

ReadMeDDM-SVFv2-2023-06-07

Welcome to the latest (2023-06-07) web enabled, 64 bit compliant version of the Dynamic Digital Map of the Springerville Volcanic Field (DDM-SVFv2), adapted and expanded from the Condit, Crumpler and Aubele, 1999 USGS MI-2431 1:100K map(s).

When starting the program on a Mac the first time you open it, you will need to over-ride the caution notice that this program has not been checked by Apple for malicious content. Choose the "WEB Access" button from the start-up page to access the program's data from my file server at UMass-Amherst.

The Springerville is a late Pliocene to Pleistocene (2.1-0.3 million year old), distributed continental basaltic volcanic field. Sitting on the southern edge of the Colorado Plateau in east-central Arizona, it encompasses >3000 km² (~1200 mi²). It is dominated by over 450 cinder cones and associated lava flows, comprising >501 volcanic units.

This version of the DDM displays four thematic geologic maps of the field, 251 images, figures and movies (many aerial and from NASA's World Wind satellite), over 640 major and trace element whole-rock chemical analyses, mineral chemistry for 31 units, paleomagnetic polarity data from 247 sites, 40 K-Ar and, four ⁴⁰Ar/³⁹Ar dates, and Sr, Nd and Pb isotopic analyses, all linked to sample sites located on the maps and in many of the photos. Analytical data can be downloaded as text and/or in some cases, Excel files.

The DDM also includes three articles, each with numerous hyperlinks to the maps and images. The first is an introduction to the geology of the field, to the map and mapping conventions, adapted from the pamphlet included in Condit, Crumpler and Aubele 1999 USGS MI-2431 1:100K map(s).

The first of the guides is a modified version of the 1989 IAVCEI field trip, which concentrates on the petrology of the field; it contains hyperlinks to icons of field trip stops, displayed on the lithologic map. The second guide concentrates more on the volcanologic and tectonic features of the field, adapted from a 1994 NMGS field guide.

The 2023 DDM presents the each of the 4 basic thematic maps as a single image on a 1:100K topo base (± a shaded relief background), concatenating what previous versions showed in three separate but overlapping map segments. It also includes a higher definition (HD) version of each of those 9 maps (M#010 to M#018) at twice the resolution of the maps in the original DDM-SVF. Map segments from previous versions of DDM-SVF are included as archival maps which have not been updated in this version (maps M#019 to M#054). When viewed, each map can be downloaded in an image (JPEG or PNG) or PDF format.

Note that many movies (the Apple QuickTime Virtual Reality and Pano formats that Apple abandoned) will not play; I still need to convert or replace these movies. I am also in the process of revising the Correlation of Map Units (COMU) charts and have revised charts for two of the

21 geographic subdivisions to reflect placement of unit corresponding to the Geomagnetic Instability Time Scale of Singer, 2014 (Morgan Mountain and Yellow Jacket Cienega).

Bugs and comments are welcome; send them to Chris at ccondit@umass.edu

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