

# Towards a new forest paradigm

Wildfires in the Massif des Maures

Nicolas Mourot



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Written by:  
Nicolas Mourot

Professeur Pédagogique:  
Prof. Harry Gugger

Second Professor:  
Paola Vigano

Maître EPFL:  
Augustin Clément



This research dives into the ever growing risks of **wildfires** in the Massif des Maures to understand the **limits** and **potentials** of the chosen territory.

In 2017, the inhabiting population of the region of the Maures reaches 313'000 people, when the numbers of visitors was estimated to reach up to 6 million individuals.

The same year, wildfires have burnt 4'189 hectares of land in the Massif des Maures, the equivalent of a city like Lausanne. This season was one the most devastating since records began.

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# 1

## *Hypothesis*

On the eve of a climatic shift, the impact of wildfires and fire-fighting strategies interrogates the future condition of Mediterranean forests. Blaze has become a rule more than an exception in these territories. “Despite a flammable vegetation because of severe droughts and winds, fires are caused, in 95% cases by human activities”<sup>1</sup>. According to this information, a specific place caught my attention: the massif des Maures. Territory of the southern french coast that witnesses a significant rise of its population every summer due to tourism. Because of the proximity between population and fires’ risks, it appears as an ideal case study to understand the impact of blaze onto a territory.

> **Img. 1.** *Incendie à Ramatuelle et à l’Escalet* (Photo by Boutria Luc)



## Hypothesis

### Forest (n.)

A large area covered chiefly with trees and undergrowth.

Oxford dictionary

If wildfires are considered as natural phenomena, they are, in other words inevitable as their absolute control is part of our collective thinking. Thinking of which is no more than a modern myth. In the Massif des Maures, the seasonal yet incredible inflow of tourists echos the rise of its vulnerability and interrogates our capability to continue inhabiting territories under the constant threat of a new 'Great fire'. Diving into the notion of the forest and fire-fighting methodologies seem to be an appropriate basis to conduct my hypothesis.

Defined as a "large area covered chiefly with trees and undergrowth"<sup>2</sup>, the contemporary notion of the forest is solely symbolized by its appearance rather than its content. We left the forest and only look at it from a distance. This applies particularly well to the massif des Maures. Yesterday, it was a place of protection and agricultural exploitation, it faced a population runoff towards the coast, resulting in today's depopulated and inactive forest. The enoncé will therefore explore the current role of the forest in the realm of this territory.

The consequence of tourism's expansion does not limit itself to a new population repartition. While the urban sprawl is contesting the limit of the forest by colonising it, the center of the massif experiences a spread of secondary residences, that took the place of ancient cultivated lands. The summer tourist influx gives a specific rhythm to the territory and the protection against an evitable blaze becomes a absolute necessity, risking to provoke a economic disequilibrium in a region that depends on it. The research will therefore explore the application strategies of fire-fighting devices in a region where the periphery and the forest act as two different entities.

Pressured by the fear of blaze, politics have found more convincing to install numerous fire-fighting infrastructures, instead of reducing the forest exodus. Subsidizing the forest activity would have allowed the population to stay and maintain the woodland. "A forest deeply linked to the activity of its population was fundamentally an exploited and therefore clean forest"<sup>3</sup>. While it is transformed into a gigantic *pare-feu*, it is our right to interrogate the future condition of the mediterranean woodland as a socio-cultural and economical object. Its reactivation is inescapable, and it is necessary to reconsider fire-fighting strategies as well our perception of wildfires, as a scourge that should be eradicated at all costs.

Fires are a necessity of the mediterranean ecosystem and its control stems from an unreachable wish. "It would, with no doubt, be more rational to admit that fire is an ancient reality we must cohabit with"<sup>4</sup>. It would not mean to let burn the forest, but to see an opportunity to place forest activities and communities back as the main actors of fire protection. "Less exploited than before and therefore more subject to wildfires"<sup>5</sup>, densifying the forest seems to play a major role in the forest socio-economic reactivation. To build tomorrow's solutions, one must explore places of densification in order to avoid the spread of urbanised areas. Moreover it would allow to re-think existing places and move towards a "genuine rehabilitation of the mediterranean forest by giving it back a truly contemporary economical function"<sup>6</sup>.

In the search of a new paradigm for the forest, this hypothesis claims the act of gathering would not only lead to social dynamism, but to rethink existing places as a source of an economical and agricultural enhancement.



Map 1. Abstract representation of the territory



LE MUY

VIDAUBAN

LE PLAN DE LA TOUR

FRÉJUS

SAINT- RAPHAËL

ES MAURES  
LA GARDE FREINET

SAINTE - MAXIME

GRIMAUD

COGOLIN

SAINT-TROPEZ

GASSIN

RAMATUELLE

CAVALAIRE

## 2

# *From the Maures to the coastline*

Detached from Provence by agricultural valleys and facing the coasts, the massif is stretched from east to west. It is compact, stocky and stands up to 800m at its highest point, like an island. Since the IXth century, the condition and usage of the forest changed dramatically due to population movements. Once characterised for its protective and production purposes, it is today disregarded in favor of the coast where northern tourists arrive in mass as soon as the first days of June shine.

In this chapter the reader goes through the various phases which greatly affected the condition of this territory. The following narrations and events try to define the condition of the place, talking about its people, their traditions and actions. More importantly, exploring the past is an unavoidable step to analyse and criticise the present status of the massif des Maures.

> **Img. 1.** View from Ramatuelle.

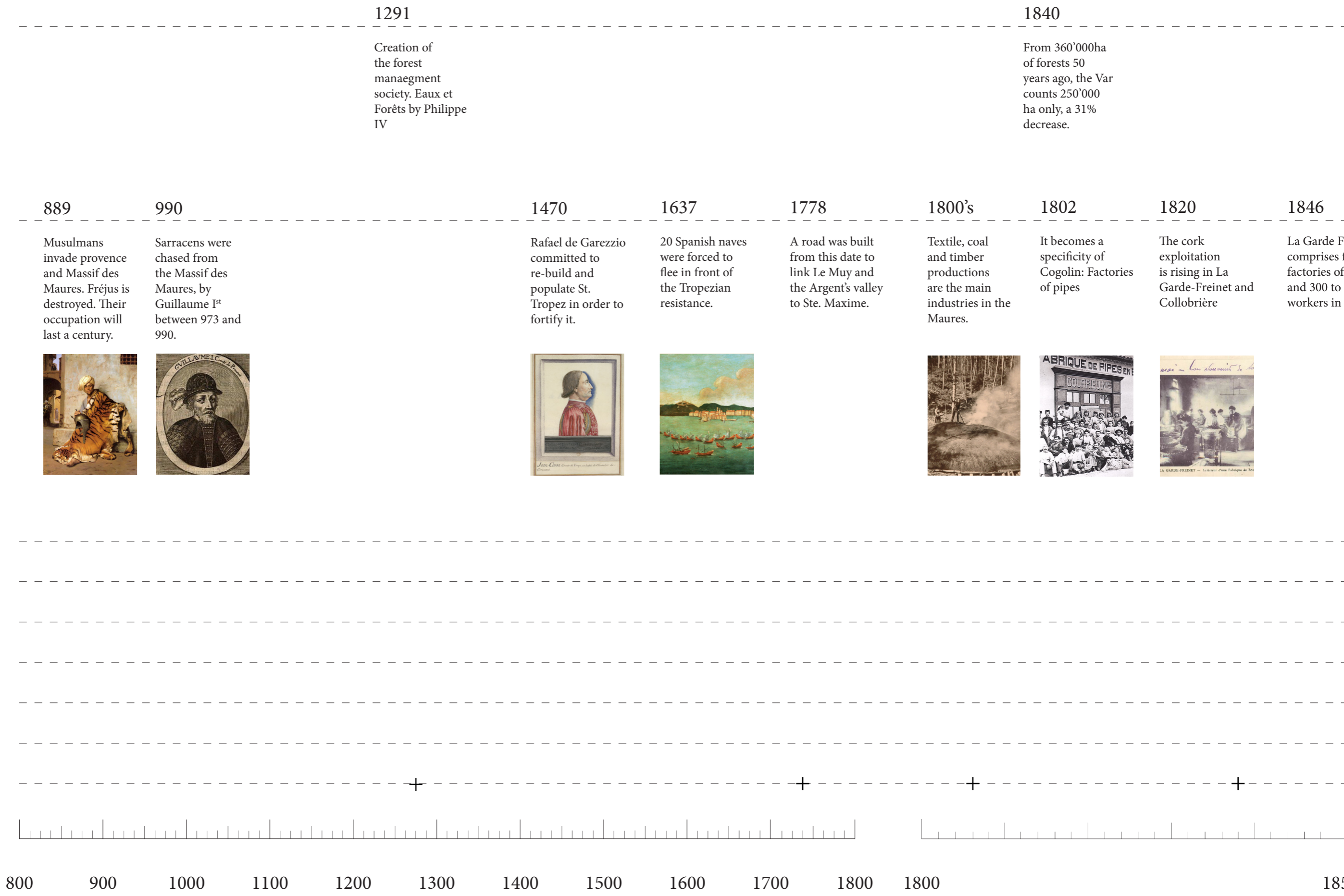




History of wildfires

History of the Maures

Wildfire events (ha)



889

Musulmans invade provence and Massif des Maures. Fréjus is destroyed. Their occupation will last a century.



990

Sarracens were chased from the Massif des Maures, by Guillaume I<sup>st</sup> between 973 and 990.



1291

Creation of the forest managment society. Eaux et Forêts by Philippe IV

1470

Rafael de Garezzio committed to re-build and populate St. Tropez in order to fortify it.



1637

20 Spanish naves were forced to flee in front of the Tropezian resistance.



1778

A road was built from this date to link Le Muy and the Argent's valley to Ste. Maxime.

1800's

Textile, coal and timber productions are the main industries in the Maures.



1802

It becomes a specificity of Cogolin: Factories of pipes



1820

The cork exploitation is rising in La Garde-Freinet and Collobrière



1846

La Garde F. comprises factories of and 300 workers in

25'000  
20'000  
15'000  
10'000  
5'000  
0  
n.a.

800

900

1000

1100

1200

1300

1400

1500

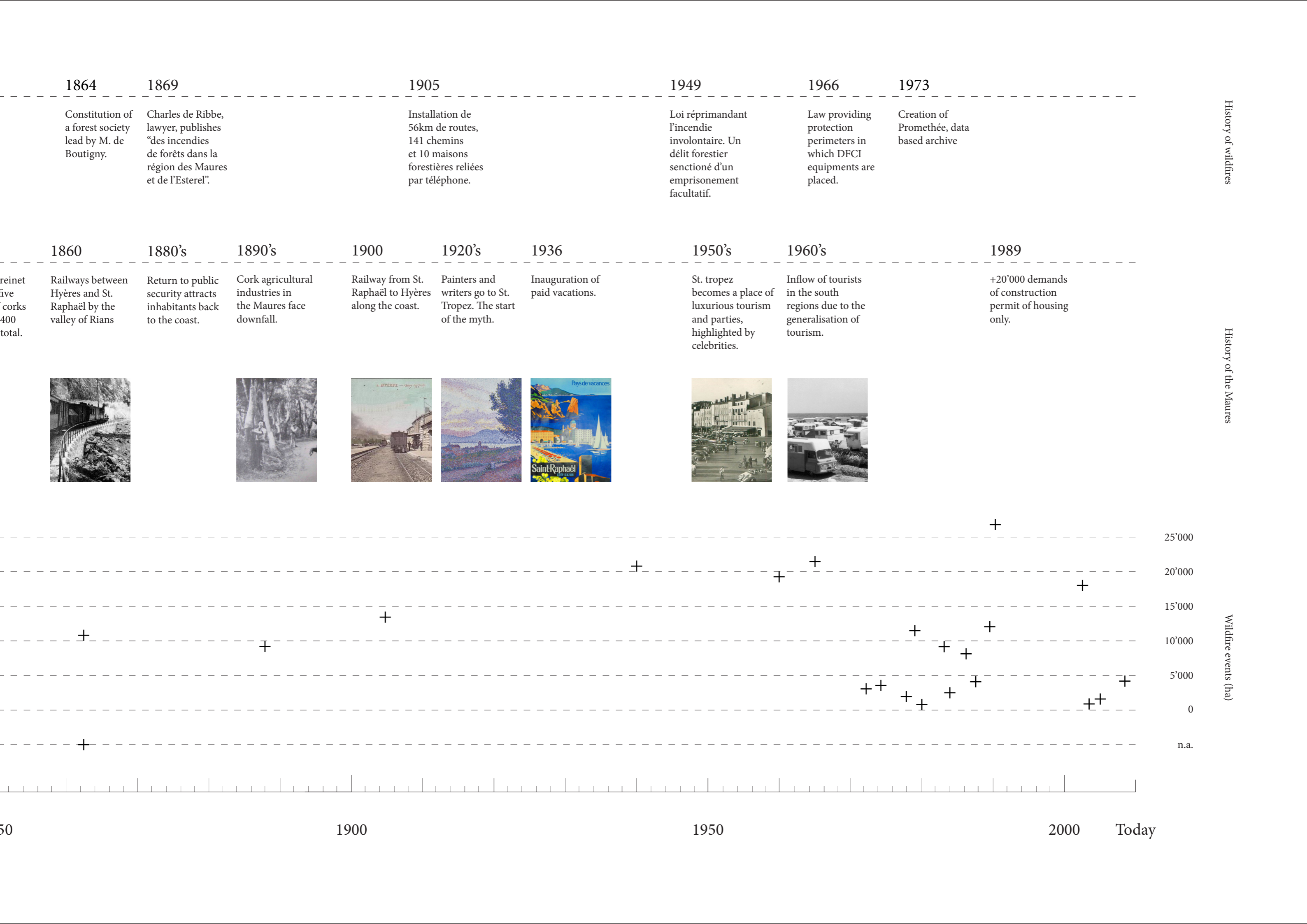
1600

1700

1800

1800

1850



## 2.1

### *Maritime terror*

“All, looked up, on their mountain, a refuge against pirates, the eternal enemies”

FONCIN Pierre, *Maures et Esterel*, pp.70-77,1910.

The Maures' territory has been profoundly affected, throughout its history, by various foreign invasions. Invasions that did not come from the lands (too difficult to access) but from the sea. These assaults forced the local population to find refuge in the forest's height, moving away from the insecurity dominating the coast, between the VIIIth to the XVIIth century.

In the VIIIth century, Sarrasin's troops invade the provencal shoreline and take possession of the Maures' territory for nearly a century. After ravaging coastlines, notably Fréjus and its port, they move away from the shore (too difficult to defend), and “debark in Grimaud's Gulf, protected by its hemicycle of natural remparts”<sup>1</sup>. They establish in the heights of the mountains, fortresses, with the most important one situated in La Garde Freinet. They become strategic military points in the middle of a dense vegetation and a steep terrain, overseeing the shore's plains. They are still there today, the remains echoing foreign invasions, that deeply contributed to the present condition of this territory. “It is not implausible they introduced Alep pines, various vines plants”<sup>2</sup> and others animals, still present in the region. They are expelled by military French troops, during the late IXth century. The maritime terror is however not abolished and foreign assaults maintain the shoreline's insecurity.

The fear of the coastline obliges the inhabitants to take refuge in the forest heights, and to reuse the ancient Sarrasins fortresses whilst turning them into villages. This is the case for Ramatuelle, Gassin, Cogolin, Grimaud and Roquebrune, each of them built on mountains peaks, overseeing uncertain plains and the mediterranean horizon. “All, looked up, on their mountain, a refuge against pirates, the eternal enemies”<sup>3</sup>. A system of prevention is put in place. Lookout towers are built to perceive foreign ships and fires are lit up to alert the community. In contradiction to forests localities, centers near the coast had to stay under a constant alert. They are anyway a minority or abandoned, the only exception being Saint-Tropez, thanks to its citadelle and its war port (Img.2), which offers resistance to Spanish and Turkish fleets, who, until 1637 tries to penetrate a well defended Gulf.

The proliferation of villages and the repartition of their population towards mountain heights, define the first condition of the forest which is to offer protection. It gives a natural shelter to indigenous communities looking to move away from the shore's danger. Thanks to their collective discipline, their fortified walls and their geographical position, villages as dispersed citadelles, resist to Arab and Turkish assaults until the end of the XVIIth century, which set the end of a period coastal insecurity.

It is a territory where the population learned to adapt to a dense forest, where vegetation shades only highlight the uncertainty of this area. Its name even stems from this origin. The maures mountains (li montagno mauro) derives from a popular language describing black forests (montagnes noires) in relation to its appearance. Despite an enigmatic aspect, local populations had to look for solutions to inhabit such a territory, exploiting its resources and controlling its flaws during centuries.



## 2.2

### *Merchantable forest*

The ‘ancient forest’ condition, usually inhabited by modest villages and religious institutions, yield to the first financial market calls in the early XVIIth century. It develops and foresees the economic potential of its natural resources. “The progress depended on the rational exploitation [...] of timber, in an objective of production and profit”<sup>4</sup>. In the isolated mountains of the Maures, the forest hamlets exploit the cork, synonym of the socio-economic transition of this provençal territory.

