ECLISE

www.eclise-project.eu

ECLISE

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ECLISE: Enabling CLimate Information Services for Europe

ECLISE (2011-2013) is a collaborative FP7 research project under the Environment Programme of the European Commission.

The central objective of ECLISE is to take the first step towards the realisation of a European Climate Service.

ECLISE is a European effort in which researchers, in close cooperation with users, develop and demonstrate local climate services to support climate adaption policies.

ECLISE provides climate services for several climate-vulnerable regions in Europe, organized at a sectorial level: cities, water resources, coastal defence and energy production.

ECLISE will define, in conceptual terms, how a pan-European Climate Service could be developed in the future, based on experiences from local services and the involvement of a broader set of European decision makers and stakeholders.

The aims of ECLISE

- Develop local climate services in four areas: **Coasts, Cities, Water** and **Energy**
- Provide an outline and proof of concept for future European-wide Climate Services

Project facts

Project Acronym: ECLISE

Full title: Enabling Climate Information Services for Europe

Grant Agreement No.: 265240

Start date: 1 February 2011

End date: 31 January 2014

Type: Collaborative project

Amount of EC contribution: EUR 3,408,670

Coordinator: KNMI (Dr. Roeland van Oss)

– Project information
◀ Project facts
– Documentation

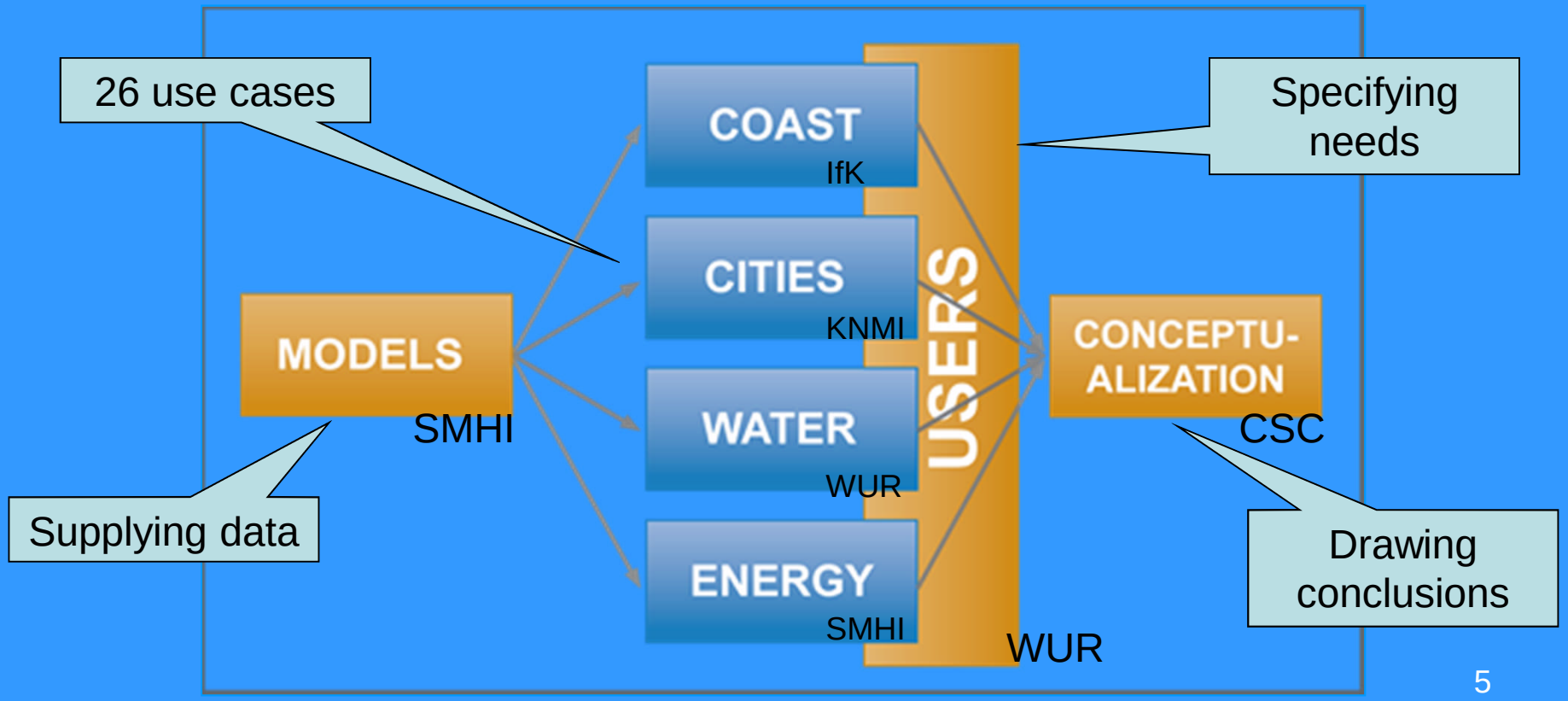
ECLISE

Participants

◄ **Participants**

- KNMI
- SMHI
- Climate Service Center
- Institute for Coastal Research
- Wageningen University
- CNR-ISAC
- Uni Research
- Met.no
- Nat. Inst. Hydrology and Water
- Institute of Geography
- Technical University of Crete
- Newcastle University

The approach of ECLISE



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SEVENTH FRAMEWORK PROGRAMME

WP 1
USERS

Goal Project-wide implementation of user interaction

Tasks

- Documentation of user requirements
- Evaluation of services by users
- Dealing with uncertainties
- Conclude on best practices

Lead WUR

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SEVENTH FRAMEWORK PROGRAMME

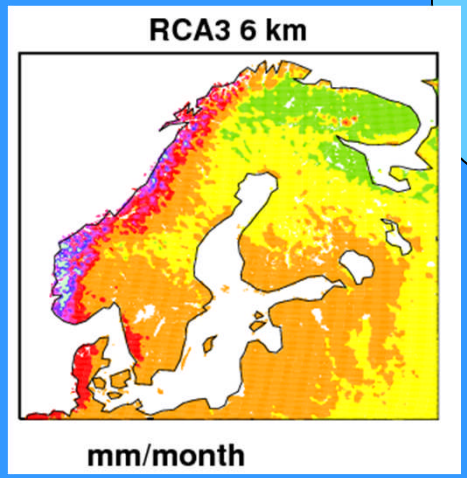
WP 2
MODELS

Goal Provide climate simulations to support use cases

Tasks

- Existing simulations (e.g. ENSEMBLES)
- Decadal CMIP5 runs
- Regional CORDEX runs
- Non-Hydrostatic runs (2-4 km)

