

## MINUTES OF CLOUD-NET KICK-OFF MEETING

9 May 2001, Buys Ballot Room, KNMI, The Netherlands.

Present: Jacques Pelon (IPSL), Andre van Lammeren (KNMI), David Donovan (KNMI), Sander Tijm (KNMI), John Goddard (RCRU), David Gregory (Met Office), Herman Russchenberg (TUD), Robin Hogan (U of Reading), Anthony Illingworth (U of Reading - co-ordinator.)

By invitation : Suzanne Crewell (U of Bonn) and various members of KNMI.

1. A.I. summarised the project objectives and deliverables. The first deliverable was the four page project publicity brochure.

Action 1.1. RH to modify the cloud net logo to incorporate a conceptual remote sensing pulse traversing the cloud with the superposed net.

Action 1.2 AL to supply suitable electronic image of Cabauw site.

1.3 HR ditto for Tara radar

1.4 JG ditto for Chilbolton site

1.5 JP ditto for Palaiseau site.

1.6 DD to supply figure of lidar-radar retrievals of IWC versus Re for various T for the ARM data.

1.7 ALL - supply any appropriate example data/retrievals for brochure.

1.8 AI - compose text for brochure to be circulated to all.

2. Presentation on the three sites and the instrumentation were then given by:

AL - Cabauw (plus HM for the Cabauw radar).

JG - Chilbolton

JP - Palaiseau.

The second Cloudnet deliverable is a report on the kick-off workshop. This will include a four page summary of the instruments at each site and a timetable for the proposed two year observation period, and the status of the instruments: i.e. whether they are core instruments of those providing ancillary data. available or extra.

Action 2.1 AL and HR - supply summary of Cabauw instrumentation: 3 and 35GHz radar, ceilometer, IR and microwave (on loan) radiometers.

Action 2.2 JG - summary of Chilbolton instrumentation 3, and 94GHz radar, (35GHz from mid-2002) ceilometer, radiometers, broad band vis and ir fluxes, and occasional periods of use of 355um uv lidar.

Action 2.3 JP - summary of Palaiseau instruments including 94 and 5GHz radar and polarimetric lidar at 1.06 and 534 nm.

As specified in the contract the intensive observing period is to run from 1 October 2001 for two years to 30 September 2003 for a minimum of one week per month. It was agreed that Cabauw and Chilbolton would normally be in operation 24hours a day 7 days a week during this period. There was some uncertainty over the operation of Palaiseau as the cloud radar has just been delivered.

ACTION 2.4 JP. Urgent discussions are needed to establish the timetable for the intensive observing period. Initially, only Monday and Thursdays during working hours may be achieved, but the precise arrangements must be established as soon as possible.

3. The characteristics of the operational models were presented for the Met Office (DG), Meteo-France (JP), ECMWF (reported by AI) and KNMI (ST).

ACTION 3.1 The above to produce a two-to-four page summary of the overall characteristics of each model (ECMWF will supply their summary). This should include the basic resolution in space and time, the domain and forecast times, and a summary of the cloud variables, together with enhancements expected in the forthcoming two year period to 30 September 2003.

ACTION 3.2 For each model ensure that a method is in place by 1 October 2001 for archiving the cloud and model variables above the three observational sites.

Chilbolton 51.1445N -1.4370E: {Palaiseau 48.42N 2.16E Cabauw 51o58'N 4o55' }.

AL to ensure that Palaiseau is included in the X-HIRLAM KNMI model.

AL to confirm Cabauw co-ordinates.

JP to confirm Palaiseau co-ordinates.

KNMI and Meteo-France to liaise with UR re formats - see Action 7.3.

4. RH gave a short presentation of comparisons of cloud cover and fractional cloud for the grid box above Chilbolton with the ECWMF and Met Office model over the past 2-3 years. DD gave a presentation on the values of retrieved ice particle size as a function of IWC and T from the ARM data.

ACTION 4.1 RH and DD to supply suitable figures for the publicity brochure.

5. Discussion of possible concerted action.

Action 5.1 AL to email various appropriate groups concerning the potential area of cloud resolving model evaluation and the GCSS of GEWEX.

6. Users Advisory Group. This will consist of a representative of the three models being evaluated plus Vaisala representing the manufacturers.