In the early XIXth century, the exploitation of cork is still very limited. Industries of textile, flowers and vines are dominating the region during this period. The forest is a solely a source of timber for charcoal. It is only from 1830 that the exploitation of cork for the production of stoppers start to emerge. Thanks to their geographical position, villages of the interior can harvest a valuable tree.

The countryside opening and development of circulation networks in south of France, allows the cork industry to reach its paroxysm in the 1860’s. It modifies the spatial organisation of the region. Villages of the periphery do not exceed 50 to 100 workers whereas the ones in the center continue to rise, and affirm themselves as the main producers of the area. This is notably the case for La Garde-Freinet and Collobrières.

Populations of these new centers rise rapidly due to growing need of labour. In the summer, men are sent to the woodlands to strip the bark off trees and maintain the forest, while women work in the factories on the meticulous fabrication of stoppers. “The fast development of a feminine proletariat causes in the mediterranean village communities a real socio-economical and cultural change”<sup>5</sup>. The large financial benefits modify the physical aspect of these former hamlets. Large landowners built their residences and villages are restored thus improved. In 1835, Garcin talks about La Garde Freinet and agrees that “its aspect was miserable and its inhabitants were poor”, whereas today “large and straight streets, bordered with decent looking houses and four fountains [...] makes it a nice stay”<sup>6</sup>.

The exploitation of cork, only rises the forest marchandale value. In the second half of the XIXth century, efficient and coherent ways of exploitation should be found to optimise the economical benefits and perpetuate the economical ascension of forest villages while avoiding natural risks which could lead to a financial decline.

**Fig.1** Population growth, 1836-1876.

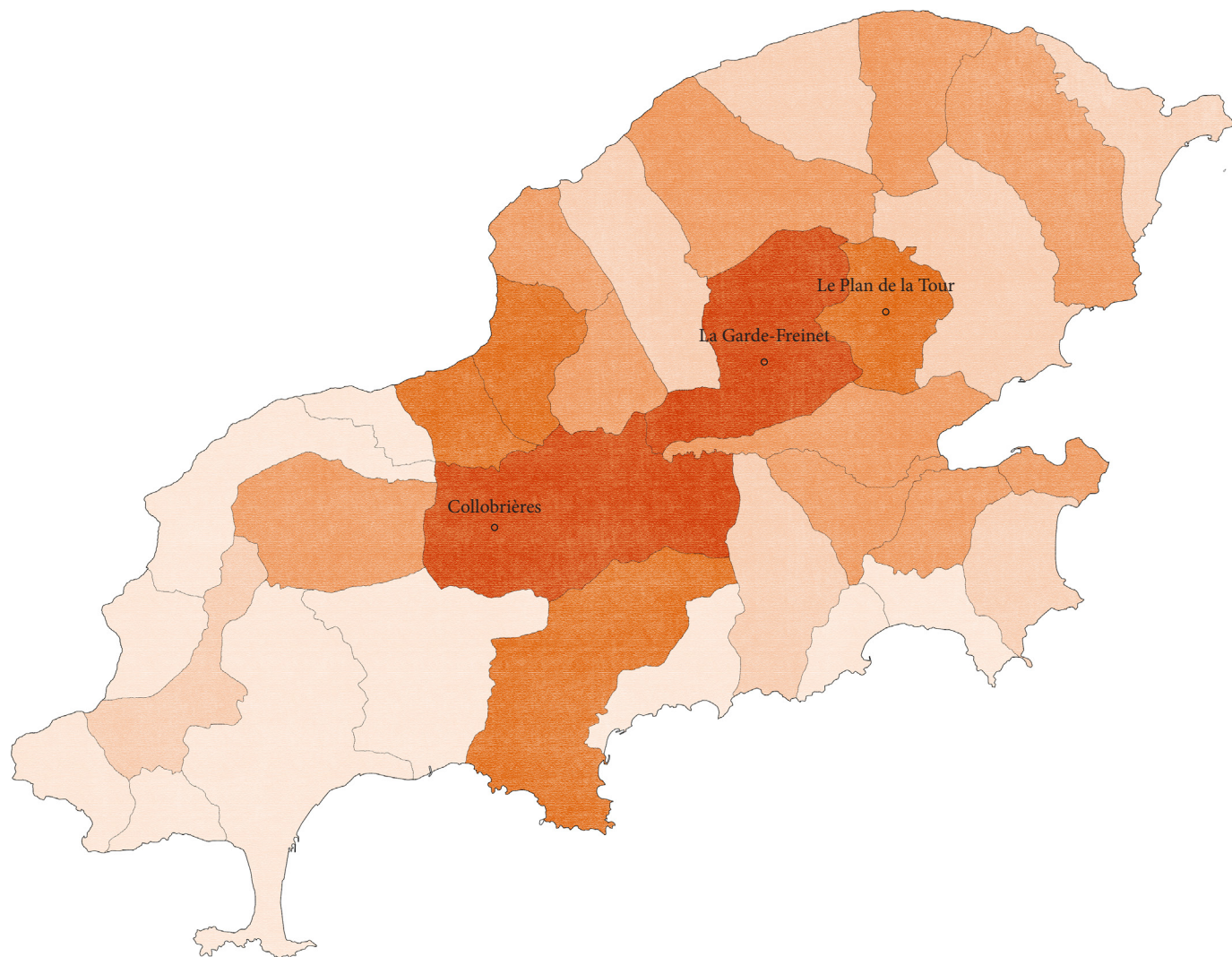
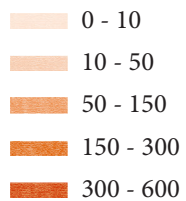
Source: Archive départementale du Var (série M2)

	1836	1876	%
Collobrières	1'800	2'400	+33
La Garde-Freinet	2'400	2'600	+8
Le Plan de la Tour	1'100	1'450	+31

**Img.3** Women in the triage room.



Numbers of *bouchonniers*:



**Map 2.** Main centers of cork production, 1856.

1.500'000



Source: Archive départementale du Var (série M)

## 2.3

### *Rise of a wildfire's notion*

Forests suffered the burns of summer flammes long before the invasion of men. As well as being indissociable to the regeneration of woods, fires are (still today) also used for agricultural purposes. However, at a moment of cork's exploitation ascent, appears a notion of environmental vulnerability. "Fire is henceforth perceived as a economical danger that must be limited"<sup>7</sup>. The change of collective mentalities leads to the rise of a specific discourse about wildfires in the massif des Maures.

Agricultural practices, such as stubble fires or taillades use fires to clear the maquis at low costs. These paysans practices are hereafter considered as 'archaic' and 'undereducated'. They constitute a significant risk in a region where wind and droughts only accentuate paysan malwares. Listing these 'new' risks allows one to understand their provenance, mostly coming from agricultural actions.

Land owners, localities, Eaux et Forêt's institution and Charles de Ribbe - Provençal lawyer who plays a significant role in the protection of woodlands against wildfires- support the introduction of a new methodology. As said by Martine Chalvet, they suggest the implementation of a protective road system, water points inside the forest, undergrowth clearing, compartmentalizing the woodland with the help of pare-feu and even the introduction of less flammable vegetation, instead of current resinous woods<sup>8</sup>. All these methods echo a national management no longer adapted to the specific condition of this territory.

In 1869, Charles de Ribbe not only supports the protection of a financial potential, benefiting the local life, but fights for the recognition of provençal laws, not inscribed in universalist methods of bureaucratic sylviculture. In their minds, we assimilate woods and bushes of provence to the woods of Boulogne and Fontainebleau"<sup>9</sup>. These methods are however rarely used due to high charges.

It is only a century later, at the dawn of a territorial shift, that these actions are applied, due to the introduction of specific regional regulations but also to the improvement of technical means.

Img. 4. Cork trees forest.





**TELEGRAMME OFFICIEL**


~~TELEGRAMME OFFICIEL~~  
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Indications de réception. \_\_\_\_\_

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A DÉCHIRER

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<i>Alaudelator</i>	<i>sans no</i>		<i>22</i>	<i>10 heures</i>	
<p><i>le feu ayant été arrêté à l'entrée du plan  de la tour les renforts de troupe demandés  ne sont plus nécessaires un détachement a été  demandé par le maire à la place de Béjus</i></p>					



N° 700 bis. — 1/24<sup>e</sup> 046 c ; usage — J. 20120-32.

Img. 5. Reporting from fires, 1937.

## 2.4

### Coastal urbanization

While the territory faced the mountains and turned its back to the sea, the XIXth century witnesses a spatial shift of the territory. New ways of circulation and the return of the coastline safety brings the populations down to the shore. The territory embraces, again, the horizon and disregards an agricultural yet traditional life which might have become obsolete.

In 1860, the new P.L.M. railway bypasses the Maures through the main agricultural centers in the permian depression, to link Toulon and Saint-Raphaël. Thirty years later, a minor railway also connects the two cities, this time via the coast, opening up the access to the shoreline. These recent circulation works give local industries a greater exportation potential which they can benefit from, for twenty years. After that period, industries face competitive markets coming from neighbouring countries, limited resources and an industrialisation of techniques which reduces the number of labour. Cork exploitation, like the wine industry and other agricultural activities collapse, whereas the financial value of lands near the coast and new routes, rise rapidly.

The opening up of the shoreline causes drastic changes in the population and tenure repartition of the territory. Speculation of coastal lands attract foreign investors who “were able to buy and regroup vast properties ensembles”<sup>10</sup>. They invest along the major ways of circulation and makes the coastal villages new hubs of activities. A rural exodus is observed and coastline villages witness a fast population densification in the early XXth century. Other villages, situated in the heights of the plains do not experience the same fatality as the ones in the woodlands, too far away from the new flux. Like Ramatuelle or Grimaud, they “maintain a stable population thanks to the agricultural intensification and industrial improvements”<sup>11</sup>. Like the later villages, the territory experiences a transition of change which interrogates the durability of a traditional and ageing industry that is no longer adapted to the current needs.

This new territorial orientation forces industries to adapt. Three types of commerces rise: tourism dominates the shoreline and attract a new clientele; a specialised agriculture illustrated by a highly sophisticated exploitation of vine plants, and a high end marine industry located in Toulon and Saint-Tropez, which provide a great number of jobs. Tourism seems to however be the main economic revenue for the region, using the coast as the main point of gravity.

Renown for its lucrative exploitations, the forest, isolated from the circulation corridors faces an important depopulation. Farms are abandoned and left to returning wildfires that come back to haunt an under maintained forest. Forest civilisation slowly dies for the benefit of the tourist attraction on the shores. It interrogates the current condition of the massif, which become spectator of the coast and its communities, who easily forgot the one who protected them during centuries from maritime attacks.

**Fig.1** Demographic moves, 1850-1950.

Source: Juillard Etienne, *Le Var et les Maures*, p.60, 2015.

	1850	1950	%
La Garde-Freinet	2'500	1'000	-60
Ramatuelle	600	700	+16
Saint-Tropez	3'500	5'700	+60

La Garde Freinet witnesses a demographic decline of common to forest villages. Localities in the plains like Ramtuelle do not face drastic changes, while coastal towns like St. Tropez face a population boom from tourism and a new industrial phase.

**Fig.2** Cork industries' decline. Numbers of bouchonniers. 1861-1931.

Source: Archive départementale du Var (série M2 et 16 M1)

	1861	1931	%
Collobrières	420	60	-85
La Garde-Freinet	600	90	-85



Legend

- Roads
- Trains
- Urban Zones
- Agriculture



**Map.3.** *Urban and agricultural dev*

1.50



Sou



Development, 1820 (left) to 1950 (right)

0'000



Source:

## 2.5

*Contemplative forest*

“What are the Maures today?  
[...] a chain of more or less  
abandoned mountains  
surrounded by a carnival  
belt”

REZVANI S., *Divagation sentimentales des  
les Maures*, p.26, 2001.

Renown for its protective condition and agricultural prosperity, population flows have changed the mountains condition. A new cycle begins where the territory acquires the shores and disregards its center. Which role do the Maures play today? According to Rezvani the condition of the forest resembles “a chain of mountains more or less abandoned surrounded by a carnival belt”<sup>12</sup>.

From Marseille airport to Nice côte d’Azur, tourists fluxes follow the shores to go through a succession of towns and seaside resorts (fig.1). As a rock in a watercourse, the Massif des Maures diverts roads from the sea for a few hours, time to go through the immense linear town which link Hyères to Saint-Raphaël. The massif becomes a granite barrier which makes it difficult to access the coast, and gives to Maures’ plains and shorelines a notion of scarcity. In contrast to regular French mediterranean litorals, the Maures’ have yet succeeded to preserve a wilderness and avoided grand urbanistic works similar to Nice, Cannes or Toulon. Accessing Maure’s beaches and villages becomes a scarce reward, and this is why the region is so touristically attractive.

Economical inflation of lands have transformed previously cultivated grounds into swimming pools and gardens, scattered around the forest. To describe the emerging phenomenon of land speculation on forest lands, Charles de Ribbe describes “the civilised man’s hand as an oeuvre of destruction in front of which the one from the barbarian backed off”<sup>13</sup>. To dispute the real estate pressure, the state has designated protected natural areas which paradoxically friezed the forest where no one could utilize it.

The forest is monumentalised. It crystallises a past where ruins and castles serve as reliques. The woods turn into a museum, spectator of an urban belt where tourism and agriculture in plains, suggest a pleasant life and fast enrichment that the levage of cork and chestnuts harvest can not relate.

The territory has two opposing faces, one is forced into isolation and progressive abandonment, whereas the other is exposed, constrained to host a maximum of foreigners. As fires interact with inhabited zones, it is crucial to investigate the influence of forest fires onto urbanised territories to understand the spatial and temporal ambivalence of the Maures’ region.

**Map. 4.** Infrastructure distribution, Côte d’Azur.

Source: Geoportail.fr

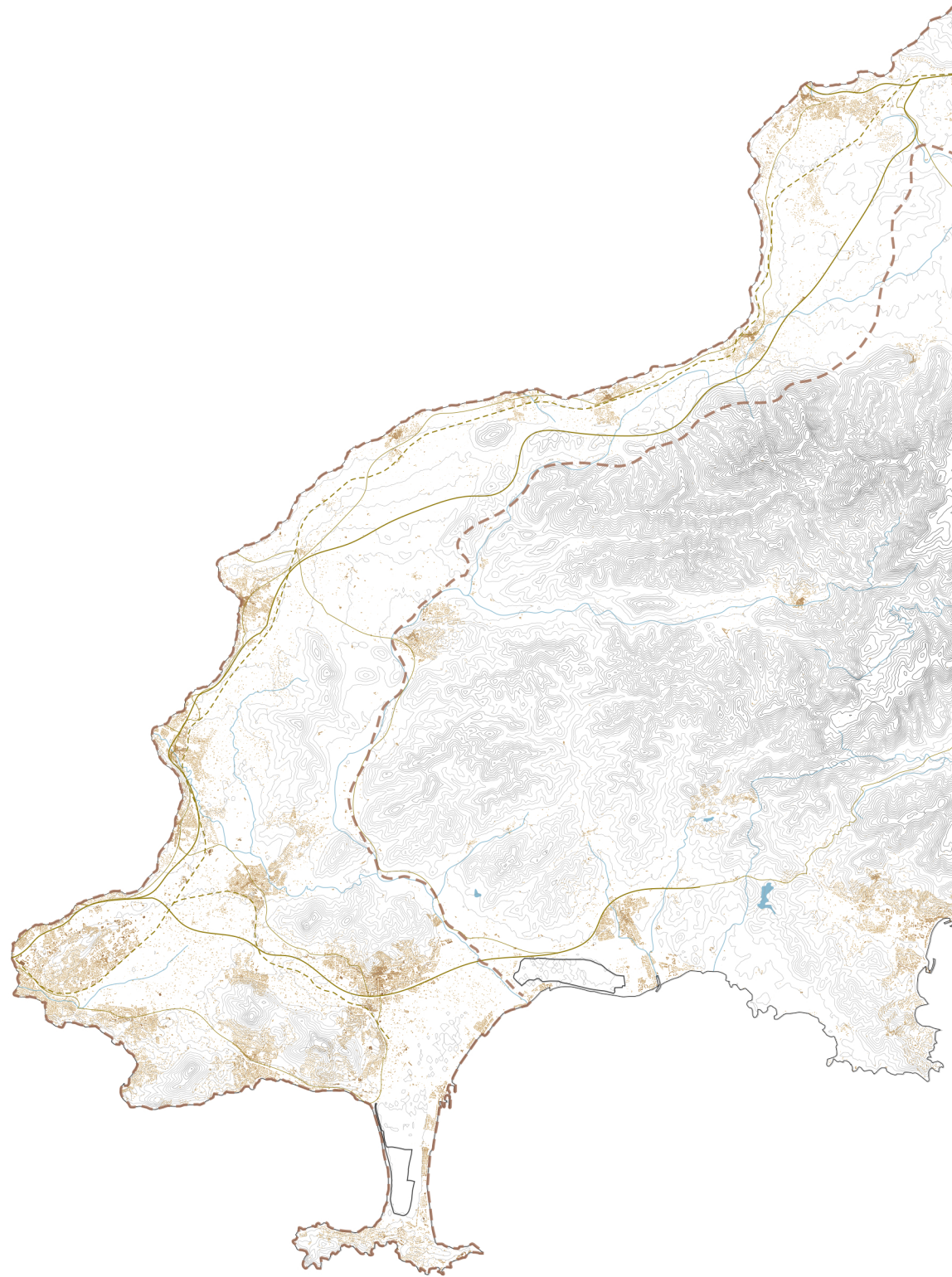


> **Img. 6.** Aerial view of Sainte Maxime.



