**02 #Подаци о Катедрама Одсека за еколошки инжењеринг у заштити земљишних и водних ресурса**

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| **Chair** |
| Chair of Erosion and Torrent Control |
| **Head of Chair, Deputy Head of Chair, Chair Secretary** |
| **Head of Chair**: Miodrag Zlatić**Deputy Head of Chair**: Mirjana Todosijević**Deputy Head of Chair**: Tijana Vulević |
| **Chair Development** |
| Higher education in the field of forestry in Serbia started on 12th May 1920 at the Forestry department of the Faculty of Agriculture in Belgrade. Until 1949 there was only one subject related to the problem of erosion and torrents entitled Torrent control, and it was taught by prof. Dr. Ljubivoje Maletić. The subbject was part of the Cabinet for torrential flows control (prof. Maletić) and cultural technique. After the death of prof. Maletić in 1940, the subject was taught by prof. Milan Nešić from the Engineering Faculty. Engineer Dimitrije Petrović was the teaching assisstant. During World War II Faculty of Forestry did not work.After the war, teaching began in 1945/46. The subject Torrent control was taught by prof. Dr. Sreten Rosić, who became the first dean of the Faculty of Forestry in 1949, when it separated from the Faculty of Agriculture.Since the academic year 1952/53, the problem of torrential flows and erosion was studied within the subject Erosion and Torrent Control. In 1956 two educational streams were formed: Silvicultural and Forest-industrial stream. Based on the decision of the Executive Council of the Republic, 5 departments were formed in 1960 including the Department of erosion and torrent control. At the Department of erosion and and torrent control, subjects were arranged within two chairs: the Chair of erosion and torrent control and the Chair of forest soil reclamation. Erosion control was taught in the subject Erosion and torrent control during the 4th semester of the 3rd and 4th year of study, and the subject teacher was prof. Dr. Slobodan Gavrilović, who was head of the Department. The Department got a new name in 1961: Department of erosion and land reclamation.After prof. Gavrilović retired in 1976 the subject was taken over by prof. Dr. Ljubiša Jevtić the Director of the Institute for Water Management of erodible areas.After prof. Jevtić retired in 1995 the subject Torrential flows and erosion was given to prof. Dr. Stanimir Kostadinov who was in charge of it until October 2014, when the subject was taken over by prof. Dr. Ratko Ristić.A new reorganization was created according to the 1998 Law on Higher Education. Another chair, the Chair of Anti-erosion Geotechnics was established in addition to the existing chairs at the Department of erosion control. The subjects Fundamentals of geotechnics in torrent control, Hydrogeology with geomorphology, hydrology and hydraulics, and construction management and mechanization in control works became subjects of this new chair. The subjects Torrential flows and erosion, Design in torrent control, Economics of arrangement of erodible areas and Materials in erosion control works remained at the Chair of torrent and erosion control.After 5th October 2000, and change of Dean there were also changes in the composition of the chairs. The subjects at the Chair of torrent and erosion control were: Torrential flows and erosion, Hydrology with hydraulics, Engineering in torrent control, Economics of erodible areas arrangement and Organization of construction and machinery in erosion control works as compulsory subjects, and in 2002 a new elective subject named Sediment management was introduced.After the passing of the Law on Higher Education in 2005, the Faculty adopted a new curriculum for all educational profiles, based on the principles of the Bologna Declaration. Elective courses were introduced to all years of study. After that, the Department of torrents and erosion control, at the undergraduate level, consisted of the following subjects: Torrential flows and erosion 1, Torrential flows and erosion 2, Hydrology with hydraulics, Engineering in torrent control, Economics of natural resources protection, the Organization of erosion control works and Machinery in erosion control works (compulsory subjects) and a group of elective subjects: Fundamentals of environmental protection, Sediment management, Risks of natural disasters, Water management of hilly-mountainous areas, Water protection and Spatial Arrangement of erodible areas.In 2009, the Chair of torrent and erosion control took over some subjects from the Chair of soil reclamation. These are subjects: Soil conservation and Soil amelioration (compulsory subjects), Soil physics, Air pollution and forest ecosystems and Soil and bioengineering techniques (elective subjects). According to the 2013 accreditation, the subject Fundamentals of environmental protection became a compulsory subject. The Elective subject Risks of natural disasters got a new name, Natural disasters, and a new elective subject Restoration of torrential catchments was introduced to the Chair. In the autumn of 2015 the subjects Soil amelioration, Soil conservation, Soil physics, Air pollution and forest ecosystems and Soil and bioengineering techniques were transfered from the Chair of torrents and erosion control to the Chair of soil reclamation. |
