

AnaEE

Infrastructure for Analysis and Experimentation on Ecosystems

Grant Agreement Number: 312690
SEVENTH FRAMEWORK PROGRAMME
CAPACITIES
RESEARCH INFRASTRUCTURES
COMBINATION OF CP & CSA

DELIVERABLE D2.1

Deliverable title: AnaEE vision

Abstract:

The services AnaEE will deliver to its various users have been defined. We elaborate on the added value that the distributed infrastructure AnaEE would bring compared to the current spread of platforms; we suggest tools to deliver services efficiently and with the highest added value. The survey results (Annex II and III) helped the elaboration of the AnaEE Strategic Vision. Beside setting the societal context of AnaEE, the experimental approach to be followed, the services to be provided, and the complementarity with other infrastructures, a scheme of AnaEE has been defined. A data base of >1000 AnaEE potential stakeholder has been installed and their characteristics and expectations will be analyzed through questionnaires. A first analysis related to the scientific users (117 responses received as of October 2013) of AnaEE has been performed. A detailed analysis of these responses is provided. The adjustment other workpackages workplan was provided through the participation of all workpackages to the workshops and writings of WP2, and in particular at the Venice meeting in October 2013.

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Contributors: Francesco della Porta (Analysis), Jacques Roy (Vision), Francesco Fracaro (Survey and Data Processing)

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PU Public (must be available on the website)	<input type="checkbox"/>
PP Restricted to other programme participants (including the Commission Services)	<input checked="" type="checkbox"/>
RE Restricted to a group specified by the consortium (including the Commission Services) (precise to whom it should be addressed)	<input type="checkbox"/>
CO Confidential, only for members of the consortium (including the Commission Services)	<input type="checkbox"/>

Revision N°	Date	Changes between different versions	Distribution (who have reviewed)
V1	2013/12/16		Francesco Fracaro
2	2014/01/13		Francesco della Porta

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ANALYSIS OF RESEARCH USERS

The range of potential users and stakeholders that can potentially be involved in AnaEE is very broad. Such variety is well expressed by figure 1 shown in the previous section. Given such broad range and diversity, it was opted to focus the analysis on a subset of such range, namely the research users.

This should allow defining with more relevance the core competencies and areas of activities that will fall under the AnaEE umbrella and as a consequence, improving how AnaEE will communicate the benefits of its services to the wider set of stakeholders. The main source of information was an online survey designed in cooperation by WP4, WP5, and WP2, structured following a twofold objective. On one hand, the survey aims at fulfilling task 2.1 (analysis of users and services). On the other hand, it aims at investigating the “Access Requirements for General and Policy Users” (task 4.1). For the scope of the present documents, only activities concerning task 2.1 are presented.

The survey was completed on the 24th of July and invitations were emailed to a total of 561 contacts. Several reminders followed up and we also took advantage of scientific association meetings. The current number of respondents to date is 117. The source data for the present report were collected on the 28th of September when the number of respondents reached 101.

The Survey used for task 2.1 is made of 22 questions which can be found with related tabular results in Annex II. Some of those questions (Question 14, 15 and 22) were introduced in a later stage and therefore have fewer responses; however in order to guarantee statistical significance, analyses were conducted only on questions with more than 40 respondents..

This survey is intended as a permanent tool to monitor and update the stakeholder basis of AnaEE. We expect to run regular (annual?) updates, expand the survey to other categories, include stakeholders from other infrastructure projects, and produce custom queries on demand.

User General Profile

In order to provide a general overview, a **typical AnaEE Research User** was assembled (table T1) by taking the first or the first and second most frequent responses from each question.. The typical user is defined by the following: s/he is funded by Public National Funds, works in an organization of more than 1000 employees in a research group with an average size of 20 people. S/he has high interests towards **Adaptation to climate change** and towards the **Relationship between climate change and extreme events**. The keywords mostly correlated to her/his research are “Modeling”, “Biodiversity” and “Forest Ecology” and ecosystems mostly related to his/her activities are **Temperate Forest and Arable Agriculture**. Her/his organization doesn't manage a Research Infrastructure, her/his research group has an operational budget of 100-500 K€ and from AnaEE s/he would values among supra national services, mostly services related to Think Tank and Synthesis activities.

TABLE T1: ANAEE TYPICAL SCIENCE USER
Q3 - Supported by: Public National Funds (31%)
Q4 - Institution Size: More than 1000 employees (42%)
Q5b - Average Research Group Size: 20 people
Q7 - Role in Organization: Principal Investigator (36%)
Q8 - Grand challenge: Adaptation to Climate change (21%) , Climate Change and extreme events (20%)
Q10 – Activity related keywords: Modeling, Biodiversity, Forest Ecology
Q11 – Related ecosystem type: Temperate Forest (16%), Arable Agriculture (16%)
Q13 – Service Requested: Think Tank and synthesis service (6.5 out of 8)
Q17 – Has Research Platform: No (59%)
Q19 – Related Department names: Ecology
Q20 – Contacts with Industry/NGOs/Gov: Only 10% provided contacts
Q21 - Scientific Field: Ecosystems & Biodiversity (18%)
Q22 - Research Budget: 100-500 K€ (39%)

Table 1

We analyzed in greater detail the answers related to the ecosystem types with higher relationship with the research activity, the societal grand challenges of major interest and the research budget of each group.

Research Group Budgets (Question 22)

40% of Respondents' budgets fall in the range of 100-500 KE. The distribution of respondents among the other ranges is outlined in figure 2 below:

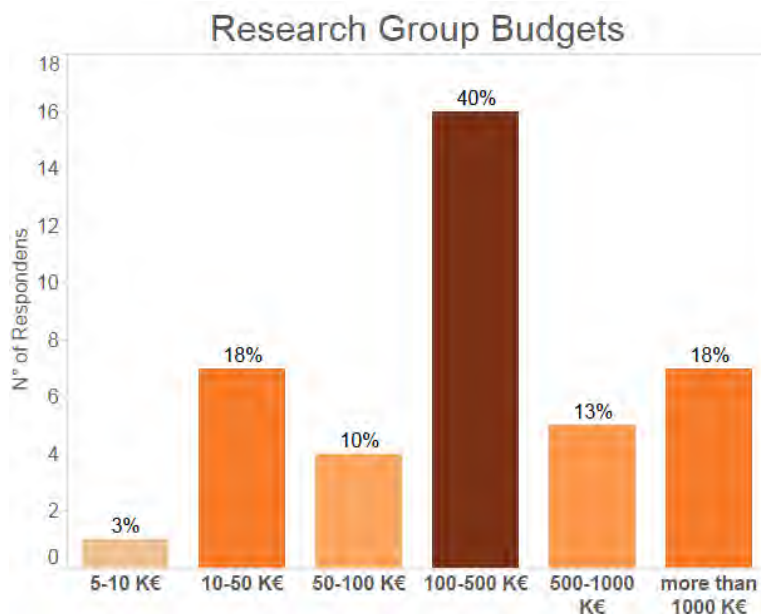


Figure 1

This budget segmentation was cross analyzed with the results of question 8 on Grand Challenge Preference and question 11 on ecosystem affinity. Annex III provides a description

of the cross analysis process. In essence, answers to a question are divided in sub groups; each sub-group is then analyzed in relation to another question. For instance, table 2 shows for each Ecosystem Type the average Research Group Budget of respondents whose activity is highly or fairly related to the same ecosystem.

