Health Database and Web-Mapping for Emergency Responses

A Prototype Application for ETHIOPIA

**Third United Nations International UN-SPIDER Workshop:
Disaster Management and Space Technology- From Concepts to Application
Bonn, Germany, 21-23 October 2009**

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ECA's Involvement

SDI

fl   The United Nations Economic Commission for Africa (UNECA) is assisting member States to develop spatial data infrastructure as appropriate mechanisms for:

Management

Production

Dissemination and

Use of spatial data and information products

ECA's Involvement

SDI

ƒ As part of SDI, ECA works with member States to:

Build fundamental, core and thematic datasets

Develop capacity and retain a critical mass of expertise in Africa

Develop Standards and data interoperability

Geodetic reference (AFREF) and

Metadata production

Background

Time

fl Looking at the number of health projects in Ethiopia and the amount of time needed to report an incident to the Ministry of Health, this application is:

Easy to detect the rate of increase or decrease at real-time

Fast data collection and manipulation

Objective of this project

Time

fl Saves the amount of time the data reaches decision makers and users:

Avoids paper work that delays data entry

fl Easy to issue early warnings and preparedness:

Usually within few days after the onset

Objective

Data Accuracy

Direct input of data by health or field workers

Lessens typing errors that might be created from copying the information from paper notes

Health Facilities

Accessibility

ℓ Map the location, distribution and coverage of health facilities in Ethiopia

ℓ Calculate the average distance or time that patients and health care providers have to travel to the nearest health facility from incidents

Health Facilities

Accessibility

fl Estimate the percentage of population that can be served by health facilities at a given distance (buffering)

Health Facilities

Availability

Incorporate other attribute information:

number of beds in each facility

availability of electricity (24hrs)
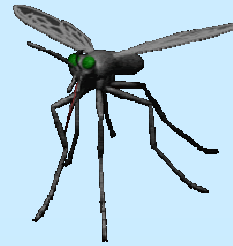
availability of doctors or health care providers…etc

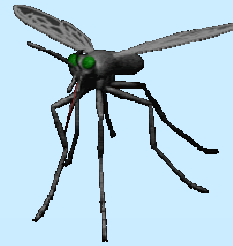# Health Facilities

Identify and examine emergency conditions

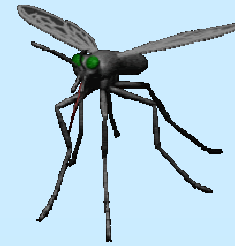Find out the emergency status and take the appropriate measures

Malaria

- Identify the most vulnerable areas and the number of population affected

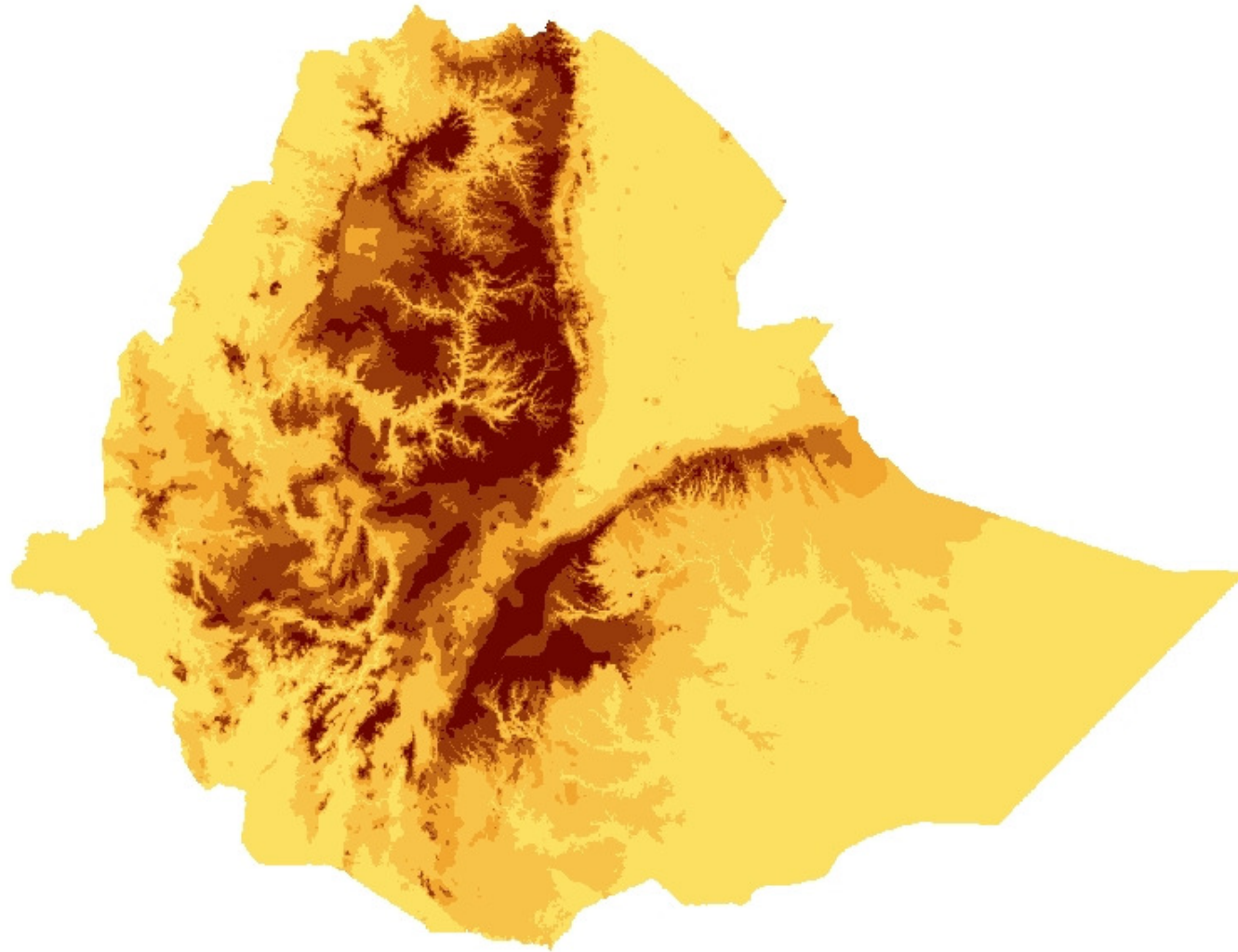- develop the best malaria prevention and control strategies

