

Woods, Penelope D

From: Terry Marasco <tmarasconrm@natural-resource-mgt.com>
Sent: Thursday, October 06, 2011 7:54 PM
To: Terry Marasco; BLM_NV_NVSO_GWProjects; Woods, Penelope D
Subject: additional references for long -range transport of dust Comments REW DEIS
Attachments: pic11183dustplumesUT.gif

Please submit the following to the Draft EIS re NV groundwater projects-here is a photo illustrating the distance dust travels into the Salt lake valley from Utah's west desert

Terry Marasco
Natural Resources Project Management
775.293.0189
www.natural-resource-mgt.com

From: Terry Marasco <tmarasconrm@natural-resource-mgt.com>
To: "nvgwprojects@blm.gov" <nvgwprojects@blm.gov>; Penny Woods <Penny_Woods@blm.gov>
Sent: Thursday, October 6, 2011 4:49 PM
Subject: additional references for long -range transport of dust Comments REW DEIS

TO: BLM DEIS Nevada Groundwater Projects
FROM: Terry Marasco
RE: BLM DEIS Air Resources section flawed as conclusions re: sort fall of particulates cannot be substantiated by the literature

Herein is additional literature that makes the case that long-range transport of particulate matter will reach the Wasatch Front if groundwater pumping desiccates Spring and Snake Valleys.

Academic documentation of annual migration of Saharan Dust to the Caribbean and the SE US have been around for more than a decade, based in part on satellite data and IMPROVE network speciation.

African Dust and the Demise of Caribbean Coral Reefs
http://www.rsmas.miami.edu/assets/pdfs/mac/fac/Prospero/Publications/Shinn-Prospero_dust%20corals_GRL00_2000GL011599.pdf

Saharan dust transport over the North Atlantic Ocean and Mediterranean: an overview
<http://books.google.com/books?hl=en&lr=&id=7vOJ9I9uwroC&oi=fnd&pg=PA133&dq=transatlantic>

+saharan+dust&ots=g4IR0AHjNA&sig=K5TzkaSRXGQ-wXbp1Ww77axKTnw

Measuring Trans-Atlantic Aerosol Transport From Africa

http://sunburn.aoml.noaa.gov/phod/docs/Morris_etal_EOS06.pdf

Dust altitude and infrared optical depth from AIRS

<http://hal.archives-ouvertes.fr/docs/00/32/83/70/PDF/acp-4-1813-2004.pdf>

Gobi Desert Dust can also impact North America, but not necessarily as frequently as Saharan:

Asian dust events of April 1998

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.11.2987&rep=rep1&type=pdf>

Trans-Pacific Air Pollution

<http://www.sciencemag.org/content/290/5489/65.full>

The impact of transpacific transport of mineral dust in the United States

<http://www.sciencedirect.com/science/article/pii/S1352231006009915>

Within the US, satellite images occasionally show dust plumes originating in the desert south west (Arizona, New Mexico, Texas) and impacting the upper Midwest or east coast. Also within the US, a lot of attention is currently being placed on dust storm transport from the desert floor into the high Rockies, where the dust can deposit and lead to early snow melt by changing the color of the snowpack.

Dirty Snow: Documenting the 2009 Dust Storm Events in Colorado's San Juan and Elk Mountains with Repeat Photography and Historical Snow Pack Data

<http://www.nwas.org/ej/2010-EJ7/>

<http://earthobservatory.nasa.gov/IOTD/view.php?id=39164>

NASA Study Shows Desert Dust Cuts Colorado River Flow

<http://www.jpl.nasa.gov/news/news.cfm?release=2010-306>

Impact of disturbed desert soils on duration of mountain snow cover

http://wwa.colorado.edu/admin/announcement_files/1649-

[uploaded/announcement-1649-4670.pdf](#)

Within Utah, it is not unusual to see very pronounced dust plumes extending more than 100 miles; this image was from the April 19, 2008 high wind exceptional event demonstration from the Utah DEQ.

Terry Marasco
Natural Resources Project Management
775.293.0189
www.natural-resource-mgt.com

Image 3 – Aqua-MODIS False Color Satellite Image



The false color image was interpreted by the U.S. Geological Services for DEQ (provided by Richard L. Reynolds, USGS). According to their interpretation, sources of the dust clouds include the Sevier Lake and Milford Flat. The false color imaging allows us to see the dust plumes emanating from these desert playa regions and extending into the Salt Lake valley.