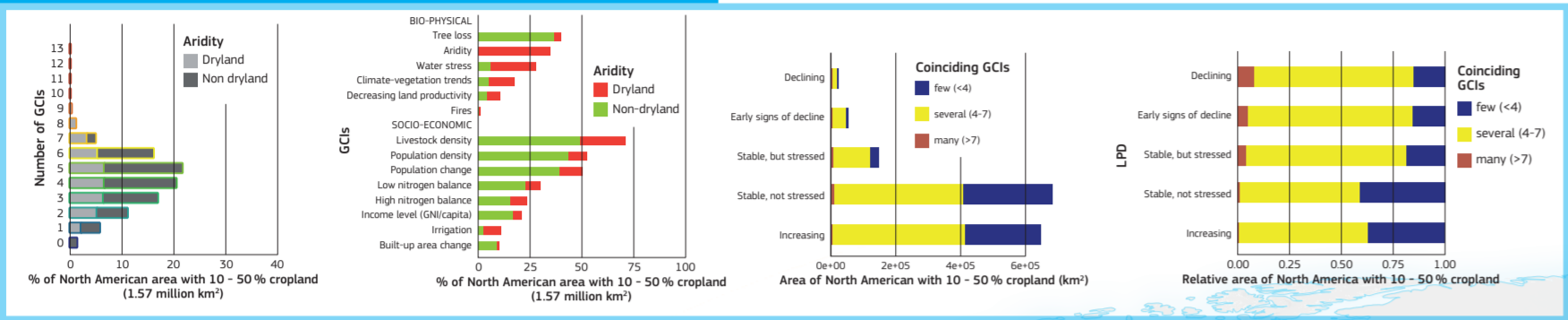


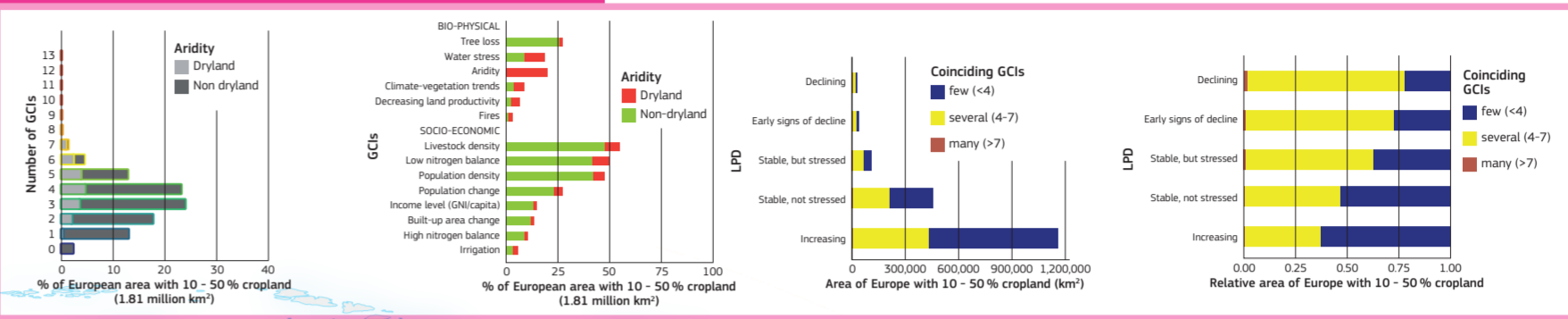
Convergence of Evidence: Low Density Cropland

Low density cropland are areas where between 10 - 50% of each grid cell (1 km²) is under cultivation.

