



DNMI

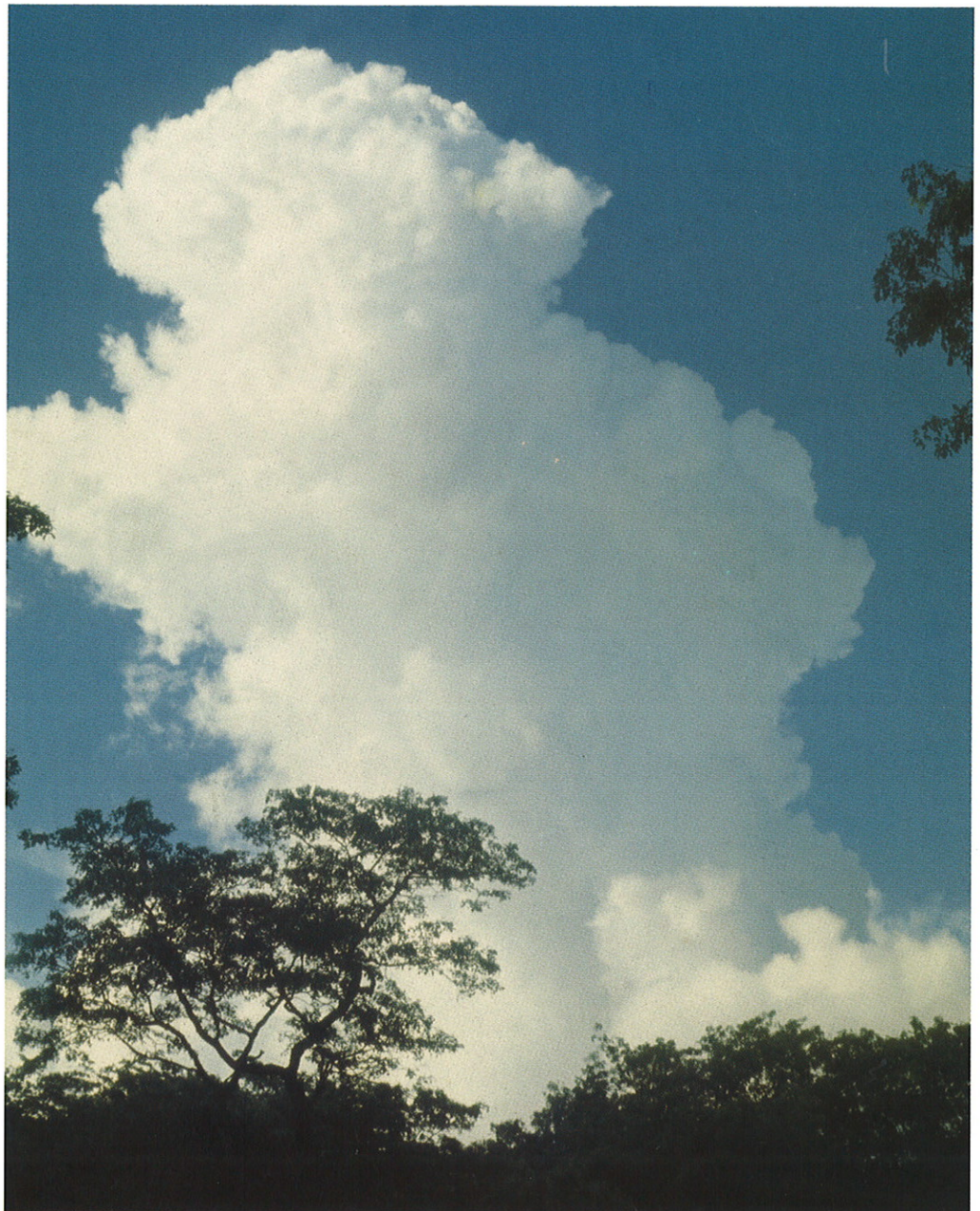
Det norske meteorologiske institutt

Report no. 09/99

KLIMA

A guide to the **KLIBAS** document trail 1991-1999

Petter Øgland



DNMI - REPORT

ISSN 0805-9918

NORWEGIAN METEOROLOGICAL INSTITUTE
BOX 43 BLINDERN N-0313 OSLO

REPORT NO.

09/99 KLIMA

DATE

Mar 3 1999

PHONE: +47 22 96 30 00

TITLE

A GUIDE TO THE KLIBAS DOCUMENT TRAIL 1991-1999

AUTHOR

Petter Øgland

PROJECT CONTRACTOR

DNMI - Climatology Division / NORDKLIM

SUMMARY

This is a complete listing and summary of all official publications related to the KLIBAS climatological database system at DNMI from 1991 to 1999.

The total number of publications is 365, made up of 22 DNMI-KLIMA reports, 245 DNMI-KLIBAS reports and 98 DNMI-KLIBAS notes. The DNMI-KLIMA reports are available from the National Library, the other publications have to be ordered from DNMI/Klima.

KEYWORDS

1. Climatological databases
2. Meteorological data collection
3. Meteorological quality control
4. KLIBAS

SIGNATURE


.....
Petter Øgland

Research Scientist


.....
Bjørn Aune

Head of Climatology Division

DNMI-KLIMA PUBLICATIONS

All the publications listed below are official documents published by the Norwegian Meteorological Institute (DNMI) and are available at the National Library.

1. Database/maskin prosjektet i Klimaavdelingen 1990-1991. Informasjonsmodell, flagging og kontroller. Status pr 30.06.91

Report no. 32/91 KLIMA, DNMI, Oslo, July 1991. (25 pages)

Summary: This first status report for the KLIBAS climatological database system describes systems for handling meteorological observations and information on meteorological observations, meta data. The meta data database system is described in detail, in case of the meteorological database, several solutions are sketched. The need for quality flags in the data sets is furthermore discussed.

Written by: M. Moe, K.A. Iden, P.O. Kjensli, S. Kristiansen, S.L. Lystad, B. Nordin, Å.M. Vidal, T. Aasen

2. Programmer TS-BRUDD, TS-AUTO, TS-KRSRT

Report no. 33/91 KLIMA, DNMI, Oslo, August 1991. (20 pages)

Summary: Statistical programs. IS-BRUDD is used for localising missing data within the time series and other series in the DNMI precipitation data tables. IS-AUTO is used for computing the autocorrelation coefficient for monthly, annual and seasonal precipitation. IS-KRSRT is used for cross sorting precipitation and air temperature, producing a matrix file.

Written by: Th. Skaugen

3. Etablering av valgt datastruktur på Typhoon. Delprosjekt 3

Report no. 40/92 KLIMA, DNMI, Oslo, October 1992. (62 pages)

Summary: In order to establish a new climatological database system at DNMI, a project consisting of 7 subprojects were run. The report contains specifications and results from project no. 3 which was given the responsibility of designing suitable data structures within the relational database system paradigm. The report contains specifications and suggestions on how to structure the datatables and designs from project no. 2 (KLIMA-report no. 42/92) into a system. Specifications are given on how to implement the data structure on the DNMI SGI database computer Typhoon. The report also contains results from implementation tests.

Written by: Å.M. Vidal, S.L. Lystad, M. Moe, P. Øgland

4. Utarbeiding og testing av ulike datastruktur på Typhoon. Delprosjekt 2

Report no. 42/92 KLIMA, DNMI, Oslo, November 1992. (102 pages)

Summary: This report contains the results from the termination of the second of the seven subprojects that made up the project for designing and implementing a new climatological database system at DNMI. The report contains specifications of tests and design of data tables that ended up as input to project 3 (KLIMA-report no. 40/92).

Written by: K.A. Iden, P.O. Kjensli, S. Kristiansen, S.L. Lystad, M. Moe, B. Nordin, Å.M. Vidal, T. Aasen, P. Øgland

5. Standarder for systemutvikling. Delprosjekt 4

Report no. 44/92 KLIMA, DNMI, Oslo, November 1992. (23 pages)

Summary: The report contains standards for system development at the Climatology Division. Standards include programming, user interfaces, computer interfaces, documentation.

Written by: B. Nordin, M. Moe, K.A. Iden, P.O. Kjensli

6. Kvalitetsstyring for prosjektarbeid. Delprosjekt 5

Report no. 45/92 KLIMA, DNMI, Oslo, November 1992. (18 pages)

Summary: The report gives a quality plan for the KLIBAS database project based on Norsk Standard for quality systems, the NS-ISO 9000 series. The quality plan defines two tools to manage quality: 1) the

quality handbook and 2) internal quality revision.

Written by: P.O. Kjensli, M. Moe

7. Databaseprosjektet i Klimaavdelingen. Status pr 23.12.1992

Report no. 53/92 KLIMA, DNMI, Oslo, December 1992. (22 pages)

Summary: The status report documents how projects nos. 1-6 of the seven database projects in the first phase (specifications phase) of the DNMI climatological database project have succeeded, subproject no. 7, data safety and backup systems, being the only one not finished. The reports gives a popular summary of the results and suggestions on the seconds phase, the implementation phase.

Written by: K.A. Iden, P.O. Kjensli, S.L. Lystad, M. Moe, B. Nordin, Å.M. Vidal, T. Aasen, P. Øgland

8. Sikkerhetsrutiner. Delprosjekt 7.8

Report no. 08/93 KLIMA, DNMI, Oslo, March 1993. (19 pages)

Summary: The report documents research and tests having to do with procedures for source code backup, data structure backup, and other security measures. Several methods are discussed, advise given on which methods being the most preferable.

Written by: T. Aasen

9. Theoretical Analysis of the Dip-Test in Quality Control of Geophysical Observations

Report no. 24/93 KLIMA, DNMI, Oslo, June 1993. (18 pages)

Summary: The dip test is a time consistency test for identifying errors in meteorological data series with one hour sampling rate. In this report the dip test used by the Aanderaa Instruments quality control software package is analysed, and found to be one of several possible dip tests in a family of such tests. The test is not optimal, however, and a different type of dip test is suggested future quality control by use of dip tests.

Written by: P. Øgland

10. A Method of Weighted Linear Estimation Applied to Quality Control of Precipitation Values

Report no. 42/93 KLIMA, DNMI, Oslo, December 1993. (55 pages)

Summary: The report contains an analysis of the KVALM/KVALU method of spacial quality control of daily precipitation. The method is based on weighted linear estimation, and by adding a statistical factor it is shown how the standard errors may be reduced by about 20%. The problem of embedding the weighted linear estimators in a quality control system is discussed, adding some ideas for further development and results from numerical experiments.

Written by: P. Øgland

11. Kvalitetskontroll av automatstasjonsdata februar 1995

Report no. 12/95 KLIMA, DNMI, Oslo, March 1995. (40 pages)

Summary: Error statistics for automatic weather stations (AWS) during February 1995 is presented. The method and statistics are given in a manner in order to produce monthly reports on AWS quality as input for instrument service and setting priority lists for inspections and error handling.

Written by: P. Øgland

12. KLIBAS - The DNMI Climatological Database System

Report no. 22/95 KLIMA, DNMI, Oslo, May 1995. (37 pages)

Summary: The report describes the design and experience with the KLIBAS climatological database system at DNMI from 1990 to 1995. Medio 1995 the KLIBAS database system contains observations and applications for the daily precipitation processing routine. Historical observations for manual and automatic weather stations, maritime stations, upper air sounding stations and other types of stations are being migrated to KLIBAS. Applications for producing precipitation statistics have been developed. Work

continues on developing data processing routines and statistical applications for other types of stations. The size of the database is estimated to be about 12 gigabyte with annual increase of about 400 megabyte pr year.

Written by: M. Moe

13. Evaluation of a meteorological radial interpolation method by statistical experiments

Report no. 23/97 KLIMA, ISSN 0805-9918, DNMI, Oslo, October 1997. (39 pages)

Summary: A statistical experiment was conducted in order to evaluate the first method implemented for estimation in the program INTERPOL2. The method is a variation on estimation by radial basis functions, and is applied for interpolation of air temperature, air pressure, relative humidity, cloud cover and precipitation. A statistical method is used for reducing the bias of the estimators.

Written by: P. Øgland

14. Evaluation of a double exponential correlation weighted interpolation method by statistical experiments

Report no. 25/97 KLIMA, ISSN 0805-9918, DNMI, Oslo, November 1997. (33 pages)

Summary: As a consequence of the results generated from the first evaluation of the estimates in INTERPOL2, the program was modified and a new statistical test was carried out. The new method left the concept of radial basis functions in order to focus on a pure statistical approach, using correlation values between close distance stations as weights for a weighted average estimator. Evaluation statistics show the new method better than the old one.

Written by: P. Øgland

15. Kvalitetssikring av meteorologiske observasjonsdata

Report no. 06/98 KLIMA, ISSN 0805-9918, DNMI, Oslo, January 1998. (12 pages)

Summary: The report documents the need for meteorological competence when quality processing meteorological observations. Systematic data processing and quality control on weekly and monthly basis may still not generate high quality data series as have been shown in inhomogeneous data series. The report contains examples which illustrate the importance of qualified supervision of the data processing.

Written by: L. Andresen, P.O. Kjensli, E. Førland, I. Hanssen-Bauer, K. Harstveit, S.L. Lystad, P.Ø. Nordli

16. The TELE/SYNOP Climatological Database System

Report no. 07/98 KLIMA, ISSN 0805-9918, DNMI, Oslo, January 1998. (11 pages)

Summary: The report gives an overview of the TELE/SYNOP system with respect to performance, quality and system development per January 1998.

Written by: P. Øgland

17. KLIBAS research notes volume 1

Report no. 01/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, January 1999. (26 pages)

Summary: Eight research notes dating from November and December 1998 are presented. All notes are related to ongoing research and development of the KLIBAS climatological database system.

Written by: P. Øgland

18. Comparison results for the new Glomfjord automatic station versus the present manually run station

Report no. 04/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, January 1999. (20 pages)

Summary: An automatic station was established 19 September 1997 at the same site as a manual station dating from 1916. The reason for automation was to turn a more cost effective system than the manual station. Thus, the intention is to close the manual station as soon as the automatic station has proved to

give sufficient data quality. Evaluating the automatic station revealed problems with temperature and snow depth sensors which should be corrected before terminating the manual station. Furthermore, for precipitation comparison a longer period of parallel run of the stations is needed.

Written by: P.Ø. Nordli, P. Øgland

19. KLIBAS research notes volume 2

Report no. 06/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, February 1999. (35 pages)

Summary: Eleven research notes dating from January 1999 are presented. All notes are related to ongoing research and development of the KLIBAS climatological database, splitting into five categories of general plans for research and development of the quality control systems in the KLIBAS climatological database systems, automatic weather stations (AWS), the XVIND automatic weather stations (VIND_REG), The TELE data processing routine and software management.

Written by: P. Øgland

20. PIO STASJONER. Status februar 1999

Report no. 07/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, February 1999. (18 pages)

Summary: Personal computers have been used on observation sites since the autumn of 1997. At present there are 13 such PIO stations operating within the DNMI meteorological station network. Changes in the version 5 of the PIO software are now to be done. There may be capacity for another 20 PIO stations in the system before the end of 1999. The report contains administrative and economical analyses.

Written by: M. Moe

21. KLIBAS research notes volume 3

Report no. 08/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, March 1999. (44 pages)

Summary: Sixteen research notes were written during February 1999, referring to seven distinct areas of KLIBAS database research; updates and preparations in order to migrate the current KLIBAS database system from the Oracle7 database on SGI-gale onto the Oracle8 database system on SGI-thunder, quality control in the ALV data processing routine, the XVIND automatic weather stations (VIND_REG), the TELE data processing routine, the PIO data processing routine, the automatic weather stations (AWS) and the ALN data processing routine.

Written by: P. Øgland

22. A guide to the KLIBAS document trail 1991-1999

Report no. 09/99 KLIMA, ISSN 0805-9918, DNMI, Oslo, March 1999. (51 pages)

Summary: This is a complete listing and summary of all official publications related to the KLIBAS climatological system at DNMI from 1991 to the present date. The total number of publications is 365, made up of 22 DNMI-KLIMA reports, 245 DNMI-KLIBAS reports and 98 DNMI-KLIBAS notes. The DNMI-KLIMA reports are available from the National Library, the other publications have to be ordered from DNMI/Klima.

Written by: P. Øgland

DNMI-KLIBAS REPORTS

The KLIBAS documents is a series of reports containing software documentation, routine descriptions, project plans, partial results and other information describing the climatological database system KLIBAS at DNMI and related issues. The reports are available by request to DNMI/Klima.

1. Kontroll av data - spesifikasjonsrapport

Report no. 01/93 KLIBAS, DNMI, Oslo, May 1993. (42 pages)

Summary: The report gives specifications for a structured approach to quality control for the KLIBAS database system. The system is constructed by modules, quality control of precipitation observations and quality flags are given special attention.

