

Far Flung Forest Landscapes in the Anthropocene

Structural analysis of China's embodied forest network

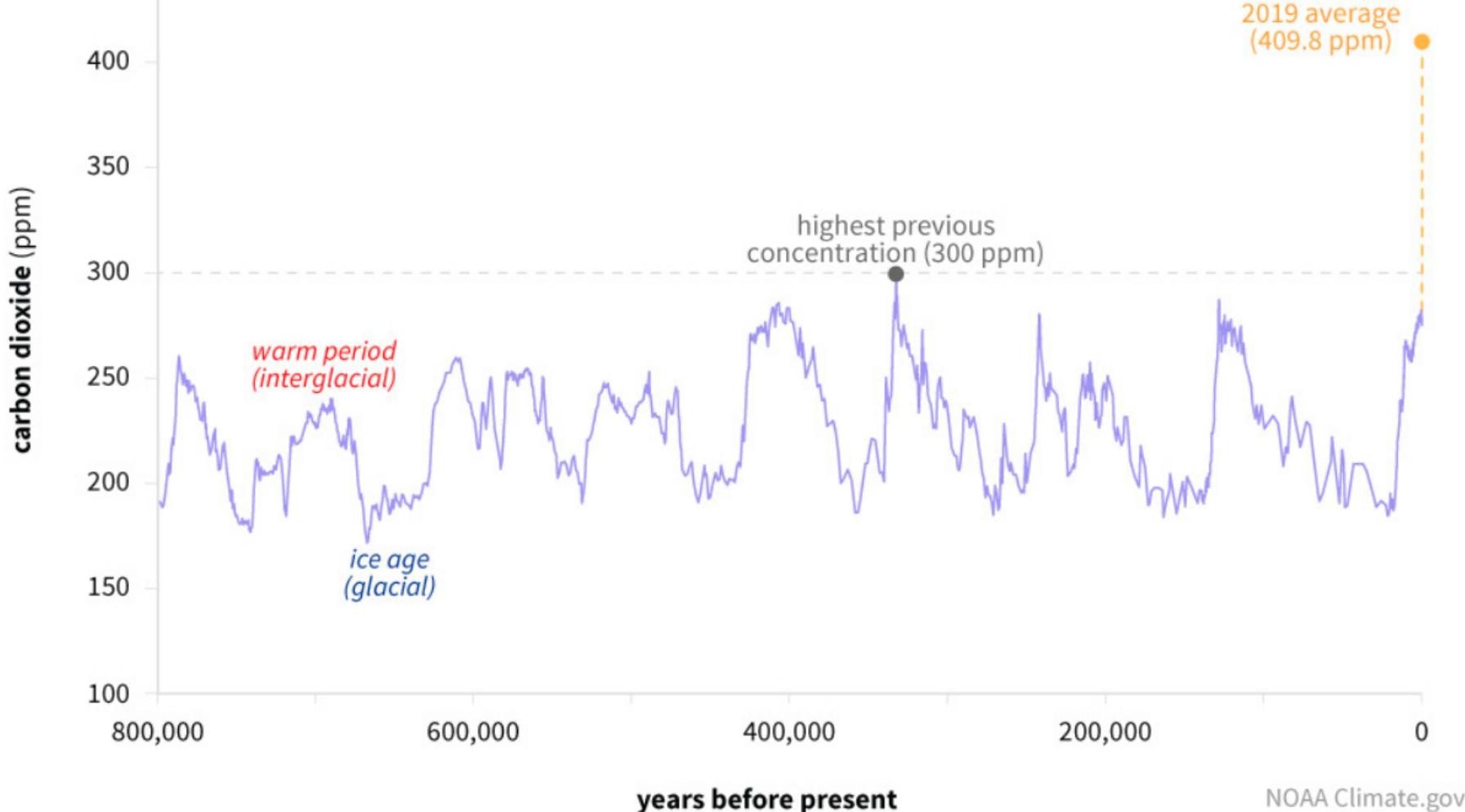
M.K. Lau (Ph.D.)

