Semantic Systems & Visual Tools to Analyze Climate Change Communication

Prof Arno Scharl | scharl@weblyzard.com
Barcelona Supercomputing Center, 13 May 2016
Overview

News and social media channels represent important sources to capture stakeholder communication. The webLyzard Web intelligence platform analyzes and visualizes emerging trends across these channels.

To support decision making, we identify relevance & sentiment of emerging topics, extract metadata automatically, and provide a visual analytics dashboard to navigate content repositories.

Given the intense attention that online media channels attract these days, key questions for large organizations such as NOAA are how stakeholders perceive specific issues, how opinion leaders react to new insights, and how journalists present scientific knowledge to the public. The metrics and visualizations of webLyzard have proved invaluable for addressing these questions.

David Herring
AAAS Fellow and Director of Communications at the Climate Program Office of the U.S. National Oceanic and Atmospheric Administration (NOAA)
ASAP Project | Adaptable Scalable Analytics Platform
DecarboNet Project

European research project to tackle climate change with collective intelligence and social innovation. #climatetimechange #energyconsumption #H2020 #globalwarming

decarbonet.eu

Joined May 2013

49 Photos and videos
Integrated Web Intelligence

**INTERNAL**
- File Server
- Enterprise Portals
- CRM/CMS/DSS Integration
- Organizational Memory
- Intranet Applications
- MS SharePoint etc.

**SYSTEM LEVEL**
- Inter-Personal Communication

**APPLICATION LEVEL**
- asa
- GENTICS
- EMC²

**EXTERNAL**
- News Media Coverage
- Fortune 500
- NGO/NPO Sector
- Blogspace
- Government
- Social Media Platforms

**Structured**

**Unstructured**
webLyzard Platform
Applications :: External Data

News, Social Media, Competitor Web Sites

- Frequency and Sentiment Analysis
- Brands, Products, Persons, etc.
- Trend Scouting and Early Warning System
- WYSDOM Success Metric 🍃
- Brand Reputation Radar 🌐
- Strategic Positioning and Topic Identification
Applications :: Internal Data

Knowledge Management

• Semantic Search
• Automated Document Labeling and Classification
• Interfaces to CMS und CRM Systems
• Data Integration for Enterprise Portals
• Organizational Memory
• New Forms of Communication and Collaboration
Semantic Search | toolkit.climate.gov

U.S. Climate Resilience Toolkit
- Executive Office of the President of the United States
- National Oceanic and Atmospheric Administration (NOAA)
- National Aeronautics and Space Administration (NASA)

Project Description
webLyzard integrates and classifies climate-relevant online content in order to provide a visual analytics portal and a faceted search widget that helps U.S. citizens and environmental stakeholders to find relevant information resources across the Web sites of 13 government agencies and participating climate centers.

- Environmental Protection Agency
- Department of Energy
- Department of State
- Department of Commerce
- Department of Transportation
- Department of Agriculture
- Department of Defense
- Department of the Interior
- Department of Health & Human Services
- National Aeronautics and Space Administration
- National Science Foundation
- The Smithsonian Institution
- U.S. Agency for International Development
Climate Resilience Toolkit | toolkit.climate.gov
NOAA
National Oceanic and Atmospheric Administration
United States Department of Commerce

webLyzard Stakeholder Dialog and Opinion Model
www.weblyzard.com/wysdom

**Desired Associations**
Number of Positive References

**Number of Negative References**
Undesired Associations

Page Views, Visits (Google Analytics)
Map Projection – Geospatial Context
ASAP Embeddable Visualization API
Real-Time Geographic Clustering and Tightly Coupled Views