| **Chair members** |
| **Teaching staff**Dr. Miodrag Zlatić, full professorDr. Nada Dragović, full professorDr. Ratko Ristić, full professorDr. Vojislav Đeković, full professorDr. Vesna Đukić, associate professorDr. Mirjana Todosijević, assistant professorGrad. eng. Tijana Vulević, teaching assistantGrad. eng. Vukašin Milčanović, teaching assistantMSc Katarina Lazarević, teaching assistantGrad. eng. Aleksandar Anđelković, teaching assistant MSc Siniša Polovina, teaching assistantMSc Ranka Erić, teaching assistant**Non-teaching staff**MSc Ivan Malušević, professional associateMSc Natalija Momirović, junior researcher |
| **Chair subjects** |
| **Undergraduate studies**1. Fundamentals of environmental protection (II semester– compulsory)
2. GIS application in soil and water resources protection (IV semester– compulsory)
3. Hidraulics in soil and water resources protection (V semester– compulsory)
4. Machinery in Erosion Control Works (V semester– compulsory)
5. Water Management of Hilly-Mountainous Areas (V semester– compulsory)
6. Torrential Flows and Erosion 1 (V semester– compulsory)
7. Torrential Flows and Erosion 2 (VI semester– compulsory)
8. Water Protection (VI semester– compulsory)
9. Natural disasters (VI semestar – elective)
10. Management of Soil and Water Resources in protected areas (VI semester– elective)
11. Sediment management (VI semester – elective)
12. Design in torrent control (VII semester– compulsory)
13. Spatial arrangement of erodible areas (VII semester – elective)
14. Organization of erosion control works (VIII semester– compulsory)
15. Economics of natural resources protection (VIII semester– compulsory)
16. Rehabilitation of torrential basins (VIII semester – elective)

**Master studies**1. Protection of Water Resources from Sediments (compulsory)
2. Risk Analysis in Degradation of Natural Resources (elective)
3. Risk Zone Mapping and Defence from Torrential Floods (elective)
4. Policy and management of sustainable land development (compulsory)
5. Natural capital valuation (compulsory)
6. Impact of socio-demographic development on natural resources (compulsory)
7. Management of projects for natural resources protection (compulsory)
8. Management of projects for natural resources protection (compulsory)
9. Systems of support to decision-making and management of soil and water resources (elective)
10. Quality management in soil and water resources protection (elective)
11. Monitoring of surface water quality

**Doctoral studies**1. Techniques of scientific and research work (compulsory)
2. Transport and sedimentation processes in torrential basins (elective)
3. Study of torrential basins and flows (elective)
4. Hydrological and psamological effects of erosion control works (elective)
5. Socio-demographic aspects of natural resources protection (elective)
6. Integrated management of soil and water resources (elective)
7. Assessment of risk and uncertainty in natural resources protection (elective)
8. Optimization of works in natural resources protection (elective)
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| **Selected student papers / final papers/ master papers / dissertations/ field training**  |
| 1. **Doctoral dissertations:**
	1. Dragomir Misailović (2011): Deformacija korita i stabilnost tla i objekata u bujičnim tokovima, Šumarski fakultet Univerziteta u Beogradu, mentor dr Ratko Ristić, red. prof.
	2. Mirjana Todosijević (2012): Ekološki i ekonomski efekti održivog upravljanja zemljišnim resursima planinskog područja opštine Ljubovija, Šumarski fakultet Univerziteta u Beogradu, mentor dr Miodrag Zlatić, red. prof.
	3. Svetlana Bilibajkić (2012): Uticaj izvedenih tehničkih i bioloških radova na intenzitet erozionih procesa u slivu Trgoviškog Timoka, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	4. Sonja Z. Braunović (2013): Efekti protiverozionih radova na stanje erozije u Grdeličkoj klisuri i Vranjskoj kotlini, Šumarski fakultet Univerziteta u Beogradu,mentor dr Stanimir Kostadinov, red. prof.
