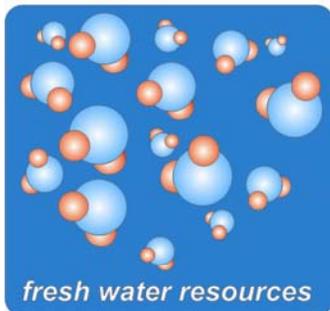




climate change



transnational level

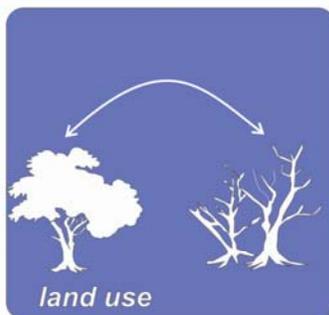


fresh water resources

CCWaterS
Climate Changes and
Impacts on Water Supply



concrete solution



land use



Belgrade, 2012



University of Belgrade – Faculty of Mining & Geology
Department of Hydrogeology



Univerzitet u Beogradu – Rudarsko – Geološki fakultet
Departman za Hidrogeologiju

Climate Change and Impacts on Water Supply

Klimatske promene i njihov uticaj na vodosnabdevanje



Belgrade
2012

Climate Change and Impacts on Water Supply

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Table of Contents:

1.	Zoran Stevanović <i>PREFACE</i>	1
2.	Zoran Stevanović <i>PROJECT TASKS AND OBJECTIVES</i>	5
3.	Zoran Stevanović <i>PROJECT STRUCTURE AND ACHIEVEMENTS</i>	9
4.	Mihailo Anđelić <i>CLIMATE CHANGE AND ITS IMPACTS: AN OVERVIEW</i>	19
5.	Zoran Stevanović, Dušan Polomčić and Petar Dokmanović <i>GROUNDWATER SUPPLY IN SERBIA – AN OVERVIEW OF THE AQUIFERS IMPORTANCE AND THEIR VULNERABILITY ON CLIMATE CHANGES</i>	51
6.	Zoran Stevanović, Vesna Ristić Vakanjac and Saša Milanović <i>TEST AREAS AND THEIR CHARACTERISTICS</i>	61
7.	<i>WP3 - CLIMATE CHANGES</i>	75
7.1	Boško Milovanović <i>CLIMATE CHANGES ON THE TEST AREAS BELJANICA AND STARA PLANINA</i>	75
7.2	Hans Peter Nachtnebel: <i>WP3 FINAL REPORT: CLIMATE CHANGES</i>	109
8.	<i>WP4 - AVAILABILITY OF WATER RESOURCES</i>	133
8.1	Vesna Ristić Vakanjac, Zoran Stevanović and Saša Milanović <i>WATER RESOURCES ASSESSMENT AND AVAILABILITY IN THE TEST AREAS OF IPA1 - CURRENT STAGE AND FORECAST</i>	133
8.2	Zoltán Simonffy: <i>WP4 FINAL REPORT: AVAILABILITY OF WATER RESOURCES</i>	177
9.	<i>WP5 - LAND USE AND SAFETY</i>	259
9.1	Saša Milanović, Zoran Stevanović, Ljiljana Vasić, Elmira Saljnikov and Dragan Povrenović <i>LAND USE AND GROUNDWATER QUALITY IN THE TEST AREAS</i>	259
9.2	Elmira Saljnikov <i>REPORT ON LAND USE IN SERBIA AND TWO TEST AREAS: BELJANICA AND STARA PLANINA</i>	287
9.3	Dragan Povrenović <i>SOME GENERAL ASPECTS OF WATER QUALITY AND TREATMENT APPLIED IN SERBIA AND IN TEST AREAS OF BELJANICA AND PIROT</i>	301
9.4	Fulvio Celico, Roland Koeck, Željka Rudić and Barbara Čencur Curk <i>LAND USE ACTIVITIES IN THE STUDIED TEST AREAS AND WATER QUALITY AND SAFETY (WP5 FINAL REPORT)</i>	319
10.	<i>WP6 - SOCIO-ECONOMIC EVALUATION</i> Dana-Bianka Mitrica Dumitreşcu <i>WP 6 FINAL REPORT: SOCIO-ECONOMIC EVALUATION. DEMAND VS. SUPPLY</i>	331

