NATURE-BASED SOLUTIONS – AN EFFECTIVE APPROACH TO INCREASE CITIES' CLIMATE RESILIENCE?

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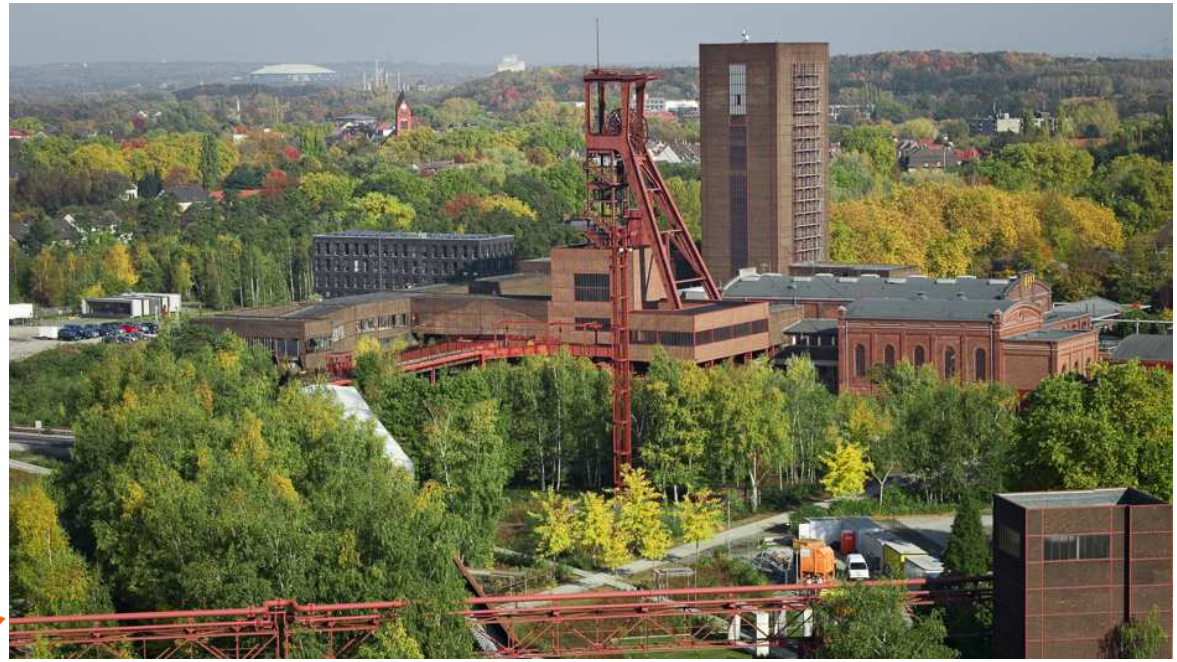

Zollverein coal mine in Essen, Germany, Photo: wwwuppertal. Creative Commons BY-NC 2.0

