



Sieker
Die Regenwasserexperten



crp

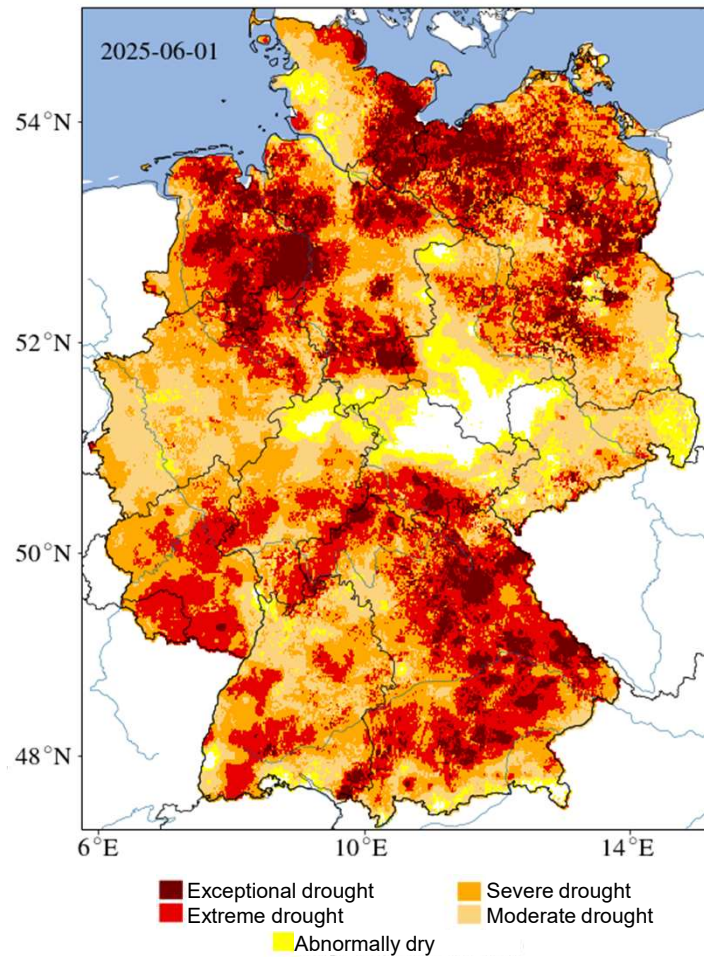
Rainwater Management Between Heavy Rainfall and Drought Stress

*43rd Conference of Rectors and Presidents
of European Universities of Technology
Wrocław, 19.9.2025*

