

Project Overview

The GlobTemperature project under the Data User Element of ESA's 4th Earth Observation Envelope Programme (2013-2017) aims to promote the wider uptake of global-scale satellite land / ice / and lake surface temperature (LST / IST / LSWT) and emissivity (E) observations by the research and operational user communities.

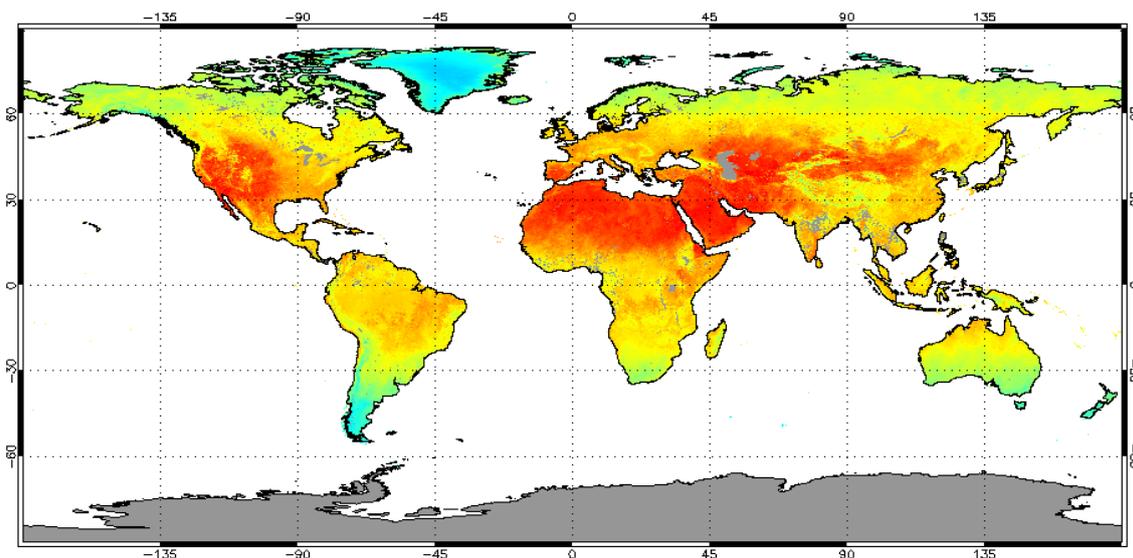
The programme of work is focussed on achieving some innovative milestones for LST data which include: detailed global merged geostationary (GEO) and low earth orbit (LEO) datasets with

estimates of both clear-sky and under-cloud LST; a first Climate Data Record for LST for the Along Track Scanning Radiometer (ATSR) series of instruments; and the provision of a globally representative and consistent in-situ validation and intercomparison match-up database. GlobTemperature will also confront the user demand for better cloud clearing through an "open" cloud clearing round robin exercise.

Furthermore, the strength of this project lies in the coherence and openness of the interactions with the LST and user communities. For instance: detailed user input into the specifications and subsequent

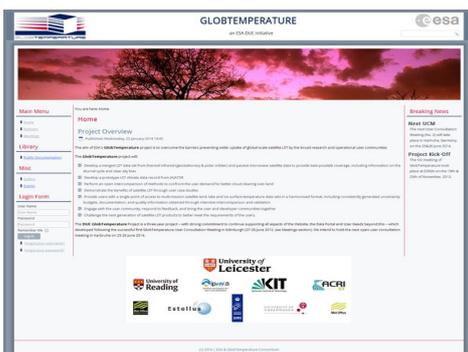
testing of the LST data sets; sustained access to data in a user-friendly manner through common data formats; the establishment of an International LST working group (ILST-WG) involving strong guidance of key international experts; and the User Consultation Meetings to bring data providers and users together.

The project will therefore enhance the portfolio of LST products from Earth Observation, while concurrently breaking down the barriers to successful application of such data through a programme of dialogue between the data providers and data users.



Opening of the GlobTemperature Website

The new version of the public website was released on the 18th February 2014 with the objective to provide relevant and fresh information to anyone interested in the objectives and outcomes of GlobTemperature, including all providers and users of LST data (www.globtemperature.info).

