# The EUMETNET Data Rescue and Recovery Initiative

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GOBIERNO DE ESPAÑA

EUROPEAN METEOROLOGICAL SERVICES NETWORK

MINISTERIO DE AGRICULTURA, ALIMENTACIÓN

**TEDIO AMBIENTE** 

Zentralanstalt für Meteorologie und Geodynamik

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and the

WMO: Data Rescue is the ongoing process of preserving all data at risk of being lost due to deterioration of the medium and digitizing current and past data into computer compatible form for easy access.

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reasons:

prevention data get lost (forever)

to ensure the access to all existing data information (also in the future)

IPCC : we should study the natural variability of the undisturbed climate with long period records of quality climate observations.

link to the paleo-climatic community

important for re-analysis and model evaluation for the best possible assessment of projections of the future





Expert team on data rescue and recovery: since 2013 not to double work, but to supplement ongoing activities: MEDARE, ACRE, IEDRO 24.09.2013 Folie 4

- near future: to provide a "preliminary" data inventory of digital existing data and of data to be rescued
- to increase the number digitised records (as far as possible)
- faraway future : to search projects or other support to facilitate data rescue
- > to homogenize digital existing data when necessary
- to make these data publicly available

focus : climate change and variability:

- really long-term (centennial stations)
- mountain station > 50 years
- data sparse regions



# ET data rescue, questionnaire



Responses from: . Austria, Belgium, Czech Republic, Croatia, Cyprus, Denmark, Estonia, Finland, Georgia, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Romania, Slovakia, Slovenia, Switzerland,

> missing countries: outside of Europe (exception is Georgia) inside: ES, PT, FR, LU, UK, RS, PL, BA, BG, GR, AL, MD, UA, RU



was sent to all NMSs in Europe plus WMO Region VI countries

Is there already according to long-term series and mountain series digitized data available for your country? Please give their names, the temporal resolution, the parameters, start and end date of the series.

#### nice tables, attached files, maps,

Annex 1.	LIST OF SELEC	TED STATION	15 (26) - DAILY	Y VALUES OF	IEMPE	RATUR	E AND	PRE	CIPII	ALIC
	Station: Bjelov	ar			Lat	Long	Alt			
	Digitised record	Missing data	Missing data	Non digittised	45°55′	16° 51′	141			
Mean tem	1949-01-01 2	011-12-31								
Precipitatio	1949-01-01 2	011-12-31								
	Station:Crikver	nica			Lat	Long	Alt			
	Digitised record	Missing data	Missing data	Non digittised	45°10′	14° 42′	2			
Mean tem	1891-01-01 2	2008-04-01	1987-04-01	1987-06-30						
Precipitatio	1891-07-01 2	2008-04-01	1987-04-01	1987-06-30						
	Station: Daruva	ar			Lat	Long	Alt			
	Diaitised record	Missing data	Missing data	Non diaittised	45°36′	17° 14′	161			





in the second

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Annex 2. List of climatol	ogical and main meteorol	ogical stations to be	digitized	
Stations	Period to be digitized	Number of years		
BILOGORA	V 1975-XII 1980	5		
BJELOVAR	VII 1945-XII 1948	3		
DARUVAR	X 1935-XII 1977	42		
DUBROVNIK	I 1946-XII 1960	15		
DUBROVNIK CILIPI	II 1963-XII 1980	18		
GRACAC	VII 1953-XII 1959	6		
GRADISTE	IX 1971-XII 1980	9		
KARLOVAC	I 1894-XII 1948	55		
KNIN	VIII 1946-XII 1948	2		
KOMIZA	I 1956-XII 1980	25		



Is there any metadata (station location, but also information on changes in the station configuration,...) already available /still to be recovered concerning your climate data?

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-----YES

Do you have the resources to digitize the still unexplored climate data in your archive?

