

# The Effect of Urban Water Courses on Local Climate

Dr. rer. nat. Christian Korndoerfer



Vodni Toky 2016  
Hradec Kralove  
November 22 – 23, 2016

Landeshauptstadt  
Dresden  
Umweltamt



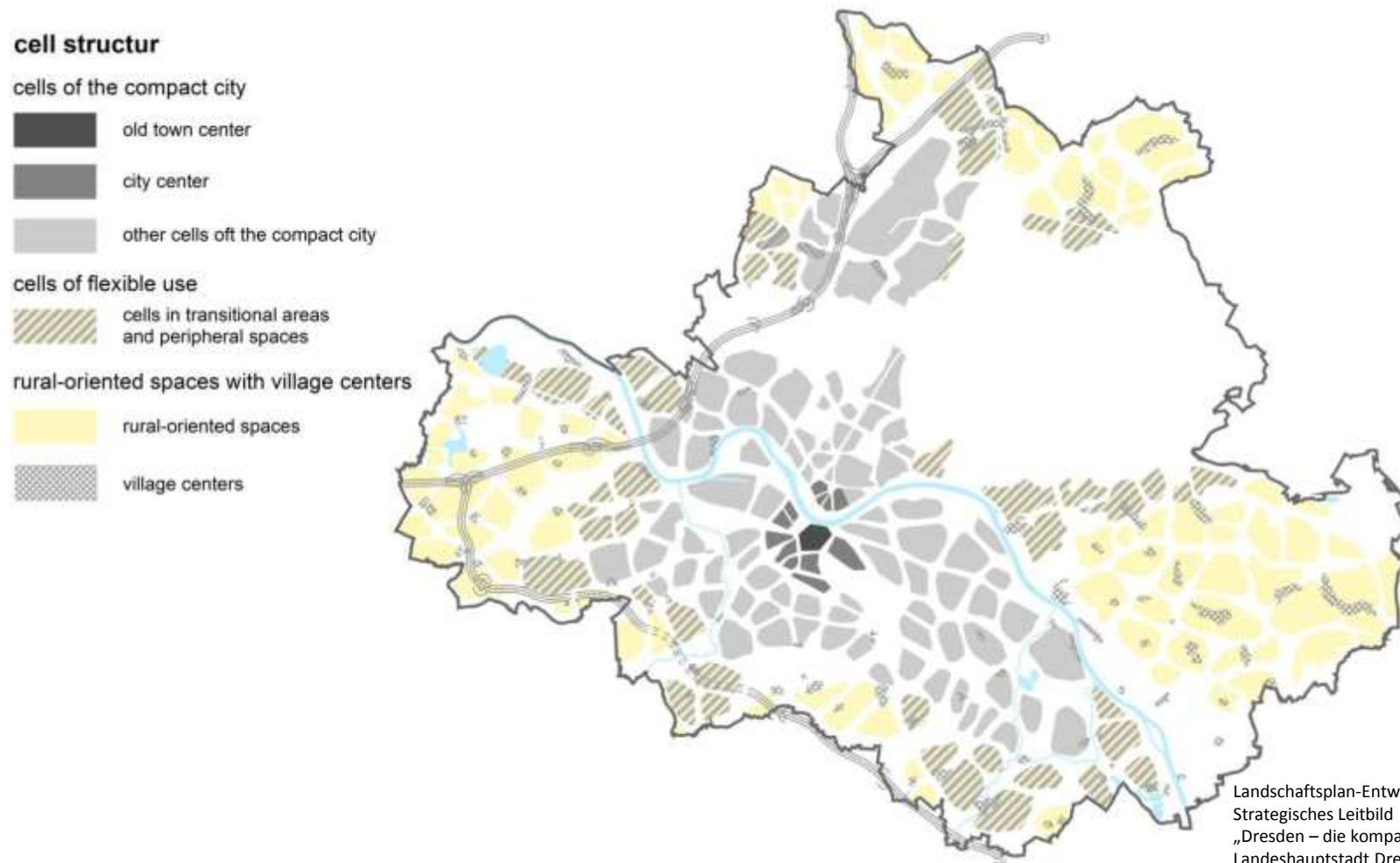
Dresden.  
Dresdner

The demands of economic efficiency call for towns with high density.

The ongoing climate change calls for more green area and space for water courses and fresh air streaming.

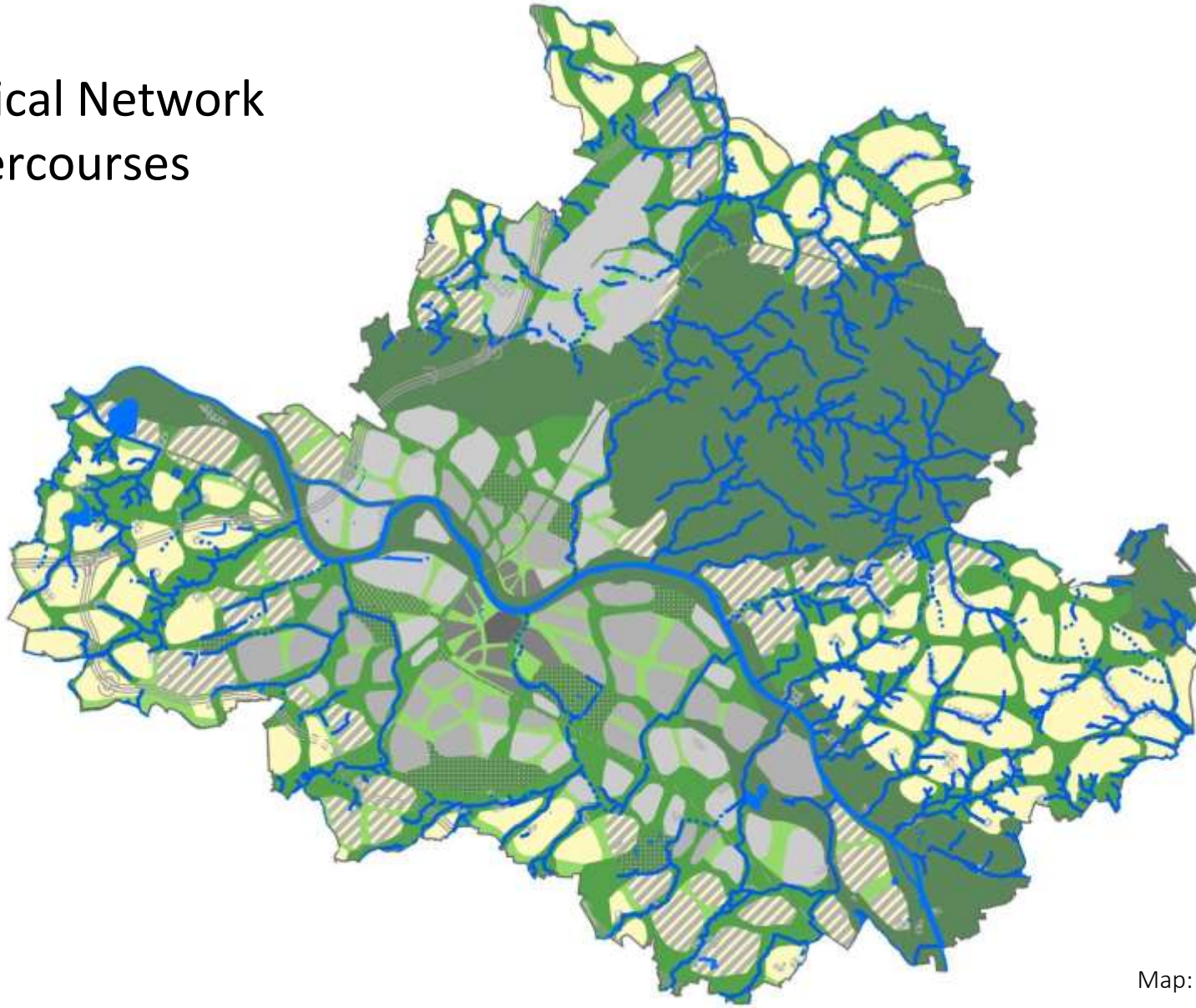
Challenge: We need a synthesis!

