Introduction

Welcome to Groundwater Nitrate Representation, a powerful data visualization tool designed to provide insightful representations of groundwater nitrate levels. Our application offers a comprehensive suite of charts and graphs, allowing users to analyze and understand groundwater nitrate data with ease.

By leveraging various visualization techniques such as Line Charts, Bar Charts, Bubble Charts, and more, our app empowers users to explore complex datasets and uncover meaningful patterns and trends. Whether you're a researcher, environmentalist, or policymaker, Groundwater Nitrate Representation offers valuable insights into groundwater quality.

To get started, users can upload their own datasets in the correct format, ensuring accurate representation of their specific data. Alternatively, users can explore and visualize existing datasets within the application, providing a convenient way to gain insights without the need for manual data entry.

Discover the story hidden within your groundwater nitrate data and gain a deeper understanding of environmental impacts with Groundwater Nitrate Representation.

Importing Dataset:

Firstly by default you can see the master data representing different charts and you can change the filter on the basis of Districts, Cities, Seasons and Years (From 1984 till 2023) and see the result in all the Visualizing charts accordingly.

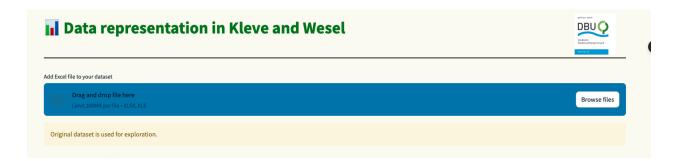


Figure 1: Upload Section of database

Secondly, if you want to visualize the new or your own dataset you have to click or **Browse files** or simply drag and drop your file in the blue section.

- To see the structure of excel sheet and data resources > Click in **Resources** tab as shown in Figure 3 and Click To **Download Excel sheet** button and confirm it will download the sample excel sheet with a small chunk of datasets and you can upload and visualize it again.

Note: If you tried to import invalid dataset it will throw the error message



Figure 2: Available menus and highlighting resources

Figure 2 represents the Menus of the Application like Home, About Us, Resources and Contact Us, As Resources menu is highlighted, if user click to Resources it will redirected to resources page as shown in Figure 3 below.

