

Les données géographiques : sources et considérations

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des populations



Quel type de données ?

- Des données climatiques (température, précipitation...)
- Des données d'utilisation des sols
- Des données géographiques (altitude, pente...)

Données climatiques

The title 'Données climatiques' is centered on a dark blue background. Below the text, there is a decorative graphic consisting of a solid teal horizontal bar, followed by a white horizontal bar, and then two thin, parallel teal horizontal lines.

La base Worldclim

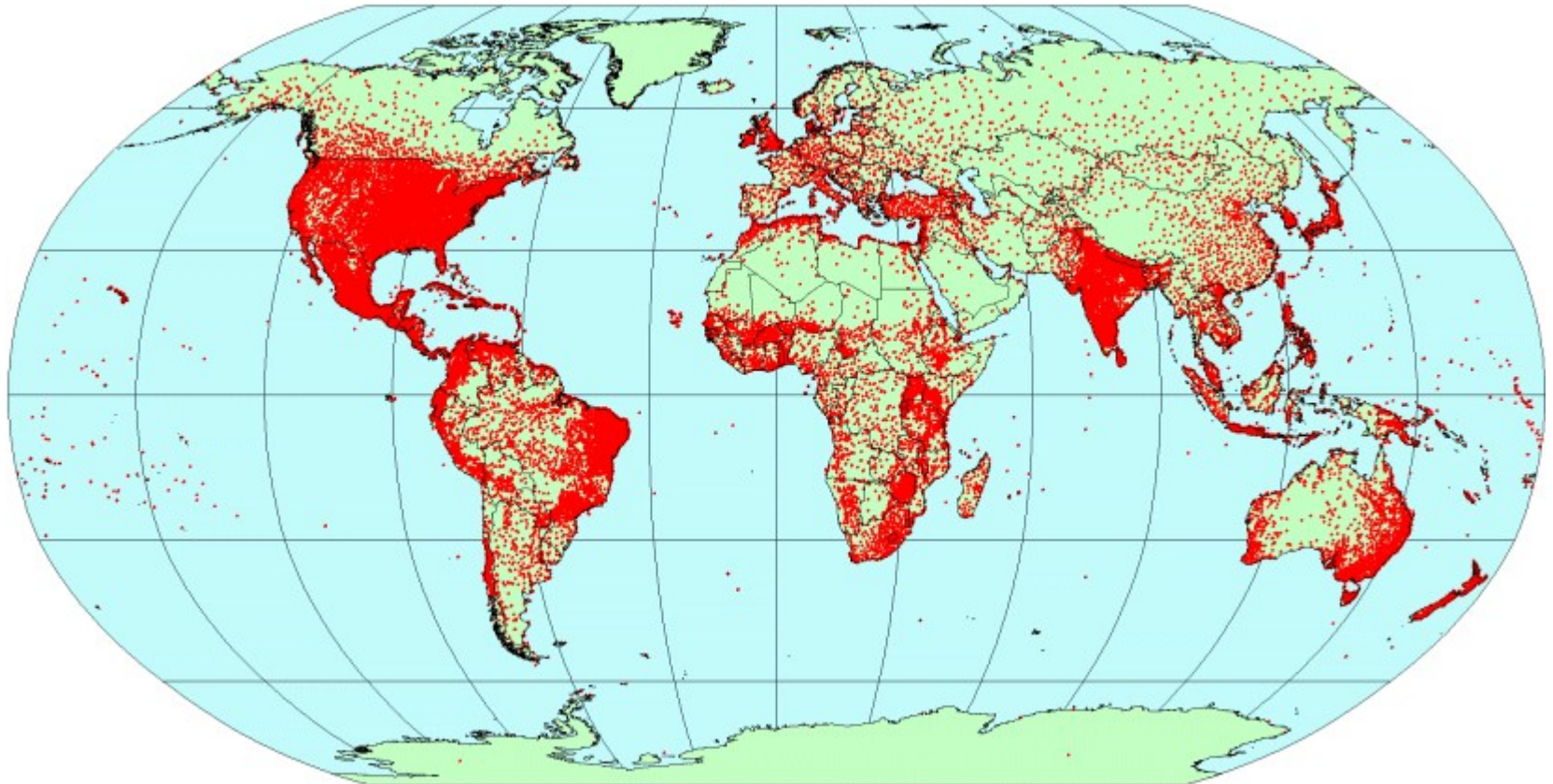
(<http://www.worldclim.org/>)

- Couches climatiques SIG
- Résolution : 1 km²
- Variables disponibles :
 - Précipitations mensuelles
 - Températures moyennes, max & min mensuelles
 - 19 variables bioclimatiques dérivées
 - Altitude

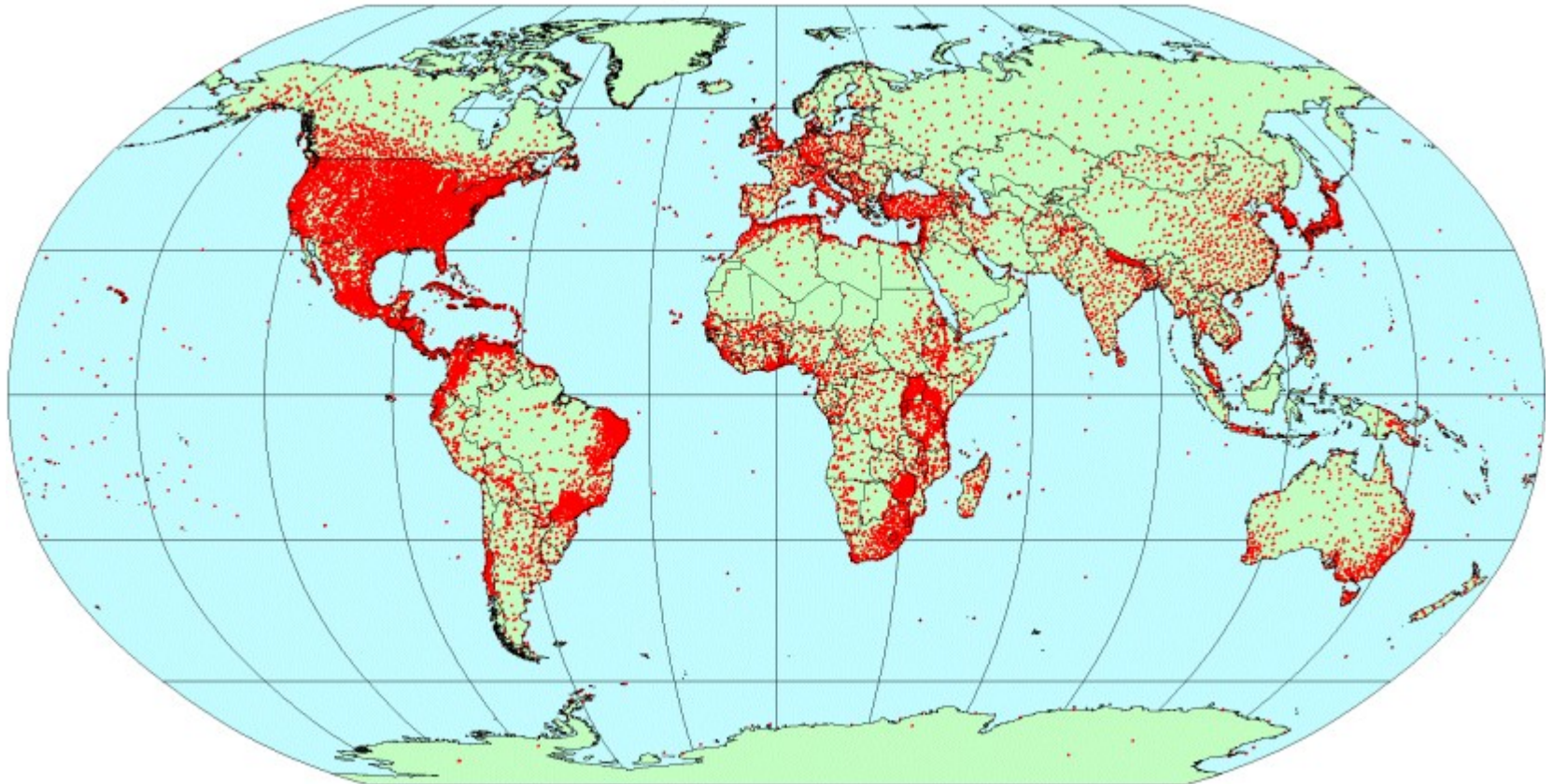
Les 19 variables bioclimatiques

- BIO1 = Annual Mean Temperature
- BIO2 = Mean Diurnal Range (Mean of monthly (max temp - min temp))
- BIO3 = Isothermality (P2/P7) (* 100)
- BIO4 = Temperature Seasonality (standard deviation *100)
- BIO5 = Max Temperature of Warmest Month
- BIO6 = Min Temperature of Coldest Month
- BIO7 = Temperature Annual Range (P5-P6)
- BIO8 = Mean Temperature of Wettest Quarter
- BIO9 = Mean Temperature of Driest Quarter
- BIO10 = Mean Temperature of Warmest Quarter
- BIO11 = Mean Temperature of Coldest Quarter
- BIO12 = Annual Precipitation
- BIO13 = Precipitation of Wettest Month
- BIO14 = Precipitation of Driest Month
- BIO15 = Precipitation Seasonality (Coefficient of Variation)
- BIO16 = Precipitation of Wettest Quarter
- BIO17 = Precipitation of Driest Quarter
- BIO18 = Precipitation of Warmest Quarter
- BIO19 = Precipitation of Coldest Quarter

