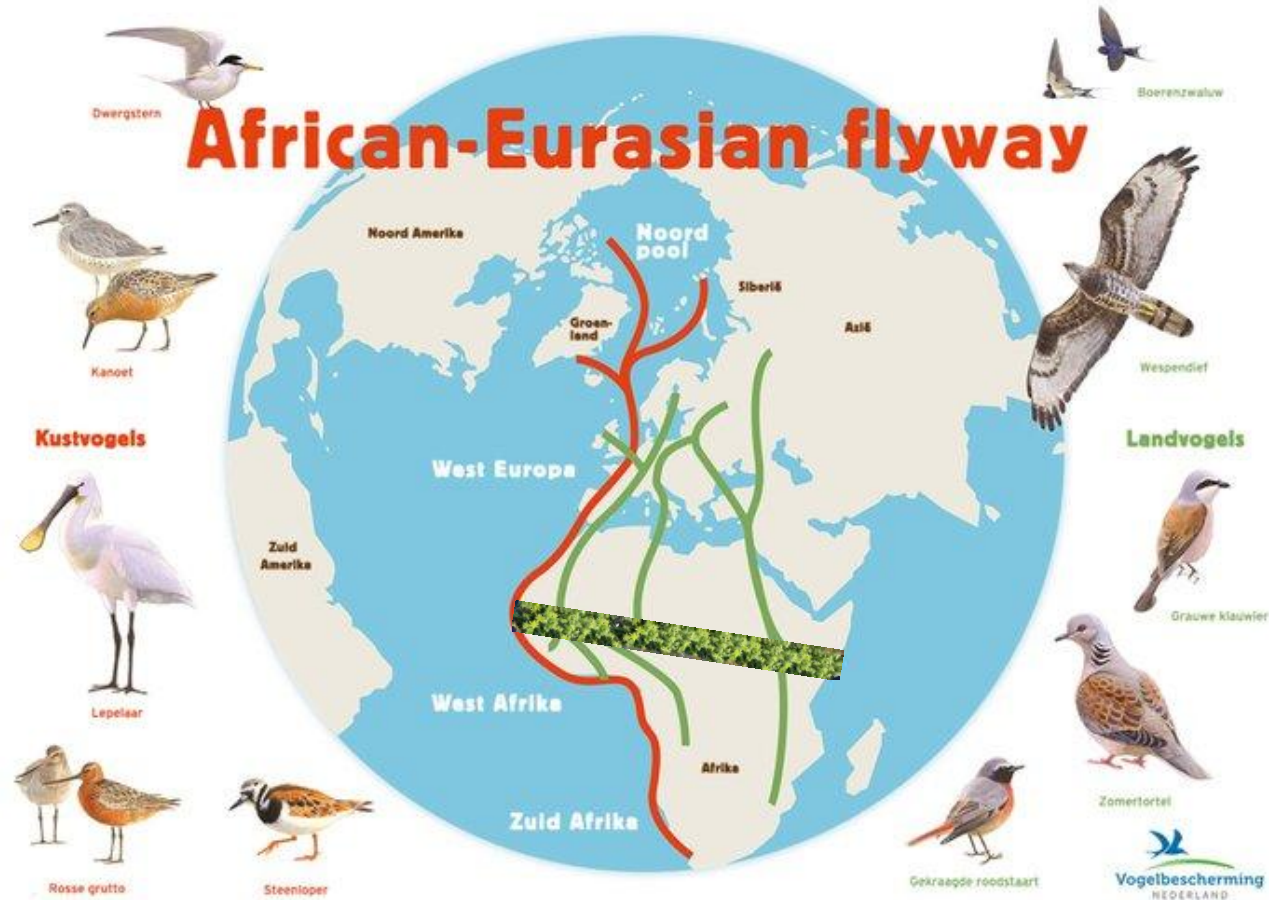


Biodiversity benefits of the Great Green Wall, even in Eurasia

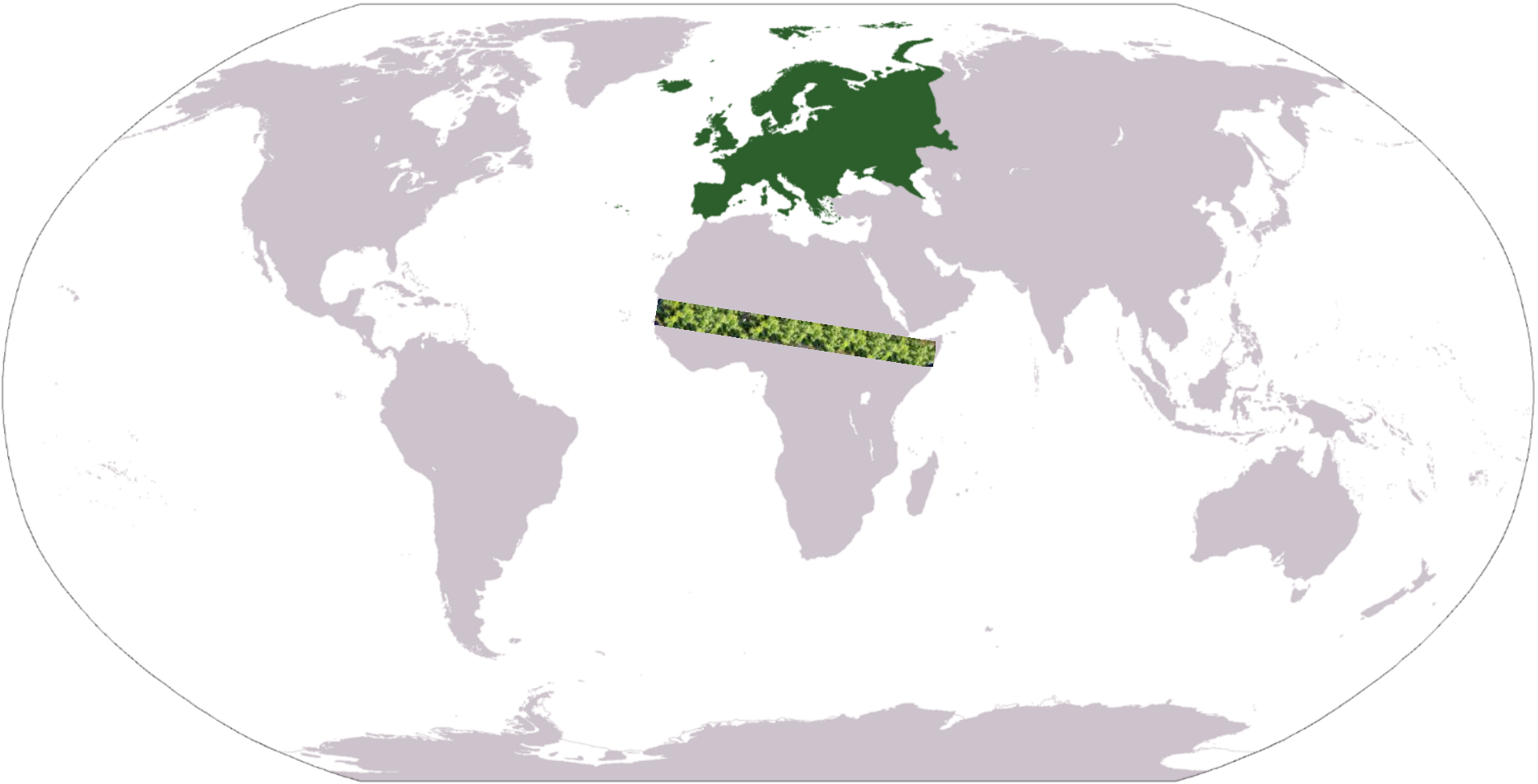