Lead SMHI



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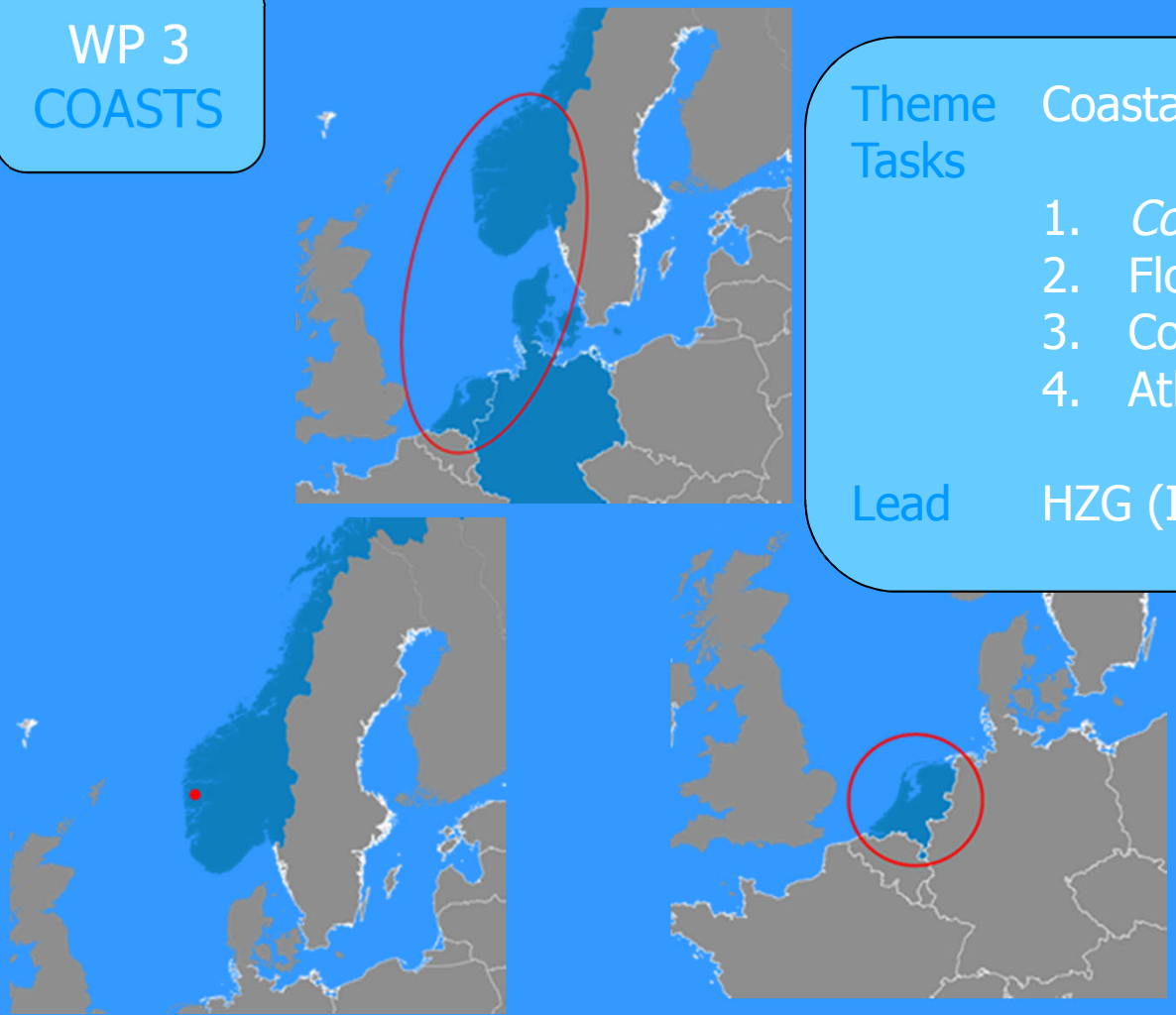
SEVENTH FRAMEWORK PROGRAMME

WP 3
COASTS



Theme Coastal defense

Tasks

1. *CoastDat* database
2. Flood risks NL
3. Coast protection NW Europe
4. Atlantic storm tracks

Lead HZG (IfK)

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SEVENTH FRAMEWORK PROGRAMME

WP 4 CITIES

Theme	Urban issues
Tasks	

1. Baia Mare - floods, heat
2. Oslo - waste water
3. Greek cities - floods, heat
4. Sicilian cities - floods
5. English cities - storm
6. Rotterdam - floods, drought
7. Stockholm - floods, water

Lead KNMI

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SEVENTH FRAMEWORK PROGRAMME

WP 5
WATER

Theme	Regional water issues
Tasks	

1. Baragan Plain - drought
2. Vrancea - floods, landslides
3. Lombardia - water availability
4. Crete - floods
5. English cities - floods
6. Sweden - water quality
7. Somes basin - water availability

