

# Amboseli

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The Amboseli basin (2° 40' S latitude, 1,100 m altitude) is a semiarid short-grass savannah straddling the Kenya–Tanzania border at the northern base of Mount Kilimanjaro. Spanning approximately 8,000–8,500 km<sup>2</sup>, the basin's alkaline and saline soils support a mosaic habitat comprised of grassland, woodland, shrubland, and swampland.

Seasonality within the Amboseli basin is characterized by a predictable five-month-long dry season (June–October) during which virtually no rain falls. By contrast, rainfall is highly variable during the remaining months of the year (November–May), and can also vary tremendously between years (range: 150–550 mm; mean: approximately 350 mm). Seasonal variation in temperature is considerably less pronounced, with larger temperature fluctuations occurring diurnally relative to those that occur between seasons. Detailed descriptions of the ecology in the Amboseli region are provided by Alberts et al. (2005), Croze and Lindsay (2011), and Western and Maitumo (2004).

Adequate rainfall is considered the main limitation on ecosystem primary productivity, and thus the availability of both food and drinking water declines as the dry season progresses. As in other savannah ecosystems, food and water limitations affect wildlife in a myriad of ways, including influences on movement patterns, foraging decisions, and social behavior. Particularly in the absence of permanent rivers, a system of waterholes and swamps fed by aquifers from Kilimanjaro has been described as the “lifeblood” of the Amboseli ecosystem (Croze and Lindsay 2011). These water sources help attract and sustain an influx of migratory animals which—along with Maasai pastoralists and their domesticated livestock—historically concentrate in Amboseli during the dry season months.

Since early accounts from the 1960s, substantial habitat changes have occurred within the Amboseli basin. Most notable has been a dramatic loss of the once expansive fever tree (*Acacia xanthophloea*) woodlands. Several nonexclusive hypotheses have been proposed to explain the woodland decline, including: intensified browsing pressure on adult and sapling trees by elephants, natural senescence of evenly aged woodlands, pastoralist grazing patterns and practices, climate change, and increased soil salinity associated with a rising water table. These hypotheses are discussed in Alberts and Altmann (2012), Alberts et al. (2005), and Western and Maitumo (2004). Regardless of factors precipitating the fever tree die-off, Western and Maitumo (2004) emphasize the role of elephant browsing pressure on preventing woodland regeneration. Croze and Lindsay (2011) note the importance of considering habitat change as a natural component of Amboseli's “nonequilibrium” ecosystem.

Despite some loss of biodiversity concomitant with the woodland die-off, modern-day Amboseli nonetheless supports a wide array of avian and mammalian species. Large mammals include: African elephant (*Loxodonta africana*), lion (*Panthera leo*), spotted hyena (*Crocuta crocuta*), cheetah (*Acinonyx jubatus*), leopard (*Panthera pardus*), plains zebra (*Equus quagga*), cape buffalo (*Syncerus caffer*), and common wildebeest (*Connochaetes taurinus*). Three primate species inhabit the Amboseli basin: savannah baboons (*Papio cynocephalus*), vervet monkeys (*Chlorocebus aethiops*), and galagos (*Galago senegalensis*).

## Amboseli National Park

Amboseli National Park is located approximately 250 km southeast of Nairobi, Kenya, and occupies 388 km<sup>2</sup> (Western and Maitumo 2004) within the broader Amboseli ecosystem. A subset of the former Maasai–Amboseli Game Reserve, the area was gazetted as a national park in 1974.

*The International Encyclopedia of Primatology*. Edited by Agustín Fuentes.

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DOI: 10.1002/9781119179313.wbprim0229

## Contributions to Primatology

Amboseli National Park and its surrounding areas have been the focus of a number of behavioral, ecological, and social science studies. Many dedicated researchers, wardens, and community members have contributed to the management and observation of local wildlife. These efforts have resulted in an extensive body of literature on both the non-primates (e.g., Croze and Lindsay 2004) and primates (e.g., Seyfarth, Cheney, and Marler 1980; Struhsaker 1967) of Amboseli. Research focused on the region's savannah baboons and vervet monkeys has extended the foundation of primatological study established by such pioneers as Irven DeVore, Thomas Struhsaker, Jeanne Altmann, and Stuart Altmann.

The Amboseli Baboon Research Project (ABRP) in particular is noteworthy for its long-term presence in the region. Founded in 1971 by Jeanne and Stuart Altmann, ABRP is one of the longest-running studies of wild primates in the world. ABRP researchers collect year-round data on hundreds of individually recognized baboons from several social groups within the Amboseli basin. Focusing on processes at the individual, group, and population levels, ABRP research addresses various aspects of baboon behavior, ecology, and demography, including emphases on genetics, hormones, hybridization, parasitology, and interspecific interactions. Alberts and Altmann (2012) review the history of the ABRP, discussing several of its major research themes and describing directions for future study. Details on ABRP monitoring effort, data collection protocols, and a complete project bibliography are accessible online (<http://amboselibaboons.nd.edu/>).

SEE ALSO: Altmann, Jeanne; Altmann, Stuart; Baboon (*Papio*); Guenon, Semiterrestrial; Long-Term Field Studies—Africa

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