# Growth of Dresden: Manifestation of Settlement Cores with High Use Density (Compact Cells)



# The Urban Waters is the Base of the Ecological Net

Ecological Network  
+ Watercourses



Map: Umweltamt 2016



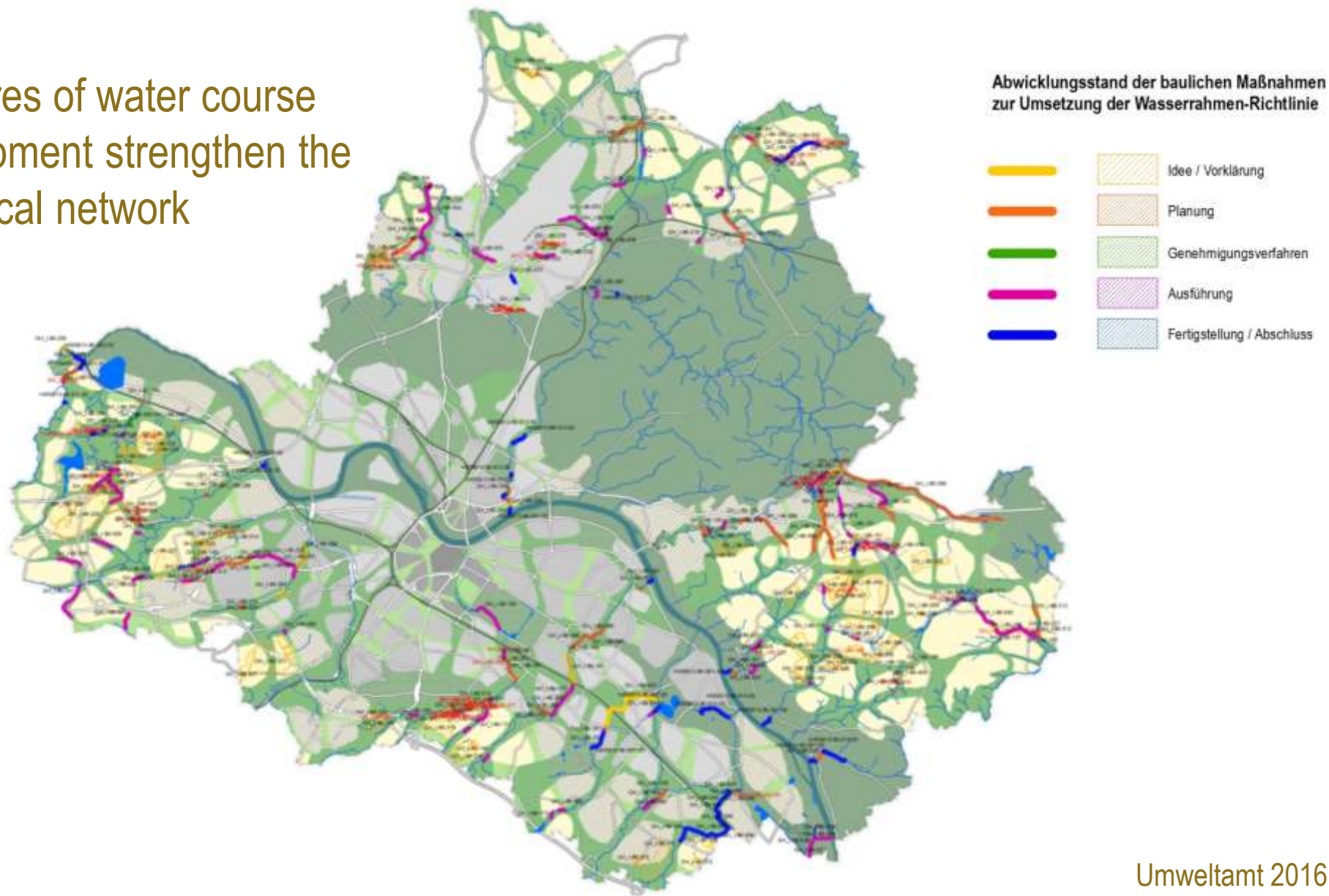
# Leading Idea:

Compact urban settlements are embedded in a net of green belt areas which provide

- Fresh air and healthy city climate
- Sufficient ground water recreation
- Storm water retention and flood protection
- Recreation of citizen
- Adaptation and survival of natural species
- Beauty and uniqueness of our urban landscape

