

Jenifer Dias Ramos¹, Betina Blochtein¹, Cristiano Menezes², Aroni Sattler³, Luiz Eduardo Vicente², Luciana Spinelli Araujo²

¹Bee Observatory

²Embrapa Meio Ambiente

³Graduate Program in Animal-Origin Foods - UFRGS

In May and June 2024, Rio Grande do Sul, southern Brazil, faced its most severe climate disaster. Intense rainfall triggered flash floods, inundations, and landslides, severely impacting various sectors. Beekeeping was heavily affected, with the loss of thousands of beehives. In response, the State Beekeeping Federation (FARGS) led a campaign to document these losses, consolidating data later supplemented by the Bee Observatory of Brazil through the initiative "Integrated Mapping of Beehive Losses." This effort is part of the "Bee Observatory of Brazil, Focusing on RS" project, coordinated by Embrapa (Brazilian Agricultural Research Corporation) and made possible through a Cooperation Agreement with the Public Prosecutor's Office of RS, Embrapa Meio Ambiente, the A.B.E.L.H.A. Association, and agricultural input companies. Its goal is to compile the collected data into a technical report on beekeeping and meliponiculture losses caused by the floods and propose recovery measures for the sector. The methodology included data collection through an online form, technical visits to apiaries, and interviews with beekeepers to map affected areas and understand the causes of losses. Among the 239 surveyed beekeepers, 35% reported colony losses, resulting in a total of 21,025 lost beehives of ""Apis mellifera"" and stingless bees across 88 municipalities of the State. This severe impact disrupted honey production and other related activities. Additionally, beekeepers reported damage to equipment and infrastructure, as well as challenges in maintaining the remaining colonies due to a lack of flowering and adverse weather conditions. The report concludes that the recovery of the beekeeping sector in RS requires urgent and integrated measures, including the reestablishment of bee stocks, provision of hive boxes and supplemental feeding, financial support, technical training, and a strengthened support network for beekeepers. These actions aim not only to mitigate the immediate consequences of the disaster but also to enhance the resilience of beekeeping in facing future climate challenges. The consolidation of data on bee losses due to climate disasters is unprecedented in Brazil and will serve as a reference for future initiatives.