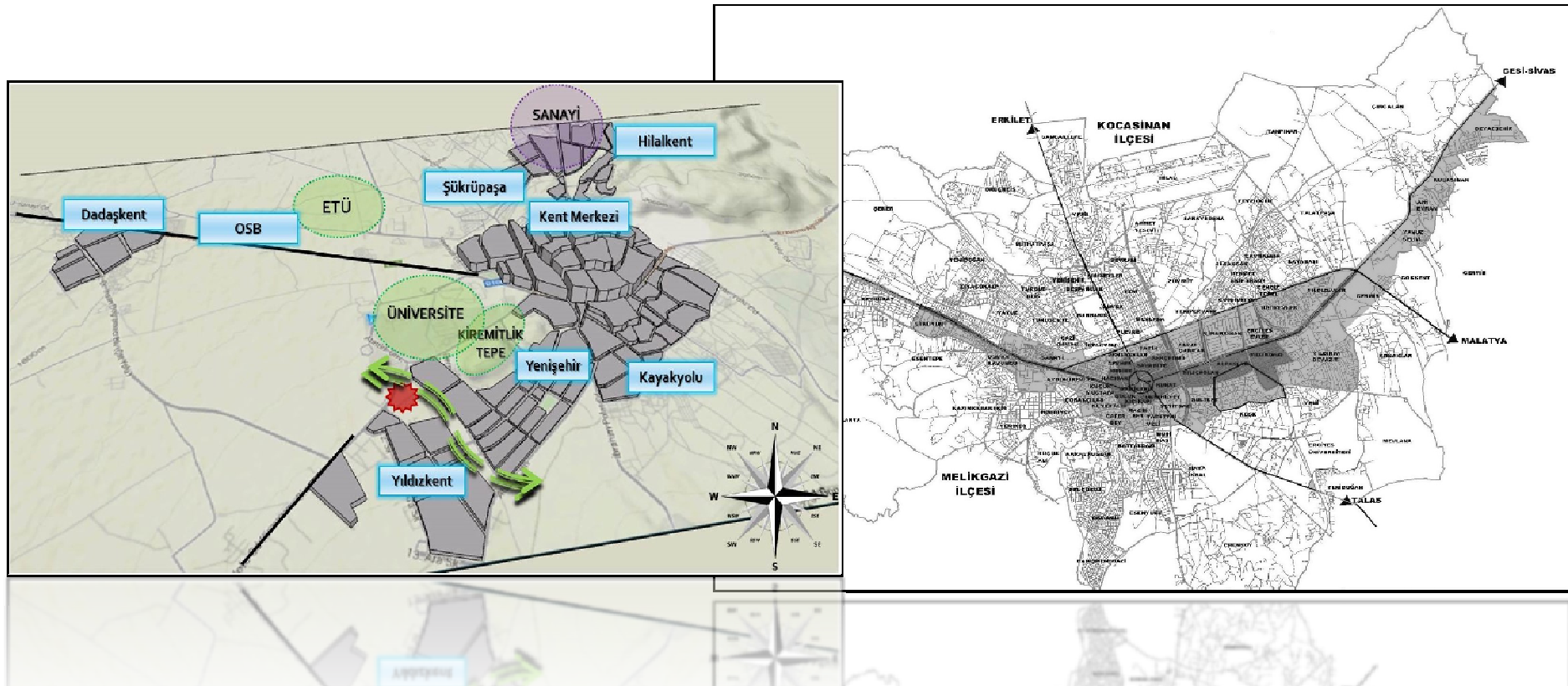


# Capacity for Urban Adaptation to Climate Change:

## Case Study of Erzurum and Kayseri

Defne Dursun



Toulouse, France, 2015

ICUC9 - 9<sup>th</sup> International Conference on Urban Climate jointly with 12<sup>th</sup> Symposium on the Urban Environment

# Content

- Climate Adaptation Strategies and Urban Policies
- Analysis
- Case Study Areas
  - Erzurum
  - Kayseri
- Conclusion

