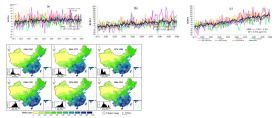
flood

Frequency trend of flood
- Worldwide
- China



Type
- **river flood**: occurs when water levels rise over the top of river banks due to excessive rain from tropical systems making landfall
- **coastal flood**: are caused by strong winds or storms that move towards a coast during high tide
- **Storm surge**: is an abnormal rise in water level in coastal areas, over and above the regular astronomical tide, caused by forces generated from a severe storm's wind, waves, and low atmospheric pressure.
- **Flash floods**:usually happen during intense rainfall - when the amount of water is too much for drains and sewers to deal with.

Flood of Zhengzhou
- Precipitation map
- Precipitation of Zhengzhou
- Precipitation diagram



characteristic
- heavy：622mm/m2
- fast：201.9mm/h
- strong：direct economic loss 6.85 billion dollars

normal strategy of people deal with flood
- Landscape
- Housing
- Constructions

Inputs

How to solve these water
- Lake& Sea
- Catchments
- Absorb by ground
- Drainage system
- Natural evaporation

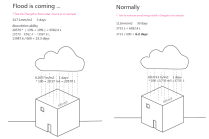
MAYBE WE HAVE NEW WAY

benefit for

Housing abosrb system

Strategy
- Create more water strodge space
- Buffer
- Use the water power

Water potencial



Functions
- Refill groundwater
- Water view
- hydrowpowe
- Water reuse
- Temprature adjustment

Workflow → water collection → water division
- Ground → Absorb → refill groundwater
- Wall → specific heat capacity → cool down & keep warm
- Water tank → Purify → bath/tolite/wash
- Hydrowpower space → power bank → saving electrcity

Output
- consequences
  - 0.17million cubic square water can be saved
  - 10.8 billion dollars lost can be prevented
  - 20% of CO2 emission being reduced
  - 10% of household water consumption reduced
  - up to 5 degree Celsius difference can be caused in indoor temperature