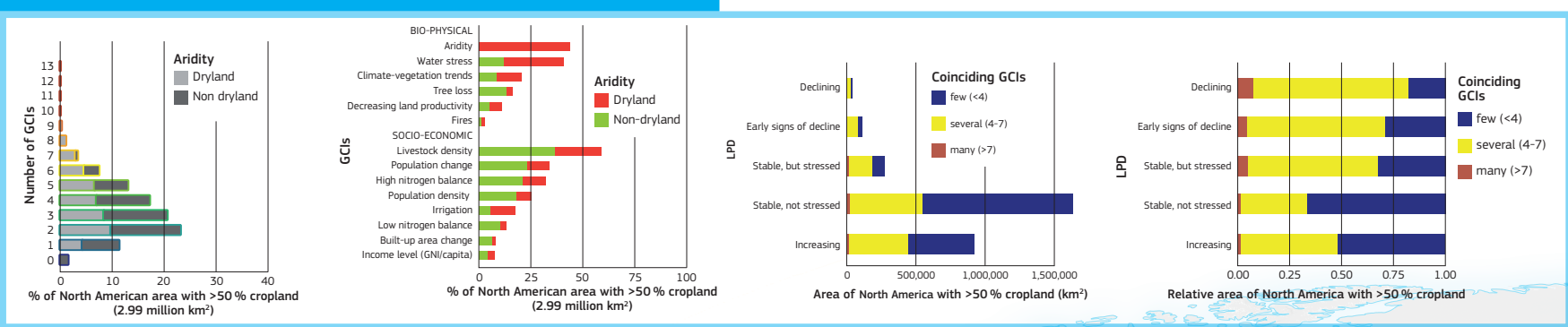


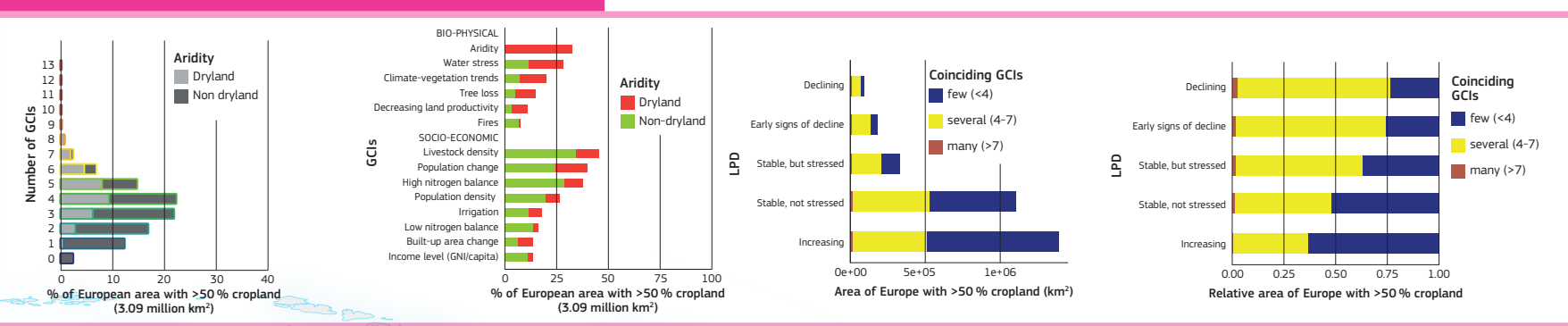
Convergence of Evidence: High Density Cropland

High density cropland are areas where > 50% of each grid cell (1 km²) is under cultivation

