GEOGRAPHY BULLETIN
Edition 52, No 2, 2020

STAGE 5 SKILLS Stimulus
Topics
Sustainable Biomes
Environmental change

Created by L Chaffer for GTANSW & ACT Edition 52, No 2, 2020

GTA
The Geography Teachers Association of NSW & ACT Inc.

In this task you will …

- Use inquiry skills to analyse and interpret geographical tools including photographs, infographics, diagrams and statistical tables.

- Apply your knowledge and understanding of challenges to global food production and environmental change to answer inquiry questions.

You will need

- A hard copy of Stage 5 Skills stimulus OR this PPT
- A copy of the Student Activity worksheets

Learning Intention

You are aiming to demonstrate:

- The use of geographical inquiry skills to
  - process geographical information (interpret and analyse)
  - communicate geographical information

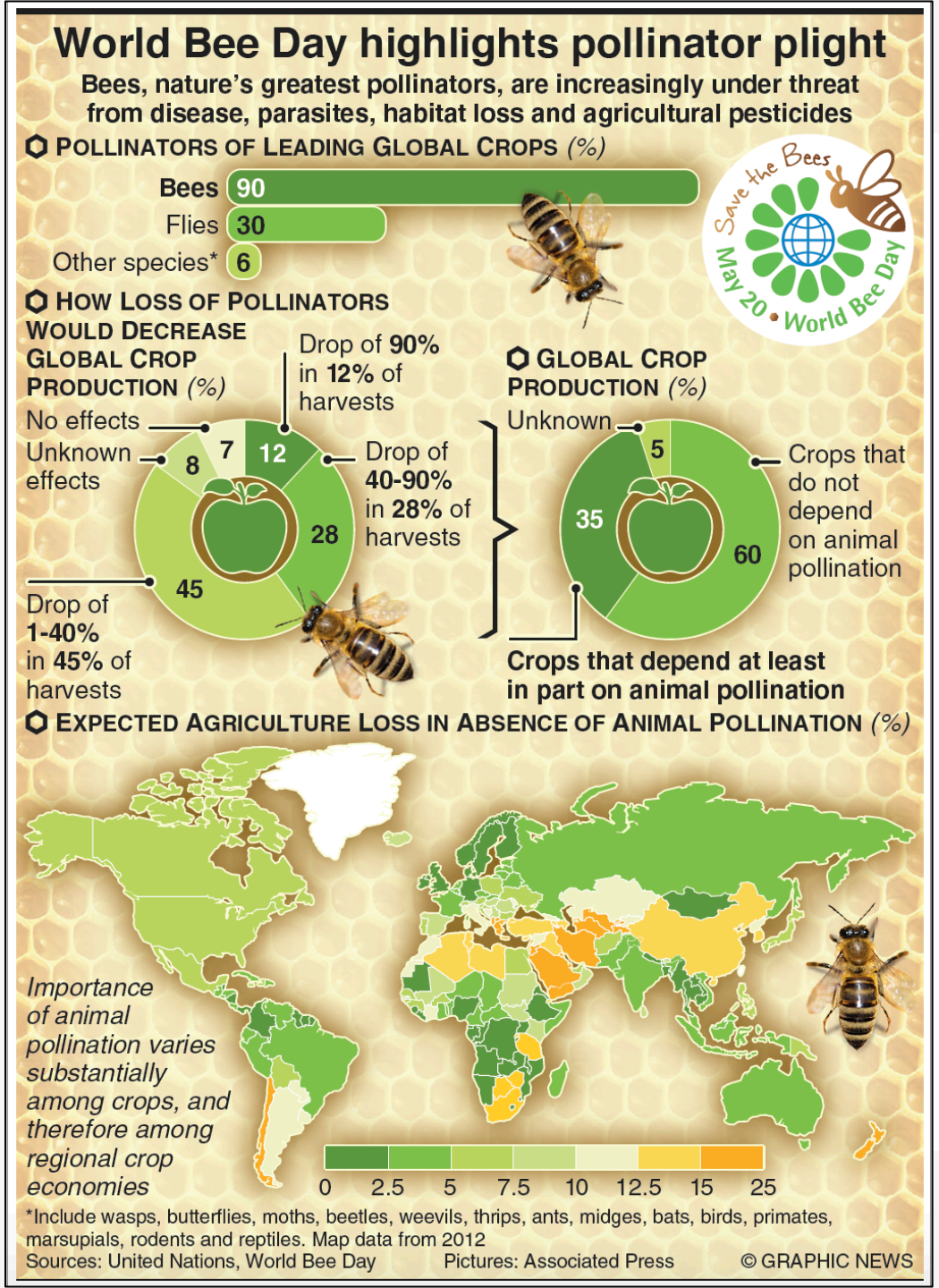
- A knowledge and understanding of challenges to global food production including loss of pollinators, locusts and the physical environment.
- A knowledge and understanding of concepts related to biomes and environmental change and management including climate change, deforestation and sustainability.