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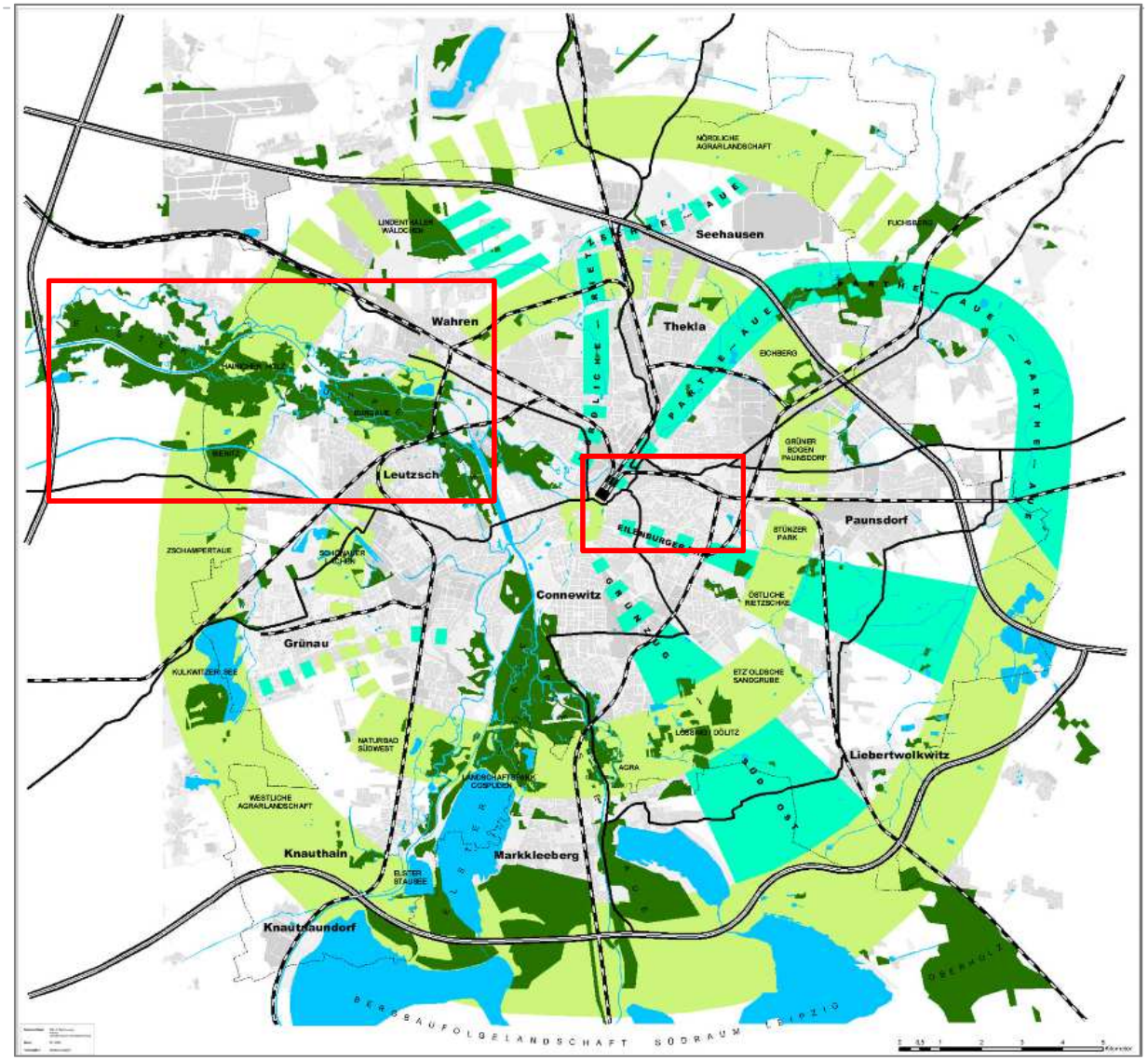
Increasing societal challenges

Source: https://www.crimmitschau.de/crm/content/9/20130608205543.asp)
http://web.saechsisches-industriemuseum.com/crimmitschau/das-museum/textilstadt-crimmitschau.html

Tackling societal challenges

Source: Klimawandel -Anpassungstrategie für Leipzig



Ring-Radial-System Leipzig, Source: Landschaftsplan Stadt Leipzig, 2009

Ring-Radial-System

From the core city to the peri-urban/rural area

Restoring wetlands: Leipzig, Germany

Addressing water shortage in urban & peri-urban areas and raising citizens' awareness

