

The logo for ESOE 2018 Toulouse is a large red hexagon with a white border. Inside the hexagon, the text "ESOF" is written in large white letters, "2018" is in smaller white letters below it, and "TOULOUSE" is in even smaller white letters at the bottom. The logo is surrounded by several smaller hexagons of various colors (blue, yellow, purple, pink, green) containing different icons representing science, technology, and nature.

**ESOF**  
2018  
TOULOUSE

# Resilience and adaptation of forest social-ecological systems in the context of global change



**François Lefèvre**, *INRA National Institute for Agricultural Research, France*

**Teresa Baiges Zapater**, *CPF Catalonia Centre de la Propietat Forestal, Spain*

**Davide Pettenella**, *TESAF University of Padova, Italy*

**Georg Winkel**, *EFI European Forest Institute, Germany*

#ESOF2018



@ESOF\_eu



ESOF.eu

## Abstract of the session

Healthy forests are part of the solution to climate change but global change is challenging forest policies and management. Forest policies and management have to anticipate decisions for uncertain future scenarios and adaptive strategies are required. In the context of state of change, resilience thinking is preferred to stability thinking. Extreme climatic events, extreme elements (e.g. fire) and pathogen outbreak will be the main drivers of forest health. New paradigms on risk and multi-risk are needed. Forest policies and management have to consider simultaneously short-term and long-term benefits and risks associated to any decision. Several recent and ongoing research projects have addressed the challenges at a European and international level, in particular in the Mediterranean. The panel discussed the possible outcomes and pitfall of these approaches around three questions. Using a Kahoot!, attendants have been introduced to the background problems for discussing the field of actions for an efficient implementation of adaptive strategies.

## 3 questions for a debate:

- 1) what are currently the main drivers of change in the forest : climate change or socio-economic changes ?
- 2) what determines the adaptive capacity of the forests ?
- 3) how do we cope with uncertainties ?

## 8 take home messages : what we face?

- **forest systems** are particularly **at risk** due to climate change because they are perennial, but they are also part of the **solution**;
- forests are **dynamic systems** that continuously evolve;
- in most parts of the world, and in the EU in particular, forests are **social-ecological systems** and their dynamics is driven by the interplay of natural processes and human actions;
- forestry decisions and actions have **short term and long term** impacts on forest dynamics over decades;
- in the context of change, there are **multiple uncertainties** regarding the response of the forests to disturbance and management;

## 8 take home messages : what to do?

- a **new paradigm** is needed in the forestry sector: **resilience thinking**, which favours adaptive management strategies to cope with uncertainty and keep options open, as opposed to stability thinking which fixes a target objective and assumes minimum uncertainty ;
- using **diverse forest management practices**, and enabling forest **governance** that encourage diversity rather than « one solution fitting all » are critical – allow experimentation to face uncertain future ;
- we need to enable the conditions for forest management to be possible: this implies to recognise the benefits of forests to people and the **key role of forest managers** in providing them.

## Suggested websites :

Project INFORMED (Integrated research on forest resilience and management in the Mediterranean) :  
[https://www6.inra.fr/informed-foresterra\\_eng/](https://www6.inra.fr/informed-foresterra_eng/)

Resilience blog of the European Forest Institute EFI, Bonn :  
<https://resilience-blog.com/>

Resilience Alliance :  
<https://www.resalliance.org/>

The logo for ESOF 2018 Toulouse is a large red hexagon with a white border. Inside the hexagon, the text "ESOF" is written in large white letters, "2018" is in smaller white letters below it, and "TOULOUSE" is in even smaller white letters at the bottom. The logo is surrounded by several smaller hexagons of various colors (blue, green, purple, pink, yellow) containing different scientific icons like a network, a molecule, an atom, and a planet.

**ESOF**  
2018  
TOULOUSE

# EUROSCIENCE OPEN FORUM

SHARING SCIENCE:  
TOWARDS NEW HORIZONS

9-14 JULY 2018  
TOULOUSE, FRANCE

#ESOF2018



@ESOF\_eu



ESOF.eu