8.575m
WIND Observations
180
Tweets

language
- it
- en
- und
- pt
- ru
- fr
- es
- ro
- da

hashtags
- Rome
- roma
- rome
- Vatican
- Photography
- Travel
- Photo
- SanValentino
- Italy
- Igersroma
- #Rome80
Geographic Map – Incremental Dataset Rendering
Concordance List – Lexical Context

tries at the 21st Conference of Parties (cop21) to the United Nations Framework Convention of States John Kerry arrives at the cop21 United Nations Climate Change Conference climate pact Sunday. "Deliberations at cop21 & Paris agreement demonstrates the completion of the project in Paris during the recent cop21 climate change talks. Haiti Takes Roots coincide with the conclusion of high-stakes cop21 global climate talks in Paris. "Constant US Secretary of State John Kerry at the cop21 United Nations conference on climate emissions. The 21st Conference of Parties (cop21) to the United Nations Framework Convention on the opening day of the cop21 ©Ian Langsdon (POOL/AFP). In Paris, the climate pact Sunday. "Deliberations at cop21 & Paris agreement demonstrates the completion of the 21st Conference of Parties (cop21). They all spoke about the need for an interesting study was published during cop21, which asked the UK public how much they of a historic global warming pact at the cop21 Climate Conference. Almost 200 nations of the 21st Conference of Parties (cop21) yesterday produced a final text which ramp-up investment. In a powerful speech, cop21 president and French foreign minister of the 21st Conference of the Parties (cop21) was accepted. The decision was greeted inING ISSUE: One of the conferences at the cop21 Conference in Paris. Photo: Christopher is who who I am fighting for today. TdB cop21 pic.twitter.com/ncGvZmq5q. – Tony de risks of #climatechange - Ban Ki-moon cop21 pic.twitter.com/B7Ai8whck0. – United N
Word Tree – Lexical Context

at Le Bourget, near

in Le Bourget, north just met in Paris, on Dec. 12.
to the United Nations Framework was accepted.
yesterday produced a final text 12, 2015
Dec. 8, 2015
at the World Climate Change puts his hand over his
the United Nations Climate Change
United Nations Climate Change Conference
which asked the UK public

climate change confer talks.
in

cop21

Conference in Paris

Draft final agreement - Friends
“it is rare in
Christiania Figueres (L)
and
French President Francois Hollande
received a largely positive response
resulted in the agreement of
Climate Change Conference on climate

Unites Nations & Paris agreement demonstrates the collective
(Francois Mori, The Associated

/read/09:
accord to limited global warming
agreement on the horizon, the
brings us one step closer to
deal.

final agreement at the plenary session
gives top polluters, such as

high profile reactions to landmark
In a powerful speech,
Laurent Fabius, president of the UN’s
the project in Paris during the recent
With a possible
with the conclusion of high-stakes

Declaratory statements are made or received.

President and French foreign minister Laurent
Talks in Paris.
©Ian Langsdon (POOL/
### Sources – Social Media

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## Sources – News Media

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Source Map – News Media
Social Network Analysis – Opinion Holders
Entity Map – Opinion Targets

- Adaptation: 612
- Climate Policy: 473
- Climate Science: 305
- Mitigation: 642
Company Profile

Co-Founders

- Managing Director
  Prof DDr Arno Scharl
- Technical Director
  Prof Dr Albert Weichselbraun

Portfolio

- Reference Clients
  Executive Office of the President of the United States, U.S. Department of Commerce (NOAA Climate Program Office), Federal Austrian Chamber of Commerce and Industry, United Nations Environment Programme (UNEP), National and International Corporate Brands
- R&D Funding of more than 6 Mio EUR
  - Austrian Research Promotion Agency (FFG)
  - European 7th Framework and H2020 Programs
Project Overview | H2020, FP7 & National Programs
Public Technology Showcases
unep.ecoresearch.net | UNEP Live Web Intelligence
toolkit.climate.gov | Climate Resilience Toolkit
www.ecoresearch.net/climate | Climate Change
pheme.weblyzard.com | Mental Health

Department of New Media Technology
www.modul.ac.at/nmt

Insight Newsletter
www.weblyzard.com/newsletter

E-Mail Contact
scharl@weblyzard.com

Twitter
@webLyzard @DecarboNet @ECOresearch @ASAP_EU @InVID_EU @PhemeEU