Elster-Luppe wetland: Revitalization and renaturalization

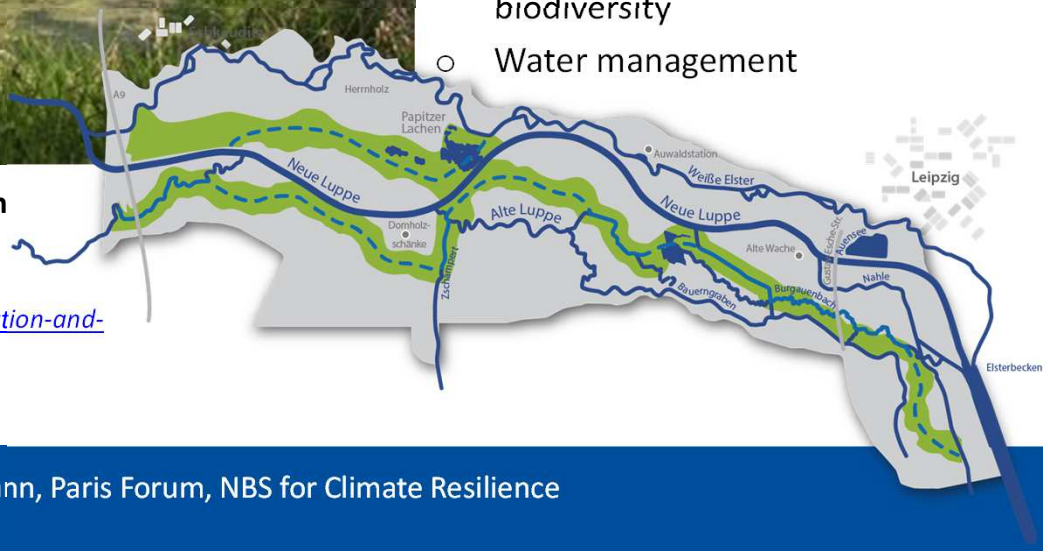
Sources: *https://lebendige-luppe.de/index.php?article_id=18* ; *https://naturvation.eu/nbs/leipzig/elster-luppe-wetland-revitalization-and-renaturalization*

Type of NBS:

- Blue areas

Key challenges/benefits:

- Climate adaptation, resilience and mitigation
- Environmental quality, including air quality and waste management
- Green space, habitats and biodiversity
- Water management



Green Belt: Leipzig, Germany

Masterplan Parkbogen Ost – Transforming railway tracks into green cycling paths

Sources: https://www.leipzig.de/bauen-und-wohnen/stadterneuerung-in-leipzig/stadterneuerungsprojekte/parkbogen-ost/; https://naturvation.eu/nbs/leipzig/creating-green-park-belt-Leipzig

Type of NBS:

- Greened grey infrastructure
- Parks and (semi)natural urban green areas
- Allotments and community gardens
- Derelict and abandoned areas

Key challenges/benefits:

- Climate adaptation, resilience and mitigation
- Green space, habitats and biodiversity
- Regeneration, land-use and urban development
- Health and well-being
- Social justice, cohesion and equity

Green Facades: Leipzig, Germany

Public-private partnership to increase awareness for benefits of NBS

Green Facade in Connewitz, Leipzig; *Source: Alexandra Schmidt;*

https://naturvation.eu/nbs/leipzig/green-facades-and-walls-Leipzig

Type of NBS:

- External building greens

Key challenges/benefits:

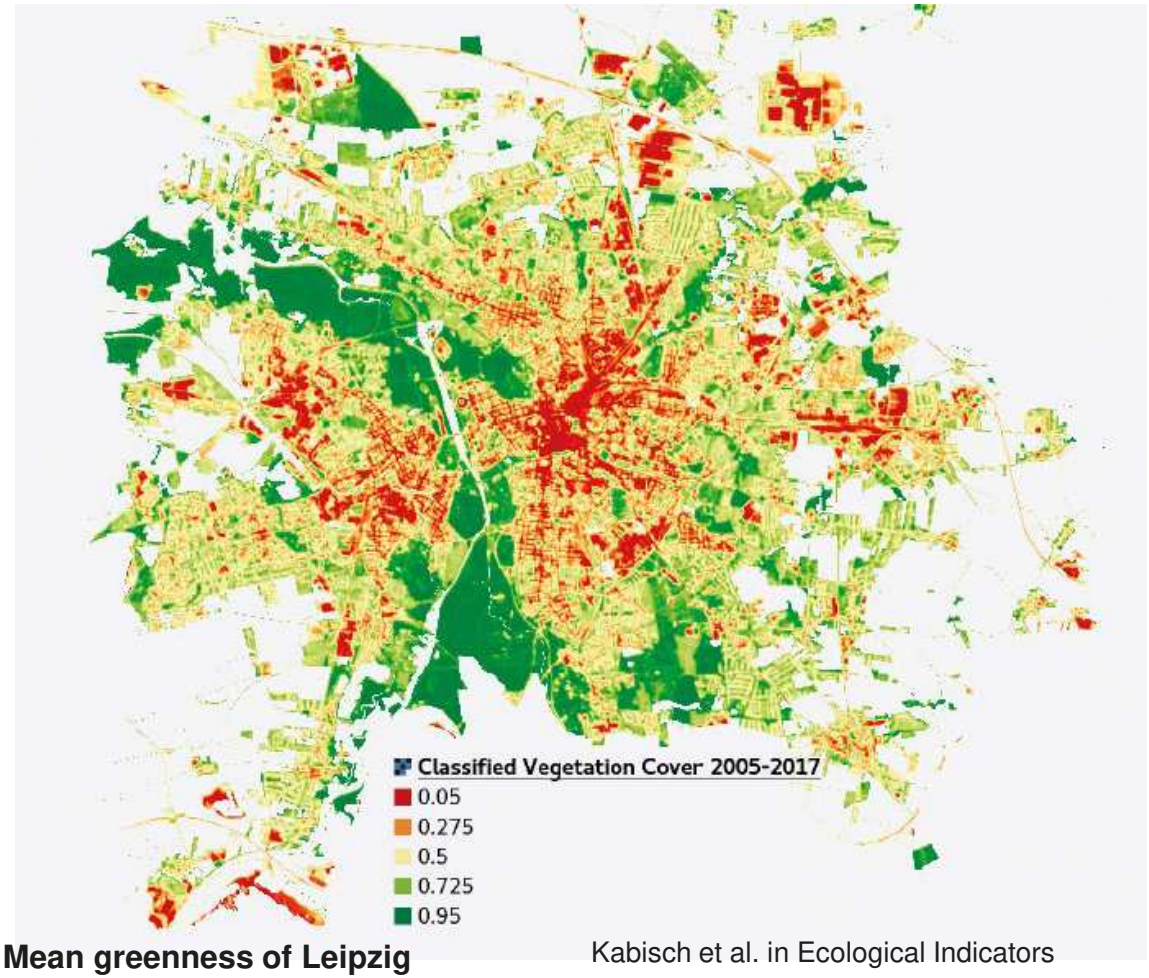
- Climate action for adaptation, resilience and mitigation
- Environmental quality, including air quality and waste management
- Green space, habitats and biodiversity
- Health and well-being

Leipzig - Thinking ahead

Focal point for public participation and dialogue between the city and its citizens

Source: https://www.leipzig.de/buergerservice-und-verwaltung/buergerbeteiligung-und-einflussnahme/leipzig-weiter-denken/beteiligen/

Increasing climate resilience through NBS?



