Investigation of groundwater resources in Jersey and Guernsey has been driven by different needs in three phases: the first, an intensive phase, took place between 1940 and 1945, when the islands were occupied by German armed forces; the second in the 1970s, in response to increasing reliance on, and demand for groundwater; and the third between 1991 and 1998, in response to a drought between 1989 and 1991. First phase investigation in Alderney was followed directly by third phase work. Maps and reports from the first phase studies for all three islands have only recently been rediscovered: second and third phase investigations were all carried out in ignorance of the German work. The surviving German documents have revealed studies on crystalline basement aquifers with thin Quaternary cover far in advance of work elsewhere in the British Isles at that time. German work on Jersey centred on a map portraying the different hydraulic properties of the various rock types as a two-dimensional model, whereas that on Guernsey concentrated on availability of potable water and depth to water in the coastal areas of the island. Both investigations depended on well and borehole inventories as primary data sources. The modern third phase studies also used well inventories, but were supported with hydrochemical evidence to determine groundwater provenance. These studies considered the groundwater flow systems as three-dimensional models using conceptualized flow systems and island-wide water balances to understand the hydrogeology of the islands. Nevertheless, the work carried out by the German geologists showed a comprehensive and advanced understanding of the hydrogeology of the islands which would, in hindsight, have been of great benefit to the second and third phase studies if it had been available when they were carried out.