Distributions of predominant issues in NORTH AMERICA

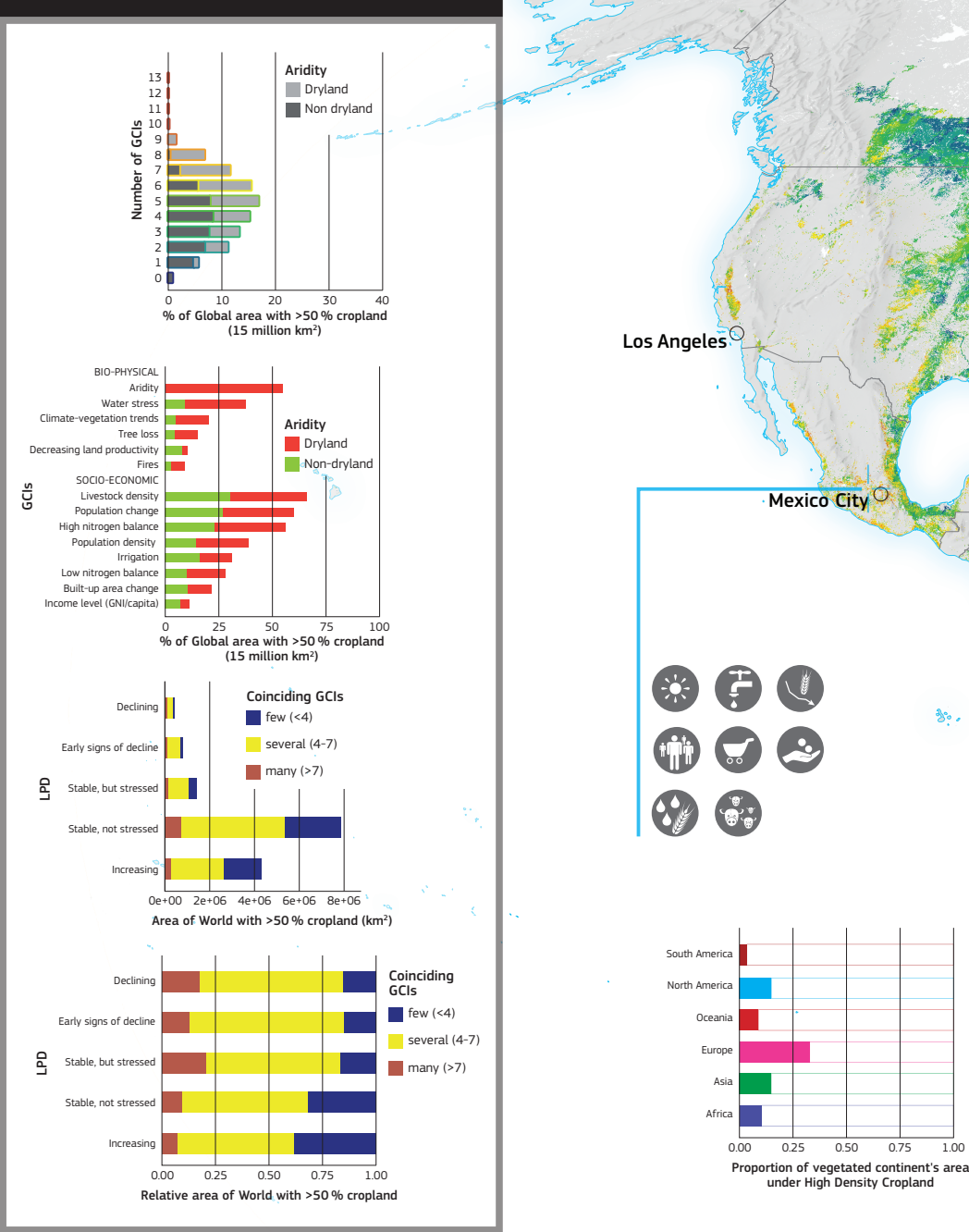


Distributions of predominant issues in EUROPE

