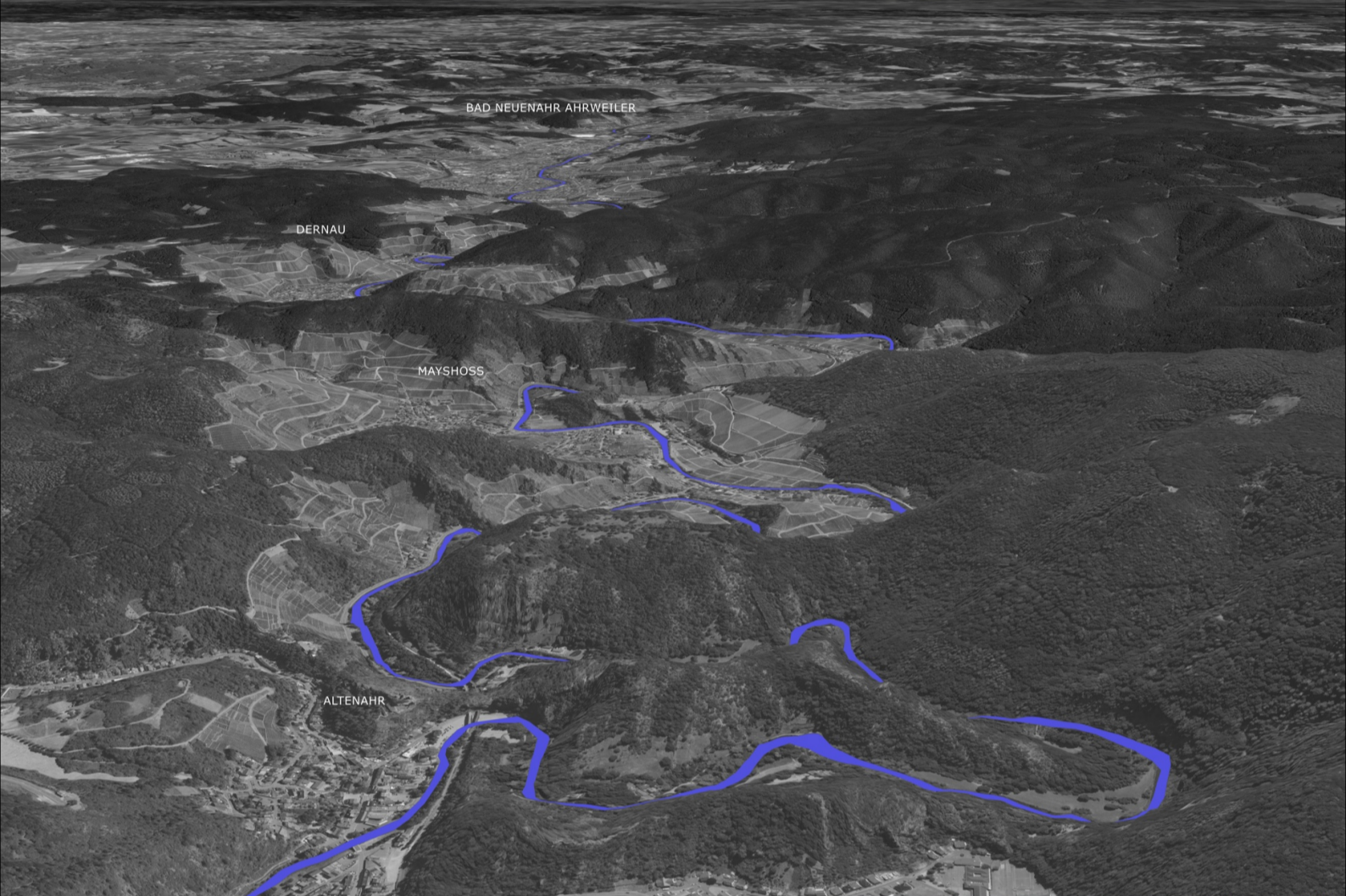




Tending to the territory of the river Post-flood design for the Ahr Valley (D), GLA302 NMBU 2022
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Analysis of the Ahr Watershed

The concept we have worked with to delay and prepare the Ahr valley for future inevitable floods is about possibilities, thousands of possibilities. For us, it is important to find a strategy that prioritizes the entire valley. The effects of focusing exclusively on Bad Neuenahr Ahrweiler is too small and detailed. The analysis of Landuse, watershed, settlement patterns and counters enable us to see the Ahr valley's many possibilities.

