



Implementation of the SUNRAISE project in Gorno-Altai State University



Co-funded by the
Erasmus+ Programme
of the European Union

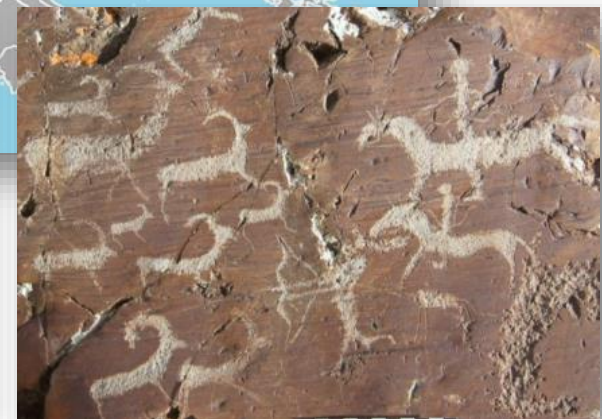


**SUSTAINABLE NATURAL RESOURCE
USE IN ARCTIC AND HIGH
MOUNTAINOUS AREAS**

(2017-2020 extended till 14.10.2021)

Altai Republic:

- has external borders with Kazakhstan, Mongolia, and China
- total area – 93 000 km²
- population – 220 000 ppl.



Gorno-Altaiisk is the capital and the only city of the Altai Republic:



- population – 64 500 ppl.

Gorno-Altaiisk State University is the only HEI in the Altai Republic



- 2 800 students

GASU is a small university, but plays a very important role being the only HEI and a leading scientific center of the Altai Republic. Therefore, all GASU projects have a significant impact on the socio-economic development of not only Gorno-Altaiisk, but the region as a whole.



The project aims to promote sustainable management of Arctic and high mountainous ecosystems in Bhutan, India and Russia (partner countries – PCs) through enhanced tertiary education linked to labour markets and wider stakeholder circles

1. To revise and upgrade selected BSc, MSc & PhD programs in PC higher education institutions to make them end-user-oriented & policy-relevant, and enhance opportunities for LLL education

2. To create sustainable feedback mechanisms to end-users, ensuring adaptive and practice-relevant teaching contents, knowledge co-production opportunities and stakeholder support to post-project course development and teaching

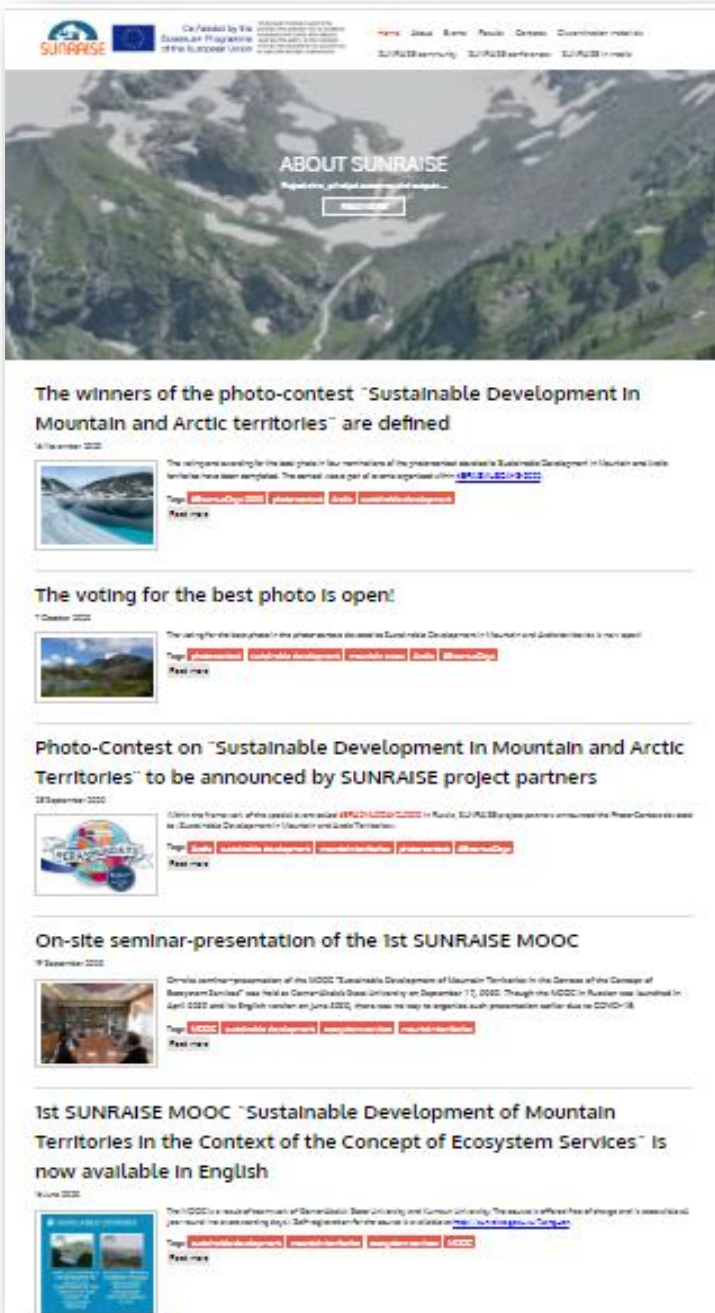
3. To develop capacity for academic mobility, shared experimental facilities and joint research by PIs and beyond

4. To develop SUNRAISE open education environment Platform (SUNRAISER) and online training services of the new generation (MOOC) for qualitative improvement of the education process and academic workflow support among universities and stakeholders across the PC and EU Member States









With the support of the
Erasmus+ Programme
of the European Union





Official SUNRAISE website
<http://sunraise.sfu-kras.ru/>

SUNRAISE dedicated page
 on GASU website
<http://gasu.ru/erasmus/ru/>

| | | |
|------------|---|--|
| 25.09.2020 |  | <p>Фотоконкурс «Устойчивое развитие горных и арктических регионов»</p> <p>Горно-Алтайский государственный университет приглашает непрофессиональных фотографов любого возраста принять участие в фотоконкурсе «Устойчивое развитие горных и арктических регионов».</p> |
| 18.09.2020 |  | <p>Семинар-презентация MOOK «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг»</p> <p>17 сентября в ГАГУ прошел семинар-презентация массового открытого онлайн курса «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг», разработанного в рамках проекта SUNRAISE Программы Erasmus+.</p> |
| 18.06.2020 |  | <p>MOOK по устойчивому развитию горных территорий теперь и на английском языке</p> <p>Горно-Алтайский государственный университет запустил англоязычную версию массового открытого онлайн курса по устойчивому развитию горных территорий "Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services".</p> |
| 27.04.2020 |  | <p>MOOK «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг»</p> <p>Горно-Алтайский государственный университет запустил массовый открытый онлайн курс (MOOK) «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг» в рамках проекта SUNRAISE.</p> |
| 27.02.2020 |  | <p>Конкурс на участие в Международной летней школе «ACT!»</p> <p>Объявляется конкурс на участие Международной летней школе «ACT! ArcticSustainability», организованной в рамках Проекта SUNRAISE. Школа будет проходить в период с 16.08.2020 г. по 29.08.2020 г. на базе Санкт-Петербургского государственного университета. Все расходы победителя Конкурса, связанные с участием в Школе, будут оплачены из средств проекта SUNRAISE.</p> |
| 29.11.2019 |  | <p>Международная научно-практическая конференция в ГАГУ</p> <p>26-28 ноября в стенах Горно-Алтайского государственного университета прошла Международная научно-практическая конференция «Трансграничные регионы в условиях глобальных изменений: современные вызовы и перспективы развития».</p> |

GASU EXPECTED RESULTS:

- **new educational courses and TLMs;**
- **improvement of teaching skills and IT competences;**
- **improvement of the material and technical base of GASU;**
- **mobility programs (trainings, seminars, summer schools, etc.);**
- **internal trainings, seminars and other activities aimed at the Project results dissemination;**
- **scientific events (conferences, workshops, round tables, etc.);**
- **strengthening/developing cooperation with Russian and foreign Project partners;**
- **strengthening/developing cooperation with local employers and other stakeholders.**

