




Kanton Zürich
Baudirektion
Amt für Abfall, Wasser, Energie und Luft

Hitzebelastung im Siedlungsraum- **Analysen und Massnahmen**

Energie Event Forum Energie Zürich
Thomas Stoiber, 19. November 2019



 Amt für Abfall, Wasser, Energie und Luft

Züri brännt

Die Städte leiden am meisten an der Hitze. Das heisst aber nicht, dass man lockerer bauen soll.



Stadtzentren heizen viel stärker auf als die Umgebung: Menschen baden in der Limmat. Bild: Keystone

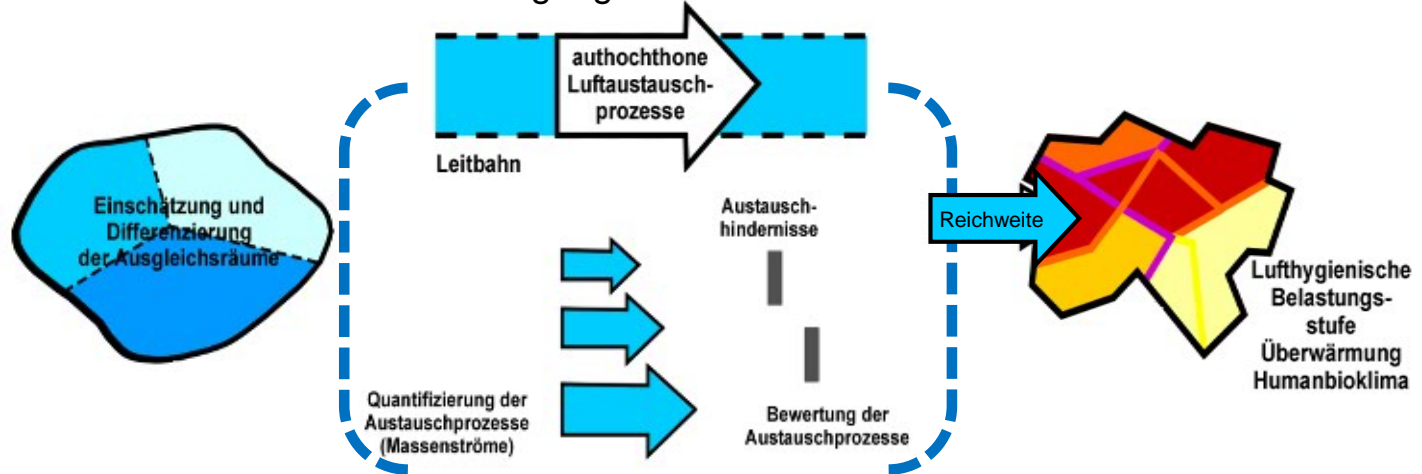
Quelle: Tagesanzeiger 2018

A topographic map of the Zurich region in Switzerland, showing various municipalities and elevation contours. The map is overlaid with a climate model, indicated by a color gradient from light blue (cooler) to light orange (warmer). The text 'Klimamodell Kanton Zürich' is superimposed in the center. The map shows a clear pattern where higher elevations and mountainous areas are colored in shades of blue, while lower elevations and valley floors are colored in shades of orange and yellow. Major municipalities like Kloten, Bassersdorf, Nürensdorf, and Brütten are visible. The Aare river is also depicted.

