Space and Sustainable Development : Green Cities
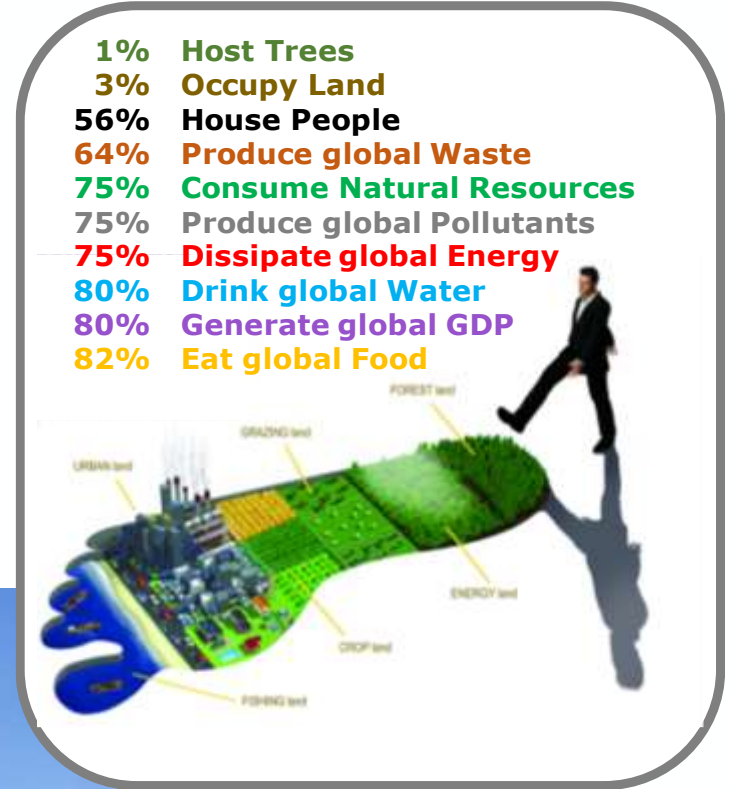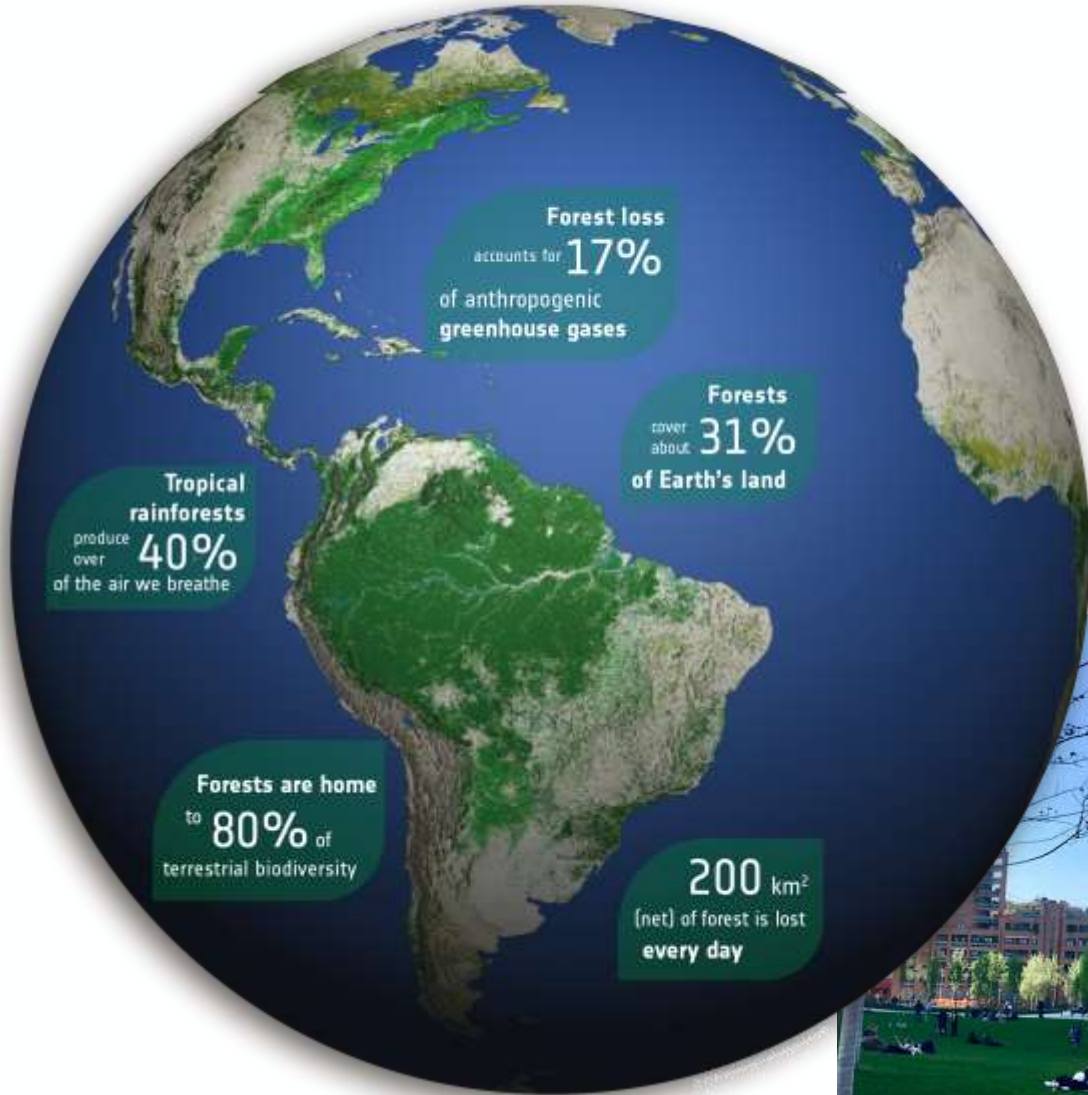

