

# Continental and global datasets for GIS

A short-list of some resources that I like by Ruth Kelly

Trinity College Dublin

15-11-2016

# Species datasets

## Species Occurrences

- Global
  - [www.gbif.org](http://www.gbif.org)
- Ireland – National Biodiversity Data Centre
  - <http://www.biodiversityireland.ie/>
- UK – NBN gateway
  - <https://data.nbn.org.uk/>

## Range maps

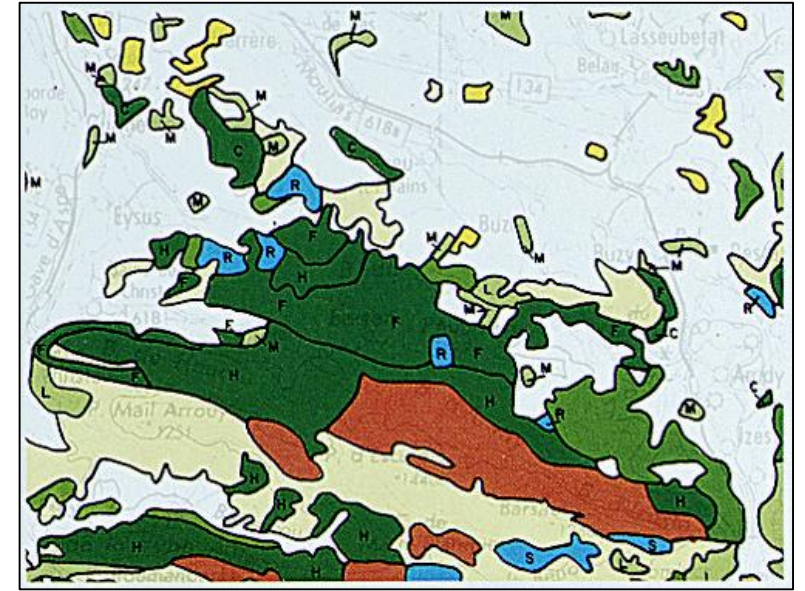
- IUCN – 76,000 species
  - <http://www.iucnredlist.org/technical-documents/spatial-data>
- BIEN – Botanical Information and Ecology Network
  - <http://bien.nceas.ucsb.edu/bien/biendata/bien-3/>



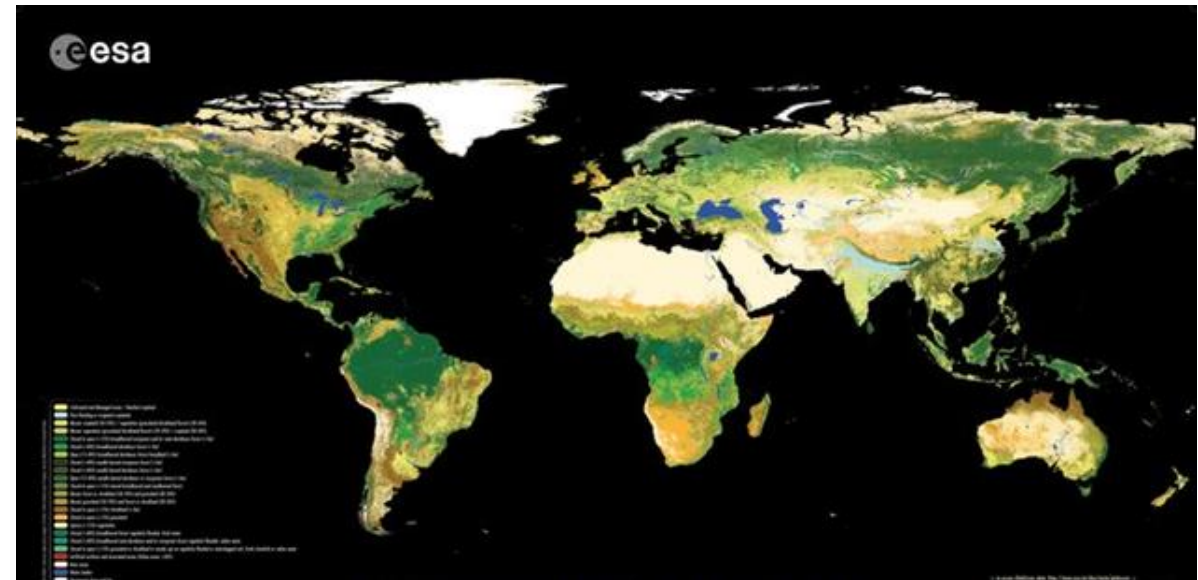
Example: Species data *Lemna minuta* from GBIF