Eddy Wymenga
Leo Zwarts
Jaime Garcia Moreno

Bird Migration Africa - Eurasia

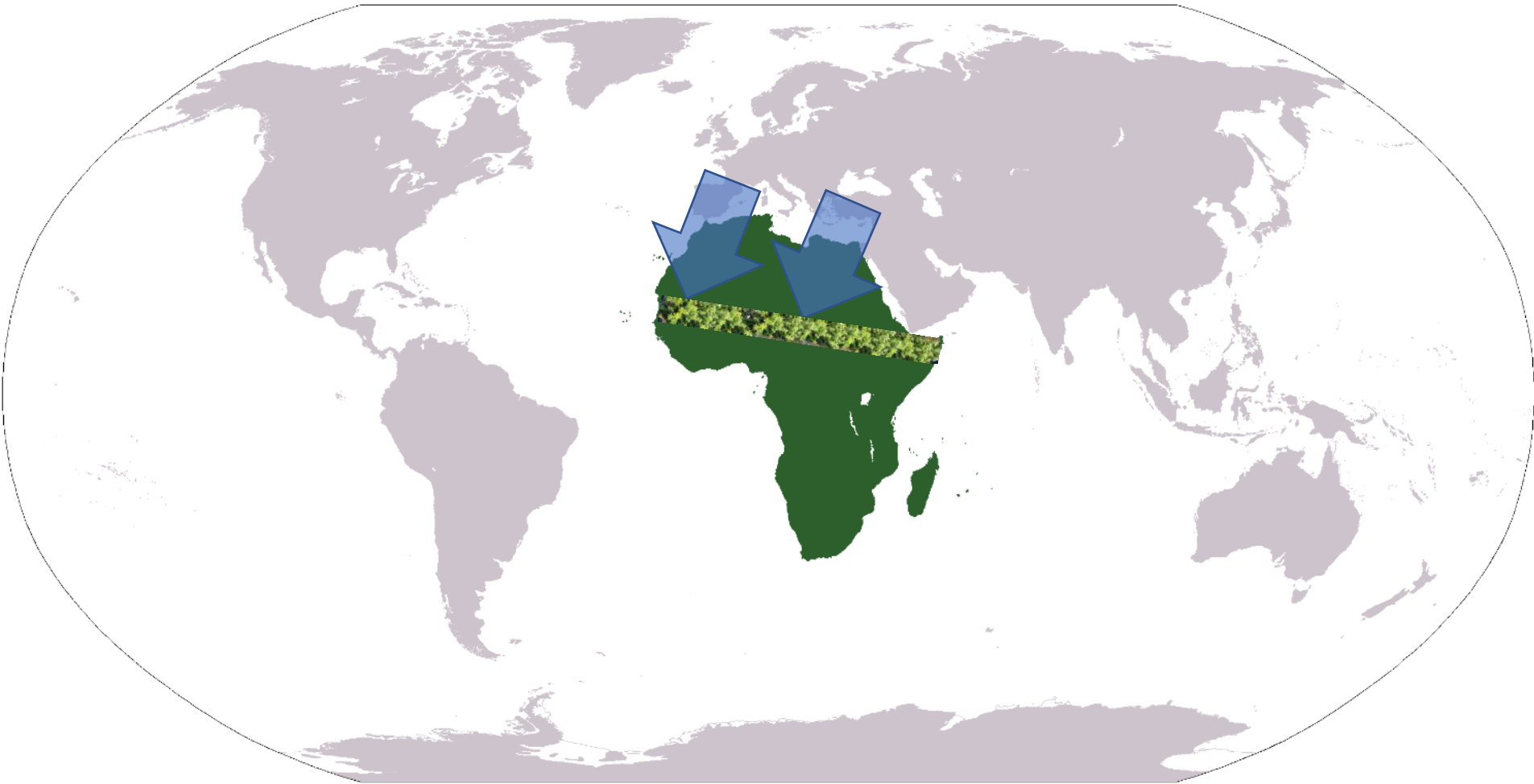


Europe: 10 million km²



