



Association of Environmental and Engineering Geologists

Inland Empire Chapter

of the Southern California Section

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December Newsletter

“Aeolian sand systems in southeastern California since the latest Pleistocene and their evaluation regarding potential impacts associated with solar energy projects”

Miles Kenney,
Kenney GeoScience

Wednesday, December 8, 2010

NOTE: This is one week prior to our regular meeting date.

5:00 – Social	Western Science Center, Classroom A
6:00 – Dinner	Western Science Center, Classroom A
7:00 - Speaker	Western Science Center, Classroom A

Location

Western Science Center, Hemet, CA

(Meeting Cost \$25; Students \$5); see meeting details on page 4

AEG-IE

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Abstract

Miles Kenney, PhD, PG (760) 845-9596; miles.kenney@yahoo.com

Recent proposed large solar energy projects throughout the Mojave Desert consume large tracts of land on the order of thousands of acres and thus lead to relatively large potential impacts on drainage, biology, and aeolian systems. My presentation will provide a summary of work I have conducted during the past year in addition to published literature regarding sand migration corridors, potential impacts and deposits associated with a number of proposed solar energy projects. Much of this work is motivated to understand aeolian sand systems that provide habitat for the Mojave Fringe-toad Lizard.

I quickly learned of the paucity of science publications regarding dune systems, the lack of documentation regarding impacts of man made structures blocking sand corridors and only limited literature pertaining to dune mitigation. In addition, I was not able to find examples of aeolian geologic maps emphasizing variations in dune forms and relative sand fluxes. Questions arose regarding designating aeolian geologic units to aeolian systems where in some areas deposits are spotty over the surface but continue to exhibit sand migration? Thus, geologic units must both describe the deposits but also need to include a component of relative sand flux. Basically, attempting to map a dynamic system involving when and how billions of mobile sand grains behave. Some literature indicates that relative sand migration rates are a function of vegetation cover and dune form. However, it is also clear that considerable levels of sand can migrate over moderately vegetated surfaces without producing dune deposits.

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The AEG Inland Empire Chapter Newsletter is a monthly publication of the Inland Empire Chapter of the Southern California Section, Association of Environmental and Engineering Geologists. For more information visit the Chapter website:

<http://www.aegsc.org/chapters/inlandempire>

Submittals: Deadline, 28th of the month. Employment notices, job position announcements, and advertisements can be posted for a minimal fee. Newsletter circulation about 170 in greater inland areas of Southern California, and elsewhere.

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Abstract (continued)

Many regions throughout the Mojave exhibit geomorphic evidence that dune systems were considerably more robust during the latest Pleistocene to mid Holocene than during the latest Holocene. Robust periods of dune formation (aggradational events) appear to have occurred during the latest Pleistocene and mid Holocene and were likely climatically controlled. Primary aeolian sand sources include active washes, playa lake surfaces, and older degrading dunes. Washes are a primary wind blown sand source and produce aeolian sands soon after they flow. In terms of long term behavior, increased regional precipitation during El Nino years provides considerable input for aeolian sand systems and dryer but windy La Nina events are considered times of relatively strong sand migration.

Speaker Biography

Dr. Kenney has over 20 years professional experience in the geotechnical engineering and environmental industry working primarily in southern California. Areas of expertise include evaluation of desert landscapes (alluvial fans, aeolian systems – dunes), fault rupture studies (paleoseismology), structural geology, basin scale stratigraphy (assists in groundwater studies), igneous and sedimentary petrology, structural geology and



neotectonics. Dr. Kenney also knows how to take an in-situ density test (soil technician)!

Recent areas of interest include conducting evaluations of aeolian sand systems (dunes) and ancient playa lakes for proposed large scale solar energy projects in the Basin and Range Geomorphic Province (CA, NV, AZ). From 2004 to 2008, Dr. Kenney conducted numerous fault surface rupture studies in the eastern Coachella Valley for the San Andreas fault proper and secondary fault structures. Other large scale projects include the principle investigator to provide the current fault hazard map utilized by Riverside County while working at Earth Consultants International.

Specific client experience has included residential, commercial, transportation, solar energy, wind turbine energy, and municipal projects. Teaching experience includes over five years at San Diego State University and numerous community colleges in southern California.

Education

Ph.D. Geological Sciences, University of Oregon, 1999. This work involved a two year visit working with faculty at Rensselaer Polytechnic Institute, Troy, New York.

BS Geological Science & Chemistry, San Diego State University, 1989.

My Two Cents

The Chair's Chat

"Thank You!'s" continued: I would like to add my appreciation to the Chapter's 2 "Lifetime" field trip Co-Chairmen – Mark Spykerman and Mike Cook – for agreeing (per their lifetime contract) to provide another splendid field trip for the upcoming year. My understanding is that a *Foothills* Field Trip is on tap for later in the year. Suggestions for stops can be submitted to either myself or Mark. Contributions of *Open trenches* or *Unguarded cut slopes*, preferably across the *San Andreas* or the *toe of a large, deep-seated "bed" rock landslide*, would be most appreciated!

