



EUROPEAN FOREST
INSTITUTE

European Forest Risk Facility

Mobilizing knowledge and expertise to enhance the resilience and adaptive capacity of forests

Alexander Held / Marcus Lindner

Plurifor, Bordeaux, 4 June 2019

Disturbances in the news 2018 and 2019

Shute, Joe and Manteigas, Bruno (2018, August 3). Europe in flames: how can we tackle the wildfires sweeping Britain and the continent? *The Telegraph*. Retrieved from <https://www.telegraph.co.uk/news/fire-storm-the-wildfires-sweeping-europe-and-britain/>



Europe in flames

How can we fight wildfires sweeping the continent - and is it too late to end the cycle?

Priester, Ulf; Michel, Stefan and Rinke, Marcus (2018, October 02). Borkenkäfer vernichten zwei Millionen Fichten in NRW. *WDR*. Retrieved from <https://www1.wdr.de/nachrichten/westfalen-lippe/borkenkaefer-plage-wald-100.html>



Bark beetles destroy two million spruces in NRW

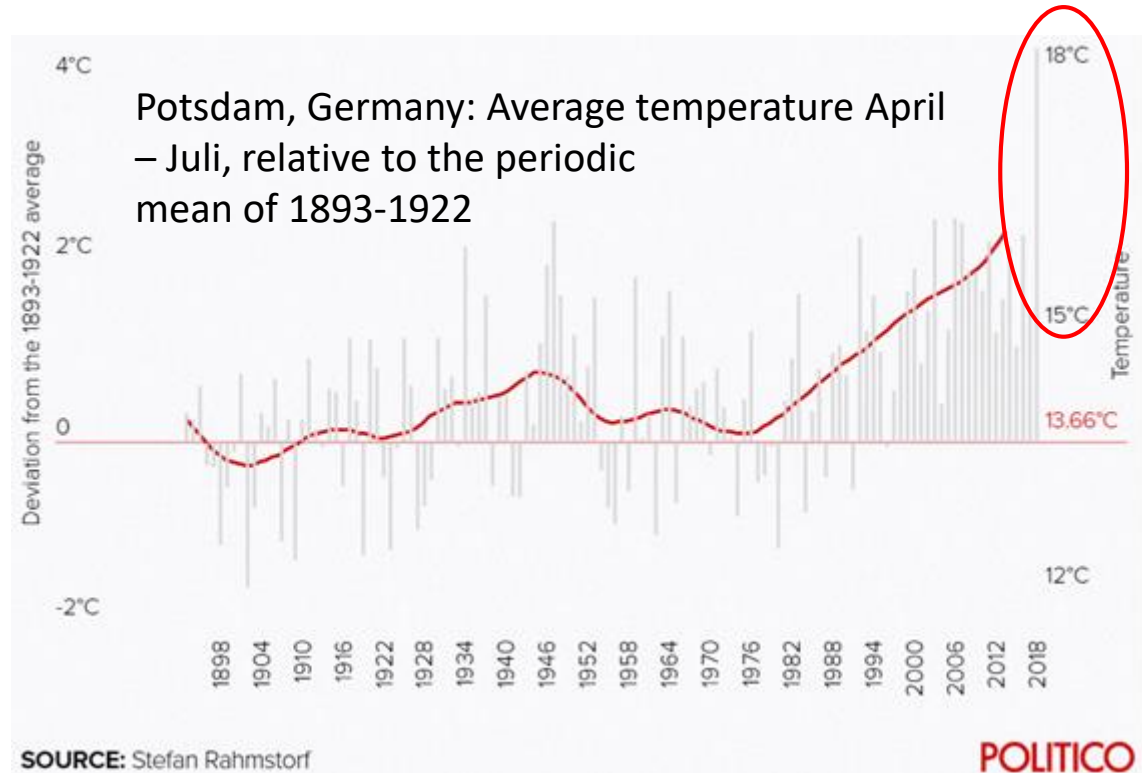
Reuters (2018, November 3). Italian storms claim 17th life, and 14 million trees. *Reuters*. Retrieved from <https://www.reuters.com/article/us-italy-weather/italian-storms-claim-17th-life-and-14-million-trees-idUSKCN1N80L8>



Italian storms claim 17th life, and 14 million trees

Climate variability gets more extreme!

