

## BLLAST Newsletter February 2012

### Summary of the discussions held during the workshop of Firenze, 6-7 February 2012

#### Ongoing and planned work

##### 1. Close to the measurement

- Scintillometers

*Need to take account of the complex topography and heterogeneous surface for the  $C_T^2$  and flux estimates (O. Hartogensis, O. de Coster, et al)*

- UAS

*High frequency measurements require data processing, (nb: new measurement for SUMO) (UAS group)*

- Aircraft

*Close look to scales and spectra during the transition (aircraft group)*

- Radiosoundings

*Further analysis needed about the humidity bias between the different types of radiosondes*

- Ground flux stations

*Area-averaged flux estimates planned. (flux group, in collaboration with modeling group, PI: O. Hartogensis).*

- Radiation

*Work on measurement quality, and radiation references (GJ Steeneveld, S. Wacker et al)*

- Aerosol in situ analysis

*Chemical analysis, and spatial distribution of aerosols (LPCA)*

- Microbarometer

*Wave analyses (Uni. Comp. Madrid)*

## 2. Estimates of key variables

- "Z<sub>i</sub>" Mixed layer depth, Residual layer top, inversions...

*PI: P. Augustin collects the estimates made from various sources: radiosoundings (first estimates made by F. Couvreux), UAS, aircraft, ceilometer, aerosol lidar, UHF*

- Advection

*From aircraft, radiosoundings, models... It has been decided that when one makes estimations of advection terms for a given day, with a given numerical simulation or observational source, she/he lets the BLLAST group know about it.*

- Large scale subsidence

*PI: M. Lothon coordinates the large scale subsidence estimates from 3-point simultaneous radiosoundings, individual radiosoundings, profiler network, individual profilers,... ECMWF, AROME..., (with F. Couvreux, F. Guichard, H. Pietersen, J. Mione, et al.)*

- Entrainment

*Tracks for estimating entrainment will be considered from aircraft measurements (aircraft group).*

NB: For those key estimates, consider data base deposit when appropriate.

## 2. Modeling activities

- Forecast models evaluation

*Well started, still ongoing (F. Couvreux, Y. Seity, E. Bazile)*

- Mesoscale model intercomparison

*Revision of the initial conditions and set up for the inter-comparison already well started. Further work needed on the analysis of the differences. (PI D. Pino, with J. Cuxart, W. Angevine, F. Couvreux, G-J. Steeneveld, M. Jimenez, E. Blay, M. Jonassen, group of univ. Comp. Madrid,)*

- 1D Mixed-layer model

*Ongoing and planned studies on specific IOPs (H. Pietersen & J. Vila G de A., E. Blay & D. Pino, Z. Sorbjan)*

- Large Eddy Simulation

*Ongoing and planned studies, from idealized to explicit LES cases (E. Blay & D. Pino, H. Pietersen & J. Vila G de A., C. Darbieu & F. Lohou, F. Couvreux, Z. Sorbjan). Now IOPs 5, 7, 8-9-10 started or planned*

- Boundary-layer parameterization  
*Step further to work on for the modeling group.*

### 3. Fundamental analyses

- Surface heterogeneity, surface energy balance  
*(E. Pardyjak, A. van de Boer & O. Hartogensis, C. Darbieu & F. Lohou & P. Durand, S. Wacker, J. Reuder)*
- Vertical structure evolution  
*(most of us)*
- Evolution of the turbulence length scales  
*(within the PBL, aircraft group: H. Pietersen and J. Vilà G de A., M. Lothon & P. Durand, D. Pino; Doppler lidar: F. Gibert; at surface: C. Darbieu & F. Lohou, from LES: D. Pino, J. Vilà G de A, C. Darbieu & F. Lohou)*
- Scaling, similarity theories, ...  
*(Ongoing work from Z. Sorbjan with 1d and LES models, future works for modeling group in general)*
- Stable boundary layer, Katabatic flow, gravity waves  
*(J. Cuxart, M. Jiménez, C. Yagüe, M. Sastre, C. Romàn, E. Pardyjak)*
- Timing definitions of transitions  
*(most of us)*



## Other topics

### 1. Data base / pictures

*We will soon be able to put our pictures of BLLAST field on the database, by topics.*

### 2. Web

*Note that the BLLAST publications, or BLLAST related publications are put on the web section "Documents" on the BLLAST web site. Contact [bllast@aero.obs-mip.fr](mailto:bllast@aero.obs-mip.fr) if you want to send a publication to be put online.*

### 3. Overview paper in the BAMS

*The manuscript should be submitted within the next two months. Contributions from preliminary results are welcome. It has been decided during the discussion that a large list of authors will be considered, which includes all participants. M. Lothon contacts the journal to check that it is possible.*

### 4. Upcoming conferences

- EGU, April 2012: *D. Pino will give an invited talk about BLLAST during the turbulence session (chair: C. Yagüe) – preliminary results are also welcome for this presentation!; there will be a UAS session (chair: J. Reuder),*
- BLT, Boston summer 2012: *several contributions planned. We will coordinate to cover as much as possible the aspects addressed in BLLAST.*

### 5. Funding strategies

*Funding strategies, grants: Van Gogh to be attempted again (MAQ-LA-CNRM), French ANR submitted in Jan 2012 for a 3rd attempt (for a 2-year postdoc), new attempt as well at DFG (Jens Bange)*

### 6. Next workshop:

*Planned around early summer 2013, possibly in Bergen, Norway, or Spain.*

### Reminder:

- All presentations given at the workshop are accessible online on the website: <http://bllast.sedoo.fr/workshops/february2012>
- Check various reports and publications related to BLLAST on: <http://bllast.sedoo.fr/Documents>