

News from LIFE LOCAL ADAPT

In this newsletter activities of our Life project in the North-west of Czechia are presented in the focus report. CzechGlobe will host our annual meeting in the beginning of May in Prague. Another important event end of May will be the European Climate Change Adaptation conference (ECCA2019) in Lisbon, Portugal. There, LIFE LOCAL ADAPT will chair a special session on Life projects in Europe dealing with climate change adaptation of communities – you are invited to meet us there! But not only events, a series of products are now offered by our project like fact sheets on funding programmes applicable for municipalities, fact sheets informing about specific regional and local characteristics of climate change as well as fact sheets presenting examples of suitable measures to cope with climate change impacts.

If you are interested to receive this information we would like you to register for the newsletter on www.life-local-adapt.eu.

With kind regards

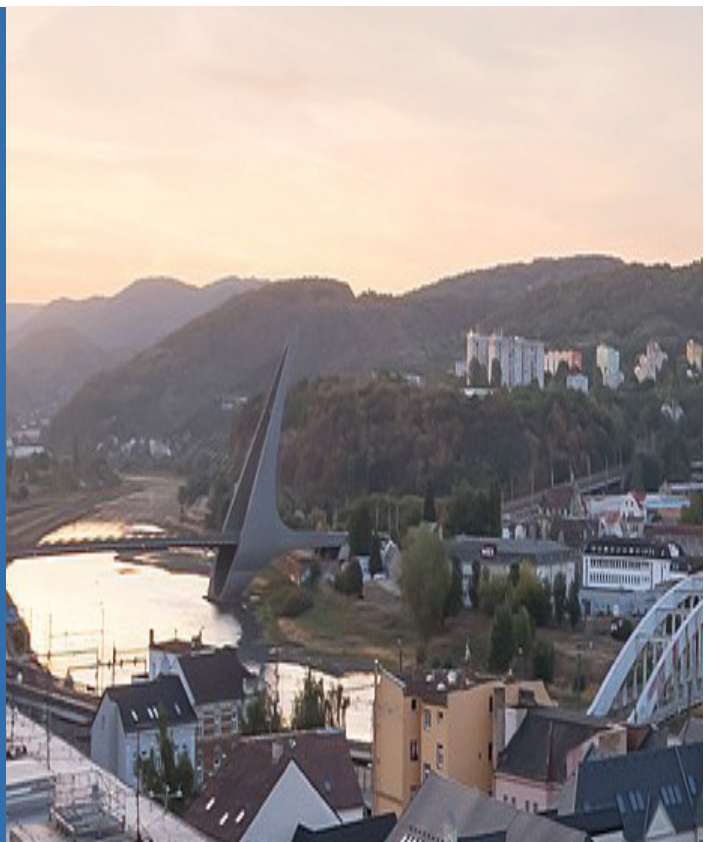
Prof. Dr. Christian Bernhofer

Project coordinator

April 2019

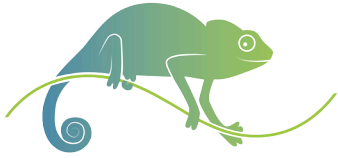
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Ústí nad Labem © Michielverbeek





Our activities at a glance

CzechGlobe's Department of the Human Dimensions of Global Change based in Prague, Czech Republic has been keeping busy trying to bring LIFE LOCAL ADAPT project's results closer to the municipalities of the Severozápad region: translating and disseminating factsheets, bringing in new communities to participate in the LIFE LOCAL ADAPT project and planning workshops for 2019.

This all goes in hand with the responsibilities of CzechGlobe in LIFE LOCAL ADAPT and follows the project's main objective of enhancing the capacity of municipalities to cope with the impacts of climate change.

Let's look at how CzechGlobe helps to fulfill the project goals since the last status report featured in Newsletter number 4.

Start smart

Two of the four main objectives of LIFE LOCAL ADAPT are as follows: to enhance the knowledge of municipalities on climate change adaptation and to implement specific climate change adaptation measures in those municipalities.

To achieve these, CzechGlobe has researched and compiled a list of funding opportunities for the realization of climate change adaptation measures and subsequently produced a series

of fact sheets presenting the funding programs available on the regional and national level for the municipalities of Severozápad region. European funding programs were also explored.

