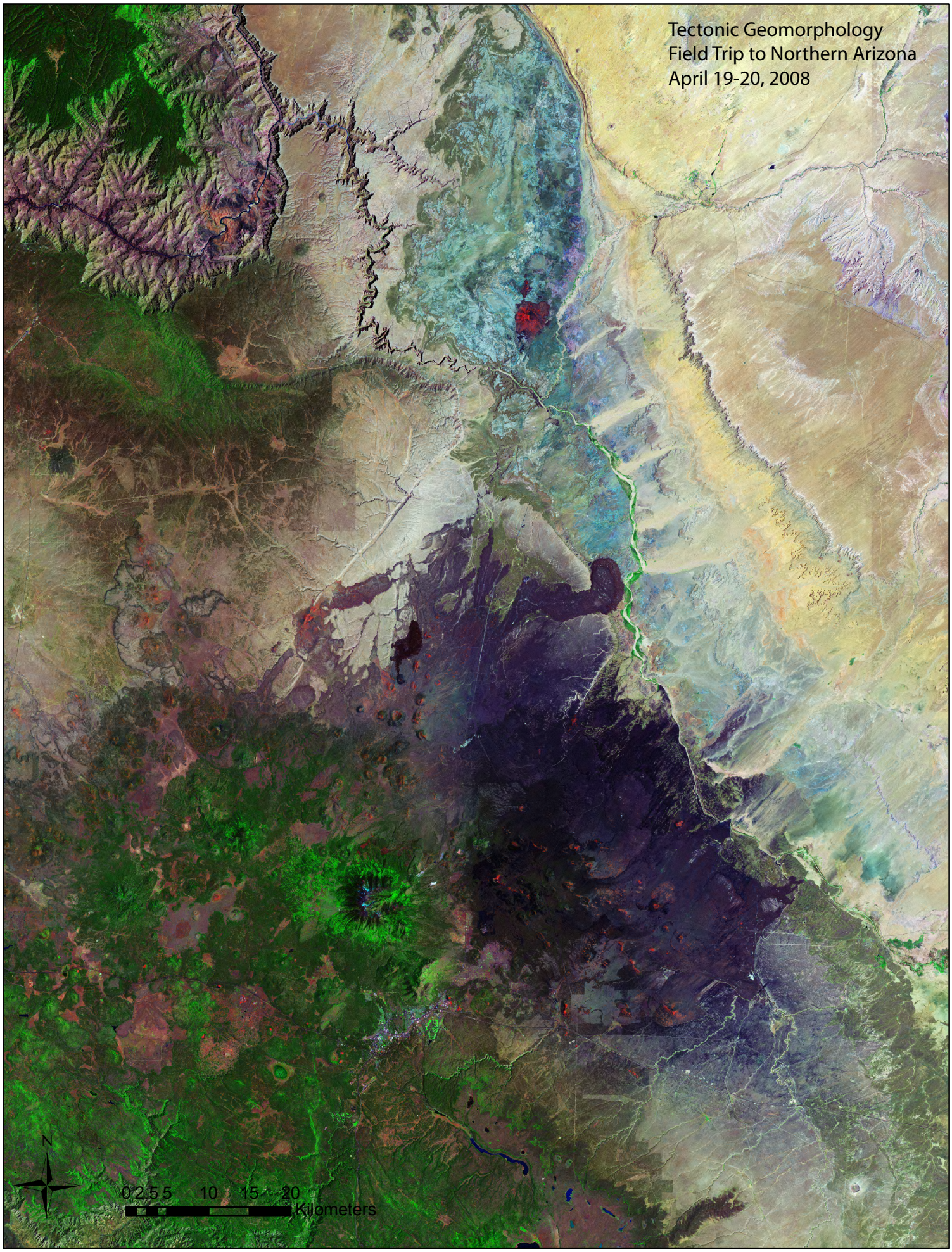

Tectonic Geomorphology
Field Trip to Northern Arizona
April 19-20, 2008
N
0 2.5 5 10 15 20
Kilometers

