

METEOROLOGICAL MONITORING IN URBAN FORESTS

Cities are known as a place with various impacts on human health. From the climate/meteorological point of view the heat island effect has considerable impact on quality of urban life. Due to climate change, in the cities i.e. number of warm and hot days, microclimate monitoring becomes valuable.

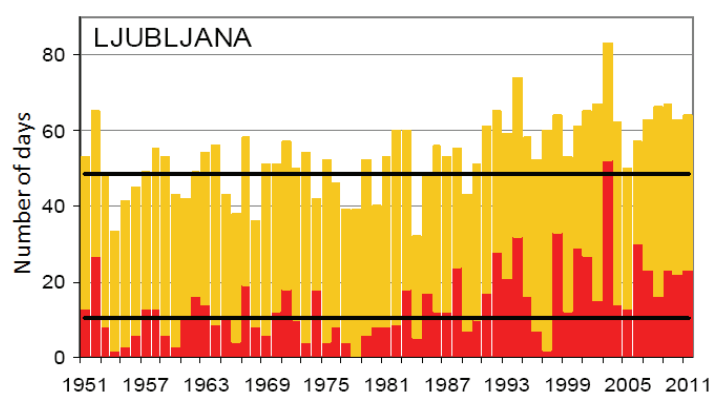


Figure 1: Number of days with Tmax above 25 (yellow) and 30°C (red) and 1961-90 normals (Source: Slovenian national weather service).

CHALLENGES FOR METEOROLOGICAL MONITORING

- Representative monitoring sites (microclimate in corridors?, local heating-T, RH, traffic-WS, shading-T,RH, PR)
- Vandalism (installation height)!!
- Online data compatible with mobile devices
- Public relation (periodical and continuous)
- Other (low cost system-quality?, which variables, how often, where, who, target groups, etc.)

METHODS AND INSTRUMENTS

- Low cost automated meteorological stations installed on street light's bars, on portable bars behind the fence, with durable enclosures, data transfer using e.g. mobile network
- Periodical maintenance, quality control, data process



Photo: City's green area serve with a lot of benefits

1. Anemometer
2. Solar radiation sensor
3. Raingauge
4. Air temperature and relative humidity sensor
5. Datalogger
6. Battery

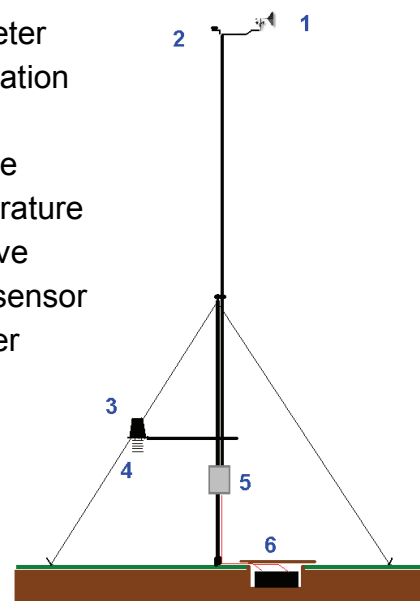


Figure 2: Sketch of automated meteorological station of the Slovenian Forestry Institute.

EXPECTED BENEFITS FROM METEOROLOGICAL MONITORING IN URBAN FOREST

- Company/institution promotion - weather data are always used with a range of people
- Health protection, climate stress mitigation