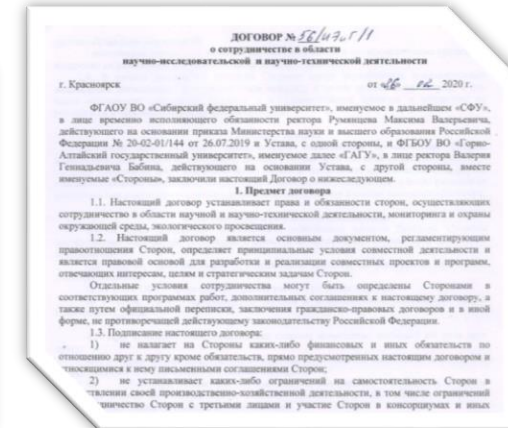
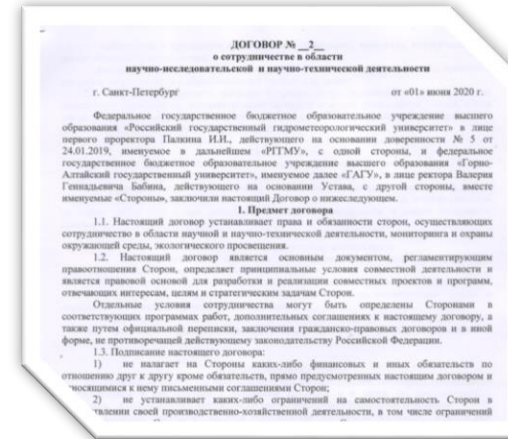
1. GROWTH OF THE UNIVERSITY'S INTERNALIZATION AND STRENGTHENING OF IN-COUNTRY COOPERATION

The **SUNRAISE** project has helped:

- Find new partners among the consortium members for the implementation of joint research projects, especially on climate change and transboundary issues so relevant to our region;
- Significantly expand the geography of participants of our scientific events. Scientists from Austria, Germany, Belarus, India, Estonia, Kazakhstan, Kyrgyzstan, Tajikistan, Bhutan, India, the Netherlands, Portugal, and Switzerland took part in conferences, the summer school, and other events organized by GASU in 2018-2021;
- Establish basis for the development of joint educational and exchange programs, separate educational courses, and MOOCs under the cooperation agreements signed with the SUNRAISE project members;
- Introduce best EU practices of hybrid and student-centered learning into GASU educational process;
- Benefit from the experience and knowledge of our EU partners while developing new educational courses and TLMs.

➤ GASU officially established partnership and signed cooperation agreements with:

- Kumaun University
- Siberian Federal University
- Russian State Hydrometeorological University



General forms of cooperation include:

- ✓ Joint scientific and research projects and themes,
- ✓ Exchange of visiting academic staff,
- ✓ Exchange of undergraduate, postgraduate and research students,
- ✓ Organization of joint scientific conferences, workshops and other events,
- ✓ Exchange of publications, university editions, books and cooperation in communication networks,
- ✓ Joint development of educational courses, including e-courses and MOOCs.



➤ **GASU hosted 1st International
SUNRAISE summer school**
**«Monitoring and Early Warnings in
Mountain Social-Ecological Systems»**
(jointly with Siberian Federal University)

**47 participants: Russia, India, Austria, Estonia,
the Netherlands, and Portugal**

**4 locations: Stolby Nature Reserve (Krasnoyarsk), Lake Teletskoye,
Katunskiy Biosphere Reserve, and Manzherok Village (Altai Republic).**



➤ **GASU hosted 1st International SUNRAISE conference “Transboundary Regions Under the Global Change - Challenges and Development Trajectories”**

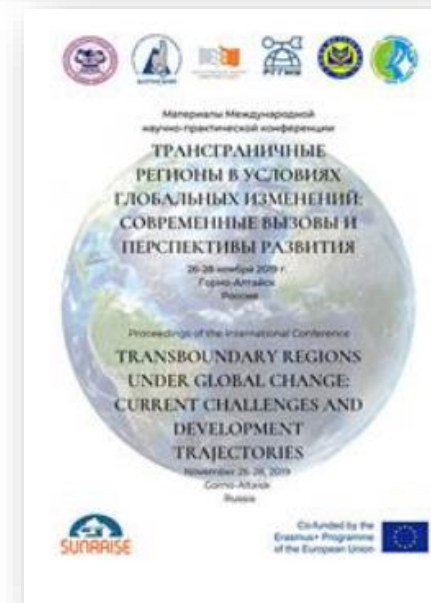
(Gorno-Altaiisk, November 25-28, 2019)

More than 70 participants from Russia, Kazakhstan, Kyrgyzstan, Bhutan, India, Estonia, and Switzerland



The conference resulted in a set of recommendations for future actions that should strengthen cooperation between transboundary regions and help their sustainable development.

The Proceedings of the Conference (ISBN 978-5-91425-171-7) include 66 articles.



➤ **International round table “Development of Massive Open Online Courses in Order to Promote Sustainable Development of Arctic and High Mountainous Areas” was co-organized with RSHU (online, November 27, 2019)**

2. IMPROVEMENT OF PROFESSIONAL COMPETENCES OF TEACHING STAFF AND IT SPECIALISTS

The project has contributed to the improvement of professional competencies of our teaching staff and IT specialists, primarily in the field of digital and distance education technologies, which came in handy during the COVID-19 pandemic. The key project participants who took part in various training events organized by EU partners or held in other Russian universities were able to not only switch to a new and completely unusual online or hybrid teaching themselves, but also actively shared their experience of producing TLMs for distant learning with other GASU colleagues as part of the internal dissemination of the Project results.

➤ External SUNRAISE training events:

- trainings, seminars, round tables;
- summer schools;
- face-to-face and online consultations provided by European colleagues.

➤ Internal dissemination of the SUNRAISE project results:

- on-site training seminars on producing digital TLMs on the example of the SUNRAISE courses (traditional and online);
- further education course “Improvement of ICT-competency of a HEI Teacher” (more than 90% of GASU teachers trained);
- individual face-to-face and online consultations.

➤ Participation of GASU faculty, students and IT-specialists in external SUNRAISE training events

In Russia:

- Saint-Petersburg
- Krasnoyarsk
- Pskov



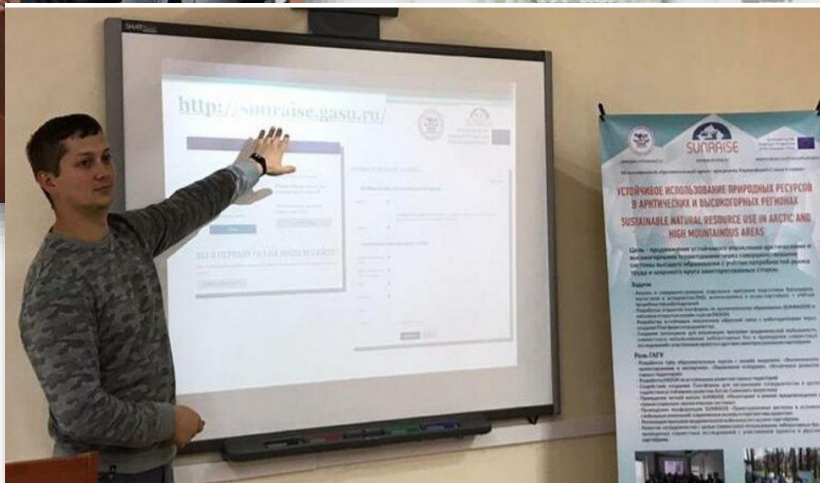
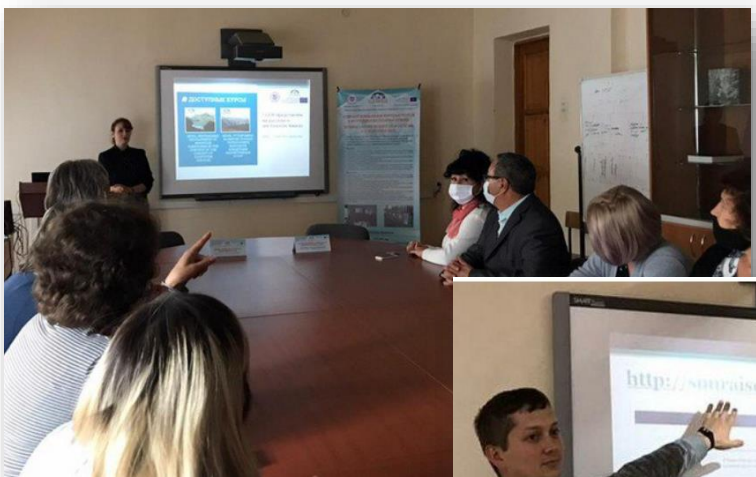
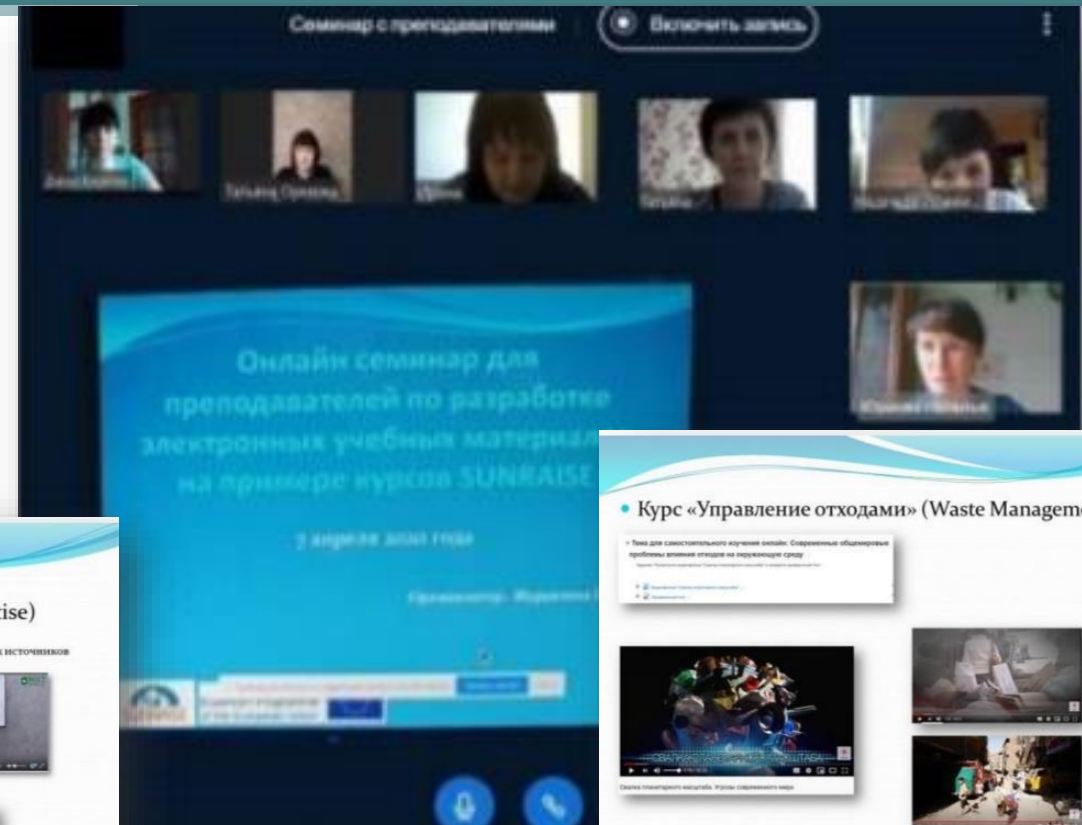
In Europe:

- Bremen
- Tartu
- Zalsburg



➤ Internal dissemination of SUNRAISE project results:

- online seminar for GASU teachers on the development of electronic teaching materials on the example of the SUNRAISE courses;
- on-site seminar-presentation of the 1st SUNRAISE MOOC "Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services" and others



3. STRENGTHENING COOPERATION WITH EMPLOYERS AND OTHER LOCAL STAKEHOLDERS

➤ **There has been created the Collaborative Platform Aimed at Assisting the Sustainable Development of the Altai-Sayan Ecoregion (Mountain Platform/ MP)**

| Mountain Platform members | Joint activities |
|--|--|
| <ul style="list-style-type: none"> • Gorno-Altaysk State University • NGO Altai-Sayany Mountain Partnership • Katunsky Biosphere Reserve • National Park Sailugemskiy • Altaiskiy State Biosphere Reserve • Sayano-Shushensky Biosphere Reserve • Union of Journalists of the Altai Republic • Institute for Ecology and Geography of SFU • NGO Foundation for Sustainable Development of Altai • Regional NGO Educational Cultural Center Altai Kabai Cradle of Altai • Branch of the Russian Geographical Society in the Altai Republic | <ul style="list-style-type: none"> • Employers actively contribute to the development and review of new courses, deliver lectures, (co)advise on undergraduate and graduate theses, etc.; • Join organization of various competitions, scientific events, field research and practices, etc.; • Join organization of awareness-raising, educational, and scientific activities for local communities; • Active participation of GASU staff and students in various environmental conservation activities, etc. |
| <p>Directorate of PAs of the AR, Development of Tourism and Entrepreneurship of the AR, relevant ministries, administrations of the municipal units, etc.</p> | <ul style="list-style-type: none"> • Conducting research and organization of further education courses at the request of local stakeholders. |

➤ Regional stakeholder workshops

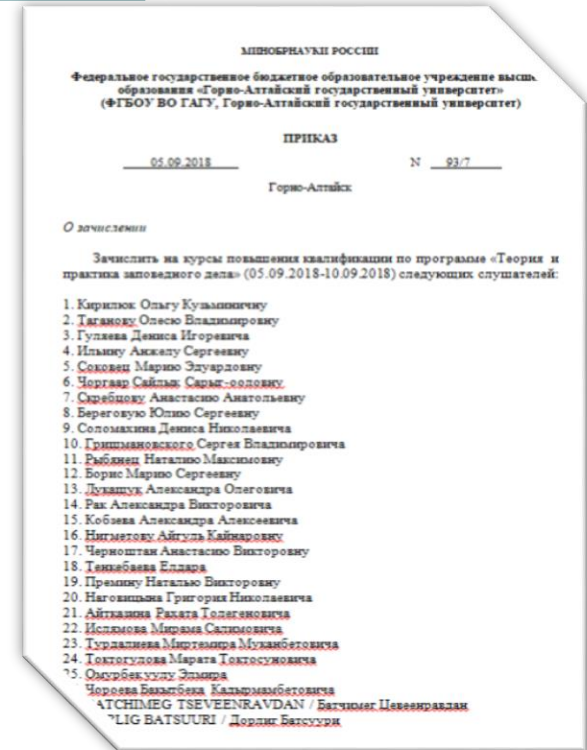


➤ Numerous joint activities of the Mountain Platform members



➤ Further education courses at the request of local stakeholders

- ✓ **Course “Theory and Practice of Activities in Protected Areas”** (September 2018). 45 representatives of protected areas of different levels were totally taught, including representatives of Altaiskiy and Katunskiy Biosphere Reserves, Sailugemskiy National Park, Regional Nature Parks “Ak Cholushpa,” “Uch-Enmeck,” Belukha,” and “Ukok Quiet Zone” (Altai Republic), Karatal-Zhapyryk State Nature Reserve (Kyrgyzstan), Katon-Karagay National Park (Kazakhstan), and Siilhem National Park (Mongolia).



- ✓ **Course “Methodological framework for the organization of environmental and tourist activity based on the example of protected areas of the Altai Republic”** for the employees of Sailugemskiy National Park (May 2019).

Sustainable use of natural resources is not possible without conserving one of the most important resources – biological diversity. Unfortunately, due to the absence of industrial enterprises, poaching and illegal harvesting of non-timber products is still a problem in the Altai Republic. GASU jointly with municipal governments, the Center for the Development of Tourism and Entrepreneurship of the AR, administration of protected areas, and local NGOs conducted various courses and workshops for representatives of local communities in order to help them find alternative sources of income.

