

Publications Andreas Mayr

Articles (peer-reviewed)

Müller, L., Rutzinger, M., **Mayr, A.**, Kollert, A. (2022): Airborne laser scanning change detection for quantifying geomorphological processes in high mountain regions. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, V-2-2022, 391–398. [\[DOI\]](#)

Hiebl, B., **Mayr, A.**, Kollert, A., Rutzinger, M., Bremer, M., Helm, N., Chytrý, K. (2022): Vegetation cover mapping from RGB webcam time series for land surface emissivity retrieval in high mountain areas. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, V-2-2022, 367–374. [\[DOI\]](#)

Geitner, C.; **Mayr, A.**; Rutzinger, M.; Löbmann, M. T.; Tonin, R.; Zerbe, S.; Wellstein, C.; Markart, G.; Kohl, B. (2021): Shallow erosion on grassland slopes in the European Alps – Geomorphological classification, spatio-temporal analysis, and understanding snow and vegetation impacts. *Geomorphology*, 373, 107446. [\[DOI\]](#)

Mayr, A.; Bremer, M.; Rutzinger, M. (2020): 3D point errors and change detection accuracy of unmanned aerial vehicle laser scanning data. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, V-2-2020, 765 – 772. [\[DOI\]](#)

Löbmann, M.T.; Tonin, R.; Stegemann, J.; Zerbe, S.; Geitner, C.; **Mayr, A.**; Wellstein, C. (2020): Towards a better understanding of shallow erosion resistance of subalpine grasslands. *Journal of Environmental Management*, 276, 111267. [\[DOI\]](#) [\[Request PDF by mail\]](#)

Stumpf, F.; Schneider, M.K.; Keller, A.; **Mayr, A.**; Rentschler, T.; Meuli, R.G.; Schaepman, M.; Liebisch, F. (2020): Spatial monitoring of grassland management using multi-temporal satellite imagery. *Ecological Indicators*, 113, 106201. [\[DOI\]](#) [\[Request PDF by mail\]](#)

Mayr, A.; Bremer, M.; Rutzinger, M.; Geitner, C. (2019): Unmanned aerial vehicle laser scanning for erosion monitoring in Alpine grassland. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, IV-2/W5, 405 – 412. [\[DOI\]](#)

Mayr, A.; Rutzinger, M.; Geitner, C. (2019): Object-based point cloud analysis for landslide and erosion monitoring. *Photogrammetric Engineering & Remote Sensing*, 85 (6), 455 – 462. [\[DOI\]](#)

Stumpf, F.; Keller, A.; Schmidt, K.; **Mayr, A.**; Gubler, A.; Schaepman, M. (2018): Spatio-temporal land use dynamics and soil organic carbon in Swiss agroecosystems. *Agriculture, Ecosystems and Environment*, 258, 129 – 142. [\[DOI\]](#) [\[Request PDF by mail\]](#)

Mayr, A.; Rutzinger, M.; Bremer, M.; Oude Elberink, S.; Stumpf, F.; Geitner, C. (2017): Object-based classification of terrestrial laser scanning point clouds for landslide monitoring. *The Photogrammetric Record*, 32 (160), 377 – 397. [\[DOI\]](#)

Bremer, M.; **Mayr, A.**; Wichmann, V.; Schmidner, K.; Rutzinger, M. (2016): A new multi-scale 3D-GIS-approach for the assessment and dissemination of solar income of digital city models. *Computers, Environment and Urban Systems*, 57, 144 – 154. [\[DOI\]](#) [\[Request PDF by mail\]](#)

Mayr, A.; Rutzinger, M.; Bremer, M.; Geitner, C. (2016): Mapping eroded areas on mountain grassland with terrestrial photogrammetry and object-based image analysis. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, III-5, 137 – 144. [\[DOI\]](#)

Articles in other journals and proceedings, book chapters

Rutzinger, M., Bremer, M., Zieher, T., **Mayr, A.** (2021): *Fernerkundung*. In: Bork-Hüffer, Tabea; Füller, Henning; Straube, Till (Eds.): *Handbuch Digitale Geographien: Welt - Wissen - Werkzeuge*. Bern, Stuttgart, Wien: UTB Hauptverlag, ISBN: 9783825255671. <https://elibrary.utb.de/doi/book/10.36198/9783838555676>

Mayr, A.; Rutzinger, M. (2018): Object-based classification of point clouds - Augmenting 3D geometry with semantic information. *GIM International*, 32 (6), 18 – 21. [\[Link\]](#)

Mayr, A.; Rutzinger, M.; Geitner, C. (2018): Multitemporal analysis of objects in 3D point clouds for landslide monitoring. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2, 691 – 697. [\[DOI\]](#)

Stötter, J.; Bremer, M.; **Mayr, A.**; Rutzinger, M.; Sailer, R.; Zieher, T. (2017): Laserscanning am Institut für Geographie - Ein Überblick. In: Innsbrucker Geographische Gesellschaft: Innsbrucker Jahresbericht 2016-2017, ISBN 978-3-901182-76-1, 5 – 27. [\[Link\]](#)

Geitner, C.; Gild, C.; Gruber, F.; **Mayr, A.**; Neuner, S.; Rutzinger, M.; Schaber, E.; Zieher, T. (2017): Morphodynamik, quartäre Sedimente und Böden in den Alpen. In: Innsbrucker Geographische Gesellschaft: Innsbrucker Jahresbericht 2016-2017, ISBN 978-3-901182-76-1, 43 – 62. [\[Link\]](#)

Talks

Rutzinger, M., Kollert, A., **Mayr, A.**, Müller, L., Hiebl, B., Bremer, M., Dullinger, S. (2022): *High-resolution sensing of alpine vegetation location properties by multi-source earth observation techniques*. EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-7040.