Lead WUR

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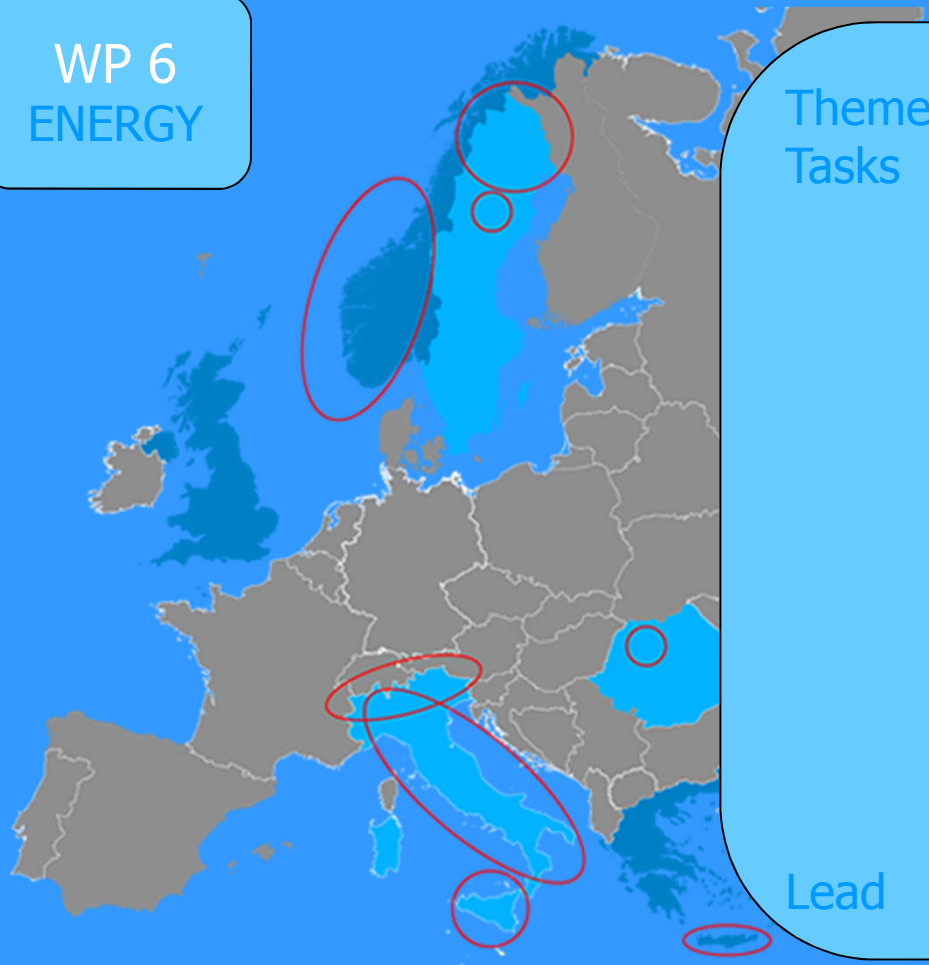
SEVENTH FRAMEWORK PROGRAMME

WP 6
ENERGY



Theme	Energy production issues
Tasks	Hydro power
	1. Ume river dams
	2. Alpine & Apennine dams
	3. Somes river dams
	Wind power
	4. Norway
	5. North Sweden
	Solar power
	6. Sicily
	7. Crete
	8. Future energy demand
Lead	SMHI

WP 7
CONCEPT

Goal	concept for pan-European Climate Services
Tasks	• Study existing climate services • Case studies: water & energy • Synthesis and recommendations
Lead	Climate Service Center

What do Users Need

- Precipitation changes – both extremes and average
- Temperature changes – mostly to be used as input for models
- Wind and Storms
- Solar Radiation
- Output of impact models (mainly hydrological)

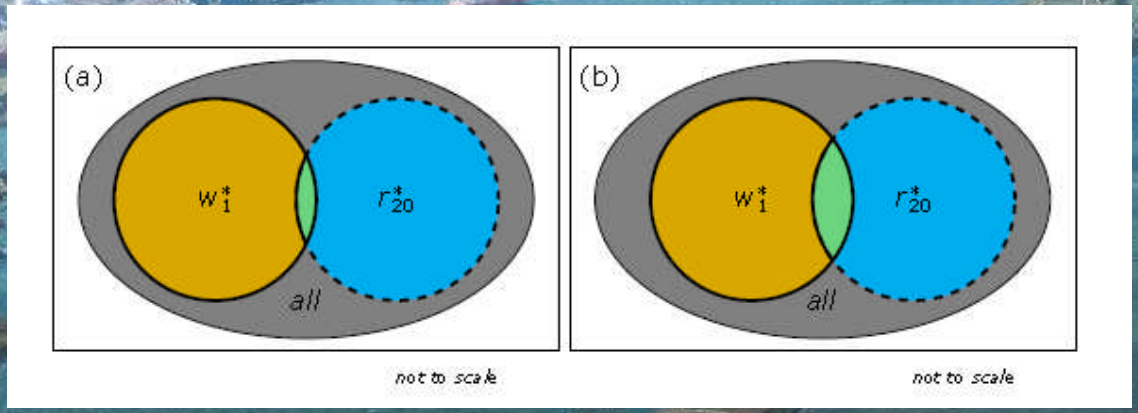
It is all about precipitation

- For 15 out of 19 case studies changes in precipitation is the most important information needed
  - Change in precipitation extremes
  - Input variables for hydrological models
    - To estimate water availability
    - To estimate flood risks
- Precip model data is (most) uncertain