- ✓ A series of workshops (2 ECTS each) focused on teaching such traditional crafts as **“Artistic processing of bones and horns,” “Ceramics,” “Artistic processing of wood and other plant materials,” “Artistic metal processing,” “Jewelry making,”** and **“Manufacture of felt goods and souvenirs.”**



- ✓ Further education courses **“Preparation of guides for backpacking and equestrian tourism”** for the members of local communities involved in tourism business.



ДИРЕКЦИЯ
особо охраняемых природных территорий
Республики Алтай

Главная Об учреждении

Новости

Вы здесь: Главная / Новости

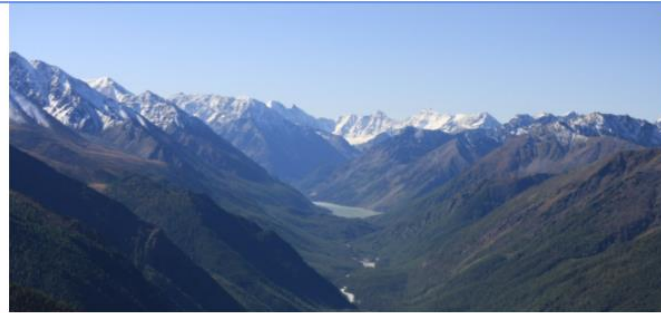
/ В ГАГУ прошёл круглый стол «Повышение эффективности подготовки специалистов в сфере устойчивого управления природными ресурсами в Республике Алтай»



В ГАГУ прошёл круглый стол «Повышение эффективности подготовки специалистов в сфере устойчивого управления природными ресурсами в Республике Алтай»

Новости / 28 февраля 2019 / Просмотров: 1234

26 февраля Администрация Дирекции ООПТ Республики Алтай приняла участие круглом столе на тему «Повышение эффективности подготовки специалистов в сфере устойчивого управления природными ресурсами в Республике Алтай», организованном университетом.



От урбанизации до микропластика

Просмотров: 1367

Эти и другие темы вошли в перечень обсуждения и исследований участников первой Международной летней полевой школы «Мониторинг и ранние предупреждения в горных социально-экологических системах», организованной Горно-Алтайским государственным университетом и Сибирским федеральным университетом в рамках проекта "SUNRAISE: Устойчивое использование природных ресурсов в арктических и высокогорных регионах".

Школа собрала вместе представителей Австрии, Белоруссии, Индии, Португалии и Эстонии. Россия же была представлена Горно-Алтайским государственным университетом, Сибирским федеральным университетом (Красноярск), Российским государственным гидрометеорологическим университетом (Санкт-Петербурга), Московским государственным университетом (Москва) и Псковским государственным университетом (Псков). В работе Школы в течение двух недель июля были задействованы около пятидесяти непосредственных участников из числа преподавателей и студентов, а также многочисленные представители заинтересованных сторон на местах или так называемые стейкхолдеры (органы власти, ООПТ, НКО, турбизнес, школьники и др.).



Фото: Дмитрий Кобзев.

ГАГУ запустил для всех желающих онлайн-курс по устойчивому развитию горных территорий

27 апреля 2020 года, 14:52 1

Горно-Алтайский государственный университет запустил открытый онлайн-курс «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг», разработанный совместно с коллегами из Университета Кумаун (Индия) в рамках проекта SUNRAISE (Sustainable Natural Resource Use in Arctic and High Mountainous Areas).

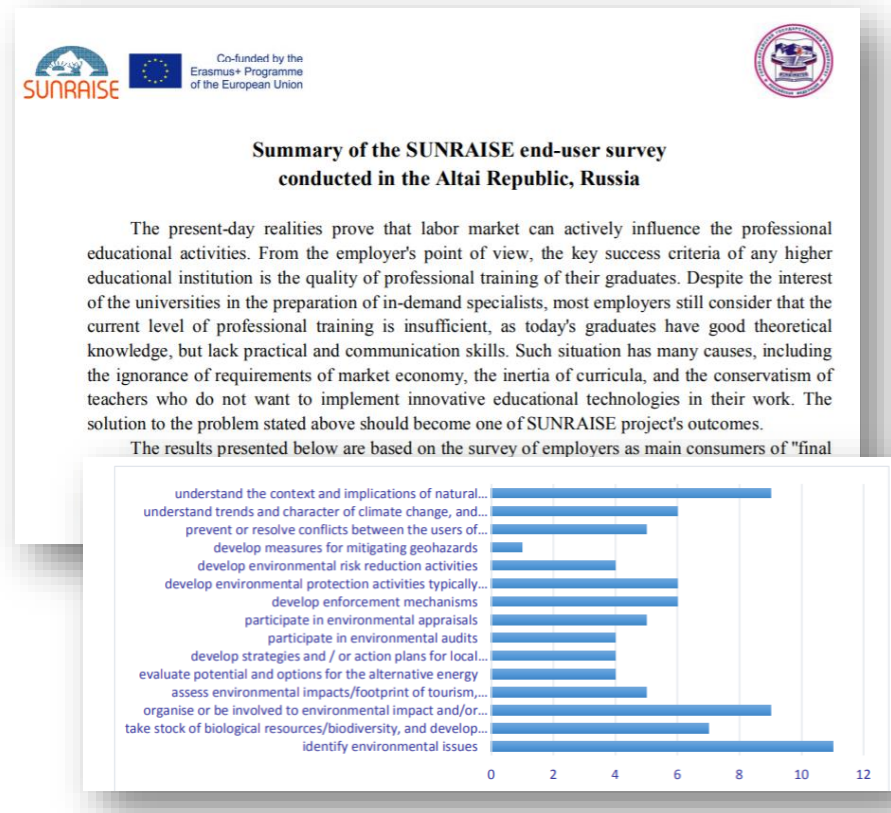
MP members not only make a significant contribution to the training of future specialists, but also help to promote the SUNRAISE project through their websites and local media.

4. IMPROVEMENT OF THE PROFESSIONAL TRAINING OF FUTURE SPECIALISTS

One of the key results of the Project is the improvement of professional training of future specialists in the field of sustainable use of natural resources that has become more practice-based thanks to the introduction of new educational courses, in the development and review of which our local employers and European partners took an active part.

All courses have been designed to support a blended learning model using the GASU EEE (based on Moodle platform <http://moodle.gasu.ru/>) and are intended for BSc and MSc students of the Department of Natural Sciences and Geography (fields of study “Geography” and “Ecology and Environmental Management”). Such model, on the one hand, helps increase the autonomy of students, and, on the other hand, strengthens their responsibility.

All courses are very well structured. They clearly indicate learning outcomes and assessment criteria, which allows monitoring students' achievements at each stage of mastering the discipline.



In order to assess the quality of training/retraining specialists in the sphere of sustainable natural resource use in mountainous areas GASU conducted a survey of potential employers. The results of end-user survey were carefully analyzed and taken into account while developing the SUNRAISE courses and TLMs.

➤ **SUNRAISE courses developed by GASU:**

- Environmental Design and Expertise;
- Waste Management;
- Sustainable Development of Mountain territories;
- A Special Course in a Foreign language “Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services.”

