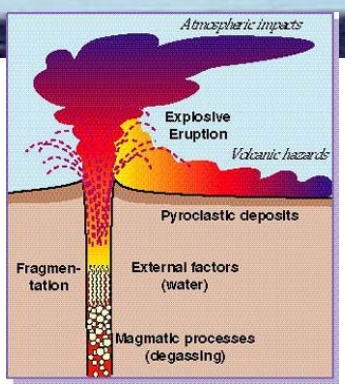


Workshop on Surtseyan volcanism: shallow subaqueous explosive eruptions

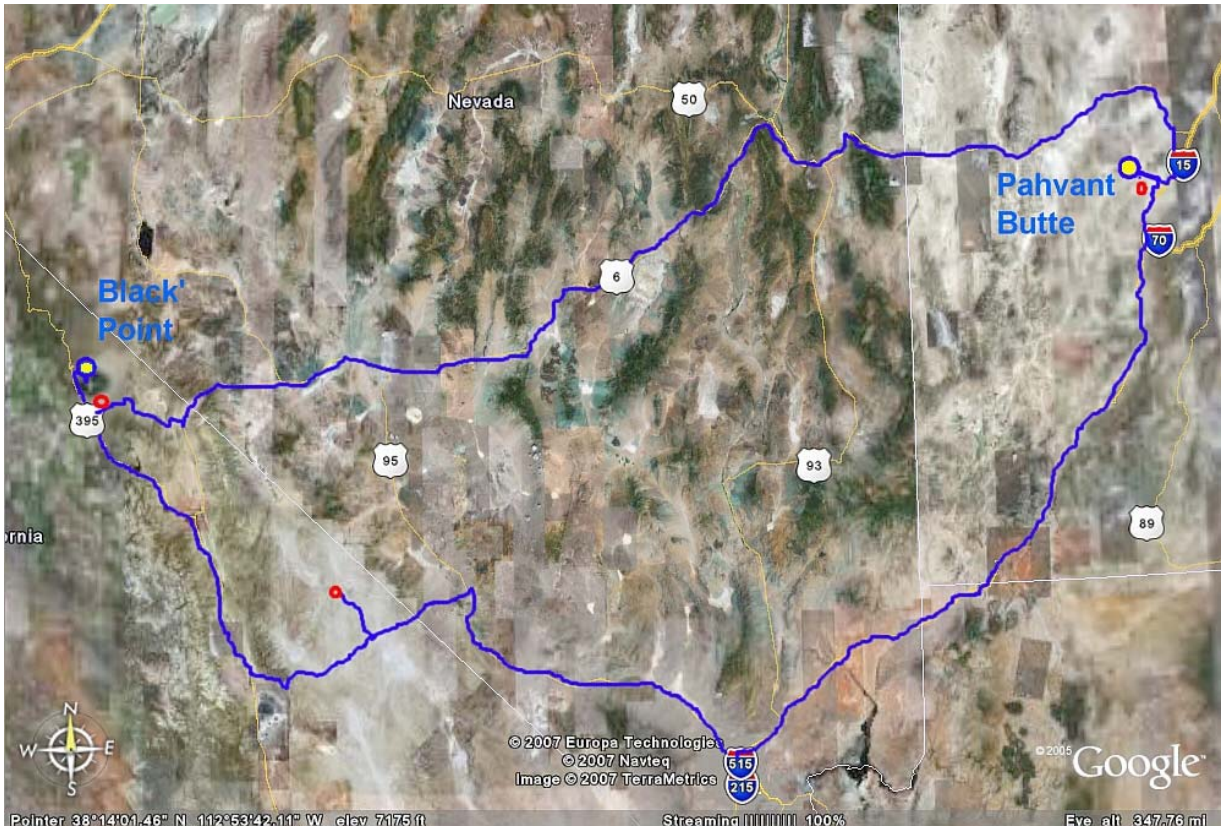
Leaders: JDL White (Otago, NZ), BD Pauly (UC Davis, USA)