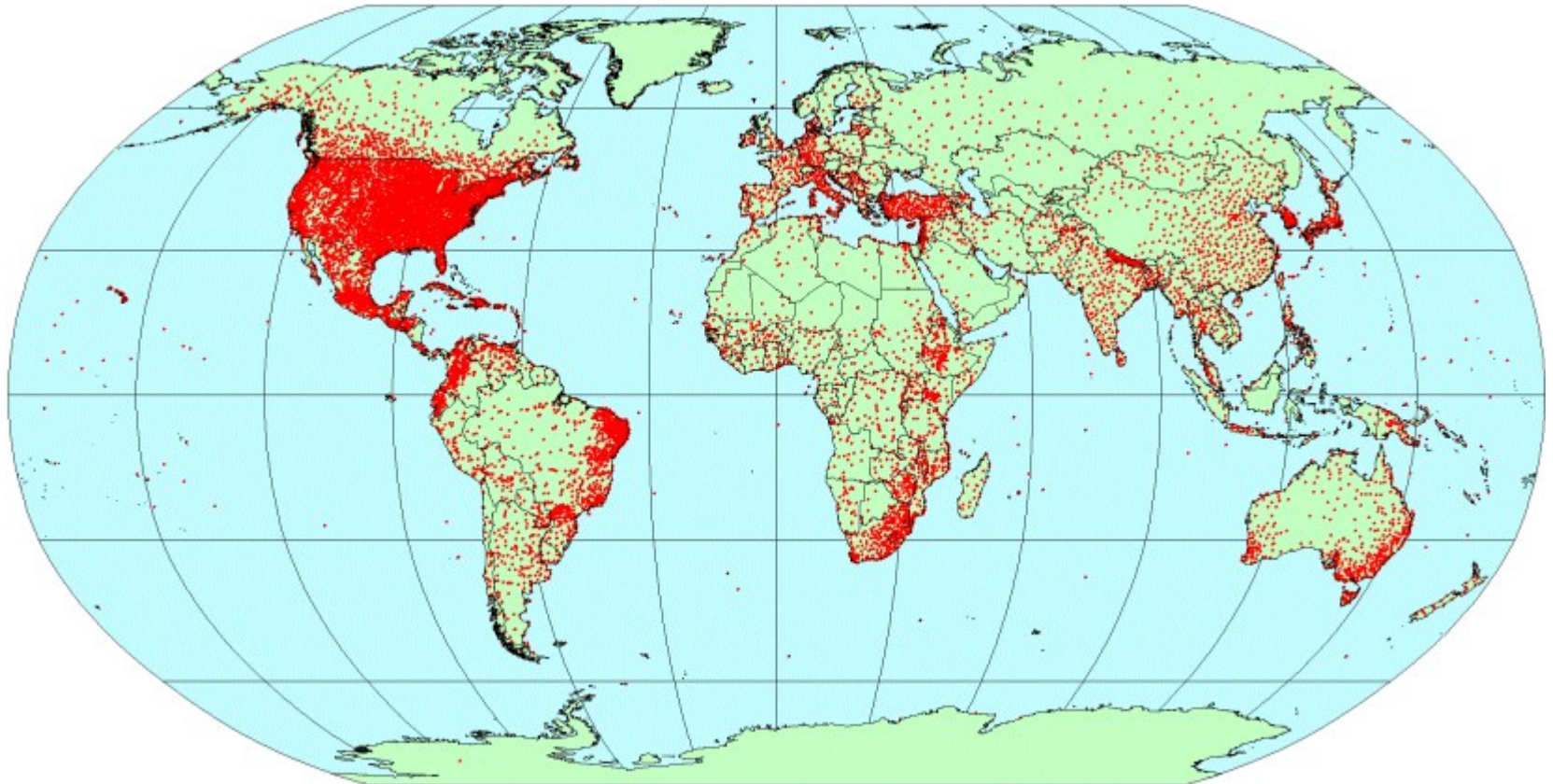
Stations avec données de précipitation



Stations avec données de températures moyennes



Stations avec données de températures min & max



Pour plus d'infos sur les méthodes

INTERNATIONAL JOURNAL OF CLIMATOLOGY

Int. J. Climatol. **25**: 1965–1978 (2005)

Published online in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/joc.1276

VERY HIGH RESOLUTION INTERPOLATED CLIMATE SURFACES FOR GLOBAL LAND AREAS

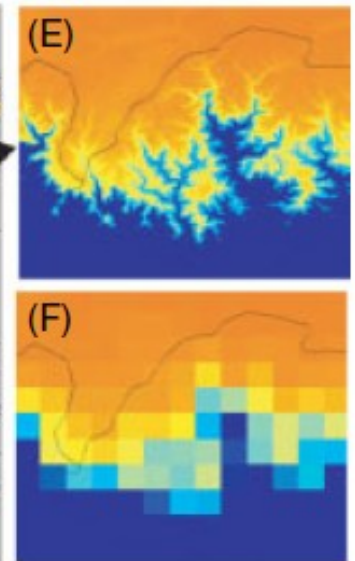
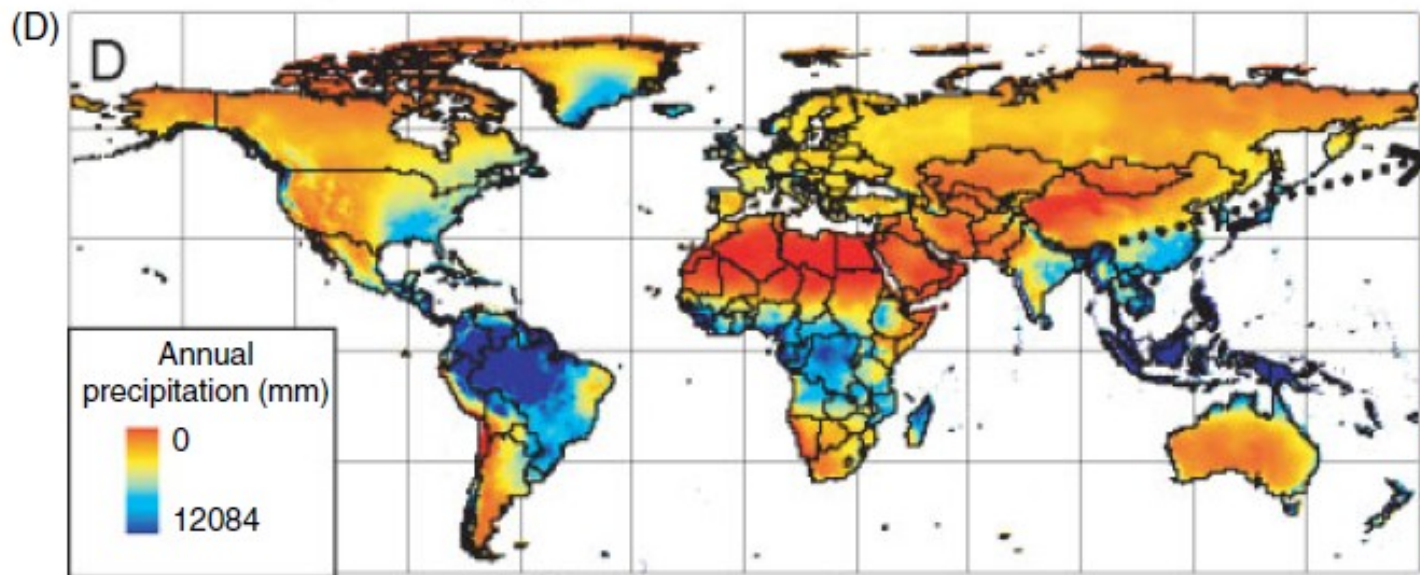
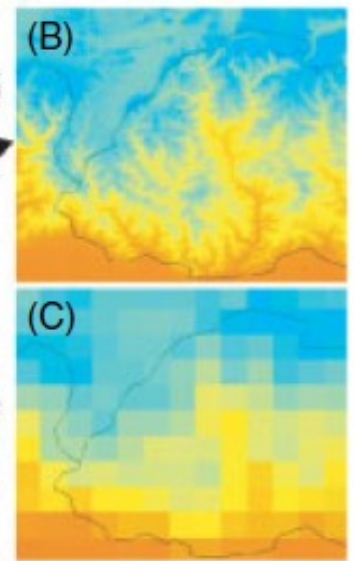
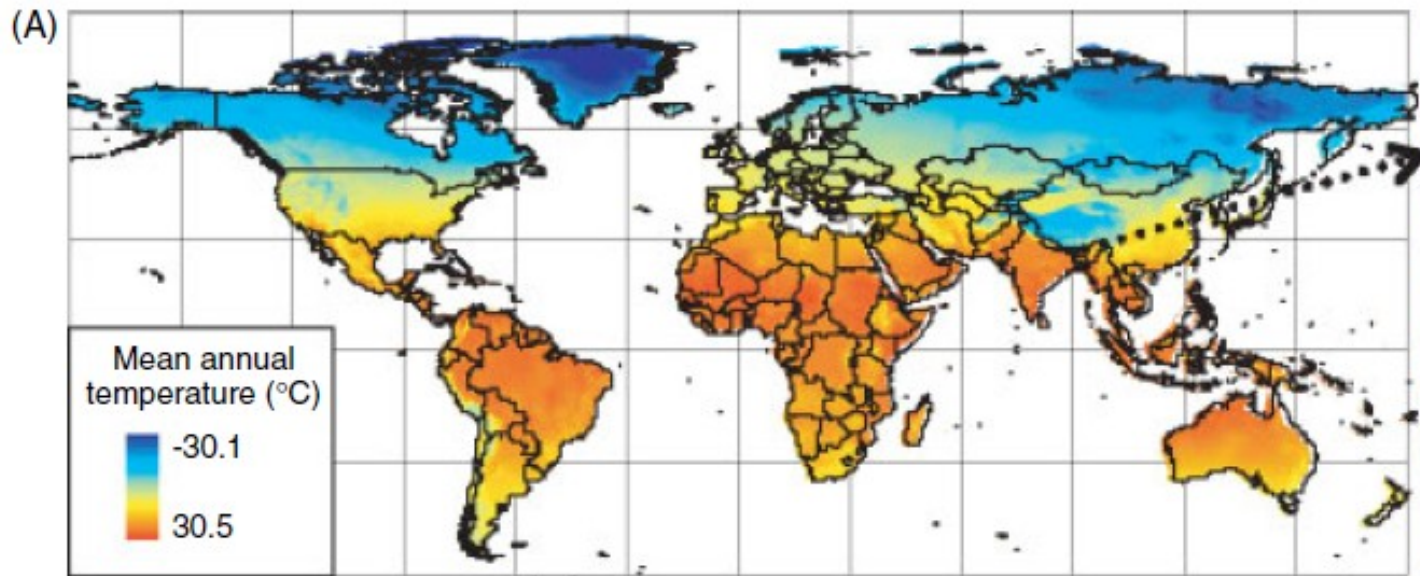
ROBERT J. HIJMANS,^{a,*} SUSAN E. CAMERON,^{a,b} JUAN L. PARRA,^a PETER G. JONES^c and ANDY JARVIS^{c,d}