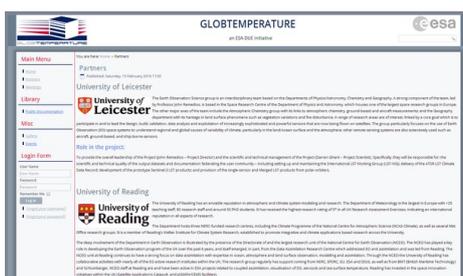


Specifically, the website will provide access to:

- An overview presentation of the project
- Breaking News regarding the latest achievements, new datasets becoming available, and upcoming activities
- The events organised by GlobTemperature, and those relevant to the project objectives

- Publically accessible GlobTemperature project documentation
- Access to all presentations from the GlobTemperature User Consultation Meetings
- Examples of data and products of interest, in particular through the User Case Studies that will be carried out in the framework of the project
- An entry point to the Data Portal, that will be opened shortly, where users will be able to access the GlobTemperature LST products and the suite of data visualisation tools.

The content of the site will be progressively and continuously improved, and will be supported beyond the lifetime of the project.



A contact email is available for further information: info@globtemperature.info

User Requirements Survey

The GlobTemperature Team have carried out an online User Requirements Survey whereby users of LST data were asked a series of questions regarding their exploitation of current LST observations from Earth Observation, and their requirements for future exploitation. Eighty users from around the globe participated in the survey representing over thirty applications of LST data as their primary exploitation. The results are in the process of being collated, analysed and documented. The outcomes from this survey will influence both the strategic direction of the GlobTemperature programme of work, plus the format and dissemination of the GlobTemperature LST data products and tools. These requirements will be updated during the project following feedback from the User Consultation Meetings.



Processing of first GlobTemperature datasets

International LST Working Group

The first single-sensor GlobTemperature LST dataset in a harmonised format is advanced in its production. This product derived from the AATSR instrument exploits the latest available Level-1b data following the 3rd ATSR reprocessing. This LST product will include a fully resolved uncertainty budget and the latest developments in cloud screening based on probabilistic techniques. The AATSR LST product will be made available both through the GlobTemperature Data Portal in due course (www.globtemperature.info), and via the ESA Data Archive.

Recent advances in LST & E retrieval, validation and exploitation means it is a timely opportunity for strengthening communication between producers and users to help identify best practices in LST & E production thereby accelerating LST product improvement, and raising awareness of the best and most efficient use of the available LST products.

The ILST-WG is to be a unifying element in the LST & E community, an international forum for regular interactions between LST measurement teams and users, and will provide a source of advice and appraisal for coordinated projects. The ILST-WG will be a natural conduit for interactions with international operational agencies, with the goal of building a case for LST & E to be reclassified as an Essential Climate Variable (ECV).

tion Meeting (UCM) held in Edinburgh, Scotland 27-28 June 2012; and the subsequent start of the GlobTemperature Project, the 2nd UCM will take place in Karlsruhe, Germany 25-26 June 2014 and will be hosted by the Karlsruhe Institute of Technology.

The aim of this 'open' meeting is to provide a forum for the satellite LST / IST / LSWT & E communities to share experiences and review developments in satellite retrievals and datasets. The intention is for users to be able to identify requirements for new data sets, to develop collaborations with the data providers and to identify the key uses of satellite surface temperature data.

The meeting will conclude with an 'open' meeting of the International LST Working Group.

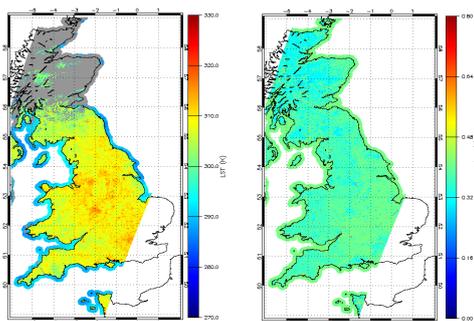


Figure 1: GlobTemperature AATSR LST data (left) and accompanying uncertainty (right)

2nd User Consultation Meeting

Following the success of the 1st GlobTemperature User Consulta-

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