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Résumé de l'article

The Mediterranean coast condition is worrying. The Gulf of Lion coast lower and sandy areas, densely urbanized, are particularly exposed to erosion. In addition, this coastline will experience by 2100 an increase in salt water intrusions, floods by marine submersion and damage to infrastructure due to sea level rise. The State first “left it to the developers” at the end of the 19th century, then decided to build new seaside resorts within the ‘Mission Racine’ the framework in the second half of the 20th century. The State now defends a “retreat doctrine” by relocating activities and people further away from the sea. However, this doctrine is opposed by economic actors and especially by local elected representatives, who have become the real architects of planning policies as a result of the 80’ decentralisation. The adaptation of this very touristy coast, which was an international laboratory of architectural and urban innovation during the 1960s, therefore seems compromised. Neither the local planning tools nor even the regional coastal management strategy can reconcile economic development and resilient urban planning in the absence of coastal governance.

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TERRITORIAL PLANNING AND ADAPTATION TO GLOBAL CHANGES. A CRITICAL ANALYSIS OF THE FRENCH STATE DOCTRINE ON THE COAST OF THE GULF OF LION

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Summary: The Mediterranean coast condition is worrying. The Gulf of Lion coast lower and sandy areas, densely urbanized, are particularly exposed to erosion. In addition, this coastline will experience by 2100 an increase in salt water intrusions, floods by marine submersion and damage to infrastructure due to sea level rise. The State first "left it to the developers" at the end of the 19th century, then decided to build new seaside resorts within the 'Mission Racine' the framework in the second half of the 20th century. The State now defends a "retreat doctrine" by relocating activities and people further away from the sea. However, this doctrine is opposed by economic actors and especially by local elected representatives, who have become the real architects of planning policies as a result of the 80' decentralisation. The adaptation of this very touristy coast, which was an international laboratory of architectural and urban innovation during the 1960s, therefore seems compromised. Neither the local planning tools nor even the regional coastal management strategy can reconcile economic development and resilient urban planning in the absence of coastal governance.

Keywords: Planning, coast, risk, resilience, Mediterranean

INTRODUCTION

Sea level has risen 20 cm since 1900. It will increase by another 20 cm by 2050, up to one meter by 2100, due to global warming (IPCC, 2019). Low-lying areas could become partially uninhabitable in 50 to 80 years because the coastlines – defined as the areas of contact between land and sea – will experience an increase in salt water intrusion, floods by marine submersion and damage to infrastructure (transport, energy, etc.) due to erosion. In this context, the Gulf of Lion coast, which is mainly low and sandy, is already experiencing major upheavals, as in the past. The Gulf of Lion stretches between Cap de Creus in Catalonia (Spain) and Cap Sicié in Provence.

In the Languedoc, it runs for 220 kilometres from 'Le Grau-du-Roi', at the edge of the Camargue (Rhone delta) to ´Cap Cerbère' on the border with Catalonia. With 40,000 hectares of ponds and lagoons in the background, this coastline is now dedicated to mass tourism and welcomes some ten million tourists a year. The seaside resorts resulting from the 'Mission Racine´, which emerged from the ground between the 1960s and 1970s, illustrate the modernity of tourism turned towards a new use of sand and the sea. But global warming is profoundly changing society's relationship with the sea. The seaside resorts imagined in the past are not resilient to hazards. However, two-thirds of the coastline is affected by erosion. The coast is also periodically and locally affected by floods due to marine submersion.