Legend:

-  - Highways
-  - Roads
-  - Trains tracks
-  - Settlements
-  - Linear City
-  - Hydrography

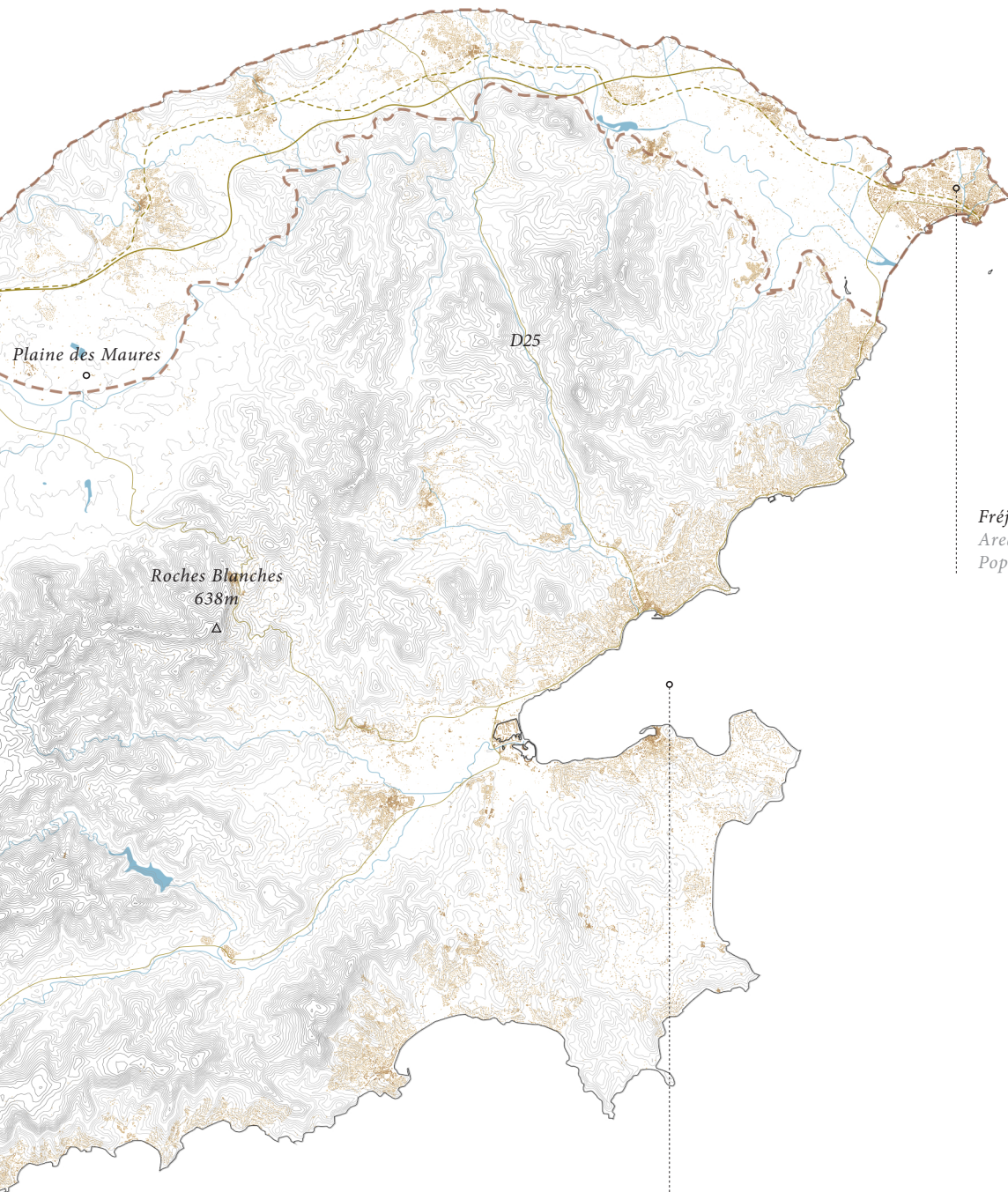


Map.5. Conte

1.30







*Fréjus/ St. Raphaël*  
 Area : 191 km<sup>2</sup>  
 Population: 89'362

*Golfe de Saint-Tropez*  
 Area: 167 km<sup>2</sup>  
 Population: 35'324  
 Tourist frequentation (2012): 1'200'000

*implative forest.*

0'000

20

40 km

## 3

## *Seasonal dichotomy*

The Maures' region experienced a fast urban sprawl as well as a rural exodus that ultimately caused a territorial imbalance between the center and its periphery. Three centuries ago, inhabitants lived off the forest's natural resources and the coast was deserted. Today, the shore is urbanised in favor of the summer touristic economy and welcomes more than 6 millions travellers every year. As in the days of the forest's vulnerability, the coast is now exposed to the risk of a new 'Great Fire'.

Mostly occurring during summer droughts, demographic changes produce a temporal condition specific to the Maures, which wildfires only highlight. This seasonal dichotomy interrogates the spatial organisation of *pare-feu* methods, their implementation and their impact on the territory.

In this chapter, wildfires are used as a new reading of the territorial composition during the various seasons, mainly characterised by a protected periphery and a center witness of preventive methods.



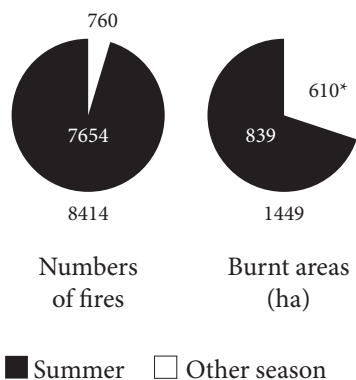
### 3.1 Summer paradox

While “90% of wildfires are linked to human activities”<sup>1</sup>, the Var region strives to attract more tourists in a constantly threatened area. Whether they are economical, ecological and even human, these consequences define this summer paradox.

The Maures territory depends on touristic industry that became the first source of revenue. The multiplication of hotels, camping sites and leisure activities promote the abundance of travellers. The real estate pressure encourages owners to sell their lands to seasonal residents who slowly spread on forest grounds exposed to fires risks. These new inhabitants, despite strict laws of land clearing, cannot carry out the same work, formerly performed by farmers. Beside private investors, who benefit from the financial potential of the region, the Var invests in 2015, 26% of the regional investment effort (350 millions euros)<sup>2</sup> to welcome more travellers in a region that sees fires’ risks rise as soon as the summer season begins.

**Fig. 1.** Fire statistics between summer and other seasons, Massif des Maures, 2007-2017.

Source: Prométhée.



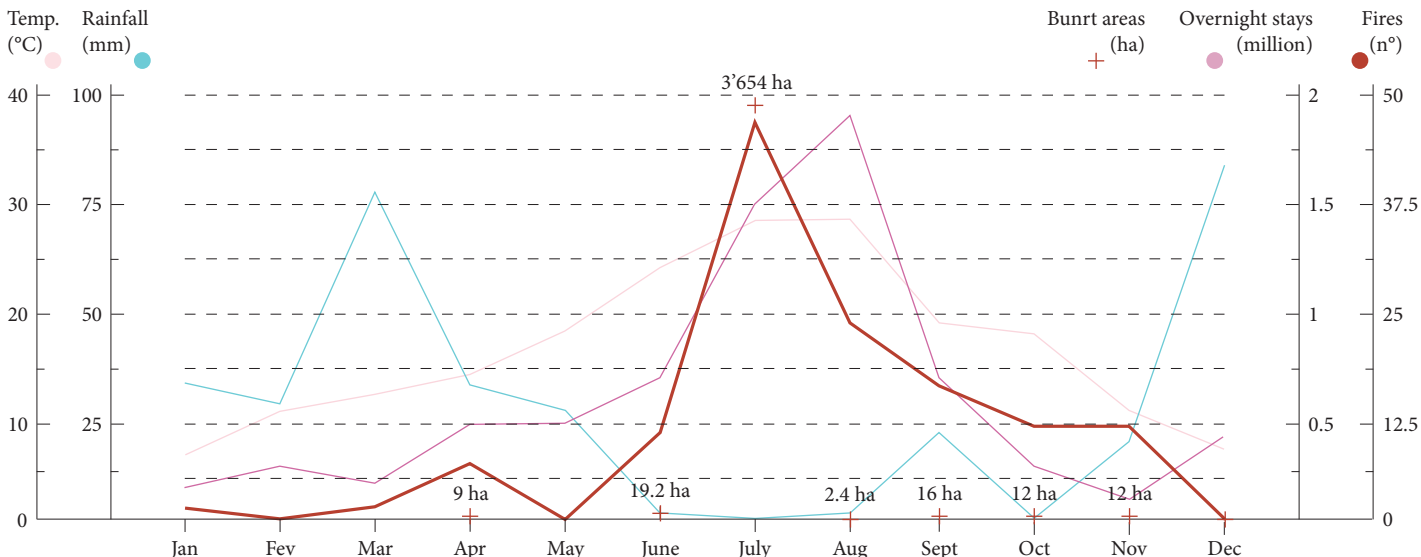
\* agricultural fires are used to clear the forest. They are included in Prométhée data base. If burnt areas would only be caused by human malware the ratio would be more similar to the number of fires.

A vast majority of fires are located near coastal urban zones and the main axis of circulation. These fires are however quickly neutralised by fire fighting services and do not cause significant damages. The ‘Great’ fires mostly appear in sparsely populated forest areas or on coastal village edges, between the forest and residential areas. These zones require great financial support by the region in order to strengthen preventive methods against fires. “ In Draguignan, an army of fire [...] as well as a technological blister was put in place”<sup>3</sup> to fight wildfires. The region cannot risk fires to spread in urbanised areas, they put in place necessary infrastructures and protection services to avoid consequences. Other than huge financial efforts, the consequences of fires are sometimes catastrophic. Human losses are recurrent during the events of a ‘Great fire’. Fire-fighting services engage in a battle with significant risks, and human losses became frequent, where before “fires had little influence on exploited lands and fire rarely caused victims”<sup>4</sup>.

The summer risk and the different nature of wildfires interrogate on the application of fire-fighting methods on the whole territory, between a populated yet vulnerable belt in an isolated and flammable forest. Wildfires offer a new reading of the massif des Maures and redraw its limits.



**Fig. 1** Climatic, demographic and fire data in the Var, 2017.

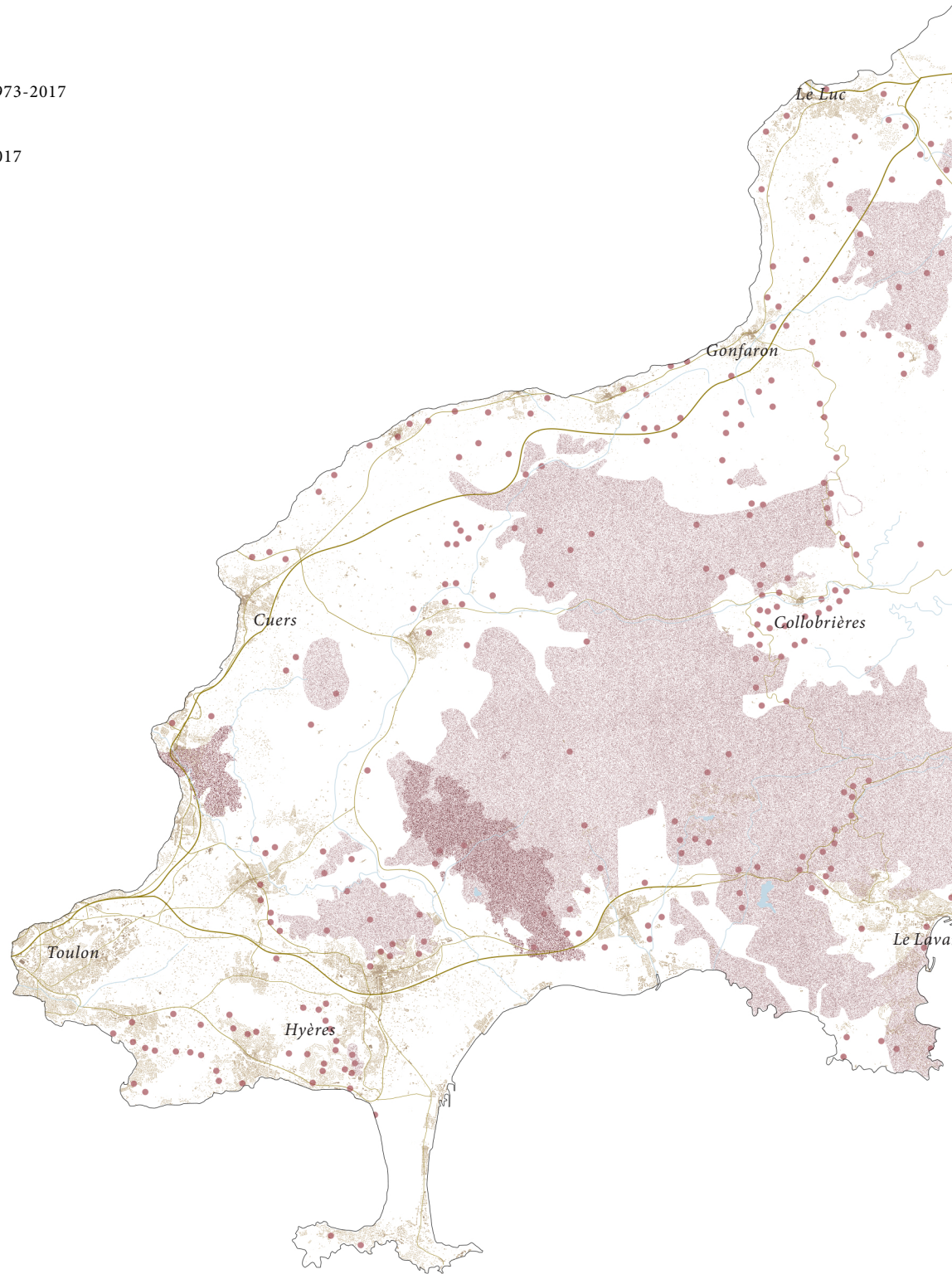
Source: MeteoFrance, Prométhée, tourismepaca.fr





Legend:

-  - Highways
-  - Roads
-  - Burnt Areas 1973-2017
-  - Burnt Areas 2017
-  - Fire event
-  - Settlements
-  - Hydrography



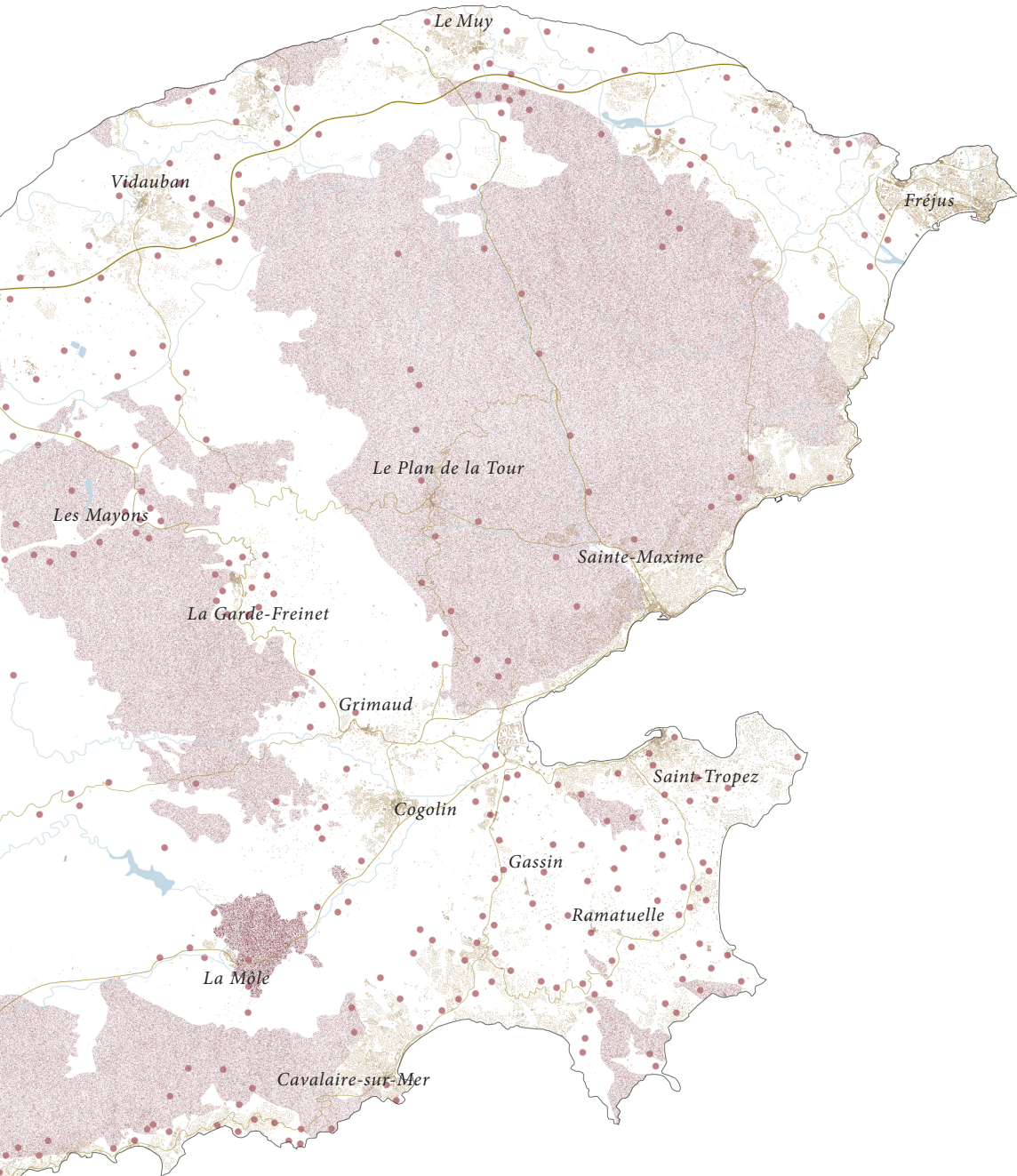
Map.6. Burnt areas and fire events

1.30



Img. 2. Feux à La Croix-Valmer. (photo by Boutria Luc)

Source: Pro...



ndou

number of fires, 1973-2017.