## Urban Policies are based on

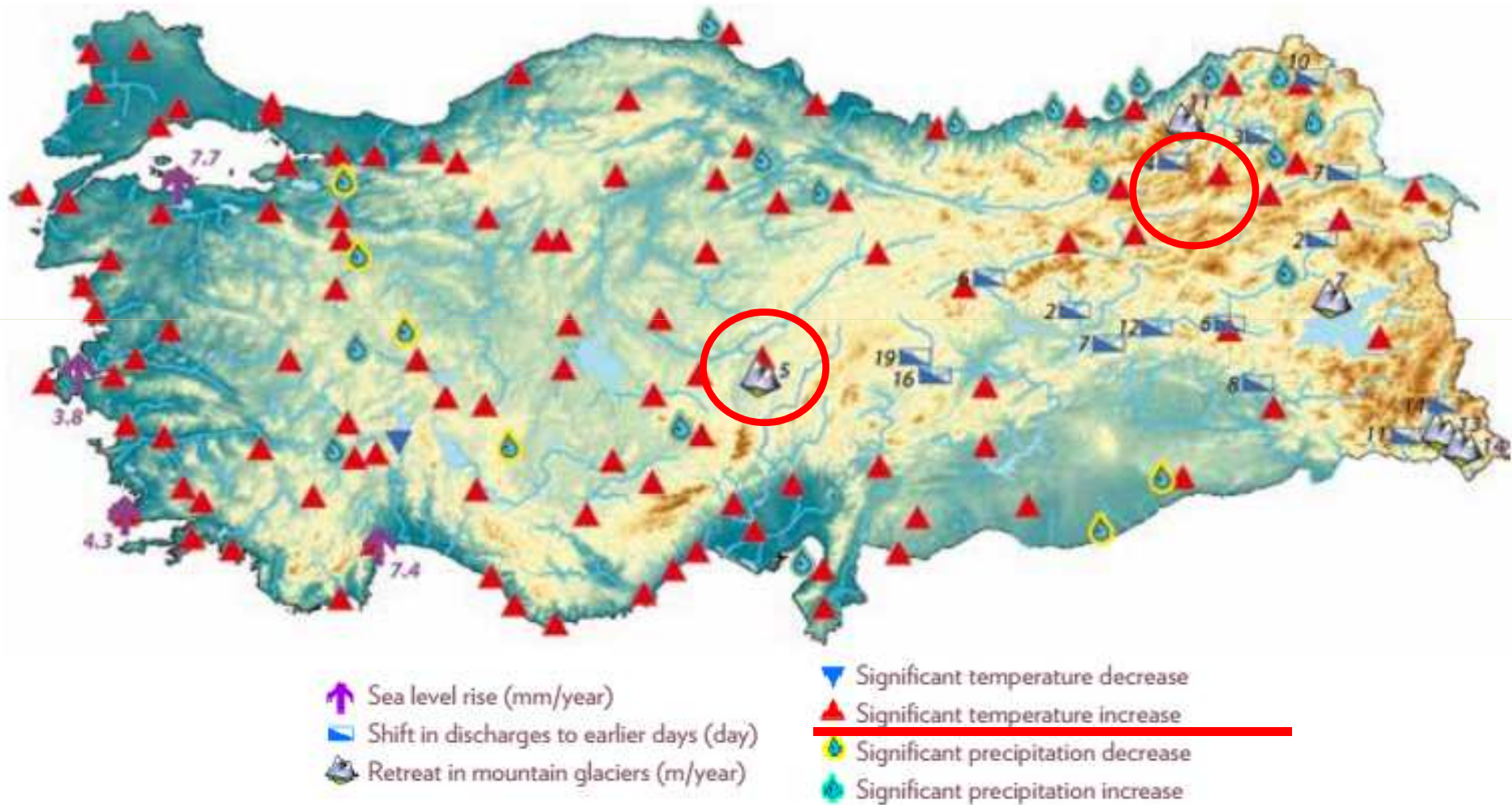
### Design based factors

- urban form,
- geometry,
- density and
- settlement patterns

### Others

- future scenarios,
- predictions,
- sustainability and
- quality of life

# Past changes in hydro-climatic variables of Turkey



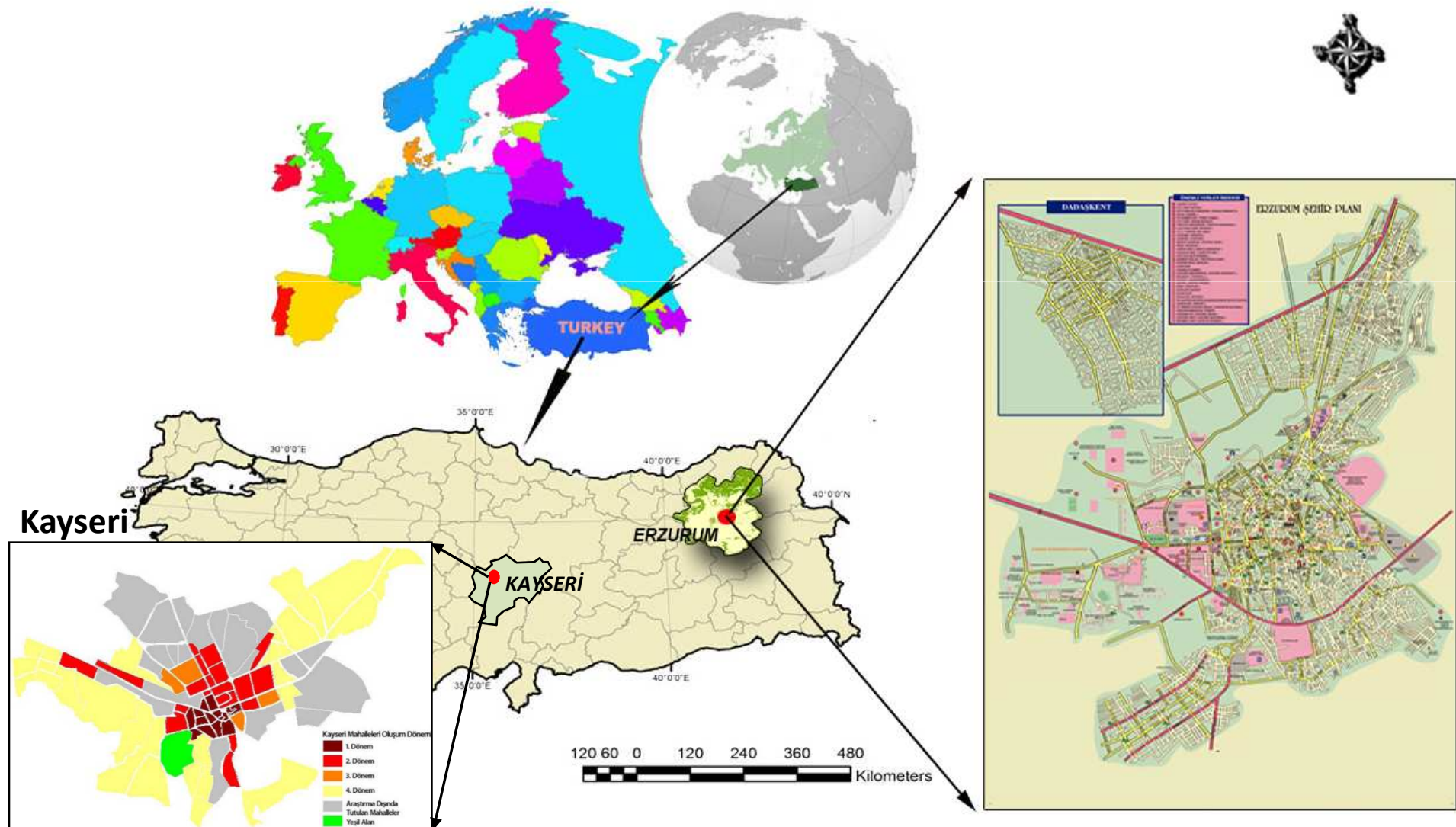
# Analysis : Design based factors used

- Exclusions
  - Size of the city
  - Water
- Other factors with decisive role
  - Urban geometry: Building height to street width (H/W) ratio and orientation of the streets
  - Density and Compactness
  - Settlement patterns
  - the particular land use
- These factors are meaningful only when they used cumulatively through various strategies and actions , i.e.
  - land-use and transportation policies,
  - massing and building controls,
  - open space/outdoor living areas and
  - public amenities.