Müller, L., Rutzinger, M., **Mayr, A.**, Kollert, A. (2022): *Airborne laser scanning change detection for quantifying geomorphological processes in high mountain regions*. XXIV ISPRS Congress (2022 edition), 6–11 June 2022, Nice, France.

Hiebl, B., **Mayr, A.**, Kollert, A., Rutzinger, M., Bremer, M., Helm, N., Chytrý, K. 2022: *Vegetation cover mapping from RGB webcam time series for land surface emissivity retrieval in high mountain areas*. XXIV ISPRS Congress (2022 edition), 6–11 June 2022, Nice, France.

Rutzinger, M.; Albrechtová, J.; Anders, K.; Červená, L.; Gryguc, K.; Höfle, B.; Kupková, L.; Lhotáková, Z.; Marcinkowska-Ochtyra, A.; **Mayr, A.**; Ochtyra, A.; Potůčková, M. (2021): *E-learning on Time Series Analysis in Remote Sensing and Geoinformatics for Understanding Human-Environment Interactions – a concept*. 15th Annual Meeting of the Working Group University Teaching in Geography (German Society for Geography) “Digital teaching and learning”, 21 – 22 June 2021, online.

Mayr, A.; Rutzinger, M.; Bremer, M.; Geitner, C. (2020): *Close-range sensing and object-based analysis of shallow landslides and erosion in grasslands*. European Geosciences Union General Assembly 2020, 4 – 8 May 2020, online, Geophysical Research Abstracts, 21, 19847.

Mayr, A.; Geitner, C.; Rutzinger, M.; Löbmann, M.T.; Tonin, R.; Zerbe, S.; Wellstein, C.; Gild, Ch.; Mejia-Aguilar, A.; Sonnenschein, R. (2019): *Erosion in subalpine grasslands of the Alps – State-of-the-art, remaining questions and current research*. Second Workshop of the IAG Working Group on Denudation and Environmental Changes in Different Morphoclimatic Zones (DENUCHANGE), 12 – 14 September 2019, Calpe, Spain.

Geitner, C.; **Mayr, A.**; Rutzinger, M.; Zerbe, S.; Wellstein, C.; Löbmann, M.T.; Tonin, R. (2019): *Flachgründiger Abtrag auf Grashängen der subalpinen Höhenstufe – State-of-the-art, Forschungsbedarf und aktuelle Untersuchungen*. Jahrestagung der Bodenkundlichen Gesellschaft der Schweiz und der Deutschen Bodenkundlichen Gesellschaft, 24 – 29 August 2019, Bern, Switzerland.

Mayr, A.; Bremer, M.; Rutzinger, M.; Geitner, C. (2019): *Unmanned aerial vehicle laser scanning for erosion monitoring in Alpine grassland*. ISPRS Geospatial Week 2019, 10 - 14 June, Enschede, The Netherlands.

Löbmann, M.T., Geitner, C., **Mayr, A.**, Gild, Ch., Mejia-Aguilar, A., Rutzinger, M., Tonin, R., Wellstein, C., Zebisch, M., Zerbe, S. (2018): *The influence of herbaceous vegetation on the occurrence of shallow erosion on Alpine pastures and grasslands*. 6th Conference Graubünden forscht "The Young Researchers Convention", 19 – 20 September 2018, Davos, Switzerland.

Löbmann, M.T., Geitner, C., **Mayr, A.**, Gild, Ch., Mejia-Aguilar, A., Rutzinger, M., Tonin, R., Wellstein, C., Zebisch, M., Zerbe, S. (2018): *Zum Einfluss von Vegetation und Grünlandmanagement auf die Bildung von flachgründigem Bodenabtrag auf Almen*. 10. Tagung Zoologische und Botanische Forschung in Südtirol, 7 September 2018, Bozen, Italy.

Stumpf, F.; Keller, A.; Liebisch, F.; **Mayr, A.**; Rentschler, T.; Schneider, M.; Schaepman, M. (2018): *Spatial monitoring of grassland use for biodiversity assessment in Switzerland*. SUSALPS Conference 2018 – Montane and alpine grasslands under climate change – Ways in a sustainable future, 18 – 20 September 2018, Garmisch-Partenkirchen, Germany.

