

ACCORD

A Consortium for COnvection-scale modelling
Research and Development

PM's talk (& CSS)

Claude Fischer, PM, with input by Anne-Lise Dhomps, CSS
ACCORD All Staff Workshop, 15-19 April, Norrköping, Sweden

Governance level

- STAC on 25-26 October
- Assembly on 4 December 2023
 - approved RWP2024 & budget 2024
 - took note on status of preparation of Strategy for the next phase 2026-2030, provided orientations on some of the high level questions
 - discussed the expansion of international collaboration in ACCORD, the preparation of a strategic position paper on this question & the request by BMKG (Indonesia)



- Next Committees & Assemblies:
 - STAC on 5 June online
 - Assembly-8 on 3 July online
 - STAC: 2 in the autumn (dates tbc) in-person & hybrid
 - Assembly-9: 9 December in-person at ECMWF & hybrid

Membership



- Latvia
 - a cooperation agreement was signed in December (for three years) enabling LEGMC to become an observer in ACCORD.



- Indonesia
 - an official request to become an Associate Member was sent to the Chair of the Assembly in April 2023.
 - The request will be processed alongside the preparation of a strategic position paper on the expansion of collaboration in ACCORD.

MG and ST positions

- Consortium Scientific Secretary:
 - Anne-Lise Dhomps has taken up the CSS position from 1 September 2023



- The position of Documentation Officer has been opened and the candidate has been selected.

Management activity

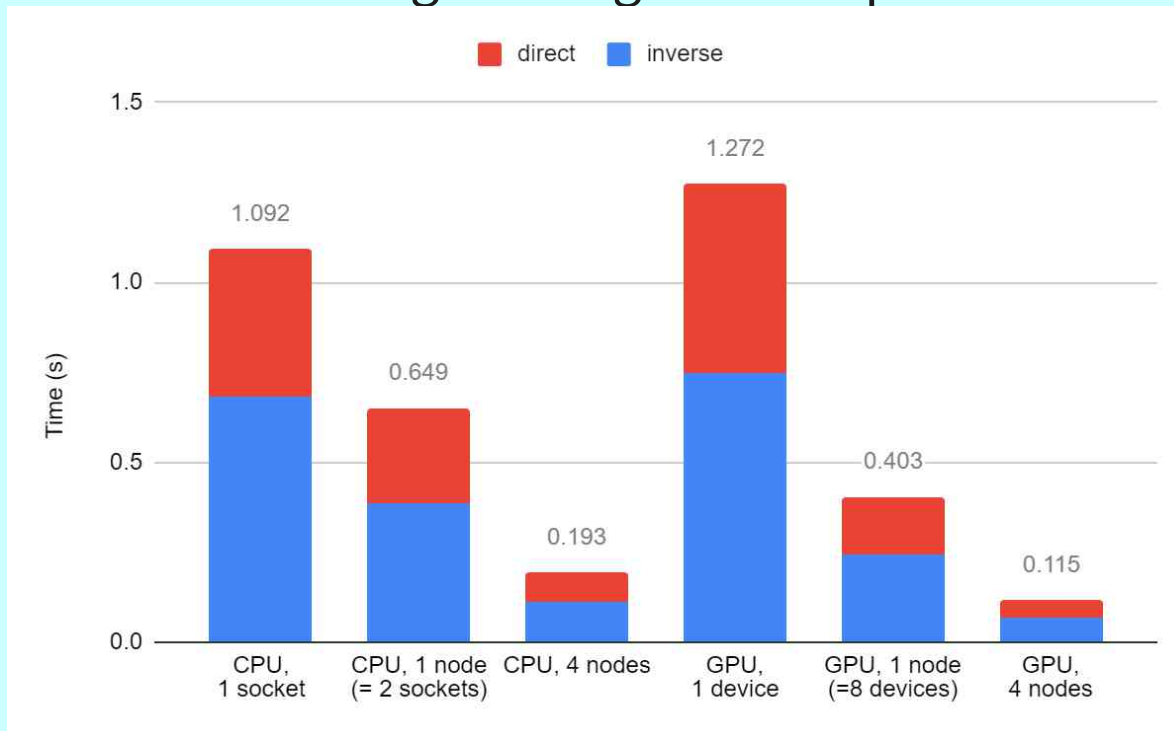
- RWP2024 & CMR (Common Manpower Register)
 - manpower figures updated and checked by MG for the full year 2023
- DAP2024
 - signed by PM and sent to LTMs on 27 February 2024
- preparation of RWP2025
 - will start actively in June; expected to have the completed draft RWP2025, including manpower commitments, in the very beginning of October
- Start activity with the User Representatives
 - the nominated UR have been invited by the MQA/AL (Carl) to fill in their first user feedback report (which was prepared as a google formular)
 - the MG will then analyze and process this material (PM, MQA/AL, CSC-Leaders), select items and translate them into NWP questions, propose tasks within the next RWP (in concertation with other experts as seems relevant)
 - later: we will prepare some level of reply from the ACCORD/NWP side to the UR
 - stepwise approach: we will learn from the process

