Czech Republic Slovenia Croatia France Slovakia Spain Bulgaria Hungary Romania Austria Poland Morocco
ALADIN
Newsletter

Number 1 ‘‘beginning’’of 1996

What was important during the last quarter of 1995

Czech Republic Slovenia Croatia France Slovakia Spain Bulgaria Hungary Romania Austria Poland Morocco
ALADIN
Newsletter

Number 2 April 1996

What was important during the first quarter of 1996

The Newsletter 1 which purpose was to present to you the principal events concerning ALADIN during the last quarter of 1995 has been delayed because of other urgent tasks. It is also time to mention what happened during the first quarter of 1996 (Newsletter 2).

So, this is a joined Newsletter 1 / Newsletter 2, covering the whole period between the beginning of October 1995 and the end of March 1996. I do apologize for this delay and I will do my best not to repeat it for the Newsletter 3, that could be expected next July ...

The news about work or events outside Toulouse are based on informations that I have received from some of you. Please bring to my notice anything that you would like to be mentioned in the Newsletters.

For any comments, please contact :

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Welcome in the ALADIN project !

On the 10th October of 1995, in Palma de Majorque (Spain), the Instituto Nacional de Meteorologia officially joined the ALADIN team and became its 12th member.

Who will be the 13th (!) member ?... Nothing decided yet, but it could be one of the two services who are now increasing their contacts with our team. Next month, two Belgian colleagues will spend one week with the ALADIN team in Toulouse. The potential cooperation with Portugal will be evaluated through a four month stay in Toulouse for one of our Portuguese colleague.

Money Funding asked for some cooperations based on the ALADIN project

1. INCO-COPERNICUS concerted action, so-called ''ALADIN-INCO''

A concerted action proposal was submitted to the INCO-COPERNICUS call in Brussels at the end of February. The title of this project is ''Improved real time protection against short range diffusion of radio-nuclide pollutants through the co-operative development and operational use of an advanced numerical weather prediction system for Central Europe'' and its acronym is ''ALADIN-INCO''. Its coordinator is Jean-François Geleyn and the 150 page document has been registered under the reference number 3271.

Our proposal was drawn up following the eligibility and the scientific criteria for this sort of proposals. Its aim was thus to foster the development, trial and implementation of a system able to provide very detailed wind output, trajectories and dispersion characteristics for already known potential sources of radio-nuclide pollution ... in case of hopefully only theoretic case of accident. The basic idea is to use the flexibility provided by the ALADIN model to build a four level system, three of them being of meteorological nature and preparing the last step of environmental protection. From the meteorological point of view, the proposed system consists in a chain of models : global model of Météo-France, RC-LACE or SELAM application and very local use of ALADIN on workstations.

Thus, the EC support was requested at three levels :

- globally, to ensure that the research and development effort of the whole ALADIN project will get and use a feed-back from the foreseen specific applications through allowances for scientific visits in Toulouse and participation to co-ordination meetings;
- at the regional level, to support successful operational implementations of the RC-LACE and SELAM home application of ALADIN by covering part of the telecommunication costs induced by the proposal;
- locally, to allow the most effective interaction between the involved National Meteorological Services and the relevant bodies in charge of protection against radio-nuclide dispersion, in order to make the most timely and effective use of the produced meteorological and trajectory/diffusion data in any of these countries.

The fifteen partners are : Météo-France, Central Institute of Meteorology and Geodynamics of Austria, Federal Ministry of Health and Consumer Protection of Austria, National Institute of Meteorology and Hydrology of Bulgaria, Ministry of Environment of Bulgaria, Czech Hydrometeorological Institute, National Radiation Protection Institute of Czech Republic, Hungarian Meteorological Service, Ministry for Environment and Regional Policy of Hungary, National Institute of Meteorology and Hydrology of Romania, Romanian Electricity Authority, Slovak Hydrometeorological Institute, Nuclear Regulatory Authority of Slovakia, Hydrometeorological Institute of Slovenia and Krsko Nuclear Power Plant of Slovenia.

The Brussels experts decision can be expected for June. We do hope that this huge work will be accepted and everybody here keeps his fingers crossed for its success and to avoid answering to the next INCO-COPERNICUS in March 1997.

2. INCO-COPERNICUS keep-in-touch, so-called ‘‘ALADIN-KIT’’

A keep-in-touch for the previous EU PECO-Action ‘‘Validation and pre-operational evaluation of a fine mesh spectral limited area numerical weather prediction model used in dynamical adaptation’’ was submitted to the same INCO-COPERNICUS call, under the Acronym ‘‘ALADIN-KIT’. Its coordinator is Joël Hoffman and its registration number is 0142. It consisted in a 70 page document that every partner should have received at the beginning of March.

The involved institutions (Météo-France, Danish Met. Institute, NIMH of Bulg. A. S., Czech H.M.I., Magyar K.M.S., I.M.W.M. of Poland, N.I.M.H. of Romania, Slovak H.M.I.) are mostly the ones participating to the previous PECO-Action, with the new constraint to have at least two partners from the European Union.

The principle of these actions was to permit people who had profited to a (successful) PECO-Action to ‘‘keep-in-touch’’, thanks to some funding offered by an INCO-COPERNICUS action. Our proposal consisted in asking funds to allow participation of one person from each participating country to two EWGLAM meetings and to other meetings which could be organized at half-time between the two EWGLAM meetings. The total requested is about one third of the PECO grant. All requested sums are for travel and expenses, except for those who will organize EWGLAM/SRNWP meetings for which a special paragraph of meeting support has been mentioned.