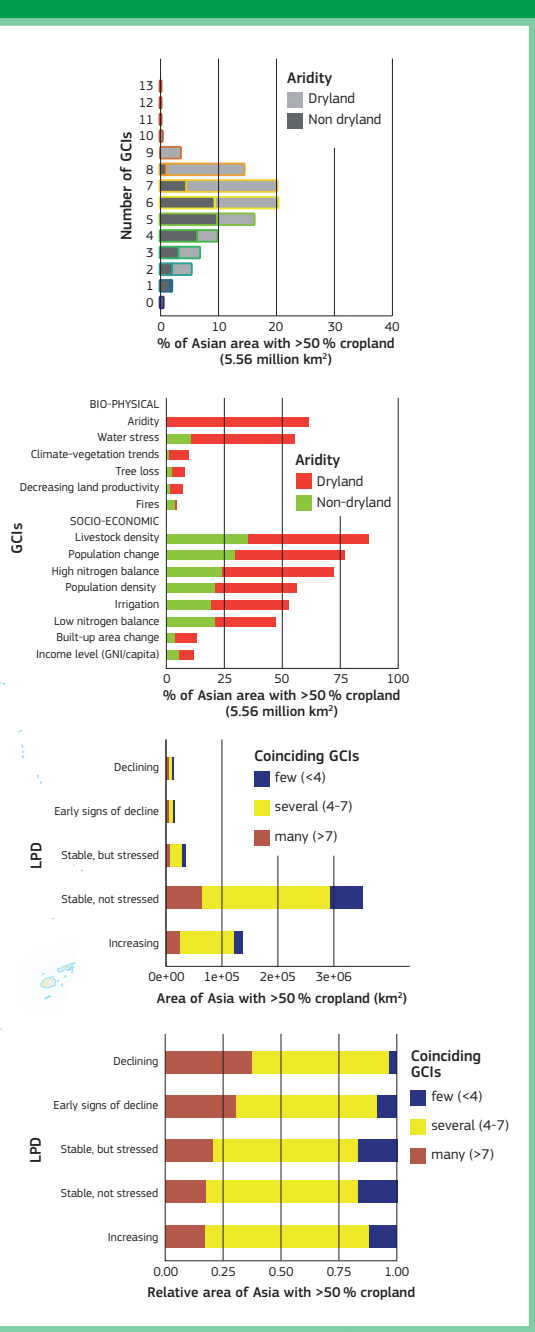


See next page for explanatory text.

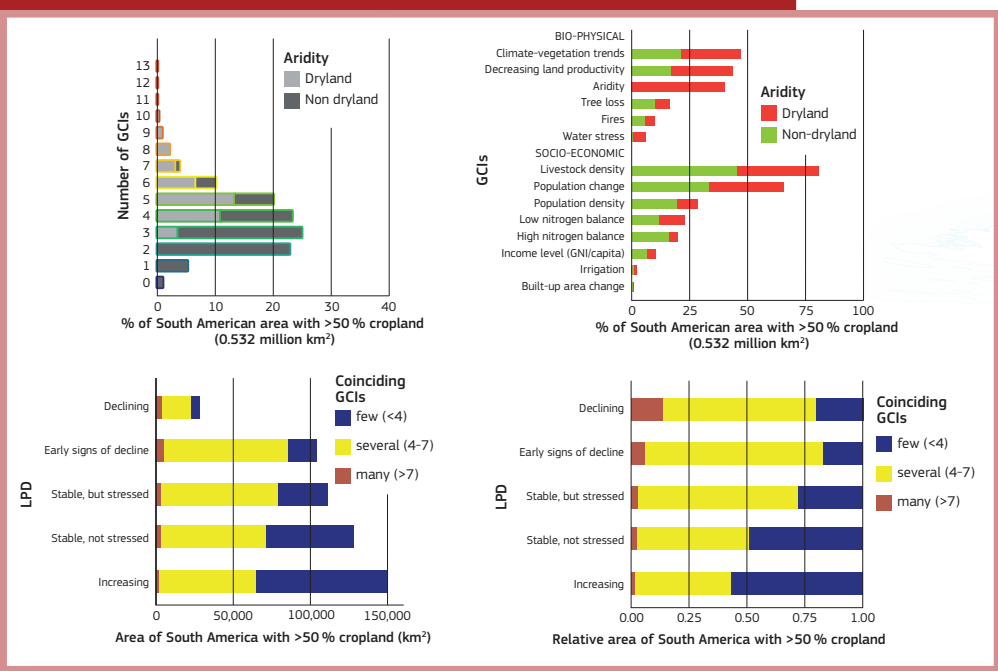
Distributions of predominant issues in WORLD



