Factors Contributing to Dust Emissions in Clark County, Nevada Quarterly Progress Report: Period Ending July 15, 2006

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Executive Summary

- Hiring of post-doctoral scholar is currently being finalized.
- Modification to task agreement has been processed.

Hiring

As noted in our last quarterly report, the search for a post-doctoral scholar to direct the dust emissions research commenced in December 2005, and until that position is filled there has been no activity toward the deliverables, to date.

The review of applications began on February 15, 2006. An offer has been made to a highly qualified applicant with extensive experience in dust emissions research, Dr. Dirk Goossens (see attached vitae), who lives in Belgium and will require a visa in order to work in the United States. The paperwork to secure his J-1 visa is in progress. Dr. Goossens anticipated start date is December 1, 2006.

Task Agreement Modification

The university has submitted a formal modification to the task agreement (see attached) to allow a no-cost time extension due to the delays in hiring the post-doctoral scholar to conduct the research. As proposed in the modification, the agreement is being extended by one year, through 10/21/08. This will allow Dr. Goossens two years to complete the deliverables once his employment commences.

The task agreement modification was submitted to CESU Administrator Nora Devoe in the Nevada BLM office on May 10, 2006. Dr. Devoe forwarded the document to Susan Kaller, BLM contracting officer, for signature on May 22, 2006. As of the date of this report, the university has not yet received a signed copy of the modification.
Principal Investigator

The aforementioned modification also amends the principal investigator for the project. Previously, Dr. Patrick Drohan and Dr. Brenda Buck were named as co-principal investigators. Dr. Drohan has left UNLV to accept another position back East, and Dr. Buck will continue as sole principal investigator.

Submitted by:

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Project Administrator

July 6, 2006

Date
Task Agreement
Modification Request
Great Basin Cooperative Ecosystem Studies Unit
Justification for Task Agreement Modification

ASSISTANCE AGREEMENT NO: FAA010017
MODIFICATION NO.: 01
COORDINATING AGREEMENT NO.: H8R07010001
EFFECTIVE DATES: 10/21/05 thru 10/21/07

RECIPIENT: University of Nevada, Las Vegas

PROJECT TITLE: “Assessing factors contributing to dust emissions from public lands on air quality in areas of Clark County, Nevada.”

MODIFICATION:

A. Modify Section IV – Term of Task Agreement as follows:

**IV. Term of Task Order:** This task order shall become effective on the date of signature by the AO and shall remain in effect for a period of **two three** years, unless terminated in accordance with the provisions of 43 CFR Subpart F, Section 12.961.

B. Modify Section IX.D – UNLV Project Managers as follows:

Remove Patrick Drohan, Ph.D., as co-principal investigator. Brenda Buck, Ph.D., will serve as sole principal investigator.

RATIONALE:

The University of Nevada, Las Vegas initiated an employment search for a post-doctoral scholar to conduct the dust emissions research as stipulated in Assistance Agreement # FAA010017 immediately following the AO’s signature on 10/21/05 and the university’s assignment of an account number on 11/15/05. The review of candidate applications began February 1, 2006. In April 2006, the university search committee made a recommendation to hire a highly qualified international scholar from Belgium. This individual is not available to accept the position until January 1, 2007. Based on this individual’s unique and extensive qualifications to conduct the stipulated research, the university is requesting that the term of the task agreement be extended from two years to three years. The proposed, new effective dates would be 10/21/05 through 10/21/08.

The change in principal investigators is being requested because Dr. Drohan has accepted a position at another university on the East Coast and will be leaving the University of Nevada, Las Vegas effective June 30, 2006. Dr. Brenda Buck, Ph.D., will serve as sole principal investigator for this project.

All other conditions of the task agreement would remain as-is, with no changes to the previously approved budget.
Post-doctoral Scholar Curriculum Vitae
CURRICULUM VITAE

GOOSSENS, Dirk Michiel Ferdinand Ghislenus

PLACE AND DATE OF BIRTH: Genk (Belgium), 9th May 1958
NATIONALITY: Belgian
RESEARCHER AT: Physical and Regional Geography Research Group, Katholieke Universiteit Leuven, Redingenstraat 16bis, B-3000 Leuven, Belgium
Tel.: +32 16 32 64 33 (secr.); Fax: +32 16 32 64 00; e-mail: Dirk.Goossens@geo.kuleuven.be
UNIVERSITY STUDIES: Geography (Katholieke Universiteit Leuven, Belgium, 1977-1980)
ADDITIONAL COURSES:
- "Pollutant Dispersal" (von Karman Institute for Fluid Dynamics, 1985)
- "Wind energy" (Working Group on Technology "Dialoog", 1986)
- "Boundary Layer Simulation Methodology in Transonic Wind Tunnel Testing" (von Karman Institute for Fluid Dynamics, 1988)
- "Planetary landscapes" (Belgian Astronomical Society, 1990)
- "Scientific Text Editing" (Post-graduate programme, Katholieke Universiteit Leuven, 2005-2006)
ACADEMIC DEGREES:
- M.Sc. (Geography), Katholieke Universiteit Leuven, Belgium, 1980
- Ph.D. (Sciences), Katholieke Universiteit Leuven, Belgium, 1987

EMPLOYMENT:
01/10/1980 - 31/07/1981: Assistant, Katholieke Universiteit Leuven (ad interim)
01/10/1981 - 31/12/1987: Research Assistant, Belgian National Fund for Scientific Research
23/03/1987 - 27/06/1987: Assistant, Katholieke Universiteit Leuven (ad interim)
01/10/1987 - 30/09/1989: Senior Research Assistant, Belgian National Fund for Scientific Research
01/10/1990 - 30/09/1994: Senior Research Assistant, Belgian National Fund for Scientific Research
01/11/1994 - present: Researcher, Katholieke Universiteit Leuven