Hopefully we shall benefit from the success of the PECO action, reflected in the final report that was appended to our proposal. As for ‘‘ALADIN-INCO’’, we can expect to have the results of its evaluation next June.

3. ‘‘Réseau-Formation’Recherche’’ : PhD Studies

The previous ‘‘Réseau Formation Recherche‘‘ supported the funding of the PhD studies between November 1992 and December 1995. These studies, besides their theoretic and scientific contents, have induced very important concrete outcomes for the use of ALADIN. The four PhDs have been, or are about to be defended.

Last February, the French Ministry of ‘‘Education Nationale, Enseignement Supérieur et Recherche‘‘ accepted our proposal for another ’’Réseau Formation Recherche‘‘; it consists in financing five new PhD studies.

Before presenting these new PhD projects, let us remind the previous ones and underline, rather than their scientific contents that could be found in the PhD reports, their outcomes in the ALADIN project :

- Radmila Bubnova worked on ‘‘Use of the Hydrostatic Pressure Coordinate for Integration of the Elastic Model of the Atmospheric Dynamics in the Framework of the Numerical Weather Prediction System ARPEGE/ALADIN’’, this is important for the use of ALADIN below 10 Km resolution and to maintain the compatibility with a Hydrostatic operational model.
- Mihaela Caian compared two solutions for fine scale modelling (‘‘Variable Mesh or Limited Area Model : Which Solution to Choose for the Forecast on the Fine Scale’’) and justified the

ALADIN development for fine scale modelling by determining the limit of applicability of the stretching, method used operationally in ARPEGE.

- Elena Cordoneanu : ''Study of the Thermal Circulations above the Carpathian-Black Sea Area by Using the Model ALADIN''; she demonstrated the ability of ALADIN to reproduce breeze effects and verified the consistency of its response.
- Andras Horanyi performed some ''Sensitivity Studies''; at this occasion, he developed the adjoint and tangent linear parts of ALADIN (adiabatic part) and used it for sensitivity studies such as detection of critical areas (amplification of frontal waves).

These four studies contributed to ALADIN model as we use it now, but in a quite independent way from one another. The next five PhD projects are more linked together.

- Doina Banciu (Romania) : Validation of the Hypothesis Used in the Parametrization for Large-scale and Mesoscale via a version ''Large Eddy Simulation'' of the ALADIN model. Importance of Non-Hydrostatics in Certain Case Studies,
- Marta Janiskova (Slovakia) : Utilization of Simplified, Differentiable and Sufficient Realistic Physics in the Frame of Incremental Four-dimensional Variational Data Assimilation,
- Mark Zagar (Slovenia) : Prediction of Small Scale Events through Second-Level Dynamical Adaptation of the Steady State Planetary Boundary Layer.
- Filip Vana (Czech Rep.) : The Dynamical and Physical Control of Kinetic Energy Spectra in a NWP Spectral semi-Lagrangian Model,
- Ilian Gospodinov (Bulgaria) : subject linked to semi-Lagrangian technique, still to be specified.

Thanks to this funding, they will begin (or continue) their PhD this summer or this autumn and we can expect the first ones to be defended from the end of 1998 and, of course, interesting outcomes for ALADIN much before.

4. Embassies support

As usual, the documents for embassies support have been submitted by DGS/IE in Météo-France to the relevant authorities. The requests are waiting for some political and financial decisions in the French Ministries but seem to be accepted in principle. With the administrative delays, we cannot hope using these fundings before, next July. More details should be asked directly to DGS/IE (arlette.rigaud@meteo.fr).

The (pre-) operational ALADIN models on big computers

This is the present situation ... but many changes are expected within the next months. The domains can be seen on *Figure 4*.

1. Pre-Operational test on ALADIN-FRANCE in Météo-France

ALADIN-France is in pre-operational test since the 11.03.96 on the CRAY C98 computer in Météo-France. Its domain is centered at the pole of dilatation of ARPEGE with a 12.7 Km mesh size and 169*169 points (extension zone excluded) and covers a zone of around 2100*2100 Km. It has 27 levels (the ones of ARPEGE). It is integrated until 36 hours twice a day. Its time-step is 491 s, thanks to the recently implemented two-time-level semi-Lagrangian version. The initialization is realized following a new double filtering & Dolf-Chebychev Digital Filter technic. The coupling files are still prepared via the configuration 926 (E926) that will soon be replaced by the ‘‘E927’’ version of Full-Pos) from the ARPEGE files every 3 hours. Full-Pos is already used as a post-processing operator. The forecast (coupling and integration until 36 hours) is run in around 5000s CPU and remains less than 20 minutes in machine (the results are available before 5.00 UTC in the morning ... they will be soon available earlier when some changes are introduced in the operational suite).

2. *Pre-Operational ALADIN-CEE in Météo-France*

The ALADIN-CEE in Météo-France presently running on Météo-France C98 presents the same characteristics as ALADIN-France except (of course) for the domain (18.3 Km mesh size and 205*189 points for 3700*3500 Km) and therefore for the time-step (720 s). After less than 4500 s CPU and a quarter of an hour in machine, the coupling and the forecast are run until 36 hour range and GRIB files, maps and pseudo-TEMPs are prepared and sent to our partners at around 4.00. It will be replaced by ALADIN-LACE.

