Приложение 4

РЕПУБЛИКА БЪЛГАРИЯ

МИНИСТЕРСТВО НА ОКОЛНАТА СРЕДА И ВОДИТЕ

Изх. N 33-00-69

София, 02.04 **2013 г.**

ДО:
ДИРЕКТОРА НА
НАЦИОНАЛЕН ИНСТИТУТ ПО
МЕТЕОРОЛОГИЯ И ХИДРОЛОГИЯ
БУЛ. „ЦАРИГРАДСКО ШОСЕ“ 66
СОФИЯ 1184

РЕФЕРЕНЦИЯ

Настоящата се дава на д-р инж. Олга Николова Ничева в уверение на това, че е отговорен изпълнител в задачата по т.4 „Подготовка на данните и участие в тестване на индикатори за засушаване, почвения индекс“ от споразумението между НИМХ и МОСВ за 2012 г. Приносът й в тази задача е в създаването на алгоритъм и програмни скриптове за месечно изчисление на SMI-soil moisture index за територията на страната на базата на климатичен модел и сателитните наблюдения на НАСА за метеорологични данни.

Задачата е приета от Министерство на околната среда и водите като изпълнена и се използва оперативно в МОСВ.

Да послужи при кандидатсване за заемане на академична длъжност.

Министерство на околната среда и водите • РЕПУБЛИКА БЪЛГАРИЯ

ЕВДОКИЯ МАНЕВА

ЗАМЕСТНИК – МИНИСТЪР НА ОКОЛНАТА СРЕДА И ВОДИТЕ

Приложение 5

РЕПУБЛИКА БЪЛГАРИЯ

МИНИСТЕРСТВО НА ОКОЛНАТА СРЕДА И ВОДИТЕ

Изх. N 33-00-70

София, 02.04 **2013 г.**

ДО:
ДИРЕКТОРА НА
НАЦИОНАЛЕН ИНСТИТУТ ПО
МЕТЕОРОЛОГИЯ И ХИДРОЛОГИЯ
БУЛ. „ЦАРИГРАДСКО ШОСЕ“ 66
СОФИЯ 1184

РЕФЕРЕНЦИЯ

Настоящата референция се дава на д-р инж. Олга Николова Ничева в уверение на това, че е била ключов експерт при изготвянето на приетата от ВКСВ национална „Методика за определяне на обеми в язовирите по Приложение 1 от Закона за водите за поемане на очакван приток», автор на раздел VII, приложение 11. Изготвените от нея «Алгоритми и програмирани електронни таблици в Excell за определяне на преливното водно количество при язовирни стени за преливници с и без затворни органи” са използвани при определяне на свободния обем на яз. «Тополница».

