

### Outline

01. Work package leaders
02. Objectives
03. Deliverables
04. Tasks fulfilled
05. Results



### 01. Work package leaders

Work package 2 has been carried out under the leadership of partners P2 (University of Salzburg, Austria) and P9 (Royal University of Bhutan, Bhutan), who have coordinated and ensured the smooth and successful realisation of all work package activities, as well as the quality of all results. In particular, it was intended that P2 was in charge of the coordination of activities within WP2.3 (see the two sections below), while WP2.2 had to be completely supervised by P9. The supervision of WP2.1 had to be shared among both P2 and P9. However, due to impossibility of the latter partner to participate in the leadership of the work package, all activities related to the coordination and supervision of work package 2 have been carried out by P2.

### 02. Objectives

The objective of work package 2 is to build sufficient capacity for sustainable maintenance of SUNRAISE curricula and learning contents by upgrading existing and developing new courses, upgrading the PhD research framework, and training of academic staff and PhD students. To that end, 3 sub-packages were created: 1) WP2.1 aiming at the revision and development of SUNRAISE courses and learning materials; 2) WP2.2 aiming at strengthening the research and teaching capacity of SUNRAISE partners through modernisation of PhD research agenda; and 3) WP2.3 aiming at the realisation of a range of SUNRAISE training activities related to the development of curricula and learning materials following the programme approved by the Steering Committee.

### 03. Deliverables

For each of the sub-packages defined, the deliverables to be produced are:

- **WP2.1:** circa 12 ECTS and 30 ECTS of significantly updated existing courses and new courses, respectively, which are targeted to bachelor, master or PhD students. For the revision of existing courses, this involves the revision of approximately 3 courses worth at least 3 ECTS by each of the 7 involved partners, but partner P2. The latter partner is only responsible for the production of a new optional course. New courses have to be piloted before the conclusion of the project.

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Partners involved	Expected deliverables (study programmes that will be improved)	Partners involved in the quality assessment (cross-peer evaluation)
P2 (University of Salzburg, Austria)	1 optional MSc/PhD course that can be used by partners P5-P7, P9, P11-P12 for improving their study programmes	P9 (Royal University of Bhutan, Bhutan) through the piloting of the module at Royal University of Bhutan
P5 (Russian State Hydrometeorological University, Russia)	- BSc and MSc programmes in applied hydrometeorology, ecology and natural resource management	P1 (University of Bremen, Germany)
P6 (Siberian Federal University, Russia)	- BSc programmes in geography, ecology and natural resource management, amelioration, and water resource management - MSc programmes in spatial planning, sustainable development and environmental safety, fundamental ecology, nature conservation, environment of polar oil- and gas-producing regions, and environmental monitoring	P3 (Estonian University of Life Sciences, Estonia)
P7 (Gorno-Altai State University, Russia)	BSc and MSc programmes in geography, ecology and natural resource management	P2 (University of Salzburg, Austria)
P9 (Royal University of Bhutan, Bhutan)	Degree programmes in sustainable development, forestry and agriculture	P3 (Estonian University of Life Sciences, Estonia)
P11 (Kumaun University, India)	Degree programmes in Forestry, Geology and Geographical Information Science/ Geography	P2 (University of Salzburg, Austria)
P12 (Jawaharlal Nehru University, India)	BSc and MSc programmes in environmental sciences and ecology	P3 (Estonian University of Life Sciences, Estonia)

- **WP2.2:** development of institutional and departments research agendas and allocation of at least 7 PhD positions by project partners P5, P6, P7, P9, P11, and P12. Further, the completion of the sub-package has to result in the revision of “passports of PhD specialisations” by partners P5, P6, and P7. The quality of all these activities is ensured by partner P2.
- **WP2.3:** carrying out of training events, including 3 open call international summer schools targeted to academic faculty and PhD students (see table below). The execution of other training formats including 6 onsite seminars by EU faculty, and short study visits is also foreseen.

