FORESTS' FUTURE 2021
Consequences of Bark beetle calamity in Central Europe
Jihlava, June 20th – 23th 2022

The current state of spruce bark beetle outbreaks in forests managed by the Romanian forest state administration

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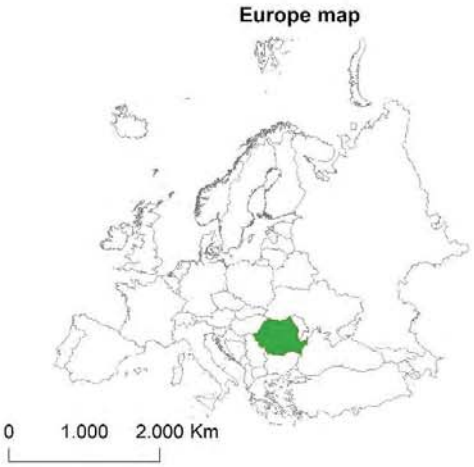
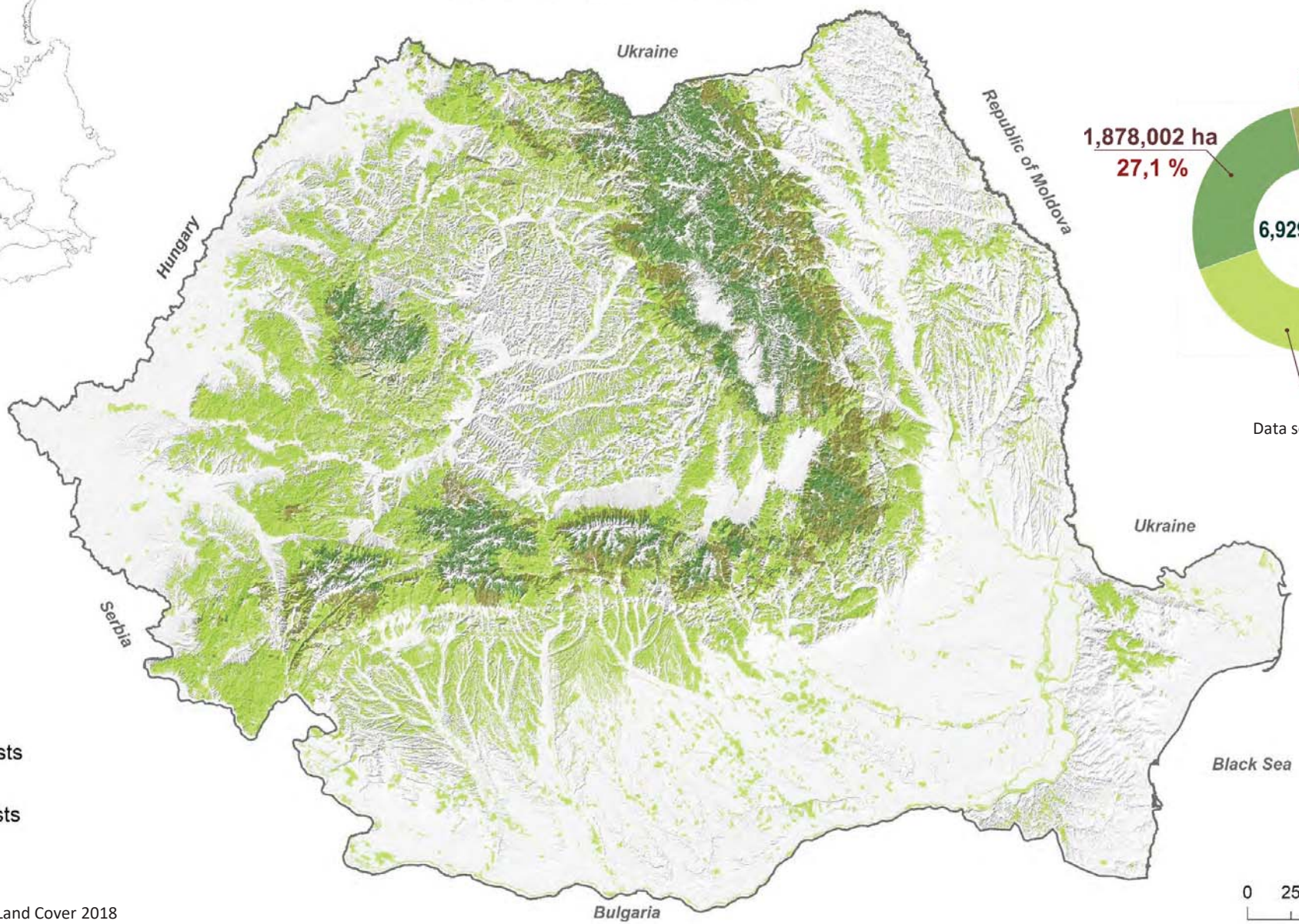
Romania forests