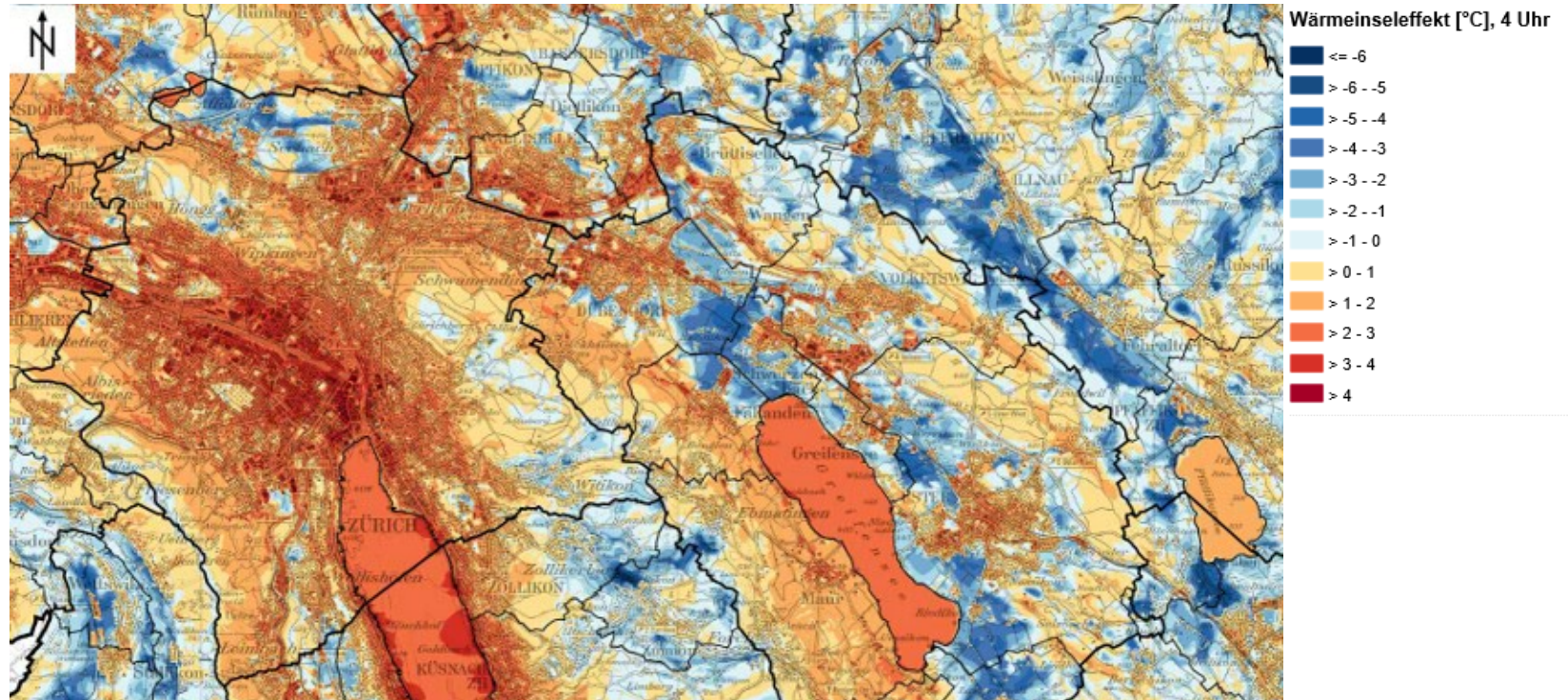
Klimamodell Kanton Zürich

Was wird modelliert?

