Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
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Studio	
Name / Theme	Complex Cities Studio/ (Reimagining) European regions
Teachers / tutors	Dominic Stead (1st), Alexander Wandl (2nd)
Argumentation of choice of the studio	My topic deals with a contemporary planning construct of the European Union: Macro-regional strategies. In the case of the Alpine region (EUSALP) the strategy is moving recently from the planning into the implementation phase and raises therefore new challenges and questions. Besides this most recent approach, also several cross-border, transnational and national planning units pre-exist in the area and result in the phenomenon of institutional thickness. The previous explained framework of my research focuses strongly on regional planning and is therefore suitable for the studio of Complex Cities. Moreover, the main approach for the outcome of my research is strategic spatial planning in a regional scale, and therefore I choose the studio of Complex Cities.

Graduation project	
Title of the graduation project	Interrelational territories – a new interplay between pre- and inner-alpine areas for future water use under the framework of institutional thickness
Goal	
Location:	The Alpine region (Germany, Austria, Switzerland, France, Italy, Slovenia, Liechtenstein) Case study: Watershed of Isar and Inn, relationship between Munich and inner-alpine area
The posed problem,	The Alps, also called the 'Water tower' of Europe, are one of the biggest freshwater

	reserves of the continent, but its enormous natural capital is threatened by climate change and current territorial developments. Especially inner-alpine areas, but also the surrounding agglomeration ring are affected by rising temperatures resulting in glacier melting and therefore a disturbed hydraulic system. This leads to a reduced freshwater availability in the future (EEA, 2009). At the same time, ongoing agglomeration processes in alpine valleys and surrounding lower areas with metropolises of European importance trigger an increased demand for freshwater resources. This conflict of interest occurs between economic sectors, the civic society and above all, the natural environment. There are not only conflicts between these three categories claiming rights for freshwater use, but also in between the sectors exist competition. High seasonal tourism influx, hydro-power production and agriculture are demanding economies for freshwater use. Another important conflict of interest happens between the population in pre-and inner-alpine areas since they highly depend on it for the use of drinking water. Nevertheless, currently the natural environment does not get a strong voice, which results in degrading ecosystem services and that is why it needs protection and conservation. The European Union, nations and regions acknowledged this challenge and developed various cross-border and transnational cooperation programs in time. The most recent one is a macro-regional strategy for the Alpine region established in 2015 by various actors, which includes inner-alpine and surrounding metropolitan areas. However, the existing institutional thickness is challenging, because some programs are targeting different

	objectives and are not aligned. As an example, the international treaty 'Alpine Convention' focuses on the natural conservation of the inner-alpine area, whereas the INTERREG 'Alpine Space' program includes also the surrounding agglomeration ring and tries to integrate the inner-Alps in the European economic network. The macro-regional strategy aims for territorial cohesion and the coordination of the institutional thickness, but is just moving recently to the implementation phase (ESPON, 2018a). This stage raises a lot of questions about the ways of cooperation, implementation and further development in sub-regional and local levels.
research questions and	<u>Main research question:</u> How can the framework of a macro-regional strategy be used to develop a socio-ecological resilient relationship between the inner- and pre-alpine areas for the use of hydraulic resources under the pressure of climate change and current territorial development? <u>Sub-research question 1:</u> What is the added value of a macro-regional strategy in the Alpine region? <u>Sub-research question 2:</u> What are the interrelation between inner-alpine areas and the surrounding agglomeration belt? <u>Sub-research question 3:</u> How can the Alpine region adapt to the pressure of climate change and current territorial development? <u>Sub-research question 4:</u> How can a macro-regional strategy be spatialized in a regional and local scale?