Data source: http://roifn.ro/

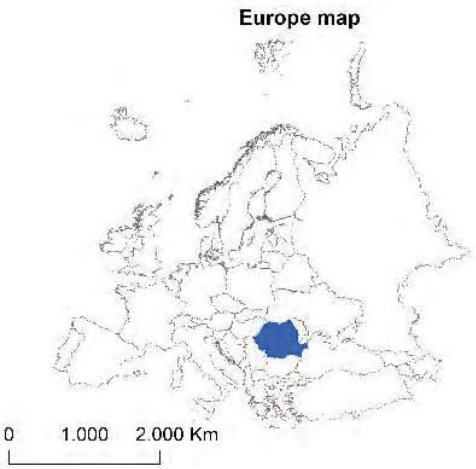
Legend

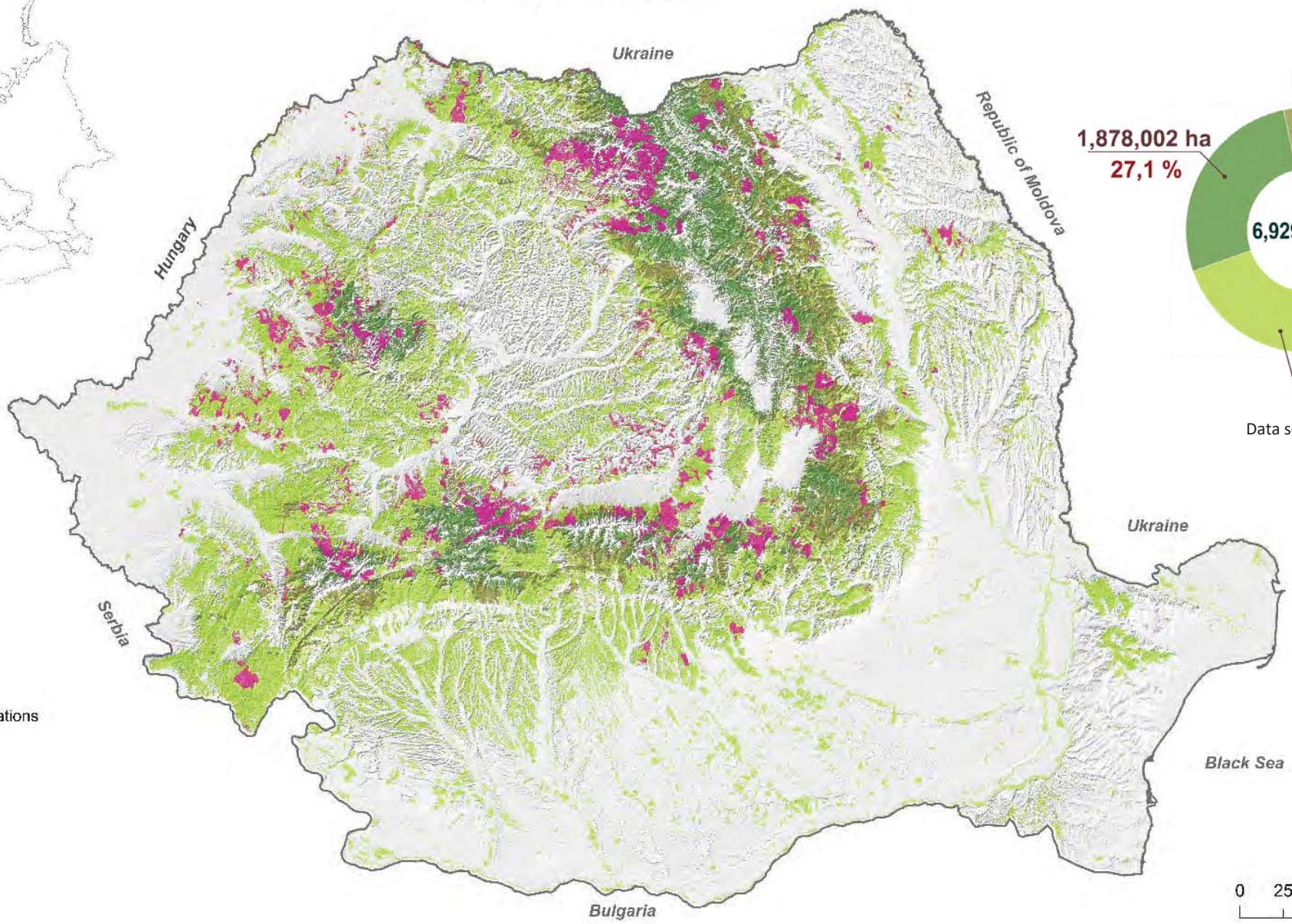
Forest areas

- Coniferous forests
- Mixed forests
- Deciduous forests

Geospatial data source: Corine Land Cover 2018

Romania forests





Data source: http://roifn.ro/

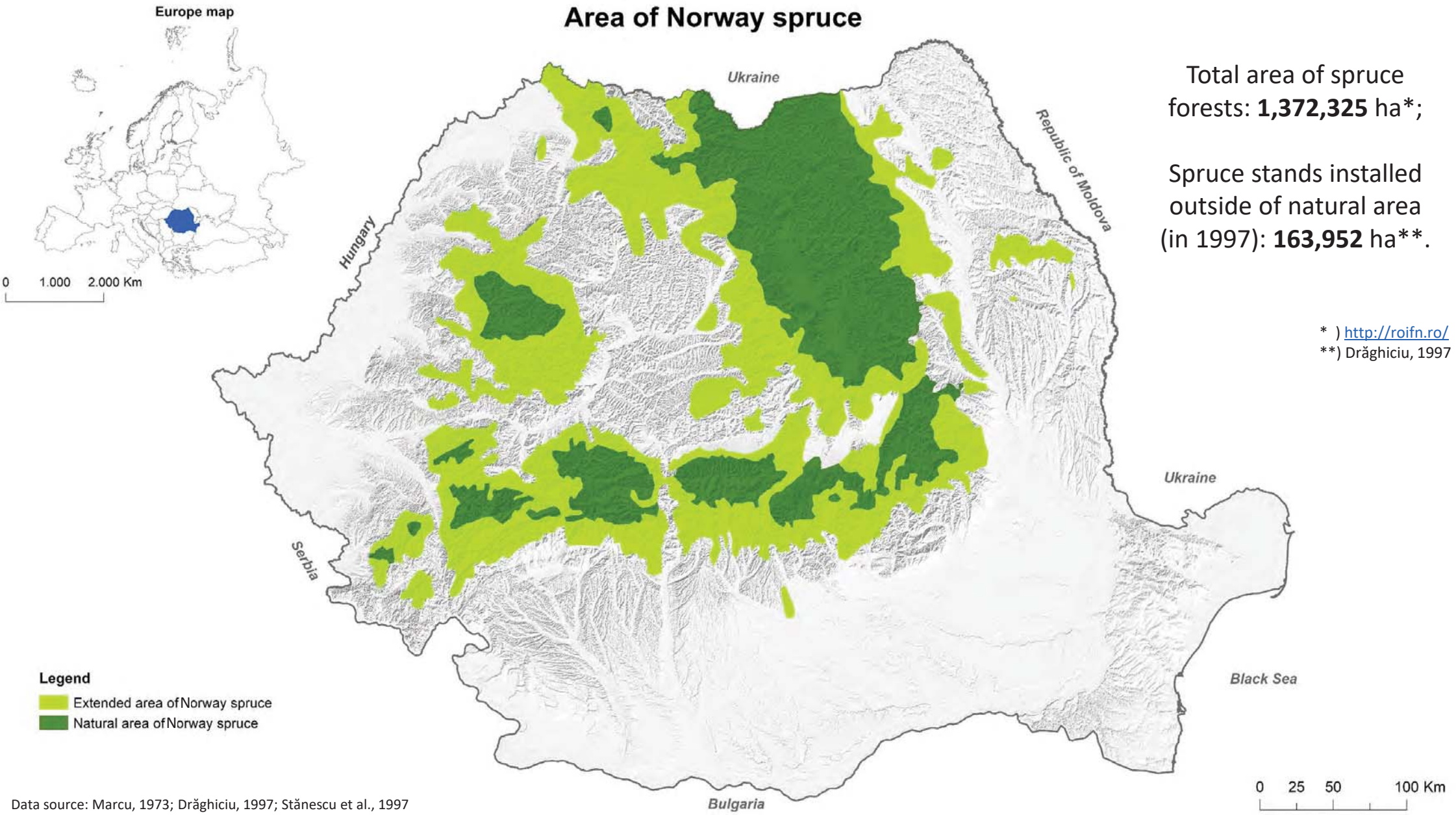
Legend

- Other forest administrations

Forests areas

- Coniferous forests
- Mixed forests
- Deciduous forests

Area of Norway spruce



Total area of spruce forests: **1,372,325** ha*;

Spruce stands installed outside of natural area (in 1997): **163,952** ha**.

*) http://roifn.ro/
**) Drăghiciu, 1997

Data source: Marcu, 1973; Drăghiciu, 1997; Stănescu et al., 1997

Principal bark beetle species which cause significant damages in the spruce forests of Romania:

In spruce forests situated in natual area:

- *Ips typographus* (predominant);
- *Ips amitinus*;
- *Ips duplicatus*;
- *Pityogenes chalcographus*;

In spruce forests situated in extended area:

- *Ips duplicatus* (predominant especially in eastern Romania);
- *Ips typographus* (predominant);
- *Pityogenes chalcographus*;
- *Polygraphus poligraphus*

Spruce bark beetle attacks in the forests of Romania between 2015-2020: favoring factors – wind-blown trees

