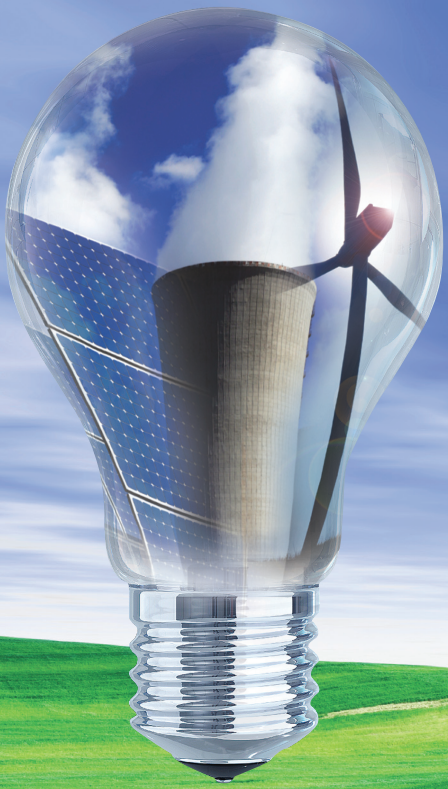
Weather/Climate Risk Management for the Energy Sector

NATO Advanced Research Workshop
S. Maria di Leuca (Italy) 6-10 Oct 2008



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The NATO **Science** for **Peace** and **Security** Programme

Contents

Weather / Climate Risk Management for the Energy Sector

The outputs of the workshop will be a set of recommendations reflecting the objectives of the Advanced Research Workshop (ARW). Not only will these recommendations be published as a NATO-ARW series book, they will also be used to inform and advise national and international organisations in the weather / climate sector as well as in the energy sector.

The objectives of the workshop are:

- To identify vulnerabilities of energy sector to extreme weather events in the context of climate change adaptation;
- To identify impediments to the use of weather / climate information for the energy sector in the context of climate change adaptation;
- To suggest ways to improve and/or facilitate the transfer of knowledge between weather / climate scientists and the energy experts to allow an optimal use of climate risk management;
- To outline proposals to improve the way in which weather / climate information is used for modelling demand and to provide warnings for potential disruptions on energy operations and infrastructure;
- To discuss possible contributions of the weather / climate scientists and the energy experts to climate change adaptation policies for energy security.

Five Sessions

- Weather & Climate Fundamentals for the energy sector
- Energy sector practices, needs, impediments
- Current Weather / Climate information transfer to the Energy Sector
- Policy options for improved transfer between Weather / Climate and Energy Sectors
- Towards improved practices for information transfer between Weather / Climate and Energy Sectors

Three Working Group Themes

- *Theme 1:* Weather/Climate Information in Energy Sector practices (including modelling demand, disruptions);
- *Theme 2:* Policy options for improved weather/climate information for energy sector (including infrastructure planning, scenarios and carbon trading);
- *Theme 3:* Data distribution (including data policy) & Training.

Organizing Committee

- Dr Alberto Troccoli, Director (University of Reading, UK)
- Mr Mohammed Boulahya, Co-director (ClimDev, Tunisia)
- Prof. Robert Gurney (University of Reading, UK)
- Dr Mike Harrison (King's College London, UK)
- Dr Pascal Mailier (Swiss Re, UK)
- Prof. Oleg Pokrovsky (Main Geophys. Observatory, Russia)

Timetable

Time / Day	Mon 6 Oct	Tue 7 Oct	Wed 8 Oct	Thu 9 Oct	Fri 10 Oct
8.45-9.30	Registration /Opening	B6	C5	E1	Recommendations WG1
9.30-10.15	A1	C1	D1	E2	Recommendations WG2
10.15-11.00	A2	C2	D2	E3	Recommendations WG3
11.00-11.30	**Coffee break**				
11.30-12.15	A3	C3	D3	E4	Discussion
12.15-13.00	B1	C4	D4	E5	Conclusions
13.15-14.30	**Lunch**				
14.30-15.15	B2	WGs	Visit to Otranto	WGs	
15.15-16.00	B3	WGs	"	WGs	
16.00-16.15	**Short coffee break**				
16.15-17.00	B4	WGs	"	WGs	
17.00-17.45	B5	Poster Session	"	WGs	
19.30-20.30	**Dinner**				
21.00-22.30		Panel Session			

