Geosci. Model Dev. Discuss., 4, C1275–C1277, 2012
www.geosci-model-dev-discuss.net/4/C1275/2012/

Geoscientific Model Development Discussions

Interactive comment on "A web service based tool to plan atmospheric research flights" *by* M. Rautenhaus et al.

M. Rautenhaus et al.

marc.rautenhaus@tum.de

Received and published: 4 January 2012

First, we would like to thank the referee very much for his/her positive and constructive comments and interest in our paper. In the following, we reply to the referee's comments.

RC: *The overall quality of the paper is very good. I would welcome more details in the flight planning section 3.2 & 4 and recommend publication after considering minor revisions.*

Thank you. As we have noted in the paper, flight performance computations were performed with a prototypical service. It was developed in the context of a diploma thesis. Due to the prototypical status of the software, we have kept the corresponding

Sect. 3.2 short.

RC: *Introduction – 2126/11..19 : "Although commonplace in Geographic Information Systems (GIS), the WMS standard has not been widely used in the atmospheric domain. ...handle vertical cross sections" I would suggest to focus the introduction on the requirements and on the principle architecture and move the details of why WMS standard is now feasible into a later section.*

We agree that details about the challenges of using the WMS standard in meteorological applications belong to Sections 2.3 and 3.1. However, we would like to express in the introduction that one of the challenges of the system development was to find a way to make use of the WMS standard for forecast data. We hence think that it is necessary to mention in this paragraph that there are problems with using the WMS for meteorological data and that an extension of the standard was necessary. For this reason, we have left the paragraph as it is.

RC: *Section 2.2 – The line of argumentation would be clearer if the paragraph and arguments are sorted accordingly. I would suggest to move the paragraph starting 2129/10..16 : "While poviding...." after 2129/22 as you describe web based services with more or less preset/calculated information. As your argument started in 2129/10 is also valid for RTMM/WPT*

Thank you for this suggestion. We have moved the paragraph accordingly.

RC: *Section 3.2 & 4 – It would be interesting to know in more detail how the waypoints can specified. It would be helpful if this can be done in an interactive manner on the map rather then only defining the waypoints in the table view. The caption of fig. 9 indicates that it is could be done like that, but I miss the corresponding field to specify the FL.*

The waypoints can be specified and modified in the top and side views. We mention this in Sect. 3.3 (p.2138/7 and p.2138/24) and in more detail in the tutorial in the

Supplement.

RC: *Helpful as well, while planning in fig. 9 the waypoints would be a display of current flight time, remaining fuel and using the ZFGW to estimate, a lower limit ascent rate a reasonable max FL.*

We agree that this would be a very useful feature. It is not implemented in the version of the MSS described in this paper, however, we plan to implement such functionality in a future version.

RC: *For the interactive flight planning a short response time could be useful. To what extend can parts of the flight planning be included in the client rather than in the server to avoid sluggish response without giving up of the principle of the client server architecture?*

The MSUI is fully functional for specifying the waypoints without any connection to the web services. Hence, specifying the flight track and profile without relation to forecasts can always be done. Additionally, instances of the web services can be run on the local machine as well. This could include, for instance, a flight performance service using no NWP data and a WMS supplying static data that can be stored locally (e.g. topographic maps of the field campaign region).

Interactive comment on Geosci. Model Dev. Discuss., 4, 2123, 2011.