A major rifting episode began in the Afar region of northern Ethiopia in September 2005. Over a ten-day period, *c*. 2.5 km^3 of magma were intruded along a 60 km-long dyke separating the Arabian and Nubian plates. Over the next five years, a further 13 dyke intrusions caused continued extension, eruptions and seismicity. This activity led to a renewed international focus on the role of magmatism in rifting, with major international collaborative projects working in Afar and Ethiopia to study the ongoing activity and to place it in a broader context. This book brings together articles that explore the role of magmatism in rifting, from the initiation of continental break-up through to full seafloor spreading. We also explore the hazards related to rifting and the associated volcanism. This work has implications for our understanding of how continents break-up and the associated distribution of resources in rift basins and continental margins.