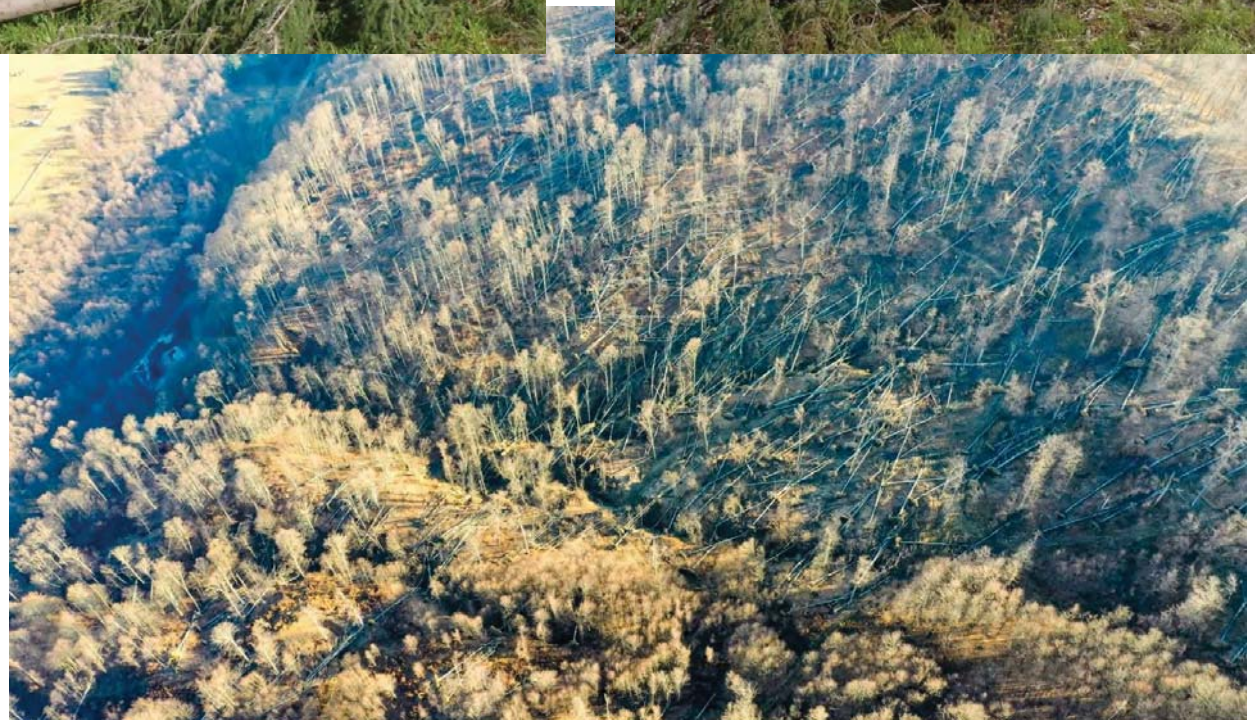
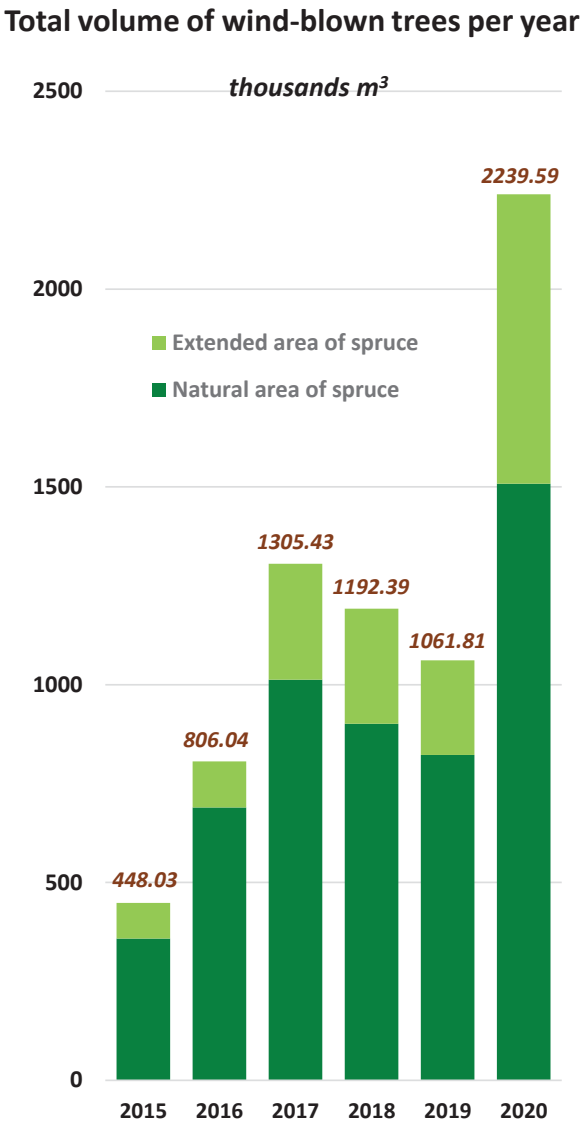


Photo source: Forest State Administration (https://www.facebook.com/RnpRomsilva)