Written by: P.O. Kjensli, S.L. Lystad, P. Øgland

2. Data ut - spesifikasjonsrapport

Report no. 02/93 KLIBAS, DNMI, Oslo, June 1993. (73 pages)

Summary: Present dataflow is first discussed. Data collection and dataflow for the KLIBAS system is then specified. The specified systems include reading from files, digital forms for entering meteorological data and different types of data formats. Computers, network software and end-user consequences are discussed.

Written by: M. Moe, B. Nordin, K.A. Iden, T. Aasen, P. Øgland

3. Utskrifter av nedbørdata fra arbeidslager

Report no. 03/93 KLIBAS, DNMI, Oslo, December 1993. (28 pages)

Summary: Manual quality control of daily precipitation observations are based on station times day matrix printings daily precipitation. This report contains a description of the programs RRUTM, SSUTM and RRSSU used for weekly and monthly overviews of precipitation data.

Written by: P. Øgland

4. Data inn - spesifikasjonsrapport

Report no. 01/94 KLIBAS, DNMI, Oslo, January 1994. (139 pages)

Summary: Present dataflow is first discussed. Data collection and dataflow for the KLIBAS system is then specified. The specified systems include reading from files, digital forms for entering meteorological data and different types of data formats. Computers, network software and end-user consequences are discussed.

Written by: T. Aasen, Å.M. Vidal, P. Øgland

5. Overføring av nedbørdata fra arbeidslager til hovedlager

Report no. 02/94 KLIBAS, DNMI, Oslo, January 1994. (65 pages)

Summary: According to specifications in KLIMA-report no. 40/92, there should be an immediate update of data from main storage data tables to temporary data tables in the KLIBAS database system. This report contains a description of the OPDAT data transfer system made up of programs HLINIT, KONAL, INIHL, AL2HLA, SEKOP and CREHL, programs specifically designed for the daily precipitation data processing routine.

Written by: P.O. Kjensli, P. Øgland

6. Databaseprosjektet i Klimaavdelingen. Status pr 31.12.1993

Report no. 03/94 KLIBAS, DNMI, Oslo, January 1994. (26 pages)

Summary: During the first half of 1993 resources was spent on writing specifications for the KLIBAS database system. During the second half of 1993 the daily precipitation data processing system was implemented according to specifications and the precipitation database on ND-788 was duplicated to SGI Typhoon.

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

7. Overføring av nedbørdata fra Typhoon til ND-788

Report no. 04/94 KLIBAS, DNMI, Oslo, January 1994. (38 pages)

Summary: In order to run the daily precipitation data processing routine in parallel both on the ND-788 and SGI computers, special applications have to be developed. This report documents the programs TILNORD, TILNORDD and RETURN for transferring precipitation data between the computers.

Written by: T. Aasen, E. Borvik, P. Øgland

8. Innlasting av synoptiske data til arbeidslager

Report no. 05/94 KLIBAS, DNMI, Oslo, February 1994. (106 pages)

Summary: In order to produce weekly up to date statistics for certain weather stations, fresh observations need to be inserted into the KLIBAS database system. A program SYNO_INN v.1.0 (FIFOfeed + FIFOread) has been implemented in order to read syno-files on SGI computer Tornado into Oracle datatable SYNOP every hour at 00:00, 01:00, ..., 23:00 UTC.

Written by: P. Øgland

9. VSUKE, NSUKE og VSDUMP: Datautskrifter fra arbeidslager

Report no. 06/94 KLIBAS, DNMI, Oslo, March 1994. (67 pages)

Summary: Programs VSUKE, NSUKE and VSDUMP have been designed for producing weekly weather statistics based on datatables containing up to date weather observations and daily precipitation observations in the KLIBAS database system.

Written by: P. Øgland

10. Romkontroll for nedbørstasjoner over et statisk referansenettverk

Report no. 07/94 KLIBAS, DNMI, Oslo, April 1994. (34 pages)

Summary: The quality control program ROMRR is designed for areal check and is made for comparing and checking groups of precipitation observations week by week. Actual adjustment of data is to be performed manually.

Written by: P. Øgland

11. Første versjon av ut-applikasjoner: MNOVS, DAGUT, FLAT, EKSMN, DAGFF, RRMNDSUM

Report no. 08/94 KLIBAS, DNMI, Oslo, April 1994. (173 pages)

Summary: The statistical applications described in the report are Pro*C/Pro*Fortran programs based on earlier versions programmed in SQL*Plus/PL*SQL. The content of the report is source code, description of arguments, program interfaces and example of output. The programs are made to work in a client/server environment.

Written by: T. Aasen

12. Omlegging av EDB-rutiner for Aanderaa-stasjoner: Spesifikasjonsrapport

Report no. 09/94 KLIBAS, DNMI, Oslo, April 1994. (20 pages)

Summary: The report contains a plan on how to migrate the data processing routine for non-realtime automatic weather stations (Aanderaa) from the ND system to the KLIBAS climatological database system on the SGI computer.

Written by: P.Ø. Nordli, P. Øgland

13. Databaseprosjektet i Klimaavdelingen. KLIBAS systemoversikt-applikasjoner. Teknisk løsning, systemoversikt, meny, aksessrettigheter, brukerdiallog, applikasjonsarkitektur.

Report no. 10/94 KLIBAS, DNMI, Oslo, April 1994. (30 pages)

Summary: The report gives a technical systems overview for KLIBAS. The client-server architecture is

described, and so are the main data tables. The access control system is then discussed, explaining how the menu system works. User dialogue is handled via SQL*Menu and SQL*Forms.

Written by: M. Moe

14. Utveksling av værstasjonsdata i SUPEROBS-format

Report no. 11/94 KLIBAS, DNMI, Oslo, April 1994. (30 pages)

Summary: The SUPEROBS format is a dataformat used by DNMI for exchanging meteorological data with external institutions. This report describes newly developed programs for reading and writing datatables to files formatted according to SUPEROBS standards.

Written by: P. Øgland

15. Omlegging av EDB-rutiner for MDS - Maritime Stasjoner. Spesifikasjonsrapport

Report no. 12/94 KLIBAS, DNMI, Oslo, May 1994. (9 pages)

Summary: The report gives a general specification on how data and computer applications presently being used by the Maritime weather station network on the ND-100 788 computer are to be migrated to the Oracle database on the SGI-Typhoon computer. Work estimates and time estimates are given with lists of tasks to be done.

Written by: M. Moe, H. Tønnesen, K.A. Iden

16. Flagstruktur for nedbørdata

Report no. 13/94 KLIBAS, DNMI, Oslo, December 1994. (69 pages)

Summary: According to specifications in KLIBAS-report no. 01/93, observations shall be marked with quality flags. This report describes a system of quality flags used as tools in the ALN precipitation routine.

Written by: P.O. Kjensli, P. Øgland

17. Omlegging av EDB-rutine for Plumatic-stasjoner. Spesifikasjonsrapport

Report no. 14/94 KLIBAS, DNMI, Oslo, May 1994. (14 pages)

Summary: The report gives a general specification on how data and computer applications for the Plumatic station data processing routine should be migrated from the ND-KLIMA computer to the Oracle database on the SGI-Typhoon computer. Work estimates and time estimates are included along the list of work tasks.

Written by: P.O. Kjensli, N. Langgård, B. Ullestad, K.A. Iden

18. Automatisk overføring av data fra arbeidslager til hovedlager for vær- og nedbørstasjoner

Report no. 15/94 KLIBAS, DNMI, Oslo, May 1994. (77 pages)

Summary: The report contains documentation for the programs VAL2HL, NAL2HL, SEKEL, PREPHL and OPPGRAD all used as part of a system for transferring precipitation data from temporary data storage ALN/ALV to main storage HLN/HLV.

Written by: P. Øgland

19. Biblioteksfunksjoner, mal for utplukksapplikasjoner og miksing av C- og Fortran-kode

Report no. 16/94 KLIBAS, DNMI, Oslo, June 1994. (54 pages)

Summary: This is a description of some pieces of source code that are being used in several computer programs. A program for selecting data from the Oracle database in special formats is given special treatment. In addition to the description of functions, guidelines for mixing source code from C and Fortran programs in the IRIX/UNIX environment are included.

Written by: T. Aasen

20. Rapport fra brukergruppen: Forslag til spesifikasjon for data-ut-programmer

Report no. 17/94 KLIBAS, DNMI, Oslo, June 1994. (22 pages)

Summary: The user group at the Climatology Division is partitioned into two subgroups. Proposals for meteorological data processing is handled independently of this publication. This report contains a description of the groups views on specifications, classifications of computer programs with detailed specifications and examples on groups of programs, a short discussion on algorithms and suggestions on working procedures for further specifications and implementations.

Written by: L. Andresen, L. Håland, S. Stavem, S. Kristiansen, E.J. Førland, K.A. Iden, A. Eriksen, A. Guttormsdottir

21. Eksperimentering med enkel kvalitetskontroll og interpolasjon av værstasjonsdata med varierende tidsoppløsning

Report no. 18/94 KLIBAS, DNMI, Oslo, June 1994. (78 pages)

Summary: A complete quality control system was made for synop observations. Experience with this system was later used in development of later quality control systems.

Written by: P. Øgland

22. En kort innføring i Z-systemet

Report no. 19/94 KLIBAS, DNMI, Oslo, June 1994. (25 pages)

Summary: The Z system is a general system for statistical analysis of meteorological observations. The system was constructed by S.L. Lystad during the 1980's for the ND/100 computers, but may be of interest when designing statistical applications for the KLIBAS database system.

Written by: S.L. Lystad, P. Øgland

23. Utlisting av nedbørstasjonsdata fra arbeidslager. Revidert og modularisert programvare.

Report no. 20/94 KLIBAS, DNMI, Oslo, July 1994. (41 pages)

Summary: The report contains updated documentation for the daily precipitation quality control programs RRUTM and SSUTM. The update of the programs were due to changes in the database table structure.

Written by: P. Øgland

24. Eksempel-katalog for data-ut-programmer på ND-100/788 (KAKLI-PROGRAM)

Report no. 21/94 KLIBAS, DNMI, Oslo, October 1994. (48 pages)

Summary: The report contains references to 197 computer programs from the ND climatological database system with output examples from 144 programs. The catalogue is a supplement to KLIBAS-report no. 17/94 and is intended to give input for design of computer programs for the KLIBAS climatological database system.

Written by: A. Eriksen, P. Øgland

25. Data-kontroll for Aanderaa-stasjoner. PD-rutinen

Report no. 22/94 KLIBAS, DNMI, Oslo, October 1994. (44 pages)

Summary: This is a description of the first version of the data collection and quality control module for the non-realtime automatic weather stations (Aanderaa weather stations). The report contains technical descriptions and guide on how to run the system.

Written by: P.Ø. Nordli, P. Øgland

26. Kvalitetskontroll av værstasjonsdata i Klimaavdelingen

Report no. 23/94 KLIBAS, DNMI, Oslo, October 1994. (43 pages)

Summary: The report gives a historical summary of quality control routines for meteorological observations at DNMI with suggestions and ideas on how to develop the system further on the KLIBAS database system.

Written by: L. Håland, P. Øgland

27. Databaseprosjektet i Klimaavdelingen. Status pr første halvår 1994

Report no. 24/94 KLIBAS, DNMI, Oslo, July 1994. (37 pages)

Summary: The report gives a summary of climatological database systems research and development at DNMI during the first half of 1994 and gives plans and estimates for the second half of the year.

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

28. Skisse til generelt data-ut-system for geofysiske data

Report no. 25/94 KLIBAS, DNMI, Oslo, August 1994. (77 pages)

Summary: The report contains a presentation of a beta-version implementation of specifications from report no. 02/93 KLIBAS. The system is constructed by modules, some parts of the system on PC/DOS other parts on mainframe UNIX by client/server architecture. Running prototype samples are presented.

Written by: P. Øgland

29. Systemet for kvalitetskontroll av timevise værstasjonsdata på ND-788: SUPER-TEST

Report no. 26/94 KLIBAS, DNMI, Oslo, August 1994. (47 pages)

Summary: The report gives a description of the ND-100/788 quality control system for hourly weather observations. Hourly observations are not handled in the system described in report no. 23/94 KLIBAS.

Written by: M. Moe, P. Øgland

30. Skisse til et generelt data-kontroll-system for geofysiske data

Report no. 27/94 KLIBAS, DNMI, Oslo, December 1994. (65 pages)

Summary: Similarly to the weather statistics systems in KLIBAS-report no. 25/94, the modular quality control system is based on a client/server solution, the report containing examples of tests and prototype modules for quality control of meteorological observations.

Written by: P. Øgland

31. Omlegging av databaserutiner ved overgang fra Oracle6 til Oracle7

Report no. 28/94 KLIBAS, DNMI, Oslo, November 1994. (66 pages)

Summary: This is a documentation of major changes made in the KLIBAS climatological database system when updating from Oracle6 to Oracle7. Updates include revising programs for data collection, programs for quality control of meteorological observations and programs generating meteorological statistics.

Written by: P. Øgland

32. System for ukentlig utskrift av automatstasjonsdata

Report no. 29/94 KLIBAS, DNMI, Oslo, September 1994. (50 pages)

Summary: A first manual quality control for AWS data was made by manual checking of data lists.

Written by: P. Øgland

33. Testrutine for ukeabonnement på dataoversikt for utvalgte værstasjoner

Report no. 30/94 KLIBAS, DNMI, Oslo, November 1994. (35 pages)

Summary: This is a documentation of how the VSUKE program (KLIBAS-report no. 06/94) may work as a component in a system for servicing weekly subscribers of weather statistics. Presently two subscribers are using this system.

Written by: P. Øgland

34. Brukarrettleiing AUTO. Datainnsamling frå automatiske værstasjonar

Report no. 31/94 KLIBAS, DNMI, Oslo, August 1994. (27 pages)

Summary: This is a technical description and user manual for the AUTO data collection system run by the EDB division.

Written by: E. Waage

35. Månedlig rutine for innlasting av automatstasjonsdata i arbeidslager

Report no. 32/94 KLIBAS, DNMI, Oslo, October 1994. (22 pages)

Summary: The first version of the routine responsible for loading data into ALA was constructed.

Written by: P. Øgland

36. Praktisk rutine for kvalitetssikring av programvare

Report no. 33/94 KLIBAS, DNMI, Oslo, November 1994. (19 pages)

Summary: The report contains a preliminary specification for a quality management procedure by using a manual quality report system, check lists and approval notes.

Written by: T. Aasen, P.O. Kjensli, N. Langgård, P. Øgland

37. Kvalitetshåndbok for databaseprosjektet i Klimaavdelingen

Report no. 34/94 KLIBAS, DNMI, Oslo, November 1994. (50 pages)

Summary: The quality handbook is designed to contain all information needed to check that the quality procedures are being followed.

Written by: P.O. Kjensli, N. Langgård, P. Øgland

38. Implementasjon av datakontroll ADK på Typhoon

Report no. 35/94 KLIBAS, DNMI, Oslo, December 1994. (26 pages)

Summary: The first version of the quality control system ADK was established. The ADK system for EDAS automatic weather stations was used for specifications (KLIBAS-report no. 36/94).

Written by: P. Øgland

39. ADK/ADL: Datakontroll for EDAS-automatstasjoner

Report no. 36/94 KLIBAS, DNMI, Oslo, November 1994. (66 pages)

Summary: The quality control system ADK/ADL was formerly used for EDAS automatic station. The first systematic description of the old system was given by this report.

Written by: S.L. Lystad, P. Øgland

40. System for ukentlig utskrift av automatstasjonsdata. Versjon 2

Report no. 38/94 KLIBAS, DNMI, Oslo, December 1994. (24 pages)

Summary: A second version of the manual quality control listings were constructed.

Written by: P. Øgland

41. Spesifikasjon for omlegging av sonderutinen

Report no. 37/94 KLIBAS, DNMI, Oslo, December 1994. (17 pages)

Summary: The document describes measures needed to be taken in order to move the radio sond data processing routine on to the Oracle database on the SGI computer system. Large amounts of data are manipulated by this routine. A selection of the observations will be put in Oracle data tables. All observations will be put on tape or similar external device. Systems for migrating historical observations are to be produced. A few simple statistical weather applications will be produced in addition to quality control software.

Written by: T. Aasen, B. Nordin

42. Romkontroll for nedbørstasjoner over et selvreviderende referansenettverk

Report no. 39/94 KLIBAS, DNMI, Oslo, December 1994. (50 pages)

Summary: The revised ROMRR v.2.0 is based on theoretical considerations described in DNMI/KLIMA-report no. 42/93. Version 2.0 is build from scratch and replaces ROMRR v.1.0 as described in KLIBAS-report no. 07/94.

