

History of Aerial Archaeology

Aerial survey is one of the most important tools for discovering archaeological sites; half of all known archaeological sites in the UK have been recorded from aerial photographs. Aerial archaeology involves both the photographic recording of archaeological sites from the air and the interpretation of sites visible on aerial photographs. Thousands of previously unknown sites have been discovered by archaeologists carrying out reconnaissance flights, and by the study of aerial photographs taken for various purposes by organisations such as the Ordnance Survey.

Aerial archaeology has a hundred year history. It was not long after the camera was invented that people first started taking to the skies, capturing unique birds-eye views of familiar places. From this new perspective archaeological features that had not been recognised before on the ground were first identified and aerial archaeology was born. The first archaeological site to be photographed from the air was Stonehenge. The photographs were taken from a balloon in 1906 by Lieutenant Philip Henry Sharpe of the Royal Engineers' Balloon Section. Based at Aldershot, the Royal Engineers' balloonists were the forerunners of the Royal Flying Corps which later became the Royal Air Force (RAF). Aerial reconnaissance developed during the Great War of 1914-1918 to meet the needs of military intelligence, and aerial photography remained a significant part of RAF training in the post war years.

The development of aviation accelerated rapidly during the Great War and this resulted in a dramatic increase in the number of fliers. One of these was O G S Crawford, an observer in the Royal Flying Corps, who first recognised the real potential of aerial reconnaissance for archaeological purposes and who was to become the pioneer of aerial archaeology. Crawford used aerial photographs from RAF training flights of the 1920s for his pioneering work. Then in 1924, in collaboration with Alexander Keiller another war-time flier, he undertook a number of his own flights over Dorset, Hampshire and Wiltshire. The results of these flights were published in 1928. The book, '*Wessex from the Air*' is a seminal work, demonstrating to the world for the first time the true potential of aerial archaeology.



*An aerial photo of Samson in the Isles of Scilly, taken by OGS Crawford in July 1926.
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Aerial archaeology continued to develop during the 1930s. Crawford founded the archaeological journal '*Antiquity*' in which he published the remarkable discoveries of other RAF fliers as well as private pilot Major G W G Allen. Crawford also began mapping and interpreting the archaeological sites visible on aerial photographs; for the first time using the terms cropmark and soilmark which are so familiar to today's archaeologists.

Crawford did not see aerial photography simply as a means of recording individual archaeological sites but as a way of providing archaeological information to put on a map and therefore as a tool for mapping the prehistoric and historic landscape. This concept – of understanding how each site fits into its wider landscape context – is central to the way today's aerial archaeologists work. Crawford also recognised that today's landscape is multi-layered; each successive generation have left their imprint upon it. As he wrote in 1953: 'The surface of England is a document that has been written on and erased over and over again; and it is the business of the archaeologist to decipher it'

In the summer of 1939, Crawford and J K St Joseph arranged a programme of reconnaissance flights in Scotland. Interrupted by the outbreak of the Second World War, it was not until 1945, six years later, that St Joseph began his systematic reconnaissance work on which the Cambridge University Committee for Aerial Photography was founded.

In 1965, the Royal Commission on the Historic Monuments of England (RCHME) established an Air Photographs Unit (APU) as part of its National Monuments Record. The unit, under the direction of John Hampton, provided a national archive for aerial photographs and, since 1967, has carried out its own flights throughout England. The archive was taken over by English Heritage in 1999 and is currently home to two million vertical photographs, mainly taken by the RAF and Ordnance Survey, and to over half a million specialist oblique photographs. This makes it the largest collection of aerial photographs in the country.

Various individual archaeologists and archaeological organisations across the country have carried out mapping from aerial photographs in a number of different ways, using a range of methods, and at varying levels of detail. Some of these surveys used large numbers of photos; others only a small selection. Recognising the inconsistent levels of mapping, and aware that many of the aerial photographs in the national archive had never been studied by archaeologists, RCHME and English Heritage initiated an ambitious programme of archaeological mapping from aerial photographs in 1988.

Initially four pilot projects were set-up and the results of these pilots led to the creation of the National Mapping Programme. The overarching aim of the Programme is to map, interpret and record all archaeological features visible on aerial photographs to a consistent standard. When this programme is completed all the aerial photographs in the national archive will have been used by aerial archaeologists to produce a map of England's prehistoric and historic landscape.



Archaeological features plotted from aerial photographs on Tregonning Hill, Godolphin as part of Cornwall's National Mapping Programme.