Figure 1. The Lion's Gulf coast

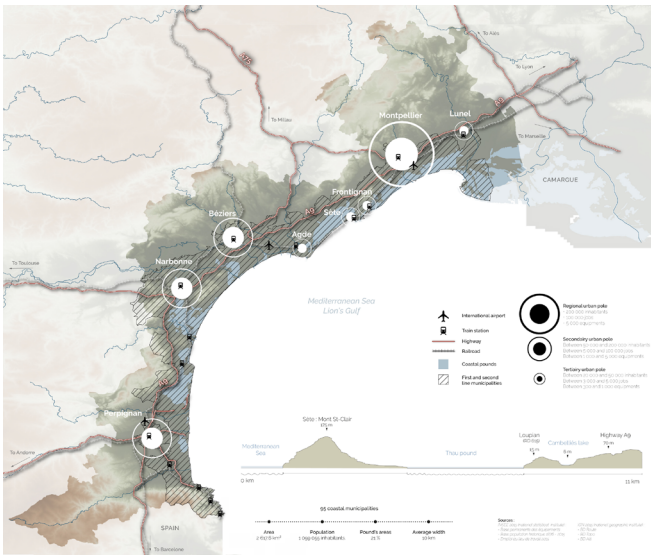


Figure 2. Location of municipalities

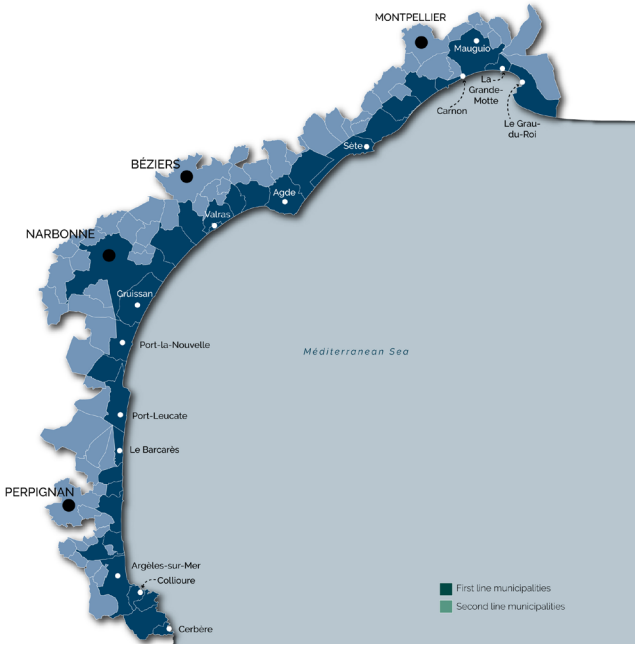


Figure 3. Built surfaces under 2 m

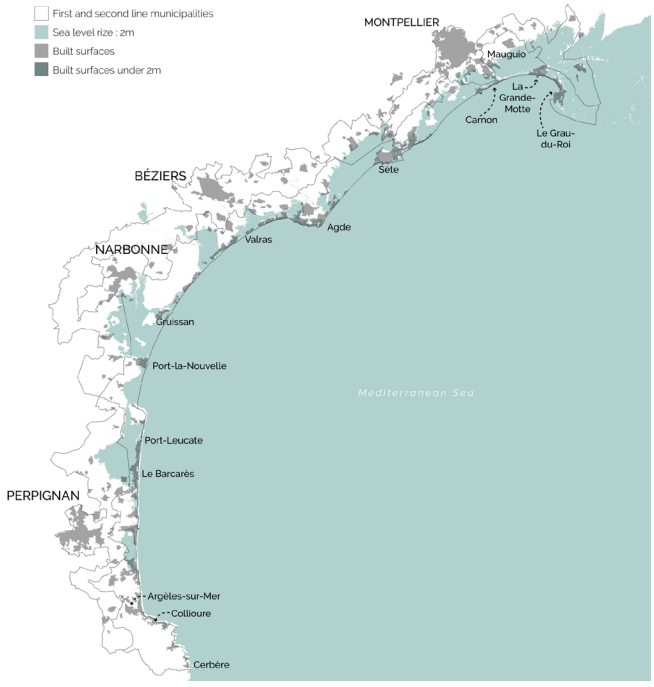


Figure 4. Coastal erosion map

Aware of the limits of heavy protection against hazards, the state now encourages coastal municipalities to choose alternative approaches. It is a question of both moving back the activities and dwellings most exposed to natural hazards, while developing technical and social innovations. However, this new doctrine is met with great opposition from local mayors. Indeed, they are highly dependent on the tourism industry and have increased their jurisdiction since the state decentralization laws of the early 1980s. They decry the lack of financial resources to defend themselves against the sea, a legal framework still very restrictive - despite the relaxation of the 1986 littoral law - and the absence of a strategic vision on the state side. And for good reason, since the decentralisation acts and the gradual strengthening of inter-municipalities jurisdictions, the State has been disengaging from coastal development. However, the Ministries of Ecology and the Interior retain responsibility for the policy of natural hazards and civil security.

Our work suggests that neither the planning instruments related to natural hazards and urban planning, nor the National Strategy for Integrated Coastal Zone Management (SNGITC), allow for the reconciliation of economic development and resilient urban planning in the absence of governance at the coastal scale. Resilience, increasingly called for by local executives, does not find locations in which it would become operative. In other words, demonstration projects are rare. The results obtained in Vias, one of the five experimental areas launched by the Ministry of Ecology, Sustainable Development and Energy in 2013, are disappointing. Moreover, the variety and geography of hazards are underestimated. This accentuates the systemic nature of risk -which is created by putting high stakes a hazard can occur- and conflicts between the coastal and the retro-coastal arc territories. Finally, the sites formerly developed for tourist that beneficated a natural restoration are limited to a few symbolic places. This is the case, for example, of the Sète lido in Marseillan. Consequently, nature-based solutions remain a myth on the Occitanie coast. The Gulf of Lion coast adaptation, which was nonetheless an international laboratory of architectural and urban innovation (thanks to the 'Mission Racine'), seems temporarily compromised.

After a review of the methodology and theoretical framework of the research, the article returns to the 'Mission Racine', a state project that caused profound geographical changes. Then, on the basis of surveys of local actors (mayors, tourism companies, etc.), the article shows that the State is developing, on the one hand, a controversial strategy of adaptation to climate change and erosion, and, on the other hand, planning tools that are partially unsuited to the continuous transformations of the coastline. The paper emphasizes the difficulty of uniformly applying a "fallback" doctrine on coastal territory that local elected officials consider unrealistic. The paper also argues that the concept of resilience can open up opportunities for a regional sustainable development site similar to 'Mission Racine', implemented 50 years ago.

CONTEXT: ELEMENTS OF INSTITUTIONAL AND REGIONAL CONTEXT

The Gulf of Lion coastline had a population of several tens of thousands in 1850. It was on this date that the first resorts were built. The number of permanent inhabitants in the 35 coastal municipalities exceeds 350,000 in 2020. The 'Mission Racine', a vast coastal development plan decided by the State in the years 1960 explains its tourist development (Lochard, 2016; Parrinello & Becot, 2019). At that time, it was necessary to control the anarchic development of the coast and equip it (marinas, highways, hotels, sewage treatment plants, etc.) for mass tourism (Racine, 1980). Every summer now, the 22 seaside resorts attract 8 million tourists. This means that this coastline, once repulsive because of raids, storms and mosquitoes, has become attractive like the neighbouring regions of the French Riviera and the Costa Brava (Brun et al., 2022).

The 'Mission Racine' is one of the components of the national land use planning policy. It was carried out by an interventionist and planning state, particularly during the Gaullist period (The Charles De Gaulle governance period). The state remained strong until the end of the 1970 '30 glorious', the oil crisis of the early 1990s. This period corresponds to the end of full employment, which weakens the State, whose debt is growing. Successive governments are increasingly criticized by local elected officials on the grounds that the decisions taken are based on uniform and top-down public policies, unsuited to local specificities. "Everything is decided in Paris" they say in the provinces. Despite the implementation of a policy of planning and reconstruction in the immediate post-war period, the creation of the delegation for spatial planning and regional action (DATAR) in 1963 and a proactive policy of balance, the capital indeed concentrates a majority of wealth and power (Lacour & Delamarre, 2003; Bodiguel, 2006).

The socialist François Mitterrand assumption of power in 1981 accelerated the decentralization process; the few previous attempts in this direction having failed (Greffe, 2005). Under the leadership of the then French Minister of Home affairs Gaston Deferre, and with the strong support of Prime Minister Pierre Mauroy, the July 3rd 1982 and January 17th 1983 laws were adopted by Parliament. Decentralisation refers to the transfer of administrative competences from the state (e.g. planning and urban development) to more financially autonomous local entities or communities. After Act 1 (1982-2002), two other acts will follow (2003-2007 then 2008 to the present day); the legislator thus promotes the return of the territories to the scene of regional planning and increases the power of inter-municipalities without fundamentally calling into question the administrative organization of the country, nor the logic of governance. Theoning (1992) insists moreover on a paradox "in terms of decentralization, political power governs centrally".

Sixty years after the Racine Mission, the role of the State is changing (King & Le Galès, 2011). It 'governs from a distance' (Epstein, 2008) by leaving it to local authorities to implement local policies within nationally defined frameworks. The State thus ensures a certain control of these policies while devoting limited resources to them. Spatial planning policy has thus moved from a concept of distributing goods and services from the centre, during the so-called '30 Glorious' years, to public action through territorialised economic development projects in the 1990s and 2000s, and today to a mixed policies between this latter approach and a return to a desire for 'territorial cohesion' (Massardier, 2020). However, in the case of the coastline, the political autonomy of local authorities in terms of planning makes the regional implementation of the National Strategy for Integrated Coastline Management (SNGITC) chaotic.

