



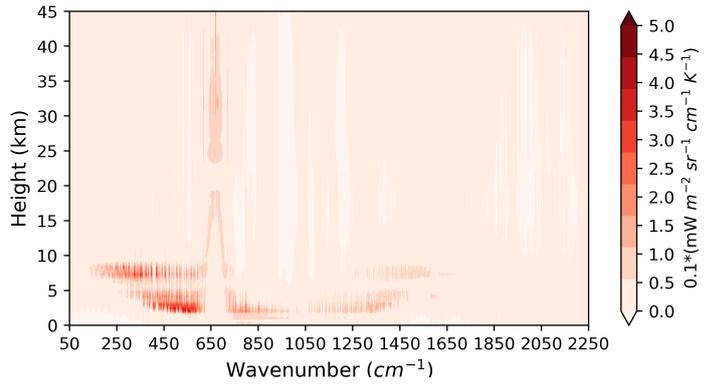
*Supplement of*

**On the use of Infrared Atmospheric Sounding Interferometer (IASI)  
spectrally resolved radiances to test the EC-Earth climate model  
(v3.3.3) in clear-sky conditions**

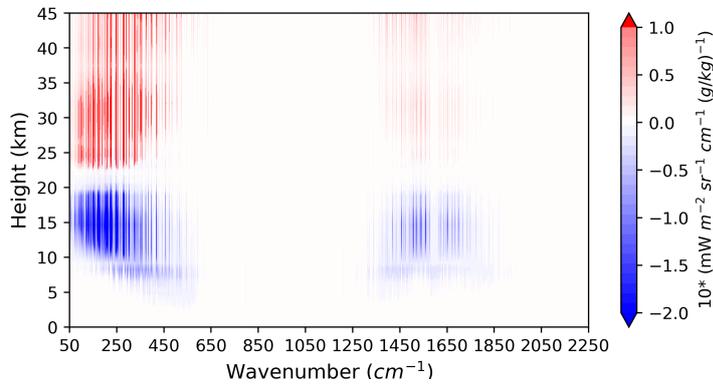
**Stefano Della Fera et al.**

*Correspondence to:* Stefano Della Fera ([stefano.dellafera@unibo.it](mailto:stefano.dellafera@unibo.it))

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(a)



(b)

Figure S1: Jacobians of Temperature and Water Vapour

Lat Band	Tot gcells	N. of gcells (IASI)	N. of gcells (ECE)	N. of obs. (IASI)	N. of obs. (ECE)
60S – 45S	493	33	428	8	3
45S – 30S	506	147	495	9	5
30S – 15S	573	332	565	14	10
15S – 0S	497	317	457	17	10
0N – 15N	501	256	447	15	8
15N – 30N	491	320	477	18	10
30N – 45N	304	116	291	15	7
45N – 60N	221	34	198	9	4

Table S1: IASI and ECE point statistics

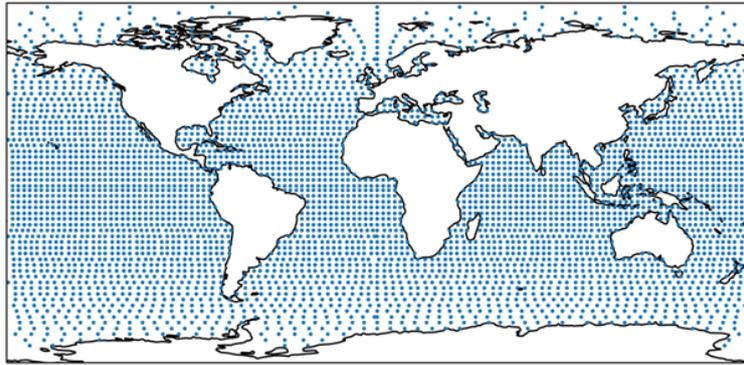
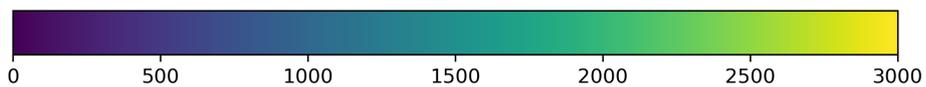
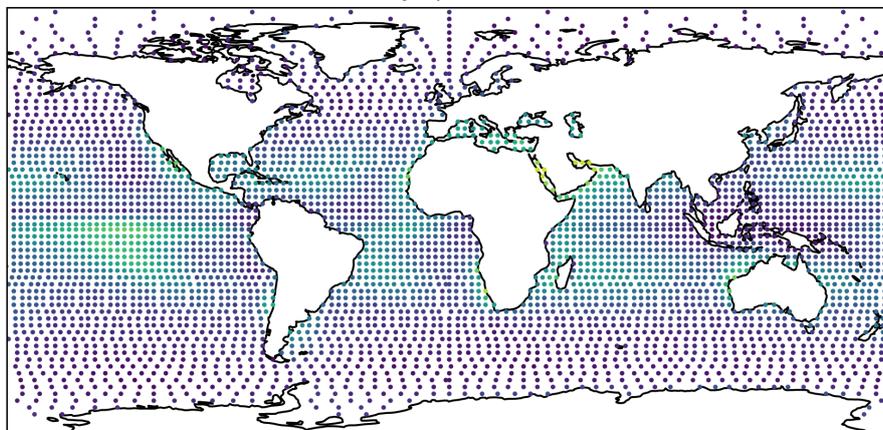