Not necessary; the work (project) has been completed

yes,

Yes, on basis of projects

We do not have any resources. However, we try to digitize climate data within the activities of the personnel. However, the process is very slow. resources for only 25%

Despite the fact that we have a resource to digitize data, it is still very small and is needed to be increased.

No – External funding/resources will be necessary



Please give an estimation of the costs [€] and work hours the digitalization of the according data would take.

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unclear question, answers are not comparable, no idea to very precise answers

If you would have the money to do the digitalization of the data, in which time horizon would you be able to do this?

### 4 years (mean of all), 1 to 20 years

Would you be willing to provide your data to an international database ECA&D, HIST-EU to be built up after the example of HISTALP http://www.zamg.ac.at/histalp?

the majority said yes (secured)

it would be interesting to consider that option

only some no: no due to legal reasons, due to income, depending on data, waiting for the INSPIRE directive,



Would you be willing to write some data description of your data (an example would be provided in time) and participate in a common paper?

yes!

The digitalization of which parameters would be of special interest to you? Please indicate the importance (beginning with 1 for the most important parameter) for the parameters listed below. If you have additional suggestions, please include them in the list.

- temperature, precipitation,
- wind, snow, humidity
- sunshine, clouds, air pressure

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# other sources – ECA&D – projects – WMO activities

Microsoft Excel

Datei	Start	Einfügen	Seitenlayout	Formeln	Daten	Überprüfen	Ansicht
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All Stationsinformationen fehlende Länder Fragebogen