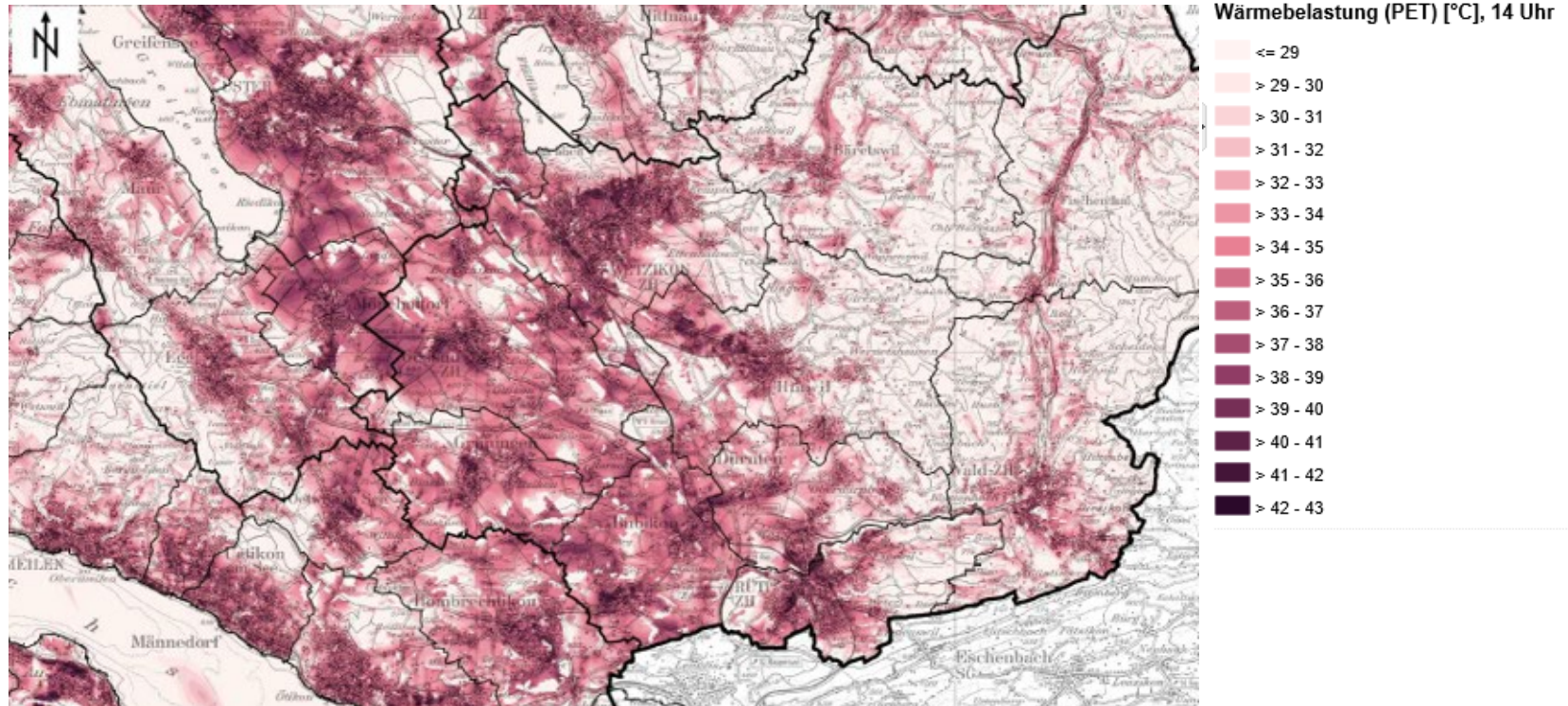
Sommerliche, austauscharme Strahlungswetterlage
Tag-/Nachtsituation unter Berücksichtigung Klimawandel