Prof. Dr. Heiko Sieker, Hoppegarten/Berlin



Drought problems in Germany



Source: Dürremonitor, www.ufz.de



Forest damage due to drought, Source: SWR



Low water on the Elbe, Source: www.wikipedia.de



Drying up waters



Hönowe Weiherkette 2022, Source: rbb



Urban Trees





Effects on Drinking Water Supply



local water association
rations water for new customers



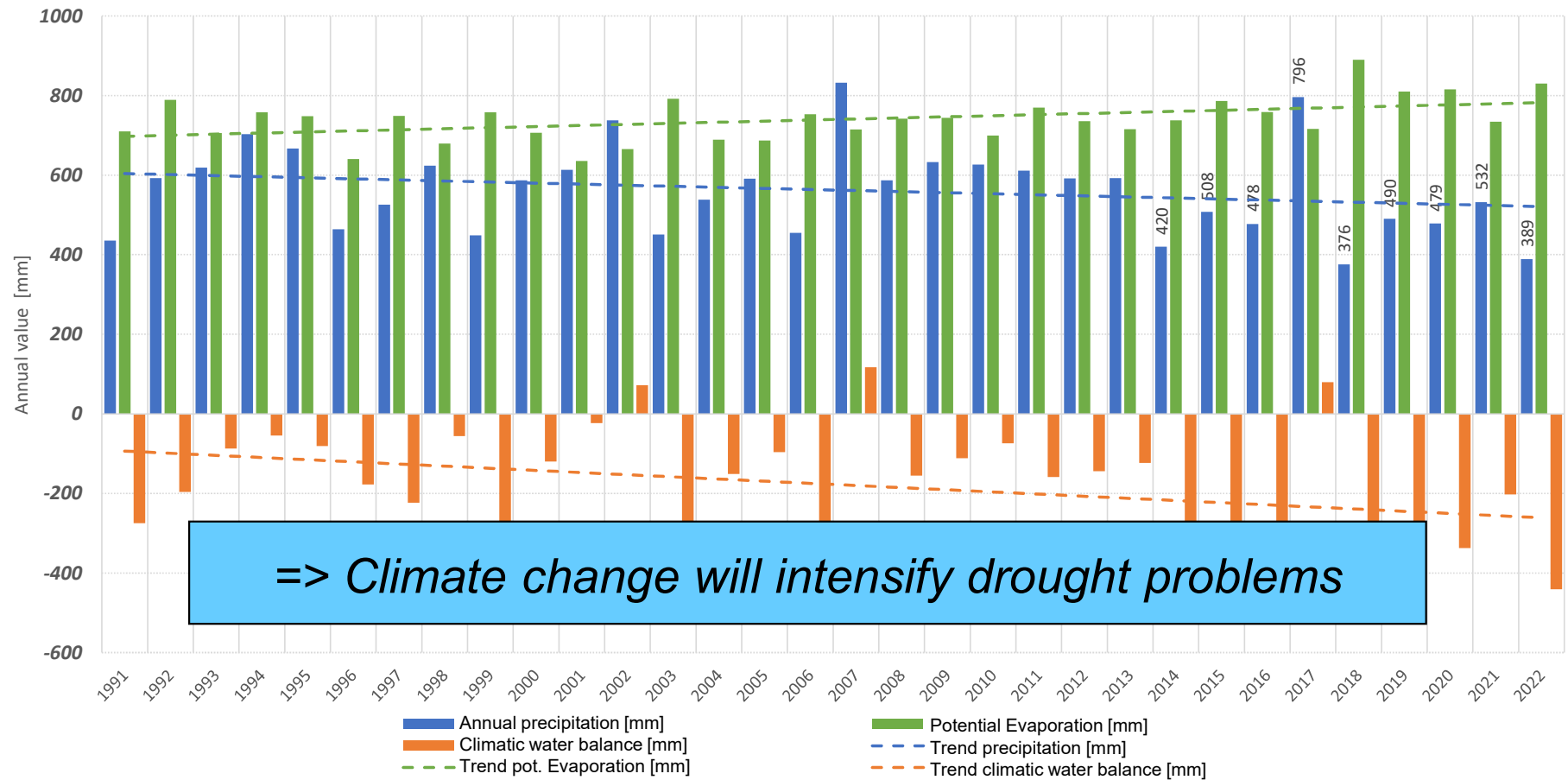
www.berlin.de/sen/uvk/umwelt/wasser-und-geologie/masterplan-wasser/