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	А	В	С	D	E	F	G	Н	1	J	К	L	М	N	
1	country	name	lat	lon	altitude	Т	X	Т	G	Т	N	R	R	S	D
2						start	end	start	end	start	end	start	end	start	
507		2673 SVILAND	58:49:07 N	05:55:13 E	230.0 m							30.06.1895	29.04.2013	01.07.1895	30
508		1051 TAFJORD	62:14:01 N	07:25:00 E	15.0 m	01.01.1954	30.04.2013	01.01.1954	30.04.2013	01.01.1954	30.04.2013	31.12.1894	30.04.2013	01.01.1895	30
509		2649 TUDDAL	59:44:43 N	08:48:36 E	464.0 m							30.06.1895	29.04.2013	01.07.1895	30
510		2632 TUNHOVD	60:27:49 N	08:45:09 E	870.0 m							30.01.1895	29.04.2013	01.01.1957	30
511		2731 TUNNSJO	64:41:03 N	13:39:24 E	376.0 m							31.12.1906	29.04.2013	01.01.1907	30
512		5022 VALDALEN	62:04:33 N	12:10:20 E	794.0 m							01.01.1961	11.04.2013	01.11.1966	12
513		5085 VENABU	61:39:05 N	10:06:31 E	930.0 m	01.08.1980	30.04.2013	01.08.1980	30.04.2013	01.08.1980	30.04.2013	01.08.1980	30.04.2013	01.08.1980	30
514		2701 VIK I SOGN III	61:04:22 N	06:34:53 E	65.0 m							31.12.1894	30.04.2013	01.07.1895	30
515	POLAND	1665 DOLINA CHOCHOLOWSKA	49:14:00 N	19:49:00 E	1028.0 m							01.01.1954	31.12.1981		
516		971 HALA GASIENICOWA	49:15:00 N	20:01:00 E	1520.0 m							01.01.1954	31.12.1981		
517		1671 KASPROWY WIERCH	49:14:00 N	19:59:00 E	1991.0 m							01.01.1954	31.12.1981		
518		1693 MORSKIE OKO	49:12:00 N	20:04:00 E	1410.0 m							01.01.1954	31.12.1981		
519		2035 SNIEZKA	50:43:48 N	15:43:48 E	1603.0 m	01.01.1951	31.12.1998	01.01.1951	31.12.1998	01.01.1951	31.12.1998	05.01.1973	30.04.2013		
520		922 TERESPOL	52:04:00 N	23:37:00 E	133.0 m	01.09.1944	30.04.2013	01.09.1944	30.04.2013	01.09.1944	30.04.2013	01.09.1944	30.04.2013		
521		1700 WITOW	49:20:00 N	19:50:00 E	835.0 m							01.01.1954	31.12.1981		
522		1383 ZAKOPANE	49:18:00 N	19:57:00 E	857.0 m	01.01.1951	31.12.1998	01.01.1951	31.12.1998	01.01.1951	31.12.1998	01.01.1954	31.12.1981		
523	PORTUGAL	295 AGUIAR DA BEIRA	40:48:36 N	07:32:24 W	670.0 m							01.09.1931	31.12.1996		
524		296 ALMEIDINHA	40:36:00 N	07:07:48 W	815.0 m							01.10.1959	30.09.1998		
525		213 COIMBRA	40:12:00 N	08:25:00 W	141.0 m	31.12.1900	30.04.1996	01.01.1901	31.12.1994	01.01.1901	30.04.1996	31.12.1940	29.04.1996		
526		214 LISBOA GEOFISICA	38:43:00 N	09:09:00 W	77.0 m	31.12.1900	30.04.2013	01.01.1901	30.04.2013	01.01.1901	30.04.2013	31.12.1940	30.04.2013		
527		1065 PENHAS DOURADAS	40:24:36 N	07:33:00 W	1380.0 m	01.01.1958	31.12.1995	01.01.1958	31.12.1995	01.01.1958	31.12.1995	01.01.1958	30.12.1995		
528	ROMANIA	217 ARAD	46:08:00 N	21:21:00 E	116.6 m	01.06.1896	31.05.2013	01.06.1896	31.05.2013	01.06.1896	31.05.2013	01.10.1880	31.05.2013		
529		218 BAIA MARE	47:40:00 N	23:30:00 E	216.3 m	01.03.1921	30.11.1993	01.03.1921	30.11.1993	01.03.1896	31.12.1993	01.01.1961	31.12.2000		
530		267 BUCURESTI FILARET	44:25:00 N	26:06:00 E	82.0 m							01.01.1895	30.05.2013		
531		220 BUZAU	45:08:00 N	26:51:00 E	97.0 m	01.01.1896	31.05.2013	01.01.1896	31.05.2013	01.01.1896	31.05.2013	01.01.1945	30.05.2013		
532		221 CALARASI	44:12:00 N	27:20:00 E	18.7 m	01.01.1898	31.05.2013	01.01.1898	31.05.2013	01.01.1898	31.05.2013	01.01.1938	30.05.2013		
533		2057 CEAHLAU TOACA	46:55:48 N	25:55:12 E	1897.0 m	02.02.1964	31.05.2013	02.02.1964	31.05.2013	01.01.1964	31.05.2013	05.01.1973	30.05.2013		





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Activities

🖉 Questionnaire on available data

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#### EuMetNet Data Rescue

EuMetNet Data Rescue Homepage

Long-term datasets are of great importance for climate research. They allow describing past climate variability highly resolved in space and time, are important for re-analyses and model evaluation. Especially early instrumental series are the connecting link to the paleoclimatic community. In Europe there is a good data coverage since the 1960ies, however to capture the full climate variability including extremes time series are often too short. Although a considerable part of long-term series have already been digitized and made available, there are still millions of data to be recovered and rescued. Due to a number of completed or running activities (http://www.climatol.eu/DARE) the number of digital available data has been increasing continuously, however an extended overview has not been made available so far.

The EUMETNET Expert Team will contribute to the European climate services by providing an extended inventory of digitized and non-digitized data, focusing on centennial or even longer daily data, long-term mountain stations of at least 50 years and data in sparse regions.

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## Lessons learnt

Not all countries responded, especially those outside Europe

NHMSs have realized the necessity of data rescue

data policy is still a stumbling block for some countries

Not all NHMSs are aware of the data slumbering in their archives

there are more monthly than daily data

number of interviewees to be extended

some questions were formulated unclear

feedback: answers were not always comparable

Thank you for your attention





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