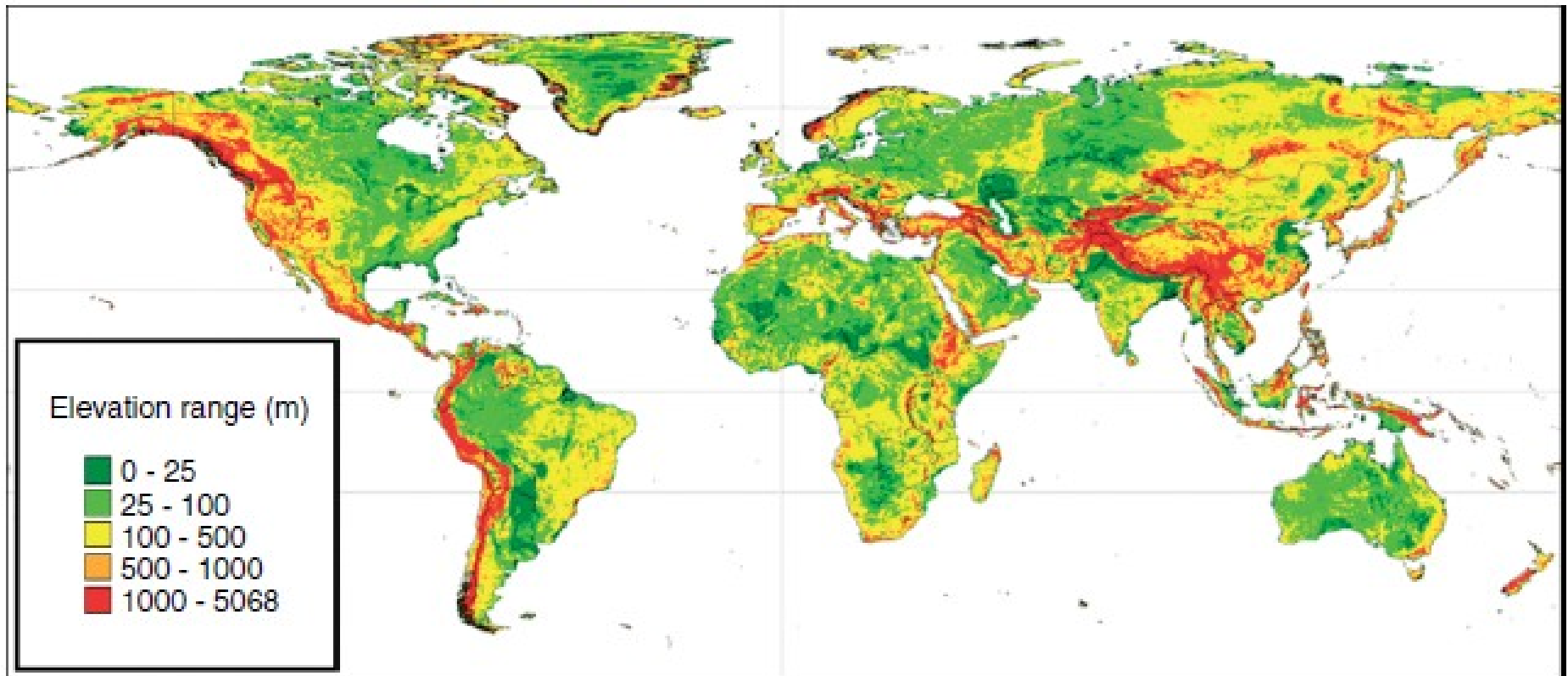
^a *Museum of Vertebrate Zoology, University of California, 3101 Valley Life Sciences Building, Berkeley, CA, USA*

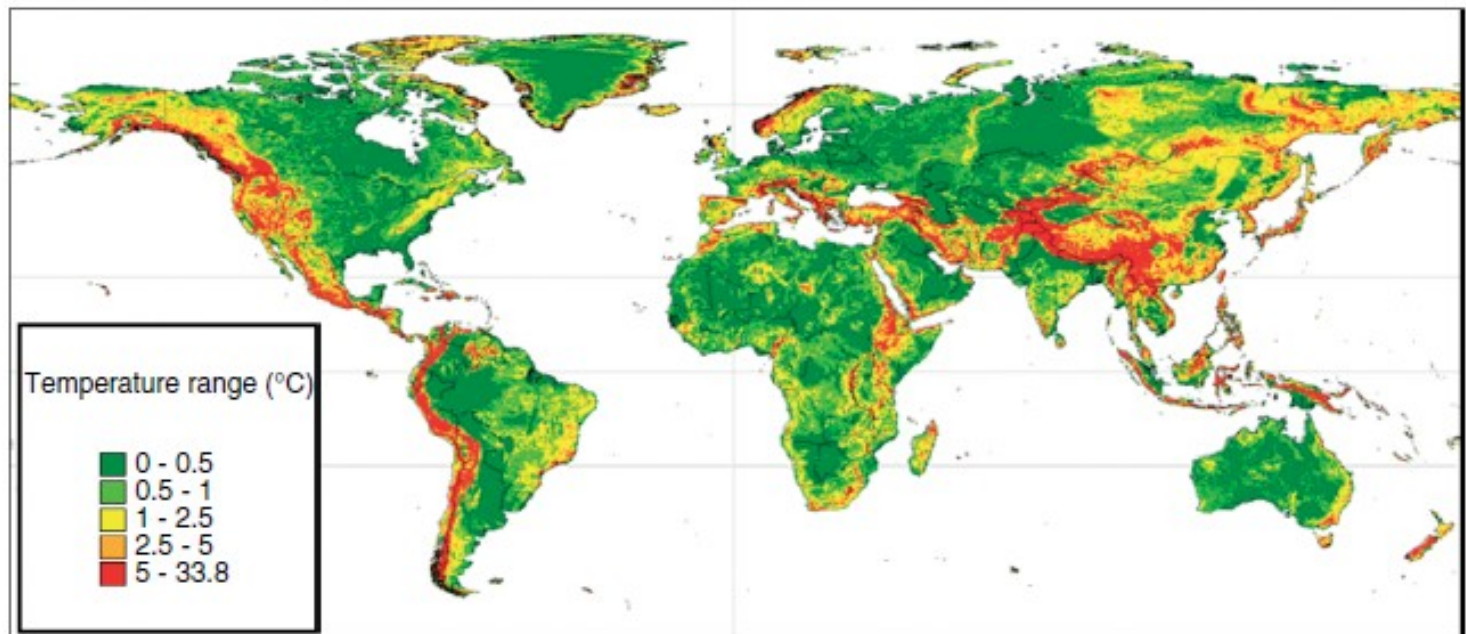
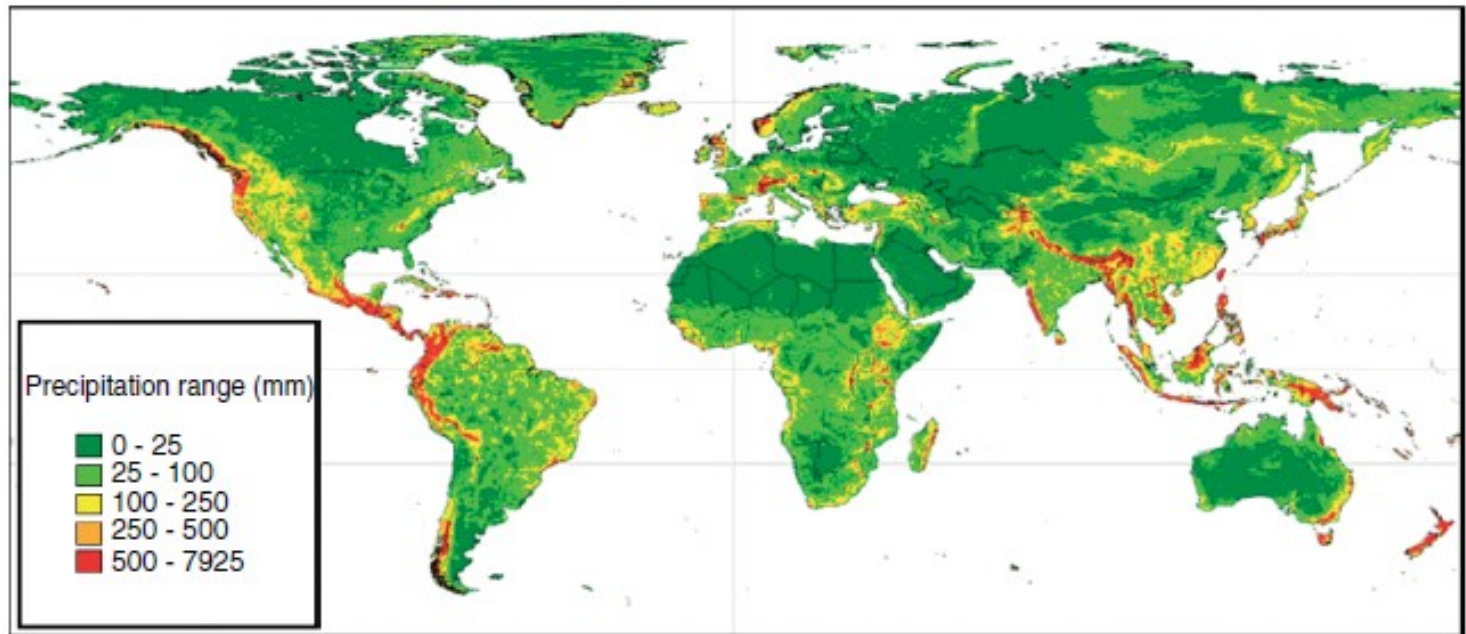
^b *Department of Environmental Science and Policy, University of California, Davis, CA, USA; and Rainforest Cooperative Research Centre, University of Queensland, Australia*

^c *International Center for Tropical Agriculture, Cali, Colombia*

^d *International Plant Genetic Resources Institute, Cali, Colombia*







Autres données disponibles sur worldclim

- Projections futures, pour 3 modèles de circulation générale (CCCMA, HADCM3 & CSIRO) et 2 scénarios d'émission (A2a & B2a) (données de l'IPCC 3rd assesment)
- Reconstructions climatiques pour le dernier maximum glaciaire (-21000a) et la dernière période inter-glaciaire (-120000a)

