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DEMETER spacecraft detects short bursts of Lightning-induced Electron Precipitation (LEP) simultaneously with newly injected upgoing whistlers. The LEP occurs within <1 second of the causative lightning discharge. First in-situ observations of the size and location of the region affected by the LEP precipitation are presented on the basis of a statistical study made over Europe using the DEMETER energetic particle detector, wave electric field experiment and networks of lightning detection; Météorage, ATDnet and WWLLN. The LEP is shown to occur well northward of the initial lightning and extend over some 1000 km on each side of the longitude of the lightning. In agreement with models of electron interaction with oblique propagating lightning-generated whistlers, the distance from the LEP to the lightning decreases as lightning process to higher latitudes.