The latter was set up in 2012 as an extension of the 'Grenelle de la Mer' (Sea Grenelle), launched in 2009. It is also a question of providing a political response to the forecasts of the IPCC – variable from one report to another (1990, 1995, 2001, 2007) but alarming – on the rise in sea and ocean levels. When the SNGITC was drawn up, experts predicted a rise in sea level that fluctuated between 40 and 80 cm depending on the scenario. The water level in the event of marine submersion by 2050 in the municipality of Frontignan is estimated at 2.2m NGF from the current level for a centennial event. In addition, after each major winter storm, beaches recede or disappear due to erosion. To take the example of Frontignan, this was particularly the case in 1982 and more recently in 2014. This process is neither new nor unique to the Gulf of Lions coast (Paskoff & Clus-Auby, 2007). But the situation is worrying financially according

to the Regional Chamber of Accounts of Occitanie (CRC, 2021). In addition, the mayors of coastal municipalities exposed to coastal risks of erosion and submersion find themselves today faced with growing complexity, between their obligations and responsibilities with regard to the safeguarding of the population and property and their desire for economic development. and social (Meur-Férec & Rabuteau, 2014).

In this context, the objective of the SNGITC is to better anticipate changes in the coastline and to facilitate the adaptation of the territories to these changes. It aims to strengthen the resilience of coastal areas by relying on the role of coastal natural environments, real assets in mitigating the effect of natural phenomena, in particular floods by marine submersion and erosion. In contrast, the 'Plan Littoral 21' (the 21-coastline plan), set up jointly by the Occitanie Region, the State and the Deposits and Consignments Fund in 2016, relies mainly on civil engineering (Brun et al., 2022). There is therefore an incompatibility, at least apparent, between the SNGITC and the the 21-coastline plan. This Plan is a large economical strategy for the coast's futur.

The natural hazards affect a large part of the country, which has a 18,000 kilometres coastline between metropolitan and ultra-marine territories. For example, the Xynthia storm that occurred in 2010 on the Atlantic coast highlighted the much too late deployment of the Flood Risk Prevention Plans (PPRi), created by the Barnier law in 1995 (Vinet et al., 2012). The insufficient deployment in a low-lying area exposed to various hazards is all the more inexcusable as the 'PPRi' are themselves preceded by much older procedures such as the 'Plans de Surfaces Submersibles' (P.S.S.) and the 'Plans d'Expositions aux Risques' (P.E.R.). The storm has also shown that dykes and other heavy-built construction, weakened by the energy of storms and swell, or not high enough relative to the event, do not guarantee the protection of property and people. Finally, it has revealed small illegal arrangements (Brouant, 2014), which echo those observed in our Languedoc study areas. In addition, erosion causes local trauma, highly publicized, such as the building evacuation 'Le Signal' in the Gironde department in 2014. France has 650 km of receding coastline, including 270 km at an average speed of 50 cm per year, while the population density on the coasts is currently 2.5 times higher than the national average, with an expected upward trend.

In response to the *Citizen's Agreement for the Climate* installed in 2019 after the *Great National Debate* (2018), the Law No. 2021-1104 of August 22, 2021 on the fight against climate change and strengthening resilience is voted. Known as the Climate and Resilience Law, it is adopted by Parliament. It devotes the existence of the 'SNGITC' and puts in place tools at the disposal of the territorial communities to adapt their planning action and their planning policy to the retreat of the coastline. Even before the adoption of this law, planning tools were evolving in favour of environmental protection. The legislator thus adopted the Solidarity and Urban Renewal Act in 2000 and provisions to combat urban sprawl. On the Gulf of Lion coast, these provisions have, at most, limited the urbanisation in the most remarkable areas hence the interest in revewing them in the context of a research project.

THEORETICAL FRAMEWORK AND METHODOLOGY

The research project (2017 and 2021) is funded by the 'Fondation de France'. Its local institutional partner is an organization made up of 89 municipalities responsible for implementing the Territorial Coherence Scheme (SCoT) for the Béziers region. The main objective is to understand the articulation (or lack thereof) between territorial planning, which is often controversial due to the complexity of its implementation (Desjardins & Leroux, 2007), and the necessary adaptation of coastal territories to climate and social changes. This question echoes that of Dugua et al. (2017) on the resilient city. Resilience refers, in physics, to the property of a material to return to its original form after a shock. It means, in psychology, the ability of an individual to overcome a trauma. By extension, the term – now very much in vogue among government and media organisations in Europe – is defined as the ability of an area to rebuild after a disaster. New Orleans is exemplary in this respect: affected by hurricanes Betsy and Katrina, it has rebuilt itself by learning from the events; its resilience is to be sought in a renewal of planning methods and an adapted design of its buildings with the memory of risk as the "common thread" of reconstruction (Maret & Cadoul, 2008; Amdal, 2012; Balsells et al., 2012). For a city impacted by an event, the aim is to avoid rebuilding it in the same way (Campallena & Vale, 2005).

The challenge is to develop preventive measures to include resilience and adaptation in older research on vulnerability (Adger, 2006). Even without the reconstruction shock, cities are adapting – urban systems are "guaranteed to fail" (Ahern, 2011; Serre et al., 2016). Initiated by the Rockefeller Foundation, the 100 resilient cities program offers a network for sharing expertise and opportunities for continuous improvement of its risk management practices. But the paradigm shift underlying the semantics of "resistance to resilience," reflected in changing public-policy styles and the discourse of international institutions, has no operational extension except for small-scale planning operations (Brun & Gache, 2013).

Moreover, the polysemy of the term fuels many debates on its use and its heuristic and operational relevance (Reghezza-Zitt et al., 2012). The concept of resilience has mobilized part of the risk-oriented scientific community for almost 20 years. On the other hand, works focusing on the critical retrospective analysis of urban projects in flood-prone areas are still poorly documented, including in France (Brun & Adisson, 2011; Rode et al., 2017). It is paradoxical because the development projects are always numerous. Moreover, the risk is in theory consubstantial with the project. The current period is breaking with the time of large land-use projects. The concrete coast, to defend it or to inhabit it, is behind us. Each site, depending on its location, altimetry and history, should guide the developers. Thus, the doctrine of retreat would gradually give way to resilient projects that would be based on both retreat and innovations inspired by other wetlands, making it possible to retain people and diversified economic activities without endangering them. After all, the coast of the Gulf of Lion has been a great laboratory of architecture and urban planning thanks to the Mission Racine. It can be so again and thus guiding the regions bordering the Mediterranean, which alone have a concentration of 500 million inhabitants.

However, the framework of our research project is not limited to the plasticity of resilience or to the relationship between this concept and the tools of territorial planning and integrated management (NITM). Indeed, this project is also an extension of the now numerous works on coastal governance which are now at the centre of many research projects (Rey-Valette & Antona, 2009). It is true that over the past forty years, the State has developed planning tools while developing strategies for managing coastal risks. Nevertheless, their implementation on the territories remains delicate. A discrepancy in positions between the State and local authorities is observed and testifies to a difficult territorialization of this policy (Mineo-Kleiner et al., 2021). In fact, the ongoing crisis in coastal public policies explains the challenge of a finalized research (Baron, 2017).

