

REQUEST FOR A SPECIAL PROJECT 2015–2017

MEMBER STATE: ...AUSTRIA.....

Principal Investigator¹: ...Leopold Haimberger.....

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Project Title: Homogeneous upper air data and coupled energy budgets

If this is a continuation of an existing project, please state the computer project account assigned previously.	SP ATLH00	
Starting year: (Each project will have a well defined duration, up to a maximum of 3 years, agreed at the beginning of the project.)	2015	
Would you accept support for 1 year only, if necessary?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

Computer resources required for 2016-2018: (The maximum project duration is 3 years, therefore a continuation project cannot request resources for 2019.)	2015	2016	2017
High Performance Computing Facility (units)	10000	10000	10000
Data storage capacity (total archive volume) (gigabytes)	1000	1000	5000

An electronic copy of this form **must be sent** via e-mail to: *special_projects@ecmwf.int*

Electronic copy of the form sent on (please specify date):
4 June 2016

Continue overleaf

¹ The Principal Investigator will act as contact person for this Special Project and, in particular, will be asked to register the project, provide an annual progress report of the project's activities, etc.

Principal Investigator: Dr. Leopold Haimberger

Project Title: Homogeneous upper air data and coupled energy budgets

Extended abstract

The special project is intended to support the participation of University of Vienna in the EC 7th framework programme project ERA-CLIM2. Work package 4 of this project deals with the assessment of the observation uncertainties of historic in situ data, especially those who have recently been digitized but never have been assimilated. If possible, observation records shall be improved through homogenization, either offline or online with variational bias estimation methods. In previous projects, the main candidates for homogenization back to the early 1940s were radiosonde temperatures and winds. This will now be extended to humidity. A comparison of DMSP MSU humidity data is ongoing. Since the project ERA-CLIM2 has been extended until 12/2017 it is requested that also the special project is extended until 12/2017.

Better homogeneity of upper air data helps, after being assimilated, also to get improved evaluations of global energy budgets. It is intended to concentrate these studies on coupled energy budgets to the ENSO region regions, mainly the Arctic. A proposal to the Austrian science fund (FWF) has been submitted in July 2015

Timely and convenient access to the reanalysis archives, especially the observations databases is needed for this purpose. The requested computer time will be needed mostly for statistical analysis of the observation data and background/analysis departures as well as short assimilation runs.