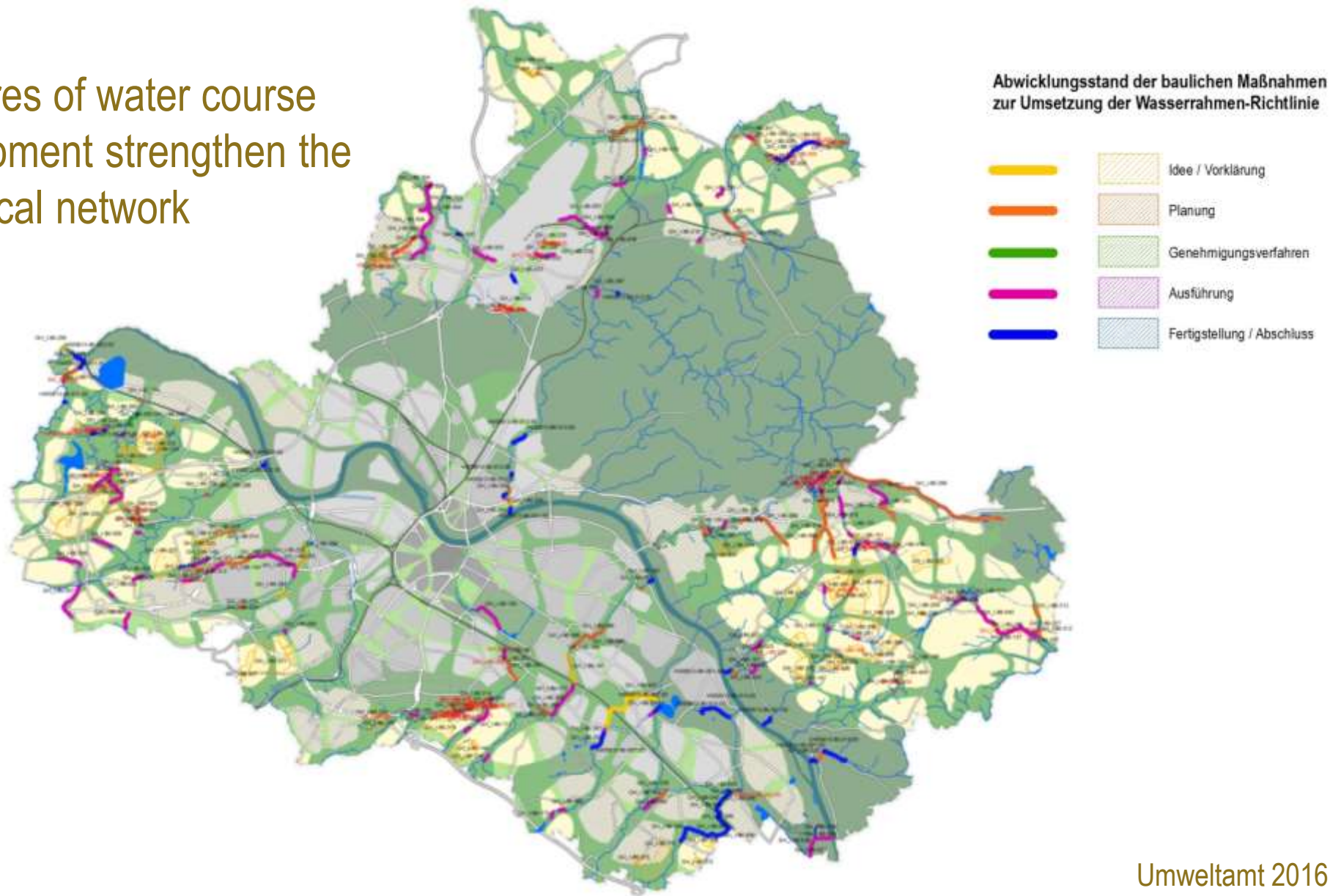
**The ecological net is based on our relict system of water courses!**

measures of water course  
development strengthen the  
ecological network



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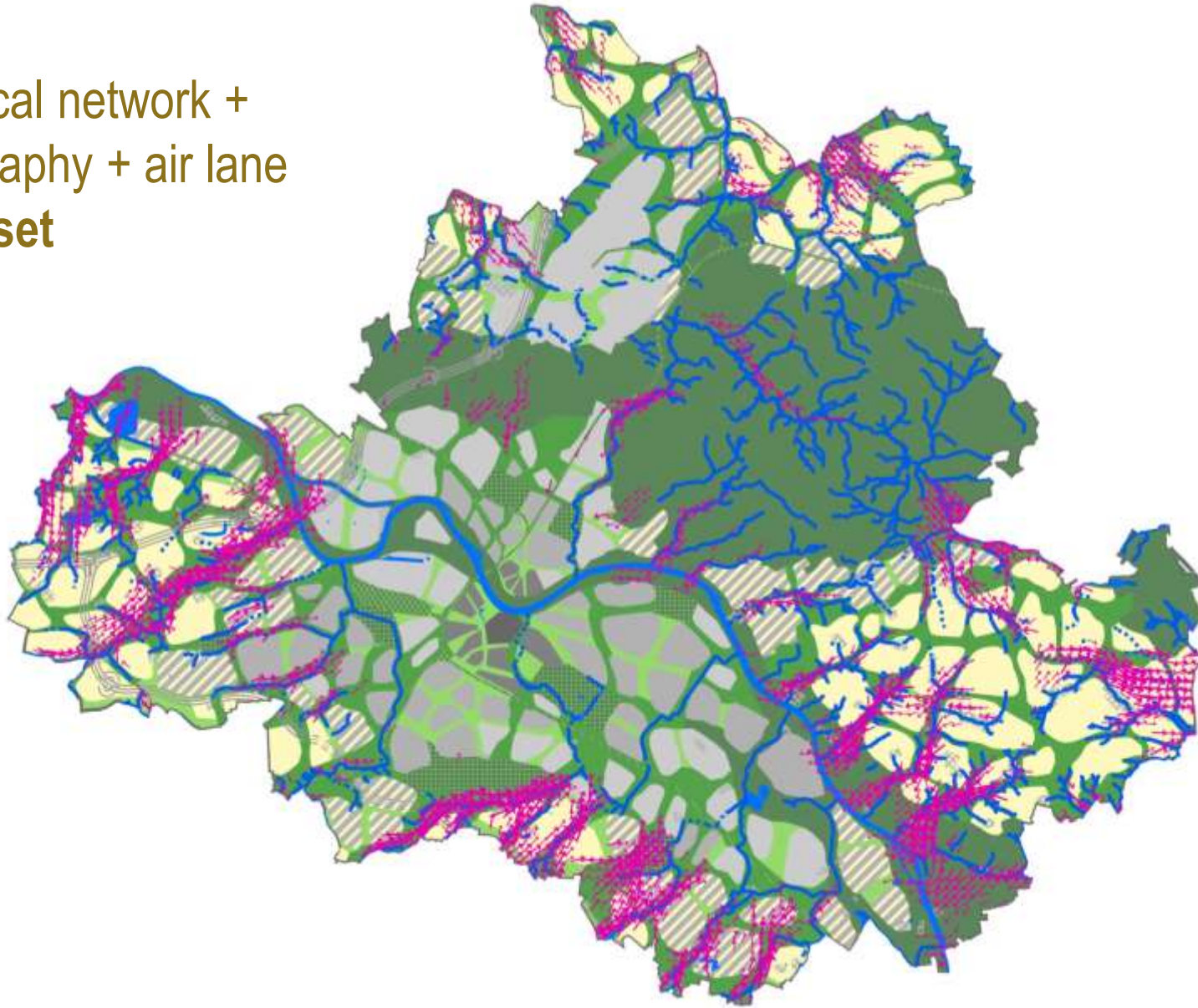
measures of water course  
development strengthen the  
ecological network



