

Klimawandelanpassung – Was bedeutet das für wen?

Vorbemerkungen

Grün in der Stadt

TEEB Stadtnatur

Urbane Grüne Infrastruktur

Charta Stadtgrün (+ ImmerGrün der Verbände)

etc.

Landnutzung und Flächenbewirtschaftung in der Stadt?

Ansatzpunkte



Praxisbeispiele/Hindernisse

- <http://klimagarten.berlin>
- STEP Klima konkret
- www.stadtentwicklung.berlin.de/planen/stadtentwicklungsplanung/de/klima
- AFOK Berlin: Klimawandelanpassungskonzept
https://www.berlin.de/senuvk/klimaschutz/klimawandel/de/anpassungskonzept_berlin/index.shtml
- SPSPG
<https://www.spspg.de/forschung-sammlungen/forschung/klimawandel>

Hindernisse



Lösungsansätze?

- Umweltgerechtigkeit

<https://www.berlin.de/senuvk/umwelt/umweltgerechtigkeit>

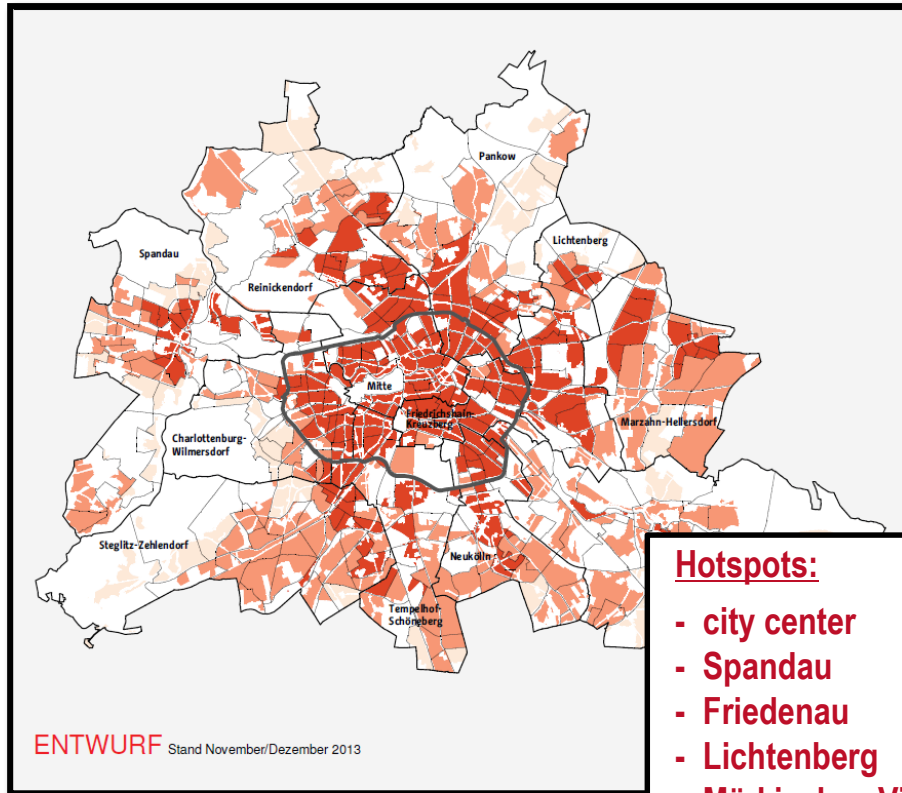
- KLUG (Deutsche Allianz Klimawandel und Gesundheit)

<https://www.klima-allianz.de/>

- Informelle Akteursnetzwerke
- TEEB-Ansatz Ökosystemleistungen

Schutzgut Mensch

Core indicator 4: Bio-climate / thermal load (4th professional level)



Human bio-climate

Sum of all climate factors that affect humans and influence well-being/health, in particular:

- ❖ Heat,
- ❖ Cold,
- ❖ Humidity,
- ❖ Wind

Load classes:

-  High load
-  Medium load
-  Low load

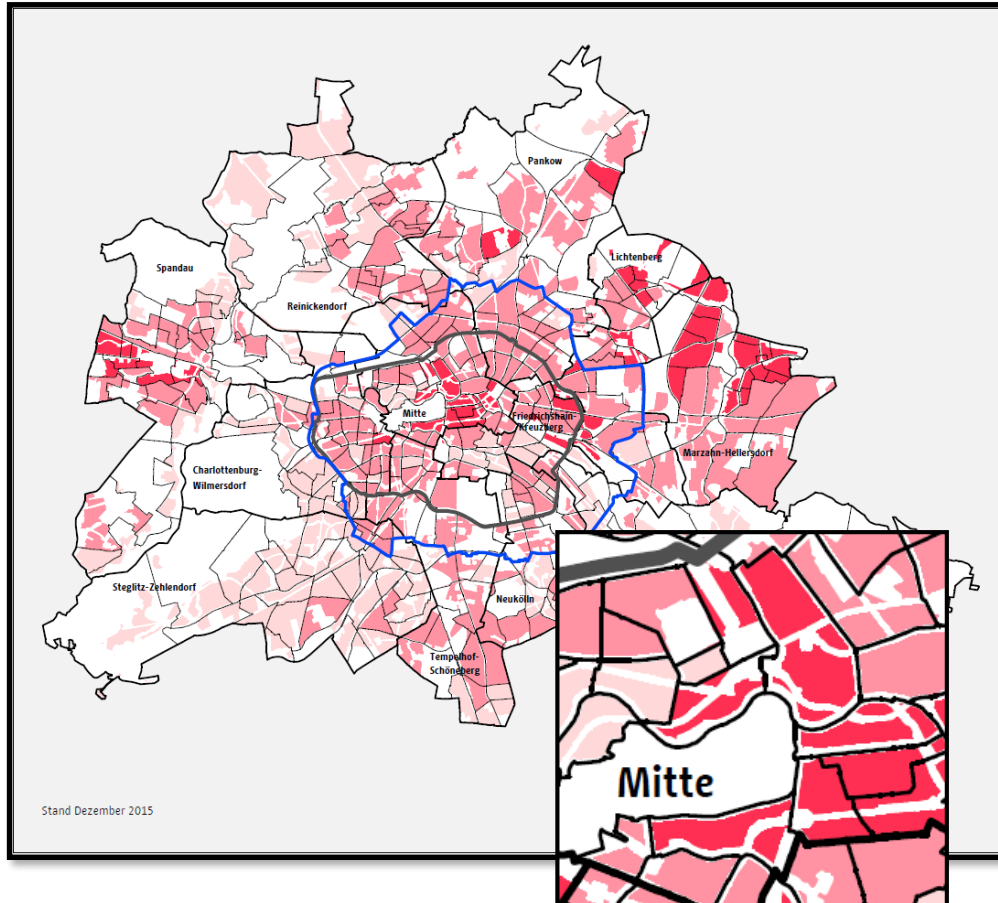
Hotspots:

- city center
- Spandau
- Friedenau
- Lichtenberg
- Märkisches Viertel (Großsiedlung)
- Marzahn-Hellersdorf (Großsiedlung)

Planning area related impact classes

- ❖ High bio-climatic loads can be found also beyond the “environmental zone”
- ❖ Marked concentration of impacted areas in the inner city
- ❖ Comfort zones/planning areas with low bio-climatic load exclusively in the outskirts

Complementary indicator 9: Thermal stress, time period 2046 – 2055



Increase in days with thermal load in the time period 2011 – 2040 and 2041 – 2070

- high (> 11 days up to 23.5 – 25)
- medium (11 days up to 22.5 – 23.5)
- low (< 11 days up to 18.5 – 22.5)

Effects: e.g. strong rain events:

increase up to 2050 by 25 %,
up to 2100 by 50 %

Streets become local heat bands
Heat island (growing and compact city)