Research Group Budget distribution by Ecosystem Type

Average Research Group Budget Across Ecosystems	
€	534,89
Ecosystem	Average Research Group Budget
Tundra	€ 561,36
Tropical Forest	€ 553,68
Desert	€ 547,06
Marine	€ 547,06
Savannah	€ 547,06
Cold Climate Forest	€ 540,00
Tropical Rainforest	€ 540,00
Aquatic	€ 533,33
Freshwater	€ 533,33
Mountains (High Elevation)	€ 533,33
Wetlands	€ 533,33
Shrublands	€ 525,21
Arable Agriculture	€ 513,36
Grassland	€ 507,88
Temperate Forest	€ 507,43

Table 2: Average Research Group Budget across Ecosystems

Research Group Budget distribution by Grand Challenges:

Average Research Group Budget Across Grand Challenges	
€	495.230,40
CrossSection	Average Budget
Land Use Change	€ 536.478,90
Soil Sustainability	€ 534.230,10
Climate Change & Extreme Events	€ 513.981,00
Biodiversity & Ecosystem Responses	€ 489.305,70
Disturbance & Ecosystem Response	€ 463.729,20
Adaptation To Climate Change	€ 453.980,70
Food Security	€ 420.453,30

Table 3: Average Research Group Budget across Grand Challenges

Users Interest in Grand Challenges (Q 8)

Societal Grand Challenges - ordered by interest

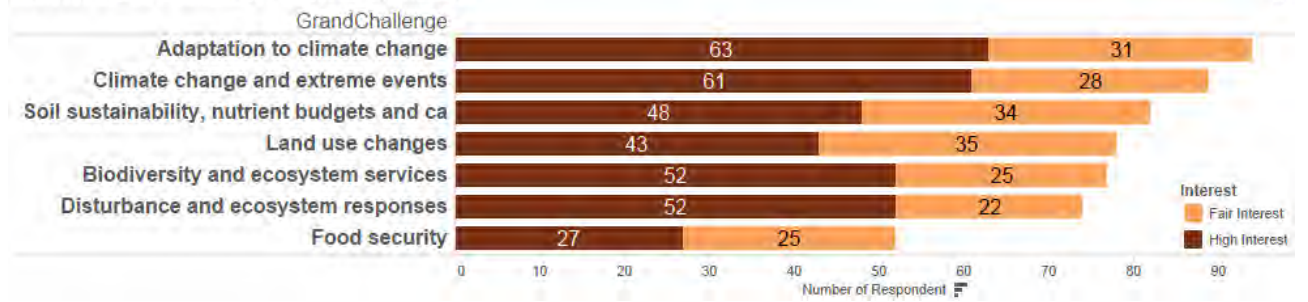


Figure 2: Grand Challenge ordered by sum of high and fair interest

Grand Challenges across Research Group Budget (Q 8 and Q 22)

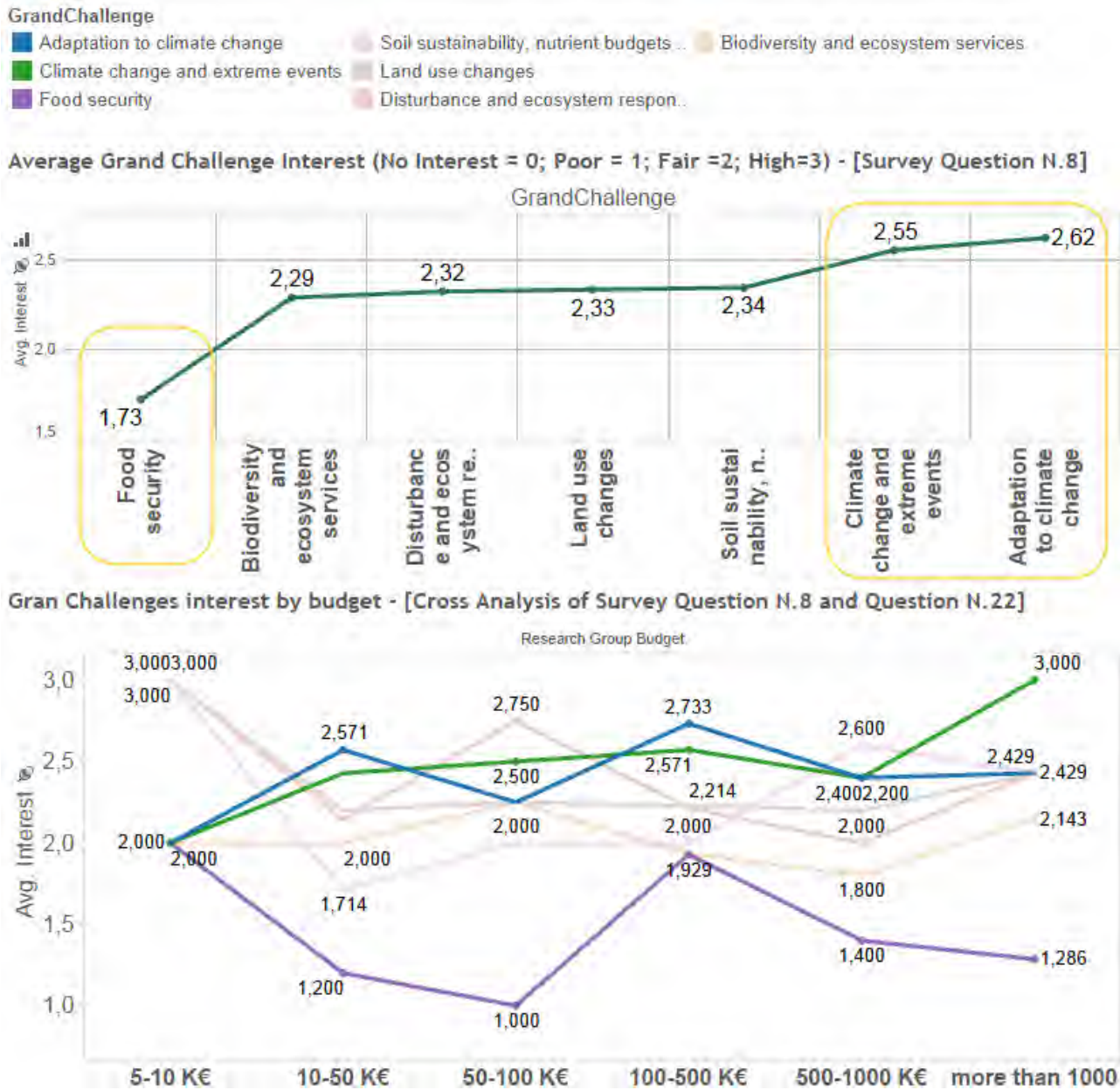
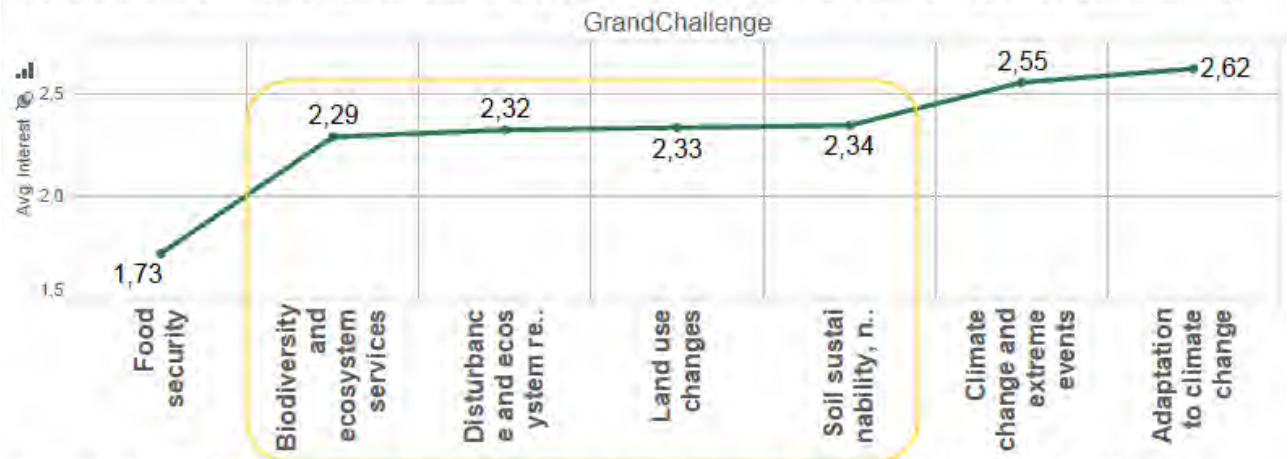


