



Dire e Fare CITTÀ CLIMA FUTURO - Workshop 2
ADATTARSI ALLE CONSEGUENZE: LE CITTÀ RESILIENTI



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The BLUEAP project (LIFE11 ENV/IT/119)

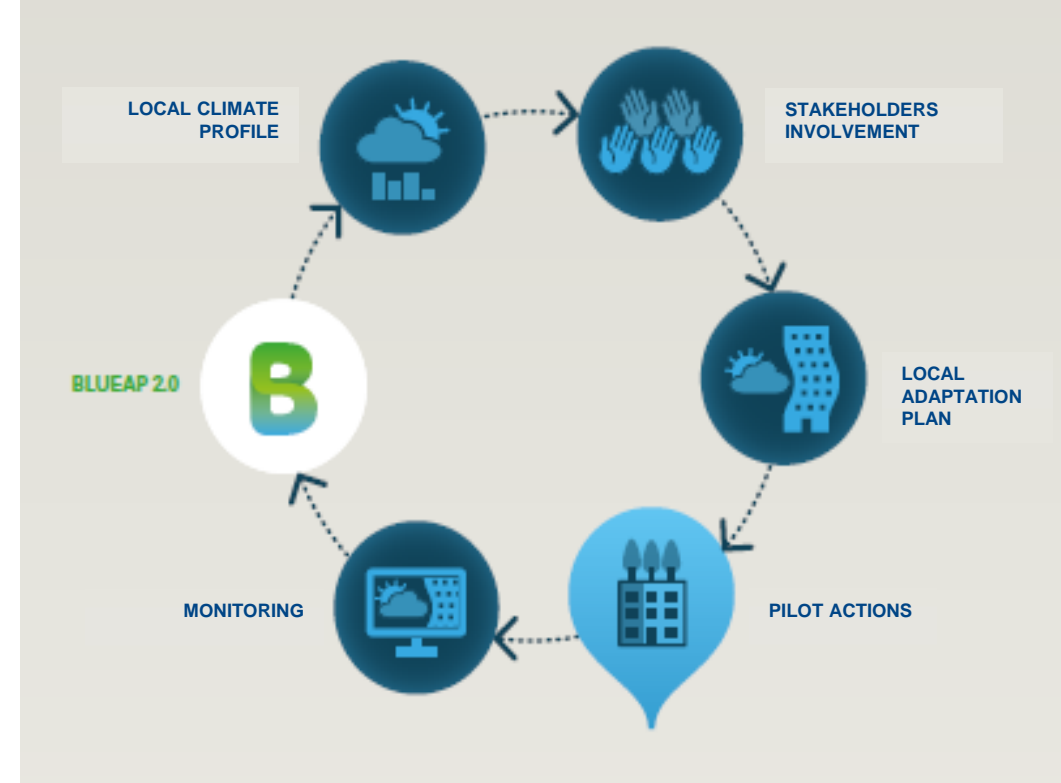
In October 2012 Bologna started **BlueAp LIFE project** for the definition of a Local Adaptation Plan.

On 4th June 2014 the City Council approved the **signing of "Mayors Adapt"**: Bologna was the first Italian city to join the initiative.

In October 2015 the City Council approved the **Local Adaptation Plan**.

The Plan contains the actions to make Bologna resilient at the **reference year of 2025**.

The Plan has considered the international and **UNFCC reference documents on local adaptation actions** and valued the support of an international scientific committee coordinated by CMCC in order to fix benchmarks and references for the work.



In August 2015 a delegation of France Senate visited Bologna for a workshop on BlueAp project experience.



Main vulnerabilities



HEAT WAVES

Exposure: HIGH
Sensitivity: HIGH (population, tourism, air quality)

WATER SCARCITY

Exposure: MEDIUM/HIGH
Sensitivity: HIGH (population, mobility, economy)

EXTREME
RAINFALL
EVENTS

Exposure: MEDIUM/HIGH
Sensitivity: HIGH
(population, hydrology)

Vulnerability

Strategies



Drought and water scarcity

- Reduce the use of natural water resources
- Eliminate parasiting waters and the mixing of black and white waters
- Regulate the flow of Reno River
- Protect gricoltural production

Main objectives

Withdrawals from groundwater < 45 million m³ / year



Minimum water flow in Reno river 1.87 m³ / s



Network losses < 18%



Domestic water consumption < 130 l / inhabitant / day



Consumption of drinking water for other uses < 5 Mil m³ / year



Vulnerability

Strateges



Heath waves in urban areas

- Increase urban greening; protect and enhance urban green areas and urban agriculture.
- Increase insulation and greening in public and private buildings.
- Reduce vulnerability of population exposed to health risks linked to temperature increase.