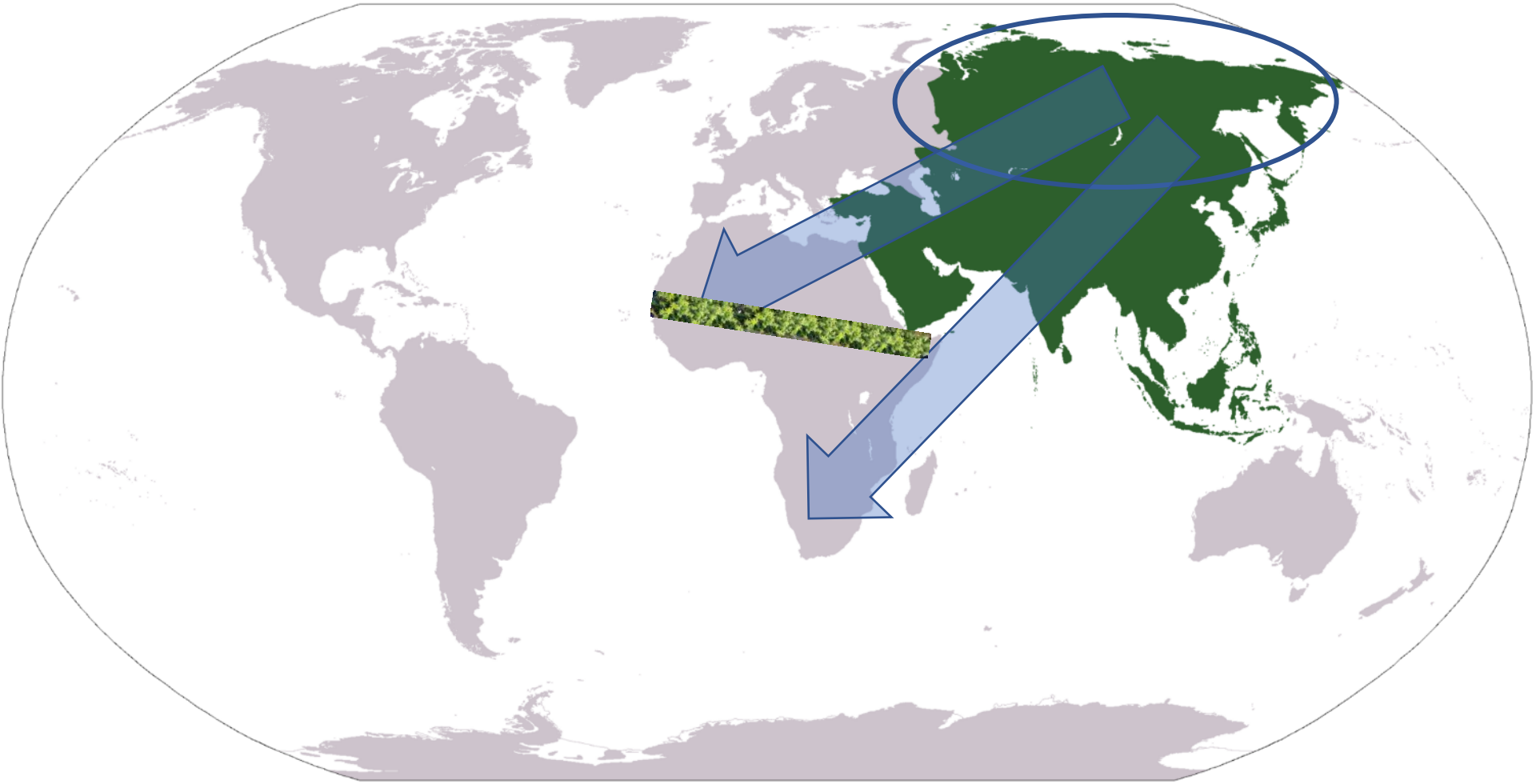
500 species bird species; $\frac{1}{4}$ → Africa south of Sahara
8 billion birds; $\frac{1}{4}$ → Africa south of Sahara

