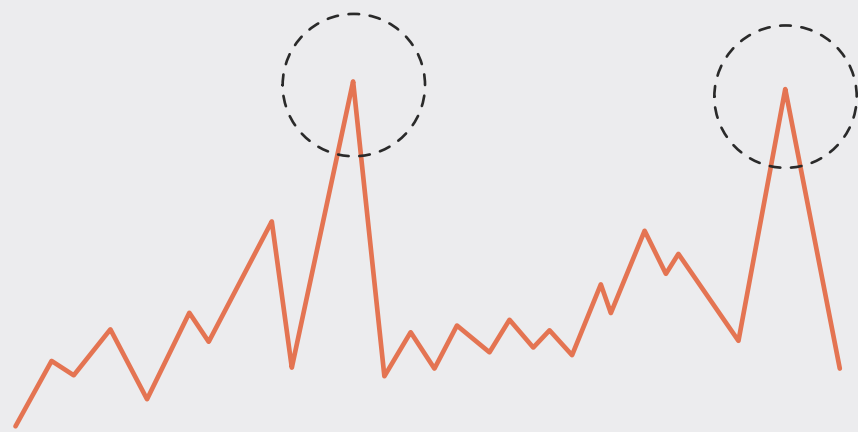


# Assessing China's risk to climate related extremes

## What is UNSEEN (UNprecedented Simulation of Extremes with ENsembles)?

### Innovative technique



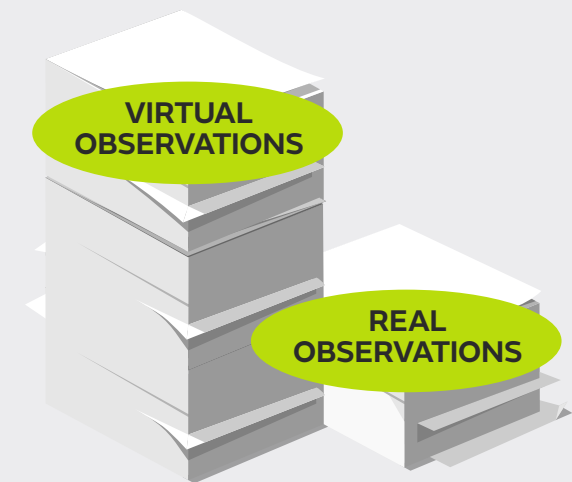
Simulates extreme events that haven't been recorded yet but could occur.

### Super computer modelling



Enables multiple simulations of the current climate.

### Virtual observations



Creates library of virtual observations increasing available data by one hundredfold.

## What does UNSEEN tell us?

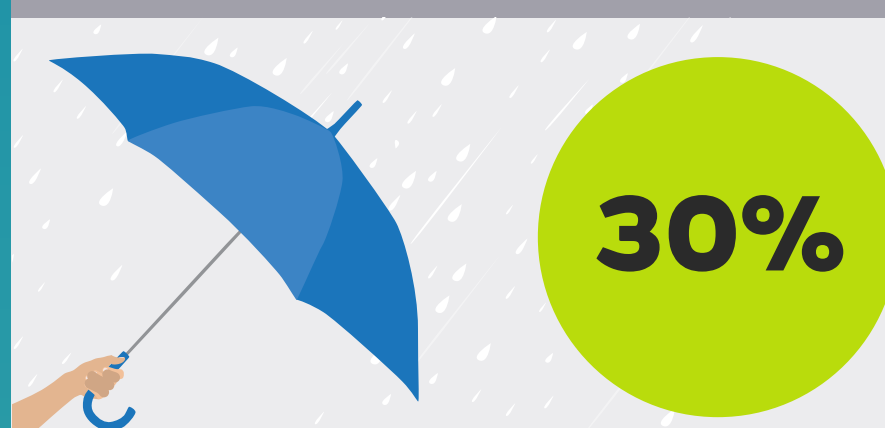
### Extreme summer temperatures in China



