What ibex horns reveal about changed environmental conditions

Examining new objects with proven technology: Tree ring researchers analyzed the horns of Alpine ibexes instead of the usual trees. In doing so, an international team led by WSL was able to draw upon a unique dataset. The Office for Hunting and Fishing in Grisons has been measuring ibexes that have been shot in the canton since 1978, not only in terms of the overall length of their horns, but also the annual increments, i.e., how much the horns grow each year. Ulf Büntgen, head of the WSL study on the Alpine ibex says: “For us, this dataset has been a goldmine. It once again shows how important long-term measurement series are in environmental research.”

Spring temperatures determine horn growth

The researchers analyzed the data of more than 8,000 ibexes from eight geographically separate populations. In doing so, they showed that the horns grew more in years with warm springs than in colder conditions, irrespective of the age of the animals. This points to a large-scale environmental factor that influences horn growth: Europe’s macro weather situation. Due to higher spring temperatures between March and May, snow now often melts earlier than it did 30 years ago, providing ibexes with a larger food supply and better quality grass and herbs. Thus, the animals can invest more in horn growth in years when the snow melts earlier.

The researchers are now using the dataset to determine whether other factors influence the development of the horns and physical condition, such as the type of hunting. (lbo)