During the following periods I was, besides to the Katholieke Universiteit Leuven, also connected to several foreign institutions:
01/09/1995 - 31/05/1996: Lector, Hoppers Verlag, Aachen (Germany)
17/01/1998 - 30/06/2001: Researcher, Wageningen University and Research Centre (The Netherlands)
01/11/2002 - 15/07/2003: Researcher, Wageningen University and Research Centre (The Netherlands)
01/03/2004 - 30/04/2004: Researcher, Wageningen University and Research Centre (The Netherlands)
01/05/2004 - 31/07/2004: Guest Professor, Université de Paris 12 (France)
01/08/2004 - 31/05/2005: Associated Researcher, Centre National de la Recherche Scientifique (France)
01/06/2005 - 31/07/2005: Guest Professor, Université de Paris 7 (France)
01/03/2006 - 30/11/2006: Associated Researcher, Centre National de la Recherche Scientifique (France)
SCIENTIFIC RESEARCH DOMAINS: geomorphology, meteorology, sedimentology, eremology

key words: wind, wind tunnel, atmospheric dust, aerosols, erosion, transport, sedimentation, desert, loess

CURRENT RESEARCH THEMES:
- Mechanics of aeolian erosion, aeolian transport and aeolian sedimentation of natural sediments
- Relationships between meteorological conditions and the occurrence and behaviour of airborne dust particles
- Interrelationships between surface topography and aeolian erosion, deposition and accumulation of atmospheric dust
- Short-term and long-term effects of aeolian dust accumulation in arid and semi-arid areas
- The role of atmospheric dust in the desert ecosystem
- Effect of rock fragments on the deposition and accumulation of aeolian dust in desert areas
- Effect of airborne dust on solar collector reflectivity and photovoltaic solar cell productivity
- Transport and deposition of atmospheric dust over buildings and urban street configurations
- Interpretation of aeolian palaeo-deposits from a fluid dynamical point of view
- Sedimentological and meteorological study of dust storms
- Study of aeolian landforms
- Sources of aeolian dust production on agricultural land
- Development and calibration of meteorological and sedimentological equipment
- Techniques to reactivate the aeolian activity in stabilised drift-sand areas

SCIENTIFIC STAYS ABROAD:
- Department of Geography, University College of London, England: Nov 1985
- Laboratoire de Météorologie Dynamique, Université de Paris 5, France: Oct 1987
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Dec 1987 - Jan 1988
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Mar-Apr 1988
- Centre d’Etudes et de Rech.s Eco-Géographiques, Univ. Louis Pasteur, Strasbourg, France: Oct 1988
- Applied Physical Geography Unit, Ruhr-Universität Bochum, Germany: Mar 1989
- Applied Physical Geography Unit, Ruhr-Universität Bochum, Germany: Aug 1989
- Lab.of Physical Geography and Soil Science, Universiteit van Amsterdam (Netherlands): Sep 1989
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Dec 1989
- Adam Mickiewicz University, Poznan, Poland: May 1990
- Department of Engineering, University of Aberdeen, Scotland: Mar 1991
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Mar 1992
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Apr-May 1993
- Laboratory for Geomorphology, Bar-Ilan University, Tel Aviv, Israel: May 1993
- Department of Theoretical Statistics, University of Aarhus, Denmark: Jul 1993
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Sep-Oct 1993
- Laboratory for Geomorphology, Bar-Ilan University, Tel Aviv, Israel: Oct 1993
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Mar 1994
- Avdat Experimental Runoff Farm, Avdat, Israel: Mar-Apr 1994
- Avdat Experimental Runoff Farm, Avdat, Israel: Nov 1994
- Hoppers Verlag, Aachen, Germany: Sep 1995-May 1996
- Institut für Bodentechnologie, Niedersächsisches Landesamt für Bodenforschung, Germany: Jan-Feb 1998
- Avdat Experimental Runoff Farm, Avdat, Israel: May 1998
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Sep 1998
- Avdat Experimental Runoff Farm, Avdat, Israel: Mar 1999
- Institut für Bodentechnologie, Niedersächsisches Landesamt für Bodenforschung, Germany: Feb 2000
- The Jacob Blaustein Institute for Desert Research, Sede Boqer Campus, Israel: Feb-Mar 2003
- Wageningen University and Research Centre, The Netherlands: Mar-Apr 2004
- Lab. Interuniv. des Systèmes Atmosphériques, Université de Paris 12, France: May 2004 - July 2005
- Institut de Recherche pour le Développement, Niamey, Niger: Apr-May 2005
- Lab. Interuniv. des Systèmes Atmosphériques, Université de Paris 12, France: Mar 2006 - Nov 2006

GRANTS AND FELLOWSHIPS RECEIVED:
- N.F.W.O. Research grant, National Fund for Scientific Research, Belgium: 1987
- Research Grant Flemish Community, Belgium: 1988
- N.F.W.O. Research grant, National Fund for Scientific Research, Belgium: 1992
- L.S.F. Fellowship, Jacob Blaustein Institute for Desert Research, Israel: 1993
- N.F.W.O. Research grant, National Fund for Scientific Research, Belgium: 1994
- L.S.F. Fellowship, Jacob Blaustein Institute for Desert Research, Israel: 1999
- PE&RC Research Fellowship, Wageningen University, the Netherlands: 2002

EDITORIAL ACTIVITIES:
- Editor of the journal *Geomorphology*

PUBLICATIONS

A. Books


B. International peer-reviewed journal articles and peer-reviewed chapters in books


Goossens D. (submitted): "Bias in grain size analysis of atmospheric dust due to the collection of particles in sediment catchers." *Catena*. 
C. Articles in other journals and in proceedings


D. Populair-scientific publications