design assignment in which these result.	Research aim: The research aim of this project is to investigate the added value of a macro-regional strategy in the alpine region, and above all identify challenges of implementation at a regional and local scale. Since the strategy is considering inner- and pre-alpine areas, also the interdependency between these two areas has to be further researched, as it is not clearly defined by now. After this research, the aim is to develop a socio-ecological resilient system for the relationship between the inner-alpine area and the surrounding agglomeration belt with an emphasis on the hydraulic circle under the pressure of current territorial development and climate change. Expected outcomes: I am aiming for outcomes in three different levels, however, the main product will be a regional vision and strategy of the interplay between one metropolitan area and its nearby inner alpine area within two watersheds. Expected outcomes for the macro-scale are limited to a vision and coordination recommendations for the use of hydraulic resources in the Alpine context, and in the micro-scale the spatial strategy will be translated into design interventions in the built and unbuilt environment.

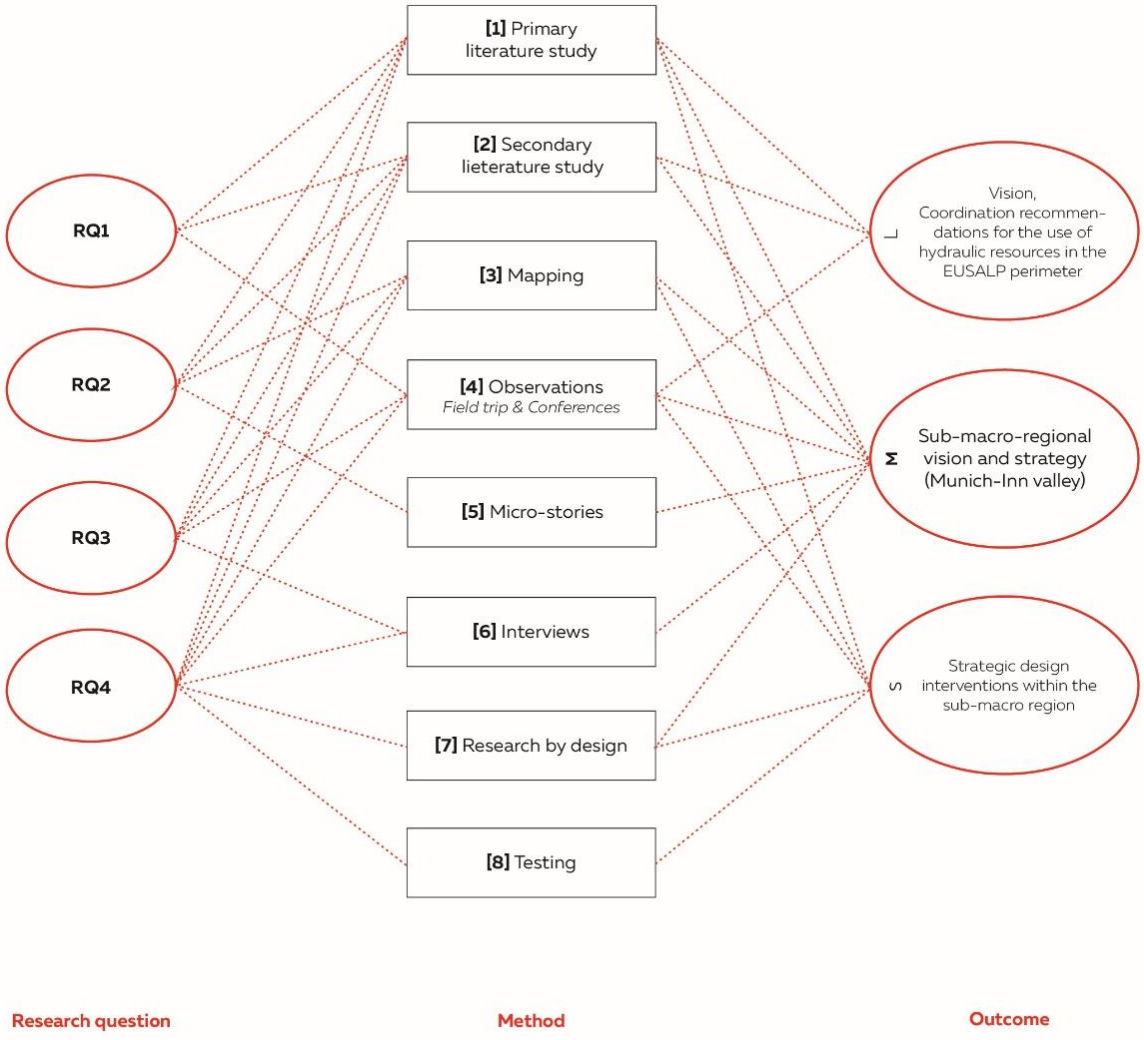
Process

Method description

For this project I will make use of a mix of quantitative and qualitative research methods. Since my project region is located in the European Union, a big amount of data is provided, which facilitates methods of quantitative research. On the other hand, the construct of European macro-regions is quite contemporary and recently moving to the implementation phase, which explains the use of qualitative research in a more exploratory nature.

The verification of the gathered data is done through the methodology of triangulation. Thereby cross referencing of data allows a more complete and accurate picture of the outcomes. This method is applied to answer all four sub-research questions. The two permanent pillars of source form literature study mostly concerned with academic literature and secondary literature study existing of official reports by EEA, EU and involved states and regions. The third source acts as a gap filler and derives from interviews or/and observations during the field trip and conferences.