Figure 3: Average grand Challenge Interest across budget groups (High Interest=3, Fair = 2, Poor = 1; No Interest =0) – Highlight: “Adaptation to Climate Change”, “Climate Change and Extreme Events” and Food Security.

- GrandChallenge**
- Soil sustainability, nutrient budgets
 - Biodiversity and ecosystem services
 - Food security
 - Land use changes
 - Adaptation to climate change
 - Disturbance and ecosystem respon.
 - Climate change and extreme events

Average Grand Challenge Interest (No Interest = 0; Poor = 1; Fair =2; High=3) - [Survey Question N.8]



Gran Challenges interest by budget - [Cross Analysis of Survey Question N.8 and Question N.22]

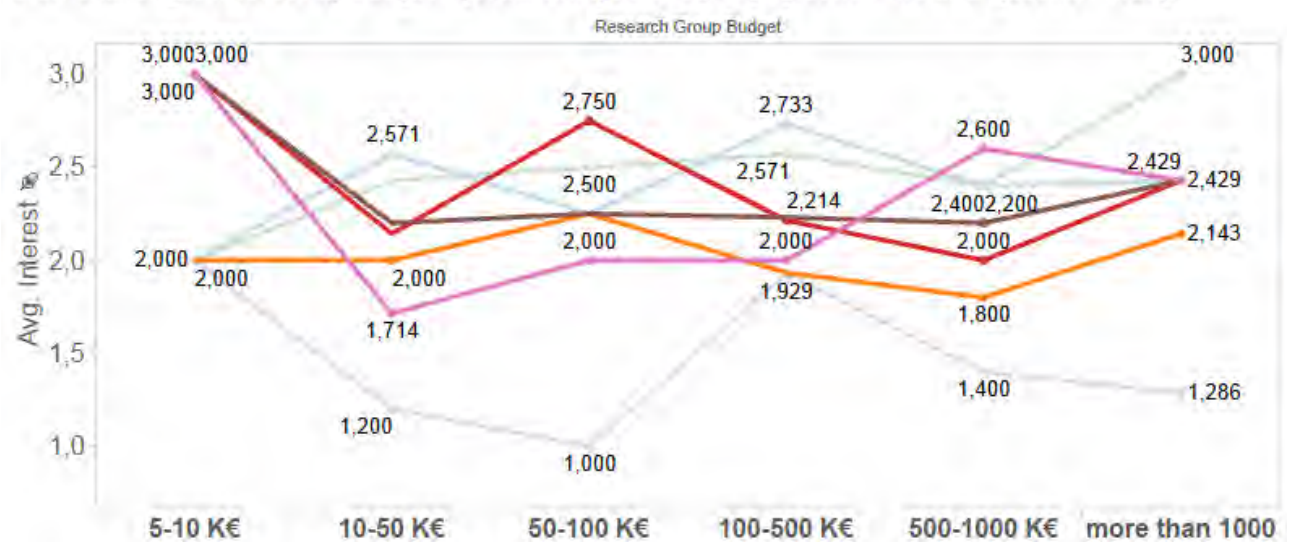


Figure 4: Average grand Challenge Interest across budget groups (High Interest=3, Fair = 2, Poor = 1; No Interest =0) – Highlight: “Biodiversity”, “Soil Sustainability”, “Land Use Change”, “Disturbance and Ecosystem Response”.

