



ACIX: Atmospheric Correction Inter-comparison Exercise

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The free and open data access policy to Sentinel-2 (S-2) and Landsat-8 (L-8) satellite imagery has stimulated the development of atmospheric correction (AC) processors for generating Bottom-of-Atmosphere (BOA) products. Several entities have started to generate (or plan to generate in the short term) BOA reflectance products at global scale for S-2 and L-8 missions. To this end, the European Space Agency (ESA) and NASA are organizing an exercise on AC processors inter-comparison. The results of the exercise are expected to point out the strengths and weaknesses, as well as communalities and discrepancies of various AC processors, in order to suggest and define ways for their further improvement.

In particular, 13 atmospheric processors from five different countries participate in ACIX with the aim to inter-compare their performance when applied to L-8 and S-2 data. A protocol describing the inter-comparison process and the test dataset, which is based on the AERONET sites, will be presented. The protocol has been defined according to what was agreed among the participants during the 1st ACIX workshop held in June 2016. It includes the comparison of aerosol optical thickness and water vapour products of the processors with the AERONET measurements. Moreover, concerning the surface reflectances, the protocol describes the inter-comparison among the processors, as well as the comparison with the MODIS surface reflectance and with a reference surface reflectance product. Such a reference product will be obtained using the AERONET characterization of the aerosol (size distribution and refractive indices) and an accurate radiative transfer code. The inter-comparison outcomes will be presented and discussed among the participants in the 2nd ACIX workshop, which will be held on 11-12 April 2017 (ESRIN/ESA). The proposed presentation is an opportunity for the user community to be informed for the first time about the ACIX results and conclusions.