3. Snapshots from results reported in 2023

- from within the scientific reporting for 2023
- presented to STAC and to the Assembly end of the year

3. SPTR (code adaptation)

- porting parts of the LAM codes to AMD-GPU: spectral transforms, ACRANEB2 scheme (for the latter, use LOKI for s2s code adaptation)
- create the new Méso-NH/Arome physics code library “PHYEX”
- start adapting the Arome physics interface routine APL_AROME
- a code refactoring training workshop was held at CSC (October)



Timings of LAM spectral transforms on AMD CPUs and AMD GPUs. The grid dimensions are 1536 x 1024 x 100, with a linear spectral truncation. Transforms include 3 scalar fields, 2 wind fields and derivative calculations.


3. Integration of code contributions, source code forge for ACCORD

- use of the ACCORD source code forge and of “davai” for CY49T1
- several webinars were organized by the Integration Leader in order to present the forge and how to work in this new environment (about 60 participants each time)
- davai-contributors (second) WW in 2023: team building continues ! (MF, DMI, RMI, KNMI, Met.no, SHMU)

ACCORD Forge

Web platform hosting consortium-wide repositories and their associated communication environment (wiki, ticketing, integration requests, reviews...)

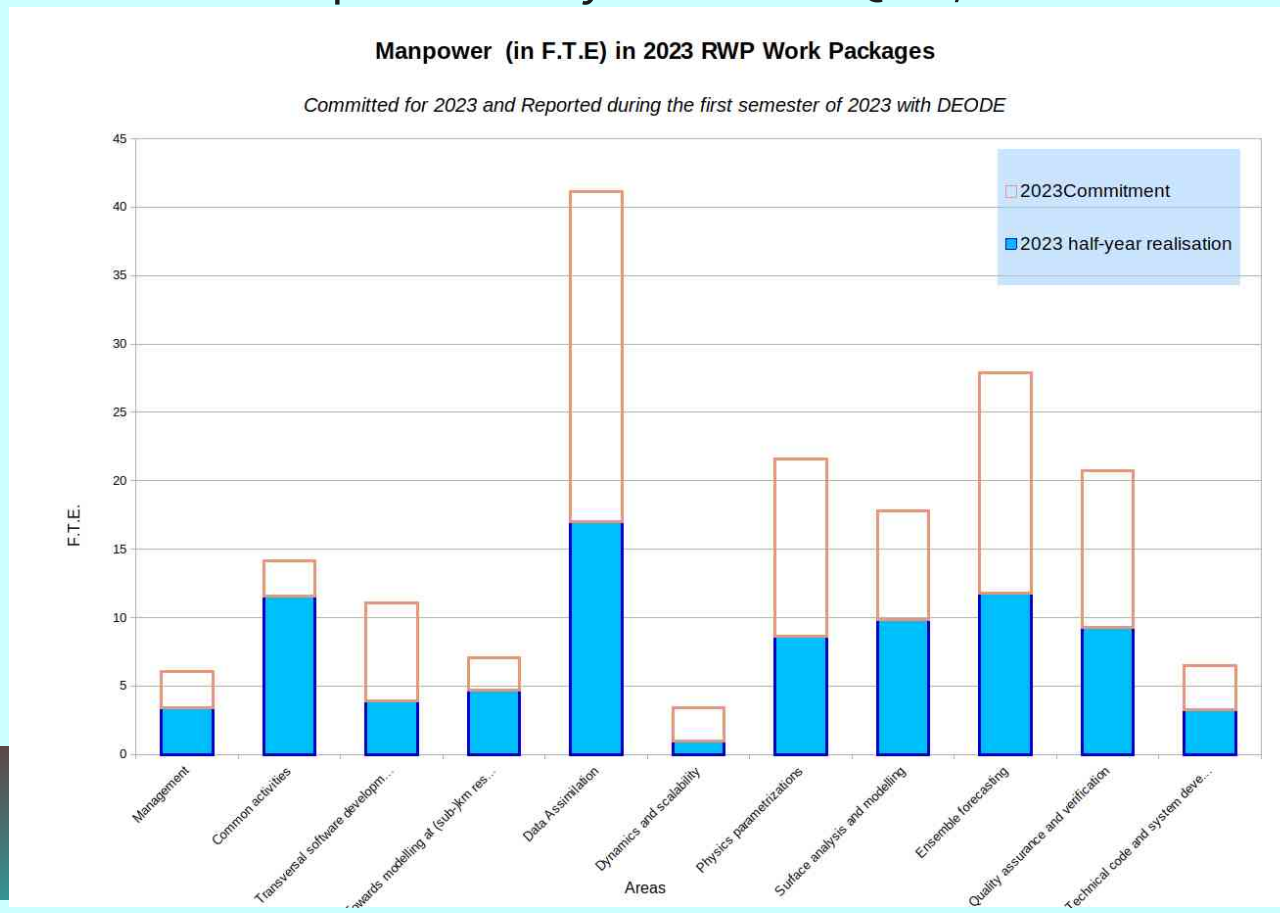
<https://github.com/ACCORD-NWP>

- **IAL** (IFS-Arpege-LAM) *private* repository : official portal for contributions to 49T1
- Series of **training webinars** to be organised this spring, combined with Davai webinars : information and registration on https://opensource.umr-cnrm.fr/projects/accord/wiki/accord_forge_Spring2023_Webinars
- Getting started :
 - Set your  **GitHub** account, **using an explicit identifier** and professional email address
 - Request membership by email to Daniel Santos Munoz and/or Alexandre Mary, indicating your Github identifier and associated email address

3. Reporting on RWP2023

- Realization of manpower at mid-term: ~50%
- COM activities with increased registration w/r to commitments
- DEODE-funded registered manpower for Q1-2/2023:
 - significant increase in SPTR (~50%), also in VHR modelling (~30%) and Surface (~20%)
 - some increase also expected in Dynamics for Q3-4/2023

Q1-2 including DEODE-funded manpower =>



Documentation Officer : First approach

5 levels of documentation:

- 1) Scientific papers, Newsletter articles, Internal notes with scientific or technical description of a new feature, peer-reviewed papers.
- 2) User's guides, Tutorials, How To's.
- 3) Code related Documentation (close to the codes, close to the PRs).
- 4) Meteorological Validation
- 5) Reports of WW, Meetings and ACCORD Stays

Documentation Officer : First steps

- Make an inventory of each part of documentation. What do we have, where is it hosted and with what level of accessibility. Analyze which are the gaps and where the highest needs/priorities are.
- Investigate what the appropriate place for hosting the ACCORD Code Documentation could be. GitHub Wiki?
- Elaborate templates and guidelines for developers for documentation.
- Investigate what an appropriate tool for communication for ACCORD could be: general structure and divided by Teams, functionalities, prototyping.
- Some reorganization of the ACCORD Web Pages and WIKI (to adapt to new working practices on documentation) ?

Destination Earth DE_330

- The goal is to develop an on-demand extreme-event digital twin, interfaced with a global model or digital twin (ECMWF), the data lake (EUMETSAT) and the core service platform (ESA)
- The system will use modern HPC facilities from the EuroHPC Joint Undertaking
- Météo-France is the Prime Contractor with ECMWF (Elisabeth Gérard, MF); the scientific and technical leadership is shared with other ACCORD Members
 - Roger Radriamampianina (Met.no), Kristian Pagh Nielsen (DMI)
 - WP leaders from the various institutes
- A prototype demonstrating the proof-of-concept of the on-demand digital twin will be delivered by the end of April 2024 (end of phase 1)
- Several tests have been run with the prototype for hydrology, air quality, renewable energy, and other extreme weather cases since the Autumn of 2023