Grand Challenges across Countries (Q8 and Q1)

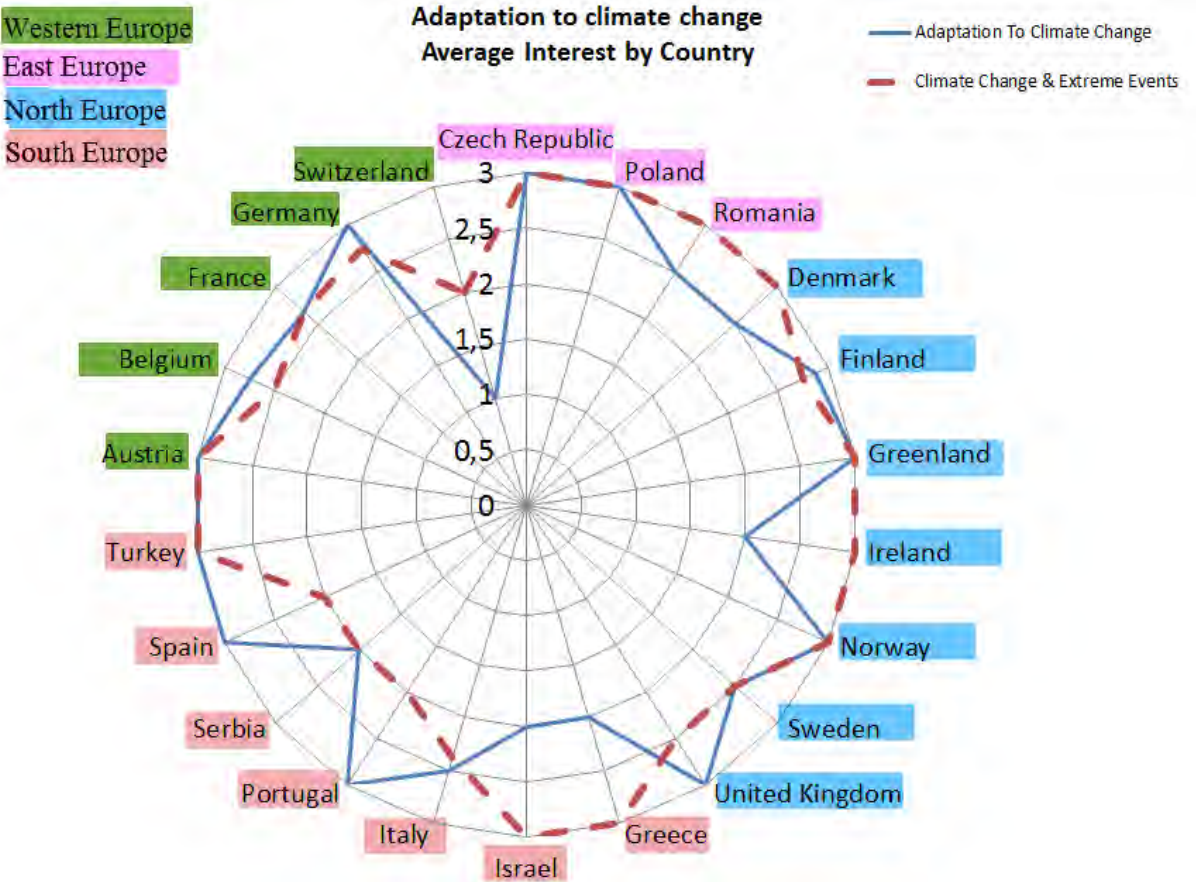


Figure 5: Average grand Challenge Interest across countries (High Interest=3, Fair = 2, Poor = 1; No Interest =0) – Highlight: “Adaptation to Climate Change” , “Climate Change and Extreme Events”

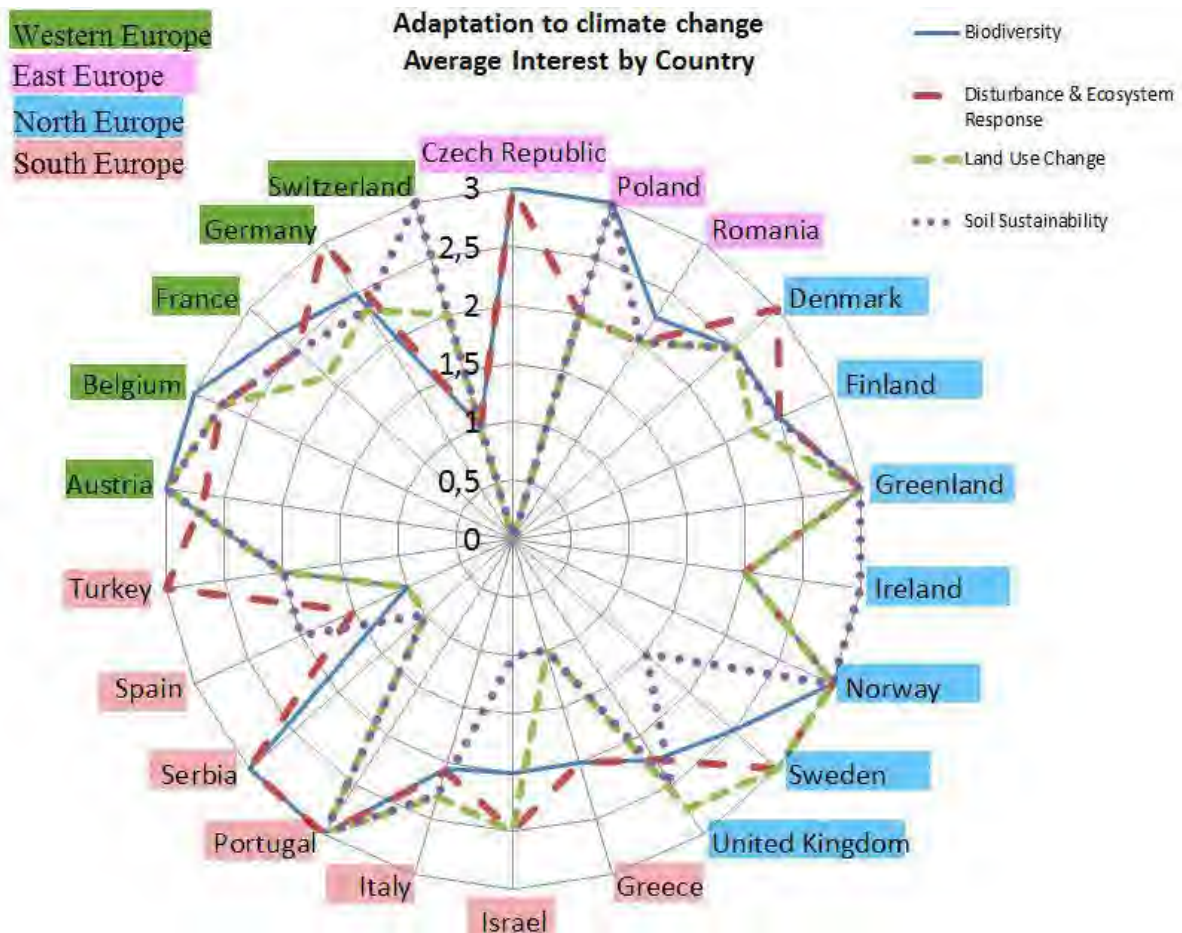


Figure 6 Average grand Challenge Interest across Countries (High Interest=3, Fair = 2, Poor = 1; No Interest =0) – Highlight: “Biodiversity”, “Soil Sustainability”, “Land Use Change”, “Disturbance and Ecosystem Response”

Affinity of Research Users towards Ecosystems (Q 11)

