Urban Climate Services in CSSP China

Cities in China are densely populated and major economic centres, with an estimated 60% of the population living in urban areas[1]. Many cities in China are affected by weather and climate hazards such as heatwaves, heavy rainfall and typhoons. The frequency and intensity of such events may change in the future. Urban characteristics such as the urban heat island and impermeable surfaces can increase climate risks and adversely affect human comfort, productivity and efficiency of city assets.

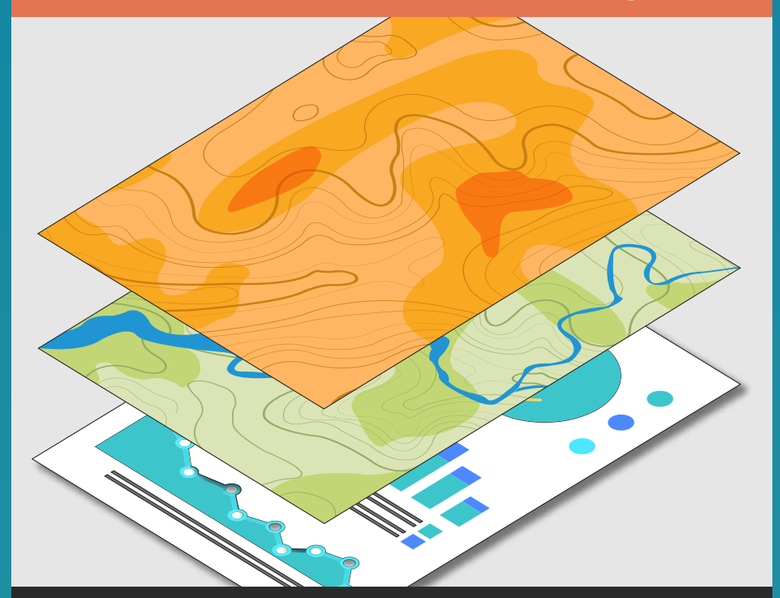
The Climate Science for Service Partnership (CSSP) China[†] is using scientific research to develop prototype urban climate services that will provide robust climate information for city decision makers to plan for the future and help cities become more resilient to climate change.

WHAT ARE THE BENEFITS OF URBAN CLIMATE SERVICES?

Increasing city resilience

Creating a city level evidence base of climate hazards to help cities prepare for climate impacts and demand on city services.

Useful tools for decision making



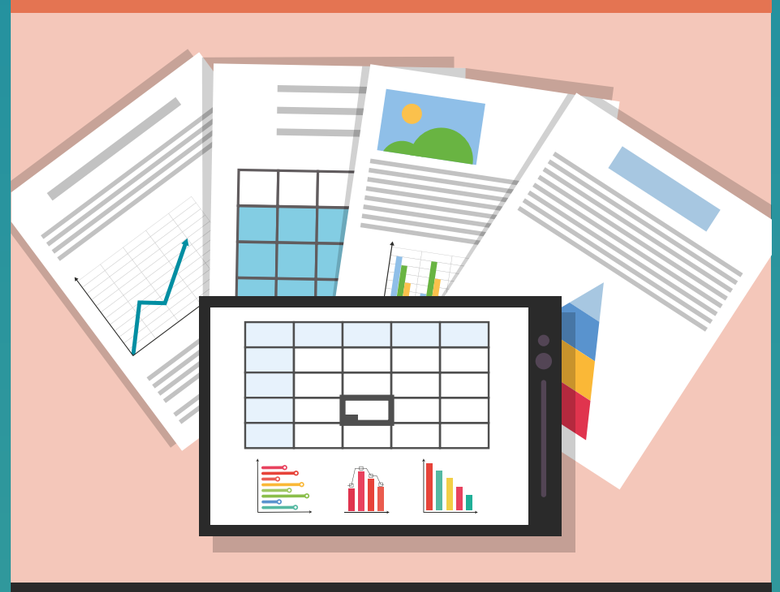
Presenting climate information in a useable format to help city stakeholders make effective decisions and inform policy.

Adaptation and strategic planning

Tailored climate information highlighting areas of the city most vulnerable to climate impacts to inform adaptation, strategic planning and urban design.

