

Programme - EO Summer School 3 – 2006

Michel Verstraete (JRC-IES)
Fundamentals of Remote Sensing and Direct Modelling
Information Retrieval By Explicit Inversion
Information Retrieval By Implicit Inversion
Pierre Brasseur (LEGI)
Data Assimilation Methods Based on the Kalman Filter: theoretical aspects
Data Assimilation Methods Based on the Kalman Filter: oceanographic applications
Data Assimilation Methods Based on the Kalman Filter: operational implementations
Olivier Talagrand (LMD)
Data Assimilation. Basic Principles
The variational approach to data assimilation
Advanced variational assimilation
Bob Scholes (CSIR)
Modelling emissions from vegetation wildfires
Desertification monitoring
Observation systems for biodiversity
David Barber (University of Manitoba)
Principles of remote sensing in polar regions
Geophysical and thermodynamic properties of snow covered sea ice
Integration - microwave remote sensing & numerical process models of ocean-sea ice-atmosphere
Jean-Noël Thépaut (ECMWF)
Use of Satellite Observations in Operational Numerical Weather Prediction (NWP)
Future Opportunities and Challenges in Satellite Data Assimilation for NWP
Reanalysis
Richard Rood (University of Michigan)
Physical Consistency of Climate Modeling and Data Assimilation
Assimilation of Atmospheric Trace Constituents
Use of model information in climate data sets
Bob Su (ITC)
Surface Energy Balance System and Evaporation/transpiration
Microwave Remote Sensing of Soil Moisture
Earth Observation of Water Cycle and Applications in Drought Monitoring and Prediction

Keith Haines (NERC-ESSC)
Inverse Modelling in Oceanography for Water Mass Tracking
Assimilation of T&S and Gravity Data into Ocean Models
New Technology for Data Distribution & Integration
Filippo Giorgi (ICTP)
Climate Modeling: from the Global to the Regional Scale
Modeling the Effects of Modeling Atmospheric Aerosols on Climate
Climate Change Prediction
Hartmut Grassl (Max-Planck-Institut)
Earth Explorers and Scientific Challenges
Andy Shepherd (University of Edinburgh)
Satellite Radar: 21st century glaciology
Abrupt climate change: why did Larsen Ice Shelf collapse?
Pine Island Glacier: did we solve the problem?
Pierre-Philippe Mathieu (ESA)
Introduction

Practicals

Remote Sensing Tutorial (Bilko)
Val Byfield, Doug McNeall and David Poulter (NOC)
Synergistic use of altimetry and sea surface temperature (SST) measurements (AATSR) to study ocean eddies
Productivity of coastal upwelling systems from MERIS, AATSR and other sensors
Medspiration: Precise mediterranean sea surface temperatures from multiple satellite sources
Cloud clearing in surface temperature images

Data Assimilation Tutorial (http://darc.nerc.ac.uk/models)
Stefano Migliorini and Amos Lawless (DARC)
Effect of Statistical Analysis Parameters
Data Assimilation Practicals