**Email Version**

**Subject:** Invitation: Expert Survey on Visualising 4D Topographic Change (TUM Master’s Thesis)

**Email body**

Dear Participants,

I am conducting a survey as part of my Master’s thesis at the Technical University of Munich (TUM). The study evaluates different visualisation approaches for representing 4D topographic change objects derived from LiDAR data (2009–2017).

Your expertise is highly valuable, and I would greatly appreciate your participation. The survey involves reviewing static, animated, and interactive maps and answering short questions about their clarity and usability. The expected time commitment is **10–12 minutes**.

**Interactive map links** (please open in a new browser tab):

* [Interactive Bubble Map – Duration](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_duration.html)
* [Interactive Bubble Map – Magnitude](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_magnitude.html)
* [Interactive Bubble Map – Duration + Magnitude](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_combination.html)
* [Interactive Bubble Map – Time Slider (Spatio-Temporal)](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_timestamps.html)

After exploring the interactive maps, please return to the survey and continue answering the questions: [Survey Link](https://maryamiqbal.limesurvey.net/566317?lang=en)

If you have any questions, please feel free to contact me.

Thank you very much for your time and contribution to this research.

Best regards,  
Maryam Iqbal  
Master’s Student, Technical University of Munich

**Message/Text Version**

Hi,

I’m Maryam Iqbal, a Master’s student at TUM. I’m conducting a survey for my thesis on visualising **4D topographic changes** from LiDAR data (2009–2017), and I’d love your expert input!

The survey takes about **10–12 minutes** and involves reviewing **static, animated, and interactive maps** and answering a few short questions.

Here are the interactive maps (please open in a new browser tab):

* [Interactive Bubble Map – Duration](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_duration.html)
* [Interactive Bubble Map – Magnitude](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_magnitude.html)
* [Interactive Bubble Map – Duration + Magnitude](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_combination.html)
* [Interactive Bubble Map – Time Slider (Spatio-Temporal)](https://maryam-source.github.io/thesis-interactive-maps/interactive_map_timestamps.html)

Once you’ve explored the maps, continue with the survey here: [Survey Link](https://maryamiqbal.limesurvey.net/566317?lang=en)

If you have any questions, feel free to reach out. Thank you so much for your time and contribution!

Best,  
Maryam