Another hefty "Thank You!" goes to our perennial Membership Chairman – Richard Orr – for agreeing to stay on, even though his contract expired 2 years ago. Richard has expressed a strong desire to enlist every *Geology and Earth Sciences* student attending I.E. Colleges in a [FREE] student membership in the *Association of Environmental Geology* (a.k.a. *A.E.G.*) before he hangs up his application pen (I hope to negotiate 2-2-year extensions to Richard's contract).

Turkeys and Pumpkins are behind us (another season of elections is over). Santa and mistletoe (Wishes and Kisses) are before us. My hope is that Santa leaves all good little *geologists* a shiny hunk of *anthracite* in your stockings, while the *bitumen* warms your hearth, the *methane* cooks your pies, and the *Texas Intermediate Crude* fires on all your cylinders!

Oh. It has been pointed out by the *geobloggers* who follow this column and seek to keep me honest that Richard Orr is seeking to enlist young folk in the *Association of Environmental Geology*, when, in fact, he should be adding warm young bodies to the *Association of Environmental & Engineering Geology*. You youngsters in *Engineering Geology* (I know there are at least 2 of you out there) Don't be Deterred! Richard may be biased just because jobs still abound on the *Environmental* side of the fence, but don't stop dreaming! Someday, Generations X and whY (you and your brethren and sisteren) will need a roof, preferably over a *Stout foundation*. And when that time comes (in 2⁴ or 2⁵ years), you'll be prepared with your AA in *Natural Science*, your BA in *Geology*, your MS in *Engineering Geology*, your PhD in *paleoseismo*, your *GIT*, your *P.G.* and *G.P.'s*, your *C.E.G.*, and your *C.H.G.* And you'll be set!

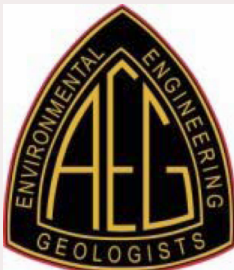
I'll have more *copper* (or *copper-clad*) to toss your way next month. See you *downhole*!

Frank Jordan, Jr.

Chairperson, AEG Inland Empire Chapter

AEG Member Benefits

Professionals,
Practice, &
The Public



PUBLICATIONS

- National newsletter *AEG NEWS*
- National peer-reviewed *JOURNAL OF ENVIRONMENTAL & ENGINEERING GEOSCIENCE*, co-published with the Geological Society of America

WEBSITES

- National Website (recently updated)
- Southern California Section and Chapter Websites

MEETINGS

- Monthly Southern California Section Meeting
- Monthly Inland Empire Chapter Meeting

INFORMATION

- Regulatory updates
- Lobbying efforts
- Licensure updates from the Board of Professional Engineers & Land Surveyors

CONTINUING EDUCATION & SKILL DEVELOPMENT

- Chapter sponsored annual Short Course
- Chapter sponsored annual Field Trip

***** Free Student Memberships ***** Students, invest in **YOUR CAREER!**
(Includes online access to all Publications)

OTHER MEETINGS

(Cont.)

AEG-Southern California Section:

No meeting in December. For more information about Section activities visit <http://www.aegsc.org/>

ASCE: No meeting in December. For more information about ASCE visit www.ascelasection.org

BPELS: No meeting in December. Next meeting: Feb. 9-10, 2011 (Wed-Thurs) in San Diego.

GRA: Website still shows November information. Dec. 15, 2010 (Wed) Joint meeting of GRA Sacramento with AEG Sacramento.

Jan. 10-13, 2011 (Mon-Thurs) N.A. Environmental Field Conference and Exposition at Hilton Resort, Mission Bay, San Diego. For more info about GRA visit <http://www.grac.org/>

IGS: Jan. 6, 2011 (Thur) "SCE El Casco Substation: Construction excavation monitoring salvages an early Irvingtonian (Middle Pleistocene) Fauna and Flora," by Bob Reynolds & Lloyd Sample, LSA Associates. Location: LSA Associates, Riverside. For more info visit <http://www.inlandgeo.org/>

LA BASIN GEOLOGICAL SOCIETY:

No meeting in December.
Jan 28, 2011 (Fri) "Growth Reserves of the L.A. Basin," by Don Gautier of the USGS [tentative]. Location: Lunch at The Grand, Long Beach. For more info about the Society visit www.labgs.org

SCGS: Dec. 6, 2010 (Mon). Posters – "Christchurch Earthquake," by Larry Cann and "Stratigraphy and Paleontology of the Bay Point Fm. At the new Central Library, San Diego, CA," by Stephen Jacobs. Location: Double Tree, Santa Ana. For more info about SCGS visit: <http://www.southcoastgeo.org/>

SDAG: Website still shows November info.