Africa: 30 million km²

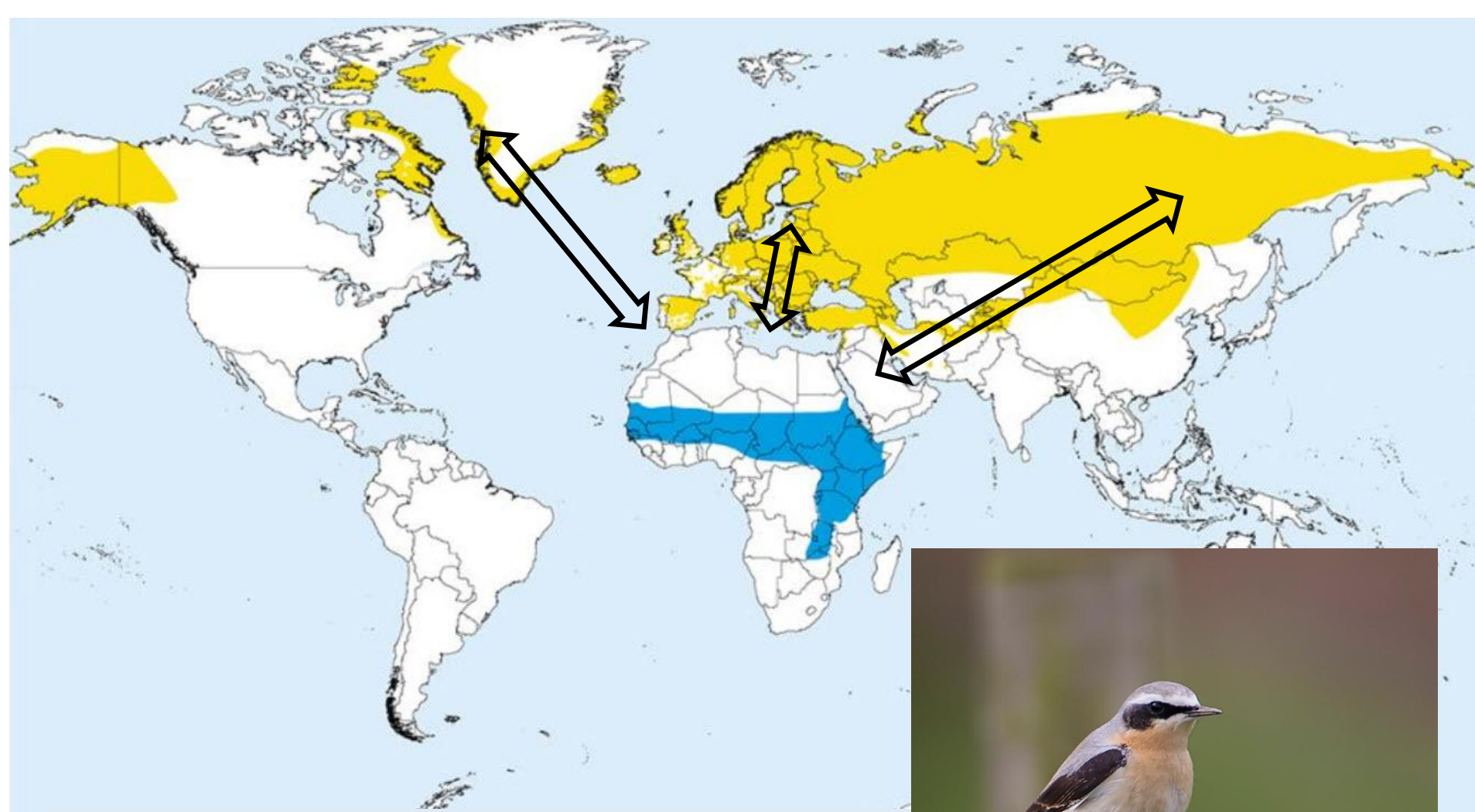


Two billion birds breeding in Europe spend winter in Africa

Asia: 44 million km²

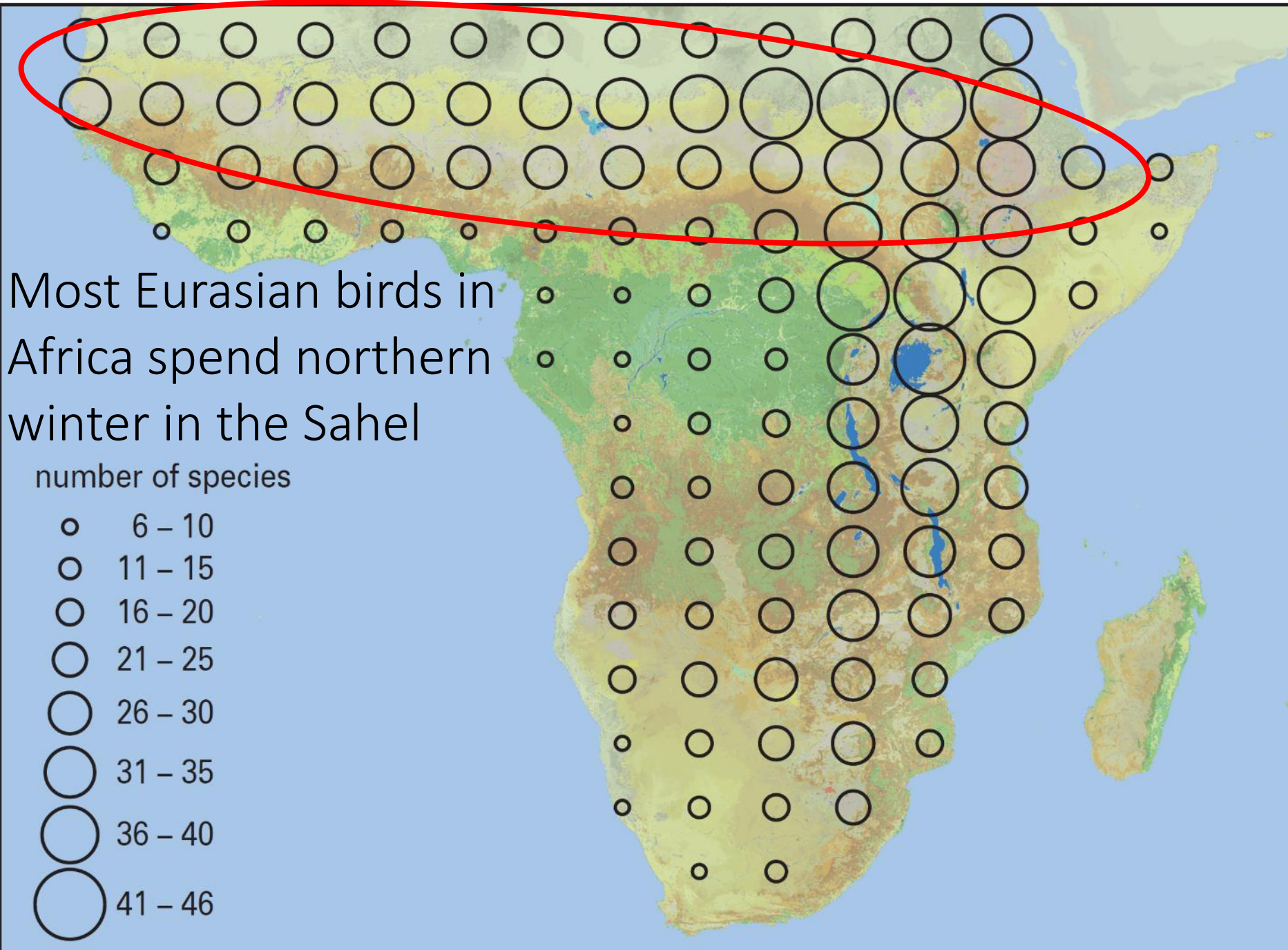


?? billion birds from Asia spend winter in Africa

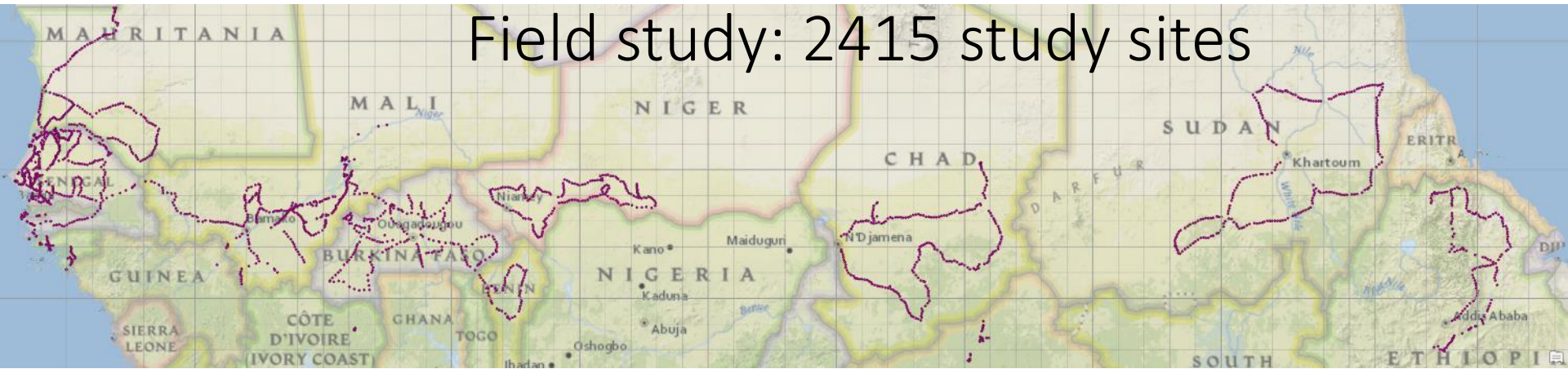


