

Eurac Research
Viale Druso 1,
39100 Bozen/Bolzano, Italy

RESEARCH INTERESTS

I am an agroecologist broadly interested in understanding how anthropogenic changes such as climate and land-use change affect mountain agroecosystems, and how this in turn affects human well-being. In my research I mainly use quantitative methods, including geo-statistical and spatial modeling, to gain new insights in the complex interactions between people and nature, and to find land management strategies that help to inform stakeholders and policy makers alike. My work is highly interdisciplinary, and I regularly collaborate with specialists in other fields, ranging from agronomists to human geographers and software developers.

EDUCATION

2023	National Scientific Habilitation in Ecology , MIUR, IT
2012 – 2018	PhD, Ecology ; University of Innsbruck, AT
2007 – 2011	MSc, Geography ; University of Innsbruck, AT
2002 – 2007	BSc, Earth- and Atmospheric Sciences ; University of Innsbruck, AT

EMPLOYMENT

2014 – 2024	Lecturer in Environmental Geomatics and Landscape Planning Department of Ecology, University of Innsbruck, AT (unibz.it/en/faculties/sciencetechnology/academic-staff/person/35013-lukas-egarter-vigl)
2011 – Present	Postdoctoral Researcher (since 2013 tenured) Institute for Alpine Environment, Eurac Research, IT (http://www.eurac.edu/de/research/mountains/alpenv/staff/pages/staffdetails.aspx?persId=25503)

GRANTS & FELLOWSHIPS

(PI=Principal Investigator; WPL=Work Package Leader)

FUSION GRANT	<i>ClimSmart</i> : Climate Smart agriculture. Decision-support tools for agriculture to adapt to climate change in South Tyrol (2023-2024). <u>PI</u> : Funding received: €60.000€
FOUNDATION FOR NATURE CONSERVATION	<i>BAUMGART</i> (Agroforestry Initiative): Valorizing traditional cultural landscapes in the Alps (2023-2025). <u>PI</u> : Funding received: €75,000
KONVERTO AG	<i>KULTIVAS</i> : Identifying suitable locations for wine and apple orchards based on big data (2021-2022). <u>Co-PI</u> . Funding received: € 30,000 (as a share of € 300,000)
SPARKASSE FOUNDATION	<i>VICE: Viticulture In a Changing Environment: varieties, growing regions, landscapes</i> (2020-2023). <u>PI</u> . Funding received: € 66,000 (as share of € 120,000)
EC INTERREG ALPINE SPACE	<i>LUIGI: Linking Urban and Inner-alpine Green Infrastructure</i> . (2019-2022). <u>WPL</u> . Funding received: € 245,000 (as share of € 2.5 million)
EC INTERREG IT-AT	<i>REPECCA</i> : Assessing the gRapE growing PotEntial in context of Climate Change in the Alps (2017-2019). <u>Co-PI</u> . Funding received: € 190,000 (as share of € 750,000)
EC INTERREG ALPINE SPACE	<i>AlpES: Alpine Ecosystem Services – mapping, maintenance, management</i> (2015-2018). <u>WPL</u> . Funding received: € 175,000 (as share of € 2.3 million)
EURAC RESEARCH	<i>Ecosystem Services in mountains</i> laboratory (long-term research program; 2014-ongoing). <u>PI</u> . Funding: € 25,000/year
Province of Bolzano	<i>PhD-research grant</i> (2012) awarded by the department of Innovation, Research and University of the government of Alto Adige (€ 9,000)
Munich Re	<i>MSc fellowship</i> (2009) awarded by Munich Reinsurance Company (Munich RE), Munich/Germany (€ 10,000)

PUBLICATIONS

2024	Candiago S., Tscholl S., Bassani L, Fraga H., Egarter Vigil L. <i>Quality wines in Italy and France: a dataset of protected designation of origin specifications</i> . Data in Brief, 54, 110408. https://doi.org/10.1016/j.dib.2024.110408
	Tscholl S. Candiago S., Fraga H., Giupponi C. Egarter Vigil L. <i>Climate-resilience of European Wine Regions</i> . Nature Communications [accepted]