Success criteria

At the end of this activity you will have:

- Applied geographical inquiry skills to interpret stimulus material including diagrams, maps and photographs (interpreting, analysing, applying and communicating)

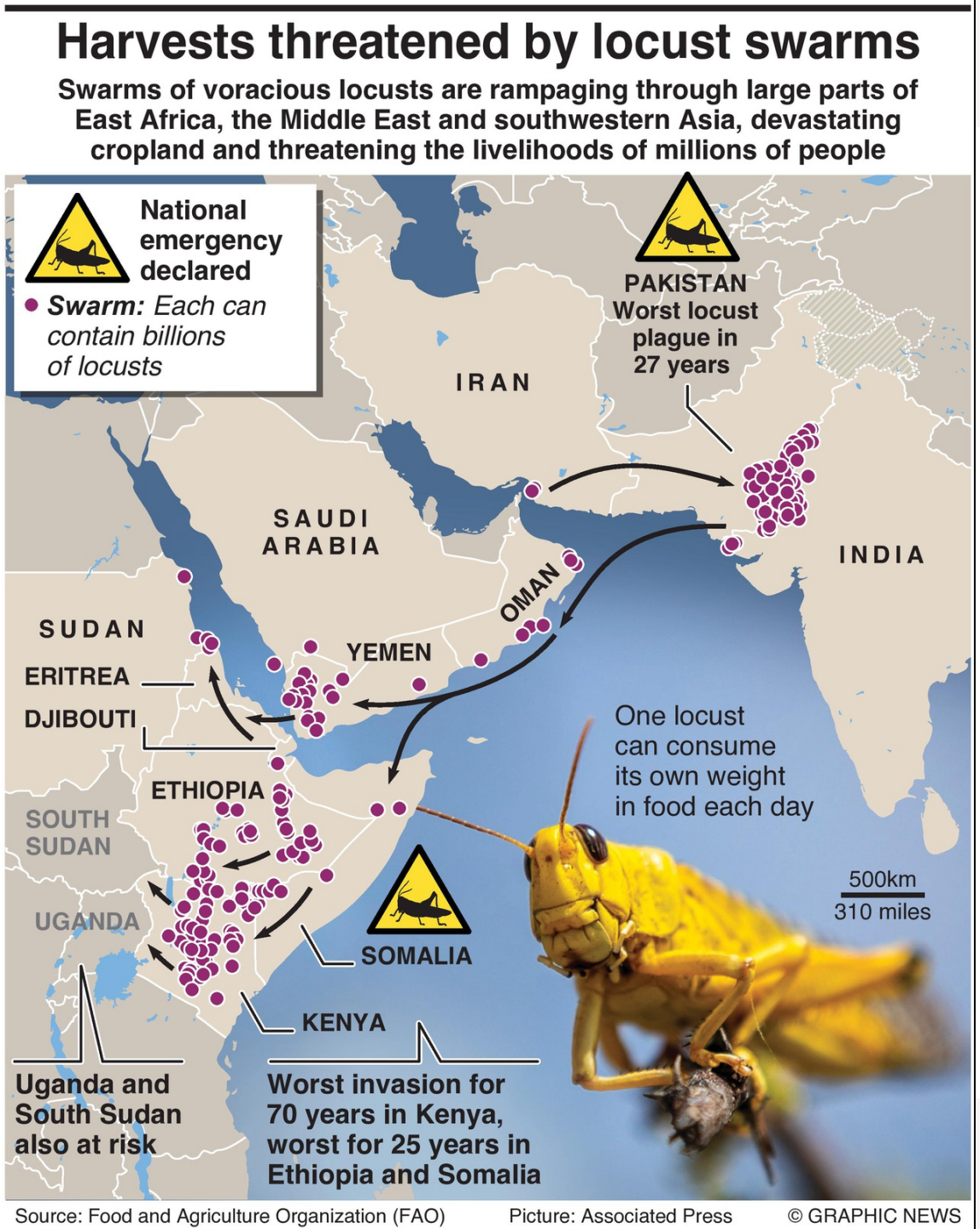
- Demonstrated a knowledge and understanding of challenges to global food production.
- Demonstrated a knowledge and understanding of concepts related to environmental change.



CHALLENGES TO GLOBAL FOOD PRODUCTION

POLLINATORS

Bulletin Source A page 92
Activity page 70



CHALLENGES TO GLOBAL FOOD PRODUCTION

LOCUSTS

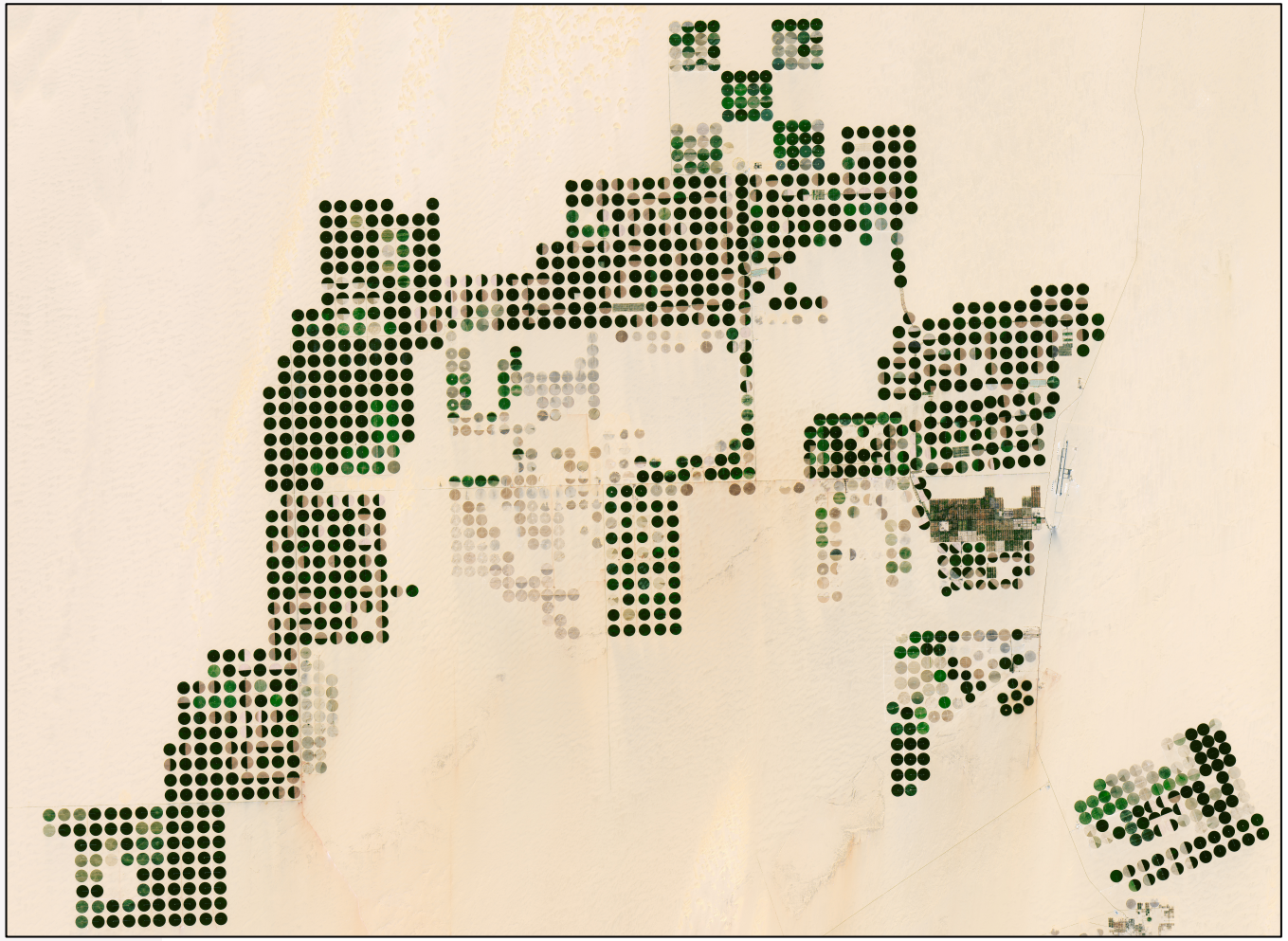
Bulletin Source B page 92
Activity page 70