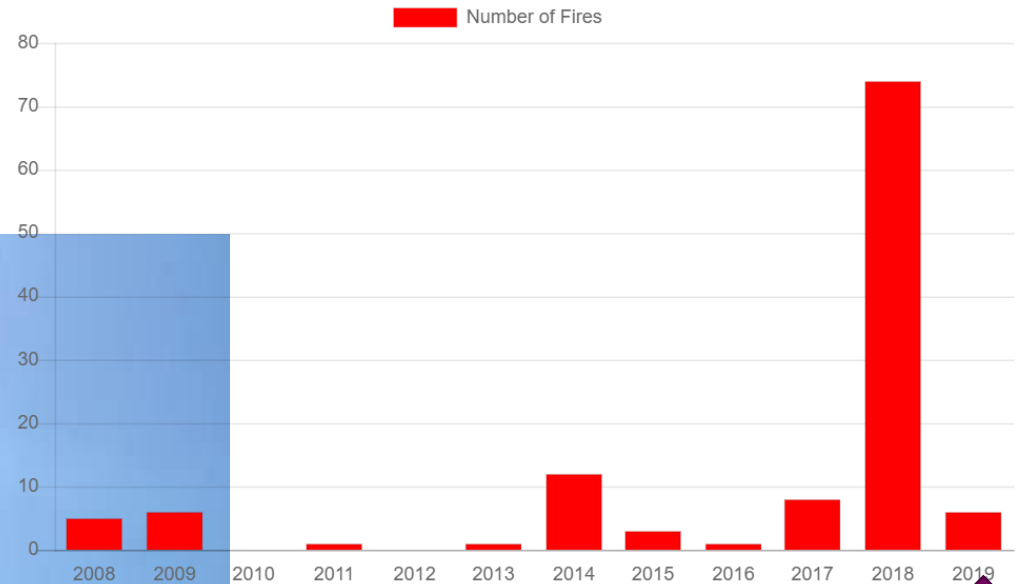
- **Record warmth** observed across the Northern Hemisphere
- Unusually **high temperatures** and **lack of precipitation** in Northern and Central Europe, whereas **new daily rainfall records** were set in France



2018: more extreme than ever

2018 in Sweden...