Berlin needs to update Masterplan Water



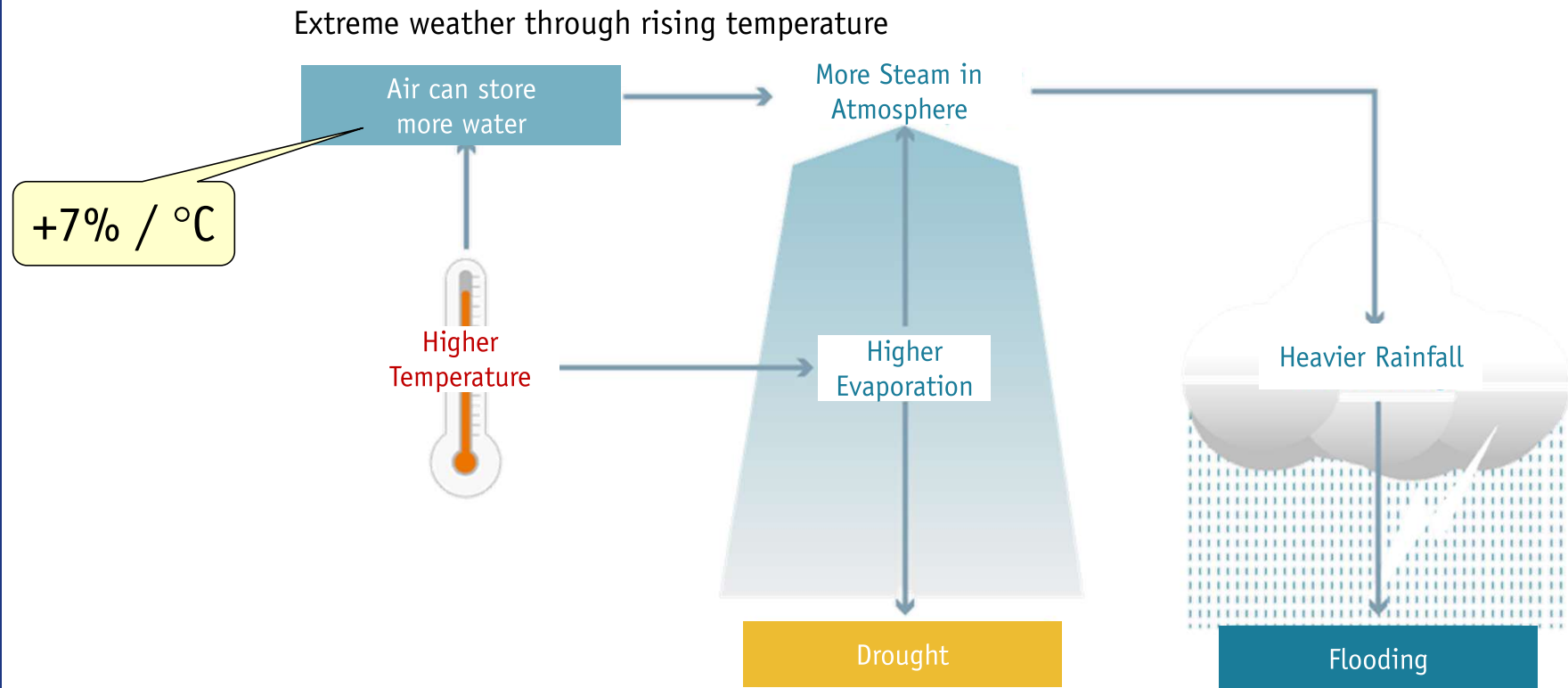
Effects of climate change

Climatic water balance (Station Berlin-Tempelhof)