Partners involved	Expected deliverables	Quality assessment
P6 (Siberian Federal University, Russia) And P7 (Gorno-Altai State University, Russia)	Summer school on SDGs and monitoring of early warnings in management of mountain areas in 2018	Evaluation of the activities by the participants
P2 (University of Salzburg, Austria)	Summer school on urbanization forced by tourism in sensitive arctic and high mountain regions in 2019	Evaluation of the activities by the participants

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P5 (Russian State Hydrometeorological University, Russia)	Summer school on international and European aspects of natural resources governance in the Arctic in 2020	Evaluation of the activities by the participants
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**04. Tasks fulfilled**

On 14 April 2020, the status of all work package-related activities is as follows:

- **WP2.1:** courses have been revised and newly created by all project partners in charge and have been implemented or are being tested right now. Due to unexpected difficulties, some courses are being updated/ refined at the moment, but are expected to be launched before long. The status by each partner is pointed out in the tables below:

<b>Project partner: P2 (University of Salzburg, Austria)</b>			
<b>Status of the deliverables up to 14.04.2020</b>			
1 new course – 3 ECTS			
Programmes expected to be improved	Activities set	Level of fulfilment	
		Creation of a new course	Quality assessment
Any programmes on urbanisation in mountain areas in any of the partners institutions	- Creation of a new course - Quality assessment (piloting) at P9, led by partner P2 and conducted together with partners P11 and P12		

**Legend (level of fulfilment)**  Done  Ongoing  Pending

<b>Brief description of the new courses created (1 course) – 3 ECTS</b>					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Ecological aspects of urbanisation in mountain areas	Not included in any study programme by any of the project partners yet	MSc/ PhD	3	√	√ piloted at Royal University of Bhutan (P9)

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Project partner: P5 (Russian State Hydrometeorological University, Russia)				
Status of the deliverables up to 14.04.2020				
3 courses revised + 2 new courses – 11 ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/creation of courses	Communication	Quality assessment
BSc programmes in applied hydrometeorology	- Creation of new courses - Communication of results to partners P2 and P9 - Quality assessment by partners P2 and P9			
BSc/ MSc programmes in ecology and natural resource management	- Revision of existent courses - Communication of results to partners P2 and P9 - Quality assessment by partners P2 and P9			

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the courses revised (3 courses – 8 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?
Environmental safety in Arctic shelf deposits development	Ecology and natural resource management	BSc	3	✓	✓ started
Sustainable Ecosystem Management	Ecology and natural resource management	BSc	2	✗ some changes needed	✗ soon
The impact of climate and its changes on the state of ecosystems and human activity in the polar and mountainous regions	Ecology and natural resource management	MSc	3	✓	✓ started

Brief description of the new courses created (1 course – 3 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Additional chapters of atmospheric physics in the Arctic region	Applied hydrometeorology	BSc	3	✓	✓ started

Project partner: P6 (Siberian Federal University, Russia)				
Status of the deliverables up to 14.04.2020				
5 courses revised + 1 new course – 18 ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/creation of courses	Communication	Quality assessment
BSc programmes in geography, ecology and natural resource management	<ul style="list-style-type: none"> <li>- Revision of existent courses</li> <li>- Communication of results to partners P2 and P9</li> <li>- Quality assessment by partners P2 and P9</li> </ul>			
MSc programmes in sustainable development and environmental safety, fundamental ecology, nature conservation, environment of polar oil- and gas-producing regions, and environmental monitoring	<ul style="list-style-type: none"> <li>- Revision of existent courses and creation of new ones</li> <li>- Communication of results to partners P2 and P9</li> <li>- Quality assessment by partners P2 and P9</li> </ul>			

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the courses revised (5 courses – 15 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?
Environmental Biomonitoring (Mountain module)	Spatial planning, sustainable development and environmental safety, fundamental ecology, nature conservation, environment of polar oil- and gas-producing regions, and environmental monitoring	MSc	3	✓	✓ started
Natural-resource potential of the regions (Mountain and Arctic modules)	Geography, ecology and natural resource management, amelioration and water resource management	BSc	3	✓	✓ started
Plant Ecology (Mountain and Arctic modules)	Geography, ecology and natural resource management	BSc	3	✓	✓ started

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Soil Ecology (Mountain and Arctic modules)	Geography, ecology and natural resource management	BSc	3	✓	✓ started
Sustainable Development (Mountain and Arctic modules)	Geography, ecology and natural resource management	BSc	2	✓	✓ started

Brief description of the new courses created (1 course – 3 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Biogeochemistry of permafrost landscapes	Spatial planning, sustainable development and environmental safety, fundamental ecology, nature conservation, environment of polar oil- and gas-producing regions, and environmental monitoring	MSc	3	✓	✓

Project partner: P7 (Gorno-Altai State University, Russia)				
Status of the deliverables up to 14.04.2020				
1 course revised + 2 new courses – 9 ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/ creation of courses	Communication	Quality assessment
BSc/ MSc programmes in geography, ecology and natural resource management	- Revision of existent courses and creation of new ones - Communication of results to partners P2 and P9 - Quality assessment by partners P2 and P9			