×、		messstelle_id											
			fx messtelle_id										
	В	С	D	E	F	G	н	1	,	к	ī	м	
e_id da	atum_pn	stoff nr	messergebnis c	masseinheit	e32	n32	gemeinde_id	landkreis	städte	season			
		1244				5693030	05154052	Kleve	Straelen	winter			
	18.06.84	1244	4,427			5693030	05154052	Kleve	Straelen	summer			
		1244				5693030	05154052	Kleve	Straelen	autumn			
		1244				5693030	05154052	Kleve	Straelen	autumn			
		1244						Kleve	Straelen	spring			
		1244				5693030	05154052	Kleve	Straelen	winter			
201556 2	25.06.96	1244	1,3281	ng/l	310317	5693030	05154052	Kleve	Straelen	summer			
201556 1	16.10.90	1244	1,3281	ng/l	310317	5693030	05154052	Kleve	Straelen	autumn			
201556 0	04.06.92	1244	1,3281			5693030	05154052	Kleve	Straelen	summer			
		1244	1,3281				05154052	Kleve	Straelen	winter			
		1244						Kleve	Straelen	summer			
		1244						Kleve	Straelen	winter			
										summer			
		1244 1244			310317 310317	5693030 5693030	05154052 05154052	Kleve	Straelen Straelen	winter			
201556	18.05.98	1244	1,3281		310317	5693030	05154052	Kleve	Straelen	spring			
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	01556 01556	01556 0.06.84 01556 0.756 0.756 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 0.1556 01556 0.1556 01556 0.1556 01556 0.1556 01556 0.1556 01556 0.1556 01556 0.1556 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 0.156 01556 01556 0.156 0156 0156	01356 10.06.84 1244 1245 1255	01356 10.0846 1244 4,427 013556 013556 12456 0,8856 1244 0,8856 01556 13.189 1244 1,2281 01555 12.0855 12.045 1,2281 01555 12.0856 1244 1,2281 01556 12.0856 1244 1,1607 6 01556 12.0856 1244 1,1607 6 01556 12.0856 1244 1,1607 6 01556 10.0856 1244 1,1607 6 01556 10.0856 1244 1,1281 01555 10.0856 1244 1,2281 01555 10.0856 1244 1,2281 01555 10.0856 1244 1,1281 01555 12.0856 1244 1,1281 01555 12.0856 1244 1,1281 01555 12.0856 1244 1,1281 01555 12.0856 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 10.095 1244 1,1281 01555 10.095 10.095 1244 1,1281 01555 10.095 10.095 10.095 10.095 1244 1,1281 01555 10.095 10	0.1556 10.06.84 1244 4.427 mg/l 0.1556 0.20.85 1244 0.8554 mg/l 0.1556 0.20.85 1244 0.8554 mg/l 0.1556 0.20.85 1244 4.427 mg/l 0.1556 0.20.85 1244 4.427 mg/l 0.1556 0.20.85 1244 1.1007 mg/l 0.1556 1.00.89 1244 1.1221 mg/l 0.1556 1.00.89 1244 1.1221 mg/l 0.1556 0.00.91 1244 1.1221 mg/l 0.1556 0.00.91 1244 1.1221 mg/l 0.1556 0.00.92 1244 1.1221 mg/l 0.1556 0.00.95 1244 1.1221 mg/l 0.1557 0.00.95 1244 1.1221 mg/l 0.1558 0.00.95 1244 1.1221 mg/l 0.1559 0.00.95 1244 1.1221 mg/l	0.1556 10.06.84 12.44 4.477 mg/l 51.0137 0.1556 10.256 12.644 0.8854 mg/l 51.0137 0.1556 10.189 12.44 1.221 mg/l 51.0137 0.1556 10.256 12.44 4.477 mg/l 51.0137 0.1556 2.04.86 12.44 0.8854 mg/l 51.0137 0.1556 10.268 12.44 1.10075 mg/l 51.0137 0.1556 10.269 12.44 1.2281 mg/l 51.0137 0.1556 10.269 12.44 1.2281 mg/l 51.0137 0.1556 0.06.91 12.44 1.2281 mg/l 51.0137 0.1556 0.06.95 12.44 1.2281 mg/l 51.0137 0.1556 0.07.95 12.44 1.2281 mg/l 51.0137	01556 10.06.84 1.244 4.47 mg/l 710117 \$503010 01556 0.20.86 1244 0.8854 mg/l 710117 \$503010 01556 1.21.89 1.244 1.221 mg/l 710117 \$503010 01556 0.20.85 1.244 4.427 mg/l 710117 \$503010 01556 2.02.46 1.244 0.8854 mg/l 710117 \$693030 01556 1.01.89 1.244 1.1,0075 mg/l 710117 \$693030 01556 1.01.89 1.244 1,1,0075 mg/l 710117 \$693030 01555 1.01.89 1.244 1,1,0075 mg/l 710117 \$693030 01555 1.02.19 1.244 1,1,0275 mg/l 710117 \$693030 01555 2.05.50 1.244 1,2211 mg/l 710117 \$693030 01556 2.05.60 1.244 1,1,221 mg/l 710117 \$693030 01556 2.05.60 1.244 1,1,221 