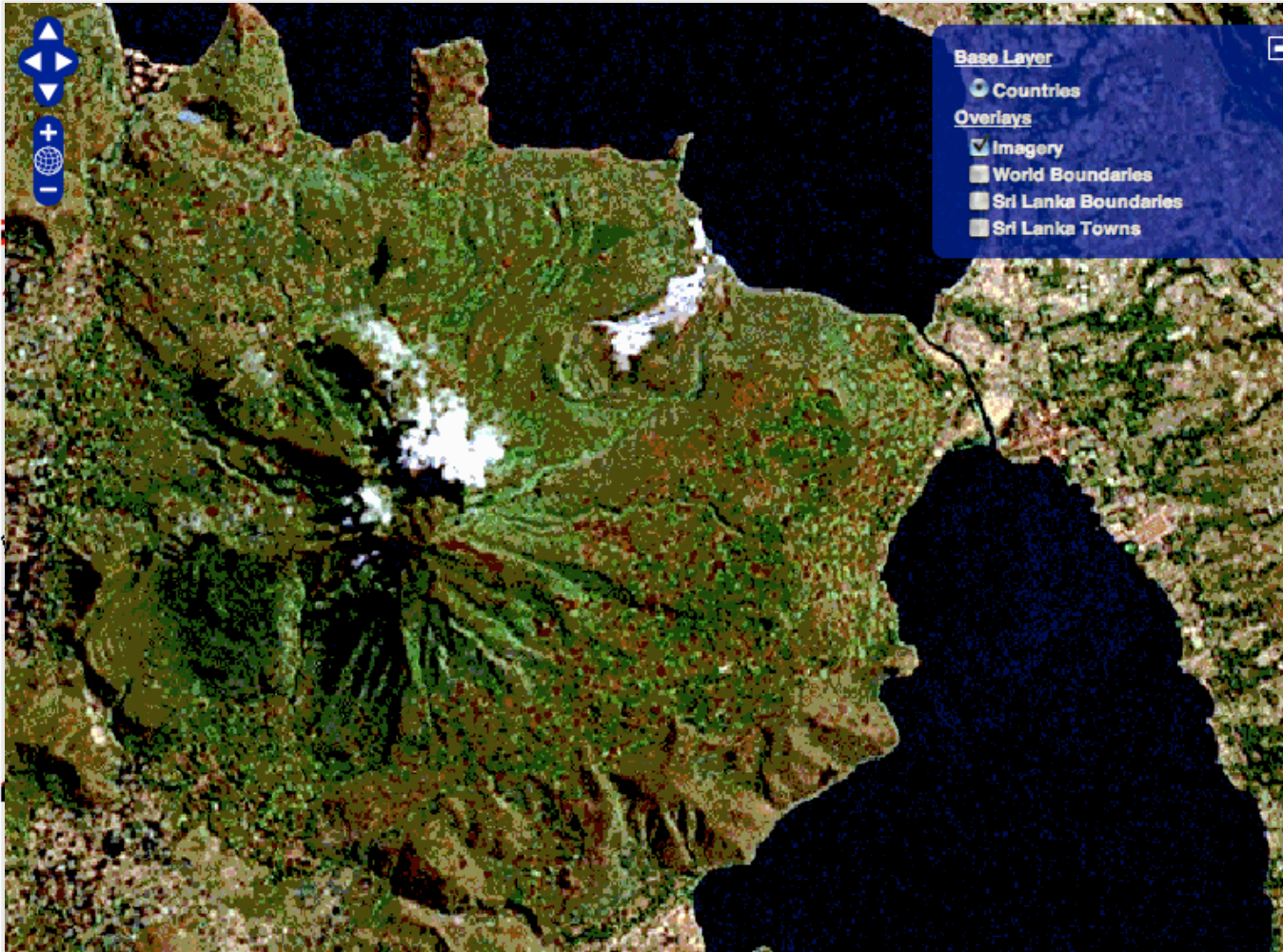
[Permalink](#)



FOSS4G Demo

Click map to see more information below.

[Permalink](#)