- Tscholl S., **Egarter Vigl L.** *The changing geography of wine climates and its implications on climate change adaptation in the Italian Alps*. Climate Resilience and Sustainability (accepted)
- 2023 Simion H., Giombini V., Tasser E., Marsoner T., **Egarter Vigl L.** *Enhancing understanding of ecosystem multifunctionality in mountain regions*. Ecological Solutions and Evidence 4(3), e12265
<https://doi.org/10.1002/2688-8319.12265>
- Marsoner T., Simion H., Giombini V., **Egarter Vigl L.**, Candiago S. *A detailed land use/land cover map for the European Alps macro region*. Scientific Data 10, 468 <https://doi.org/10.1038/s41597-023-02344-3>
- Ghermandi A., Langemeyer J., Van Berkel D., ... **Egarter Vigl L.**, ..., Spencer W. *Social media data for environmental sustainability: A critical review of opportunities, threats, and ethical use*. One Earth 6, 3, 236-250
<https://doi.org/10.1016/j.oneear.2023.02.008>
- 2022 Candiago S, Winkler K., Giombini V., Giupponi C., **Egarter Vigl L.** (2022). *An ecosystem service approach to the study of vineyard landscapes in the context of climate change: a review*. Sustainability Science 18, 997-1013
<https://doi.org/10.1007/s11625-022-01223-x>
- Candiago, S., Tscholl S., Bassani L., Fraga H., **Egarter Vigl L.** (2022). *A geospatial inventory of regulatory information for wine protected designations of origin in Europe*. Scientific Data 9, 394
<https://doi.org/10.1038/s41597-022-01513-0>
- 2021 **Egarter Vigl L.**, Marsoner T., Schirpke U., Tscholl S., Candiago S., Depellegrin D. (2021). *A multi-pressure analysis of ecosystem services for conservation planning in the Alps*. Ecosystem Services 47, 101230
<https://doi.org/10.1016/j.ecoser.2020.101230>
- Egarter Vigl L.**, Marsoner T., Pecher C., Stemle E. Tasser E., Depellegrin D. (2021). *Harnessing Artificial Intelligence technology and social media to support Cultural Ecosystem Services assessments*. People and Nature 3(3), 673-685 <https://doi.org/10.1002/pan3.10199>
- 2019 Schirpke U., **Egarter Vigl L.**, Tasser E., Tappeiner U. (2019). *Analyzing the Spatial Congruencies and Mismatches between Supply, Demand and Flow of Ecosystem Services and Sustainable Development*. Sustainability.
<https://doi.org/10.3390/su11082227>
- Schirpke U., Candiago S., **Egarter Vigl L.**, Jäger H., Labadini A., Marsoner T., Meisch C., Tasser E., Tappeiner U. (2019). *Integrating supply, flow and*

demand to enhance the understanding of interactions among multiple ecosystem services. Science of the Total Environment. DOI: [10.1016/j.scitotenv.2018.09.235](https://doi.org/10.1016/j.scitotenv.2018.09.235)

Zen M., Candiago L., Schirpke U., **Egarter Vigl L.**, Giupponi C. (2019). *Upscaling ecosystem service maps to administrative levels: beyond scale mismatches*. Science of the Total Environment. DOI: [10.1016/j.scitotenv.2019.01.087](https://doi.org/10.1016/j.scitotenv.2019.01.087)

2018

Egarter Vigl L., Schmid A., Moser F., Balotti A., Gartner E., Katz H., Quendler S., Ventura S., Raifer B. (2018). *Upward shifts in elevation—a winning strategy for mountain viticulture in the context of climate change?* E3S Web Conferences. <https://doi.org/10.1051/e3sconf/20185002006>

Balotti A., Tscholl S., **Egarter Vigl L.** (2018). *Linking viticultural climatic indices to grape phenology in the South Tyrolean Alps*. E3S Web Conferences. <https://doi.org/10.1051/e3sconf/20185001031>

Marsoner T., **Egarter Vigl L.**, Jaritz G., Manch F., Tappeiner U., Tasser E. (2018). *Indigenous livestock breeds as indicators for cultural ecosystem services: A spatial analysis within the Alpine Space*. Ecological Indicators. <https://doi.org/10.1016/j.ecolind.2017.06.046>

2017

Egarter Vigl L., Tasser E., Schirpke U., Tappeiner U. (2017). *Using land use/land cover trajectories to uncover ecosystem service patterns across the Alps*. Regional Environmental Change. <https://doi.org/10.1007/s10113-017-1132-6>

Egarter Vigl L., Depellegrin D., Perreira P., de Groot R., Tappeiner U. (2017). *Mapping the ecosystem service delivery chain: capacity, flow, and demand pertaining to aesthetic experiences in mountain landscapes*. Science of the Total Environment. <https://doi.org/10.1016/j.scitotenv.2016.08.209>

2016

Niedrist G., Tasser E., Bertoldi G., Della Chiesa S., Obojes N., **Egarter Vigl L.**, Tappeiner U. (2016): *Mountain grassland response to transplantation to lower altitudes: Warming effects versus methodological artefacts*. Flora. <https://doi.org/10.1016/j.flora.2016.07.013>