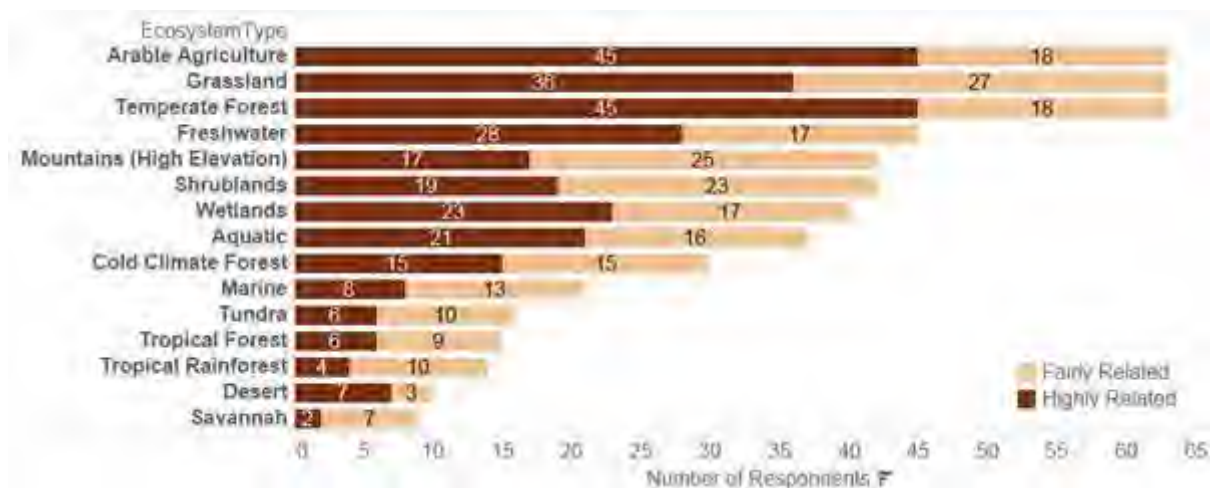


Figure 7: Ecosystems ordered by sum of high and fair affinity

Affinity of Research Activity towards Ecosystems across different countries (Q11 and Q 1)

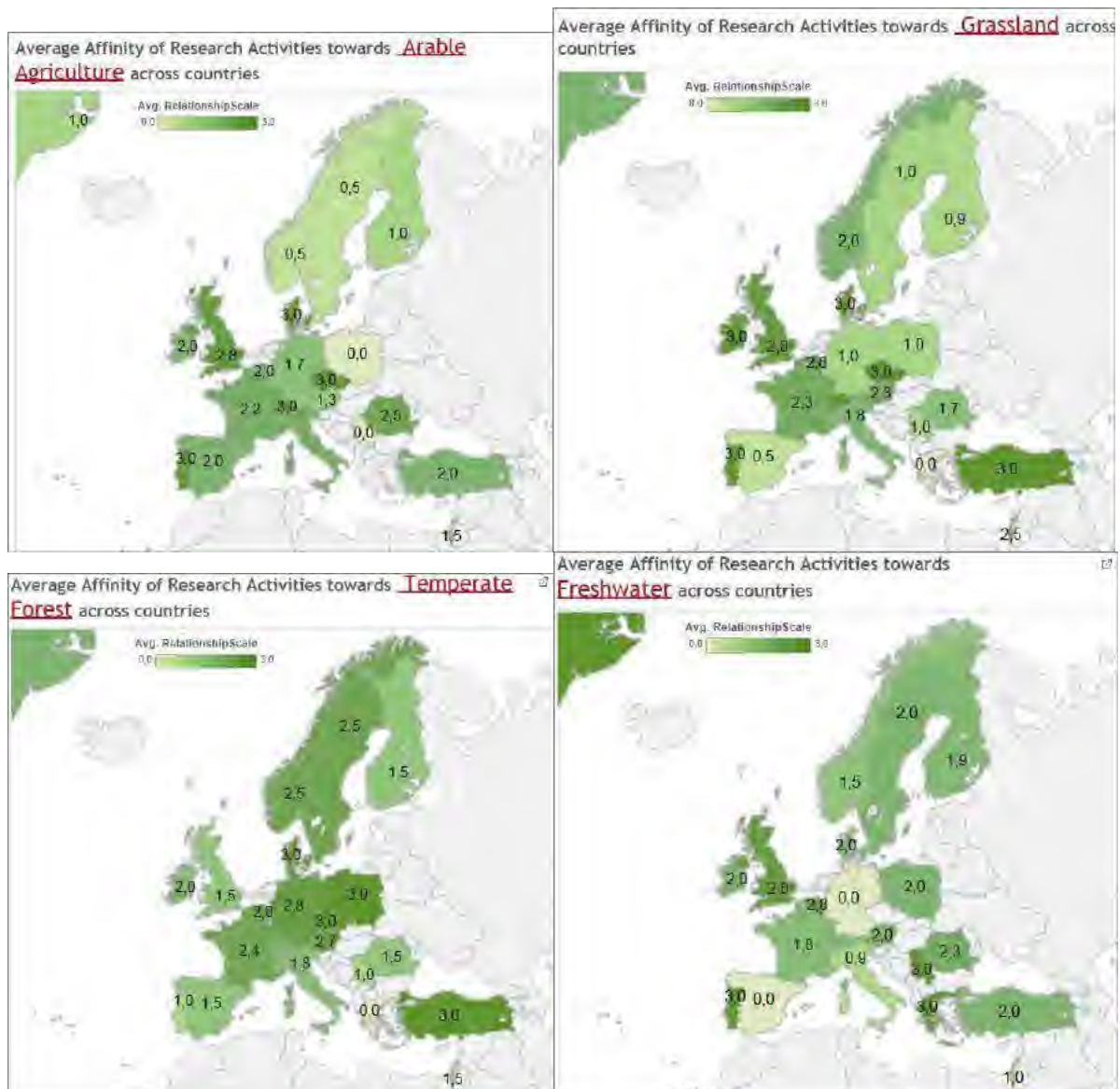


Figure 8: Average Ecosystem Affinity across Countries (Highly Related=3, Fairly Related = 2, Poorly Related = 1; No Relationship =0) – Show Arable Agriculture, Temperate Forest, Freshwaters, and Grassland.