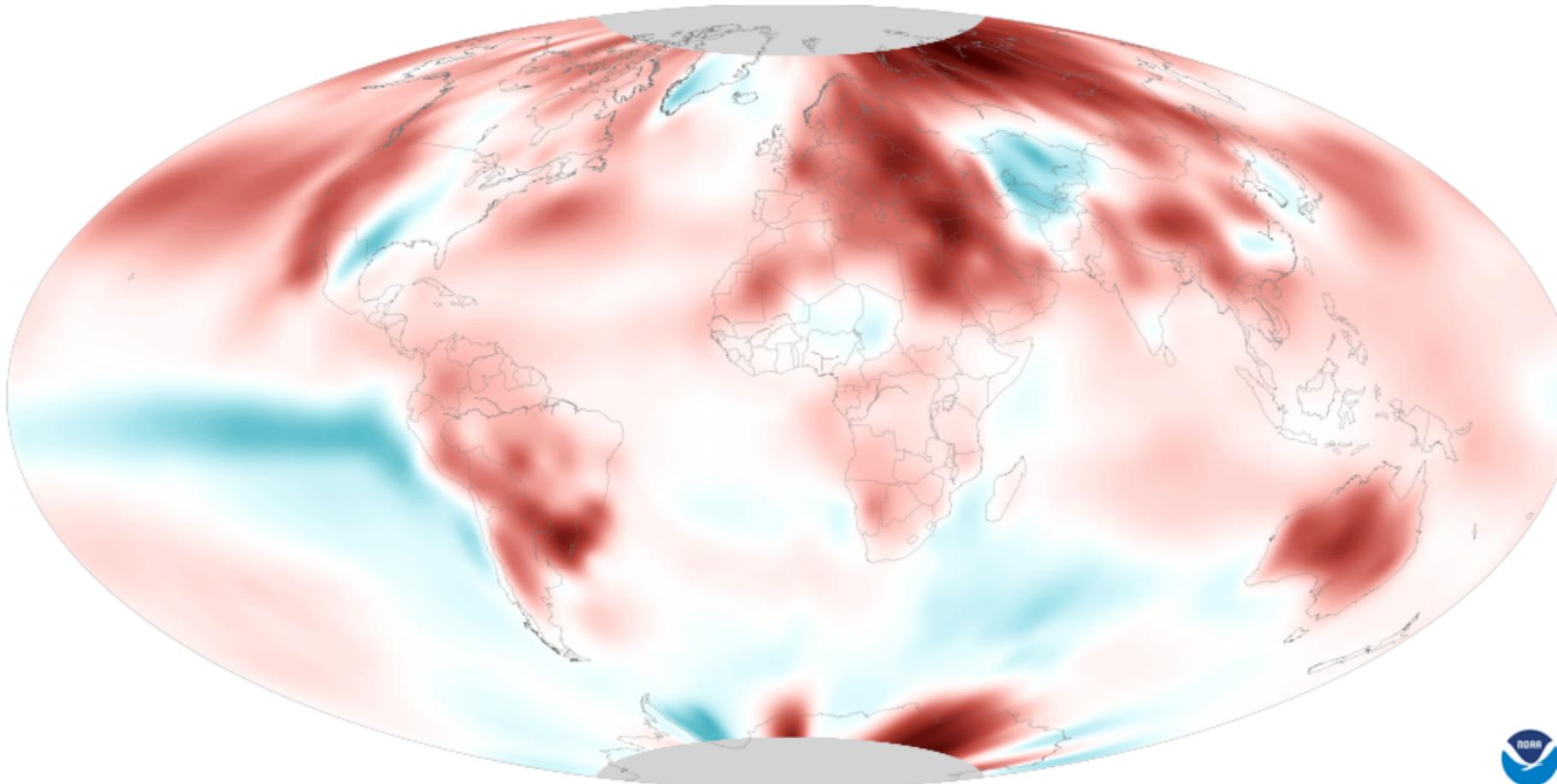
Chinese Academy of Sciences and Harvard University



ECLIPSE Ice Drill







September 2020
Compared to 1981-2010

Difference from average temperature (°F)

