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IASI is a versatile mission, allowing the measurement of both meteorological parameters such as temperature and atmospheric composition for infrared absorbing species. With its long observation record and frequent overpasses, IASI is able to follow changes at different spatial scales. We studied IASI's capability to track the anthropogenic signature associated with large cities, both in terms of temperature fingerprint (urban heat islands) and carbon monoxide (CO) content, a good tracer of human activity (transport, heating, and industrial activities). For this study we averaged the IASI data available since the launch of the first IASI, in order to increase the signal to noise, and allow discriminating the city from its surroundings. For skin temperatures we show that some cities experience much warmer temperatures than nearby rural areas, with day and night differences, whereas other urban areas appear as cold urban islands when surrounded by deserts Examples will be shown and compare with MODIS observations. For CO emitted by human activities, we identified some cities that stand out from their background, and were able to compare their CO associated signatures with measurements provided by other available spaceborne instruments such as Mopitt and TROPOMI.