This workshop will focus on deposits of two well-preserved Quaternary surtseyan volcanoes, each of which erupted in one of the extensive pluvial lakes of the western USA. There are two primary targets. The first is Pahvant Butte, in Utah, which erupted beneath ~ 80m of water in Lake Bonneville and consists of a basal subaqueously emplaced tephra mound capped by a fairly typical tuff cone. The second will be Black Point volcano, erupted beneath ~200 m of water in the precursor to Mono Lake, California. Side trips are intended to Tabernacle volcano (Utah), Panum Crater (Mono Lake), and Ubehebe craters (Death Valley). Topics to be addressed are: subaqueous explosive eruption processes; primary subaqueous deposits from the eruptions; syn-eruptive redeposition; post-eruptive reworking and sedimentation; palagonitization and other alteration of young basaltic glass.

Dates: 1-9/10 October, 2007
Travel: Workshop start/finish, Las Vegas, Nevada, which is well served with direct flights nationally & internationally.
Cost: details of cost remain tentative, but are expected to be in the range $800-1000 including food & lodging
Participants: 10-20
For further information: james.white@otago.ac.nz; bdpauly@ucdavis.edu

Tentative schedule (25 July 2007):

M. 1 Oct: convene ~5 p.m. in Las Vegas, Nevada, travel to Mesquite NV	DAY 01
T. 2 Oct: travel to Pahvant area, 3 hrs, arriving lunch	DAY 02
W. 3 Oct: full day Pahvant	DAY 03
Th. 4 Oct: full day Pahvant + (if time) Tabernacle Butte	DAY 04
F. 5 Oct: Travel US6 to Lee Vining, California (LONG DRIVE)	DAY 05
Sa. 6 Oct: full day Black Point	DAY 06
Su. 7 Oct: full day Black Point	DAY 07
M. 8 Oct: Black Point, Panum crater, travel to Independence or Lone Pine	DAY 08
T. 9 Oct: travel <3 hrs, Ubehebe Craters, <3.5 hrs 230 mi Vegas	DAY 09
(optional night for those flying out next day)	
W. 10 Oct: flights out… departures	

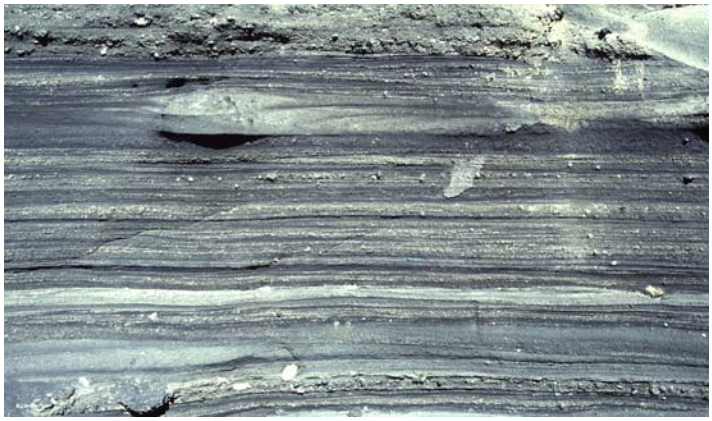


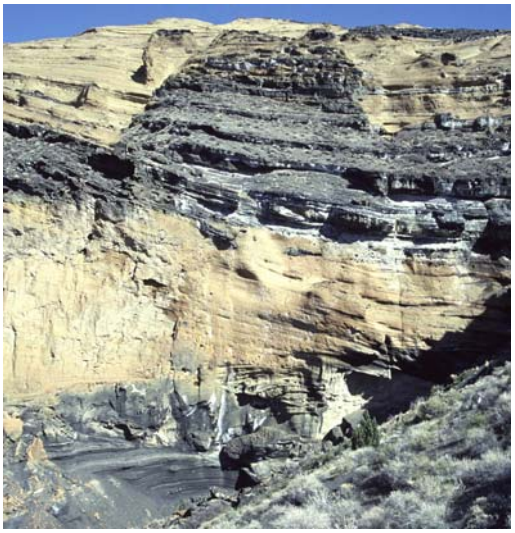
Blue line shows highway route for workshop; Las Vegas is at low point of loop, travel is anticlockwise. Pahvant Butte and Black Point marked with yellow-centered circles, minor stops at small red circles (Tabernacle Butte near Pahvant, Panum Crater near Black Point, and Ubehebe Craters). Landscape is all Basin and Range ridges and basins.