Drought and Heavy Rain



Grafics: Bayerischer Rundfunk



Urban Flooding



Hamburg 2011

Foto: Bodo Marks, Source: www.wz-newsline.de



Dortmund 2008

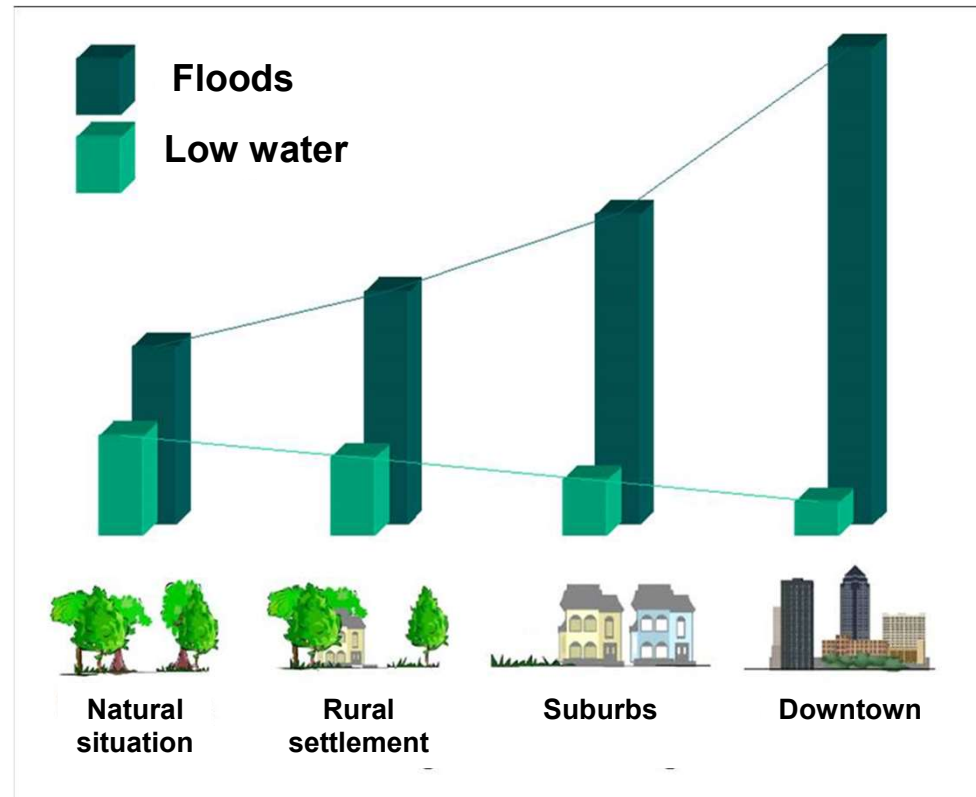
Source: Kaiser Ingenieure



011



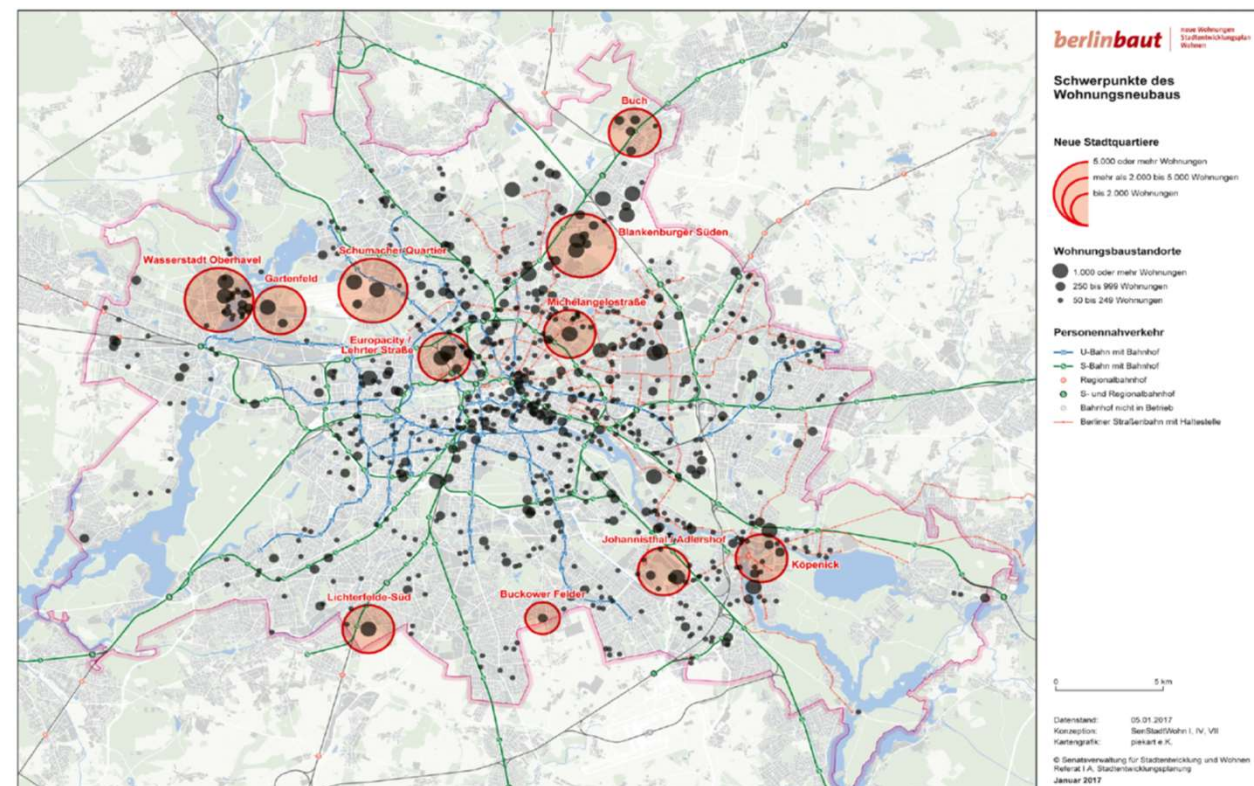
Runoff divergence



⇒ *Climate change and Urbanisation reinforce each other!*

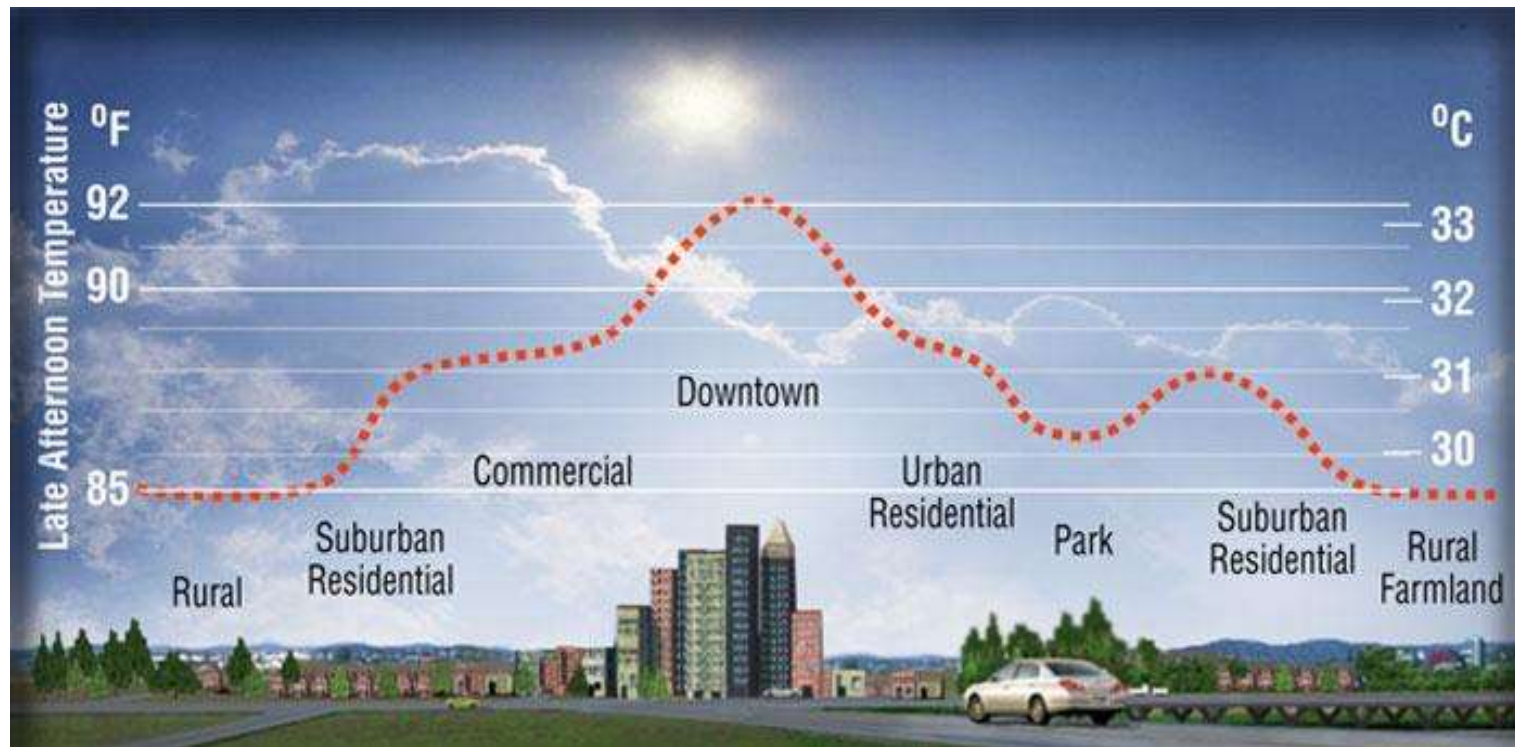