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the courses revised (1 course – 3 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?
Environmental Design and Expertise	Ecology and environmental management	BSc	3	✓	✓

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Brief description of the new courses created (2 courses – 6 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Sustainable Development of Mountain Territories	Geography, Ecology and environmental management	MSc	3	✓	✓
Waste Management	Ecology and environmental management	MSc	3	✓	✓

Project partner: P9 (Royal University of Bhutan, Bhutan)				
Status of the deliverables up to 14.04.2020				
? courses revised + ? new courses – ? ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/creation of courses	Communication	Quality assessment
Degree programmes in sustainable development, forestry and agriculture	<ul style="list-style-type: none"> <li>- Revision of existent courses and creation of new ones</li> <li>- Communication of results to partner P2</li> <li>- Quality assessment by partner P2</li> </ul>			

Legend (level of fulfilment)  Done  Ongoing  Pending

Brief description of the courses revised (? courses – ? ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?

Brief description of the new courses created (? course – ? ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?

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<b>Project partner: P11 (Kumaun University, India)</b>				
Status of the deliverables up to 14.04.2020				
2 courses revised + 2 new courses – 16 ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/creation of courses	Communication	Quality assessment
Degree programmes in Forestry, Geology, and Geographical Information Science/ Geography	- Revision of existent courses and creation of new ones - Communication of results to partner P2 - Quality assessment by partner P2			

**Legend (level of fulfilment)**  Done  Ongoing  Pending

<b>Brief description of the courses revised (2 courses – 8 ECTS)</b>					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?
Integrated Watershed Management	Geography	MSc & MA	4	✓	✓ started
Natural Resource Management	Geography	MSc & MA	4	✓	✓ started

<b>Brief description of the new courses created (2 courses – 8 ECTS)</b>					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Climate Change Impacts and Adaptation in Himalaya	Forestry, Geology and Geographical Information Science/ Geography	MSc & MA	4	✓	✓ started
Integrated Mountain Development with Special Reference to Indian Himalaya	Forestry, Geology and Geographical Information Science/ Geography	MSc & MA	4	✓	✓ started

<b>Project partner: P12 (Jawaharlal Nehru University, India)</b>				
Status of the deliverables up to 14.04.2020				
3 courses revised + 4 new courses – 21 ECTS				
Programmes expected to be improved	Activities set	Level of fulfilment		
		Revision/creation of courses	Communication	Quality assessment
BSc/ MSc programmes in environmental sciences and ecology	- Revision of existent courses and creation of new ones - Communication of results to partner P2			



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	- Quality assessment by partner P2			
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**Legend (level of fulfilment)** ■ Done ■ Ongoing ■ Pending

Brief description of the courses revised (3 courses – 7 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already revised?	Implemented?
Ecosystem Processes	Environmental Sciences	MSc	2	In process	Scheduled for July 2020
Introduction to Environmental Sciences	Language Course	BA	3	In process	Scheduled for July 2020
Man & Tropical Forest Ecosystem Function	Environmental Sciences	MSc	2	In process	Scheduled for July 2020

Brief description of the new courses created (4 courses – 14 ECTS)					
Title of the course	Study programme	Study level	Number of ECTS	Already created?	Piloting/ Implemented?
Ecosystem Approach for Disaster Risk Reduction	Environmental sciences and ecology	MA	4	√	Scheduled for July 2020
Himalayan Ecology	Environmental sciences and ecology	MSc	2	In process	Scheduled for July 2020
Remote Sensing, GIS for Emergency Management	Disaster Studies	MA	4	√	√ started
Risk, Vulnerability and Resilience: Concepts and Understanding	Disaster Studies	MA	4	√	√ started

- **WP2.2:** new institutional and departments research agendas have been developed by most of the project partners concerned, PhD positions allocated, and “passports of PhD specialisations” revised by partners P5 and P6. Due to funding unavailability and administrative issues in partner P7’s institution, partner P7 has reported that no passport of PhD specialisation could be revised and no PhD positions allocated until now on the topics of the project. The latter is expected to change in September 2020. The status by each partner is pointed out in the tables below:

Project partner: P5 (Russian State Hydrometeorological University, Russia)	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	???
Allocation of PhD positions	
Revision of “passports of PhD specialisations”	???
Communication of results	
Quality assessment	

**Legend (level of fulfilment)** ■ Done ■ Ongoing ■ Pending

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Brief description of the institutional and departments research agendas developed (?)		
Title of the research agenda	Already developed?	Implemented?