- ❑ Co-developed with and reviewed by local employers and EU partners;
- ❑ Meet key requirements of the student-centered learning;
- ❑ Practice-based (contain a large amount of practical information and regional cases);
- ❑ Have clearly defined learning outcomes and assessment criteria;
- ❑ The feedback mechanism is actively used (regular teaching staff, students, graduates, and employers surveys)

101 students totally taught, including 7 international ones

Лекция 4. Предотвращение вредного воздействия отходов на окружающую среду и здоровье населения

- Презентация
- Черныш Т.К. АКТУАЛЬНЫЕ ПРОБЛЕМЫ ВЛИЯНИЯ ОТХОДОВ ПРОИЗВОДСТВА И СОСТОЯНИЕ ЗДОРОВЬЯ НАСЕЛЕНИЯ (ОБЗОР)
- Шленская Т.В. Голубев В.Н. Дикриева Н.В. ПРОГНОЗИРОВАНИЕ ВЛИЯНИЯ ОТХОДОВ НА Окружающую среду
- Сорока Е.И. О ВЛИЯНИИ ОТХОДОВ ПРОИЗВОДСТВА И ПОТРЕБЛЕНИЯ НА Окружающую среду
- Вопросы для самоконтроля

Семинар на тему: Специфика законодательства Российской Федерации и Евросоюзе

- Дубовик Л.О. Реформа Европейского законодательства об отходах
- Покорная М.В. ТЕНДЕНЦИИ И ПЕРСПЕКТИВЫ СОВЕРШЕНСТВОВАНИЯ ОТХОДОВ ПРОИЗВОДСТВА И ПОТРЕБЛЕНИЯ
- Степаново В.С. Экологическая политика в области обращения с отходами
- Вопросы к семинару

Практическая работа: Определение состава, с

Практическая работа: Расчет норматива обра:

INTERNAL QUALITY ASSESSMENT REPORT

Course "ENVIRONMENTAL DESIGN AND EXPERTISE"
05.03.06 Ecology and Environmental Management,
profile Environmental Management
BSc (2nd semester 2019-2020 academic year)
Gorno-Altai State University

A. GENERAL EVALUATION OF THE COURSE

1. I was provided with sufficient information about the aims and the content of the course

- Absolutely agree – 80%
- Mostly agree – 20%
- Mostly disagree – 0%
- Absolutely disagree – 0%

2. The length of the course was optimal

- Absolutely agree – 50%
- Mostly agree – 50%
- Mostly disagree – 0%
- Absolutely disagree – 0%

3. Assess the level of complexity of this course

- The course was too complicated; my personal background knowledge was not sufficient to understand
- The course was rather difficult, but well developed, allowing me to study it at the required level – 80%
- The course was quite easy, though some themes and the way they were taught aroused my interest –
- The course was elementary; most information was familiar to me – 0%

Quality assessment

COURSES REVISED AND NEWLY CREATED BY PARTNER P7 (GORNO-ALTAISK STATE UNIVERSITY)

Work Package 2

QUALITY ASSESSMENT CARRIED OUT BY EU PARTNERS (PARTNER P2: UNIVERSITY OF SALZBURG)

Course revised: "Environmental Design and Expertise"

QUALITY ASSESSMENT

Quality criteria 1: Number of credit units for lectures, practical sessions and self-learning are appropriate to the contents

Evaluation

The number of credits for lectures, practical sessions and self-learning is appropriate. Due to the high importance to acquire practical knowledge complementing the theoretical knowledge gained in-class in the environmental design and expertise field, in order to create professionals able to deal with different complex situations in practice, a high number of credits for practical sessions and self-learning is required. Indeed, this is a highly practically-oriented subject. Thus, a high number of credits for practical sessions and self-learning ensures the education of highly capacitated professionals. We consider that this idea has been captured very well in the proposed course, with a high number of credits devoted to practical sessions and self-learning.

Strategies for improvement

None. Everything is deemed correct.

Quality criteria 2: Total number of credit units in the course is correct and appropriate

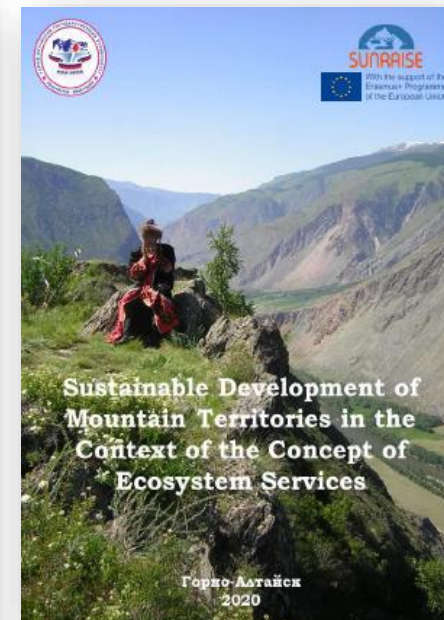
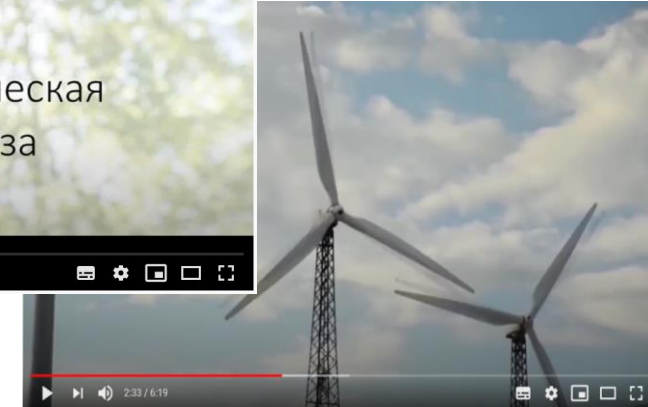
➤ **SUNRAISE TLMs developed by GASU:**

- **interactive**

- lectures-presentations with narration
- educational videos

- **in the text format (printed and electronic)**

- textbook and teaching guide “Environmental Design and Expertise”
- textbook and teaching guide «Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services» for a Special Course in English
- lecture notes “Waste Management”



The improved system of training future specialists also includes:

- ❑ Internships/on-the-job trainings supervised by potential employers, which create greater opportunities for subsequent employment;
- ❑ Active involvement of employers in (co)-advising of graduation theses and other student research works;
- ❑ The practical orientation of the training process is also enhanced by the equipment for a portable chemical and ecological laboratory purchased thanks to the SUNRAISE financial support, which is actively used for the preparation of BSc, MSc, and PhD theses.

Statistics on the use of SUNRAISE equipment

| GASU BSc | GASU MSc | PhD/Research staff* | Other stakeholders** |
|-----------------------|----------|---------------------|----------------------|
| 2019 | | | |
| 126 | 22 | 3 | 78 |
| 2020 | | | |
| 67 | 14 | 3 | 0 |
| 2021 (January – June) | | | |
| 64 | 5 | 4 | 7 |

* Including contract-based research at the request of local stakeholders

** Schoolchildren, summer schools participants, etc.

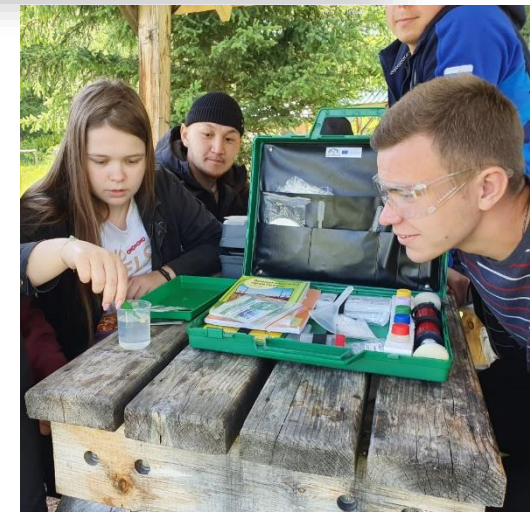


SUNRAISE equipment register & usage logbook

| даты | Имя | Фамилия | Группа | Цель использования | Пользователи | Оборудование | Дата возврата | ФИО и подпись | ФИО и подпись |
|------------|---------|---------|--------|---|--------------|--------------|---------------|---------------|---------------|
| 11.05.2019 | Иванов | И.И. | 11 | использование для проведения практических работ | Иванов И.И. | 111-111 | 11.05.2019 | Иванов И.И. | Иванов И.И. |
| 10.06.2019 | Петров | П.П. | 11 | использование для проведения практических работ | Петров П.П. | 111-111 | 10.06.2019 | Петров П.П. | Петров П.П. |
| 19.06.2019 | Сидоров | С.С. | 11 | использование для проведения практических работ | Сидоров С.С. | 111-111 | 19.06.2019 | Сидоров С.С. | Сидоров С.С. |
| 19.06.2019 | Климов | К.К. | 11 | использование для проведения практических работ | Климов К.К. | 111-111 | 19.06.2019 | Климов К.К. | Климов К.К. |