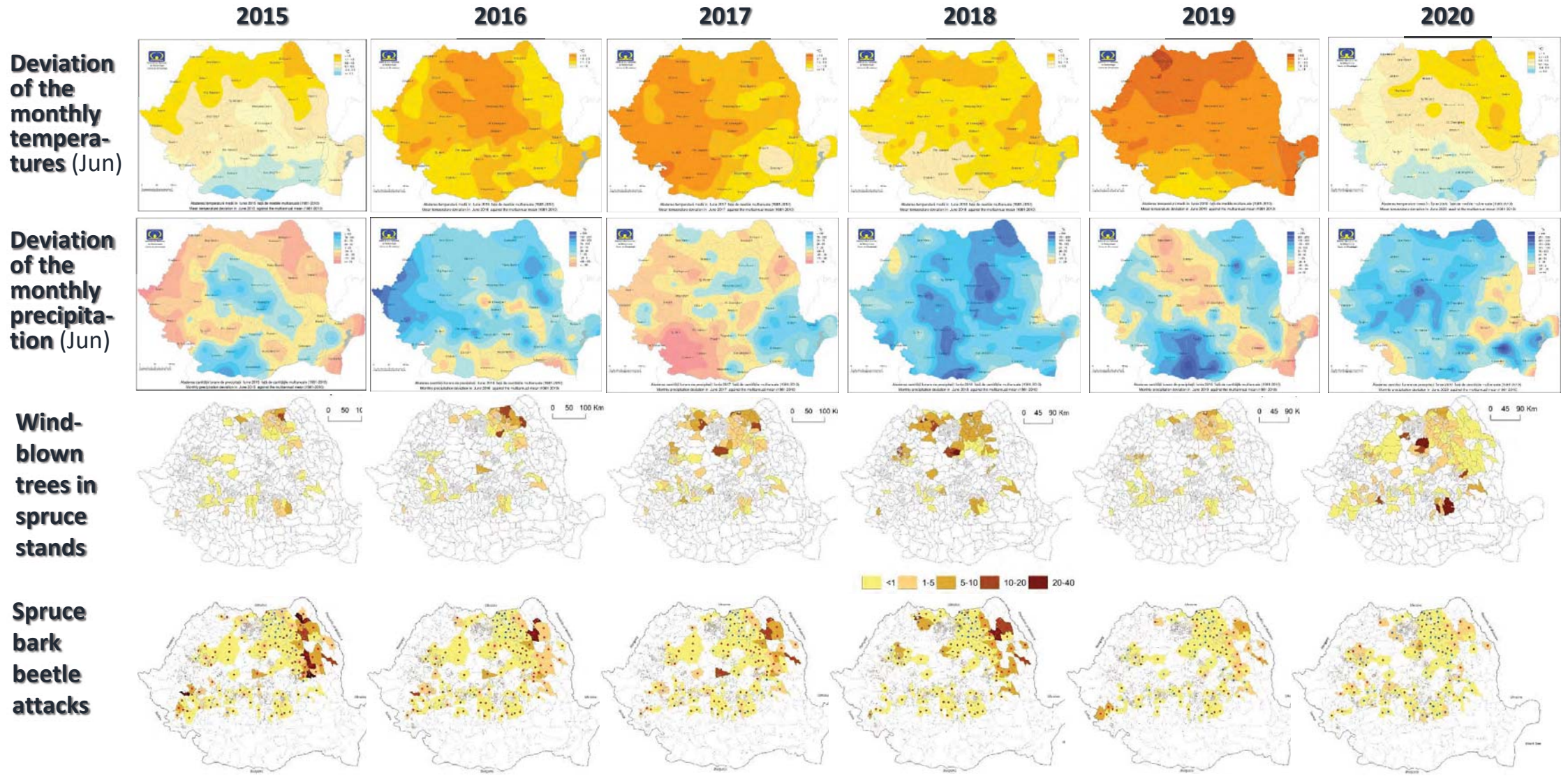


Spruce bark beetle attacks in the forests of Romania between 2015-2020: favoring factors – **drought spells**

Severe debilitated spruce stands especially in hilly areas (spruce stands situated in extended area of spruce)

Photo source: Nicolai Olenici

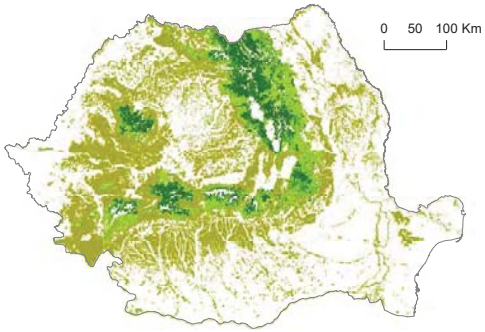
Spruce bark beetle attacks in the forests of Romania between 2015-2020: conditions and consequences



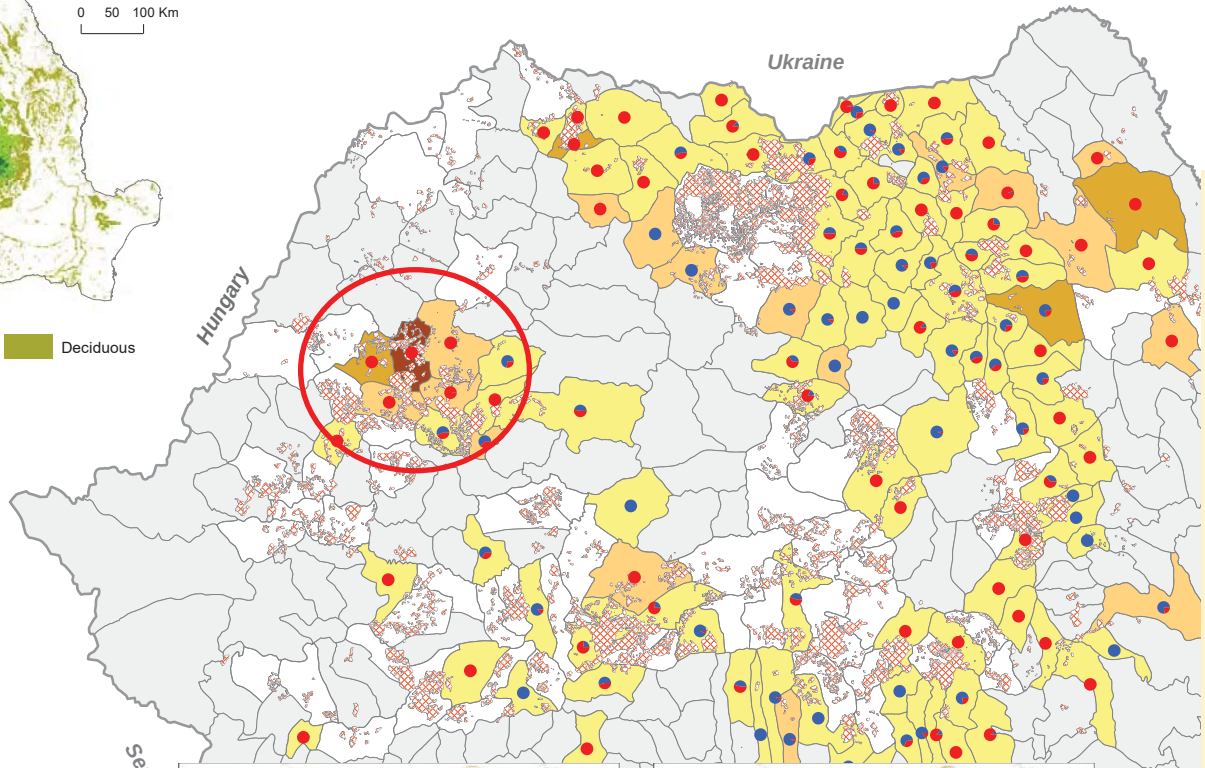
Data source: www.meteoromania.ro; Forest State Administration

