E-Collaboration for Earth Observation (E-CEO): Ocean Colour Atmospheric Correction Challenge open for participation

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INTRODUCTION

Data challenges are becoming the new method to promote innovation within data-intensive applications; building or evolving user communities and potentially developing sustainable commercial services.

- Utilise the vast amount of information (both in scope and volume) that's available online

- Benefits from reduced processing costs.

The E-CEO project aims to deliver a collaborative platform that, through Data Challenges, will improve the adoption and outreach of new applications and methods to processes Earth Observation data.

Underneath, the backbone is a common environment where the applications can be developed, deployed and executed. Then, the results are published via a visualization platform for their effective evaluation and ranking.
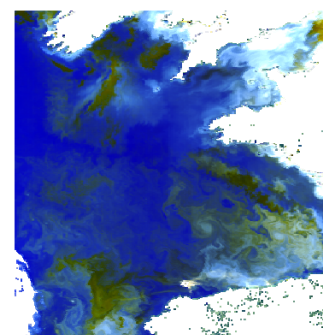
Ocean Colour Atmospheric Correction

The 3rd Challenge of the E-CEO project is based around the atmospheric correction (AC) of ocean colour data with a particular focus on the use of auxiliary data files for processing Level 1 (Top of Atmosphere calibrated radiances/reflectances) to Level 2 products (Bottom of Atmosphere calibrated radiances/reflectance and derived products).

Scientific researchers commonly accept the auxiliary inputs that they've been provided with and/or use the climatological data that accompanies the processing software; often because it can be difficult to obtain multiple data sources and convert them into a format the software accepts. Therefore, the Challenge compares various ocean colour AC approaches and in the process studies the uncertainties associated with using different meteorological auxiliary products for the processing of MERIS i.e. the sensitivity of different atmospheric correction input assumptions.

Evaluation and Ranking

Implementation Novelty: complexity, programming language, scalability and type of algorithm.

Deviation & Cross Comparison: Behaviour of retrievals in terms of comparison to in situ data (Mean Square Error, Percentage Model Bias and Pearson Correlation Coefficient) plus repeatability i.e. stability of the result.

Performance: Robustness e.g. percentages of passed versus failed pixels; memory usage and execution time.

Challenge Opens - 01 May 14

http://challenges.terradue.com/

Deadline for submission of code / algorithms - 27 Jul 14

Results released to participants – 27 Oct 14