# Land use and vegetation

- CORINE land cover classification maps for Europe
  - <http://www.eea.europa.eu/publications/COR0-landcover>
- Globcover
  - [http://due.esrin.esa.int/page\\_globcover.php](http://due.esrin.esa.int/page_globcover.php)
- Vegetation indices (e.g. NDVI)
  - <https://modis-land.gsfc.nasa.gov/vi.html>



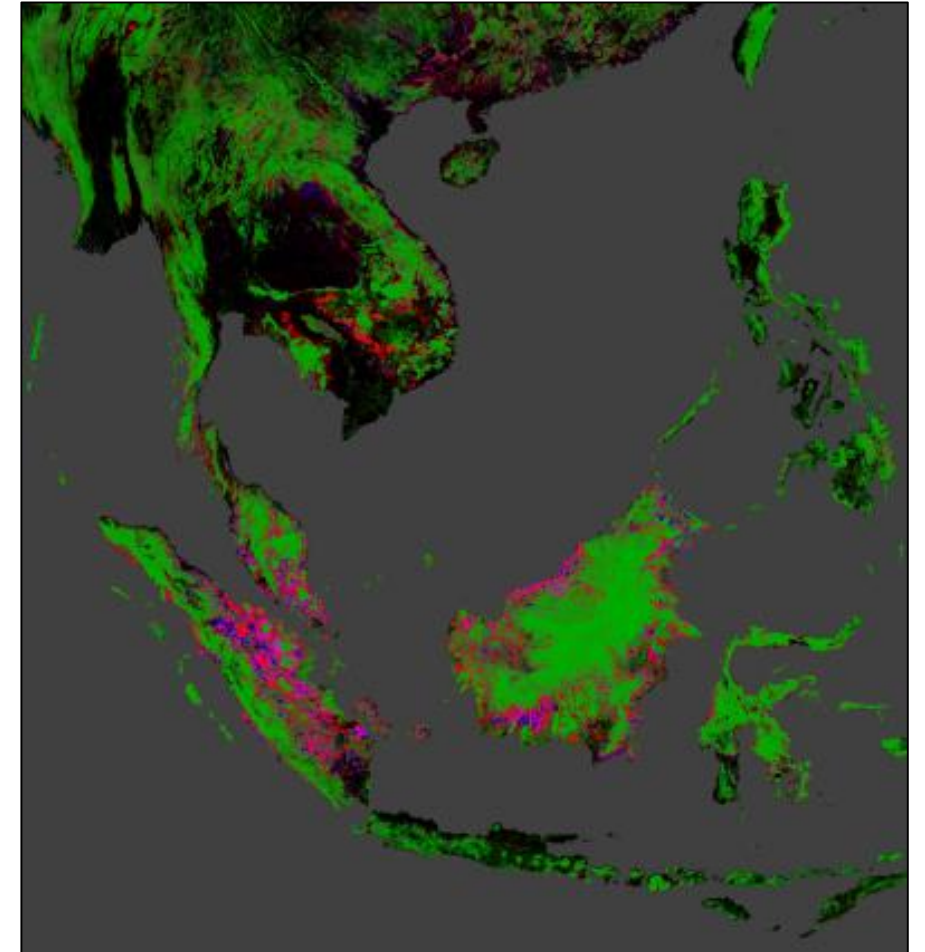
Example: Forest cover types from CORINE datasets