3. *Pre-Operational ALADIN-MAROC in Météo-France*

Since last December, the ALADIN-Maroc is running daily on Météo-France C98. Its characteristics are the same as ALADIN-France and ALADIN-CEE, except for the domain (149*149 points for 2800*2800 Km), the mesh size (18.8 Km) and the time-step (720 s). In around 2700 s CPU, the 36 hour forecast (including coupling) is reached and with less than a quarter of an hour in machine, products are ready to be sent to Morocco. This configuration is a temporary one, waiting for ALADIN-Maroc to be entirely implemented in Morocco.

4. *Pre-Operational ALADIN-MAROC in Maroc-Météo*

Before this summer, our Moroccan colleagues hope to have a similar ALADIN-Maroc running twice a day in Casablanca, but with a data assimilation cycle. Their operational suite will run four data assimilation cycles (for 0, 6, 12 and 18 UTC) similar as the ARPEGE ones, each coupling file provided by ARPEGE being transformed in an ALADIN guess by CANARI procedure (introducing later local observations). Then, the model will be integrated until 36 hour range and followed by a Full-Pos processing of the results. Up to now, this suite is partly run in Toulouse (coupling with ARPEGE files, preparing the coupling and the observation files) but the assimilation cycle and the forecast are computed in Casablanca since the end of February with a temporary mesh size twice bigger (31.3 Km) over 97*97 points.

5. *Preparing ALADIN-LACE in Météo-France*

Following the agreement between LACE and Météo-France, the ALADIN-LACE pre-operational project started on the 1st of April with the purpose to run operationally the ALADIN-LACE version on the CRAY J916 computer of Météo-France at the beginning of July 1996. This ALADIN-LACE will replace the ALADIN-CEE. It will run twice a day until 48 hour range. Its domains will be a little bit smaller than ALADIN-CEE one (still covering the LACE partners plus Bulgaria, Poland and Romania) but with a mesh size a little more precise (15.76 Km). More details will be sent to you at the time of the operational change and will be developed in the Newsletter 3.

The ALADIN models on workstation

From the beginning, ALADIN runs on CRAY computers. An important work has been initiated, with success, last summer to make ALADIN portable, that is to run it on other platforms than Cray, especially on workstations. Many difficulties appeared for example with the format of files which is not interchangeable, with the different F90 compilers and with the optimization of calculations.

A complete portable version of ALADIN, which will offer most of the options (Eulerian, semi-Lagrangian, Hydrostatic and Non-Hydrostatic, ...) now available on Cray computers is being prepared. It will be based on ALADIN cycle 6 and integrated in the ALADIN cycles (contrary to the first successful runs obtained with temporary modifications) to permit to this workstation version to remain compatible with the other version and to benefit from any improvement in ARPEGE/ALADIN models. A victorious message will announce you when it is ready and can be expected before this summer.

The plans to use ALADIN on a workstation at home indicate at least four different platforms (DEC, IBM, HP, SUN) and with different purposes. As an example, please find above the informations provided by Romania and Slovenia about their future or on-going use of ALADIN on workstation :

- In Romania, the tests with a temporary workstation version of ALADIN based on cycle 5 have already been successful on a DEC Alpha station 250-4/266 . The first results on a temporary domain of 100*100 points with 12.5 Km mesh are acceptable (norms in comparison with Cray results) for both Eulerian and semi-Lagrangian versions. Modifications to Digital Filter Initialization and for post-processing have been made, but no specific optimization were introduced. At that stage, a 6 hour forecast is realized in 1 hour 20 minutes... but this application is far from being optimized.
- In Slovenia, two configurations are planned : one for local weather prediction using a domain over Slovenia and surrounding area with 60*60 points and 10 Km mesh; the other for environmental protection (realized in coordination with Krsko Nuclear Power Plant) with a domain of 30*30 points and a mesh of 2.5 Km : the forecast wind fields will be used as input to a pollution dispersion model. The expected performance (on the DEC Alpha station 600-5/333) is about 1.5 hours to range 36 hour forecast, starting from 06 UTC. At the beginning, the boundary conditions will be provided by ARPEGE. The first pre-operational runs could happen before summer.

Quasi-Operational Bulletins

A new (at that time) version of ALADIN became operational on Friday 24th of November. This version was more compatible with the semi-Lagrangian ARPEGE, allowed to reduce the excessive low level drag and to regularize energy spectra (*more details in ALADIN Quasi-Operational Bulletin number 22).*

"ALADIN on workstation" was the subject of the *ALADIN Quasi-Operational Bulletin number 23* (more details above).

In the *ALADIN Quasi-Operational Bulletin number 25*, we were pleased to announce the production of the Prague list of GRIB files.

Some new and very important informations on the different quasi-operational versions of ALADIN were summarized in the *ALADIN Quasi-Operational Bulletin number 26 :* ALADIN-France has been in operational tests since the 11.03.96 and different changes were introduced at the same date in ALADIN-Central & Eastern Europe, in order to keep the same configurations in these two models ; our Moroccan colleagues have started remote operations of ALADIN on a J916 computer in Casablanca, their ALADIN-Maroc being quite different from the two previous ones (implementation of a data assimilation cycle, ...).

The *ALADIN Quasi-Operational Bulletin number 27* only confirmed the operational implementations of ALADIN-Central & Eastern Europe and ALADIN-France... these implementations gave rise to a big failure immediately corrected (*ALADIN Quasi-Operational Bulletin number 28*).