0'000

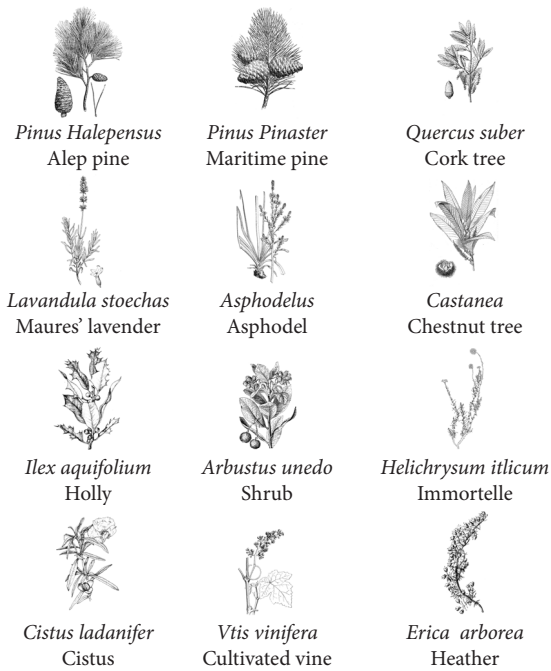
20

40 km

## 3.2 Periphery and center

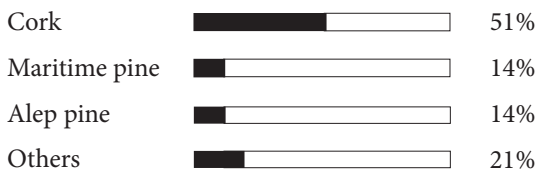
**Fig.1.** Plant variety

Source: Foncin Pierre, *Les Maures et l'Esterel*, 1910



**Fig.1.** Vegetation cover

Source: Foncin Pierre, *Les Maures et l'Esterel*, 1910



**Img. 3.** Aerial view of shore.

(Photo by Collin Mathieu)



The majority of burnt areas appear in the forest cover, creating a territorial ambivalence between the centre and the periphery. In the search of a new reading of the territory, what factors affect the application of fire-fighting methods and how do they adapt to the conditions of both periphery and the forest in summer months?

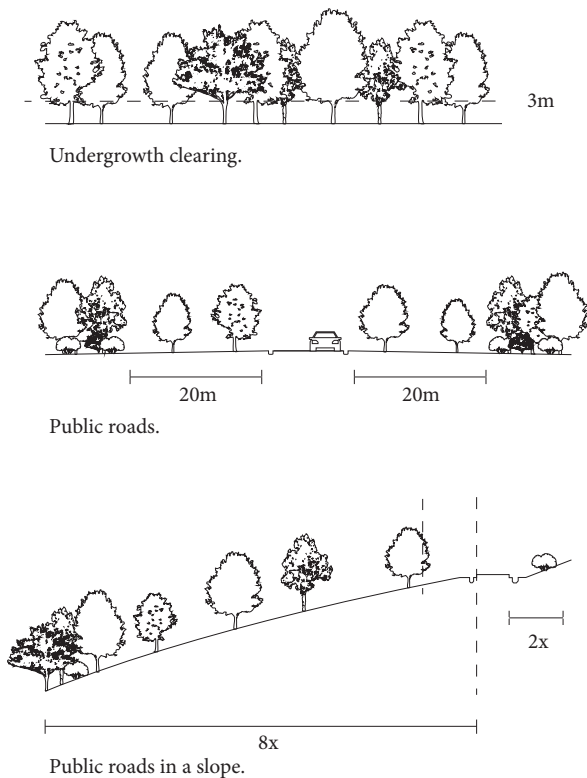
Studying the wildfire phenomenon engages a new reading of the territory and what constitutes it. Firstly, the notion of limit seems to be redefined. “Environmental risks ignore political frontiers and administrative divisions”<sup>5</sup>. Fires draw new boundaries. They are no longer mental lines, synonym of legal separation, but physical, outcome of the natural state of the territory. In the case of fires, limits are thus defined by the combustible and topography, which leads to a division between periphery and center.

Synonym of combustible, vegetation appears as central, in the phenomenon of wildfires. On the craggy rocks of the shores, they raise themselves numerous maritime pines and Alepp pines. The periphery is however renown for its cultures of flowers, potatoes and corn, as vine remains the main agricultural exploitation. They do not constitute a real danger regarding fire propagation risks. When it comes to entering Maures siliceous lands, the vegetation mutates in a dense forest, covering the majority of the territory. In the shadows of cork and pine trees, we perceive the maquis. A receptacle of provençal, thorny and flammable plants such as the cistus, holly, juniper and heather. “If there was only cork trees in the forests, wildfires would be impossible”<sup>6</sup>, in contrast to pine trees and undergrowth which burn easily. In the summer timeframe, fires driven by winds, solely follows flammable lands, no matter their appartenance.

Other factor that influences the management of fires, is the notion of property. 80% of forest lands belong to private owners. Like the public and domanial areas, private grounds are subject to common laws concerning the protection against fires. Indeed, the action of fire oblige forest localities to share a collective methodology. Despite efforts from institutions, the touristic and residential attraction of these zones is too big. For the last twenty years, isolated secondary homes raised as a consequence of the summer touristic affluence on the shore.



**Fig. x. Schemataic section of fire-preventing methods.**



**Img. 4. Maures forest.**  
(Photo by Morand Patrick)



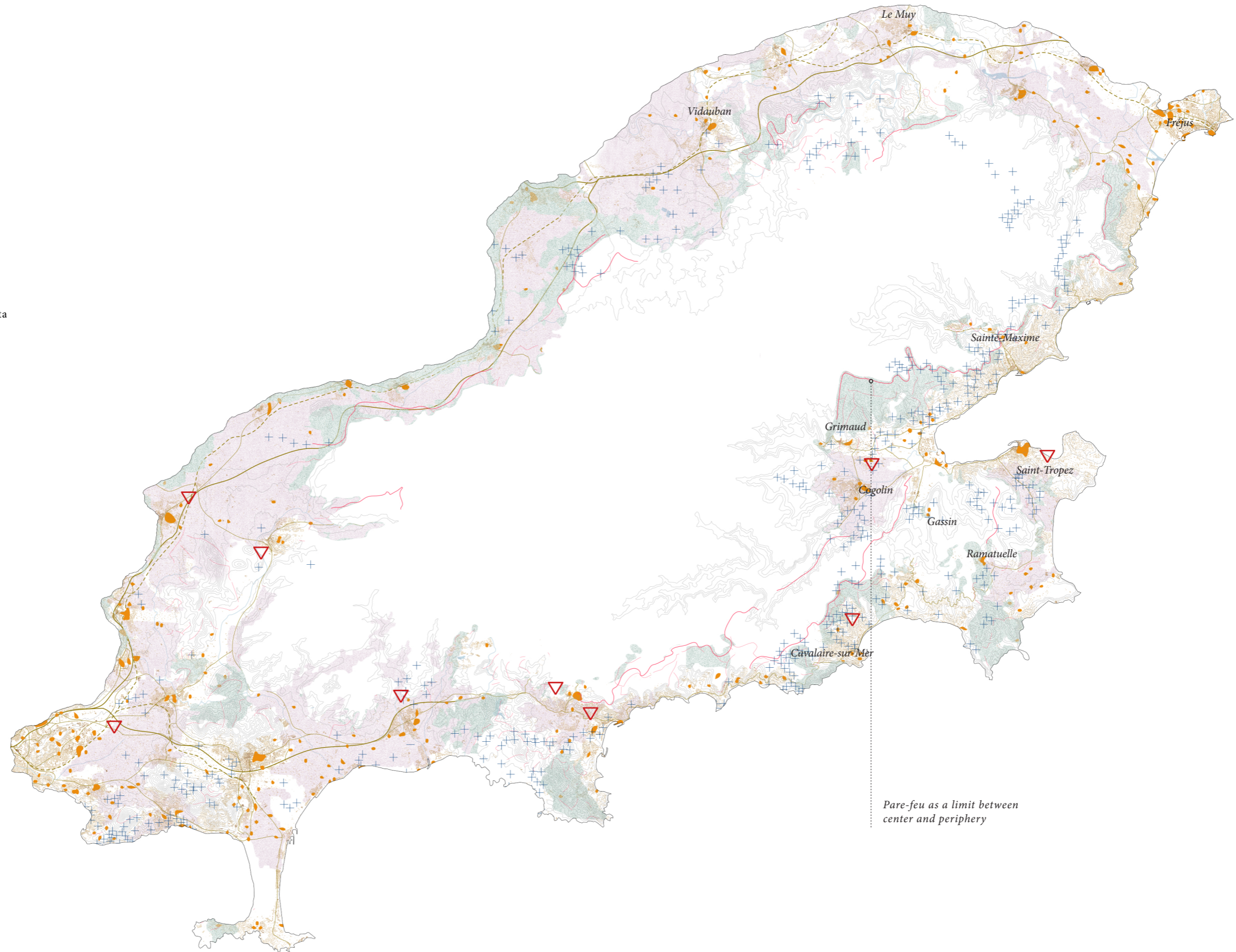
Territorial ambivalence between the periphery and center is highlighted by the seasonal dichotomy, result of a rise of tourism on the coast. The multiplication of leisure activities, camping site and hotels near the main axis of circulation drag a great number of fire alerts. Visitors population is not as important in the forest. Just a few residents come to inhabit their homes for a few weeks in hope to avoid the event of a wildfire. Then, how has this organised the management of fire-fighting devices? Is it the same in the woodland and the periphery, if so how does it adapt to the travellers abundance?

The shore becomes vulnerable. Similarly to the time of economical rise of the forest, the blaze risk on coastal grounds is not an option for the region. The material, economical, social and human consequence would be too important. The coast is therefore surrounded by numerous pare-feu trying to contain the urbanised zones. Moreover, the various roads allow a faster intervention by firefighters, many of whom are located on the periphery. The great amount of fire hydrants acts as a symbol of an instant fight. Protection is the methodological approach on the periphery and differs with the forest where preventive infrastructures are preferred. They include the undergrowth clearing, the planning of DFCI paths, pare-feu and lookout towers. Their common objective is to avoid the propagation of fires. The various DFCI paths allow an easier access to fire-fighting services whereas pare-feu are large combustible cuts. Longer than twenty meters, the vegetation is cleared away to avoid the spread of blazes. The clearing of the maquis is a major stake to prevent from wildfires. The planning of water points, reservoirs and lookout towers complete the organogram of preventive infrastructures. Their application is the result of an annual commitment from many individuals.

The methodological approach contains the shore's territory inside a protective belt which define a physical frontier between urban zones and the woodlands. While the periphery is highly protected, the preventive devices witness a landscape framing, leading to social, economical and industrial consequences. These define the mutation of a forest towards a museum, an isolated object.

Legend:

-  - Highways
-  - Roads
-  - Trains tracks
-  - Private Forest
-  - Agriculture
-  - Fire Fighter Sta
-  - Leisures
-  - Settlements
-  - Hydrography
-  - Pare-Feu
-  - DFCI Path
-  - Fire Hydrants

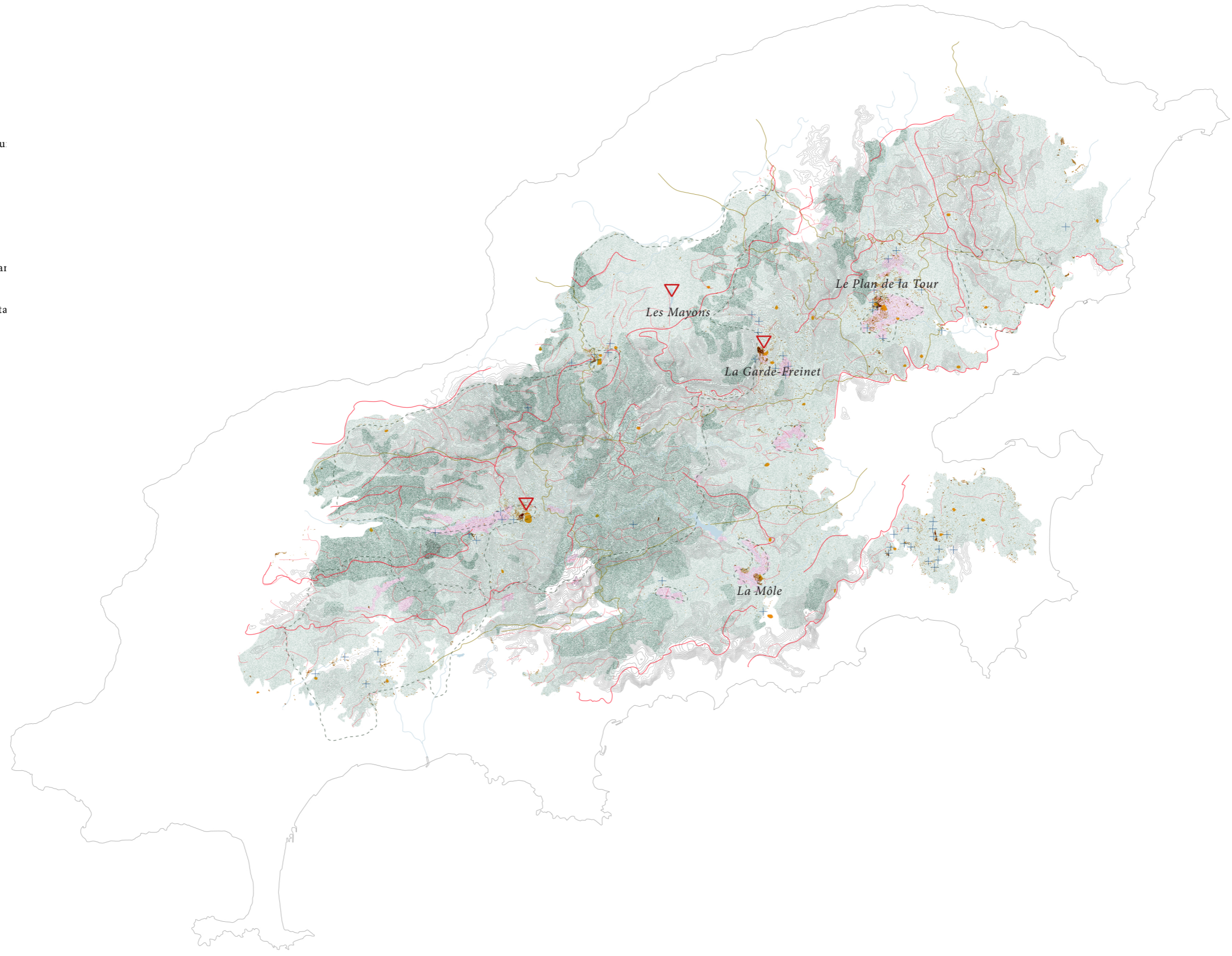


Map 7. Periphery

1.300 000



-  - Roads
-  - Protected Natu:
-  - Private Forest
-  - Public Forest
-  - Argiculture Lar
-  - Fire Fighter Sta
-  - Leisures
-  - Settlements
-  - Hydrography
-  - Pare-Feu
-  - DFCI Path
-  - Fire Hydrants



Map 7. Center

1.300 000



### 3.3

## *Winter, the act of framing*

“The preservation of forests through the exploitation of their natural resources would have been far less ruinous and deeply life giving”

Rezvani Serge, *Divagation sentimentale dans les Maures*, p.64, 2001.

The summer season witnesses to the intense battle against fires, and interrogations on prevention and reconstruction techniques arise. What can we do after a fire, and should we build more infrastructures to avoid future catastrophes? The fear of fire, the fear of pushing away tourists, the fear of an economical disequilibrium, leads to the appearance of more fire-fighting infrastructures. They create a new paradigm, framing and freezing an already depopulated forest.