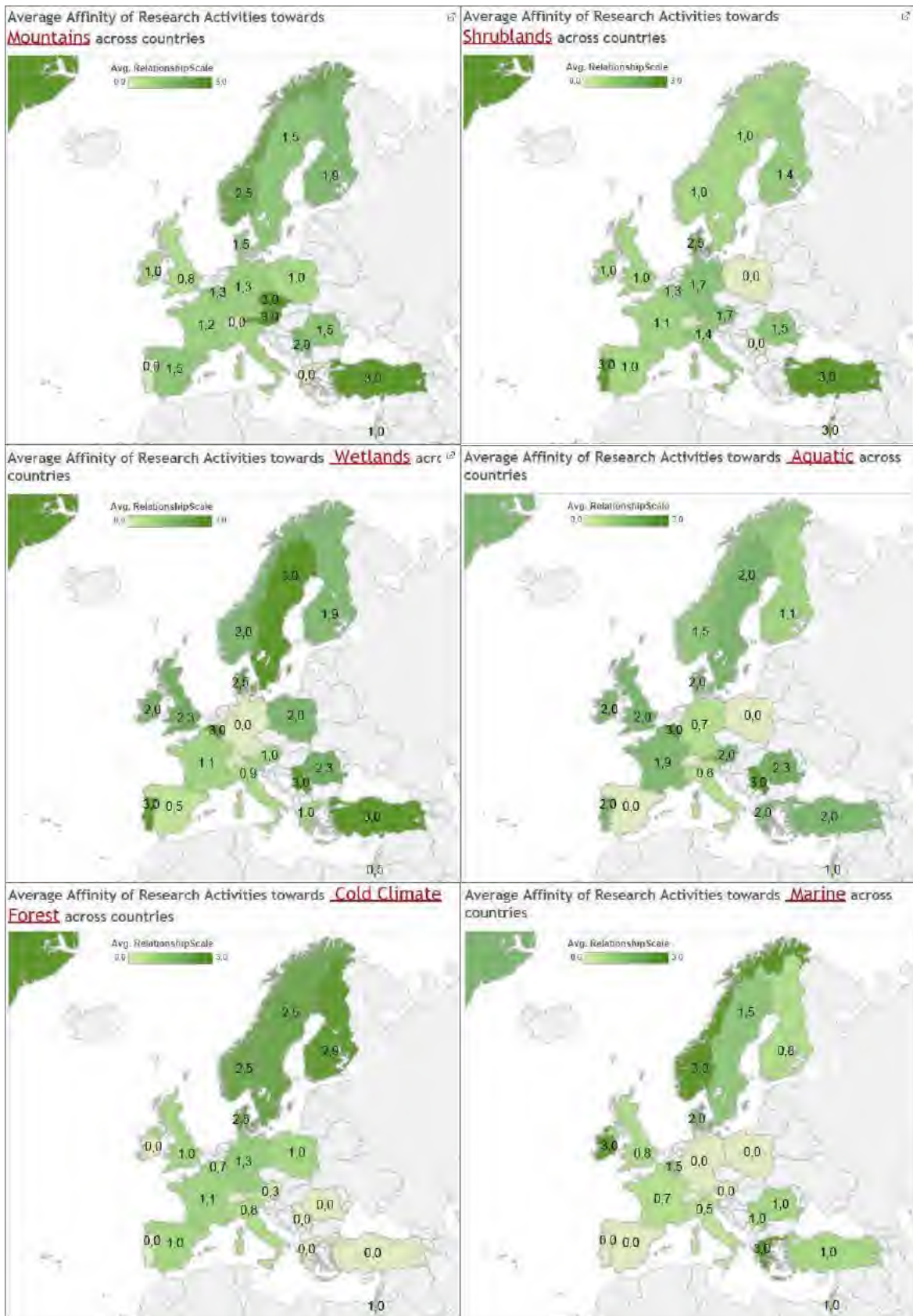


Figure 9: Average Ecosystem Affinity across Countries (Highly Related=3, Fairly Related = 2, Poorly Related = 1; No Relationship = 0) – Show “Mountains”, “Shrublands”, “Wetlands”, “Aquatic”, “Cold Climate”, “Marine”.

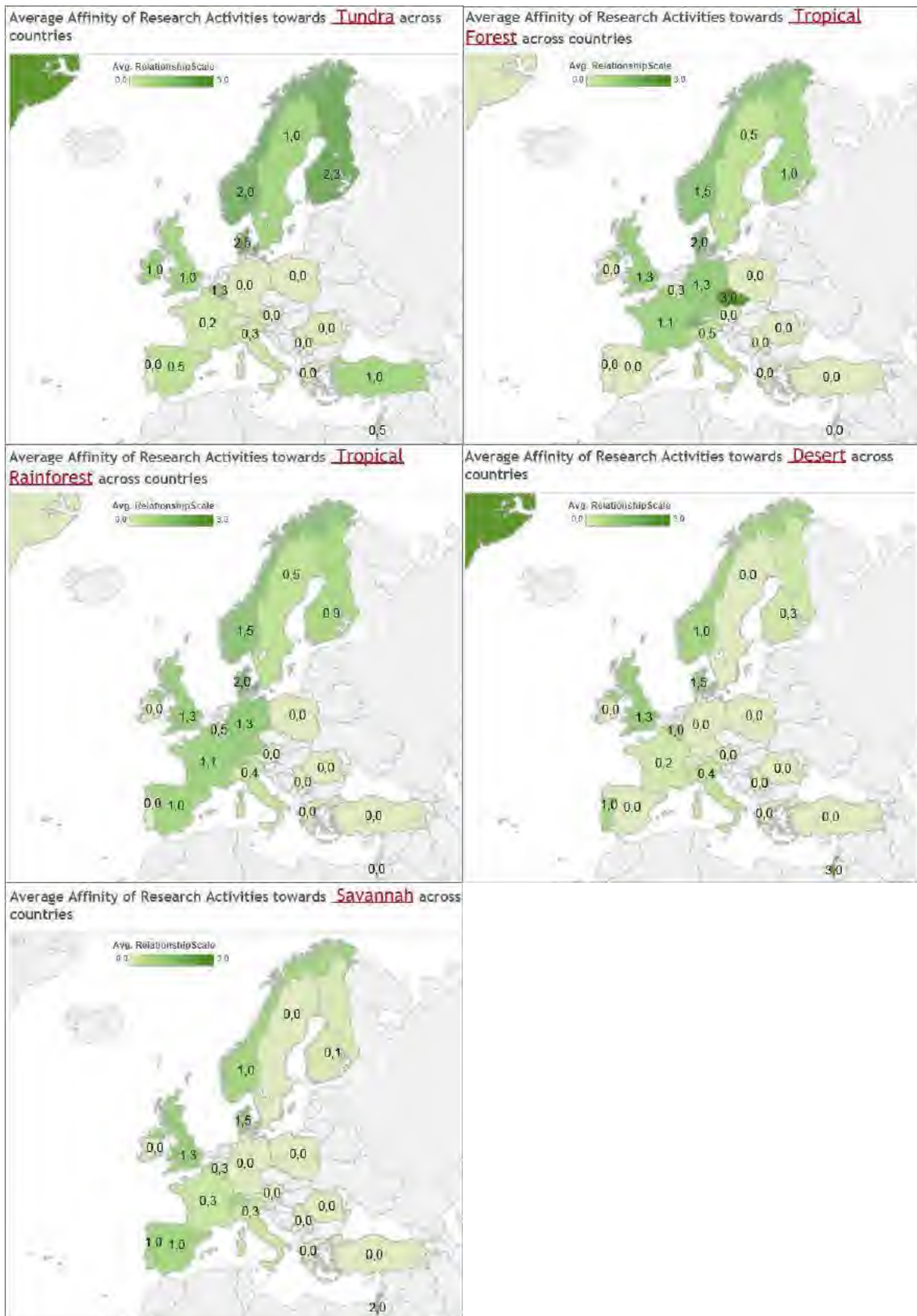


Figure 10: Average Ecosystem Affinity across Countries (Highly Related=3, Fairly Related = 2, Poorly Related = 1; No Relationship =0) – Show Tundra, Tropical Forest, Tropical Rainforest, Desert, and Savannah.