FOSS4G Demo

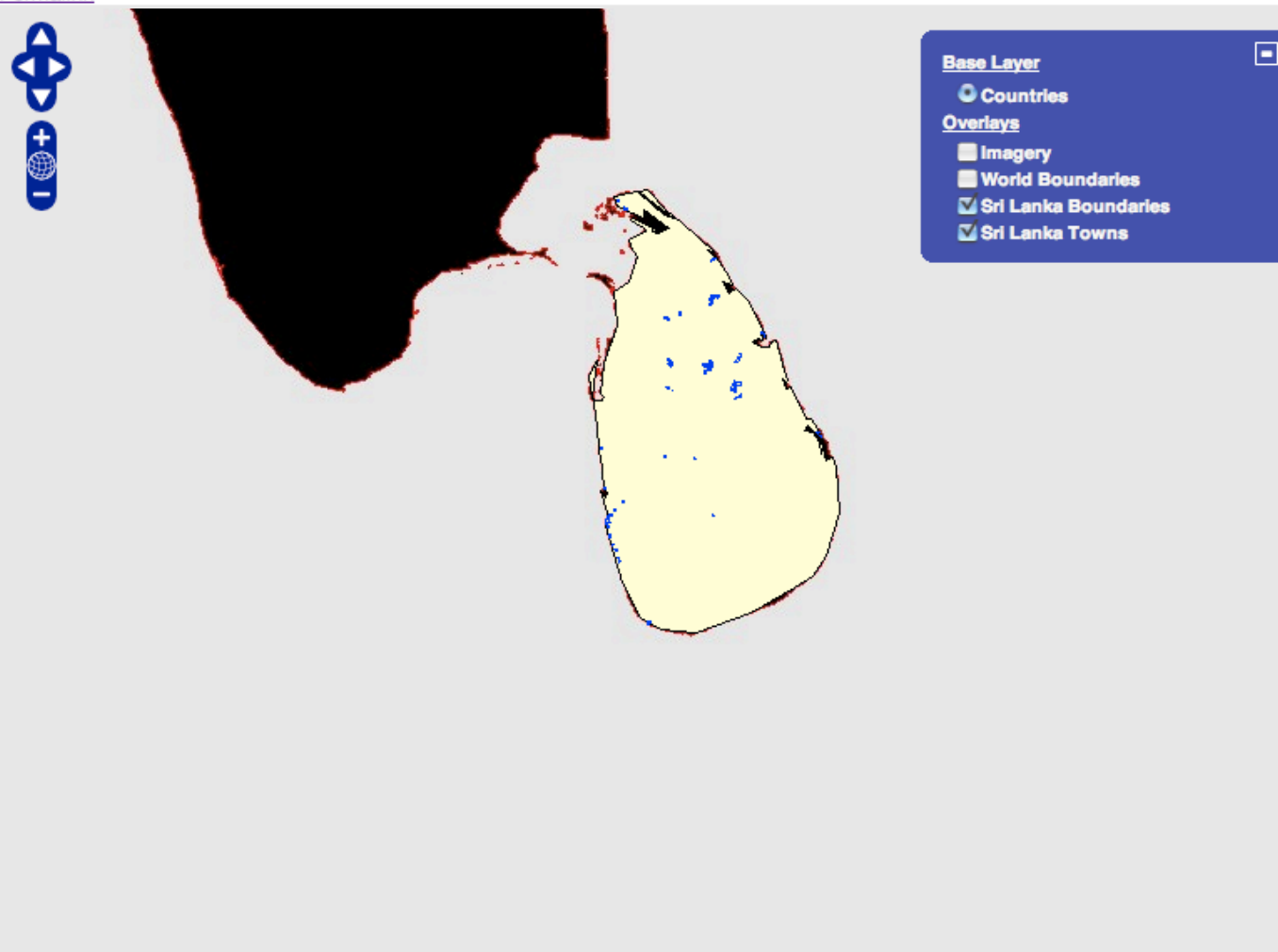
Click map to see more information below.

FOSS4G Demo

http://mini.eogeo.org/~adoyle/test/docs/index.html

FOSS4G Demo

Permalink



Map navigation controls: compass, zoom in (+), zoom out (-), and globe icon.

