

“Urban Environmental Climate Map for Neighborhood Planning”

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“Urban Environmental Climate Map” is the maps that represent some climate information from the view of urban heat island mitigation and air pollution reduction. This map is made for the application to some types of planning, such as environmental planning, community planning, neighborhood planning and architectural planning. Climate specialist draws some essences on the map for the planning. Stakeholders, such as residents, local government, planners and so on, use this map in their planning process as a common language. “Urban Environmental Climate Map” consists of “Climate Analysis Map” and “Recommendation Map”. And this map is made in the two kinds of scales according to the type of focused planning. Those are urban scale and neighborhood scale. The final goal of making “Urban Environmental Climate Map” is global warming mitigation and urban warming mitigation.

“Climate Analysis Map” is made by specialist, based on observation data and numerical simulation. In recent years, we have many progresses in the field of the climate simulation techniques, GIS techniques and remote sensing techniques. By using GIS techniques, we can modify the data easily, and overlay some kinds of geographical data easily. By using remote sensing techniques, we can make some UHI (urban heat island) evaluation maps such as vegetation distribution map and thermal image. It has become easy outwardly to make “Climate Analysis Map” by using those techniques.

For the heat island mitigation (improvement of thermal environment in summer), we should consider about the urban space master plan and landscape design that are suitable to the climate. What should be considered actually are as follows.

- 1) Appropriate arrangement of buildings, pavement, green space and water area. Pavement that is made with considering the environment.
- 2) Energy conservation in the buildings. Appropriate arrangement of anthropogenic heat release place.
- 3) Comprehensive urban design with considering wind flow.

In this paper, we discussed about the “Recommendation Map” through the actual use of “Urban Environmental Climate Map” in the community planning workshop in the Komagabayashi neighborhood (Nagata-ward, Kobe).