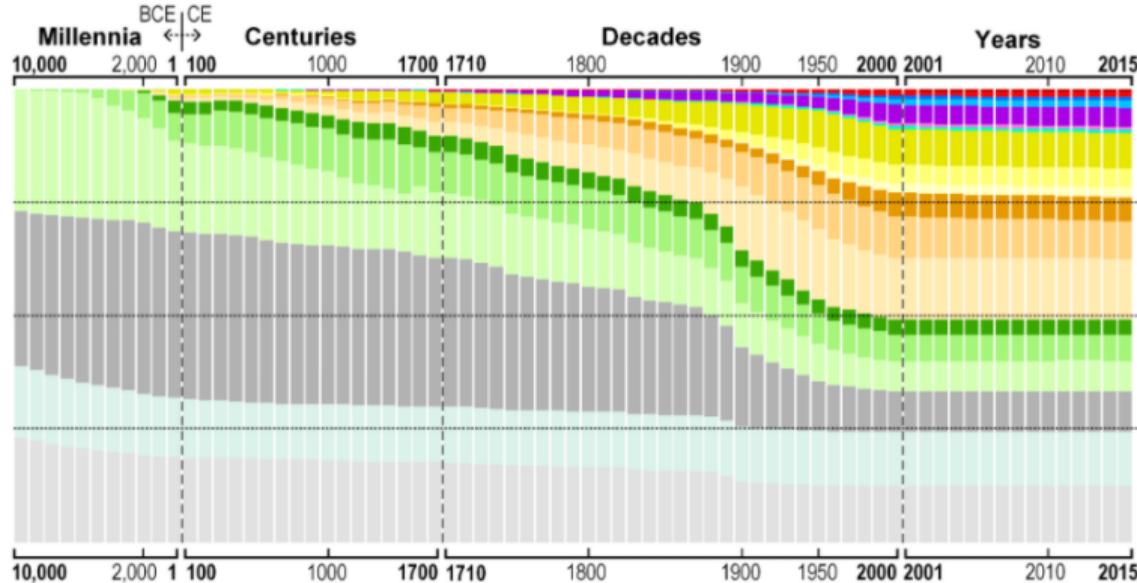
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NOAA NN
Data: NC

Anthropogenic biomes: 10,000 BCE to 2015 CE

Changes in anthrome classes as % global land area



Used

Dense Settlements

- Urban
- Mixed settlements

Villages

- Rice villages
- Irrigated villages
- Rainfed villages
- Pastoral villages

Croplands

- Residential irrigated croplands
- Residential rainfed croplands
- Populated croplands
- Remote croplands