By using a set of methods, the aforementioned sub-research questions will lead me to my expected outcomes. I am aiming for outcomes in three different levels, however, the main product will be a regional vision and strategy of the interplay between the metropolitan area of Munich and its nearby inner-alpine area.



[1] Primary literature study

This method is used specially to understand the constructs of European spatial planning and to build my theoretical framework. Non-site specific theories about relational geographies and socio-ecological resilience are explored with this method and contribute finally to a regional strategy and design.

[2] Secondary literature study

The use of secondary literature is essential as the EUSALP is a recent project and the implementation phase just started. Governmental and research reports about the current state of the region and common spatial perspectives are just being published this year and provide an irreplaceable research source to follow the ongoing process.

[3] Mapping

As the European Commission is one of the initiators of the EUSALP, open source (geo-)data is provided in portals like EEA and GISCO by Eurostat. However, a more detailed research through quantitative research and mapping is needed in order to conclude the emphasis on interrelational territories.

[4] Observations

This method is used in field trips to understand the specific spatial context. Moreover, by participating in several conferences (10/2018: EU weeks of cities and regions in Brussels, 11/2018: 'The mountain dimension of cooperation' by DG Regio in Brussels, 11/2018: EUSALP Annual Forum 2018 in Innsbruck), I collect impressions about the cooperation in a macro-regional scale, but also about the future implementations of the strategy in smaller scales.

[5] Micro-stories

This method is applied in M-scale, because it provides an efficient way to analyse flows. Interrelations can be made visible by investigating the flow of just a few products or persons and describe thereby different patterns prevailing in the sub macro-region.

[6] Interviews

This method is used to investigate the future of the Alps, but also economic and environmental adaptation possibilities beyond primary and secondary literature. Therefore, actors from academia, EUSALP, Alpine Space programme and the NGO WWF are interviewed about their future imagination of space and governance. Finally, these results contribute to the development of a sub-macro-regional vision and strategy and provide thereby an additional, qualitative input.

