

Progress report on US-09-02c: Global Road and Human Settlements Mapping on GEO Grid

Task lead

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Global Road and Human Settlements Mapping on GEO Grid

Led by Advanced Industrial Science and Technology, Japan

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Develop a global road and human settlements map on GEO Grid.

Related activities will include:

- (i) System development of GEO Grid towards sharing, developing and distributing data.
- (ii) Research & development for producing relevant data using satellite images.
- (iii) Collection, maintenance, and evaluation of relevant remote sensing and GIS data.

Global Road and Human Settlements Mapping on GEO Grid

led by AIST

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Progress....

Human Settlement Map:

- Developed validation dataset using global gazetteer
 - Submitting a research paper
- Algorithm development for the extraction from satellite images (Mainly using ASTER & PALSAR)
 - Apply LLGC (Learning with Local and Global Consistency) algorithm
- Targeting large urban area (Pop > 1M, 274Cities) for testing
 - On going (Q3 2010?)

Global Road:

- Developed initial version of software to extract road vector from satellite images (ASTER or much higher resolution).
 - Updated the software for multi type of satellite formats
 - Invite new contributors to implement the algorithm

Outcome....

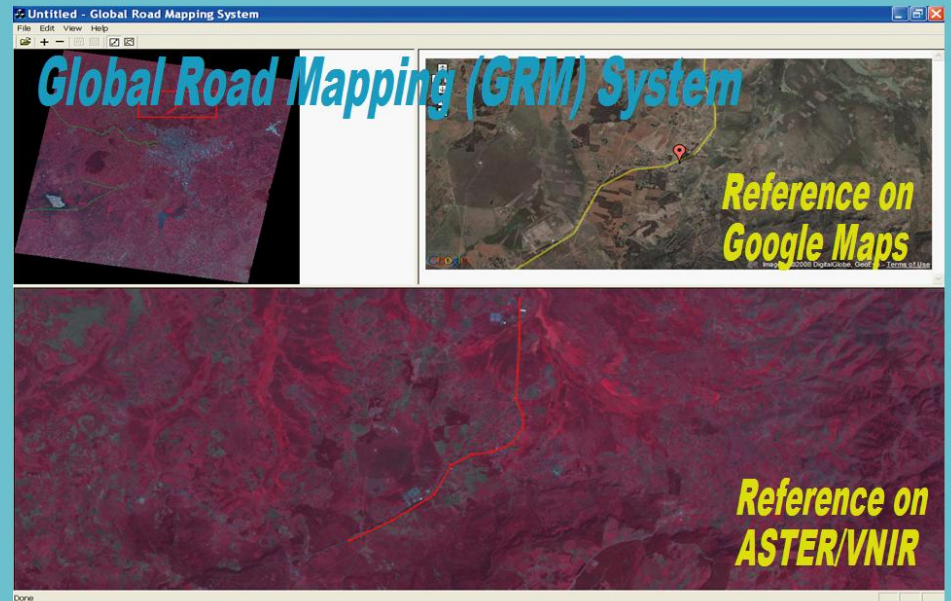
Human Settlement Map:



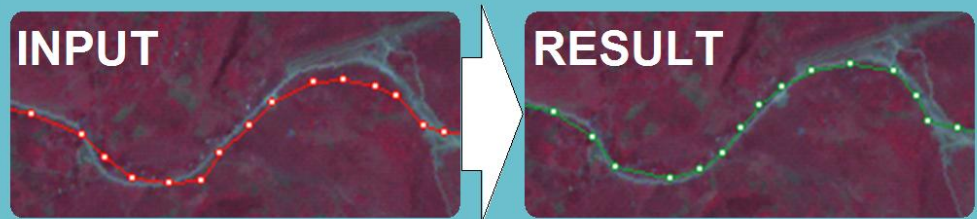
San Antonio, USA

Global Road:

Semi-auto Extraction of Road Features



Snakes-based automatic modification



Plan....

Human Settlement Map:

- Apply the algorithm for (Pop < 0.1M, 3734 Cities).
- Combine other data sources (DEM, Thermal, Night light,...)
- Develop a system to validate and distribute

Global Road:

- Standards (metadata) should be established
- Improve road vector extraction algorithm & system from multi satellite image sources