Les bases de données du CRU (<http://www.cru.uea.ac.uk/>)

- D'autres variables :
 - Couverture nuageuse
 - Amplitude thermique journalière
 - Fréquence de jours de gel
 - Pourcentage d'humidité
 - Durée d'ensoleillement
 - Pression
 - Vitesse du vent

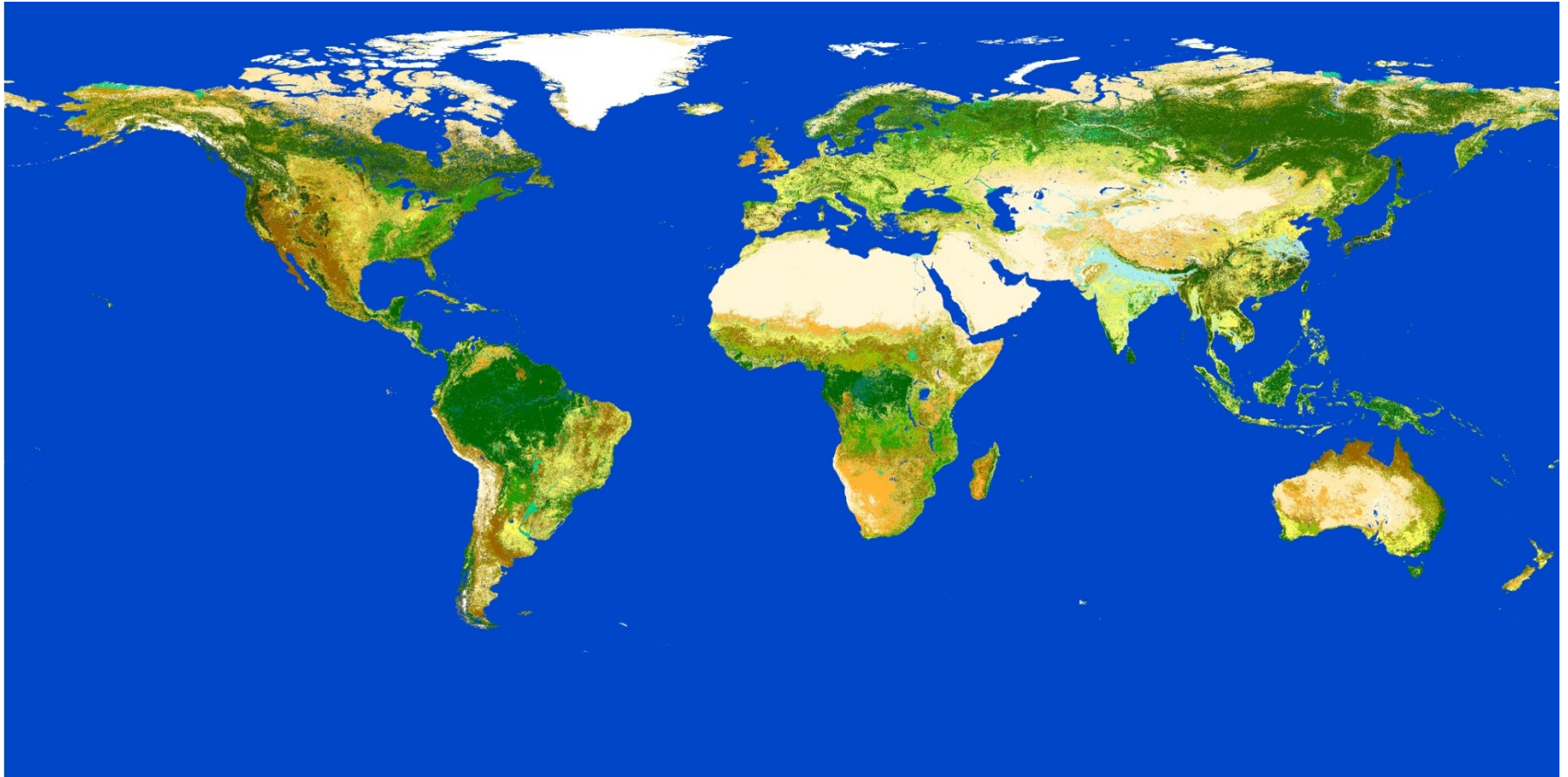
Les bases de données du CRU (<http://www.cru.uea.ac.uk/>)

- Données sur les climats alpin et méditerranéen
- Données paléoclimatiques
- Des indices de pression et de circulation :
 - NAO, SOI, MOI
- Des indices de sécheresse
 - PDSI

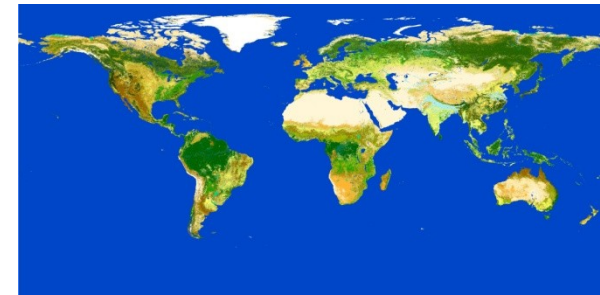
Données d'utilisation des sols

A decorative graphic consisting of a solid teal horizontal bar, followed by a thin light teal bar, and then two thin white horizontal lines, all extending across the width of the slide.

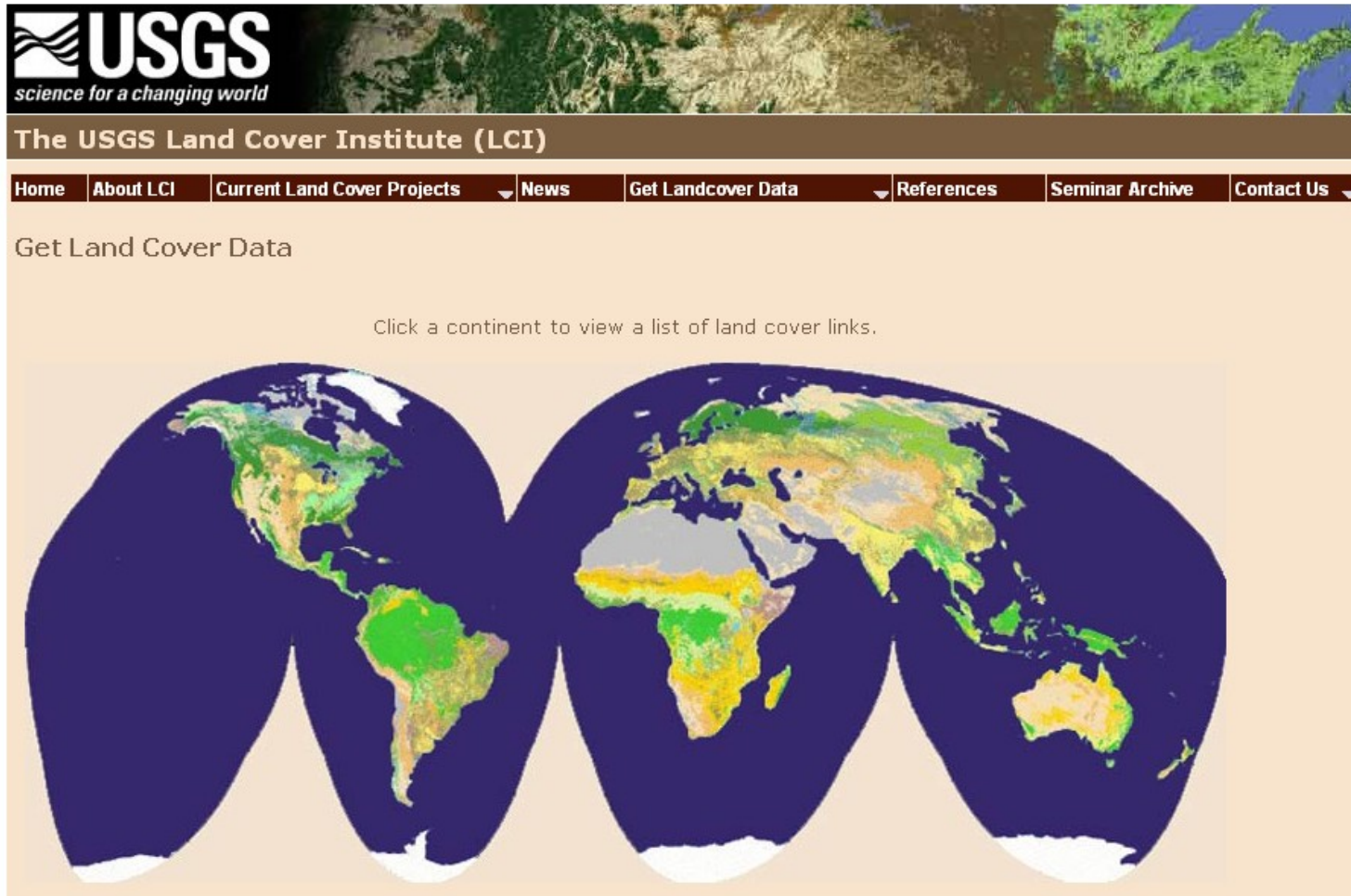
Données Globcover (ESA)



- Post-flooding or irrigated croplands (or aquatic)
- Rainfed croplands
- Mosaic cropland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%)
- Mosaic vegetation (grassland/shrubland/forest) (50-70%) / cropland (20-50%)
- Closed to open (>15%) broadleaved evergreen or semi-deciduous forest (>5m)
- Closed (>40%) broadleaved deciduous forest (>5m)
- Open (15-40%) broadleaved deciduous forest/woodland (>5m)
- Closed (>40%) needleleaved evergreen forest (>5m)
- Open (15-40%) needleleaved deciduous or evergreen forest (>5m)
- Closed to open (>15%) mixed broadleaved and needleleaved forest (>5m)
- Mosaic forest or shrubland (50-70%) / grassland (20-50%)
- Mosaic grassland (50-70%) / forest or shrubland (20-50%)
- Closed to open (>15%) (broadleaved or needleleaved, evergreen or deciduous) shrubland (<5m)
- Closed to open (>15%) herbaceous vegetation (grassland, savannas or lichens/mosses)
- Sparse (<15%) vegetation
- Closed to open (>15%) broadleaved forest regularly flooded (semi-permanently or temporarily) - Fresh or brackish water
- Closed (>40%) broadleaved forest or shrubland permanently flooded - Saline or brackish water
- Closed to open (>15%) grassland or woody vegetation on regularly flooded or waterlogged soil - Fresh, brackish or saline water
- Artificial surfaces and associated areas (Urban areas >50%)
- Bare areas
- Water bodies
- Permanent snow and ice



Une multitude de données...