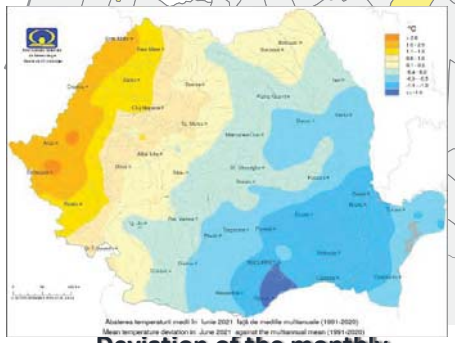
Spruce bark beetle attacks in the forests of Romania: current situation (2021)

Romanian forests

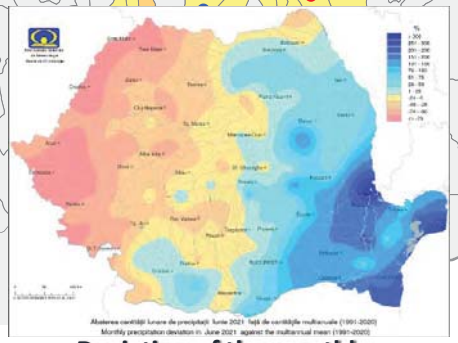


Spruce bark beetle attacks in 2021



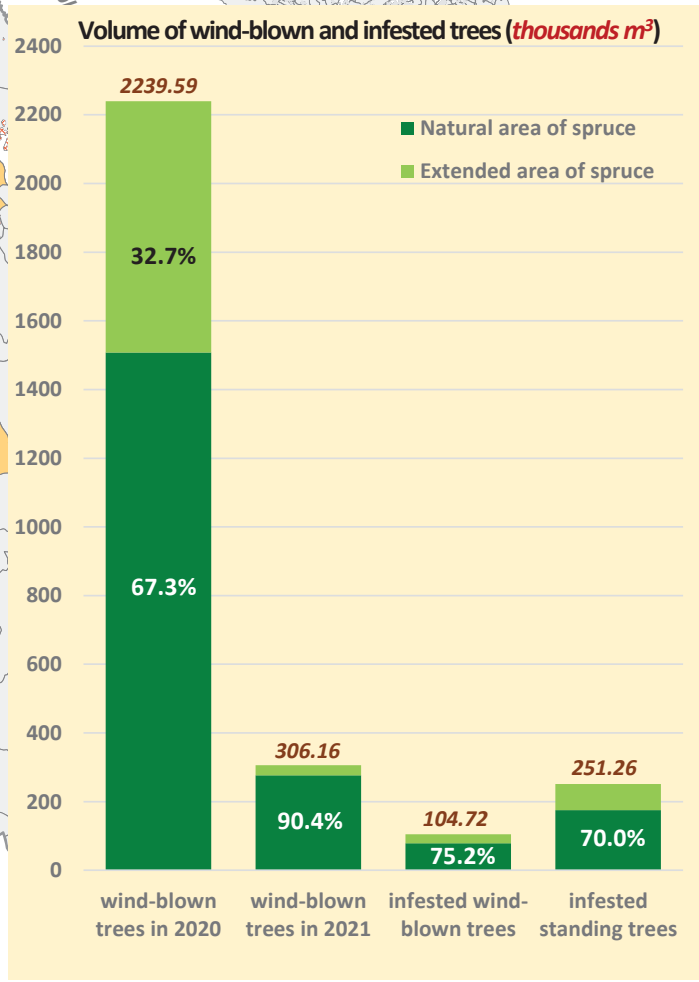


Deviation of the monthly temperatures (Jun 2021)