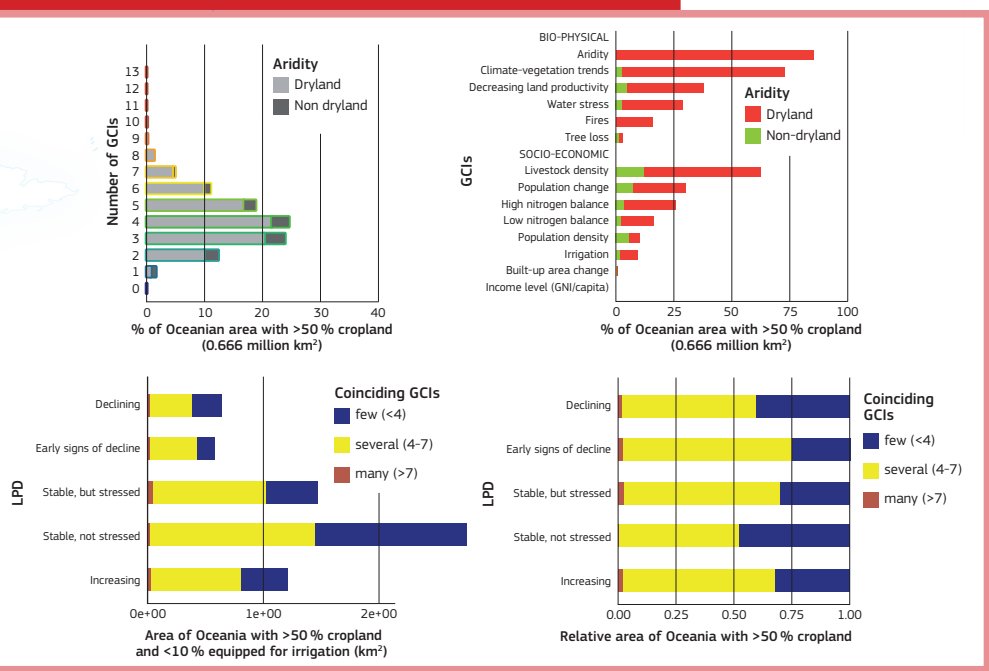
Distributions of predominant issues in ASIA



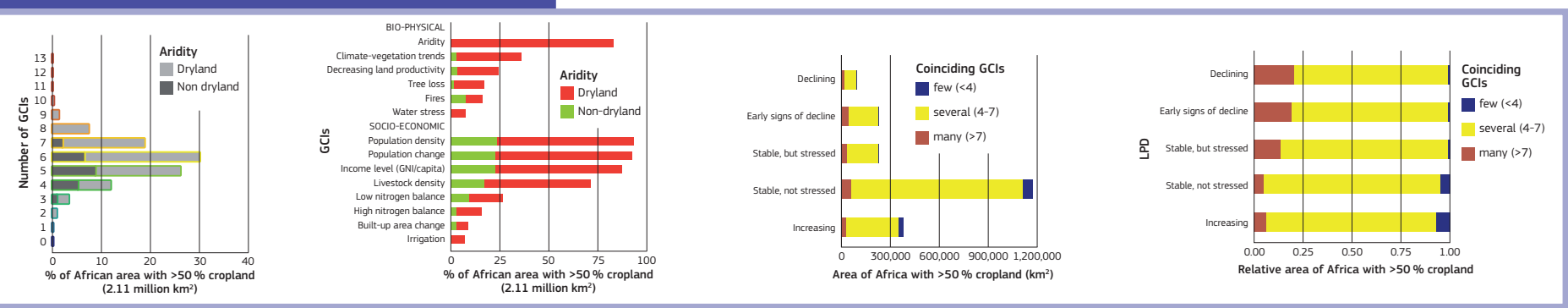
Distributions of predominant issues in SOUTH AMERICA



Distributions of predominant issues in OCEANIA



Distributions of predominant issues in AFRICA



Number of coincident issues



Convergence of Evidence: High Density Cropland

See previous spread for data.