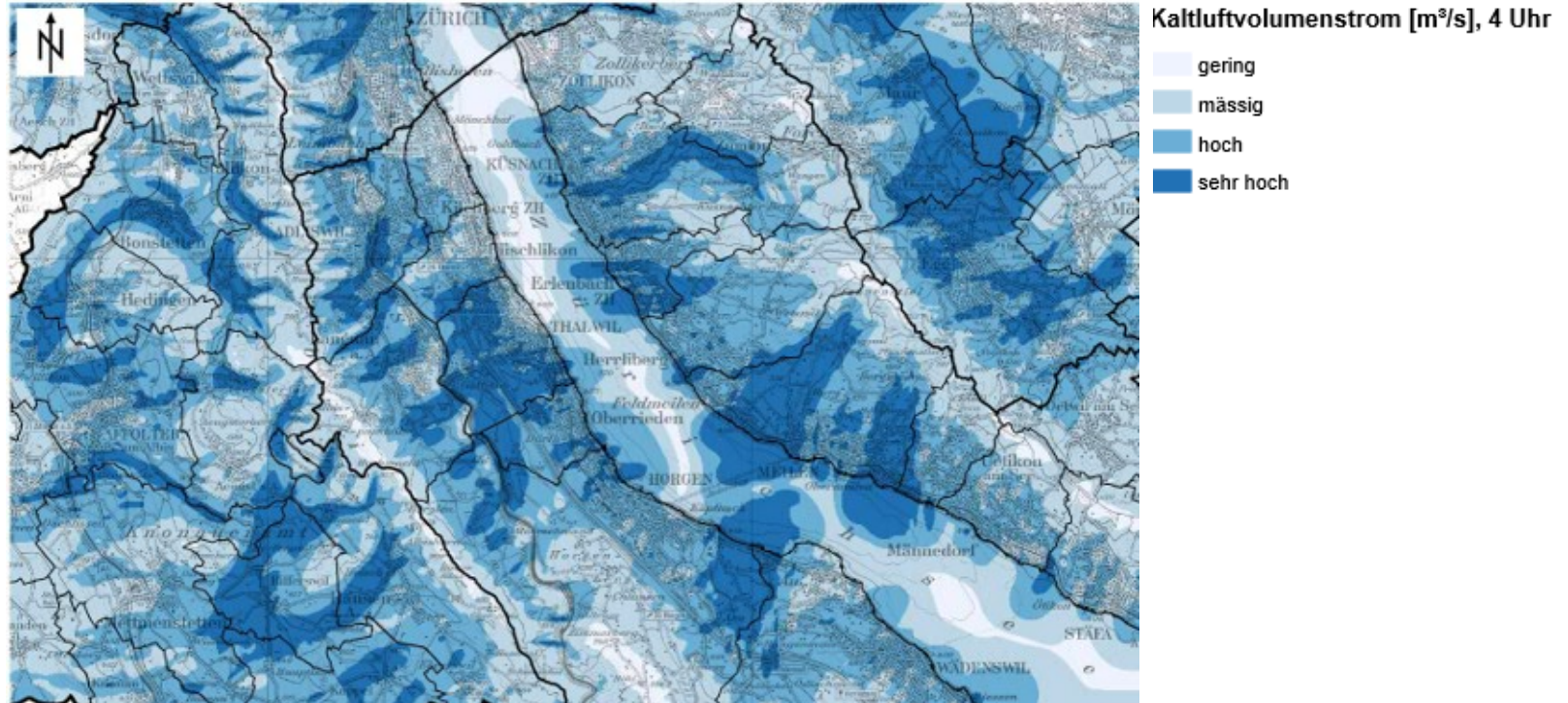
Beispiel: Nächtlicher Wärmeinseleffekt



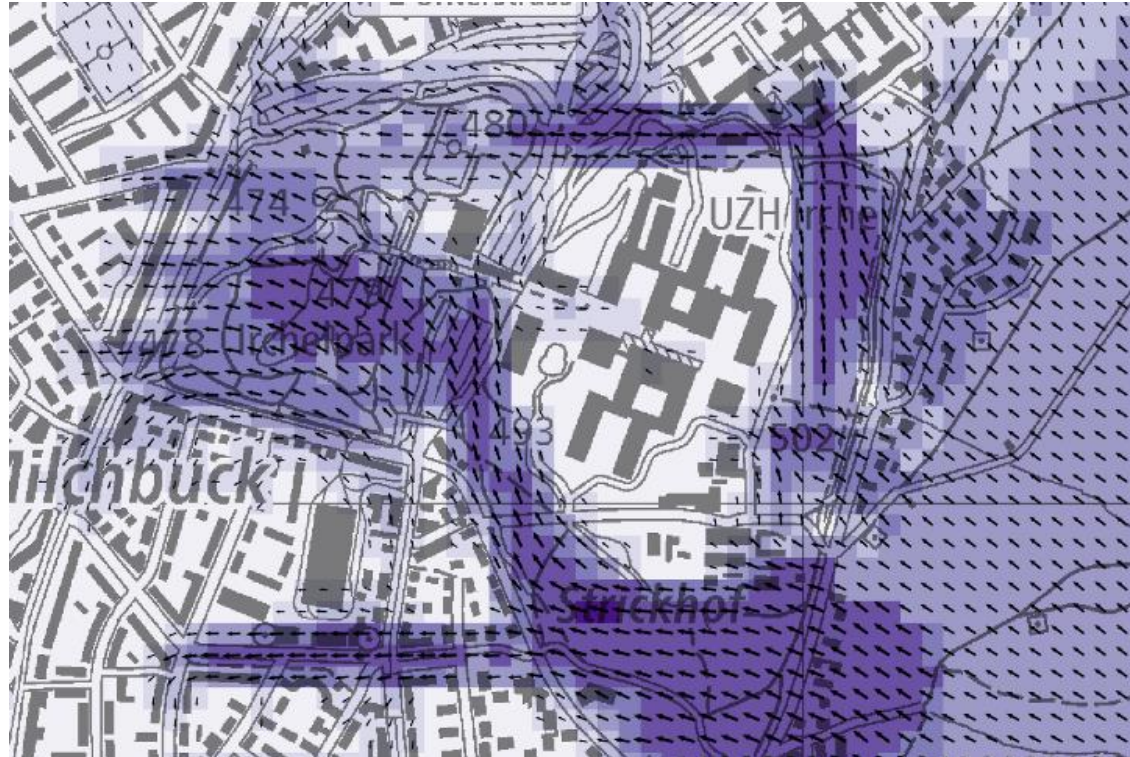
Beispiel: Wärmebelastung am Tag



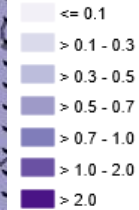
Beispiel: Nächtlicher Kaltluftvolumenstrom



