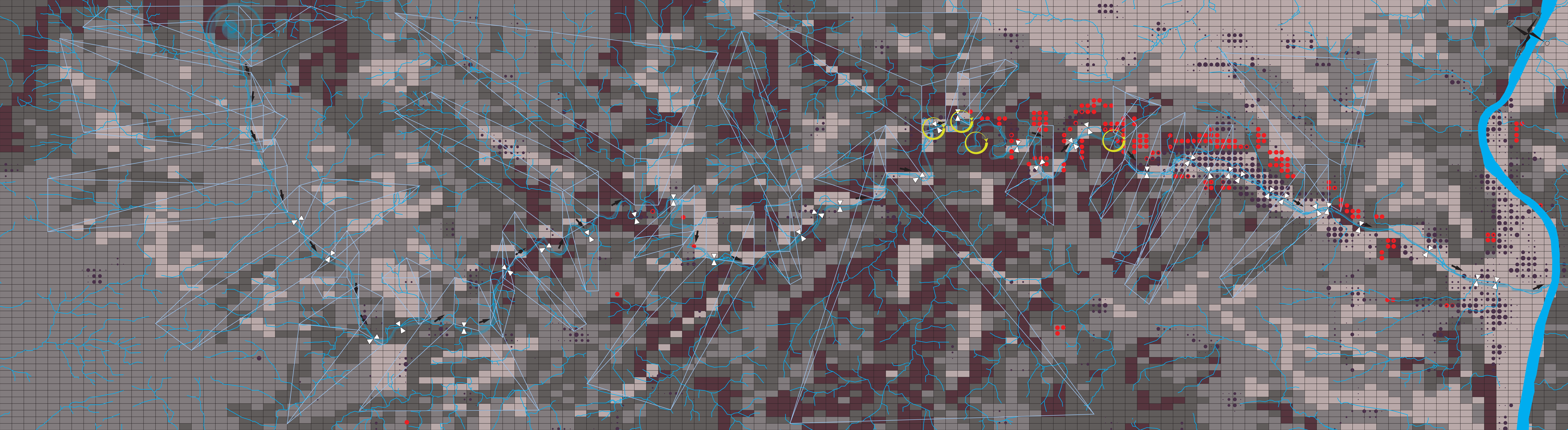
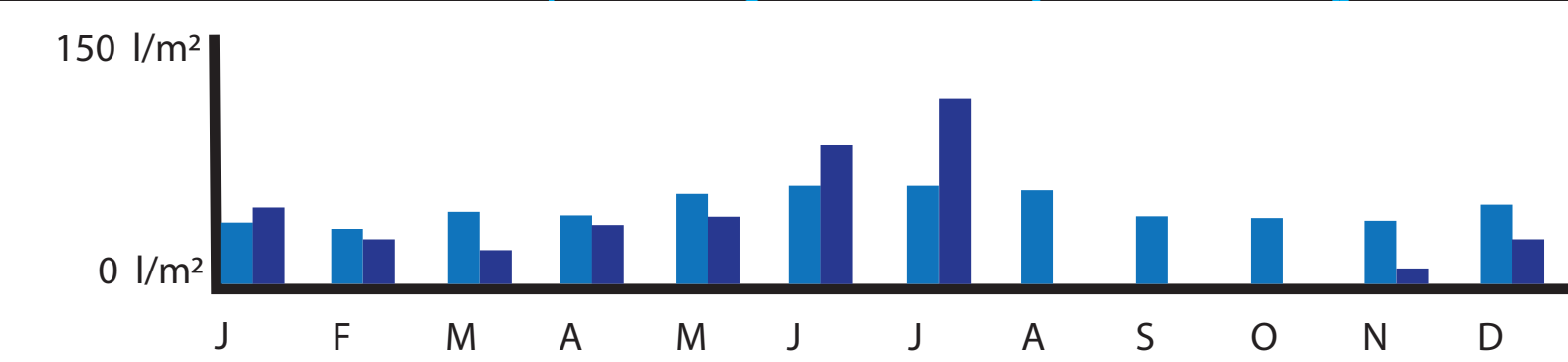


If you look at the averages from 1991–2020 for the monthly precipitation in liters per square meter in the Ahr Valley, you also arrive at an average total of 824 liters per square meter per year.

Looking at the precipitation values for the year 2021 in the same area, it becomes clear that the annual total was significantly above the long-term average. In particular, the summer months such as July, recorded high amounts of rainfall.

Measurements could not be taken during August until October 2021 as the measurement stations got destroyed in this region.



The Ahr river is 89 km long, originates in Blankenheim and flows into the Rhein. It usually maintains an average discharge of 6.95 m³/s. During the extreme flood event on 14–15 July 2021, the peak discharge of the Ahr is estimated to have reached 400–700 m³/s near Altenahr and the lower

Ahr, based on reconstructed flow data and hydrographic analysis. Reason for the large amount of water was the low pressure area called Bernd. Through the sealing of the ground and the steep slopes along the Ahr, the water masses couldn't either spread out or soak.

The water level reached up to 9 meters in narrow sections such as in Altenahr. Nearly 60 tributaries and streams flow into the river, which contribute to the masses of water. The tributaries themselves are about multiple kilometers as well, the Trierbach for example is the longest one with a length

of 23.5 km. Before the flood in 2021, there were around 130 bridges crossing the River Ahr, including road, railway, pedestrian, and private bridges. The flotsam backed up at the bridge piers which led to blockage, erosion, water rolls and in the following to explosive releases. A large proportion of this

bridge stock were then damaged or destroyed. These damages made the Ahrtal one of the most severely affected regions in terms of infrastructure loss in Germany.

