

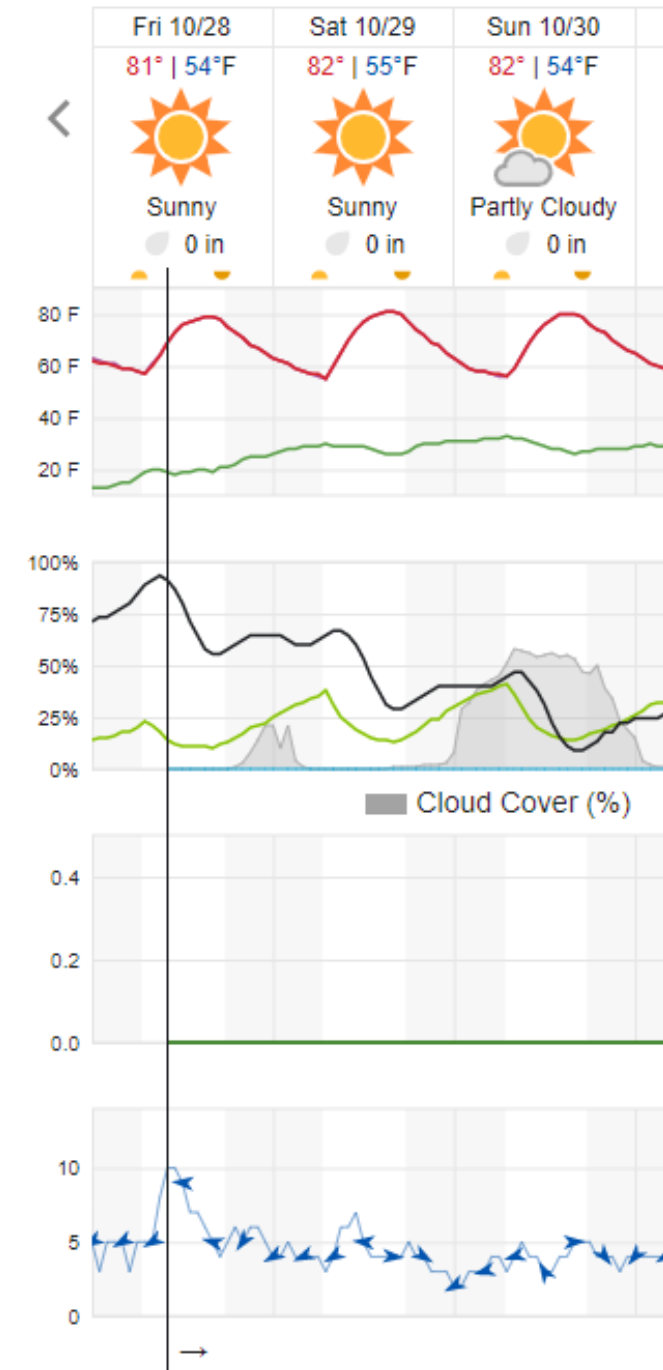
Carefree Fault briefing

Ramón Arrowsmith

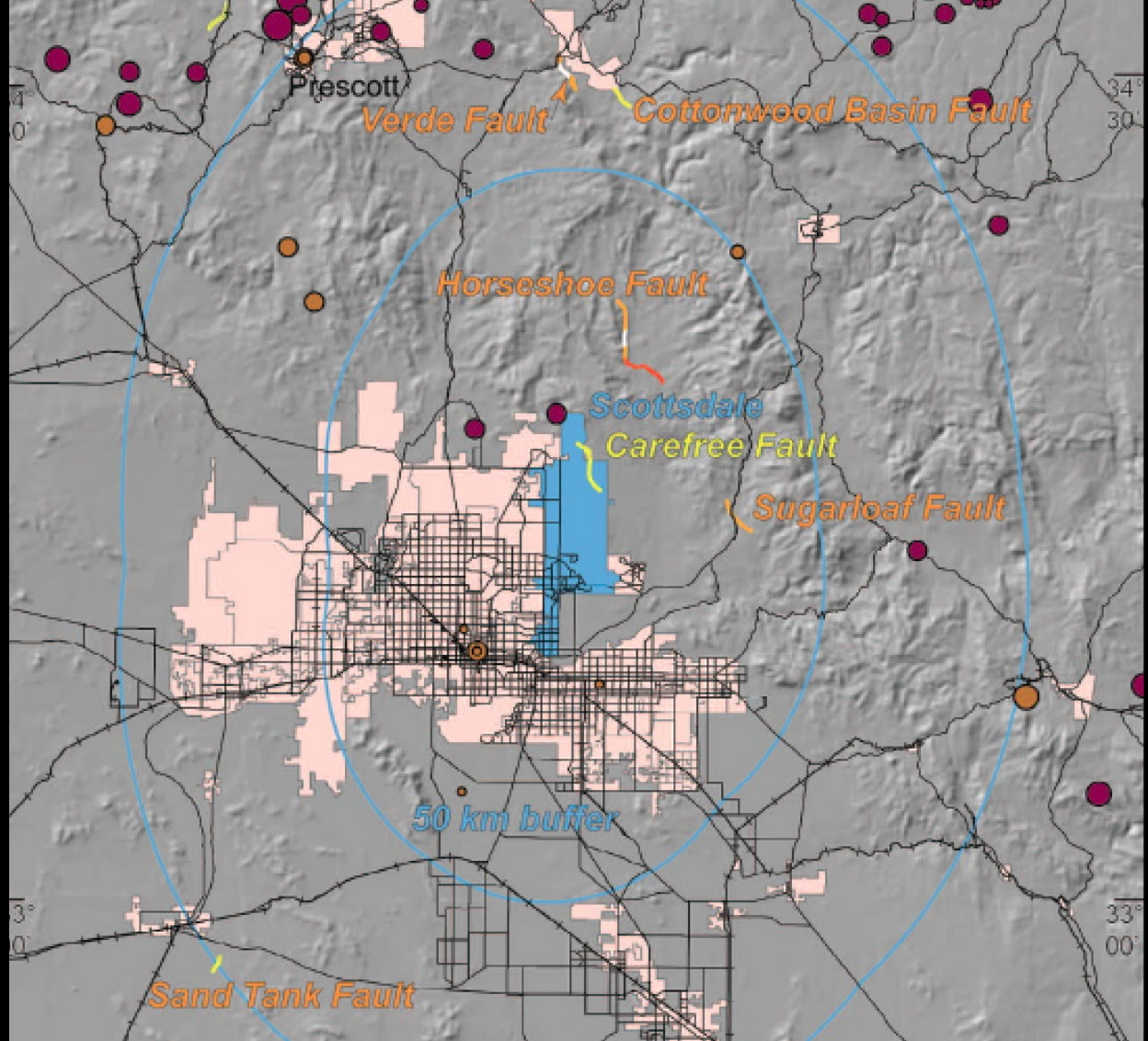
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What to bring