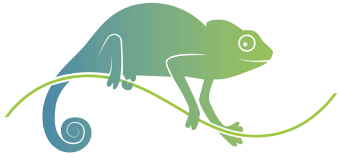
All fact sheets were produced in Czech language to ease their use. These provide an overview of the main characteristics of the funding programs including the name, funding type, funding source, funded measures and activities, and eligible beneficiaries, as well as additional information on available budget, specific conditions (e.g. funding rate, exclusive criteria, application procedure, submission deadline, etc.) and managing organization.

Risk and reward

Climate change increases severity and frequency of several natural phenomena and having the necessary knowledge about the potential impacts of extreme weather is vital for successful adaptation.

To enhance the knowledge on potential impacts of heavy rains and heat waves, another set of fact sheets was produced. These provide examples of adaptation measures which can be used to increase the resilience against the impacts of above mentioned hazards while simultaneously providing other benefits to the communities.





Focus Report CzechGlobe

Last pages of the fact sheets are dedicated to showcasing examples of successfully realized green and blue adaptation measures from several cities across the Czech Republic.

Fact sheets were produced in German (with relevant examples from Germany and Austria), English and Czech and have been published through several outlets including the official LIFE LOCAL ADAPT website (www.life-local-adapt.eu), the website of project CzechAdapt (www.klimatickazmena.cz) and will also be available in physical form at all of the workshops planned for 2019.

Transfer concept

For the first half of the project, CzechGlobe cooperated with two main partner cities in the region Severozápad, which took advantage of the opportunities provided by LIFE LOCAL ADAPT: Ústí nad Labem and Litoměřice.

Throughout the last two years CzechGlobe organized several workshops and jumpstarted the adaptation planning in these municipalities. However, the project is far from being over and

we are hoping to bring in new municipalities from the region to join us from 2019. So, without speaking too soon: up to nine potential candidates for cooperation and already working out the details with one of them.

As in the previous years, CzechGlobe is ready to deliver solutions such as risk and vulnerability analysis, adaptation strategy, adaptation measures evaluation report and expert-led stakeholder workshops.

Outlook

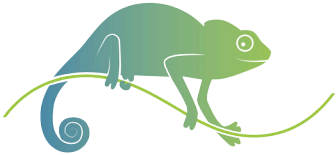
As we stepped into the spring, the preparations for the upcoming events are starting to accelerate.

In May CzechGlobe is hosting the 2019 Annual project meeting in Prague, where representatives from all partner organizations will discuss project's progress and plan for the upcoming year as well as finalize preparations for the 4th European Climate Change Adaptation (ECCA) conference.

The ECCA conference is happening in Lisbon at the end of May and the LIFE LOCAL ADAPT team will be there to present results of the project.



Family house with green roof in Prague, Michal Šperling, https://www.idnes.cz/bydleni/stavba/pasivni-dum-zele-na-strecha-mokrad-letna-levne-bydleni-levne-topeni.A180201_101449_stavba_web



Contest 2019 announced

End of March 2019 small and medium sized municipalities are requested to apply for a second contest. Ideas for adaptation measures on heat stress, drought and heavy rain are wanted. For all information in a nut shell a flyer was prepared.

All information and condition can be found on the website of LfULG (www.lsnq.de/klimaanpassung) and the LIFE LOCAL ADAPT project website (<https://www.life-local-adapt.eu>). There are already three specified project proposals and two ideas.

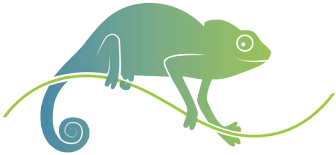
The flyer is titled "Wettbewerb 2019 Klimaanpassung in sächsischen Kommunen". It features a landscape image of a village in Saxony. The text is organized into several sections:

- Aufruf:** Invites municipalities to participate in the LIFE LOCAL ADAPT project, aiming to sensitize the population and improve rainwater retention.
- EU-Projekt LIFE LOCAL ADAPT:** States that the project (2016-2021) supports municipalities in their adaptation work.
- Impressum:** Lists Caterina Joseph as the contact person at the Landesamt für Umwelt, Landwirtschaft und Geologie (LfULG) in Dresden.
- Redaktionsschluss:** 21. März 2019.
- Logos:** Includes logos for the Landesamt für Umwelt, Landwirtschaft und Geologie, the State of Saxony, and Technische Universität Dresden.
- EU Funding:** A logo for the EU Environmental Program with the text "Das Projekt wird durch das EU-Umweltprogramm LIFE gefördert."
- Project Description:** A box with a white lizard icon containing contact information for Dominic Rumpf at LfULG.
- Footer:** The LIFE LOCAL ADAPT logo and the tagline "Integration of climate change adaptation into the work of local authorities".

Status Contest 2017

The public tendering procedure for last projects of the 2017 contest were started. The total costs of all projects running are 170.000 €.

Until end of March 2019 11 specific workshops in the cooperating municipalities were organised.



Workshops

As a part of the project “Grundwasserhaushalt Mittelsachsen” (groundwater balance Mittelsachsen) in the community of Döbeln two larger workshops for public stakeholders and local drinking water suppliers took place recently to guarantee drinking water supply in the future.

The response of the 20 to 30 participants was great and a lot of productive discussion started. In addition, the project shall be used as a case study for the “Grundwasserkonzeption 2030” (conception for groundwater management 2030). This conception is a long term strategy to guarantee the drinking water supply in the state of Saxony. The project already

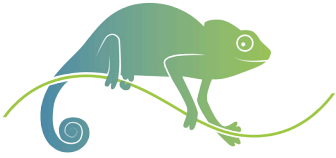
shows that a better and more detailed database is needed.

In March two workshops took place in Freital. The first was a public site visit and the second a public presentation of the first results of modelling. The local residents were also invited and they took actively part to discuss the problem of erosion after heavy rain events.

On May 15th another public workshop about erosion will take place in Zittau. End of June the final workshops for the district of Mittelsachsen as well as the communities of Coswig and Freital are planned.



Workshop in Döbeln



“ReKIS kommunal” – Regional Climate Information System for Municipalities

ReKIS kommunal is an additional feature of the Regional Climate Information System ReKIS (www.rekis.org), tailored to the needs of Saxon communities.

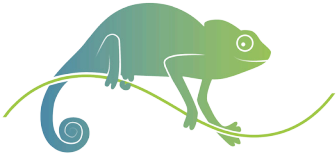
The web application ReKIS serves for the provision, documentation, evaluation as well as interpretation of climate data and information for the federal states of Saxony, Saxony-Anhalt and Thuringia. On behalf of these federal states and in close cooperation with them, the Chair of Meteorology of the TU Dresden is re-

sponsible for the development and provision of ReKIS.

To increase the awareness level and get feedback, user training events were organised in November 2018. All response of the participants (10 per event) will feed in the planned overhaul of the ReKIS and ReKIS kommunal website in 2019. A lot of input is already implemented in the newest version of the climate data fact sheets, which will be released in April.



Cover of the fact sheets



Now it's getting serious - Styrian action plans

In recent months, after holding several workshops for all five Styrian partner municipalities, LIFE LOCAL ADAPT has drawn up Regional Adaptation Strategies - so-called „Action Plans for Adaptation to Climate Change“ - for all five Styrian partner municipalities.

The first completed action plan was presented to the municipality of Deutschlandsberg on 29. November 2018. The action plans are based on climatic fact sheets with information on how the climate in each municipality will change by the middle and end of the century.