Challenge: Growing Cities



⇒ Increase of impervious area in Berlin
approx. 1% per year

Challenge: Heat Island Effect



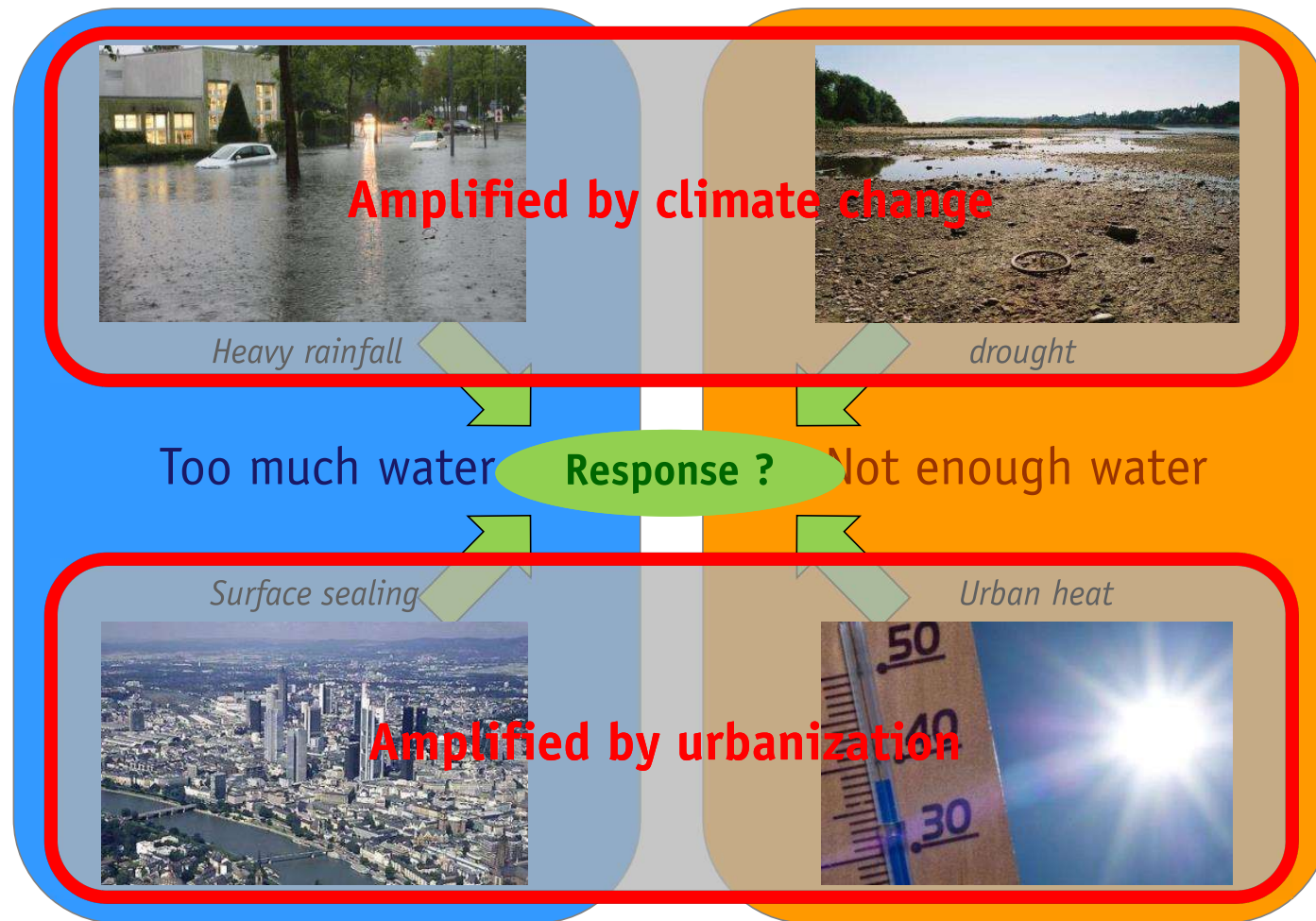
Source: cnx.org

⇒ *Climate change and urbanization are intensifying!*





Challenges





Previous practice: Draining



*Drainage systems increase the risk of flooding
and extract water from the landscape!*