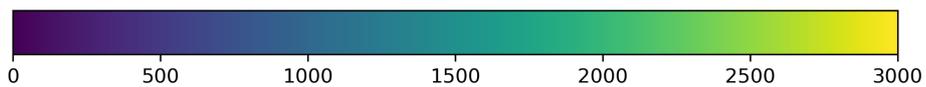
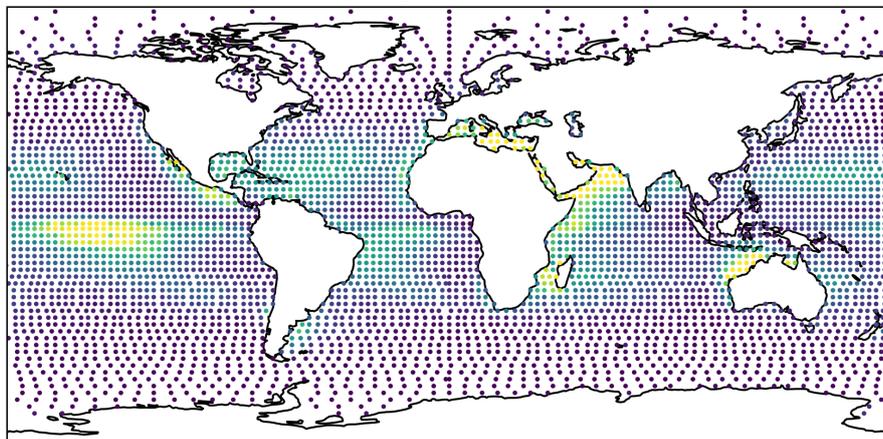
Figure S2: The dots indicate the center of the ECE model cells for which a spectral radiance is simulated.

Number of clear-sky spectra ECE (2008-2016)



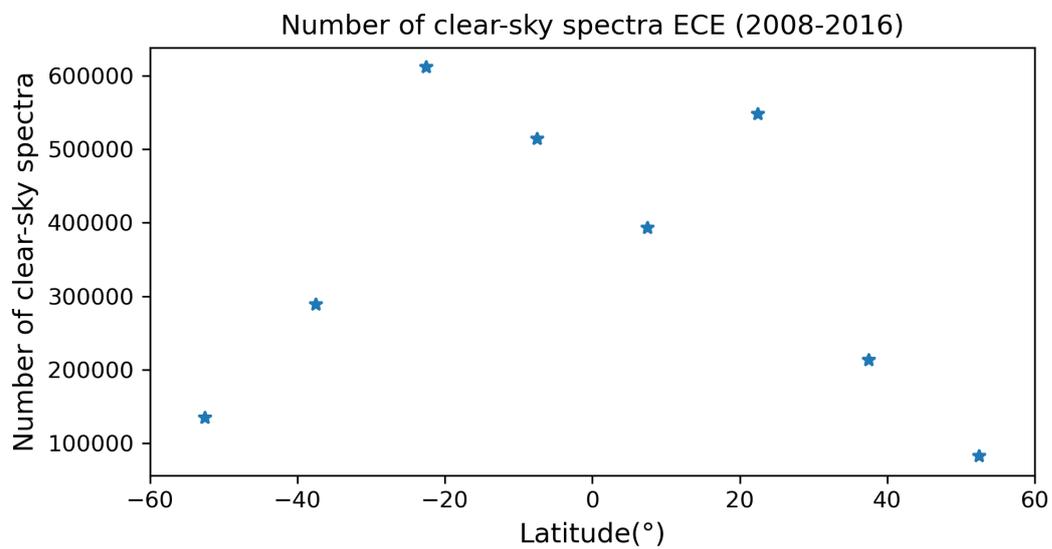
(a)

