



Smart control of the climate resilience in European coastal cities

Gdańsk Coastal City Living Lab: main objectives and challenges

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INTRODUCTION

The way in which climate change affects the environment is one of the major challenges for the modern science. Continuous monitoring climate factors is extremely important for proper understanding dynamics and trends of the climate system (Xiao et al. 2018). That is why Gdańsk CCLL is doing everything to improve the climate awareness among the inhabitants of Gdańsk.

THE MAIN OBJECTIVES OF GDAŃSK CCLL:

- forecasting climate change
- monitoring in the context of climate change
- gathering and exchange of information on environmental hazards between various stakeholders and citizens
- conducting own research:
 - ✓ in-depth flood risk analysis (past and current)
 - ✓ reduction carbon footprint (photovoltaic installation)
 - ✓ analysis of precipitation in the coastal zone and coastal sea level rise
 - ✓ analysis different environmental and socio-economic parameters connected with climate resilience



Fig. 1. Location map : 1 – Gdańsk, 2 – Coast next to the Lab, 3 – City, 4 – University of Gdańsk

STUDY AREA

Gdańsk (Fig.1) is a city on the Baltic coast of northern Poland with a population of almost 629 ths and covers an area of 262 sq. km. Gdańsk is the capital and largest city of the Pomeranian Voivodeship and the most important city in the geographical region of Pomerania. Gdańsk lies at the mouth of the Motława River, connected to the Leniwka, a branch in the delta of the nearby Vistula River. The city is located at an altitude of 0 m above sea level up to 180 m above sea level. The climate of Gdańsk is mainly shaped by air masses approaching from the North Atlantic Ocean. The city has moderately cold and cloudy winters and mild summers with frequent rains and thunderstorms.



Fig. 2. Field work

THE MAIN CHALLENGES OF GDAŃSK CCLL

- organizing cyclical meetings for citizens, scientists, officials and stakeholders to disseminate knowledge on climate hazards
- organizing cyclical green/blue lessons for children, pupils and students connected with citizen measurements (Fig.2)
- increasing awareness concerning climate resilience in Gdańsk
- dissemination of all information and data for public

REFERENCES

Xiao M., Rothermel M., Tom M., Galliani S., Baltasvias E., Schindler K., 2018, ISPRS Annals of the 27th Photogrammetry, Remote Sensing and Spatial Information Sciences IV(2): 311–315.



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