The screenshot displays the USGS Land Cover Institute (LCI) website. At the top left is the USGS logo with the tagline "science for a changing world". Below it is the text "The USGS Land Cover Institute (LCI)". A navigation menu includes links for Home, About LCI, Current Land Cover Projects, News, Get Landcover Data, References, Seminar Archive, and Contact Us. The main content area is titled "Get Land Cover Data" and contains the instruction "Click a continent to view a list of land cover links." Below this text is a world map divided into three sections, each showing a different continent (North and South America, Europe and Africa, and Asia and Australia) with various land cover colors.

South American Land Cover Data Links

[ATSR World Fire Atlas](#)▶

[Boston University Land Cover and Land Cover Dynamics Research](#)▶

[CLIMSCAT](#)▶

[Earth Trends](#)▶

[EOS - Webster, University of New Hampshire](#)▶

[Food and Agriculture Organization \(FAO\) of the United Nations](#)▶

[GeoCover - Land Cover](#)▶

[Global Aerosol from Earth Observation \(GlobAerosol\)](#)▶

[Global Burned Forest Mapping \(GlobScar\)](#)▶

[Global Forest Fragmentation Data](#)▶

[Global Land 1KM AVHRR Project](#)▶

[Global Land Cover \(GlobCover\)](#)▶

[Global Land Cover 2000](#)▶

[Global Land Cover Characterization](#)▶

[Global Land Cover Facility](#)▶

[Global Land Cover Network](#)▶

[Global Land Products for Carbon Model Assimilation \(GlobCarbon\)](#)▶

[Global Map](#)▶

[Global Observation of Forest and Land Cover Dynamics \(GOFC-GOLD\)](#)▶

[Global Ocean Colour for Carbon Cycle Research\(GlobColour\)](#)▶

[Global Terrestrial Ecoregions](#)▶

[GlobWetland](#)▶

[GTOPO30 Digital Elevation Model](#)▶

[Land and Water Development Division](#)▶

[Land Cover Topic Center](#)▶

[Mathews Global Vegetation and Land Use \(Select vegetation\)](#)▶

[MODIS Web](#)▶

[National Geophysical Data Center \(NGDC\)](#)▶

[Oak Ridge National Laboratory](#)▶

[OceanColor Web](#)▶

[Socioeconomic Data and Applications Center \(SEDAC\)](#)▶

[SPOT Vegetation Distribution Site](#)▶

[Terrestrial Ecosystem Monitoring](#)▶

[Tropical Rain Forest Information Center](#)▶

[UNEP GEO Data Portal](#)▶

[United States Department of Agriculture - Crop Explorer](#)▶

[World Data Center](#)▶

Information Links

[International Charter "Space and Major Disasters"](#)▶

[Geographic Information Science Center of Excellence \(GIScCE\)](#)▶

[Global Change Research](#)▶

[Global Environment Monitoring Unit](#)▶

[Global Interactive View](#)▶

[Global Land Project](#)▶

[International Charter "Space and Major Disasters"](#)▶

[Land Processes Distributed Active Archive Center \(DAAC\)](#)▶

[South America: Political and Shaded Relief Maps, by Country](#)▶

[Sustainable Tree Crops](#)▶

[USGS International Program at EROS](#)▶

Données géographiques

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Base HYDRO1K (USGS)



Earth Resources Observation and Science (EROS) Center

Search

Home

Find Data

Science

Remote
Sensing

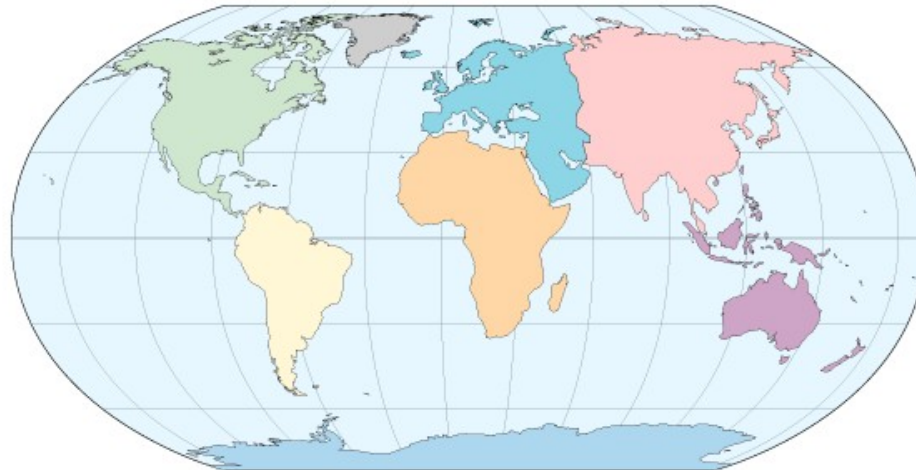
About Us

Find Data/Products and Data Available/gtopo30/hydro

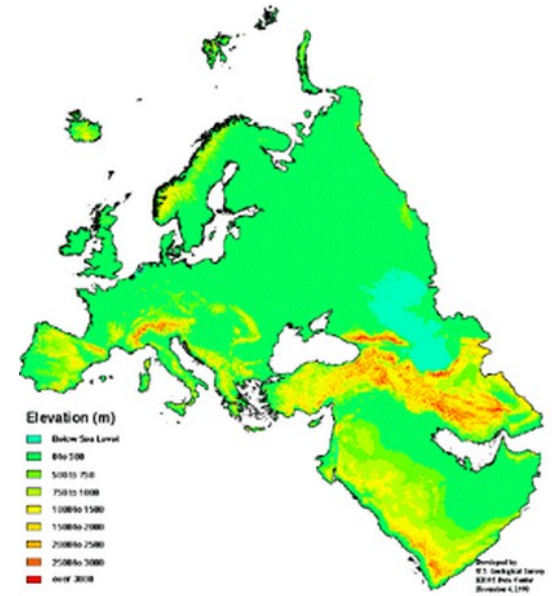
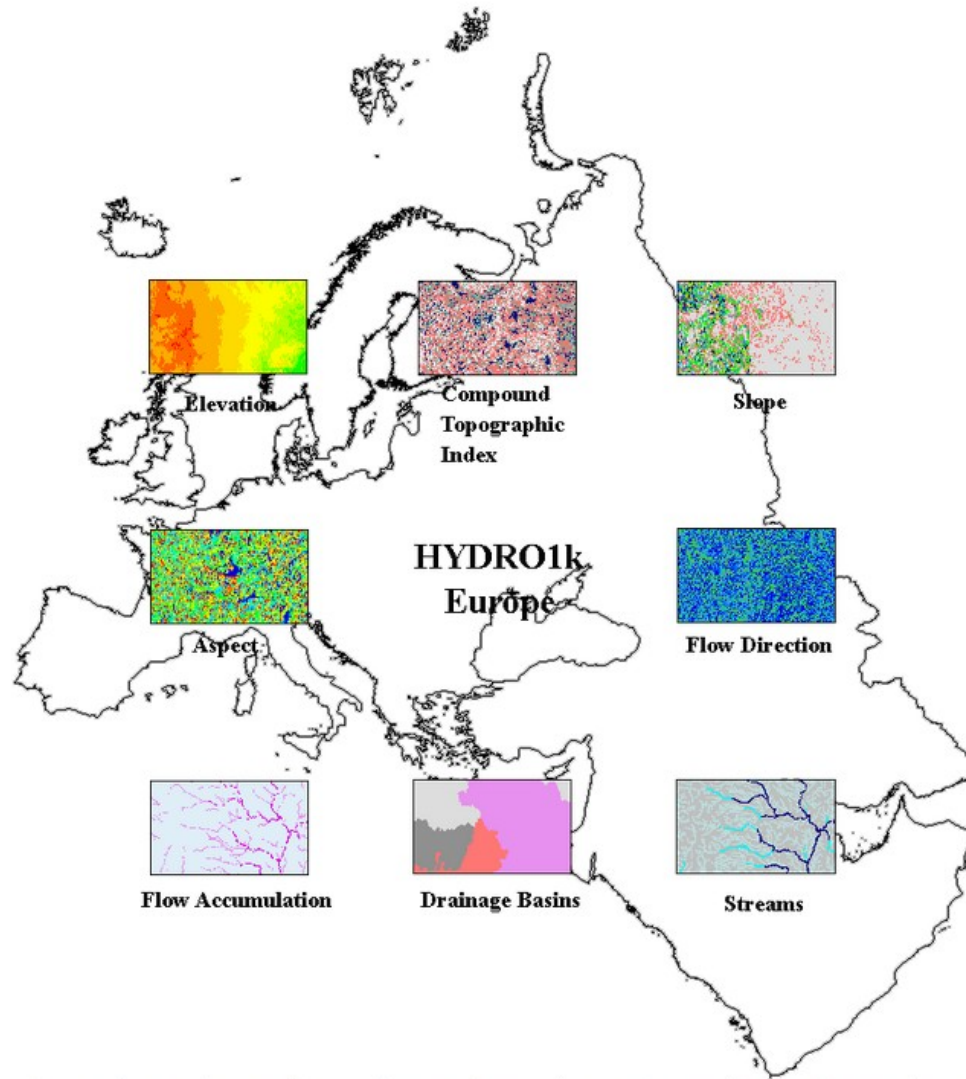
Products & Data Available

