WP3 deliverables / amendments

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Status of WP deliverables (early July)

> **Est. total amount of digitised data in ERA-CLIM & ERA-CLIM2**

— **FFCUL: 68.9%** of the inventoried 41,000 station days of **upper-air data**, and **94.3 %** of the inventoried 1,688,000 station days of **surface data digitised**

— **METFR: 41.4 %** of the inventoried 643,000 station days of **upper-air data digitised**

— **RIHMI: 90.1%** of the inventoried 33,000 station days of **upper-air data digitised**

— **UBERN: 99.9%** of the inventoried 9,000 station days of **moving upper-air data**, and **98.6%** of the inventoried ca. 746,000 station days of **fixed station upper-air data digitised**

Results :

Imaging : 95% is done.

Digitisation : 75% is done, 75% of the digitised data has been checked and reformatted.

Outlook for 2016

- Continue to digitising data of pilot balloons and radiosondes in France mainland, overseas and French Southern and Antartics Lands

First semester will be dedicated to digitisation of the rest of FSAL and French Guyana upper air wind (pilot) : Port-Martin 1950-1951 and Dumont Durville 1957, Rochambeau 1951-1954, Radiosonde observations in 4 stations in France mainland 1945-1950. Digitisation of pilots Luganville (Vanuatu) &951-1957

Second semester will be dedicated to digitisation of radiosonde observations for the period 1951-1957 in FSAL (Dumont Durville, Kerguelen Nouvelle-Amsterdam, French Guyana (Rochambeau) and Guadalupa (Le Raizet)

CRA CLIM 2

METEO FRANCE
Toujours un temps d'avance

4 – ERA-CLIM2 Global Registry

Development of a global registry (Metadata-base) that can list sources of historical meteorological observations useful for Reanalyses, including surface, upper air, maritime and other relevant data

Provide a valuable information tool for data rescue community

- Avoid duplication of efforts (inventoring, imaging, digitising)

- Compilation of inventories from large data rescue projects and recently digitised data, such as ERA-CLIM, ISPD, ISTI, ECA&D, ICA&D, ICOADS, CHUAN, IGRA, IEDRO, ACRE (several regional data rescue initiatives) ,etc. and I-DARE (WMO Portal for Data Rescue).

- A Metadata Base tool was developed by UBERN for ERA-CLIM that includes surface, upper air and transmission records. It is on-line (http://www.oeschger-data.unibe.ch/metads/index.php?_site=dataset&item-id=ds_eraclim_surf) and is editable – new records can be added (Stickler et al, 2014, BAMS) and contains the official ERA-CLIM inventories.

eraclim-global-registry.fc.ul.pt/era/index.html
the new prototype ERA-CLIM2 metadatabase tool

Welcome to Global Climate Data Registry

Home About Contact

Inventory
Data Submission Guidelines
Applications

European Reanalysis of Global Climate Observations 2 - ERACLIM2

Global Inventory of Historical Climate Data

This website holds the archive for the inventory of historically-sourced data from meteorological surface-station observations, upper-air observations and from maritime sources for the ERA-CLIM2 project. The purpose of this website is twofold:

1. To enable researchers who are actively digitising historical weather records to update the online inventory with their progress. The database is instantly backed up, and multiple authors may edit it. As such, the inventory provides a global overview of data to be rescued/imaged and digitised.

2. To allow anyone with an interest in the raw and/or homogenised data to be able to use this inventory to analyse the source of historical climate data sources, and find the link/contact source for the data.

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SSU and PMR (Nimbus-6)

- New set of SSU coefficients based on latest spectroscopy

- Predictors developed to take into account change in cell pressure with time

- Characteristics of Nimbus-6 PMR gathered. Plan to produce PMR RTTOV coeffs similar to SSU

- Above should lead to better representation of stratosphere in ERA5 from mid 70s.

NOAA-14 minus NOAA-9 SSU
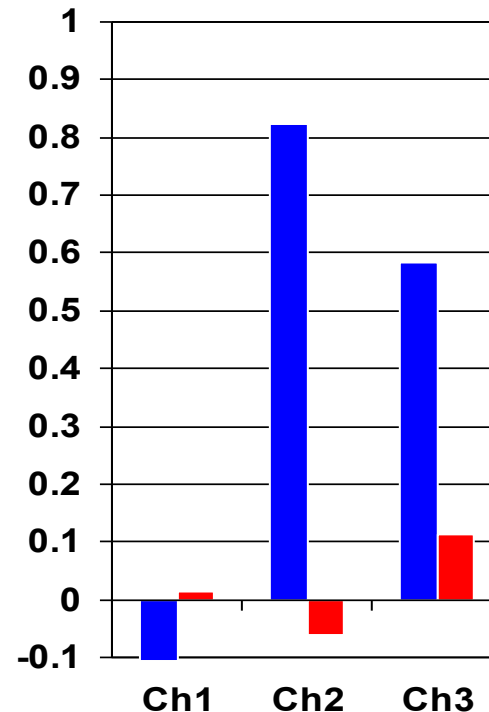
Using independent diverse set of 52 profiles for 30° scan angle