All Wheatears breeding in Asia, Europe and America winter in Africa





Field study: 2415 study sites



Great Green Wall



Overlap our 2415 sites and Great Green wall

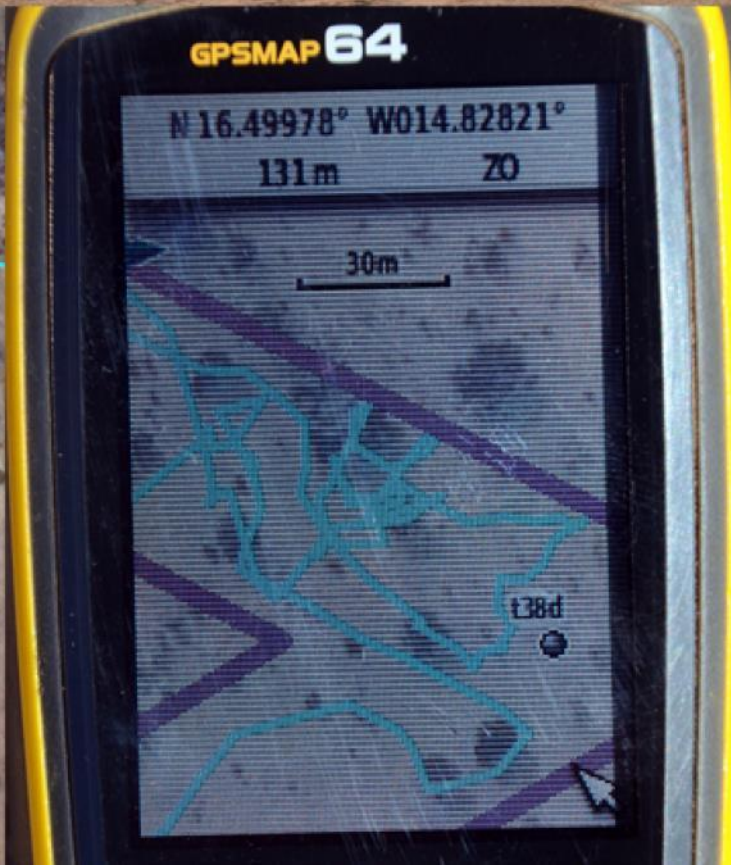
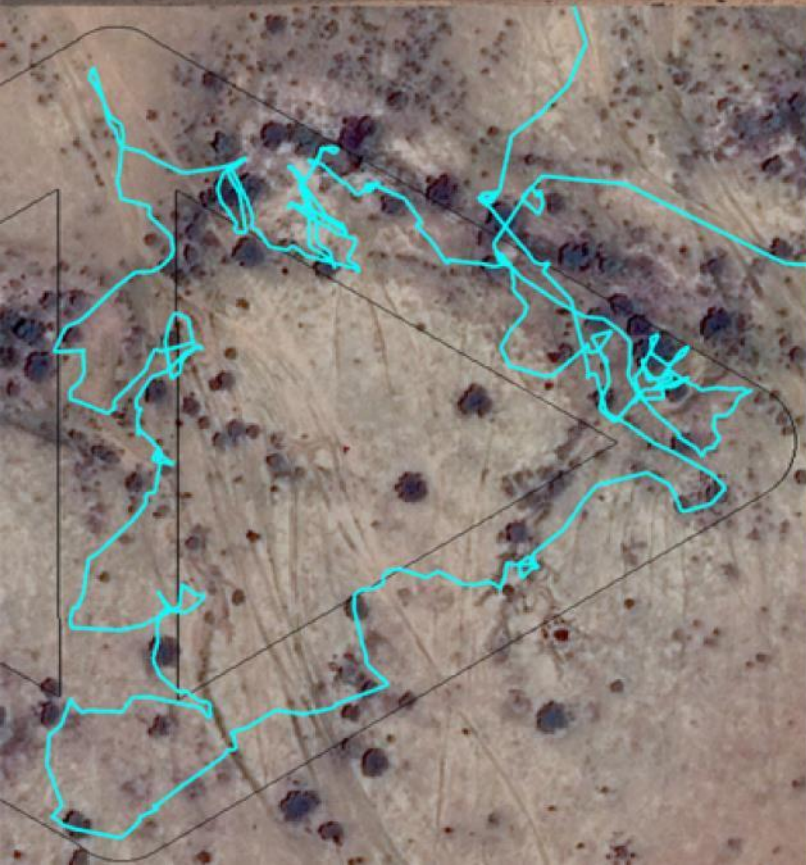