Main objectives

+ 5000 trees



+ 5 hectares urban vegetable gardens



Greening interventions on 10 public buildings



Greening of 4 public spaces in historical center



Prevention of heath waves effects



Vulnerability

Strategies



Extreme rain events and hydrogeological risks

- Improve city hydrogeological response
- Make the territory more “resistant” to intense rain.
- Reduce water pollution carries by rain.
- Increase resilience of population and property at risk.

Main objectives

Limit increase of new waterproofed territory from 3500 to 3700 hectares.



new drainage systems on impermeable surfaces > 11,5 ha



Pollution load due to spillways < 50%



Increase the resilience of infrastructures



Adequate maintenance of cultural heritage



Il Comune di Bologna negli ultimi anni ha attivato diversi progetti per la sostenibilità ambientale che hanno contribuito a ridurre le emissioni di CO₂ e possono essere trasformati in crediti volontari di riduzione.

Grazie a questo meccanismo virtuoso il Comune potrà implementare nuovi progetti di riduzione di CO₂.



Le imprese possono collaborare al benessere dei cittadini e dell'ambiente e aggiudicarsi crediti volontari di riduzione.

I crediti volontari del Comune sono infatti a disposizione di quelle imprese che si vogliono impegnare per la tutela dell'ambiente e contribuire alla realizzazione di nuovi progetti ambientali sul territorio.

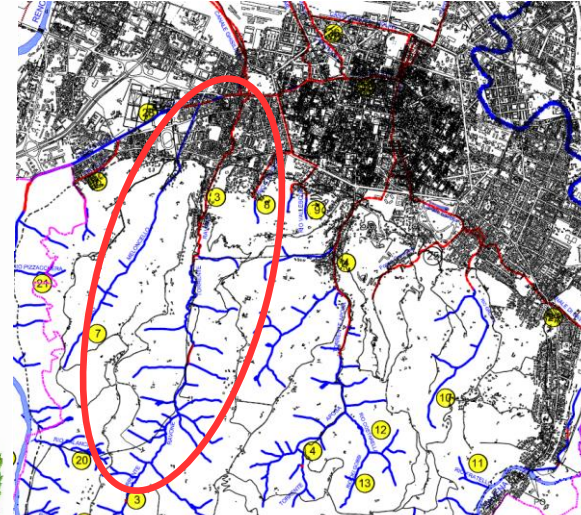
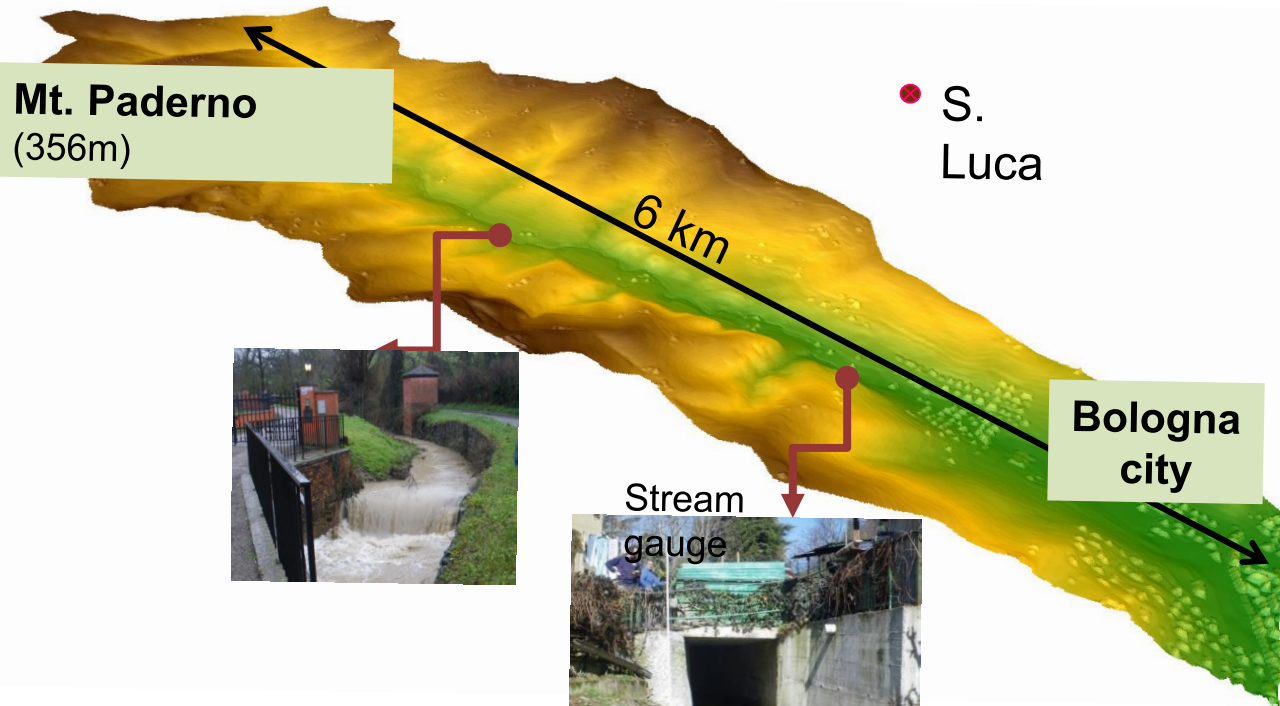
Finanziare azioni per il clima:

- PPP
- Innovazione
- investimenti

Life RainBo



LIFE15/CCA/IT/000035
With the contribution
of the LIFE financial
instrument of the
European Community

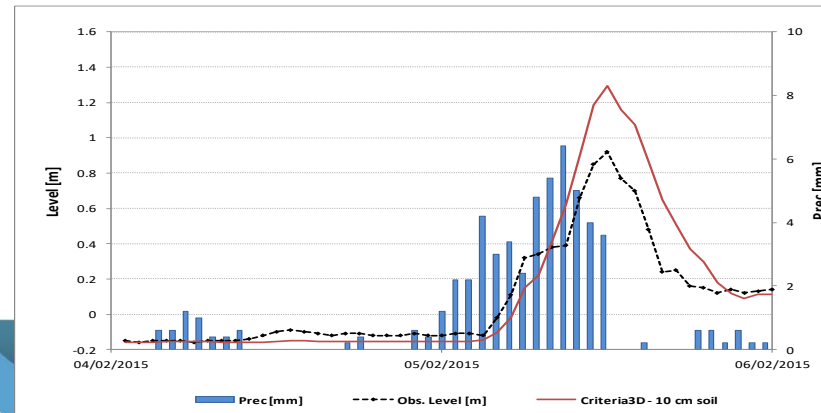


Bologna - hydrographic network

2015.02.05 event

Measurements and simulation with
CRITERIA3D

Physically based, 3D model of surface and
subsurface water flows



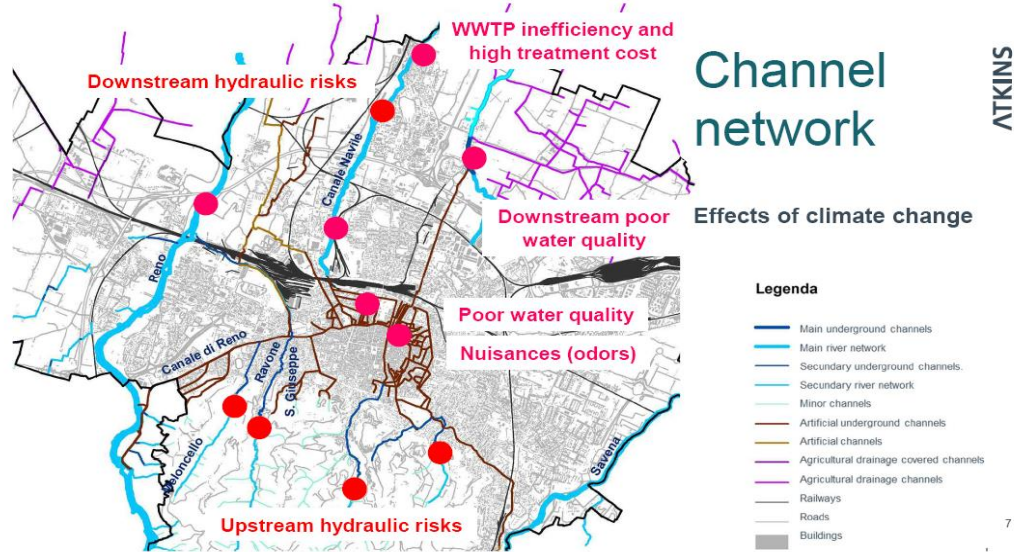
The European Investment Bank (EIB) is supporting initiatives to adapt to climate change

ATKINS

Climate Change Adaptation and Resilient Cities

Inception Report
European Investment Bank

24 February 2017



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