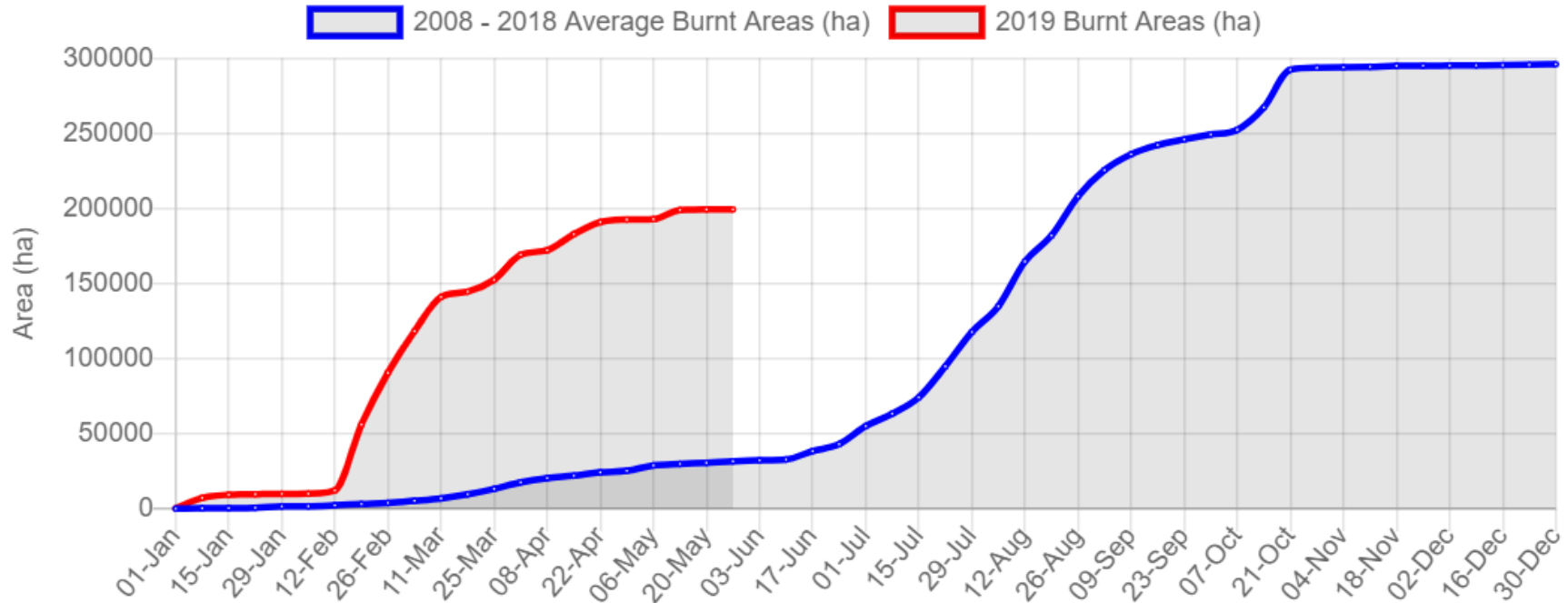
Number of Fires mapped in EFFIS (of approx. 25ha or larger)



March and April 2019

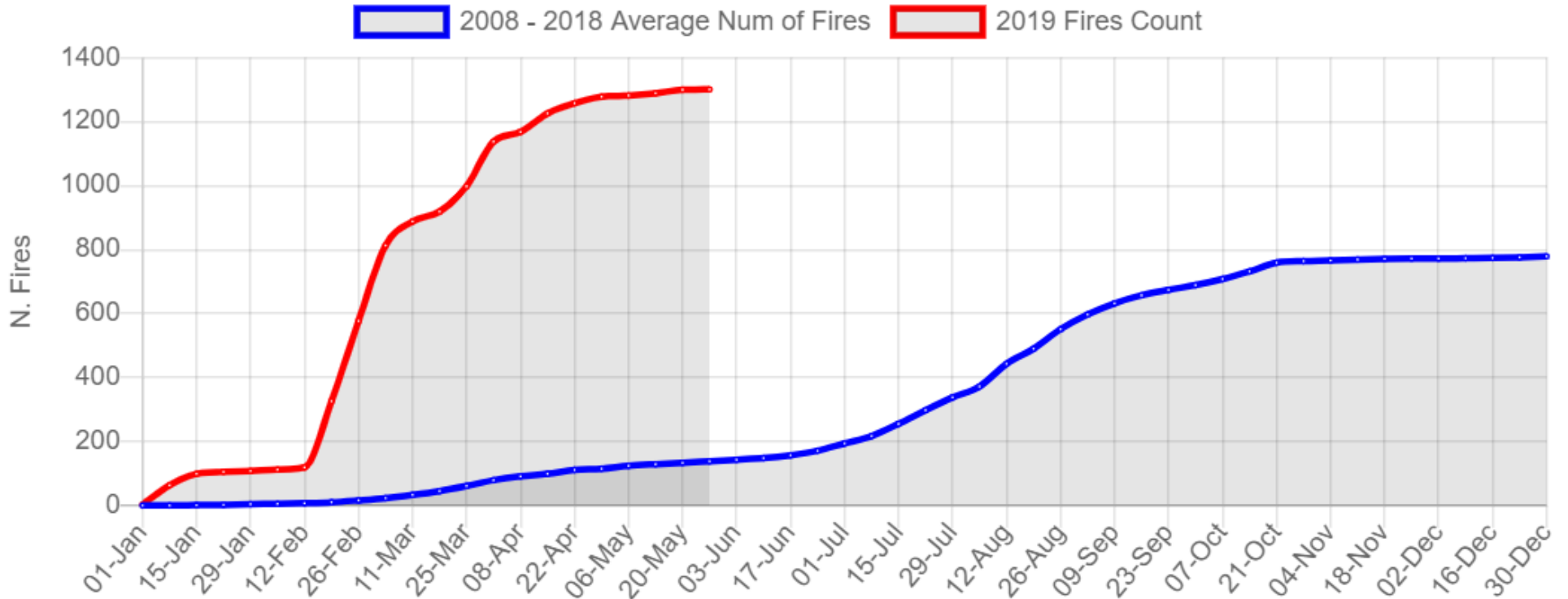
2019 recorded a burned area of more than 200 000 ha by the end of April.