Mean greenness of Leipzig Kabisch et al. in Ecological Indicators

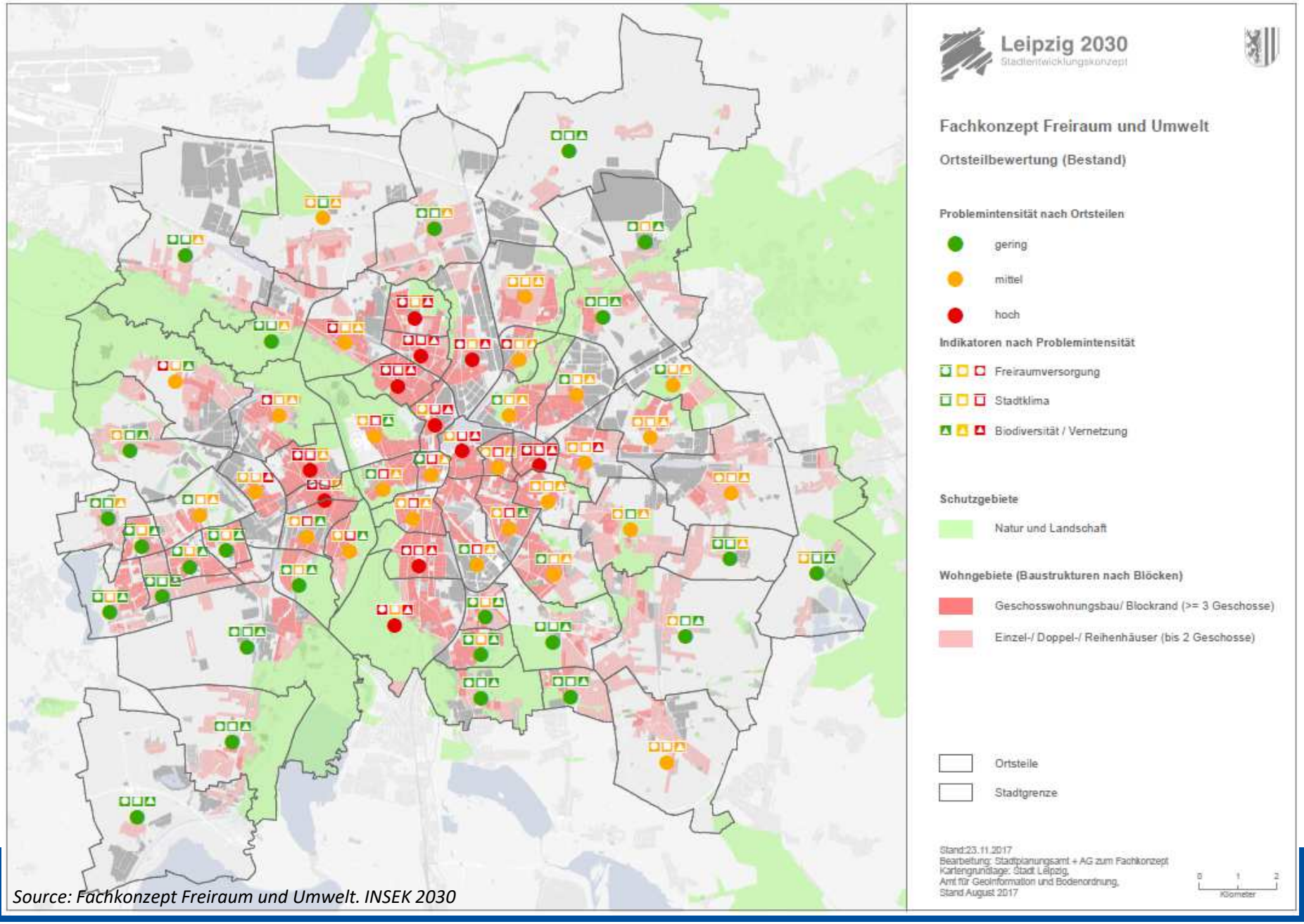
Climate impacts:

- Large cooling effects of urban forests (and parks)
- Improved microclimate
- Increased CO_2-sequestration
- ……..