Ecosystems and Research Budget classes: illustrating the relationship between ecosystem studied and the amount of budget (Q11 and Q22)

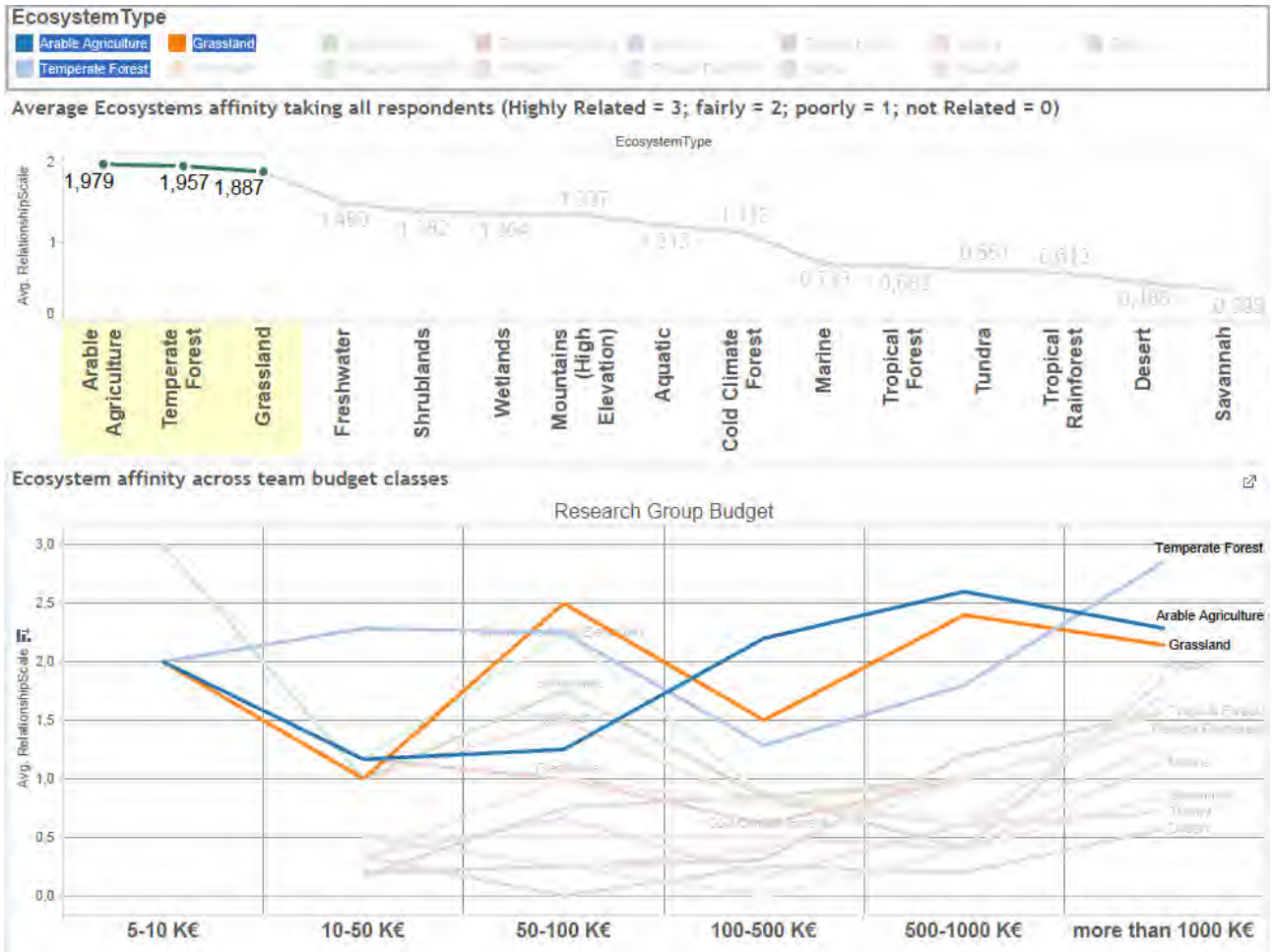


Figure 11: Ecosystems and Research Budget classes: illustrating the relationship between ecosystem studied and the amount of budget. Showing Temperate Forest, Arable Agriculture and Grassland