Allocation of PhD positions (4 positions)			
Name of the PhD student	Thesis topic	Year of enrolment	Year of graduation
Ekaterina Bulavina	Snow cover toxicity as an indicator of the ecological status of urban areas	2018	2022
Ilya Pavlov	The influence of climatic parameters of the Vologda Oblast on the transport of pollutants in the atmosphere and the deposition of pollutants in urban areas	2018	2022
Rahmatullozoda Akobirdzhon	Hydrochemical regime of rivers of South-Western Tajikistan	2017	2020
Sherali Murtazoyev	Geoecological analysis of air pollution factors in the city of Dushanbe	2018	2021

Brief description of the "passports of PhD specialisations" revised (?)		
Title of the passport	Already developed?	Implemented?

Project partner: P6 (Siberian Federal University, Russia)	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	
Allocation of PhD positions	
Revision of "passports of PhD specialisations"	
Communication of results	
Quality assessment	

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the institutional and departments research agendas developed (1)		
Title of the research agenda	Already developed?	Implemented?
PhD Ecology ( <a href="https://www.sfu-kras.ru/en/PhD/ecology#tab6">https://www.sfu-kras.ru/en/PhD/ecology#tab6</a> )	√	√

Allocation of PhD positions (2 positions)			
Name of the PhD student	Thesis topic	Year of enrolment	Year of graduation
Irina Gette	Recovery of <i>Pinus sylvestris</i> physiology following a fire	1.09.2013	1.08.2019
Marina Rubleva	Substance migration features in ecosystems of the mountain taiga zone	1.09.2019	30.06.2023



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Brief description of the “passports of PhD specialisations” revised (1)		
Title of the passport	Already developed?	Implemented?
PhD's Programme “Ecology” ( <a href="https://www.sfu-kras.ru/en/PhD/ecology#tab3">https://www.sfu-kras.ru/en/PhD/ecology#tab3</a> )	√	√

Project partner: P7 (Gorno-Altai State University, Russia)	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	Will be presented by September
Allocation of PhD positions	Due to the absence of financial support of PhD programmes (aspirantura) in GASU, there were no PhD students working on the Project related topics neither in 2018-2019 nor in 2019-2020 academic years. The university has received funding for the next year, thus at least 1 PhD student (aspirant) is expected by September 2020.
Revision of “passports of PhD specialisations”	In Russia, only some leading universities have PhD programs and can award their own PhD degree. Most universities, including GASU, have aspirantura. Graduates who successfully defend their dissertation and pass the defence results control in the Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation (VAK) get the academic degree Candidate of sciences (equivalent to PhD), which is awarded in a concrete strictly regulated field of science, for example, biological, geographical, etc. Thus, all passports of scientific specialisations are approved by the VAK and cannot be revised by the universities. <a href="http://arhvak.minobrnauki.gov.ru/316">http://arhvak.minobrnauki.gov.ru/316</a>
Communication of results	
Quality assessment	

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the institutional and departments research agendas developed		
Title of the research agenda	Already developed?	Implemented?
Will be presented by September	X	X

Project partner: P9 (Royal University of Bhutan, Bhutan)	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	???
Allocation of PhD positions	???

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Communication of results	
Quality assessment	

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the institutional and departments research agendas developed (?)		
Title of the research agenda	Already developed?	Implemented?

Allocation of PhD positions (?)			
Name of the PhD student	Thesis topic	Year of enrolment	Year of graduation

Project partner: P11 (Kumaun University, India)	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	
Allocation of PhD positions	
Communication of results	
Quality assessment	

**Legend (level of fulfilment)**  Done  Ongoing  Pending

Brief description of the institutional and departments research agendas developed <sup>1</sup> (5)		
Title of the research agenda	Already developed?	Implemented?
Application of Remote Sensing and GIS	√	√
Mountains Climate Change Impact and Adaptation	√	√
Natural Hazards Management and Disaster Risk Reduction	√	√
Sustainable Mountain Urbanization	√	√
Sustainable Tourism Development	√	√

<sup>1</sup> Note: As per the University Rule it is not allowed to fix an agenda for Ph.D. research. However, based on the recommendations of the Workshop organized at Kumaun University (Nainital) on May 2018 we have suggested the Departmental Faculty Members to focus on the research agenda mentioned above both for Ph.D. Research and Dissertations at Master's Level. The majority of Ph.D. Researches as well as Master's Dissertation are focussing broadly on the areas mentioned in the Table above. This is endorsed by the Ph.D. Research title of the 6 Ph.D. Students in the Table below.

