

	OCO	TCCON	Validation	Notable Publication
2002	OCO Project begins in ESSP Program	Concept for TCCON Developed		Yang, Z., G. C. Toon, J. S. Margolis, and P. O. Wennberg (2002), Atmospheric CO2 retrieved from ground-based near IR solar spectra, Geophysical Research Letters, 29(9), 2-5, doi:10.1029/2001GL014537. Available from: http://dx.doi.org/10.1029/2001GL014537
2004-2005	OCO Project in development	1st station in Park Falls		
2006	OCO Project in development	4 stations in network		Bösch, H., G. C. Toon, B. Sen, R. A. Washenfelder, P. O. Wennberg, M. Buchwitz, R. de Beek, J. P. Burrows, D. Crisp, M. Christi, B. J. Connor, V. Natraj, and Y. L. Yung (2006), Space-based near-infrared CO2 measurements: Testing the Orbiting Carbon Observatory retrieval algorithm and validation concept using SCIAMACHY observations over Park Falls, Wisconsin, Journal of Geophysical Research, 111(D23302), 1-17, doi:10.1029/2006JD007080.
2009	OCO Launch (failed)	12 stations	OCO/TCCON Validation Plan in Place, and what was eventually used for OCO-2 as well.	
Late 2009	After launch failure in Feb, got go ahead to rebuild	Work on increasing stations		
2010	ACOS	15 stations		Wunch, D., G. C. Toon, P. O. Wennberg, S. C. Wofsy, B. Stephens, M. L. Fisher, O. Uchino, J. B. Abshire, P. F. Bernath, S. C. Biraud, J.-F. L. Blavier, C. D. Boone, K. P. Bowman, E. V. Browell, T. Campos, B. J. Connor, B. C. Daube, N. M. Deutscher, M. Diao, J. W. Elkins, C. Gerbig, E. Gottlieb, D. W. T. Griffith, D. F. Hurst, R. Jiménez, G. Keppel-Aleks, E. A. Kort, R. Macatangay, T. Machida, H. Matsueda, F. L. Moore, I. Morino, S. Park, J. Robinson, C. M. Roehl, Y. Sawa, V. Sherlock, C. Sweeney, T. Tanaka, and M. A. Zondlo (2010), Calibration of the Total Carbon Column Observing Network using aircraft profile data, Atmospheric Measurement Techniques, 3(5), 1351-1362, doi:10.5194/amt-3-1351-2010. Available from: http://www.atmos-meas-tech.net/3/1351/2010/
2011	ACOS	Test Validation Plan	Wunch Paper	Wunch, D., G. C. Toon, J.-F. L. Blavier, R. A. Washenfelder, J. Notholt, B. J. Connor, D. W. T. Griffith, V. Sherlock, and P. O. Wennberg (2011), The total carbon column observing network, Philosophical Transactions of the Royal Society - Series A: Mathematical, Physical and Engineering Sciences, 369(1943), 2087-2112, doi:10.1098/rsta.2010.0240. Available from: http://rsta.royalsocietypublishing.o.../2087.full.pdf Wunch, D., P. O. Wennberg, G. C. Toon, B. J. Connor, B. Fisher, G. B. Osterman, C. Frankenberg, L. Mandrake, C. W. O'Dell, P. Ahonen, S. C. Biraud, R. Castano, N. Cressie, D. Crisp, N. M. Deutscher, A. Eldering, M. L. Fisher, D. W. T. Griffith, M. Gunson, P. Heikkinen, G. Keppel-Aleks, E. Kyrö, R. Lindenmaier, R. Macatangay, J. Mendonca, J. Messerschmidt, C. E. Miller, I. Morino, J. Notholt, F. A. Oyafuso, M. Rettinger, J. Robinson, C. M. Roehl, R. J. Salawitch, V. Sherlock, K. Strong, R. Sussmann, T. Tanaka, D. R. Thompson, O. Uchino, T. Warneke, and S. C. Wofsy (2011), A method for evaluating bias in global measurements of CO2 total columns from space, Atmospheric Chemistry and Physics, 11(23), 12317-12337, doi:10.5194/acp-11-12317-2011. Available from: http://www.atmos-chem-phys.net/11/12317/2011/
2014	OCO-2 Launch	22 stations	Validation Plan implemented	
2018	Extended mission	28 stations	Wunch Paper using OCO-2 data, Kiel Paper on elevation issue that pushed for v9	Matt kiel
2019	Launch of OCO-3	28 stations	Continue Validation with TCCON	