Base Layer

- Countries

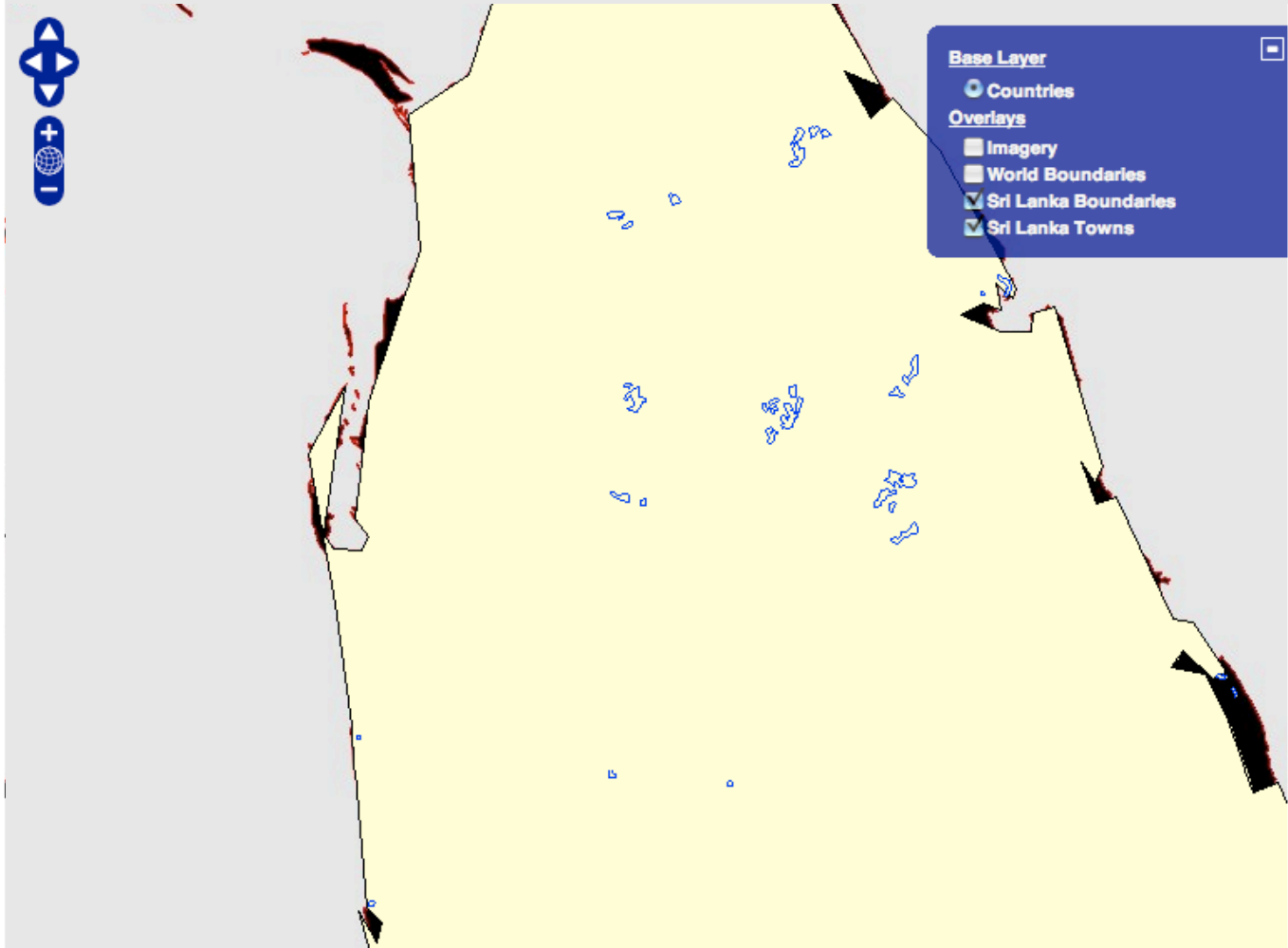
Overlays

- Imagery
- World Boundaries
- Sri Lanka Boundaries
- Sri Lanka Towns

FOSS4G Demo

Click map to see more information below.

Permalink



FOSS4G Demo

Click map to see more information below.

Sri Lanka, Asia -- Population: 20222240, Area: 65610
POLYID: 26997, FIPS10: CE, COUNTRY: Sri Lanka, CONTINENT: Asia, AREA: 65610, POPULATION: 20222240, BIRTH_RT: 15.51, DEATH_RT: 6.52, INF_MORT: 13.97, LIFE_EXP: 73.41, FERTILITY: 1.84, HIVAIDPCT: 0.1, HIVAIDPPL: 3500, HIVAIDDTH: 200, GDP: 85340000000, GDP_GROW: 5.6, GDP_PC: 4300, LABOR_FRC: 8080000, UNEMPLOY: 8.4, INFLATION: 11.2, INVST_PCT: 27.0, PUB_DEBT: 98.5, INDPRD_GR: 6.1, ELEC_PRD: 7308000000, ELEC_CON: 6796000000, OIL_PROD: 0, OIL_CONS: 79000, OIL_EXP: 0, OIL_IMP: 0, OIL_RES: 0, NGAS_PRD: 0, NGAS_CONS: 0, NGAS_EXP: 0, NGAS_IMP: 0, NGAS_RES: 0, CUR_ACCT: -388000000, EXPORTS: 6442000000, IMPORTS: 8370000000, FORGN_EXC: 2384000000, EXT_DEBT: 11590000000, TELEPHONE: 1130923, CELLPHONES: 3084845, INET_HOST: 6025, INTRNETU: 280000, AIRPORTS: 16, RAILWAYS: 1449, ROADWAYS: 97287, WATERWAYS: 160, MRCT_MRN: 24, MIL_EXP: 606200000, GDP_MILP: 2.60,



Current Status

- Many small things have been worked out.
- Python scripts, mapfile templates, OpenLayers html templates, Plone as a (currently) non-Geographic collaboration system
- Generally, all the Geo FOSS packages just work on the Macintosh



Next Steps

- Turn the “little bits” into bigger chains that can be automated
- Work with GeoNetwork project to complete metadata harvesting
- Try out MapStorer for mapfile building
- Develop the global “base data” set
- Develop a regional example
- Work with UN, UNEP, or FAO to refine concept



Thanks so far to

- All the GeoFOSS developers, the unsung heros
- Chris Schmidt, Howard Butler, Steve Lime, Jeroen Ticheler for help
- Keio University for funding



Thank you!

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