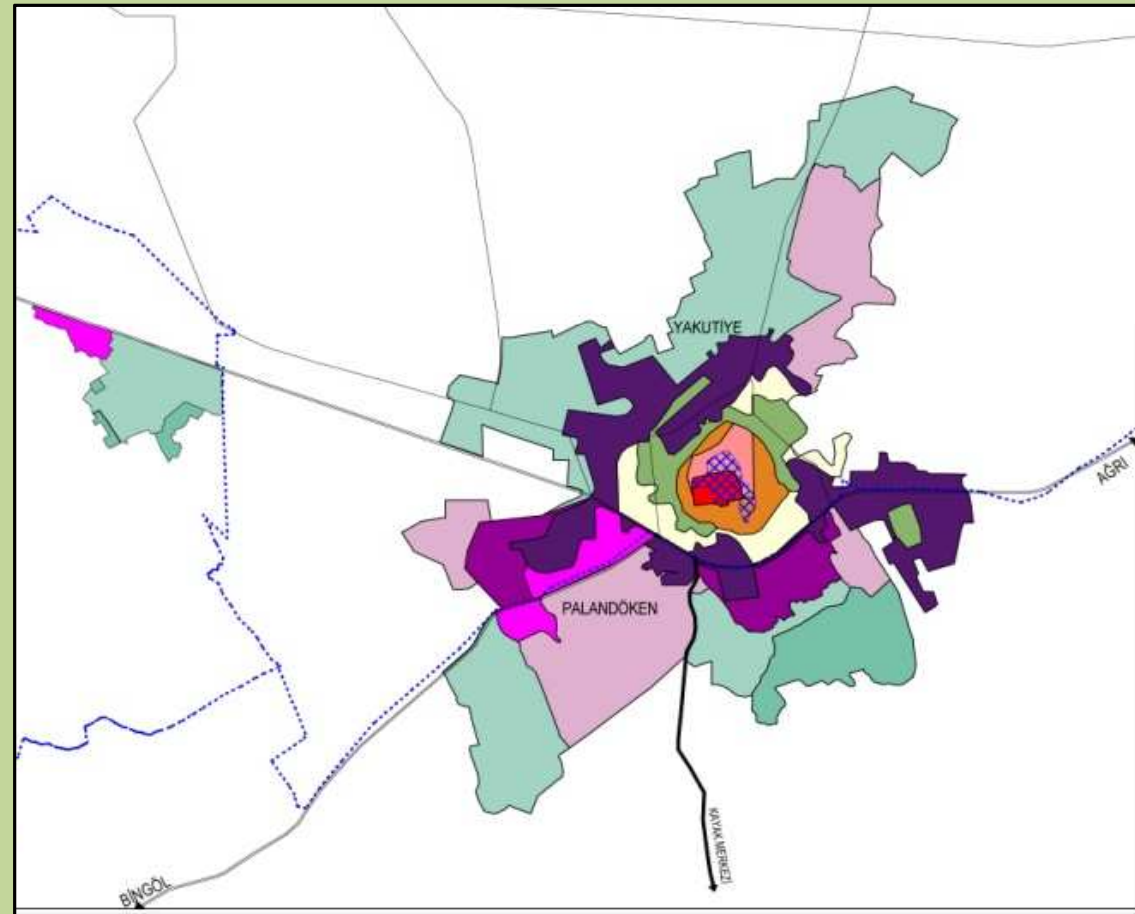


# Case Study Areas: The City of ERZURUM and KAYSERİ

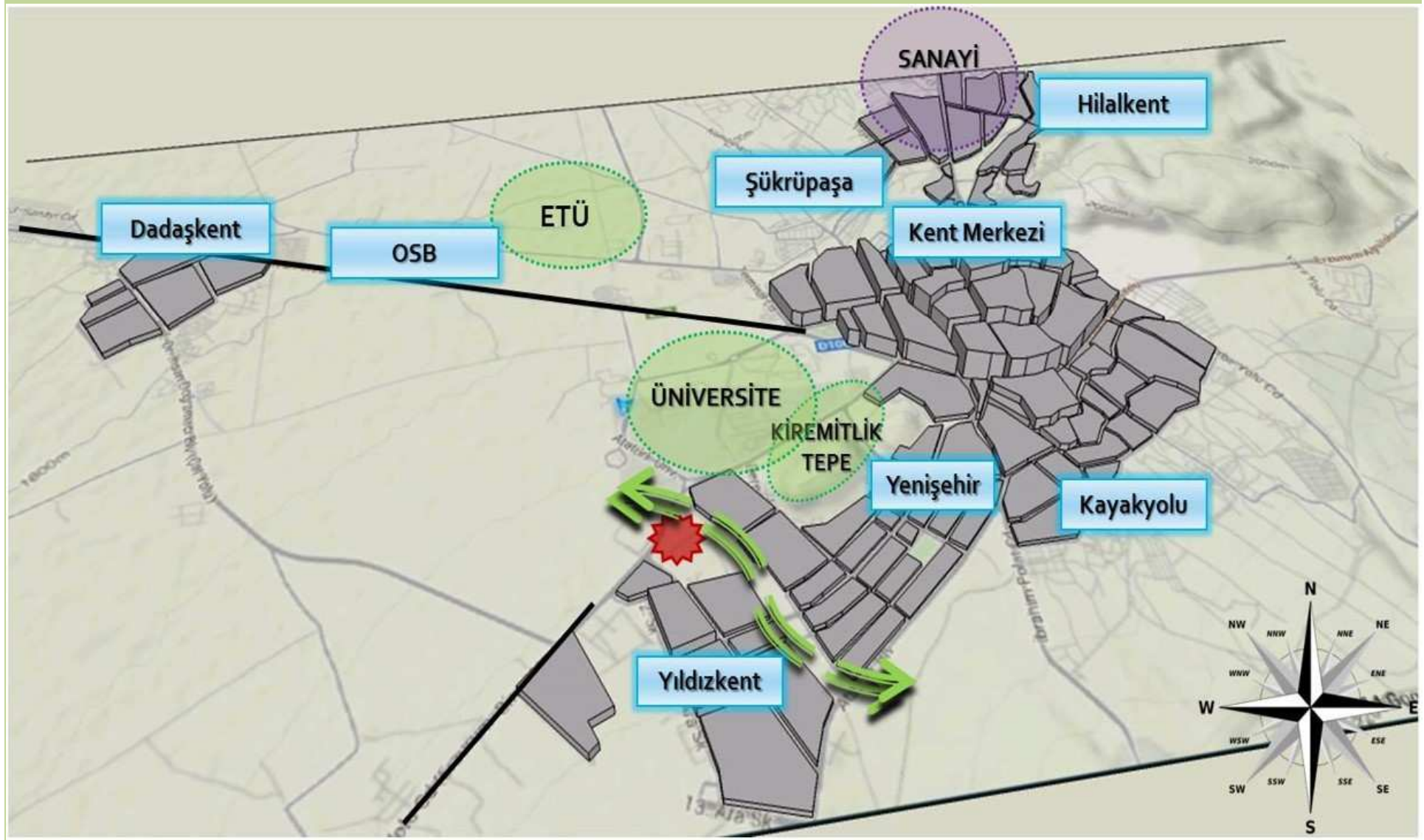
## Erzurum



# Urban macroform development of