The retention of a wide nose in Neandertals living in glacial time periods deviates from the expected cold-adapted morphological pattern based on recent human populations living in cold-climate conditions. Given this disparity, many scholars have rejected adaptation to cold climate as a major factor in the evolution of Neandertal nasofacial anatomy. However, if the overall gestalt of Neandertal nasofacial architecture is analyzed in the moisture exchange, it becomes evident that a wide nose does not negate the importance of climate in explaining Neandertal facial evolution. Among Middle and Late Pleistocene Homo, there is evidence that nasal morphology varies with climate, albeit within an archaic architectural nasofacial framework. These differences parallel those seen in modern humans, indicating that Neandertals had an increased capacity for nasal heat and moisture exchange over their African counterparts and thus exhibit clear evidence for cold-climate adaptation.