Sponge-City-Concept

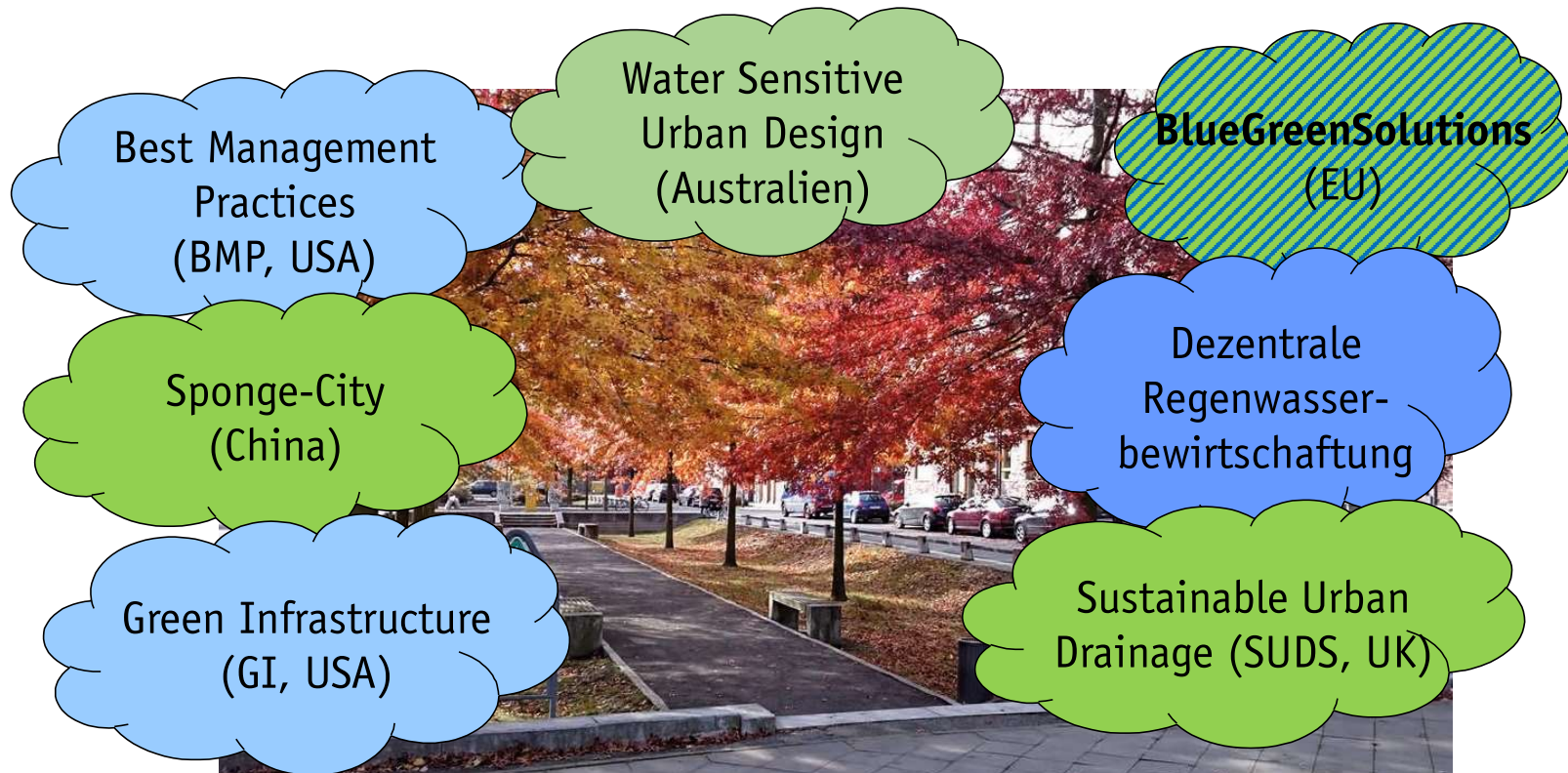


Grafik: ©Ingenieurgesellschaft Prof. Sieker mbH





Terms



Many terms for the same idea!