Data Discovery Tools

HYDRO1k Elevation Derivative Database

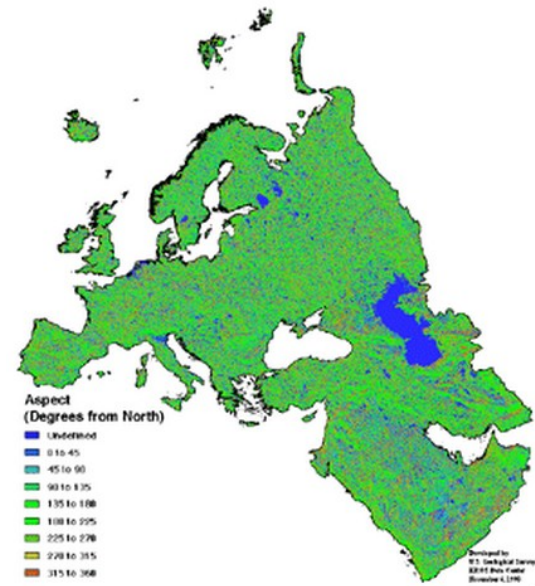
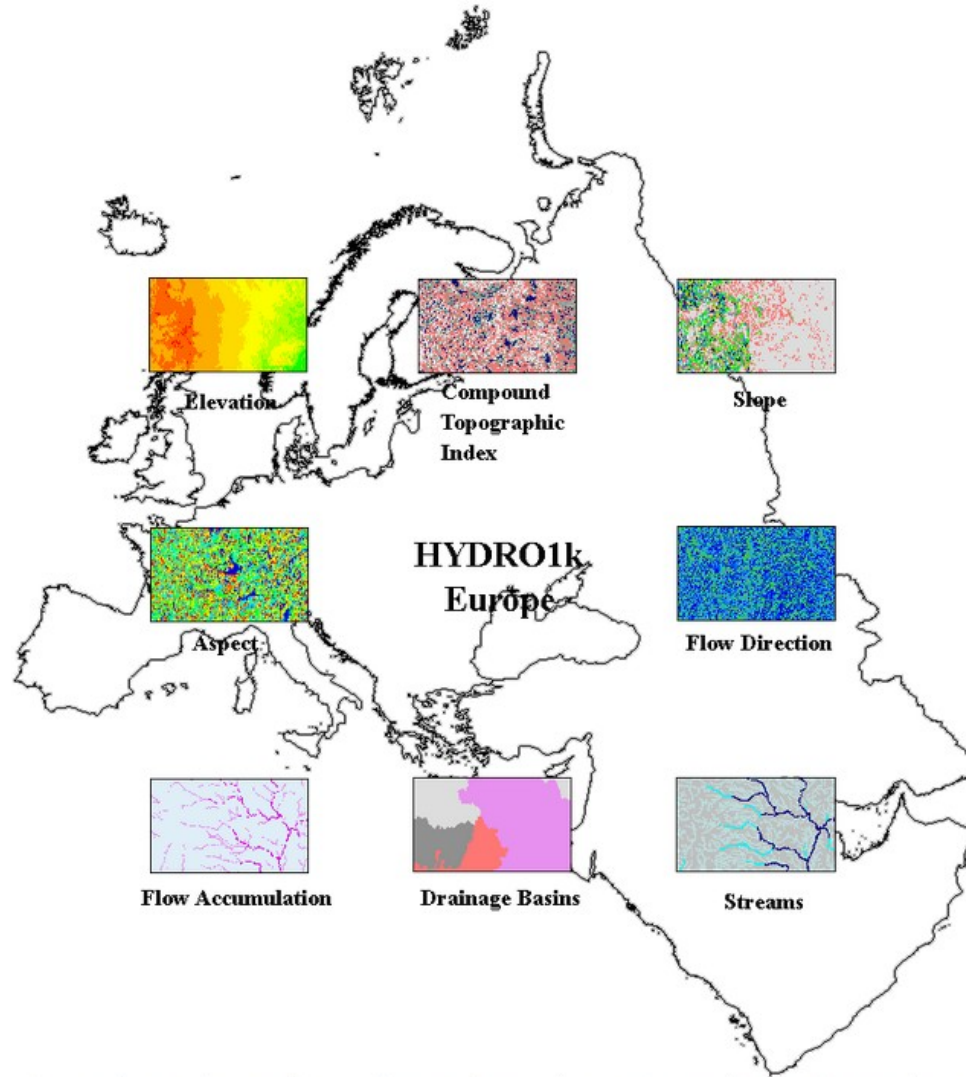


Hydro1K Europe



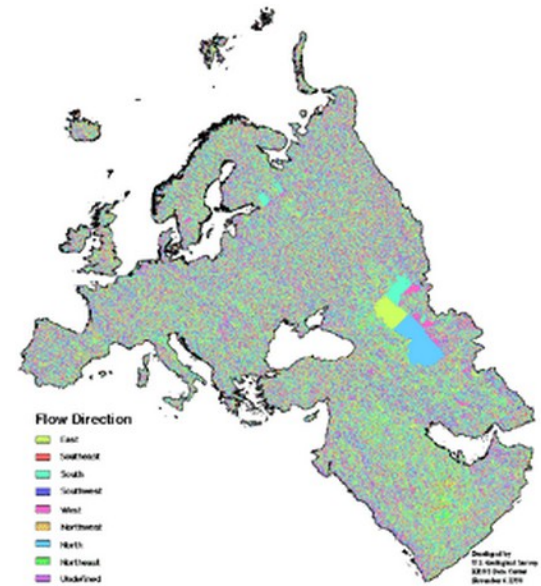
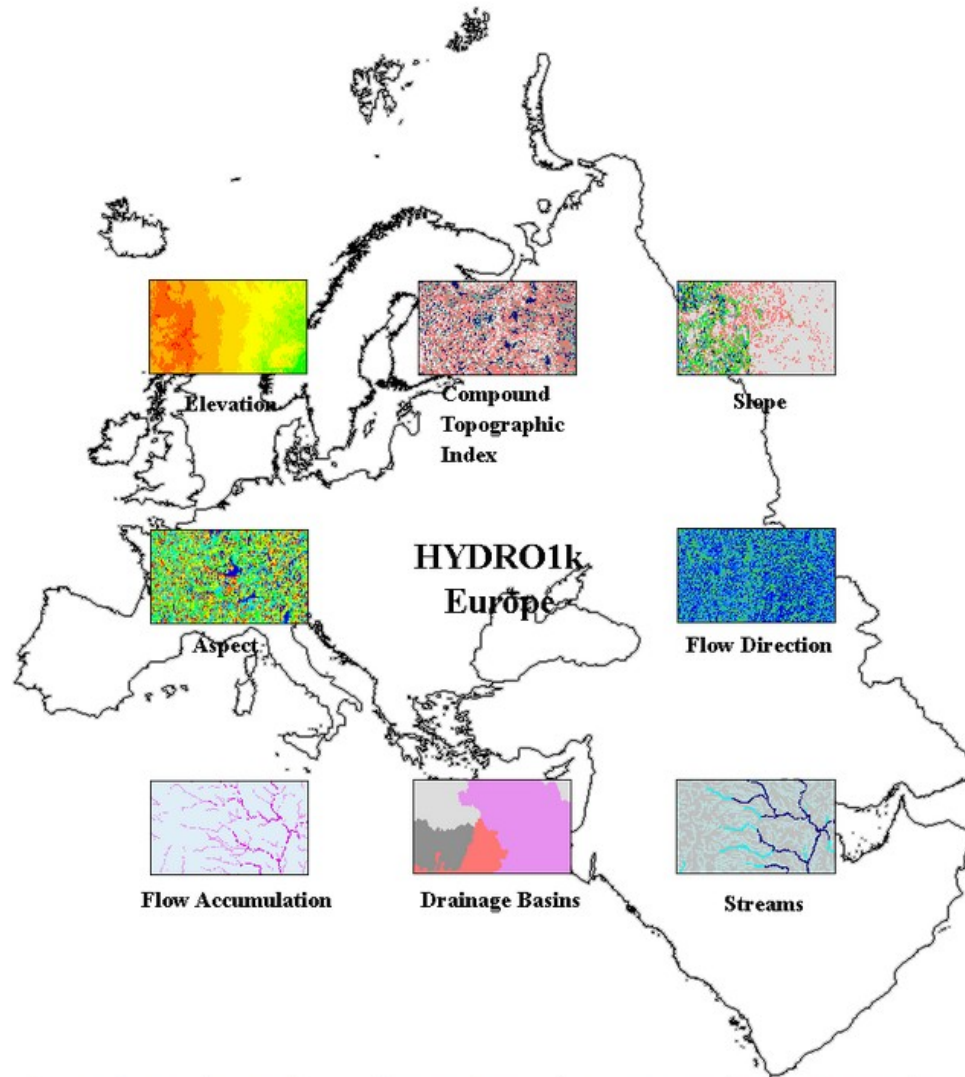
- Elevation

