Progress on digitising Portuguese and Chilean surface data plus Spanish pilot balloon data

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WP3 – Earth Systems Observations

Task 3.1 – Data rescue for in-situ observations, quality control and metadata (112 persons/month)

✓ D3.1 Data catalogue	Month 6
✓ D3.2 Priorities for data rescue	Month 6
D3.3 Metadatabase update (new)	Month 36 (48)
D3.4 In-situ data for reanalysis	Month 24 (36)
D3.5 In-situ data (other)	Month 30 (42)
D3.6 Quality controled version of D3.4	Month 36 (48)
D3.7 Quality controled version of D3.5	Month 33 (48)

Contents

1 - Data rescue of Portuguese former colonies Angola, Mozambique and Macao surface data; Continental Portugal and Isles + South China Sea

2 - Digitisation of early Spanish upper air data

3 - Recovery of Chilean surface and maritime data

4 - ERA-CLIM2 Global Registry

1 - Data rescue of Portuguese former colonies Angola, Mozambique and Macao sub-daily surface data; Continental Portugal and Isles + South China Sea

- 2M station days have been imaged (100%), 95% digitised, of which 37% are still in raw format, missing QC and final formatting – Total for ERA-CLIM and ERA-CLIM2

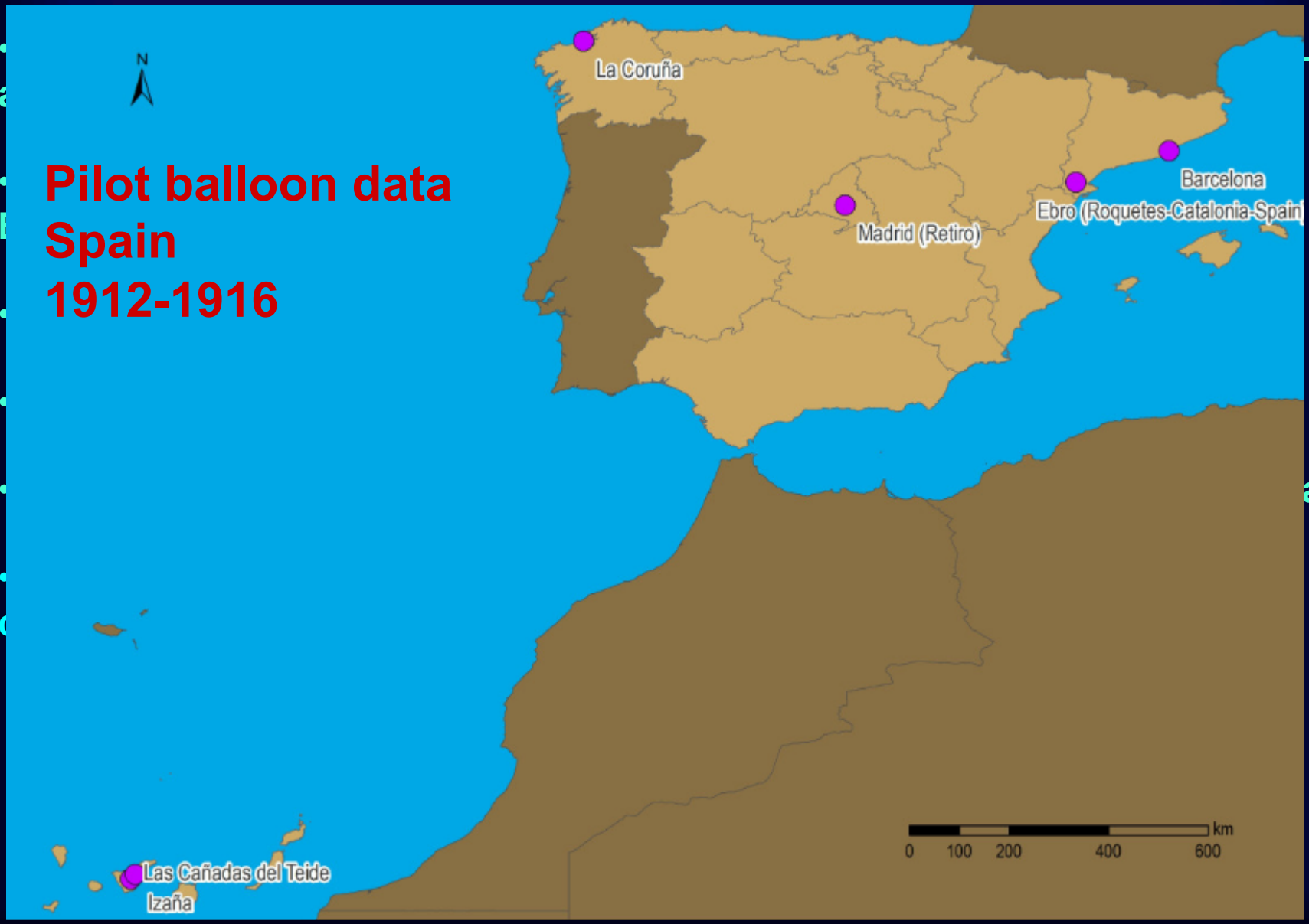
- Angola Anuários (10 stations) 1937 -1974 already imaged and digitised for 1947-1974 (missing QC and final formatting)

