

## **APPLICATION OF SPACE TECHNOLOGY TO DISCOVERY OF ANCIENT DESERT TRADE ROUTES IN THE SOUTHERN ARABIAN PENINSULA**

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Over the last decade, an unusual combination of historical research, traditional archaeology, and application of space technology has demonstrated the existence of trans-desert trade routes in the southern Arabian peninsula. In 1992, we announced the discovery of the lost "city" of Ubar. This legendary desert fortress' reputation and wealth was largely derived from trade in frankincense, the resin of *Boswellia Sacra* which grows in the region. At times, Frankincense trade value rivaled that of the much better known silk trade, and Frankincense was as valued as gold in ancient Rome. Satellite and other space based images were important to identifying potential locations for the site and the ultimate success of the work. In efforts since then, we have been searching for other related desert sites which might have flourished] with the frankincense trade in the past and then declined. We have continued the strategy of use of historical sources for insight into existence and general locations of sites and then use of satellite and other remote sensing data to identify targets for field examination. For example, Pliny refers to eight fortresses along the incense route, but doesn't say much about where they are. Other sources indicate occurrence of frankincense trees, "triliths" (ancient desert road signs), and springs. Using enhanced Landsat Thematic Mapper satellite imagery covering over 300,000 square kilometers as a base, we are trying to gain a geographically comprehensive view of the area to identify logical sites for field examination. In addition, we are seeking to use remote sensing data to try to understand the scope of the monsoon effect, which contributes atmospheric moisture and dew responsible for the growth of frankincense in this arid region. In a reconnaissance trip to Yemen last winter we visited several sites which showed evidence of far flung trade in ancient times. Next winter, detailed examination of these and other sites will be made. Note that it is only recently that political stability in this region has made it possible to conduct expeditions.

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