

New Hampshire ARCHEOLOGY MONTH

April 2022



DRONE TECH: HOW ARCHEOLOGY IS TAKING FLIGHT

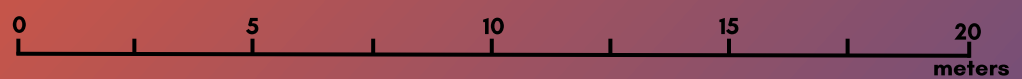
THE USE OF UNMANNED AERIAL VEHICLES (UAVS) OR DRONES ALLOWS ARCHEOLOGISTS TO COVER MORE AREA THAN POSSIBLE ON FOOT, VIEW SITE CHARACTERISTICS IN REAL-TIME AND TAKE PHOTOS FROM NEARLY ALL ANGLES. CAMERA-MOUNTED DRONES ARE INCREASINGLY UTILIZED TO OBTAIN IMAGES THAT CAN BE PHOTOGRAMMETRICALLY PROCESSED TO PROVIDE REMARKABLE DETAIL AND ACCURACY. DRONES CAN ALSO BE EQUIPPED WITH SENSORS INCLUDING LIDAR SCANNERS FOR LOCATING SITES AND FEATURES OBSCURED BY DENSE VEGETATION.

IN FEBRUARY 2022, STEFAN CLAESSION OF NEARVIEW LLC CONDUCTED AN AERIAL DRONE SURVEY OF THE SEVENTEENTH-CENTURY PREBLE GARRISON SITE IN YORK, MAINE. A DRONE WITH A HIGH RESOLUTION CAMERA WAS FLOWN INSIDE THE TENT COVERING THE SITE AT AN ALTITUDE OF APPROXIMATELY 15-20 FT ABOVE GROUND LEVEL.

TO BUILD AN ACCURATE 3D MODEL (SHOWN ON THE RIGHT), OVERLAPPING IMAGERY WAS COLLECTED FOR A TOTAL OF 200% COVERAGE. SURFACE CONTOURS AND FLYOVER 3D MODELS WERE ALSO CREATED TO HELP INTERPRET, EXPLORE, AND VISUALIZE THE SITE CONDITIONS.

THE PREBLE SITE WAS FIRST OCCUPIED BY ABRAHAM PREBLE, SR. AND HIS WIFE, JUDITH, C.1642. GARRISONED BY A SMALL CONTINGENT OF MILITIA DURING KING WILLIAM'S WAR (1688-1699), AND STRENGTHENED BY A PALISADE WALL, THE SITE BECAME A REFUGE TO AS MANY AS 100 INDIVIDUALS FROM THE SURROUNDING COMMUNITY IN THE AFTERMATH OF A WABANAKI ATTACK ON YORK IN JANUARY, 1691-92.

THE EXCAVATED FEATURES ARE ASSOCIATED WITH FIVE BUILDINGS, THE MOST PROMINENT OF THE FEATURES BEING FIVE CELLARS AND A HEARTH. EXCEPT FOR THE STRUCTURE WITH THE STONE-FLOORED CELLAR (CELLAR 5 IN THE IMAGE ON THE RIGHT), THE BUILDINGS WERE ENTIRELY EARTHFAST.



THIS IMAGE OF THE PREBLE GARRISON SITE WAS CREATED BY STITCHING TOGETHER 500 OVERLAPPING DRONE PHOTOS. THIS 3D MODEL WAS CREATED BY NEARVIEW LLC, PORTSMOUTH, NH & PROVIDED BY INDEPENDENT ARCHAEOLOGICAL CONSULTING (IAC) LLC, DOVER, NH



DRONE PILOT STEFAN CLAESSION OF NEARVIEW LLC CAPTURES THE IMAGES USING A DJI PHANTOM 4 PRO DRONE EQUIPPED WITH A 20 MEGAPIXEL RGB CAMERA. PHOTO BY PETER MORRISON, IAC LLC

FOR MORE INFORMATION ON NEW HAMPSHIRE'S ARCHEOLOGY MONTH AND FOR A CALENDAR OF EVENTS, VISIT NHAS.ORG OR FACEBOOK.COM/NHARCHSOCIETY

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