Erzurum



# Urban macroform and settlement areas of Erzurum

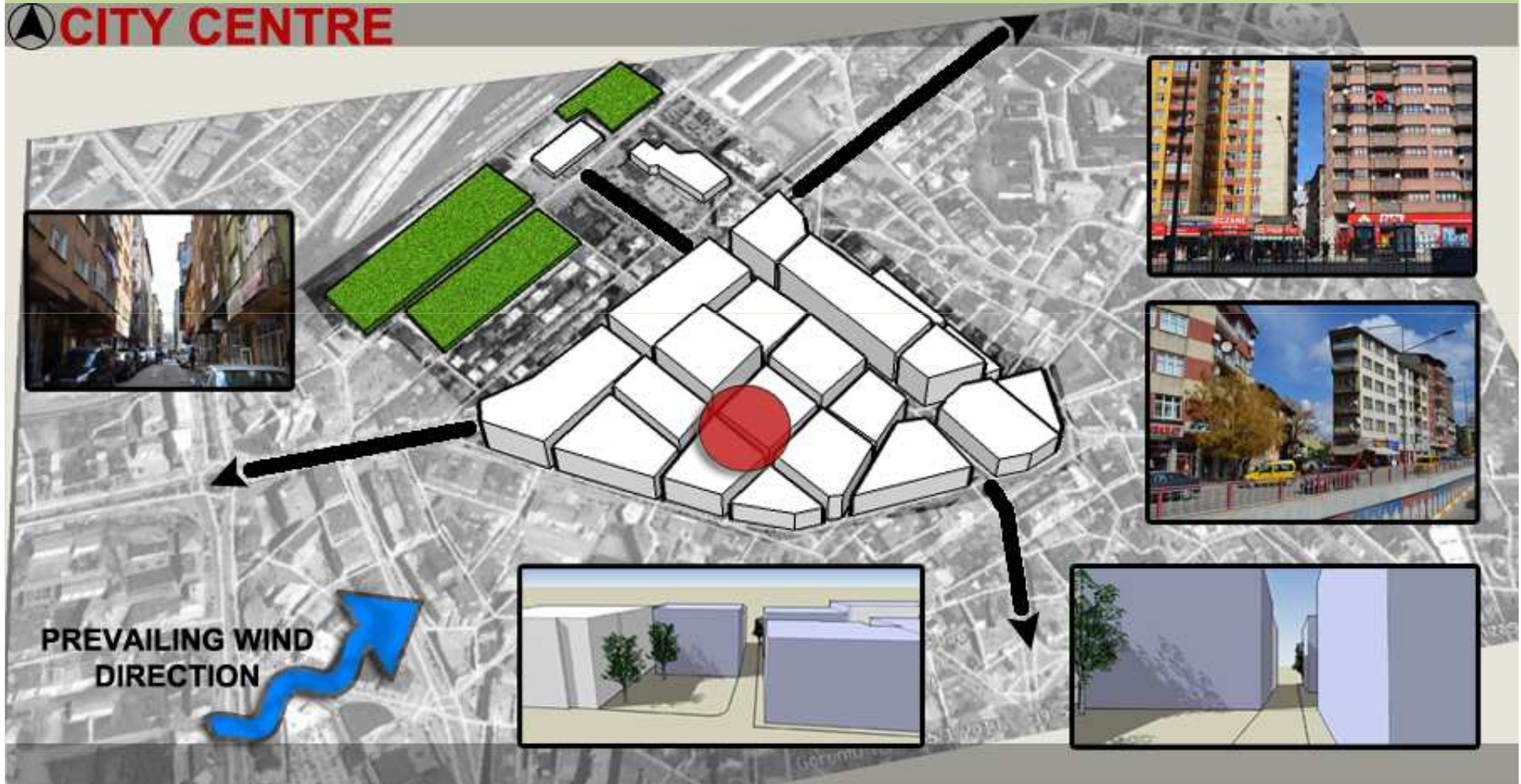




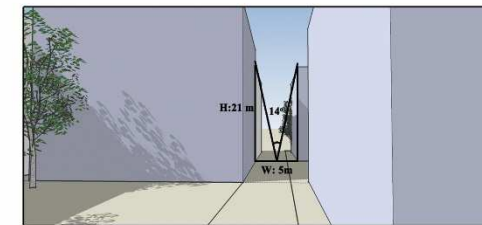
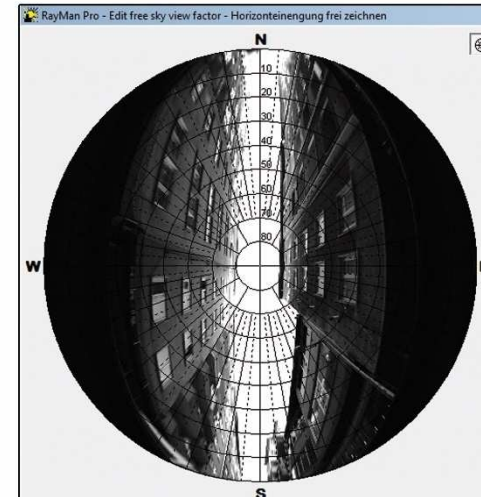