Hydro1K Europe



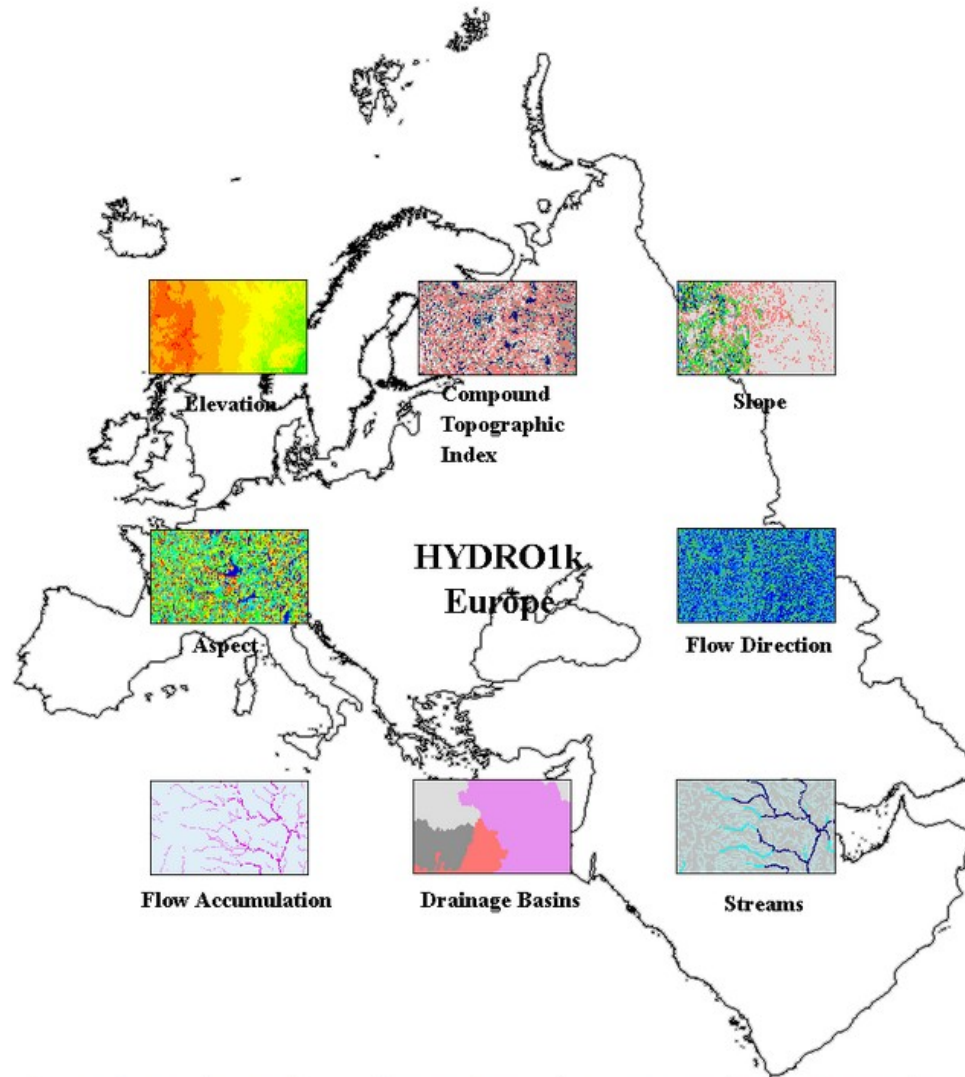
- Aspect:
Direction de la pente

Hydro1K Europe



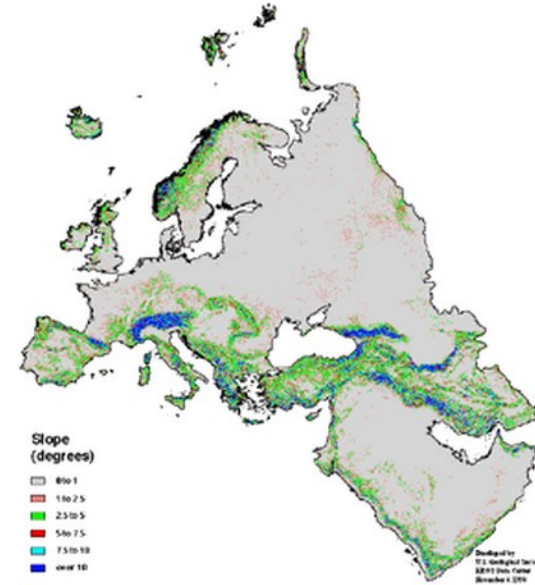
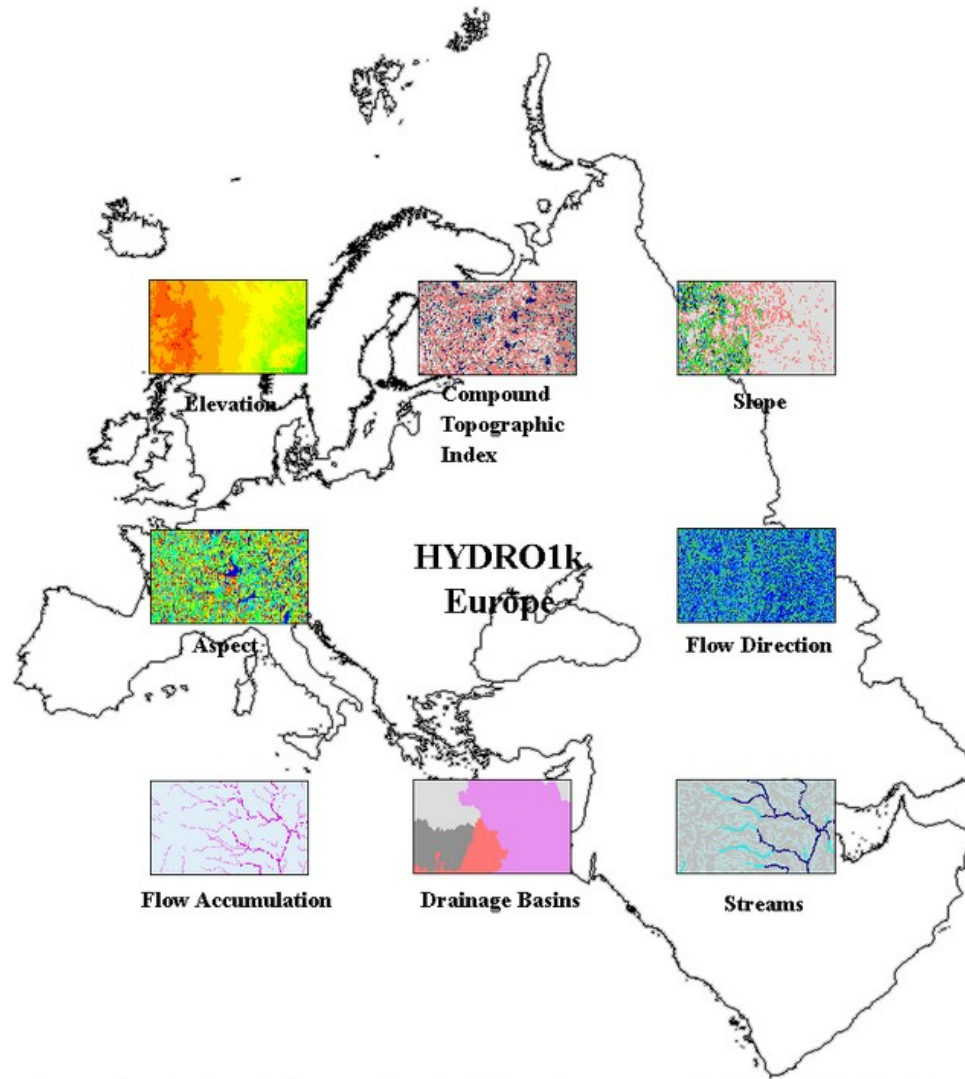
- Flow direction:
Direction d'écoulement de chaque cellule à sa cellule voisine dont la pente est la plus forte

Hydro1K Europe



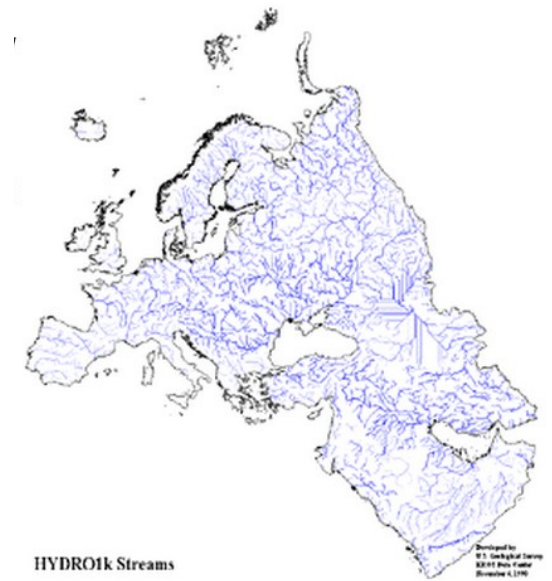
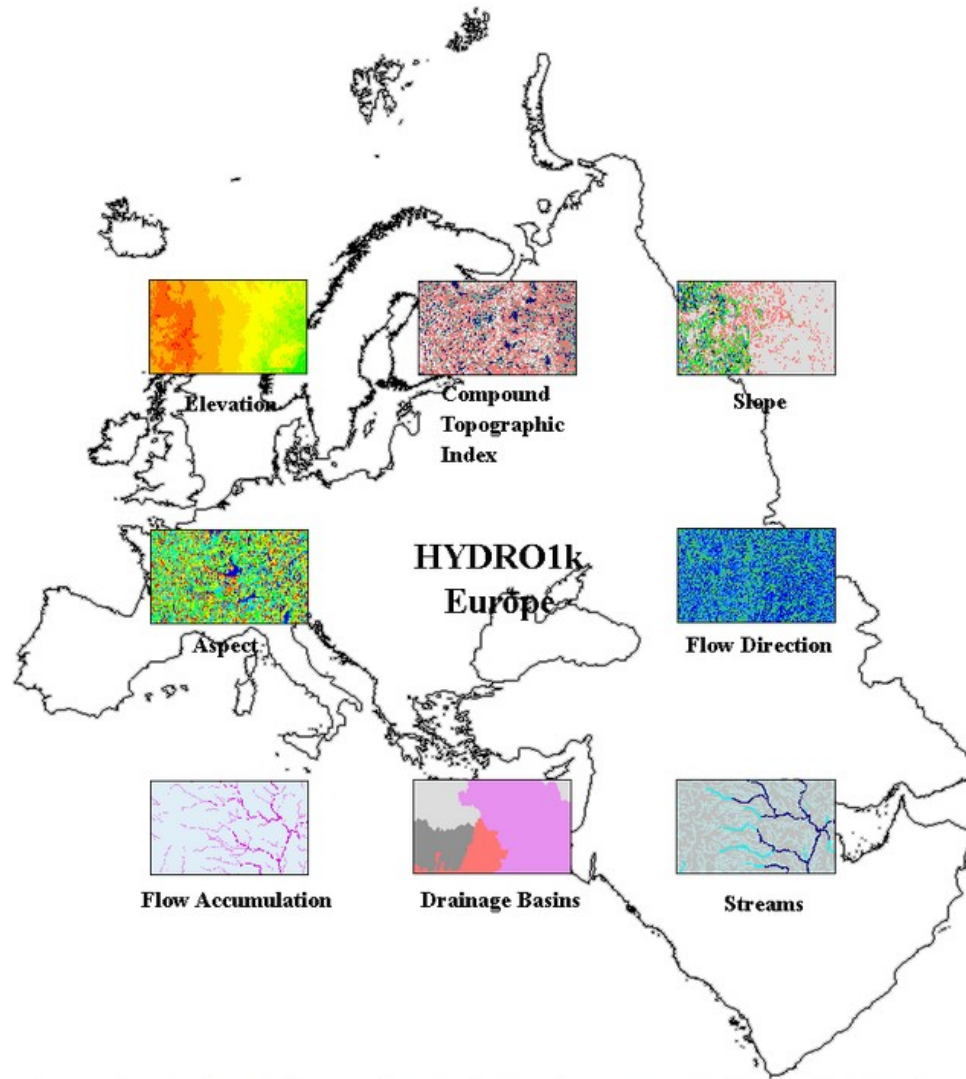
- Flow accumulation:
À partir de la direction des
ruissellements : nombre
de cellules qui se jettent
dans chaque cellule en
aval

