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 #COSTinDust

inDust

COST Action CA16202

User Workshop on Aviation

1st April 2020, remote

Wednesday, 1st April 2020 (time zone CEST)

09:00	09:20	Welcome: <u>inDust</u> and aims of the workshop (S. <u>Nickovic</u> , S. <u>Basart</u>)
Impacts and interfacing (Chair: A. <u>Votsis</u>)		
09:20	09:40	Dust impacts on gas turbine engines (R. Clarkson)
09:40	10:00	SATAVIA overview (D. Banister)
10:00	10:20	<u>AsSISt Capgemini</u> - data producer/user assistance and linking (C. <u>Saüt</u>) - Cancelled
10:20	10:50	SESAR outcomes (T. Bojic)
10:50	11:00	Mid-morning break
Current and planned applications (Chair: S. <u>Basart</u>)		
11:00	11:20	EUNADICS – AV: Project on aviation hazards (B. <u>Scherllin-Pirscher</u> , L. Mona)
11:20	11:40	Climatological products for aviation: <u>DustClim</u> reanalysis (A. <u>Votsis</u> and T. <u>Rautio</u>)
11:40	12:00	Predicting probability of melted dust in turbines (S. <u>Nickovic</u>)
12:00	12:30	<u>Modeling</u> icing conditions due to dust (B. <u>Cvetkovic</u>)
12:30	14:00	Lunch break

User experiences and needs (Chairs: <u>S. Nickovic</u> , <u>S. Basart</u>)		
14:00	14:20	Dust storms and airport warnings (D. Suarez)
14:20	15:00	Airlines participants (R. Banks)
15:00	16:30	Discussion and conclusions
	16:30	Closing

International Network to Encourage the Use of Monitoring and Forecasting Dust Products

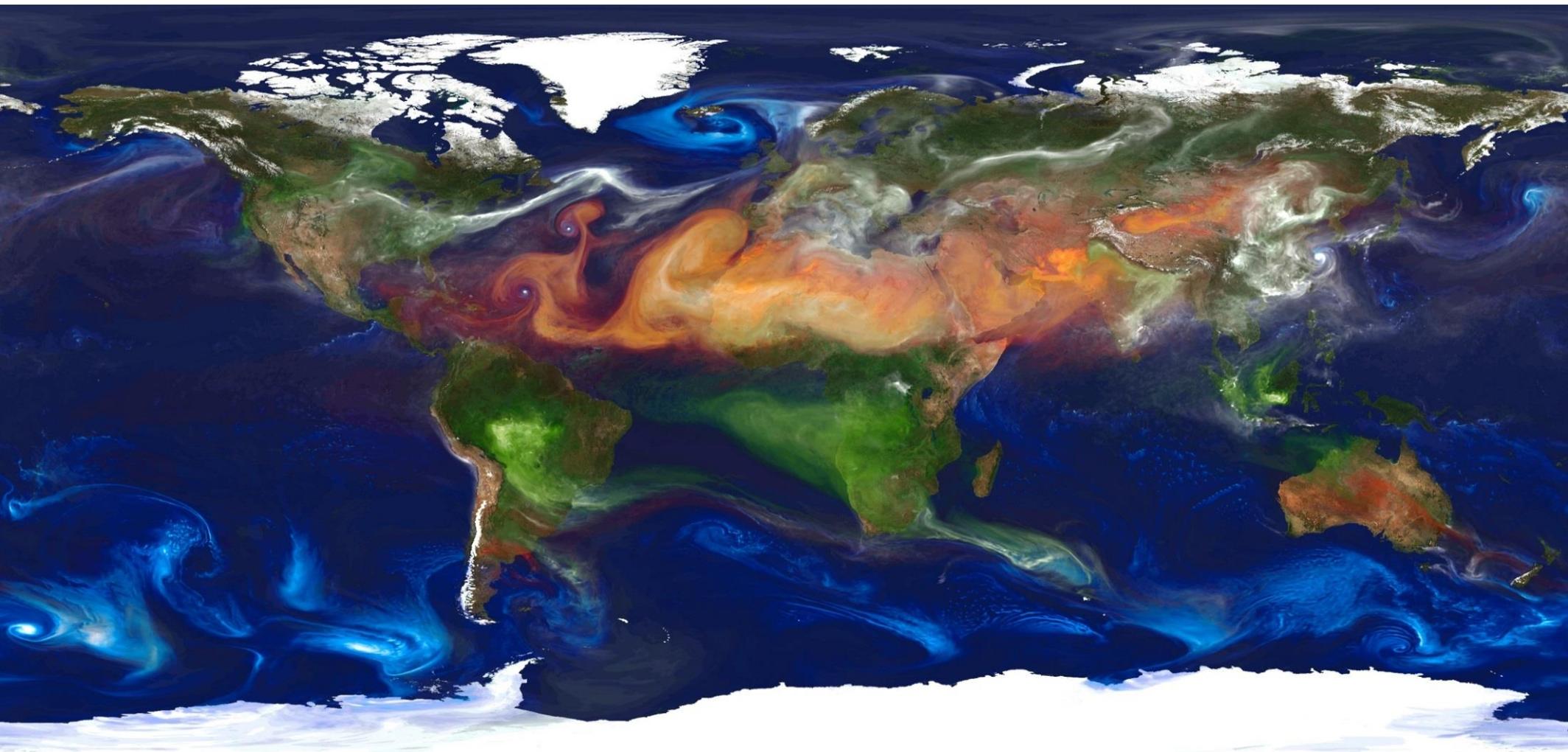
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Chair: Sara Basart (Spain, sara.Basart@bsc.es)