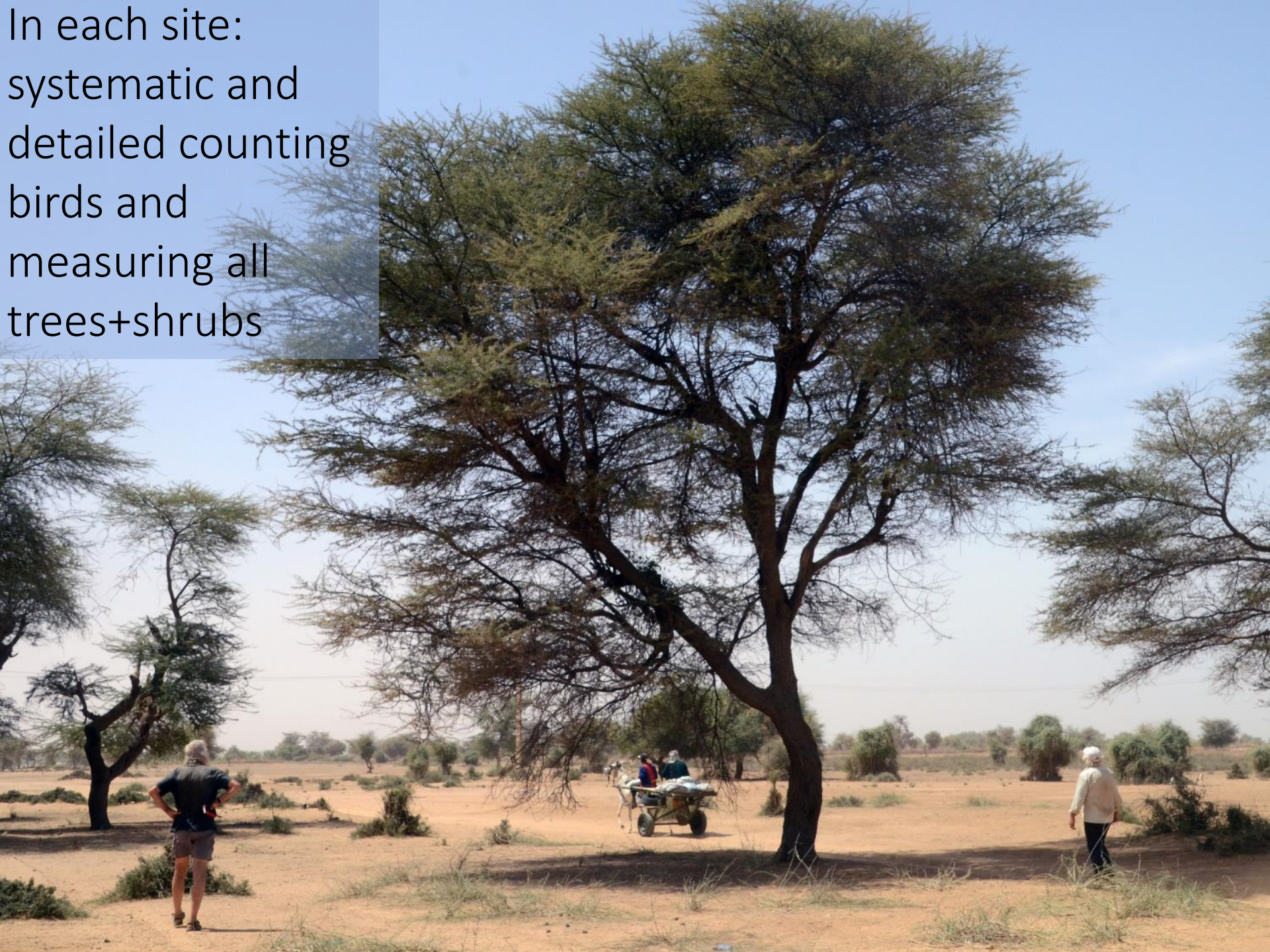
Study site

3 transects

300 x 50 m



In each site:
systematic and
detailed counting
birds and
measuring all
trees+shrubs

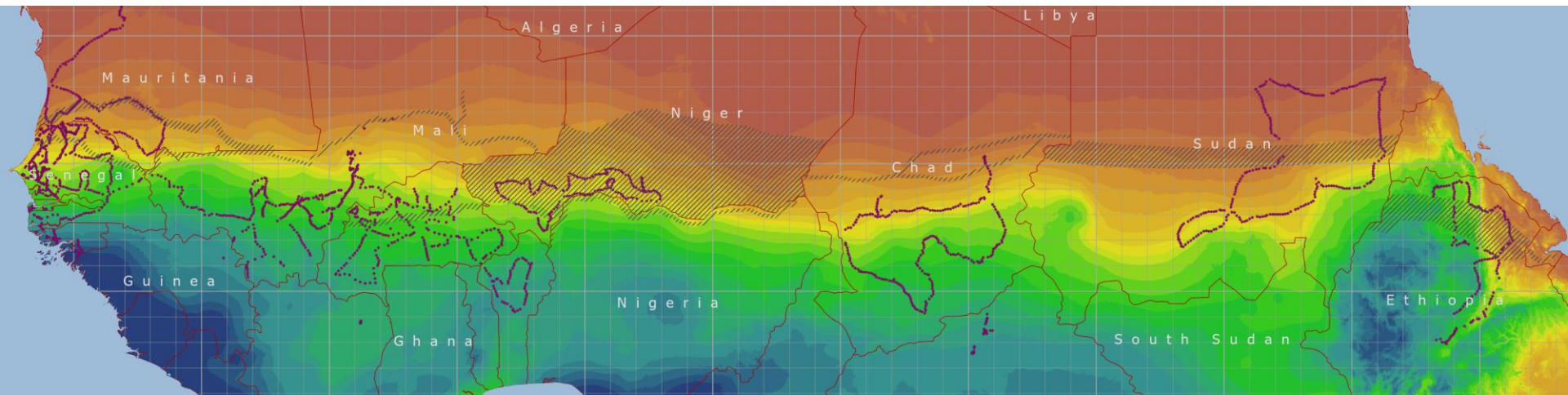




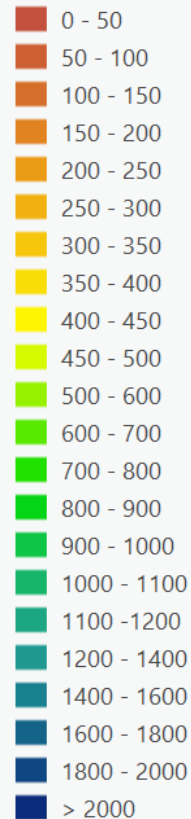
Laborious work



Average annual rainfall (mm)



