

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

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## SDAG MEETING ANNOUNCEMENT

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**Wednesday, April 19, 2017**

The Kobi, Japan Magnitude 7.3 Earthquake on January 17, 1995; A First Hand View of Some Damage and Reconstruction

*Presented by: Dr. John Minch*

- Where:** **Marina Village—Catalina Room**  
1936 Quivira Way, San Diego, 92109 (See Map)
- When:** 5:30 pm - Social Hour  
6:15 pm - Dinner  
7:00 pm - Program
- Dinner:** Traditional Buffet—Mexican Theme. Cash bar (Walawender Tavern)
- Cost:** \$30 per person, \$5 discount for members, STUDENTS: \$15. Add \$5 if you did not make a reservation.
- Reservations:** Make your reservation online at [www.sandiegogeologists.org](http://www.sandiegogeologists.org) **no later than noon, Monday April 17th**. Reservations cannot be guaranteed after Monday at noon; but are always preferred over walk ins. **EARLY reservations well before the deadline are MUCH appreciated!**
- Directions:** FROM INTERSTATE 15: Take the SEA WORLD DRIVE exit. From SEA WORLD DRIVE, take WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left turn lanes. Turn left, go one very short block and turn left again. Drive about one half mile and MARINA VILLAGE will be on your right.
- FROM HIGHWAY 163: Take the WEST MISSION BAY DRIVE exit to the right. You will be on INGRAHAM STREET for a short distance from which you will take the next exit marked WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left turn lanes. Turn left, go one very short block and turn left again. Drive about one half mile and MARINA VILLAGE will be on your right.

## Map:



## ABSTRACT

### The Kobi, Japan Magnitude 7.3 Earthquake on January 17, 1995; A First Hand View of Some Damage and Reconstruction

Presented by: **Dr. John Minch**

Japanese building codes are as strict as any in the world as Japan lies at the convergence of three oceanic plates. Kobi was caught unaware as the earthquake occurred at a shallow depth on a secondary fault just beyond the modern port city's harbor. Kobi was the first urban area since World War II to sustain a direct hit from an earthquake more powerful than 7 on the Richter scale.

In early 1995 I was with a group that was building houses in Taiwan. We were asked to come to Kobi by a Japanese conglomerate after the Kobi earthquake. We were finally allowed to arrive in Kobi on April 19, 1995, three months after the, January 17, 1995, magnitude 7.3 earthquake.

Our first introduction to the damage was the evidence of liquifaction as our Hydrofoil, from Osaka, approached the dock. The only evidence of the uniform settling was the fact that the harbor area and streets were 3-5 foot lower and undamaged. Structures with firm foundations were generally undamaged.

By the time we arrived in Kobi most of the rubble had been cleared from the downtown area. Reconstruction was well under-way and many buildings were being demolished by interesting methods. Damage was still very apparent. The photographs in this presentation were taken during the following week as we were introduced to Japanese construction and building process.

For high-rises the pre-1981 version of the building code allowed a weaker superstructure beginning at the fifth floor. Many of these high-rise buildings collapsed **at** the fifth floor. Adjacent buildings built after 1981 were standing and apparently unscathed.

Wood-frame-and-stucco houses, without adequate shear panels were especially vulnerable. Many wooden houses collapsed during the shaking due to the shear force of their heavy ceramic tile roofs, popular in Japan.

A look at the demolition efforts was especially revealing as they lifted bridges and built columns under them and tore down buildings from the inside with track-hoes, sometimes .

The existing California building code may not be as strong as engineers believed. Tightening building codes, to say nothing of retrofitting, will be extraordinarily expensive. But probably not as expensive as the billions of dollars in damage that a quake beneath L.A. could inflict.

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## UPCOMING MEETINGS

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Meetings are usually held on the 3rd Wednesday of the month but may change to accommodate the speaker and meeting place schedules. Check the SDAG web site for updates.

May 17, 2017	John Wallace and Pat Shires <u>Sycamore-Ranchito Landslide — Santa Barbara</u>
June 21, 2017	Jorge Ledesma <u>Baja California, Mexico</u>
July 2017	Joint Meeting with South Coast

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## SDAG PRESIDENT'S CORNER

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Greetings SDAG members!