This one is widely defended by the 'Fondation de France' in its calls for successive projects. It also finds its place in several projects under the National Research Agency (CNRS). This is in particular why our

research system associates researchers with the mixed syndicate in charge of the SCoT. It is also dotted with workshops, like those set up by the architect-urban planner Christian Devillers. Indeed, a multidisciplinary team of six researchers led two urban planning workshops, one in Agde and the other in Montpellier. For two consecutive years, these workshops are permanently open to volunteer citizens and students from the Paul Valéry University in Montpellier and the National School of Architecture in Lyon. The workshops allowed fruitful exchanges with local actors. On the other hand, the inhabitants – solicited by other participatory mechanisms having the coast as their object – shunned the invitations made to them. At the same time, the team processed GIS data of different kinds to assess the nature, location, and damage caused by the rise of waters on the scale of the Gulf of Lion coast and the finer coast of southern Biterrois (Béziers region).

Three objectives are then sought: firstly, to materialize the various hazards by mapping them, in order to obtain support for workshops and surveys; show the systemic nature of coastal risks using examples; summarily evaluate the cost of the site for adapting buildings to the effects of global changes (climate, change in the frequency and intensity of hazards, etc.) and local changes (aging of infrastructure and buildings in particular). The research-team also analysed thousands of public archives (departmental and municipal archives) and private, mainly development projects, deliberations of municipal councils and minutes of meetings of engineers under local or regional planning: this very important corpus explains the place that the history of the development of this territory has finally taken over the research. With the help of the local partner, the team also carried out some thirty open interviews with public and private development stakeholders (local elected officials, banks, insurance companies, real estate developers, social landlords, State and local authority services, etc.).

At the beginning of 2021, a telephone survey was carried out (about twenty responses obtained and processed from actors already interviewed before) to assess how the health crisis could possibly change the local planning strategies and tools examined in the first major survey in 2017 and 2018. The controversies of yesterday certainly remain on the agenda. For example, the State's doctrine is severely criticised by elected representatives and technicians of local authorities, who consider it unworkable. But overall, the differences should not hide a certain confidence in the future – which the Mayor of Canet-en-Roussillon imagines "brilliant". The mentalities change: Those of the population and above all the mentalities of the elected representatives according to a SCoT mission officer from the so-called Bassin de Thau. At the end of this survey, it appears that the results of the program do not have to be questioned because of the social and health crises that the territories have experienced. The survey even suggests that these jolts could accelerate hazard adaptation projects.

RESULTS AND DISCUSSION

The last 150 years of tourist development have resulted in a massive and continuous urbanisation of the coastline. Our semi-directive interviews with local officials, officials, companies, and local associations suggest that planning instruments have limited effect because of lack of coastal governance and because the risk is often underestimated by the inhabitants themselves. The problem of governance is now at the centre of the debates because it conditions the implementation of an adaptation policy led jointly by the State and the municipalities in the face of hazards.

MISSION RACINE: THE LEADING STATE IN TOURISM DEVELOPMENT

Since the 19th century, private investors became interested in the coast of the Gulf of Lion. Tourism is then medical, cultural or festive, reserved for the richest and mainly during the winter (Ganibenc, 2022). After the war, everything accelerated. The adoption of the third (1956) and then the fourth (1969) week of paid holidays, the reduction of the weekly working time, the increase in purchasing power, the offers of works councils and the generalization of the car contribute to the advent of the leisure society (Corbin, 2001; Toulier, 2016). Faced with the 'solar tropism' of this period, the State wanted to control the development of tourism. The Languedoc coastline has been subject to haphazard urbanisation up to now (Racine, 1980; Sagnes, 2001).

The authorities want a 'French-style' Costa Brava in order to promote the growth of popular tourism. The challenge is to make the economy more coastal and largely dependent on wine growing. The stated objective is to welcome one million summer visitors. In 1959, Abel Thomas, engineer of the Maritime Engineers, chose the location of the future resorts. In order to avoid price flight, the State, through the Company of Bas-Rhone and Languedoc, acquires thousands of hectares. By avoiding land speculation, the state wins its bet. It was a painful process for the municipality of Mauguio, which was amputated from the south-east of its territory to create the Grande-Motte resort in 1974.

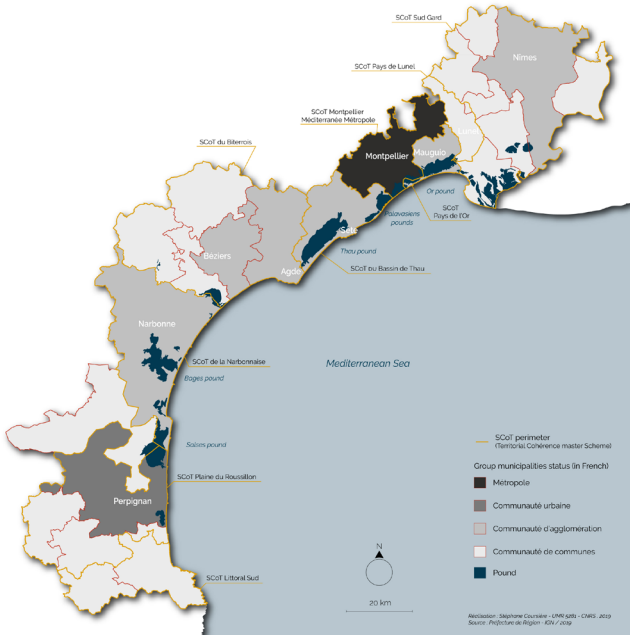
On 18 June 1963, Prime Minister Georges Pompidou signed Decree No. 63-580 on the creation of an Interdepartmental Mission for the Tourism Management of the Languedoc-Roussillon Coast. It is attached to the DATAR (delegation for regional planning and regional action) set up three months earlier. He appointed Pierre Racine (former chief of staff of Prime Minister Michel Debré) to his head with the help of senior officials. Like theInter-Ministerial Mission for the Development of the Aquitaine Coast (1967-1988), the Mission aims "to define the general planning program for the development of the Languedoc-Roussillon coast, to determine the means of implementation and to monitor its implementation by the State, Local authorities and by any public or private body acting with the assistance of the State or under its control". While major infrastructure works (bridges, roads, ports, afforestation) are the responsibility of the State, the construction of the stations is carried out by four mixed economy companies.

The architect Georges Candilis heads the Languedoc-Roussillon Coastal Development Agency (AALR). The first task of this agency is to establish the urban plan of regional interest (PUIR). This plan is based on five tourist units (La Grande-Motte, Cap d'Agde-Bassin de Thau, Gruissan, Leucate-Barcarès, Saint-Cyprien). The development plan includes the construction of recreational harbors and a network of roads, remediation, and, finally, the demmouting of ponds through an Interdepartmental Agreement created in 1956. Green belts are planned between each tourist unit in order to limit this urban expansion. The reforestation of the coastline covers 6,000 hectares. The decision to protect natural areas and to reforest is a pre-figure for the creation of the Coastal Conservatory in 1975 (Lochard, 2016).