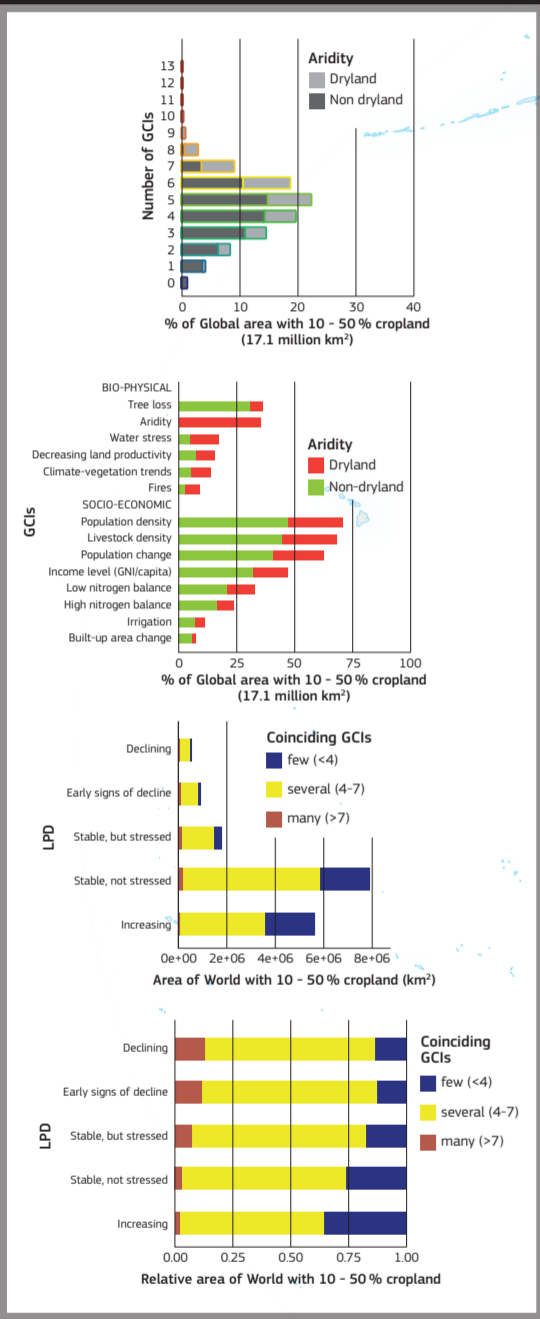
Distributions of predominant issues in NORTH AMERICA



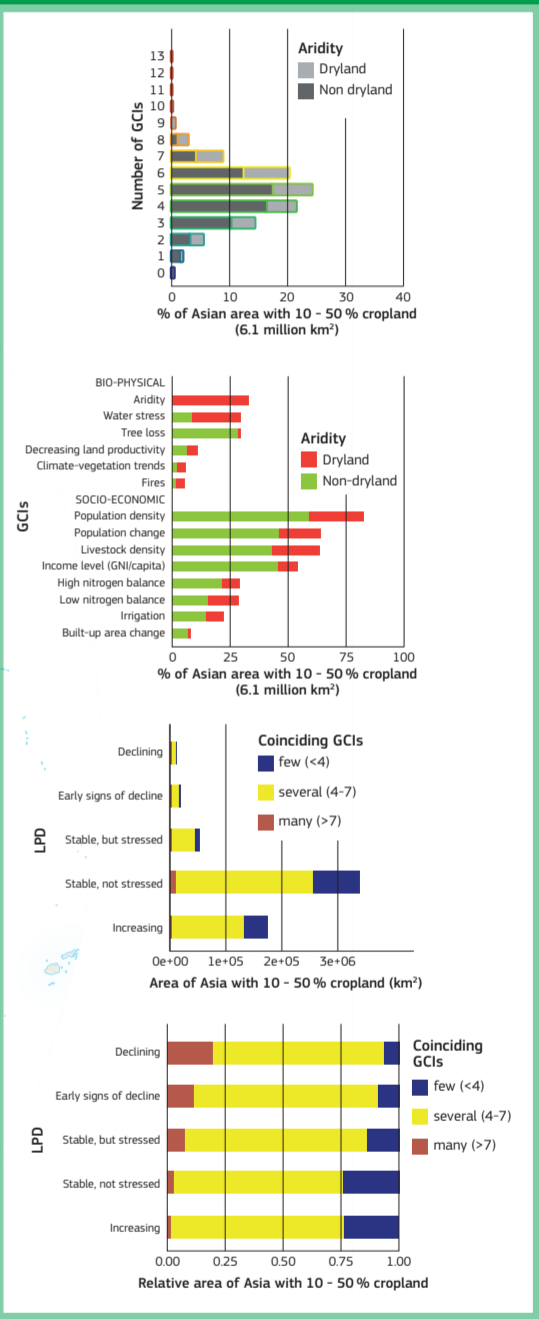
Distributions of predominant issues in EUROPE