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

- Africa: Sub-Sahara, including Burkina Faso, northern Nigeria, eastern Sudan, south Kenya, Malawi, and Zimbabwe;
- North Africa: northern Morocco, Egyptian Nile area, and Tigris-Euphrates region;
- Asia: India, Pakistan cropland, agricultural expansion areas in northwest China;
- Central Asia: Aral Sea area; eastern Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan;
- Latin America and the Caribbean: northeast Brazilian drylands, agricultural expansion areas in the Argentinean Chaco, central Chile, southern Mexican cropland, and parts of Cuba and Haiti; and Australia: Southeast and southwest areas;
- Europe: Intense agricultural areas in the Mediterranean and central Europe; cropland
- United States: Irrigated areas in the west.

Global change issues (GCIs) associated with transformations (including land degradation) in high-density cropland include: high population density, high livestock densities, and high fertiliser inputs. These GCIs are found in more than 50% of high-density cropland areas of the globe (see inset).

Analysis shows that in high density cropland:

- Approximately 9% (1.3 million km²) of the high density cropland area experiences potential pressure from 8 to 13 GCIs, most of it in drylands. Signs of land productivity decline are observed in 23% of this area (0.3 million km²).
- Approximately 60% (8.9 million km²) of the high density cropland area experiences potential pressure from 4 - 7 GCIs, evenly distributed between drylands and non-dryland areas. On 20% of this area (1.8 million km²), they coincide with trends in declining land productivity.
- Approximately 29% (4.35 million km²) of the high density cropland area experiences potential pressure from 1 – 3 GCIs. Approximately 11.5% (0.5 million km²) of this area shows signs of declining land productivity.
- Only 2% of high density cropland, all non-drylands, are not associated with any of the GCIs.

In Europe, expanding infrastructure comes largely at the expense of productive land.

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

- **Africa.** More GCIs are present here than in most other continents. More than 80% of the high density cropland area has high population densities and population increase, more than 75% is arid, has low per capita income, and almost 75% has high livestock density.
- **Asia.** More than 58% of high density cropland area has 6 or more GCIs. 75% have high population densities, livestock densities and fertiliser use. More than 50% is arid, with high water stress, irrigation, high population growth and low incomes.
- **South America.** High density cropland have comparatively few GCIs. More than 75% of the area has high livestock densities, and more than 60% has high population increases (with half occurring in drylands). Less than 30% has high population densities and most of these are non-drylands.
- **Europe.** GCIs found in more than 25% of the area include population density, livestock density, high input agriculture, and water stress (in the southern parts). Larger numbers of coinciding GCIs are generally found in the southern part of

the continent. Change in built-up area is the largest of any continent and occurs on 16.3% of the area.

- **North America.** About 30% of the high density croplands has high population growth and 25% high population densities. More than 75% has high fertiliser inputs, 50% high livestock density and 20% is equipped for irrigation.
- **Oceania.** More than 75% of the high density cropland area is arid, with high fertiliser use. About 50% has high livestock density, 25% has water stress, and comparatively low population increases. Overall, there are fewer GCIs at play and, given lower population pressures and higher income, the potential for land transformations (e.g. degradation) would appear to be lower than in either Asia or Africa.

High density cropland in Asia and Africa, the majority of which is found in drylands, stand out as areas of potential concern, but for different reasons. Both have high population densities, high population growth rates, high livestock density and low income. Where they diverge is total irrigated area (>50% in Asia, < 10% in Africa) and high-input agriculture (high fertiliser use: 75% Asia, 35% Africa). While there are undoubtedly hotspots on every continent that can be explored, Asia and Africa show that there are large areas potentially undergoing transformations.

In 14% of high density cropland of the globe, multiple global change issues negatively impact land productivity; this is more pronounced in drylands and especially in Africa and Asia.

- Theme layer derived from: FAO GLC-SHARE v1.0³⁹, 2014.
- 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.