Elements of a "Sponge City"





Green roofs



Goethequartier Offenbach



Rainwater cascade

Dach-
begrünung



Tiefgaragen-
begrünung



Speicherung



Bewässerung

Versickerung



Städtebaulicher Entwurf München Freiam, Source: O&O, Topotek1, West8



Konzept Haus der Statistik,
Source: Treibhaus & Ing.-ges. Sieker



Rummelsburger Bucht Berlin



Foto: Ingenieurgesellschaft Prof. Sieker mbH



Rummelsburger Bucht Berlin

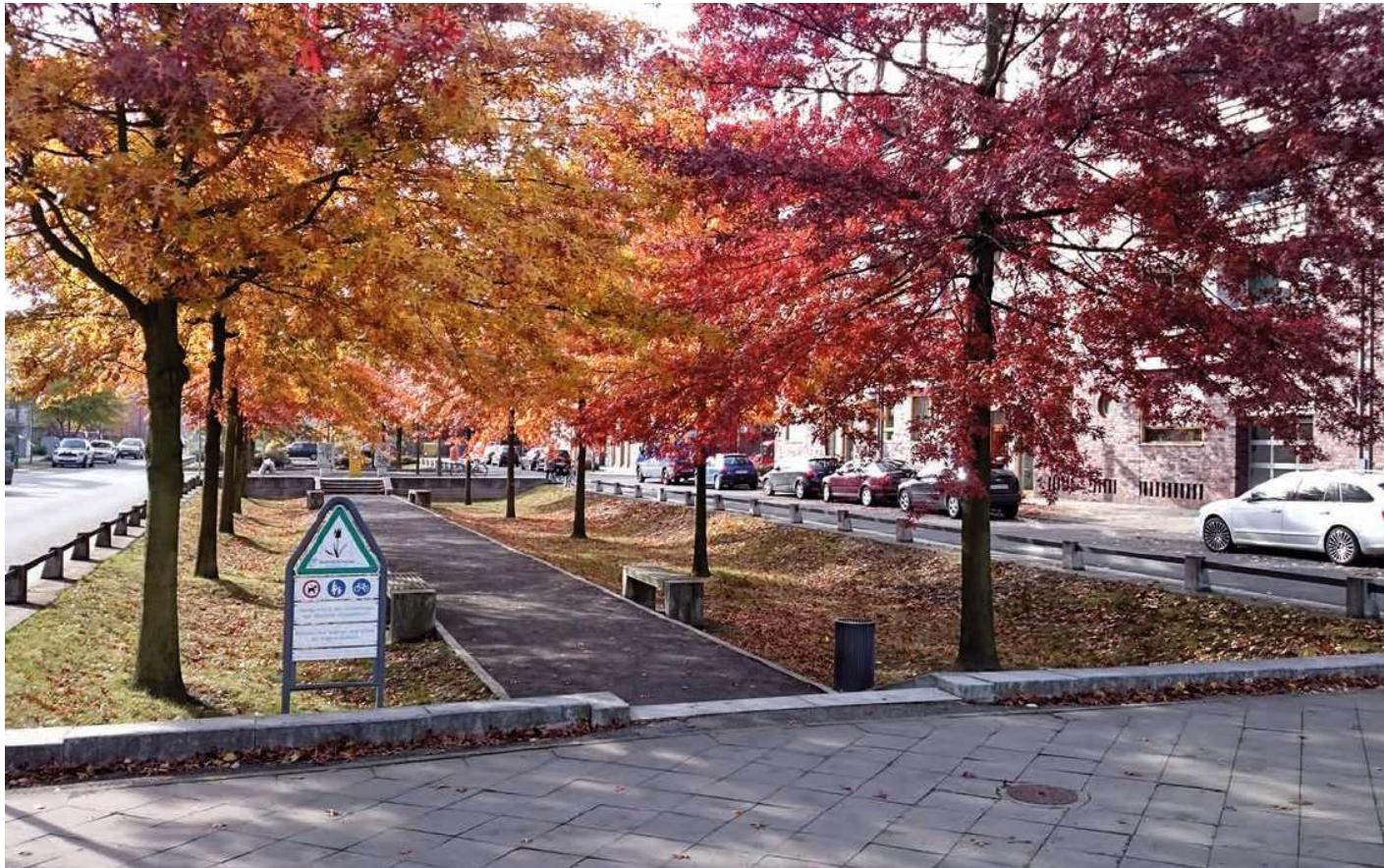


Foto: Ingenieurgesellschaft Prof. Sieker mbH



Mannheim Taylor-Park



Fotos: Sieker





Trees and Rainwater



Foto: Sieker



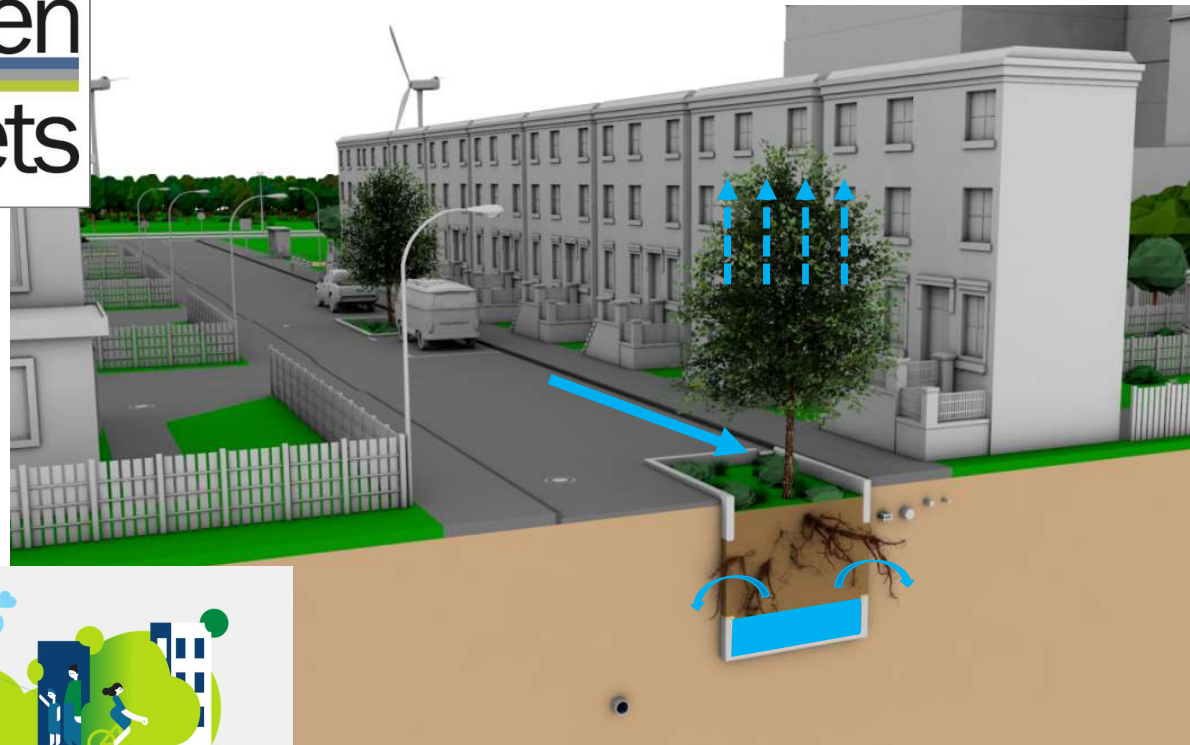