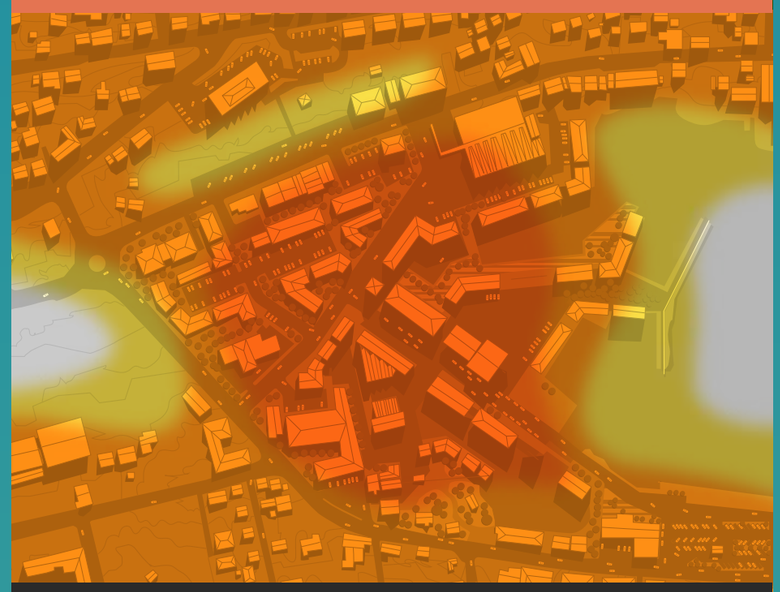
URBAN CLIMATE SERVICES IN DEVELOPMENT

City Packs



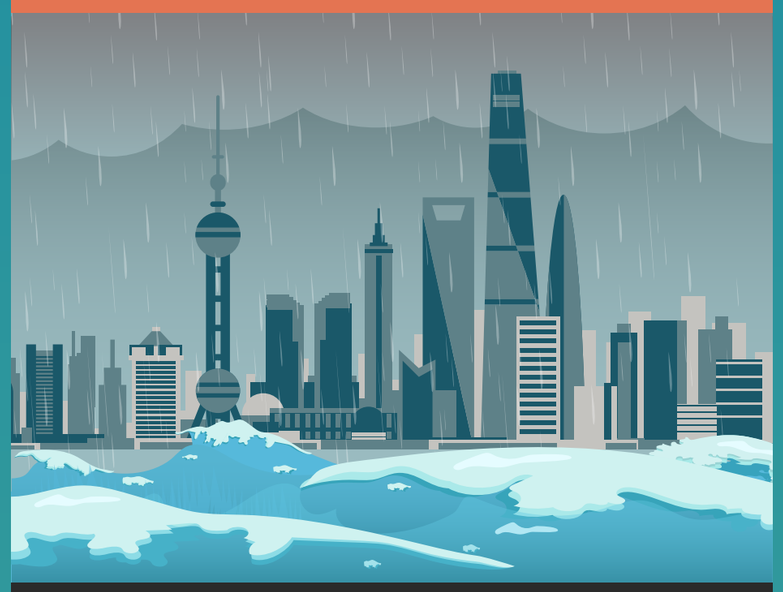
Factsheets comprising high level, non-technical summaries of climate change projections for individual cities and the science behind them.

Urban Heat Services



Mapping of current and future heat hazards, integrated with socio-economic and landuse data to identify vulnerable areas in the city.

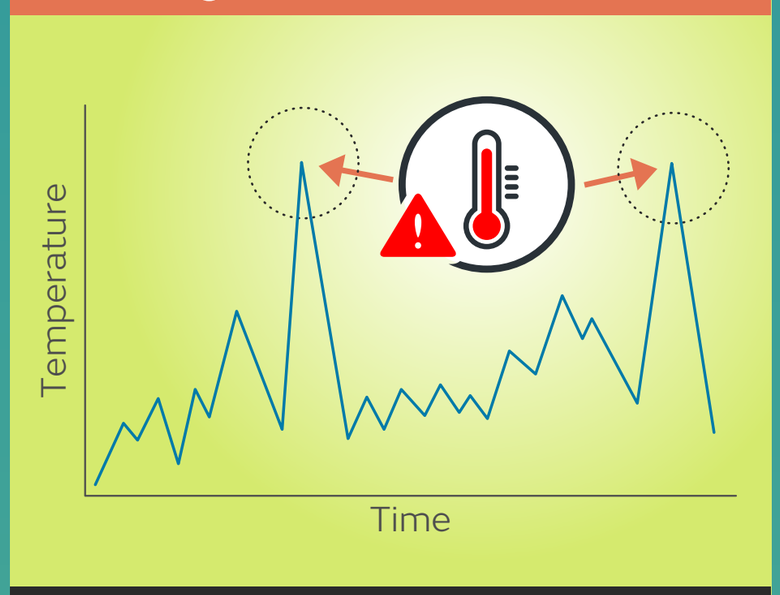
Urban Flooding



Using high resolution climate model data to provide information on current and future tropical cyclone hazards and urban flooding.

