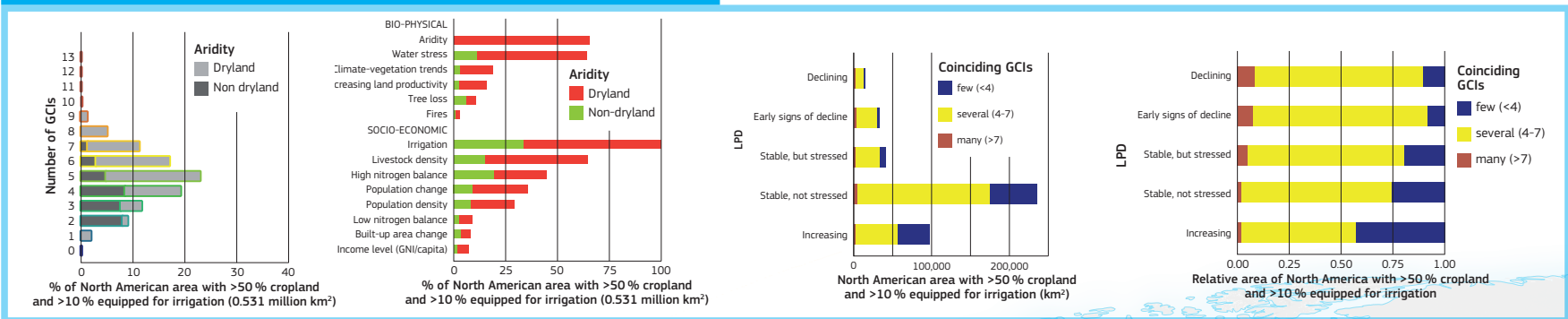


Convergence of Evidence: Irrigated Cropland

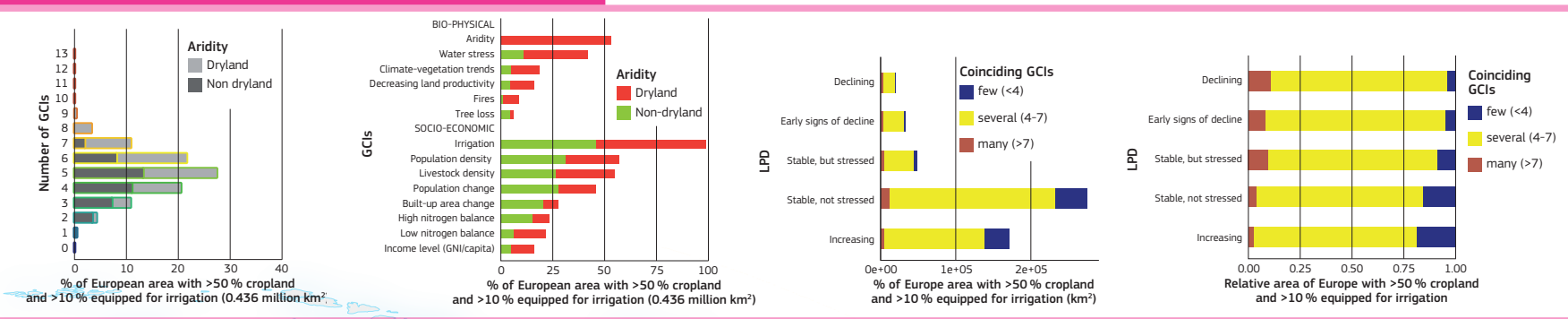
Irrigated cropland are areas where each grid cell (1 km²) has >50% under cultivation, of which >10% is equipped for irrigation

See next page for explanatory text.