Other impacts

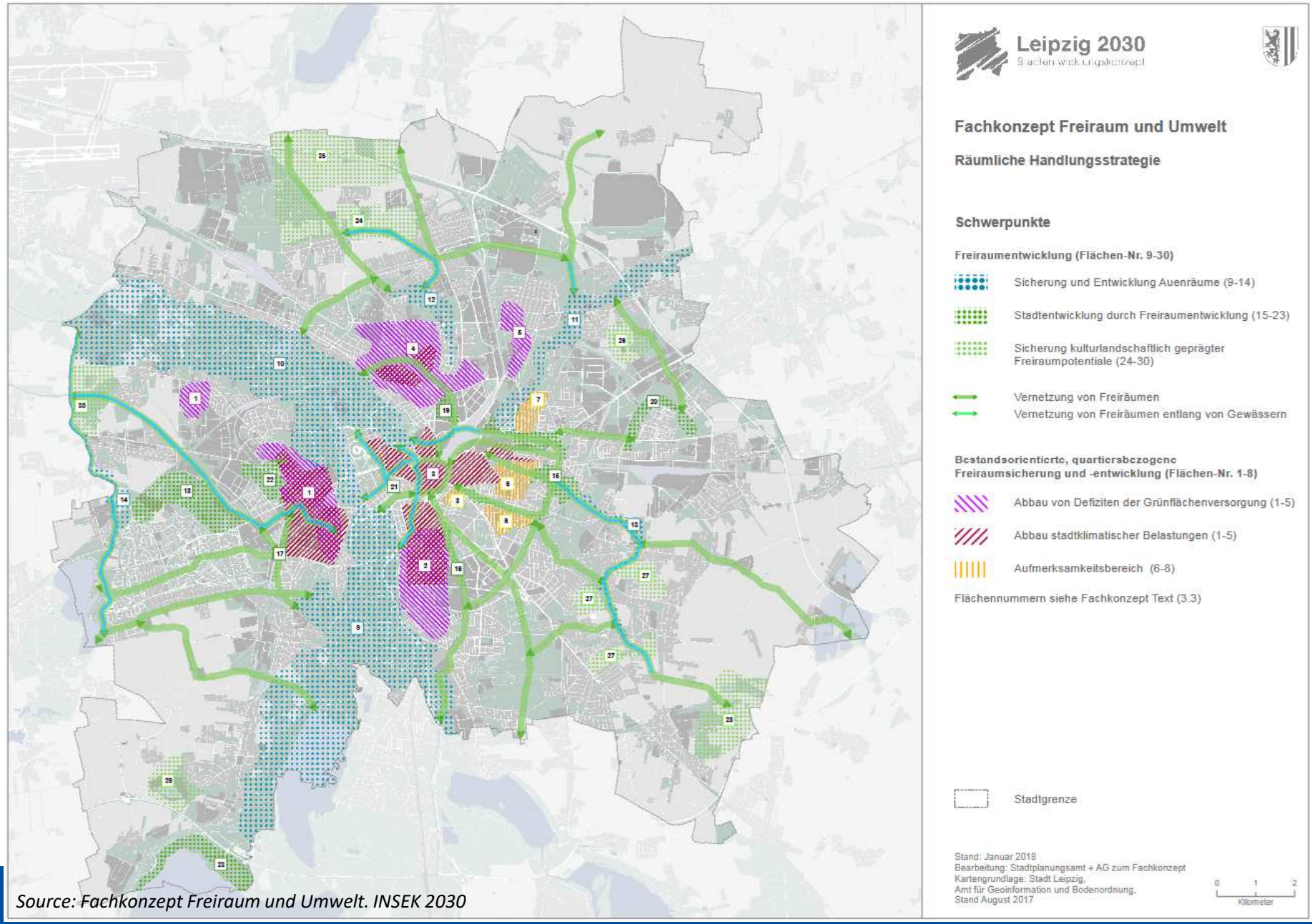
- Water purification
- Noise protection
- Recreation
- Social cohesion
- …..

