- All Actions
- Biomedicine and Molecular Biosciences (BMBS)
- Chemistry and Molecular Sciences and Technologies (CMST)
- **Earth System Science and Environmental Management (ESSEM)**
  - In Detail
  - **Actions**
  - Restricted Area
- Food and Agriculture (FA)
- Forests, their Products and Services (FPS)
- Individuals, Societies, Cultures and Health (ISCH)
- Information and Communication Technologies (ICT)
- Materials, Physics and Nanosciences (MPNS)
- Transport and Urban Development (TUD)
- Trans-Domain Proposals

ESSEM COST Action 720

Integrated ground-based remote sensing stations for atmospheric profiling

Descriptions are provided by the Actions directly via e-COST.

The main objective of the action was the development and assessment of cost-effective integrated ground-based remote-sensing stations for atmospheric profiling. Assessments measure the usefulness of the stations for meteorological analysis and forecasting, as well as climate research and climate monitoring. Integrated remote-sensing stations can be used for synoptic-scale numerical weather prediction (NWP), mesoscale NWP, boundary-layer research, air-polution monitoring, and air-traffic control. For most types of use, the full benefit of these stations can only be obtained by establishing international networks. Ground-based remote-sensing techniques compliment existing measurement techniques using satellites, commercial aircraft and radiosondes. Essential for the success of the Action were the datasets provided by a number of international field experiments. Increasing collaboration and mutual understanding of single sensor experts throughout Europe during the Action was seen. Improved networking, also with other ongoing programmes, was emphasized by this Action, strongly contributing to the development of techniques for integrated multi-sensor measurements of high resolution atmospheric profiles in Europe. Another important more abstract result was the fruitful exchange of ideas between researchers with data assimilation experts from the NWP world. During this Action, valuable datasets were produced through various field campaigns: TUC (Payerne), LAUNCH (Lindenberg), CSIP (Southers UK), testbed campaigns (Helsinki) and WMO radiosonde intercomparison (Vacoas). Results and analysis of the TUC field experiment were published in a special issue of Meteorologische Zeitschrift. This Action made important contributions to the development of techniques for integrated profiling systems, assessment of assimilation techniques for humidity and cloud profiles, impact studies on ground-based networks of high-resolution profiling stations and a proposal for a BUFR code for integrated profiling stations.

Earth System Science and Environmental Management COST Action 720

- **Description**
- Parties
- Management Committee

General Information*

Chair of the Action:
Dr Wim A. MONNA (NL)

Vice Chair of the Action:
Dr Dirk ENGELBART (DE)

DC Rapporteurs:
Mr Dick BLAAUBOER (NL)

Science officer of the Action:
Dr Basak KISAKUREK

Administrative officer of the Action:
Chandrasa SJAMSUDIN

Downloads*

Action Fact Sheet
Download AFS as .RTF

Memorandum of Understanding
Download MoU as PDF

Evaluation Report
Download Evaluation Report as PDF

Websites*

Action website:
http://www.cost720.rl.ac.uk/

Domain website:
http://www.cost.eu/essem

* powered by e-COST

Publications

- Meteorologische Zeitschrift (Vol. 15, 2006, N°1) - Special Issue COST 720 TUC
- Integrated Ground-Based Remote-Sensing Stations for Atmospheric Profiling

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