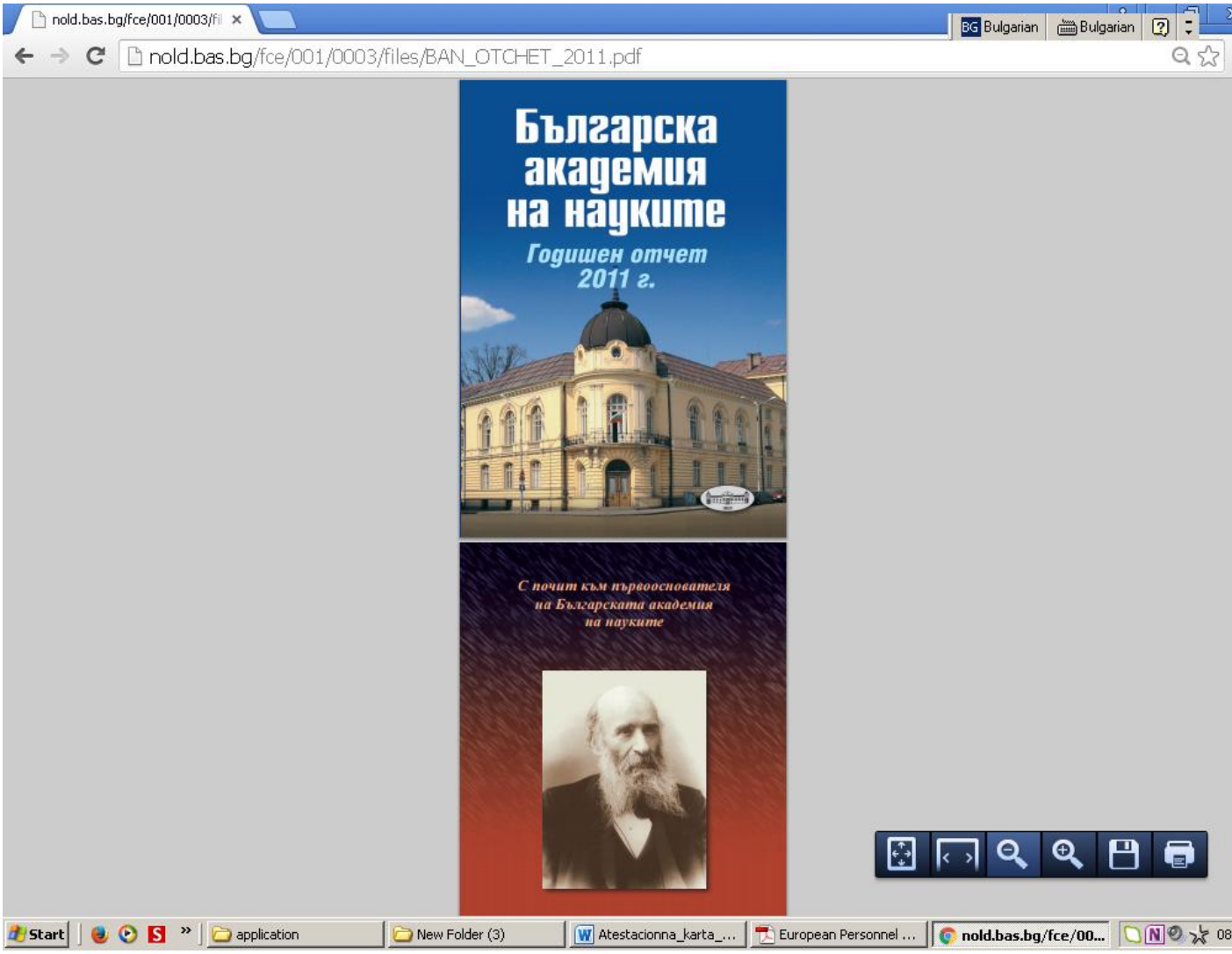
Да послужи при кандидатсване за заемане на академична длъжност.

Министерство на околната среда и водите
РЕПУБЛИКА БЪЛГАРИЯ

ЕВДОКИЯ МАНЕВА

ЗАМЕСТНИК – МИНИСТЪР НА ОКОЛНАТА СРЕДА И ВОДИТЕ

Приложение 2



http://nold.bas.bg/fce/001/0003/files/BAN_OTCHET_2011.pdf

инженерногеоложките и други условия, са локализирани няколко потенциални геоложки блока. Направена е характеристика на тези геоложки блокове по система от 27 сравнителни критерия. Възложител е ДП „РАО". (Колектив с ръководител доц. д-р Дончо Карастанев)

НАЦИОНАЛЕН ИНСТИТУТ ПО МЕТЕОРОЛОГИЯ И ХИДРОЛОГИЯ. В оперативната практика на института е въведена методология, разработена в сътрудничество с Meteo-France, за анализ на термодинамичните условия във високата и средна тропосфера посредством френската мултифункционална метеорологична прогностична среда SYNERGIE. Методологията се основава на класически методи и включва оригинални подходи за приложение на спътникова информация в синоптичния анализ. За целта е проектирана съответна конфигурация на SYNERGIE за България и е създадена технология за генериране на необходимите за нейната работа специализирани продукти. (Колектив с ръководител доц. д-р Христо Георгиев)

Разработена е методика за определяне на допустими количества наторяване, при които се постигат достатъчно високи добиви с минимални азотни емисии в атмосферата и

инфилтрирали в почвата води, удовлетворяващи нормите за съдържание на нитрати за питейни води. Извършени са конкретни числени модели изследвания на процесите, протичащи при отглеждане на царевица върху алувиални-ливадни почви. Резултатите са сверени с натурни данни. Показано е, че при торене и напояване, съобразено с влажността и други параметри на почвата, може да се постигнат удовлетворителни резултати и в екологичен, и в икономически аспект. Разработката е предназначена за непосредствено практическо приложение в земеделието у нас. (Автор гл. ас. д-р инж. Олга Ничева)