Malaria

- 36% of the population is out of the reach of the health service coverage

- The annual average number of cases reported over the period from 2001 – 2005 was **9.4million** (range 8.4 – 11.5)

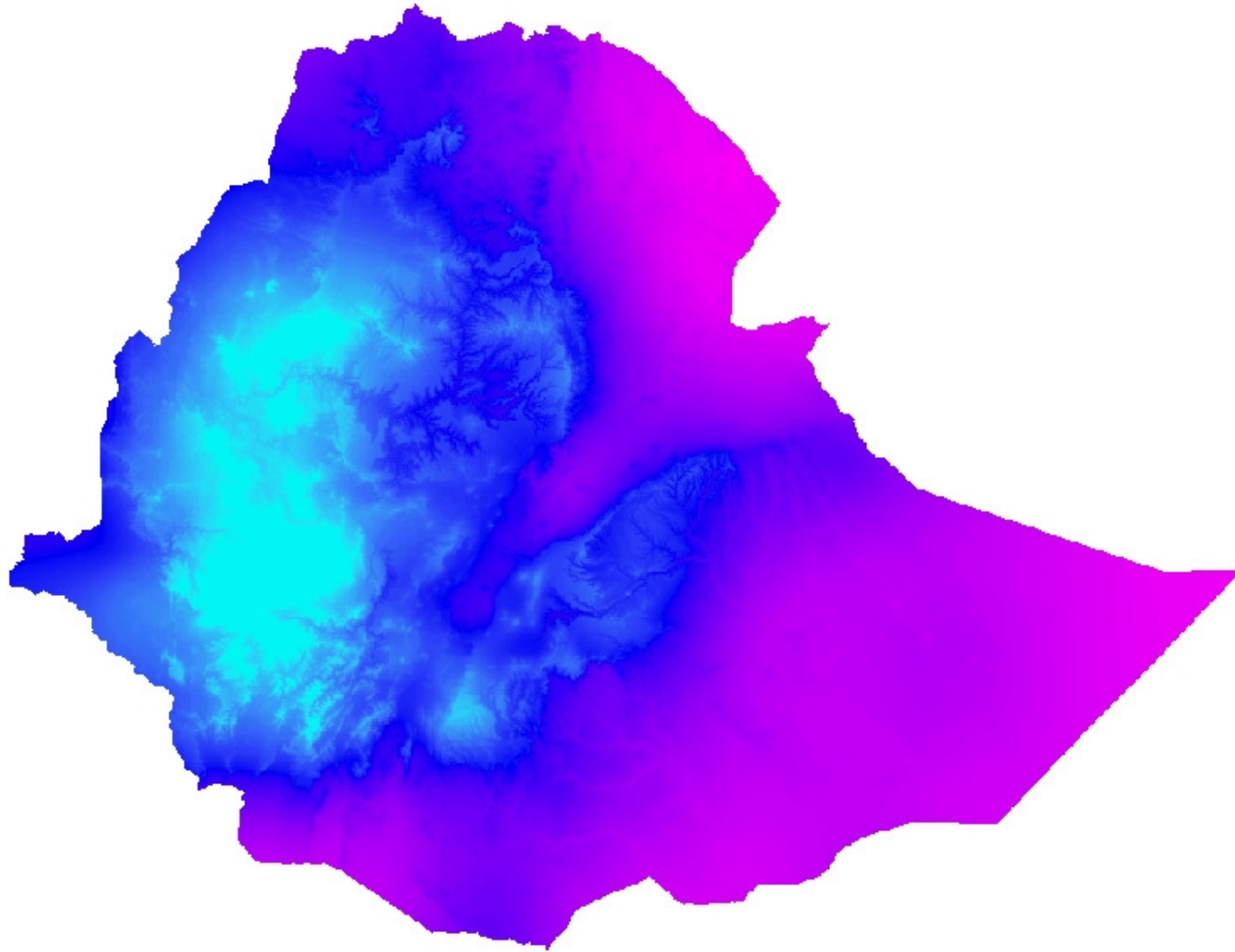- the annual average number of confirmed cases was 487,984 (2001 – 2005)