mg/l 710117 \$693030 0	0.1586 1.00.6.84 1.244 4.47 mg/l \$10.117 \$59.00.00 \$51.546632 0.1586 0.20.68 1.2244 0.,854 mg/l \$10.017 \$59.00.00 \$55.156632 0.1586 0.12.68 1.2244 1.221 mg/l \$10.017 \$59.00.00 \$55.156632 0.1586 0.20.68 1.2244 0.8854 mg/l \$10.017 \$59.00.00 \$55.156632 0.1586 1.20.48 1.2244 1.10075 mg/l \$10.017 \$59.00.00 \$55.156632 0.1586 1.20.48 1.10075 mg/l \$10.017 \$59.00.00 \$55.146632 0.1586 1.20.49 1.10075 mg/l \$10.017 \$59.00.00 \$55.146632 0.1586 1.20.49 1.100.00 \$10.00 \$10.00 \$55.14	0.1556 1.00.6.84 1.244 4.47 mg/l 5.1017 \$58300.0 \$5154052 Kieve 0.1556 0.20.68 1.244 0.8854 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 0.12.68 1.244 1.221 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 0.20.68 1.244 4.427 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.68 1.244 1.10075 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.68 1.244 1.10075 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.68 1.244 1.10075 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.68 1.244 1.2017 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.68 1.224 1.221 mg/l \$1017 \$58300.0 \$5154052 Kieve 0.1556 1.02.69 1.221 mg/l<	0.1586 10.06.84 1.244 4.427 mg/l \$10.0127 \$89.00.00 \$15.14.002 Eleve Strawlen 0.1586 0.20.86 1.2244 0.2854 mg/l \$10.017 \$89.00.00 \$15.14.002 Eleve Strawlen 0.1586 0.20.85 1.2244 1.1,281 mg/l \$10.017 \$89.00.00 \$15.14.052 Eleve Strawlen 0.1586 0.20.86 1.244 0.0854 mg/l \$10.017 \$89.00.00 \$55.154.052 Eleve Strawlen 0.1586 1.00.88 1.244 1.1,0675 mg/l \$10.017 \$89.00.00 \$55.14.052 Eleve Strawlen 0.1585 1.00.89 1.244 1.1,0675 mg/l \$10.017 \$89.00.10 \$55.14.052 Eleve Strawlen 0.1585 1.00.88 1.244 1.1,0675 mg/l \$10.017 \$89.00.10 \$55.14.052 Eleve Strawlen 0.1585 1.00.10 1.244 1.1,0675 mg/l \$10.017 \$89.00.10 \$55.14.052 Eleve Strawlen 0.1586 1.02.00 1.244 1.1,281 mg/l \$10.017 \$8.90.00	0.15.56 10.06.84 1.244 4.4.27 mg/l 7.10117 589.000 551.54052 Kiew Straden sammer 0.15.56 0.20.86 1.244 0.2858 mg/l 7.00117 589.000 755.154052 Kiew Straden autumn 0.15.56 0.20.85 1.244 1.2221 mg/l 7.00117 569.000 755.154052 Kiew Straden apring 0.15.56 0.20.85 1.244 0.4884 mg/l 7.00117 569.000 755.154052 Kiew Straden spring 0.15.56 1.01.68 1.244 0.4884 mg/l 7.00117 569.000 755.154052 Kiew Straden spring 0.15.56 1.01.68 1.244 1.10075 mg/l 7.00117 569.000 755.154052 Kiew Straden spring 0.15.56 1.01.68 1.244 1.10075 mg/l 7.00117 569.000 755.154052 Kiew Straden autumn 0.15.56 1.12.10 1.12.21 mg/l 7.00117 569.000 7	13.556 10.66.4 1.244	

Figure 3: Filter option by districts

Figure 3 Illustrate mandatory fields in Excel Sheets to make the successful imports of datasets.



Figure 4: Filter option by districts

Figure 4 represent the available district from the dataset to perform the filter according to the District like Kleve and Wesel



Figure 5: Filter option by Cities

Figure 5 represent the available Cities from the dataset to perform the filter according to the Cities and they are depend on the district you have selected



Figure 6: Filter option by Seasons

Figure 6 represents the available Seasons from the dataset to perform the filter according to the Seasons. You can select and remove and see the visualization effect on the various chart



Figure 7: Filter option by Years

Figure 7 represents the available years from the dataset to perform the filter according to the specific years. You can select and remove the years accordingly and see the visualization effect on the various chart

Thank you!!