

| | | | CO ₂ | CO | |
|--------------------------|---------------------------------------|--|--|---|---|
| Airborne measurements | NASA DC-8 aircraft | Instrument Time response Precision Accuracy | LI-COR 1 s < 0.1 ppmv 0.25 ppmv (Vay et al., 2003) | DACOM 1 s < 1 % or 0.1 ppbv 2 % (Warner et al., 2010) | |
| Ground site measurements | Baengnyeong (37.97° N, 124.63° E) | Instrument Data intervals | – – | Teledyne gas analyzer 1 h | |
| | Fukue (32.75° N, 128.68° E) | Instrument Data intervals | – – | Thermo 48C 1 h | |
| | Olympic Park (37.52° N, 127.12° E) | Instrument Data intervals | – – | KENTEK CO analyzer 5 min | |
| | Taehwa (37.31° N, 127.31° E) | Instrument Data intervals | LI-COR LI-7500 1 h | Thermo 48i 1 h | |
| | Yonsei (37.56° N, 126.94° E) | Instrument Data intervals | G2201-I CO ₂ /CH ₄ carbon stable isotope analyzer 30 min | – – | |
| | Ship measurements | R/V <i>Jangmok</i> | Instrument Data intervals | – – | Thermo 48i-TLE 1 min |
| | | R/V <i>Onnuri</i> | Instrument Data intervals | – – | Thermo Scientific, Inc., model 48C 1 min |
| Satellite measurements | OCO-2 | Date product | OCO-2 level 2 v7 full product XCO ₂ | – – | |
| | | Resolution | 2.25 × 1.29 km Global coverage ~ 16 days | – | |
| | | Revisit time | 13:18–13:33 LT | – | |
| | | Uncertainty | 1–2 ppm XCO ₂ (Wunch et al., 2017; Osterman et al., 2016) | – | |
| | | GOSAT | Date product Resolution Revisit time Uncertainty | Level 2 V02 10.5 × 10.5 km ~ 12 days ~13:00 LT 2 ppm for retrieval errors of XCO ₂ (Morino et al., 2011; Crisp et al., 2012; OCO-2 Science Team et al., 2015) | – – – – |
| | MOPITT | Date product Resolution | – – | TIR/NIR level 2 v6 XCO 22 × 22 km ~ 3–4 days | |
| | | Revisit time Uncertainty | – – | 10:30 LT 0.09 × 10 ¹⁸ molecules cm ⁻² for total column retrieval; (Deeter et al., 2014) | |
| | | IASI | Date product Resolution Revisit time Uncertainty | – – – – | level 2 FORLI XCO 12 km × 12 km twice a day < 13 % for FORLI (De Wachter et al., 2012) |