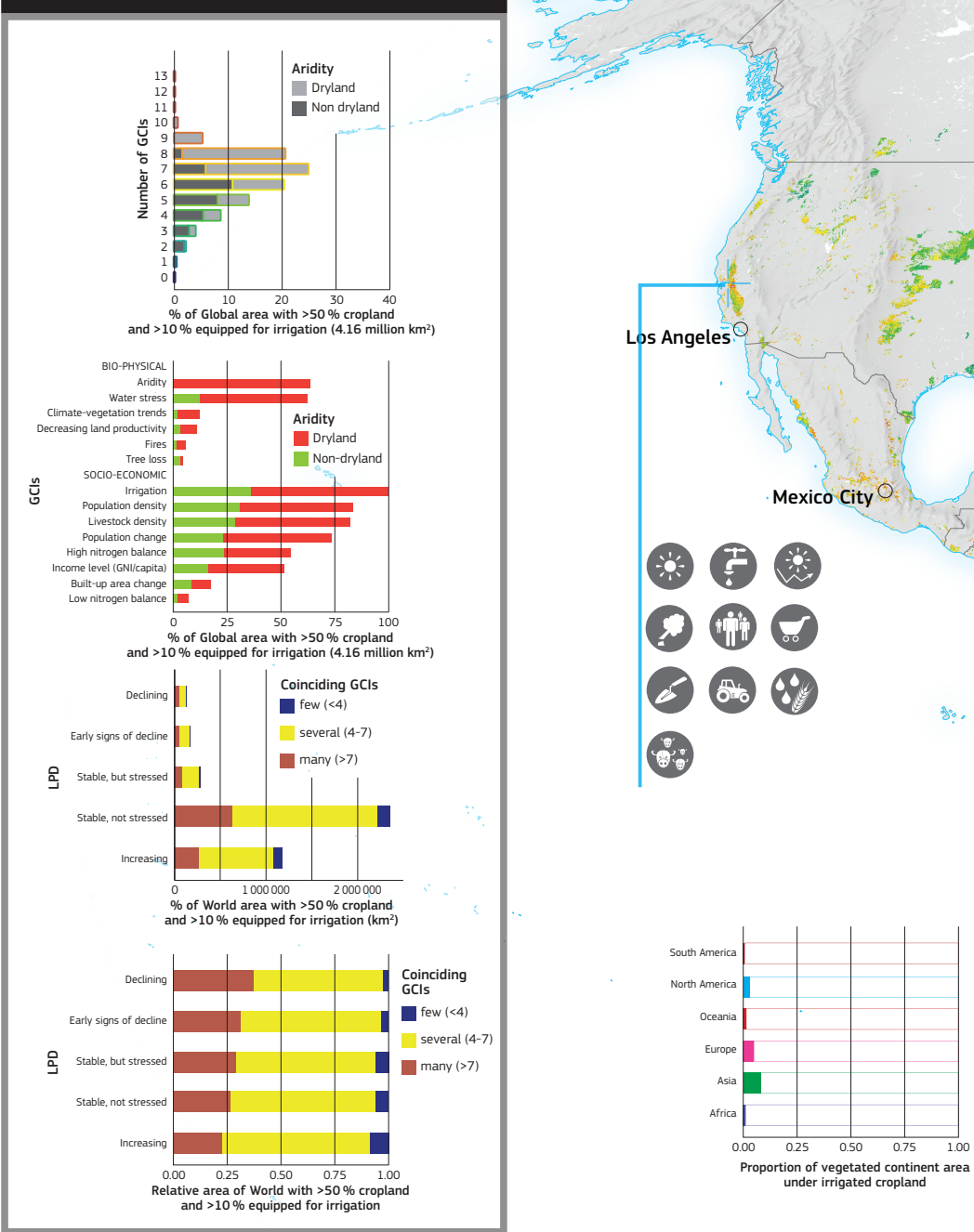
Distributions of predominant issues in NORTH AMERICA