Burnt Areas (ha) mapped in EFFIS (*)



2019 recorded 1233 fires by the end of April.

Numbers of Fires mapped in EFFIS (of approx. 30 ha or larger)



Recently in Central Europe...

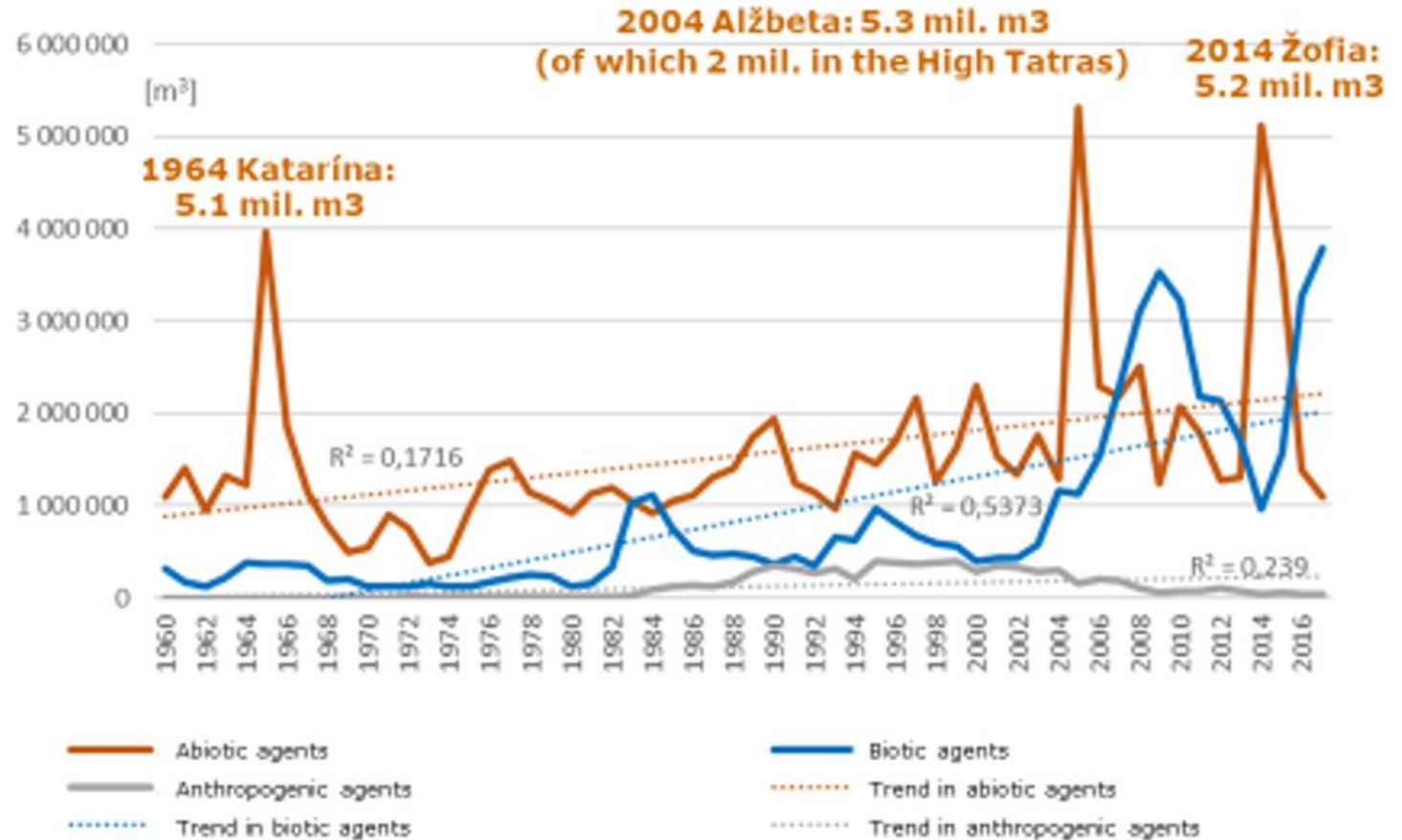


Recently in Italy...



Salvage Felling in Slovakia: disturbance agents drive most cuttings

- Since 2005, cumulative amount of salvage fellings exceeds 50% of all recorded fellings
- 2008-2017, the share of salvage fellings in total harvest was on average:
 - 54.7% (all species)
 - 77.2% (conifers)



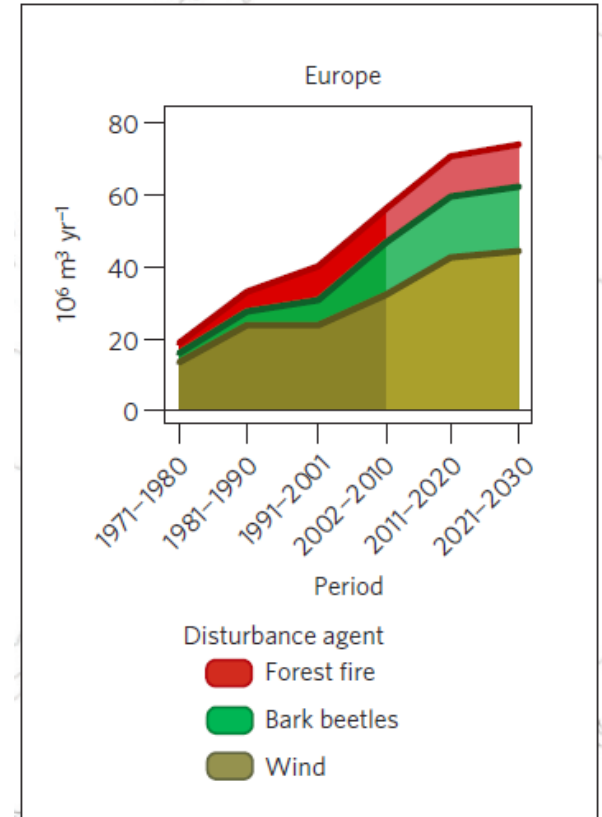
Source: National Forest Centre; Forest Protection Service, 2018

Future development of disturbance risks

- Part of the increase in forest damages can be associated to climate change

Recent global synthesis of climate change effects on forest disturbances: Seidl. et al. 2017. Forest disturbances under climate change. Nature Climate Change 7: 395-402

- Extreme events will get more extreme with climatic change and they will exacerbate disturbance risks



Seidel et al. 2014

How can we better cope with forest disturbance risks in European forests?

- Forestry needs to adapt to sustain ecosystem functions and service provisioning
- The traditional response strategies are no longer sufficient
 - More devastating impacts (e.g. Mega-fires)
 - Impacts affect new regions that lack the experience
 - Response comes too late after the disturbance hits



More pro-active risk management is needed!

