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Interactive comment on “The DAURE field campaign: meteorological overview” by O. Jorba et al.

Anonymous Referee #1

Received and published: 10 March 2011

—Overview—

The paper is a description of the meteorological situation during field campaigns in northeast Spain. Whilst it is clear that the intention is for this paper to be a core reference for other DAURE papers, it is not easy to find novel aspects of science in this manuscript (but this is perhaps normal with such overview papers for field campaigns).

—Scientific concerns—

Whilst it is clear that much effort has been invested in gathering meteorological resources (generating what is a novel dataset), it is difficult to find any novel science in this manuscript. In fact, this is almost admitted in the manuscript (page 4958 lines 9-11 & page 4976 lines 9-11). I appreciate the need for this manuscript to exist formally,

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so maybe this manuscript would be better served as "Supporting Material" to the first substantial DAURE paper. Either that, or perhaps something scientifically-novel should clearly be presented in the present manuscript. Also, more detail would be needed of technical setups (instrument names, model configurations, etc) to enable traceability.

—Structure—

Whilst the figures and tables convey lots of information, most of the text is verbose (although it is fluent). In particular sections 3 and 4 have lots of paragraphs of descriptions that seem not have a point. It is thus difficult to find what the core concepts are. In particular, the abstract would benefit from being more concise.

—Technical corrections—

* Please choose either British or American English and stick to it (I have corrected for British English, since I first saw those spellings in the manuscript).

* There are too many non-standard acronyms and initials which are not defined (e.g. DAURE is not defined in the abstract).

* The figures are not numbered correctly in the body text (most are called Figure/Fig 5).

4955 03 remove "an"

4955 25 "...rain. The main..." is better

4957 08 BCN is not an obvious initialism

4957 16-17 down/up might be confusing - consider southwards/northwards

4957 17-18 former/latter is difficult to read (e.g. try "Cold air mainly dominates...")

4958 17 "to" is not right here (maybe "with" would work?)

4958 18-21 I would delete these lines, it just wastes readers' time

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4959 03 should be "measurement techniques"

4959 07-09 this is verbose

4959 11 I prefer "northeast" to "NE" (obviously be consistent throughout the manuscript)

4959 13 I would guess measurements are at 1.5 m (I appreciate that model levels are normally 2 m)

4959 13 I presume you mean "mean-sea-level atmospheric pressure" and not "surface pressure"

4959 14,17 It should be made clear the sampling rate of the instrument and any averaging done

4959 16 Define CSIC

4959 21 Please define PBL (although "atmospheric boundary layer" is perhaps more correct)

4959 22-23 This sentence does not sound correct, radiosondes do not normally measure both dewpoint and relative humidity. Plus, define "pressure" more precisely

4959 22-23 The vertical/temporal resolution of soundings should be noted

4959 25 "daily cycles measurements" is not clear - please make clear

4960 02 Please define "BSC"

4960 13 Here is an example of verbose language (e.g. could just be "...Iberia to Africa,...")

4960 22 Please clarify "are achieved adding the..."

4961 13 It is not obvious what "University PBL scheme" means here

4962 06 British English would be "travelling"

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- 4962 16 "...located in..." does not make sense; perhaps "centred on" is better?
- 4962 17-18 Such a generic and bold statement should probably be avoided - it makes it sound as if that is the only synoptic situation that exists
- 4964 05 Consistent terminology needed throughout the manuscript (e.g. "mean-sea-level atmospheric pressure")
- 4964 16 British English would be "kilometres"
- 4964 20 British English would be "modelled"
- 4964 25 British English would be "channelled"
- 4965 15 Should be "temperature"
- 4965 20 It is not clear what "...low baric..." means
- 4967 23 The Stull reference is too general, the parcel method might be better references to Seibert et al. (AtmosEnv 34:1001-1027, 2000)
- 4968 17 Should "pC" be "C"? It is confusing
- 4968 24 British English would be "coloured"
- 4970 04 Replace "to" with "with"
- 4970 17 Replace "this" with "these"
- 4970 23 Remove "The..."
- 4971 10 "highest" is ambiguous, try "greatest"
- 4972 02 Replace "to" with "with"
- 4972 09-10 "...Tables 1 and 2, but for the..." would read better
- 4972 11 "30°C and 35°C" would be better as "30-35°C"

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4972 12 Please avoid the word "significant" in research manuscripts unless you mean statistical significance (other places in manuscript also)

4972 16 "As can be seen in Fig. 5, ..." is an example of verbose text, e.g. try "The BCN meteorogram (Fig x)..."

4973 09-10 Please avoid swapping terminology on mixing heights and PCL

4973 11 "mesolow" would perhaps confuse most readers

4973 16 Check entire manuscript for erroneous "see" when you mean "sea"

4973 21 Perhaps "...one day each." would be more accurate?

4973 23 This sentence is best placed in figure captions rather than the main body of text

4975 10 British English would be "modelling"

4977-4980 There is some sort of numeric corruption in the references

4981 "Summary of surface meteorological", maybe you mean "near-surface"? (Caption of tables 1 and 3)

4981 Please expand "min." and "max." to the full words (in captions of tables 1 and 3)

4981 Column 1 could have "2009" removed from every entry (and 2009 included in a relevant title). Also for the other tables.

4981 Please quote to relevant accuracy levels, e.g. decimals in RH data is normally a form of noise.

4981 Please use consistent terminology with manuscript (e.g. "mean-sea-level atmospheric pressure")

4982 Please expand "Sfc." (Tables 2 and 4)

4985 There are no scales on the maps. The figure captions needs more detail (e.g.

what is the yellow line?). It is not possible to read the numbers on the topography plot
Figures All figures need much more attention to detail, consistency, visibility, etc. Here is a list of suggestions:

4985 Captions should be slightly more self-standing than you have them, e.g. what does BCN and MSY mean?

4986 Since all plots are 12Z in 2009, maybe avoid writing that on the figure and instead put it in the captions. (e.g. Figures 2, 5, 10, 11)

4986 It is difficult to read the dates on most figures (2,5,10,11), maybe have some sort of background colour (like in figure 6)

4987 Please expand the caption to say that the colourbar is in mm (figs 2, 10)

4987 Since the maps are so small, it might be useful to quote the isobar spacing (hPa) to help the reader (figs 2, 10)

4987 In all captions please use the same consistent terms as the manuscript (e.g. mean-sea-level atmospheric pressure)

4987 The latitude/longitude information is not possible to see in most figures (perhaps remove and quote in the captions?)

4988 Titles are normally avoided in figures (3, 4, 7, 8, 12, 13)

4988 In all figures please use formal scientific units with sub/superscripts and °, etc

4989 When wind direction goes around North, you might want to remove the vertical lines

4990 Should be "DAURE" (not DARUE)

4990 Please explain what "wind field" means - e.g. is it just wind direction, or wind vectors indicating strength

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- 4990 Please make clear that the colourbar represents the dust loading
- 4991 "Temperature" does not need to be capitalized (and please defined its units)
- 4991 Please avoid using "surface" unless you really mean it (this applies in most figures)
- 4991 British English would be "colour"
- 4992 The date axis is not easy to read, consider adopting the dd/mm format that you used in fig3
- 4993 The gridlines should be more consistent between figures
- 4993 The date axis is not easy to read, consider adopting the dd/mm format that you used in fig3 (and why are the times different? - this does not seem to concur with the tables)
- 4994 The trajectories on figure 9 simply can't be seen
- 4994 British English would be "coloured"

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 4953, 2011.

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