SMURBS

ERA-PLANET

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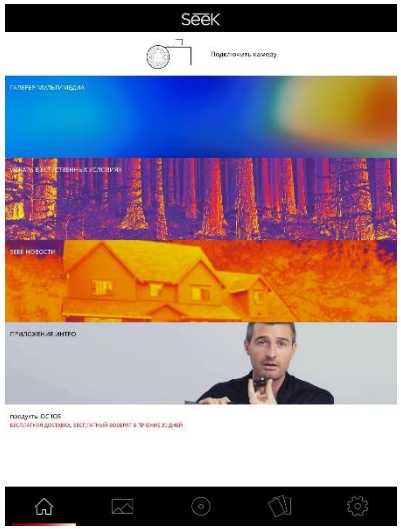
URBAN GROWTH SOLUTION PRECURSOR: KYIV CITY DISASTER SERVICE

Kyiv City Disaster service

- **Input data**
  - **Satellite data**
    - Thermal data from Landsat-8 (30m)
    - Sentinel-3 (1000m)
    - MODIS (1000m)
  - **In-situ data**
    - Thermal sensor for mobile device
      Seek thermal
    - Measurements at 27/08/18 at 2 p.m.
    - Shadowed surface and open surfaces



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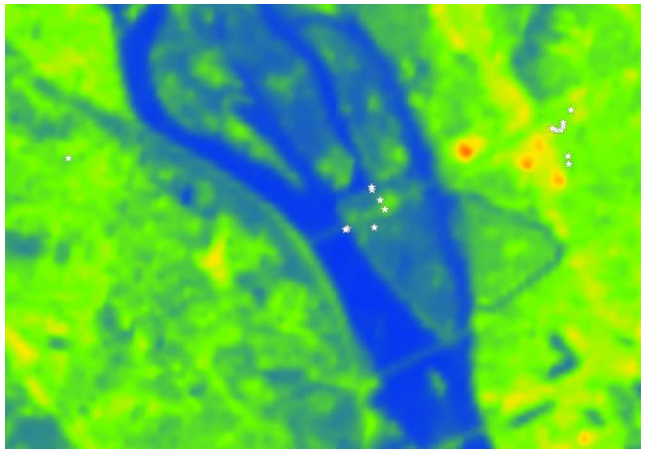
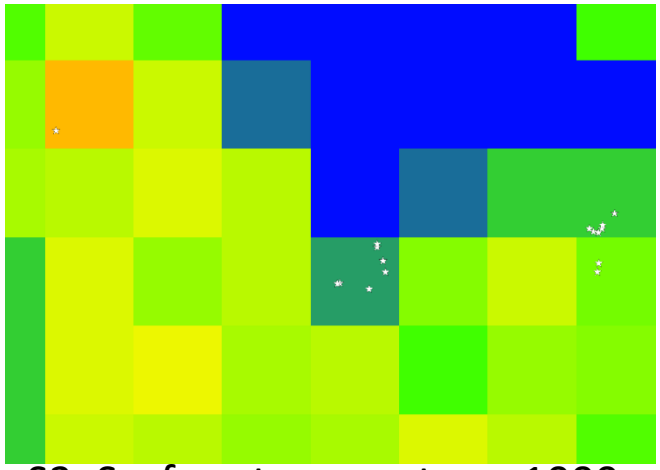
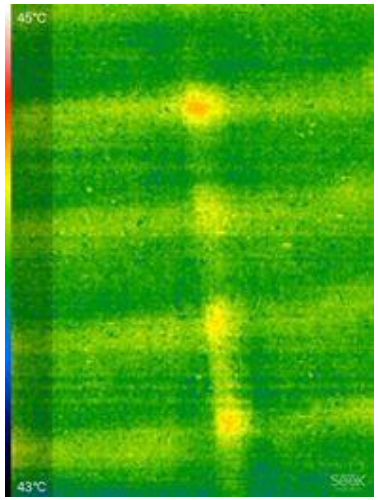