THE COAST IN THE LOCAL MAYORS' HANDS

The appointment of a chief architect for each station, a status inherited from the Reconstruction period, allows overall control of the operation. The Racine Mission ended in 1983, a period which corresponds to act 1 of decentralization. However, the analysis of aerial missions and the surveys we have conducted show that it paradoxically precipitated the uncontrolled urbanisation of the coastline in

Figure 5. The map of Territorial Coherence Scheme (SCoT)



the 1980s and 1990s. Indeed, cuts in urbanization are planned by the PUIR. But many mayors are looking to catch up with their community's "backlog" in relation to new resorts. They have therefore urbanised rapidly, massively and often without consultation with neighbouring towns, including on the lidos which are highly exposed to hazards. According to our estimates, more than one million square meters will be, directly or indirectly, affected by 2100: housing, shops, public and private facilities must therefore be subject to strong adaptation measures. Urbanised areas have increased from 1,905 ha in 1950 to 21,489 ha in 2018 in the coastal municipalities alone.

The coastalization of the regional economy increases exposure to natural hazards by building houses and facilities within 500 metres of the sea. But tourism is not the only factor in the artificialisation of land. Indeed, the difficulties of access to housing encountered by households in central cities, the shortage of land deposits for large consumers of space (supermarkets, logistics, etc.), in direct competition with agriculture, explain the postponement or the accentuation of the pressures exerted by developers on the coastline, which is already very attractive.

The market thus gradually replaced the public authorities, as at the end of the 19th century (Delpous-Darnige, 2017). "Here it is the developers who make the rain and the sun shine," deplore the nature protection associations. Under these conditions, the tightening and diversification of urban planning tools have at most limited the urbanisation of the most remarkable areas. On the other hand, the Conservatoire du Littoral's land acquisitions, even if they are very specific, have made it possible to safeguard natural and agricultural land from urbanisation. According to the delegation of shores Languedoc-Roussillon based in Montpellier, the Conservatoire benefits from 46,000 hectares of perimeters on which its intervention is authorized and which are taken into account in the planning documents. These perimeters have 95% pre-emption zones under sensitive natural spaces allowing a possible intervention for each land change. In total, 14,000 ha (2019) have entered the Conservatoire's heritage in the former Languedoc-Roussillon since the end of 1970. In 86% of cases, the protections concern sites with high ecological stakes. For nearly one-third of its interventions, the Conservatory has helped to consolidate urbanization disruptions.

TO BURY ONE'S HEAD IN THE SAND

In the context of the urbanization of the municipalities exposed to the hazards, four options are possible for the state.

The first is not to undertake any defense work against the sea. The acceptance of setback can only be applied to nature areas where, in the absence of issues, it does not represent a risk. This is the position adopted by the Conservatoire du littoral, which accepts the idea of losing, in the long term, part of the plots of land acquired on sites that are now inalienable. By contrast, efforts to reload sandy beaches in precipitation are costly and often unnecessary, according toa very severe report on the management of this coastline of the Occitanie Regional Chamber of Accounts (CRC, 2021). That is why nature-based solutions are being tested. In turn, the lido de L'or and the one going from Sète to Marseillan were the subject of "renaturation" works co-financed by the State. The fact remains that unbuilted spaces are increasingly scarce especially near the shore.

The second option, hold the line, was based on the principle of maintaining the current coast at all costs by multiplying defenses against the sea. The disadvantage of this option is that it is constantly readjusted because the hazards change precisely because the development works (ears, dykes, etc.) change the importance of them. Under the leadership of engineers, this option has been widely implemented by local and regional authorities up to now. However, it has shown its limits. It should be spatially circumscribed to areas where the stakes are concentrated. This requires political arbitrations that local politicians delay because all economic activities contribute to territorial development.

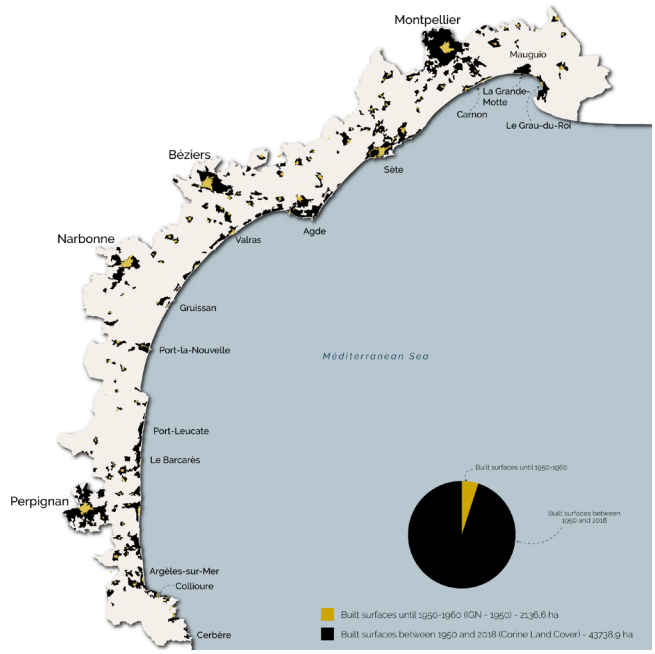
The third option is reserved for the richest territories, because it would be to move the line of defense toward the sea. That is, use backfilling technology to build infrastructure, such as marinas, in previously watermarked spaces. With the exception of the Principality of Monaco in the Mediterranean, Dubai, Singapore, and China, few powers are betting on the artificialization of the coasts for tourist, commercial, or even military reasons in the future. This strategy, for which the state once opted for the Racine Mission (drainage of large wetlands), is generating environmental controversy. That is why it has been ruled out.

A fourth option, retreat the line, is based on the idea of a strategic inward-looking turn. Parts of the Gulf Coast are now so vulnerable to the risk of marine submersion that the state favours this option: It plans to relocate some of the commercial and tourist activities away from the coast, which it once facilitated. However, this "retreat" strategy has sparked debate, because in the particular case of the Occitanie coast, relocation poses problems not found on the other French coasts, owing to the small Lido and the presence of lagoons in the back.

Where can we go back to in these conditions, ask the mayors? The zones of withdrawal are exposed to other hazards (fire, flooding by river overflow…). Moreover, the municipalities are poor, contrary to their image, as evidence of the very high unemployment and poverty rates in the South of Biterrois. Agde, for example, holds a sad record of 27,6% unemployment (according to the census for 15 to 64 years old in 2015). And, while the underground economy serves as a backstop in the 89 municipalities of the littoral and retro-coastal arc, none have a lower unemployment rate than the national average (2017). Finally, there is a dispersion of management and environmental skills. Each level establishes its own strategy (public institutions for inter-communal cooperation, departmental councils, Occitanie region), which fosters confusion and makes the articulation of tools impossible without governance.