Legend for timetable

Speakers

A1	Prof John Dutton
A2	Dr Alberto Troccoli
A3	Prof Oleg Pokrovsky
B1	Dr Djamel Boucherf
B2	Dr Lada Vlasova
B3	Dr Laurent Dubus
B4	Ms Lourdes Ramirez
B5	Dr David Friedberg
B6	Dr John Furlow
C1	Dr Elena Akentyeva
C2	Dr Carlo Buontempo
C3	Dr Tiziano Colombo
C4	Dr Lueder von Bremen
C5	Dr Pascal Mailier
D1	Mr Sebastian Veit
D2	Dr Helene Connor
D3	Dr Mike Harrison
D4	Ms Jane Ebinger
E1	Mr Mark Ahlstrom
E2	Prof. Robert Gurney
E3	Dr Jim Williams
E4	Mr Allali Abdelkader
E5	Dr Naresh Kumar
Conclusions	Mr Mohammed Boulahya
WGs	Working Groups

Daily Programme

Monday 6 October

Registration		8.45-9.15
Opening address		9.15-9.30

Session A

Dutton	*Fundamentals of meteorology/climate for the energy sector*	9.30-10.15
Troccoli	*Weather/climate predictions for the energy sector*	10.15-11.00
Coffee Break		**11.00-11.30**
Pokrovsky	*Basis for decision making using weather information for the energy sector*	11.30-12.15

Session B

Boucherf	*Evaluation of the current and future climatic risk in Algeria*	12.15-13.00
Lunch		**13.15-14.30**
Vlasova	*Natural risks for joint Russian Gas Transport System and a role of the climate information in risk management under global climate change*	14.30-15.15
Dubus	*Practices, needs and impediments in the use of weather/climate information in the electricity sector*	15.15-16.00
Short Coffee Break		**16.00-16.15**
Ramirez	*Practices, needs and impediments in the use of weather/climate information in the solar energy sector*	16.15-17.00
Friedberg	*Practices, needs and impediments in the use of weather/climate information in the financial energy sector*	17.00-17.45
Dinner		**19.00-20.30**

Tuesday 7 October

Furlow	*Providing access to weather and climate information and to project finance*	8.45-9.30

Session C

Akentyeva	*Current Weather/climate information transfer to the Energy sector by the World Meteorological Organization*	9.30-10.15
Buontempo	*Current weather/climate information transfer to the Energy sector by a National Meteorological Service*	10.15-11.00
Coffee Break		**11.00-11.30**
Colombo	*Use of weather/climate information by a National Meteorological Service*	11.30-12.15
von Bremen	*Short-Term Wind power forecasting and long-term integration studies for photovoltaic and wind power in Europe*	12.15-13.00
Lunch		**13.15-14.30**
	Working Groups	14.30-16.00
Short Coffee Break		**16.00-16.15**
	Working Groups	16.15-17.00
	Presentations by Dr Paolo Bonelli, Dr Monirul Mirza, Dr Benno Rothstein	17.00-17.40
	Poster Session	17.40-17.45
Dinner		**19.00-20.30**
	Panel Session	21.00-22.30

		Wednesday 8 October
Mailier	*How can we rely on weather and climate information*	8.45-9.30

Session D

Veit	*Policy options for improved transfer between weather/climate and Energy sectors from the African Development Bank perspective*	9.30-10.15
Connor	*Vulnerability - Adaptation - Energy Resilience (VAR): Indicators and methodology to identify adaptation projects that reinforce energy systems resilience to climate change*	10.15-11.00
Coffee Break		**11.00-11.30**
Harrison	*Data Headaches*	11.30-12.15
Ebinger	*Weather and Climate Services in Europe and Central Asia, A regional review*	12.15-13.00
Lunch		**13.15-14.30**
	Visit to Otranto	14.30-17.45
Dinner		**19.00-20.30**