In Southeast China, there is a 10% risk of an unprecedented hot summer month\*

\*July or August

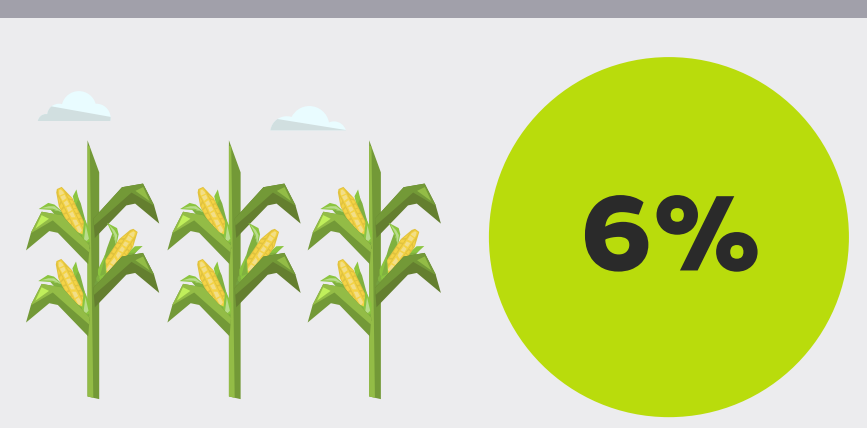
### UK winter rainfall extremes



30% risk of record rainfall occurring in at least 1 region\* in any given Winter (Oct-Mar)

\*England and Wales - UK's National Flood Resilience Review (2016)

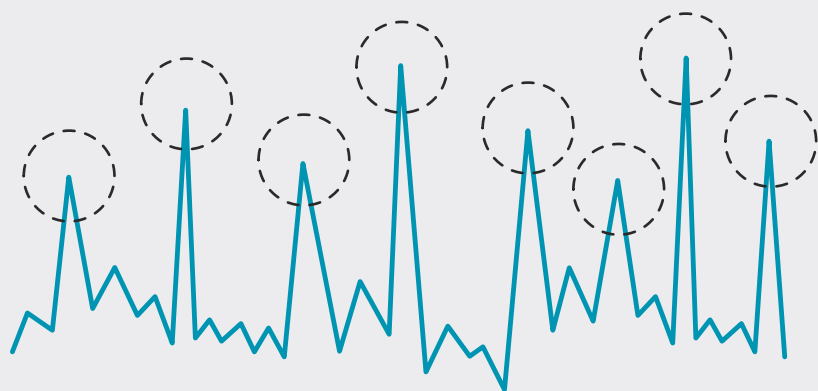
### Global maize supply resilience



6% risk of maize crop failure simultaneously in China and USA over coming decade.

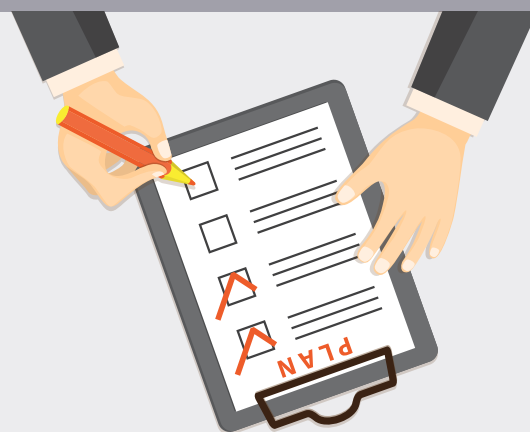
## How can UNSEEN benefit decision makers and global populations?

### Understanding risk of extreme events



Improves knowledge of extremes. Events of a higher magnitude than experienced are possible under the current climate.

### Building climate resilience



Anticipating high-impact events enables estimation of risks and forward planning.

### Global food security



Understanding risk of simultaneous crop failure which would result in supply falling and prices rising.

UNSEEN - UNprecedented Simulation of Extremes with ENsembles – is a technique developed as part of the Climate Science for Service Partnership (CSSP) China. The technique has since been used to simulate high-impact events in China, UK and globally. This includes through the Strategic Priorities Fund UK Climate Resilience programme and new work within the UK aid-funded Asia Regional Resilience to a Changing Climate (ARRCC) programme.



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.