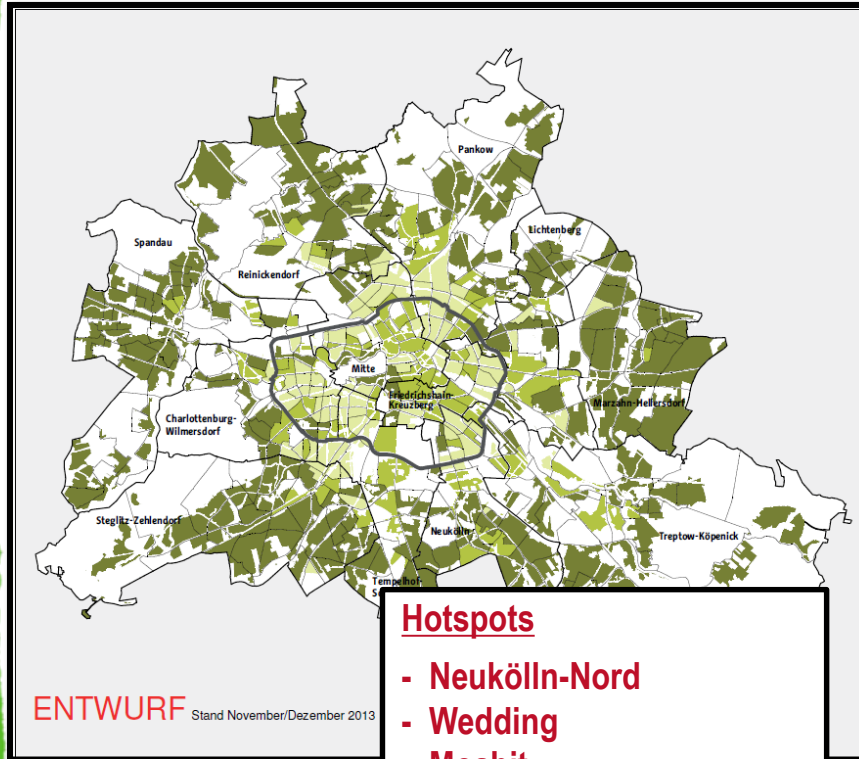
2016: approx. 10 hot days (daily maximum temperature > 30°C)

2050: approx. 16 – 20 days

2100: approx. 26 – 36 days

Calculations: model ensemble with 12 scenarios

Core indicator 5: Availability of green spaces (5th professional level)



Hotspots

- Neukölln-Nord
- Wedding
- Moabit
- Prenzlauer Berg / Pankow
- Schöneberg
- Charlottenburg

PLA availability public / private green space

- Availability good / very good: 248 PLAs (%)
- Availability medium: 98 PLAs (22 %)
- Availability bad, very bad: 100 PLAs (22 %)

Availability analysis green and open spaces 2011

Availability near-residential approx. 500m (5 – 10 min.)

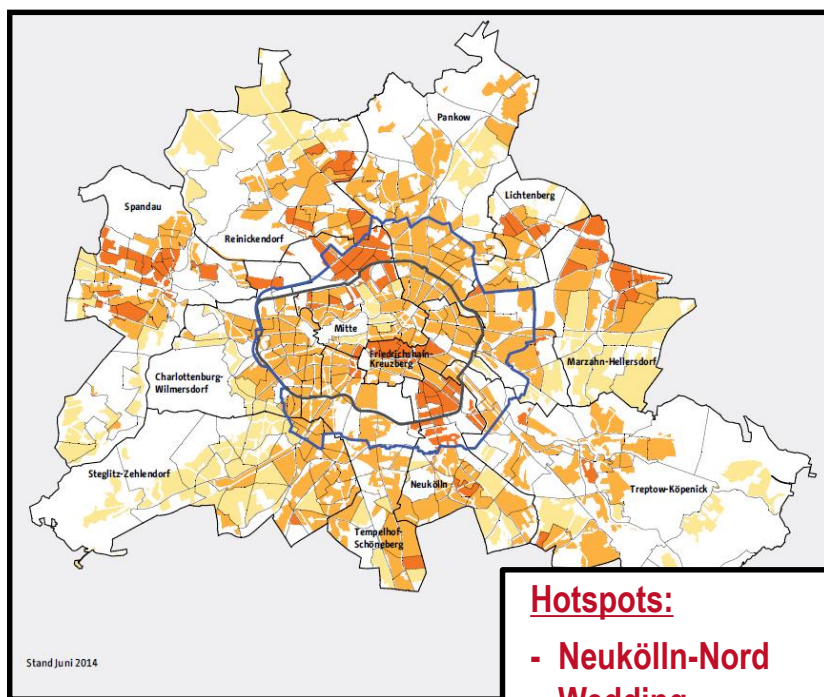
Guideline: 6 m² / inh. (availability of semi-public or private green and open spaces)

