

Interactive comment on “MEDEX: a general overview” by A. Jansa et al.

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This manuscript describes the formation and activities of MEDEX, which had been for several years an important initiatives involving many European countries. I think that it should be published, after some mandatory minor corrections (especially figures and their captions), some clarification (mainly on the criteria denoting MEDEX results and papers), and, possibly, some further discussion on achieved results (which I think would increase the interest on this paper)

General comments:

1) The initial paragraph of section 4 is honest discussion of what can (should) be considered part of MEDEX. This is not an easy issue and this sort of “problem” is common to many bottom-up initiatives, which have no dedicated centralized funds for their ac-

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tivities. In think that MEDEX was a very valuable initiative in spite of this problem with identifying strictly whether a result or a paper belong to MEDEX. Probably “ part of the research performed by people belonging or connected to the MEDEX community could have been done even if MEDEX had not existed” , but at the same time part of the work was motivated by MEDEX and would have probably not have been done without MEDEX. My point here is that at the end of this initial paragraph, I suggest authors write clearly the criterion (or criteria) used for including a “clear” MEDEX scientific achievement in the rest of section 4. How was the selection done?

2) Further the authors might consider being more specific on the results that have been obtained. Section 4 is rather detailed on objectives and activities of MEDEX, but rather vague on conclusions. Examples in section 4.1: Which areas are characterised by a high concentration of cyclones? Which areas are active throughout the year? which present a very marked seasonal behavior? Later is section1 : which conclusion was reached for time evolution of the frequency and characteristics of the Mediterranean cyclones in connection with climatic change? Which patterns were found to be linked to the occurrence of cyclones producing high impact weather? To some extent this list of question can be continued across several parts of section 4.

In my view adding sharp focused sentences on the conclusion, would greatly increase the usefulness of this manuscript and provide a guide across literature.

3) I suggests that the authors consider carefully the use of “High impact” and “severe across” their paper. The first line of the second paragraph of the introduction uses “severe or high impact” , suggesting they are equivalent terms. They should not. “Severe” means that the intensity of the event is remarkable (generally adopting a criterion related to a low probability threshold), while “high impact” relates to the fact that it produces a damage. Depending on vulnerability and exposure, and accounting often for cascade effects, not all “severe” weather conditions are “high impact” and sometimes, though rarely, high impact weather can be not particularly severe (this is in fact stated in the second paragraph of the introduction). My impression is that most of the material

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refers to “severe” weather and that, in fact, it was not possible to investigate to a satisfactory degree the links between severe and high impact weather (see also section 4.6), so that substantial research is still needed on this issue. I suggest that the author comment on this, at least in the conclusion.

Other points: - Third paragraph of introduction. Actually the link between precipitation and cyclones depends substantially on the definition of precipitation event. If the total amount of rain during the event is considered as a measure of its intensity (eventually including more than one day) the correlation is actually strong (Reale and Lionello, 2012). Further this paragraph is dealing only with precipitation. In general high impact cyclones could include also those related to strong winds (e.g. those producing high waves in the sea and storm surges), and may be also producing heavy snowfalls. Line 6 to 14 refer to only to intense precipitation only and not to high impact weather in general. This could be reconsidered by the authors.

I think that the authors could also mention at the end of section 2 that some of the climate analysis carried out by MEDEX is being continued by MEDCLIVAR, a WCRP endorsed project (Lionello et al. 2012) which includes some of the objectives on cyclone climatology of MEDEX. Authors of this “MEDEX” article have been involved in the writing of the MedCLIVAR books (Lionello et al. 2008, chapter 6) which shows a real, though informal cooperation between the two initiatives). Further two chapters of the MedCLIVAR book (chapter 6 of the first, Lionello et al. 2008, and chapter 5 of the second, Ulbrich et al 2012) contain material relevant for the discussion in introduction section. It is not clear to me from section 4.4 to which extent data assimilation has been explored in MEDEX? Could the author comment on data assimilation use in regional weather prediction, its feasibility and utility?

Very specific comments - Page 12 line 4-6. Why the threshold for precipitation is fixed, while the threshold for wind depends on the local climatology - I do not understand line 13 at page 21. - Line 13 page 16 is “summery” English? Indicators is misspelled at line 2 of page 25 - Last par of 4.5 why is this in the section about ensemble methods?

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- Fig.3 : Which quantity is shown here? The density of cyclone center when intensity was above the threshold? What is the unit used? On which data is this figure based? ERA-Interim? - Fig.4 what are the units? Fig.4 what the arrows show? Please specify period off the data ERA-INTERIM that have been used.

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