We need to get better prepared and learn from past international experiences



SURE

SUstaining and Enhancing REsilience of European Forests

**Working towards a European
Forest Risk Facility**

Expert exchange following a severe ice storm in Slovenia (2014)

More than half of all Slovenian forests were severely affected by an ice sleet storm (late January / early February 2014)



- Damaged timber volume \approx 11 million m³; economic loss > 200 million euros

Expert exchange following a severe ice storm in Slovenia (2014)

FRISK-GO project identified suitable experts with extensive knowledge and experiences on similar disturbance events



- A mission to Slovenia was conducted in March 2014 and resulted in a jointly published expert assessment
- Ten experts from Slovenia participated in an exchange visit to Germany in April 2014
 - Topics: how to deal with secondary damages, priority salvage logging, timber transport, market and timber prices, subsidies, insurances, reforestation programmes, natural regeneration and future risk and resilience management

Vegetation fire strategy development, Northern Ireland

- Hundreds of wildfire incidents in Northern Ireland's countryside in 2017
- The government initiated establishment of a fire management strategy
- The Northern Ireland Environment Agency (NIEA) invited EFI (SURE project) to support the strategy development
- The SURE project mobilized fire experts from all over Europe to provide input to the strategy



<https://resilience-blog.com/2018/01/22/investigating-wildfires-northern-ireland-is-planning-to-develop-a-vegetation-fire-strategy/>

Expert exchange on storm risk management and forest resilience across Belarus-Germany-France-Basque Country

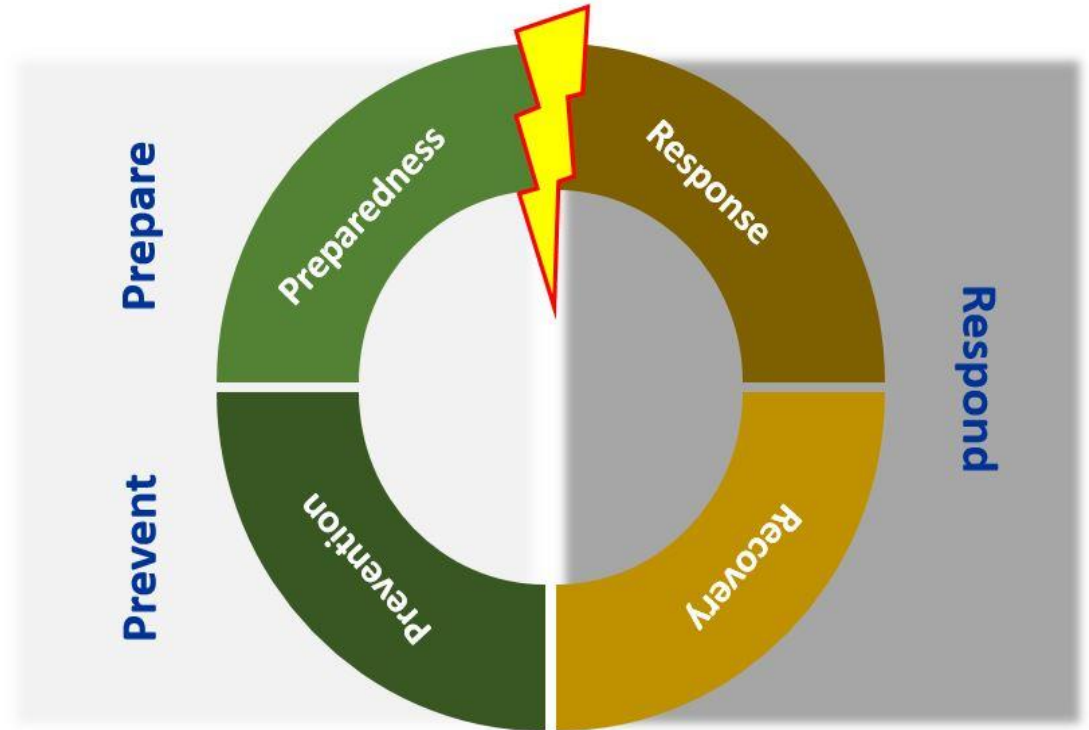
Belarus was hit by a big windstorm in 2016 causing widespread damage to their forests