<b>Allocation of PhD positions (6 positions)</b>			
Name of the PhD student	Thesis topic	Year of enrolment	Year of graduation
Arifa Begum	A Geographical Study of Urban Growth and Quality of Life in the Himalayan Foothills of Kumaun	2018	Expected after 2022-23
Dheeraj Pant	Climate Change and its Impact on Community Health in Betalghat Development Block, Kumaon Lesser Himalaya	2017	Expected after 2022-23
Kevala Nand	Impact of Climate Change on Water Resources in Kujgad Watershed, Kumaun Himalaya	2017	Expected after 2022-23
Manika Kweera	Sustainable Urban Development under Climate Change in the Lake Region of District Nainital, Uttarakhand [Proposed]	Expected 2020	-
Manisha Pant	Climate Change and its Impact on Human Health in Mountainous and Foothill Regions of District Nainital, Uttarakhand	2018	Expected after 2022-23
Mohan Singh	Impacts OF Climate Change on Agriculture, Food Security and Rural Health in Balia Catchment, Kumaon Himalaya [Ph.D. Dissertation Submitted]	2014	2020
Pooja Nainwal	Women's Perception, Responses and Adaptation to Climate Change in Ramgad Watershed, Kumaun Himalaya, Uttarakhand	2018	Expected after 2022-23
Rahul Kumar	Impact of Climate Changes on Farming System and Food Security in Kujgad Watershed, Kumaon Himalaya [Proposed]	Expected 2020	-
Ritika Vishnoi	Changes in Rainfall Pattern and its Impact on Food Security status in Ramgad Catchment of Kumaun Himalaya: A Community based Adaptation Strategy	2013	Expected in 2020 or 2021
Vaseem Ahmad	Impact Of Climate Change on Water Resources: A Case Study of Balia Catchment, District Nainital, Uttarakhand	2017	Expected after 2022-23

<b>Project partner: P12 (Jawaharlal Nehru University, India)</b>	
Status of the deliverables up to 14.04.2020	
Activities set	Level of fulfilment
Development of institutional and departments research agendas	
Allocation of PhD positions	
Communication of results	
Quality assessment	

**Legend (level of fulfilment)**  Done  Ongoing  Pending

<b>Brief description of the institutional and departments research agendas developed (4)</b>		
Title of the research agenda	Already developed?	Implemented?
Ecosystem Services in Western Himalayan Eco region	In Process	In Process
Fire Ecology in Tropical forest	In Process	In Process
Road Ecology in Himalayan foothills	√	√ started
Vulnerability Assessment in Western Himalayan Eco region	√	√ started

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<b>Allocation of PhD positions (6 positions)</b>			
Name of the PhD student	Thesis topic	Year of enrolment	Year of graduation
Anees MM	Characterising urban ecosystems in the capital cities of the Western Himalaya	2018	
Deepika Mann	Spatio-temporal analysis of effects of road network in Central Himalayan region	2018	
Neha Chauhan	Socio-environmental vulnerability of agricultural communities to climate change in Western Himalaya	2019	
Praveen Kumar	Assessing climate change vulnerability and adaptation strategies of socio-ecological systems in the Central Himalaya	2018	
Saurabh Kaushik	Understanding eastern Himalaya cryosphere using remote sensing	2018	
Sonali Sharma	Regulating ecosystem services in urbanising landscapes of Western Himalaya	2020	

- **WP2.3:** two open call international summer schools have been successfully conducted in summer 2018 and 2019, respectively, and work has already started for the organisation of the third international SUNRAISE summer school, which was scheduled for summer 2020, but will probably be held in summer 2021, due to the covid-19 situation in 2020, which is severely constraining the carrying out of international events worldwide. Additionally, 13 onsite seminars and several short study visits have been carried out.