In the *ALADIN Quasi-Operational Bulletin number 29,* correction tables for pseudo-TEMPs can be found : since the start (and until the 11.03.96), all upper-air ALADIN outputs winds have been real winds, with the [u,v] orientation taken with respect to the model's grid; but 10m winds, in the outputs, were divided by the map factor and, hence, were a bit smaller than they should have been (but with the correct direction !). Concerning the pseudo-TEMPs winds, they suffered from the same underestimation as the 10m winds but, more seriously, their direction was also wrong. The correction tables can be used to correct these two problems for all pseudo-TEMPs distributed before the 11.03.96. In these tables, other data concerning the points of the ALADIN grid used for preparing the pseudo-TEMPs messages can be found.

Summaries of the participations in the ALADIN projects

The last summaries of the participations in the ALADIN project were prepared on December 1995 and on March 1996. Please find in annexe a few graphics illustrating this summary for the Toulouse part of the project updated on the 31.03.96 and for the Total part or for the Deported part updated on 31.12.96 (I have not yet all contributions to the ALADIN project outside Toulouse from the national representatives for the first quarter of 1996). *Figure 1* gives an example of the breakdown of the men.months by countries, for the total participation in the ALADIN project. The monthly effort since the beginning of the project is presented on *Figure 2*.

The definition of the ALADIN work ‘‘at home’’ in each National Meteorological Service that we have proposed raised questions to many of the national representatives. In fact, except for the Toulouse visitors for whom every ‘‘men.months’’ is identified (with a subject, a duration, the dates of beginning and end, and the fundings), it is quite difficult to decide what to take (or what not to take) in account in the ALADIN work. It seems that quite different options have been chosen by the representatives (see *Figure 3* as an example). In itself, the result of this choice is not obvious but the most important thing (to obtain comparable estimations) is to take *the same definition*. Following the discussions that we had with some of you, we can proposed to summarize *all work necessitated by ALADIN* in each National Meteorological Service (this definition does not take in account the work of the forecasters to analyze the ALADIN outputs). We could try to use this definition and adjust it later if necessary. Anyway, the indication of the subject of the work, in addition to the name of the person and his effort during the quarter, is very important to interpret the summary.

ALADIN deported developments during the last quarter of 1995

In this part, you will find informations sent by the representative of each country for the national participations. As a very few of them were received for the first quarter of 1996, the corresponding informations will be part of the next Newsletter.

For more details, please contact directly the authors.

On the other hand, do send me any information that you would like to be indicated here.

1. Work for ALADIN at the Hungarian Meteorological Service

Preparation of his PhD thesis report "Sensitivity studies of frontal waves using the adjoint technique" : Andras Horanyi

Decoding the GRIB files, inserting ALADIN products into the visualization system of HMS on workstations : Istvan Ihasz

Preparation of internal file formats for ALADIN files for visualization : Gabor Radnoti

2. Work for ALADIN at the Hydrometeorological Institute of Slovenia

Visualization of ALADIN GRIB : Jure Jerman

Data with VIS5D (FSL) package : Gregor Gregoric

3. Work for ALADIN at the Croatian Meteorological and Hydrometeorological Service

Elaboration of detailed theoretic documentation of HRID as post-processing tool for ALADIN pseudo-TEMPs : Drazen Glasnovic

Preparation of operational procedures for verification of ALADIN pseudo-TEMPs : Dijana Klaric.

4. Work for ALADIN at the Czech HydroMeteorological Institute

Work essentially related to the reception and processing of the outputs from ALADIN (pseudo-TEMPs and GRIBs).

Development of a HRID-like software processing prognostic TEMPs and creation of guidelines for forecaster of the interpretation of vertical time cross-sections : Filip Vana and Jirina Sokolova.

Modification of CHAGAL package to GRIB-processing and visualization program PAGB and preparation of namelists : Martin Janousek, Marjan Sandev and Jan Zacpalek.

Development of efficient and fault-tolerant scripts for downloading GRIBs minimizing latency time between data availability and start of the transfer : Martin Janousek.

5. *Work for ALADIN at Maroc-Météo*

Preparation and first tests of the operational suite for ALADIN-Maroc on the J916 computer in Casablanca : Radi Ajjaji and Samir Issara.

6. *Work for ALADIN at the Slovak Meteorological Service*

Pseudo-TEMPs visualization and verification : Oldrich Spaniel, M. Kacer, M. Kocifaj, Zuzana Pisutova and M. Gera.

Data assimilation : Marta Janiskova.

Verification : Oldrich Spaniel, M. Kocifaj and Vladimir Pastircak.

Kalman filtering : J. Vyvoda.

Data collection : Oldrich Spaniel and R. Zehnal.

ALADIN developments during the last quarter of 1995 in Toulouse

More details about these developments can be asked directly to their authors and their reports are also available on request to Joël Hoffman.

1. *About libraries :*

- Cycle 5

  The cycle 5 of ALADIN library was created and ensured the phasing with ARPEGE cycle 14.

- Fortran 90 and workstation

  The adaptation of the ALADIN code to Fortran 90 was achieved by Andrey Bogatchev (Bulgaria), Liviu Dragulanescu (Romania) and part of the ALADIN team in Toulouse, with the help of people for our Computer Service (VALPARAISO team). This port was necessary to study the portability of ALADIN on workstation. Their work on an IBM platform was successful : ALADIN on workstation is now a reality. Its implementation is very technical and it needs specific configurations for any type of workstation; the content of the ALADIN library has to be modified on each workstation (functions used on CRAY must be re-defined or modified, the data representation is hardware dependant so files must be code/decode). Different configurations of ALADIN were able to run on the two platforms tested : Eulerian with/without physics, semi-Lagrangian with/without physics, Non-Hydrostatic. The results of these runs have been compared with those from CRAY. The observed differences are of the same order of magnitude as the errors obtained during the files conversion from CRAY to the workstation.