Malaria

¡ Focusing on Prevention mechanisms, combining:
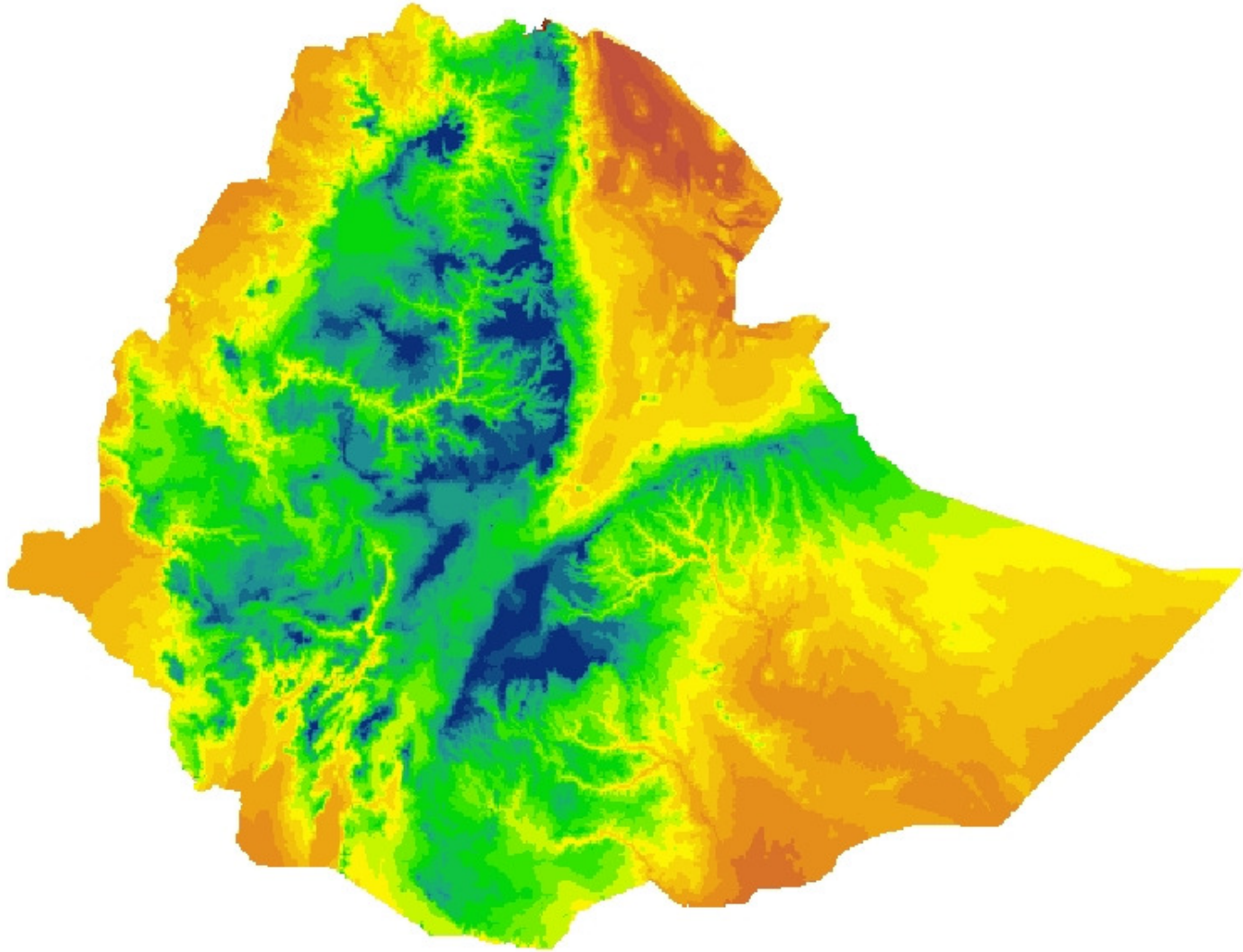
ℓ Altitude