Hydro1K Europe



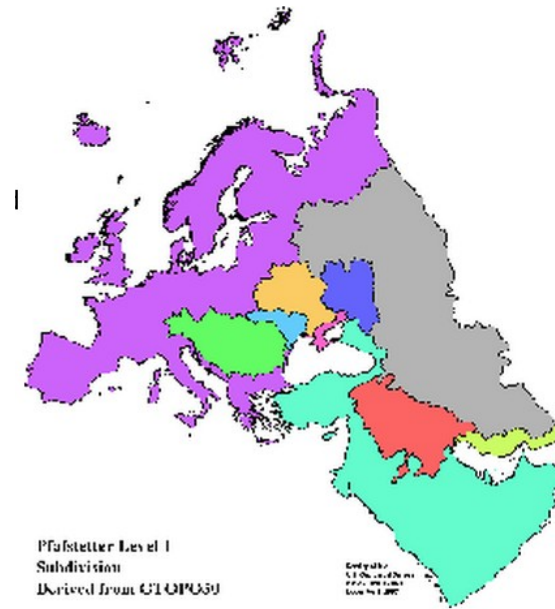
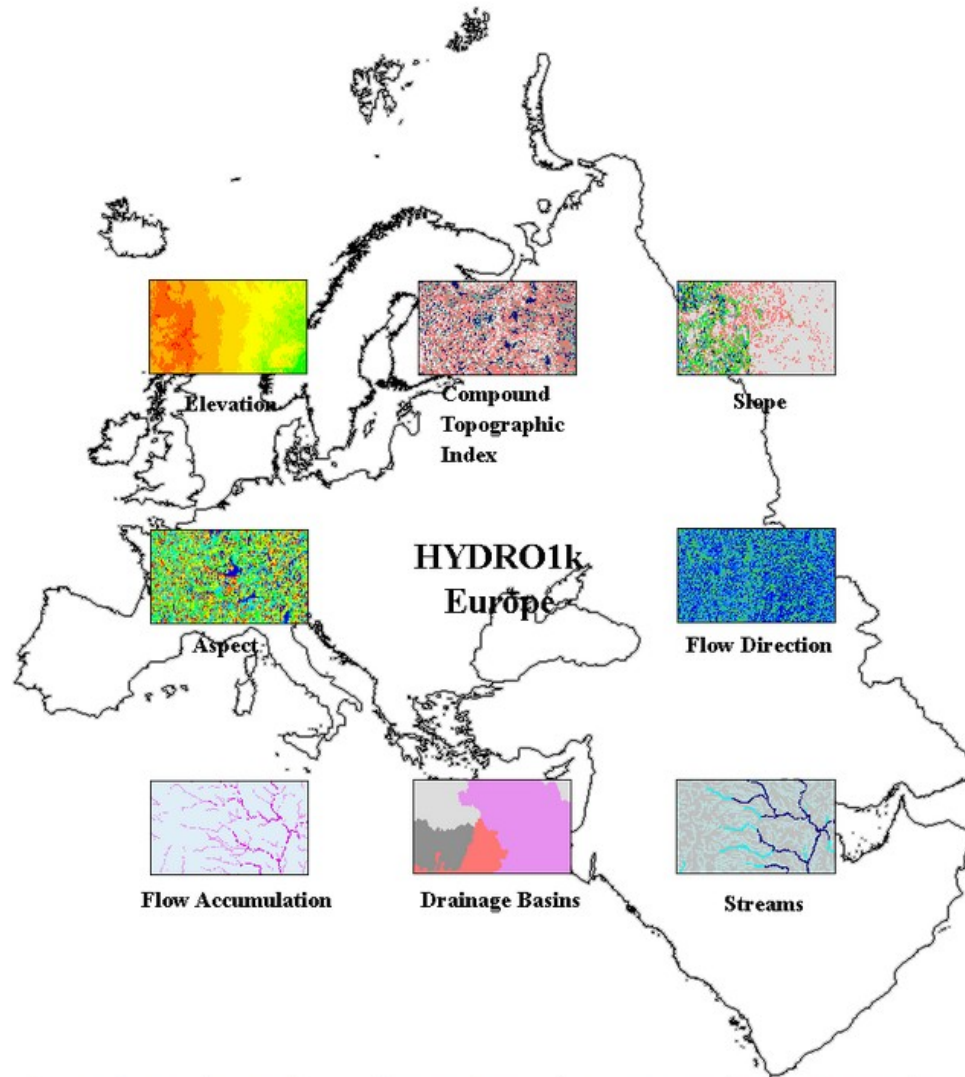
- Slope: Différence maximale d'altitude de chaque cellule avec chacune de ses 8 cellules voisines

Hydro1K Europe



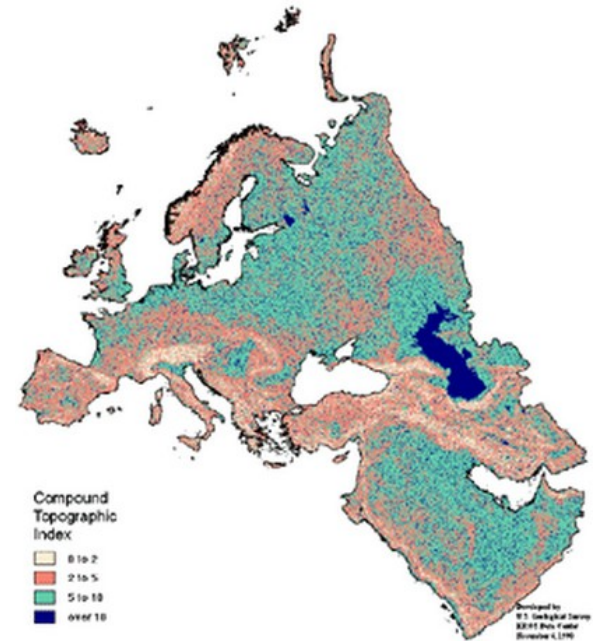
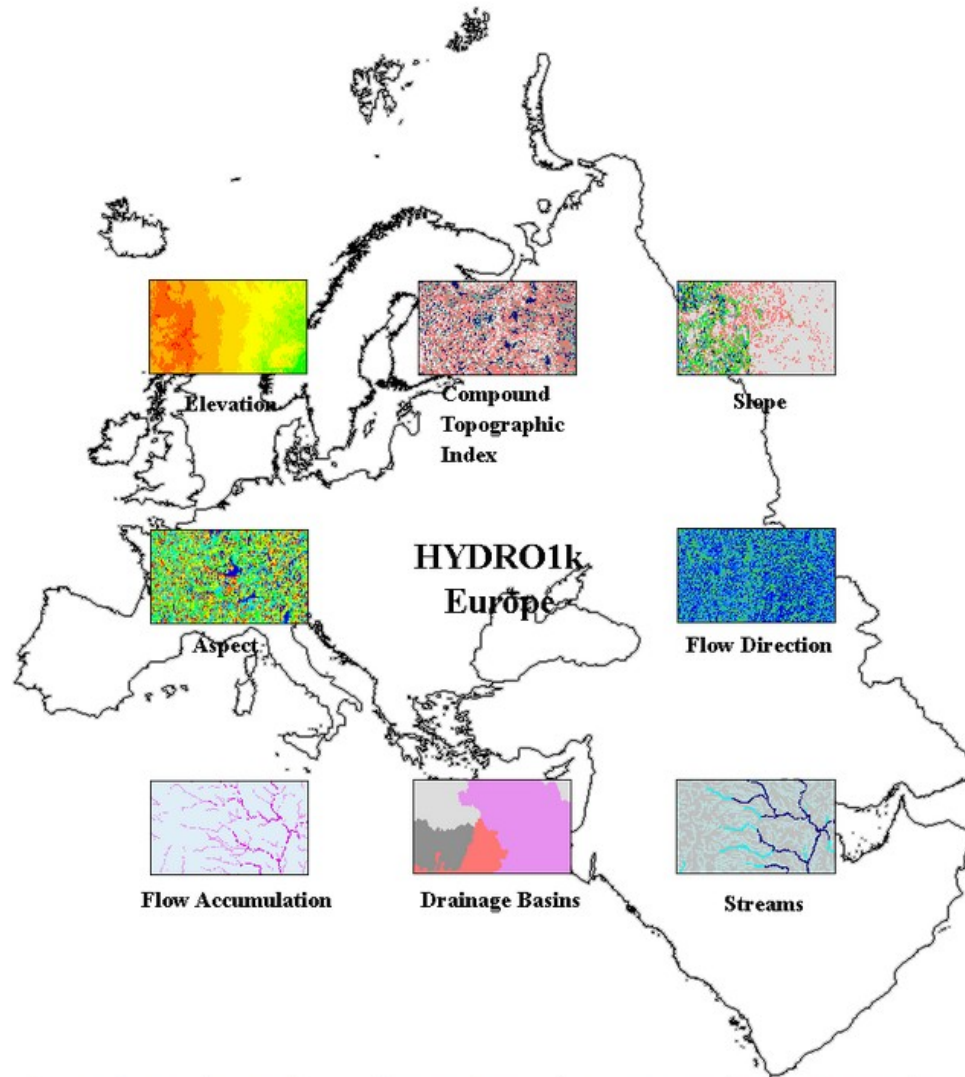
- Streams:
Réseau hydrographique

Hydro1K Europe



- Drainage basins:
D'après le réseau hydrographique

Hydro1K Europe



- Compound topographic index: Indice d'humidité
 $CTI = \ln(FA/\tan(\text{slope}))$

Conclusions

- Beaucoup de bases de données disponibles...
- Quelles variables choisir ?
- Considérations techniques :
 - Les variables choisies doivent être dans le même format (format de fichier, zone géographique, système de projection...)
- Utilisation avec Maxent :
 - Conversion en fichiers ascii (.asc) nécessaire. La conversion à partir de fichiers .mxe .grd ou .bil peut se faire directement avec maxent