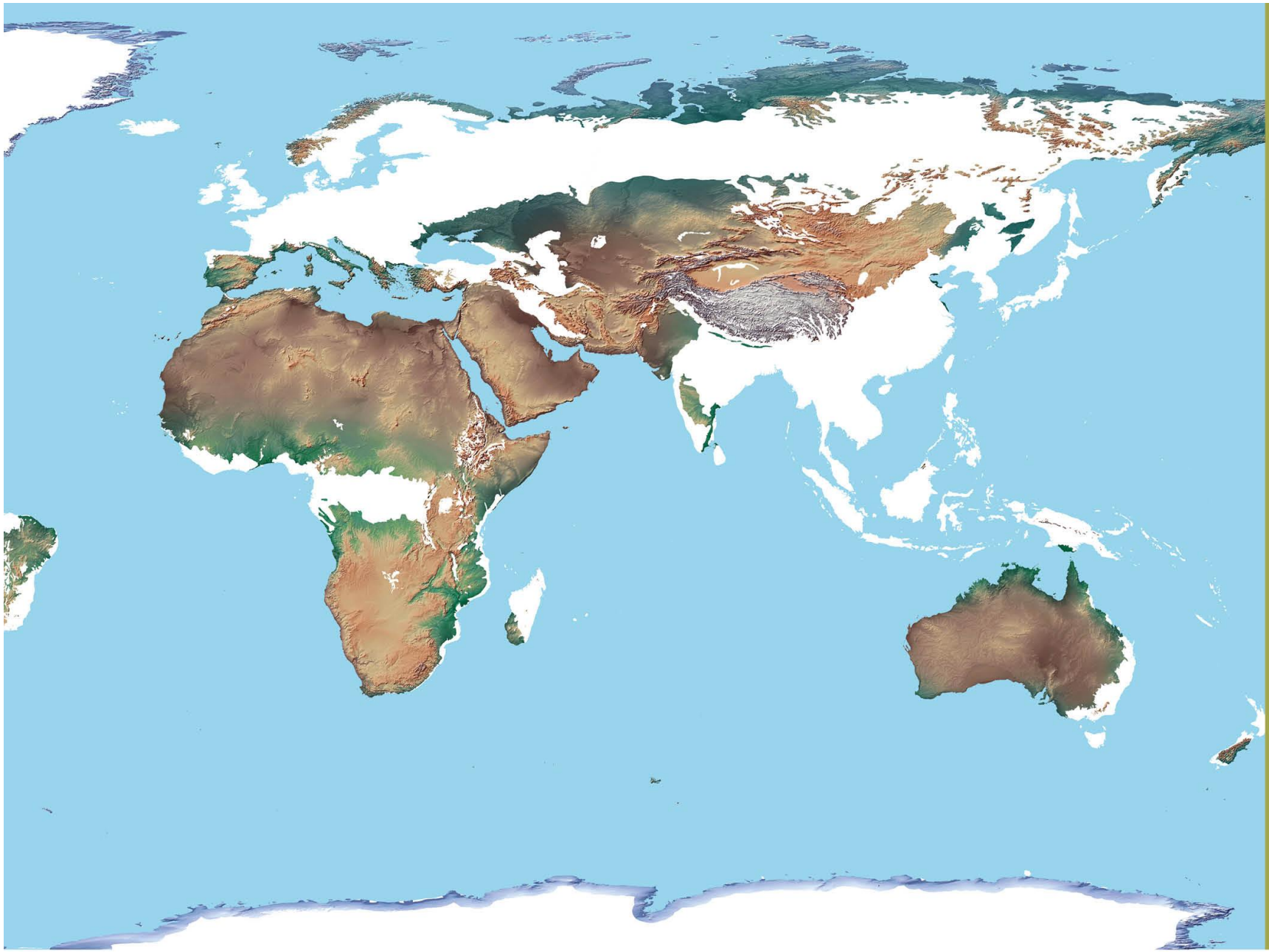


RangelandsATLAS

INTERNATIONAL LAND COALITION

RANGELANDS INITIATIVE GLOBAL

IUCN

WWF

UN environment programme

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

Food and Agriculture Organization of the United Nations

ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

CGIAR

Why an Atlas on rangelands?

- To start filling data gaps in terms of maps and key data/figures
- To raise awareness on the enormous environmental, economic and social value of rangelands as well as their different ecosystems.
- To start exploring the different changes taking place in rangelands, including those being monitored at global levels such as land degradation neutrality and climate change.
- To provide a platform for local voices to describe what they are doing to respond to these changes and the challenges that they face.
- To strengthen global collaboration on rangelands.