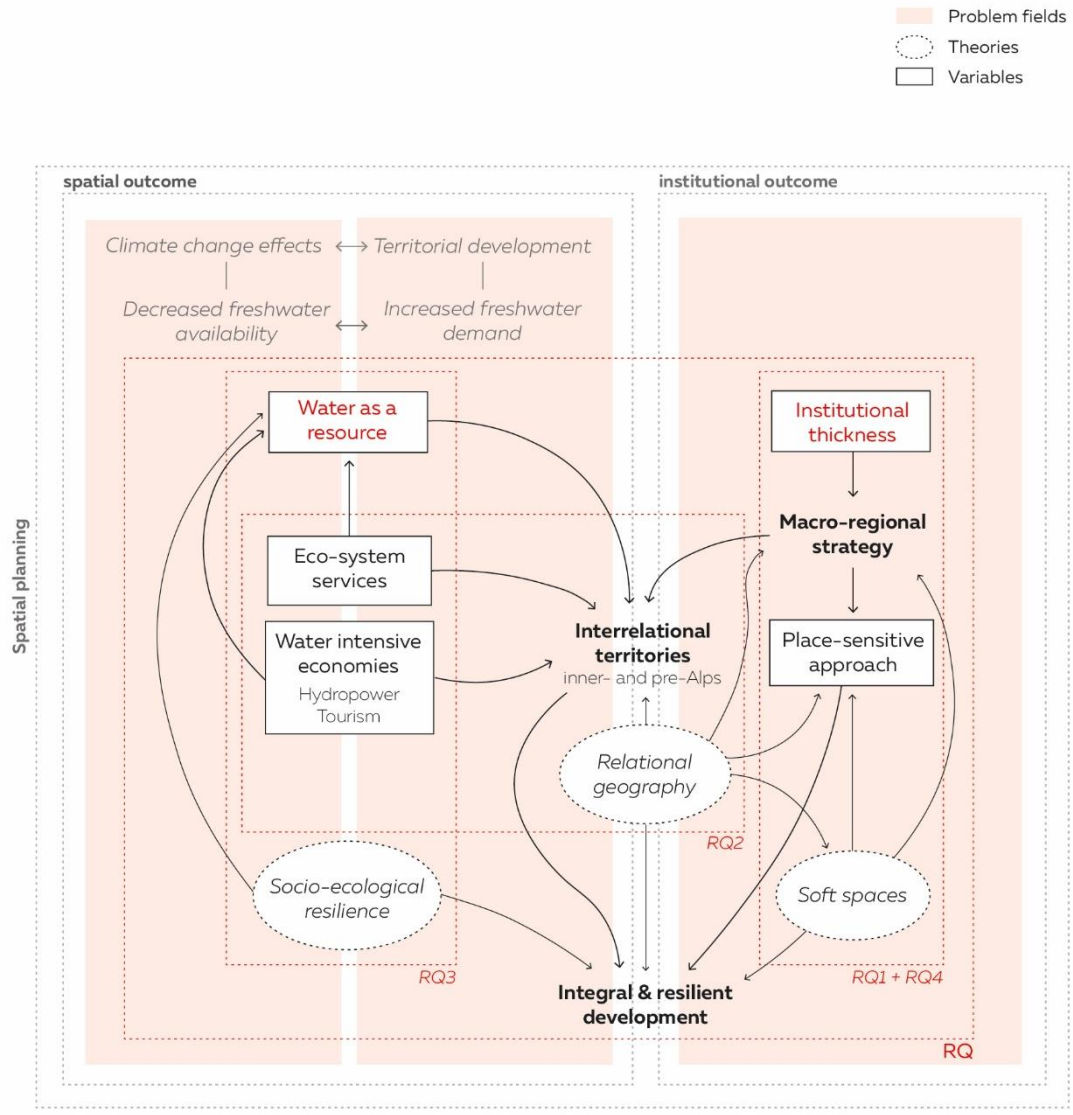
[7] Research by design & [8] testing

This method is used for the development of a regional development strategy, and later for the design interventions in a smaller scale. I selected research by design, because the biggest challenge of the political macro-regional strategy is now to implement it in a smaller

scale, which demands an approach more onto ground for its imagination. Afterwards follows a testing phase in order to evaluate the interventions in a bigger scale and finally to reflect on it.

Literature and general practical preference

Primary and secondary literature review is a main method used during the entire research process. The graphic shows my conceptual framework and highlights theories, but also thematic variables where this method is applied. Above all, for the thematic variables an extensive secondary literature review based on reports of EEA, ESPON and national governments play an important role.