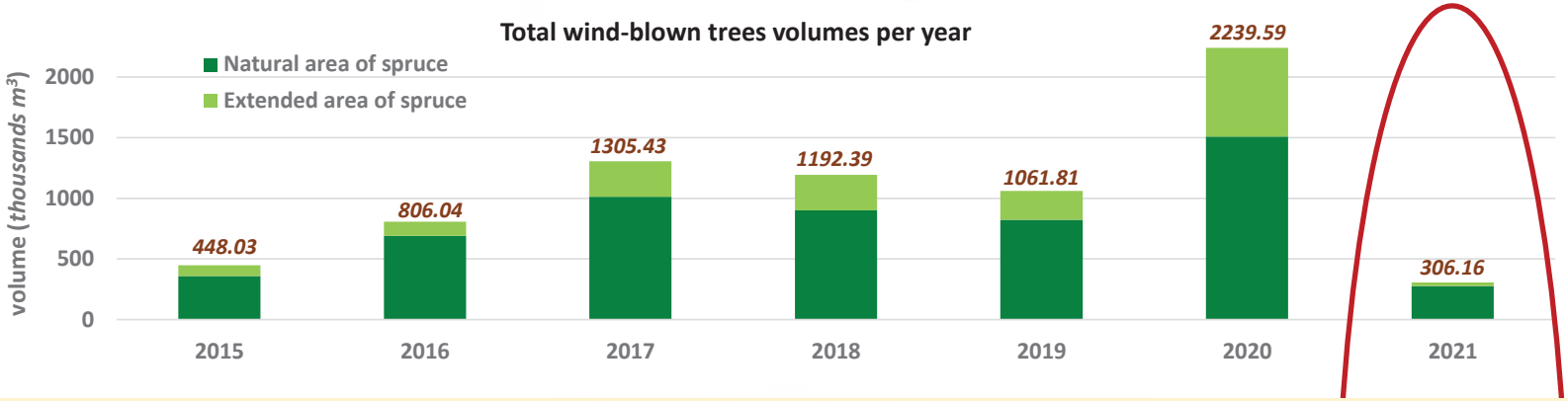


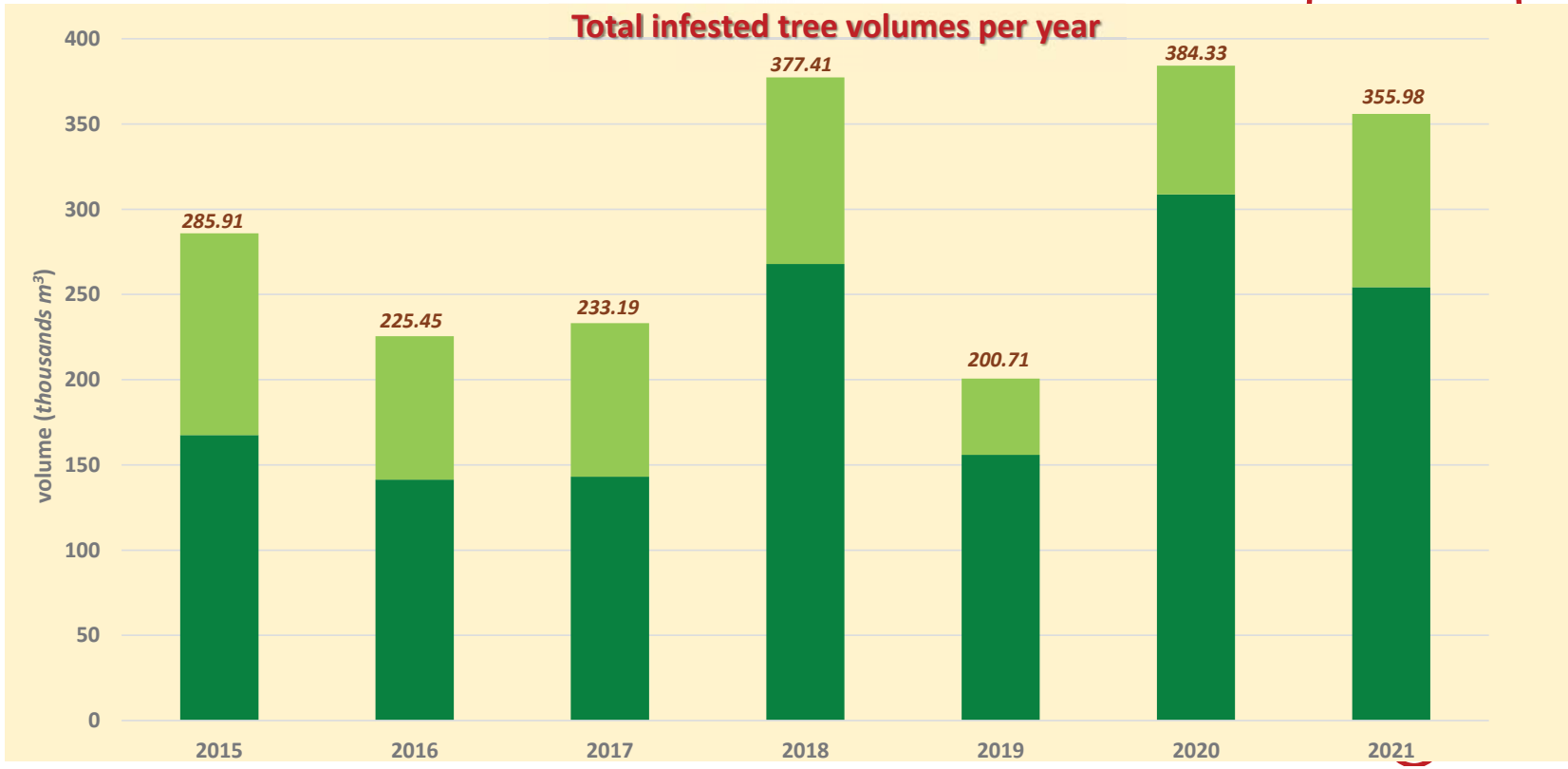
Deviation of the monthly precipitations (Jun 2021)

Wind-blown volume in 2020 (m3/ha)



Spruce bark beetle attacks in the forests of Romania: current situation (2021)