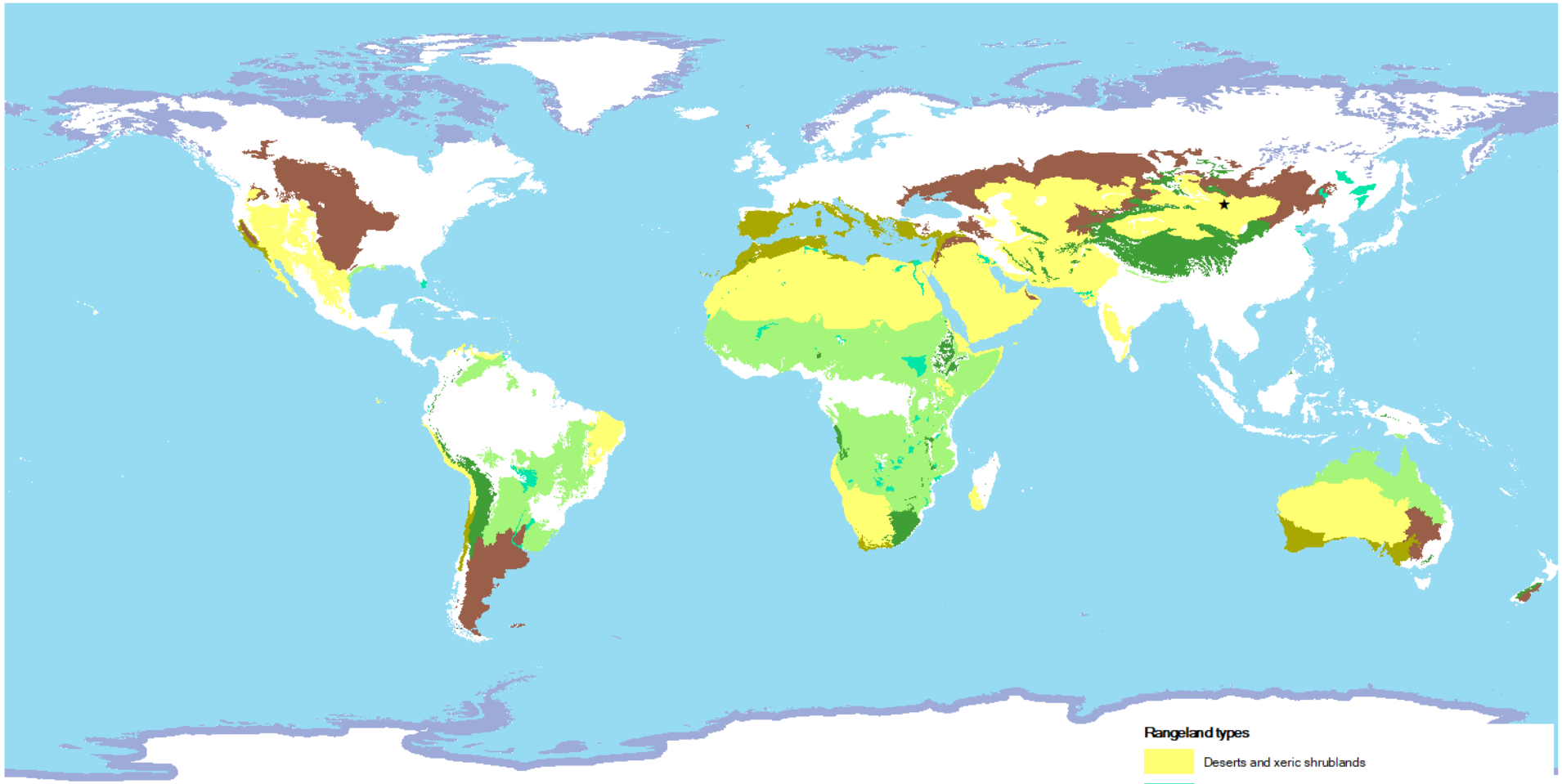
How was the Atlas produced?

- The spatial mapping of rangelands was produced by focusing on seven of the 14 global biomes categorised by WWF in their mapping of terrestrial ecoregions around the world.
- The map of rangelands is combined with other existing global datasets on different themes, to produce a mapping of that data “for rangelands.”

Credit: Marco Buemi

ILRI, 2021

Distribution of rangeland types globally



No	Rangeland types	Area km^2
1	Deserts and xeric shrublands	27,984,644.64
2	Flooded grasslands and savannas	1,096,129.62
3	Mediterranean forests, woodlands, and scrub	3,227,266.28
4	Montane grasslands and shrublands	5,203,411.00
5	Temperate grasslands, savannas, and shrublands	10,104,079.63
6	Tropical and subtropical grasslands, savannas, and shrublands	20,295,424.19
7	Tundra	11,598,465.28
	Total	**79,509,420.63**

Source1: Terrestrial ecoregions of the world. Downloaded in 2021 from: https://globil-panda.opendata.arcgis.com/datasets/wwf-priority-35-ecoregions?geometry=-172.266%2C-86.819%2C172.266%2C89.233. Original source: Olson, D. M., Dinerstein, E., Wikramanayake, E. D., Burgess, N. D., Powell, G. V. N., Underwood, E. C., D'Amico, J. A., Itoua, I., Strand, H. E., Morrison, J. C., Loucks, C. J., Allnutt, T. F., Ricketts, T. H., Kura, Y., Lamoreux, J. F., Wettengel, W. W., Hedao, P., Kassem, K. R. 2001. Terrestrial ecoregions of the world: a new map of life on Earth. Bioscience 51(11):933-938

What is the Atlas?

