



Greening the economy in line with
the sustainable development goals

Tools for wastewater management

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Research Institute & Jozef Stefan Institute)

DigitalWater 2020
Community of Practice

A holistic water ecosystem
for digitisation of urban
water sector

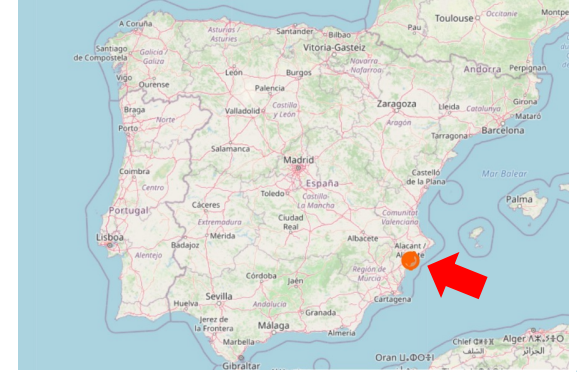


CONTENTS

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- Challenges of implementation

Alicante: Background and motivation

- Alicante is a Mediterranean coastal City in the Southeast of Spain
- Pop. 335,000 inh. (> 500,000 in the summer)
- Aguas de Alicante manages all the urban water cycle:
 - Drinking water production and supply
 - Waste water collection and treatment
 - Recycled water treatment and supply
- Alicante is subject to **extreme weather events**:
 - Long drought periods
 - **Torrential rains** and **fast flood** episodes
- **Sensitive coastal waters**:
 - Economic relevance of beaches for tourism
 - Valuable sea and cost ecosystems



NAIADES: Use Cases for Waste Water Management

Sewerage Saline infiltration detection

- Detect, locate and monitor **saline infiltrations** of phreatic water into the sewer mains which cause:
 - Sewer deterioration
 - Increased waste water treatment costs
 - Barrier for waste water regeneration for reuse



NAIADES Water Observatory

- Extract **knowledge** from all available online sources
- **Real time and long term management** of the sewerage and drainage networks
- **Event** detection and analysis



NAIADES Water Observatory for Waste water: Objectives

Real Time & Short Term Operation

Nowcasting and forensic analysis of events:

Large floods

Sewer overflow and local flooding

Waste water discharges to the sea

Unpleasant odour episodes

Long term & Strategic Planning

Access valuable insight on

Innovation and technology trends

Global tendencies in waste water management

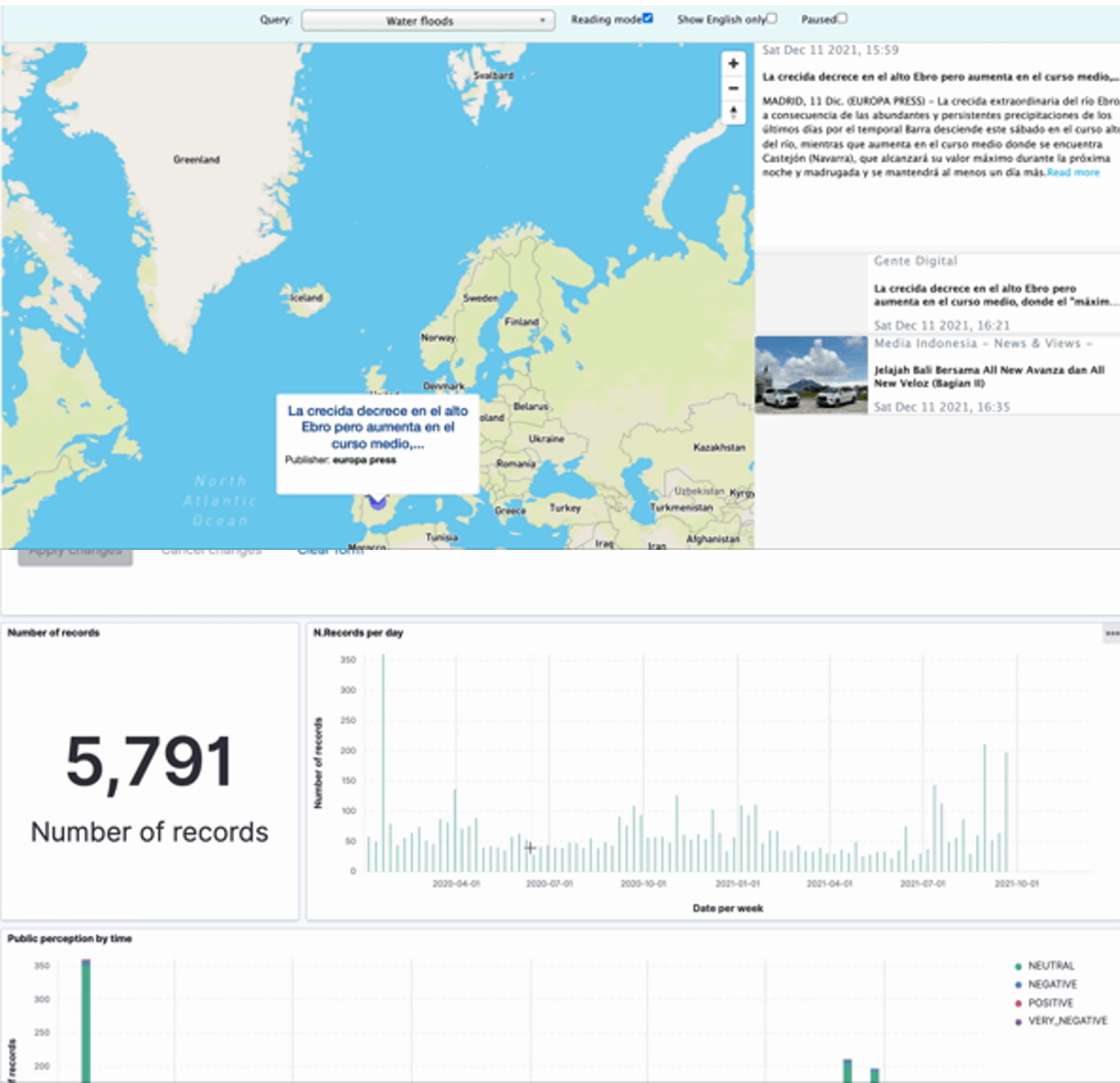
KPIs benchmarking and interrelations

Topics of public interest

Citizen's feedback & appraisal of the water service



Real-time awareness of wastewater-related events



- ❑ A real-time stream of news on wastewater-related water events, e.g., floods can help us monitor specific topics
- ❑ Explore best practices from news and research worldwide using multilingual capabilities to learn from similar cases
- ❑ Twitter dashboard with data visualization modules for research (to explore what is useful to show)
- ❑ Nowcasting from Twitter triggered by weather can be used to define alerts based on thresholds
- ❑ We can learn relations between Twitter-News-weather to from historical events and investigate causality

An Appropriate Configuration of the News Feed

eventregistry



Home > NAIADES WasteWater - Alicante

Options ▾

Configure topic page ^

Add conditions

Interests ?

What are you interested in?

Category ?

Pick ▾

Category name

Source ?

Name of the news source

By name ▾

Location ?

Article/event location name

Filters

Content at most ?

30 days old ▾

Limit to languages ?

Any language ▾

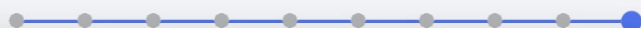
Article filters

Event filters

Article duplicates ?

Hide article duplicates ▾

Source ranking ?



Topic definition

Interests

☒ Required ?