➤ **SUNRAISE equipment for a portable Chemical and Ecological laboratory**

- MARK-302E Dissolved oxygen analyzer;
- Turbidity Portable Meter HI98703 HANNA;
- Gas detector IGS “Kometa M-5” with forced sampling;
- "Ecotest 2000-pH-M" portable ionometer;
- Weather station M-49M with a computer meteo adapter;
- Psychrometer MB-4-2M (mechanical) with a container;
- Kit for hands-on trainings in ecology;
- Soil laboratories IbisLab-Pochva;
- GMTsM-1 Hydrometric miniflow meter;
- Dust analyzer IKP-5;
- Snow sampler BC-43



5. JOINT EDUCATIONAL RESOURCES

➤ **The SUNRAISE MOOC «Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services» has been jointly developed with partners from Kumaun University**

- ❖ has two identical versions – in English and in Russian;
- ❖ is located at <http://sunraise.gasu.ru/?lang=ru> or <http://sunraise.gasu.ru/?lang=en> ;
- ❖ unlike most similar MOOCs, this course is accessible all year round (no exact starting days), 7 days a week, and 24 hours a day, which allows students to study it at any time convenient for them;
- ❖ free of charge;
- ❖ self registration is available;
- ❖ is intended for university students, schoolchildren, teachers and a wide range of people interested in the issues of sustainable development of mountain territories and ecosystem services.

ДОСТУПНЫЕ КУРСЫ



MOOC_SUSTAINABLE
DEVELOPMENT OF
MOUNTAIN
TERRITORIES IN THE
CONTEXT OF THE
CONCEPT OF
ECOSYSTEM
SERVICES



МООК_УСТОЙЧИВОЕ
РАЗВИТИЕ ГОРНЫХ
ТЕРРИТОРИЙ В
КОНТЕКСТЕ
КОНЦЕПЦИИ
ЭКОСИСТЕМНЫХ
УСЛУГ

**Number of participants
(by June 2021):
Russian – 54 ppl
English – 42 ppl.**

The course consists of 6 themes

1. General characteristics of mountain territories
2. Biological diversity of mountain territories
3. Global significance of mountain territories
4. Ecosystem services: essence and history of development
5. Economic valuation of ecosystem services
6. Threats to mountain ecosystem services and their restoration

Co-funded by the Erasmus+ Programme of the European Union

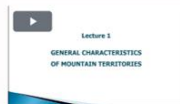


All introductory video lectures are created in the form of 8 – 13 min. educational films with thematic schemes.



Each theme includes

Text for reading with interactive links



Introductory video



Revision presentation

Test for self-control (can be performed an unlimited number of times)



Co-funded by the Erasmus+ Programme of the European Union



All text for reading have interactive links which help to understand the meaning of the new scientific terms, study in detail one or another aspect of the given topic, and get to know basic documents in the sphere of sustainable development of mountain territories and ecosystem services.

➤ The SUNRAISE MOOC proved to be a perfect basis for developing the course “A Special Course in a Foreign Language”

Though this course is included in the curricula, there are no special textbooks and other teaching materials for such courses. As a rule, traditional textbooks, such as “English for students in Geography” and “English for students in Ecology” or separate professionally-oriented texts are used. This is an attempt to develop a real educational course in English for BSc students in Natural Sciences (Ecology and Environmental Management, Geography). The course is based on the English version of the SUNRAISE MOOC “Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services.” There has been developed a special textbook that includes texts for reading from the MOOC, links to educational videos and tests, additional questions for self-control, and various communicative exercises and tasks.

➤ Практические задания _ Practical assignments

- Individual projects _ Sustainable Development Goals (presentations)
- Group projects _ Treats to Ecosystem Services and Their Restoration (presentations)
- Additional exercises _ Theme 1
- Additional exercises _ Theme 2
- Additional exercises _ Theme 3
- Additional exercises _ Theme 4
- Additional exercises _ Theme 5
- Additional exercises _ Theme 6

Vocabulary exercises: Theme 4
ECOSYSTEM SERVICES: ESSENCE AND HISTORY OF DEVELOPMENT

1. Find in the text the Russian equivalents of the following words and word combinations:

| | |
|-----------------------------------|--|
| 1 essence | |
| 2 solution to something | |
| 3 economic and financial levers | |
| 4 be taken into account | |
| 5 under the framework | |
| 6 assessment | |
| 7 date-for-nature steps | |
| 8 agricultural pests | |
| 9 intermediate ecosystem services | |
| 10 ambiguous | |
| 11 carbon sequestration | |
| 12 to be aimed at | |
| 13 benefits | |
| 14 aquifer recharge | |
| 15 conservation of wetlands | |
| 16 subsoil processes | |
| 17 soil fertility | |
| 18 immediacy | |
| 19 to underpin | |
| 20 legacy | |

2. Find in the text the English equivalents of the following words and word combinations:

| | |
|---|--|
| 1 экологическая безопасность | |
| 2 поз лигной | |
| 3 очищение воздуха и воды | |
| 4 сочетание почвенной влагоудерживающей и засух | |
| 5 ассимиляция и дерогация отколов | |
| 6 плодородие почвы | |
| 7 дупловое обочащение | |
| 8 формирование и сохранение (удержание) почвы | |
| 9 круговорот питательных веществ | |
| 10 плодородия, необходимом условии | |
| 11 влажность | |
| 12 явлов | |
| 13 оправдывает закрепившиеся за ними названия | |
| 14 прироста, прироста | |
| 15 опашение | |
| 16 урание | |
| 17 кошение (отгонное) животноводство | |
| 18 распространение (рассеивание) семян | |
| 19 выжигательный | |
| 20 оправданность и владостивность | |

3. Match the given words and word combinations with their definitions and translate them into Russian:

| | |
|-----------------------------------|---|
| 1 provisioning services | A – the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience, including, e.g. knowledge systems, social relations, and aesthetic values. |
| 2 regulating services | B – is a major assessment of the human impact on the environment |
| 3 cultural services | C – is the process of capturing and storing atmospheric carbon dioxide |
| 4 supporting services | D – the products obtained from ecosystems, including, for example, genetic resources, food, fresh water, energy, medicinal resources, including pharmaceuticals and chemical models, raw materials, etc. |
| 5 ecosystem services | E – a repeated pathway of a particular nutrient or element from the environment through one or more organisms and back to the environment |
| 6 Millennium Ecosystem Assessment | F – an advantage or profit gained from something or somebody |
| 7 a benefit | G – are insects or small animals which damage crops or food supplies |
| 8 carbon sequestration | H – the benefits obtained from the regulation of ecosystem processes, including, for example, carbon sequestration and climate regulation, purification of water and air, pest and disease control, etc. |
| 9 pests | I – the many and varied benefits that humans freely gain from the natural environment and from properly-functioning ecosystems |
| 10 a nutrient cycle | J – those that are necessary for the production of all other ecosystem services |

4. Divide the given words into groups of synonyms and translate them into Russian: accessibility, intangibility, intangible, mitigation, benefit, inaccessibility, enrichment, tangibility, degradation, pollution, disadvantage, purification.

5. Divide the given words into groups of synonyms and translate them into Russian: support, humanity, tangible, fertility, benefit, heritage, windstorms, underpin, hurricane, prerequisite, legacy, precondition, mankind, productiveness, material, advantage.

6. Fill in the gaps with the words and word combinations given below:


| | |
|----------------------|-----------------------|
| 1 regulating service | 6 ecosystem service |
| 2 pests | 7 hurricane |
| 3 fibers | 8 intangible heritage |
| 4 nutrient cycle | 9 soil fertility |
| 5 mitigation | 10 assessment |

1. In 1090 a tremendous _____ passed over London, and blew down six hundred houses and many churches.
2. The _____ is a system where energy and matter are transferred between living organisms and non-living parts of the environment.
3. A _____ is the benefit provided by ecosystem processes that moderate natural phenomena.
4. _____ is the quality of a soil that allows it to provide adequate amounts of nutrients in the proper balance to support plant growth.
5. When the disaster reduction community talks about _____ it means “the lessening or limitation of the adverse impacts of hazards”.
6. _____ is a concept developed to support our understanding of human uses and management of natural resources.
7. Hungry _____ are invasive species that threaten to harm our crops and trees.