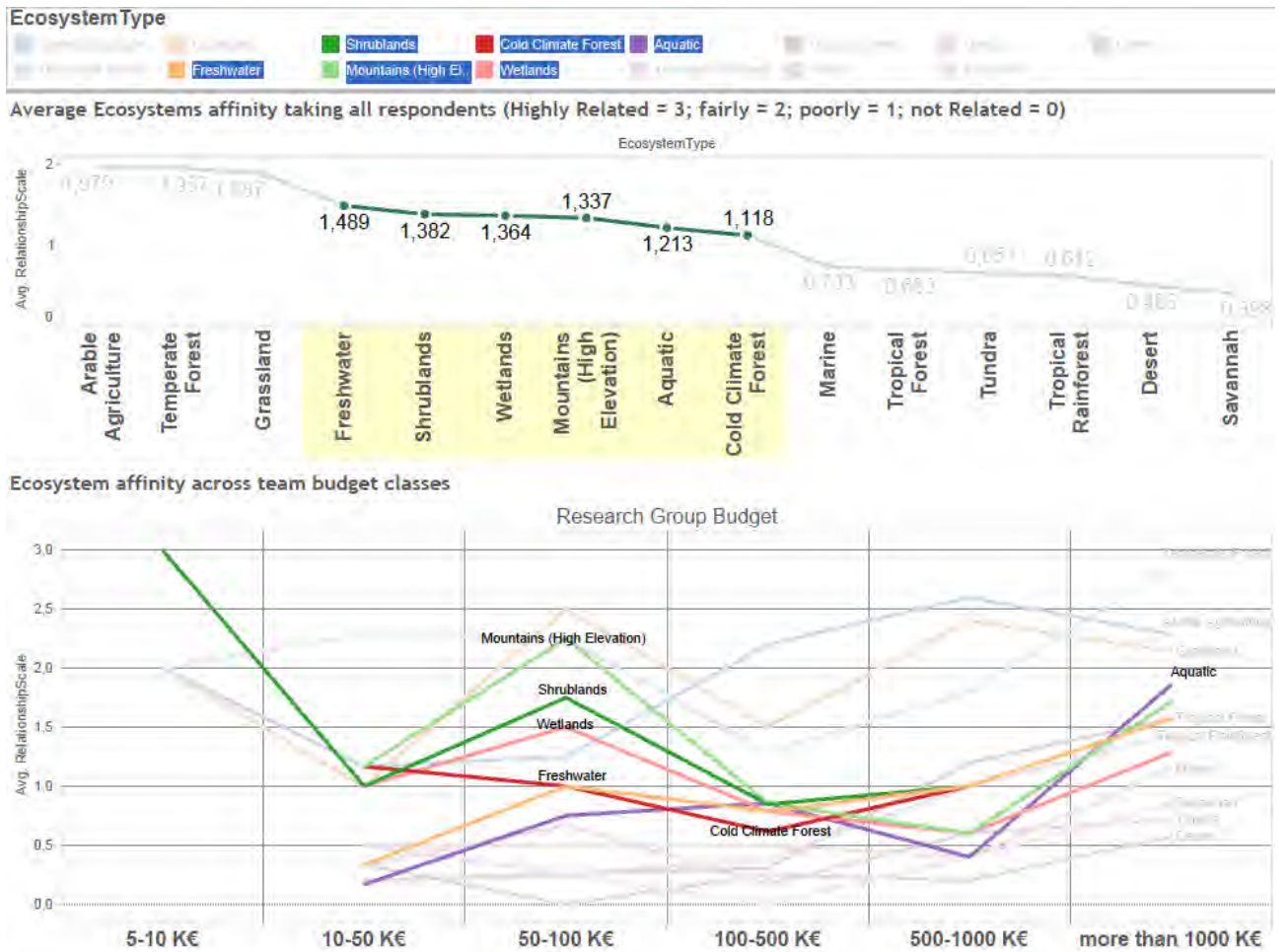


Figure 12 Ecosystems and Research Budget classes: illustrating the relationship between ecosystem studied and the amount of budget. Showing Mountains, Scrublands, Wetlands, Freshwaters, Cold Climate Forest and Aquatic

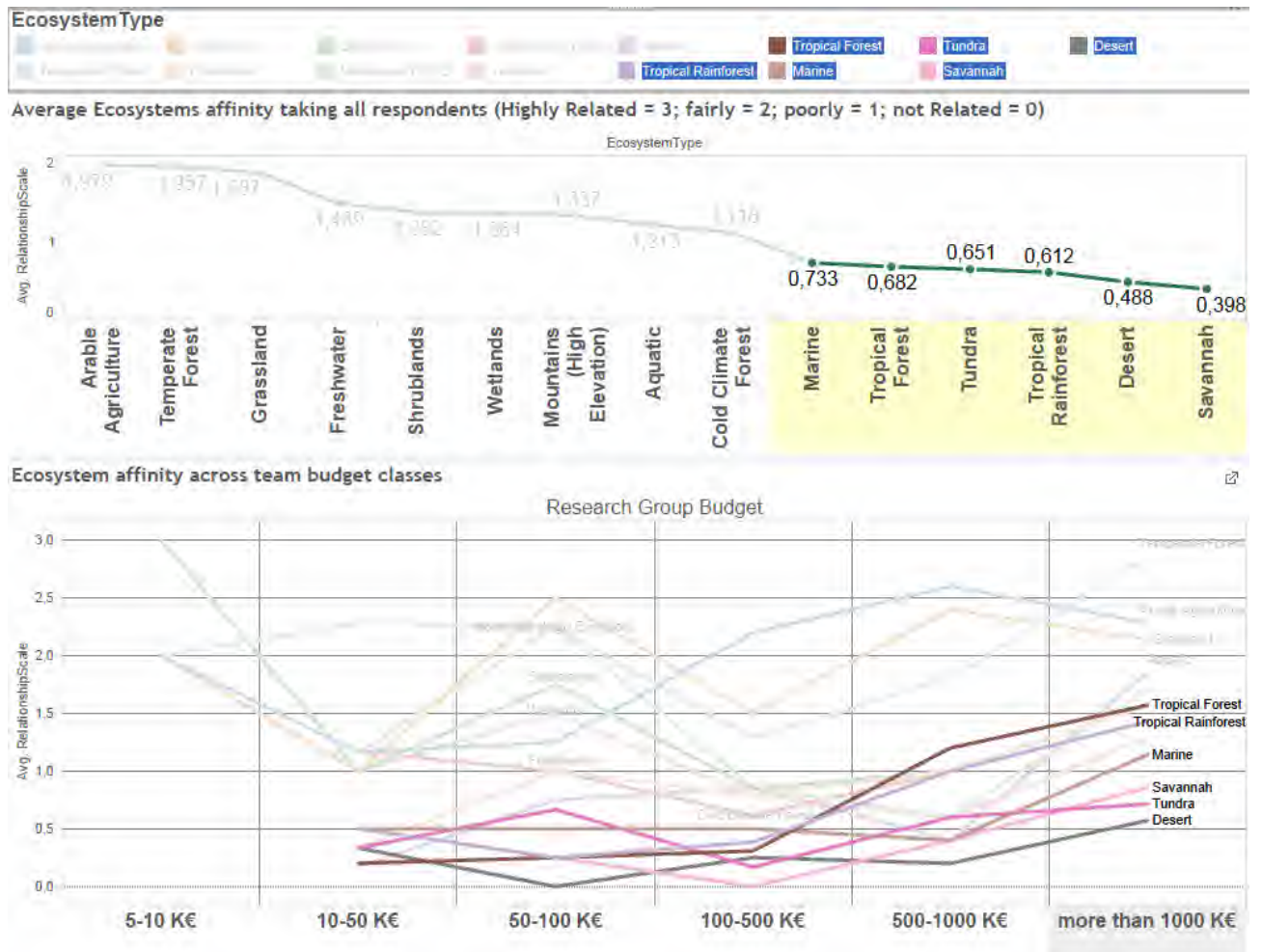


Figure 13: Ecosystems and Research Budget classes: illustrating the relationship between ecosystem studied and the amount of budget. Showing Tropical Forest, Tropical Rainforest, Marine, Savannah, Tundra, Desert.

Grand Challenges across Ecosystem Types: illustrating the relationship between ecosystem studied and grand challenges (Q11 and Q8)

Here is an example: If we want to analyze for a specific Ecosystem, for Instance “Arable Agriculture”, which are the most interesting Grand Challenges for the respondents. Other cross analyses between Grand Challenges and Ecosystems are reported in Annex III.