 **CITY CENTRE**



## CITY CENTRE



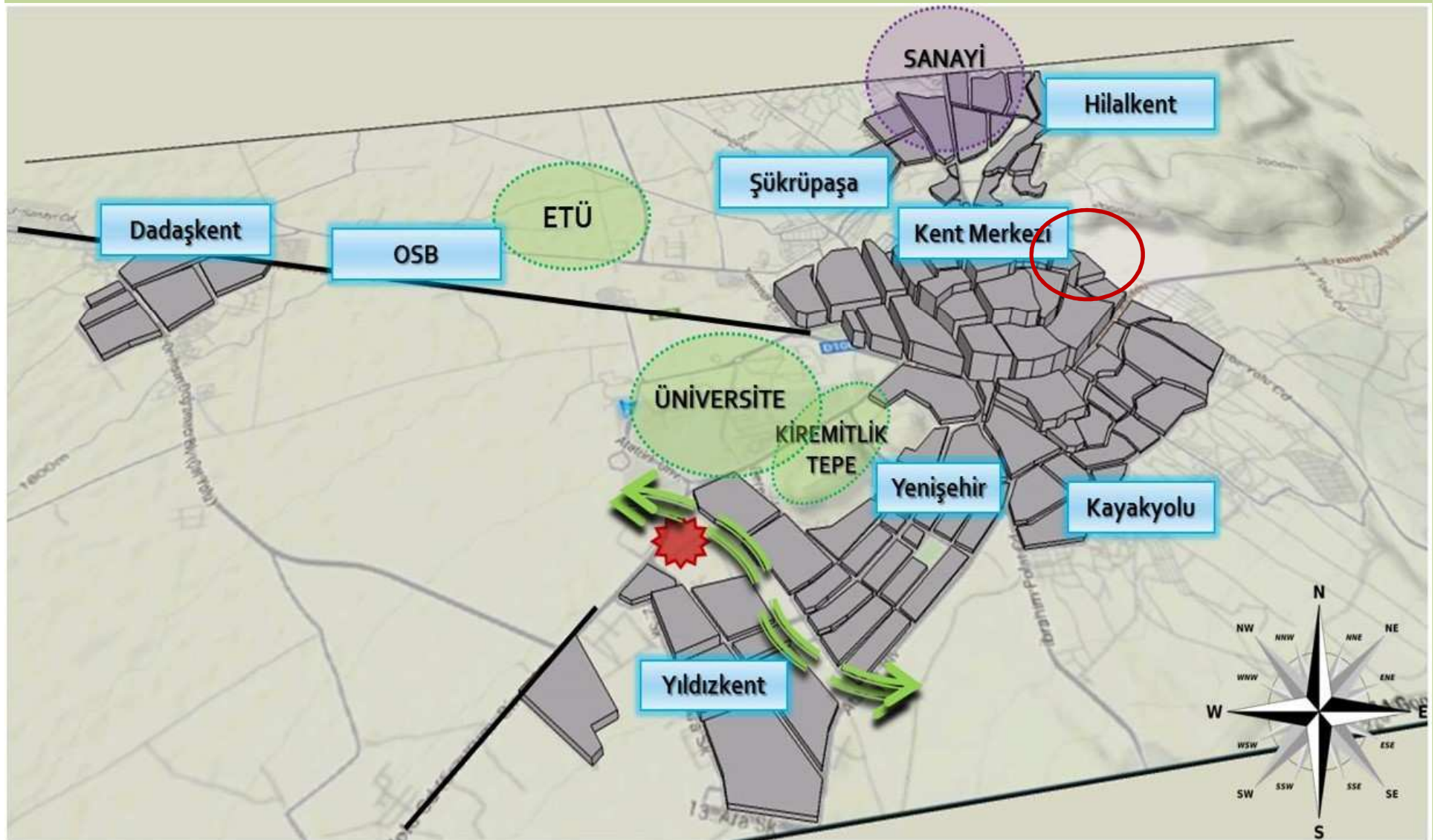
BUILDING AREA (M <sup>2</sup> )	TOTAL AREA (M <sup>2</sup> )	NUMBER OF BUILDING	BUILDING COVERAGE RATIO	FLOOR AREA RATIO	DENSITY (dwellers/ha)
2880	4225	7	0.6	4.2	990
AVERAGE HEIGHT OF BUILDING	H/ W RATIO	SVF	GREEN SPACE	SEALED SURFACE	STREET ORIENTATION
7	4.2	0.15	%0	%100	NW-SE, NE-SW





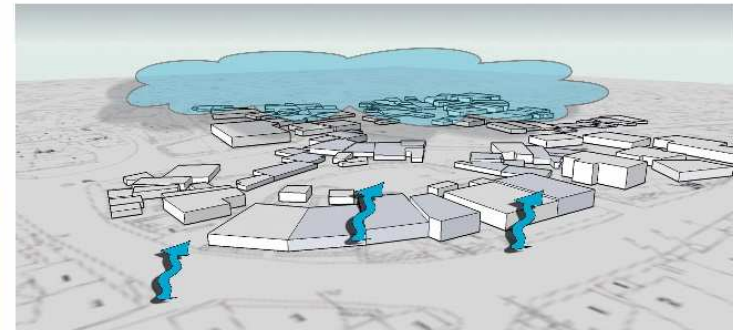
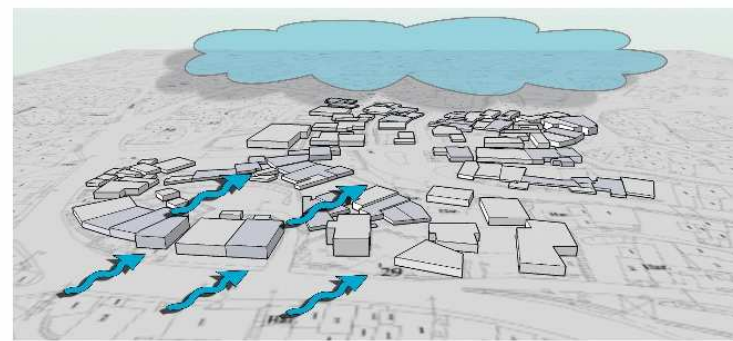