<b>Open call international summer schools</b>				
Status of the deliverables up to 14.04.2020				
2 summer schools conducted + 1 third summer school planned				
Title of the summer school	Organiser(s)	Date	Number of participants	Quality assessment
Monitoring and Early Warnings in Mountain Social-Ecological Systems	P6 (Siberian Federal University, Russia) and P7 (Gorno-Altai State University, Russia)	15-29 July 2018	47	v done
Sustainable Natural Resource Use in Arctic and High Mountainous Areas	P2 (University of Salzburg, Austria)	07-21 July 2019	78	v done
ACT! Arctic Sustainability: Policy and Management Innovations for Transboundary Problems	P5 (Russian State Hydrometeorological University, Russia)	Scheduled for 17-28 August 2020 but postponed due to the covid-19 situation	-	-

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Summer school 2018 in Krasnoyarsk and Gorno-Altaiisk

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Summer school 2019 in Salzburg

<b>Onsite seminars</b>			
Status of the deliverables up to 14.04.2020			
9 onsite seminars			
Title of the seminar	Organiser(s)	Date	Number of participants
SUNRAISE Russia's Start-up Seminar and stakeholder workshop	P5 (Russian State Hydrometeorological University, Russia)	12-13 March 2018	28
Stakeholder Seminar for Faculty, Researchers, Local Level Policy Makers and for Ph.D. Students	P11 (Kumaun University, India)	17 November 2018	-
Stakeholder Seminar for Faculty, Researchers, Local Level Policy Makers, and for Ph.D. Students	P11 (Kumaun University, India)	27-28 June 2019	-
Joint Seminar of ERASMUS+ CBHE Projects	P3 (Estonian University of Life Sciences, Estonia)	20-24 May 2019	38

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Workshop on Google Earth Engine (GEE) for Beginners	P12 (Jawaharlal Nehru University, India)	07 August 2019	52
On Site Orientation Seminar for Ph.D. Students	P11 (Kumaun University, India)	August 2019	-
Workshop on Heritage Conservation & Management	P12 (Jawaharlal Nehru University, India)	02 September 2019	20
On Site Orientation Seminar for Ph.D. Students in Rudrapur	P11 (Kumaun University, India)	September 2019	-
Seminar for Faculty, Researchers, and for Ph.D. Students	P11 (Kumaun University, India)	10 October 2019	-
Development of Massive Open Online Courses in Order to Promote Sustainable Development of Arctic and High Mountainous Areas	P7 (Gorno-Altai State University, Russia)	27 November 2019	20
SUNRAISE project seminar «Sustainable Natural Resource Use in Arctic and High Mountainous Areas»	P6 (Siberian Federal University, Russia)	29-31 January 2020	17
Winter School on Q-GIS	P12 (Jawaharlal Nehru University, India)	3-7 February 2020	15
Winter School on SAGA GIS	P12 (Jawaharlal Nehru University, India)	10-14 February 2020	15

## 05. Results

The fulfilment of the project activities within work package 2 has led to a substantial improvement of the teaching programmes and research agendas in the involved project partners' institutions and has served as an exceptional platform for the exchange of ideas among students and investigators from institutions from very different socio-ecological contexts.

All teaching programmes targeted and requiring improvements have been updated. On 14.04.2020, a total of almost 38 ECTS have been revised and 37 ECTS newly created, which meets and even surpasses the objective of approximately 12 revised and 30 new ECTS established during the conception of the project. All concerned project partners have already uploaded the new syllabus and learning materials, accredited the updated/ new courses, and started with their implementation, with the exception of a couple of cases. In these latter cases, some courses are still under revision/ development, due to unexpected circumstances that are not in the responsibility of the project partner and that will be solved very soon. The number of credits in every course have turned out to be appropriate in all cases, as well as the position of the courses in curricula. Strategies for improvement during the quality assessment concern specially the practical and self-learning approach in some courses, which is being discussed right now. Results on the revised/ new courses are made available in the SUNRAISE webpage: <http://sunraise.sfu-kras.ru/sunraiser>.

On the other hand, altogether, 10 institutional and departments research agendas have been developed at Russian, Indian and Bhutanese partners' higher education institutions and 18 PhD positions allocated, which

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## Work package 2

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meets again and even surpasses the objective of at least 7 PhD positions. Russian partners P5, P6 and P7 have additionally updated 1 passports of PhD specialisations.

The development of all activities within sub-package 2.3, including the summer schools and onsite seminars, resulted in a very satisfactory experience and very enriching learning process for all participants. During the summer schools, the inclusion of local stakeholders and international professionals from within and outside the consortium and with very different experiences made the discussions very enriching and exciting for all attendees. A wide range of theoretical concepts and practical knowledge was shared among all participants, which is becoming crucial for the successful development of the project and being very enriching for all participating partners and institutions in order to better support the sustainable development of mountain and arctic environments. In order to keep all interested people informed on these events, results and agenda have been uploaded on the SUNRAISE webpage: <http://sunraise.sfu-kras.ru/activities>.