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# The Net Provides Fresh Air to the Residential Areas

ecological network +  
hydrography + air lane  
**At Sunset**

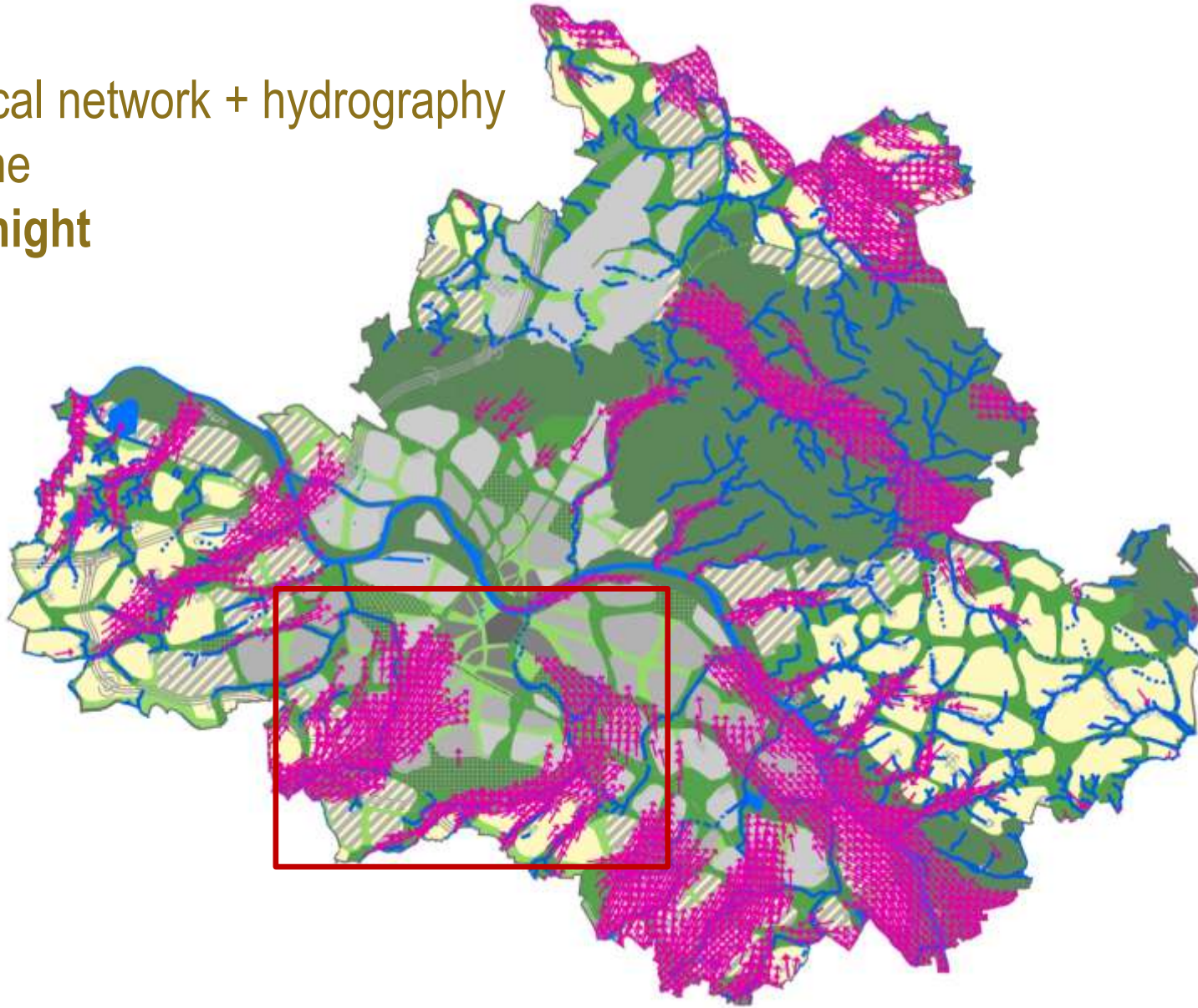


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# The Net Provides Fresh Air to the Residential Areas