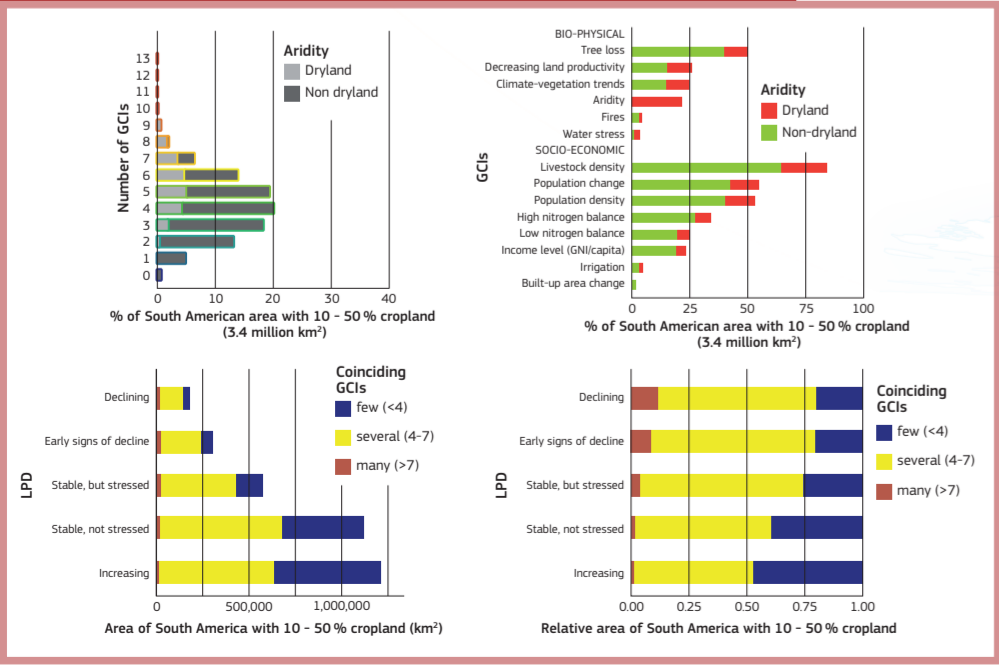
Distributions of predominant issues in WORLD



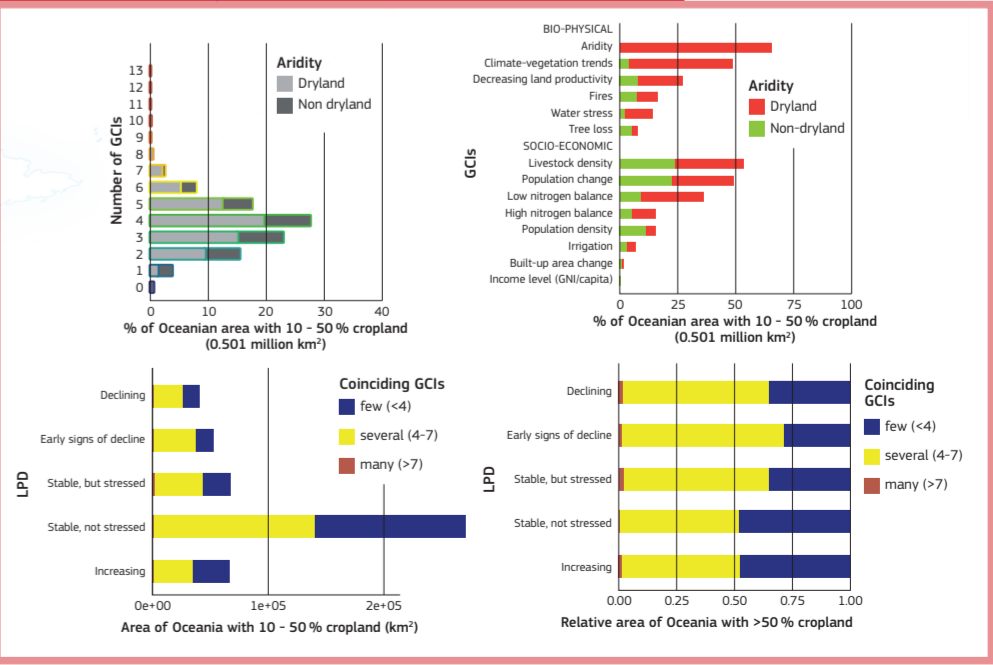
Distributions of predominant issues in ASIA