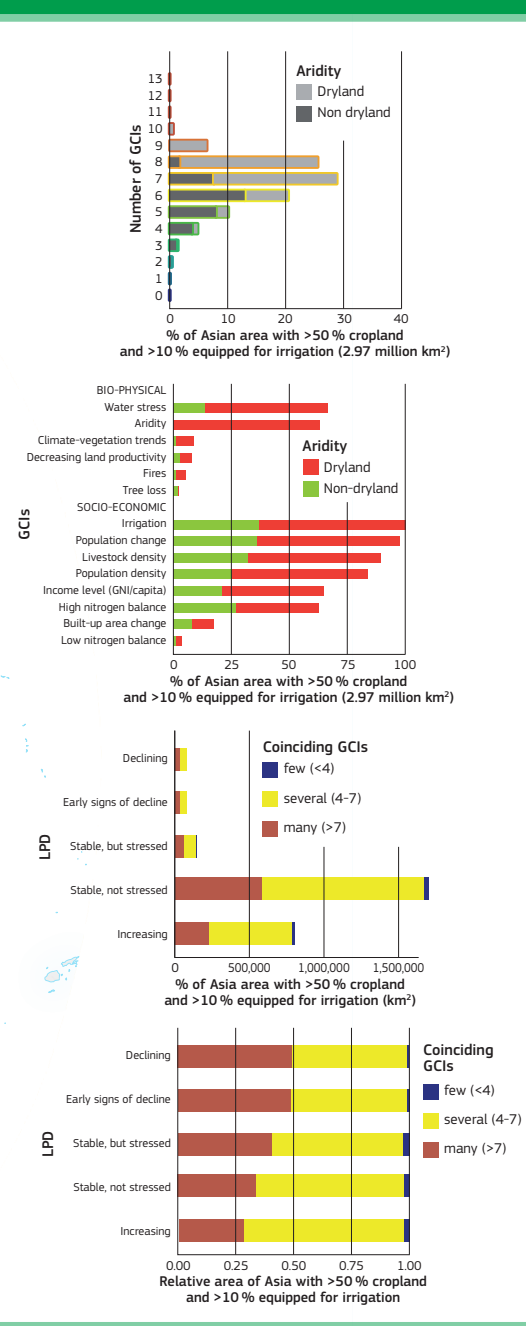
Distributions of predominant issues in EUROPE



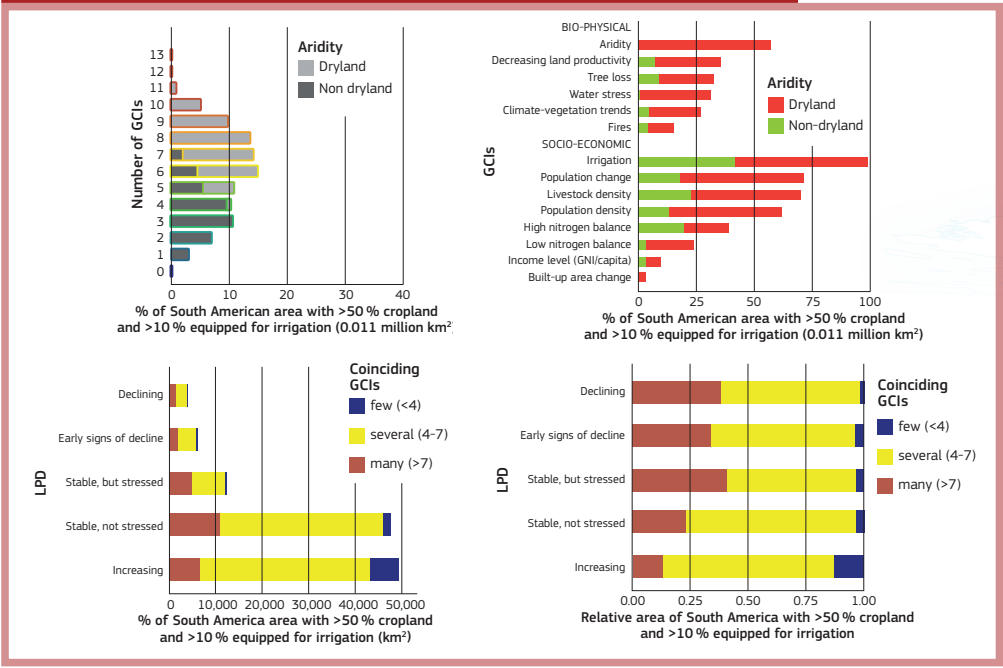
Distributions of predominant issues in WORLD



