**Exploring Water Heritage in the Netherlands Through R**

Every November, mapping enthusiasts from around the world come together for the #**30Day Map Challenge**, celebrating the joy of creating maps. Over the years, I’ve participated using tools like ArcGIS map/ Pro and QGIS. But last November, thanks to the encouragement of the incredible **Rbanism team at TU Delft**, I embraced the challenge of using **R programming Language** to make a series of maps in my ongoing research!

In this post, I’m sharing R-maps collections named **Mills’ Memory: Water and Wind**, which not only hold insights into disappeared and existing mills in the Netherlands but also showcase the potential of R for geospatial analysis.

While these maps are still in their early stages (of the full scientific validation process and visualization  
), I’m excited to share and then refine them further over the coming year, particularly during my research on **geospatial insights of water heritage in the Netherlands** at the Clue + group at the Vrije University of Amsterdam. So, your feedback is invaluable to me!

**(Key Data Highlights)**

This experience has inspired me to prioritize R for upcoming projects, moving away from traditional GIS software. It's remarkable how everything a spatial data analyst or researcher needs, from data analysis and visualization to validation, can be seamlessly accomplished in a single script.

If you're working on—or planning to start—projects using R for research or professional purposes, let’s connect! I’d love to collaborate and learn together. You can also explore this R script on my GitHub repository—feedback is always welcome.

A huge thank you to the **Rbanism team**—especially **Clemente, Claudio, and Daniele**—for their outstanding efforts in promoting R in urbanism. A special shoutout to **Milos Popovic** for his tutorials over the years, which have been instrumental in my learning process.

Here’s to pushing the boundaries of spatial research/practice with R!

Data Resources:

<https://nationaalgeoregister.nl/geonetwork/srv/dut/catalog.search#/home>

https://www.unsdi.nl/spatial-data-infrastructure/

<https://www.molendatabase.nl/>

<https://www.molendatabase.net/>

https://www.cultureelerfgoed.nl/onderwerpen/bronnen-en-kaarten/overzicht/leven-met-water-kaart

**Key Data Highlights**

1. The Netherlands once had **16138 mills**, of which **1872 have been remained**.
2. Their functionality is closely tied to their **proximity to water bodies**.
3. Over **50% of the mills** are located in **polders**.
4. More than **300 mills** were demolished between 1800 and 2020, revealing patterns of loss in **time and space**.
5. The process of mill disappearance recorded from 1200 to 2020 shows that the largest volume of disappearance occurred between 1800 and 2000, reaching its peak in 1385.
6. The highest concentration of disappeared mills is in the **North Netherlands** and **Amsterdam areas**, as shown by a **heatmap**.
7. **South Holland** has the **lowest rate of mill demolitions**, visualized through a **choropleth map**.
8. The remaining mills represent various **typologies**, reflecting their diverse histories and functions.
9. The surviving mills are located at specific **elevations**, analyzed through **DSM-based 3D visualizations**.

#30DayMapChallenge #DataVisualization #WaterHeritage #Rstats #UrbanDesign #GIS #SpatialAnalysis # molen