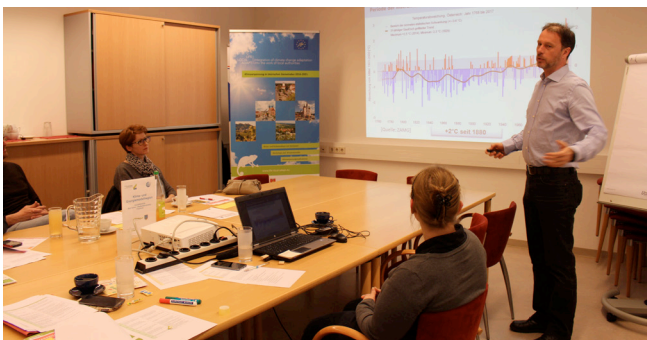
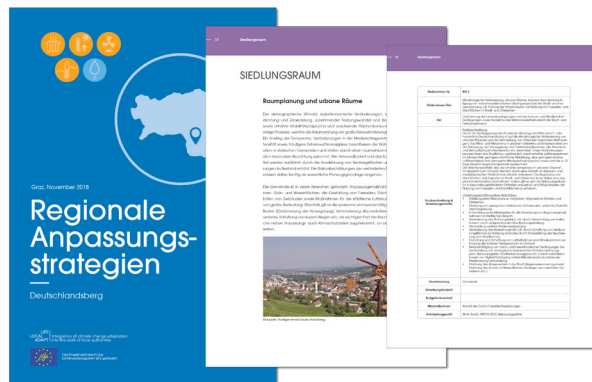
For the municipality of Deutschlandsberg, for example, this means that the number of heat days will double by 2050. This circumstance naturally has an impact on human health, working conditions, construction measures and the cooling requirements of buildings. However, there will also be more heavy precipitation in the municipalities and therefore more frequent flooding and poorer water absorption by the soil. Based on the knowledge gained from the climate scenarios and after jointly reviewing suitable measures within the framework of a stakeholder workshop,

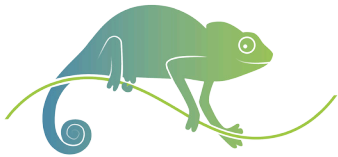
a total of 52 measures from 6 areas (supply security, settlement area, agriculture/forestry & ecosystems, economy, health/social affairs & education, awareness raising) were worked out in detail for Deutschlandsberg in a first step.

After the presentation of the final action plan for Deutschlandsberg, however, we came to the conclusion that, firstly, the abundance of measures was not target-oriented and, secondly, the measures were elaborated in too scientific/technical language. We are therefore currently in the process of revising all the action plans, which means streamlining the measures somewhat and formulating them in a clear and comprehensible language.

The aim of the action plans is, of course, not to have an excessive number of measures, but to fill the action plans in such a way that the measures contained in them can also be implemented.

The action plan for Deutschlandsberg has now been revised and can be presented to the municipality in the coming weeks. The four other municipalities will receive their revised action plans in the coming months.





Regional Climate Fact Sheets have been finalized

The Regional Climate Fact Sheets for Saxony (Germany), Styria (Austria), North-West Czech Republic and Vidzeme (Latvia) have been finalized. They provide brief and concise information on possible future climate developments in the respective region in the 21. century.

The fact sheets are based on the results of 55 regional climate model simulations, which used the Representative Concentration Pathways (RCPs). RCP8.5 represents a "business-as-usual" scenario, RCP4.5 a "medium" scenario, and RCP2.6 a "climate protection" scenario. 18 different parameters for climate change are presented, which are relevant for various societal sectors. The relationship to the climate

of the near past is illustrated by the same key figures calculated from observation data.

The fact sheets are supplemented by an expert judgement of the reliability of the shown changes. To judge on the robustness of the projected changes, the agreement of the projections on the sign of the projected changes for the end of the 21st century, as well as the statistical significance of the changes projected by each single simulation is considered.

The fact sheets are accessible free of charge on the homepage of the Climate Service Center Germany (GERICS): https://www.gerics.de/products_and_publications/fact_sheets/climate_fact_sheets/detail/080193/index.php.en