Vice-Chair: Slobodan Nickovic (Serbia)

Motivation – Dust impacts and its extension



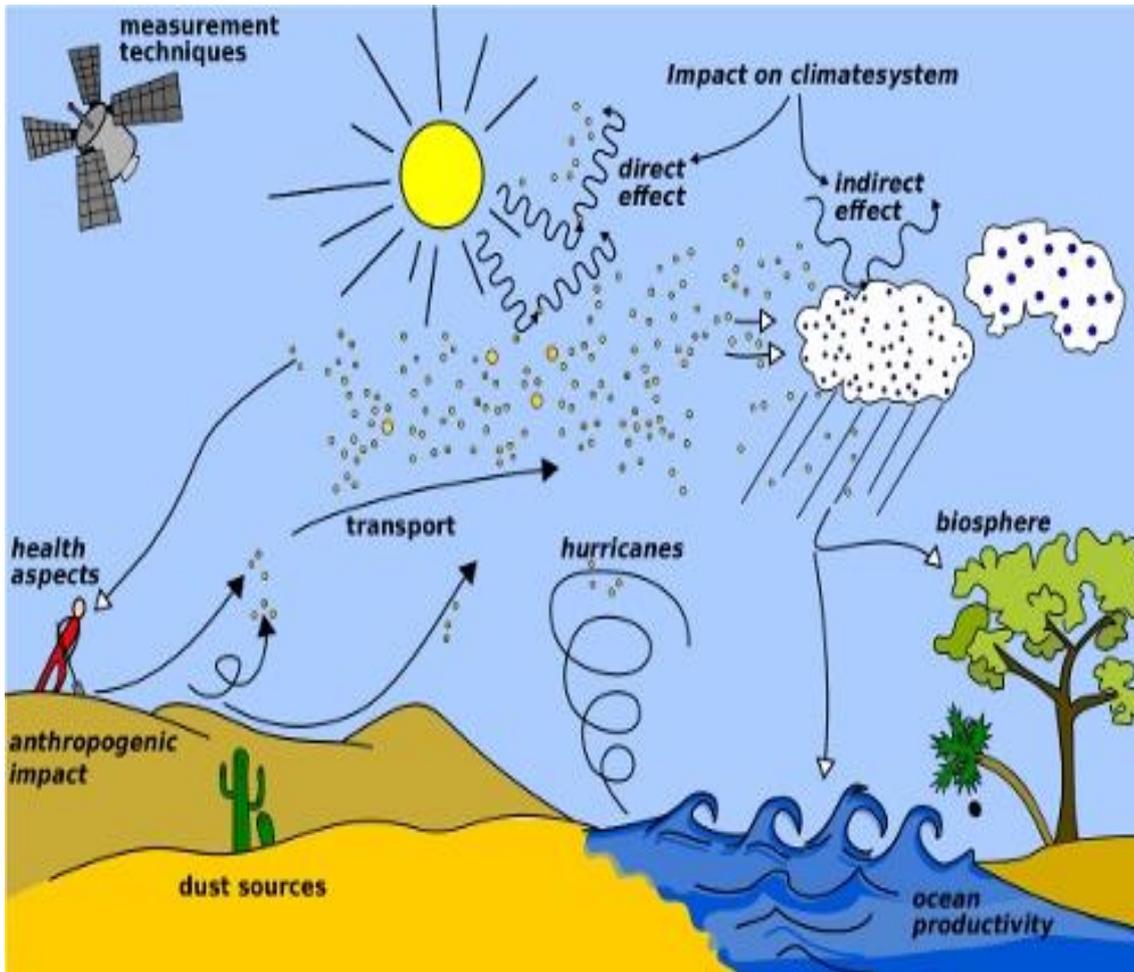
Organic Carbon + Elemental carbon

Dust

Sulfate

Sea salt

Motivation – Dust impacts



Ecosystems, meteorology and climate

Air Quality and Human Health

Aviation and Ground Transportation

Energy and industry

Agriculture and fishing

Astrophysics

Image from WMO website
(<http://www.wmo.int/pages/prog/arep/wwrp/new/hurricanes.html>)



Our goals

- To **establish a network** involving research institutions, service providers and potential end users of

**inDust is looking for
dust user-oriented
services**

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by the presence of high concentrations of airborne
mineral dust.



