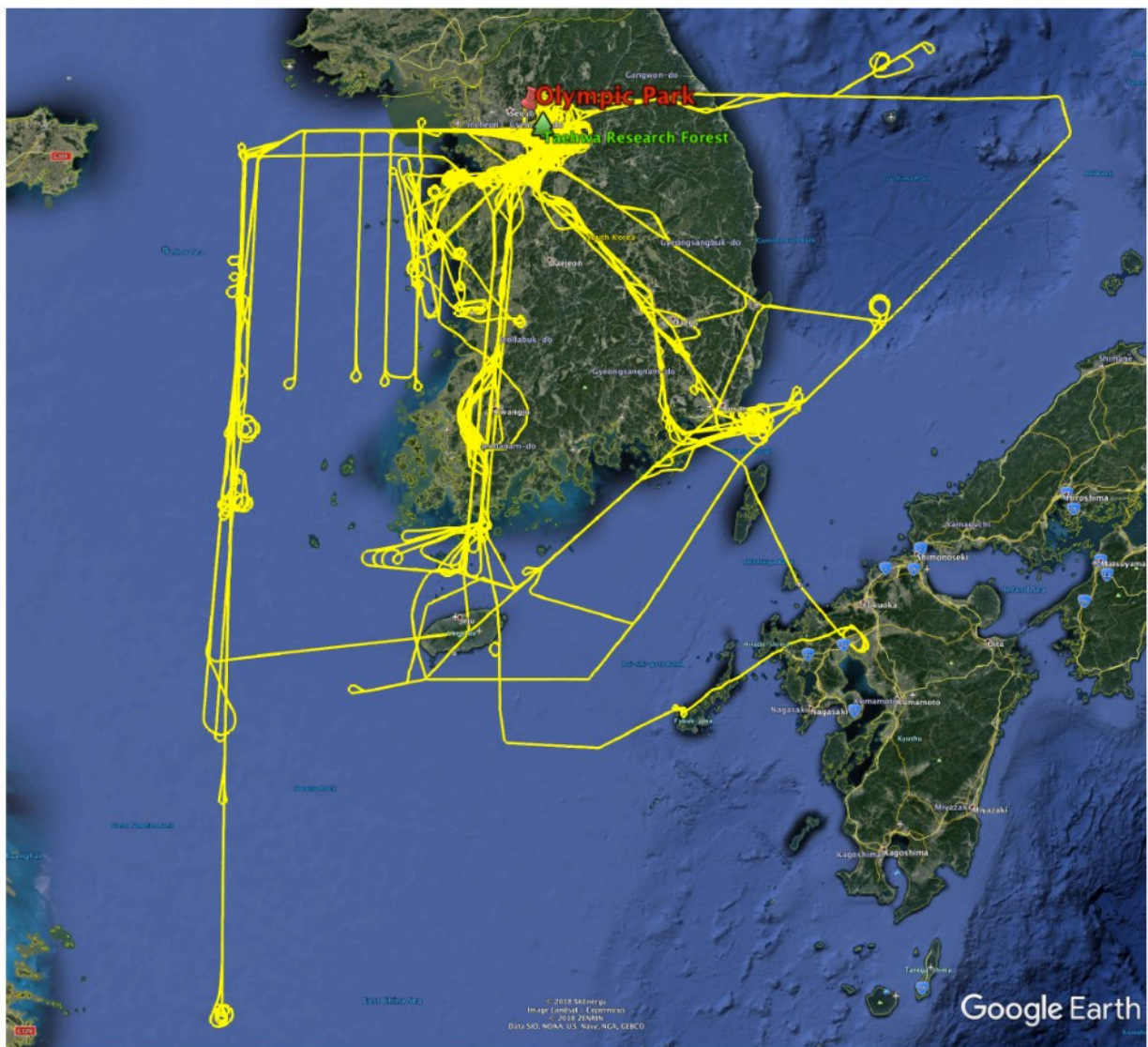


1 **Supplementary Material**

2 **The roles of suburban forest in controlling vertical trace gas and OH reactivity**
3 **distributions – a case study for Seoul Metropolitan Area, Kim et al.**
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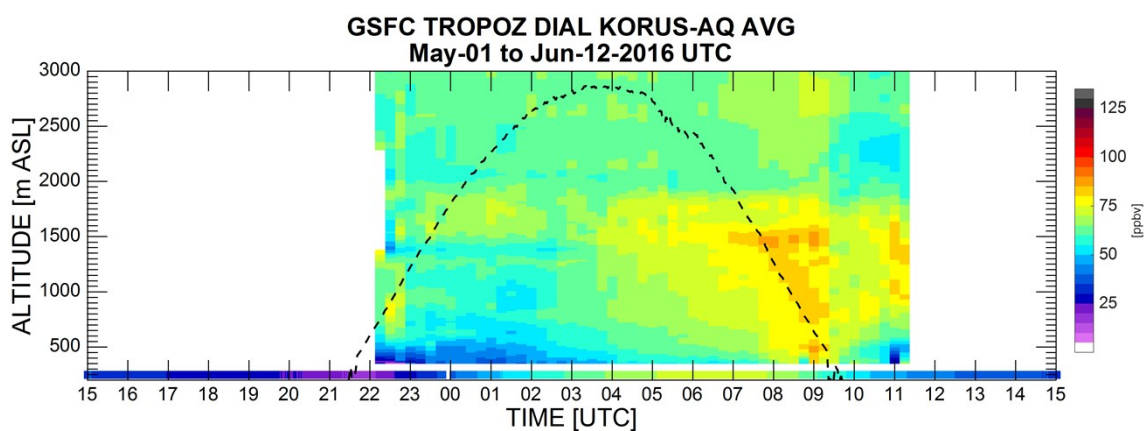
7 Figure S1. The overall flight paths of NASA DC-8 during the KORUS AQ field campaign in
8 2016 from May 1st to June 10th for 20 science flights with the nominal duration of 8 hours
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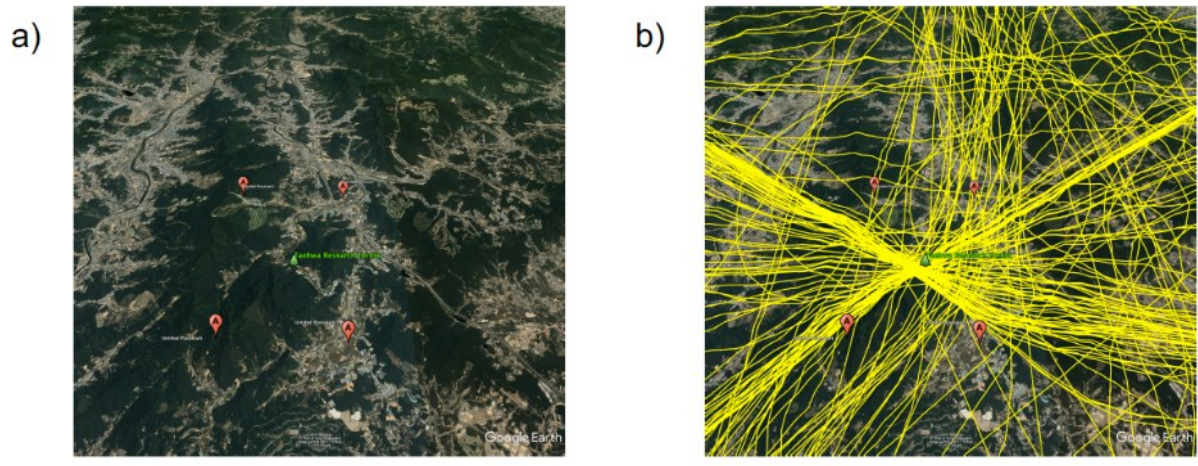
Figure S2. An averaged ozone curtain plot from the LIDAR observation, conducted at TRF during KORUS-AQ campaign (May 1st 2016 to June 12 2016). The time is UTC, which is 9 hour