Climate Fact Sheet Saxony

At a glance

The Regional Climate Fact Sheet Saxony provides brief and concise information on possible future climate developments in Saxony in the 21st century. They are based on the results of 55 regional climate model simulations, which are based on the Representative Concentration Pathways (RCPs). RCP8.5 represents a "business-as-usual" scenario, RCP4.5 a "medium" scenario, and RCP2.6 a "climate protection" scenario. 18 different parameters for climate change are presented, which are relevant for various societal sectors. They are supplemented by an expert judgement of the reliability of the shown changes. The relationship to the climate of the near past is illustrated by the same key figures calculated from observation data for Saxony. Saxony is situated in the moderate climate zone with an average annual temperature of 8.4 °C and an average annual precipitation sum of 704 mm. In the period from 1960 to 2015, the observed annual mean temperature in Saxony has increased by 1.0 °C. Precipitation varies greatly from year to year and shows no systematic change in the course of the 20th century and today. At the end of the 21st century, the annual mean near-surface temperature increases between 0.4 °C and 1.9 °C in RCP2.6, between 1.2 °C and 3.1 °C in RCP4.5, and between 2.0 °C and 5.1 °C in RCP8.5; these increases are robust for all scenarios. For the annual precipitation at the end of the 21st century the projections show changes between -13.2 mm/month and 7.8 mm/month for RCP2.6, between 1.9 and 17.2 mm/month for RCP4.5, and between -8.7 mm/month and 30.8 mm/month for RCP8.5. However, none of the projected changes in annual precipitation are robust.

Parameter	Robustness as usual scenario	Medium scenario	Climate protection scenario	Details
temperature	increase	increase	increase	pp. 8, 14
summer days	increase	increase	increase	pp. 9, 14
hot days	increase	increase	increase	pp. 9, 14
heat stress days	increase	increase	increase	pp. 9, 14
length of hot periods	increase	increase	tendency towards increase	pp. 9, 14
days > 3 °C	increase	increase	increase	pp. 9, 14
heating degree days	decrease	decrease	decrease	pp. 9, 14
cooling degree days	decrease	decrease	decrease	pp. 9, 14
spring frost days	decrease	decrease	decrease	pp. 9, 14
precipitation < 0.2 mm	increase	tendency towards increase	tendency towards increase	pp. 10, 15
dry days	no changes	tendency towards decrease	tendency towards decrease	pp. 10, 15
wet days	no changes	tendency towards increase	tendency towards increase	pp. 10, 15
gdd	increase	tendency towards increase	tendency towards increase	pp. 10, 15
pot	increase	tendency towards increase	tendency towards increase	pp. 10, 15
whet period	no changes	tendency towards decrease	tendency towards decrease	pp. 10, 15
warm seasons	no changes	tendency towards increase	no changes	pp. 10, 15
summer	increase	increase	increase	pp. 10, 15

Today's climate and observed changes

Saxony is located in the moderate climate zone with a warm and temperate climate and an annual mean temperature of 8.4 °C in the period of 1971-2000. On average, the lowest mean monthly temperature occurs in January with values of about 0.4 °C and the highest in July with an average 17.5 °C. With a mean annual precipitation sum in the period from 1971-2000 of 704 mm, Saxony is among the drier regions in Germany. On average, the driest month of the year is February with a monthly precipitation amount of 41 mm; the highest values occur in July with an average 80 mm in the period 1971-2000.

Climate diagrams for the climate stations Chemnitz and Dresden

Projected climate changes

The projected changes shown in this Climate Fact Sheet are based on an expert judgement of the reliability of the shown changes. The relationship to the climate of the near past is illustrated by the same key figures calculated from observation data for Saxony. Saxony is situated in the moderate climate zone with an average annual temperature of 8.4 °C and an average annual precipitation sum of 704 mm. In the period from 1960 to 2015, the observed annual mean temperature in Saxony has increased by 1.0 °C. Precipitation varies greatly from year to year and shows no systematic change in the course of the 20th century and today. At the end of the 21st century, the annual mean near-surface temperature increases between 0.4 °C and 1.9 °C in RCP2.6, between 1.2 °C and 3.1 °C in RCP4.5, and between 2.0 °C and 5.1 °C in RCP8.5; these increases are robust for all scenarios. For the annual precipitation at the end of the 21st century the projections show changes between -13.2 mm/month and 7.8 mm/month for RCP2.6, between 1.9 and 17.2 mm/month for RCP4.5, and between -8.7 mm/month and 30.8 mm/month for RCP8.5. However, none of the projected changes in annual precipitation are robust.

Mean changes for the period 2070 - 2099 relative to 1971 - 2000

Projected changes of temperature-based indices

Annual and seasonal temperature

For all three RCPs an increase of the temperature is projected.

The bandwidth of projected annual changes for the middle of the 21st century spans from 1.4 to 2.9 °C for RCP8.5, from 0.8 to 2.5 °C for RCP4.5, and from 0.4 to 2.3 °C for RCP2.6.