Session E

	Thursday 9 October	
Ahlstrom	*Connecting climate and weather data with the energy sector - A wind energy user's perspective*	8.45-9.30
Gurney	*Towards improved practices for information transfer between weather/climate and energy sectors from an Academic perspective*	9.30-10.15
Williams	*Knowledge Issues towards improving Weather/Climate Information for the Energy Sector*	10.15-11.00
Coffee Break		**11.00-11.30**
Abdelkader	*Scoping paper IPCC special report on renewable energy sources and climate change mitigation*	11.30-12.15
Kumar	*Research and information needs to help electric companies adapt to climate change*	*12.15-13.00*
Lunch		**13.15-14.30**
	Working Groups	14.30-16.00
Short Coffee Break		**16.00-16.15**
	Working Groups	16.15-17.45
Dinner		**19.00-20.30**

	Friday 10 October	
	Recommendations from Working Group 1	8.45-9.30
	Recommendations from Working Group 2	9.30-10.15
	Recommendations from Working Group 3	10.15-11.00
Coffee Break		**11.00-11.30**
	Discussion	11.30-12.15
Boulahya	*Conclusions*	12.15-13.00
Lunch		**13.15-14.30**

Key Speakers

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Local Information

'Il Salento' is the peninsular better known as the heel of Italy. It comprises the provinces of Lecce, Brindisi and Taranto and has history by the bucket, as well as 80% of Puglia's 829 km of coast.

It once extended over a bigger territory, stretching as far as Matera in Basilicata. Called 'Terre d'Otranto' the Greek towns of Otranto, Nardò, Galatina and Gallipoli dominated the thousands of small villages along the coast and those dispersed in the interior. Interestingly, a grotto was found last century near Porto Badisco. It was here that the prehistoric inhabitants of Salento sought refuge. Their presence can be confirmed by many hand paintings made of bat droppings or 'guano' on the inner walls. Thankfully, the Cretans arrived from across the Mediterranean and the history of Salento took a culturally upward shift. They founded Lecce and the city remains the cultural soul of Salento.

For Salento, the annual mean temperature is 17°c. With the humid, warm scirocco wind coming from the south the average can rise to 25°c. In other words, it's mild to hot throughout the year. The coast is a mix of rocky then sandy stretches. For the sandy bits try San Cataldo, San Foca and Torre dell'Orso and Ugento. For the rocky stretches try Santa Cesarea, Santa Maria di Leuca, Castro, Tricase and Gagliano del Capo. Take your choice, but nothing can beat a dive into the crystal clear waters from a sun bathed (low-ish) cliff.

Santa Maria di Leuca is situated at the boundaries of Earth. Its origins are very ancient: Virgil wrote about Leuca in the third book of Aeneid when he describes the landing of Aeneas among the people of Salento. In this extreme strip of Italy you have to see the Pontifical Minor Basilica de Finibus Terrae, the "Museum Vito Mele", the 15th century tower of "Omo Morto", the XIX century villas (where the aristocratic local families spent their long holidays from April to November), the sea caves, the steep cliff chiselled by the sea, the green maquis, the "paiare" (typical buildings made of dry stone): it is a paradise of scents and colours where the passing of time is emphasized by the song of balm-crickets.

Hotel Terminal, S.Maria di Leuca

Conference room at the Hotel Terminal

The Hotel Terminal is surrounded by 19th century villas, along the promenade Cristoforo Colombo, the heart of Santa Maria di Leuca. In front of the hotel, there is the charming creek delimitated by Punta Ristola and Punta Meliso, the extreme strip of Italy. The private beach (a delicious little creek which can be reached directly from the hotel by an underpass) is equipped with sunshade tents, deck-chairs and sunbeds. The restaurant offers you every day the best Apulian enogastronomical choice and the exquisite fish of Santa Maria di Leuca soundings. Vegetables, meals, jams and marmalades, fruits, oil and wines are mostly produced in the neighbouring fields, only for the hotel.

Emergency contact numbers

Hotel Terminal	0833 758242
ER-ambulance	0833 273787
Emergency doctor	0833 266250
Police	0833 267711
Hospital 'Sacro Cuore di Gesu'	0833 270111
Carabinieri	0833 266190
Fire brigade	0833 202222
Train information	0833 266214
Information office-Piazza Imbriani,9	0833 262529
Information-Pro Loco-via D'Elia,1	0833 262386
Aeroporto di Brindisi 'G. Papola'	0831 411711 / 411720
Aeroporto di Bari-Palese	080 5800200


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