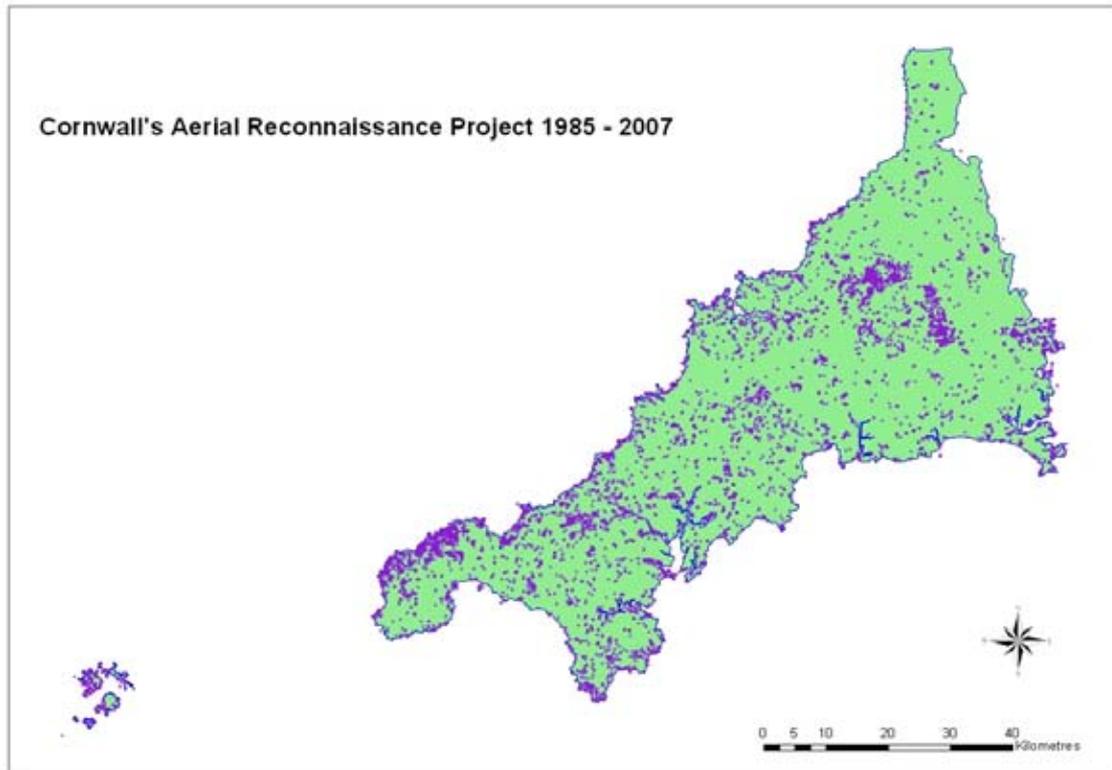
Aerial Reconnaissance in Cornwall

Archaeologists have been regularly flying over Cornwall photographing archaeological sites since the late 1940s. This work was begun by Professor J K St Joseph of Cambridge University who made his first flight in Cornwall in 1948. Professor St Joseph continued to undertake regular archaeological aerial reconnaissance until the late 1970s and his successors at Cambridge still make occasional flights today. In total Cambridge University has a collection of 4,000 aerial photographs of the Cornish landscape.

During the 1970s the Air Photographs Unit of the Royal Commission on the Historic Monuments of England began a programme of aerial survey in the county. These flights span more than a decade after which the role was taken over by English Heritage, who continue to fly in Cornwall today. In total the Royal Commission and English heritage have taken roughly 5,000 aerial photographs of Cornwall in this time.

Aerial archaeologists with English Heritage are based at airfields in Oxfordshire and Yorkshire from which they cover the south and north of England. To spread the work load and to meet the logistical challenges such as regional differences in weather conditions, English Heritage also provides funding to local flyers to carry out aerial survey in their own areas.

Since 1985 archaeologists at the Historic Environment Service of Cornwall County Council have used these funds to undertake the bulk of the archaeological aerial reconnaissance in Cornwall. Over the last twenty years more than 70 flights have been made as part of Cornwall's Aerial Reconnaissance Project. Each year we have taken photographs of previously known archaeological sites and have discovered new ones. In total we have now taken more than 6,000 aerial photographs.



Distribution of oblique aerial photos taken by Cornwall County Council's Historic Environment Service.