ecological network + hydrography  
+ air lane  
**At Midnight**



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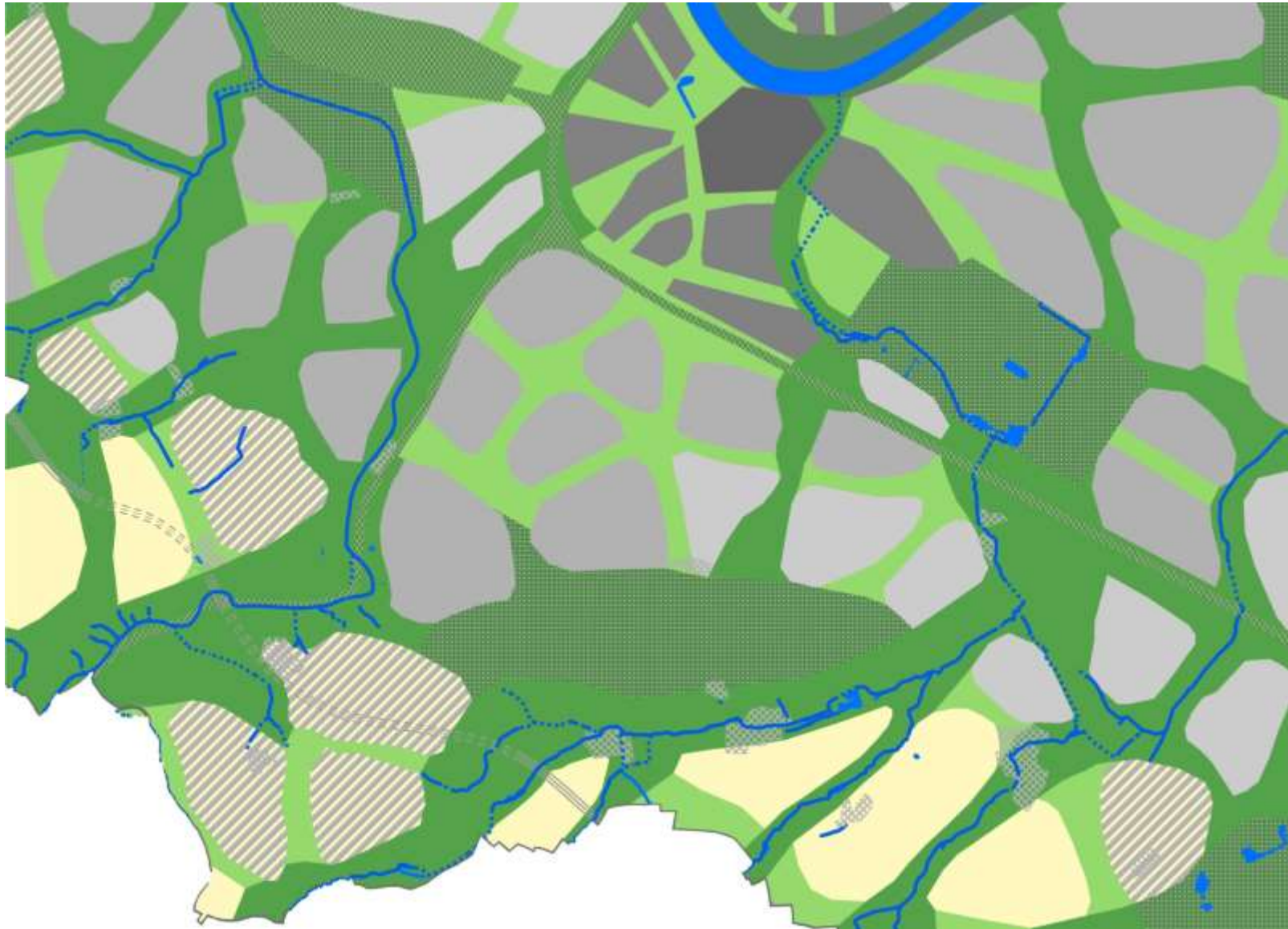
## land-use areas + hydrography



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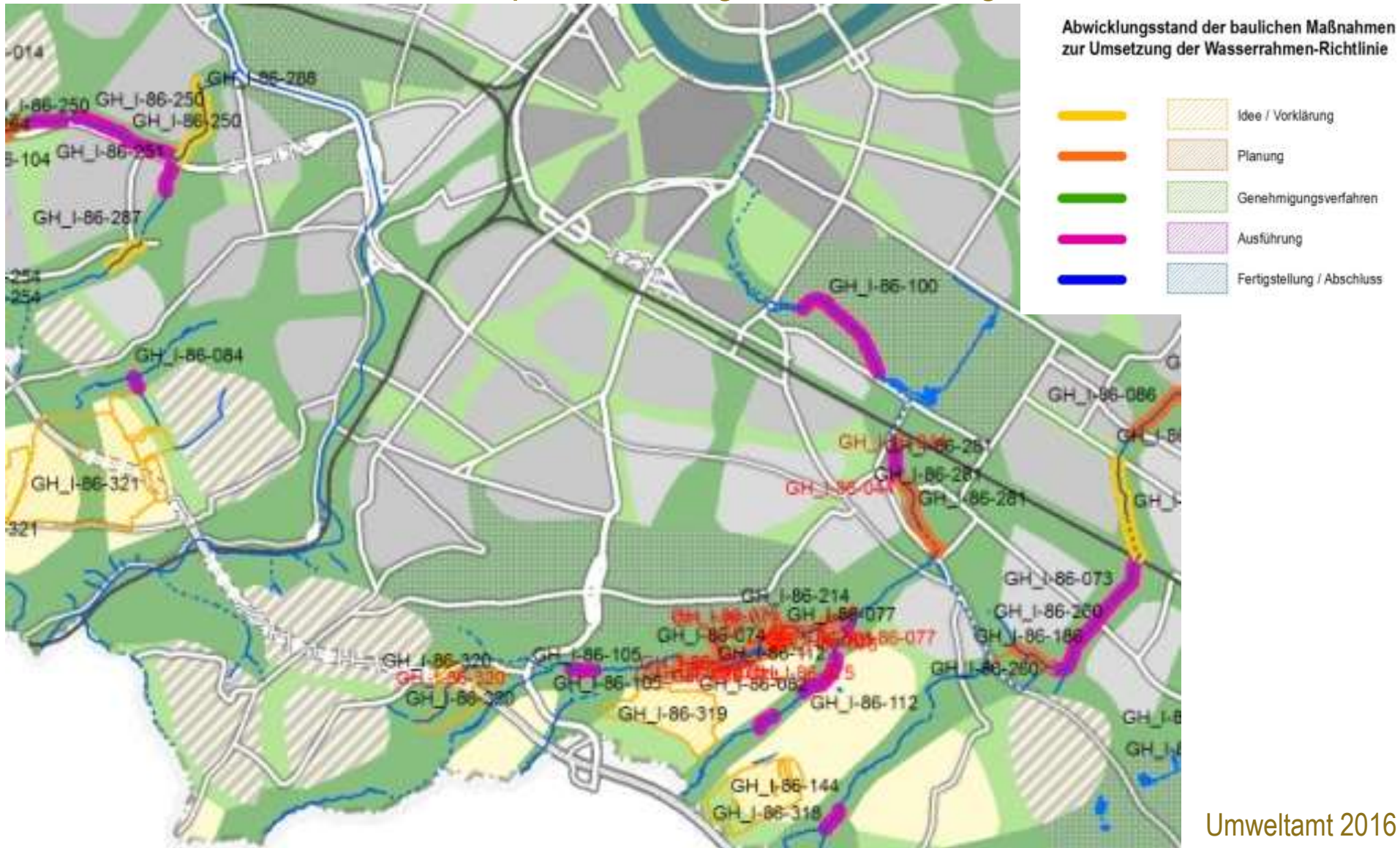
## ecological network + hydrography