March was a busy meeting, setting the record for the longest SDAG meeting...at least to my knowledge! My thanks to all of the students who presented, and in particular, congratulations to Luke Weidman who has since successfully defended his Master's thesis and become a full-time employee of Geocon. My thanks also to Laurie Racca from the State Board who provided us with the late night update on professional licensing requirements. The turnout for the March meeting was once again excellent with almost 70 people in attendance. One thing I would like to remind people of is to please sign in with our treasurer, Adam Avakian, when you arrive and grab a name tag as well. For this meeting, we had seven people who slipped in unnoticed by us, but not by the restaurant owner. As we assume that everyone who attends will pay, it makes it very hard to budget meetings when we have to account for the few that don't.

Moving on, we are back at Marina Village this month with John Minch, longtime member/supporter of SDAG and pivotal contributor to last year's field trip, who is going to present on the 1995 Kobe earthquake and its effects on high rise buildings and infrastructure. The Walawender Tavern will be in full swing, kindly staffed by Cari Gomes (SDAG President, 2013), so please come and join us once again for good food, beer and wine, and what will most certainly be, another excellent presentation.

In other news, if you haven't heard of AB-199, please take the time to do a little research on it. It is California's latest, altruistic effort to expand the definition and scope of a prevailing wage project. As with all California Bills, the language is confusing and suitably ambiguous, so as to divide public opinion and confuse the general populous. However, there are certainly those who feel it will have a negative effect on the California housing market and private development, and therefore, a potentially negative effect on those of us with livelihoods related to construction of residential homes....certainly food for thought.

As always, please feel free to contact me at [adams@geoconinc.com](mailto:adams@geoconinc.com) if you have questions, suggestions etc. regarding all matters SDAG related. Please don't forget to check out the details on the latest upcoming OSW to the San Ysidro landslide complex, led by Mike Hart and Sue Tanges.

I look forward to seeing everyone again on the 19th at Marina Village!

Regards,



**Rupert Adams PG, CEG** | *Sr. Project Geologist/SDAG President*

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## ***ANNOUNCEMENTS***

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### **Call for Papers, Speakers, and Spectators**

#### **SDAG Fall 2017 Fieldtrip October 14th and 15th 2017. Optional Night on the 13th.**

San Diego is a county with abundant points of interest. There is active faulting, landslides, great weather, and mountains that over look majestic landscapes. Julian, California encompasses all of these traits and more! The 2017 fieldtrip will focus on points of interest in the region, including gold mining and faulting; however the trip is in the early stages of planning and is subject to change in direction and core focus. Thus, submit your abstracts, articles, and ideas early!

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#### **Building Your Career: The California Professional Geologist License Presented by Laurie Racca**

**Wednesday April 12, 2017 1 pm  
SDSU Campus: Room CSL-422**

Laurie Racca, PG, is the Senior Registrar for Geology and Geophysics at BPSELG. Her 25+ years of experience includes working in private environmental and geotechnical consulting, providing regulatory agency oversight of large military and civilian environmental cleanups for the Department of Toxic Substances Control, and investigating fraud, waste and abuse as part of the Office of Enforcement at the State Water Resources Control Board

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# **ONE STOP WONDER**

## **The San Ysidro Landslide and La Nacion Fault**

**Led by: Mike Hart & Sue Tanges**

**Saturday April 22, 2017**

The meeting point will be at the east end of Beyer Blvd in San Ysidro.

### **Directions:**

- Take San Ysidro Blvd offramp on 805 South.
- At the stoplight turn left onto San Ysidro Blvd and then turn left on Central Street just past the bridge over 805.
- Turn Left onto E. Beyer Blvd and go north about 1/2 mile to Beyer Blvd. Turn right and go to the end of the street.
- Park on both sides of the street.

### **What Will We See?**

1. A great exposure of the La Nacion Fault where it juxtaposes the Otay and San Diego Formations.
2. The primary slip surface at the left flank of the approximately 3/4 mile wide San Ysidro landslide where it lies in contact with gently dipping beds of the Otay Formation.
3. Landslide breccia and shear zones exposed in a roadcut.
4. Panoramic views of the Moody Canyon landslide complex and classic landslide geomorphology including grabens, back-tilted mesa surfaces and ponded drainage.