slower than Korean Standard Time, the local standard time (KST). Dashed line indicates the boundary layer height.



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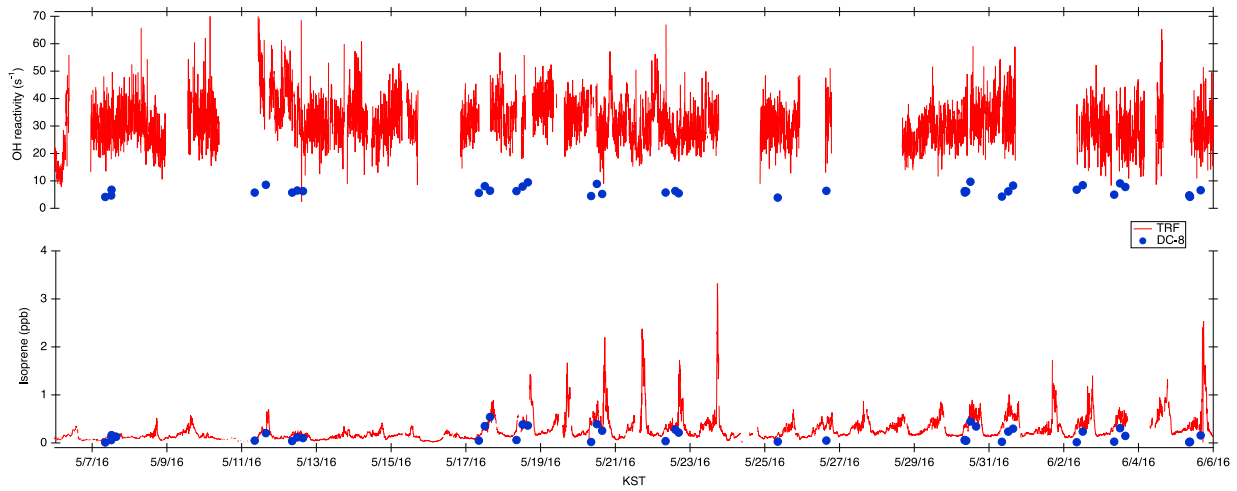
Figure S3. A data aerial filter for airborne measurements over TRF. a) the four corners of the aerial filter are illustrated as red balloons with 'A'. It is 3.6 km × 5.5 km rectangle. b) The overall flight path overlaid map shown in a).



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49 Figure S4. The temporal variations of OH reactivity and isoprene observed at TRF (red solid
50 lines) and on NASA DC-8 (blue dots) during the TRF overpass. The time is Korean Standard
51 Time (KST) local standard time.

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