# Dag District

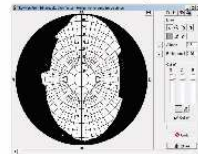




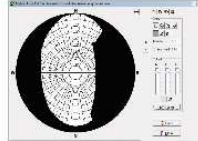




#### 1. ALAN GÖKYÜZÜ GÖRÜŞ FAKTÖRÜ

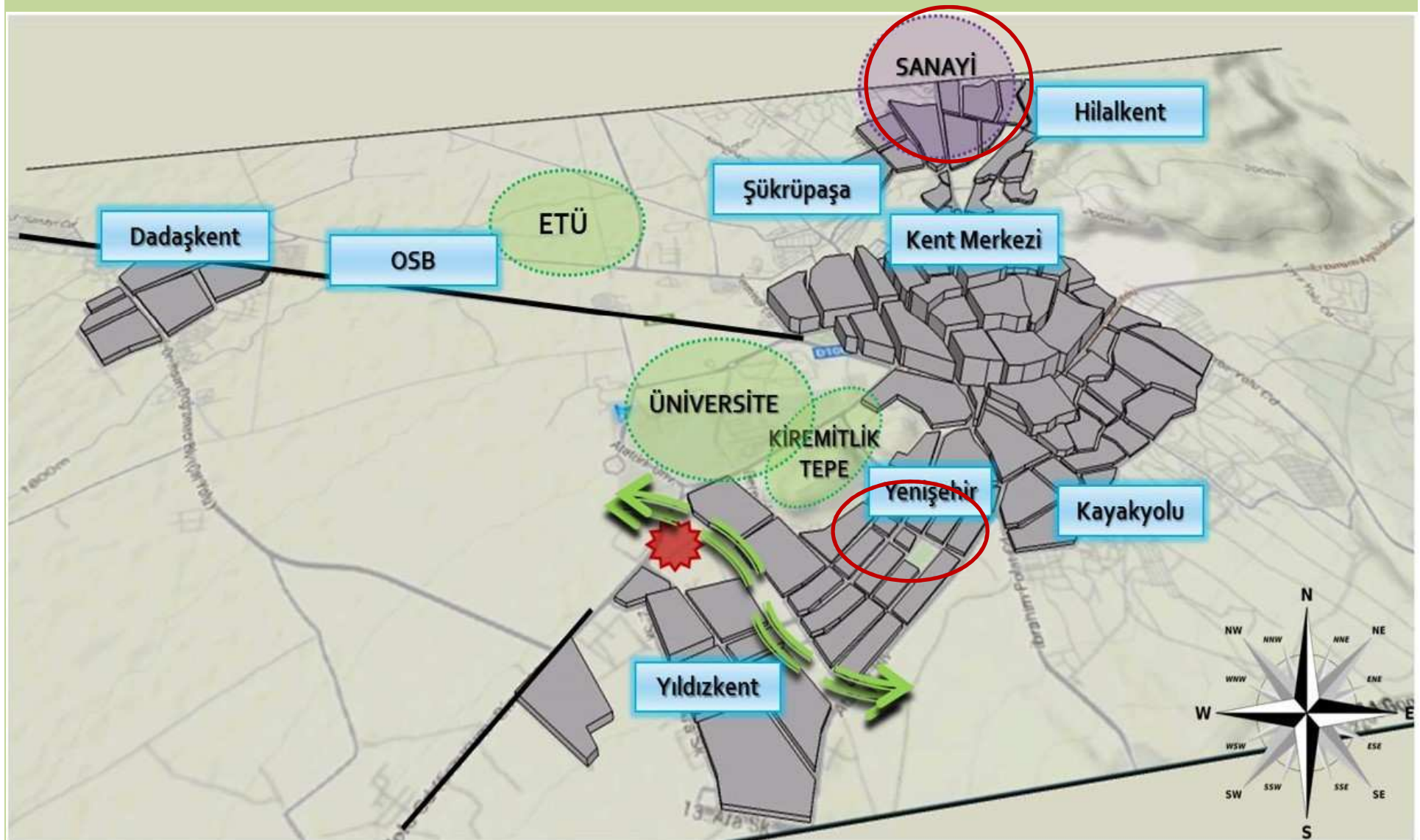


#### 2. ALAN GÖKYÜZÜ GÖRÜŞ FAKTÖRÜ



	1. ALAN	2. ALAN
TOPLAM ALAN	0.75 Ha	0.3 Ha
YAPILASMIŞ ALAN	0.55 Ha	0.25 Ha
ORTALAMA BİNA YÜKSEKLİĞİ	1-2 Kat	1-2 Kat
YEŞİL ALAN	%0	%0
SERT YÜZEY ALANI	%100	%100
CADDE YÖNLENME	-	-
GÖKYÜZÜ GÖRÜŞ ORANI (SVF)	0.49	0.40