- The World Bank approached EFI (SURE project) to help in forest recovery and preventing secondary damages in the future
- SURE project facilitated exchanges of experts
 - Exchange of Experts Belarus-Germany-France-Basque Country; Topics: Storm, Disturbance and Forest Resilience Management (April 2018)
 - French, German and Latvian experts visited Belarus (October 2018)



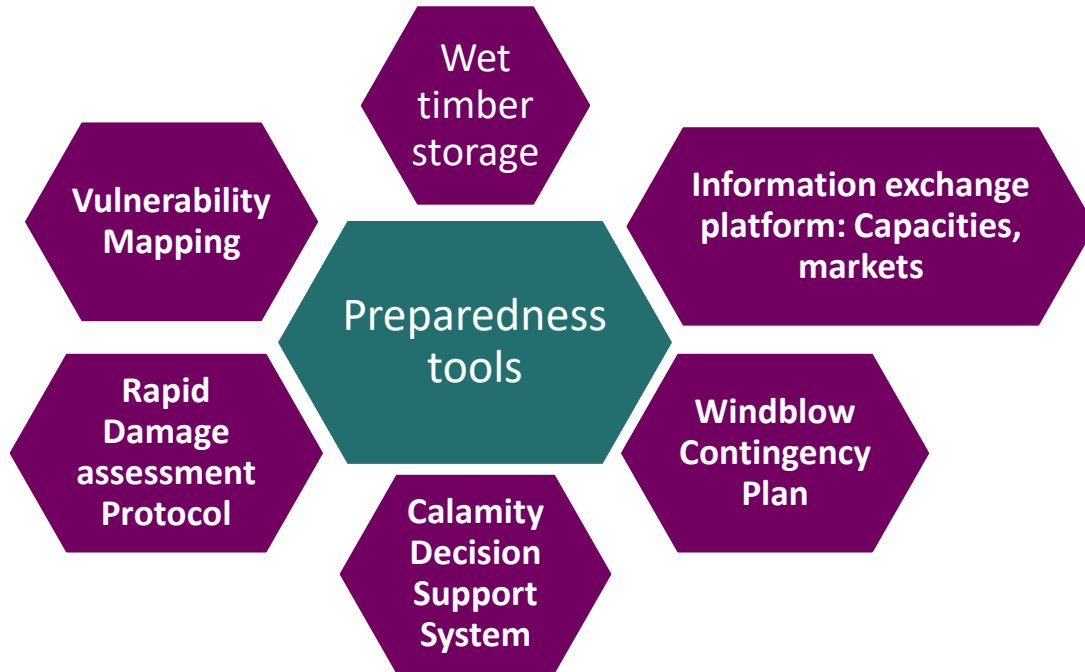
SURE capacity building workshops

- *Dealing with Storm Damages*, Freiburg, Germany, 10-12 October 2018
- *Managing Biotic Risks* - Prague, Czech Republic, 1-3 April 2019
- *Pro-active Wildfire Management*, Wales, UK, November 2019



Disaster risk management cycle

Examples of preparedness measures identified at SURE workshop *Dealing with Storm Damages*



TOOL COLLECTION FOR CRISIS MANAGEMENT

SURE
Supporting and Enhancing Resilience of European Forests



A) Tutorship

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	Date / Version	19. July 2018; Version 0.1	
	Type of tool description	<input type="checkbox"/> General level / Group of tools	<input checked="" type="checkbox"/> Specific level / Case study