The reconstruction and prevention of the forest for the upcoming season, begins as soon as the last travellers leave the region. The forest regenerates itself thus reforestation would be financially impossible<sup>7</sup>. If no other fire occur, the forest recovers its canopy and biodiversity within under ten years. In the opposite scenario, the repetition of fires could cause, in the long run, irreversible damage on the ecosystem. “Research shows the critical threshold between two fires is estimated to be twenty years”<sup>8</sup>. In order to restrain ecological, social and economical risks, various preventive methods (explained in 3.2 *Periphery and Center*) are put in place to better prepare the upcoming summer period. Their application raises nonetheless some concerns.

While some advocate for heavier preventive infrastructures, others are more critical towards current methods. Rezvani describes DFCI paths and other *pare-feu* as “arbitrary patterns which scar the massif in all directions”<sup>9</sup>. As well as rising costs, these roads, free of social, agricultural or economical activities allow a tourists and residential irrigation in a region where fire is mostly caused by human actions. Moreover, *pare-feu* are sometimes inefficient facing embers carried by the wind. Land-clearing actions also face concerns. They are limited to zones under ‘high risk’, because surfaces are too important for the amount of individuals. These preventive devices participate to the forest mutation towards a solely protective condition free of social and economical life.






In an upsurge of a new fire, the forest is transformed into a gigantic *pare-feu*, materialised by a DFCI grid. It freezes the hills and leads to a social devalorisation of the woodland. “The preservation of forests by the exploitation of their natural resources would have been far less ruinous and deeply life giving”<sup>10</sup>. *Pare-feu* replace men, and villas replace farms. The forest becomes individualised. The emergence of private systems, such as individual water points, protective perimeters and fences become the symbol of the forest’s individualisation. In contrast, the village densification, only appears as an artefact of a collective past.

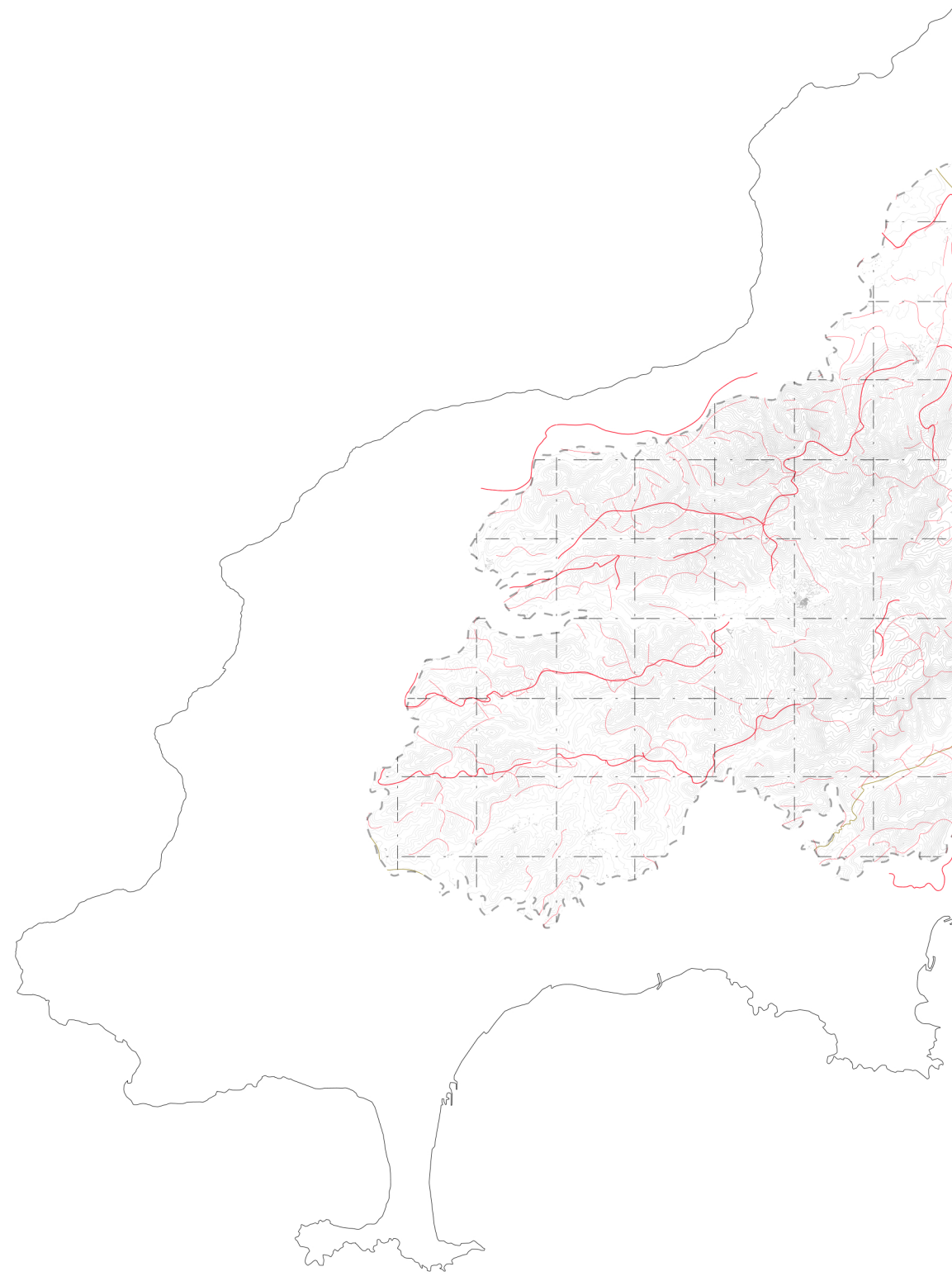
Beside the recent transformations, reducing the woodland to the condition of a *pare-feu*, the forest as a socio-cultural object has always resisted to its extinction. The historical and social which link men to the forest can be source of a reactivation of the forest.

If the forest is reduced to the condition of a *pare-feu*, can we imagine in a few decades, that the forest will no longer exist? Clearing the forest could be a solution to avoid fires. However numerous researchers, farmers, locals and other individuals interrogate themselves on the future of the forest. It claims a refusal to abandon the woodland and witness a social resistance against the extinction of the massif des Maures.



Legend

-  - Roads
-  - Pare-feu
-  - DFCI path
-  - Fictive limit between center and periphery
-  - Fictive pare-feu grid

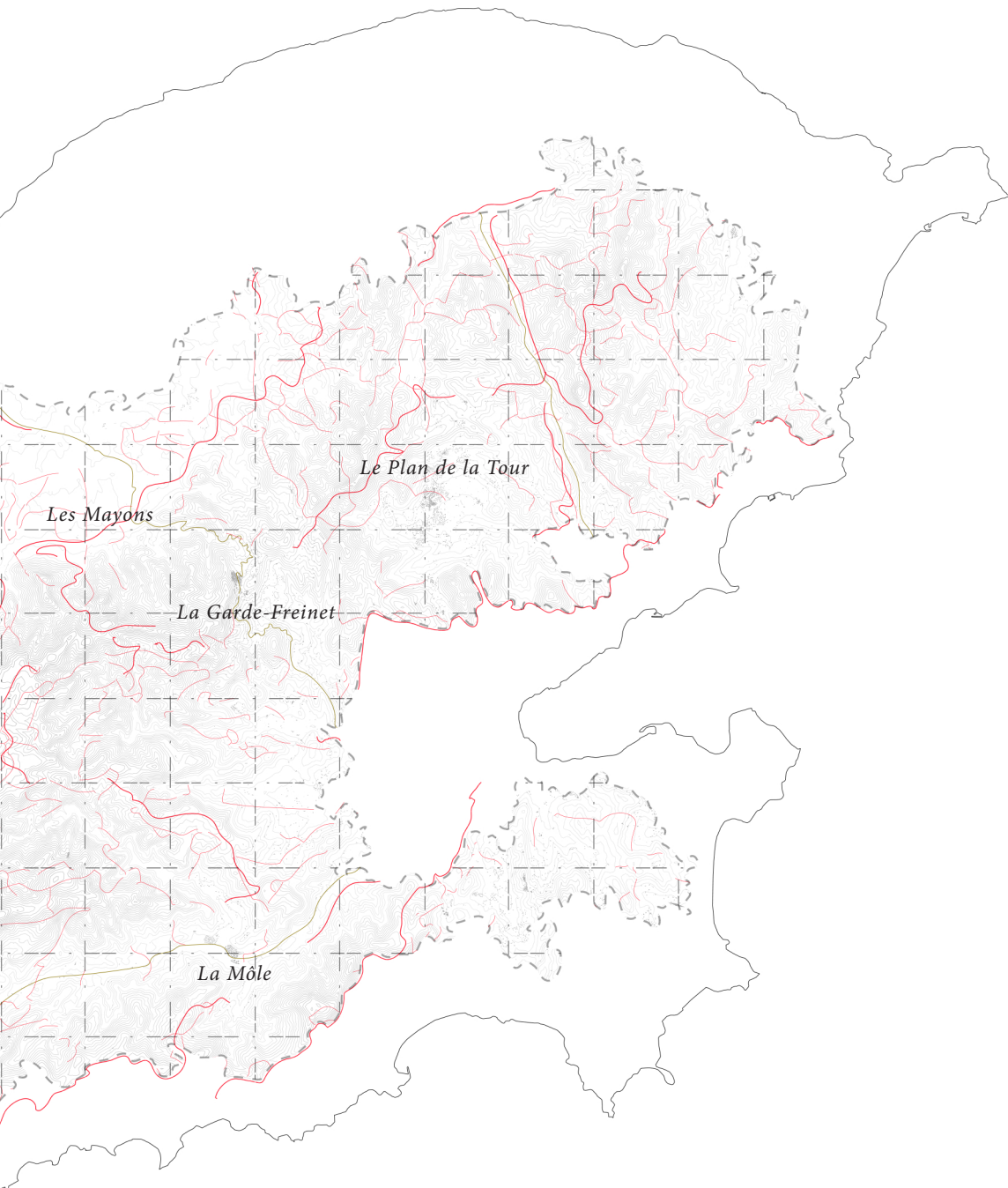


Map 8. Preventi

1.30



Source: Geoportai



ve infrastructures

0 000

20

40km



## 3.4 *Resilience*

“Today, another type of maritime terror sterilises the Maures”<sup>11</sup>. Like the times of Saracens’ occupation, the forest renewed itself. The forest does not die, it evolves. Its resilience should go through a new reading of current spaces and resources in order to revalorise the massif des Maures and contradict a collective discourse of an isolated and non-exploitable forest.

Observed in ‘*From the Maures to the coast*’, the forest greatly contributed to the territory’s evolution. Carrier of socio-cultural significance, forests have played a too important role in the life of men to be denatured. Considering it as a giant pare-feu, would lead to an economical and social imbalance. “There is no more dichotomy between men and nature, but a close interrelation”<sup>12</sup>, and the collapse of one would cause the fall of the other. Many, like to dream of a flashback, a nostalgia of a past tense, whilst others continue to perpetuate local traditions, cultivating vines, chestnuts and other forest resources, as a synonym of a socio-agricultural resistance.

The forest is defined by its isolation, its traditions, its villages, its resistance. In the search of a new paradigm, the isolation of private houses in addition to the multiplication of preventives devices, generate a spread of human presence, mostly seen in summer months. They do not participate to the collective valorisation of the forest. In order to gather and avoid sparse inhabitations, one could look at spaces which enhance the collective life, through areas of densification. The action to gather could facilitate the protection against fires and lead to the creation of new spaces, capable to reactivate the economical and social object defining the forest. It would also lead to the enhancement of the void in relation of the built space. The goal is not to urbanized the forest, but to appreciate areas of emptiness as a tool to gather and not spread.

The next chapter dives into the forest, voluntarily omitting the periphery in order to focus on two localities as to find out various samples of densification spaces to aim for a forest transition towards a more efficient cohabitation with wildfires.





## 4

*Acceptance*

Knowing the physical and social consequences on the forest, our will to eradicate the inevitable phenomenon of wildfires is part of a collective spirit that needs to be reconsidered. In this final chapter, the énoncé goes towards the acceptance of fires. 'Acceptance', however does not consist to let burn the woodland, but to find appropriate spatial solutions to better protect habitats and enhance the ecosystem of the forest. Understanding the inevitable cohabitation between, men, forest and fire is the first step towards a new paradigm for the forest.

To explore spatial potentialities, investigating two forest localities while voluntarily omitting the coast seems mandatory. Collobrières and La Garde Freinet, appear as great examples. Both suffered major wildfires events throughout history and bring together all the physical and social conditions previously mentioned in order to define a new paradigm of the forest, in the context of the massif des Maures.

> **Img. 1.** Stubble fires (Photo by LaDépêche)



## 4.1 *Good fires*

“Plusieurs fausses idées attachées à ces phénomènes-spectacle (les incendies) que le grand public a pris l’habitude de condamner ou de subir”.

Wuerthner, Wildfire reader, 2006.  
dans DARQUES Régis, mythes et réalité des grand incendie...

Les feux: “un caractère inévitable et utile pour des écosystèmes soumis à ce mécanisme d’auto-régénération au moins depuis la fin de la dernière glaciation”

DARQUES Régis, mythes et réalité des grand incendie... 2013.

“Policymakers and citizens alike must abandon the idea that trees are always worth saving and that fire is always a threat”

Ash Ngu and Sahil Chinoy, N.Y.Times [online], 2018.

Hitherto is considered as a dramatic scourge, it is crucial to reconsider the affirmation to perceive fires as solely negative objects. Shouldn’t we believe that they could be thought off as an ecosystem breath<sup>1</sup>. As they are inherent and necessary phenomena, should we accept an interrelationship between blaze and men? In this case one must understand fires’ positive aspects and should also consider, to what extent, a blaze is considered positive.

The mediterranean forest adjusted itself to the frequent returns of flames. It is an environmental event that has been part of this southern ecosystem for millenials. It shapes the forest and triggers its evolution.

For the same reasons, they were used by the first farmers in the region as fires clear the undergrowth at a low cost. “Fire removes low-growing underbrush, cleans the forest floor of debris, opens it up to sunlight, and nourishes the soil”<sup>2</sup>. Its destructive character regenerates soils and supports the rebirth of new growth. “Regenerated shrubs provide food and habitat for many wildlife species”<sup>3</sup> and also contribute to killing diseases affecting plants and animals. It is source of reproduction for certain plant species, such as the Alep pine. The flames burst the cones and free the seeds on the ground. Other species have adapted in a way to resist fire. The cork tree, as the chestnut tree, possess a thick enough bark to survive fires. The abundance of these types of trees notably contributed to the economic boom (see 2.2 Merchantable forest) of the forest and still contribute to the current financial potential of the massif des Maures. Without fire, the ecosystem perishes, it becomes more vulnerable and less robust.

Removing wildfires from this environment is not only unfeasible, it would contribute to the ecosystem impairment. It is therefore crucial to set a limit between a positive and negative blaze. “Fire that is low in intensity, does not grow out of control”<sup>5</sup> and happens between 3 to 25 years benefits the ecosystem<sup>6</sup>. This quote is acceptable, however the notion of ‘control’ is a disapproved belief.

Seeking of new spaces capable of protecting inhabited zones from ‘Great’ fires, the next chapter gives a closer look at two villages, Collobrières and La Garde Freinet, as case studies.

## 4.2

### *Investigating the samples*

Seeking to give impetus to forest villages as a way to improve the management of fire protection, the research focuses on two localities situated in the massif des Maures: Collobrières on the western side and Le Plan de la Tour on the eastern side. They both depict a portrait of the forest's state to understand the reasons and constraints that makes the Maures' condition.

Investigating the territory tries to reveal its existing condition trying to reveal its potential. Isolating and associating the layers of the landscape act as a first experiment trying to highlight new alliances between the elements. The complexity of the system makes it clear that the following drawings rather show a generalised condition, however precise enough to rightly express the current status of both villages.

Secondly, choosing two samples instead of one avoid an isolated case, an exception which does not reflect current conditions. In reference to the symbiosis definition, their interrelationships are used to approve, compare or contradict each other. As a result they should convey the tendency of the forest.

The samples are here to give an objective overview of the spatial and social condition supposedly common to the whole massif, in order to define the problematics and potentials.