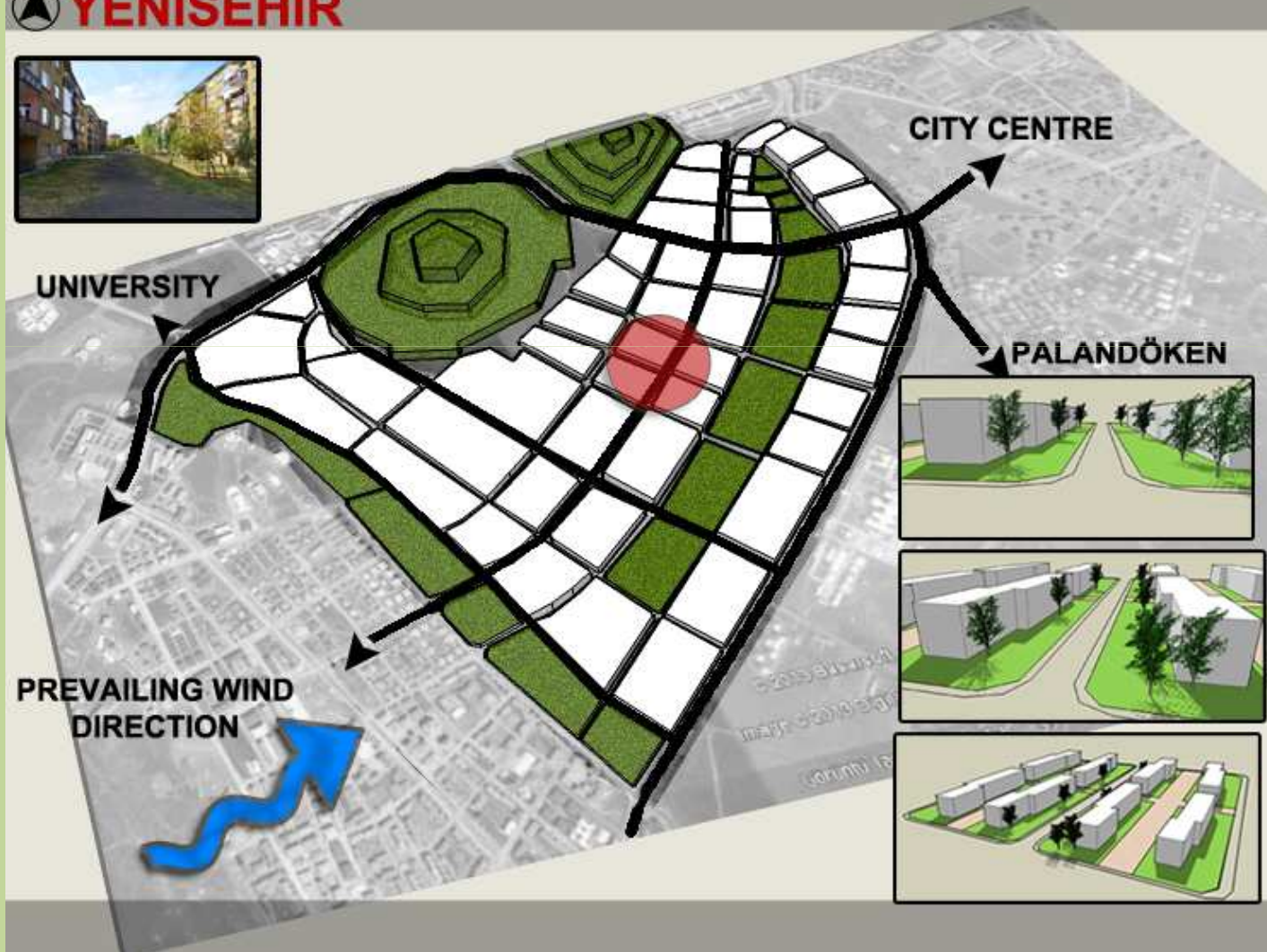
# Industrial Area & Yenisehir





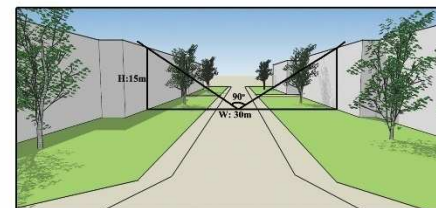
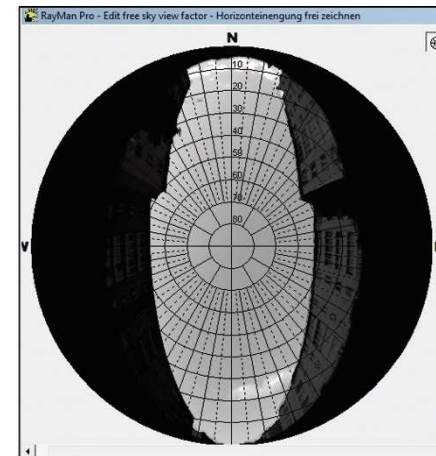
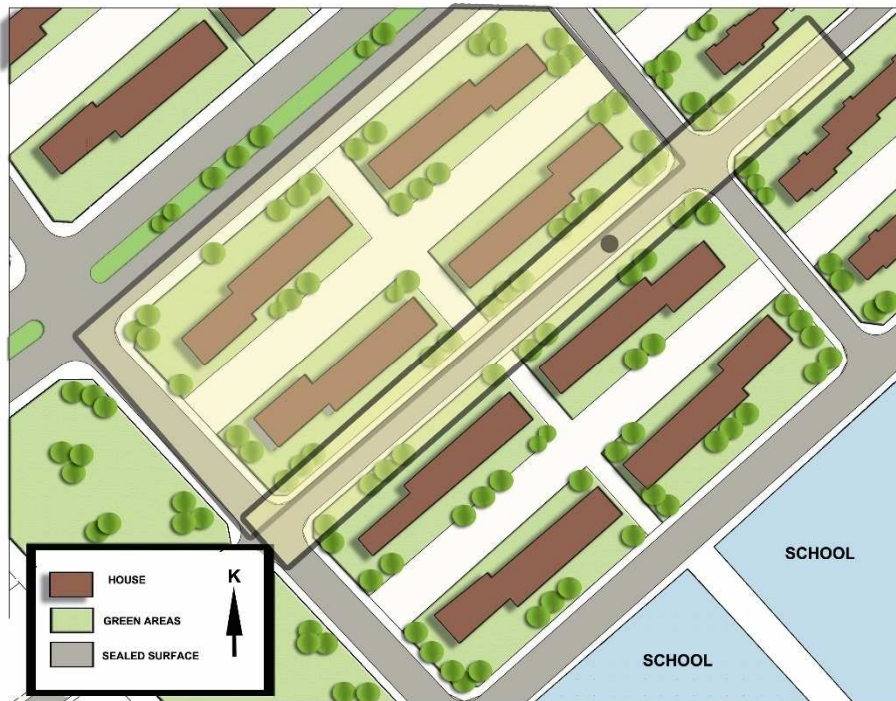


# YENİŞEHİR





## YENISEHIR



BUILDING AREA (M²)	TOTAL AREA (M²)	NUMBER OF BUILDING	BUILDING COVERAGE RATIO	FLOOR AREA RATIO	DENSITY (dwellers/ ha)
2400	10400	4	0.2	1	296
AVERAGE HEIGHT OF BUILDING	H/ W RATIO	SVF	GREEN SPACE	SEALED SURFACE	STREET ORIENTATION
5	0.5	0.42	%77	%23	NW-SE, NE-SW