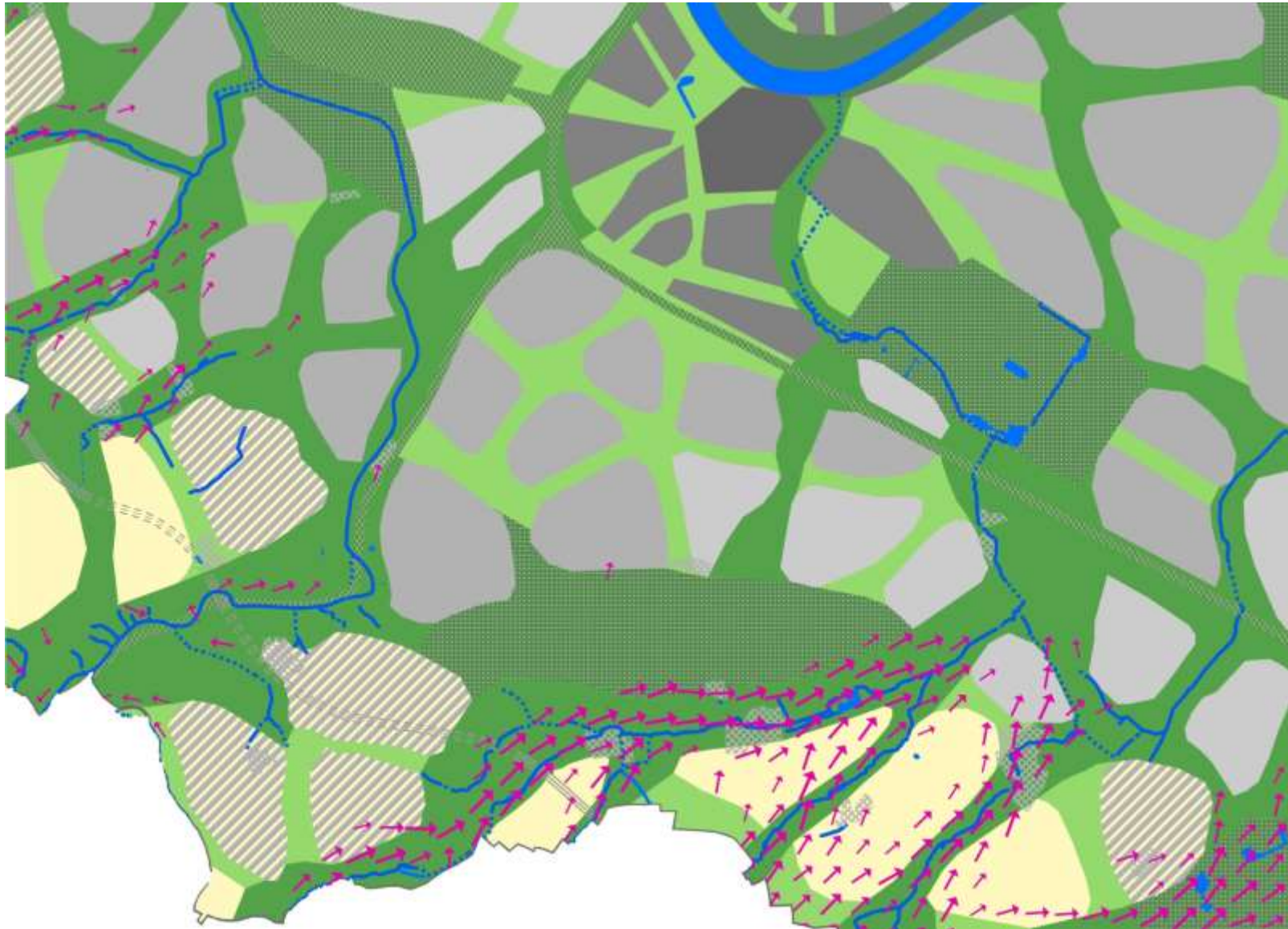
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## measures of water course development strengthen the ecological network