Assessing needs for climate resilience



Source: Fachkonzept Freiraum und Umwelt. INSEK 2030

Actions towards increased climate resilience



Source: Fachkonzept Freiraum und Umwelt. INSEK 2030

Remaining challenges

- NBS are already widely implemented in cities throughout Europe and beyond, but **lack a coordinated and standardized approach**
- **(Small and medium-sized) cities lack access to resources and knowledge** to support them in implementing NBS alongside and instead of “traditional grey infrastructure solutions"
- To explore the full potential of NBS to address societal challenges and contribute to sustainable urban transformation, the **cumulative impact of NBS** needs to operationalised

What to do next?

- **Adapt NBS to local conditions and needs** (from society and city perspectives)
- Foster an **integrated** NBS planning, which embraces **urban and peri-urban areas**
- **Build on and embed NBS within existing natural area networks** (such as green and blue infrastructure) to foster increased connectedness
- Explore and deploy **new governance approaches** from the local to regional scales
- **Shift mindsets** from silo thinking towards more integrated decision-making and planning

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Explore the Urban Nature Atlas

ASSIGNMENT OF CITIES

NBS interventions are collected from 100 cities across Europe, as showned on the map. The 6 URIP cities are highlighted.

naturvation.eu/atlas

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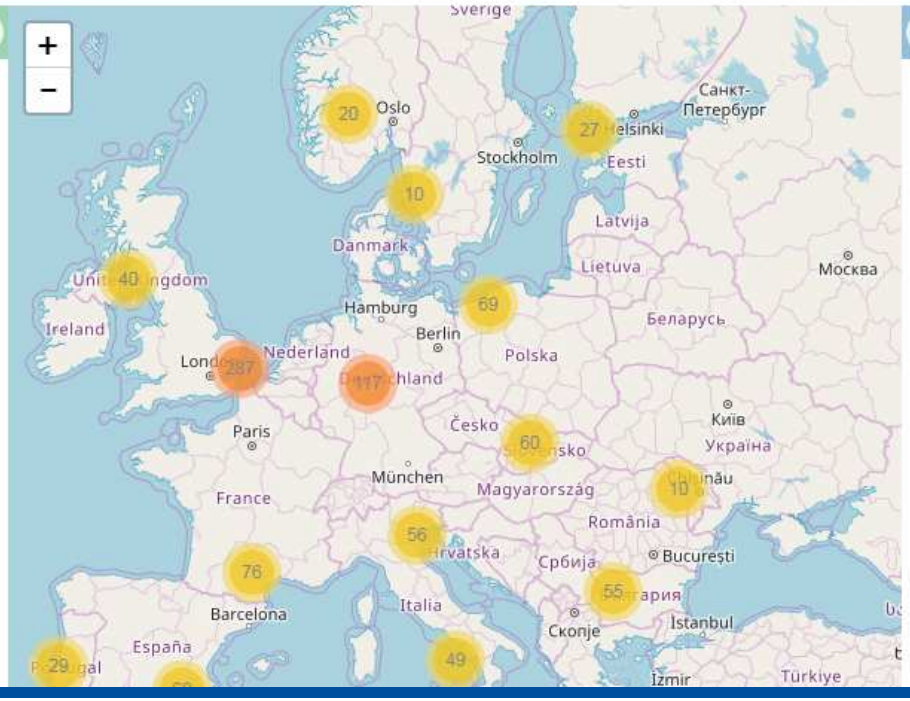
ABOUT THE ATLAS

Welcome to the Urban Nature Atlas! It contains almost 1000 examples of Nature-Based Solutions from across 100 European cities.

Use the **Quick Search by icon** (to the right of the map) or the **Advanced Search** (below the map) to identify the projects fitting your interests.

The map will be updated to display the results of your search, and a list of all relevant projects is displayed below. Click on the title of projects for further information.



QUICK SEARCH BY ICON

KEY CHALLENGES

URBAN SETTING

PROJECT COST

Thank You!

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