Written by: P. Øgland

43. Innlasting av synoptiske data til arbeidslager. Revidert utgave.

Report no. 40/94 KLIBAS, DNMI, Oslo, December 1994. (24 pages)

Summary: Bugs were removed from the SYNO_INN system. Minor changes were made.

Written by: P. Øgland

44. Geofysisk konstistenskontroll av nedbørdata i arbeidslager

Report no. 01/95 KLIBAS, DNMI, Oslo, January 1995. (35 pages)

Summary: The geophysical consistence test GEOK, containing logical tests for precipitation stations, is based on the ND-788 KVALM/KVALU programs. The code is implemented in PL/SQL, and have been operative since Mars 1994.

Written by: P.O. Kjensli, M. Moe, P. Øgland

45. Overføring av værstasjonsdata fra klimalageret (ND-788) til nedbørlageret (ALN på Typhoon)

Report no. 02/95 KLIBAS, DNMI, Oslo, January 1995. (27 pages)

Summary: The report gives a description of a system of transferring weather data from ND-788 to datatable ALV in order to make both the old and the new PRECIP routines work in parallell.

Written by: P.O. Kjensli

46. Kvalitetshåndbok for databaseprosjektet i Klimaavdelingen. Del II

Report no. 03/95 KLIBAS, DNMI, Oslo, January 1995. (100 pages)

Summary: The second part of the quality handbook is designed to contain all information needed to check that the quality procedures are being followed for 1995.

Written by: P. Øgland

47. Revisjon av data-ut-programmene RRUTM og VSUKE

Report no. 04/95 KLIBAS, DNMI, Oslo, January 1995. (22 pages)

Summary: The report contains updated documentation for version 2.1 of RRUTM and version 1.1 of VSUKE.

Written by: P. Øgland

48. Programvare for nedbørrutinen ved Klimaavdelingen

Report no. 05/95 KLIBAS, DNMI, Oslo, January 1995. (250 pages)

Summary: The PRECIP routine and most of its programs are documented in this report. The report exists only in one copy and should be available by asking Per Ove Kjensli.

Written by: P.O. Kjensli, P. Øgland

49. Databaseprosjektet i Klimaavdelingen. Status pr årsskifte 1994/95

Report no. 06/95 KLIBAS, DNMI, Oslo, January 1995. (21 pages)

Summary: The second half of 1994 was mostly concerned with updating the database Oracle6 to Oracle7 and consequences in the KLIBAS database system due to this. By the end of December 1994 the daily precipitation data processing routine of the KLIBAS database system has been operative for about one year, synoptical weather observations (SYNOP) have been collected and stored for almost a year, and basic elements of routines for automatic weather stations and evaporation stations have been created. Plans for the next six months will be to continue work on these routines.

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

50. Innlasting og uthenting av automatstasjonsdata. Ny utgave

Report no. 07/95 KLIBAS, DNMI, Oslo, January 1995. (47 pages)

Summary: An improved version of the data loading system was established.

Written by: S.L. Lystad, P. Øgland

51. Programvare for automatrutinen ved Klimaavdelingen

Report no. 08/95 KLIBAS, DNMI, Oslo, January 1995. (21 pages)

Summary: All system documentation established til this moment was collected in this report.

Written by: P. Øgland

52. Innlasting av Aanderaa-data til arbeidslager på Typhoon

Report no. 09/95 KLIBAS, DNMI, Oslo, February 1995. (20 pages)

Summary: The first version of the program that inserted AANDERAA observations into the KLIBAS datatables was constructed.

Written by: P.Ø. Nordli, P. Øgland

53. Rutine for innlasting av historiske Aanderaa-data til hovedlager på Typhoon

Report no. 10/95 KLIBAS, DNMI, Oslo, February 1995. (109 pages)

Summary: A prototype for loading historical data into Oracle datatables in the case of Aanderaa AWS was established.

Written by: H. Halvorsen, P. Øgland

54. Programvare for Aanderaa-rutinen ved Klimaavdelingen

Report no. 11/95 KLIBAS, DNMI, Oslo, February 1995. (21 pages)

Summary: All software documentation for the AANDERAA AWS system was collected in this report.

Written by: P. Øgland

55. Automatisk datakontroll for SYNOP og AUTO: ADK v.2.0

Report no. 12/95 KLIBAS, DNMI, Oslo, March 1995. (39 pages)

Summary: The automated quality control system for automatic weather stations ADK was reprogrammed in order to be applied also for non-automatic synop stations.

Written by: P. Øgland

56. ADI: Automatisk datainnlasting for AUTO til arbeidslager

Report no. 13/95 KLIBAS, DNMI, Oslo, March 1995. (23 pages)

Summary: A system for loading observations into Oracle datatables was established.

Written by: P. Øgland

57. Konstruksjon av generelt system for uthenting av data

Report no. 14/95 KLIBAS, DNMI, Oslo, April 1995. (16 pages)

Summary: The report contains guide lines on how to implement a general system for producing weather statistics based on a wide variety of data sources. The suggested design includes source code libraries and reusable code.

Written by: M. Moe, T. Aasen, P.O. Kjensli

58. MKK: Månedlig kvalitetskontroll av automatstasjonsdata

Report no. 15/95 KLIBAS, DNMI, Oslo, May 1995. (38 pages)

Summary: A first approach at manual quality control for AWS was taken.

Written by: P. Øgland

59. Automatisk datainnlasting for AUTO med månedlig oppdatering av hovedlager: ADI v.1.1

Report no. 16/95 KLIBAS, DNMI, Oslo, May 1995. (38 pages)

Summary: An improved version of the ADI loading system was put into use.

Written by: P. Øgland

60. MDK: Manuell datakontroll av SYNOP-data

Report no. 17/95 KLIBAS, DNMI, Oslo, May 1995. (37 pages)

Summary: The program MDK was a manual quality control based on principle of the ADK system. The program was only used for a short time.

Written by: P. Øgland

61. Innlasting av synoptiske data til arbeidslager. Versjon 2.0

Report no. 18/95 KLIBAS, DNMI, Oslo, July 1995. (47 pages)

Summary: The program SYNO_INN was revised. Shell programming was used to a greater extent than what had been the case earlier on.

Written by: P. Øgland

62. Hurtigkontroll av SYNOP-data 1987-1995

Report no. 19/95 KLIBAS, DNMI, Oslo, July 1995. (9 pages)

Summary: In order to make sure that any new quality control methods for observations in datatable TELE were not to be any less sufficient than older methods, a survey of older methods was undertaken.

Written by: P. Øgland

63. Programmer S-T-F og UT1 for hurtigkontroll av SYNOP-data

Report no. 20/95 KLIBAS, DNMI, Oslo, July 1995. (16 pages)

Summary: For manual quality control of observations in table TELE, programs S-T-F and UT1 were constructed.

Written by: P. Øgland

64. Backup av ubearbeidede SYNOP

Report no. 21/95 KLIBAS, DNMI, Oslo, August 1995. (14 pages)

Summary: A backup system was established using tapes.

Written by: P. Øgland

65. Programmer auto2tele, gts2syn og tromso i synoprutinen

Report no. 22/95 KLIBAS, DNMI, Oslo, September 1995. (15 pages)

Summary: A report was written to document recent developments of the TELE/SYNOP system, including VNN program TROMSO and the SYNO_INN programs AUTO2TELE and GTS2SYN.

Written by: P. Øgland

66. Migrasjon av datakontroll CONTSYN2 fra ND-100/788 til SGI-Typhoon

Report no. 23/95 KLIBAS, DNMI, Oslo, September 1995. (19 pages)

Summary: The first version of the program CONTSYN2 was a FORTRAN adaption of the old CONTSYN2 program altering as little as possible of the original program in order to make the program work.

Written by: P. Øgland

67. Eksperimentell innlasting av METAR

Report no. 24/95 KLIBAS, DNMI, Oslo, October 1995. (17 pages)

Summary: The METAR data collection system reads observations from MSYS8 files from Tornado/Monsoon, format the observations in columns and use the SQL*Loader system to insert data into the METAR data table in the KLIBAS database system.

Written by: P. Øgland

68. Eksperimenter med generelt dataut-system 1993

Report no. 25/95 KLIBAS, DNMI, Oslo, October 1995. (109 pages)

Summary: Immediately after the statistical applications specifications report (KLIBAS-report no. 02/93) was published, work commenced on implementing the system. This report documents the work done during the summer 1993, experiences and solutions.

Written by: P. Øgland

69. Uthenting av data fra databasen med programmet Genhent

Report no. 26/95 KLIBAS, DNMI, Oslo, November 1995. (21 pages)

Summary: In order to rationalise the data selections from the KLIBAS database system a GENHENT program has been made which reads user dialogue, interprets this as SQL code and selects data to file or std-out according to a specifically designed format. The GENHENT program is used as an Oracle interface for other climatological database programs.

Written by: T. Aasen

70. Brukergruppens arbeid 1994-95

Report no. 27/95 KLIBAS, DNMI, Oslo, December 1995. (20 pages)

Summary: The user group has been working since spring 1994 with detailed specifications for statistical applications layout and design, examples of user dialogue, algorithms, data presentation, common rules of data treatment, data storing and other problems defined by the database group and other on the Climatology Division. This report gives a presentation of the work done by the user group from the autumn of 1994 up to present date.

Written by: L. Andresen

71. Spesifikasjon for programmering av utskriftsrammene: Døgnestremramme, årsramme, månedsramme og årsrekke-ramme

Report no. 28/95 KLIBAS, DNMI, Oslo, December 1995. (50 pages)

Summary: The specifications give detailed descriptions on what the statistical applications programs shall compute and how the result shall be presented. Different segments of the report handles station information, user dialogue, main tables and statistics for different layouts, data cover, table examples, algorithms, explanations to tables and information.

Written by: L. Andresen, A. Eriksen, E.J. Førland, K.A. Iden

72. Programvare for kvalitetskontroll av klimadata

Report no. 29/95 KLIBAS, DNMI, Oslo, December 1995. (35 pages)

Summary: The report contains documentation for the first version of the complete KLIMA quality control system consisting of programs CONTSYN1, CONTSYN2, CONTSYN3, LISTER1, LISTER2, REL-FUKT, KONTHUM and TGTN.

Written by: P. Øgland

73. Databasegruppen 1995

Report no. 01/96 KLIBAS, DNMI, Oslo, January 1996. (142 pages)

Summary: The status document contains reports from weekly database meetings and description of progress during 1995. Vital issues this year was getting more disk space, ordering hardware, terminating the ND-788 computer, SGI computer breakdown in October, use of geographical information systems (GIS) and plans for a ECSN European meeting on climatology databases (May 1996).

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

74. Beskrivelse av synop-rutine

Report no. 02/96 KLIBAS, DNMI, Oslo, January 1996. (48 pages)

Summary: In order to facilitate further development of the TELE/SYNOP system, a description of the system, as it was performing at the beginning of 1996, was established.

Written by: P. Øgland

75. Beskrivelse av nedbørrutinen ved Klimaavdelingen

Report no. 03/96 KLIBAS, DNMI, Oslo, January 1996. (44 pages)

Summary: The precipitation routine has been operative as a part of the KLIBAS database system since the autumn of 1993. This report documents various aspects of the routine such as dataflow, storage, quality flags, data loading, quality control, adjustment of data, data backup, procedures for making weather statistics etc.

Written by: P.O. Kjensli

76. Automatisering av kvalitetskontroll av geofysiske data ved Klimaavdelingen

Report no. 04/96 KLIBAS, DNMI, Oslo, February 1996. (16 pages)

Summary: The report gives a status for the current work on producing new quality control software for the Climatology Division with plans for future work. A scientific note prepared for a NACD quality control meeting at SMHI in February 1996 is included.

Written by: P. Øgland

77. KS - Spesifikasjon av programmer - Utskriftsramme

Report no. 05/96 KLIBAS, DNMI, Oslo, March 1996. (25 pages)

Summary: The manual is updated in order to contain the specifications needed for programming the KLIBAS statistics programs.

Written by: P.O. Kjensli, N. Langgård, T. Aasen

78. KS - Utvikling av programmer: Døgnkestremramme, månedsramme, årsramme

Report no. 06/96 KLIBAS, DNMI, Oslo, March 1996. (25 pages)

Summary: The manual is updated in order to contain the specifications needed for programming the KLIBAS statistics programs.

Written by: P.O. Kjensli, N. Langgård, T. Aasen

79. Brukerveiledning for: - Utskriftsrammer

Report no. 08/96 KLIBAS, DNMI, Oslo, March 1996. (9 pages)

Summary: The report contains a documentation of the on-line help function in the user interface for the DIARAPP KLIBAS applications system and a user guide for running the applications. The report is an element in a series of documents related to the quality of the DIARAPP system.

Written by: P.O. Kjensli

80. Programmet Døgnkestremramme

Report no. 07/96 KLIBAS, DNMI, Oslo, March 1996. (83 pages)

Summary: The program is used for computing extreme values of meteorological elements. Program interface is based on the Oracle table GENRAPP.

Written by: T. Aasen

81. Beskrivelse av synop-rutine. Versjon 1.1

Report no. 09/96 KLIBAS, DNMI, Oslo, March 1996. (54 pages)

Summary: The total description of the TELE/SYNOP system was revised as the program STATUT was introduced and general changes had been made to the system.

Written by: P. Øgland

82. Rutine for kvalitetskontroll av klimadata. Versjon 1.1

Report no. 10/96 KLIBAS, DNMI, Oslo, April 1996. (42 pages)

Summary: Version 1.1 of the KLIMA system is a revision of the programs described in report no. 29/95 KLIBAS.

Written by: P. Øgland

83. Beskrivelse av rutine for ikke-telegraferende automater (Aanderaa-stasjoner)

Report no. 11/96 KLIBAS, DNMI, Oslo, April 1996. (54 pages)

Summary: A description of how the Aanderaa AWS routine was being run was written.

Written by: P. Øgland

84. Upgrading of the Contsyn System for Verification of Linke Data. Contsyn v2.0

Report no. 12/96 KLIBAS, DNMI, Oslo, July 1996. (55 pages)

Summary: A version 2.0 of the KLIMA system (CONTSYN) was developed for quality control of LINKE data. The updates of the system consisted of reprogramming of CONTSYN1 and S-T-F.

Written by: P. Øgland

85. KLIBAS - status 30.06.1996

Report no. 13/96 KLIBAS, DNMI, Oslo, August 1996. (56 pages)

Summary: Major parts of the ND climatological database has been migrated to the KLIBAS database system during the first half of 1996. Database sections include extreme weather database, hourly observations database, Aanderaa automatic weather stations database, Plumatic database, Linke database, and the database for maritime observations. The KLIBAS climatological database has also expanded in manner of now containing a greater number of statistical end-user applications.

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

86. Overflytting og delvis verifikasjon av historiske Aanderaa data til Oracle

Report no. 14/96 KLIBAS, DNMI, Oslo, October 1996. (62 pages)

Summary: A first step in order to move Aanderaa observations over to the KLIBAS Oracle database system was made.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

87. Eksperimentell overføring av data fra syno-filer til Oracle-database. Versjon 3.0

Report no. 15/96 KLIBAS, DNMI, Oslo, October 1996. (37 pages)

Summary: The program SYNO_INN was totally restructured and programmed from scratch. A quality control program SYNO_KONTR was created in order to compare values in the data tables SYNOP and SYNOP2.

Written by: P. Øgland

88. Utskriftsrammer for verifikasjon og testutskrift av AVS-data: Døgnkestrem-ramme, årsramme, månedsramme, årsrekke-ramme og to-parameter-ramme

Report no. 16/96 KLIBAS, DNMI, Oslo, November 1996. (64 pages)

Summary: A variety of statistics were designed according to methods and formats described in report 28/95 KLIBAS.

Written by: P. Øgland

89. Verifisering av historiske værdata frå automatstasjon 16551 Dombås - Kirstistugu

Report no. 17/96 KLIBAS, DNMI, Oslo, November 1996. (72 pages)

Summary: A description of the station 16551 DOMBÅS - KIRSTISTUGU and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

90. Kvalitetssikring av driftsrutiner for automatstasjoner i databasesystemet KLIBAS

Report no. 18/96 KLIBAS, DNMI, Oslo, November 1996. (18 pages)

Summary: A procedure for quality assurance of the AWS in the KLIBAS system was proposed.