CHALLENGES TO GLOBAL FOOD PRODUCTION

Physical environment

Refer to the following four slides (Bulletin Source C page 92) to complete the inquiry questions.

Activity page 71



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 naturalcolor images of one of Egypt's land reclamation projects aimed at making some desert areas suitable for agriculture.

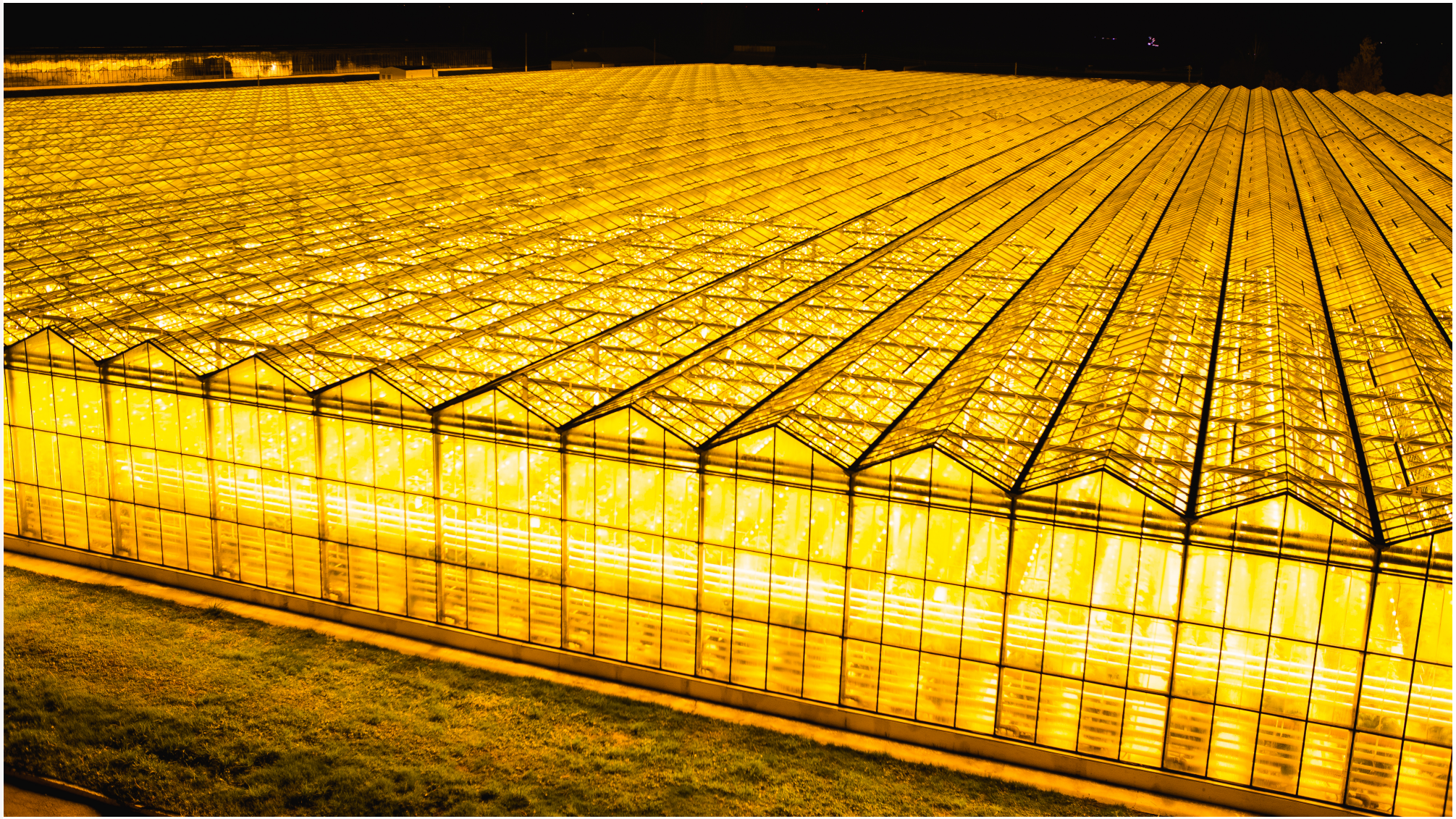
Source C page 92

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

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.