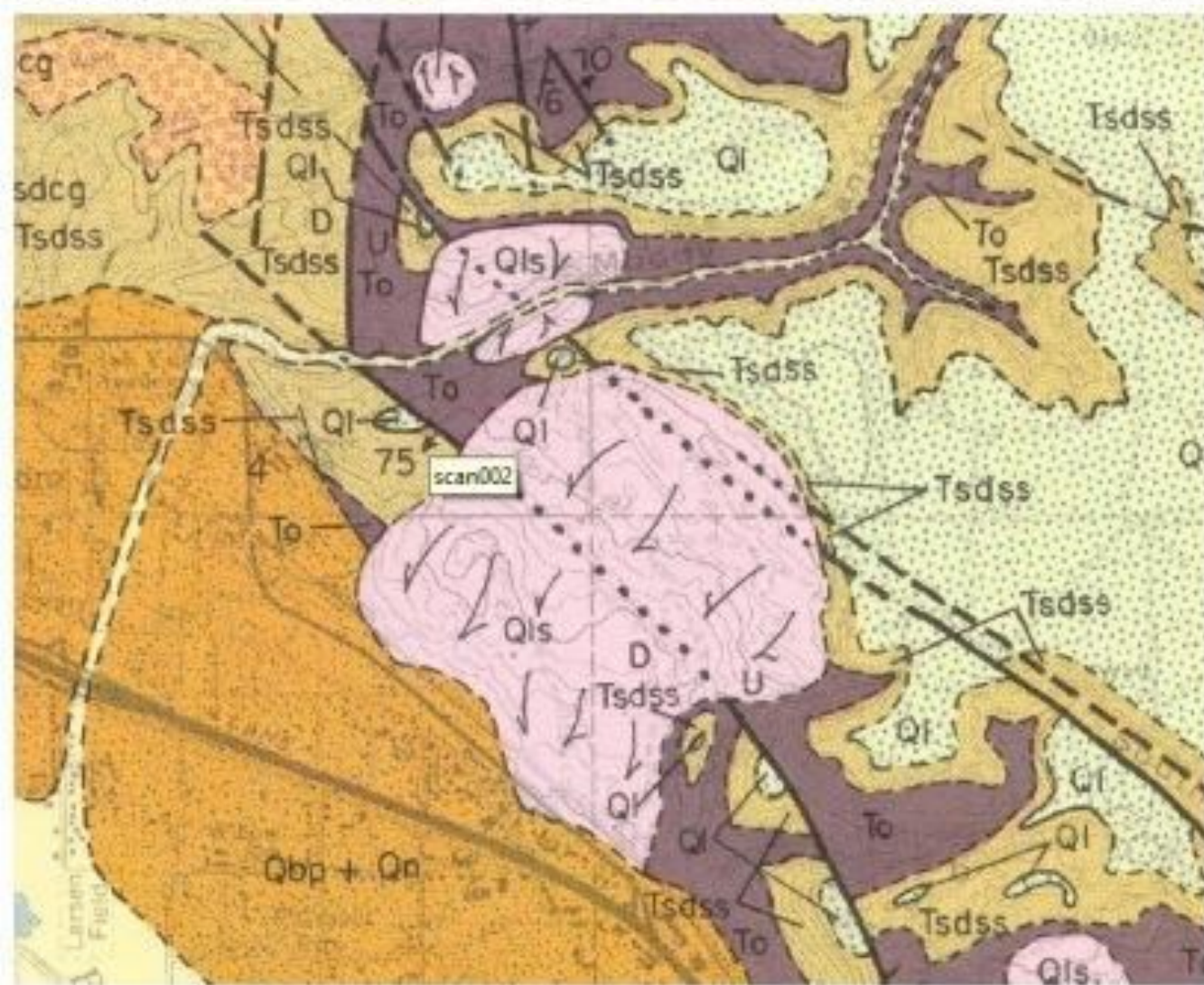
The trip will take approximately 2 hours and will involve hiking up a moderately steep dirt road so bring water, hat, etc.

