EUROPEAN FOREST INSTITUTE
ATLANTIC EUROPEAN REGIONAL OFFICE – EFIATLANTIC

Interreg
Sudoe
PLURIFOR
Plans transnationaux
pour la gestion des
risques forestiers

PLURIFOR
PHONE APP FOR DAMAGES REPORTING
&
Forest Pests and Diseases online service

Transnational risk management plans for rural forest areas susceptible to biotic and abiotic risks

Plans de gestions des risques transnationaux pour les espaces ruraux forestiers sensibles aux risques biotiques et abiotiques

Lisbon
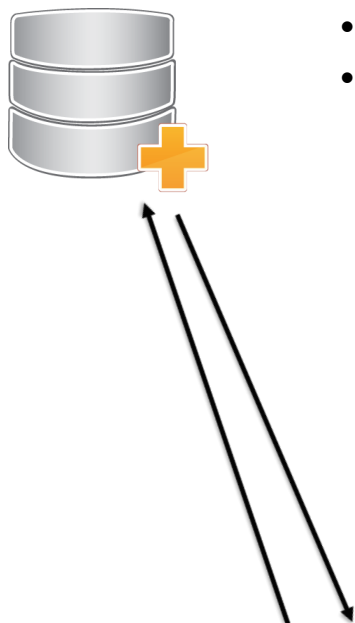**Workshop emerging diseases**
January 2018

A Phone application for damages reporting

- Aim : Report a damage, knowing date and location
- Reporter : any user having acces to the app (APK file)
- Final use :
  - Prevention/protection services to
    - Map problems
    - Prioritise actions
  - Scientists :
    - Trends analysis :
      - Spatial
      - Temporal

Tools features description

- Administrator create account for authorities
- Authorities have an account where they can allocate validator:
  - Per geographic zones (administrative area NUT3?)
  - Per damages types:

- Fire (underway?) damage
- Wind damage, broken/fallen trees
- Soil degradation/damage (natural and/or manmade) / Sediment in streams
- Inappropriate forest operations
- Dead or dying trees(s)

- Leaf discolouration or Defoliation
- Game damages
- Wounded tree(s) or Trunk and root diseases
- Canker diseases
- Galls
- Other ecosystem degradation

Tools features description

PHONE APP USER Start

• Check/create your account (same as in the forest damage database website) - online

Steps for a damage report

• The phone will check if location is activated, otherwise it will ask to activate the GPS.

• Once the location is known, the app will list the types of damage. Based on GPS position, this list will be divided into 2 sections:

  • Types of damage to be reported for the current location to a regional authority

  • "Orphan science" No authority defined, but can be of interest for science

Tools features description

Steps for a damage report (2)
- A report is made of at least one picture (Up to 3-4?)
- Making a picture, the phone sensor will store informations :
    - Date,
    - Latitude, longitude, elevation
    - Phone tilt
    - Azimuth

Tools features description

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Steps for a damage report (3)
- A report is made of at least one picture (Up to 3-4?)
- The user will have to provide additional information mainly selecting in lists :
  Subject of photo (for each picture, mandatory, one single choice):
    - **A close-up of the agent** causing the damage or detailed symptom: to clearly show the agent so it can be identified (e. g., an insect), but not to locate it on the tree.
    - **A single tree**, to show where the damage is located on the tree, or symptom in context: then choose the part of tree (scrolling list of parts, including "whole tree") photographed.
    - **A group of trees,** the aim is to show where is located the damage in the forest stand, or tree in context: then choose how big is the group (scrolling list: "group of trees", **"landscape"**) photographed.
    - **Non-tree** picture: for damages that do not directly affect trees.

Steps for a damage report (4)
- A report is made of at least one picture (Up to 3-4?)
- The user will have to provide additional information mainly selecting in lists :
  - **Damage location on the tree** (for the whole report, optional, one or more choices possible):
    - Choose among a list of parts of the tree where damage can be located.
  - **Main tree species** (or genus if species not known; for the whole report, optional, one single choice):
    List of genus and/or species, in Latin and in user language:
    www.efiatlantic.efi.int/portal/databases/tree_species_latin_names/
  - **Area affected** (for the whole report, optional, one single choice):
    undefined [default value]
    < 1ha / one or some trees?
    1-10 ha / forest stand?
    10-100ha / landscape/large area?
  - **Comment** (for the whole report, optional)
    Field text : 1000 characters

Tools features description

Steps for a damage report (5)
- Once the phone has access to internet :
    - The report including picture is uploaded automatically to the server
    - The server on a regular basis send an alert to the authorities based on the maps and damages types
    - The validator connect to the server
        - Valid report
        - Or ask for additional information
        - Or delete/reject the report
- Eventually
    - Update the report
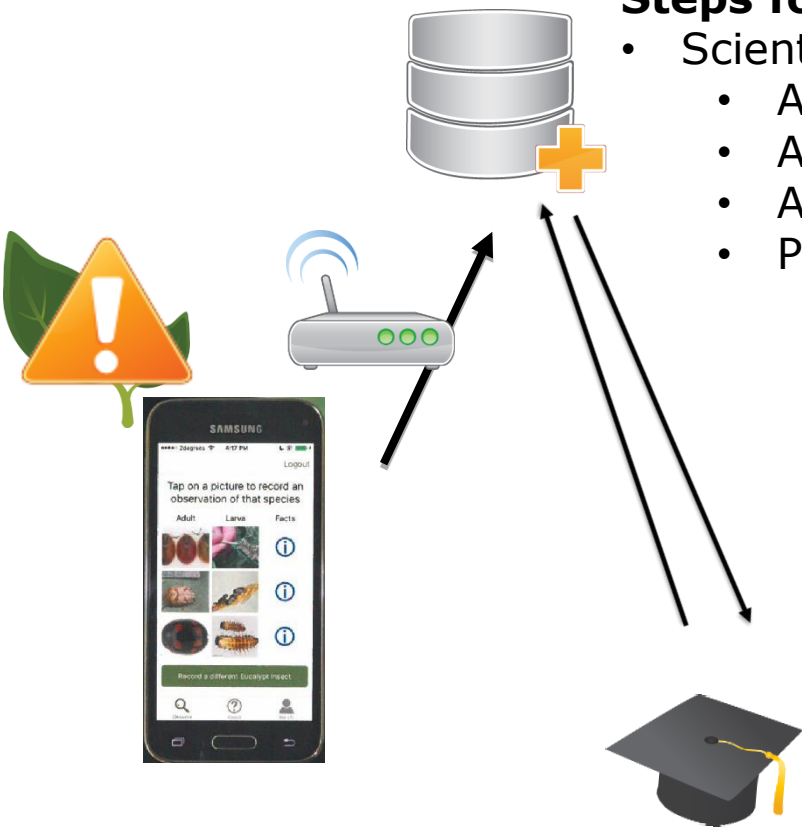   - Signal administrator an abuse