Written by: P. Øgland

91. Verifisering av historiske værdata frå automatstasjon 14600 Vågåmo

Report no. 19/96 KLIBAS, DNMI, Oslo, November 1996. (48 pages)

Summary: A description of the station 14600 VÅGÅMO and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

92. Verifisering av historiske værdata frå automatstasjon 46081 Høgaloftkvelven

Report no. 20/96 KLIBAS, DNMI, Oslo, December 1996. (27 pages)

Summary: A description of the station 46081 HØGALOFTSKVELVEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

93. Arbeidsgruppe for kvalitetssikring av automatiske værstasjoner 1996

Report no. 21/96 KLIBAS, DNMI, Oslo, December 1996. (19 pages)

Summary: A summary of the work done by the AWS quality control group at Klima/IA was published.

Written by: R. Brækkan, S.L. Lystad, L. Olonkin, P. Øgland

94. Verifisering av historiske værdata frå automatstasjon 46570 Hylsfjorden

Report no. 22/96 KLIBAS, DNMI, Oslo, December 1996. (44 pages)

Summary: A description of the station 46570 HYLSEFJORDEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

95. Verifisering av historiske værdata frå automatstasjon 46020 Ulladal - Gil

Report no. 23/96 KLIBAS, DNMI, Oslo, December 1996. (60 pages)

Summary: A description of the station 46020 ULLADAL - GIL and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

96. Verifisering av historiske værdata frå automatstasjon 46021 Ulladal - Dalbotn

Report no. 24/96 KLIBAS, DNMI, Oslo, December 1996. (30 pages)

Summary: A description of the station 46021 ULLADAL - DALBOTN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

97. Verifisering av historiske værdata frå automatstasjon 81152 Beiarn - Haugbakk II

Report no. 25/96 KLIBAS, DNMI, Oslo, December 1996. (40 pages)

Summary: A description of the station 81152 BEIARN - HAUGBAKK II and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

98. Verifisering av historiske værdata frå automatstasjon 81153 Beiarn - Haugbakk III

Report no. 26/96 KLIBAS, DNMI, Oslo, December 1996. (28 pages)

Summary: A description of the station 81153 BEIARN - HAUGBAKK III and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

99. Verifisering av historiske vêrdata frå automatstasjon 81154 Beiarn - Haugbakk IV

Report no. 27/96 KLIBAS, DNMI, Oslo, December 1996. (27 pages)

Summary: A description of the station 81154 BEIARN - HAUGBAKK IV and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

100. Punching og rettelser mot TELE utført av VNN for synop-rutinen

Report no. 01/97 KLIBAS, DNMI, Oslo, January 1997. (31 pages)

Summary: A script VNN.CSH was made in order to centralise execution of the VNN programs TR_TELE, RETTERLSER and MANGELLISTE.

Written by: P. Øgland

101. Teknisk redegjørelse og status for automatstasjonsrutine

Report no. 02/97 KLIBAS, DNMI, Oslo, January 1997. (70 pages)

Summary: The system for loading and updating ALA, HLA and TELE was reprogrammed.

Written by: P. Øgland

102. Referater fra møter i databasegruppen 1996

Report no. 03/97 KLIBAS, DNMI, Oslo, January 1997. (58 pages)

Summary: This document contains reports from 36 internal database meeting during 1996 where 19 major problems have been discussed. The document also includes project plans and list of activities.

Written by: M. Moe, Å.M. Vidal, T. Aasen, P.O. Kjensli, P. Øgland

103. Overføring av data fra syno-filer til tabeller SYNOP og TELE. Versjon 3.1

Report no. 04/97 KLIBAS, DNMI, Oslo, January 1997. (25 pages)

Summary: The program SYNO_INN was extensively reprogrammed.

Written by: P. Øgland

104. Verifisering av historiske vêrdata frå automatstasjon 58020 Gjengedal - Dalheim

Report no. 05/97 KLIBAS, DNMI, Oslo, January 1997. (100 pages)

Summary: A description of the station 58020 GJENGEDAL - DALHEIM and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

105. Verifisering av historiske vêrdata frå automatstasjon 99916 Austre Brøggerbreen

Report no. 06/97 KLIBAS, DNMI, Oslo, January 1997. (48 pages)

Summary: A description of the station 99916 AUSTRE BRØGGERBREEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

106. Verifisering av historiske vêrdata frå automatstasjon 80620 Holandsfjord - Halvkanneneset

Report no. 08/97 KLIBAS, DNMI, Oslo, February 1997. (78 pages)

Summary: A description of the station 80620 HOLANDSFJORD - HALVKANNENESET and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

107. Verifisering av historiske vêrdata frå automatstasjon 80630 Holandsfjord - Sommarset

Report no. 09/97 KLIBAS, DNMI, Oslo, February 1997. (32 pages)

Summary: A description of the station 80630 HOLLANDSFJORD - SOMMARSET and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

108. Verifisering av historiske vêrdata frå automatstasjon 28340 Kongsberg - Guskiste

Report no. 10/97 KLIBAS, DNMI, Oslo, February 1997. (42 pages)

Summary: A description of the station 28340 KONGSBERG - GUSKISTE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

109. Verifisering av historiske vêrdata frå automatstasjon 21630 Etnedal - Kleivgardsøyi

Report no. 11/97 KLIBAS, DNMI, Oslo, February 1997. (32 pages)

Summary: A description of the station 21630 ETNEDAL - KLEIVGARDSØYI and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

110. Verifisering av historiske vêrdata frå automatstasjon 40481 Sanddokka

Report no. 12/97 KLIBAS, DNMI, Oslo, February 1997. (28 pages)

Summary: A description of the station 40481 SANDDOKKI and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

111. Verifisering av historiske vêrdata frå automatstasjon 40480 Sanddokkryggen

Report no. 13/97 KLIBAS, DNMI, Oslo, February 1997. (84 pages)

Summary: A description of the station 40480 SANDDOKKRYGGEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

112. Verifisering av historiske vêrdata frå automatstasjon 46030 Ulladal - Fjellberg

Report no. 14/97 KLIBAS, DNMI, Oslo, February 1997. (50 pages)

Summary: A description of the station 46030 ULLADAL - FJELLBERG and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

113. Verifisering av historiske vêrdata frå automatstasjon 46060 Sandsa

Report no. 15/97 KLIBAS, DNMI, Oslo, February 1997. (50 pages)

Summary: A description of the station 46060 SANDSA and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

114. Verifisering av historiske vêrdata frå automatstasjon 55000 Luster - Ornes

Report no. 16/97 KLIBAS, DNMI, Oslo, February 1997. (58 pages)

Summary: A description of the station 55000 LUSTER - ORNES and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

115. Verifisering av historiske vêrdata frå automatstasjon 46080 Høgaloft

Report no. 17/97 KLIBAS, DNMI, Oslo, February 1997. (88 pages)

Summary: A description of the station 46080 HØGALOFT and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

116. Verifisering av historiske værdata frå automatstasjon 55370 Gaupne

Report no. 18/97 KLIBAS, DNMI, Oslo, February 1997. (104 pages)

Summary: A description of the station 55370 GAUPNE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

117. Verifisering av historiske værdata frå automatstasjon 55870 Vetlefjord - Langeteig

Report no. 19/97 KLIBAS, DNMI, Oslo, February 1997. (86 pages)

Summary: A description of the station 55870 VETLEFJORD - LANGETEIG and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

118. Verifisering av historiske værdata frå automatstasjon 58531 Rake II

Report no. 20/97 KLIBAS, DNMI, Oslo, February 1997. (20 pages)

Summary: A description of the station 58531 RAKE II and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

119. Verifisering av historiske værdata frå automatstasjon 58532 Rake III

Report no. 21/97 KLIBAS, DNMI, Oslo, February 1997. (20 pages)

Summary: A description of the station 58532 RAKE III and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

120. Verifisering av historiske værdata frå automatstasjon 58660 Flo

Report no. 22/97 KLIBAS, DNMI, Oslo, February 1997. (42 pages)

Summary: A description of the station 58660 FLO and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

121. Verifisering av historiske værdata frå automatstasjon 61430 Romsdal - Alnes

Report no. 23/97 KLIBAS, DNMI, Oslo, February 1997. (100 pages)

Summary: A description of the station 61430 ROMSDAL - ALNES and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

122. Verifisering av historiske værdata frå automatstasjon 77260 Grane

Report no. 24/97 KLIBAS, DNMI, Oslo, February 1997. (36 pages)

Summary: A description of the station 77260 GRANE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

123. Verifisering av historiske værdata frå automatstasjon 77261 Grane II

Report no. 25/97 KLIBAS, DNMI, Oslo, February 1997. (40 pages)

Summary: A description of the station 77261 GRANE II and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

124. Verifisering av historiske vêrdata frå automatstasjon 79730 Stormdalen

Report no. 26/97 KLIBAS, DNMI, Oslo, February 1997. (32 pages)

Summary: A description of the station 79730 STORMDALEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

125. Verifisering av historiske vêrdata frå automatstasjon 79760 Storvoll

Report no. 27/97 KLIBAS, DNMI, Oslo, February 1997. (32 pages)

Summary: A description of the station 79760 STORVOLL and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

126. Verifisering av historiske vêrdata frå automatstasjon 81250 Leiråmo

Report no. 28/97 KLIBAS, DNMI, Oslo, February 1997. (28 pages)

Summary: A description of the station 81250 LEIRÅMO and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

127. Verifisering av historiske vêrdata frå automatstasjon 79770 Bjøllådalen

Report no. 29/97 KLIBAS, DNMI, Oslo, February 1997. (30 pages)

Summary: A description of the station 79770 BJØLLÅDALEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

128. Verifisering av historiske vêrdata frå automatstasjon 93560 Maze - Ruogoroavvi

Report no. 30/97 KLIBAS, DNMI, Oslo, February 1997. (82 pages)

Summary: A description of the station 93560 MAZE - RUOGOROAVVI and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

129. Verifisering av historiske vêrdata frå automatstasjon 94010 Turelva

Report no. 31/97 KLIBAS, DNMI, Oslo, February 1997. (20 pages)

Summary: A description of the station 94010 TURELVA and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

130. Verifisering av historiske vêrdata frå automatstasjon 55330 Luster - Skildheim

Report no. 32/97 KLIBAS, DNMI, Oslo, February 1997. (60 pages)

Summary: A description of the station 55330 LUSTER - SKILDHEIM and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

131. Verifisering av historiske vêrdata frå automatstasjon 55340 Luster bade plass

Report no. 33/97 KLIBAS, DNMI, Oslo, February 1997. (72 pages)

Summary: A description of the station 55340 LUSTER BADEPLASS and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

132. Verifisering av historiske vêrdata frå automatstasjon 80690 Storglomvatnet

Report no. 34/97 KLIBAS, DNMI, Oslo, February 1997. (64 pages)

Summary: A description of the station 80690 STORGLOMVATNET and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

133. Verifisering av historiske vêrdata frå automatstasjon 55500 Marifjøra - Garden

Report no. 35/97 KLIBAS, DNMI, Oslo, February 1997. (70 pages)

Summary: A description of the station 55500 MARIFJØRA - GARDEN and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

134. Verifisering av historiske vêrdata frå automatstasjon 58530 Rake

Report no. 36/97 KLIBAS, DNMI, Oslo, March 1997. (40 pages)

Summary: A description of the station 58530 RAKE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

135. Verifisering av historiske vêrdata frå automatstasjon 81150 Beiarn - Haugbakk

Report no. 37/97 KLIBAS, DNMI, Oslo, February 1997. (72 pages)

Summary: A description of the station 81150 BEIARN - HAUGBAKK and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

136. Verifisering av historiske vêrdata frå automatstasjon 92120 Blåenga

Report no. 38/97 KLIBAS, DNMI, Oslo, February 1997. (38 pages)

Summary: A description of the station 92120 BLÅENGA and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: R. Brækkan, P.Ø. Nordli, H. Halvorsen, P. Øgland

137. Verifisering av historiske vêrdata frå automatstasjon 99911 Ny-Ålesund

Report no. 39/97 KLIBAS, DNMI, Oslo, February 1997. (60 pages)

Summary: A description of the station 99911 Ny-Ålesund and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

138. Verifisering av historiske vêrdata frå automatstasjon 93570 Maze - Ruogonjarga

Report no. 40/97 KLIBAS, DNMI, Oslo, February 1997. (132 pages)

Summary: A description of the station 93570 MAZE - RUOGONJARGA and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

139. Verifisering av historiske vêrdata frå automatstasjon 92130 Snowhenge

Report no. 41/97 KLIBAS, DNMI, Oslo, February 1997. (24 pages)

Summary: A description of the station 92130 SNOWHENGE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

140. Verifisering av historiske vêrdata frå automatstasjon 42600 Sirdal - Roskrepp

Report no. 42/97 KLIBAS, DNMI, Oslo, March 1997. (34 pages)

Summary: A description of the station 42600 SIRDAL - ROSKREPP and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

141. Verifisering av historiske værdata frå automatstasjon 43000 Sirdal - Duge

Report no. 43/97 KLIBAS, DNMI, Oslo, March 1997. (56 pages)

Summary: A description of the station 43000 SIRDAL - DUGE and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

142. Verifisering av historiske værdata frå automatstasjon 93580 Maze - Bojaroavvi

Report no. 44/97 KLIBAS, DNMI, Oslo, February 1997. (80 pages)

Summary: A description of the station 93580 MAZE - BOJAROAVVI and its climate were published in order to verify that the data set was stored correctly in the KLIBAS database system.

Written by: P.Ø. Nordli, H. Halvorsen, P. Øgland

143. Logging av driftsparametre for kvalitetssikring av driftsrutiner

Report no. 45/97 KLIBAS, DNMI, Oslo, May 1997. (59 pages)

Summary: Performance for the KLIBAS software has been logged since June 1995 (KLIBAS-note no. 11/95). Since 1995 the log system has been continuously improved. This report gives a full description of the ideas behind the current log system.

Written by: P. Øgland

144. Kvalitetstrend QUAL_TREND i månedlig driftsrapportering

Report no. 46/97 KLIBAS, DNMI, Oslo, May 1997. (15 pages)

Summary: The qual_trend system is used for making quality prognosis for the monthly maintenance reports.

Written by: P. Øgland

145. DAGLIGSTATISTIKK. Programmet statut v.1.1

Report no. 47/97 KLIBAS, DNMI, Oslo, March 1997. (38 pages)

Summary: Bugs were removed from the program STATUT. The program was extensively reprogrammed.

Written by: P. Øgland

146. Ukesoversikter fra TELE med programmet VSUKE v.2.0

Report no. 48/97 KLIBAS, DNMI, Oslo, March 1997. (19 pages)

Summary: The revision of VSUKE made it possible to generate sequences of statistical output.

Written by: P. Øgland

147. Eksperiment med automatisk feilbehandling i KLIBAS

Report no. 49/97 KLIBAS, DNMI, Oslo, March 1997. (19 pages)

Summary: Certain steps were taken in order to make the KLIBAS system more automatic and more self-contained.

Written by: P. Øgland

148. Beregning og presentasjon av datakvalitet i månedlig driftsrapport

Report no. 50/97 KLIBAS, DNMI, Oslo, May 1997. (23 pages)

Summary: The program QUAL_TELE, QUAL_ALN and QUAL_DATA are designed for data quality monitoring in the monthly system quality reports.

Written by: P. Øgland

149. Diarapp, teknisk beskrivelse / kildekode

Report no. 51/97 KLIBAS, DNMI, Oslo, May 1997. (150 pages)

Summary: DIARAPP is a menu driven system based on Oracle Forms version 4.5. The system is created in order to facilitate data selection from the KLIBAS climatological database system, returning data in a useful manner to the KLIBAS user. The report contains information on installation of computer and software. Complete source code listing of the system is given.

Written by: T. Aasen

150. Punching og rettelser mot TELE utført av VNN for synop-rutinen. Versjon 2.0

Report no. 52/97 KLIBAS, DNMI, Oslo, May 1997. (43 pages)

Summary: Programs TR_TELE, RETTELSE and MANGELLISTE, operated for transaction of corrected data with VNN, were put into a system VNN (vnn.csh). The program VNN was designed to run the programs and make resulting performance and error statistics.

Written by: P. Øgland

151. Beregning og presentasjon av maskinvarekvalitet i månedlig driftsrapport

Report no. 53/97 KLIBAS, DNMI, Oslo, May 1997. (40 pages)

Summary: The programs QUAL_LOAD, QUAL_ORACLE, QUAL_DISK and QUAL_HARDWARE are made for producing statistics giving insight on different aspects of the KLIBAS system quality related to system load on the database server, the performance of the Oracle database core, how much disk space is available.