Theoretical Framework:

The theoretical framework consists of socio-ecological resilience, relational geography and the soft spaces.

Relational geography

- Jones, M. (2009). Phase space: Geography, relational thinking, and beyond. Progress in Human Geography, 33(4), 487–506.
- Graham, S., & Healey, P. (2007). Relational concepts of space and place: Issues for planning theory and practice. European Planning Studies, 7(5), 623–646.
- Healey, P. (2006). Relational complexity and the imaginative power of strategic spatial planning. European Planning Studies, 14(4), 525-546.

Soft spaces

- Allmendinger, P., & Haughton, G. (2007). "Soft spaces" in planning. Town and Country Planning - the quarterly review of the Town and Country Planning Association, 76. 306–308.
- Allmendinger, P., Chilla, T., & Sielker, F. (2014). Europeanizing Territoriality—Towards Soft Spaces? Environment and Planning A, 46(11).
- Faludi, A. (2014). EUropeanisation or Europeanisation of spatial planning? Planning Theory and Practice, 15(2), 155–169.
- Faludi, A. (2016b). The Poverty of Territorialism: Revisiting European Spatial Planning. The Planning Review, 52(3), 73-81

Socio-ecological resilience

- Holling, C. S. (1973). Resilience and Stability of Ecological Systems. Annual Review of Ecology and Systematics, 4, 1–23.
- Moffatt, S., & Kohler, N. (2008). Conceptualizing the built environment as a social-ecological system. Building Research and Information, 36(3), 248–268.
- Wilkinson, C. (2011). Social-ecological resilience: Insights and issues for planning theory. Planning Theory, 11(2), 148–169.

Analytical framework:

Water as a resource

- Jones, G. (2004). People and environment – A Global approach. Person Education Ltd.

Institutional thickness

- Amin, A. & Thrift, N. (1995). Globalization and institutional thickness. In Healey, P. Cameron, S. Davoudi, S. Graham, C., & Madani-Pour, A. (Eds.), Managing cities: The New Urban context, Chichester, NY, pp. 91-108.
- Zukauskaite, E., Trippl, M., & Plechero, M. (2017). Institutional Thickness Revisited. *Economic Geography*, 93(4), 325-345

Macro-regional strategies

- Chilla, T., Streifenender, T. (2018). Interrelational space? The spatial logic of the macro-regional strategy for the Alps and its potentials. European Planning Studies, 0(0), 1-20.
- Gänzle, S., Stead, D., Sielker, F., Chilla, T. (2018). Macro-regional Strategies, Cohesion Policy and Regional Cooperation in the European Union: Towards a Research Agenda. Political Studies Review.
- Sielker, F. (2017). Macro-regional integration – new scales, spaces and governance for Europe? University of Erlangen.

Inter-relational territories

- Healey, P. (2006). Relational complexity and the imaginative power of strategic spatial planning. *European planning studies,* 14(4), 525-546.

Place-sensitive approach
- Barca, F., McCann, P., Rodríguez-Pose, A. (2012). The case for regional development intervention: Place-based versus place-neutral approaches. *Journal of Regional Science,* 52(1), 134-152.
- Rodríguez-Pose, A. (2018). The revenge of places that don't matter (and what to do about it). Cambridge Journal of Regions, Economy and Society, 11(1), 189-209.