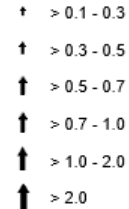
Beispiel: Windrichtung und Geschwindigkeit



Windgeschwindigkeit [m/s], 4 Uhr

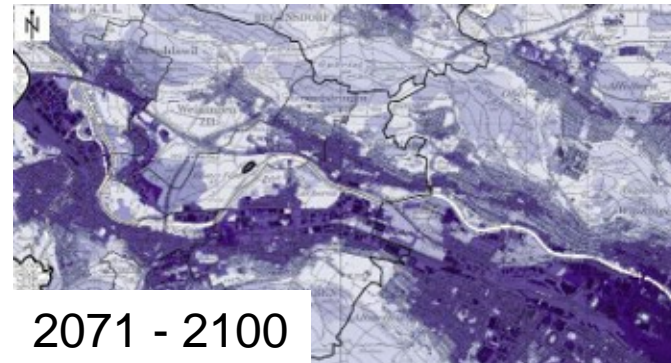
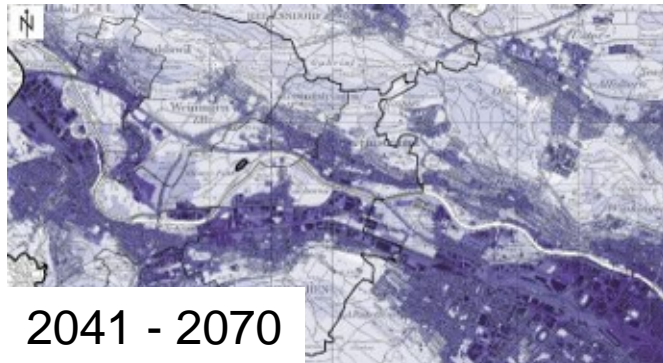
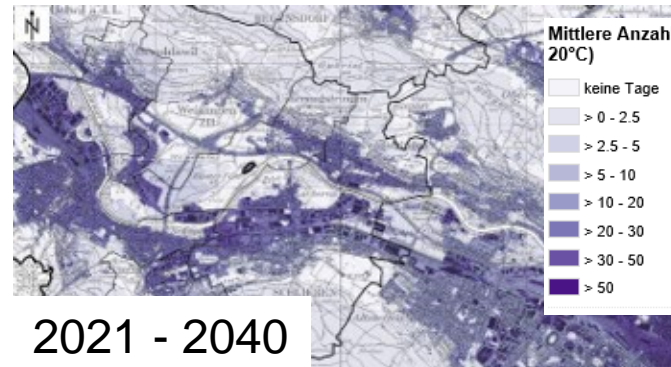
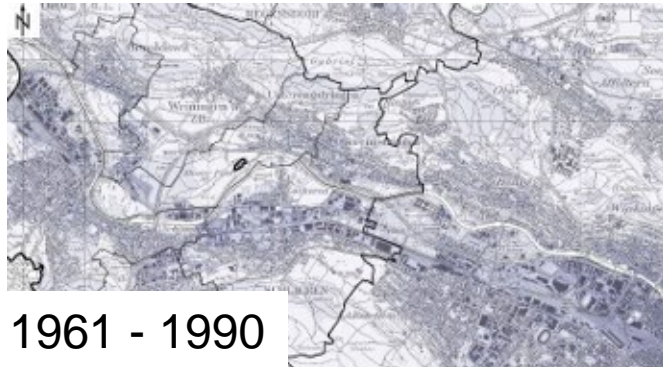