- Full-Pos and EE927

  Thanks to Jaouad Boutahar and Mehdi El Abed (Morocco), the post-treatment (Full-Pos) was validated for ALADIN and it is possible to create ALADIN input files from ALADIN files (and not only from ARPEGE ones) using configuration so-called EE927.

- ISBA scheme

  The ISBA surface scheme needs specific climatological files to be implemented in ALADIN. Adam Diedzic (Poland) has prepared such files with a tool to create them.

2. *About diagnostics :*

The software HRID developed in Croatia has been completed and its documentation has been written (Nedjeljka Brzovic from Croatia). HRID offers two kinds of outputs : vertical profiles of thermodynamic and stability parameters, two-dimensional time cross sections.

A tuning method for horizontal diffusion coefficients has been outlined after a study of the relation between these coefficients and the model resolution (Zuzana Pisutova from Slovakia). This tuning was realized by means of spectral diagnoses on kinetic energy.

Some experiments of ALADIN with a very high resolution and on a small domain over Slovakia have been run by Vladimir Pastircak (Slovakia).

3. *About analysis :*

Following the NMC method, the fields of forecast errors in the analysis can now be calculated and a very useful and practical script was developed for this purpose to make spectra from ARPEGE and ALADIN files (Marek Jerczynski from Poland).

4. *About trajectory modeling :*

The possibility of using the forecast files provided by ALADIN as input data for MEDIA (a trajectory model) was studied by Jan Macoun (Czech Republic). The good results obtained for the two situations that were simulated entitle us to be optimistic about such simulations.

ALADIN developments during the first quarter of 1996 : in Toulouse

Last quarter, thirteen visitors (and one French student) joined their efforts to the Toulouse permanent ALADIN team. Their main developments concerned :

1. *About scripts and libraries :*

- preparing cycle 6

  This long work has begun with the necessary changes in spectral arrays : Andras Horanyi (Hungary) and Patrick Le Moigne (Météo-France).

- Non-Hydrostatic and semi-Lagrangian

  Modifications in the semi-Lagrangian were introduced and partly validated in order to allow to use semi-Lagrangian also in Non-Hydrostatic version : Radmila Bubnova and Martin Janousek (Czech Rep.).

- Fortran 90 and workstation version

  The adaptation of the ALADIN code to the Fortran 90 has continued with the Toulouse team. First runs on a DEC station have been successful.

- Pre-Operational tasks for the Toulouse team

  ALADIN-France was prepared and changes were introduced in ALADIN-CEE. Different configurations of the Full-Pos ALADIN were modified and validated. The procedures to prepare pseudo-TEMPs are being modified and will avoid some operational problems recently appeared. A new version of CHAGAL is available on CRAY with some additional options (access and explanations can be asked to Jean-Daniel Gril).

- tool for vertical cross-sections

  This tool for preparing vertical cross-sections from ALADIN files is being developed by Nedjeljka Brzovic (Croatia) and Jean-Daniel Gril (Météo-France).

2. *About validation :*

- Gregor Gregoric (Slovenia) has studied the pressure drag created by the Alps. He introduced the pressure drag parametrization developed at ECMWF in ALADIN. The effect, contrary to what was noticed in ARPEGE, is very slight at the ALADIN resolution.
- Unrealistic cyclogenesis appeared this winter in ALADIN over the Mediterranean Sea. Neva Pristov (Slovenia) tried to find the reasons of these bad forecasts. Some changes concerning the resolution or the numerical scheme (Eulerian or semi-Lagrangian) did not give any significant sensibility. The problem could be in too noisy initial state.
- ALADIN, besides to be used as a reliable weather prediction tool, can be used as a sophisticated research tool, interesting for the global meteorological scientific community. That is the purpose of Nedjeljka Brzovic (Croatia) in the COMPARE (Comparison of Mesoscale Prediction and Research Experiments) project at Météo-France.

3. *About physics :*

The paramerization of shallow convection through internal downdrafts in a deep convection routine was coded by Mark Zagar (Slovenia) and will be very soon in the general ALADIN code.

4. *About analysis and assimilation :*

- Marta Janiskova (Slovakia) continues her PhD study about the development of a simplified physics package for the 4D variational analysis.
- The collaboration with our Spanish colleagues began this quarter with the visit of Jacobo Orbe Zalba : after his familiarization with ALADIN, he worked on the CANARI part. His purpose was to initiate the tuning of the coefficients involved in the analysis quality-control for the future France-Spain version.

5. About trajectory modeling :

New simulations were carried out using two situations of the ETEX campaign : the ALADIN forecasts were used with success as input to the MEDIA model : Vladimir Ivanovici (Romania).

6. About ALADIN coupled with ALADIN :

A Météo-France student (Fabrice Guillemot) is trying to couple an ALADIN at a very high resolution with another ALADIN at a lower resolution. The configuration EE927 of Full-Pos will be used for that sort of coupling but there are still some problems in it.

7. Statistical Adaptation

Jan Zacpalek (Czech Rep.) studied the methods and the tools used for statistical adaptation in Météo-France for ARPEGE and ECMWF models.

