

# **NeQuick and IRI model TEC comparative evaluation in the Australian region**

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This paper details the results of a comparative evaluation of TEC output from the IRI and NeQuick ionospheric models with GPS and altimetry-derived TEC in the Australian region. We further quantify the improvement in model output when the models are driven by IPSNET-derived foF2 maps, over the standard models. Earlier results in the Australian region with the original ITU-R version of NeQuick indicated the topside thickness parameter 'k' was at times strongly overestimated. As the original formulation of 'k' was derived from measurements in the northern hemisphere, the indication was for a significant inter-hemispheric asymmetry. The most recent update to this model (NeQuick version 2) has improved the formulation in the southern hemisphere. This paper presents the results of further evaluation of this model as well as the IRI under a range of ionospheric conditions in the Australian region. Of particular interest is the relative performance of the models under storm-time conditions, and solar max.