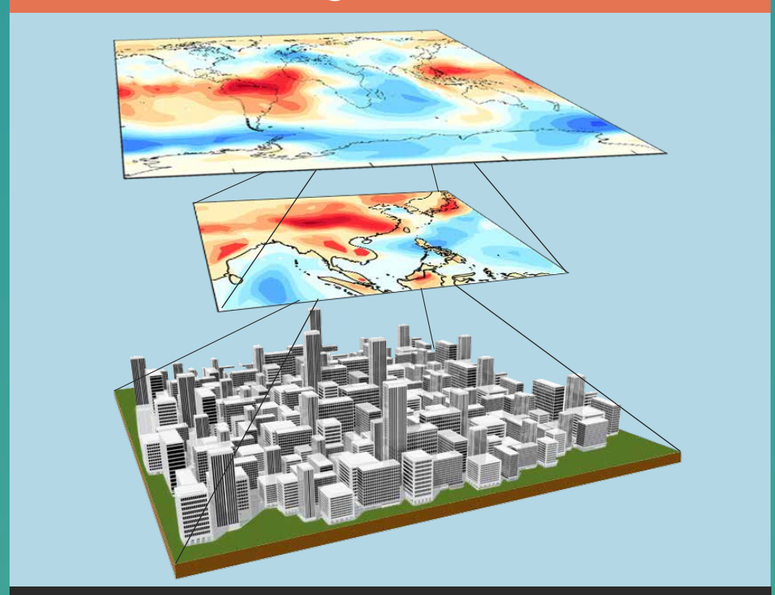
WHAT RESEARCH CAN FEED INTO URBAN CLIMATE SERVICES?

Modelling extreme heat events



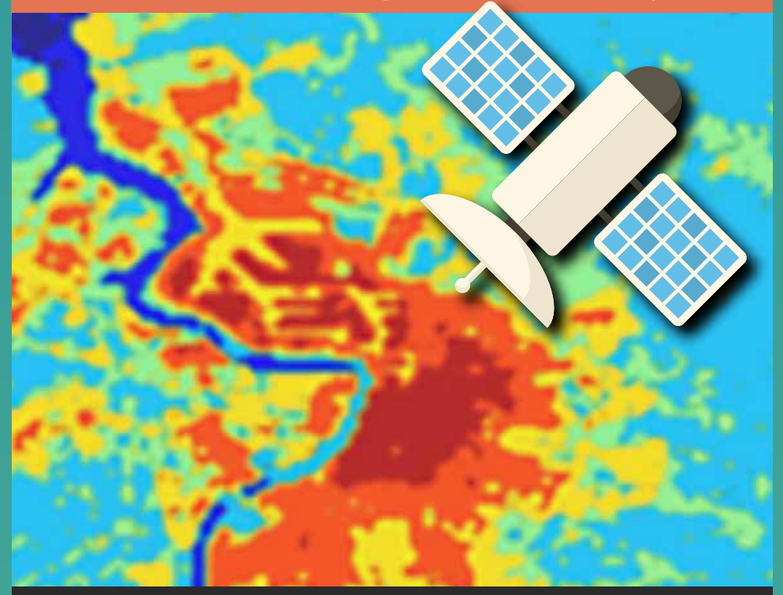
Using high resolution climate data to analyse current and future changes in heat stress and extreme heat events such as heatwaves in Chinese cities.

Urban Modelling



Developing high resolution climate models over China to better represent urban processes, capture extreme events and assess impacts at city level.

Land Surface Temperature Analysis



Using data from satellites to better understand how the urban heat island has changed across Chinese cities as the city has developed.

[1] https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=CN

[†] CSSP China is part of the Weather and Climate Science for Service Partnership Programme, supported by the UK-China Research and Innovation Partnership Fund as part of the Newton Fund. For more information, see https://www.metoffice.gov.uk/research/approach/collaboration/newton/cssp-china/index