Number of clear-sky spectra IASI (2008-2016)

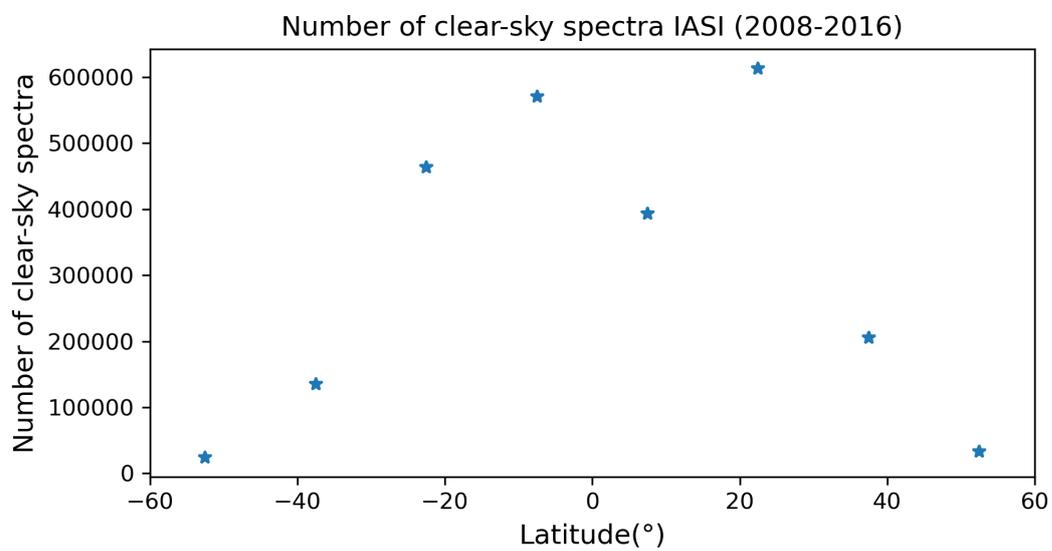


(b)

Figure S3: Number of simulated (top) and observed (bottom) spectral radiances that contribute to the clear-sky statistics presented in the paper, for each lat x long cell.



(a)



(b)

Figure S4: Number of simulated (top) and observed (bottom) spectral radiances that contribute to the clear-sky zonal means presented in the paper.