Other findings

- Most users are aware of uncertainties in the data
- It is often unclear how the user will deal with uncertainty
- Need for observations (statistics)
- Climate data is often not the only data needed (land use, sociological)

TASK 3.2: Joint probabilities of storm surge – river discharge extremes



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SEVENTH FRAMEWORK PROGRAMME

TASK 4.4: Flood risk assessment in cities of Eastern Sicily

REGION: Eastern Sicily (ITALY)

PRODUCT: Evaluation of future evolution of heavy precipitation events and their spatial distribution.

USER: **SIAS**
(**S**ervizio **I**nformativo **A**grometeorologico **S**iciliano)

SIAS

ISAC

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SEVENTH FRAMEWORK PROGRAMME

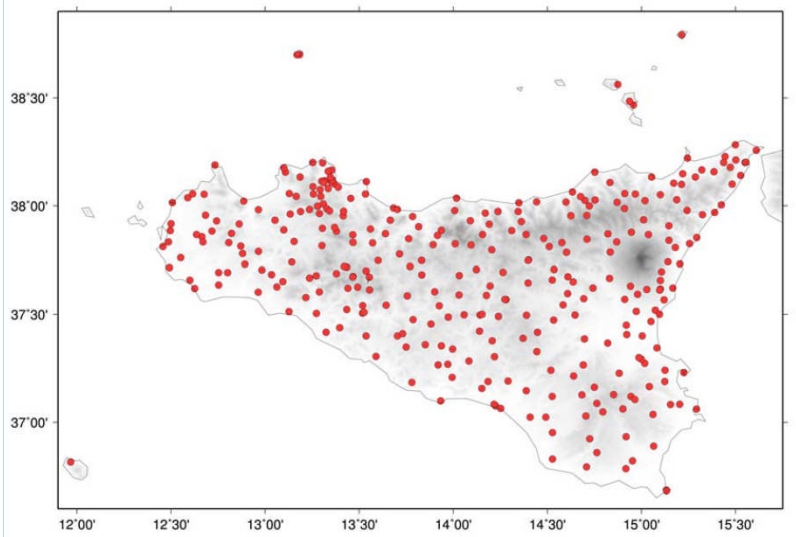
DATA INVENTORY AND RESCUE

A data set of 325 daily precipitation records was recovered

Good data availability: 1921 - 2005

Data Sources:

Osservatorio delle Acque (an office of Sicily regional administration)
National Air Force
Agricultural Research Council
Palermo Observatory (18th century record)



Idrografico di PALERMO
Stampa di controllo di Pluviometria (dati giornalieri) - Del 16/04/2010

