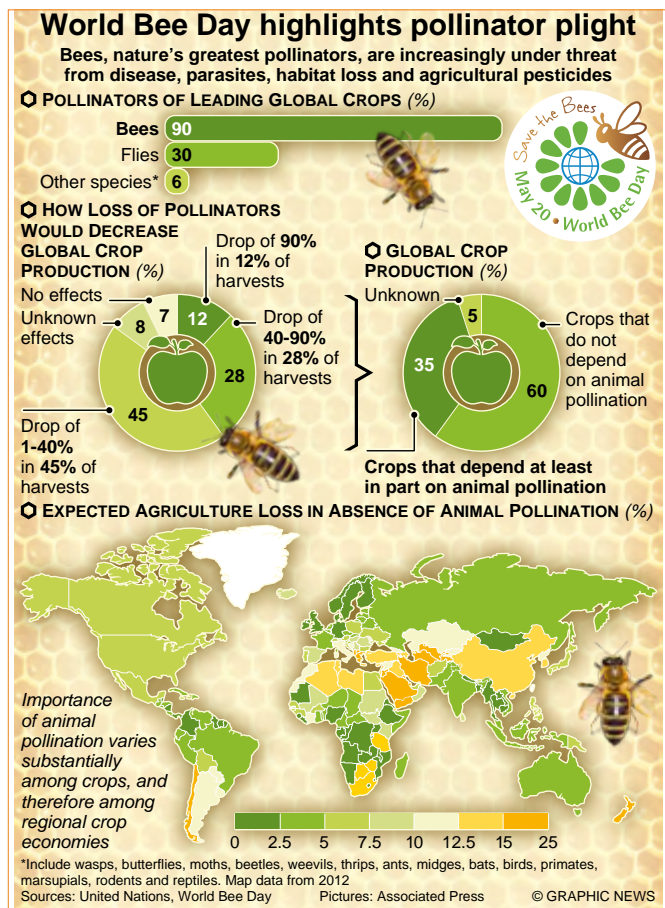
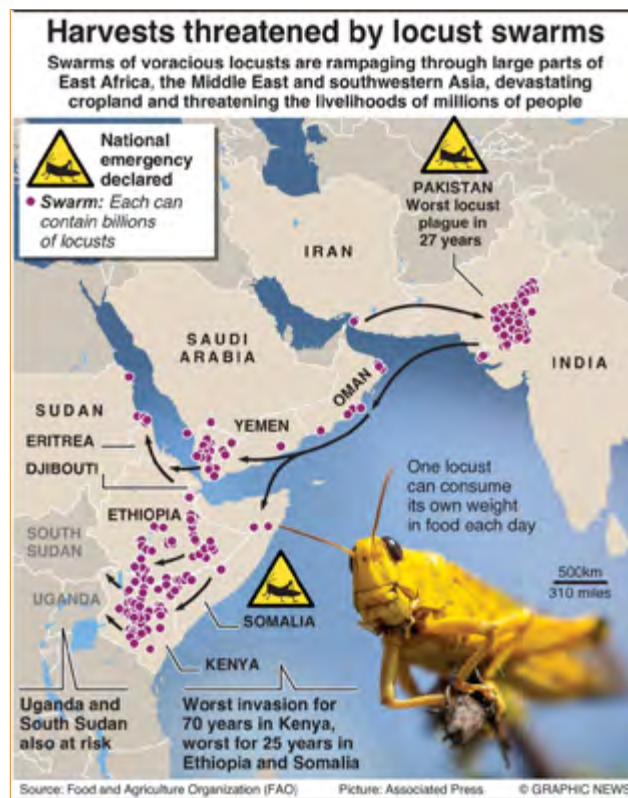


STAGE 5: SKILLS STIMULUS

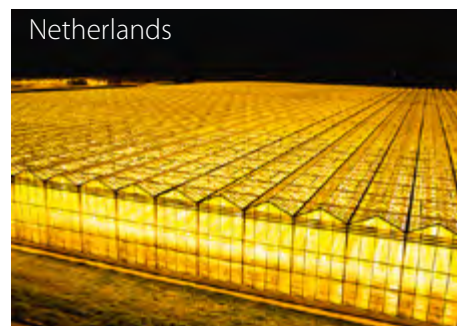


SOURCE A: Pollinators

SOURCE B: Locusts



SOURCE C: Climate and topography



Farming under glass in climate controlled greenhouses enable the Netherlands to be a global leader in tomato exports.