Google Earth for Pahvant (39° 7'23.92"N, 112°33'0.75"W), Black Point (38° 1'47.51"N, 119° 5'57.27"W) – try out the new tilt and pan feature, which is REALLY impressive! See an example showing Pahvant Butte from the NNW at the end of this brochure.

Pahvant Butte viewed from southwest; note flat-topped platform developed during eruption in Lake Bonneville. The tuff cone, now largely palagonitized was built subaerially atop a nearly flat-stratified tephra mound.

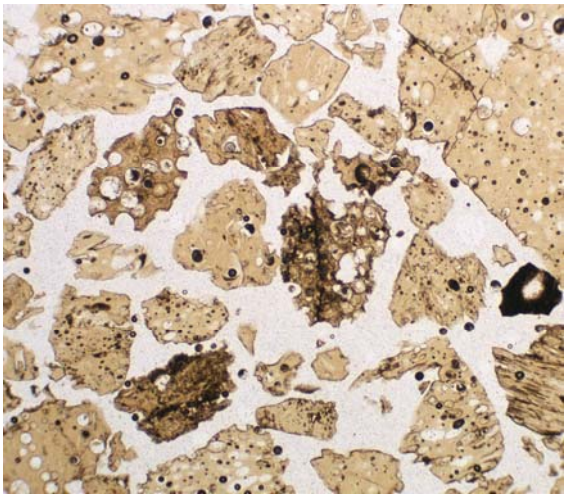
In photos below, those to the left below show features of the subaqueous tephra mound. On the right, the upper photo shows pale palagonitized tuff of the tuff cone overlying unconsolidated black tephra of the mound deposits. The lower-right photo shows steeply dipping lenticular beds inferred to represent parts of small subaqueous cones formed near vent sites, and enclosed in the shallower-dipping beds of the main subaqueous mound deposits.

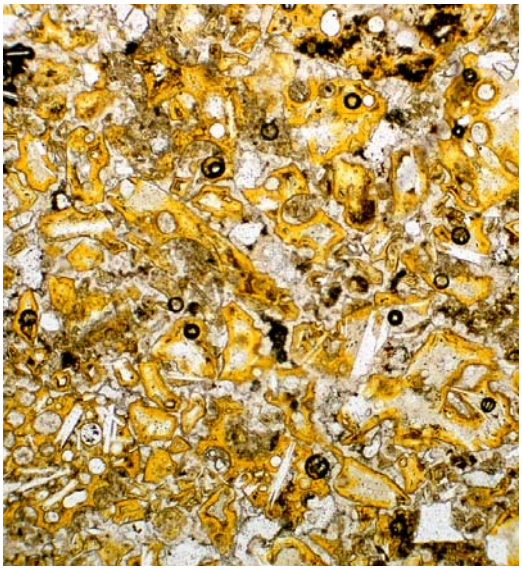




Photos above show Black Point volcano next to Mono Lake. Note the gently dipping form of the volcano, and the more resistant colored beds of small tuff-ring remnants at the summit of the volcano. It is inferred that the water level at the time of eruption closely coincided with the boundary between the palagonitized ring beds at summit and the largely unconsolidated sideromelane tephra of the underlying mound.

Thin-section photomicrographs contrast translucent pale sideromelane from the unaltered mound (left), and partly palagonitized sideromelane (right).
Note also the range in vesicularity of the sideromelane grains.





Some other readings on workshop sites (not an exhaustive list)

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