Written by: P. Øgland

152. Dataoverføring SYNO_INN v.3.2 fra syno-filer til tabeller SYNOP og TELE med utvidet sikkerhet

Report no. 55/97 KLIBAS, DNMI, Oslo, June 1997. (38 pages)

Summary: The SYNO_INN program was extended with routines to reduce the need for manual surveil of the program.

Written by: P. Øgland

153. Døgnlig dataoverføring med AUTO_INN v.1.0 og AUTO2TELE v.2.0

Report no. 56/97 KLIBAS, DNMI, Oslo, June 1997. (30 pages)

Summary: A new program AUTO_INN was designed in order to collect statistics from the loading session onto the A-tables.

Written by: P. Øgland

154. DAGLIGSTATISTIKK - Programmet statut v.1.2

Report no. 57/97 KLIBAS, DNMI, Oslo, June 1997. (51 pages)

Summary: A number of bugs were corrected in STATUT. A program FAXUT was also made, generating a FAX for weather station V44560 SOLA from STATUT.

Written by: P. Øgland

155. Lagring av METAR-telegrammer i tabell METAR i testdatabase. METARinn v.1.1

Report no. 58/97 KLIBAS, DNMI, Oslo, July 1997. (40 pages)

Summary: The version 1.1 of METARinn was especially designed in order to handle problems with how to handle the situation when there are not enough extens in the METAR data table to expand. A companion program METARexport was also developed with METARinn v.1.1.

Written by: P. Øgland

156. Innlesing AUTO_INN v.1.1 for AVS: Programmer mnd2ala, mnd2hla, ala2tele, adk og mkk

Report no. 59/97 KLIBAS, DNMI, Oslo, July 1997. (86 pages)

Summary: The AUTO_INN system was investigated and partly reprogrammed from scratch.

Written by: P. Øgland

157. Døgnlig driftskontroll for SYNOP: syno_kontr v.2.0

Report no. 60/97 KLIBAS, DNMI, Oslo, August 1997. (43 pages)

Summary: A system SYNO_KONTR was added to the TELE/SYNOP system. The purpose of SYNO_KONTR was to start quality control and interpolation programs on a daily basis and generate statistics from the execution of these programs.

Written by: P. Øgland

158. Automatic interpolation of SYNOP weather observations: Interpol1 and Interpol2

Report no. 61/97 KLIBAS, DNMI, Oslo, August 1997. (48 pages)

Summary: Two programs were added to the TELE/SYNOP system in order to automate interpolation of missing observations. The program INTERPOL1 checked if any of the missing values in TELE were reported in SYNOP2, and made the proper transaction. The program INTERPOL2 made interpolation by a statistical estimation procedure.

Written by: P. Øgland

159. Automatic correction of SYNOP weather observations: Control1, Control2 and Interpol3

Report no. 62/97 KLIBAS, DNMI, Oslo, September 1997. (60 pages)

Summary: Two programs for detecting errors CONTROL1 and CONTROL2, with the addition of a program INTERPOL3 for recognising the cause of error and make updates into the TELE datatable, were added to the TELE/SYNOP system.

Written by: P. Øgland

160. AL2HLA - Automatic Update of Datatables HLA from Datatable AANDERAA

Report no. 63/97 KLIBAS, DNMI, Oslo, December 1997. (27 pages)

Summary: A program ALA2HLA was constructed in order to copy data from the aanderaa working storage AANDERAA to a final storage HLA.

Written by: P. Øgland

161. Computer programme AUTO_BACKUP

Report no. 01/98 KLIBAS, DNMI, Oslo, January 1998. (25 pages)

Summary: A system was developed in order to generate automatic export of A-datatables in case the system would break down.

Written by: P. Øgland

162. AWS Computer programme FEILOVERSIKT

Report no. 02/98 KLIBAS, DNMI, Oslo, January 1998. (28 pages)

Summary: The AWS program FEILOVERSIKT was introduced as a part of the MKK2 quality control procedure.

Written by: P. Øgland

163. SYNO_INN v.3.3: Revised for inserting international synops into TELE

Report no. 03/98 KLIBAS, DNMI, Oslo, January 1998. (53 pages)

Summary: The purpose of the revised version 3.3 of the computer program SYNO_INN was to make it possible to insert chosen foreign synop observations into the TELE datatable. At the moment of its release, five test stations were being used.

Written by: P. Øgland

164. Computer programme SYNO_UFUL

Report no. 04/98 KLIBAS, DNMI, Oslo, January 1998. (31 pages)

Summary: While the integration of the TELE_UFUL program worked successfully for most cases within the context of the SYNO_KONTR daily automatic interpolation and quality control, problems concerned with using the program at the change of each month made it reasonable to design a similar program SYNO_UFUL more specially fitted for the SYNO_KONTR routine.

Written by: P. Øgland

165. Computer program SYNOP monitoring performance, quality and development of the TELE/SYNOP system

Report no. 05/98 KLIBAS, DNMI, Oslo, January 1998. (43 pages)

Summary: At beginning of a new year an overview of the development and status for the TELE/SYNOP routine was needed. The program SYNOP v.1.0 was constructed in order to make this systematically and repeatedly on an annual basis.

Written by: P. Øgland

166. Computer program CHECK_MAIL

Report no. 06/98 KLIBAS, DNMI, Oslo, February 1998. (26 pages)

Summary: The program CHECK_MAIL was designed for automatically deleting redundant mail for system user KABASE.

Written by: P. Øgland

167. Arbeid i databasegruppen 1997

Report no. 07/98 KLIBAS, DNMI, Oslo, February 1998. (38 pages)

Summary: The KLIBAS database project was terminated as a project on October 8th 1997, having reached its goal of establishing a new climatological database system at DNMI. The report gives a summary of main problems and tasks handled by the database group during 1997 and plans for KLIBAS maintenance and development for the upcoming years.

Written by: P. Øgland

168. Computer program S-T-F used for automatic quality control

Report no. 08/98 KLIBAS, DNMI, Oslo, February 1998. (26 pages)

Summary: The program S-T-F is used in daily quality control of weather observations stored in datatable TELE (report no. 20/95 KLIBAS). The version 2.0 of this program was constructed to be run both manually and automatically in order to improve quality of observations and statistics in the TELE/SYNOP routine.

Written by: P. Øgland

169. AWS computer program MVTABLE v.2.0

Report no. 09/98 KLIBAS, DNMI, Oslo, February 1998. (38 pages)

Summary: An improved version of the program MVTABLE for moving and restructuring A-datatables was added to the KLIBAS system.

Written by: P. Øgland

170. Arbeid gjort av brukergruppa i 1997

Report no. 10/98 KLIBAS, DNMI, Oslo, March 1998. (17 pages)

Summary: The report contains a collection of summaries from the meetings in the KLIBAS usergroup of 1997.

Written by: P.Ø. Nordli

171. Quality control computer program S-T-F v.2.0

Report no. 11/98 KLIBAS, DNMI, Oslo, February 1998. (37 pages)

Summary: After the old version 1.4 of the quality control computer program S-T-F was built into the KLIBAS automatic quality control routine (report no. 08/98 KLIBAS), work commenced on a new version 2.0 of S-T-F, built completely from scratch.

Written by: P. Øgland

172. Precipitation matrix program RRUTM v.3.0

Report no. 12/98 KLIBAS, DNMI, Oslo, March 1998. (28 pages)

Summary: The program RRUTM v.3.0 is rebuilt from scratch in order to fit external customers.

Written by: P. Øgland

173. Analysing CRONTAB scheduling with computer program ORACLE_SHUTDOWN

Report no. 13/98 KLIBAS, DNMI, Oslo, March 1998. (31 pages)

Summary: The ORACLE_SHUTDOWN program was constructed in order to pinpoint occasions when a KLIBAS computer program was abnormally terminated due to problems with the Oracle database core.

Written by: P. Øgland

174. Automatically altering CRONTAB with computer program CHECK_15MIN v.2.0

Report no. 14/98 KLIBAS, DNMI, Oslo, March 1998. (25 pages)

Summary: The program CHECK_15MIN was designed in order to collect load statistics from the observer every 15 minutes and to check whether programs scheduled by the UNIX crontab will crash because Oracle is unavailable.

Written by: P. Øgland

175. Computer program GRIM_REAPER

Report no. 15/98 KLIBAS, DNMI, Oslo, March 1998. (29 pages)

Summary: The program GRIM_REAPER is responsible for removing unwanted files. Core files are removed on a daily basis. Files of the type slask, junk, *.o, and *.* are removed within 7 days. A warning is generated if the system finds files that have been untouched for more than 500 days. A warning is generated for files of greater size than 500 blocks.

Written by: P. Øgland

176. Computer program ALA2TELE_PARA for automatic update of AWS in TELE_PARA

Report no. 16/98 KLIBAS, DNMI, Oslo, February 1998. (24 pages)

Summary: In order to prevent the SYNO_INN system to break down because snr was not defined, a program ALA2TELE_PARA was constructed that inserted snr from auto init files in case the new station was an AWS.

Written by: P. Øgland

177. Quality control computer program S-T-F v.2.1: Automatic removal of bad INTERPOL2 values

Report no. 17/98 KLIBAS, DNMI, Oslo, May 1998. (41 pages)

Summary: In the revised version 2.1 of the quality control program S-T-F functions have been added for automatically removing interpolated values that are assigned with flagg '4'. Automatic interpolation is presently done by the interpolation program INTERPOL2 (report no. 61/97 KLIBAS).

Written by: P. Øgland

178. Computer program CHECK_H_STAT for monitoring missing values on KA_H_STAT

Report no. 18/98 KLIBAS, DNMI, Oslo, May 1998. (26 pages)

Summary: The purpose of the program CHECK_H_STAT is to check whether the computer program

KA_H_STAT seems to be generating reasonable statistics, and to enlarge the automatic part of the SYN-OP/TELE quality control routine by trying to simulate the manner in which the output from KA_H_STAT is analysed manually.

Written by: P. Øgland

179. Computer program PIO_INN

Report no. 19/98 KLIBAS, DNMI, Oslo, May 1998. (30 pages)

Summary: PIO data ("PC i observasjonstjenesten") have been recorded on files since Mars 23rd 1998. The purpose of the program PIO_INN is to automatically insert PIO observations into the PIO datatable in the KLIBAS database system on a daily basis.

Written by: P. Øgland

180. Computer program SYNO_ESPEN

Report no. 20/98 KLIBAS, DNMI, Oslo, May 1998. (27 pages)

Summary: The program SYNO_ESPEN selects observations from TELE at least once a day, and puts these on a file KLIBAS_VA.ASCII on the directory /USR/PEOPLE/KABASE/VA in order for VA to RCP the file for internal use. The format KLIBAS_VA.ASCII has been suggested by VA.

Written by: P. Øgland

181. Computer program AUTO_BACKUP v1.1

Report no. 21/98 KLIBAS, DNMI, Oslo, June 1998. (41 pages)

Summary: In the 1.1 version of the program a backup feature for the monthly files on /opdata/automat/data on SGI-Monsoon was added.

Written by: P. Øgland

182. Computer program VIND_REG

Report no. 22/98 KLIBAS, DNMI, Oslo, July 1998. (54 pages)

Summary: The first version of the system is programmed according to specifications as written September 1997.

Written by: P. Øgland

183. Computer program CHECK_STATUT

Report no. 23/98 KLIBAS, DNMI, Oslo, July 1998. (37 pages)

Summary: The purpose of the program CHECK_STATUT is to analyse the output from the program STATUT. This first version focuses on finding instances where no value is displayed for a certain statistic on the STATUT output file. Information of this kind is directed into the stderr flow of the STATUT program and will give the program higher priority on the KLIBAS maintenance list.

Written by: P. Øgland

184. KLIMA_KONTR: Simulation and control of a quality control system for weather data

Report no. 24/98 KLIBAS, DNMI, Oslo, July 1998. (66 pages)

Summary: The KLIMA_KONTR program was intended for simulating the KLIMA quality control routine and consists of system calls to all the programs described in report no. 12/96 KLIBAS and functions for analysing the output from these programs.

Written by: P. Øgland

185. PC i observasjonstjenesten: PIO_INN v.1.1

Report no. 25/98 KLIBAS, DNMI, Oslo, July 1998. (53 pages)

Summary: The report gives a description of a revised version of the PIO_INN program, now reading data from a revised PIO format, inserting data into a differently designed PIO datatable and at the same time

adding rows to the TELE table.

Written by: P. Øgland

186. Computer program SYNO_ESPEN v.2.0

Report no. 26/98 KLIBAS, DNMI, Oslo, July 1998. (42 pages)

Summary: Improvements of SYNO_ESPEN in version 2.0 consists of adding an internal check for controlling the correct number of lines being written to KLIBAS_VA.ASCII and introduction of control procedures in the program SYNO_ESPEN and SYNOP in order to check each other respectively.

Written by: P. Øgland

187. Computer program ALA2ALV

Report no. 27/98 KLIBAS, DNMI, Oslo, July 1998. (67 pages)

Summary: The first version of the program updates only TELE, but will be adapted for updating ALV when this will be needed for the KLIMA/ALV routine.

Written by: P. Øgland

188. Computer program SYNO_DELETE

Report no. 28/98 KLIBAS, DNMI, Oslo, July 1998. (34 pages)

Summary: SYNO_DELETE is automatically called from SYNO_INN when an Oracle errors indicates it is impossible to insert or update due to lack of extents in TELE (ORA-01631). Up to one third of the data in TELE will then be deleted, but in order to prevent deleting to many rows in TELE the last 12 months will not be deleted.

Written by: P. Øgland

189. Computer program AUTO_BACKUP v.2.0

Report no. 29/98 KLIBAS, DNMI, Oslo, July 1998. (53 pages)

Summary: The reason for updating a version 2.0 of AUTO_BACKUP was a serious failure in the AWS backup files the 29th of July 1998 causing temporary loss of data in the KLIBAS database. The version 2.0 includes a totally revised system documentation, a system call to the program MVTABLE, new algorithms for monitoring available space in the 'A' tablespaces and general improvement for preventing the program from trying to make updates of tables that have previously failed.

Written by: P. Øgland

190. Computer program MVTABLE v.2.1

Report no. 30/98 KLIBAS, DNMI, Oslo, August 1998. (52 pages)

Summary: The program MVTABLE 2.1 is an improved version of MVTABLE 2.0 (report no. 09/98 KLIBAS). Due to new Pro*C compilers when updating the Oracle database system to version 7.3 in April 1998, the version 2.0 of MVTABLE would no longer function. Use of the program was however needed by the end of July 1998 as problems with the AUTO_BACKUP system were being fixed (report no. 29/98 KLIBAS) and the new version 2.1 had to be restructured and made to work.

Written by: P. Øgland

191. Computer program MNDTIMRAMME

Report no. 31/98 KLIBAS, DNMI, Oslo, August 1998. (49 pages)

Summary: A first prototype, MNDTIMRAMME version 0.1, was introduced in December 1997 in order to register the interest of a program of this kind. Every month there have been from one to ten efforts by the end users to produce the statistics offered by the program. By the end of July 1998 it was apparent that the program was strongly needed.

Written by: P. Øgland

192. Computer program STATUT v.2.0

Report no. 32/98 KLIBAS, DNMI, Oslo, August 1998. (56 pages)

Summary: The version 2.0 of STATUT contains an update of the algorithm that is used for producing and presenting amount of precipitation for the 30 last days, using a 06-06 definition of the day rather than an 18-18 definition as before. A new specification for the program has been written, emphasising STATUT as a part in a greater SYNOP system, and a number of program statistics are now being collected and automatically investigated. The SYNOP meny has also been altered and simplified.

Written by: P. Øgland

193. Computer program SYNO_TEST v.2.1

Report no. 33/98 KLIBAS, DNMI, Oslo, August 1998. (52 pages)

Summary: Apart from the newly written program specification for SYNO_TEST v.2.1, the main new feature for the program is a system call to datatable TELE_PARA deleting stations where there has not been recorded data for over 90 days according to observations stored in datatable SYNOP2.

Written by: P. Øgland

194. Collecting KLIMA system statistics

Report no. 34/98 KLIBAS, DNMI, Oslo, August 1998. (64 pages)

Summary: The program KLIMA has been modelled on the similar SYNOP program that is being used for monitoring the SYNOP/TELE routine (report no. 05/98 KLIBAS).

Written by: P. Øgland

195. Computer program CHECK_STATUT v.1.1

Report no. 35/98 KLIBAS, DNMI, Oslo, August 1998. (46 pages)

Summary: This version 1.1 of CHECK_STATUT has developed the idea of finding instances where no value is displayed for a certain statistic on the STATUT output file from just the first rows of the STATUT file to all rows. The program will then feed input to the interpolation system and will automatically demand further development in terms of areal checks when there are no more missing values reported.