This is a dog friendly area so bring them if you like.

Contact Mike Hart at [mwhart40@gmail.com](mailto:mwhart40@gmail.com) if you have any questions.

**SEE PICTURES ON NEXT PAGE FOR PREVIEW OF GEOLOGY.**









The easternmost scarp at “B” Figure 4 in paper by Hart and others. The unpaved road in the middle ground traverses a back-rotated mesa surface that was once part of the marine terrace visible in the upper left of the image. The eastward tilting of the mesa surface is evidence that the 45 ft (14 m) high scarp is the result of landsliding not tectonic faulting.

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# **31<sup>st</sup> Annual Desert Symposium and Field Trip**

## **Eastern California Shear Zone (ECSZ) Changes in Altitude**

Symposium: April 14 – 15, 2017

Field Trip: April 16 – 17, 2017 (This year the field trip will return to Desert Studies Center each night)

Share your desert research through an oral presentation or poster. The Desert Symposium is open to research presentations related to any area of desert studies. Students are especially encouraged to present and compete for the Adams Best Student Presentation Awards.

Abstract deadline for presentations is January 20, 2017

Manuscript Deadline for 2017 Symposium Volume is February 20, 2017. Examples of manuscript cpt format can be viewed in the 2016 Symposium volume at:

<http://goo.gl/vBjXbW>

Or see instructions for Authors on the DSD website. Additional information can be found by visiting California State University Fullerton

For expedited updates contact [desertstudiescenter@fullerton.edu](mailto:desertstudiescenter@fullerton.edu) to join the email distribution list

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### **NEW Interactive Fault Map for San Diego**

As part of the update for the San Diego-Tijuana Earthquake Planning Scenario, Working Group No. 1's "Fault Map Subcommittee" has completed the first publicly available bi-national active and potentially active fault map. This interactive GIS map includes the first publicly available active and potentially fault map locations from the City of San Diego. The City of San Diego fault locations and activity of faults are based chiefly on interpretation of information contained in geologic reports by private consultants. The City of San Diego identifies active faults as Holocene ( $\leq 11,000$ yr) and potentially active as Quaternary (up to 1.6my). City of San Diego fault investigations are ongoing that may require future revision of this map. This map is not a substitute for a site specific fault investigation. The map also includes an updated fault map layer from the State CGS. CGS suggests users defer to the City of San Diego fault data, where marked, for increased accuracy. The map also integrated the faults south of the border for a bi-national cross border view. You can expand the map legend on the left side to see the fault ages and sources for each layer that can be turned on or off for the map view. You can select from 1 of 12 base maps. You can click on the fault line on the map to see the meta-data source. This map includes the yellow dashed SURFACE FAULT RUPTURE location layer that will be used for the infrastructure, social, and economic impacts and emergency response for the update to the Earthquake Scenario. In addition, active and potentially active fault investigation locations from private companies are planned to be added to this map as a resource. This map is an on-going project and resource as our knowledge increases about local active and potentially active faults.

The link is available at: [http://www.sandiegogeologists.org/Faults\\_map.html](http://www.sandiegogeologists.org/Faults_map.html)

I would like to thank Carolyn Glockhoff for her endless GIS work, Jim Quinn and the City for providing their data and time, Jerry Treiman with CGS for his time preparing the Surface Rupture and providing their new State fault data layer, and Luis Mendoza at CICESE for providing the faults south of the border. Please contact Diane Murbach ([dianemurbach@gmail.com](mailto:dianemurbach@gmail.com)), Chair for the SD-TJ Earthquake Scenario Working Group #1 - Earth Science, if you have any questions, or see any errors on this new fault map.

**Diane Murbach** (619) 865-4333

Engineering Geologist, C.E.G.

