

MISR's Joint Aerosol Product (L3JADP): A New Kind of Level 3 Dataset

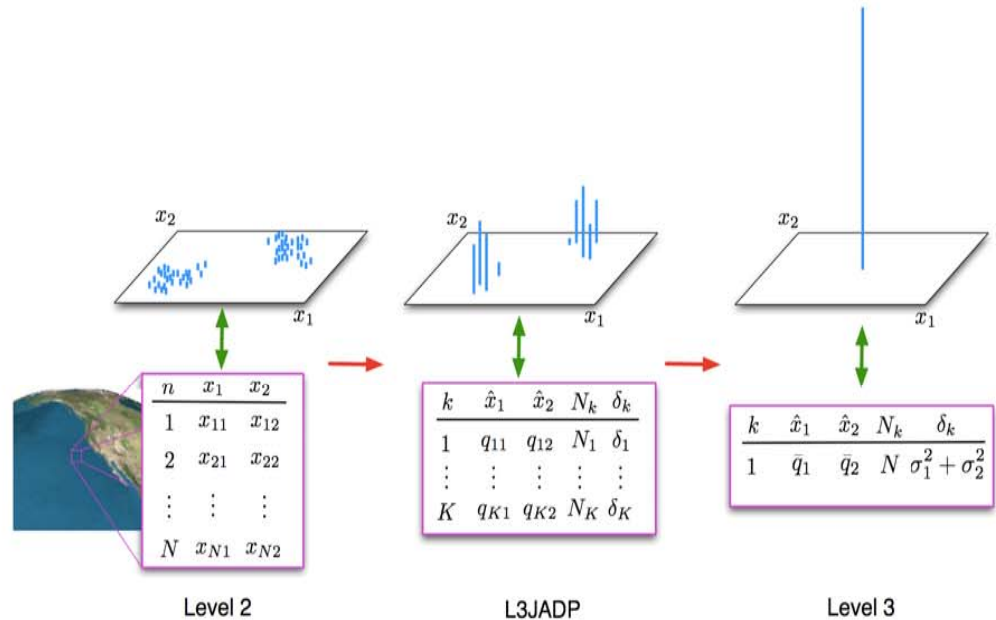
Amy Braverman (Jet Propulsion Laboratory, California Institute of Technology)

Ralph Kahn (NASA Goddard Space Flight Center)

Alex Menzies (Jet Propulsion Laboratory, California Institute of Technology)



Every MISR retrieval can be expressed as an 8-vector with components showing the amount of AOD due to 8 pure particle types. We partition these vectors by grid cell, and apply a clustering algorithm to them. We report mean vectors, counts and (traces of the) within-cluster covariance matrices for all clusters.



Two-dimensional example

Why bother? Because L3JADP approximately preserves the underlying **multivariate** statistical structure in 8-dimensional space. Computations with L3JADP approximate computations using Level 2 (with quantifiable error). For example, estimate correlation coefficients, regressions, extremes, quantiles.