Written by: P. Øgland

196. Collecting PRECIP system statistics

Report no. 36/98 KLIBAS, DNMI, Oslo, August 1998. (64 pages)

Summary: The program PRECIP has been modelled on the similar KLIMA program that is being used for monitoring the KLIMA/KLIMA_KONTR routine (report no. 34/98 KLIBAS).

Written by: P. Øgland

197. Computer program CHECK_RELFUKT

Report no. 37/98 KLIBAS, DNMI, Oslo, August 1998. (42 pages)

Summary: This first prototype version of CHECK_RELFUKT identifies the station with the reatest deviation from the average relative humidity profiles as read from the RELFUKT file. The RELFUKT program is technically defined in report nos. 29/95 and 10/96 KLIBAS. A description of the RELFUKT output and the philosophy behind the test is given in report no. 23/94 KLIBAS.

Written by: P. Øgland

198. Analysing Relative Humidity Statistics by CHECK_KONTHUM

Report no. 38/98 KLIBAS, DNMI, Oslo, August 1998. (40 pages)

Summary: This first prototype version of CHECK_KONTHUM counts the number of instances with reported warnings concerning exceeding boundary limits by vapor pressure differences and instances of exceeding boundary limits for relative humidity and vapor pressure. The KONTHUM program is technically defined in report no. 29/95.

Written by: P. Øgland

199. Computer program VINDDEK

Report no. 39/98 KLIBAS, DNMI, Oslo, August 1998. (42 pages)

Summary: Specifications for the VINDDEK program were made by Lars Andresen and Per Ove Kjensli. The program is intended to constitute the main part of the VIND_REG weather data routine at the Climatology Division (report no. 22/98 KLIBAS).

Written by: P. Øgland

200. Computer program KLIMA_KONTR v.1.1

Report no. 40/98 KLIBAS, DNMI, Oslo, August 1998. (54 pages)

Summary: The first version of KLIMA_KONTR (report no. 24/98 KLIBAS) consisted of registering the status of the ALV_DATO table, making system calls to the WS Quality Control programs and producing quality flag statistics. The version 1.1 has evolved further towards a simulation and automation of the Weather Station Routine by including system calls to CHECK-programs designed for analysing the output of the QC programs. Also new in the revised version is a test run mode for faster execution and a branching that prevent the LORI-LIST programs from being run if there are registered problems with the analysis of the MET programs.

Written by: P. Øgland

201. PC i observasjonstjenesten: PIO_INN v.2.0

Report no. 41/98 KLIBAS, DNMI, Oslo, August 1998. (79 pages)

Summary: The version 2.0 of PIO_INN is significantly reprogrammed in order to handle data from the SAWS/mnd format in addition to the PIO/mnd format. The idea of the revised PIO_INN program is to store the manually observed part of the SAWS in the PIO table.

Written by: P. Øgland

202. Collecting AUTO system statistics

Report no. 42/98 KLIBAS, DNMI, Oslo, August 1998. (69 pages)

Summary: The program AUTO has been modelled on the similar PRECIP program that is being used for monitoring the PRECIP/PRECIP_KONTR routine (report no. 36/98 KLIBAS).

Written by: P. Øgland

203. Computer program VIND_REG v.1.1

Report no. 43/98 KLIBAS, DNMI, Oslo, August 1998. (65 pages)

Summary: In the revised version 1.1 of VIND_REG minor faults in the algorithm have been corrected. The documentation has been updated and partly rewritten based on handwritten comments on report no. 22/98 KLIBAS.

Written by: P. Øgland

204. Inserting blank rows in TELE with SYNO_UFUL v.1.1

Report no. 44/98 KLIBAS, DNMI, Oslo, August 1998. (38 pages)

Summary: The revised SYNO_UFUL v.1.1 differs from the previous version of the program by now being incorporated as a module in both the SYNO_KONTR system and the S-T-F system. The reason for the update of the program was due to dataflow problems having SYNO_UFUL inserting blank rows into TELE before the programs managed to insert rows from the AWS. Problems arised in particular with the stations Apelvoll and Kise that are not incorporated in the SYNOP programme. By having SYNO_UFUL working in concert with S-T-F and ALA2ALV, as explained in this report, the problem was solved.

Written by: P. Øgland

205. Updating AWS in ALV and TELE by ALA2ALV v.1.1

Report no. 45/98 KLIBAS, DNMI, Oslo, August 1998. (72 pages)

Summary: With the revision 1.1 the program ALA2ALV now includes updates of ALV for all instances that were previously only used for updating TELE. So far only the columns TT, TN, TX, P, PO, RR, SS, UU and updated in TELE with the additional FX and FG in ALV. Each updated value is flagged '5' in TELE and '1' in ALV.

Written by: P. Øgland

206. Interpolating air pressure in TELE with INTERPOL_P0

Report no. 46/98 KLIBAS, DNMI, Oslo, September 1998. (69 pages)

Summary: This first version of the INTERPOL_P0 program is run systematically in sequence with the INTERPOL2 program in order to reinterpolate the air pressure interpolations done by INTERPOL2. The INTERPOL_P0 program produces statistics in the form of RMSE values that are printed and plotted in the KLIBAS statistics report. Zbigniew Toporowski will also systematically analyse and evaluate the interpolations done by the program in the hope that INTERPOL_P0 may also be used for updating in ALV.

Written by: P. Øgland

207. Towards an ISO-9000 standard for system development by DRIFT

Report no. 47/98 KLIBAS, DNMI, Oslo, September 1998. (27 pages)

Summary: This is the first documented version of DRIFT although the program has been in use since April 1995. In order to reach an ISO-9000 level for the program development, the five level Software Engineering Institute (SEI) method is being used. The final level should be fairly close to ISO-9000.

Written by: P. Øgland

208. Feeding observations from TELE to VA by SYNO_ESPEN v.2.1

Report no. 48/98 KLIBAS, DNMI, Oslo, September 1998. (50 pages)

Summary: This version of SYNO_ESPEN includes an improvement of the basic algorithm, feeding blank lines to file when there are no observations in TELE, an additional file for updating normal values and a check procedure interrelated with the program SYNOP checking that SYNO_ESPEN is run systematically.

Written by: P. Øgland

209. Monthly AWS Quality Control Statistics MKK v.2.0

Report no. 49/98 KLIBAS, DNMI, Oslo, September 1998. (17 pages)

Summary: The version 2.0 of MKK is significantly restructured from the initial version of the program described in KLIBAS report no. 15/95. The present system is fully explained in this report. Among the latest additions to the MKK system are tables displaying monthly values of UU, TT, P0 and RR_12 sorted by standard deviation.

Written by: P. Øgland

210. Dumping hourly wind observations to file by AARSTIMESRAMME

Report no. 50/98 KLIBAS, DNMI, Oslo, September 1998. (48 pages)

Summary: The program AARSTIMESRAMME has been designed in order to help meet monthly requests for hourly wind observations. In this first version only observations from the regular AWSs can be used, due to internal problems with the program depending on ownership of datatables, but as soon as this is solved, the program will automatically search for VIND_REG AWS tables as well.

Written by: P. Øgland

211. Reading METAR from meta-files into ALF by META_INN

Report no. 51/98 KLIBAS, DNMI, Oslo, September 1998. (57 pages)

Summary: This first operative version of META_INN reads the meta-files every three hours and inserts values into the table ALF. While the old METARinn program reads data from the msys8-files, the new META_INN is modeled after SYNO_INN and should be a significantly safer and more reliable method of collecting data. For the present, however, the program will continue to be tested for at least one month before substituting the old program.

Written by: P. Øgland

212. Interpolating air pressure in TELE with INTERPOL_P0 v.1.1

Report no. 52/98 KLIBAS, DNMI, Oslo, September 1998. (93 pages)

Summary: In the version 1.1 of the program, the min/max estimation technique was replaced by the inverse-distance weight method used in the first version of the INTERPOL2 program. According to statistics in the report the average 5 hPa root mean square error (rmse) was reduced to 1 hPa rmse. The P0 estimates were improved by adding temperature to the P0 calculation formula.

Written by: P. Øgland

213. PC i observasjonstjenesten: PIO_INN v.2.1

Report no. 53/98 KLIBAS, DNMI, Oslo, October 1998. (69 pages)

Summary: The reason for publishing this version 2.1 of the PIO_INN program is that the program is now significantly altered in order to read SAWS data and make sure that only the manual part of the observation sets are stored in the PIO table. In order to have better control over the PIO_INN system, new plots and statistics are added.

Written by: P. Øgland

214. Reading data from syno-files into KLIBAS: SYNO_INN v.3.4

Report no. 54/98 KLIBAS, DNMI, Oslo, October 1998. (78 pages)

Summary: The program was revised due to an uncontrolled breakdown on Friday October 16th 1998. Errors in the code documented in report no. 03/98 KLIBAS were found and corrected.

Written by: P. Øgland

215. AWS real-time quality control: ADK v.2.2

Report no. 55/98 KLIBAS, DNMI, Oslo, October 1998. (47 pages)

Summary: The version 2.2 of the ADK real-time quality control is an adjustment of the program in order to have the system work after breaking down on October 15th 1998. While the actual updating of the system, in order to have it work, was done on the module bautom.pc, the part of the system that is documented in this report is a newly designed total ADK overview in order to help maintenance simpler and make it simpler to adjust for future problems with the system.

Written by: P. Øgland

216. Storing AWS wind observations by use of VIND_REG v.1.2

Report no. 56/98 KLIBAS, DNMI, Oslo, October 1998. (70 pages)

Summary: What is new in the 1.2 version of VIND_REG as compared with the old version 1.1 (KLIBAS-report no. 43/98) is that the program is now running systematically every hour of the day by the crontab. The program is integrated with a quality check routine using the program VINDDEK (KLIBAS-report no. 39/98), and the part of the program that is generating statistics for daily monitoring and monthly printing in the KLIBAS statistics report is improved. In addition to storing observations in separate A-tables, the program now also stores data in a general VIND-table preparing the routine for the new Oracle8 database structure. The report contains a definition of the XVIND data table in the appendix.

Written by: P. Øgland

217. Reading METAR from meta-files into ALF by META_INN v.1.1

Report no. 57/98 KLIBAS, DNMI, Oslo, October 1998. (69 pages)

Summary: New elements in the version 1.1 of the META_INN program consists of a more complete collection of columns being read from the META-files, a more thorough check of elements as they are being read and log and statistics showing how many problems are registered on the average day by day as METAR observations are being inserted into the KLIBAS database system.

Written by: P. Øgland

218. PC i observasjonstjenesten: PIO_INN v.2.2

Report no. 58/98 KLIBAS, DNMI, Oslo, October 1998. (71 pages)

Summary: In the version 2.1 of PIO_INN it was realised that in order to collect only data rows containing real data, tests had to be applied in order to find out if that row was assumed to contain an observation or not. In each such case where a missing value was not clearly defined, and had to be assumed, the instance was logged. In the version 2.2 of PIO_INN this random number of errors is applied for defining whether the PIO_INN is in statistical control or not.

Written by: P. Øgland

219. Reading data from syno-files into KLIBAS: SYNO_INN v.3.5

Report no. 59/98 KLIBAS, DNMI, Oslo, October 1998. (95 pages)

Summary: The 3.5 version of the SYNO_INN program is augmented by statistical process control in terms of logging every format problem that arises when inserting into the Oracle database and logging every discrepancy having to do with observations not corresponding to definitions in TELE_PARA in order to use the log for statistical analysis.

Written by: P. Øgland

220. Updating METAR from ALF in TELE by ALF2TELE

Report no. 60/98 KLIBAS, DNMI, Oslo, November 1998. (68 pages)

Summary: The prototype version of ALF2TELE updates only temperature from ALF to TELE. The program is run from the SYNO_KONTR system, making sure that metar data are inserted into TELE before interpolation is executed. The program produces control charts for daily statistical process control of the system.

Written by: P. Øgland

221. Daily export and import of A-tables by AUTO_BACKUP v.2.1

Report no. 61/98 KLIBAS, DNMI, Oslo, November 1998. (61 pages)

Summary: The import for the AUTO_BACKUP program failed for station A14600 at the end of October. Before the error was corrected the program failed again on November the 4th and 5th for tables A32060 and A28340, resulting in data being exported to files and deleted from the database but not restored. In the version 2.1 of AUTO_BACKUP the reason for failure is analysed and the program is improved in order to prevent further failure due to similar reasons.

Written by: P. Øgland

222. Updating data in TELE by VNN v.2.1

Report no. 62/98 KLIBAS, DNMI, Oslo, November 1998. (49 pages)

Summary: The version 2.1 of VNN contains a procedure for updating the tromso_stasj file as non-operative stations on this file tend to give the impression of the VNN routine being out of control. Several other aspects of the statistical process control (SPC) for VNN are also added in this revision of the program.

Written by: P. Øgland

223. Inserting snr/stnr into TELE_PARA by ALA2TELE_PARA v. 1.1

Report no. 63/98 KLIBAS, DNMI, Oslo, November 1998. (36 pages)

Summary: The version 1.1 of ALA2TELE_PARA has been constructed due to two more or less problematic events during the last months. The first change was to have the program select the proper snr/stnr from ST_INFO when there are more snr to select from. The other change is to use one of the test station stnr when no snr is found in ST_INFO. Both problems caused serious problems for the SYNO_INN system during October and November 1998.

Written by: P. Øgland

224. Producing daily AWS averages and sums by AARSRAMME v. 1.1

Report no. 64/98 KLIBAS, DNMI, Oslo, November 1998. (44 pages)

Summary: Changes in the 1.1 version of AARSRAMME consists of reprogramming in order to handles statistics for daily hours of sunlight (ST) and partial reprogramming in order to facilitate statistical process control procedures for the program.

Written by: P. Øgland

225. Reading data from syno-files into KLIBAS: SYNO_INN v.3.6

Report no. 65/98 KLIBAS, DNMI, Oslo, November 1998. (97 pages)

Summary: In the 3.6 version of SYNO_INN the SPC statistics have been developed further. It turned out the program changes made for version 3.5 made the program critically slow, so in this new version reprogramming in order to make the routine more efficient have been applied.

Written by: P. Øgland

226. Updating AWS in ALV and TELE by ALA2ALV v.1.2

Report no. 66/98 KLIBAS, DNMI, Oslo, December 1998. (74 pages)

Summary: The reason for documenting a revision 1.2 of ALA2ALV is continuous flow of problems recorded by the program since November 25th. Since version 1.1 of August 1998 there have been several updates of ALA2ALV. Procedure for handling wind have been added, the selection criteria for finding SAWS stations have been altered, problems relevant to updating TN, TX and UU have been solved, and recent problems due to too large values because of reprogramming of the AUTO data collection system have been solved.

Written by: P. Øgland

227. Reading AWS mnd-files into A-tables by MND2HLA v.1.2

Report no. 67/98 KLIBAS, DNMI, Oslo, December 1998. (44 pages)

Summary: In December the MND2HLA program has been extensively rewritten due to accumulating problems. Additional features should make the program more robust.

Written by: P. Øgland

228. Reading AUTO-files into ALA by MND2ALA v.1.2

Report no. 68/98 KLIBAS, DNMI, Oslo, December 1998. (47 pages)

Summary: In a similar way to the revision of MND2HLA (report no. 67/98 KLIBAS), the MND2ALA has been rewritten in order to perform in a more robust manner. A simple quality control is now a part of the system, and various procedures from MND2HLA also are added as extra features. Multiple breakdowns of the MND2ALA/MND2HLA programs in November/December 1998 is the reason for this update.

Written by: P. Øgland

229. Test for completeness in data series by CONTSYN1 v.3.0

Report no. 69/98 KLIBAS, DNMI, Oslo, December 1998. (48 pages)

Summary: The revision 3.0 of CONTSYN1 is totally rewritten from scratch. Previous versions could not handle observations from Semi-Automatic Weather Stations (SAWS). The present version produces more

compact output and should work as a module in a redefinition of the KLIMA quality control routine.

Written by: P. Øgland

230. Data transport and storage by program AUTO_INN v.1.2

Report no. 01/99 KLIBAS, DNMI, Oslo, January 1999. (51 pages)

Summary: AUTO_INN has been one of the less well behaving programs of the KLIBAS system. A long history of the program failing in different ways due to problems with handling the sub-programs, the version 1.2 has been established which has the internal information flow of the program radically changed in order to perform analysis on how and why it may break down in the future, making improvements more facile.

Written by: P. Øgland

231. Computer assisted computer programming: KAPO v.1.0

Report no. 02/99 KLIBAS, DNMI, Oslo, January 1999. (36 pages)

Summary: In this prototype version of KAPO, which has been used on a daily basis since December 1997, only a restricted functionality is included. The program is used for marking problems as ignored or solved on the err-files for a program as the problems are being solved.

