

# Important topics critical to thermal infrared remote sensing in arid regions

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## Abstract

The application of thermal infrared remote sensing in one hand and the problems of dry lands and desertification in other hand has recently been as research topics, but combination of thermal infrared remote sensing; surface temperature and desert under a title of research have not been widely discussed. In fact a review of recent achievements in the field of thermal infrared remote sensing in arid regions is needed, because all methods and disciplines related to thermal infrared remote sensing in desert have not been reviewed widely yet. It seems the majority of the research was concern with semi-arid and humid region and less attention was focused on desert. Further, geographic, pedologic, hydrologic, geologic and vegetative perspectives are needed. Because of the nature of both thermal infrared remote sensing and deserts. Therefore, we review and search several important topics critical to surface temperature and remote sensing in arid regions, including, the nature of desert, soil erosion and soil salinity problems, desert varnish, soil surface crusting and etc. We then describe the component of the application of thermal infrared remote sensing in desert; our focus in this study is to evaluate literature in the mentioned field and to reintroduce the successful application of thermal infrared remote sensing to the researchers to categorize the associated research problems.