Basic requirements: Size, accessibility etc.

Green space availability within the “S-Bahn ring” (circle line): 18 “good / very good”, 45 “medium”, 52 “poor”

Outside of the “S-Bahn ring” (circle line): 230 “good / very good”, 53 “medium”, 48 “poor”

Core indicator 1: Social structure / social problems (1st professional level)



Monitoring social urban development
(447 planning areas – PLAs)

- ❖ Social structure (social problems) -
Results from 12 indicators among others:
 - Unemployment rate
 - Receipt of social benefits
 - Immigrant background
 - Mobility (selective internal migration)



- ❖ Social structure (social problems)
Statistical aggregation in one status index

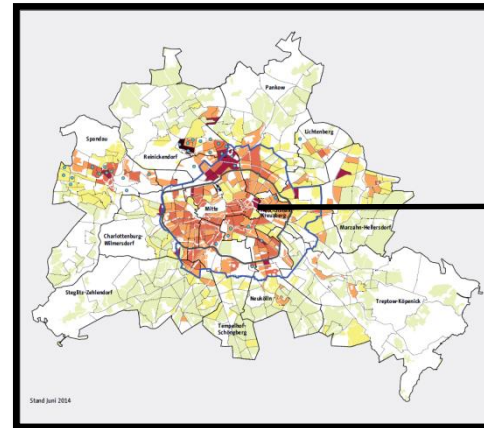
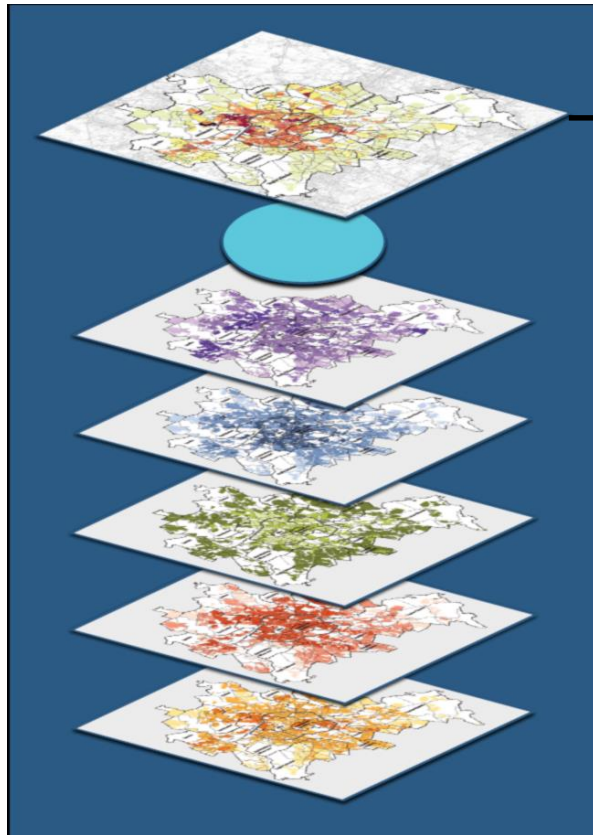
- high / very high density of social problems
- medium density of social problems
- low / very low density of social problems

Hotspots:

- Neukölln-Nord
- Wedding
- Moabit
- Reinickendorf-Süd
- Marzahn-Hellersdorf

The status index reflects the social situation (social problems) in the territory (planning area).