Rangelands

- Residential rangelands
- Populated rangelands
- Remote rangelands

Seminatural

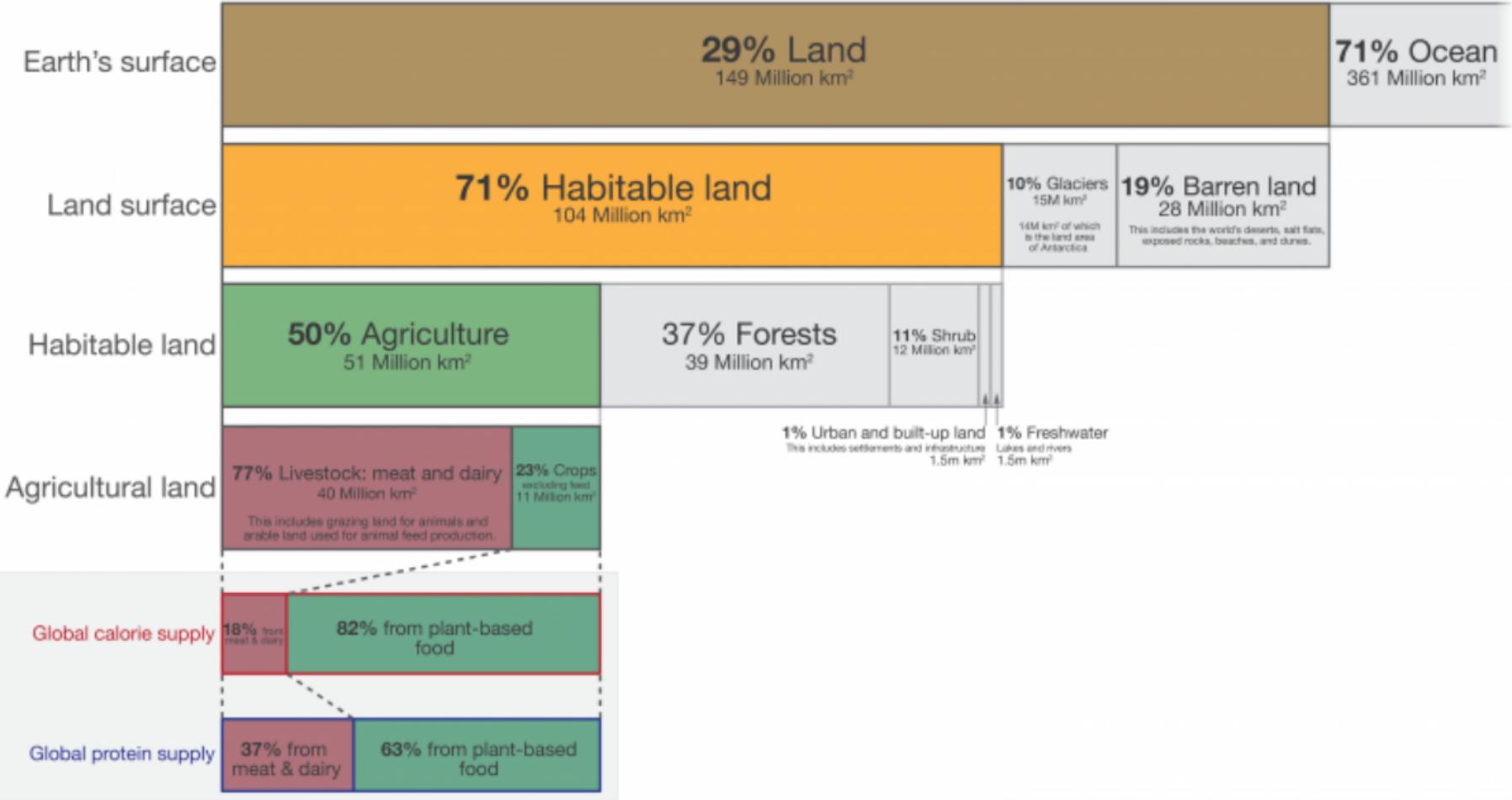
Seminatural