11.	<i>WP7 - WATER SUPPLY MANAGEMENT MEASURES</i> _____	341
11.1	Petar Dokmanović and Zoran Stevanović <i>IPA1: CONTRIBUTION TO WP7 REPORT</i> _____	341
11.2	Dušan Polomčić <i>HYDRODYNAMIC MODEL OF PIROT BASIN AND KARST MASSIF OF STARA PLANINA MT.</i> _____	391
11.3	Barbara Čenčur Curk and Istvan Bogardi <i>WP7 FINAL REPORT: WATER SUPPLY MANAGEMENT MEASURES</i> _____	417
12.	Zoran Stevanović and Vesna Ristić Vakanjac PROJECT VISIBILITY, PROMOTIONS AND STUDENTS COURSES (FACULTY OF MINING AND GEOLOGY ACTIVITIES)_____	469
13.	KLIMATSKE PROMENE I NJIHOV UTICAJ NA VODOSNABDEVANJE _____	473
	Zoran Stevanović <i>ZAHVALNICA</i> _____	473
	Zoran Stevanović <i>PREDGOVOR</i> _____	474
13.1	Zoran Stevanović <i>PROJEKTNI ZADACI I CILJEVI</i> _____	476
13.2	Zoran Stevanović <i>STRUKTURA PROJEKTA I OČEKIVANI REZULTATI</i> _____	479
13.3	Mihailo Anđelić <i>KLIMATSKE PROMENE I NJIHOV UTICAJ NA ŽIVOTNU SREDINU - PREGLED</i> _____	487
13.4	Zoran Stevanović, Dušan Polomčić i Petar Dokmanović <i>SNABDEVANJE PODZEMNIM VODAMA U SRBIJI - ZNAČAJ PODZEMNIH VODA I NJIHOVA RANJIVOST NA KLIMATSKE PROMENE</i> _____	490
13.5	Zoran Stevanović i Vesna Ristić Vakanjac <i>TEST PODRUČJA I NJIHOVE KARAKTERISTIKE</i> _____	494
13.6	Boško Milovanović <i>KLIMATSKE PROMENE NA TEST PODRUČJIMA BELJANICA I STARA PLANINA</i> _____	498
13.7	Hans Peter Nachtnebel <i>WP3 IZVEŠTAJ: KIMATSKE PROMENE - ZAVRŠNI IZVEŠTAJ</i> _____	500

13.8	Vesna Ristić Vakanjac, Zoran Stevanović i Saša Milanović <i>PROCENA I RASPOLOŽIVOST RESURSA VODA TEST PODRUČJA IPA1 – TRENUTNO STANJE I PROGNOZE</i> _____	502
13.9	Zoltán Simonffy <i>WP4 IZVEŠTAJ: RASPOLOŽIVI VODNI RESURSI - ZAVRŠNI IZVEŠTAJ</i> _____	507
13.10	Saša Milanović, Zoran Stevanović i Ljiljana Vasić <i>KORIŠĆENJE ZEMLJIŠTA I KVALITET VODA NA TEST PODRUČJIMA - IPA1</i> _____	512
13.11	Fulvio Celico, Roland Koeck, Željka Rudić i Barbara Čenčur Curk <i>AKTIVNOSTI KOD KORIŠĆENJA ZEMLJIŠTA NA IZUČAVANIM TEST PODRUČJIMA, KVALITET VODA I BEZBEDNOST</i> _____	516
13.12	Dana-Bianka Mitrica Dumitreşcu <i>WP6 IZVEŠTAJ: SOCIO-EKONOMSKA EVALUACIJA - POTREBE I OBEZBEĐENOST VODA</i> _____	521
13.13	Zoran Stevanović, Petar Dokmanović, Saša Milanović i Dušan Polomčić <i>SOCIO-EKONOMSKE KARAKTERISTIKE PODRUČJA I POTREBE U VODI U USLOVIMA KLIMATSKIH PROMENA</i> _____	524
13.14	Dušan Polomčić <i>HIDRODINAMIČKI MODEL PIROTSKE KOTLINE SA KARSTNIM MASIVOM STARE PLANINE</i> _____	533
13.15	Barbara Čenčur Curk i Istvan Bogardi <i>WP7 IZVEŠTAJ</i> _____	537
	<i>PHOTO ALBUM / FOTO ALBUM</i> _____	553