ALADIN informations available

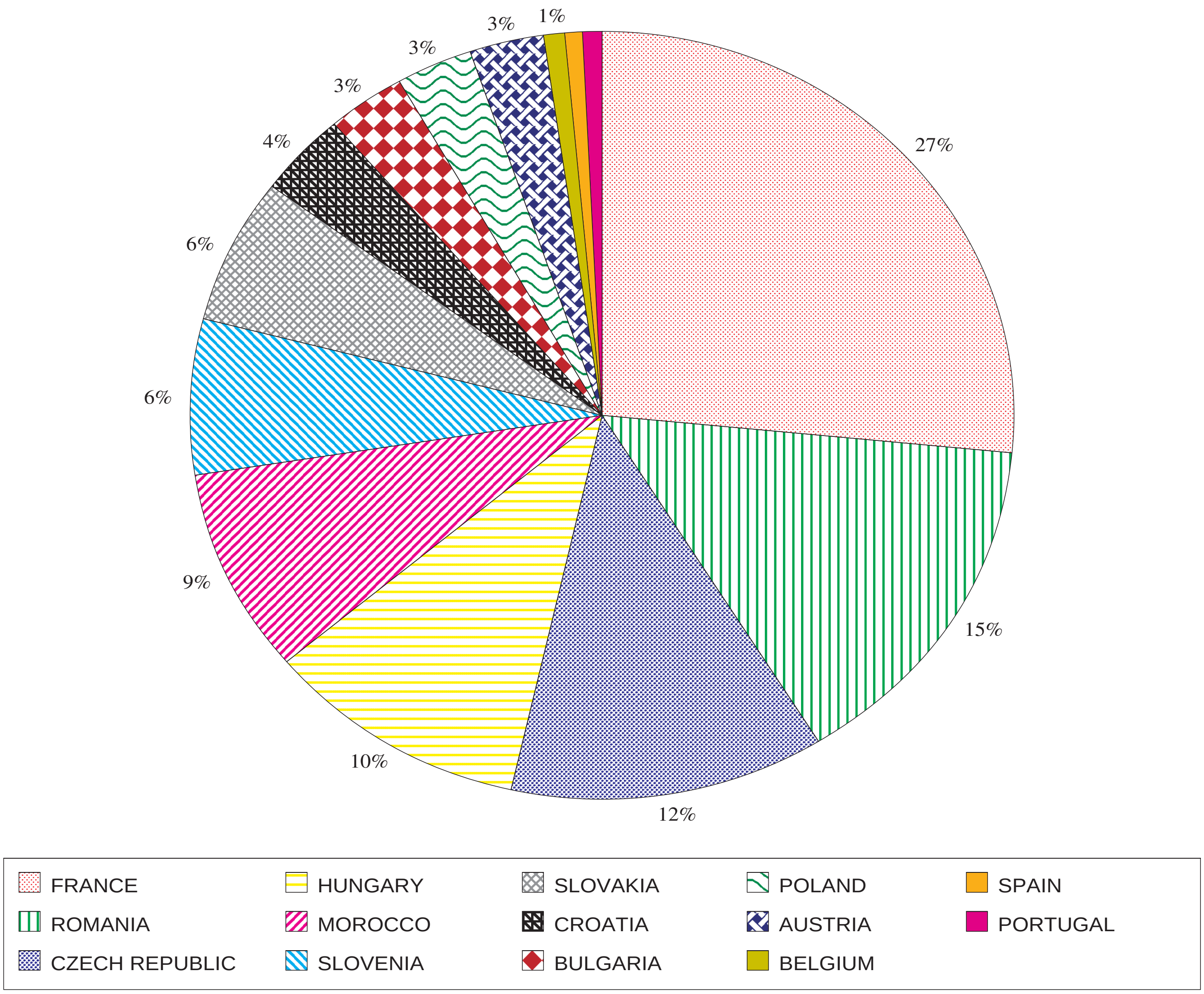
These informations (and others) are available on a public ftp (updated in April). A WWW server is ... planed to display information on ALADIN. Later, you will be informed by e-mail about the direct access to the ALADIN Web pages.

Annexes :