ИНСТИТУТ ПО ОКЕАНОЛОГИЯ. Известно е, че очакваните промe
могат да се отразят върху честотата и силата на морските щормове. Това
състоянието на бреговата зона като цяло и плажовете в частност. В тази връзка е оценена

Приложение 3

EUROPEAN COMMISSION
DIRECTORATE GENERAL JRC – JOINT RESEARCH CENTRE
PROGRAMME AND RESOURCE MANAGEMENT
Human Resources Unità Risorse Umane

TRAINING EVALUATION

Must be filled in by the scientific adviser and sent back to the Trainees' Office – TP064

1. NAME OF THE TRAINEE Ms Nicheva, Olga
   NATIONALITY Bulgarian

2. PERIOD OF THE TRAINING from 01.07.2008 to 30.06.2009

3. INSTITUTE AND UNIT
   Institute : Institute for Environment and Sustainability (IES)
   Unit : Land Management and Natural Hazards (LMNH – H07)

4. NAME OF THE SCIENTIFIC ADVISER Mr Niemeyer, Stefan

5. MAIN ACTIVITY OF THE TRAINEE

Analysis of existing land surface models, choice of suitable model, and implementation and testing of it on the European scale within the unit's informatic environment for the derivation of land surface parameters such as soil moisture.

6. EVALUATION OF THE TRAINING

Ms Nitcheva performed very well throughout the training period. She had well established knowledge and experience in the field of soil moisture processes that enabled her to start the work efficiently and to produce first results on the overview and analysis of existing models in short time. In the following months she gradually gained the necessary skills to implement the chosen model called Community Land Model (CLM) in the unit's informatic infrastructure. At the end of her training period she was well capable to produce model runs and to analyse the results.

As a consequence, Ms Nitcheva will be able to use the acquired skills for her future career at home at the Bulgarian Academy of Sciences, namely adapting the model to Bulgaria and running applications in related fields of science. At the same time, she contributed successfully to the overall development of the European Drought Observatory (EDO) at IES by her selection and testing of an alternative land surface model for the future production of additional drought products within EDO.

Centro Comune di Ricerca -TP 064 - I-21020 Ispra (VA), Italia
Telefono: linea diretta (+39)-0332 785718 Centralino 789111 . Fax: 786358
Telex: 324878 EUR I - 324880 EUR I

During her stay Ms Nitcheva worked very responsibly and independently and replied timely on additional requests. She was integrating well in the drought team of the DESERT Action of LMNH, and established contacts and collaborations with necessary staff to advance her work. Ms Nitcheva gave regular feedback to me on the progress of her work and did not hesitate to get back to me when encountering scientific or technical problems. At the same time, she kept contacts by email with the model developers in the U.S. for support and scientific exchange.

Ms Nitcheva was a well respected member of the group with a good personal relationship to the staff involved in her work. She presented her work to the Action at the end of her training period and received positive feedback.

I wish her at the best for the future career.

The scientific adviser

Date: Ispra, 20.7.2009

Visa of the Management Support Unit .....

Приложение 1

INCO : International Scientific Cooperation Projects (1998-2002)

Contract number : IC15-CT98-0131

FINAL REPORT

Start date : 01 Jan, 1999 **Duration : 36 months**

Title : Development of tools needed for an impact analysis for groundwater quality due to changing of agricultural soil use

Project homepage : non-existant

Keywords : agriculture, groundwater, model-linking, nitrate, transport-modelling

Final Report – Contents

Annexes:

3rd Workshop in Dresden, August 31st – September 3rd 2000

Participants: Germany TUDRE.IGW

Mr. Walther
Ms. Weller

Mr. Pätsch

Mr. Reinstorf (temporary)

Bulgaria IWPBG.LGR

Mr. Diankov
Mr. Radoslavov
Mr. Marinov
Ms. Nitcheva

Mr. Delov (temporary)

Netherlands WSC.AGRD

Mr. Querner

Poland ILRG.WRA

Mr. Mioduszewski
Mr. Fic

Place: Institute for Groundwatermanagement

University of Technology

Karcherallee 8

Final Conclusions

TOP MODELING

The Polish colleagues made a 1st approach of the application of the coupled modell SWAP-ANIMO with a sampled 1st data collection. They will apply the model for datasets of approximately 5 years in the future. A current state of work will be presented at the next workshop. The polish working group will find and apply a suitable model for regionalization, e.g. the model SIMGRO. They will choose a model to realize the transport and metabolism of nitrate in groundwater due to the aim of regionalization.