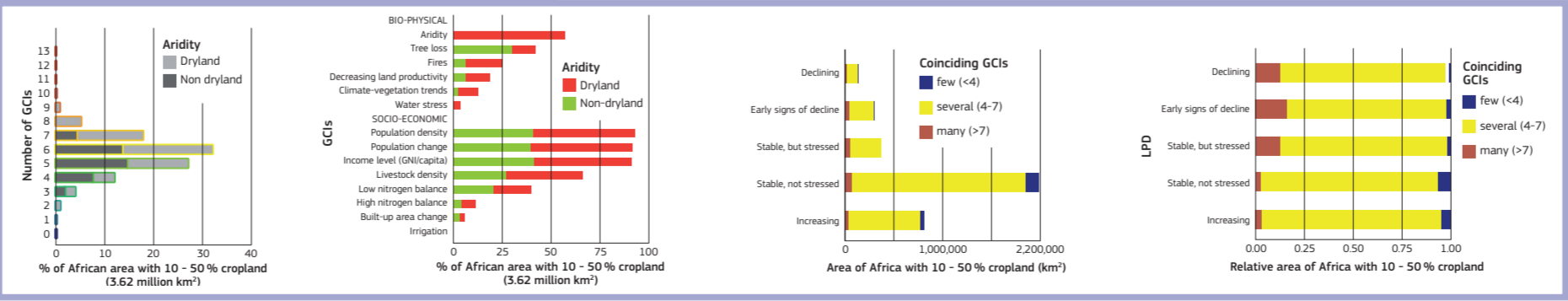
Distributions of predominant issues in SOUTH AMERICA



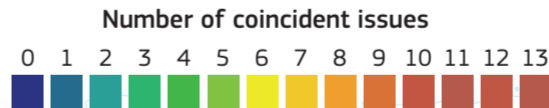
Distributions of predominant issues in OCEANIA



Distributions of predominant issues in AFRICA



See previous page for explanatory text.



Convergence of Evidence: Low Density Cropland

See next spread for data.

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

- Africa: most of the Sahel and coastal zones along the Gulf of Guinea, cultivated areas of Somalia, southern Democratic Republic of Congo, Zimbabwe, Tanzania, and the coast of Madagascar;
- Asia: north China plain and large areas of southeast China, the river basins in Bangladesh Padma and Myanmar Irrawaddy, northern Sri Lanka and hotspots in the Philippines and Java;
- Central Asia: northern Kazakhstan, Kyrgyzstan and Tajikistan;
- South America: Western Andean slopes, the Amazon delta, drylands of northeast Brazil, and agriculture expansion areas in southern Brazil, Argentina, Uruguay, Paraguay and Bolivia;
- Europe: Belarus; and
- North American: Large areas in several Central American countries and Haiti.