	5. Milena Lakićević (2014): Primena Analitičkog hijerarhijskog procesa (AHP) i participativnog odlučivanja u upravljanju Nacionalnim parkom „Fruška gora”, Šumarski fakultet Univerziteta u Beogradu, mentor dr Miodrag Zlatić, red. prof.
	6. Boris Radić (2014): Erozija kao faktor degradacije predela u skijaškim centrima Srbije, Šumarski fakultet Univerziteta u Beogradu, mentor dr Ratko Ristić, red. prof.
	7. Ana M. Petrović (2014): Faktori nastanka bujičnih poplava u Srbiji, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	8. Danica Županski (2015): Razvoj metodologije za određivanje zona zaštite od površinskog nanosa na eksperimentalnim deonicama sliva reke Drine, Šumarski fakultet Univerziteta u Beogradu, mentor dr Ratko Ristić, red. prof.
	9. Stefana Babović (2016): Uticaj antropogenih faktora na intenzitet erozije u jugoistočnoj Srbiji, Šumarski fakultet Univerziteta u Beogradu, mentor dr Miodrag Zlatić, red. prof.
	10. Tomislav Stefanović (2016): Efekti protiverozionih radova u slivu reke Jablanice uzvodno od akumulacije Rovni, Šumarski fakultet Univerziteta u Beogradu,mentor dr Stanimir Kostadinov, red. prof.
2. **Master theses:**
	1. Zoran Stefanović (2010): Naturalni i ekonomski efekti održivog upravljanja zemljišnim resursima na području sliva Barička reka, mentor dr Miodrag Zlatić.
	2. Jelena Mićić (2011): Analiza poplava u slivu reke Kolubare u periodu 2000‒2010. godine, mentor dr Ratko Ristić, red. prof.
	3. Ivana Tomašević (2012): Analiza politike i upravljanja zemljišnim resursima – primena u oblasti LEAPA, mentor dr Miodrag Zlatić, red. prof.
	4. Katarina Branković (2012): Analiza politike i upravljanja održivim razvojem zemljišnog prostora Republike Srbije – Primer LEAP-a Ade Huje, mentor dr Miodrag Zlatić, red. prof.
	5. Andrej Pavlović (2013): Održivo upravljanje zemljišnim resursima malih slivova beogradskog područja, mentor dr Miodrag Zlatić, red. prof.
	6. Ljubiša Bezbradica (2013): Problematika bujičnih poplava i erozionih procesa sa aspekta evropskih direktiva, domaće zakonske i planske regulative, mentor dr Ratko Ristić, red. prof.
	7. Mahdi Nakhavali (2013): Zaštita od erozije i uređenje bujičnih tokova u Iranu, mentor dr Ratko Ristić, red. prof.
	8. Mina Kočić (2013): Erozija zemljišta u slivu reke Rasine i mogućnost zaštite akumulacije Ćelije od nanosa, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	9. Aleksandar Drobnjak (2014): Izbor mera i radova za kontrolu erozije i bujičnih tokova na primeru Izbičke reke, pritoke reke Raške, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	10. Marko Urošević (2014): Erozija u slivu Sebečevske reke i mogućnost kontrole erozionih i bujičnih procesa, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	11. Katarina Lazarević (2014): Monitoring bujičnih procesa u funkciji upravljanja rizikom od bujičnih poplava, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof.
	12. Marijana Džombić (2014): Analiza politike i upravljanja zemljišnim resursima – primena u oblasti LEAPa na području Krtinska/Urovci, mentor dr Miodrag Zlatić, red. prof.
	13. Jovana Spasojević (2014): Analiza politike i upravljanja otpadom u EU i Srbiji – primena U oblasti LEAP-a dela opštine Ljig, mentor dr Miodrag Zlatić, red. prof.
	14. Jovana Zlatanović (2014): Analiza politike i upravljanja u zaštiti životne SREDINE – primena u oblasti LEAP-a dela opštine Vranje, mentor dr Miodrag Zlatić, red. prof.
	15. Dragana Cvetić (2015): Upravljanje održivim razvojem zemljišnog prostora na primeru LEAP‑a sliva Skrapež, mentor dr Miodrag Zlatić, red. prof.
	16. Jelena Jocić (2015): Kolaborativni menadžment u upravljanju zemljišnim i vodnim resursima – primena u oblasti LEAP-a na području Gabrovačke reke, mentor dr Miodrag Zlatić, red. prof.