This tiny country feeds the world. Source: <https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/>

Photographs: Shutterstock

The Netherlands is a small, densely populated country lacking the natural environments thought necessary for large-scale agriculture. Despite this, it ranks second highest in exports of food (by value), behind the United States, which is 270 times larger. The Dutch are the top exporters of potatoes and onions and second largest exporter of vegetables overall. More than a 30% of all global trade in vegetable seeds originates in the Netherlands.

Green circles in the desert usually indicate tracts of agriculture supported by center-pivot irrigation. Egypt's Western Desert is dry and receives just centimeters of rainfall per year – often described as “hyperarid.” Greenery has been appearing in the area in recent decades. On February 26, 2017, Landsat 8 captured these natural-color images of one of Egypt's land reclamation projects aimed at making some desert areas suitable for agriculture.

NASA Source: <https://earthobservatory.nasa.gov/images/89820/cultivating-egypts-desert>

STAGE 5: SKILLS STIMULUS

AMAZON BASIN BIOMES AND ENVIRONMENTAL CHANGE

'What we see in the Amazon over the past four decades is extraordinary change. We see major losses in both humid and dry forests; incredible expansions of pasture and agriculture; and clears shifts in land use driven by economic forces and the way land is managed. There is really nowhere else in the world that compares to the Amazon for the scale and scope of change.'

Matthew Hansen, University of Maryland (a remote sensing scientist specialising in mapping land cover and land use change)

SOURCE D: Amazon Basin land cover



These Landsat mosaic images give a view of the Amazon Basin's land surfaces.

The **darkest green** areas is forest, mostly tropical rainforest that is not severely changed or degraded by human activity.

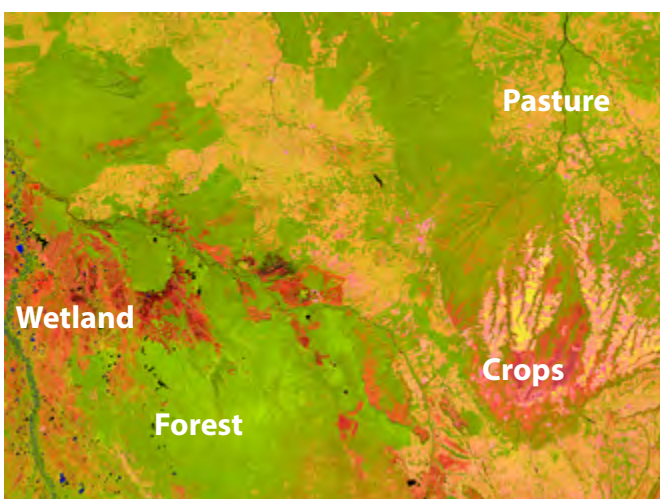
Lighter green areas are mainly tropical savanna. These woodland-grassland regions may have widely spaced trees without a closed canopy .

Areas affected by human activity also stand out.

- Forest areas converted to pasture generally appear **yellow**.
- Savanna converted to cropland is generally **pink**, especially if fields are fallow or have exposed soil.

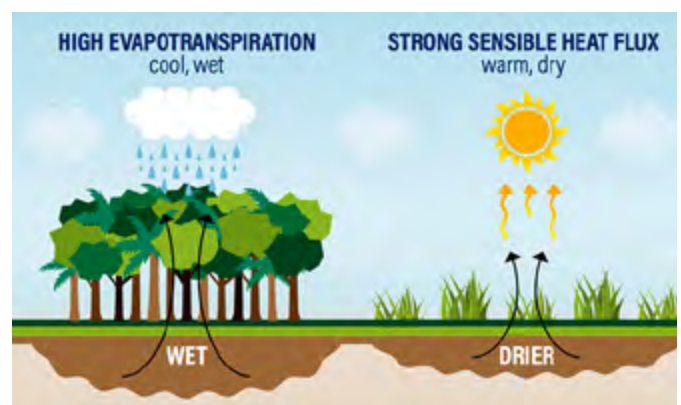
Deforestation threatens biodiversity, reduces atmospheric carbon absorption, increases damage from natural disasters such as fire, and disrupts the functioning of the water cycle.