Global change issues (GCI) associated with transformations (including land degradation) in low density cropland areas include: tree loss, high population densities and low-input agriculture. With regard to the latter, the intensity of fertiliser use ranges from low use (around 33% of the area) to high use (24% of the area) (contrast this to high density cropland where the figures for low and high fertiliser use are about 21% and 31%, respectively). Tree loss occurs over 36% of the low density cropland area which is significantly higher than in the high density croplands, where tree loss occurs over about 10% of the area.

- Analysis shows that in low density cropland:
- About 4% (or 0.56 million km²) of the low density cropland area experiences potential pressure from 8 to 13 GCI, which is significantly less than high density cropland. Signs of land productivity decline are observed in 51% of this area (0.3 million km²).
 - Approximately 68% (11.71 million km²) of the low density cropland area experiences potential pressure from 4 to 7 GCI. Signs of land productivity decline are observed in 21% of this area (2.47 million km²).

Fertiliser use is deficient in about one third of low density cropland.

- Approximately 26% (4.59 million km²) of the low density cropland area experiences potential pressure from 1-3 GCI. Signs of land productivity decline are observed in 11% of this area (0.51 million km²).
- Around 2% have no GCI.

Low density cropland extends over a larger area than high density cropland; less land is subject to many (more than 7) coincident global change issues, but more land is subject to pressure from 4 to 5 GCI – this is more pronounced in Africa.

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

- **Africa.** More GCI are at play than any other continent. Fully 76% (ca. 2.7 mill.km²) have between 5 - 7 GCI. Population density and population change, along with low income levels, occur in around 90% of this area. Fires affect about 25% of the total area, the largest extent in any continent. About 60% has high livestock densities and >30% has fertiliser deficiencies. The GCI are found more or less equally in dryland and non drylands.
- **Asia.** Fully 65% of the low density cropland area has between 4 to 6 GCI, with population density (80% of the area) and population changes (62% of the area) the most common GCI, followed by high livestock densities (62% of area). Two important GCI are low income level (53% of the area) and water stress (30%). The agricultural plains of Bangladesh and Myanmar are experiencing population increase and growing built-up areas, combined with expanding irrigation schemes and high livestock densities. High input cultivation is prevalent in Bangladesh while low input cultivation is prevalent in Myanmar.
- **South America.** There are relatively few GCI in low density cropland areas of South America, where an average of 4 coincide on nearly 20% of the area. However, there are high livestock densities (over 85% of the area), tree loss (concerns half the area) and declining land productivity (26% of the area), all three occur on more area than on any other continent – but not necessarily coincide. Central American countries (Guatemala, Honduras, El Salvador, Haiti, and small areas on the Pacific side of Costa Rica) have a relatively high number of GCI (5-6) at play.

- **Europe.** Has the lowest number of GCI of all continents, with 3 - 4 potential GCI occurring on 24 and 23% of the area, respectively. Only between 6 - 7% of low density cropland is subject to 6 or more GCI, which are mostly concentrated in Portugal, Greece and Belgium. Livestock density, low nitrogen balance, and high population density are found in around 50% of the continent. Tree loss (27% of area) and water stress (17% of area) are the most common biophysical GCI. Also in low density cropland, the change in built-up area is the largest of any continent (13% of the area). The expanding infrastructure comes largely at the expense of productive land, which is a common feature around towns; this phenomenon is widespread in northern parts of Europe, including large parts of Belarus, where this is associated with forest loss and population changes.
- **North America.** High livestock densities (70% of the area) and tree loss (39%) are the most widespread GCI. In the dryland portions of North America, water stress (36% of the total area) and drought conditions (i.e. climate-vegetation trends GCI, see table) (28%) are important GCI.
- **Oceania.** A large extent of dryland has experienced drought conditions (i.e. climate-vegetation trends GCI, see GCI table), which has led to declining land productivity in about 26% of the area. Higher than average livestock densities (51% of the area) and low nitrogen balance (36%) contribute to stress in areas with 3 to 4 GCI.

Africa stands out with more than 6 coinciding GCI concerning more than half the low density cropland area.

- 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 (GCI) in the table on page 145.
- Refer to 'how to read the maps' on page 146.