B) Basic tool description

1. Title / Name of tool	Wet lumber storage
2. Problem statement / Opportunity	<p><i>What are the shortcomings within forest risk management that shall be improved with the tool? (Problem)</i></p> <p>Substantial price decrease and devaluation of wood quality after large scale disasters.</p> <p><i>What are the leverage points that can be addressed with the tool? (Opportunity)</i></p> <p>Timber conservation</p>
3. Motivation:	<p><i>What is the intention and purpose of the tool? What is our intention when we offer this tool?</i></p> <p>Stabilization of timber prices and preservation of wood quality of timber, which cannot be marketed directly.</p> <p>Improvement of continuity of timber supply for timber industries after a natural hazard.</p>
4. Goal:	<p><i>What is the concrete measure? How is the tool contributing to the motivation?</i></p> <p>Wet storage of large quantities of damaged timber maintains wood quality, ensures a constant supply and yields acceptable prices.</p>
5. Short description of tool	<p><i>Specific description of the tool. What will be done?</i></p> <p>Harvested timber is stored for up to 3 years in wet lumber yards. Following a large natural hazard event with high quantities of timber from salvage logging, wood can be conserved and stored until timber prices have recovered.</p>

Wildfire Tool Box (example)

- Strategic Direction with shared and mutually agreed objectives (The WHY)
- Enabling Policies
- Implementation Plans (The HOW)

- Tools (The WHAT)

- Cooperate with EU Wildfire Hub, CMINE Expert Group, EU EFFIS and DG's, Forest Europe, FAO, World Bank....

National Wildfire Strategies....nice to have

- Shared Vision and Strategy of all affected and mandated stakeholders:
 - Forestry, Agriculture, Environment, Civil Protection, Defence Force....
- Avoid Catastrophic Fires
- Reduce Unwanted Fires
- Reduce Negative Fire Effects
- Use the Positive Fire Effects
- Increase Fire-Fighter Safety (!!!!!)

resilient landscapes – adapted communities –adequate response



National Fire Management Plan...nice to have

- Rapid Detection
- Good Access
- Well trained and equipped fire service
- **Reduction of Fuel Load and Fuel Availability**
- **Forest Adaptation and Conversion towards
“Continuous Cover Forestry” / Pro Silva**



resilient landscapes – adapted communities –adequate response



How do we get there?

- **European Forest Risk Facility (@EFI): Network with Thematic Nodes**

- **Fire**

- **Bark Beetle et al.**

“collect-connect-exchange”

- **Storm**

- Build and strengthen network of willing partners (“know, like, trust”)

- Inform public opinion and inform policy

- Build and empower capacity, training and exchange

- Pursue directional ideas and allow for intersectional ideas (weird, strange, crazy, out-of-the-box)



Improved disturbance risk management through collaboration at the interface between science, operational management and policy

- Provide science-based **good practice guidance** to inform policy makers and forestry practice on how to enhance forest resilience and foster the adaptive capacity in the forest sector,
- Support **cross border cooperation** for disturbance risk management,
- Promote **risk prevention and preparedness** to improve the ability to cope with future disturbance events,
- Support and facilitating knowledge generation and ensuring transfer / information sharing through **capacity building** and **fast tracking of experiences**,
- Speed up the responses to new and unexpected events/topics by **mobilizing specialists**,
- Stimulate the development of **innovative practices that enhance forest resilience**,
- Empower personal and institutional expert capacity in disturbance risk management by organizing **training workshops** and **exchanges of experts**,
- Engage in **public relations and media outreach** to keep all actors well informed

Managing increasing forest disturbance risks

- We face an unprecedented intensity and spatial coverage of forest disturbance impacts across Europe
- Post-2018 disturbance risk management needs a strong emphasis on prevention and preparedness
- This calls for increased trans-national collaboration and support, capacity building and knowledge transfer: **Forest Risk Facility**



Storm and bark beetle damage following cyclone Herwatt (2017), Czech republic; Foto: M. Lindner



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Thank you!

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