DOWNSTREAM GATEWAY
Space for Earth

Dr. Stefano Ferretti

Science, Applications and Climate Department

ESA Earth Observation Programmes

25/03/2021

→ THE EUROPEAN SPACE AGENCY

The Nexus between Forests and Cities

Forest loss accounts for **17%** of anthropogenic greenhouse gases

Forests cover about **31%** of Earth's land

Tropical rainforests produce over **40%** of the air we breathe

Forests are home to **80%** of terrestrial biodiversity

200 km² (net) of forest is lost every day

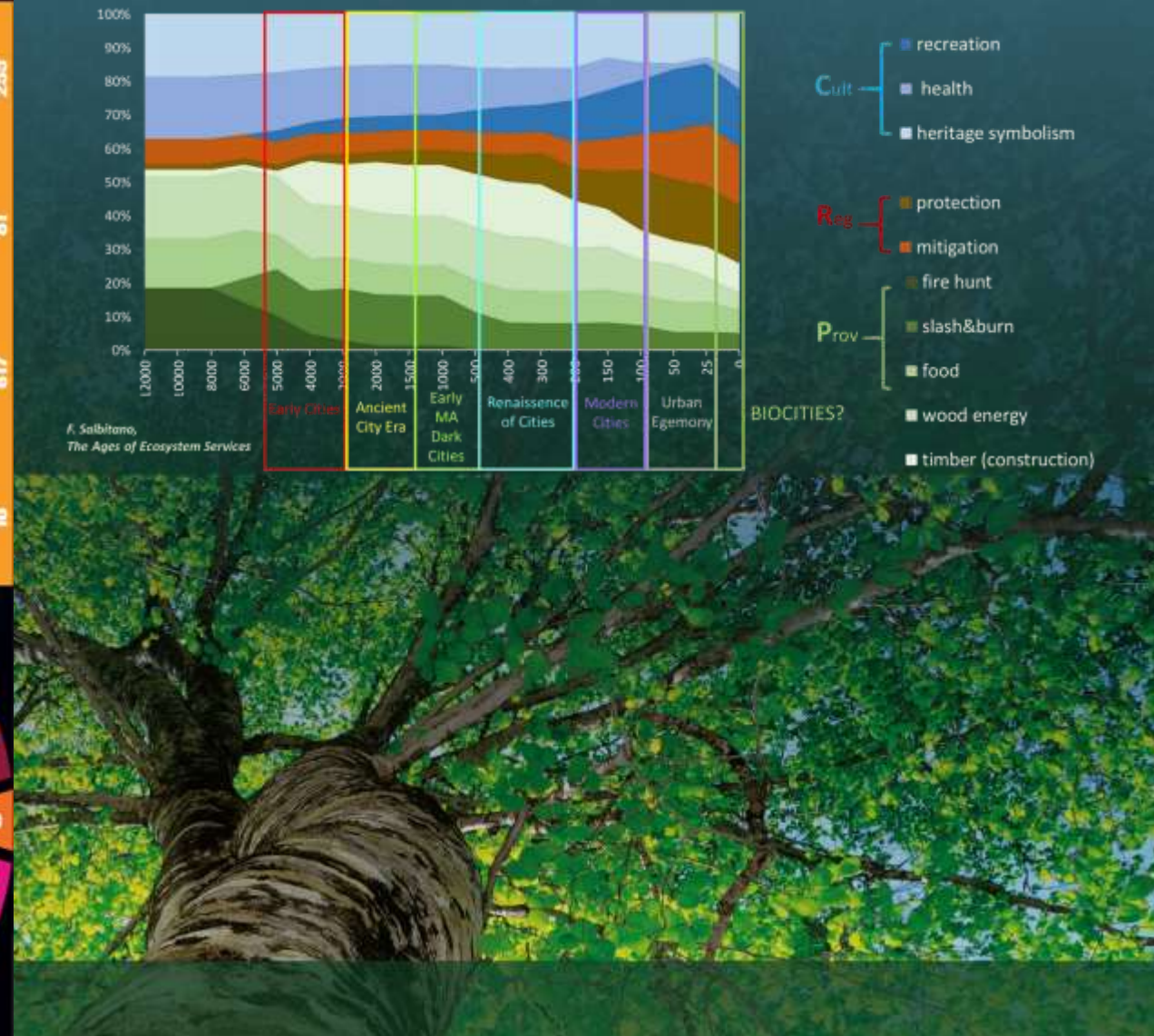|	
1%	Host Trees
3%	Occupy Land
56%	House People
64%	Produce global Waste
75%	Consume Natural Resources
75%	Produce global Pollutants
75%	Dissipate global Energy
80%	Drink global Water
80%	Generate global GDP
82%	Eat global Food

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Sustainable Cities and Communities

UN Agenda 2030 – SDG 11
Make cities and human settlements inclusive, safe, resilient and sustainable:

- **Integrated and sustainable human settlement planning and management**

- **Protect natural heritage**

- **Reduce environmental impact of cities**

- **Attention to air quality**

- **Provide universal access to green spaces**

- **Links between urban, peri-urban and rural areas**

- **Policies and plans towards climate change adaptation, disasters resilience, decrease impacts of water related disasters**

- **Sustainable and resilient buildings utilizing local materials**

F. Salbitano,
The Ages of Ecosystem Services

Earth Observation and Green Cities

esa

URBAN RESILIENCE global challenges

climate change, public health, urbanization, air quality, ..

DATA PLATFORMS exploitation

USER NEEDS and COMMERCIAL SERVICES

DATA

DATA CUBE

training dataset

A I

Co-design applications

SERVICES

+ Satellite

Optical | SAR | Hyperspectral | Lidar

+ In situ

Cadastral maps
Surveys / inspection reports
Maintenance plans
Tree measurements
Drone / aerial surveys
Lidar (ground campaigns)

- **DESIGN**
  green mapping
- **MANAGEMENT**
  green maintenance
- **PUBLIC HEALTH**
  pollens and air quality
- **CLIMATE CHANGE RESILIENCE**
  heat islands

NEW CHALLENGES AND SCIENTIFIC RESEARCH

NEW ACTORS

NEW BUSINESS

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Stefano.Ferretti@esa.int