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Black Carbon Record from an Eastern Pamir Ice Core and its Biomass Contribution

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Black carbon (BC) and levoglucosan concentrations were measured in an ice core, covering time period 1868-2000 AD, from Mt. Muztagh Ata, east Pamir, to recover temporal trend of BC emission, and contribution of biomass as an energy resource. BC concentration before 1950 AD is 0.37 ng/g on average, increases rapidly afterwards to the maximum value of 2.0 ng/g during 1980s, and then shortly decreases dramatically, which is likely due to the economic collapse of the Former USSR. Levoglucosan concentration presents a similar variation with BC, especially in the recent three decades, and suggests in the source regions biomass burning (including lignite) plays an important role in historical BC emission.