Mayr, A.; Rutzinger, M.; Geitner, C. (2018): *Multitemporal analysis of objects in 3D point clouds for landslide monitoring*. International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission II Mid-term Symposium “Towards Photogrammetry 2020”, 4 – 7 June 2018, Riva del Garda, Italy.

Mayr, A.; Geitner, C.; Gild, Ch.; Rutzinger, M. (2018): *Monitoring flachgründiger Bodenabträge in den Hochlagen Nord- und Südtirols*. Jahrestagung des AK Hochgebirge der Deutschen Gesellschaft für Geographie, 2 – 3 February 2018, Innsbruck, Austria.

Stumpf, F.; Schmidt, K.; Keller, A.; **Mayr, A.**; Gubler, A.; Schaepman, M. (2017): *Spatio-Temporal Monitoring of Agricultural Land Use and Impacts on Soil Organic Carbon in Switzerland*. Annual meeting of the German Soil Science Society (DBG), 2 – 7 September 2017, Göttingen, Germany.

Mayr, A.; Rutzinger, M.; Bremer, M.; Oude Elberink, S.; Stumpf, F.; Geitner, C. (2016): *Object-based change analysis of terrestrial laser scanning point clouds for shallow landslide monitoring*. 2nd Virtual Geoscience Conference, 21 – 23 September 2016, Bergen, Norway.

Mayr, A.; Rutzinger, M.; Bremer, M.; Geitner, C. (2016): *Extraction of eroded areas on mountain grassland from orthophotos at different scales*. GeoTirol2016 – Joint meeting of DGGV and PANGEO Austria 2016, 25 – 28 September 2016, Innsbruck, Austria.

Geitner, C.; **Mayr, A.**; Rutzinger, M. (2016): *Quantifizierung von Bodenabtragsflächen auf Alpenen Grashängen*. Jahrestreffen des Forschungsschwerpunktes Berglandwirtschaft, 4 March 2016, Innsbruck, Austria.

Mayr, A.; Rutzinger, M.; Geitner, C. (2014): *Analysis of the relation between unconsolidated sediment depth and surface morphometry on an Alpine slope*. PANGEO 2014, 14 – 19 September 2014, Graz, Austria.

Poster presentations

Papp, L.; Mejia-Aguilar, A.; Sonnenschein, R.; Tonin, R.; Loebmann, M.; Geitner, C.; Rutzinger, M.; **Mayr, A.**; Lang, S. (2020): *Mapping of high-elevation alpine grassland communities based on hyperspectral UAV measurements*, EGU General Assembly 2020, 4 – 8 May 2020, Online, EGU2020-22013.

Tonin, R.; Wellstein, C.; Zwack, B.; Peratoner, G.; **Mayr, A.**; Geitner, C.; Zerbe, S. (2019): *Vegetation succession and soil seed bank on shallow eroded areas in the South Tyrolian Dolomites*. 28th Meeting of the European Vegetation Survey, 2 – 6 September 2019, Madrid, Spain.

Lloyd, J.; Mejia-Aguilar, A.; Tonin, R.; Loebmann, M.; Gild, Ch.; **Mayr, A.**; Sonnenschein, R. (2019): *UAV-based hyperspectral techniques for monitoring shallow erosion in Alpine pastures*. European Geosciences Union General Assembly 2019, 7 – 12 April 2019, Vienna, Austria, Geophysical Research Abstracts, 21, p. 9495.

Mayr, A.; Geitner, C.; Rutzinger, M.; Mayr, S.; Stumpf, F. (2018): *Land use change, erosion dynamics and vegetation succession at a subalpine grassland site*. SUSALPS Conference 2018 – Montane and alpine grasslands under climate change – Ways in a sustainable future, 18 – 20 September 2018, Garmisch-Partenkirchen, Germany.

Stumpf, F.; Keller, A.; Schmidt, K.; **Mayr, A.**; Gubler, A.; Meuli, R. G.; Schaepman, M. (2018): *Spatio-temporal land use dynamics and soil organic carbon in Swiss agroecosystems*. 21st World Congress of Soil Science, 12 – 17 August, Rio de Janeiro, Brazil.

Gild, Ch.; Geitner, C.; **Mayr, A.**; D. Sanders (2018): *Äolische Sedimente als Zeitmarker intramontaner Sedimentabfolgen in den Nördlichen Kalkalpen (Tirol)*. Jahrestagung des AK Hochgebirge, 2 – 3 February 2018, Innsbruck, Austria.

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Mayr, A.; Rutzinger, M.; Bremer, M.; Geitner, C. (2016): *Mapping eroded areas on mountain grassland with terrestrial photogrammetry and object-based image analysis*. International Society for Photogrammetry and Remote Sensing (ISPRS) Congress, 12 – 19 July 2016, Prague, Czech Republic.

Mayr, A.; Rutzinger, M.; Bremer, M.; Wiegand, Ch.; Kringer, K.; Geitner, C. (2012): *Analysis of shallow landslides by morphometry parameters derived from terrestrial laser scanning point clouds*. European Geosciences Union General Assembly 2012, 22 – 27 April 2012, Vienna, Austria, Geophysical Research Abstracts, 14, p. 9495.