Example: Global land cover types from Globcover datasets

# Human Influence and disturbance

- Human Influence Index
  - Composite maps based on human population, infrastructure and transport
  - <http://sedac.ciesin.columbia.edu/data/set/wildareas-v2-human-influence-index-geographic>
- GHSL - Global Human Settlement Layer – 1970-2014
  - <http://ghsl.jrc.ec.europa.eu/>
- Global forest change 2000-2014
  - [http://earthenginepartners.appspot.com/science-2013-global-forest/download\\_v1.2.html](http://earthenginepartners.appspot.com/science-2013-global-forest/download_v1.2.html)

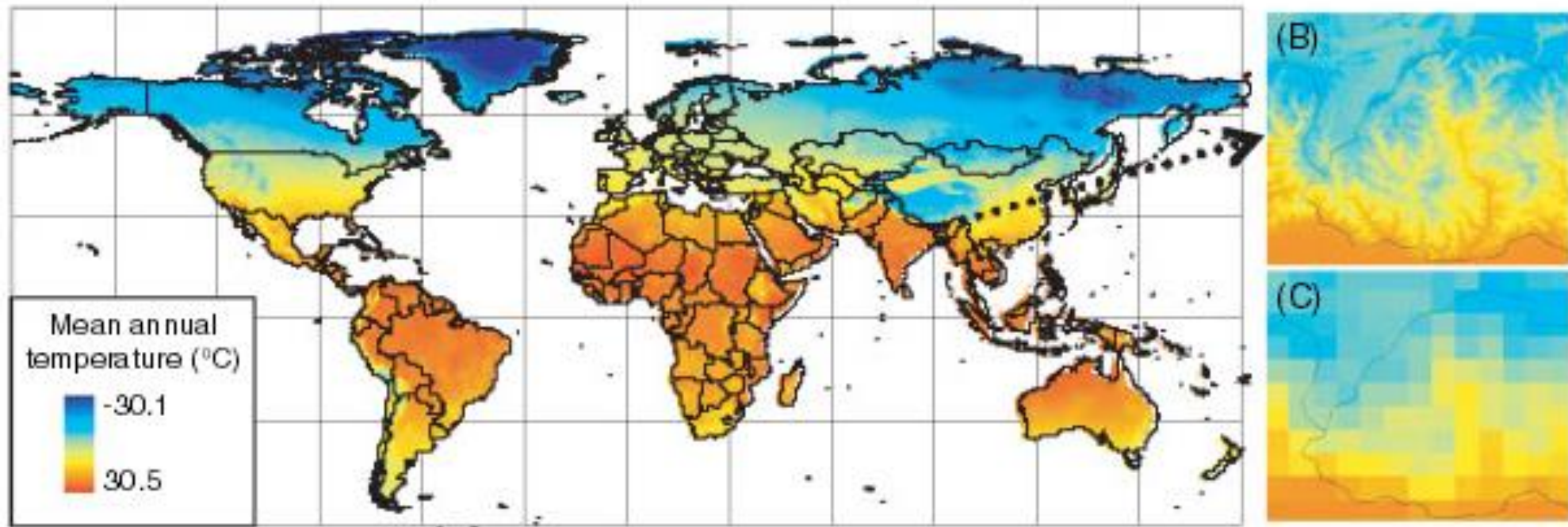


Example: Forest cover change in South East Asia 2000-2014



# Climate

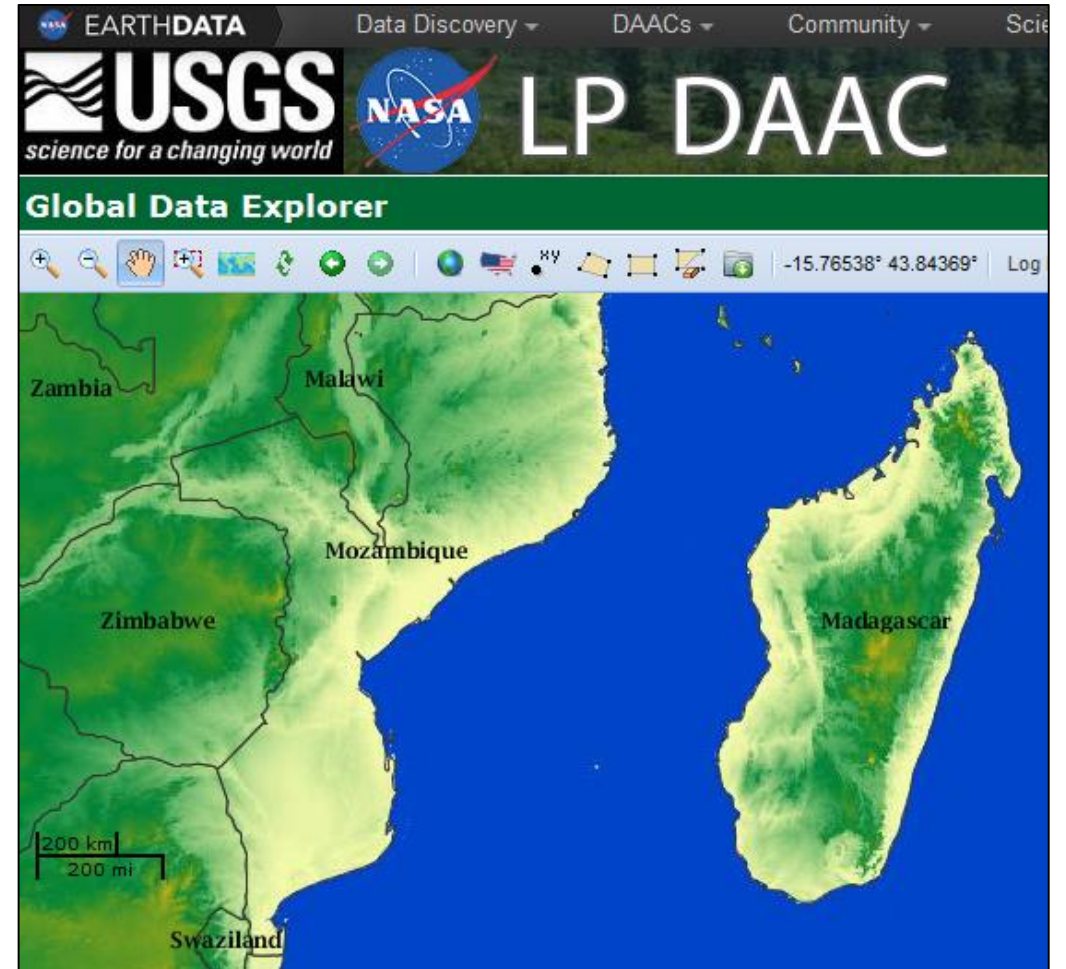
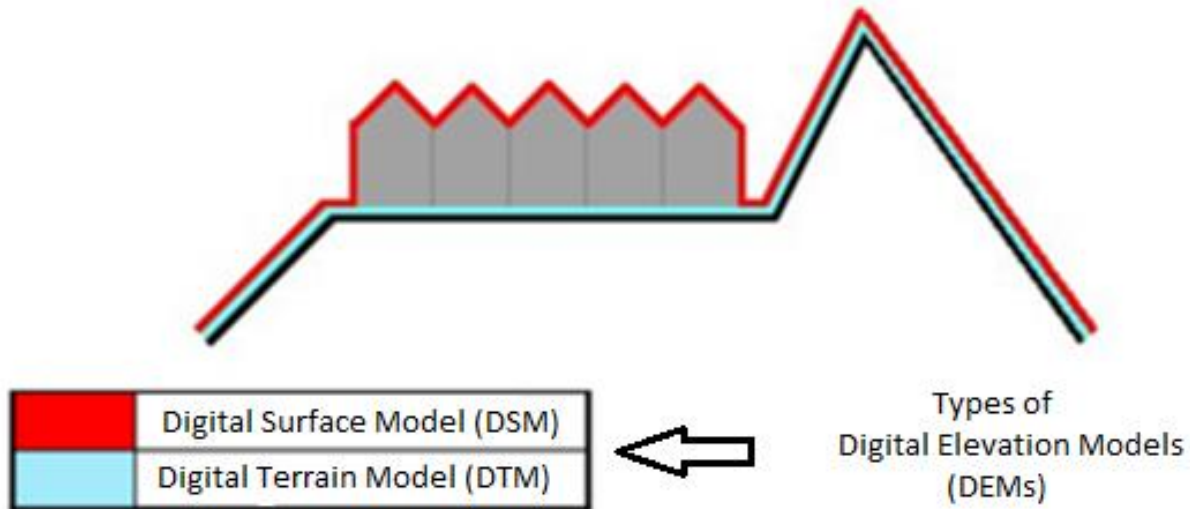
- Worldclim – Past, current and future
  - <http://www.worldclim.org>



Hijmans, Robert J., et al. "Very high resolution interpolated climate surfaces for global land areas." *International journal of climatology* 25.15 (2005): 1965-1978.