- Currently 16 sets of maps covering different themes.
- Key data; a story from the field; explanation of terminologies.
- We are reliant on the accuracy of the datasets we have accessed: the data have not been verified on the ground, and we will be looking for ways to do this.
- The Atlas is work in progress: a living document!

Distribution of rangeland types globally

Rangelands are diverse in their vegetation driven by highly fluctuating rainfall, temperature and other climate phenomena, and influenced by soils and management practices. Rangelands have many economic, ecological, social, and cultural values, and a wealth of biodiversity that supports ecosystem health.

This map has been produced using seven of fourteen biomes or rangeland types made up of terrestrial ecoregions as defined by WWF. For more information on these terrestrial ecoregions see:
https://www.worldwildlife.org/publications/terrestrial-ecoregions-of-the-world

KEY DATA

1. Rangelands cover 54% of global terrestrial surface (148,326,000 km²) to a total of 79,509,421 km².
2. The largest rangeland biome is deserts and xeric shrublands covering 27,984,645 km² or 19% of global terrestrial surface.
3. Rangelands are made up of seven biomes or rangeland types namely: 35% deserts and xeric shrublands, 1% flooded grasslands and savannas, 4% mediterranean forests, woodlands and scrub, 6% montane grasslands and shrublands, 13% temperate grasslands, savannas and shrublands, 26% tropical and subtropical grasslands, savannas and shrublands, and 15% tundra.

Reversing rangeland degradation through collective participatory rangeland management in Mongolia

Normally, rangelands are made up of diverse ecozones and biomes that together form productively viable natural and managed ecosystems and landscapes. In Mongolia rangelands are mainly made up of grasslands dominated by grasses, sedge and forbs, with yearly productivity variation being small. These rangelands of Mongolia comprise approximately 70% of the total national territory and are the backbone of the rural economy, providing food security for the entire nation. Livelihoods of 200,000 nomadic herder households are directly dependent on the rangeland for livestock production.

After the disbanding of Soviet cooperatives in the mid-1990s, and a transition to a market-oriented economy after 70 years of central planning, 25 million national livestock were privatized and transferred back to herder households, while the rangelands remained state property. Left unchecked for two decades, the herders, who consider security, income and status in large flocks and herds, have increased livestock numbers three-fold. The current livestock population of 67 million significantly exceeds the overall carrying capacity of the rangelands. The impact of years of overgrazing has led to rangeland degradation. According to the *National Rangeland Health Assessment Report* of 2018, 57% of the Mongolia's rangeland is degraded to different degrees.

In the past 10 years or so, numerous research trials have been conducted on an array of modern technologies to identify how pastures could recover from degradation. The trials revealed that the technical rehabilitation of degraded rangelands is both difficult and costly. In addition, they found that the best method is a return to traditional rotational grazing and resting practices, regulated by a grassroots-level system of collective user controls, and supported by improvements to the legal framework, including for land-user rights.

Building on such measures through different projects and following a process of participatory rangeland management (PRM), customary collective institutions of herder households with shared rangelands have established pasture user groups (PUGs). PUG members define the boundaries of grazing areas and regulate their use based on a common rangeland management plan. These plans form the basis for the establishment of rangeland use agreements between PUGs and the local government, serving as a means to enforce and monitor implementation of the plans.

Records show that five million hectares of degraded rangelands are now being rested for a period of two to five years through contracts negotiated between the herders and local governments. Furthermore, PUGs are evolving as an institutional platform to implement not only pasture-management activities, but also to provide for the extension and marketing needs of herder communities. The project is also working through a One Health approach to improve the health of livestock, people and the land as well as preventing, controlling and monitoring livestock disease.

For more information, please see:
http://www.greenmongolia.mn
http://en.greenmongolia.mn/post/61980

Experience of herder family:
http://en.greenmongolia.mn/post/57021

Nomadic livestock husbandry towards sustainable development presentation: http://en.greenmongolia.mn/post/57025

Implementing One Health in Mongolia's Rangelands:
https://www.youtube.com/watch?v=wfrBfD6q-4o

A strengthening partnership on rangelands at global level

- This Atlas is a collaborative initiative of the International Livestock Research Institute (ILRI), International Union for Conservation of Nature (IUCN), Food and Agricultural Organization (FAO) of the United Nations, World Wide Fund for Nature (WWF), the United Nations Environment Programme (UNEP), and the global Rangelands Initiative of the International Land Coalition (ILC).
- It reflects a strengthening, global movement to protect, restore and appropriately invest in rangelands, as we move forward to the UN Decade of Ecosystem Restoration.

We thank all our supporters including the mappers, publishers, web designers and communication teams.

The Atlas is available for downloading from the Atlas website: http://rangelandsdata.org/atlas

With support from