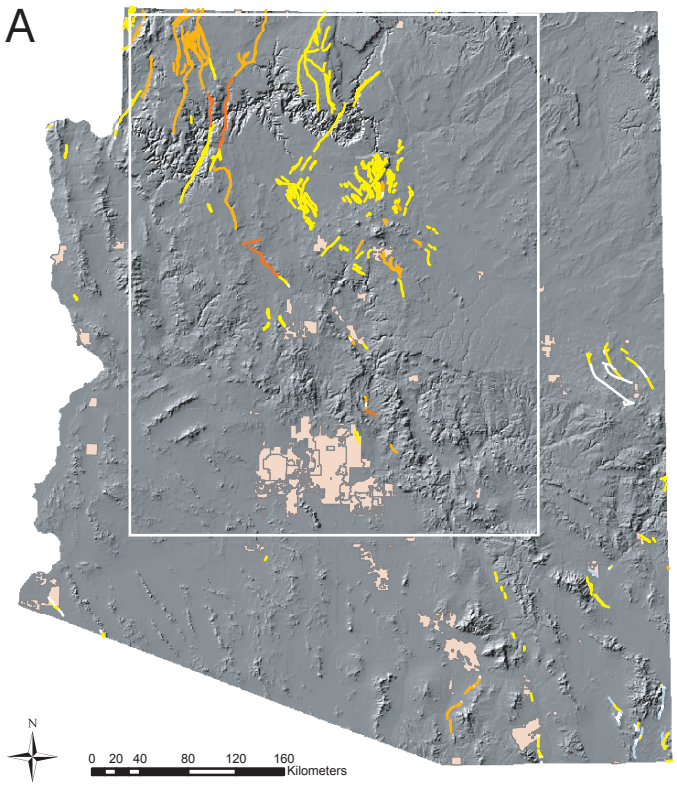
Tectonic Geomorphology Field Trip to Northern Arizona
April 19-20, 2008
Saturday: Mapping the Arrowhead graben to study fault scarps, and slow active faults and graben structure
Sunday: Little Colorado River
Cinder cones in the Northern San Francisco Volcanic Field
Variably active faults in the Northern San Francisco Volcanic Field

Contents:

- Landsat Overviews
- Active faults and seismicity of Arizona overlain on shaded relief.
- Plate 2. Neotectonic map of the Flagstaff Area (parts) from Pearthree, et al., Plio-Quaternary faulting and seismic hazard in the Flagstaff area, Northern Arizona. Arizona Geological Survey Bulletin 200.
- Location maps for Saturday camp site
- Base map materials for Arrowhead graben mapping
- Active faults and lava flows near Wupatki (northeast side of San Francisco Peaks)—field trip handout from Advanced Field Geology

References:

- Kristen L Cook, Kelin X. Whipple, Arjun M. Heimsath, and Tom Hanks, in prep/review, Characterizing Fluvial Incision in the Colorado River System in Southern Utah: Integrating Regional Patterns and Local Rates.
- Hanson, S. L., Duffield, W., Plescia, J., 2008, Quaternary volcanism in the San Francisco Volcanic field: recent basaltic eruptions that profoundly impacted the Northern Arizona landscapes and disrupted the lives of nearby residents, in Duebendorfer, E. M., and Smith, E. I., eds., Field guide to plutons, volcanoes, faults, reefs, dinosaurs, and possible glaciation in selected areas of Arizona, California, and Nevada: Geological Society of America Field Guide 11, p. 173-186, doi: 10.1130/2008fld011(08).
- Holm and Ulrich, 1987, Late Ceonozoic volcanism in the San Francisco and Mormon Volcanic Fields, southern Colorado Plateau, Arizona, in Davis and Vandenvolder, eds., Geologic diversity of Arizona and its margins: excursions to choice areas, p. 85-94.
- Pelletier, J. D. and Cline, M. L., 2007, Nonlinear slope-dependent sediment transport in cinder cone evolution, Geology, v. 35, no 12, p. 1067-1070, doi: 10.1130/G23992A.1.
- Stewart and Hancock, 1990, What is a fault scarp? Episodes, v. 13, no. 4, p. 256-263.