INTRODUCTION

1. Answer the following questions. Then, watch the [Video](#) and check if your answers are correct:

1. What is Sustainable Development?
2. When did the concept of sustainable development appear for the first time?
3. What is the aim of the [Brandtland Report](#)? Under what name is it also known?
4. What are the three essential pillars of sustainable development?



2. Read the text and answer the questions:

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. They were born at the [United Nations Conference on Sustainable Development](#) in Rio de Janeiro in 2012. The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world.



3

Mountains and highlands occupy 1/5 of the land surface and are major ecological systems of our planet. They are a habitat for unique species of flora and fauna, a home to nearly 13% of the world population.

Recognizing the uniqueness of mountain systems, in 1992 at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro mountain regions were identified as fragile ecosystems and their study become one of the thematic priorities of [Agenda 21](#). Chapter 13 of the Agenda, entitled “[Managing fragile ecosystems: sustainable mountain development](#),” became a milestone in the development of mountain territories.

In this regard, by decision of the 57th UN General Assembly in January 2003 ([resolution A/RES/57/245](#)) the [International Mountain Day](#) was established (11 December).

The UN General Assembly called on the international community to organize events on this day at all levels in order to draw attention to the problems of development of mountain regions of the world and the need to help their population. The relevant resolution noted the special relevance of actions aimed at sustainable development of mountain regions.

Check yourself

1. What is Agenda 21?
2. What is the goal of International Mountain Day?

3. Watch the [Presentation 1](#).

4. Get ready to discuss the following issues:

1. Types of mountains and their formation.
2. Mountain relief and natural processes it depends on.
3. Mountain climatic conditions.
4. Natural hazards that occur in the mountains.
5. International recognition of the importance of mountain systems.

5. Do the [Test 1](#).

12

A particular focus is put on developing students’ ability to communicate on professional topics in English. The course includes vocabulary and communicative exercises for developing speaking skills, individual and group work assignments, and questions for discussion.

OTHER SUNRAISE DISSEMINATION EVENTS

- Presentation of the SUNRAISE MOOC “Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services” to the participants of the Youth Meeting of the Russian Geographical Society (Gorno-Altai, August 11, 2020)
- The photo-contest «Sustainable Development in Mountain and Arctic Territories» held within #ERASMUSDAYS-2020 (jointly organized with other Russian SUNRAISE partners)



Положение о конкурсе фотографий
«Устойчивое развитие горных и
арктических регионов»

1. Общие положения

Конкурс фотографий «Устойчивое развитие горных и арктических регионов» (далее – Конкурс) проводится в рамках акции #ERASMUSDAYS-2020, посвященной продвижению информации о проектах Программы Erasmus+.



- Regional competition of graduation theses on SUNRAISE related topics

МИНОБРНАУКИ РОССИИ
Федеральное государственное бюджетное образовательное учреждение
высшего образования «Горно-Алтайский государственный университет»
(ФГБОУ ВО ГАГУ, Горно-Алтайский государственный университет)
Естественно - географический факультет



ИНФОРМАЦИОННОЕ ПИСЬМО



Региональный конкурс выпускных квалификационных работ в
рамках проекта SUNRAISE

«Рациональное природопользование
и устойчивое развитие регионов России»

г. Горно-Алтайск, 2018

- Новости**
- 23 апреля, 2021**
ВАЖНО!
С работы ГАГУ в период праздничных и нерабочих дней в мае 2021 года
Формальный надзорный университет информирует о работе ГАГУ в мае 2021 г.
Генеральный директор ГАГУ: 02.04.2021 г.
 - 23 апреля, 2021**
Онлайн-викторина «Полки великой Победы»
4 мая 2021 года состоится Всероссийская интеллектуальная онлайн-викторина «Полки великой Победы» в рамках Великой Отечественной войны и праздничной юбилейной даты.
 - 23 апреля, 2021**
SUNRAISE
ГАГУ успешно продолжает участвовать в проекте SUNRAISE
2 апреля представители ГАГУ приняли участие в видеонаблюдении в рамках проекта SUNRAISE. Также рабочие встречи были проведены на базе Сибирского государственного университета и позиции поддержки проектного этапа проекта и реализации разработанных материалов онлайн-курса (ООС).
 - 23 апреля, 2021**
Бюджет выделен на проведение мероприятий
27 апреля состоялось заседание инициативной группы по рассмотрению заявки на выделение бюджетных средств на проведение мероприятий в рамках реализации проекта «Полки великой Победы».
 - 23 апреля, 2021**
Издано учебное пособие Н.Н. Мантуров
2 Библиотечно-информационный центр издал учебное пособие Н.Н. Мантурова «История культуры Алтайского края».
 - 23 апреля, 2021**
Праздник труда в честь 100-летия образования Республики Сибирь
Праздник труда в честь 100-летия образования Республики Сибирь прошел в форме онлайн-викторины «Полки великой Победы».
 - 27 апреля, 2021**
Автоматизированный сайт «Полки великой Победы» в Великой Отечественной войне
Интерактивный онлайн-сайт «Полки великой Победы» в Великой Отечественной войне создан в рамках реализации проекта «Полки великой Победы» в рамках реализации проекта «Полки великой Победы».

ИСПОЛНИТЕЛЬСКОЕ ОБРАЗОВАНИЕ

ИНИЦИАТИВНО-ПРЕДПРИИМЧИВОСТЬ

ЦЕНТР КАРЬЕРЫ

РАСПИСАНИЕ

ВОПРОСЫ РЕКТОРУ

РЕГИОН

ЭЛЕКТРОННЫЙ КАТАЛОГ

ФОТОГАЛЕРЕЯ

SUNRAISE ПРОГРАММА ЕКАМПИУС

ВОЛОНТЕРСКИЙ ЦЕНТР

➤ **Information about the project activities is regularly published on the SUNRAISE and GASU websites, in Facebook and local mass media.**

SUNRAISE

В начале года Катунский заповедник включился в реализацию крупного международного проекта SUNRAISE, посвященного современному состоянию подготовки кадров в университетах для обеспечения устойчивого управления природными ресурсами в горных регионах. В проекте принимают участие три российских ВУЗа (в т.ч. Сибирский федеральный университет и Российский государственный гидротехнический университет), а также университеты Иллиной, Австралии, Бразилии, Германии и Японии. Республику Алтай в проекте представляют Горно-Алтайский университет и Алтай-Саянское горное партнерство.

О новом проекте, его перспективах и реализации мы побеседовали с Натальей Юрковой – помощником ректора Горно-Алтайского государственного университета по международным вопросам.

– Наталья, какие конкретно мероприятия планируются в рамках

Новый международный проект: современные технологии образования для устойчивого развития горных регионов

будут представлены на двух языках – русском и английском. А методические и информационные материалы будут доступны в Интернете. Это означает, что с курсом смогут познакомиться не только студенты ГАГУ, но и других ВУЗов. В принципе, любой студент может пройти этот курс онлайн – и при наличии международного соглашения это придется так же, как он обучался.

– Что проект даст студентам нового Горно-Алтайского университета?

– Во-первых, это интерес международного сообщества. А соответственно – и повышение статуса не только университета в целом, но и всего региона. Во-вторых, это возможность взаимодействия с другими университетами. В рамках проекта



18+

стники проекта на первой проектной встрече в университете г. Бремен. Фото Н. ЮРКОВОЙ

появится возможность своего рода «сертификации» образовательных программ ГАГУ – а это большой плюс не только для ВУЗа, но и для имиджа региона. В разработке и реализации новых образовательных курсов будут принимать участие зарубежные эксперты и представители работодателей Республики Алтай, что позволит сделать эти курсы более интересными, отвечающими мировым стандартам и конкурентоспособными.

Через три года в ГАГУ появятся новые современные образовательные курсы на английском языке – и это тоже будет работать на имидж и конкурентоспособность нашей республики.