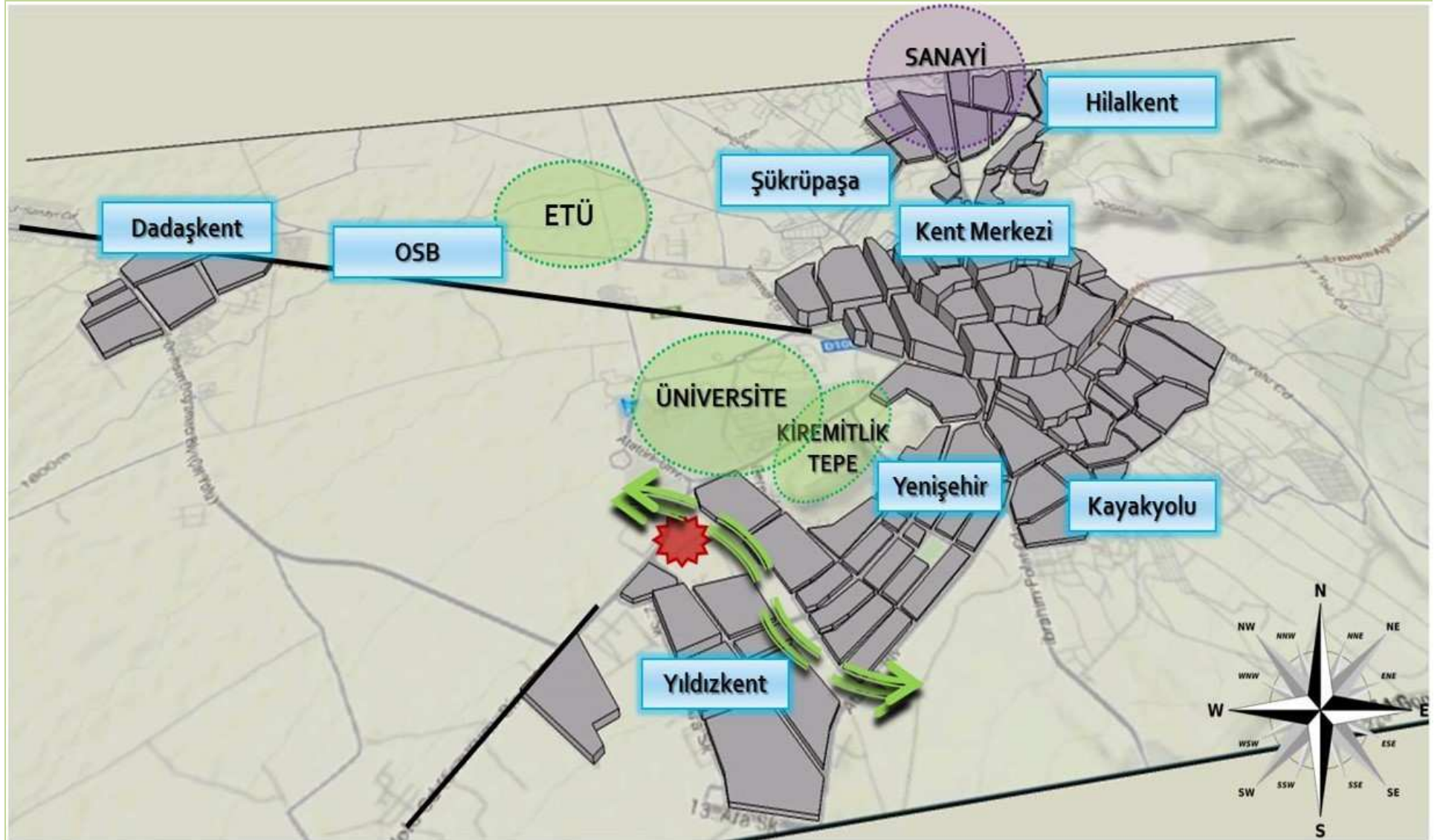




A satellite map showing a rural area with agricultural fields and a small town. A blue circle with a black dotted border highlights a specific area in the upper left. The word "DADAŞKENT" is written in black capital letters inside this circle. To the right, a red location pin is placed on a road, with the word "Erzurum" written in black capital letters next to it. The map shows a mix of brown and green fields, some buildings, and a network of roads.

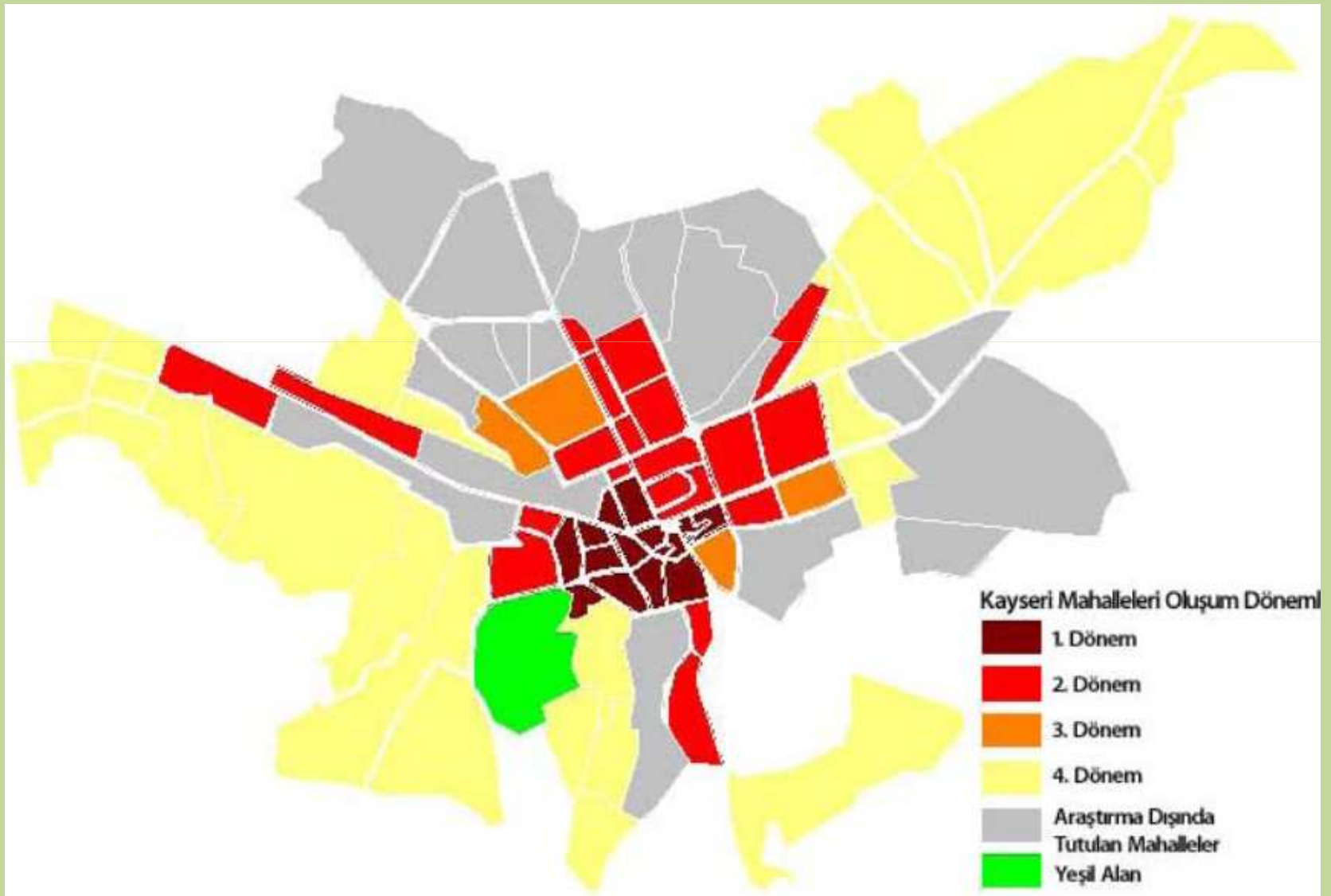
DADAŞKENT

Erzurum





# Urban macroform development of Kayseri



# **CONCLUSION**



***THANK YOU***

*Questions and Comments*

*Res.Assist.Defne DURSUN*

*defneg@metu.edu.tr*