Explanation

Active faults (Machette USGS)

White concealed

inferred

exposed, middle and late Quaternary, <0.2 mm/yr

exposed, Quaternary, <0.2 mm/yr

exposed, late Quaternary, <0.2 mm/yr

exposed, Holocene <0.2 mm/yr

Arizona Earthquake Information Center seismicity data

Intensity		M	
·	II-III	·	0-1
•	IV	•	2
•	V	•	3
•	VI	•	4
•	VII-IX	•	5-6

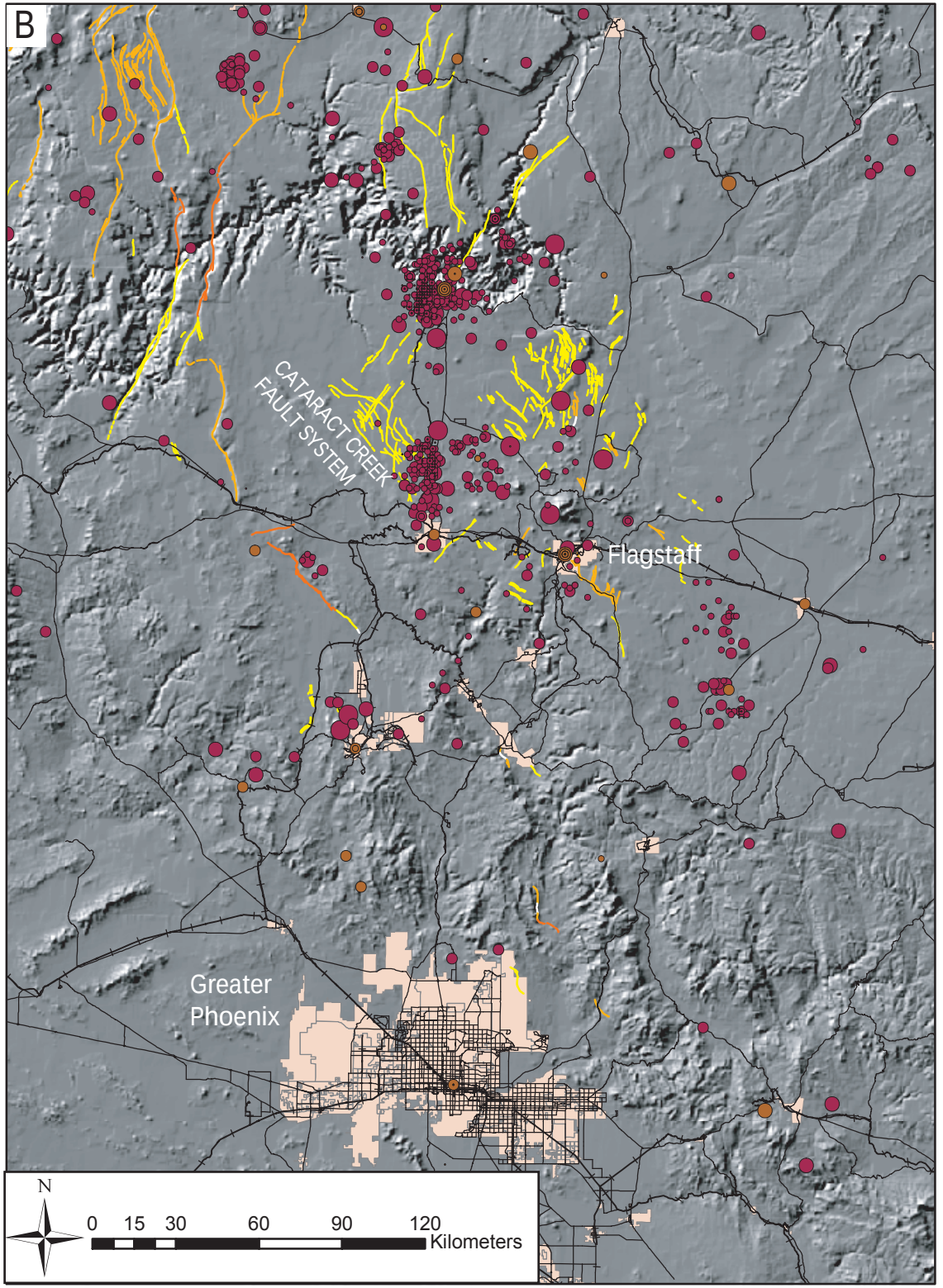
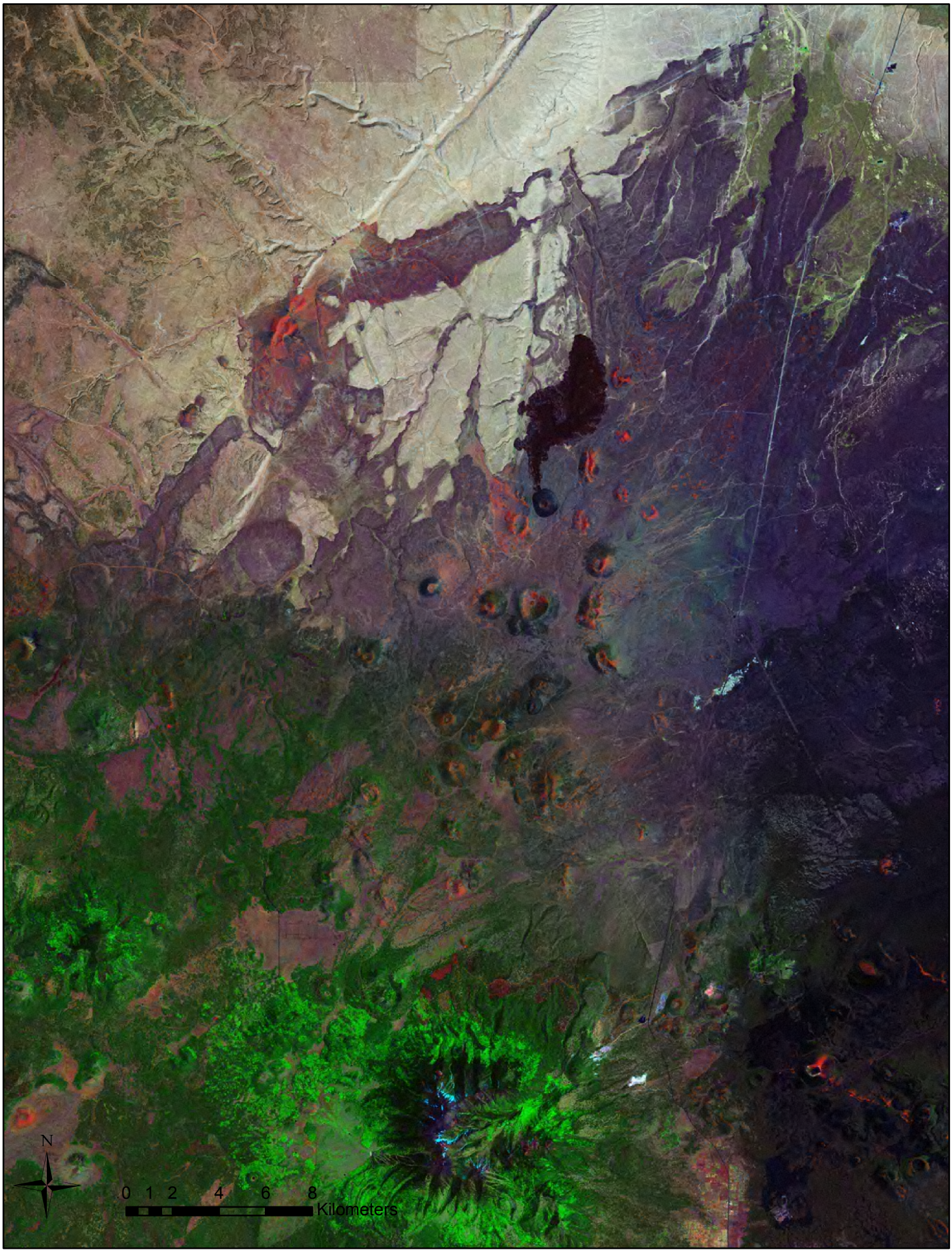


Figure 1. Active faults and seismicity of Arizona overlain on shaded relief. A) Entire state with active faults (from Machette, USGS) and major city outlines in beige. White rectangle indicates the location of B. B) Active faults, seismicity, cities, highways, and railroads for north-central Arizona. The seismicity is from the Arizona Earthquake Information Center catalogue and is separated into events with peak intensity and those with instrumental magnitudes.