Shutterstock

Source C page 92



Source C page 92

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Source C page 92

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THE AMAZON BASIN

'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)

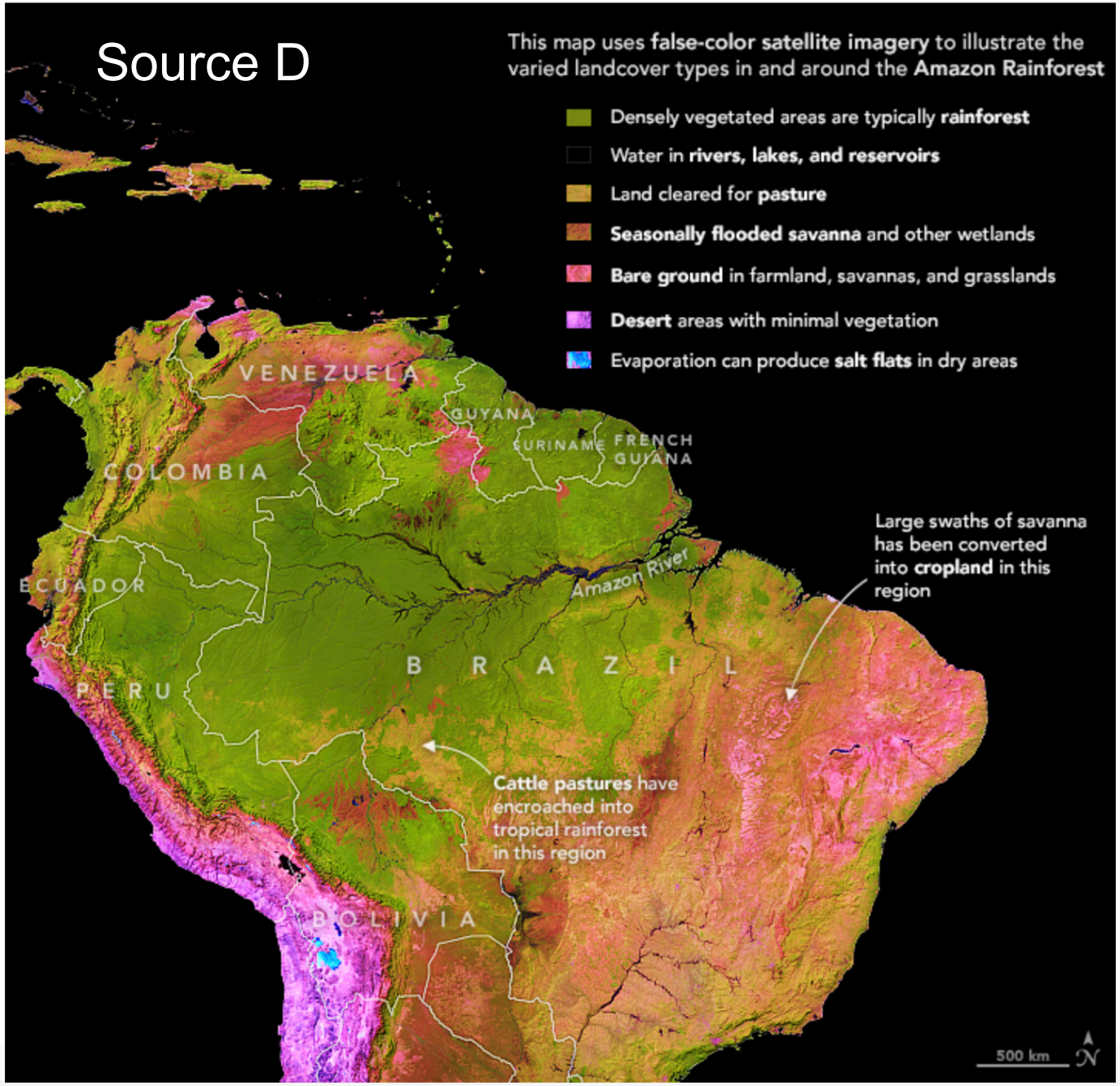
SUSTAINABLE BIOMES

and

ENVIRONMENTAL CHANGE

Bulletin Sources D, E and F page 93
Activity page 71 - 72

Source D

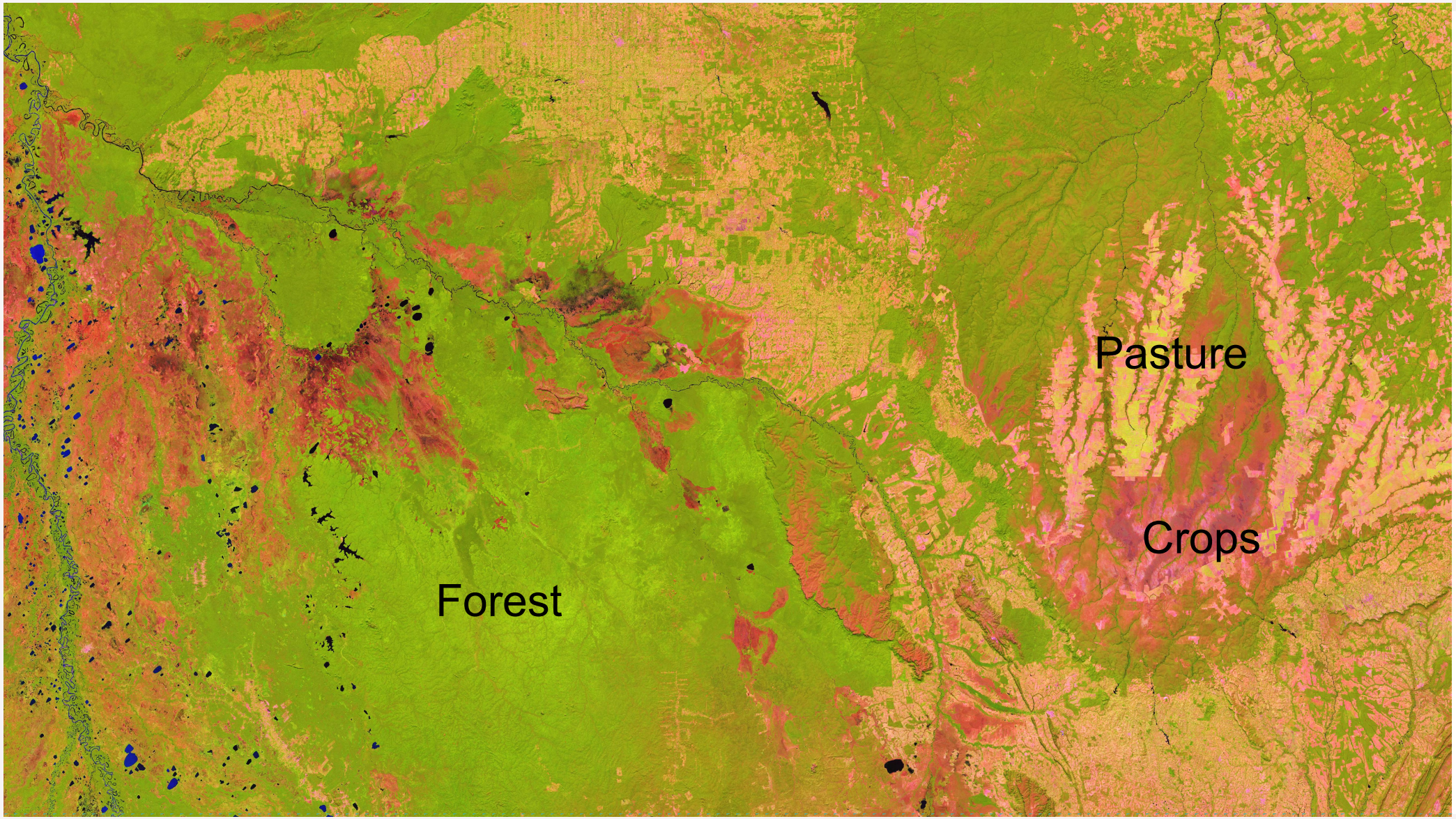


These Landsat mosaic images give a view of the Amazon Basin's land surfaces.