Figure 1

Total Participation in the ALADIN project

Breakdown of the person.months by countries

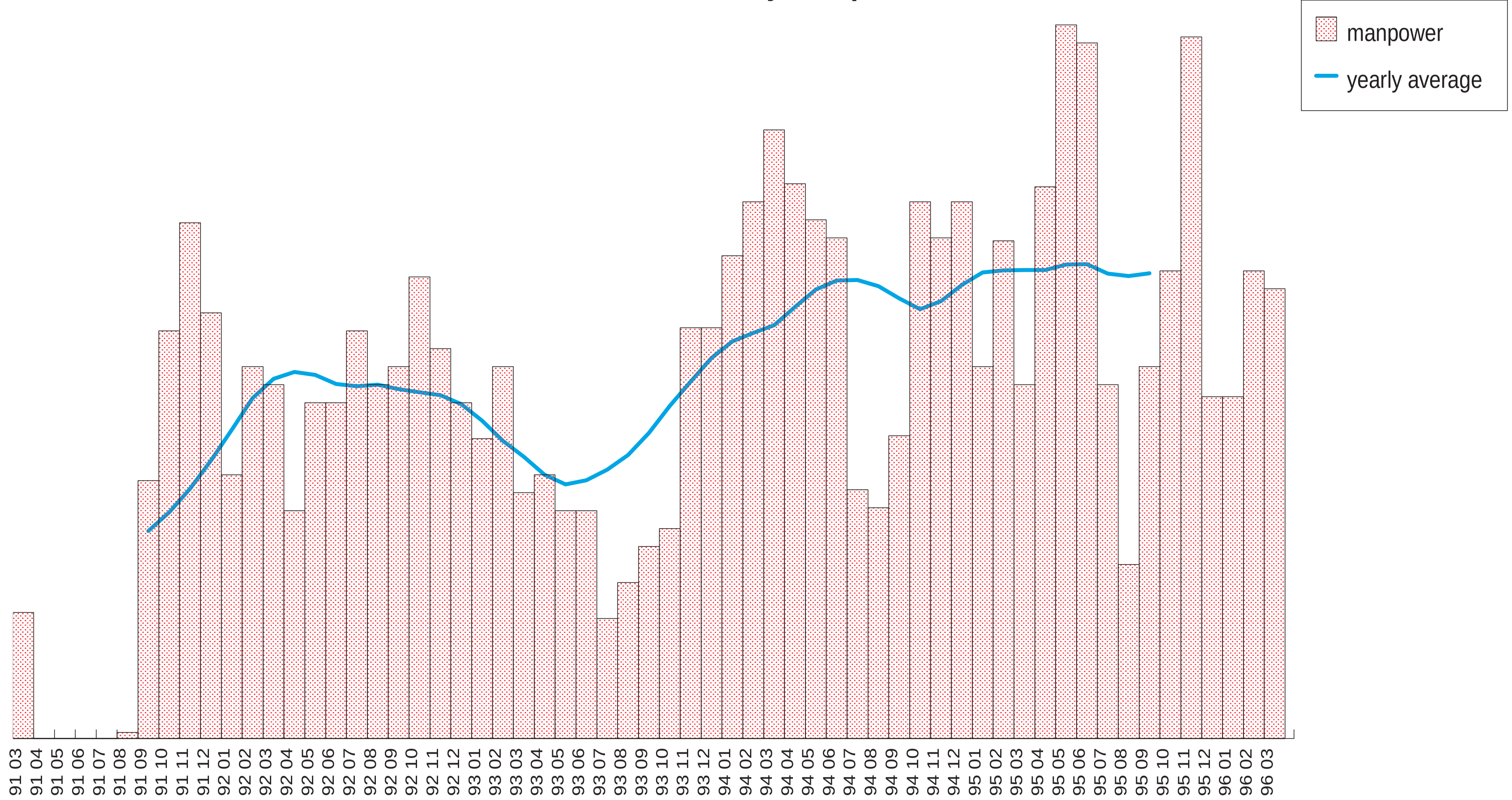


Updated on 30-JUN-97 (Toulouse) and 31-MAR-97 (Outside)