N
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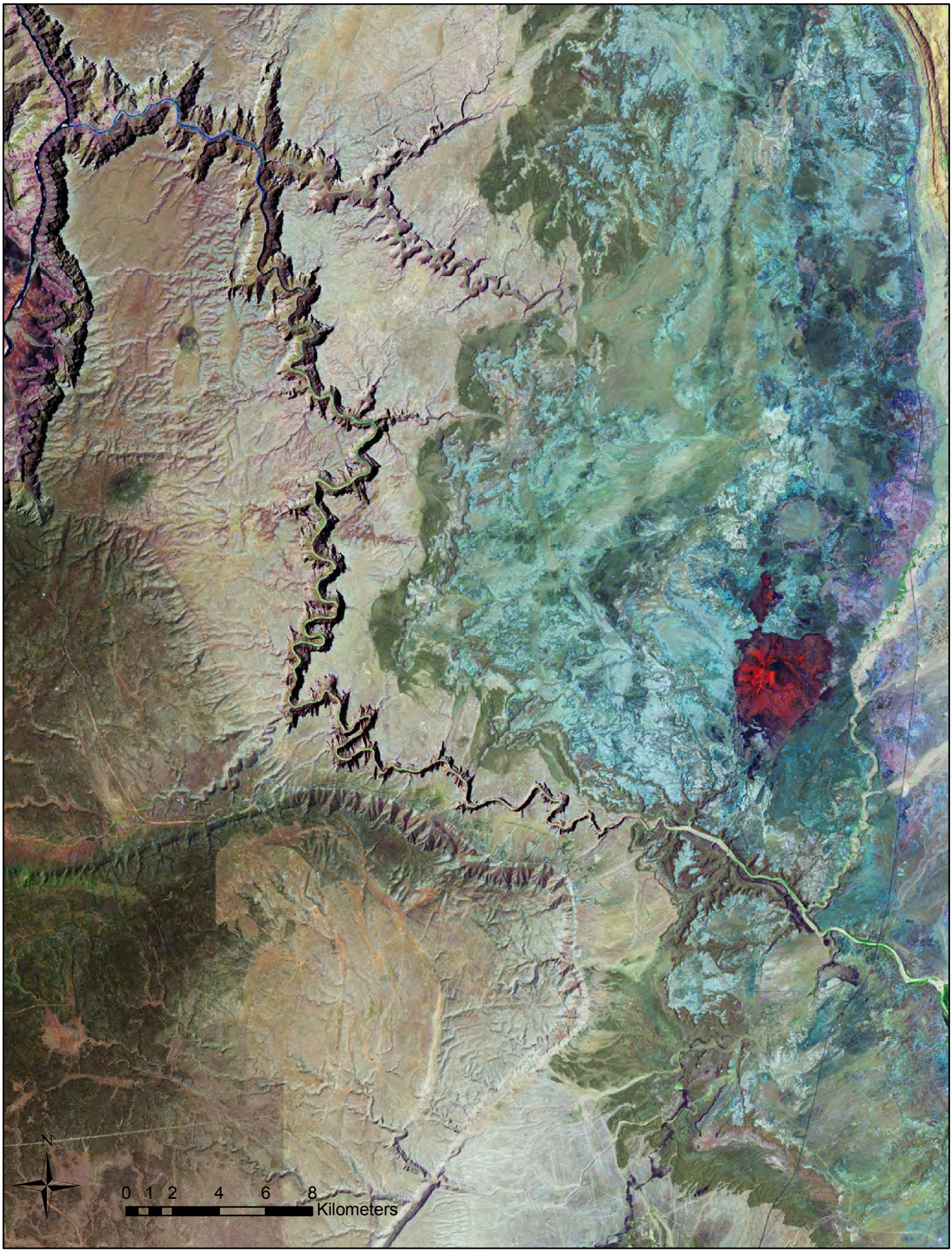
Kilometers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