Figure 6. The 'Mission Racine' map

Figure 7. Map of coastal urbanization



Moreover, neither the risk planning tools nor the land planning tools have been effective.

On the planning side, the coastal communities' lack of urgency is explained. Their altitude is low and the hazards varied, which condemns them to not build any more except to apply very stringent technical requirements. In Palavas-les-Flots, for example, in 2017, the municipal Council rejected the PPRI project. This plan provided that no construction would be possible, even on stilts, at less than 2 m above sea level. According to the mayor, elected in 1989, this would no longer allow the municipality to meet the present and future needs of the inhabitants. "Generally, the affected population and elected officials remain attached to places and property, causing a denial of the observed risks and foreseeable damage," reports the Regional Economic, Social and Environmental Council (CESER, 2019).

Property owners do not want their properties to be devalued and mayors do not want their municipalities to be classified (and therefore perceived) as vulnerable. Thus, in April 2022, on the coast of Occitanie, only one of them (Villeneuve-lès-Maguelone) agreed to appear in the list of French municipalities subject to erosion. Indeed, in application of the August 22 2021 Law n°2021-1104 of 22 'Climat et Résilience', an ordinance has been passed for the municipality's development exposed to coastline recession. With the help of the State, mayors will have to draw up maps of the risk of coastal recession in 30 and 100 years, a map that will serve as a basis for new urban planning rules, including building bans. In France, only 126 municipalities concerned out of 864 have committed themselves to this procedure. This means that the willingness to anticipate is limited... In addition, the flexibility of local planning tools – which can be revised according to the nature and location of planning projects – leaves mayors with the possibility of conducting their own local strategies. At the territorial level, Montpellier has been turning toward the sea for 20 years, while the coastal municipalities are invited to retreat. There is therefore a conflict of the strategies, all the more regrettable since all the local planning plans (SCoT of the 'Etang de l'Or' and SCoT of Montpellier) are still not coordinated.

THE PUBLIC POLICY FRAMEWORK

The SCoT is, however, established by public institutions of inter-communal cooperation and aim to bring all the policies in the field of housing, mobility, commercial development, environment and landscape into coherence. They are preferred tools for declining coastal law and principles of adaptation to climate change in connection with the Regional Integrated Coastal Trait Management Strategy (TISMS) and the Regional Scheme for Management, Sustainable Development and Equality of the Territories (SRADDET).

The SRGITC, established in 2018, is a decision-making aid to define short-term to long-term shoreline management modes adapted to a typology of spaces defined according to their vulnerability to coastal risks. It declines the state's current strategic vision for coastline management and sets out the principles and recommendations for its implementation. The main objective of the SRGITC is the prioritisation of management methods according to the sectors of the coastline. To this end, the SRGITC of Occitanie defines recommended, compatible or incompatible management modes for different coastal areas. The SRADDET strengthens the planning role of the Regions, which are invited to formulate a political vision of their spatial planning priorities through an integrating document. This document is prescriptive for planning documents. It includes an adaptation component of the coastline to climate change.

The inclusion of a coastline component is not mandatory in a SCOT, but the coastal SCOT – 8 in Occitanie – may include such a chapter, which may then be worth the Sea Development Scheme. It shall describe the conditions of use of the marine and coastal space, determine the general vocation of the different parts of that space and the standards and requirements relating thereto. According to the Master Plan of Management and Management of the Rhone-Mediterranean Waters (SDAGE), the coastal SCOT should now include the issues of coastal erosion and marine submersion. But for the time being, these issues are still little or poorly taken into account, and in a very unequal way depending on the territory.

To return to the Rhone-Mediterranean basin, the PGRI (Flood Risk Management Plan) sets large-scale priorities and guides the way in which the multiple flood prevention tools can be used locally. This

document supports the implementation of the "Flood Prevention" jurisdiction of the GEMAPI (Aquatic Environment Management and Flood Prevention) now devolved to communities. It includes a coastal erosion and marine submersion component. The aim of the PGRI is to preserve the natural areas useful for the flow of coastal floods in relation to the AMAA integrating the impact of climate change on the sea level. It reserves the coastline-fixing devices strictly to the coastal areas with major issues and not relocatable. It establishes a regional doctrine applicable to all PPRL (Coastal Risk Prevention Plans).

A FALLOW GOVERNANCE

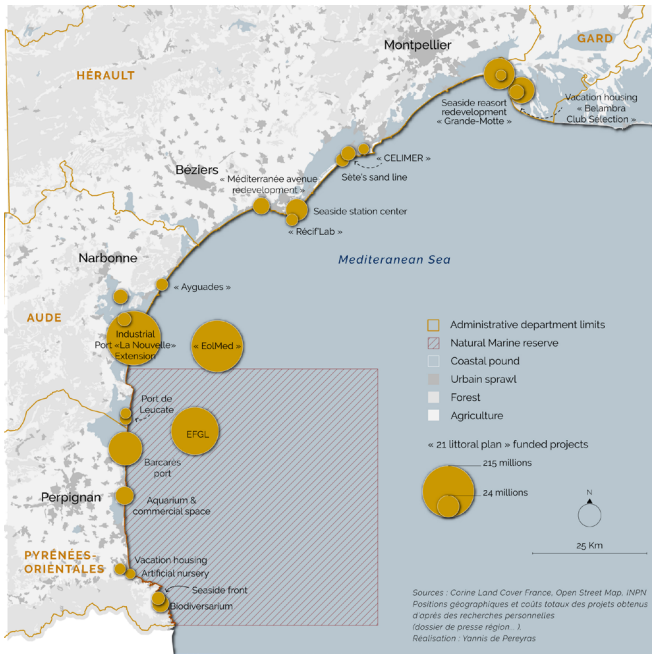
From Abel Thomas to Pierre Racine, senior officials have painted a dark picture of the Gulf of Lion, in order to justify strong state intervention in supposedly empty or under-equipped territories. The Mission Racine had therefore encountered difficulties in the face of local elected officials very early: Class tourism, storms the Communist Party. "Illiberal state intervention" deplores some right-wing circles" (Kalaora & Konitz 2004, p.88). Moreover, the municipalities of Gruissan or Valras did not expect the state to assert from the interwar period the tourist vocation of their municipality, by taking special provisions on taxation or urban planning.

Almost all elected officials eventually agreed, however, sometimes succeeded in amending it locally to make the most of the resources allocated to the Mission Racine. At that time, the "all-tourism" model also faced challenges within the state. Engineers on bridges and roadways oppose engineers on forests and waters about urbanization in the context of life. Even today, there are still debates between the Regional Directorate of the Environment for Planning and Housing (DREAL Occitanie) and the Territorial and Sea Directorates. The first is more oriented toward protecting the environment, whereas the second is said to be under direct pressure from mayors "who wants to develop their territories…".