SOURCE E: Landuse investigation



'A growing body of evidence indicates that the continuing destruction of tropical forests is disrupting the movement of water in the atmosphere, causing major shifts in precipitation that could lead to drought in key agricultural areas'

SOURCE F: Water Cycle



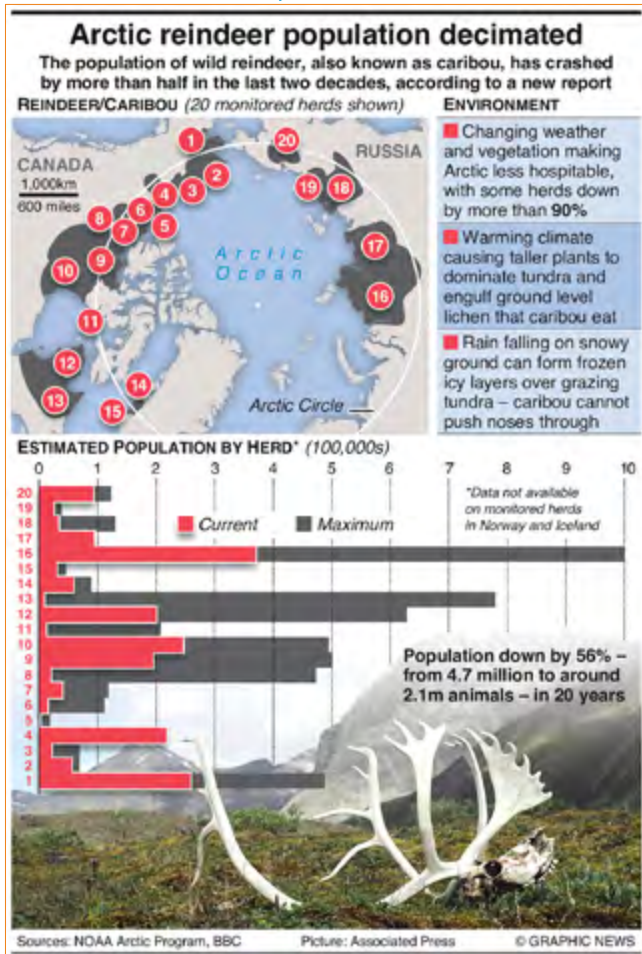
Trees draw water from the ground and release water vapor through their leaves, creating atmospheric 'rivers of moisture'.

SOURCES OF INFORMATION, SATELLITE IMAGES and ILLUSTRATION

1. Earth Observatory NASA <https://earthobservatory.nasa.gov/images/145649/mapping-the-amazon>
2. e360 Yale Edu: <https://e360.yale.edu/features/how-deforestation-affecting-global-water-cycles-climate-change>