- Mozambique Anuários (9 stations) 1909-1960 imaged; 1909-1914 is digitised and 1947-1960 is being digitised – OCR raw format

- Macao (South China Sea – Rob Allan – METO collaboration) 1894-1914 temperature, wind and relative humidity - Completed (typing) awaiting QC and final formatting

- All Portuguese ex-colonies 1915-1947 supplied to project and ISPD; Portugal and Isles (1863-1946) digitised, and partly supplied. South China Sea (1900-1935) formatted and supplied.

2 - Digitisation of early Spanish upper air data (6 stations)



3 - Recovery of Chilean surface and maritime data

Existing Records

Surface Stations

43 stations

From 1950 to 1958

Records of 41 stations in *.jpg* format from UPAC

From 1959 to 1999

Records of 25 stations in *.xls* format from METEOCHILE (DMC)

Not all stations have data in this period;

Frequently miss some variables like Td, MSL Pressure and Relative Humidity

Frequently miss some variables

Ship Logs

58 ships

From 1861 to 1884

Records of 6 ships with 50 logbooks: 7136 images

From National Maritime Museum of Chile

From 1955 to 1957

Records of 52 ships, 64 logbooks: 10242 images

Inventory completed

Digitisation priority given to 1955 to 1957

Typing

3 - Recovery of Chilean surface data

Digitisation of Surface data 1950-1958 is progressing. 1950 to 1953 completed. 1954 almost finished, 1955 started digitisation - Typing. Priority to longer records.