ACTION 6.1 AL to contact Degreanne - manufacturer of the KNMI 35ghz cloud radar as a potential member of this group.

7. Archiving and web site.

It was agreed that a web based archive of the observational data set be set up at each site.

There would be a link to these sites at the main cloudnet web site hosted by UR.

The data format should be net cdf, but for smaller sets ASCII plus a 'sensible' header is acceptable.

ACTION 7.1 KNMI, IPSL and RCRU to set up these sites and liaise with UR for the links.

ACTION 7.2. UR will arrange to archive the data from the four models at the host web site at UR. This is already being done for Chilbolton for the ECMWF (since July 00) and Met Office (since Oct/Nov 00) models. The suggested variables to be archived every hour would be:

Time, height. Wind velocity components u,v,w,

Thermodynamics T, p, q Rel humidity (w.r.t ice and liquid).  
Cloud Properties IWC, LWC, fraction.  
Fluxes between levels: upwelling and downwelling LW and SW,  
ice and liquid water fluxes.  
Surface/single level fields - albedo, rainfall rate (surface) P, T.  
94ghz attenuation from humidity and temperature profile.

#### ACTION 7.3

Meteo-France and KNMI to define their variables, data formats and to liaise with UR over the supply of the model data.

8. Discussion of work package WP1 - Exploitation of existing cloud data sets. The following actions were agreed and should be completed in time for the first workshop to be held in 19-20 November 2001.

ACTION 8.1 A short page of documentation summarising the data set and means of access to the data to be provided by the following by the end of June 2001:

CLARA: KNMI

CLARE 98: UR

CLOUD CHARACTERISTICS - UR

CARL: IPSL

ARM: KNMI.

CARL-2: IPSL

CLIWA-NET: KNMI.

ACTION 8.2 The following actions for analysis were agreed to be reported upon for the first workshop to be held 19-20 November 2001 at U of Reading:

TUD - liquid water content from CLARA and CLARE 98.

UR Mixed phase cloud analysis of CLARE 98 data; Aircraft validation of Z.

KNMI : Radar/lidar retrievals of ice size from CLARE 98.

UR: Cloud fraction/overlap and IWC from Cloud characteristics.

IPSL: Radar/lidar particle size + in-situ validation from CARL.

9. Discussion of Work Package 3 - Development of Retrieval Algorithms.

This work will not start until after the next workshop. The description in the original proposal was reviewed and the following responsibilities were confirmed:

i) Macrophysical cloud properties - cloud fraction, overlap and subgrid scale variability - UR.

ii) Liquid water cloud and variability of liquid water:

Liquid water content - radiometer and radar RCRU.

- differential attenuation - UR

number concentration - radar/lidar and multiple scattering KNMI/TUD.

Optical depth and emissivity - KNMI.

iii) Ice Cloud

Radar/lidar - ice particle size IPSL/KNMI.

Dual wavelength sizing plus Doppler spectra - UR/RDRU.

Optical depth via lidar molecular return - IPSL.

Optical depth via radar/lidar - KNMI/IPSL.

Emissivity from IR temp and lidar KNMI/IPSL.

Particle shape - TUD from differential Doppler velocity

- IPSL from polarisation lidar.

- UR/RCRU from ZDR at 45 deg elevation.

iv) Mixed Phase cloud.

Phase discrimination from radar/lidar and ZDR- UR.

Phase discrimination - IPSL.

Liquid water content - TUD

10 Discussion of work package 4 - comparison with models will start in January 2002.

The tasks in the original proposal were reviewed and confirmed as follows:

i) macroscopic variables - fraction and overlap UR

ii) LWC - UR,RCRU,TUD, UKMO.

iii) IWC and variability - UR, ISL, KNMI, UKMO.

iv) Mixed phase clouds - UR, IPSL, TUD.

11. Timetable.

The publicity brochure and the workshop report must be delivered by the end of July.

Accordingly, actions 1 to 6 must be completed by the end of June.

The other actions should be completed before the first workshop where the first results will be discussed. This will take place in Reading on 19-20 November 2001.

This document was created with Win2PDF available at <http://www.daneprairie.com>.  
The unregistered version of Win2PDF is for evaluation or non-commercial use only.