Written by: P. Øgland

232. 50540 Bergen - Florida, analyse av feilfunksjon i åra 1997 og 1998

Report no. 03/99 KLIBAS, DNMI, Oslo, January 1999. (15 pages)

Summary: There were large fluctuations in air temperature on Bergen - Florida during parts of 1997 and 1998. The mean values of air temperature gave a false, negative deviation of 0.5 - 0.6°C. Because of the fluctuations it is not possible to adjust the series with a coefficient. Overlapping temperature observations from a Aanderaa Instruments station run by DNMI, however, seemed to be reliable and should therefore be used as the official DNMI observations for Bergen - Florida for July 25th 1997 to September 22nd 1998.

Written by: P.Ø. Nordli

233. Testing for dead band by computer program ADK_REPEAT

Report no. 04/99 KLIBAS, DNMI, Oslo, January 1999. (48 pages)

Summary: The reason for constructing this prototype of AUTO_REPEAT was a strong need to identify periods with "dead band" in the case of wind, relative humidity and snow accumulation for analysis in the AWS quality assurance group (KLIBAS-note no. 02/99). Test examples from the program are given for Glomfjord where both wind and snow accumulation sensors have been dead in periods.

Written by: P. Øgland

234. Reading data from syno-files into KLIBAS: SYNO_INN v.3.7

Report no. 05/99 KLIBAS, DNMI, Oslo, January 1999. (106 pages)

Summary: The version 3.7 of program was made to not break down in case of failure in the insert procedures INSERT_SYNOP, INSERT_SYNOP2 and INSERT_TELE. The adjustment was made to compensate on a problem of SYNO_INN breaking down on Sunday January 17 at 19:41 GMT as it was unable to extend the SYNOP-index. Still the program will not be able to extend the SYNOP-index, but it automatically generates an e-mail message to a person who may be able to do so and continues inserting data into the other data tables.

Written by: P. Øgland

235. SYNO_KONTR v.2.1: Daily interpolation and quality control

Report no. 06/99 KLIBAS, DNMI, Oslo, January 1999. (72 pages)

Summary: The version 2.1 of SYNO_KONTR is expanded by including a test for checking for "non-de-

finned" observations in the datatable TELE. If values are inserted by the SYNO_INN program or the interpolation programs (INTERPOL2 or INTERPOL_P0) in columns that should not have been updated, this program takes notice and include these problems along with a count of missing values in curves and lists updated daily. The purpose of all this is aid to help that the TELE data table contain all needed observations, but no more.

Written by: P. Øgland

236. CONTSYN2 v.2.0: Some additional checks for the ALV routine

Report no. 07/99 KLIBAS, DNMI, Oslo, February 1999. (44 pages)

Summary: This first version of the 'new' CONTSYN2 program includes some checks for weather that are not included in the running version of CONTSYN2 and some warnings in order to give information on how to handle special cases of air pressure quality control. CONTSYN2 v.2.0 is to be run as an appendix to the traditional CONTSYN2 v.1.1 described in KLIBAS reports nos. 23/95, 29/95 and 11/96.

Written by: P. Øgland

237. Interpolating in TELE with Hirlam10 forecast data

Report no. 08/99 KLIBAS, DNMI, Oslo, February 1999. (40 pages)

Summary: In this prototype version only precipitation RR is used for updating TELE. When the program has been sufficiently tested it will then be updated for inclusion of updates of temperature TT, cloud cover N and air pressure at sea level P. Additional parametres TN, TX, UU and P0 will then follow if everything works out all right.

Written by: P. Øgland

238. Selecting hourly AWS observations by AARSTIMSRAMME v.1.1

Report no. 09/99 KLIBAS, DNMI, Oslo, February 1999. (52 pages)

Summary: The version 1.1 of AARSTIMSRAMME contains alternative formats for printing wind observations to file/printer, temperature observations to file/printer and all observations to file/printer. The version 1.0 only contained the option for printing wind observations, and was specially designed for the AREO automatic weather stations. The new version applies to all automatic weather stations.

Written by: P. Øgland

239. Automated air pressure quality control by CHECK_CONT2

Report no. 10/99 KLIBAS, DNMI, Oslo, February 1999. (55 pages)

Summary: A quality control problem in January 18th 1999 at 15730 BRÅTÅ - SLETTOM is used as an example to illustrate how an automatic analysis may be used for simulating the normal manual quality control analysis, and, when the reasons for a particular quality problem is understood, the program may update the ALV table automatically. No updates are performed, however, by this early version of the program.

Written by: P. Øgland

240. Interpolating air pressure in TELE with INTERPOL_P0 v.1.2

Report no. 11/99 KLIBAS, DNMI, Oslo, February 1999. (83 pages)

Summary: In the version 1.2 of INTERPOL_P0, the estimation algorithm has adjusted, now filtering the estimate $e(p(j)) = (p(j-1) + e(p(j)) + p(j+1)) / 3.0$ if all observations are attainable. The quality of the estimates is measured by RMSE. For the four test stations used in this particular study, the improvements were as follows: Junsele RMSE(p)=6.0 -> 3.0, Borlänge RMSE(p)=5.9 -> 4.6, Ørebro RMSE(p)=5.4 -> 2.5 and Svege RMSE(p)=5.1 -> 3.5. Unfortunately, however, the log-files, containing material for computing RMSE, were lost, due to accident, for parts of December 1998, the whole of January 1999 and parts of February 1999, so improvement statistics will be uncomplete.

Written by: P. Øgland

241. Producing METAR data cover statistics by the program BRODOY

Report no. 12/99 KLIBAS, DNMI, Oslo, February 1999. (44 pages)

Summary: The presentation of data cover statistics are designed in order to fit specifications by Kjell Bruarøy at Bodø, phone 75 54 27 60, who has been in need of KLIBAS/METAR observations at Kirkenes, Tromsø, Svolvær, Bringeland, Flesland and Ekofisk for week 1 (January 4-10) in a data cover study performed by Flyværtjenesten.

Written by: P. Øgland

242. Monitoring KLIBAS system mail by MAILSTAT v.1.0

Report no. 13/99 KLIBAS, DNMI, Oslo, February 1999. (43 pages)

Summary: This first documented version of MAILSTAT so far only collects statistics from mailbox. Further programming will be needed for presenting the statistics as more values are collected. The program in its present form is important, however, as an aid for understanding how the KLIBAS warning mail system performs as priority lists for maintenance and development is based on this system.

Written by: P. Øgland

243. Monitoring KA_H_STAT with CHECK_H_STAT v.1.1

Report no. 14/99 KLIBAS, DNMI, Oslo, February 1999. (55 pages)

Summary: The version 1.0 of CHECK_H_STAT was based on checking instances where the fields in KA_H_STAT leave blanks. Apparently observations are missing in these situations, and this information is hence channeled forward through to the maintenance report for daily check. In the version 1.1 of CHECK_H_STAT the same approach is being used, but this time the counting of missing fields in the KA_H_STAT output is based on correspondence with the TELE_PARA table. There have also been improvements in the

presentation of results in version 1.1 as compared with 1.0.

Written by: P. Øgland

244. Collecting and monitoring PRECIP system statistics. V.1.1

Report no. 15/99 KLIBAS, DNMI, Oslo, February 1999. (72 pages)

Summary: In PRECIP v.1.1 the program is reworked in order to produce daily updates for monitoring of the ALN data processing routine to input for the DRIFT program for monthly publishing in the KLIBAS notes series. The monitoring is a step towards measuring the consequences of adding automatic elements to the ALN precipitation quality control.

Written by: P. Øgland

245. Version 1.2 of the alternative METARinn program

Report no. 16/99 KLIBAS, DNMI, Oslo, February 1999. (58 pages)

Summary: The reason for making this version 1.2 of the METARinn program is that there appears to have been a severe error in the previous versions, causing the program to insert random values of air pressure and air temperature into the METAR datatable at times when there was no data on file. Even though a new program META_INN is now reading the same METAR observations from the METAxx files into a data table ALF, potential users of the METAR data table should be warned. With the version 1.2 of META Rinn, however, the problem should have been solved.

Written by: P. Øgland

DNMI-KLIBAS NOTES

The KLIBAS notes is a series of reports containing results from meteorological quality control, software process control and other status documents related to the KLIBAS climatological database system. The KLIBAS notes are distributed outside DNMI, to such places as the University in Bergen, Statens Plante-forsk, Instrumenttjenesten på Ås, the Finnish Meteorological institute (FMI) and the Danish Meteorological Institute (DMI). The reports are available by request to DNMI/Klima.

1. Kvalitetskontroll av automatstasjonsdata mars 1995

Note no. 01/95 KLIBAS, DNMI, Oslo, April 1995. (40 pages)

Summary: The report describes the system of automatic weather stations and quality control techniques that are part of the data processing routine at DNMI. Based on these methods of identifying errors in the data sets, statistics are calculated for describing and comparing data cover and data quality for each automatic weather station.

Written by: P. Øgland

2. Fremdriftsrapport for automatstasjonene mars 1995

Note no. 02/95 KLIBAS, DNMI, Oslo, April 1995. (17 pages)

Summary: The report describes current status for developing a complete data processing routine for automatic weather stations (AWS). At present 36 AWS are represented in the KLIBAS database system. The quality control is a revitalisation of the EDAS automatic quality control and is used for giving statistical descriptions of the stations by measurements of defects.

Written by: P. Øgland

3. Kvalitetskontroll av automatstasjonsdata januar 1995

Note no. 03/95 KLIBAS, DNMI, Oslo, April 1995. (43 pages)

Summary: In January 1995 there were 5 Aanderaa stations in the automatic weather stations database of the KLIBAS database system, there were 10 Campbell stations as part of the system and 21 Scan-Matic stations. The report contains quality statistics for these.

Written by: P. Øgland

4. Kvalitetskontroll av automatstasjonsdata april 1995

Note no. 04/95 KLIBAS, DNMI, Oslo, May 1995. (41 pages)

Summary: In April 1995 the greatest amount of missing data were to be found on the station 17000 Stromtangen, 53101 Vangsnes and 71990 Buhomsraasa.

Written by: P. Øgland

5. Fremdriftsrapport for AUTO- og SYNOP-stasjoner april 1995

Note no. 05/95 KLIBAS, DNMI, Oslo, May 1995. (22 pages)

Summary: The report contains system status, including overview of maintenance performed the last month and plans for development concerning data collection, quality control and developing weather statistics.

Written by: P. Øgland

6. Kvalitetskontroll av automatstasjonsdata mai 1995

Note no. 06/95 KLIBAS, DNMI, Oslo, June 1995. (46 pages)

Written by: P. Øgland

7. AUTO/SYNOP fremdriftsrapport mai 1995

Note no. 07/95 KLIBAS, DNMI, Oslo, June 1995. (27 pages)

Summary:

Written by: P. Øgland

8. Kvalitetskontroll av automatstasjonsdata juni 1995

Note no. 08/95 KLIBAS, DNMI, Oslo, July 1995. (44 pages)

Written by: P. Øgland

9. Driftsrapport juni 1995

Note no. 09/95 KLIBAS, DNMI, Oslo, July 1995. (27 pages)

Written by: P. Øgland

10. Kvalitetskontroll av automatstasjonsdata juli 1995

Note no. 10/95 KLIBAS, DNMI, Oslo, August 1995. (46 pages)

Written by: P. Øgland

11. Driftsrapport august 1995

Note no. 11/95 KLIBAS, DNMI, Oslo, September 1995. (31 pages)

Written by: P. Øgland

12. Kvalitetskontroll av automatstasjonsdata august 1995

Note no. 12/95 KLIBAS, DNMI, Oslo, September 1995.

Written by: P. Øgland

13. Kvalitetskontroll av automatstasjonsdata september 1995

Note no. 13/95 KLIBAS, DNMI, Oslo, October 1995. (44 pages)

Written by: P. Øgland

14. Driftsrapport oktober 1995

Note no. 14/95 KLIBAS, DNMI, Oslo, November 1995. (33 pages)

Written by: P. Øgland

15. Kvalitetskontroll av automatstasjonsdata oktober 1995

Note no. 15/95 KLIBAS, DNMI, Oslo, November 1995. (45 pages)

Written by: P. Øgland

16. Kvalitetskontroll av automatstasjonsdata november 1995

Note no. 16/95 KLIBAS, DNMI, Oslo, December 1995. (47 pages)

Written by: P. Øgland

17. Driftsrapport november 1995

Note no. 17/95 KLIBAS, DNMI, Oslo, December 1995. (40 pages)

Written by: P. Øgland

18. Kvalitetskontroll av automatstasjonsdata desember 1995

Note no. 01/96 KLIBAS, DNMI, Oslo, January 1996.

Written by: P. Øgland

19. Driftsrapport desember 1995

Note no. 02/96 KLIBAS, DNMI, Oslo, January 1996.

Written by: P. Øgland

20. Driftsrapport januar 1996

Note no. 03/96 KLIBAS, DNMI, Oslo, February 1996.

Written by: P. Øgland

21. Kvalitetskontroll av automatstasjonsdata januar 1996

Note no. 04/96 KLIBAS, DNMI, Oslo, February 1996.

Written by: P. Øgland

22. Driftsrapport februar 1996

Note no. 05/96 KLIBAS, DNMI, Oslo, March 1996.

Written by: P. Øgland

23. Kvalitetskontroll av automatstasjonsdata februar 1996

Note no. 06/96 KLIBAS, DNMI, Oslo, March 1996.

Written by: P. Øgland

24. Kvalitetskontroll av automatstasjonsdata mars 1996

Note no. 07/96 KLIBAS, DNMI, Oslo, April 1996.

Written by: P. Øgland

25. Driftsrapport mars 1996

Note no. 08/96 KLIBAS, DNMI, Oslo, April 1996.

Written by: P. Øgland

26. Kvalitetskontroll av automatstasjonsdata april 1996

Note no. 09/96 KLIBAS, DNMI, Oslo, May 1996.

Written by: P. Øgland

27. Driftsrapport april 1996

Note no. 10/96 KLIBAS, DNMI, Oslo, May 1996.

Written by: P. Øgland

28. Kvalitetskontroll av automatstasjonsdata mai 1996

Note no. 11/96 KLIBAS, DNMI, Oslo, June 1996.

Written by: P. Øgland

29. Driftsrapport mai 1996

Note no. 12/96 KLIBAS, DNMI, Oslo, June 1996.

Written by: P. Øgland

30. Driftsrapport juni 1996

Note no. 13/96 KLIBAS, DNMI, Oslo, July 1996.

Written by: P. Øgland

31. Kvalitetskontroll av automatstasjonsdata juni 1996

Note no. 14/96 KLIBAS, DNMI, Oslo, July 1996.

Written by: P. Øgland

32. Dataoversikt for Linke-stasjoner

Note no. 15/96 KLIBAS, DNMI, Oslo, July 1996.

Written by: P. Øgland

33. Driftsrapport juli 1996

Note no. 16/96 KLIBAS, DNMI, Oslo, August 1996.

Written by: P. Øgland

34. Kvalitetskontroll av automatstasjonsdata juli 1996

Note no. 17/96 KLIBAS, DNMI, Oslo, August 1996.

Written by: P. Øgland

35. Kvalitetskontroll av automatstasjonsdata august 1996

Note no. 18/96 KLIBAS, DNMI, Oslo, September 1996.

Written by: P. Øgland

36. Driftsrapport august 1996

Note no. 19/96 KLIBAS, DNMI, Oslo, September 1996.

Written by: P. Øgland

37. Kvalitetskontroll av automatstasjonsdata september 1996

Note no. 20/96 KLIBAS, DNMI, Oslo, October 1996.

Written by: P. Øgland

38. Driftsrapport september 1996

Note no. 21/96 KLIBAS, DNMI, Oslo, October 1996.

Written by: P. Øgland

39. Kvalitetskontroll av automatstasjonsdata oktober 1996

Note no. 22/96 KLIBAS, DNMI, Oslo, November 1996.

Written by: P. Øgland

40. Driftsrapport oktober 1996

Note no. 23/96 KLIBAS, DNMI, Oslo, November 1996.

Written by: P. Øgland

41. Kvalitetskontroll av automatstasjonsdata november 1996

Note no. 24/96 KLIBAS, DNMI, Oslo, December 1996.

Written by: P. Øgland

42. Driftsrapport november 1996

Note no. 25/96 KLIBAS, DNMI, Oslo, December 1996.

Written by: P. Øgland

43. Kvalitetskontroll av automatstasjonsdata desember 1996

Note no. 01/97 KLIBAS, DNMI, Oslo, January 1997.