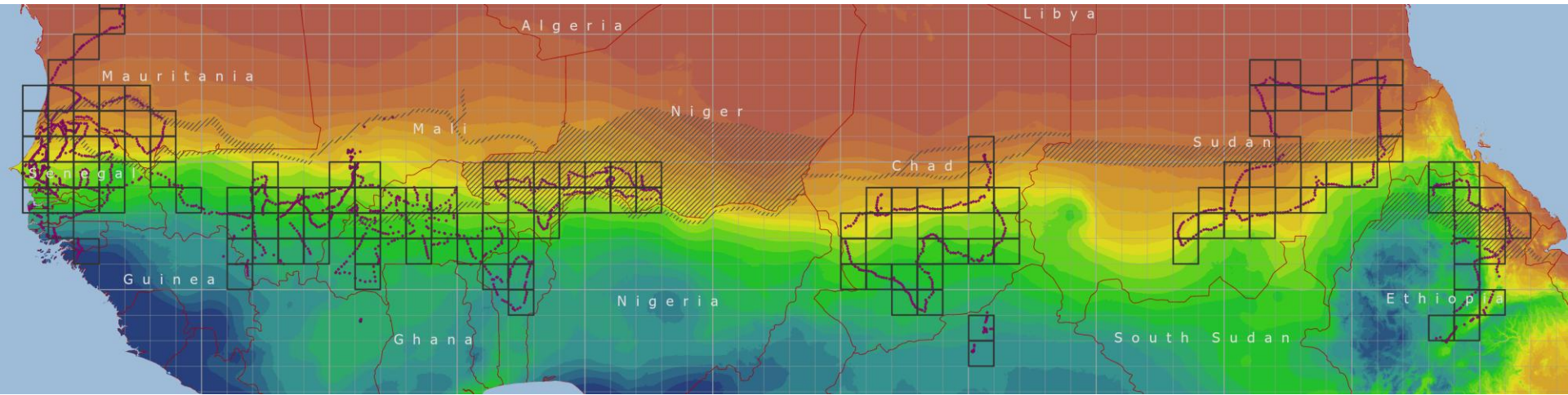
Annual rainfall increases from 50 mm in the dry north to >2000 mm in the humid south



Annual rainfall at *Great Green Wall* mostly 200 - 500 mm



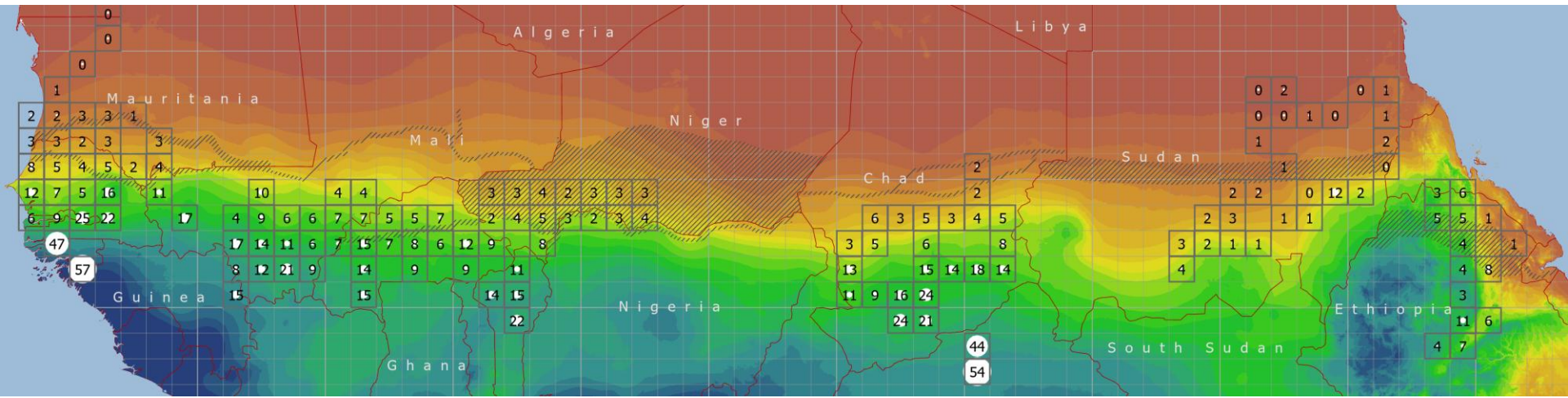
Average annual rainfall (mm)



Measurements in our 2451 study sites were used to calculate per longitude/latitude:

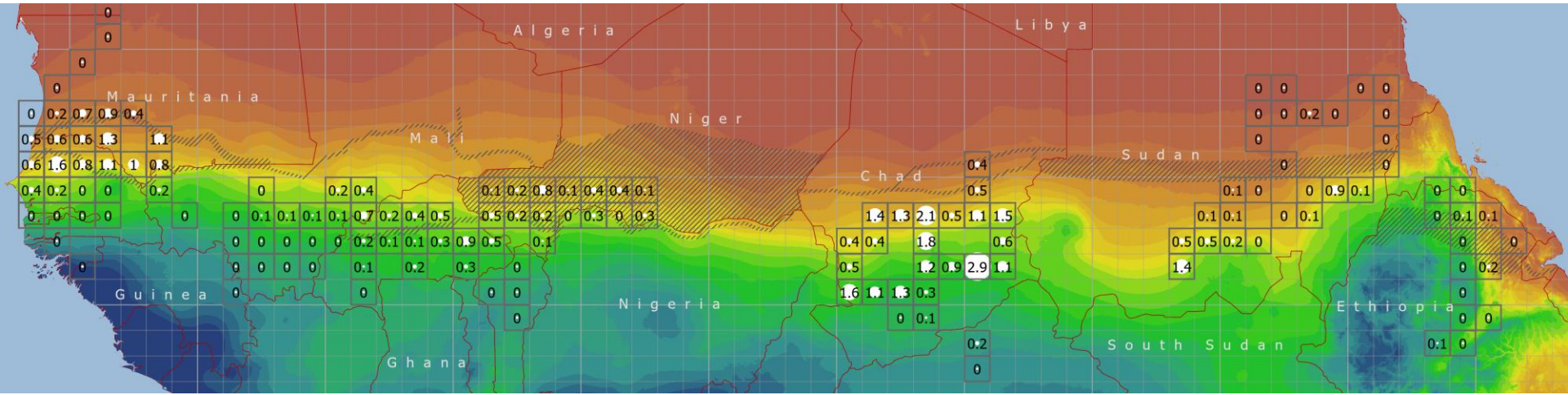
- Average woody cover of all tree and shrub species
- Average density of all bird species

Woody cover (all species, %) and average annual rainfall (mm)



