Environmental Atlas Berlin

Planning Advices Urban Climate

Green- and Open Spaces

Very high Relevance for Urban Climate

Cold air generating Spaces with assignment to burdened settlement areas. Highest sensitivity of intensification of use. Avoidance of exchange barriers along cropped border areas. Emissions have to be reduced, spaces have to be networked with neighbouring open spaces.

High up to medium Relevance for Urban Climate

Cold air generating open spaces with assignment to settlement areas with beneficial microclimate. High sensitivity of intensification of use. Aerial exchange with the neighbourhood has to be secured.

Low Relevance for Urban Climate

Open spaces with minor effect on settlement areas and/or marginal cold air production. Low sensitivity of intensification of use. A low-key constructional intervention is possible, as long as the air exchange is not significantly compromised.

Settlement Areas

Climatically favourable Settlement Areas
Classification according to VDI: most favourable

Sparsely developed and green settlements, aiding the cold air flow of neighbouring open spaces. The favourable bio-climate has to be conserved, in direct neighbourhood highest, in other cases mean sensitivity of intensification of use as long as the building heights are kept low and the parts of the structures are aligned to the cold air flow.

Classification according to VDI: favourable

Non-ventilated settlement areas with mostly low bio-climatic burden. High sensitivity of intensification of use. Avoidance of further aggregation.

Burdened Areas
Classification according to VDI: less favourable

Settlement areas with potentially low, in particular cases moderate bio-climatic burden. High sensitivity of intensification of use. If possible no more aggregation. Improvement of the aeration and increase of vegetation, conservation of open spaces, de-sealing and, if necessary, planting of inner courtyards.

Classification according to VDI: unfavourable

Settlement areas with moderate, in particular cases high bio-climatic burden. Very high sensitivity of intensification of use. No more aggregation, improvement of the aeration and increase of vegetation, conservation of open spaces, de-sealing and, if necessary, planting of inner courtyards.

Potential Road-Traffic induced Air Pollution along Main Roads in Settlement Areas

40 up to <= 45 µg/m³ NO2 [Boundary Value 22. BImSchV will likely be exceeded]

> 45 µg/m³ NO2 [Boundary Value 22. BImSchV will most likely be exceeded]

Potential Road-Traffic induced Air-Pollution inside of Green Areas

> 80 µg/m³ NO2-concentration will possibly be exceeded during stationary weather conditions

Air Exchange

Air Stream Channels with very high Significance

Air exchange between cold air producing areas and burdened settlement areas. Avoidance of constructional barriers, which could induce a cold air congestion. Height of buildings as low as possible, align new buildings to stream channels, prevention of peripheral development, conservation of open- and green spaces.

Spatial Cold Air Out-Flow with very high Significance

Avoidance of constructional barriers, which could induce a cold air congestion. Height of buildings as low as possible, align new buildings to stream channels, prevention of peripheral development, conservation of open- and green spaces.

Air Stream Channels with medium to high Significance

Air exchange between cold air producing areas and burdened settlement areas. Avoidance of constructional barriers, which could induce a cold air congestion. Height of buildings as low as possible, align new buildings to stream channels, prevention of peripheral development, conservation of open- and green spaces.

Spatial Cold Air Out-Flow with medium to high Significance

Avoidance of constructional barriers, which could induce a cold air congestion. Height of buildings as low as possible, align new buildings to stream channels, prevention of peripheral development, conservation of open- and green spaces.

Superordinated Air Stream and Ventilation Channels

Benefit of the air exchange in the bordering development even during strong, superordinated weather conditions. River barks should be kept free, or at least be lightly developed.

Areas with Inclination of > 1° in the Range of Spatial Cold Air Flow

1. In isolated cases a bioclimatic impact can occur despite an existing cold air effect range.
2. The illustration of potential traffic-induced air pollution among main roads is a model-based calculation for the reference year 2005.
3. The illustration of the potential traffic-induced air pollution (reference year 2005) inside of green areas is based on the application of the climate and flow model FITNAH to estimate the concentration of NO2 during stationary weather conditions.
4. To get detailed planning advices please use the digital version of the map: http://fbinter.stadt-berlin.de/fb/index.jsp

Scale 1 : 50 000

0 0,5 1 1,5 2 2,5 3 3,5 4 4,5 5 km

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Unit Communication

Conception: - Unit III F 1 - Environmental Atlas
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Data: - GEO-NET Umweltconsulting GmbH Hannover: Model-based Analysis of the Climate-Ecological Situation of Berlin, by order of the Senate Department of Urban Development III F, Berlin 2009
- Base data from the Informationsystem Urban and Environment (ISU):
- Evaluation of the Use data base, revision 2005
- Surface sealing (e.g. SPOTS-Scene), revision 2005
- Climate data from earlier studies 1996 up to 2004
- ALK building data with building heights, SenStadt III, revision December 2005
- Data from the digital elevantion model DGM5 as well as data from the from the elevation model from ISU
- ATKIS elevation and land use data of the surrounding area of Brandenburg

Data Processing and Map Production: - III F 1 using the Informationsystem Urban and Environment
- GEO-NET Umweltconsulting GmbH Hannover
- GeoInfo, C.Nitzsche

Based on the Map: Digital Block Map 1:5.000 (ISU 5), revision of 31.12.2005

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