Sample (*n.*)

“A small part or quantity intended to show what the whole is like”

Symbiosis (*n.*)

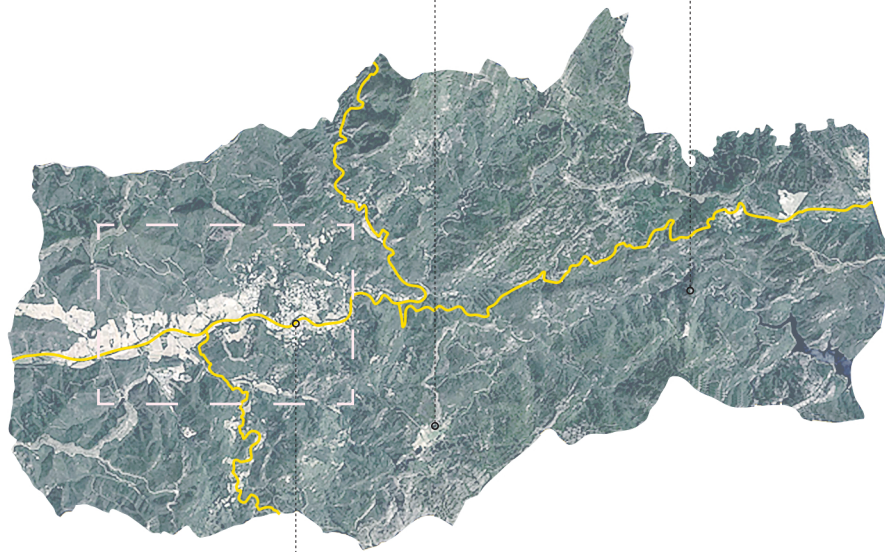
“Interaction between two different organisms living in close physical association, typically to the advantage of both”

Oxford Dictionary [online].

**Map 9.** Satellite imagery  
(Source: Geoportail.fr)

*Monastery of Chartreuse de la Verne  
+40'000: (2015) Visitors*

*Forest: 9400 ha  
Mostly Domanial*



*Collobrières*

*Population: 2'010*

*Area: 112 km<sup>2</sup>*

*N° of inhabitants per km<sup>2</sup>: 18*

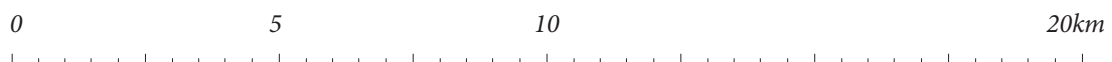


Legend

*Collobrières*

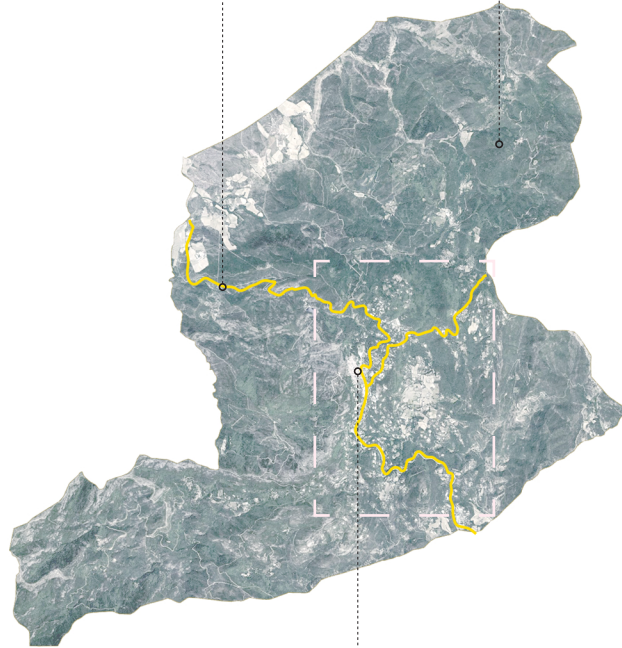
-

*1.200 000*



*Departemental road D558  
Leading to the highway A57*

*Forest: 5670 ha  
Mostly Private*



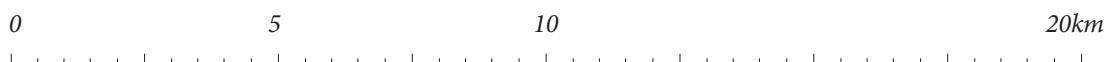
*La Garde Freinet*

*Population: 1'878*  
*Area: 76 km<sup>2</sup>*  
*N° of inhabitants per km<sup>2</sup>: 25*

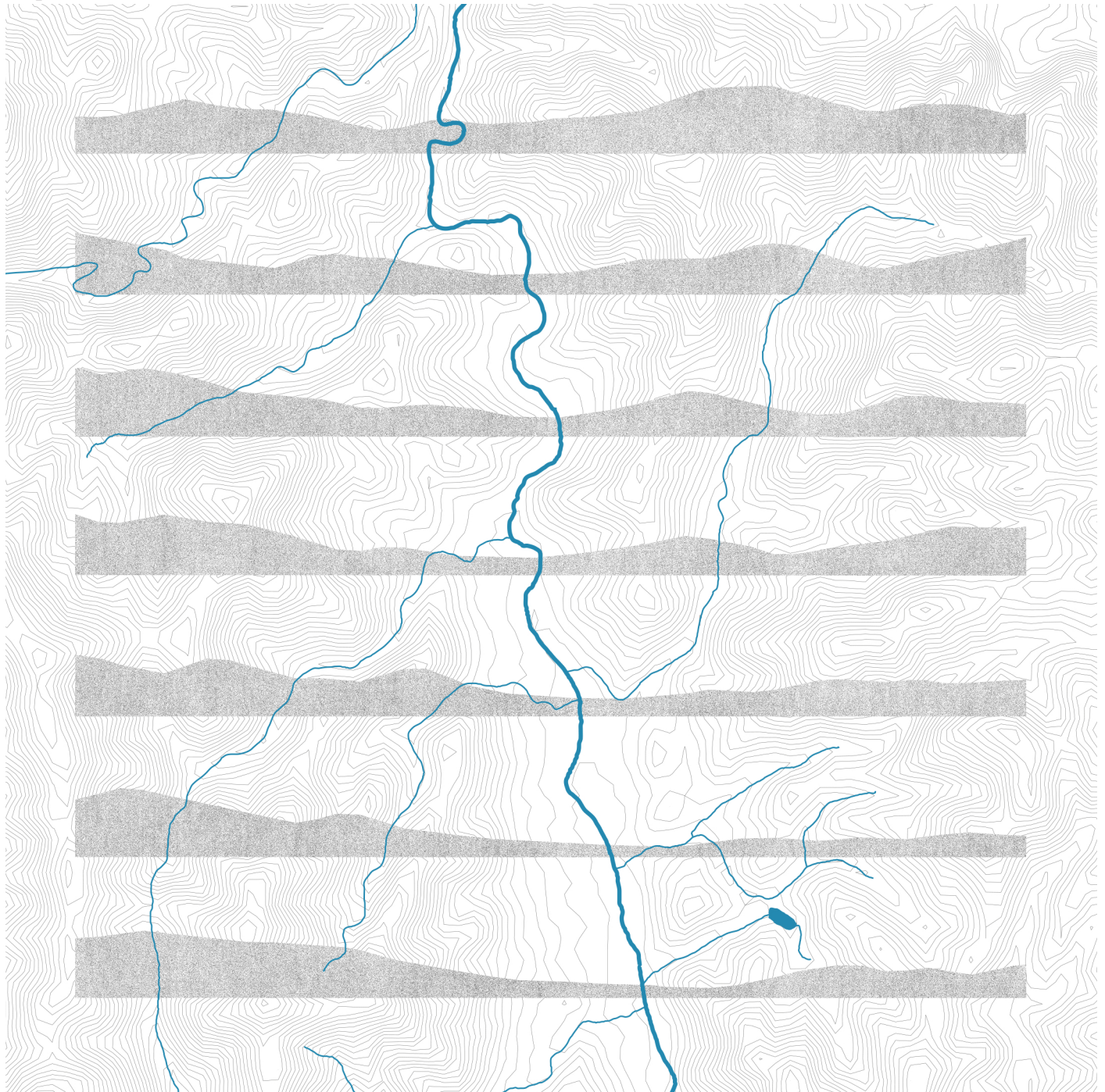


Legend

*La Garde Freinet*  
-  
1.200 000




**Map 10. Natural elements** (Source: Geoportail.fr / IGN)



**Observations:**

- The montagnous topography creates valleys in which a small affluent exists.
- Covered with forest, the valley however stands as an opportunity to cultivate and inhabit.

**Legend**

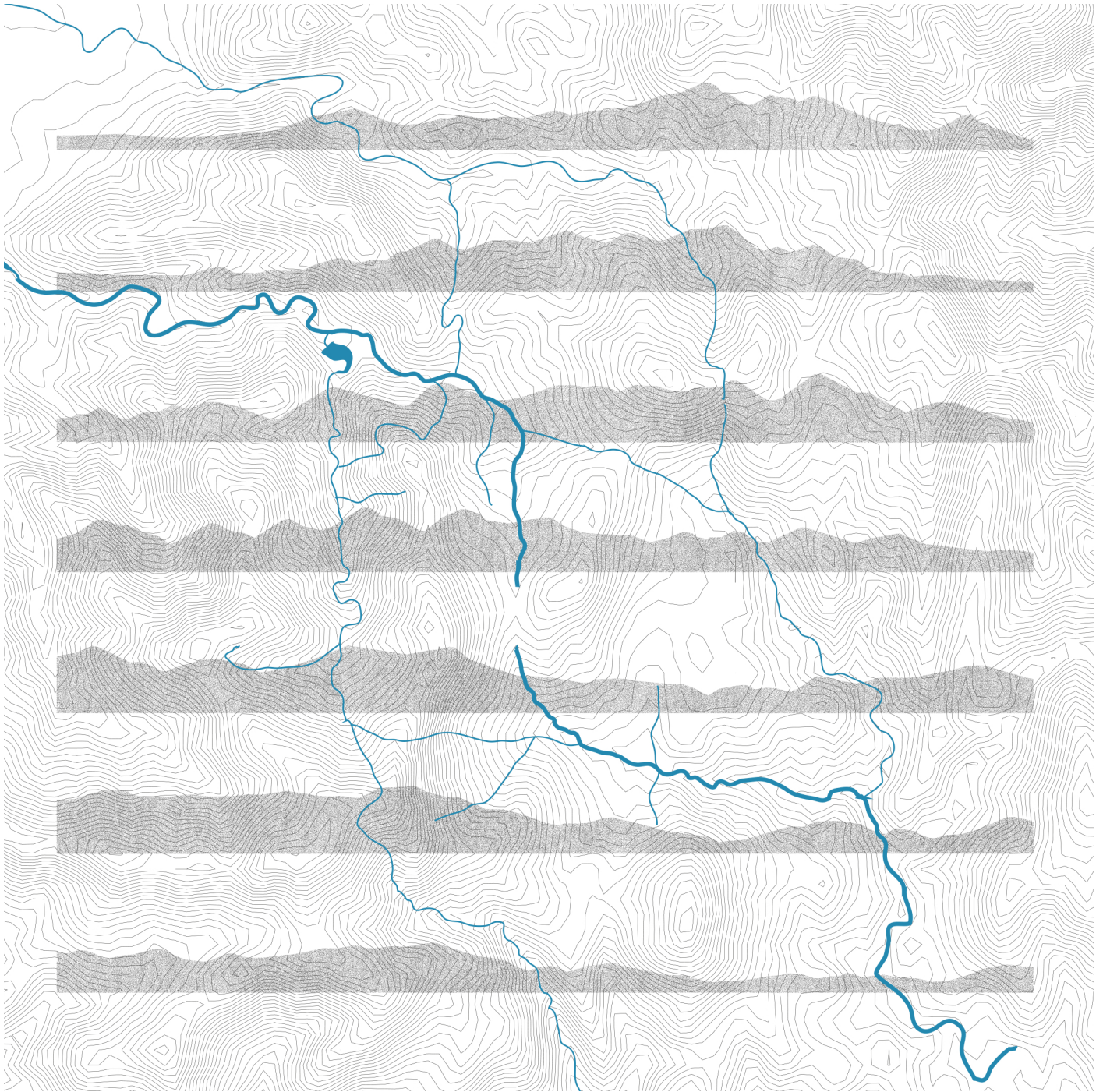
Hydrography - 

*Collobrières*

-  
1.50 000








**Observations:**

- The montagnous topography is shaped in 'stairs' going from east to west.
- Each flight of stairs becomes a potential to cultivate and inhabit

**Legend**

Hydrography - 

*La Garde Freinet*

-  
1.50 000



Map 11. The village and the garden (Source: Geoportail.fr / IGN)

Residential Zones (villas)  
 Main residence: 65%  
 Secondary residence: 30%  
 Vacant: 5%





Village

Cultures  
 85% : Vine  
 15% : Others

Observations:

- Clear ambivalence between ancient village and new residential area.
- The residencies are sparse, however gathered in one area
- Cultures follow the canal and surround the village as a protection against fires

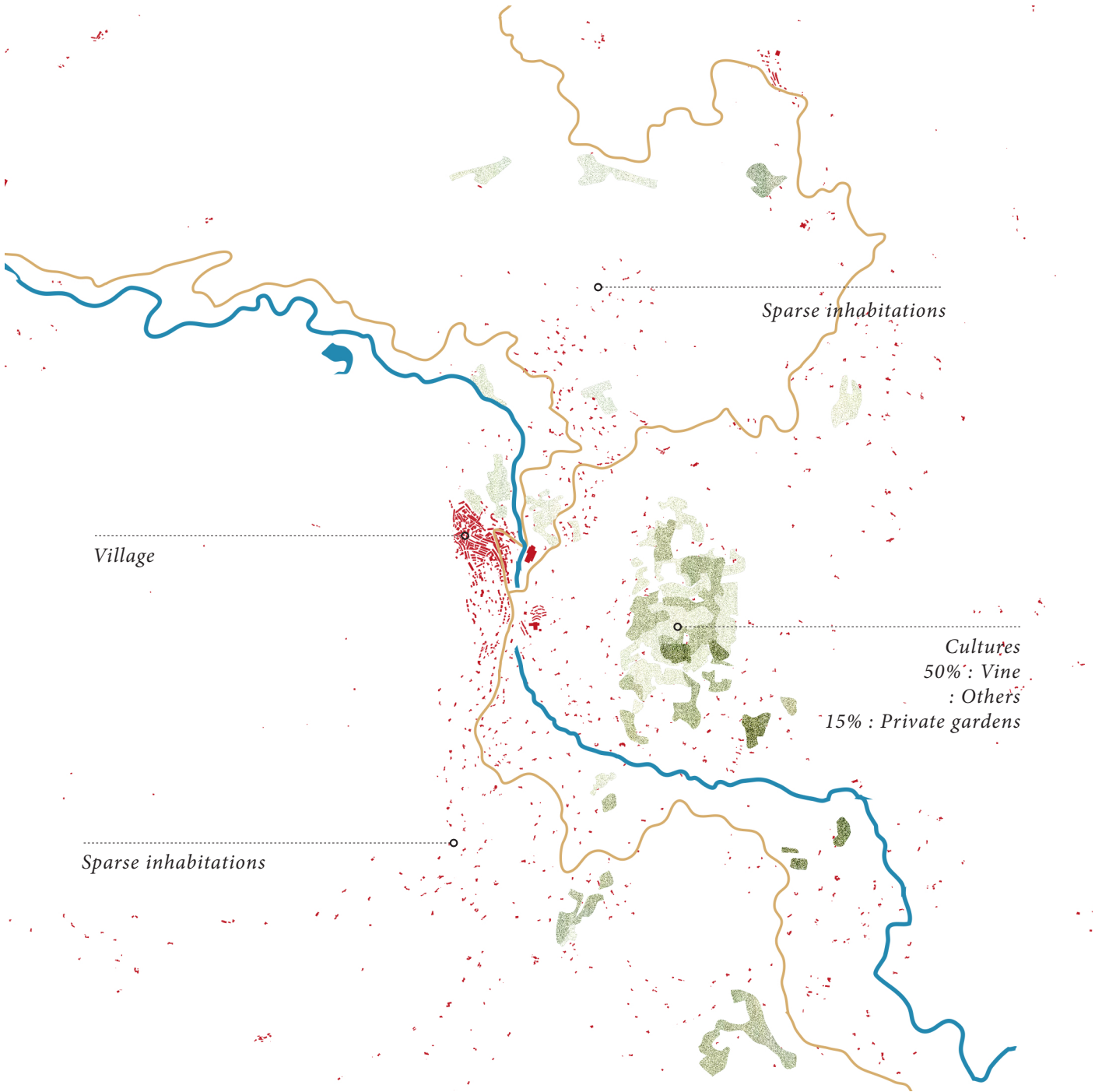
Legend

Vacant - 	Hydrography - 
Other cultures - 	Vine culture - 

Collobrières

1.50 000





Village

Sparse inhabitations

Sparse inhabitations

Cultures  
 50% : Vine  
 : Others  
 15% : Private gardens

Observations:

- Clear ambivalence between ancient village and new residential areas.
- There is no assigned area for residencies resulting in an housing spread.
- Cultures have been tranformed into private garden.