Eco-system services
- Millennium Ecosystem Assessment

Water intensive economies
- EEA. (2009). Regional climate change and adaptation - The Alps facing the challenge of changing water resources, 56(18), 1533–1546.
- EEA. (2017). Climate change, impacts and vulnerability in Europe 2016. Retrieved from https://www.eea.europa.eu/
- EUSALP. (2017). EUSALP Energy Survey 2017. Retrieved from *https://www.alpine-region.eu/publications*
- Steiger, R., Scott, D., Abegg, B., Pons, M., & Aall, C. (2017). A critical review of climate change risk for ski tourism. Current Issues in Tourism.
- Steiger, R., & Abegg, B. (2018). Ski Areas' Competitiveness in the Light of Climate Change: Comparative Analysis in the Eastern Alps. In D. Müller & M. Wikeckowski (Eds.), Tourism in Transitions: Recovering Decline, Managing Change (pp. 187–199). Cham: Springer International Publishing.
- Vanat, L. (2018). 2018 International Report on Snow & Mountain Tourism. Geneva. Retrieved from *https://www.vanat.ch/*

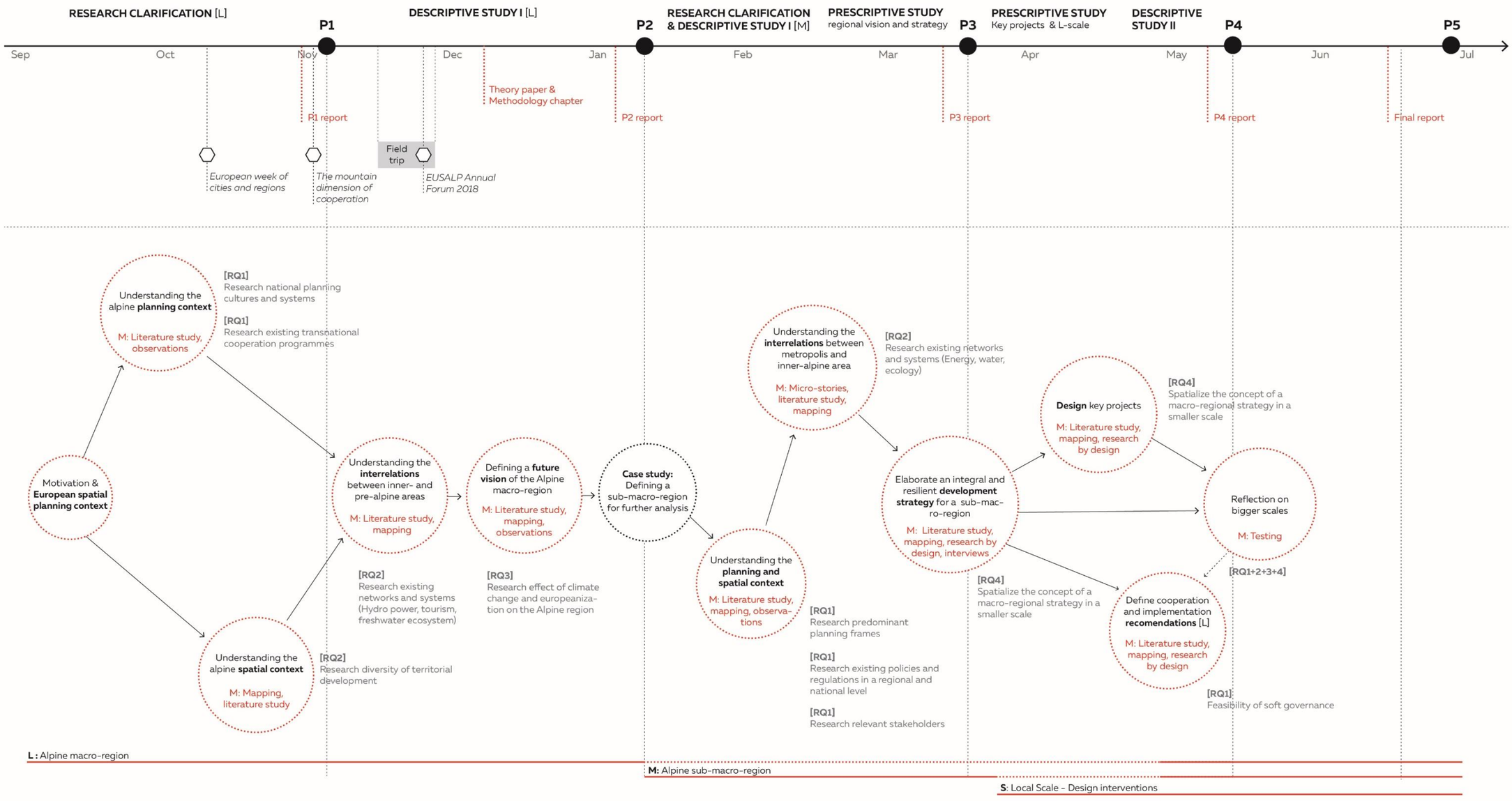
Reflection

Relevance

The societal relevance of my project is to answer questions of water ethics in the future and with that give solutions for upcoming conflicts of interests. So central questions of my projects are, if water is a public good and who gets how much and why. This is important for the society, because freshwater reservoirs will diminish in the Alps due to climate change and the current use of water as a resource will not be sustainable any more. A responsible production and consumption aligned to ecological protection is essential to provide a future for the inner- and pre-alpine areas. Therefore, the natural environment needs to be considered as an active actor next to civic society and economic sectors such as tourism and hydro-power production.

The main territorial planning challenge in the alpine region is its institutional thickness and that is why the macro-regional strategy EUSALP was created in 2015. Nevertheless, just recently it is entering the implementation phase and the translation into smaller scales is still not defined clearly. The scientific relevance of my project is to go beyond policies and objectives in a macro-scale and introduce an integral regional strategy, which spatializes the aforementioned objectives in a regional and local level. So knowledge gaps like the cooperation of cross-border planning in an implementation level are tackled, but also to understand the water as resource-conflict in a bigger picture will be addressed.