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Applications for Aviation

SDS can impact aviation management and safety

- Disturbances in airport operations
 - Closing of airports
 - Cleanup: Remove sand/dust from runways and other critical areas
 - Outside workers
- Rerouting
- Cancellations of scheduled flights

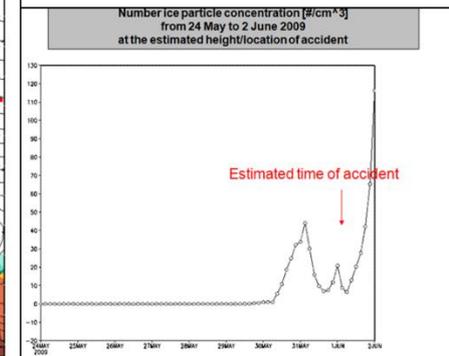
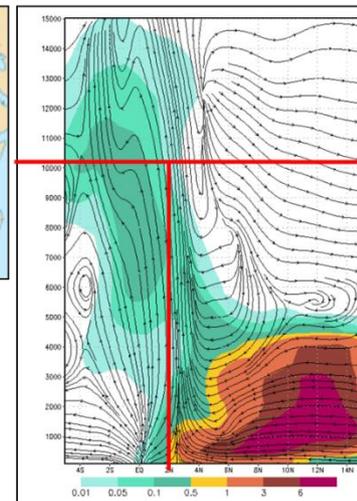




Applications for Aviation

- Poor Visibility
- Often associated with strong winds
- Mechanical problems:
 - Pitot-static tube blockage (ice nucleation)
 - Corrosion
 - Dust melting in turbines
 - Turbine abrasion
 - ...

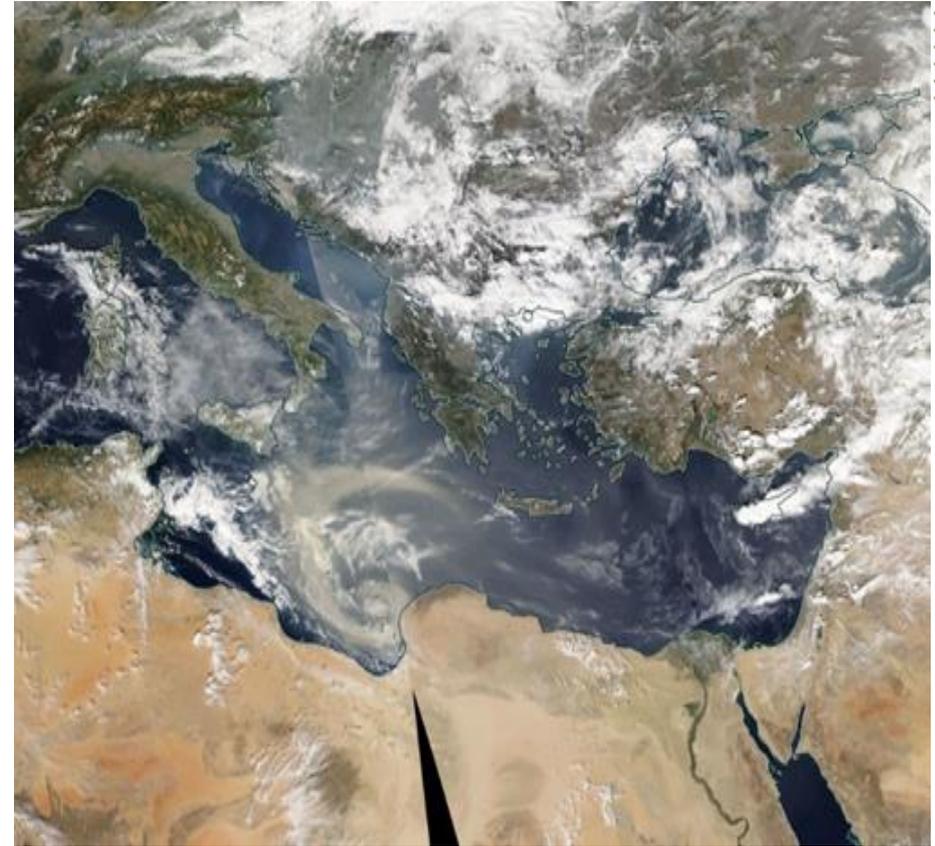
AirFrance 2009 accident (icing due to dust?)





Workshop objectives

- **inDust** searches to build a community of researches and users that can start to design the strategy to develop **dust services**.
- Highlight the **available dust information** relevant for aviation.
- Review **current research, available products and commercial solutions** that mitigate the impacts of dust on aviation.
- **Identify gaps** in current measurement and modelling capability in order to improve air traffic management and safety.
- Explore Propose **actions for establishing efficient integration and interfacing** between data producers and data user.



MODIS/Terra, 19th October 2019



USER'S SURVEY



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