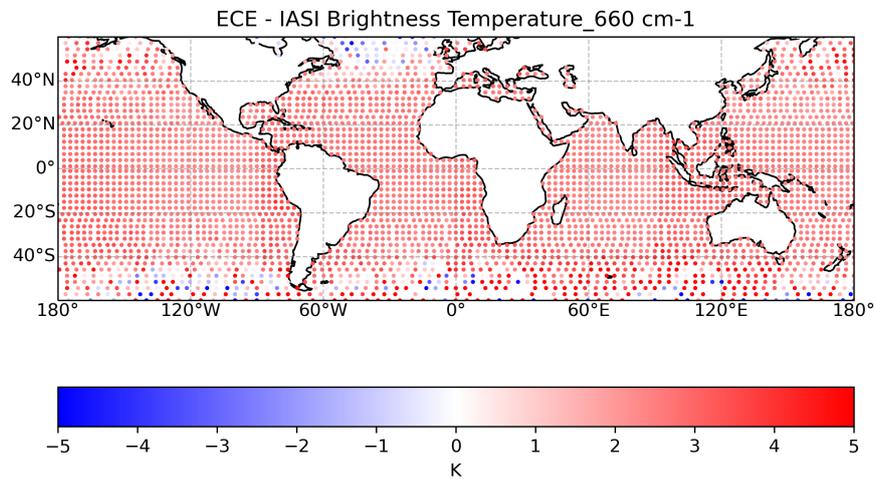


Figure S5: BT difference (model - IASI) at 660  $\text{cm}^{-1}$

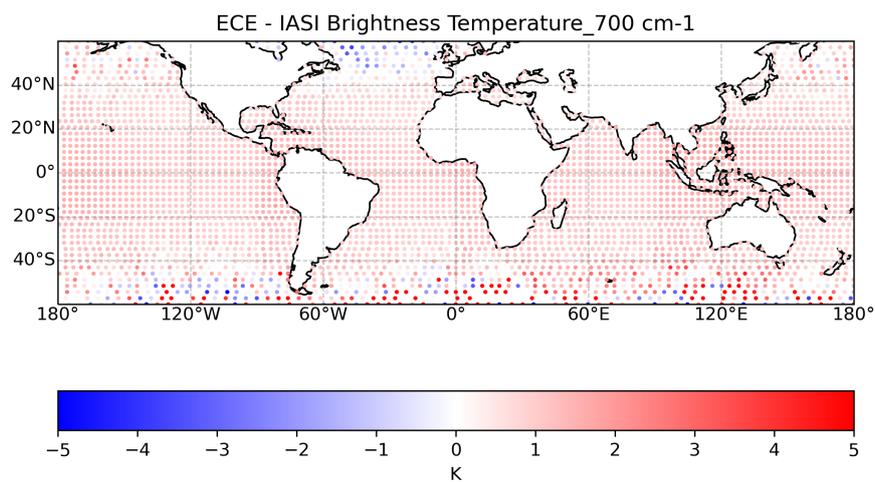


Figure S6: BT difference (model - IASI) at 700  $\text{cm}^{-1}$

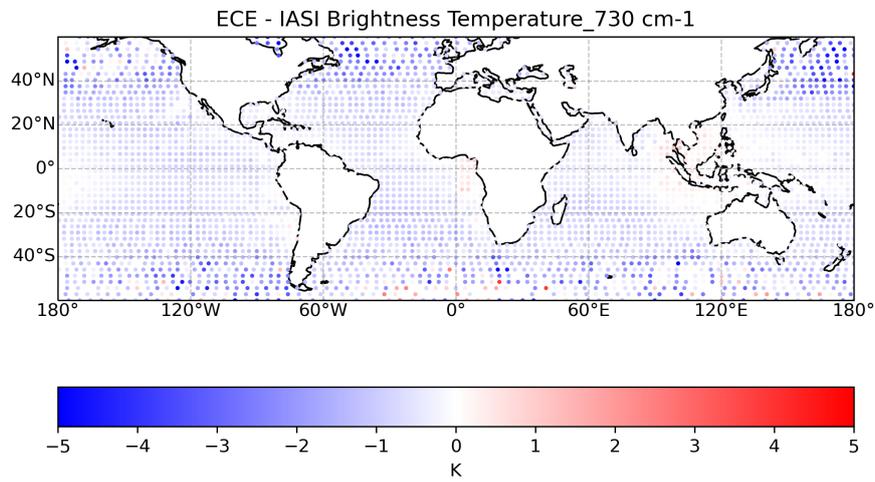


Figure S7: BT difference (model - IASI) at 730  $\text{cm}^{-1}$

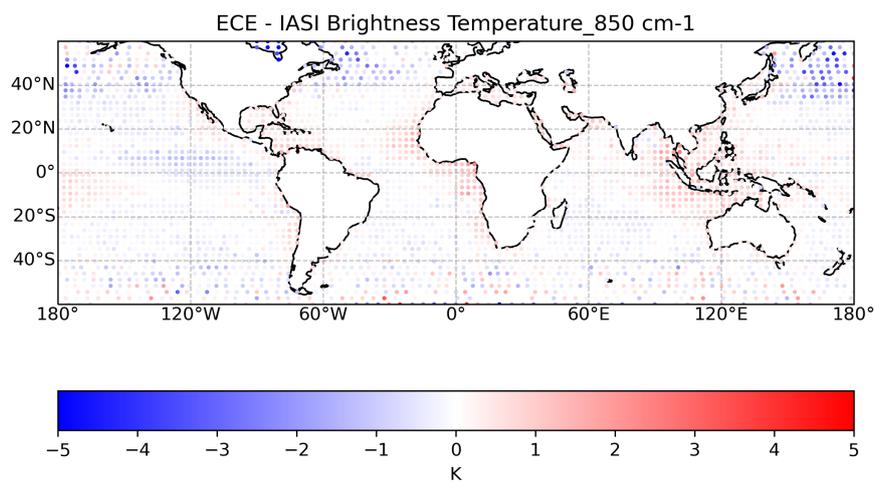