- StraboSpot enabled tablet with data saved for offline use
- Layered clothing (cool in the shade)
- Lunch
- Water
- Hiking shoes—a fair amount of walking!



Ghanat, S. T., Kavazanjian, E., Arrowsmith, J R., Seismic Source Characterization for Greater Phoenix Area Earthquake Hazard, Environmental and Engineering Geoscience, Vol. XXI, No. 3, pp. 211–222, August 2015.



Detailed source characterization for Phoenix

Fault Sources	Length (km)	Age of Latest Movement	Slip Rate (mm/yr)	M_{max}
Horseshoe	20	Late Quaternary (<130 ka)	0.01–0.03	6.6
Carefree	11	Middle & Late Quaternary	0.01	6.3
Verde	10	Late Quaternary	0.01–0.02	6.2
Sugarloaf	9	Late Quaternary	0.01–0.02	6.1
Cottonwood	5	Middle & Late Quaternary	0.002–0.003	5.9
Sand Tank	5	Late Quaternary	0.01–0.03	5.9

Geologic Map of the Wildcat Hill Quadrangle, Maricopa County, Arizona

by

Steven J. Skotnicki, Robert S. Leighty, and Philip A. Pearthree

Arizona Geological Survey
Open-File Report 97-2

July, 1997

Arizona Geological Survey
416 W. Congress, Suite 100, Tucson, AZ 85701

Includes 17 page text and 1:24,000 scale geologic map.

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Agreement no: 1434-HQ-96-AG-01474,
and the Arizona Geological Survey.*

This report is preliminary and has not been edited
or reviewed for conformity with Arizona Geological Survey standards

*We will update and make more
detailed the mapping along the
fault zone*

UNIT DESCRIPTIONS

Quaternary Deposits

Piedmont Deposits

- Qy Holocene alluvium (<10 ka)
- Ql Late Pleistocene alluvium (10 to 250 ka)
- Qml Middle and Late Pleistocene alluvium, undivided (10 to 7 ka)
- Qm Middle Pleistocene alluvium (250 to 750 ka)
- Qm2 Younger member of the middle Pleistocene alluvium
- Qm1 Older member of the middle Pleistocene alluvium

Late Tertiary Deposits

- Tsy Younger sedimentary basin-fill deposits
- Tsyl Lower unit of the younger sedimentary basin-fill deposits

Middle Tertiary Units

- Tsl Lacustrine deposits
- Tb Basalt
- Trp Crystal-rich rhyolite dikes
- Tt Tuff
- Tfl Felsic to intermediate volcanic rocks
- Tl Latite
- Tcv Volcaniclastic conglomerate
- Tc Conglomerate (granitic clasts)
