[www.murbachgeotech.com](http://www.murbachgeotech.com)

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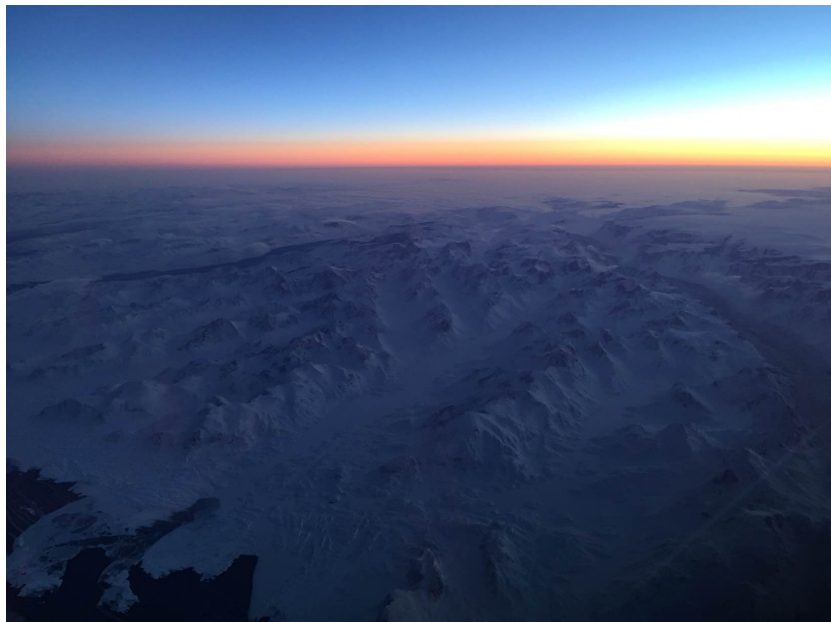
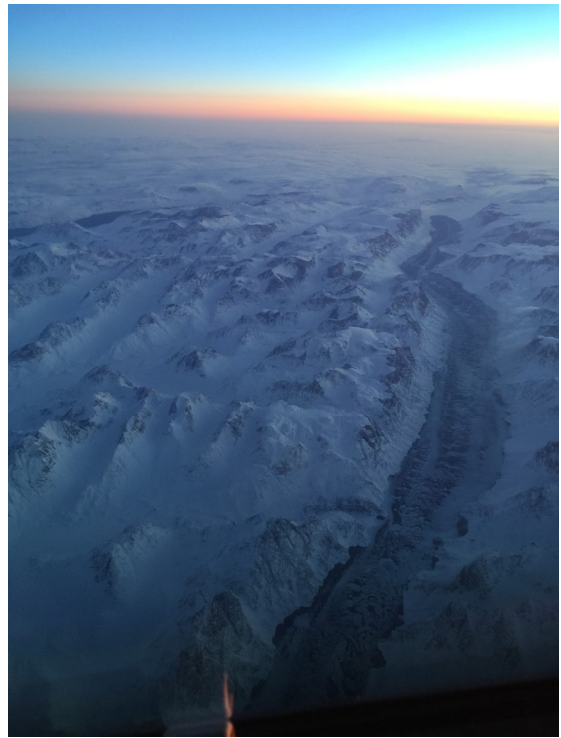
## ***CALL FOR ARTICLES***

SDAG invites members to submit articles on their current research or an interesting project they are working on for publication in the monthly newsletter. The article should be no more than 1 page in length. Photos are welcomed; too. Please submit articles to the SDAG secretary via email.

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## ***PHOTO OF THE MONTH***

Some photos sent to us of Greenland from 39,000 feet! Thank you First Officer J, Cameron! If you have a photo you would like to share with SDAG, send them to [secretary@sandiegogeologists.org](mailto:secretary@sandiegogeologists.org) and we'll get them put into the newsletter!



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## ***SDAG RESEARCH TOOL***

**SDAG RESEARCH TOOL** - A comprehensive listing of all papers published by SDAG, whether as annual field trip guidebooks or special publications, is now available on our website. Entries are sorted by primary author, or chronologically by date of publication, from our first guidebook in 1972, up the San Luis Rey River in 2013, from Coast to Cactus in 2014, and finally over the edge to the Coyote Mountains in 2015. These can be accessed or downloaded as .pdf files. They are fully searchable in Adobe Reader or Acrobat, so if you are researching a topic, "tsunami" for example, you can search for that keyword. This listing will be updated as new books are published. Thanks to Greg Peterson and Hargis + Associates, Inc., for making this possible. See the links below:

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