Несмотря на то, что из стран Большого Алтая в проекте сейчас участвуют только Россия, новые образовательные программы будут доступны в Интернете для студентов любых ВУЗов Казахстана, Монголии и Китая. Так что несомненно: этот проект работает на будущее всего Большого Алтая.

Беседавала Татьяна ЯШИННА



Золотое перо Алтая

информационно-публицистический портал

- Новости
- О портале
- Фотогалерея
- Реклама

Авто

Друзья сайта

Звезда Алтая
Горно-Алтайск
Республика Алтай
Atis.ru
ГТРК Алтай

С прицелом на будущее

Опубликовано 10.02.2018 17:47 | Просмотров: 1352



В завершение прошедшего Года экологии в России Горно-Алтайский государственный университет стал участником крупного международного проекта "SUNRAISE - Sustainable Natural Resource Use in Arctic and High Mountainous Areas / Устойчивое использование природных ресурсов в арктических и высокогорных регионах", который финансируется Программой Erasmus+. О том, что это за проект и чем он будет интересен и полезен только нынешним и будущим студентам главного образовательного вуза региона, но и всем жителям Республики Алтай, рассказывает помощник ректора по международной деятельности, являющаяся также координатором проекта SUNRAISE в ГАГУ, Наталья Юркова.

Горно-Алтайск

+18 °C

Пасмурно

2 м/с, св 738 мм рт. ст.
100% влажн.

| | | | |
|------------|------------|-------|-------|
| Чт, 8 июля | Пт, 9 июля | | |
| День | Вечер | Ночь | Утро |
| | | | |
| +22 | +19 | +11 | +17 |
| 2 м/с | 3 м/с | 2 м/с | 1 м/с |
| 735 | 734 | 734 | 731 |
| 49% | 59% | 84% | 72% |

Gismeteo Подробнее

➤ GASU potential students are also introduced to the SUNRAISE project (a page from the flyer of the Department of Natural Sciences and Geography)



МЕЖДУНАРОДНЫЕ ПРОЕКТЫ

С 2017 года ГАГУ принимает участие в международном проекте Программы Erasmus+ «SUNRAISE - Sustainable Natural Resource Use in Arctic and High Mountainous Areas» («Устойчивое использование природных ресурсов в арктических и высокогорных регионах»), основным исполнителем которого является естественно-географический факультет <http://www.gasu.ru/erasmus/ru>

Нашими партнерами в данном проекте выступают не только вузы России, но и Австрия, Бутана, Германии, Индии и Эстонии.



В рамках проекта на факультете были разработаны новые образовательные курсы с онлайн модулями:

- для студентов бакалавриата:
 - Экологическое проектирование и экспертиза;
 - Sustainable Development of Mountain Territories in the Context of the Concept of Ecosystem Services (специурс на иностранном языке).
- для студентов магистратуры:
 - Устойчивое развитие горных территорий;
 - Управление отходами.

Совместно с партнерами из Университета Кумаун (Индия) был разработан массовый открытый онлайн курс (МООК) «Устойчивое развитие горных территорий в контексте концепции экосистемных услуг» на русском и английском языках, который используется не только в процессе подготовки специалистов естественнонаучных направлений, но и доступен для всех желающих <http://sunraise.gasu.ru/>

Благодаря проекту у преподавателей и студентов факультета появилось больше возможностей для участия в различных международных мероприятиях и реализации программ академической мобильности, в том числе в рамках международных школ.



Международная летняя школа SUNRAISE – 2018 «Monitoring and Early Warnings in Mountain Social-Ecological Systems» (Красноярск – Республика Алтай)



Международная летняя школа SUNRAISE – 2019 «Sustainable Natural Resource Use in Arctic and High Mountainous Areas» (г. Зальцбург, Австрия)



Семинары и тренинги:
Бременский университет (Германия 2018)
Эстонский университет естественных наук (Эстония 2019)
Зальцбургский университет (Австрия 2019)

Сегодня студенты ЕГФ с хорошим знанием английского языка могут пройти стажировку или поработать над своими научными проектами в зарубежных вузах-партнёрах, ведь одной из главных целей Проекта является развитие сотрудничества с целью совместного использования лабораторных баз и проведения совместных исследований.

В рамках проекта на факультет было закуплено оборудование для переносной химико-экологической лаборатории, благодаря чему теперь можно осуществлять отбор проб и проводить необходимый анализ не только стационарно, но и в полевых условиях.



Факультет тесно взаимодействует с потенциальными работодателями наших выпускников, которые принимают самое активное участие в разработке и рецензировании учебных курсов, осуществляют руководство и соуправление научными работами студентов и аспирантов, а также содействуют организации стажировок и практик. Сотрудничество реализуется как в рамках Платформы для организации сотрудничества в целях содействия устойчивому развитию Алтае-Саянского экорегиона, так и двусторонних соглашений.

IMPACT OF THE PROJECT AT THE UNIVERSITY LEVEL AND ON SUSTAINABLE REGIONAL DEVELOPMENT IN GENERAL

✓ Project has contributed to the improvement of professional competencies of GASU teaching staff and IT specialists, primarily in the field of digital education technologies, and become one of the significant drivers for the development of hybrid and distance learning. A new modern video-studio has been purchased for the production of multimedia educational resources, including MOOCs.



✓ Despite the situation with COVID-19 and the high level of unemployment, the Altai Republic is ranked sixth to the last in the list of 85 regions of the Russian Federation, the employment rate of graduates (“Geography,” “Ecology and Environmental management”) has totally increased by 29%.

| 2018 | 2019 | 2020 | 2021 |
|------|------|------|------|
| 46% | 54% | 69% | 75% |

- ✓ Closer cooperation with local labour market partners led to the creation of the special department “Career Center” of GASU <http://www.gasu.ru/edu/%D1%81entr-karery/> that provides assistance to students and alumni in the career decision-making process, developing their job-seeking skills, and connecting job seekers with potential employers.
- ✓ Taking into account the priorities of the socio-economic development of the Altai Republic and the results of in-depth study of local labour market, the Faculty of Natural Sciences and Geography will launch a new profile of training for both BSc (since September 1, 2021) and MSc (since September 1, 2022) programs Recreational Geography and Tourism.
- ✓ Seven representatives of local employers have taken or are currently taking MSc program at GASU. Holding a Master's degree not only contributes to enhancing their professional competencies, but also allows them to officially teach at the university and (co-)advise on students' research works, as they have practical skills and gain experience in conducting and presenting scientific research.

- ✓ Closer cooperation with stakeholders, including Mountain Platform members, has significantly changed the focus and the quality of BSc, MSc, and PhD theses. Now most research is conducted at the request of local stakeholders. Such collaboration is mutually beneficial to both “customers” and “contractors.” On the one hand, local institutions get the research they are interested in and can control and guide the process if necessary. Furthermore, thanks to the portable Chemical and Ecological Laboratory purchased within the framework of the SUNRAISE project, they can expect sampling to be done even in the remote inaccessible areas of the Altai Republic. On the other hand, students are faced with a real challenge and are provided with all available data on the subject of their research. But the main thing is their high motivation. When students feel that the outcomes of their research are in demand and get practical application, they approach the task with greater enthusiasm and responsibility.
- ✓ The complex Internal System for Monitoring the Quality of Education has been developed and launched in GASU.

- ✓ More than 300 representatives of local communities have undergone further education training at GASU. They have developed new professional skills and knowledge and received official certificates, which help them to become more competitive in the labor market and to find new sources of income.
- ✓ The partnership built and experience gained by GASU thanks to the participation in the SUNRAISE project helped to prepare a high-quality application dossier for the establishment of the UNESCO Chair at the university. The UNESCO has approved the establishment of a UNESCO Chair for Sustainable Development of Mountain Territories at GASU. The official agreement is expected to be signed by the end of 2021. The purpose of the Chair shall be to promote an integrated system of research, training, information and documentation of sustainable development of mountain territories. It will facilitate collaboration between high-level, internationally-recognized researchers and teaching staff of GASU and other institutions. Its target beneficiaries will include educational and scientific institutions, public authorities and local governments, local communities, protected areas, representatives of business and agricultural sectors, and NGOs.