Windrichtung und -geschwindigkeit [m/s], 4 Uhr





Beispiel: Anzahl Tropennächte pro Jahr




A detailed topographic map of a region in Switzerland, showing various towns and geographical features. The map is color-coded by elevation, with blue representing lower elevations and yellow/orange representing higher elevations. Major towns visible include Egg, Brütten, Bassersdorf, and Lindau. The text 'Übergeordnete Massnahmen zur Verminderung der Hitzebelastung' is overlaid in large, bold, black font across the center of the map.

Übergeordnete Massnahmen zur Verminderung der Hitzebelastung

Erhalt und Schaffung von
Kaltluftentstehungsgebieten und
Kaltluftschneisen

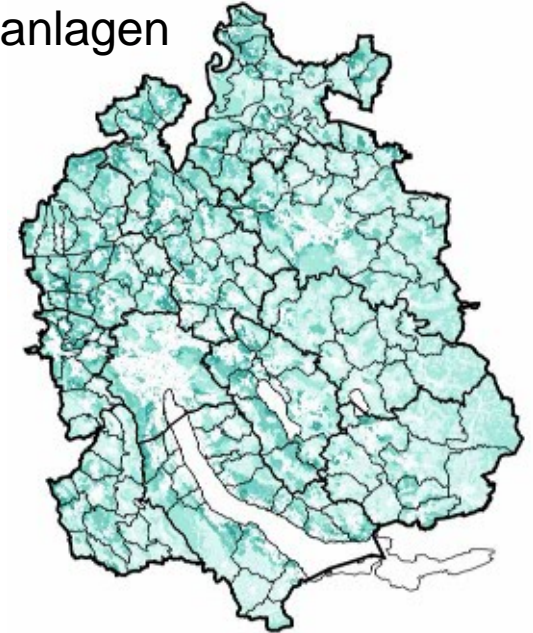


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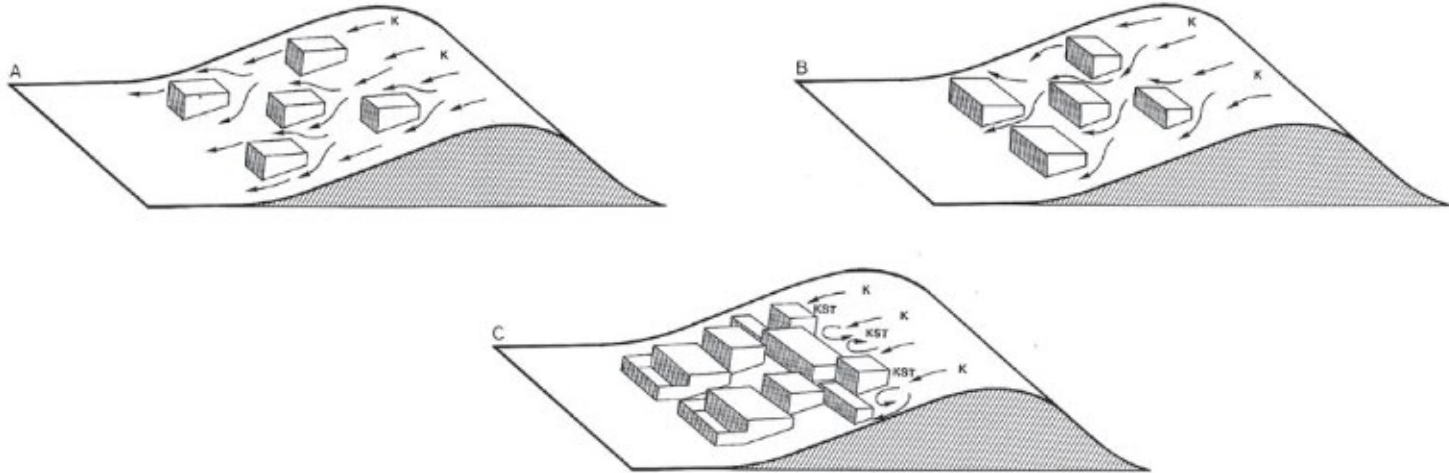
Erhalt, Schaffung und Entwicklung
grossräumiger Grünanlagen