	17. Iva Maglov (2015): Analiza politike i upravljanja zemljišnim resursima – Primena u oblasti LEAP-a dela opštine Rakovica, mentor dr Miodrag Zlatić, red. prof.
	18. Ivan Malušević (2015): Primena GIS-a u analizi rizika od eksplozivnih sredstava na bujičnim slivovima u Srbiji, mentor dr Ratko Ristić, red. prof.
	19. Siniša Polovina (2015): Prostorna i vremenska analiza degradacije prirodnih resursa na slivu reke Likodre, mentor dr Ratko Ristić, red. prof.
	20. Petar Ranković (2016): Upravljanje otpadom – primena u oblasti LEAP-a dela opštine Barič, mentor dr Miodrag Zlatić, red. prof.
	21. Boban Pavlović (2016): Analiza tematske strategije zemljišta – primer LEAP-a sela Radljevo , mentor dr Miodrag Zlatić, red. prof.
	22. Tamara Bosić (2016): Ekosistemski pristup u održivom upravljanju zemljišnim i vodnim resursima – Primer u oblasti LEAP‑a dela opštine Petrovac na Mlavi, mentor dr Miodrag Zlatić, red. prof
	23. Una Dovezenski (2016): Međusobni uticaj izgradnje akumulacije i sociodemografskog razvoja na području Zaovine, mentor dr Miodrag Zlatić, red. prof.
	24. Stefan Pantović (2016): Dugoročni efekti ulaganja u održivo upravljanje zemljišnim resursima na području sliva Železnička , mentor dr Miodrag Zlatić, red. prof.
	25. Bojana Aleksov (2016) : Oticanje vode, erozija i pronos nanosa u zavisnosti od prirodnih karakteristika sliva reke Čađavice, mentor dr Stanimir Kostadinov, red. prof.
3. **Field study:**
	1. **Jednodnevna terenska nastava za studente I godine;** predmet: Osnovi zaštite životne sredine; poseta REIK Kolubara; rukovodilac Miodrag Zlatić.
	2. **Trodnevnadnevna terenska nastava za studente III godine;** predmeti: Bujični tokovi i erozija, Mehanizacija u protiverozionim radovima; tereni zapadne Srbije; rukovodilac Ratko Ristić.
	3. **Petodnevna terenska nastava za studente III godine;** predmeti: Bujični tokovi i erozija, Konzervacija zemljišta; tereni jugoistočne Srbije; rukovodilac Ratko Ristić.
	4. **Jednodnevna terenska nastava za studente IV godine:** predmet: Ekonomika zaštite zemljišnih resursa; poseta selu Slanci (održiva poljoprivredna proizvodnja); rukovodilac Miodrag Zlatić.
	5. **Četvorodnevna terenska nastava za studente IV godine;** predmeti: Ekonomika zaštite zemljišnih resursa, Organizacija građenja protiverozionih radova, Šumske melioracije; efekti protiverozionih i bujičarskih radova u Grdeličkoj klisuri; rukovodilac Miodrag Zlatić.

**Master of Science theses****4.1**. Milutin Stefanović (2016): Pojava i monitoring bujičnih poplava u realnom vremenu na slivu Topčiderske reke, Šumarski fakultet Univerziteta u Beogradu, mentor dr Ratko Ristić, red. prof. **4.2.** Miloš Batalo (2016): Efekti izvedenih protiverozionih radova na području Ibarske klisure na deonici od Biljanovca do Mataruga, Šumarski fakultet Univerziteta u Beogradu, mentor dr Ratko Ristić, red. prof.**4.3**. Mileta Milojević (2016):Mogućnost primene daljinske detekcije u proračunu erozionih i bujičnih procesa na primeru Topčiderske reke, Šumarski fakultet Univerziteta u Beogradu, mentor dr Stanimir Kostadinov, red. prof. |
| **Research / Projects** |
| * 1. International projects
	2. ***World Overview of Conseration Approaches and Technologies – WOCATд*,**  organized and partly financed by CDE from Bern and partly by the Ministry of agriculture, forestry and water management – Water directorate (2005‒2011), Leader: Miodrag Zlatić.
	3. ***Community Based Rehabilitation of Degraded Land in Balkan Countries***, GEF/UNEP Project Development Facility Block-A (PDF-A) (2006), leader: Miodrag Zlatić.