***Dedicated to Milutin Milanković (1879-1958)
Serbian astrophysicist and geophysicist,
and one of history's great theoretical climatologists***

***Posvećeno Milutinu Milankoviću (1879-1958)
srpskom astrofizičaru i geofizičaru,
jednom od najvećih klimatologa teoretičara u istoriji***

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PREFACE ¹

It is now almost five years since idea to implement a large project which will evaluate possible negative impact of climate changes on water supply and primarily on the groundwater sources, has been for the first time formulated and discussed at an initiative meeting held in Vienna. Proposed work on the project titled “Climate Changes and Impacts on Water Supply“ with an acronym CCWaterS, is a logical consequence of established long lasting cooperation of several institutions from South-Eastern Europe (SEE).

Therefore, partners from Austria, Slovenia, Italy and Croatia have previously worked together on two international transboundary projects (Interreg III Phase): Kater (Karst and Water) and Kater II. Aiming to extend regional cooperation and following the scope of the SEE Programme an invitation from Austrian and Slovenian colleagues was provided to the selected institutions dealing with water issues in Greece, Hungary, Romania, Bulgaria and Serbia. The preparatory process for the projects under the programmes such as SEE usually takes months, and then one year or even more is required to review, negotiate and finally to get approval for the start of project. The project was scheduled for the three years duration and started in May, 2009. However, for the two Serbian partners the beginning further delayed due to administrative reasons and formal starting date has been rescheduled for late November of 2009.

What was done during the three years of investigation? There were many in-the field activities and surveys, but nevertheless many desk study and models prepared for the analyses all aiming to achieve the major project task – to assess the impact of potential climate changes on the existing sources and water supply. Eminent national experts worked closely with the other project partners and the Advisory Board formed in order to ensure the project implementation and to define priorities within this multiphase investigation process.

The project was carried out by eighteen project partners from nine countries from SEE, led by Municipality of the city of Vienna - Vienna Waterworks. This project also brought together the potential of the two leading professional and engineering organizations of Serbia in the field of water and hydrogeology: The Institute of Water Management «Jaroslav Černi» (IJC) and the Department of Hydrogeology of the University of Belgrade - Faculty of Mining & Geology (FMG). The late was appointed as the leading national partner. Project review and continual supervising were done by the EU Delegation to the Republic of Serbia as the main contractor and nevertheless by the Government of the Republic of Serbia – European Integration Office (SEIO). The financial contribution of the EU Delegation has been provided through the funds of the Instrument of Pre-Accession Assistance (IPA). This allocation has covered majority of the requirements, while national contribution for the part executed by the Faculty of Mining & Geology has ensured through the support of the Ministry of Environment and Spatial Planning of Serbia (today Ministry of Natural Resources, Mining and Spatial Planning), the Pirot Waterworks and from own funds of the Faculty and in-kind works.

The achievements of some of the research works, particularly from the field of hydrogeology, are already presented in several papers and articles published in international or national journals or proceedings from the conferences. Up to August, 2012 project members have

¹ *written by Zoran Stevanovic, the Project Manager and Team Leader of the Faculty of Mining & Geology, as the leading national partner for the CCWaterS project implementation*

prepared 37 special reports, guidelines or brochures, while 72 appearances in media (news, interviews, press conferences) related to project have been recorded. Thus, part of the professional auditorium is already well informed about the positive results and obtained experiences. However, this Monograph is aiming to provide more information and the project details. It may be an informative document for those planning to prepare and execute similar projects in different technical fields, but even more, it could provide some guidance to the students or professionals working on different aspects of climatology, water resources management or hydrogeology.

The Monograph includes full reports prepared by the members of research team of the Faculty of Mining & Geology. The chapters are following the structure of the project and topics under defined working packages. For each of them a full report summarizing contributions of all involved partners, and prepared by the team leader(s) is also published. Therefore, no detail for each of the test sites selected by project partners is possible to put together in one book. However, another monograph on CCWaterS achievements posted by the Austrian leading partner at the project web site is an additional material for those like to learn more about the project.

A few years of hard work have passed. Now we have the results and this book is an opportunity for the wider public to assess the project's results and achievements. However, for us this is a successfully implemented project and certification of our efforts. Moreover, a memory of common work, good results and established many friendships.

*In Belgrade,
October, 2012*