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A Survey of The Ice-Bottomed Craters on Mars

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The Louth crater which located in the north polar region (70^0N, 103.2^0E) is one of the ice-bottomed craters on Mars. These craters have surface features of ice structures and layers which like north polar layer deposits. The polar regions are reservoirs of CO2 and H2O which contributes to the Martian climate. We use instruments - HRSC (High Resolution Stereo Camera, Mars Express), MOC (Mars Orbiter Camera, Mars Global Surveyor) and HiRISE (High Resolution Imaging Science Experiment, Mars Reconnaissance Orbiter) – in order to characterize the physical properties of ice-bottomed craters. These images are provided good survey of all of the ice-bottomed craters and classified them systematically. We also investigate the relationships between seasonal morphology, crater diameter vs. ice cap diameter and depth of craters and confirm if the ice is stable at that location.