	4. ***Risk, Disaster, Management& Prevention of Natural Hazards in Mountainous and/or Forested Regions – RIMADIMA,*** international EU financed project, within the framework of INTERREG-III-B, CADSES project (2006‒2008), leader: Stanimir Kostadinov.
	5. ***Pracical Use of Monitoring in Natural Disaster Management - MONITOR II***, international EU financed project, within the framework of South East Europe Transnational Cooperation Programme (2009‒2012), leader for Serbia: Stanimir Kostadinov.
	6. ***Main design of facilities to stop sediment in water flows: Bistrička reka, Šerićki potok and Ograjina-catchment of the Bosna River***, University of Belgrade Faculty of Forestry, Construction institute Banja Luka (2016), leader: Ratko Ristić.
	7. ***Mine control operation after floods, regional response to the crisis, the development of technology and capacity building – the case of Kneselački stream****,* University of Belgrade Faculty of Forestry, Croatian demining center, Ristić, R. et al. (2015).
	8. ***Conceptual design for the protection of Plavsko lake from backfilling and regressive erosion***, Montenegro greens, Podgorica (2004), leaders: Ristić, R., Nikčević, R.
	9. ***Conceptual design for Biograd lake anti-erosion protection***, Montenegro greens, Podgorica (2004), leaders: Ristić, R., Nikčević, R
	10. ***Natural resources management in the frame of environment protection policies and sustainable rural development in the Western Balkans (FWRM)*** (2016‒2017), leaders: Ratko Ristić, Nada Dragović.
	11. Scientific and Research projects:
	12. **Еffects of revitalization of degraded areas in Serbia** (2006‒2010), leader: Dr. Miodrag Zlatić, full professor
	13. **Research of Climate Change and Its Impact on the Environment - Monitoring, Adaptation and Mitigation**, leader: Dr. Ratko Kadović, full professor (2011‒2016):

Subproject 9: Frequency of torrential floods, soil and water degradation as a consequence of climate change, leader: Dr. Stanimir Kostadinov, full professor Subproject 16: „Socio-economic development, mitigation and adaptation to climate change, leader: Dr. Miodrag Zlatić, full professor * 1. **Research of socio-economic aspects of risks due to climate change in forest areas** Ministry of agriculture and environmental protection – Forest directorate (for the period from 1st August 2015 to 30th November 2016), leader: Dr. Miodrag Zlatić, full professor
	2. **Water erosion control and torrent control in the function of water management facilities protection and water quality protection,** Ministry of Science and environmental protection and the Ministry of agriculture, forestry and water management of the Republic of Serbia(2004‒2007), leader: Dr. Stanimir Kostadinov, full professor
1. **WATER MANAGEMENT PROJECTS**
2. Ristić, R. et al. (2016): ***Operational Plan for the defense from torrential floods on 2. Row water flows in the territory of Lazarevac Municipality for 2016*,** Ehting, Belgrade.
3. Ristić, R., Radić, B. (2013): ***The project of research and valorization of the area of Milićevo brdo and Danube islands as potentially significant natural values***, Šumarski fakultet, Beograd,
4. Ristić, R., Radić, B. (2012): ***„Plavo-zeleni” koridori ‒ istraživanja mogućnosti revitalizacije sliva Jelezovačkog potoka i okolnih šumskih površina***, Faculty of Forestry, Belgrade.
5. Ristić, R., Radić, B. (2012): ***Operational Plan for the defense from torrential floods on 2. Row water flows in the teritoriji of the town of Kraljevo for 2012***, Faculty of Forestry, Belgrade.
6. Ristić, R., Radić, B. (2011): ***Project of revitalization of „ blue-green” corridors in the narrow city area of Belgrade (the case of Kaljavi stream)***, Faculty of Forestry, Belgrade.
7. Dragović, N.et al. (2008): ***A study of integral arrangement of Topčiderska River catchment in the aim of sustainable management of natural resources- phase 1: Documentation plan***, the study was financed by the Directorate for Waters, City Secretariat for communal and residential activities- City of Belgrade.
8. ***Ristić, R. (2006): Project for the new technology of afforestation on slopes****,* Faculty of Forestry, Belgrade.
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|  **Centers/ Laboratories** |
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