Egarter Vigl L., Schirpke U., Tasser E., Tappeiner U. (2016): *Linking long-term landscape dynamics to the multiple interactions among ecosystem services*. Landscape Ecology. <https://doi.org/10.1007/s10980-016-0389-3>

Depellegrin D., Perreira P., **Egarter Vigl L.** (2016): *Mapping ecosystem services potential in Lithuania*. International Journal of Sustainable Development & World Ecology. <https://doi.org/10.1080/13504509.2016>

2014

Depellegrin D., Blazauskas N., **Egarter Vigl L.** (2014): *An integrated visual impact assessment model for offshore windfarm development*. Ocean & Coastal Management 98, 95-110.
<https://doi.org/10.1016/j.ocecoaman.2014.05.019>

ACADEMIC SERVICE

Editorial	Associate Editor of <i>Ecological Solutions and Evidence</i> (British Ecological Society) Editorial Advisory Board of <i>Regional Environmental Change</i> (Springer Nature)
Peer review	Current Opinion in Environmental Science & Health, Ecological Applications, Ecological Economics, Ecological Indicators, Ecological Modelling, Environmental Management, Environmental Monitoring and Assessment, Environmental Research Letters, Environmental Science and Pollution Research, European Countryside, Landscape and Urban Planning, Landscape Ecology, Land Use Policy, Heliyon, PLOS One, Science of the Total Environment, Urban Ecosystems, Regional Environmental Change, People and Nature, OENO One
Grant proposal review	OPUS funding scheme, National Science Centre, Poland British Ecological Society (BES), Research Grants, United Kingdom
PhD examination committees	Ca' Foscari University Venice, IT (PhD candidate Michele Zen, 2016-2019) Université Grenoble Alpes, FR (PhD candidate Titouan Dubo, 2021-2023)
Memberships	Ecosystem Service Partnership (ESP) British Ecological Society (BES) Alternet Europe The EU-Strategy for the Alpine Region (EUSALP)

SUPERVISION

- 2023 – Present Heidi Simon. PhD- program in “Ecology”, University of Innsbruck, AT
Thesis title: *Understanding Ecosystem Service-based multifunctionality in mountain areas.*
Primary supervisor: Prof. Ulrike Tappeiner
- 2020 – 2023 Simon Tscholl, PhD- program in “Ecology”, University of Innsbruck, AT
Thesis title: *Vineyard ecosystems in a changing climate – analyzing the suitability of specific varieties to their current growth regions.*
Primary supervisor: Prof. Ulrike Tappeiner
- 2018 – 2023 Candiago Sebastian, PhD-program in “Science and Management of Climate Change”, Ca’ Foscari University Venice, IT
Thesis title: *Ecosystem services and Viticulture in the context of Global Change*
Primary supervisor: Prof. Carlo Giupponi
- 2022 Heidi Simion, MSc-program in “Environmental management of Mountain Areas”, Free University of Bolzano, IT
- 2022 Laura Nocker, MSc-program in “Viticulture, Enology and Wine Business”, University of Natural Resources and Life Sciences, AT
- 2018 Simon Tscholl, MSc-program in “Environmental management of Mountain Areas”, Free University of Bolzano, IT
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ORAL PRESENTATIONS

(national and international)

- 2022 **Egarter Vigil L.**, Giombini V., Simion H.: *Identifying intervention areas for nature preservation in the Alps using a GI-network approach.* International Mountain Conference 2022 - Innsbruck. 14.09.2022 (AT)
- Egarter Vigil L.**, Giombini V., Simion H., Marsoner T.: *Mapping multifunctional GI networks linking rural landscapes with urban systems: harnessing nature to meet multiple societal challenges.* IALE Europe conference - Warsaw. 11.07.2022 (PL)
- Egarter Vigil L.**, Giombini V., Simion H., Marsoner T.: *Enhancing landscape multifunctionality and ecological connectivity across the Alps: in-sights from the LUIGI project.* EUSALP Roadshow 2022 - Bolzano. 25.05.2022 (IT)