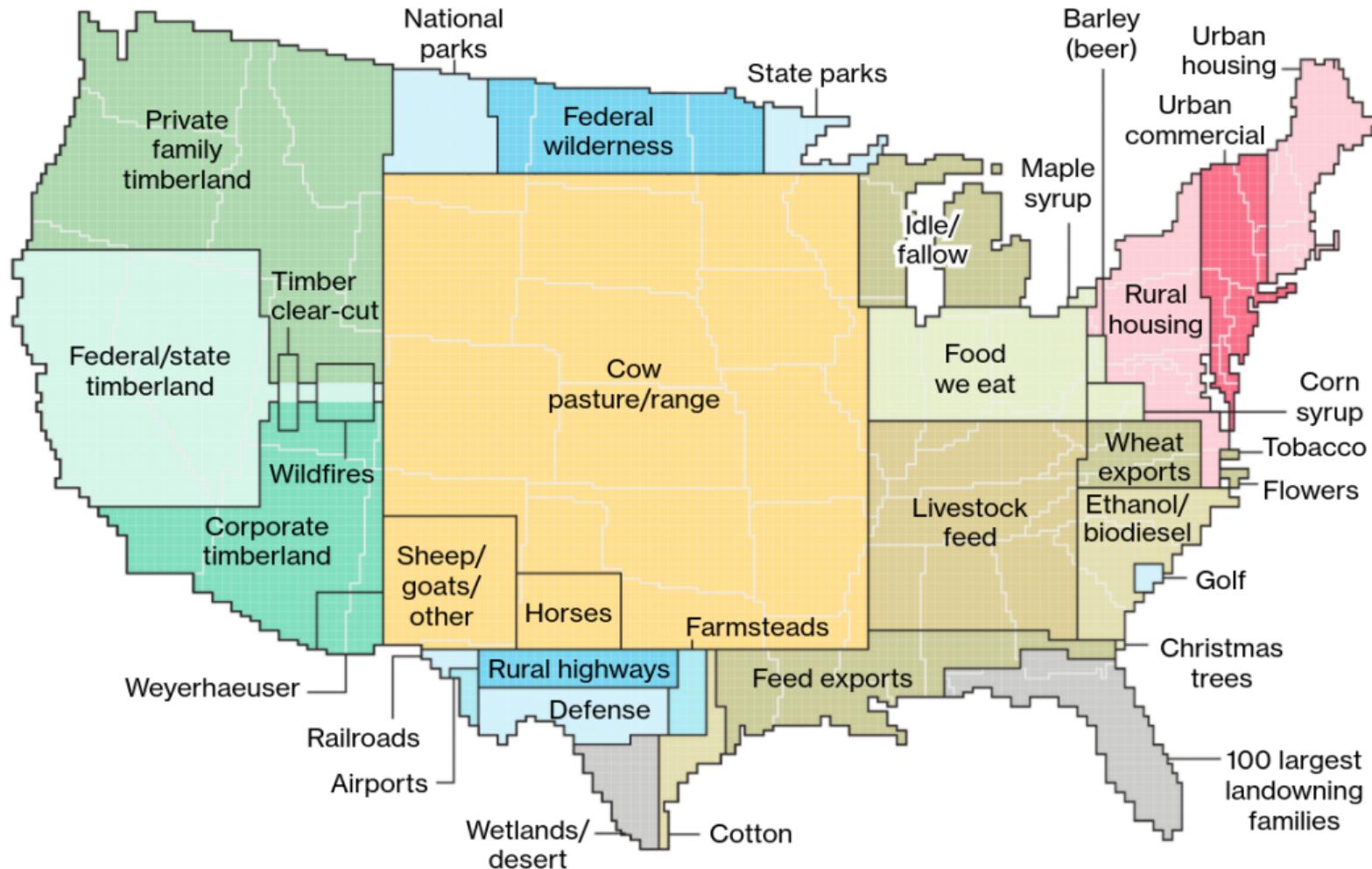
- Residential woodlands
- Populated woodlands
- Remote woodlands
- Inhabited treeless & barren lands