ℓ Rainfall

ℓ Temperature

Elevation

Mean Annual Precipitation

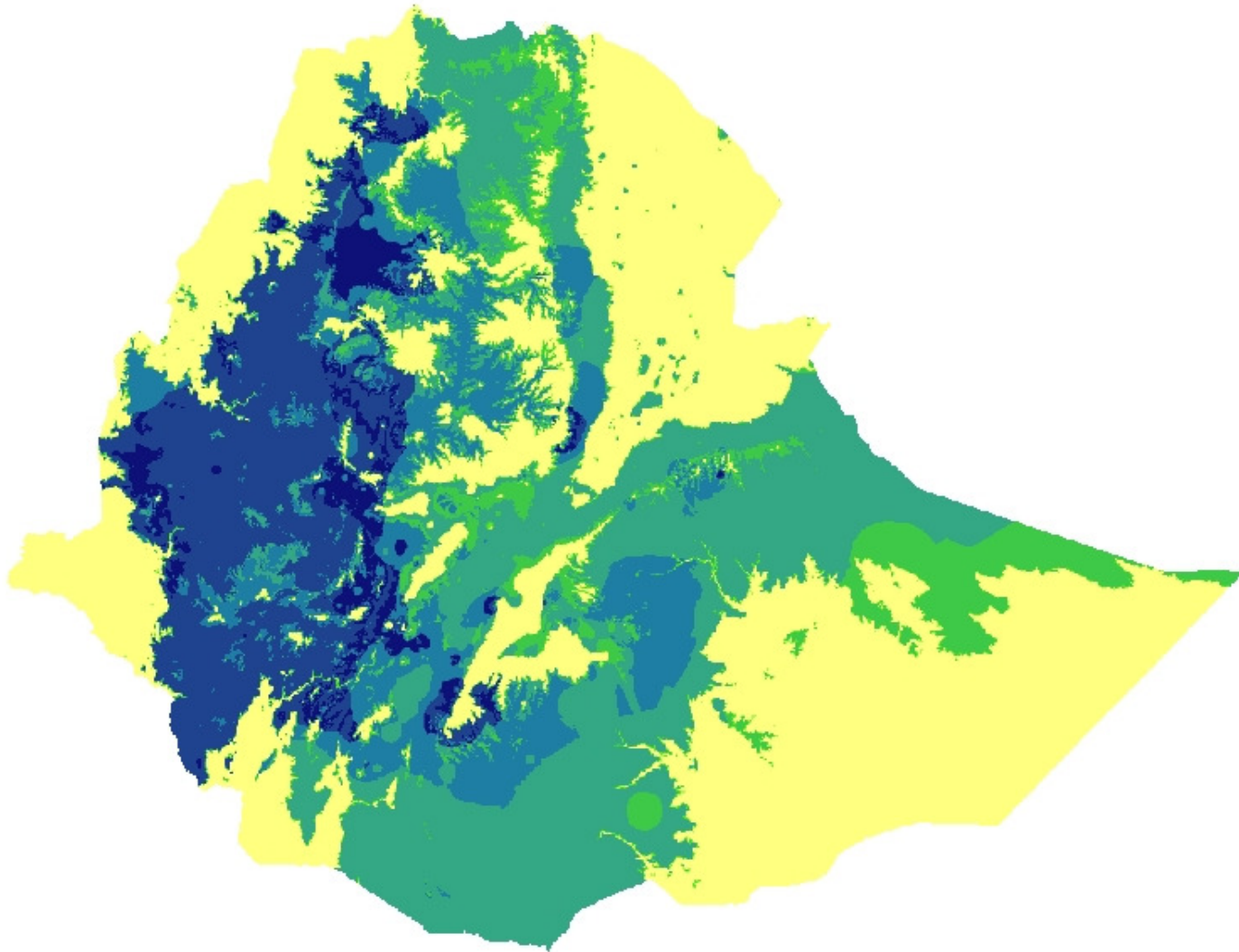# Mean Annual Temperature

Overlaying the three factors

Future Prospects for this Application

- Mobile GIS

- Network Analyst

- Online imagery analysis

- Develop the same application for member countries

Thank You

http://giss.uneca.un.org/HealthDBETH