Legend

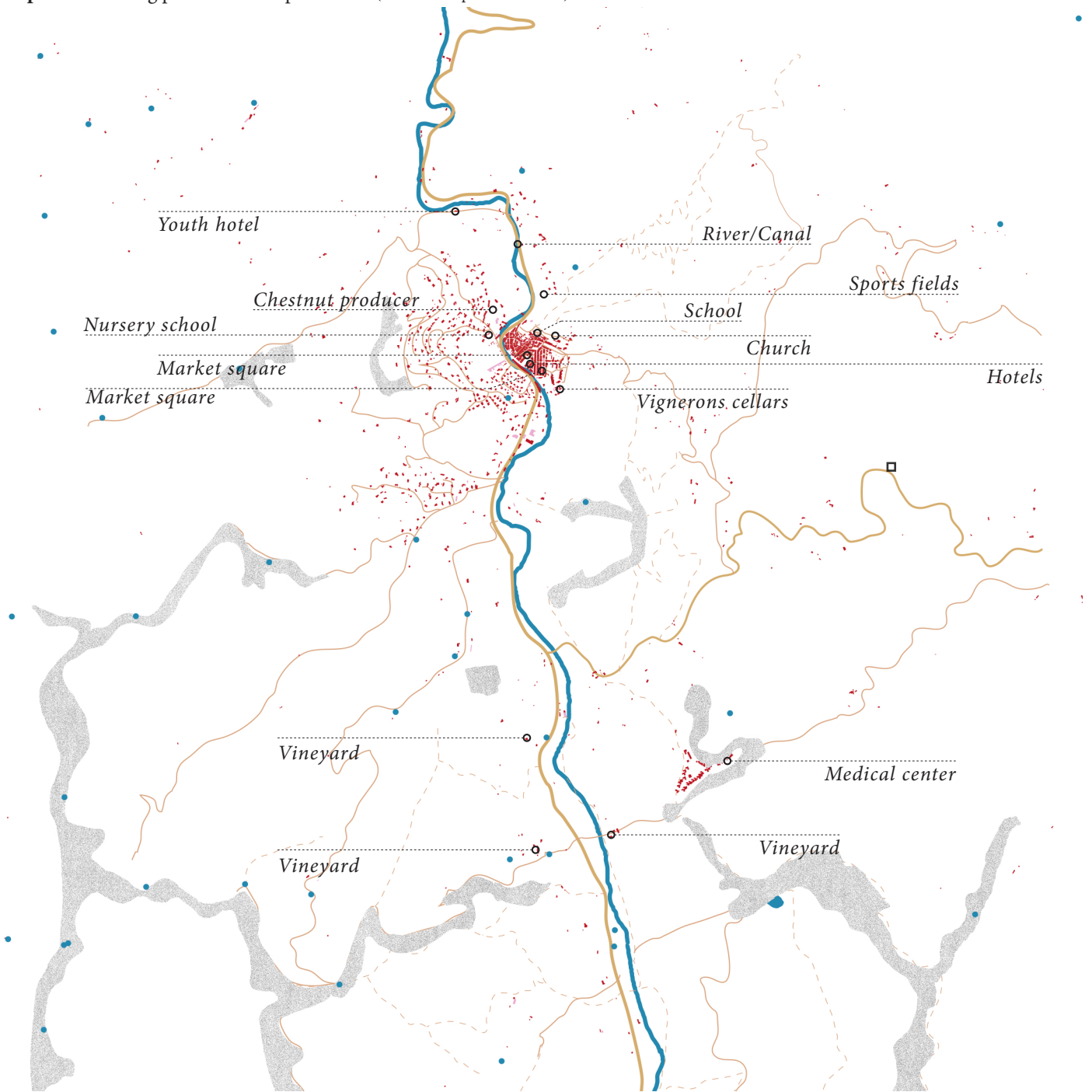
Vacant -		Hydrography -	
Other cultures -		Vine culture -	

La Garde Freinet

1.50 000



Map 12. Gathering places and fire protection (Source: Geoportail.fr / IGN)



Observations:

- Access to water follows circulation
- The pare feu becomes a way of circulation and unused zone.
- The pare-feu around the village are much closer to inhabitation zones than then ones around the cultures.

- Gathering places are centered around the village.
- Each house share common features. The swimming and the pare-feu garden could also be considered as gathering spaces due to their repetition even though they are private.

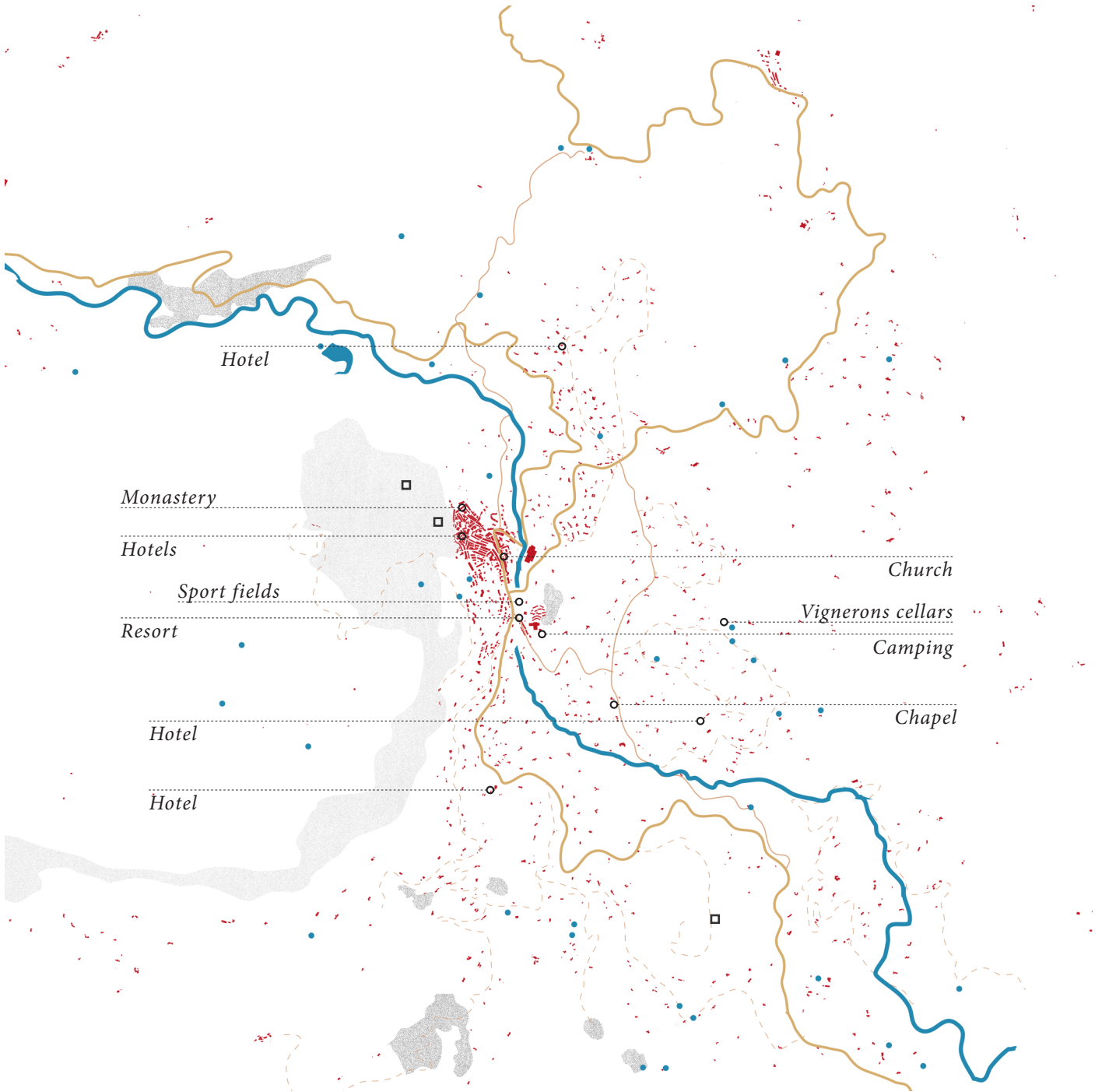
Legend

- Hydrography -
- Pare-feu -
- Water reservoir -
- Historical heritage -

Collobrières

1.50 000

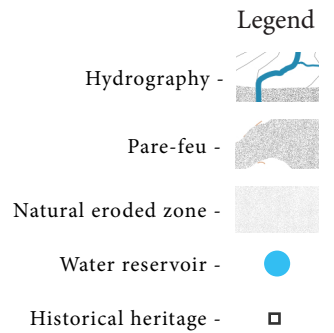




Observations:

- Water reservoirs do not necessarily follow circulations paths.
- Pare-feu are almost inexistant meaning the methods are individualised
- Gathering places are sparse as a result of a scattered inhabitations.

- Lack of school and hospital
- Rethinking existing places must have a potential.



La Garde Freinet

1.50 000



## 4.3

### *From reality to perception*

It is clear from investigating the samples, densification of inhabitat allows more efficient and less individualist protection against fires. It also clear, it gathers public activities in a more restrained space, thus echo of a collective life. However, fire protection devices still have a significant impact on the landscape and its communities further contributing to their devaluation. Reconsidering existing methods, understanding their flaws is the first step before one can look into potentials. For the second, one must explore the drawings as a new reality, trying to dig for hybrid spaces capable of protecting and enhancing the woodland. Looking for a new condition, we move from the reality to the perception.

Massive investments in infrastructures are, until today, the applied strategies to compensate a small population. If the *pare-feu* are considered to be a combustible cut in the landscape, they are in reality ways of circulations, empty of any social and economical interests and which “each block of the concrete grid is impenetrable”<sup>7</sup>. We have also observed the undergrowth clearing impossibility, due to too a high costs. Moreover, areas are far too large for the people in charge of this task. Maintained by farmers, a few decades ago, land clearing is now a major issue that must be addressed in the rehabilitation of the forest. One of the main cause of wildfires stems from the affluence of tourist in the region. Until now, prevention (in the education sense) of visitors is limited to journalistic information or numerous panels ‘*attention aux feux*’ along the main axis of circulation. The inefficiency of this method is proven every summer, moreover these slogans adverts contribute to the forest stigmatisation. “The truly curative method would consist of rationally develop, improve and encourage cultures and forest industries in the *Maure’s* region”<sup>8</sup>. Seeking a transition of the woodland, communities as well as industries would be in the center of a new protection strategy. Supporting local collectives as well as subsidizing durable exploitation would allow to shift towards a new paradigm of this mediterranean forest.

Having drawn the reality of the territory, one must explore and reconsider existing places as well as creating new ones, taking into consideration the substance of the area. Performing on an existing ground, forces to accept its flaws. To find durable solutions, the substance needs to be defined. It contains the reasons why the woods are attractive, and the social values it is made of. The substance of the forest should reveal places capable of gathering, protection and exploiting.

Exploring existing or new spaces would contribute to the enhancement of the territorial identity. They become points of reference in a landscape lacking of markers. They are anchor points that serve the collective utility. They lead to the reactivation of an agricultural and forestry industry from the forest resources. They are vectors of an educative prevention thus informing the visitor on the involved risks. Finally they participate to the improvement of the landscape. In a acupuncture way, their minimal intervention must lead to maximum change. All these definitions constitute the essence of densification spaces.

The substance stems from what we are looking for in the forest:

Shade, water, air trees, openness,  
fields, garden, leisure, nature,  
history, tradition, wine,  
agriculture, forestry and  
collectivity.



## 4.4

### *Densification places*

#### *Water source*

The natural water system is the foundation of any architectural development in the forest. In the valley or on the steps of hills, it is a synonym of gathering. Whether collective or individual, the water source is a mandatory in the region. Private swimming pools replace the wells, but their extreme presence justifies the importance of such a feature. Using this aspect for public or agricultural use could lead to new potentialities.

Their application in the landscape covers the region and is mostly situated next to path and roads. Reconsidering them into focal points within the landscape. The creation of small industrial infrastructures could be the start of a land clarification strategy. Occupying specific points in the landscape, with an economic activity that could lead to the preservation of the immediate context and provide a protective solution in case of a fire.

Img. 3. The canal





### *Cultivated pare-feu*

It is an obvious statement to define the pare-feu as a empty land with no function. Reconsidering this place's potential by implementing an activity would further lead to its enhancement. The pare-feu becomes an ideal place to cultivate. It is flat and spreads over a great surface. In this region the wine is an obvious solution. It is a frequent element in the landscape and contributes to the preservation of agricultural traditions.

**Img. 4.** The vine field



## The hotel

Ignoring the presence of tourism would be absurd. Despite the negative aspects of visitors, they however contribute to the development of the local economy. Their presence changes daily rituals and ties forest villages to the outside world.

Hotel is a typology which is present in the forest. They densify fluxes of tourists. Could we however not imagine a shift towards a hybrid version of it? A hotel which has another function, for example agriculture. As the home of tourists they could contribute to the education of travellers regarding such fire risks.

Img. 5. The hotel

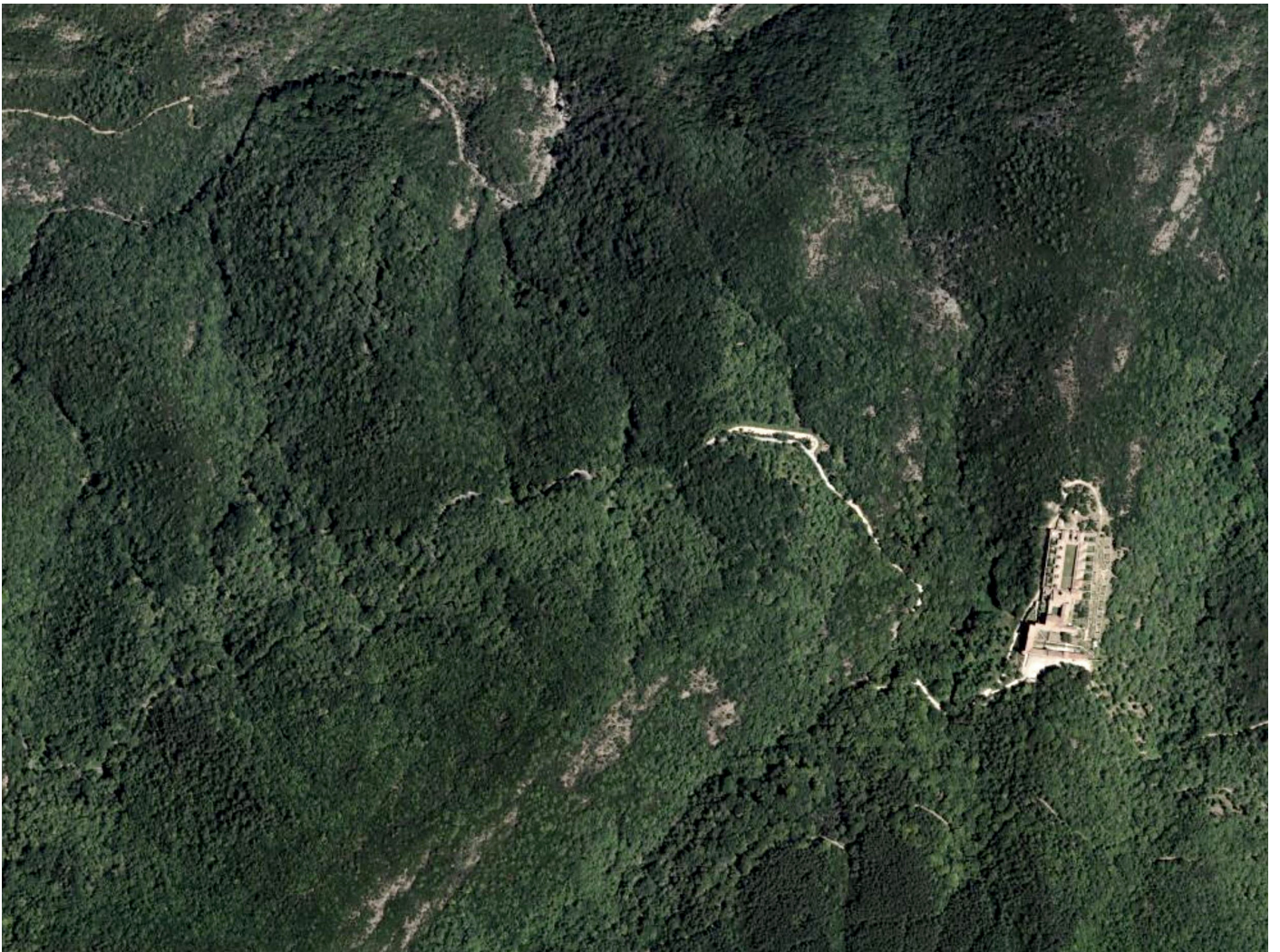


## The monument

“We need an artistic intervention for a land to become a landscape”<sup>1</sup>. Trying to describe the notion of landscape, Bas Smet talks about the painting of Turner representing the mist on the Thames, claiming that this painting revealed the mist in the reality.

In a similar situation, a monument reveals its surroundings. The monument carries social and historical values. Its presence pursues the memories of the land and informs travellers of their existence. Architectural excellence would be a significant attribute to the enhancement of the forest and contribute to its protection.

**Img. 6.** Monastery of Chartreuse de la Verne



# 5

## *Conclusion*

Densify to better inhabit and protect.



## Conclusion

Whilst exploring the Massif des Maures, one could see the need for the forest to evolve towards a new condition. Stated as problematic, inhabiting the woodland could be seen as a potential through which a socio-cultural and economic reactivation could take place. This further providing a more humanistic protection against fires.

The forest becomes contemplative and no longer contributes to the territory's life. It is isolated, either by the affluence of populations and urban masses on the shores, or by fire-preventing infrastructures. The latter, freeze the woodland into a grid where each square is not exploitable by local communities. They only contribute to the spread of tourist flow over a flammable territory.