In addition, the performance of the Mission Racine is contrasted according to the Economic and Social Council of the former Languedoc-Roussillon region (2010). The organization denounces the Mission Racine's disinterest in the retro-coastal arc, where services and equipment are less numerous and tax revenues are limited because companies are preferentially located in coastal communities. As a result, retro-coastal municipalities are now refusing to "accept climate refugees at any cost" from the coast to paraphrase a mayor. Other municipalities are more open but regret the lack of a place for consultation. Perhaps the National Association of Coastal Elus (ANEL) will fulfill this function? The mayors and environmental associations we interviewed doubt this. Created 40 years ago, ANEL sits in many decision-making bodies (pleasure, fishing, the environment…) in order, according to them, to "defend the interests of the coastal communities: It is a lobby, not more."

At the regional level, a Parliament of the Sea was launched in 2013 in Sète (Hérault) under the impetus of Christian Bourquin, then President of the Languedoc-Roussillon region (today merged with the Midi-Pyrenees region in Occitanie). In 2016, Carole Delga, who became President of the new Occitanie region, decided to relaunch this Parliament in the perspective of a new "blue growth". A more elaborate assembly, composed of 200 members from the communities, the economic, associative or civil society, now sits there to launch the new work of this unique forum in France, on a regional scale. At this stage, however, it is less a matter of structuring coastal governance than of developing commercial development projects. At the same time, on 10 March 2017, in Montpellier, a framework agreement signed between the region, the State and the Deposits and Consignments Fund, provides for the period 2017-2020 to mobilize nearly one billion euros for the actions of the 21-coastline plan, including 300 million from the region.

Figure 8. The 21-coastline plan



The Prime Minister's speech that day showed the State's renewed interest in the coastline. It emphasizes the new distribution of the roles assigned to the players of the coast: "Projects today no longer come from above. They come from the territories, carried by local actors and built in partnership with the State". In July 2018, the Littoral 21 plan allows 150 files to be committed for a total of EUR 250 million. The risk of the Coastal Plan 21 is to respond in haste to equipment deficits without sketching a collective background work in favour of adaptation to the major climatic, ecological and social issues (Brun et al., 2022).

The time of 'Mission Racine' is, in any case, over. Firstly, the State is no longer the only one to decide on actions to be taken in terms of regional planning, in particular by virtue of the first decentralisation laws of 1982 and 1983, the law of 27 January 2014 on the modernisation of territorial public action and the affirmation of metropolises, and the NOTRE law adopted one year later by the legislator. Its role is to initiate public policies, co-finance and monitor – where it is responsible – the work in progress. Secondly, consultation is a necessary part of any development plan. In this case, the 21-coastline plan has been discussed extensively with local authorities, regional economic actors and the parliament of the Sea. And, finally, periodic calls for projects punctuate the implementation of the plan – renewed today. It is premature to assess the results. It appears, however, that the projects that have been selected and funded are not predominantly environmentally innovative. Moreover, the unequal treatment between the coastal municipalities (favoured by the plan) and those located in the backhoe-coastal arc does not facilitate the solidarity necessary for the strategy of retreat: governance is under way!

As recommended by CESER (2019), financial solidarity at the national level must be respected, not leaving the burden of financing the arrangements to territorial authorities alone. Local taxation will not be enough to generate resources commensurate with the size of the need. Operational solidarity must be established in the management of extreme weather events. According to our investigations, the greatest future challenge is the ageing of the resorts themselves. The large apartment blocks contain thousands of studio cabins once designed for holidaymakers. These studio cabins are expen-

sive to expand, where technically possible, into flats for year-round households. In addition, the infrastructure is oversized and requires significant work since construction in the years 1960.

Finally, the low number of social housing units in resorts condemn them to remain has seasonal cities: Crowded in the summer and empty the rest of the year. The modernisation of resorts can therefore no longer be ignored and separated from the climate change adaptation strategy: it is, in fact, one and the same challenge. This is how the negative and anxiogenic discourse on coastal erosion denounced in the Buchou report (2019) can change. He pleads in favour of the 'coastal dynamic' by insisting on the importance of adapted tools and the inventiveness of the territories. In fact, the conceptual and operational advances in architecture and urban planning on the scalability and reversibility of the functions of buildings, including existing ones, opens new perspectives (Peiro et al., 2022).

CONCLUSION

After the period of major construction work from the late 1950s to the 1980s, the principle of balance between built-up and natural areas in the regional plan seems to have been forgotten. The local authorities, which have become the architects of urban planning policies, have extended the State's planning action locally with the aim of strengthening the tourist appeal of the coast. But in a piecemeal fashion and without taking into account the warning signs of increasing vulnerability to hazards and economic and social difficulties. The problem is not unique to Languedoc: The residential and tourism dynamic has not been exclusive to the French coast, on the contrary. Decentralisation and the strengthening of inter-municipalities have therefore favoured a "laissez-faire" by political choice, strategic deficit or lack of means to the benefit of private investors (banks, insurance companies, but also private individuals), and this in spite of the legislative and regulatory provisions that are supposed to limit the 'concretization' of the coastline. Finally, territorial planning has limited the urbanization of shorelines, not more. Even today, SCoTs are slow to integrate the principle of strategic withdrawal.

BIBLIOGRAPHY

Adger, W.N. (2006). "Vulnerability". *Global Environmental Change*. 16-3:268-281.

Ahern, J. (2011). "From fail-safe to safe-to-fail: Sustainability and resilience in the new urban world". *Landscape and Urban Planning*. 100:341-34. DOI: 10.1016/j.landurbplan.2011.02.021

Amdal, J. R. (2012). Urban resilience in post-Katrina/Rita New Orleans. In D. Serre, B. Barroca & Laganier R. (Eds.), *Resilience and Urban Risk Management* (79-100). London: Taylor & Francis.

Balsells, M., Becue, V., Barroca, B., Diab, Y. & Serre D. (2012). Flood resilience assessment of New Orleans neighborhood over time. In D. Serre, B. Barroca & R. Laganier (Eds.), *Resilience and urban risk management* (151-166). London: Taylor & Francis.