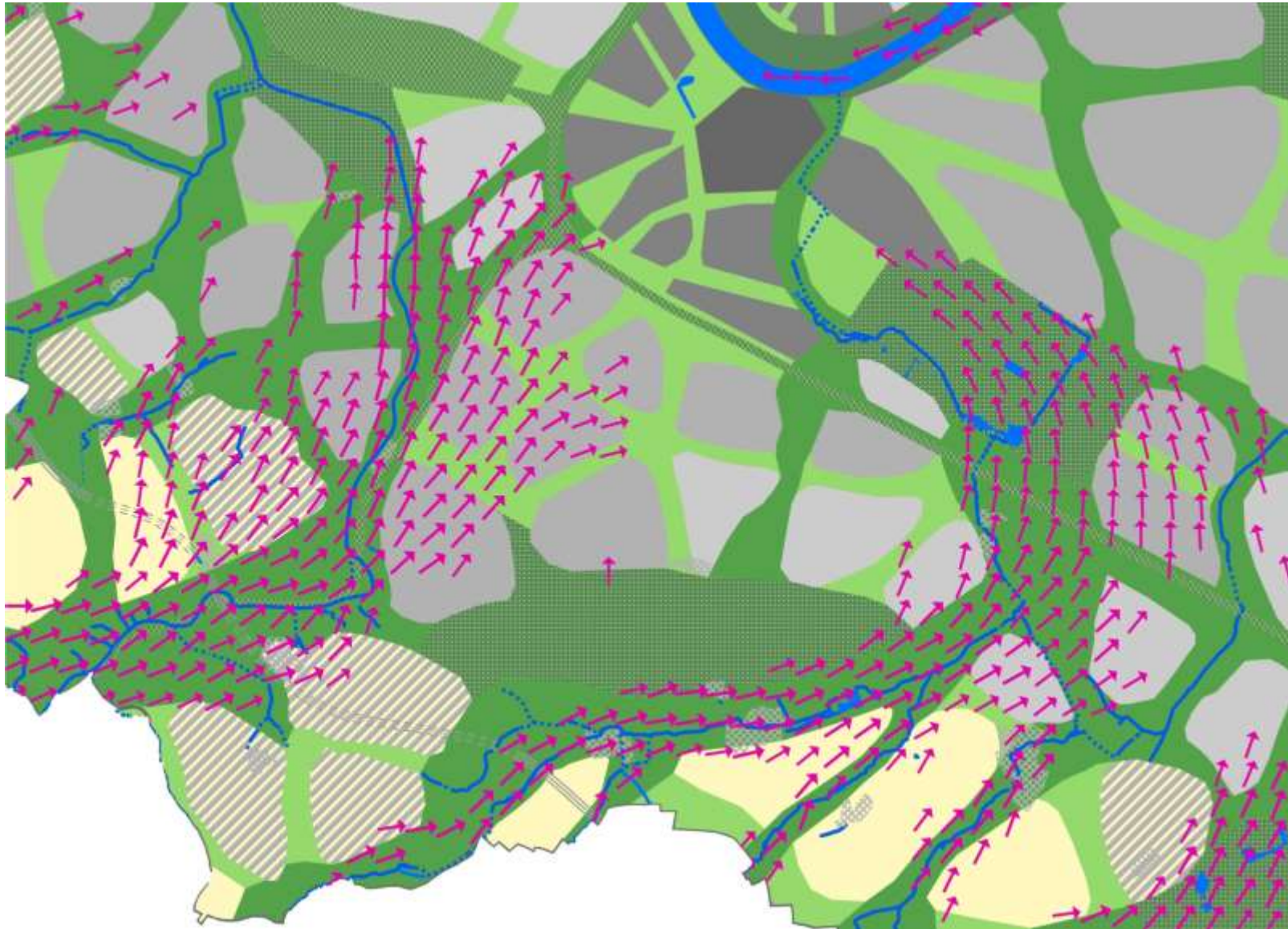
## ecological network + hydrography + air lane (sunset)



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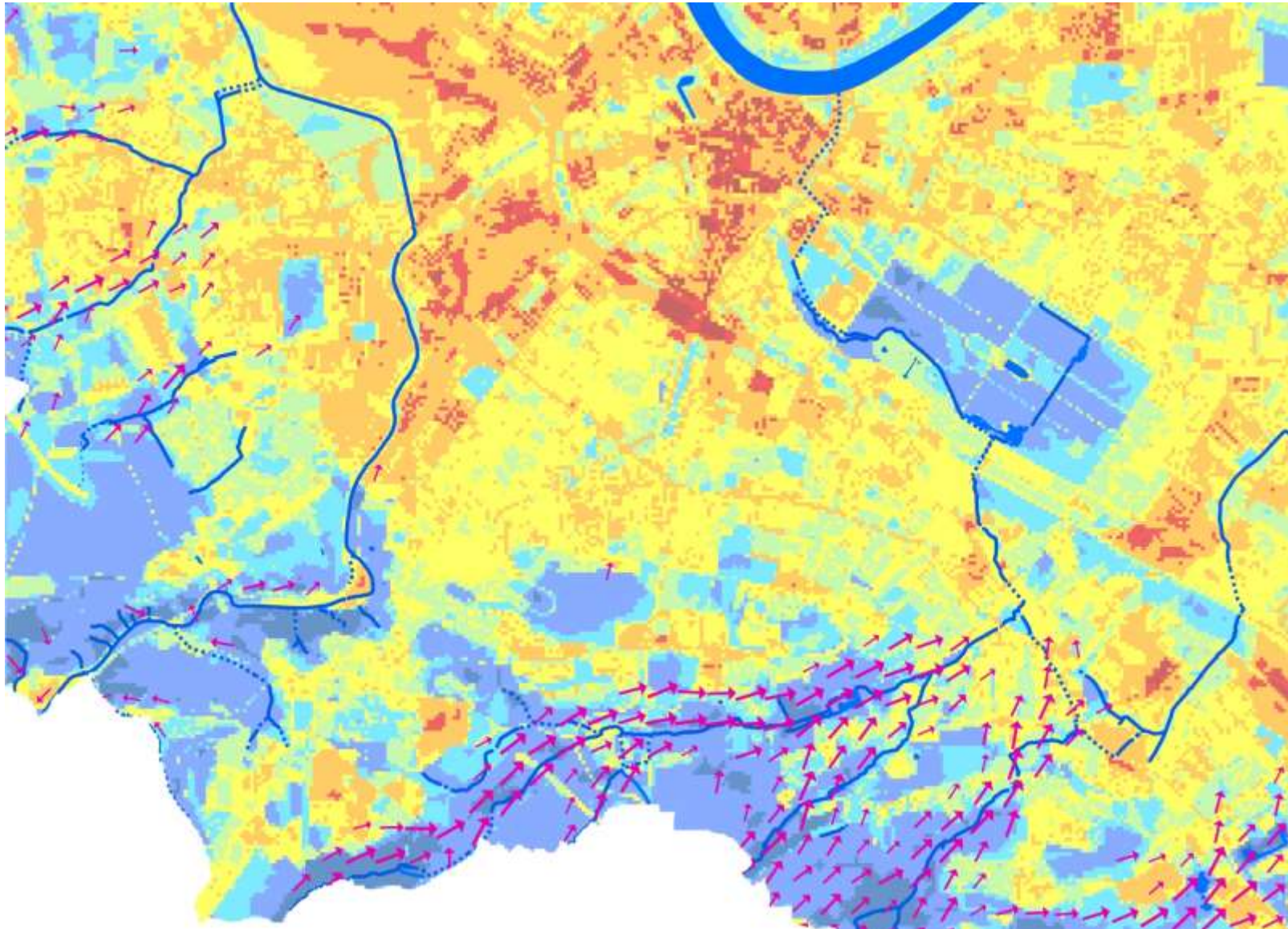