Proposing an alternative to the current system resides in the capacity of the forest to resist (see 3.4. *Resilience*). Its social and historical role is too important to be reduced to a protection device. The Forest "played a too significant role in the lives of men"<sup>1</sup>.

The population needs to accept that fires are beneficial for the environment (under certain circumstances) and must understand their inevitable repetition in a Mediterranean context. It does not mean to 'let burn the forest', but forces us to perceive the territory differently. Looking for alternatives allows us to explore areas, activities and spaces capable to respond to a more efficient cohabitation within a blaze.

Exploring samples, as existing drawings of the territory, allows us to isolate, compare and conceive new alliances between existing elements to reveal their densificating potential.

Densification places are acupunctural interventions into the existing landscape. Whether on existing or new spaces, their purpose is built on hybrid the principles of gathering, economic rehabilitation and fire protection. Densification places act as new public points of gravity, capable of gathering and therefore avoiding the spread of human presence, whilst creating social dynamism. Their use should be oriented towards an economic and agricultural purpose, to reactivate forest industries. "On retiendra de façon centrale qu'une forêt aussi profondément liée à l'activité de toute une population était donc fondamentalement une forêt exploitée et donc propre"<sup>2</sup>. Indeed the rise of forest industries would also contribute to maintain the woodlands, thus preventing from wildfires.

Densification places challenge the existing fire-protection strategies in the context of the forest. They suggest a more humanistic and agricultural approach leading to the rehabilitation of the forest as an active entity, no longer thought as solely a "vast area of trees and undergrowth"<sup>3</sup>. As an alternative to the current methods we see in the collective desire to protect against wildfires as a potential to inhabit and reactivate this territory.

Densification place appears as the answer to the hypothesis. It is a hybrid space participating to the renouveau of the socio-cultural and economic life of the forest. Moreover, it leads to a more efficient protection against fires.

Having explored the samples of Collobrières and La Garde Freinet, it triggers the will to intervene in the landscape of the forest. By acting on the current context, places can be new or existing but they should protect, rehabilitate and densify the forest. They should reveal an unseen reality, only possible through the precise analysis of the territory's current state. These interventions must be minimal, not to denature the landscape, as they should reveal its beauty. They should gather and slow down human spread over the forest. Like the densification places (vine field or the water source), they appear as potential places to protect, densify and sustainably exploit the forest.

This thesis acts towards a contemporary use of the mediterranean forest by protecting, inhabiting, densifying and slowing down the sprawl in the Massif des Maures.

## *Glossary*

The language used in this énoncé leaves traces of the place it stems from as an artefact of the sounds and words specific of this Provençal region. This is why some words and definitions are left in French.

Oxford Dictionary Online  
URL: <https://en.oxforddictionaries.com/>

Larousse Dictionnaire Online  
URL: <https://www.larousse.fr/dictionnaires/francais>



**Bouchonniers** (*n.*)

Personne qui fabrique ou vend des bouchons de liège.

**Combustible** (*n.*)

Able to catch fire and burn easily.

**Densification** (*n.*)

Closely compacted in substance

**D.F.C.I**

Défense des Feux Contre l'Incendie

**Ecobuage** (*n.*)

Mode de préparation à la culture d'un terrain engazonné, consistant à en détacher, sécher puis brûler la couche herbue (avec la terre adhérant aux racines), pour y répandre ensuite les cendres (à distinguer du brûlis).

**Forest** (*n.*)

A large area covered chiefly with trees and undergrowth.

**Framing** (*n.*)

Surround so as to create a striking or attractive image

**Maquis** (*n.*)

Formation d'arbustes et de buissons résultant de la dégradation de la forêt méditerranéenne de chênes-lièges sur sols siliceux, consécutive à l'action du feu et des hommes (abattage et pâturage)

**Massif** (*n.*)

Ensemble de hauteurs présentant un caractère montagneux.

**Pare-feu** (*n.*)

Zone aménagée le long d'une voie ferrée traversant une forêt pour éviter les risques d'incendie

**Perception** (*n.*)

The way in which something is regarded, understood, or interpreted

**Prevention** (*n.*)

The action of stopping something from happening or arising

**Protect** (*v.*)

Keep safe from harm or injury

**Resilience** (*n.*)

The capacity to recover quickly from difficulties; toughness

**Rusquier** (*n.*)

Ouvrier qui lève l'écorce du liège.

**Sample** (*n.*)

A small part or quantity intended to show what the whole is like.

**Substance** (*n.*)

The quality of being important, valid, or significant

**Symbiosis** (*n.*)

Interaction between two different organisms living in close physical association, typically to the advantage of both.

**Vulnerability** (*n.*)

The quality or state of being exposed to the possibility of being attacked or harmed, either physically or emotionally

## Notes

### Hypothesis

- <sup>1</sup> CLEMENT Vincent, *Les feux de forêt en méditerranée: un faux procès contre nature*, p.291, 2005.
- <sup>2</sup> Oxford Dictionary [online]  
URL: <https://en.oxforddictionaries.com/> (accessed on 21st of November)
- <sup>3</sup> I.D.R.E.E.S., *La forêt varoise*, pp. 55-74, 1981.
- <sup>4</sup> HETIER Jean-Paul, *La forêt Méditerranéenne: Vivre avec le feu? Eléments pour une gestion patrimoniale des écosystèmes forestiers littoraux*, p. 147, 1993.
- <sup>5</sup> I.D.R.E.E.S., *La forêt varoise*, pp. 55-74, 1981.
- <sup>6</sup> Ibid.

### 2. From the Maures to the coast

- <sup>1</sup> FONCIN Pierre, *Maures et Esterel*, pp.70-77, 1910.
- <sup>2</sup> Ibid.
- <sup>3</sup> Ibid.
- <sup>4</sup> CHALVET Martine, *Une histoire de la forêt*, Edition du Seuil, p. 112, 2011.
- <sup>5</sup> DALIGAUX Jacques, *Provence historique*, Tome 45, fasc. 181, pp. 387-388, 1995.
- <sup>6</sup> Ibid.
- <sup>7</sup> CHALVET Martine, *La vulnérabilité de la forêt provençale face aux incendies*, 2016.
- <sup>8</sup> Ibid.
- <sup>9</sup> De RIBBE Charles, *La provence au point de vue des bois, des torrents et des innodations avant et après 1789*, pp.206, 1857.
- <sup>10</sup> JUILLARD Etienne, 1957, Extrait de la revue de Géographie Alpine, Tome XLV, fasc. II, dans *Le Var et les Maures*, pp.54-60, 2015.
- <sup>11</sup> Ibid.

### 3. Seasonal dichotomy

- <sup>1</sup> BOISSIERE Anne, LAGANIER Richard and VEYRET Yvette, *Atlas des riques en France*, p.64, 2013.
- <sup>2</sup> LeVarois.com, *Le Var premier département touristique de France*, 2015.  
URL: <https://levarois.com/informations-pratiques/var-premier-departement-touristique-france/> (accessed on 15th December 2018)
- <sup>3</sup> REZVANI Serge, *Divagation sentimentale dans les Maures*, p.62-64.
- <sup>4</sup> Ibid.
- <sup>5</sup> BOUISSET Christine, *Les incendies de forêts méditerranéens*, p. 648, 1999.

<sup>6</sup> FONCIN Pierre, *Maures et Esterel*, p.46, 1910.

→ <sup>7</sup> SEIGUE Alexandre, *La forêt méditerranéenne française*, p.74, 1987.

<sup>8</sup> TOUTCHKOV Marion, dans KOWACK Mathieu, *Les feux de forêts sont-ils une catastrophe écologique*, 2018.

<sup>9</sup> REZVANI Serge, *Divagation sentimentale dans les Maures*, 2001, pp.41-69.

<sup>10</sup> Ibid.

→ <sup>11</sup> REZVANI Serge, *Divagation sentimentale dans les Maures*, 2001, p.26.

<sup>12</sup> CHALVET Martine, 2011, *Une histoire de la forêt*, p.249.

#### 4. Acceptance

→ <sup>1</sup> DARQUES Régis, *Mythe et réalité des “grands” incendies en Méditerranée*, p.11, 2013.

<sup>2</sup> CAL Fires, *Benefits of fires* [online] fire.ca.gov. Unknown date.  
URL: [https://www.fire.ca.gov/communications/downloads/fact\\_sheets/TheBenefitsofFire.pdf](https://www.fire.ca.gov/communications/downloads/fact_sheets/TheBenefitsofFire.pdf) (accessed 13 December)

<sup>3</sup> Ibid

<sup>4</sup> Ibid

<sup>5</sup> Ibid.

<sup>6</sup> CLEMENT Vincent, *Les feux de forêt en méditerranée: un faux procès contre nature*, p.294, 2005.

→ <sup>7</sup> I.D.R.E.E.S., *La forêt varoise*, p.71, 1981

<sup>8</sup> DEPELCHIN François, *Les forêts de la France*, p.400, 1886.

→ SMET Bas, *Strategies for a land without a landscape*, Tedx talks, 2014.  
URL: [https://www.youtube.com/watch?v=uhAbc0J\\_aWQ](https://www.youtube.com/watch?v=uhAbc0J_aWQ) (accessed 12th December 2018)

#### 5. Conclusion

→ <sup>1</sup> I.D.R.E.E.S., *La forêt varoise*, p.67, 1981

<sup>2</sup> Ibid.

<sup>3</sup> Oxford Dictionary [online]  
URL: <https://en.oxforddictionaries.com/> (accessed on 21st of November)

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# Iconography

<b>Cover</b>	img.1.
<b>1. Hypothesis</b>	<p>Img. 1. BOUTRIA Luc, <i>Incendie à Ramatuelle et à l'Escalet</i>, 2017.  Source: <a href="https://www.varmatin.com/faits-divers/les-photos-terrifiantes-de-lincendie-qui-ravage-le-golfe-de-saint-tropez-cette-nuit-156393">https://www.varmatin.com/faits-divers/les-photos-terrifiantes-de-lincendie-qui-ravage-le-golfe-de-saint-tropez-cette-nuit-156393</a> (accessed on 07th September 2018).</p>
<b>2. From Maures to the coast</b>	<p>Img. 1. CACHIN Françoise, View from Ramatuelle.  Source: CACHIN Françoise, <i>Saint-Tropez, presque île Massif des Maures</i>, Gründ, Paris, p. 52, 1985.</p> <p>Img. 2. RICARD Pierre, Assault on the 16 June 1637.  Source: ROMAGNAN Bernard, <i>Saint-Tropez, 15 Juin 1637, les ex-votos de l'attaque des Espagnols</i>, Freinet-Pays-des-Maures, n°9, p. 06, 2010.</p> <p>Img. 3. Women in the triage room, unknown date and author  Source: Archive départementale du Var.</p> <p>Img. 4. Forêt de chêne liège.  Source: DUBURE Cl., Les forêt du Var, Le chêne, chasse, pêche, tourisme, numéro spécial de la revue le Chêne consacrée au Var, n°12, Trim. 4, 1934.</p> <p>Img. 5. Reporting from fires, 1937.  Source: Archive départementale du var, in Draguignan.</p> <p>Img. 6. Sainte Maxime, 1950.  Source: <a href="https://archives.var.fr/arkotheque/moteur_facette/index.php?ref=2&amp;alias=moteur_iconographie">https://archives.var.fr/arkotheque/moteur_facette/index.php?ref=2&amp;alias=moteur_iconographie</a> (accessed 19th Decembre 2018)</p> <p>Img. 7. Aerial view of Sainte-Maxime, 1970.  Source: <a href="https://archives.var.fr/arkotheque/moteur_facette/index.php?ref=2&amp;alias=moteur_iconographie">https://archives.var.fr/arkotheque/moteur_facette/index.php?ref=2&amp;alias=moteur_iconographie</a> (accessed 19th Decembre 2018)</p>
<b>Timeline</b> (from left to right)	<p>Jean Léon Gérôme, <i>Le Marchand de peaux</i>, 1869.  Source: <a href="https://fr.wikipedia.org/wiki/Sarrasins#/media/File:Jean-L%C3%A9on_G%C3%A9r%C3%B4me_016_Pelt.jpg">https://fr.wikipedia.org/wiki/Sarrasins#/media/File:Jean-L%C3%A9on_G%C3%A9r%C3%B4me_016_Pelt.jpg</a></p> <p><i>Engraving of Guillaume Ist</i>, 1655.  Source: <a href="https://fr.wikipedia.org/wiki/Guillaume_Ier_de_Provence">https://fr.wikipedia.org/wiki/Guillaume_Ier_de_Provence</a></p> <p><i>Portrait of Jean de Cossa</i>, Unkonwn date and author.  Source: <a href="https://gallica.bnf.fr/ark:/12148/btv1b6935416g">https://gallica.bnf.fr/ark:/12148/btv1b6935416g</a></p> <p>Painting by Ricard Pierre, <i>Assault on the 16 June 1637</i>.  Source: ROMAGNAN Bernard, <i>Saint-Tropez, 15 Juin 1637, les ex-votos de l'attaque des Espagnols</i>, Freinet-Pays-des-Maures, n°9, p. 06, 2010.</p>

*Charbonniers dans les Maures*

Source: <http://www.passionprovence.org/archives/2016/12/12/34519078.html>

*Fabrique de pipes à Cogolin*, Unknown date and author.

Source: [http://www.courrieu-pipes.com/maitre\\_pipier\\_cogolin/maitre\\_pipier\\_ch\\_courrieu\\_pipes\\_cogolin/](http://www.courrieu-pipes.com/maitre_pipier_cogolin/maitre_pipier_ch_courrieu_pipes_cogolin/)

*Intérieur d'une fabrique de bouchons*, Unknown date and author.

Source: <https://collection-jfm.fr/p/cpa-france-83-la-garde-freinet-interieur-d-une-fabrique-de-bouchons-103563>

*Train dans la vallée du Var*, 1992.

Source: Archives départementales du Var, Draguignan.

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*Port de St. Tropez*, 1950.

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Source: <http://www.leparisien.fr/espace-premium/air-du-temps/l-apogee-des-jolies-annes-1960-14-07-2016-5965483.php> TA6InR5cGVfZm9uZHMiO3M6MTc6ImZhY-2V0dGVzX2Jhc2VfZG9jIjtzOjQ6InJlZjEiO3M6MTk6ImZvbWZmRzaWNvbm9ncmFwaGlxd-WUiO3M6NDoiVmMiI7aTo5O3M6NDoiVmMyI7aToyMzc4ODtzOjEwOiJwb3NfZGVwY-XJ0IjtpOjA7czoxMDoiY29uZl9yZXN1cyI7czoyOiI3MCI7fQ==#uielem\_move=0%2C0&uielem\_rotate=F&uielem\_islocked=0&uielem\_zoom=100

### 3. Seasonal dichotomy

Img. 1. BOUTRIA Luc, Incendie à Ramatuelle et à l'Escalet, 2017.

Source: <https://www.varmatin.com/faits-divers/les-photos-terrifiantes-de-lincendie-qui-ravage-le-golfe-de-saint-tropez-cette-nuit-156393> (accessed on 07th September 2018).

Img. 2. HACHE Valérie, les feux à La Croix-Valmer, 2017.

Source: <http://www.nouvelobs.com/galeries-photos/photo/20170726.OBS2593/grand-format-les-terribles-photos-des-incendies-en-france.html> (accessed on 08th September 2018).

Img. 3. COLLIN Mathieu, Vue aérienne de la côte d'azur, 2016.

Source: <https://www.matthieucolin.com/vue-aerienne-de-la-cote-dazur/> (accessed on 08th September 2018)

Img. 4. MORAND Patrick, Maures' forest, unknown date.



Source: <https://www.patmo.net/maures.php> (accessed 02nd December 2018)

Img. 5. Piste DFCI du Muy, 2018.

Source: MOUROT Nicolas, Novembre 2018.

Img. 6. Towards Gassin, unknown date and author.

Source: CACHIN Françoise, *Saint-Tropez, presque l'île Massif des Maures*, Gründ, Paris, p. 53, 1985.

#### 4. Acceptance

Img. 1. Stubble fires, 2012.

source: <https://www.ladepeche.fr/article/2017/01/15/2496952-f-toulis-prone-une-pratique-encadree-de-l-ecobuage.html> (accessed 08th of October 2018)

Img. 2. COLLIN Mathieu, Massif des Maures, unknown date.

Source: <https://www.matthieucolin.com/vue-aerienne-de-la-cote-dazur/>

Img. 3 Le canal

Source: Geoportail.fr

Img. 4. The vine field

Source: Geoportail.fr

Img. 5. The hotel

Source: Geoportail.fr

Img. 6. Monastery of Chartreuse de la Verne

Source: Geoportail.fr

#### 5. Conclusion

Img. 1. Collobrières, unknown date and author.

source: <https://collobrieres.fr/actualites/> (accessed 28th December 2018)

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Working on this énoncé théorique was a real pleasure, but its realisation would have not been possible without the help of the *laba epfl* team. I then thank Augustin for his patience, advices and pedagogy, as well as Harry for his supervision and recommendations. I also aknowledge Barbara and Alexandre for their relevant interventions during presentations that forced me to keep a critical position on the topic.

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