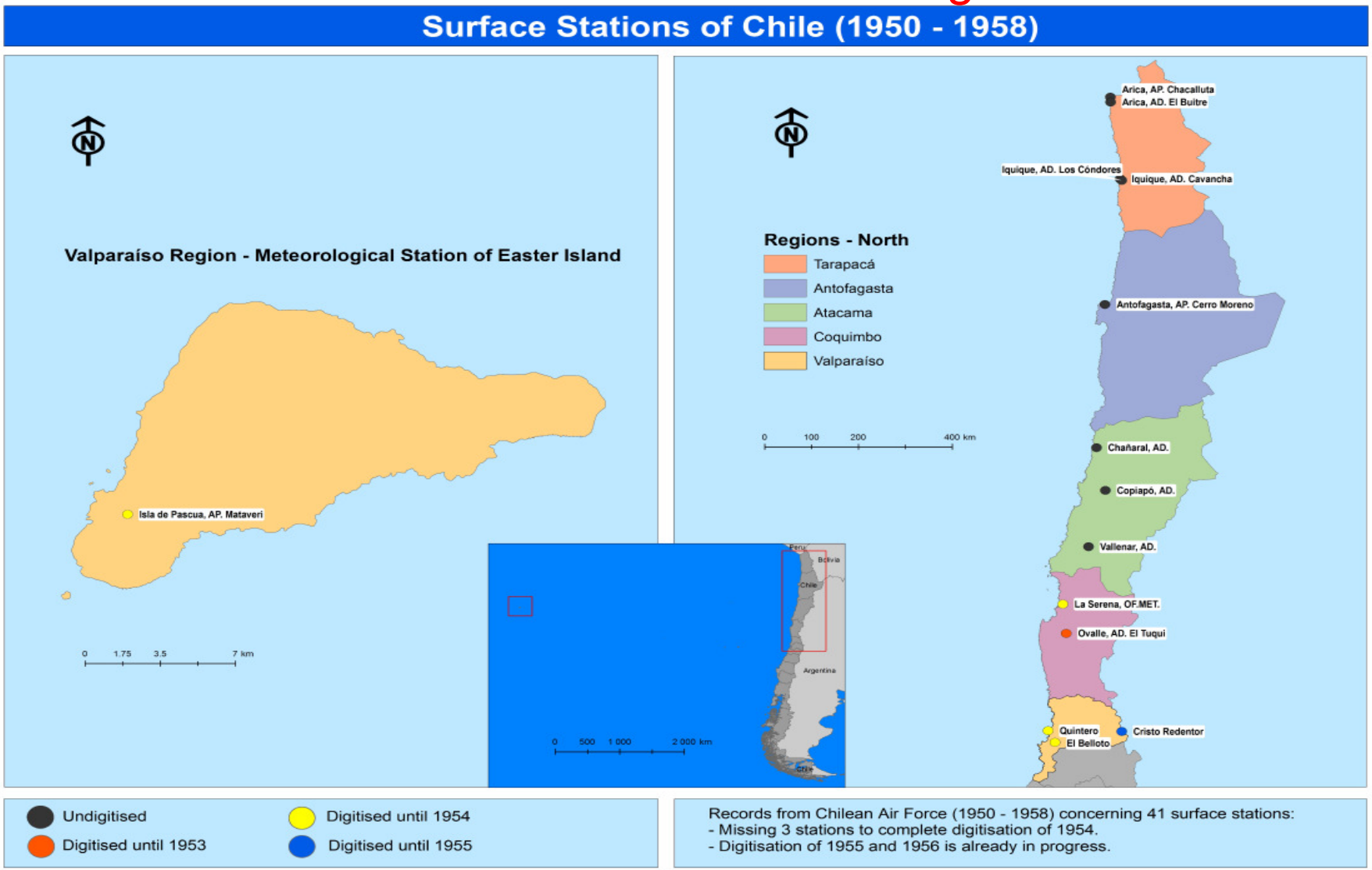
Point of situation - Digitization of surface data from Chile (1950-1958)

1950	1951	1952	1953	1954	1955	1956	1957	1958	Period
						Alta Palena	Alta Palena		2 years rerio
					Ancud	Ancud	Ancud	Ancud	4 years rerio
						Antafagarta	Antafagarta	Antafagarta	3 years rerio
						Arica	Arica	Arica	3 years rerio
								Baja Palena	1 year rerio
						Balmaceda	Balmaceda	Balmaceda	3 years rerio
Bellata	Bellata	Bellata	Bellata	Bellata	Bellata	Bellata	Bellata	Bellata	9 years rerio
					Cartra	Cartra	Cartra		3 years rerio
						Chañaral	Chañaral	Chañaral	3 years rerio
						Chile Chica	Chile Chica	Chile Chica	3 years rerio
			Chillán			Chillán	Chillán	Chillán	1+3 years rerio
Calina	Calina	Calina	Calina	Calina	Calina	Calina	Calina	Calina	9 years rerio
			Concepción		Concepción	Concepción	Concepción		1+3 years rerio
						Copiapó	Copiapó	Copiapó	3 years rerio
						Cayhaique	Cayhaique	Cayhaique	3 years rerio
Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	Crirta Redentor	9 years rerio
Curicá	Curicá	Curicá	Curicá	Curicá	Curicá	Curicá	Curicá	Curicá	2+6 years rerio
				Irla de Parcua	Irla de Parcua	Irla de Parcua	Irla de Parcua	Irla de Parcua	5 years rerio
El Barque	El Barque	El Barque	El Barque	El Barque	El Barque	El Barque	El Barque	El Barque	9 years rerio
					Futaloufu	Futaloufu	Futaloufu	Futaloufu	4 years rerio
