



MRDF joins Underwater Explorations Team AURORA, local Archeologists, and a leading Robotics Expert to Explore Ancient Fortress Cisterns on the Mediterranean Island of Malta.

The submersible ROV called VideoRay (www.videoray.com), used regularly for the past few years in MRDF's manned underwater habitat programs by divers and aquanauts, has twice been called into foreign service with its operator to the faraway island of Malta because of its ultra-small size and advanced capabilities.

Located in the middle of the Mediterranean and blessed with many natural deepwater ports, Malta has been a central way-point for seafaring trade since the beginning of recorded maritime history. Due to its strategic location along these ancient shipping routes and the great wealth associated with this, the island was constantly under siege by pirates and any ambitious empire of the day. As result many fortresses and watch towers were built around the island in preparation for the almost constant threat of invasion. The islander's last strong-hold during an all-out invasion was usually a fortress located towards the middle of the island at its highest point, and it was built to withstand a siege by an invading army for years. In this relatively arid climate large underground cisterns, natural or man-made, were needed to sustain the community's drinking water within a fortress under siege for extended periods of time.

VideoRay's mission was to explore these ancient submerged underground cistern chambers and passageways while extracting video and sonar data which could later be used by archeologists to enhance their understanding of the evolution and complexity of ancient water storage systems in Malta. The VideoRay ROV is uniquely suited to this task since the entryways and long narrow chutes leading down into these cisterns (averaging about 14 inches in diameter) are much too narrow and dangerous for today's average size human, and excavation techniques to access these submerged structures would be destructive and damaging to historically valuable sites. Some of these cisterns are believed to have been used at least as far back as 2,300 years ago and have likely been unseen by human eyes for many, many, centuries. Rumor has it that sometimes a community's wealth would be hidden deep within these cisterns to keep it away from pirates and invading armies.

For a more detailed accounting of the these cistern explorations which includes photos, video clips, sonar & mapping algorithm data, and on-going analysis / commentary by the investigators, go to Dr. Clark's website at;
<http://users.csc.calpoly.edu/~cmclark/MaltaMapping/index.html>

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