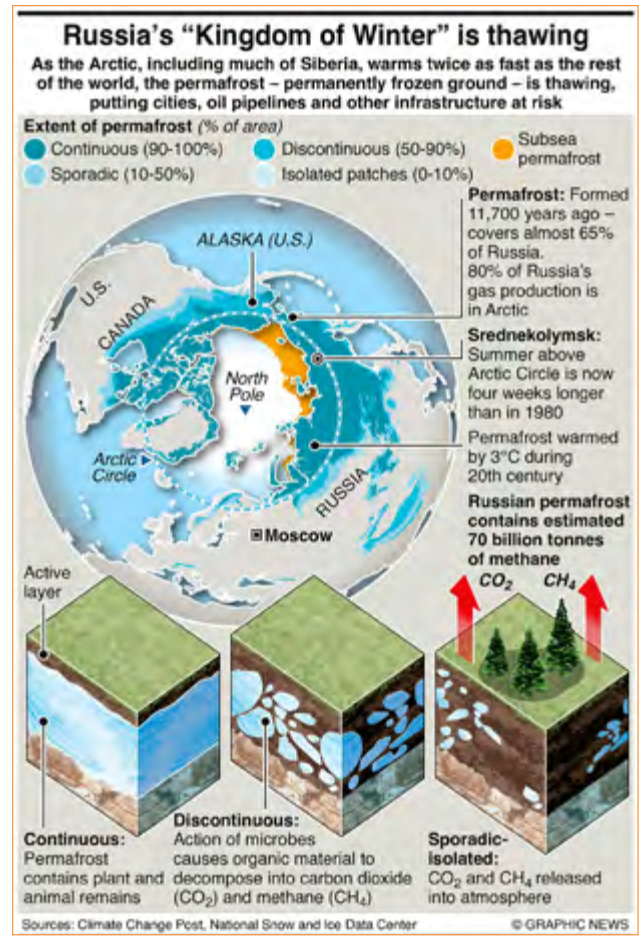
STAGE 5: SKILLS STIMULUS

SOURCE F: Biodiversity loss

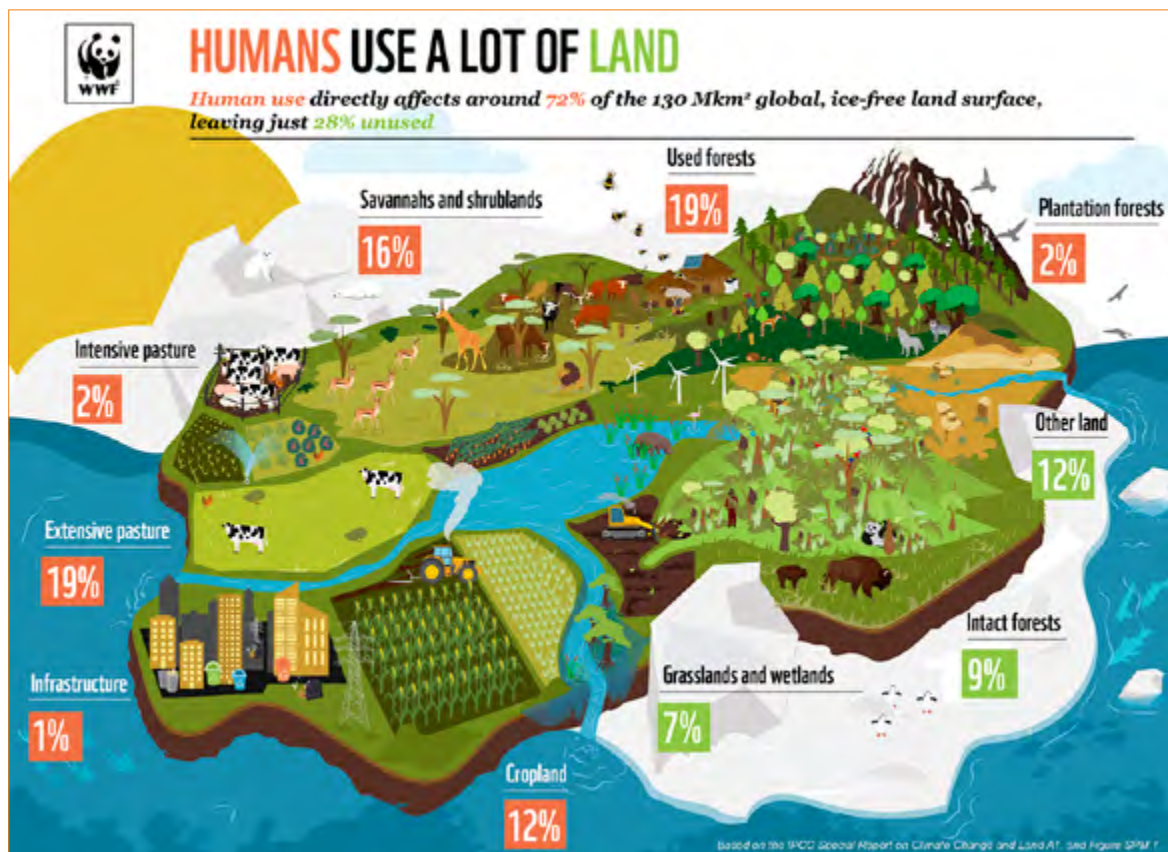


SOURCE: Graphic News <https://www.graphicnews.com>

SOURCE G: Thawing soils



SOURCE H: Human use of Earth's biomes and environments



STAGE 5: SKILLS STIMULUS

INTERCONNECTIONS: FOOD, BIOME USE and ENVIRONMENTAL CHANGE

SOURCE J: Sustainable land management



SOURCE I: Landuse and climate change



SOURCE: https://wwf.panda.org/our_work/climate_and_energy/ipcc_land/
 You can also find a link to the IPCC Land and Climate Change report here using this link