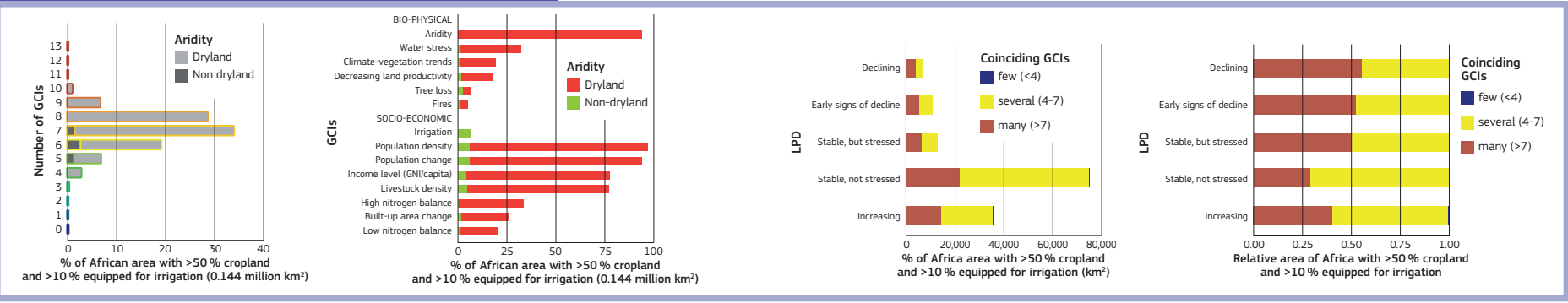
Distributions of predominant issues in ASIA



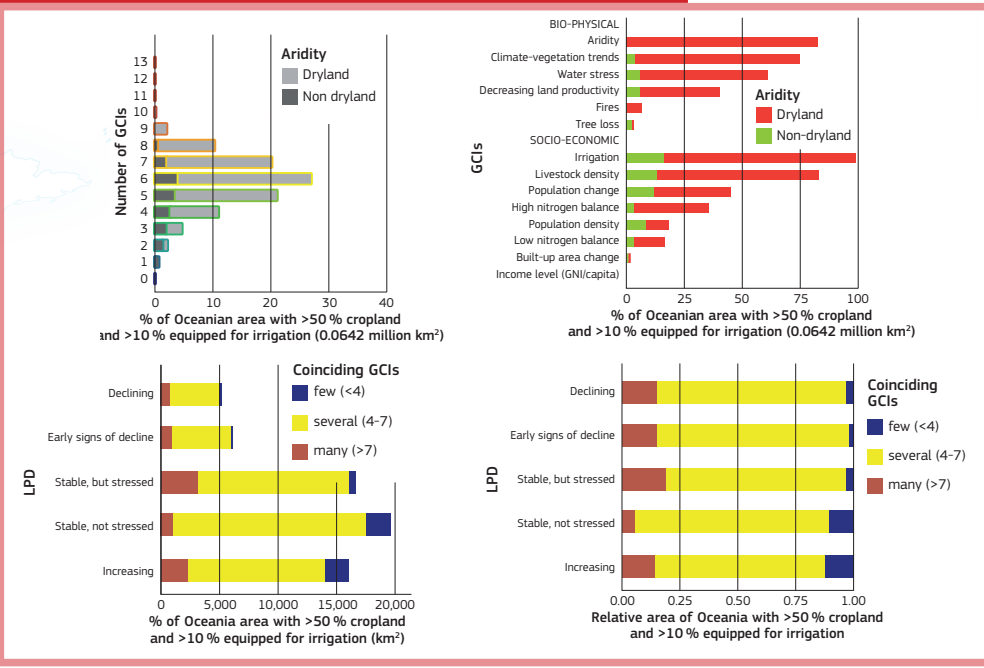
Distributions of predominant issues in SOUTH AMERICA



Distributions of predominant issues in AFRICA



Distributions of predominant issues in OCEANIA



Convergence of Evidence: Irrigated Cropland

See previous spread for data.