Baron, N. (2017). Coastal public policies and targeted research: practice and concepts evolution. *Natural Science. Society*. 25, S36-S41. DOI: https://doi.org/10.1051/nss/2017035

Bodiguel, J. (2006). DATAR: a 40 years' history. *Revue française d'administration publique*. 119 (3):401-414. https://doi.org/10.3917/rfap.119.0401

Brouant, J. (2014). The Xynthia storm concequences : the agreements for illegal constructions. *Annales de géographie*. 700, 1381-1392. https://doi.org/10.3917/ag.700.1381

Brun, A. & Adisson F. (2011). Urban renewal and flood risk: the Seine-Ardoines masterplan, Cybergeo: *European Journal of Geography*. URL : http://cybergeo.revues.org/24751

Brun, A. & Gache, F. (2013). Flood risk in the greater Paris: is resilience a operative concept?, *VertigO*. DOI: https://doi.org/10.4000/vertigo.14339

Brun, A., Ganibenc, D. & Maléfant, L. (2022). The tourist development of the coast of the Gulf of Lion. From the "Mission Racine" to the Plan 21. *Études héraultaises*. 58 : 65-79.

Buchou, S. (2019). *What coast for tomorrow? Toward a new coastal land planning suitable for climate change,* Rapport remis à Monsieur le Premier Ministre et à Madame la Ministre de la Transition Écologique et Solidaire.

Campallena, T. & Vale L. (2005). The resilient city: How modern cities recover from disaster. New York, NY: Oxford University Press.

Citores, A. (2010). Sea and marine environment: waters between two accords. *Revue juridique de l'environnement*, 81-93. https://www.cairn.info/revue--2010-5-page-81.htm.

Corbin, A. (ed.) (2001), *The leisures advent*, 1850-1960. Paris: Flammarion.

Delpous-Darnige, C. (2017) Mayors and central State in the Lion's Gulf coast touristic planning. *Cahiers de la Méditerranée*. 94: 107-120.

Desjardins, X. & Leroux, B. (2007). The territorial coherence schemes : from sustainable development to territorial DIY. *Flux*, 69: 6-20. https://doi.org/10.3917/flux.069.0006

Dugua, B., Delabarre, M. & Novarina, G. (2017). Planning and adapting to climate change in Europe, in I. Thomas et A. Da Cunha (eds.), *The resilient city*. Montréal : Presses de l'université de Montréal, 267-289.

Economic, social and environmental Council, Occitanie (2019). The effects of climate change on the Occitanie coast. https://www.ceser-occitanie.fr/wp-content/uploads/2020/06/AVIS-LES-EFFETS-DU-CHANGEMENT-CLIMATIQUE-SUR-LE-LITTORAL-OCCITANIE.pdf

Epstein, R. (2008). Urban renovation: demolition and reconstruction of the State, Doctoral thesis in social sciences. ENS Cachan. https://www.theses.fr/2008DENS0037

Ganibenc, D. (2022). Coastal towns in the Hérault in the 19th century. *Études Héraultaises*. 58 : 53-63.

Greffe, X. (2005). Decentralization. Paris : La Découverte.

Kalaora B. & Konitz A., (2004), The littoral conservatory: between patrimonialization and mediation, *Annales de Géographie*, 113 (635) : 87-99. https://doi.org/10.3406/geo.2004.21411

King, D. & P. Le Galès, (2011), The State's reshaping sociology, *Revue française de sociologie*, 52, 453-480. https://doi.org/10.3917/rfs.523.0453

IPCC, 2019: Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate.

Lacour C. & Delamarre, A. (2003). 40 years of land planning. Paris : La Documentation Française.

Languedoc-Roussillon's economic and social council (2010). *Seaside resorts requalification in the Languedoc-Roussillon's coast*. http://www.cesdefrance.fr/pdf/1095

Lochard, T. (2016) The Languedoc-Roussillon's seaside reasorts, *Études Héraultaises*. 46: 65-74.

Maret, I. & Cadoul T. (2008). Urban Resiliency and Sustainable Building: What Can We Learn from New Orleans? *Annales de Géographie*, 663, 104–124. https://doi.org/10.3917/ag.663.0104

Massardier, G. (2020). Aménagement du territoire. In R. Pasquier (ed.), *Dictionnaire des politiques territoriales*, 39-45. Paris : Presses de Sciences Po. https://doi.org/10.3917/scpo.pasqu.2020.01.0039

Meur-Férec, C. & Rabuteau Y. (2014). Plonevez-les-Flots: a fake land to illustrate the local's dilemma facing the coastal risks management. *L'Espace géographique*, 43: 18-34. https://doi.org/10.3917/eg.431.0018

Mineo-Kleiner, L., Perherin, C., Meur-Férec, C. & Noûs, C. (2021). The territorialization costal risks management hardship in France. *Annales de géographie*, 738: 50-76. https://doi.org/10.3917/ag.738.0050

Peiro, M., Sotinel, F. & Bouvier, L. (eds) (2022). Evolutive and reversible architecture: shapes and disposures. Rennes : Les Publications du GRIEF.

Parrinello, G. & Bécot, R. (2019). Regional Planning and the Environnemental Impact of Coastal Tourism: The Mission Racine for the Redevelopment of Languedoc-Rousssillon's Littoral, *Humanities*, 8/13, 39-47.

Paskoff, R. & Clus-Auby, C. (2007) The beaches'erosion: causes and remedies. Paris/Monaco: Institut Océanographique

Racine, P. (1980), *Impossible mission? The touristical planning of the Languedoc-Roussillon*, Montpellier : Midi Libre.

Reghezza, M., Rufat, S., Djament, G., Le Blanc, A. & Lhomme, S. (2012). What resilience is not: Uses and abuses?. Cybergeo: European Journal of Geography. https://doi.org/10.4000/cybergeo.25554

Regional finance chamber (2021). The management of the coastline and the recomposition of the coastline. https://www.ccomptes.fr/system/files/2021-11/OCR2021-55.pdf

Rey-Valette, H. & M. Antona (2009) Governance and integrated coastline management : the french study case. *VertigO*, 9-1. DOI : https://doi.org/10.4000/vertigo.8455

Rode, S., Gralepois, M. & E. Daniel-Lacombe (2018). Transactions between the city and flood: towards a resilient urban design. *La Houille Blanche*, 3, 34–40. https://doi.org/10.1051/lhb/2018030

Sagnes, J. (ed) (2001). *Two centuries of tourism in France*. Perpignan : Presses de l'Université de Perpignan.

Serre, D., Barroca, B., Balsells, M. & Becue, V. (2016). Contributing to urban resilience to floods with neighbourhood design: the case of Am Sandtorkai/Dalmannkai in Hamburg. Journal of Flood Risk Management, 11, 69–83. https://doi.org/10.1111/jfr3.12253

Theonig, J.-C. (1992). La décentralisation, dix ans après. *Pouvoirs*, 60 :5-16.

Toulier, B., (ed) (2016), *Everyone to the beach! Seaside cities from the 18th century to our days*. Paris: Liénart éditions.

Vinet, F., Defossez, S., Rey, T. & L. Boissier (2012). Marine submersion risk production process: the Xynthia territories study case. *Norois*, 222, 11-26. https://doi.org/10.4000/norois.3834