The **darkest green** areas is forest, mostly tropical rainforest that is not severely changed or degraded by human activity.
Lighter green areas are mainly tropical savanna. These woodland-grassland regions may have widely 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.

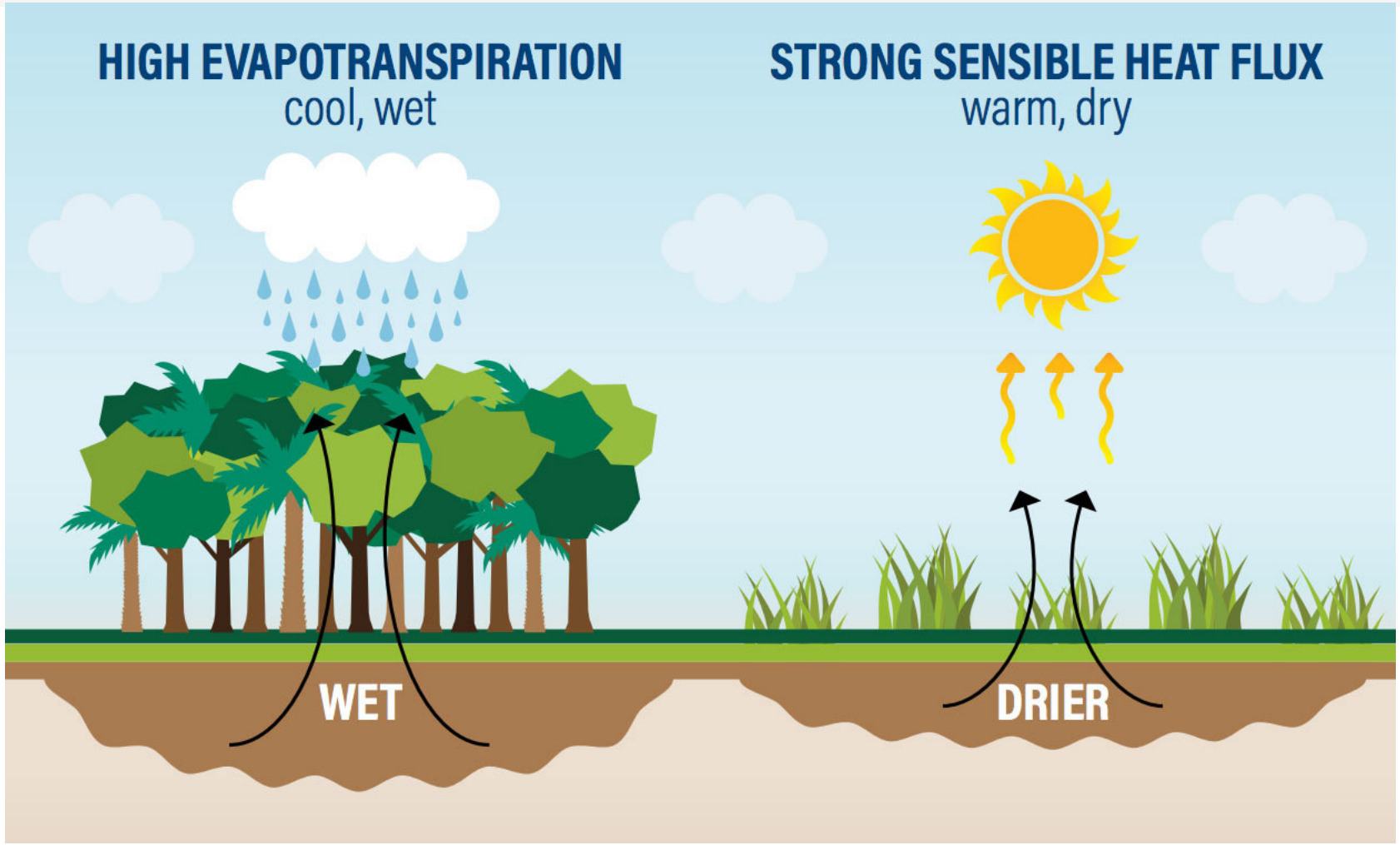
Deforestation threatens biodiversity, reduces atmospheric carbon absorption, increases damage from natural disasters such as fire, and disrupts the functioning of the water cycle.