Concerning the aim of the project its not expedient to apply e.g. the model MODFLOW too.

Decision of the Polish working group to use the models :

water and nitrate flux in unsaturated zone	→ SWAP, ANIMO
water flux in saturated zone	→ SWAP
nitrate transport in saturated zone	→ SWAP, ANIMO

The Bulgarian colleagues made a 1st approach of the application of a groundwater flow model (MODFLOW) to their investigation area. They tested the model MT3D for the application to their investigation area by including a first data set.

For the partners it was not clear how the colleagues will manage the question of land use, changing in land use, plant uptake etc.. Concerning to this they will choose the models they will use in future.

The Bulgarian colleagues have to establish a greater area for simulation especially for establishing boundary conditions that make it possible to simulate an extrapolate data sets.

The Bulgarian working group will integrate an expert dealing with soil sciences, hydromelioration and modeling of nitrogen dynamics.

Decision of the bulgarian working group to use the models :

water and nitrate flux in unsaturated zone	→ SWMS, ?
water flux in saturated zone	→ MODFLOW
nitrate transport in saturated zone	→ MT3D-MODFLOW

The German colleagues made a 1st approach of the application of a groundwater flow model (MODFLOW) to their investigation area. They have to enlarge their model area to ensure more realistic boundary conditions. For the application of the model HERMES more datas will be sampled.

All partners have to think about the possibilities to regionalize their models. Each partner will give a written proposal for the possibilities to regionalize at the next workshop.

TOP COMPARISON OF MODELS

One important task was to make a comparison of the models that will be used in the project as agreed at the 2nd workshop in Sofia. Therefore most of the model handbooks and the models were sent to Bulgaria. The Bulgarian colleagues couldn't present any result. The Bulgarian working group engages herself to begin immediately after the workshop with the work on this task. They will make a first proposal of a comparison matrix (see literature in Annex) until the beginning of october. This proposal should be discussed between all partners !

If the bulgarian colleagues think that they cannot manage this task, other partners in the project must do this work. In this case we have to count the costs for this task and transfer money from the budget of the bulgarian partner to any other partner in the project.

It is important that the comparison should be made in the first place in context with the processes and not in numerical order. The comparison of the models is a basic of linkage !

The bulgarian working group will present the results of their comparison until end of October 2000 (→ see also TOP MODELS - LINKING). Its important that the colleagues will meet this deadline, because we have to include this topic in our annual report 2000. Therefore it is possible to contact each partner to discuss the design of the comparison - matrix.

TOP PROCESSES / SUBSTANCE METABOLISM

All partners agreed that only batch-tests will be done to give an answer to the question wether there is denitrification or not. The kinetics will be find out by comparison of nitrate turnover and the estimated groundwater age by isotops.

The partners agreed .

TOP RESULTS - PRESENTATION OF MODELS

For the future the partners agreed to present results of modeling by comparison of calculated and observed data. Statistical parameters like mean error, mean absolute error, standard deviation etc. of

time series of measured and calculated data will be applied. This kind of presentation will be shown at the next workshop.

TOP RESPONSIBILITY

The partners named those colleagues who are responsible for special tasks :

POLISH GROUP

Modeling unsaturated and saturated zone, nitrogen cycle

Ms. Violetta Soczewka

FAX : 0048-22-6283763

email : a.slesicka@imuz.edu.pl

Database, datasheet

? responsible colleague will be named until end of september

GERMAN GROUP

Modeling unsaturated zone, nitrogen cycle

Ms. Dorothea Weller

Mr. Frido Reinstorf

Modeling saturated zone

Mr. Matthias Pätsch

BULGARIAN GROUP

Modeling unsaturated Zone, nitrogen cycle

Ms. Olga Nitcheva

Soil scientist, responsible colleague will be named until end of september (as promised at the workshop)

Modeling saturated zone

Mr. Stefan Radoslavov

Mr. Marinov

Linking of Models

? responsible colleague will be named until end of september (as promised at the workshop)

NETHERLAND GROUP

Modeling of unsaturated zone

J. Roelsma

j.roelsma@alterra.wag.ur.nl

ADVICE : Each partner have to indicate personal changes in the work group (see also TOP WORKING GROUP, page 2, FLIER - Annex) to the coordinator.

TOP MODELS - LINKING