Figure 2

Participation in the Toulouse part of the ALADIN project

Evolution of the monthly manpower

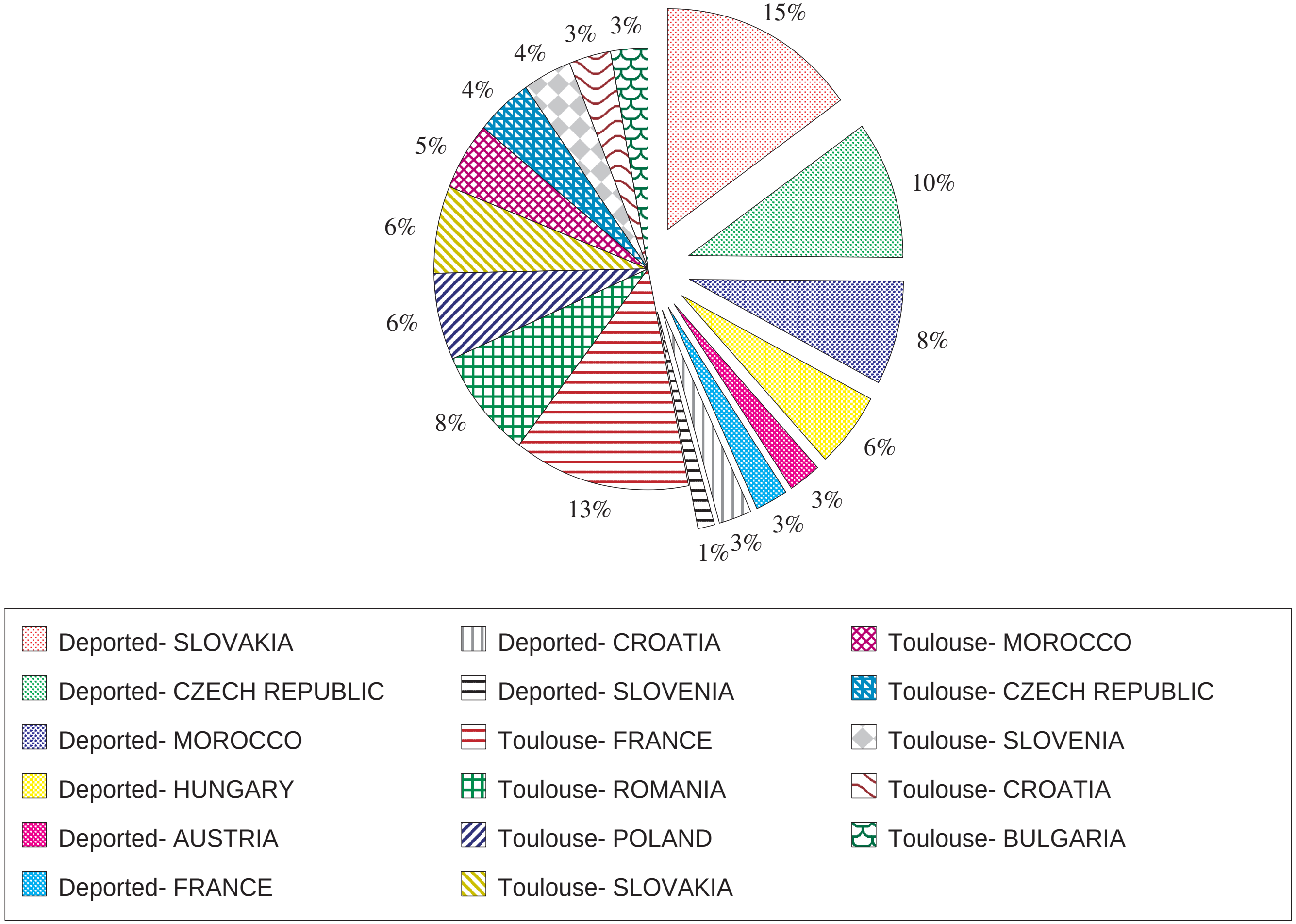


Updated on 960331

Figure 3

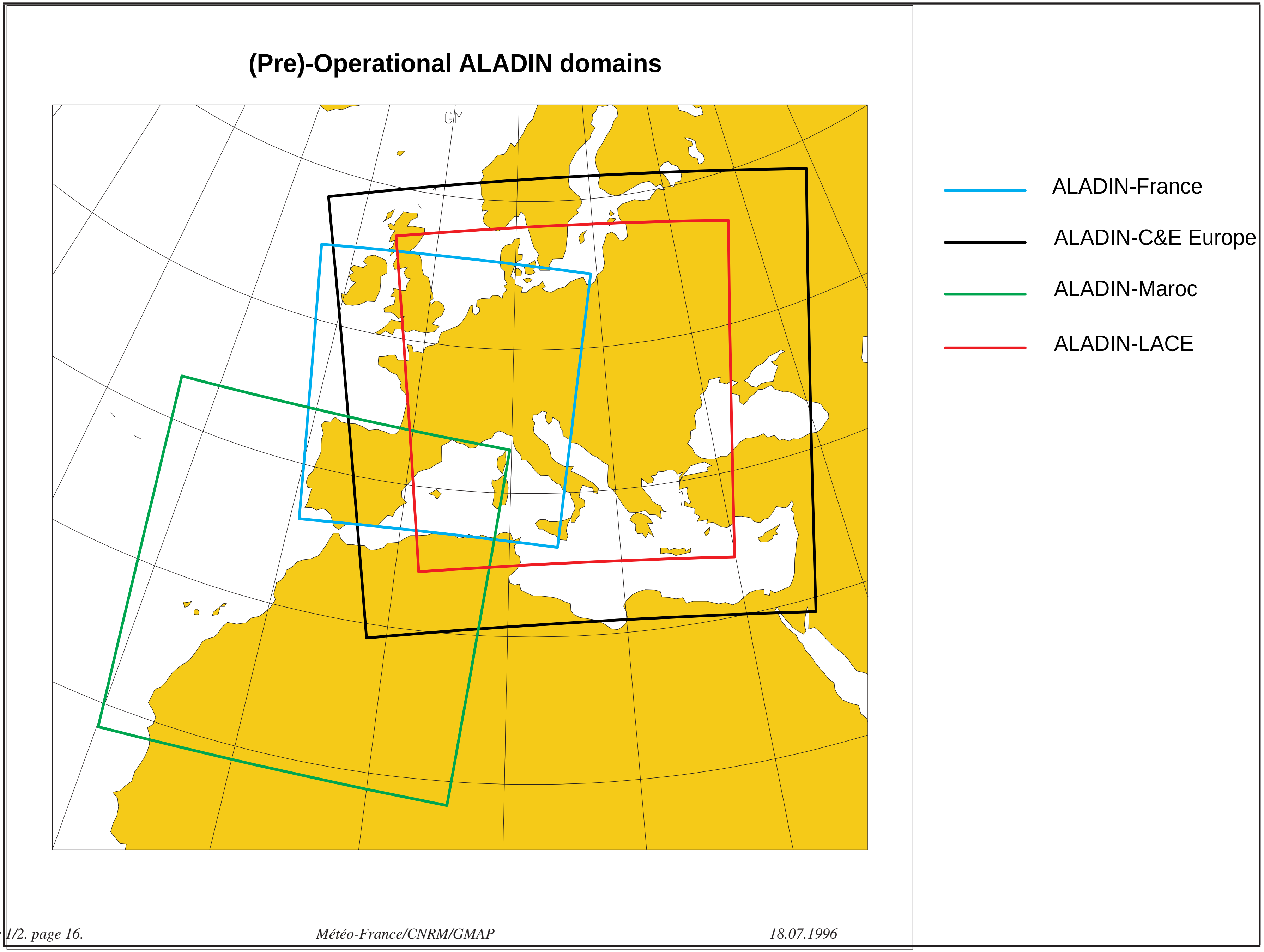
Participation in the ALADIN project since the last quarter of 1995

Breakdown of the men.months by countries (Toulouse/Deported)



Updated on 951231

Figure 4


(Pre)-Operational ALADIN domains
GM
ALADIN-France
ALADIN-C&E Europe
ALADIN-Maroc
ALADIN-LACE