Proterozoic Intrusive Rocks

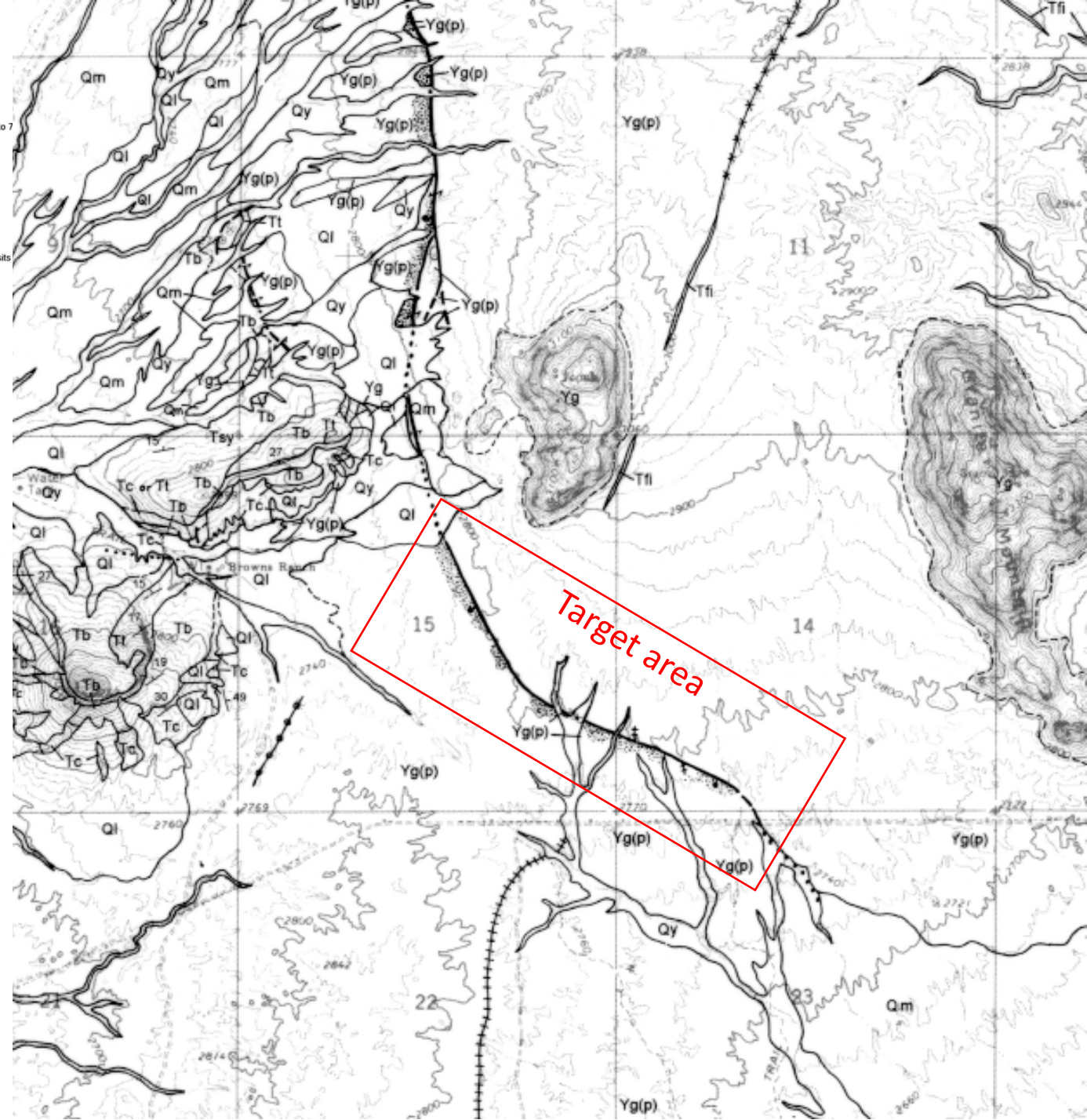
- Yg(p) Granite pediment
- Yg Granite
- Ygd Granodiorite
- Yd Diorite

Proterozoic Meta-sedimentary Rocks

- Xr Rhyolite
- Xq Quartzite
- Xsp Pelite
- Xsps Psammite
- Xc White chert

Map Symbols

-  bedding
-  overturned bedding
-  vertical bedding
-  graded bedding, arrow points up-section
-  cross-bedding, arrow points up-section
-  metamorphic foliation, with lineation
-  vertical metamorphic foliation
-  flow foliation in felsic intrusive rock
-  contact, dashed where approximately located
-  fault, with attitude and lineation, dashed where uncertain, dotted where concealed
-  felsic dikes
-  mafic dikes
-  chalcodony-filled fractures or faults
-  crystal-rich rhyolite dikes
-  carbonate along fault



StraboSpot set up

- Get your own account
- Use your own phone/tablet or borrow one from SESE. Use StraboSpot2 if you are installing fresh, StraboSpot1 is fine as well.



StraboSpot2 Now Available at the App Store. [Click for more details](#)

- Set up the project with a good name `635c16203bd27`

`635c15ff4de99`

- Add these base maps

(USGS 3DEP from OpenTopography AZ MaricopaPinal 1 2020)

AZ GS OFR 97-02 Wildcat Hill rectified

- Save for offline (max resolution):

- MapBox satellite
 - Mapbox Topo
 - This hillshade & rectified map
- Custom maps
StraboSpot MyMaps

