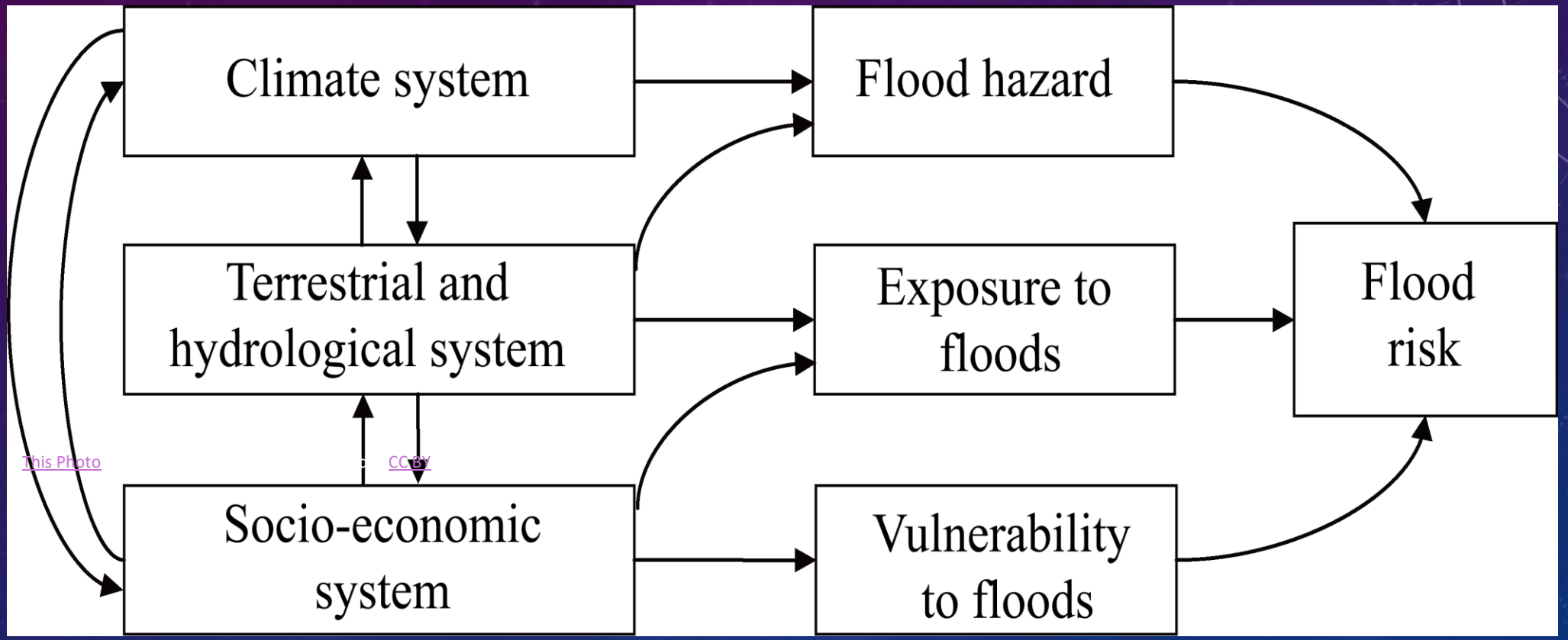
Flood monitoring and early warning system



Weather systems not always are quick or accurate enough to predict floods in time to prevent personal or environmental damages. The flood monitoring and warning system developed by ENVIRAIoT receives accurate and reliable information about real risks,so measures to protect the most vulnerable areas can be established and Public Administrations can collect real data to generate statistics for the design of optimal protection strategies.

The composition of the flood warning system

The warning system includes:

1) Wireless sensor network capturing relevant variables about the flow of rivers and streams

2) A smart computer system for the exploitation of hydrometerological and weather data captured to generate warnings and notifications for events that may involve a flood risk situation

Real time monitoring

ENVIRA IoT’s system controls the flow and its behaviour in real time,detects possible water courses and alerts about the flood risk with real and accurate data. It includes autonomous stations located at strategic points, equipped with a datalogger that reads the data captured by the sensors. Besides the sensors for the level of water courses,sensors for temperature and humidity,turbidity, water speed,capacity, etc…. can be installed.

Data display and analysis:

The IoT Envira DS platform enables the reception, organization and exploitation of data, reporting changes in levels, flows and speed. If the emergency center receives a warning, they will be able to connect immediately and see the situation of watercourses. Besides, although the data are sent to the center at planned intervals, it is possible to determine from the beginning the interval of time at which the platform will collect values unless there is a warning in that case the communication would be immediate.

Warning systems:

Acquisition and communication electronics continuously control the level of water and the delivery of data to the control center at planned intervals.

If a preset level or flow is surpassed, it generates data communication through SMS or e-mails to the authorized users.

The solution can be integrated with the early flood warning systems (EFWS) of Public Administrations.

Advantages:

- Timely detection of possible flood risks and floods
- Tailored solution that can be integrated with external developments at any level(device,connectivity,cloud or user application).
- Creation of historic data for Administrations.
- An unlimited number of devices can be included in future extensions.
- Long working life of the equipment.
- Highly reliable and available real time data
- Total adaptation and integration with emergency plans.
- Low energy consumption.
- Far-reaching bidirectional communications.