For the end of the 21st century, the projected annual increases for RCP8.5 is between 2.8 and 5.1 °C, for RCP4.5 between 1.2 and 3.1 °C, and for RCP2.6 between 0.4 and 1.9 °C.

Symbols of the expert judgement on the robustness of the projections

- Increase:** The majority of the simulations projects significant increases
- Decrease:** The majority of the simulations projects significant decreases
- Unclear:** The majority of the simulations projects significant changes, but do not agree on the direction of changes
- Tendency towards an increase:** The majority of the simulations projects non-significant increases
- Tendency towards a decrease:** The majority of the simulations projects non-significant decreases
- No changes:** The majority of the simulations projects non-significant increases, with no preferred direction of changes

Please consider:

Each climate index presented on the following pages is complemented by an expert judgement on the robustness of the projected changes, which is described in more detail on page 16. The definition of each climate index is given on page 18. Their graphical representation is explained on page 17. These information are necessary for the understanding of the figures. All climate indices are displayed with the identical method. The changes of the annual values are additionally given. In addition to the figures, the projected changes for each index for the middle and the end of the 21st century are given as short narratives.

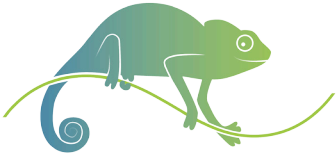
Projected changes of temperature-based indices

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ECCA 2019

The TU Dresden, LfULG, CzechGlobe, GERICS and Styria will take part in the 4th European Climate Change Adaptation Conference (ECCA) from May 28th to May 31st in Lisbon, Portugal.

The TU Dresden reports on the challenges of adaptation to climate change in small and medium-sized municipalities. Additionally, posters summarize in particular the possibilities for adaptation to

heavy rain events, drought and heat stress.

The LfULG will have two talks with the topics: “How local authorities of small and medium sized communities can be actively and successfully involved in climate change adaptation” and “ReKIS kommunal – an easy access tool for small and medium sized communities to support climate change adaptation”.

LIFE LOCAL ADAPT at the European Urban Resilience Forum

On 25 June, the European Urban Resilience Forum will take place back-to-back with the 10th Resilient Cities Conference in Bonn.

The Forum provides European cities, municipalities and regions of all sizes a platform to exchange experiences on adaptation to climate change and improving urban resilience.

Representatives from municipalities and various local and regional institutions, together with scientists and consultants, will discuss challenges and possible solutions in small groups under the following thematic foci:

Theme A: Nature-based solutions for urban resilience: Putting them into practice

Theme B: Improving governance for inclusive and effective climate action

Theme C: Implementing, financing and monitoring strategies for urban resilience

The Urban Resilience Forum is known for its informative, open, interactive and „Power-Point-free“ format. Participants will exchange experiences, points of view and solutions on the challenges of urban adaptation and explore

opportunities for future collaboration.

In addition, a vibrant marketplace supports the networking of the participants and informs about various initiatives and projects.

Challenges and solutions for smaller communities

The EU has hundreds of cities with more than 50,000 inhabitants, but tens of thousands of smaller cities and municipalities. Administration, capacity and resources are very different from those of larger cities.

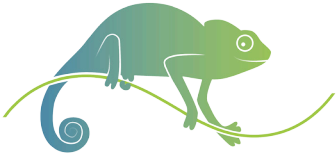
One session will specifically address the challenges facing smaller municipalities, their specific needs and possible solutions. The LIFE LOCAL ADAPT municipalities Weiz (Styria, Austria) and Coswig (Saxony, Germany) as well as the Italian municipality Urbino will report on their municipal work.

The Urban Resilience Forum is free of charge. All those seeking to shape a climate-resilient future for our cities and regions are invited. Registration and detailed information on the programme can be found on the website: <http://urbanresilienceforum.eu/>.

LIFE LOCAL ADAPT Annual Meeting

In May, CzechGlobe organizes the annual project meeting 2019 in Prague, where representatives of all partner organizations present the

progress and discuss the planning of the project for the coming year.



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For further information please visit our website: www.life-local-adapt.eu

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Imprint

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