+ Suggest interests

Wastewater	LOW	<input type="range"/>	HIGH	▾	✕
Wastewater treatment	LOW	<input type="range"/>	HIGH	▾	✕
Flood	LOW	<input type="range"/>	HIGH	▾	✕
Water pollution	LOW	<input type="range"/>	HIGH	▾	✕
Drainage	LOW	<input type="range"/>	HIGH	▾	✕
Wastewater surveillance	LOW	<input type="range"/>	HIGH	▾	✕
Effluent	LOW	<input type="range"/>	HIGH	▾	✕
Reclaimed water	LOW	<input type="range"/>	HIGH	▾	✕
Discharge (hydrology)	LOW	<input type="range"/>	HIGH	▾	✕
B wastewater discharge	LOW	<input type="range"/>	HIGH	▾	✕
B vertido	LOW	<input type="range"/>	HIGH	▾	✕
B "aguas residuales"	LOW	<input type="range"/>	HIGH	▾	✕

Categories

+ Suggest categories



Further Exploring Wastewater News



aguas residuales OR Alcantarillado OR Inundación OR Drenaje AND alicante Provincia de Alicante, Spain



SEARCH



ARTICLES

EVENTS

Filters:

Locations

Sources

Categories

From 2019-08-19 to 2019-08-31

Any language

Misc.

List of articles (61,982 results found)



List of Articles

Top Concepts

Languages

Tag Cloud

Timeline

News Sources

Article authors

Sentiment

Concept Graph

Concept Trends

Note: Since the simple search mode was used, the results might mention just a subset of the entered keywords. To change the search mode, click the icon next to the Search button.

VIEW: List SORT BY: Relevance



El temporal deja un récord de lluvia en Alicante y los municipios trabajan para recuperar la normalidad

El temporal que afecta estos días a la Comunitat Valenciana ha dejado este miércoles registros históricos en la ciudad de Alicante, que ha vivido la jornada de verano más lluviosa en 160 años, ha provocado el desalojo de sus casas de seis personas en Els Poblets y El Verger y ha causado ...

20 MINUTOS

Wed, 21 Aug 2019, 19:34

Duplicate of [this article](#)



El temporal deja un récord de lluvia en Alicante y los municipios trabajan para recuperar la normalidad - Valencia Noticias

ALICANTE, El temporal que afecta estos días a la Comunitat Valenciana ha dejado este miércoles registros históricos en la ciudad de Alicante, que ha vivido la jornada de verano más lluviosa en 160 años, ha provocado el desalojo de sus casas de seis personas en Els Poblets y El Verger y ha

VALENCIA NOTICIAS

Thu, 22 Aug 2019, 09:23

Duplicate of [this article](#)



Exploring Best Practices & Innovation on Wastewater

Dashboard information

Country:

Alicante

Indicators

Global indicators

Local indicators

Individual indicators

Media

Live news

Twitter Dashboard

Document Explorer

Topic: wastewater

Date:

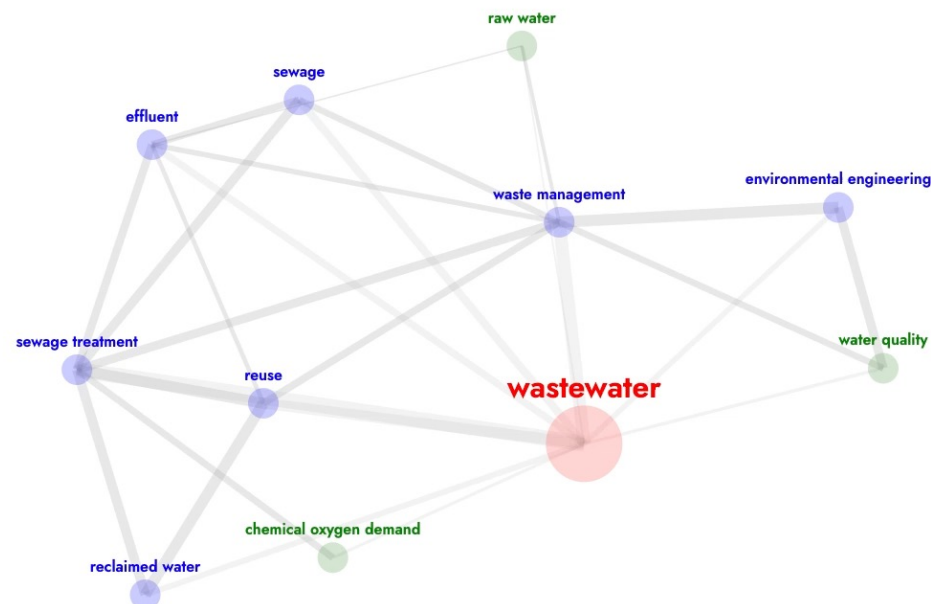


Resume

Reset to selected topic



2000



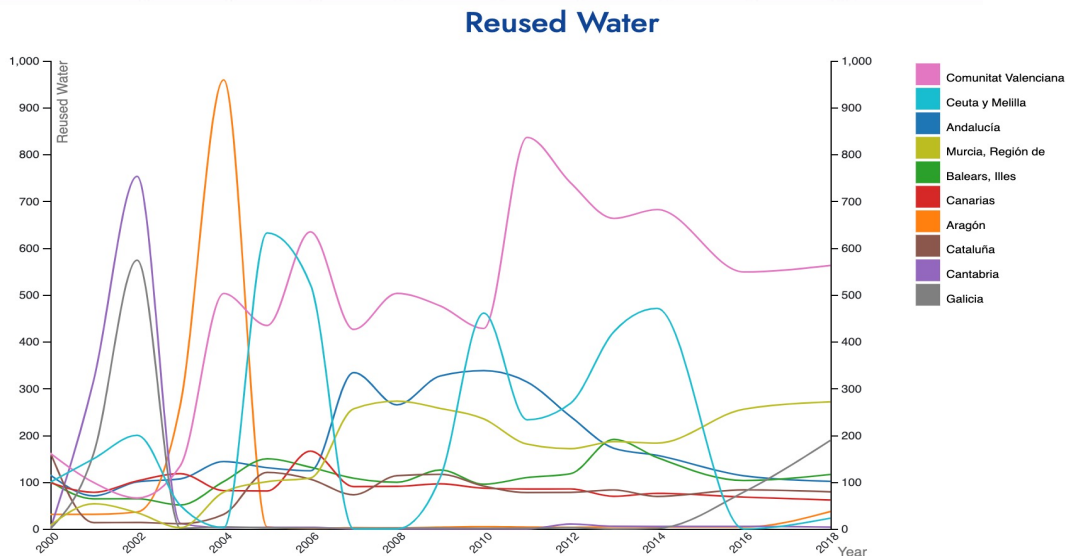
Selected Topic
New topic
Existing topic

Note: Click on a node to select it and navigate through the graph. Correlated topics are connected via links. Data downloads provide a snapshot in time. Caution is advised when comparing different versions of the data, as the AI-related concepts identified by the machine learning algorithm may evolve in time. Please see [methodological note](#) for more information.

Source of data: Microsoft Academic Graph.

Please cite as: OECD.AI (2022), visualisations powered by JSI using data from Microsoft Academic Graph., accessed on 15/1/2022, www.oecd.ai

Observing Progress Through Indicators



- ❑ Identifying relevant datasets to clean & ingest into the system allows us to understand the wastewater progress in local statistics and compare regions
- ❑ Understanding what indicators matter can be helped by the analysis of a single time series for one indicator
- ❑ We can use this data also to try and predict causality between indicators

Challenges of Implementation

- ❑ Difficulties to appropriately acquire the appropriate local statistical data to feed the Water Observatory
- ❑ Low adherence to the social media Twitter in Spain and consequent lack of data ingested
- ❑ Need to add additional local news sources that complement the information collected on water-related events
- ❑ Relevance of the configuration of the data ingested and the appropriate key phrases used to better capture the event and know what to monitor