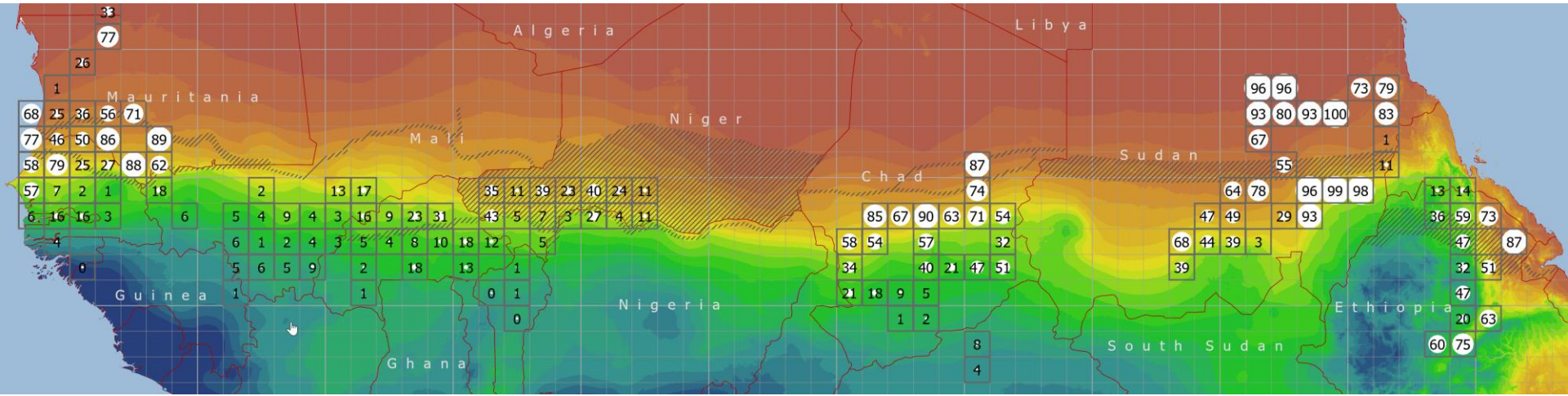
Woody cover increases from 0% in dry north to 50% in humid south, being 1-4% at *Great Green Wall*

Woody cover of *Balanites aegyptiaca* (%) and average rainfall (mm)



Balanites is dominant tree species in *Great Green Wall*, mainly found at annual rainfall of 100-700 mm

Part of woody cover being thorny (%) and average annual rainfall (mm)

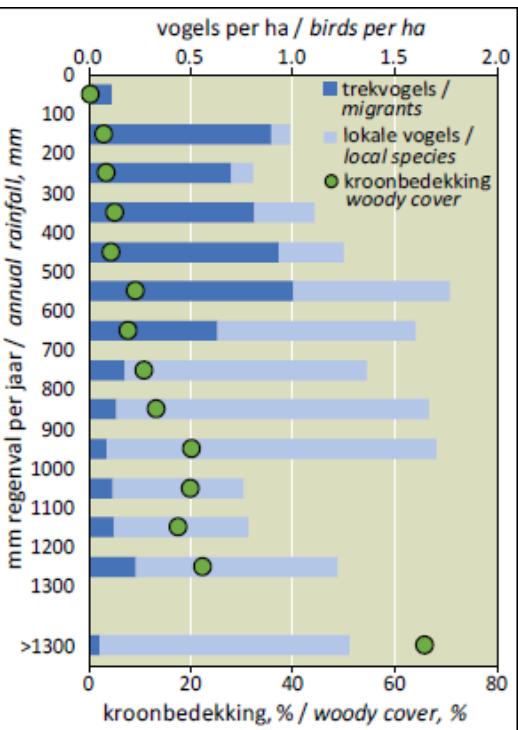
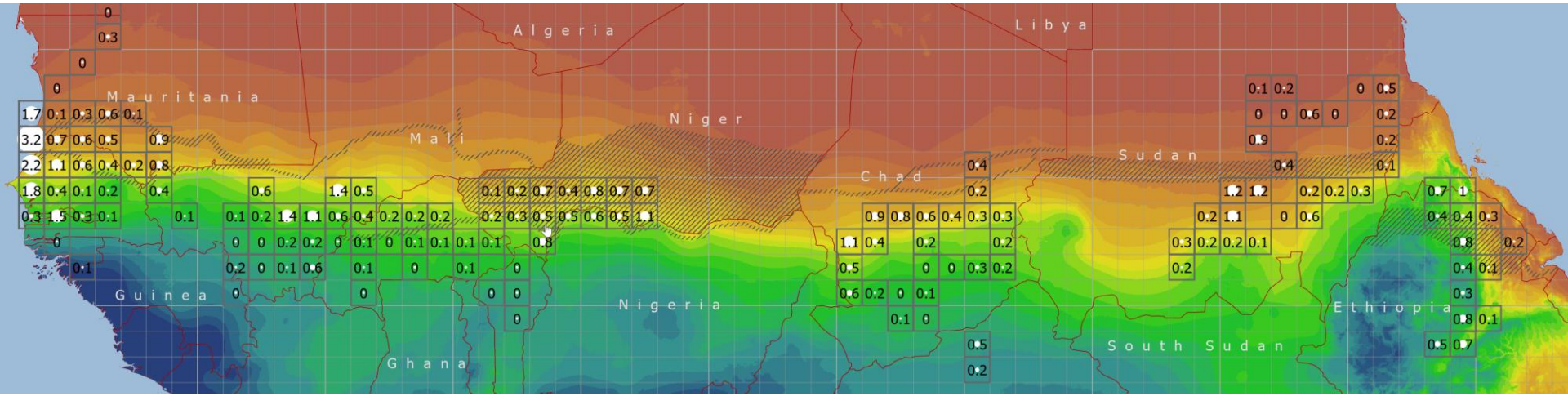


Most trees in dry north have thorns (*Acacia spec.* and *Balanites*), also in *Great Green Wall*




Acacia's invest in quick growth
and thorns, but not in natural
insecticides in leaves. Therefore
many insects (caterpillars) and ...
birds

Migratory birds bound to trees (n/ha) and average annual rainfall (mm)



Migratory birds mainly found in trees with thorns (*Acacia spec.* and *Balanites*)

*GGW initiatives to reinforce tree cover
of indigenous trees supports migratory birds*

An aerial photograph of a savanna landscape. The terrain is a mix of dry, yellowish-brown grass and patches of green. Numerous trees of various sizes and colors (green, brown, grey) are scattered across the landscape. A thin blue line originates from the top of the text above and points down to a semi-transparent text box in the lower right quadrant. The text box contains the text: "often the same trees which are used by the local rural communities".

often the same trees
which are used by the
local rural communities



Biodiversity profits from *Great Green Wall*,
from Africa to Eurasia



Thanks for your attention!