Funded by
the European Union

Destination Earth

implemented by

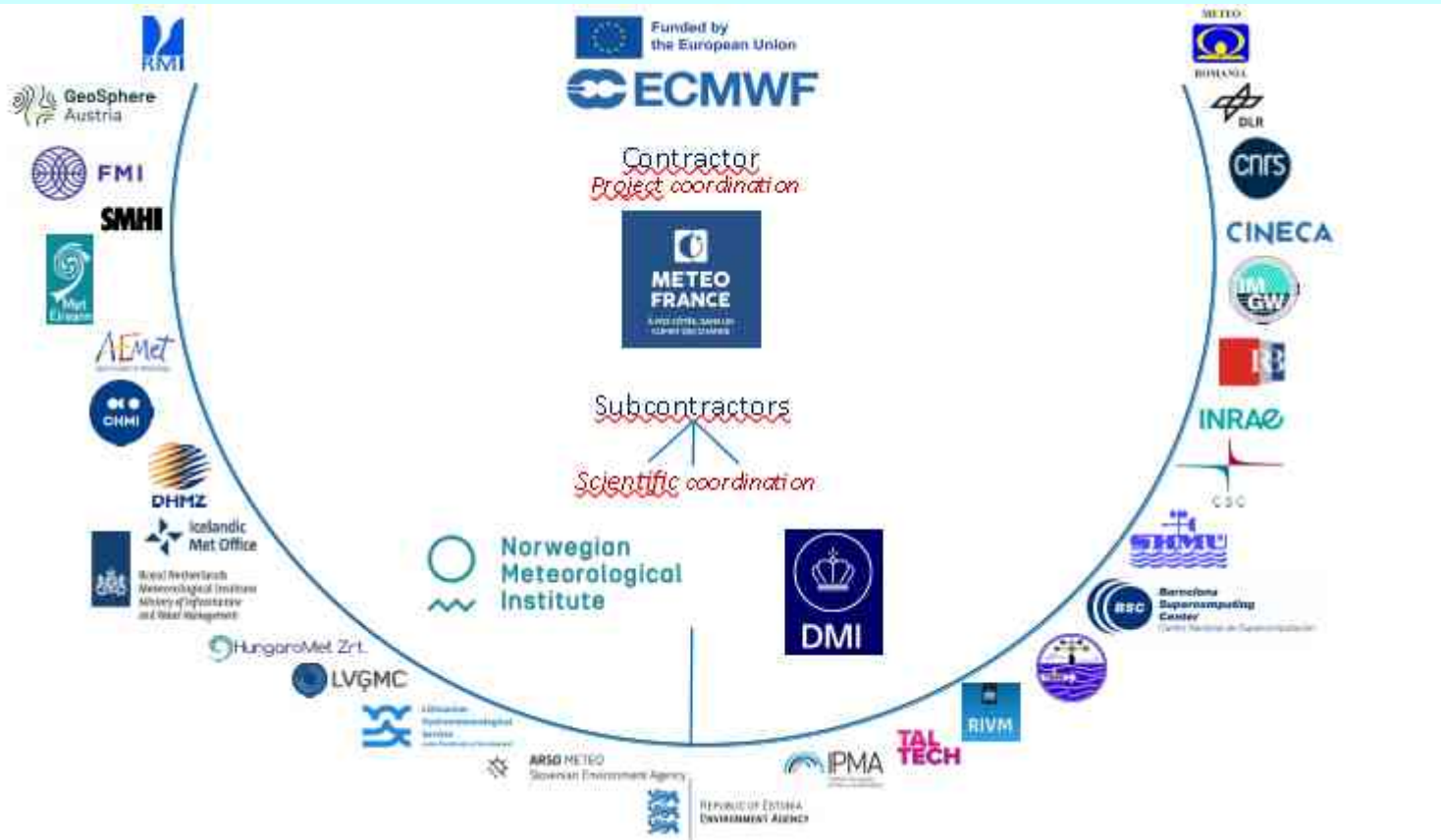


ACC RD

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Destination Earth DE_330 in phase 2

- Phase 2 will start on 1 May 2024 and finish in the end of April 2026
- The teams will make a pre-operational on-demand Extremes Digital Twin that will run on EuroHPC platforms
- The negotiation for the amendment to the DE_330 Agreement for phase 2 has finished in March, followed by final checks across partners (on the content of the Technical Annex)