Examples of global regions where irrigated cropland are affected by global change issues (GCIs; see Table, page 145) include:

- Asia: Areas in west and north-east China, Pakistan (Indus River), northern India (Ganges River), western India, and Kyrgyzstan, Uzbekistan in central Asia;
- Middle East: Iran and Nile delta;
- Others: Mediterranean (Europe), western United States, and southern Australia.

Global change issues (GCIs) associated with transformations (including land degradation) in irrigated cropland include high fertiliser input, water stress, high population densities, high population growth rates, low income and high livestock density. Globally, irrigated cropland occupy 4.2 Mkm² of land (*), of which 70% occurs in drylands (a primary reason for irrigation). High population density occurs in over 80% of the area, population growth in 75% and low income in 50%.

Analysis shows that in irrigated cropland:

- About 26% (or 1.08 million km²) of the irrigated cropland area experiences potential pressure from 8 to 13 GCIs. Signs of land productivity decline are observed in 17% of this area (0.18 million km²).
- Approximately 66% (2.75 million km²) of the irrigated cropland area experiences potential pressure from 4 to 7 GCIs. Signs of land productivity decline are observed in 13% of this area (0.37 million km²).
- Approximately 7% (0.3 million km²) of the irrigated cropland area experiences potential pressure from 1-3 GCIs. Signs of land productivity decline are observed in 10% of this area (0.03 million km²).
- Less than 1% have no GCIs.
- About 60% of the area is characterised by high water stress. In about 55% of the area there is an excess use of fertilisers.

In most irrigated cropland, water quality and availability will be an important global change issue.

At a continental scale, some patterns with regard to irrigated cropland and global change issues (GCIs) emerge:

- **Africa.** About 0.14 Mkm² (*) is classified as irrigated cropland, with 90% of it occurring in drylands and most of it in the Nile delta. The number of coincident issues is comparatively high. High population growth is found in 90% of the area, population density in almost 100%, low income in 75%, increase in built-up in 25%, high water stress in 30%, high livestock densities in 75%, and high input agriculture in 60%.
- **Asia.** About 3.0 Mkm² (*) is classified as irrigated cropland, with 60% in drylands. The number of coincident GCIs is comparatively high. There is high population growth in more than 80% of the area, high population density in 90%, low income in 60%, over 80% in both high livestock density and high input agriculture, and 60% shows water stress (corresponding to the dryland portions).
- **South America.** About 0.01 Mkm² (*) is classified as irrigated cropland, with 60% in drylands. About 60% of the area has high population density and 75% has high population growth, all mostly in drylands. Low income levels occur in about 10% of the area, high livestock density in 70%, high input agriculture in 70%, and both decreasing land productivity and tree loss in 30% of the area.
- **Europe.** About 0.4 Mkm² (*) is classified as irrigated cropland, split evenly between dryland and non-dryland. The number of coincident GCIs is comparatively low. Each of the following GCIs occur in 50% of the area: population density, high population growth, high livestock density, and high input agriculture.
- **North America.** About 0.5 Mkm² (*) is classified as irrigated cropland, with 65% in drylands. High population density is found in about 30% of the area, high population change in 30%, low income levels in <10%, high input agriculture in 80%, and high densities of livestock in 70%.
- **Oceania.** About 0.06 Mkm² (*) is classified as irrigated cropland, with 80% in drylands. The number of coincident issues is comparatively low. More than 40% of the area has increasing population, 20% has high population density, 80% high livestock density, 75% high input agriculture and 60% high water stress.

More than half of the world's irrigated cropland are in water stressed areas and possible nitrogen excess due to high fertiliser input occurs in 55% of the irrigated cropland.

- Theme layer derived from: FAO GLC-SHARE v1.0³⁹, 2014 and Siebert S. 2014: GMIA^{36, 37} (see page 56).
- This map has grid cells of 1 km².
- (*) Statistics - in total area (km²) or percentage of total area - are given for both global and/or continental scales.
- Refer to global change issues (GCIs) in the table on page 145.
- Refer to 'how to read the maps' on page 146.