Figure S8: BT difference (model - IASI) at 850  $\text{cm}^{-1}$

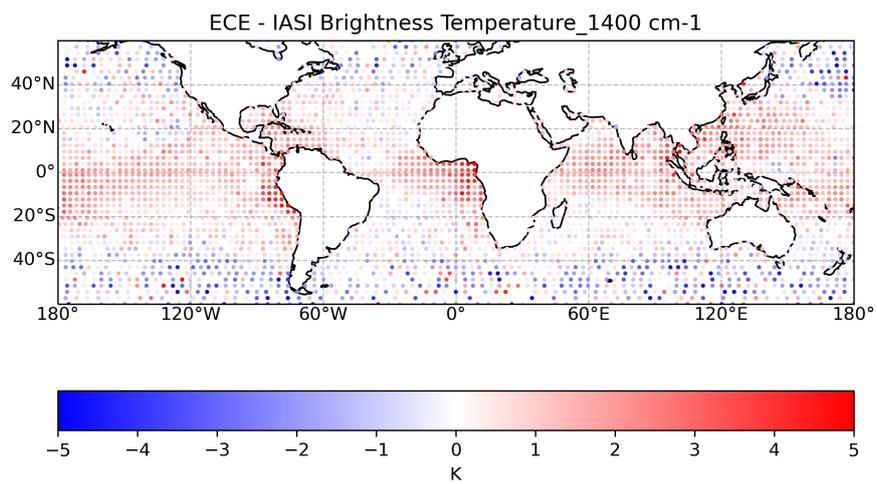
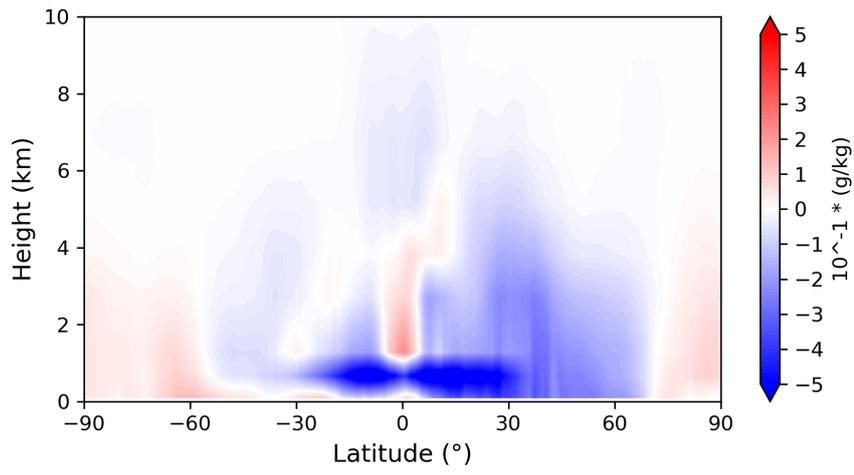
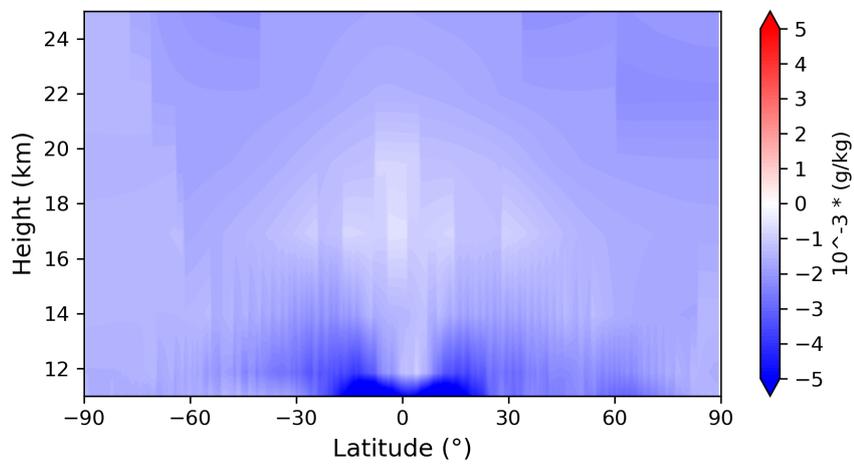


Figure S9: BT difference (model - IASI) at 1400 cm<sup>-1</sup>



(a)



(b)

Figure S10: Absolute difference of humidity concentration between model and ERA5 data