Next ACCORD phase 2026-2030

- Preparation of the scientific Strategy

Preparation of the 2026-2030 strategy - where we are now in the timeline

- STAC+MG to address the high-level questions, propose choices or answers, provide guidelines => **STAC-6 on 25-26 October 2023**
- **Assembly-7 on 4 December**: assess the outcome on the high-level questions, give orientations, discuss and decide on the next steps
- Task Teams (TT) are formed and work during the winter, using the outcome of STAC+MG and Assembly as strong guidance. The material from the TT is an input for the strategy workshop => **TT output ready for the beginning of May 2024 (by 7 May ?)**
- *February-April: the HLQ questionnaire will be prepared and sent to the ACCORD Members (to Assembly with cc to LTMs) => the Bureau decided to first hand over these HLQ to the thematic TTs, and the Bureau will analyze their outcome*
- **A strategy workshop meets on 21-24 May**, participation is on invitation only. The outcome of the workshop is an input for the strategy drafting team
- **STAC (on 5 June 2024) and the Assembly (on 3 July 2024)** are presented with a progress report and the organization of the (final) drafting steps
- **Another STAC meeting will be organized in September**, to let STAC members time to consult with their teams and in their families (July-August-Sept)
- *The strategy drafting team works during the summer or autumn 2024 => **draft strategy document ready for October 2024**, to serve as a preparatory document for STAC in the autumn 2024*
- *The end of 2024 Assembly (on 9 Dec) could then approve the final version of the strategy*

Orientations from the Assembly-7: The goals

- The goals of ACCORD (in short)
 - To provide ACCORD members tools (codes) for very high resolution numerical modelling with a focus on the short-range, on high impact weather, (...) at a world-leading, state-of-the-art level, with an ability to exploit observations relevant for these space-time scales and sensitive weather features.
 - To provide portable and efficient codes on many platforms.
 - To address our users' needs, including for aspects related to the impact of a changing climate (heat waves, precipitation regimes etc.).

Orientations from the Assembly-7: The scope and High Level Questions (HLQ)

- In 2023, a set of High Level Questions have been discussed, with some specific orientations by the Assembly.
 - the focus of ACCORD should remain on R&D
 - The trend toward an increased ecosystem of codes is recognized and should be taken into account in any relevant way
 - code evolution and code adaptation (to HPC architectures), MQA, R2O and O2R have high priority
 - providing the members an end-to-end NWP system in a research mode is supported by the Assembly
 - AI/ML research studies in combination with our physics-based models are encouraged in our consortium. However, the Assembly also is expecting that ACCORD (its Members in general) is fully proactive in participating in the international initiatives that are currently being built (ie at European level).
 - operational collaboration is also out of the scope of ACCORD
 - ACCORD should not provide tools or organize datasets in relation to EU open data policy and/or high value datasets instructions

Task Teams

Task Team	Chairs
Forecast model and coupling to other Earth model components (including surface)	<i>3 co-chairs (phy, dyn, surf, focussed on interactions and consistency)</i> Patrick Samuelsson, Meto Shapkalijevski, Ludovic Auger
DA and coupled DA (including surface and use of observations for DA)	Benedikt Strajnar, Loïk Berre
Code & system including testing strategy from unit to integrated	Daniel Santos, Alex Deckmyn, Denis Haumont
EPS & probabilistic forecasting	Henrik Feddersen, François Bouttier
MQA including user feedback	Carl Fortelius, Andre Simon

Strategy workshop

- 21-25 May in Toulouse
- invited participants:
 - MG and TT co-chairs
 - invited experts on proposal by MG
- goal: have a first draft of the Strategy document ready, possibly with some bullet-style editing
- present this draft to STAC then to Assembly

