

MAPPING MARS

WESTERN ARABIA TERRA MAP AND AUGMENTED REALITY

This factsheet is intended to supply some background to the resources used for Ordnance Survey's 2016 Mars prototypes, exemplars and limited edition maps.

WHAT WAS CREATED

- A limited edition paper wall map (available through the OS online store)
Available at os.uk/maps
- A reduced version of the above suitable for social media
- A 'slippy map' version of the map sheet suitable for the web
- An augmented reality (AR) prototype using two areas of the map
- A small number of book sleeves for marketing purposes
- Re-publication in news and media articles

DETAILS OF THE MAP SHEET

The original paper map sheet is a topographic basemap based largely on elevation data from satellite imagery and is printed at a scale of 1 to 4 million (1:4000000) and measures 980 by 840mm. It represents an area of Mars 3672 x 2721km which is similar in size to the United States of America (USA).

CONCISE SUMMARY OF REASON

Inspired by the needs of the upcoming European Space Agency (ESA) missions to Mars and recent OS ventures overseas, we created a prototype to show the ability of traditional OS cartography to add understanding to a foreign landscape and to support the overlay of space exploration data.

Find out more at: <https://goo.gl/BeQB97>

More recently it has helped us to explore the potential of AR.

DATA SOURCES

Data	Source
Landing sites	Location of previous Mars mission landings (general knowledge).
Nomenclature (name points)	Official IAU/USGS approved named features on Mars supplied by the USGS MRCTR GIS Lab. Repositioned by OS to centre on craters, etc.
Channel network locations	Based on Hynek et al. (2010) Hynek, B. M., M.R.T. Hoke, and M. Beach, Updated Global Map of Martian Valley Networks and Implications for Climate and Hydrologic Processes, <i>Journal of Geophysical Research - Planets</i> , 115, E09008, doi:10.1029/2009JE003548, 2010.
Elevation data	From the MOLA instrument on MGS. Supplied by NASA/JPL/GSF. Resolution approximately 463 metres per pixel.
3D models for AR	NASA, 3dcadbrowser.com and tf3dm.com

All third party data was sourced via Dr. Peter Grindrod (Birkbeck, University of London).

Cartography and reformatting of data for web and AR by Christopher Wesson, OS.

Augmented reality compilation by Layla Gordon, OS.

Landing site symbols by Paul Naylor, OS, and BBC One Show map symbol competition winner Paul Marsh.

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