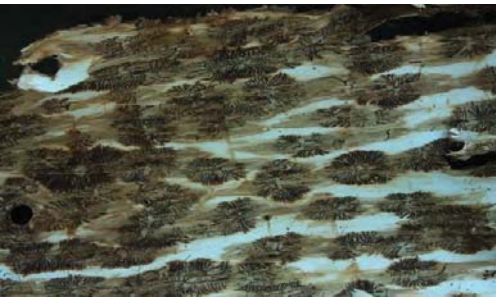


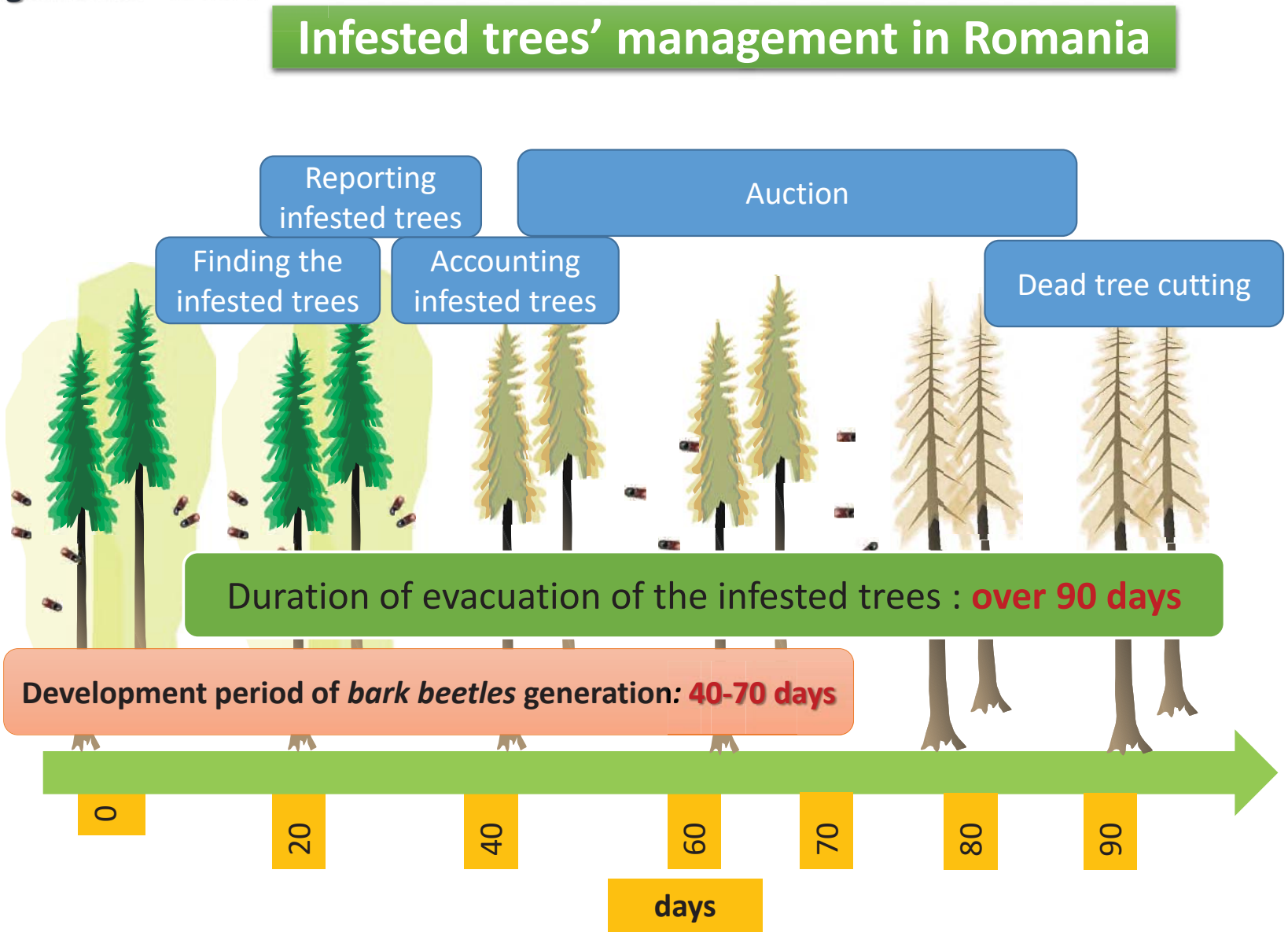
Bark beetle monitoring

Trap trees → **Three series per year**
- Isolated wind-blown trees
- Artificially felled trees

Feromonal traps →
- Intercept ® traps or Theysohn® traps
- Synthetic lures for *I. typographus, I. duplicatus, P. chalcographus*

Spruce bark beetle management in Romania





Conclusion about the spruce bark beetle attacks in the last year in the forests of Romania

(managed by the forest state administration)

- **Between 2015-2020:**
  - **wind-blown trees: 0.45 - 2.24 million m^3/year;**
  - **wind-blown infested trees: 0.08 – 0.28 million m^3 /year;**
  - **standing infested trees: 0.06 – 0.11 million m^3/year.**
- **During the last year (2021):**
  - **wind-blown trees: 0.36 million m3;**
  - **wind-blown infested trees: 0.10 million m^3;**
  - **standing infested trees: 0.26 million m^3**

Conclusion about the spruce bark beetle attacks in the last year in the forests of Romania

(managed by the forest state administration)

- **In the last year, the high volume of infested standing trees is mostly due to the failure of carry out timely sanitary cutting in the affected stands.**
- **Principal problem of infested trees' management: duration of evacuation of infested trees is very long. This protective measure is frequently inefficient.**
- **In the last period (since 2015), no bark beetle calamity took place in Romania, but the attacks of these pests are an important problem mostly due to the poor management applied in such situations.**

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Czech Republic 2022

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