## ecological network + hydrography + air lane (midnight)



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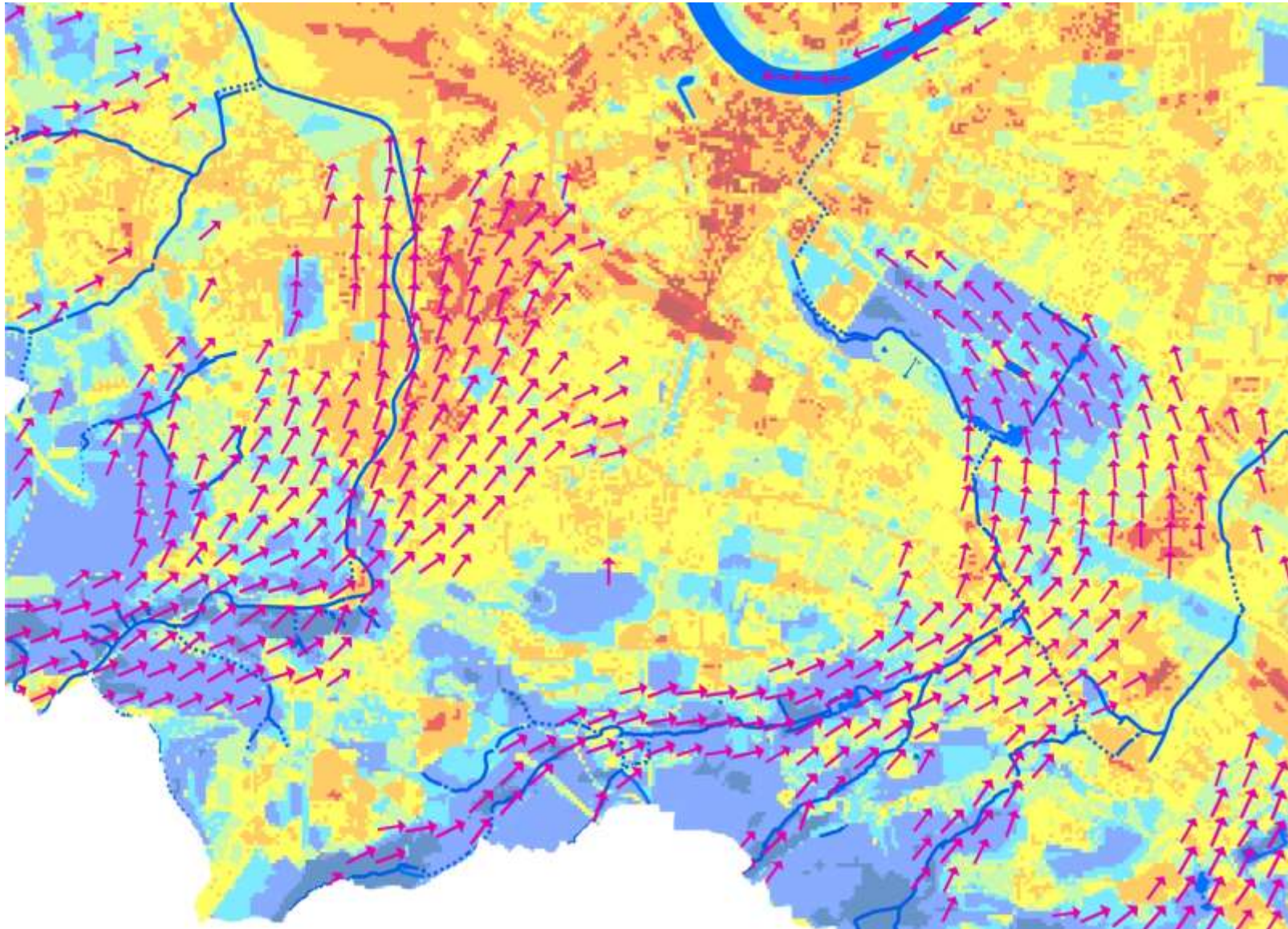
## climate analysis + hydrography + air lane (sunset)



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## climate analysis + hydrography + air lane (midnight)



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# Brown field remediation:

Green link and path for fresh and cold air to the inner city and Flood retention volume for extreme flash flood events



pictures Umweltamt Dresden



Weidigtbach Schlehenstraße 2013



Weidigtbach Schlehenstraße

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2016: Weidigtbach Stadtpark 2016

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Dresden.  
DLG296U'



Kaitzbach: garage demolition (Gostritzer Str.)



pictures Umweltamt Dresden



picture left: STESAD GmbH / right: Stadtplanungsamt Dresden





pictures: Stadtplanungsamt Dresden

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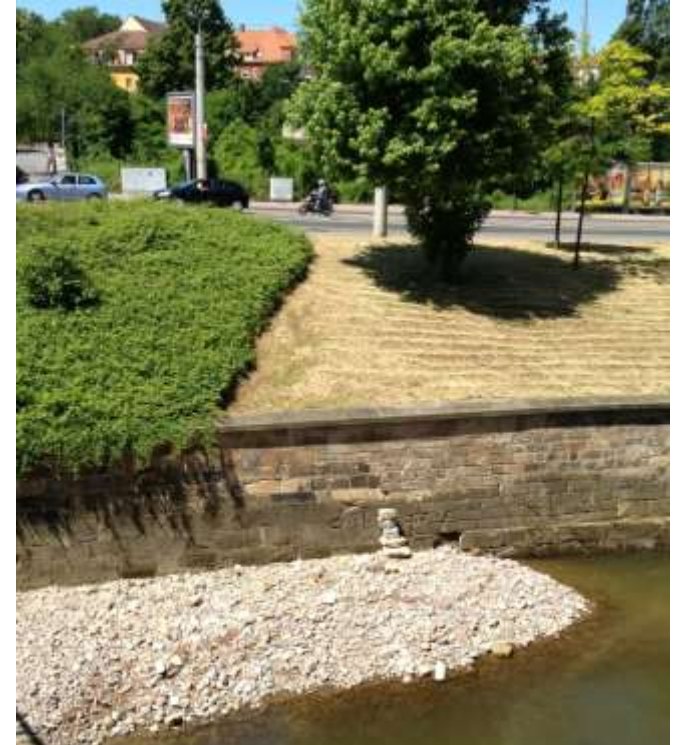


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