					Iquique - Cavancha	Iquique - Cavancha	Iquique - Cavancha	Iquique - Cavancha	4 years rerio
					Iquique - Lar Canderar	Iquique - Lar Canderar	Iquique - Lar Canderar	Iquique - Lar Canderar	4 years rerio
			La Serena	La Serena	La Serena	La Serena	La Serena	La Serena	6 years rerio
						Linarer	Linarer	Linarer	3 years rerio
					Lancache	Lancache	Lancache		3 years rerio
			Lar Angelar			Lar Angelar	Lar Angelar	Lar Angelar	1+3 years rerio
Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	Lar Cerrillar	9 years rerio
					Ororno	Ororno	Ororno	Ororno	4 years rerio
Ovallo	Ovallo	Ovallo	Ovallo	Ovallo	Ovallo	Ovallo	Ovallo	Ovallo	9 years rerio
						Puerta Ayrén	Puerta Ayrén	Puerta Ayrén	3 years rerio
						Puerta Edén		Puerta Edén	1+1 year rerio
					Puerta Mantt	Puerta Mantt	Puerta Mantt	Puerta Mantt	4 years rerio
					Quellán	Quellán	Quellán	Quellán	4 years rerio
Quintera	Quintera	Quintera	Quintera	Quintera	Quintera	Quintera	Quintera	Quintera	9 years rerio
Rancáqua	Rancáqua	Rancáqua	Rancáqua	Rancáqua	Rancaqua	Rancaqua	Rancaqua	Rancaqua	9 years rerio
						Rio Cirner	Rio Cirner	Rio Cirner	3 years rerio
			Temuca		Temuca	Temuca	Temuca	Temuca	1+4 years rerio
				Tabalaba	Tabalaba	Tabalaba	Tabalaba	Tabalaba	5 years rerio
					Valdivia	Valdivia	Valdivia	Valdivia	4 years rerio
						Vallenar	Vallenar	Vallenar	3 years rerio
			Victaria		Victaria	Victaria	Victaria	Victaria	1+4 years rerio
9	9	9	15	12	25	40	39	37	Number of Stations