Orig = comparison N14 vs. N9 without new scheme
Corr = comparison N14 vs. N9 allowing for cell pressures changes

D3.10 - TCDR AVHRR polar winds (1982-2013)

Status

- Collected AVHRR GAC data (1982-2014) from the CM SAF (based on PATMOS-X) (**done**);
- Modified the Cooperative Institute for Meteorological Satellite Studies (CIMSS) processing chain for polar winds retrievals from AVHRR Global Area Coverage (GAC) data (**done**);
- Testing and verification of CIMSS type AVHRR-GAC based polar winds (**ongoing**).

Planned

- To generate, validate, document, and release GAC based polar winds data record;
- To update the EUM algorithm for use with AVHRR GAC data and complete a second time series;

Nr.	Task Name	2014	2015	2016
1	Algorithm update to GAC version	①②③❹	❶❷❸④	
2	Algorithm testing and verification		①❷❸❹	
3	Algorithm implementation and processing		①②❸❹	❶❷③④
4	Implementation and processing with EUM algorithm to GAC			❶❷❸④
5	Validation and documentation			①②❸❹
6	Data Record Release Delivery (D3.10)		①②③④	①②③❹

D3.13 - TCDR MFG and MSG AMVs (1982 - 2014)
Coordinated with SCOPE-CM

Status:

- Selected algorithm for retrieving *cloud properties and AMVs* from MFG and MSG data;

- Started adopting and testing the selected algorithm;

Planned:

- Implementation and testing on operational hardware;

- Generation of MFG and MSG AMVs (and ASR and CSR);

- Validation and documentation of TCDR;

- Archiving and delivery of released TCDR.

Nr.	Task Name	2014	2015	2016	2017
1	Algorithm assessment	❸❹	❶❷	①②③④	①②③④
2	Algorithm updating, testing, and verification		①❷❸❹	❶❷❸④	①②③④
3	Algorithm implementation and processing			❸❹	❶
4	Validation and documentation			①②③❹	❶❷③④
5	Data Record Release Delivery (D3.13)				❷

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Updates to Marine Database (ongoing work)

HadIOD version 1.2.0.0 (Spring 2016)

This marks the end of the latest block of development within ERA-CLIM2 and is likely the first release we will make publicly available. Improvements c.f. v1.1.0.0:

- Clean run of SST QC and ship callsign unmasking (**done**)
- Improvement to drifting buoy and ship 'tracking SST QC' flags (**in progress**)
- Addition of an ensemble of ship SST corrections from HadSST3
- Inclusion of latest EN4 (due early 2016)
- Addition of GOSUD data and NOCS hi-res surface-GTMBA data
- Tool to output to 'non-specialist' NetCDF format

- Later in the project we will also fold in any findings from analysing feedback data

Any feedback is welcome: chris.atkinson@metoffice.gov.uk

Southern Ocean data rescue

Aim: Make inventories and undertake imaging, in various archives of historical observations of sea-ice and atmospheric variables from ships in the Antarctic-Southern Ocean region.

Sources:
- Christian Salvesen Archive, U of Edinburgh;
- National Oceanography Centre, Southampton;
- Sea Mammal Research Unit, U. of St Andrews;
- National Meteorological Archive (Met Office);
- Whaling Museum and the Vestfold Archive, Sandefjord, Norway;
- Maritime Museum, Mareihamn, Finland.

FMI contribution

- Compilation of long-term in situ snow observations from different sources (up to ~100 years if possible and where possible)
  - Distributed snow course observations from Eurasia and North America on Snow Water Equivalent (SWE)
  - Point-wise weather station observations on Snow Depth (SD)
  - Prototype product is planned to be released by the end of 2015 (combining Russian, Canadian and Finnish data on SWE from snow courses)

- Development of optimized spatio-temporal snow cover information starting from 1980 based on combined use of satellite data (passive microwaves and optical) and in situ data
  - GlobSnow-type variational data assimilation (method for SWE product)
  - Product neglecting in situ data is also provided