# Elevation

- Satellite data from ASTER or SRTM
  - <http://gdex.cr.usgs.gov/gdex/>
- Beware the terminology!

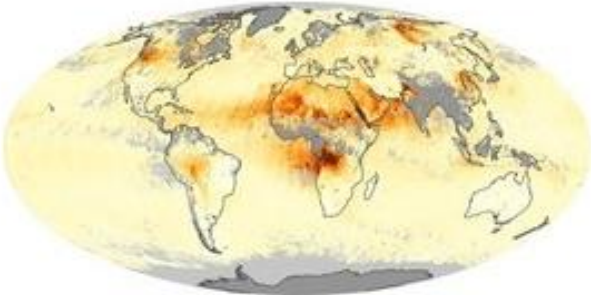


Example: ASTER satellite DEM data

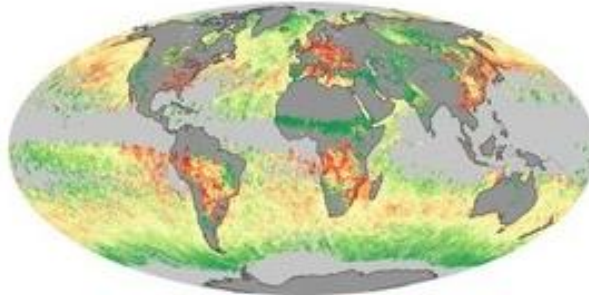
# Satellite datasets

- NASA (derived products) - [www.earthobservatory.nasa.gov/GlobalMaps/](http://www.earthobservatory.nasa.gov/GlobalMaps/)

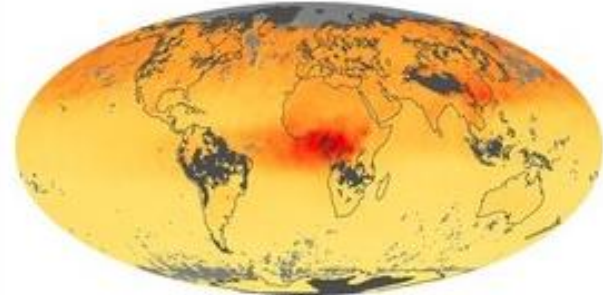
Aerosol Optical Depth



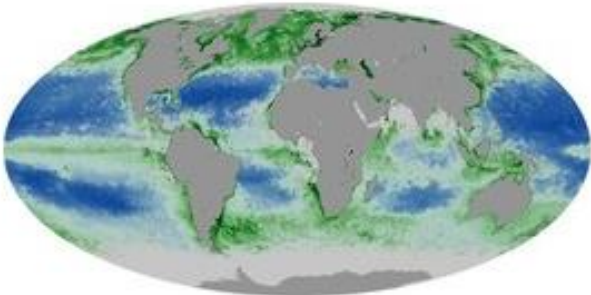
Aerosol Size



Carbon Monoxide



Chlorophyll



Cloud Fraction



Fire





# Satellite raw time-series imagery

- *Landsat* represents the world's longest continuously acquired collection of space-based moderate-resolution land remote sensing data. - *Landsat* - <https://landsat.usgs.gov/>





# Other useful links

- For European datasets
  - <http://www.eea.europa.eu/data-and-maps>
- Country level datasets
  - [www.diva-gis.org/Data](http://www.diva-gis.org/Data)
- For satellite data..
  - [www.earthobservatory.nasa.gov/GlobalMaps/](http://www.earthobservatory.nasa.gov/GlobalMaps/)