Digitized
In Progress
Undigitized
No data
Send mail to DMC

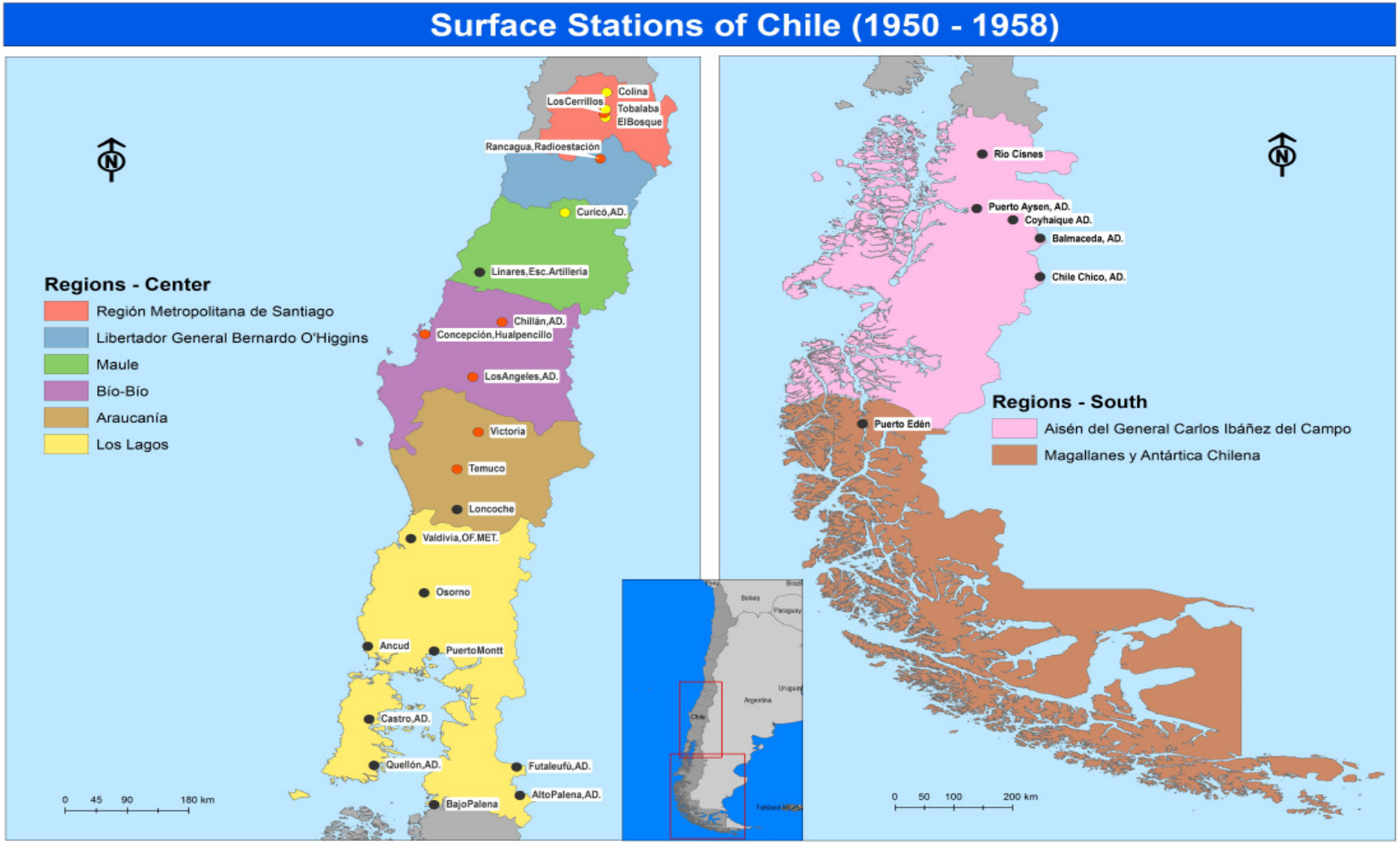
3 - Recovery of Chilean surface data

Easter Island + Northern region



3 - Recovery of Chilean surface data

Central and Southern regions

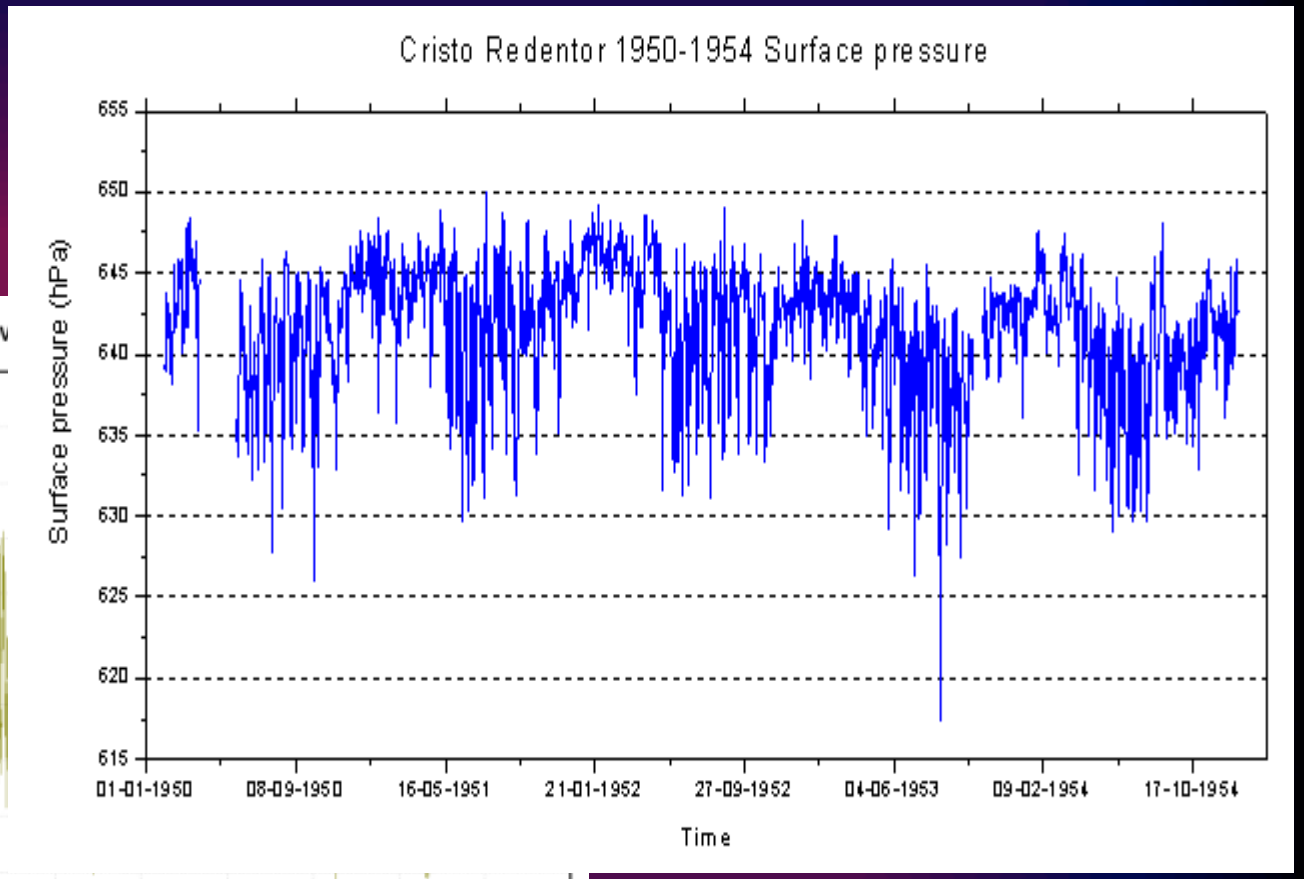