Time planning


RESEARCH CLARIFICATION [L]
DESCRIPTIVE STUDY I [L]
RESEARCH CLARIFICATION & DESCRIPTIVE STUDY I [M]
PRESCRIPTIVE STUDY regional vision and strategy
PRESCRIPTIVE STUDY Key projects & L-scale
DESCRIPTIVE STUDY II
P1
P2
P3
P4
P5
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Theory paper & Methodology chapter
P1 report
P2 report
P3 report
P4 report
Final report
Field trip
European week of cities and regions
The mountain dimension of cooperation
EUSALP Annual Forum 2018
Understanding the alpine planning context
M: Literature study, observations
[RQ1] Research national planning cultures and systems
[RQ1] Research existing transnational cooperation programmes
Motivation & European spatial planning context
Understanding the alpine spatial context
M: Mapping, literature study
[RQ2] Research diversity of territorial development
Understanding the interrelations between inner- and pre-alpine areas
M: Literature study, mapping
[RQ2] Research existing networks and systems (Hydro power, tourism, freshwater ecosystem)
Defining a future vision of the Alpine macro-region
M: Literature study, mapping, observations
[RQ3] Research effect of climate change and europeanization on the Alpine region
Case study: Defining a sub-macro-region for further analysis
Understanding the planning and spatial context
M: Literature study, mapping, observations
[RQ1] Research predominant planning frames
[RQ1] Research existing policies and regulations in a regional and national level
[RQ1] Research relevant stakeholders
Understanding the interrelations between metropolis and inner-alpine area
M: Micro-stories, literature study, mapping
[RQ2] Research existing networks and systems (Energy, water, ecology)
Elaborate an integral and resilient development strategy for a sub-macro-region
M: Literature study, mapping, research by design, interviews
[RQ4] Spatialize the concept of a macro-regional strategy in a smaller scale
Design key projects
M: Literature study, mapping, research by design
[RQ4] Spatialize the concept of a macro-regional strategy in a smaller scale
Reflection on bigger scales
M: Testing
[RQ1+2+3+4]
Define cooperation and implementation recomendations [L]
M: Literature study, mapping, research by design
[RQ1] Feasibility of soft governance
L : Alpine macro-region
M: Alpine sub-macro-region
S: Local Scale - Design interventions