SME: Dec. 14, 2010 (Tues) "Privatization Plans for an inactive Copper-Cobalt Mine, Western Uganda, Africa," by Alan Levy, President of Alan Levy and Associates + SME Xmas Party and GEM Raffle. Location: Pomona Valley Mining Co., Pomona. . For more information visit <http://www.mine-engineer.com/socalmining/>

SMGB (State Mining and Geology Board): Dec. 9, 2011 (Thurs). **Regular Board Meeting.** Location: City Hall, Council Chambers, Palm Springs.

December Inland Empire Chapter Meeting Information



2345 Searl Parkway, Hemet, CA

Dinner Menu (catered by Pat n' Oscars):

- Hot breadsticks
- Baked Chicken
- Baked pasta
- Non-alcoholic drinks and water
- Barbeque Wings
- Greek Salad
- Barbeque Ribs

Cost: Professionals \$25; Students \$5

RSVP: By Tuesday December 6, 2010 - aeginland@gmail.com

Directions:

From Interstate-215- EXIT at Newport Road and proceed East for 11 miles (Newport Rd turns into Domenigoni Parkway at Winchester Rd (SR 79)). At Searl Parkway {light} turn right and proceed South into Western Center Driveway. Western Center is the southernmost of the two buildings.

Directions from Temecula- Proceed North on SR 79 (Winchester Rd) out of Temecula. At Domenigoni Parkway {light} turn right and proceed East. At Searl Parkway {light} turn right and proceed into Western Center Driveway. Western Center is the southernmost of the two buildings.

AEG

*** Free Student Memberships ***

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Call For Abstracts

The **43rd Symposium on Engineering Geology and Geotechnical Engineering** will be held **March 23-25, 2011** on the campus of **University of Nevada Las Vegas**. Please visit the conference website at <http://2011.eggesymposium.com/> for more information and to register.

Call for abstracts: Conference attendees are encouraged to present their research and work with regard to the conference theme, "Water, Soils and Sustainability in the Intermountain West". We are now accepting abstracts summarizing potential presentations. Presentations will be considered on any topic relevant to engineering geology and geotechnical engineering. University students, in particular, are encouraged to participate. The abstract should include title, authors' names and affiliations, and preference for oral or poster presentation. No specific formatting is required for the initial abstract submission. The deadline for abstract submission is January 10, 2011. The abstracts will be technically reviewed, and notification of acceptance will be made by January 24, 2011.

Final abstract or paper: Every presentation at the conference must be accompanied by either an abstract or full paper that will be published in the conference proceedings. The proceedings will be provided to all registrants in CD format. A limited number of paper copies will be available for sale at the conference. The CD format will be in color, whereas the paper version will be in black and white. Papers and abstracts submitted for inclusion in the proceedings must follow the formatting guidelines of the Nevada Water Resources Association (NVWRA), provided at the website: <http://www.nvwra.org/journal/>. Please also include keywords at the end of the abstract, to enable electronic searching of the CD.

The proceedings are considered as "abstract reviewed." Authors are encouraged to have colleagues carefully review their manuscripts prior to submittal. Final papers are due February 11, 2011. Prior to incorporation into the conference proceedings, the papers will be scanned for content (e.g., not overly commercial), completeness (e.g., all cited tables and figures are present), and general publication standards (e.g., figures legible). Significant problems will be communicated to the authors; revisions must be received by February 25, 2011. The EGGE organizing committee reserves the right to refuse publication of a paper that continues to have significant problems after that date.

Journal publication opportunity: In addition to the conference proceedings described above, arrangements are being made with the Nevada Water Resources Association (NVWRA) to co-publish the proceedings in a special issue of the NVWRA's online journal, focused on the 2011 EGGE symposium. This issue will be compiled after the conference. Check the conference website for more information about this opportunity.

Submittal dates:

Jan 10 2011 Abstracts due

Jan 24 2011 Paper acceptance notification

Feb 11 2011 Final papers due

Feb 25 2011 Final corrections, if any, due

These are hard deadlines; we have not allowed for any slack in the schedule.

Submit to:

Submit abstracts in pdf format to Ms. Norma Biggar, proceedings lead editor, at:

2011egge@gmail.com

Pictures from the November 2010 AEG Inland Empire Chapter Meeting



Former Chair **Douglas Johnston** (right) receives an appreciation plaque from Chair **Frank Jordan** (left).



UC-Riverside students listen to the talk on Martis Creek Dam. The meeting was hosted by the University of California-Riverside Department of Geosciences and the Hewett Club.

Our November Speaker



Speaker **Bruce Hilton**, of Kleinfelder and national **AEG President**, discussed his site investigation at Martis Creek Dam near Lake Tahoe. In the left photograph, Bruce Hilton (left) receives a token of appreciation from AEG Inland Empire Chair Frank Jordan. In the right photograph, Bruce Hilton makes a point regarding the site geology.

Meeting photos by Mike Cook and Kerry Cato