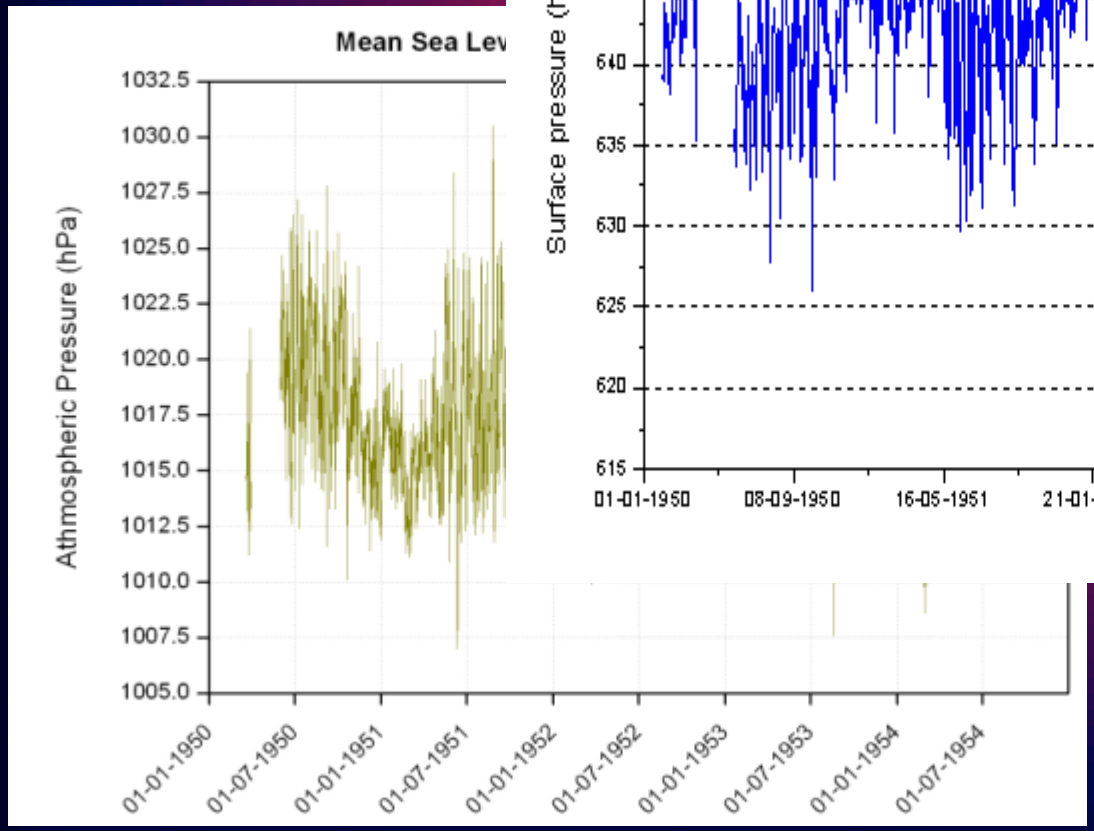
The database of ISPD already has data about other stations that cover territories of Chile that aren't covered by the stations represented here, like the Chilean Antarctica and several Pacific Islands.