Overview of content of this ASW

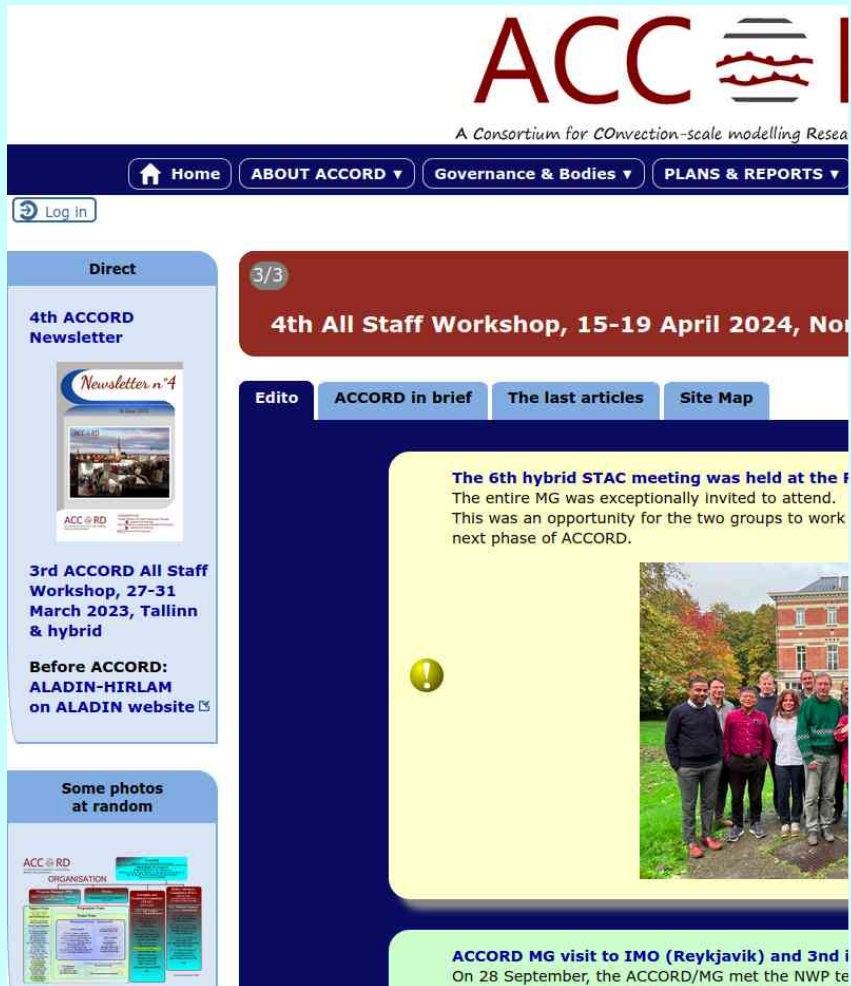
- sessions: the (usual) thematic ones including an applications session
- posters introduction today 15h20, followed by in-situ viewing
- side meetings:
 - Tuesday 17h30 - 18h30:
 - Physics-oriented validation part 1 - conference room - [webex link](#)
 - Data Assimilation - meeting room 1 - [webex link](#)
 - Climate - meeting room 2 - [webex link](#) - Chair: WANG Fuxing - Co-chair: LANDGREN Oskar
 - no side meeting on Wednesday ... [visiting and sightseeing time](#) !
 - Thursday 16h30 - 18h30:
 - Physics-oriented validation part 2 - conference room - [webex link](#)
 - System and code - restaurant room - [webex link](#)
 - [webex links to the side meetings also in the agenda and the website](#) !
- LTM meeting today, Monday 15 April 16h30-17h30 CEST on invitation for LTMs or their representatives - in meeting room 1 and with this [webex link](https://meteo.webex.com/meteo/j.php?MTID=mf634e2c4867ba620d0bd594b6fcf8bcc)

The PM gives the floor to the CSS ...

- Since September I've had the opportunity to interact with quite a few of you, but not many of you have met me.
- I'm happy to be here today and to meet more of the ACCORD community.
- Last year, Patricia presented the content of the ACCORD website to the teams.

From the ACCORD CSS, the website

From the ACCORD CSS, the website



- I won't be presenting the website again this year.
- I am sorry that it has not been updated much in the last few months.
- I have been concentrating on the EVENTS part to keep you informed of meeting dates and to upload meeting minutes.
- I'll do better this year!
- For now I just want to emphasise the COMMUNICATION section.

Communications

The screenshot shows the ACCORD website header. The logo 'ACCORD' is in red with a stylized wave icon. Below it is the tagline 'A Consortium for CONvection-scale modelling Research and Development'. The navigation bar is dark blue with white text for 'Home', 'ABOUT ACCORD', 'Governance & Bodies', 'PLANS & REPORTS', 'EVENTS', 'CONFIGURATIONS', 'COMMUNICATION', and 'Newsletters'. The 'COMMUNICATION' menu is open, showing options: STAFF, MAILING LISTS, WIKI, TEMPLATES, LOGO, Time zones, CALENDAR, and ACCESS to MF machines. A red box highlights this dropdown menu. On the right, there is a search bar and a text box with instructions in French: 'Ici vous pouvez afficher le contenu d'un article avec le mot-clé "article-libre1". Le titre du bloc sera celui de l'article.' Below that is a 'Calendar' section with 'Display in full page'.

- STAFF: please check your team, your name and contact your LTM to update your profile
- MAILING LISTS: to keep in touch with what is going on ! !
- WIKI: to have all the informations about Working Weeks, Working Days, Scientific visits ...

Work in progress - to be improved with the Documentation Officer

Let's leave the last word to the PM ...

tack för din uppmärksamhet
(thank you for your attention)