Erhalt und Schaffung von offenen
und bewegten Wasserflächen



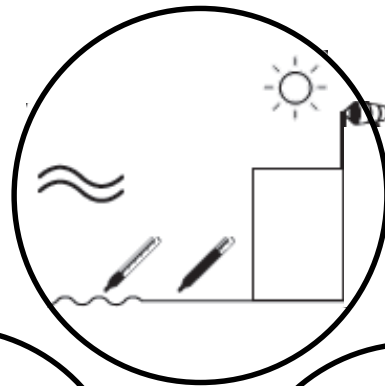
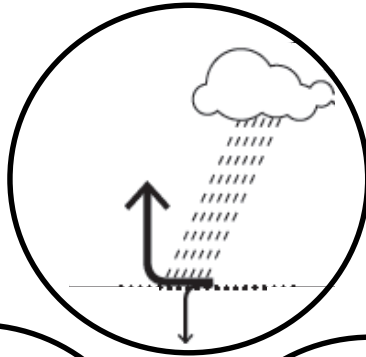
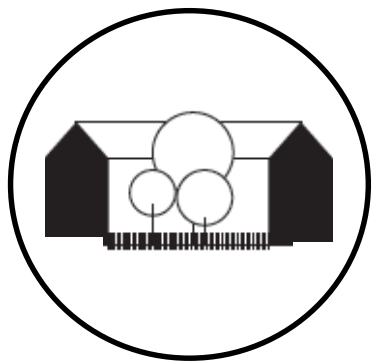
Beispiel: Gebäudetopologie vom Klima her denken