Wild

Wildlands

- Wild woodlands
- Wild treeless & barren lands
- Ice, uninhabited





Forests in the Anthropocene





Forests are Important

- Carbon Storage

Forests are Important

- Carbon Storage
- Water and nutrient cycling

Forests are Important

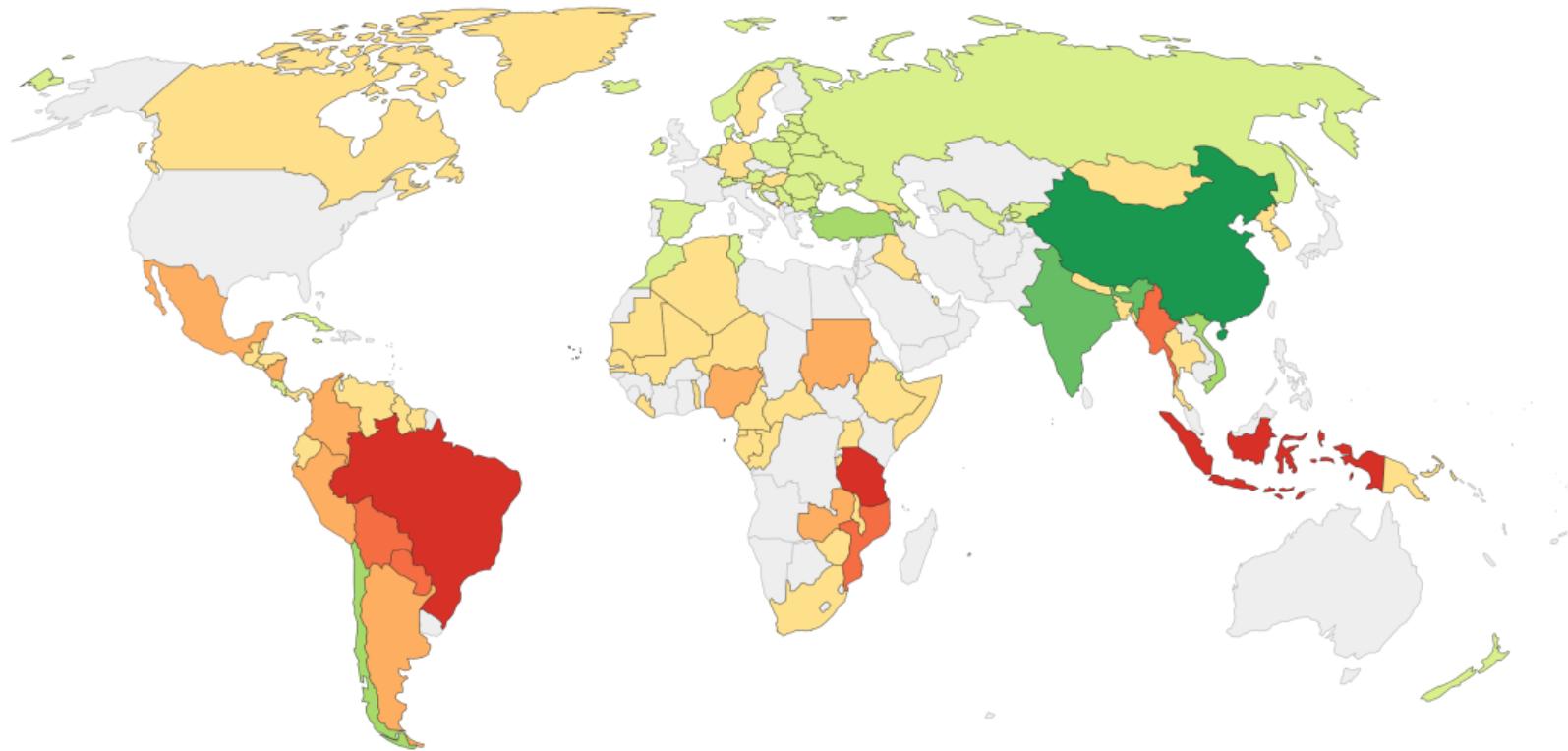
- Carbon Storage
- Water and nutrient cycling
- Resources

Forests are Important

- Carbon Storage
- Water and nutrient cycling
- Resources
- Biodiversity

Forests are Important

- Carbon Storage
- Water and nutrient cycling
- Resources
- Biodiversity
- Human Health and Culture



Source: UN Food and Agriculture Organization (FAO). Forest Resources Assessment.

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D

China Imports 2018: Wood (Lumber and Sawn)

Units

Value (US \$)