Earth Observatory NASA https://earthobservatory.nasa.gov/images/145649/mapping-the-amazon



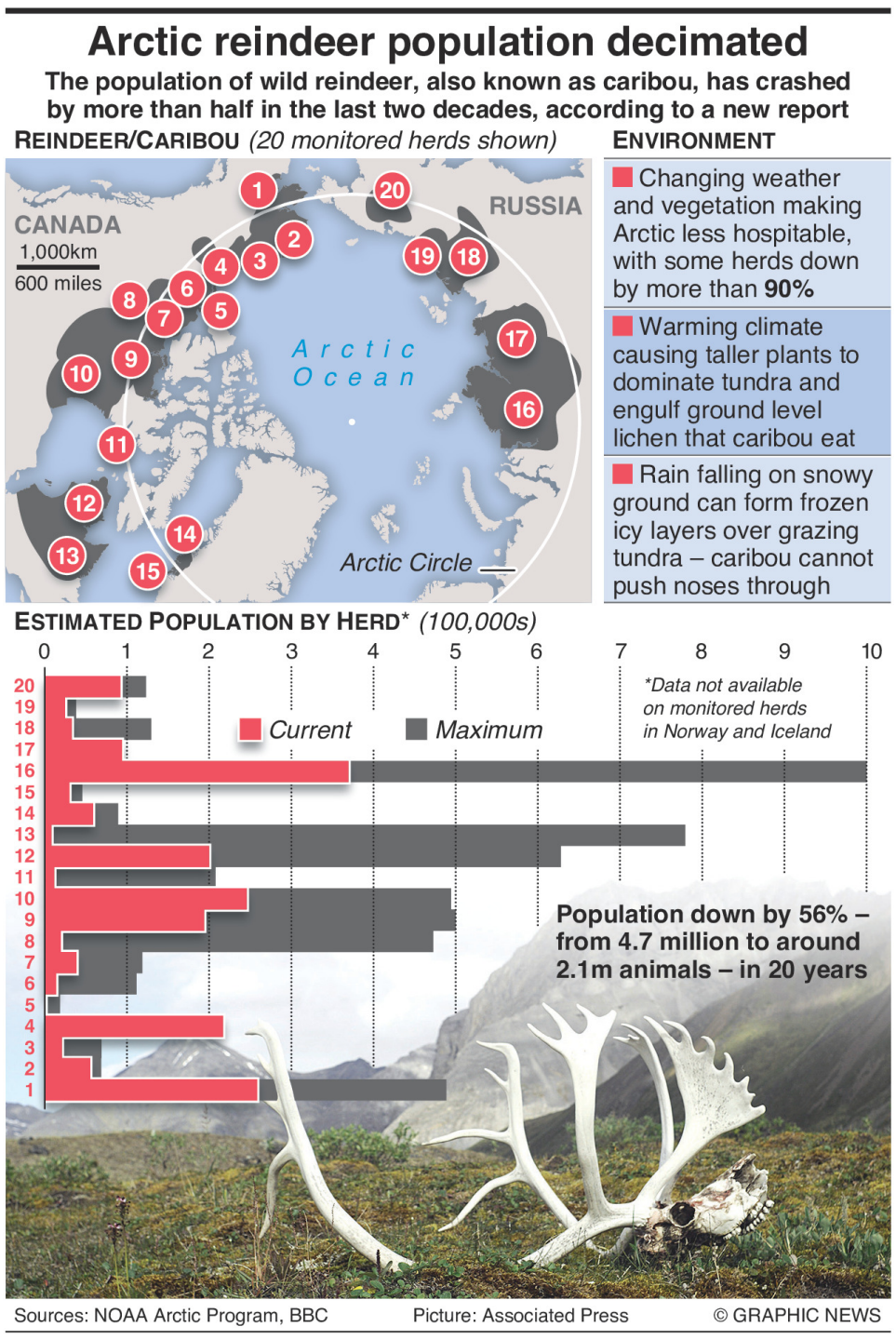
Source E

Earth Observatory NASA https://earthobservatory.nasa.gov/images/145649/mapping-the-amazon



Source F

e360 Yale Edu
https://e360.yale.edu/features/how-deforestation-affectingglobal-water-cycles-climate-change