- 2021 **Egarter Vigl L.:** *An ecosystem service-based approach to assess forest protection – insights from the AlpES project.* GreenRisk4ALPs Mountain Forest Conference - Innsbruck. 28.06.2021 (AT)
- 2020 **Egarter Vigl L.,** Tscholl S., Schmid A., Raifer B.: *Die Weinbauzonierung nach gelände-klimatischen Eignungskriterien.* Weinbautag Meran. 06.02.2020 (IT) [invited]
- Egarter Vigl L.,** Tscholl S., Schmid A., Raifer B.: *Die gelände-klimatische Standortbewertung von Weinbauflächen in Südtirol.* 58. Südtiroler Weinbautagung Eppan. 31.01.2020 (IT) [invited]
- Egarter Vigl L.,** Tscholl S., Schmid A., Raifer B.: *Rebsorten- und Weinbauflächen-Bewertungsmodell unter Berücksichtigung der Auswirkungen und Chancen des Klimawandels in den Alpen.* 18. Kärntner Weinbautag. 11.01.2020 – St. Andrä (AT) [invited]
- 2019 **Egarter Vigl L.,** Tscholl S. Raifer B.: *Vineyard upslope shifts – a winning strategy for mountain viticulture? ProWein Media Summit.* 20.-22.1.2019 – Geisenheim (DE) [invited]
- Egarter Vigl L.,** Depellegrin D., Candiago S., Marsoner T., Schirpke U.: *Multi-stressor effect analysis on ecosystem services in mountain areas.* ESP 10 World Conference. 21.-25.10.2019 – Hannover (DE)
- Egarter Vigl L.;** Marsoner T.; Pecher C.; Tasser E.; Stemle E.; Depellegrin D.: *Combining image recognition with text mining for next generation CES assessments.* ESP 10 World Conference. 21.-25.10.2019 – Hannover (DE)
- Egarter Vigl L.,** Depellegrin D., Tscholl S., Marsoner T., Schirpke U.: *Analyzing the spatial coincidence of environmental stressors and ecosystem service provision in mountain forests.* 10th IALE World Conference. 1.-5.07.2019 – Milan (IT)
- Egarter Vigl L.,** Tscholl S. Tasser E.: *Objektivierte Bewertung von Weinbauflächen nach gelände-klimatischen Eignungskriterien.* Tagung Verband Südtiroler Kellermeister 09.05.2019 – KG Bozen (IT) [invited]
- Egarter Vigl L.,** Candiago S.: *Mountain viticulture in the context of climate change: facts – challenges – opportunities.* VNIFERA – forum di vino e passione. 21.03.2019 – MUSE Trento (IT) [invited]
- 2018 **Egarter Vigl L.,** Labadini A., Marsoner T.: *A pan-Alpine approach to assess multiple Ecosystem Services.* ESP European Conference. 15.-19.10.2018 – San Sebastian (ES)

- Egarter Vigl L.**, Schmid A., Moser F., Balotti A., Gartner E., Katz H., Quendler S., Ventura S., Raifer B.: *Upward shifts in elevation—a winning strategy for mountain viticulture in the context of climate change?* XII International Terroir Congress. 18.-22.06.2018 – Zaragoza (ES)
- 2017 **Egarter Vigl L.**, Marsoner T., Candiago S.: *Using machine-learning algorithms on social media data in cultural ES assessment.* Ecology across borders BES|GfÖ annul meeting. 11-14.12.2017 – Ghent (BE)
- Egarter Vigl L.**, Tasser E., Williams S., Tappeiner U.: *Defining suitable zones for viticulture on the basis of landform and environmental characteristics: a case study from the South Tyrolean Alps.* Fifth International Congress on Mountain and Steep Slope Viticulture. 29.03-01.04.2017 – Conegliano (IT)
- 2016 **Egarter Vigl L.**, Tasser E., Schirpke U., Tappeiner U.: *Distinct types of LU-trajectories reveal cascading effects on the multi-functionality of mountain landscapes.* Mountains 2016 5-7.10.2016 – Bragnaca (PT)
- Egarter Vigl L.**, Tasser E., Schirpke U., Tappeiner U.: *Land use change in the European Alps reveals to have cascading effects on ecosystem service trajectories.* ECOS 2016 28.08-01.09.2016 - Montpellier (FR)
- Egarter Vigl L.**, Raifer B., Figl C., Tasser E., Tappeiner U.: *Der Weinbau in Höhenlagen. Traum oder Alptraum? Die Weinbauzonierung nach gelände-klimatischen Eignungskriterien.* Weinbauseminar. 29.11.2016 – Lichtenstern, Bozen (IT) [invited]
- Egarter Vigl L.**, Depellegrin D.: *Mapping the ecosystem service delivery chain: capacity, flow, and demand pertaining to aesthetic experiences in mountain landscapes.* Challenges of Anthropocene and the role of Landscape Ecology. SIEP-IALE 26-28.05.2016 - ASTI (Italy)
- 2014 **Egarter Vigl L.**, Tasser E., Schirpke U., Tappeiner U.: *Multiple Ecosystem Service provision in the alps: how do they behave over time?* IALE conference 15.-17.10.2014. Italy