Written by: P. Øgland

44. Driftsrapport desember 1996

Note no. 02/97 KLIBAS, DNMI, Oslo, January 1997.

Written by: P. Øgland

45. Kvalitetskontroll av automatstasjonsdata januar 1997

Note no. 03/97 KLIBAS, DNMI, Oslo, February 1997.

Written by: P. Øgland

46. Driftsrapport januar 1997

Note no. 04/97 KLIBAS, DNMI, Oslo, February 1997.

Written by: P. Øgland

47. Kvalitetskontroll av automatstasjonsdata februar 1997

Note no. 05/97 KLIBAS, DNMI, Oslo, March 1997.

Written by: P. Øgland

48. Driftsrapport februar 1997

Note no. 06/97 KLIBAS, DNMI, Oslo, March 1997.

Written by: P. Øgland

49. Kvalitetskontroll av automatstasjonsdata mars 1997

Note no. 07/97 KLIBAS, DNMI, Oslo, April 1997.

Written by: P. Øgland

50. Driftsrapport mars 1997

Note no. 08/97 KLIBAS, DNMI, Oslo, April 1997.

Written by: P. Øgland

51. Kvalitetskontroll av automatstasjonsdata april 1997

Note no. 09/97 KLIBAS, DNMI, Oslo, May 1997.

Written by: P. Øgland

52. Driftsrapport april 1997

Note no. 10/97 KLIBAS, DNMI, Oslo, May 1997.

Written by: P. Øgland

53. Kvalitetskontroll av automatstasjonsdata mai 1997

Note no. 11/97 KLIBAS, DNMI, Oslo, June 1997.

Written by: P. Øgland

54. Driftsrapport mai 1997

Note no. 12/97 KLIBAS, DNMI, Oslo, June 1997.

Written by: P. Øgland

55. Kvalitetskontroll av automatstasjonsdata juni 1997

Note no. 13/97 KLIBAS, DNMI, Oslo, July 1997.

Written by: P. Øgland

56. Driftsrapport juni 1997

Note no. 14/97 KLIBAS, DNMI, Oslo, July 1997.

Written by: P. Øgland

57. Kvalitetskontroll av automatstasjonsdata juli 1997

Note no. 15/97 KLIBAS, DNMI, Oslo, August 1997.

Written by: P. Øgland

58. Driftsrapport juli 1997

Note no. 16/97 KLIBAS, DNMI, Oslo, August 1997.

Written by: P. Øgland

59. Kvalitetskontroll av automatstasjonsdata august 1997

Note no. 17/97 KLIBAS, DNMI, Oslo, September 1997.

Written by: P. Øgland

60. Driftsrapport august 1997

Note no. 18/97 KLIBAS, DNMI, Oslo, September 1997.

Written by: P. Øgland

61. Kvalitetskontroll av automatstasjonsdata september 1997

Note no. 19/97 KLIBAS, DNMI, Oslo, October 1997.

Written by: P. Øgland

62. Driftsrapport september 1997

Note no. 20/97 KLIBAS, DNMI, Oslo, October 1997.

Written by: P. Øgland

63. Kvalitetskontroll av automatstasjonsdata oktober 1997

Note no. 21/97 KLIBAS, DNMI, Oslo, November 1997.

Written by: P. Øgland

64. Maintenance and Performance Statistics October 1997

Note no. 22/97 KLIBAS, DNMI, Oslo, November 1997.

Written by: P. Øgland

65. Kvalitetskontroll av automatstasjonsdata november 1997

Note no. 23/97 KLIBAS, DNMI, Oslo, December 1997.

Written by: P. Øgland

66. Maintenance and Performance Statistics November 1997

Note no. 24/97 KLIBAS, DNMI, Oslo, December 1997.

Written by: P. Øgland

67. Kvalitetskontroll av automatstasjonsdata desember 1997

Note no. 01/98 KLIBAS, DNMI, Oslo, January 1998.

Written by: P. Øgland

68. Maintenance and Performance Statistics December 1997

Note no. 02/98 KLIBAS, DNMI, Oslo, January 1998.

Written by: P. Øgland

69. Kvalitetskontroll av automatstasjonsdata januar 1998

Note no. 03/98 KLIBAS, DNMI, Oslo, February 1998.

Written by: P. Øgland

70. Maintenance and Performance Statistics january 1998

Note no. 04/98 KLIBAS, DNMI, Oslo, February 1998.

Written by: P. Øgland

71. Kvalitetskontroll av automatstasjonsdata februar 1998

Note no. 05/98 KLIBAS, DNMI, Oslo, February 1998.

Written by: P. Øgland

72. Maintenance and Performance Statistics February 1998

Note no. 06/98 KLIBAS, DNMI, Oslo, February 1998.

Written by: P. Øgland

73. Kvalitetskontroll av automatstasjonsdata mars 1998

Note no. 07/98 KLIBAS, DNMI, Oslo, April 1998.

Written by: P. Øgland

74. Maintenance and Performance Statistics Mars 1998

Note no. 08/98 KLIBAS, DNMI, Oslo, April 1998.

Written by: P. Øgland

75. Kvalitetskontroll av automatstasjonsdata april 1998

Note no. 09/98 KLIBAS, DNMI, Oslo, May 1998.

Written by: P. Øgland

76. Maintenance and Performance Statistics April 1998

Note no. 10/98 KLIBAS, DNMI, Oslo, May 1998.

Written by: P. Øgland

77. Kvalitetskontroll av automatstasjonsdata mai 1998

Note no. 11/98 KLIBAS, DNMI, Oslo, June 1998.

Written by: P. Øgland

78. Maintenance and Performance Statistics May 1998

Note no. 12/98 KLIBAS, DNMI, Oslo, June 1998.

Written by: P. Øgland

79. Kvalitetskontroll av automatstasjonsdata juni 1998

Note no. 13/98 KLIBAS, DNMI, Oslo, July 1998.

Written by: P. Øgland

80. Maintenance and Performance Statistics June 1998

Note no. 14/98 KLIBAS, DNMI, Oslo, July 1998.

Written by: P. Øgland

81. Quality statistics for AWS July 1998

Note no. 15/98 KLIBAS, DNMI, Oslo, August 1998.

Summary: There is a slight improvement in data quality from June to July relating to import of weather recordings from Vegvesen AWS are now mostly working. Karihaugen is the only station where there no data are collected. Minnesund is not registered in the system. Data collection from the oil rigs also seem to be functioning properly by the end of July. A new AWS this month is collecting data from Hekkingen

fyr. By the end of July there are now 58 AWSs in the system.

Written by: P. Øgland

82. KLIBAS Statistics July 1998

Note no. 16/98 KLIBAS, DNMI, Oslo, August 1998.

Summary: Eight system documentation reports were written during July. The reports documents the running version for storing wind AWS by the program VIND_REG, an internal consistency check for the STATUT program used by VA, a first prototype for simulating and evaluating the present KLIMA routine at the Climatology Division by a program KLIMA_KONTR, an updated version of the PIO_INN program, a new version of the KLIMA/VA data exchange program SYNO_ESPEN, a program ALA2ALV for updating AWS data in ALV and TELE by data from ALA, a program for automatically deleting observations from the table TELE when this table is locked due to not enough extents and, finally, an improved version of the program AUTO_BACKUP creating a safer and enlarged version of the automatic exp/imp of AWS data. A number of severe problems occurred during July. At least three of the main problems are expected to be solved and fully documented during August.

Written by: P. Øgland

83. KLIMA system statistics

Note no. 17/98 KLIBAS, DNMI, Oslo, August 1998.

Summary: This note is based on output from the program KLIMA and is generated in order to report status on various aspects of the KLIMA/KLIMA_KONTR system presently being developed for improving the quality control routines of the Weather Stations Routine at the Climatology Division. The monitoring consists of presenting statistics from all relevant programs and facilities associated with the ALV and ALV_PARA datatables.

Written by: P. Øgland

84. PRECIP system statistics

Note no. 18/98 KLIBAS, DNMI, Oslo, August 1998.

Summary: This note is based on output from the program PRECIP and is generated in order to report status on various aspects of the PRECIP/PRECIP_KONTR system presently being developed for improving the quality control routines of the Weather Stations Routine at the Climatology Division. The monitoring consists of presenting statistics from programs and facilities associated with the ALN datatable.

Written by: P. Øgland

85. AUTO system statistics

Note no. 19/98 KLIBAS, DNMI, Oslo, August 1998.

Summary: This note is based on output from the program AUTO and is generated in order to report status on various aspects of the AUTO system presently being developed for improving the quality control routines of the AWS Routine at the Climatology Division. The monitoring consists of presenting statistics from programs and facilities associated with the ALA datatable.

Written by: P. Øgland

86. KLIBAS Statistics August 1998

Note no. 20/98 KLIBAS, DNMI, Oslo, September 1998.

Summary: Sixteen system documentation reports were written during August. The reports documentation included the AWS-program MNDTIMRAMME, a reworking of STATUT (daily statistics for VA), programs KLIMA, PRECIP and AUTO for collecting and analysing clusters of KLIBAS programs on an annual basis. A new version of the KLIMA_KONTR quality control analysis for the Weather Station Routine was also established, the programs CHECK_RELFUKT and CHECK_KONTHUM being sub-programs run by the quality control simulation. Established was also a new version of VIND_REG accom-

panied with a check program VINDDEK were produced and revised editions of PIO_INN and ALA2ALV were also released.

Written by: P. Øgland

87. Quality statistics for AWS August 1998

Note no. 21/98 KLIBAS, DNMI, Oslo, September 1998.

Summary: There seems to be a slight improvement in data quality from July to August. In the August statistics the Vegvesen AWSs have been removed from the statistics, and the stations topping the list this month is then Ny-Ålesund, Apelsvoll, Kise, Jan Mayen and Trondheim-Voll.

Written by: P. Øgland

88. KLIBAS Statistics September 1998

Note no. 22/98 KLIBAS, DNMI, Oslo, October 1998.

Summary: Seven system documentation reports have been written during September 1998. The reports document the INTERPOL_PO program (version 1.0 and 1.1), the systematic production of KLIBAS system statistics, feeding observations from TELE to VA by SYNO_ESPEN v.2.1, monthly AWS quality control MKK v.2.0, dumping hourly wind observations to file by the program AARSTIMESRAMME and reading METAR from meta-files into ALF by META_INN. New curves and lists of extreme cases have been added to this edition of the KLIBAS system statistics report in order to make more systematic control over various aspects of the KLIBAS system such as the INTERPOL2 and INTERPOL_PO programs, the VNN, STATUT and KA_H_STAT routines along with routines such as PIO_INN and CONT2/KLI-MA.

Written by: P. Øgland

89. AWS Quality Statistics September 1998

Note no. 23/98 KLIBAS, DNMI, Oslo, October 1998.

Summary: There seems to be a slight quality improvement from August to September, perhaps due to annual AWS inspections. The stations causing the most problems this month are: Norne (missing data), Kraakenes (missing data), Kvitfjell (RT sensor installed), Trondheim-Voll (missing data) and Sognefjell (no observations 14-15 September).

Written by: P. Øgland

90. KLIBAS Process Improvement October 1998

Note no. 24/98 KLIBAS, DNMI, Oslo, October 1998.

Summary: Seven system documentation reports have been written during October 1998. The reports document the PIO_INN program (versions 2.1 and 2.2), the SYNO_INN program (versions 3.4 and 3.5), the version 2.2 of the AWS data quality program ADK, the VIND_REG program (version 1.2) and the META_INN program (version 1.1). In this edition of the KLIBAS Statistics Report there is a stronger focus on Statistical Process Control (SPC) than in the previous edition. As programs are being improved, methods of SPC are added to the code in order to facilitate process control.

Written by: P. Øgland

91. AWS Quality Statistics October 1998

Note no. 25/98 KLIBAS, DNMI, Oslo, November 1998.

Summary: Due to change of climatic identification numbers, a greater amount of data loss is registered than actually occurred this month, and this also explains much of the change in quality from the previous month. The precipitation measurements at Jomfruland are still wrong. Another serious problem is temperature values out of control on Kraakenes from September 6th and onwards.

Written by: P. Øgland

92. KLIBAS Process Improvement November 1998

Note no. 26/98 KLIBAS, DNMI, Oslo, December 1998.

Summary: Six system documentation reports were written during November 1998. The reports document a system for automatically updating TELE with meta-data (ALF2TELE), a version 2.1 of the AU-TO_BACKUP system, a revised version 2.1 of the VNN system for exchanging weather data with VNN, a version 1.1 of the program ALA2TELE_PARA that is being used for automatically updating TELE_PARA whenever new undefined synops arrive, a revision 1.1 of the AARSRAMME statistics and a revised version 3.6 of the SYNO_INN data collection program. On the 24th there was a meeting among the programmers at the Climatology Division that are involved in the development plans for KLIBAS. A summary of the meeting is given among the appendices.

Written by: P. Øgland

93. AWS Quality Statistics November 1998

Note no. 27/98 KLIBAS, DNMI, Oslo, December 1998.

Summary: Apparently due to change in the AUTO/AutoObs data collection system, the 23 UTC observation is missing for most stations during the latter half of the month. There is still no data from Norne. Poor data collection is also the case with Tryvasshogda, Glomfjord and Draugen. A new station, Makkaur fyr, was established the 11th, but has only been delivering data in intervals during the month.

Written by: P. Øgland

94. KLIBAS Process Improvement December 1998

Note no. 01/99 KLIBAS, DNMI, Oslo, January 1999. (70 pages)

Summary: Four system documentation reports were written during December 1998. The reports document a version 1.2 of the system for automatically updating ALV with data from ALA (ALA2ALV), a version 1.2 of the MND2ALA and MNDHLA programs for inserting observations from mnd-files into the ALA and HLA tables. A version 3.0 of the KLIMA routine completeness check program CONTSYN1 has also been released.

Written by: P. Øgland

95. AWS Quality Statistics December 1998

Note no. 02/99 KLIBAS, DNMI, Oslo, January 1999. (87 pages)

Summary: The DNMI AWS population consists of 40 stations at the moment. In the report also 10 ITAS stations, 7 Vegvesen stations and 5 Miljodata stations are included. There was a significant loss of data at the stations on Blindern, Trondheim and Ny-Aalesund in December. Otherwise the situation was much as usual. There have been some problems with temperature at the station on Kraakenes and the second temperature sensor at Obrestad being out of control seem to be some of the most notable problems.

Written by: P. Øgland

96. Interpolation and Quality Control status for January 1999

Note no. 03/99 KLIBAS, DNMI, Oslo, February 1999. (64 pages)

Summary: The first major problem solved this month was the implementation v.1.2 of the AUTO_INN dataflow program for automatic weather stations (AWS). A new quality control, the "dead band" test, was added to the AWS quality control system ADK and an analysis of AWS Bergen Florida resulted in temperature observations from July 1997 to September 1998 being replaced with observations from a station nearby. Problems with the program SYNO_INN, reading synop files every ten minutes, resulted in a version 3.7, and the program responsible for administrating the automatic quality control and interpolation of this type of observations was revised as SYNO_KONTR v.2.1.

Written by: P. Øgland

97. AWS Quality Statistics - January 1999

Note no. 04/99 KLIBAS, DNMI, Oslo, February 1999. (88 pages)

Summary: The DNMI AWS population consists of 39 stations at the moment, the teststation 99999 at Blindern not operative this month. In the report there are also 10 ITAS stations, 7 Vegvesen stations and 5 Miljødata stations included. Of special notice this month, Makkaur fyr has not been reporting data since the 14th. Eik Hove was out of the system for three days. On Trondheim Voll no radiation measurements seem to have been made, while precipitation is not being measured at Blindern, and Obrestand missing 38% of the precipitation measurements. Air temperature is missing at Ny-Ålesund.

Written by: P. Øgland

98. Interpolation and Quality Control status for February 1999

Note no. 05/99 KLIBAS, DNMI, Oslo, March 1999. (72 pages)

Summary: The first major problem this month was improving the CONTSYN1 quality control program used by the ALV routine. More work on this routine was carried on as the program CHECK_CONT2 for automatic quality analysis was established and a new version 2.0 of CONTSYN2 emerged. Other important work was the inclusion of HIRLAM10 forecast data for use as interpolation values in the TELE datatable. The INTERPOL_P0 interpolation program was also improved during this month, and a new version of the CHECK_H_STAT quality control program was implemented. A new version 1.1 AARSTIMES-RAMME for the AWS routine was established, and a ALN monitoring program PRECIP v1.1. was running. Improvements for the METAR routine was done by the new BORDOY statistics and METARINN v.1.1.

Written by: P. Øgland