10 - CALVARUSO

* 1921 *	GEN *	FEB *	MAR *	APR *	MAG *	GIU *	LUG *	AGO *	SET *	OTT *	NOV *	DIC *
Giorni	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*	*Pioggia*
* 1 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	15,0 *	– *	– *
* 2 *	– *	13,0 *	– *	– *	4,0 *	– *	– *	– *	– *	– *	– *	– *
* 3 *	– *	4,0 *	– *	– *	5,0 *	– *	– *	– *	– *	– *	3,0 *	22,0 *
* 4 *	18,0 *	– *	– *	– *	1,0 *	– *	– *	– *	– *	– *	– *	– *
* 5 *	21,0 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *
* 6 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *
* 7 *	– *	– *	– *	11,0 *	– *	– *	– *	– *	– *	– *	– *	19,0 *
* 8 *	– *	– *	6,0 *	– *	8,2 *	– *	– *	– *	– *	– *	– *	6,0 *
* 9 *	– *	8,0 *	2,0 *	– *	– *	15,0 *	– *	– *	– *	– *	17,0 *	– *
* 10 *	– *	– *	7,0 *	– *	– *	7,0 *	4,5 *	– *	– *	– *	28,0 *	– *
* *	*	*	*	*	*	*	*	*	*	*	*	*
* 11 *	– *	– *	– *	– *	– *	8,0 *	– *	– *	– *	– *	18,0 *	– *
* 12 *	4,0 *	7,0 *	– *	– *	– *	15,0 *	26,0 *	– *	– *	– *	– *	– *
* 13 *	– *	21,0 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	18,0 *
* 14 *	– *	8,0 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	21,0 *
* 15 *	– *	7,0 *	– *	– *	– *	10,0 *	– *	– *	– *	– *	24,0 *	20,0 *
* 16 *	6,0 *	2,0 *	– *	– *	– *	3,0 *	– *	– *	– *	– *	19,0 *	– *
* 17 *	– *	– *	– *	5,0 *	– *	– *	– *	– *	– *	– *	4,0 *	– *
* 18 *	9,0 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	19,0 *	– *
* 19 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *
* 20 *	8,0 *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *	– *
* *	*	*	*	*	*	*	*	*	*	*	*	*
* 21 *	– *	– *	– *	– *	– *	49,5 *	– *	– *	– *	– *	– *	– *
* 22 *	– *	– *	11,0 *	– *	– *	1,0 *	– *	– *	– *	– *	– *	– *
* 23 *	– *	– *	47,0 *	8,0 *	– *	– *	– *	– *	8,0 *	– *	– *	– *
* 24 *	– *	– *	32,0 *	10,0 *	– *	– *	– *	– *	– *	– *	– *	– *
* 25 *	– *	– *	8,0 *	2,0 *	– *	– *	– *	– *	– *	35,0 *	– *	– *
* 26 *	– *	12,0 *	– *	6,0 *	– *	– *	– *	– *	– *	65,0 *	– *	11,0 *
* 27 *	– *	– *	7,0 *	18,0 *	– *	– *	– *	12,0 *	– *	11,0 *	– *	– *
* 28 *	8,0 *	– *	– *	1,0 *	– *	– *	– *	5,0 *	8,0 *	– *	– *	– *
* 29 *	– *	*	– *	– *	– *	– *	– *	– *	33,0 *	– *	5,0 *	– *
* 30 *	– *	*	– *	– *	– *	– *	– *	– *	14,0 *	11,0 *	3,0 *	– *
* 31 *	– *	*	– *	*	17,0 *	*	– *	– *	*	4,0 *	*	– *
totali	74,0 *	82,0 *	120,0 *	61,0 *	35,2 *	108,5 *	30,5 *	17,0 *	63,0 *	141,0 *	141,0 *	117,0 *
gg pio	7,0 *	9,0 *	8,0 *	8,0 *	5,0 *	8,0 *	2,0 *	2,0 *	4,0 *	6,0 *	10,0 *	7,0 *

Formato dati

Giorno senza pioggia

Valore di pioggia giornaliero

Pioggia cumulata mensile

N° di giorni di pioggia

ISAC

No.	Task	Provider	Data needed	Extremes
	Coast			
1.	3.2	KNMI	Rainfall, storms for coastal	yes
3.	3.4	Bjerkness Centre	Storms extreme precip	yes
	Cities			
5.	4.1	IGAR	Precip, storm, temp wind	Yes
6.	4.2	Met.No.	Precipitation extremes	yes
7.	4.3	TUC	Input data for hydrological models	Yes
8.	4.4	CNR-ISAC	Precipitation extremes	Yes
9.	4.5	UNEW	Extreme wind speed	Yes
	Water			
12	5.1	IGAR	Input for agricultural model	No
13	5.2	IGAR	Extreme precip (5-10 day cum)	Yes
14	5.3	CNR-ISAS	Temp and precip	No
15	5.4	TUC	Input data for hydrological models	No
17.	5.6	SMHI	Input data for hydrological models	
18	5.7	NIHWM	Input data for hydrological models	Yes/no
	Energy			
20.	6.2	CNR-ISAC	Snow water equiavalent – temp & precip	No
21.	6.3	NIHWM	Input data for hydrological models	Yes
24.	6.6	CNR-ISAC	Solar radiation	No
25.	6.7	TUC	Solar radiation	No
26	6.8	CNR-ISAC	Temp degree days	No