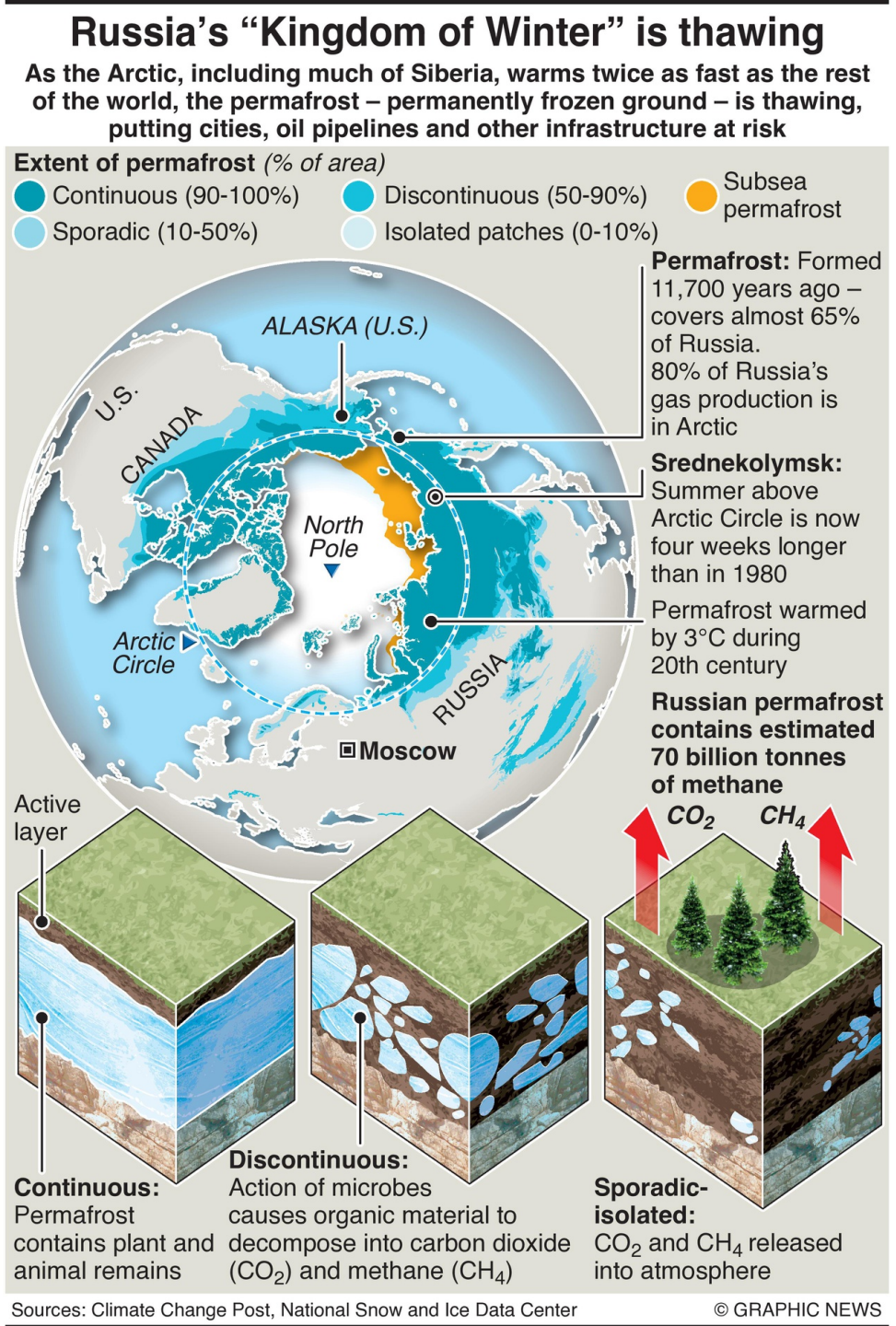


ENVIRONMENTAL CHANGE

Bulletin Source F page 94

Activity page 72

Source F



ENVIRONMENTAL CHANGE

Bulletin Source G page 94

Activity page 72

Source G

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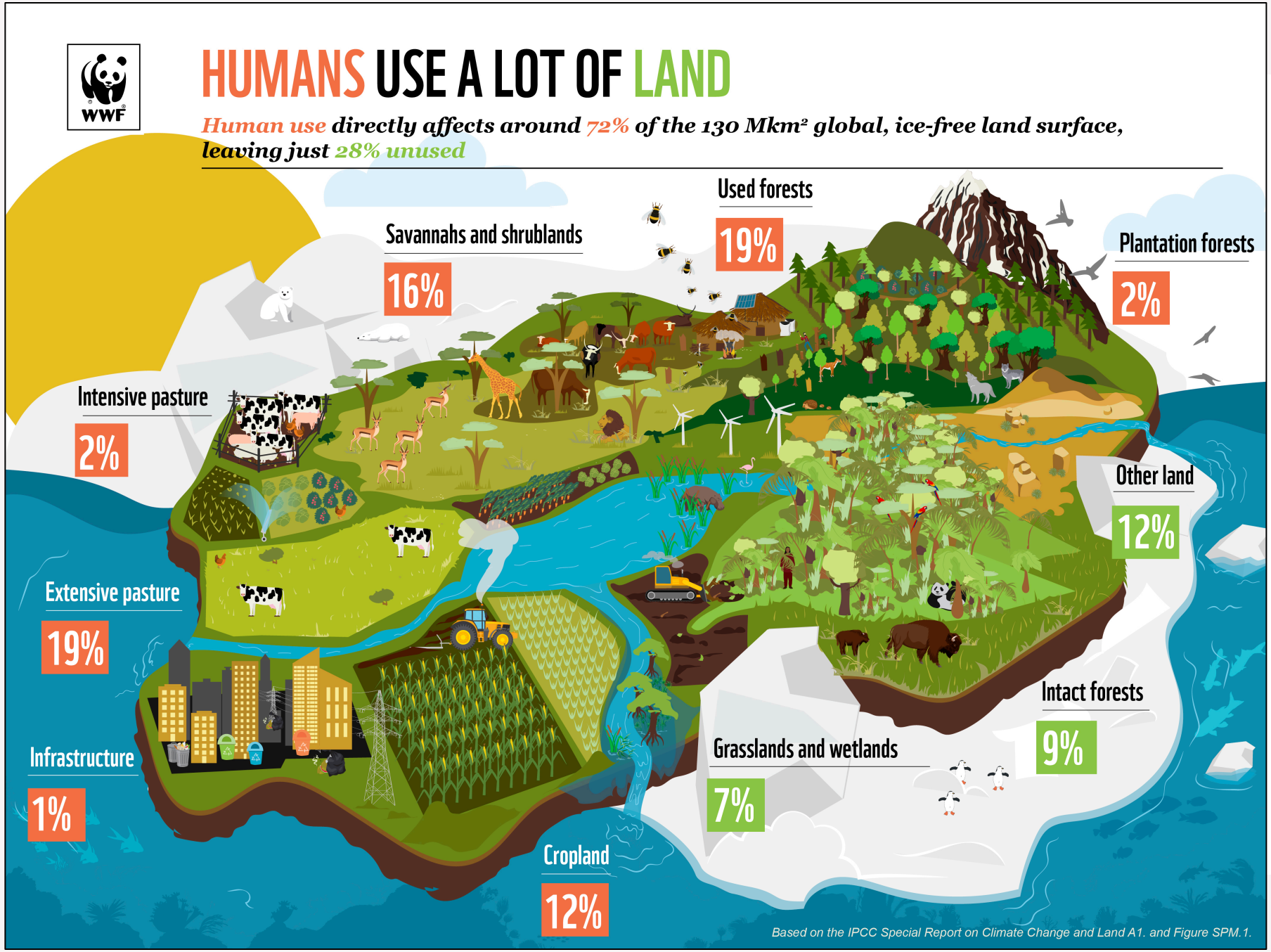
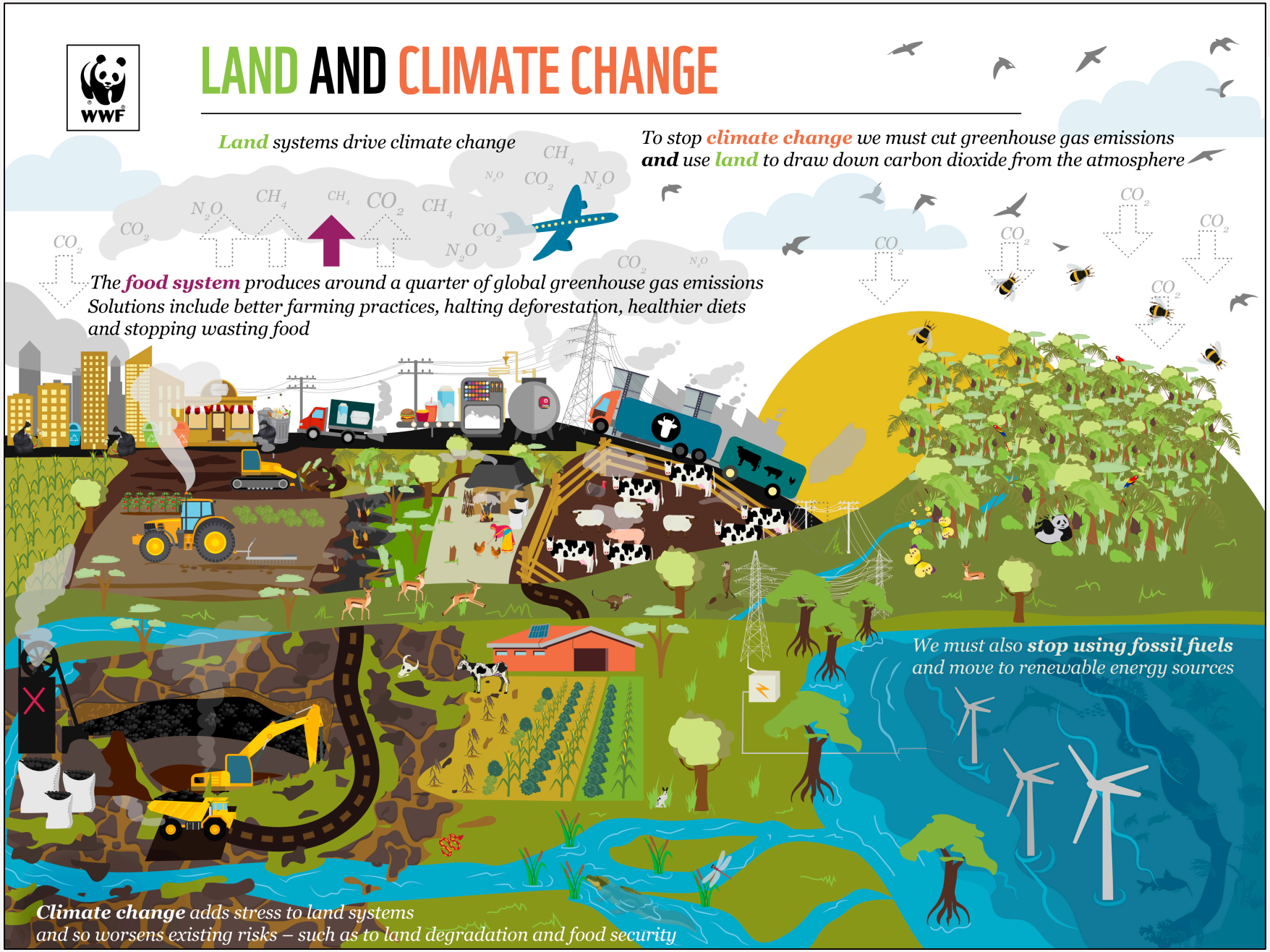


Bulletin Source H page 94

Activity pages 73-74

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 using this link



Bulletin Source I page 95

Activity page 74

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 using this link

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Bulletin Source J
page 95

Activity page 74-75

SOURCE:
https://wwf.panda.org/our_work/climate_and_energy/ipcc_land/

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