Improved Tree Pits

Blue Green
Streets



Bundesministerium
des Innern, für Bau
und Heimat

Bundespreis
Stadtgrün 2020



Grafik: ©Ingenieurgesellschaft Prof. Dr. Sieker mbH



Multifunctional Areas



Landschaftspark Buckower Felder, Berlin
(Entwurf: herrburg Landschaftsarchitekten)

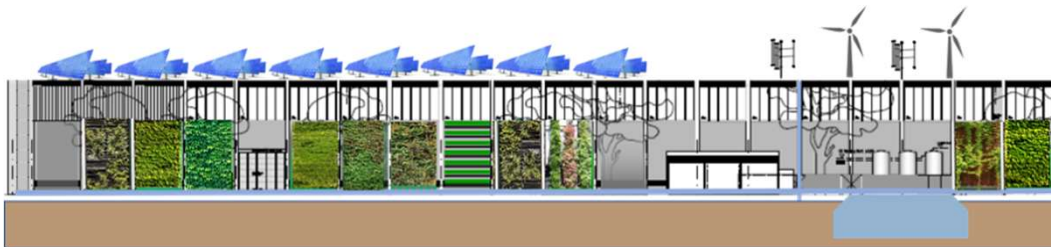


Multifunktionsflächen in Hoppegarten, Foto: Sieker

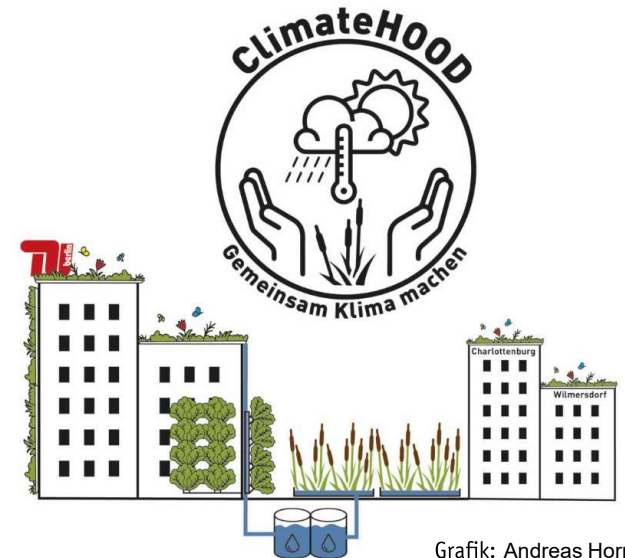


Stormwater Management at TU Berlin Campus

Reallabor Climate-Energy-Water



Grafik: Kluge und Nehls



Grafik: Andreas Horn



Thank you for your
attention !

Ingenieurgesellschaft Prof. Dr. Sieker mbH
www.sieker.de