L8, B10, Surface temperature, 30m

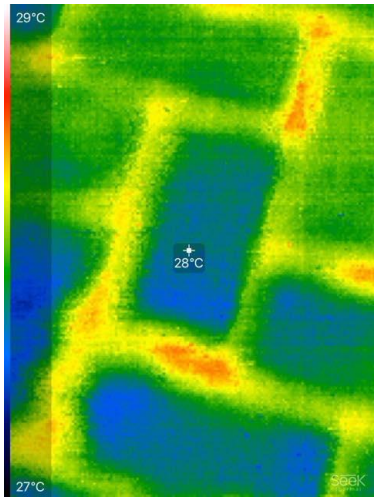


S3, Surface temperature, 1000m

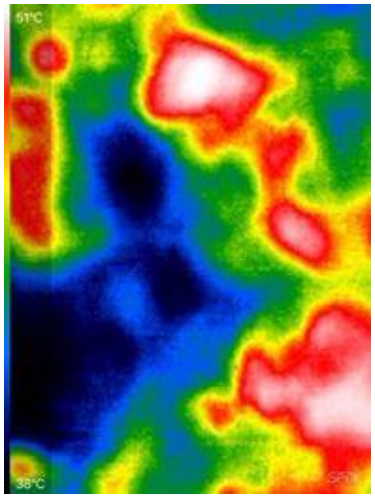
In-situ measurements



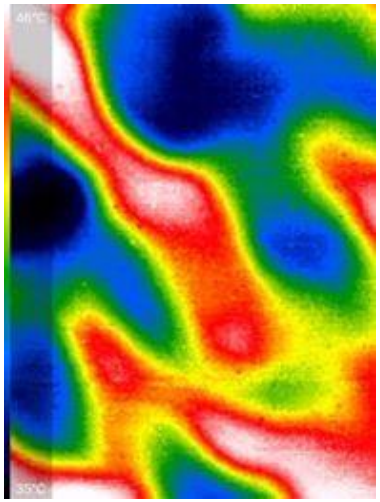
Open surface, stone, 43-45 C



Shadowed surface, stone, 27-29 C



Open surface, sand, 38-51 C



Open surface, sand, 35-44 C

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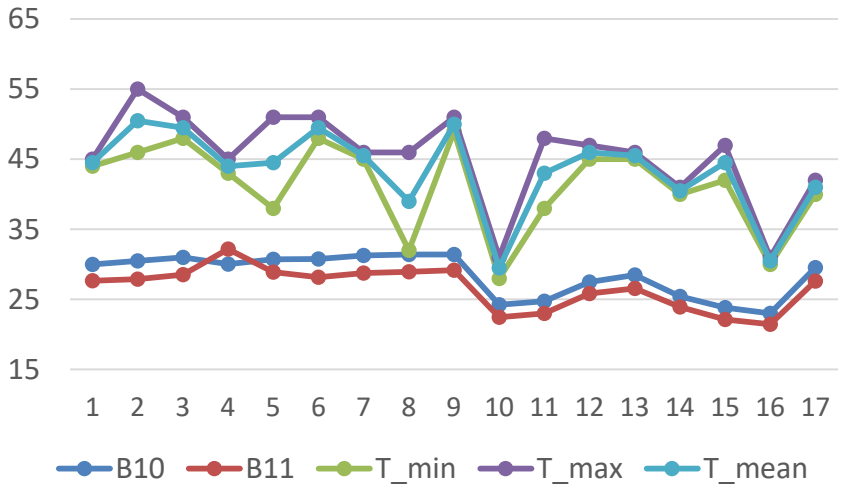
Kyiv City Disaster service

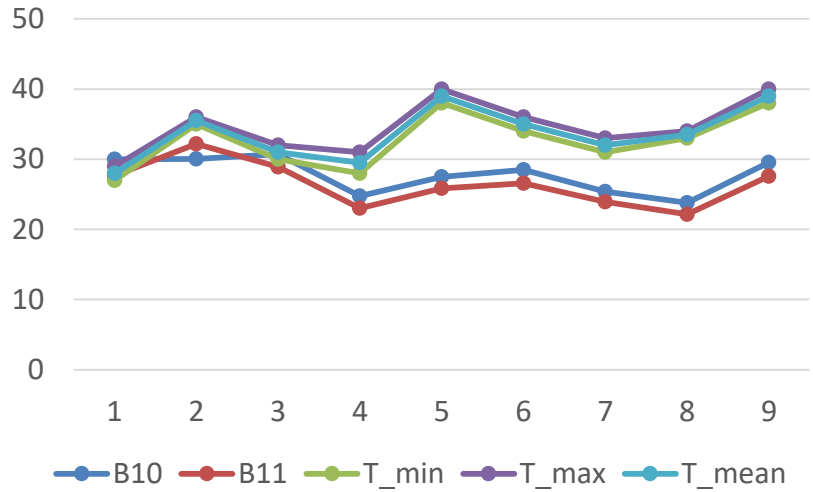
Landsat-8, open surface



Pearson correlation, L8

	T_min	T_max	T_mean
B10	0,57	0,67	0,66
B11	0,58	0,58	0,59

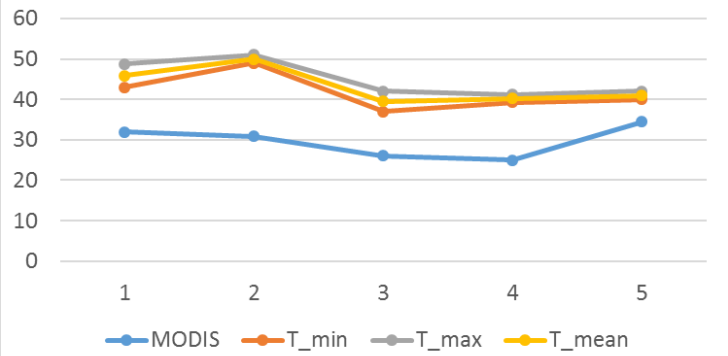
Landsat-8, shadowed surface



Pearson correlation, L8

	T_min	T_max	T_mean
B10	0,12	0,11	0,12
B11	0,22	0,18	0,20

MODIS, surface temperature



Pearson correlation, MODIS

	T_min	T_max	T_mean
MODIS	0,43	0,40	0,43

Correlation Coefficient Interpretation Guideline

Rule of thumb:

- $0.0 = |r|$: no correlation
- $0.0 < |r| < 0.2$: very weak correlation
- $0.2 \leq |r| < 0.4$: weak correlation
- $0.4 \leq |r| < 0.6$: moderately strong correlation
- $0.6 \leq |r| \leq 0.8$: strong correlation
- $0.8 \leq |r| < 1.0$: very strong correlation
- $1.0 = |r|$: perfect correlation

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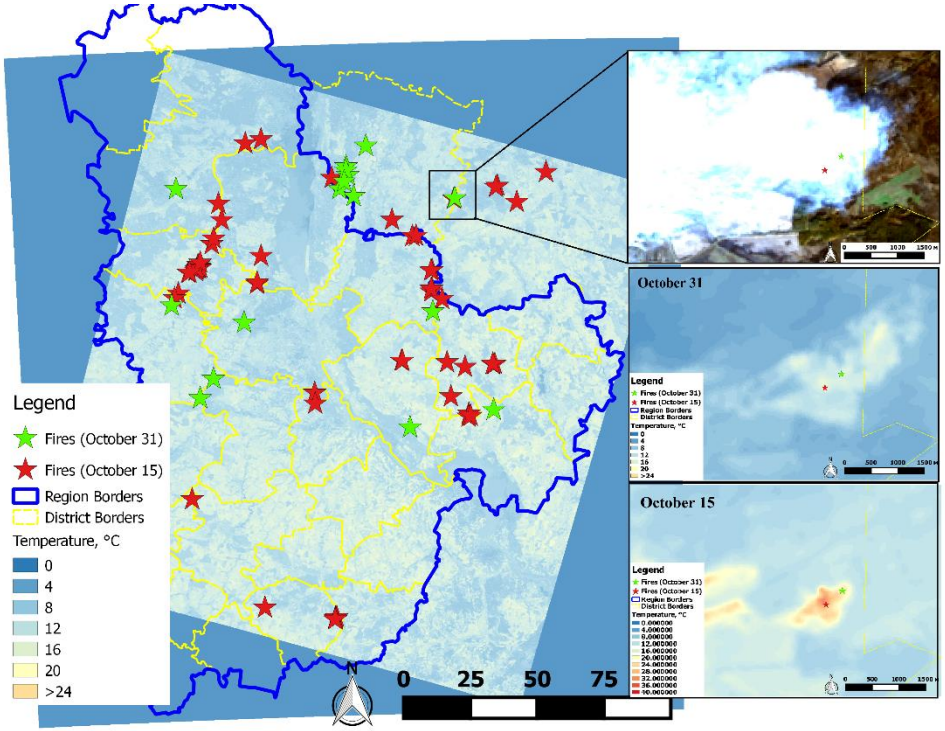
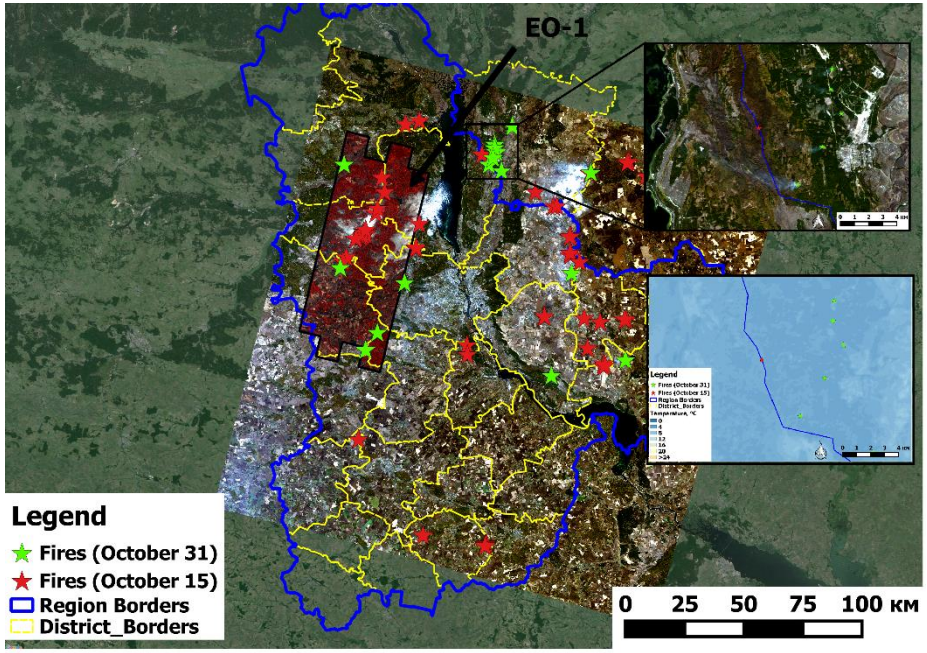
Peat fires monitoring over Kiev region, October 2015





- Peat fires are major disaster for Kiev region (in terms of AQ issues)
- As for 31th of October 2015 (the biggest one) 150 ha of active fires and 8 hot-spots

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Thank you for attention!

inform@ikd.kiev.ua

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