OFFERED TOPICS AND TOOLS

This chapter presents the project-specific topics and tools, which are offered exclusively by the Smart Altitude WebGIS.

Smart Altitude specific themes: As the Smart Altitude project focuses on enabling and accelerating the implementation of low-carbon policies, project specific themes are implemented, which should help stakeholders with their planning and inform interested people about specific topics. The key performance indicators (KPIs) are available for the living labs. The complete list is given here. Ms. Curious clicks through some datasets. The legend and the “Parameter metadata box” support her with screening the data. She gets a better idea of what she could use for her council meeting.

Calculate new parameters: Ms. Curious wants to find out more about the offered tools. She klicks on “Tools” on the left hand side above “Theme”, where the “Measure” and “Calculate” tool are provided. Ms. Curious klicks on “Calculate” and the “Calculate parameter” window pops up. At the top there is a short explanation. Through drag and drop of layers into the expression field below, different layers can be used for calculations. In the “Expression field” an example is given. The first numbers represent a specific layer and the operation of multiplying by two can be done by the user through typing the desired operation. For a complete list of all possible operators and functions, look here. By clicking on the “Validate” button, the expression is controlled for a correct syntax operation. It is important to understand that the operation is done for every pixel in a raster format or for every polygon in a layer. For example, every value of a pixel is multiplied by two. The best way to understand how spatial calculations work is to play around and test some operations. For example, compare the values of several calculation results with the same pixels of your input data. You will then find out what happened by means of the calculation. Statistical parameters are calculated automatically and are shown in the “Calculate parameter box”. Ms. Curious can choose the fill colours, the outline width and outline colours (right). Also a new label can be formulated (bottom left). After a successful validation and finalization of the style settings, the new layer is created through clicking on “Create layer”. Ms. Curious finds her new layer in the layer list, where she can edit the appearance of her own layer in the same way as for all other layers (see chapter 5.2). Ms. Curious is excited about this tool and wants to create her own layer (see chapter 5.1). But first she explores the other tools.

Measure distances and areas: In a next step Ms. Curious finds out that she can measure distances in the WebGIS. Spontaneously she wants to know the distance between Bern and Munich. The “Measure” tool is located in the category “Tools” above the “Calculate” tool. By clicking on it a red spot appears under the mouse pointer. She clicks on the start point at Bern and on the end point of her interested distance in Munich. A box appears and gives the value for the distance in kilometres. Ms. Curious detects that she can also measure the area and the azimuth of the first line. The area can be calculated when clicking around the area of interest. The polygon should be closed for achieving an exact result. Ms. Curious digitises roughly the boarders of the Lake Garda (Italy) and finds out that the area is about 361 km².

Get coordinates of a specific location: A friend of Ms. Curious, who heard about her project and ambitions, wonders if Ms. Curious could look up the concrete value for wind speed at a height of 10 m (in the content tree: Renewable Energy Potential → Wind → Global Wind Atlas → Wind-Speed at a height of → 10m) for a specific location, namely the location of a ski resort. She has the coordinates of the spot in the coordinate system WGS 84 from his GPS. Ms. Curious soon discovers the word “Coordinate” at the bottom of the Smart Altitude WebGIS interface.First she switches the Coordinate System to WGS 84 using the drop down menu. The coordinates on the right hand side directly beside the drop down menu show the coordinates of the current mouse position in the chosen coordinates

system. Thus, if Ms. Curious moves her cursor across the screen, the coordinates change accordingly. If the mouse cursor position is located outside of the mapping area, no coordinates are shown. When Ms. Curious moves her mouse cursor to the municipality where the requested spot is located, she soon locates the given coordinates. Ms. Curious finds the renewable parameter of wind speed in 10 m height in the content tree. Because all the renewable datasets are shown in raster format the information can be queried for each pixel. Selecting the needed pixel, she can quickly write down the precise value given in the “Object information box”, where also the coordinates (WGS84 Spherical Mercator [m]) are given.

Print and create PDF files as maps: The Smart Altitude WebGIS offers the possibility of printing and saving your own generated maps. The “Print” button is located above the menu tree and guides through the work steps of printing. The extent of interest has to be shifted into the middle of the printing view. The orientation and the scale can be adapted. Check “Legend” and “Coordinate grid”, if you want to implement those features in your final map. The print function then converts the current map view to a PDF file, which can be saved as separate PDF file. Ms. Curious is excited about how easy it is to work with the tools and how much information she can collect using the WebGIS. Now she wants to create her own maps of her region of interest with the data she needs for the council meeting.