Tributaries

Vineyard and Agricultural Areas
Flat river banks and meadows
Historic Settlements
Forests and Natural Areas

Landuse in the Ahr Watershed

A large reference map of the Ahr valley's different types of land use and the new proposed floodline by law. In this map, you can see where the authorities have calculated and concluded where future inevitable floods will go. The areas within the red line refer to this, and with the use of this marked area we propose in our proposal-poster to make houses floodable.

Settlements

Contours

Landuse

Driving Forces of the Ahr Valley

Our focus in and around the Ahr valley has an area of around 251 Sqkm. Fluvial geomorphological processes are the apparent biggest landscape-shaping factor that has resulted in the Ahr valley's landscape expression. Much of the settlement, wine landscapes and infrastructure are built on top of old floodplains. Our analyzes show that there are still natural ecological landscapes, but the most flood-prone areas are also the most densely populated, close to the river Ahr.

Newly designated flood risk areas

This map scene shows in greater detail how the authorities envision future floods in Bad Neuenahr Ahrweiler. We have had a specific focus around this area, specifically Ahrtor, the old town here. All houses that are within the marked area in this map scene should be made floodable. Furthermore, it is important to mention that future floods cannot be calculated accurately, and several measures must be taken to avoid the loss of human life.

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Sections

The map shows the location of four cross-sections across Ahrweiler. Two of those are shown below. They show various opportunities for sponge measures in an urban context.

Perspectives

The map shows the locations of the perspectives (right side) in the Ahr Valley. The crosssections and perspectives are meant to be inspirational for both the governance and people of Ahr and to represent some of the opportunities in the valley.

Section 1 - Adenbach

A cross section of the Adenbach area, just outside of the oldtown walls. This example is located further from the river Ahr, but is still an important place to increase the area's porosity. This area is used as a recreation area, but when we were here in September we noticed that it was somewhat monotonous. We want to take advantage of the current subsidence and introduce a lowered raingarden. Resilient vegetation grows here, and we are setting up an elevated boardwalk so that the city's population can still benefit from the area. Adenbach goes through the model meandering, as we want to delay its path to the Ahr as much as possible. The city's walls have also been given vertical greens, where you can keep rain vertically.

Section 2 - Sportsgrund

A cross section showing the area around the Sportsgrund. Ahr has the river course next to the sportsground and the muddy river destroyed much of the sports infrastructure in 2021. The red sports mats were washed away and now only gravel remains. Here we want to create a constructed wetland with habitat islands. The habitat islands gradually lead the water towards a renewed fire station (a possibility after notification from the partner office). A green roof has been laid on top of the building and the walls consist of moss walls, grey water systems from the cistern below can contribute to the detention of water from the roof and possibly wetlands.

Perspective Ahrweiler Wetland

This scene shows insight into one of the thousands of opportunities of Ahr and is located around the urban landscape of Bad Neuenahr Ahrweiler. Outside the walls of Ahrtor, we want to give more room for the river with the help of a wetland system. By lowering the landscape and replacing it with native vegetation consisting of grass, shrubs, and trees, we lead the Ahr away from the river course and into the floodable landscape. The area is in an urban setting and human use of the area must be expected when there is no flood, therefore we propose a boardwalk and a stairway walkway near the Ahr which functions as a Dike.

Perspective Langfigtal Retention Basin

The future floods will spread throughout the entire Ahr valley, and this scene is an example of how you can sink or create retention in the rural parts of the valley. In this example, we propose to lower an ecological flood habitat and lay detention pipes under local paths around Langfigtal. The area around this scene is particularly important and vulnerable, as there are species that only have a distribution around this site.