3 - Recovery of Chilean surface data

Pressure 1950-1954

Data to be sent to ISPD and ERA-CLIM databases





3 - Recovery of Chilean surface data

Quality Control and Metadata verification

Common errors encountered in the records

Maximum Temperature < Air Temperature

Dew Point Temperature > Air Temperature

Different values for Td and T in the repetition columns

T = Td and Relative Humidity < 100%

Very high or low values for MSL Pressure - outliers

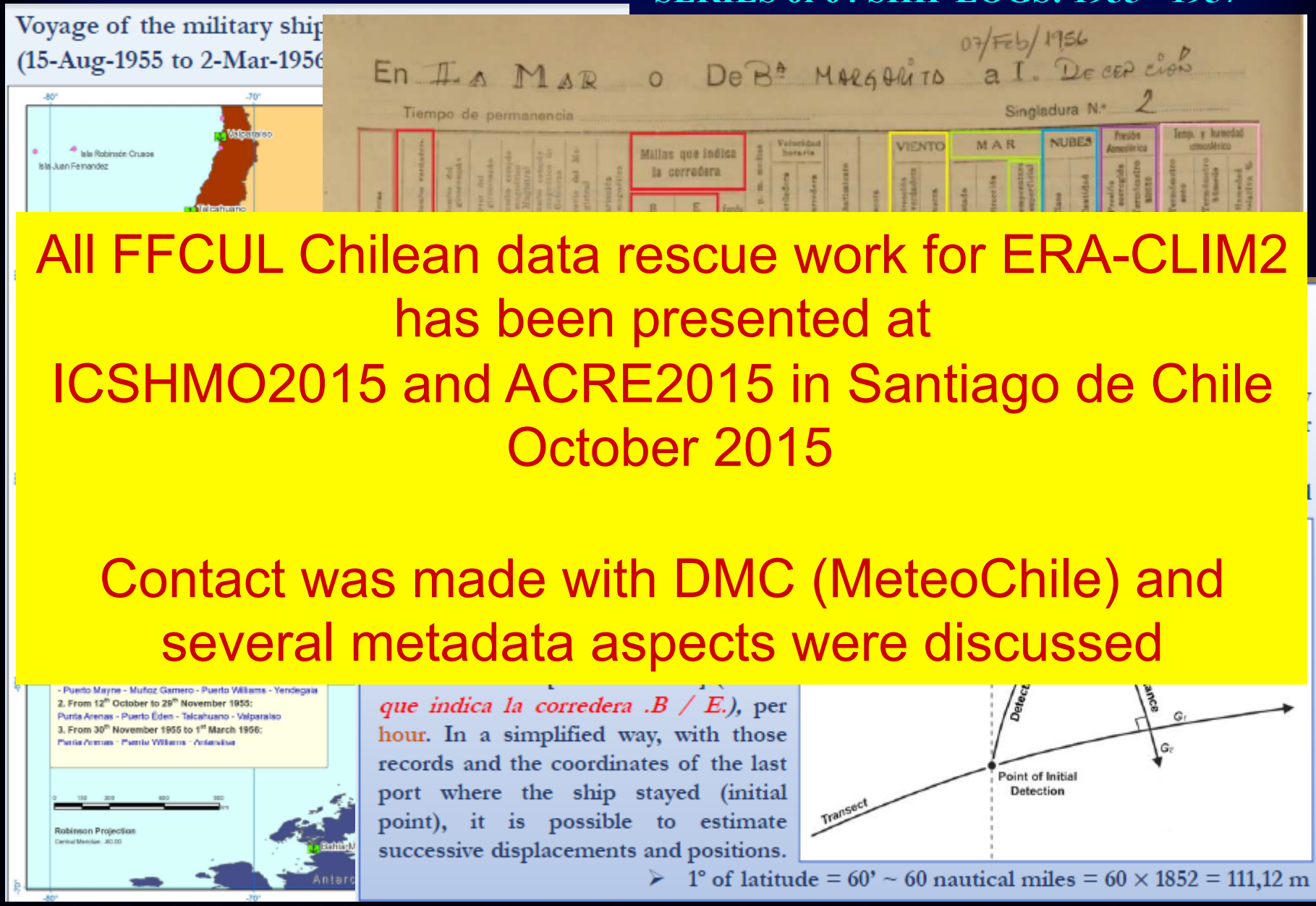
Coded values are useful for determining or confirming observed values

Lack of written observed values when coded values are present

Discrepancies between observations and coded values, observed values are chosen

3 - Recovery of Chilean maritime data

SERIES of 64 SHIP LOGS: 1955 - 1957



All FFCUL Chilean data rescue work for ERA-CLIM2 has been presented at ICSHMO2015 and ACRE2015 in Santiago de Chile October 2015

Contact was made with DMC (MeteoChile) and several metadata aspects were discussed

Surface data being rescued, digitised and formatted by FFCUL in ERA-CLIM and ERA-CLIM2

Upper air data being rescued, digitised and formatted in ERA-CLIM and ERA-CLIM2 by all partners