Tools features description

Steps for a damage report (6)
- Scientist access :
  - Allow validation of non validated report
  - Allows access to all the report
  - Allow download of data
  - Potential uses :
    - Trend analysis
    - Dynamic mapping
    - Temporal series
    - Automatic agent identification (HOMED project)

An online guide for Biotic risks

- **Aim :** Provide an up to date information on existing risk in Europe
- **Structure:**
  - A list with sorting feature

Number of matching rows : 78

id_fiche	Code	Name	Latin_name
🔍 87	Abi-I-1	Silver Fir Bark Beetle	*Pityokteines curvidens* (Germar) (Coleoptera, Scolytidae)
🔍 78	Bet-I-1	Autumnal moth	*Epirrita autumnata* (Lepidoptera, Geometridae)
🔍 77	Bet-I-2	Citrus longhorn beetle	*Anoplophora chinensis* (Förster) (Coleoptera, Cerambycidae)
🔍 18	Cas-F-1	Chestnut blight	*Cryphonectria parasitica* (Ascomycota, Diaporthales).
🔍 35	Cas-F-2	Chestnut ink disease	*Phytophthora cinnamomi* & *Phytophthora cambivora* (Oomycota, Peronosporales).
🔍 6	Cas-I-1	Chestnut weevil	*Curculio elephas* (Gyllenhal) (Coleoptera, Curculionidae)
🔍 11	Cas-I-2	Chestnut tortrix	*Cydia splendana* (Lepidoptera, Tortricidae)
🔍 75	Cas-I-3	Chestnut gall wasp	*Dryocosmus kuriphilus* Yasumatsu (Hymenoptera, Cynipidae)

An online guide for Biotic risks

- **Aim :** Provide an up to date information on existing risk in Europe
- **Structure:**
  - A list with sorting feature
  - A filtering system to explore the list

Forest pests and diseases

Filter

Tree genus	[All]
Insect pests/Diseases	[All]
Guild	1. Pine
Affected part	2. Oak
Tree Symptoms	3. Chestnut
Climate change effect	4. Poplar
	5. Eucalyptus
	6. Other conifers
	7. Other broadleaved trees

Number of matching rows : 78

id_fiche	Code	Name	Latin
🔍 87	Abi-I-1	Silver Fir Bark Beetle	Pityo...

[All]
[All]
[All]

[All]
01. Defoliator
02. Fruit, cone or seed feeder
03. Shoot or bud borer
04. Bark feeder (from the outside)
05. Bark borer
06. Wood borer
07. Foliar or shoot disease
08. Rust
09. Canker or bark disease
10. Decayed wood disease
11. Root disease
12. Wilt disease

An online guide for Biotic risks

- **Aim :** Provide an up to date information on existing risk in Europe
- **Structure:**
  - A list with sorting feature
  - A filtering system to explore the list
  - Cards describing each agents

An online guide for Biotic risks

- **Cards content :**
  - Host trees
  - Identification
  - Damage
  - Biology
  - Risk factor
  - Distribution
  - Pest management
    - Monitoring
    - Preventive measur.
    - Curative control
  - Climate change

Eucalyptus snout beetle

Gonipterus scutellatus (Coleoptera, Curculionidae)

Host tree

Most eucalyptus species.

Identification

- Leaves with deep, circular patterned chewed margins. Total leaf defoliation is possible.
- Feeding tracks on the leaf epidermis made by larvae (Photo 1).
- Dark to very dark brown egg masses on the leaves, frequently on newly expanded leaves (Photo 3). Egg masses are 2 to 3 mm long and 1 to 1,5 mm high, observable all year but more frequently in spring and autumn.
- In late spring and late autumn presence of yellowish-green larvae with two dark stripes along their body; larvae are curved in a C-shape. Larvae are present on both sides of the leaf. Older larvae produce long strings of excrements clinging to their bodies. (Photo 1
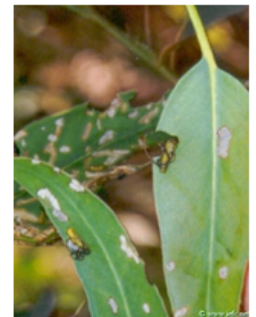
Photo 1: Leaf damage by larvae of the Eucalyptus snout beetle.

Try it online

http://www.efiatlantic.efi.int/portal/databases/pests_and_diseases/

http://www.iefc.net/?page=bdd/patho/patho_liste.php&langue=fr

Visit http://www.efiatlantic.efi.int/portal/research/plurifor/

Thank you!
Merci!
Obrigado!
Gracias!