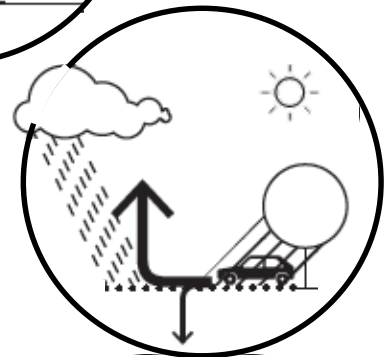
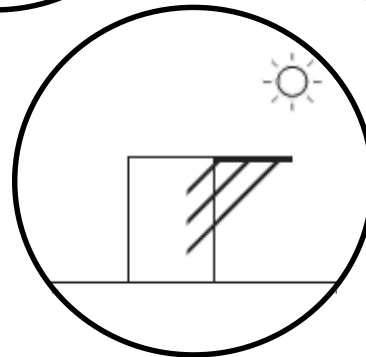
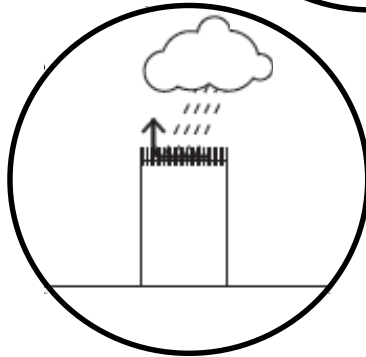
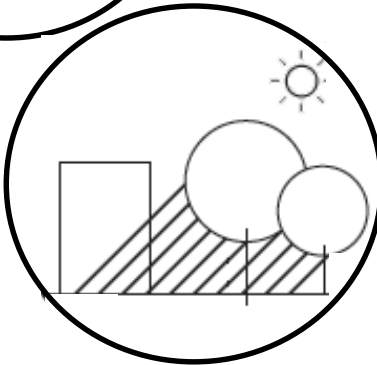
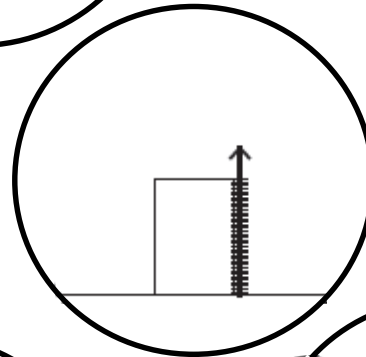
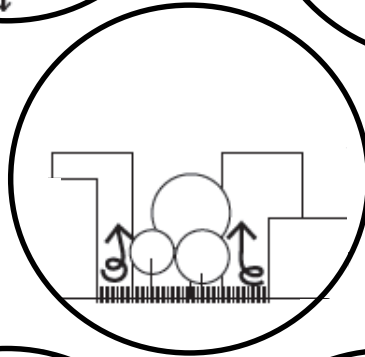
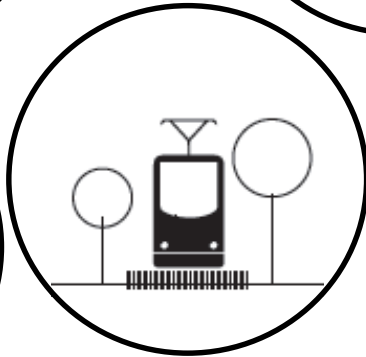
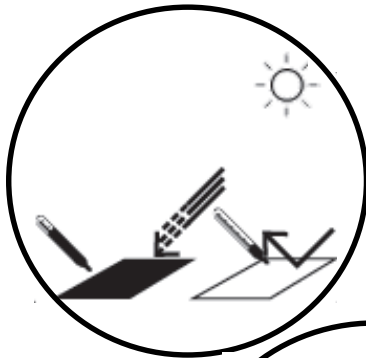
Quelle: BAFU (2018)

A topographic map of a region in Switzerland, showing various towns and geographical features. The map is color-coded by elevation, with blue representing lower elevations and yellow/orange representing higher elevations. The text "Lokale Massnahmen zur Verminderung der Hitzebelastung" is overlaid in the center of the map in a large, bold, black font. The map includes labels for numerous locations such as Egg, Brütten, Bassersdorf, and Lindau, along with various roads and water bodies.

Lokale Massnahmen zur Verminderung der Hitzebelastung



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Dachbegrünung

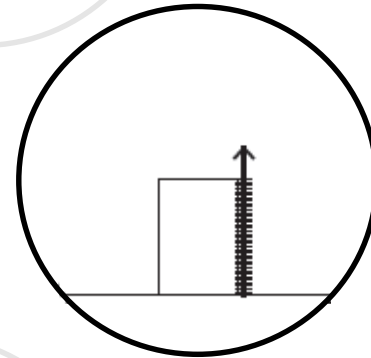


Zürich, Toni-Areal

Wien



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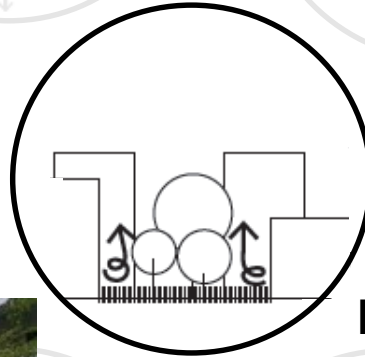


Fassadenbegrünung

Quelle: Stadt Wien (2015): Urban Heat Islands. Strategieplan.



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Pocket-Parks



Oerlikon, Seniorenresidenz



Quelle: Edition Minergie: Sommerlicher Wärmeschutz für Wohnbauten



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Sommerlicher Wärmeschutz

A topographic map of a region in Switzerland, showing various towns and geographical features. The map is overlaid with a grid and color-coded areas, likely representing climate data. The colors range from light blue to dark blue, indicating different temperature or precipitation zones. The map includes labels for numerous locations such as Egg, Brütten, Winterberg, and Nürensdorf.

Herzlichen Dank!

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