Method: Combining the 5 core indicators into an environmental analysis

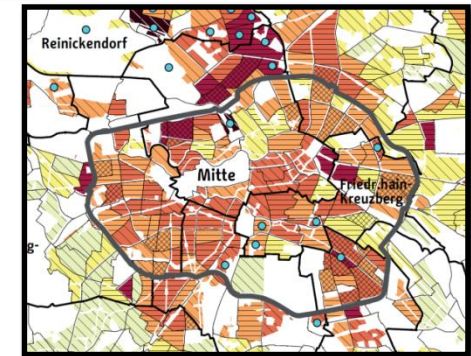


Berlin total:

Berlin area (total):

In total 447 planning areas:

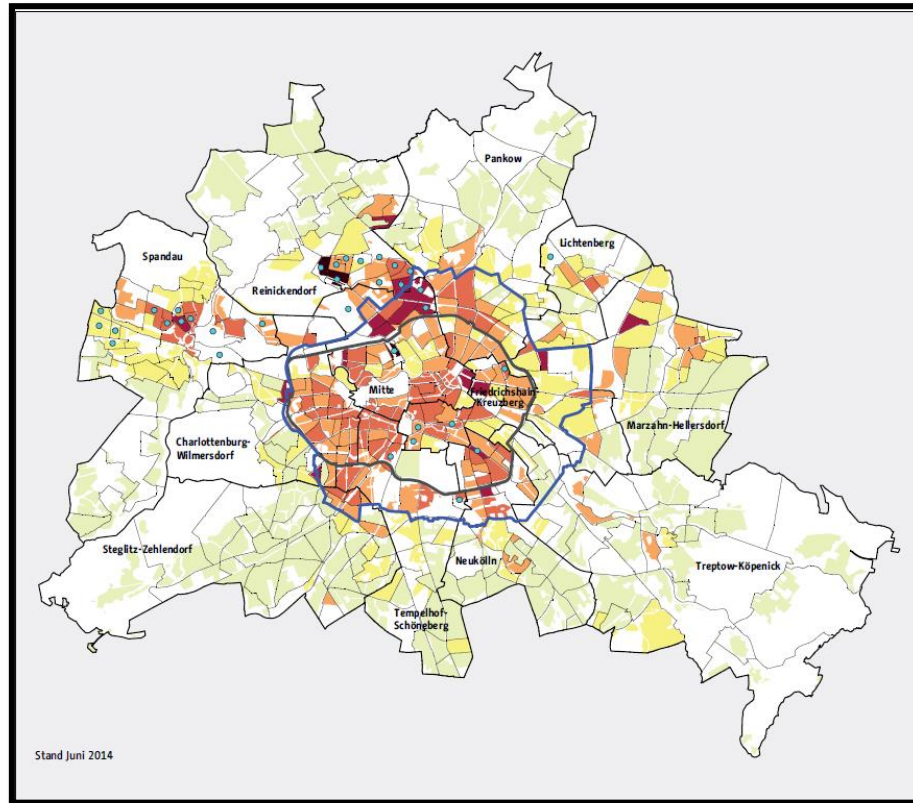
➡	3	5-fold load
➡➡	18	4-fold load
➡➡➡	74	3-fold load
➡➡➡➡	100	2-fold load
➡➡➡➡➡	104	1-fold load
➡➡➡➡➡➡	148	no load



Extended inner city

Combination of core indicators: social structure (1), noise (2), air quality (3), bio-climate (4) + green spaces (5)
Additional indicators: more than 66 % inhabitants in “simple residential areas” + very high pollution loads

Environmental analysis: Planning areas (PLAs) with multiple loads



Fivefold load
(incl. social structure)

- 5-fold load
- 4-fold load
- 3-fold load
- 2-fold load
- 1-fold load
- no load
- no settlement area
- high proportion of "low standard housing" + very high pollution load

Multiple loads at the planning-area level (426 PLAs)

Planning areas with multiple loads:
high multiple load/low social status:

high concentration in the inner city
Friedrichshain-Kreuzberg (Nord), Wedding,
Reinickendorf (Süd), Neukölln (Nord)



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Danke schön