Weight



Share of global forestry products trade



Scale

5m t

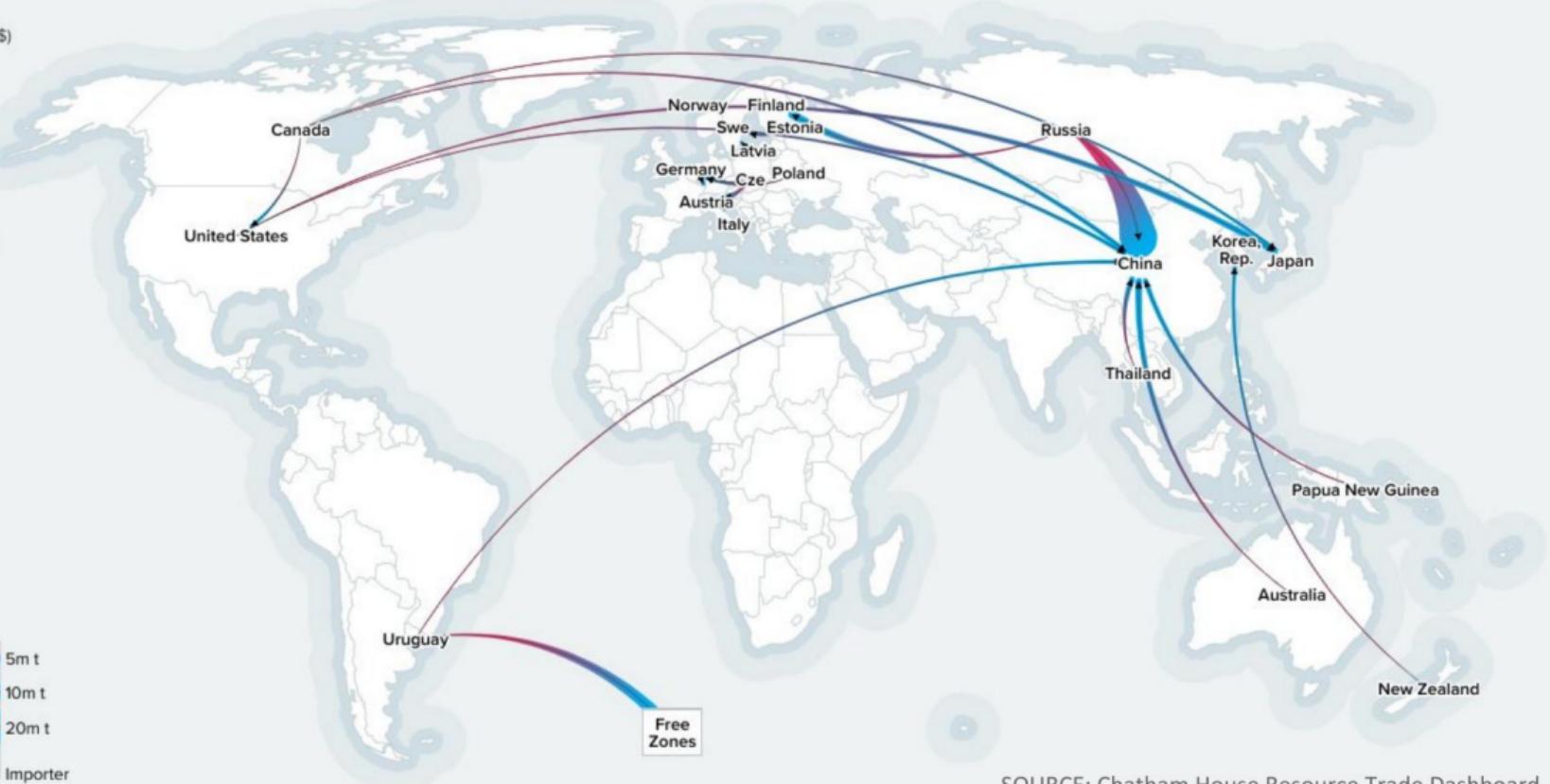
10m t

20m t

Exporter

Importer

Free Zones



SOURCE: Chatham House Resource Trade Dashboard

Forests in the Anthropocene

- Forests are changing from human impacts

Forests in the Anthropocene

- Forests are changing from human impacts
- Large direct effects of land-use

Forests in the Anthropocene

- Forests are changing from human impacts
- Large direct effects of land-use
- How do we address indirect and systems-level effects?

- ① Economic and Ecological Landscape Extensions
- ② Trade Networks of Forest Landscapes
- ③ Global Forest Networks
- ④ China's Forest Networks: Global
- ⑤ China's Forest Networks: Domestic/Local
- ⑥ Conclusions
- ⑦ Future Work

Economic and Ecological Landscape Extensions

Trade Networks of Forest Landscapes

Global Forest Networks

China's Forest Networks: Global

China's Forest Networks: Domestic/Local

Conclusions

Future Work

Acknowledgements



[1] [2] [3] [5]

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