

Subnational Evidence Advisory Bodies for Coastal Governance: Institutional Design and Governance Paradoxes

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Abstract

In multilevel governance systems, regional authorities establish advisory bodies to integrate scientific, professional, local and experiential knowledge into environmental policy-making. Yet research on policy advice remains concentrated on national policy advisory systems and pays limited attention to how evidence is organised and used in coastal governance. This paper examines subnational evidence advisory bodies in coastal governance. Drawing on document analysis and semi-structured interviews, it presents preliminary findings from Spain and France within a three-country study including Italy. Four dimensions of institutional design – composition, position, institutionalisation and interaction with decision-makers – are used to explain how advisory bodies manage three governance paradoxes: inclusiveness versus efficiency, autonomy versus authority, and stability versus flexibility. Findings indicate that no design resolves these tensions. Instead, the effectiveness of evidence advice depends on how advisory bodies combine broad participation with workable deliberative structures, maintain sufficient independence while remaining connected to policy-makers, and secure organisational continuity without limiting adaptation. The paper contributes to research on policy advisory systems and collaborative governance by showing how institutional design structures knowledge integration, coordination and adaptive capacity in Mediterranean coastal regions.

Keywords: environmental governance, governance innovation, collaborative governance, evidence advisory systems, intergovernmental relations

1. Introduction

Environmental degradation is the result of multiple interconnected crises, including biodiversity loss, resource overexploitation, climate change and pollution (Ojija & Nicholas 2023; Pörtner et al. 2021). Coastal areas are especially exposed to these crises because they combine ecological fragility with intense anthropogenic and climatic pressures (Pagán et al. 2017). They are also complex socio-ecological spaces in which land- and sea-based pressures converge, interact and reinforce one another (Lam et al. 2020; Selig et al. 2019; Singh et al. 2018).

Faced with public problems of this complexity, governments have increasingly relied on science advice (Doubleday & Wilsdon 2012; Glynn et al. 2001) and created institutional mechanisms to ensure that the best available science informs public action (Capano et al. 2025a; Kenny et al.

2017). Policy Advisory Systems (PAS) are generally understood as sets of state and non-state actors, organisations and practices that mobilise scientific knowledge to provide policy-makers with information, analyses and recommendations that can support policy-making and policy development for solving public problems (Craft & Howlett 2012; Kenny et al. 2017; Morales 2024; Quirion et al. 2016). They include public services, public sector commissions, scientific advisory committees, expert groups, think-tanks, consultants and academics (Capano et al. 2025b). PAS display substantial institutional diversity and high variation in design, composition, mandate and operation across countries and administrative traditions (Arimoto & Sato 2012; Bressers et al. 2018; Hallstrom 2004; Kenny et al. 2017).

Environmental policy has been a field of strong development of PAS, reflecting the complexity, uncertainty and contested character of environmental decision-making (Glasson & Therivel 2012). The systematic use of scientific analyses in environmental decision-making can be traced to environmental impact assessment in the 1970s (Caldwell 1993; Cashmore et al. 2015; Smith 1991). From the 1990s onward, scientific knowledge has become increasingly embedded in strategic planning, policy formulation and legislation.

The role of knowledge and its use in policy-making have occupied a central place in policy studies in the last three decades (Capano et al. 2025b; Hussain et al. 2025). Academic literature has extensively examined what science advice is and how it is arranged and delivered through PAS. However, little attention has been paid to “expert bodies” that form part of PAS; they can be defined as groups ‘of individuals with relevant expertise who are appointed by governments or other politico-administrative bodies vested with public authority. Their primary role is to provide advice to decision-makers, which is based on either their professional experience or evidence derived from research in the natural or social sciences’ (Capano et al. 2025a: 113). These bodies have been referred to in many different ways, with “panels” and “committees” often used instead of “bodies”, and the term “expert” often substituted with “technical” or “(scientific) advisory”. This paper uses the term “advisory bodies”.

According to Capano et al. (2025a), significant gaps still exist in the study of the organisation and functioning of these bodies. Furthermore, research has focused predominantly on national institutions, despite the growing importance of subnational authorities in environmental governance (Connell et al. 2025; Groux et al. 2018). At the same time, the concept of relevant knowledge has broadened beyond scientific and academic expertise to include professional, local and experiential knowledge within more collaborative forms of governance (Cairney 2022). This adds a layer of content to be investigated about these advisory bodies, since a broadened range of stakeholders bring diverse political perspectives into decision-making alongside technical knowledge (Capano et al. 2025a).

This paper examines the emergence and development of subnational evidence advisory bodies for coastal governance in Spain, France and Italy. It asks: How do subnational evidence advisory bodies manage the interconnected tensions between inclusiveness and efficiency, autonomy and authority, and stability and flexibility? To answer this question, it investigates how institutional design shapes knowledge integration, how advisory bodies operate in practice, and how differences in their organisation affect governance processes in the north-western Mediterranean.

2. Subnational evidence advisory bodies

Advisory bodies differ under many aspects, for instance in their composition and membership, position in the politico-administrative system, level of institutionalisation, and their interaction with decision-makers. Capano et al. (2025a) stress that the body of research on the characteristics of these bodies is still fragmented. Many classifications of advisory bodies have been produced in literature, based on different criteria or dimensions (Crowley & Head 2025). Table 1 offers one classification among the many possible ones (e.g., Bressers et al. 2018; Glynn et al. 2003; Groux et al. 2018; OECD 2017) and is purely instrumental to the argument of this paper with no ambition of generalisation.

The topic of the paper is *subnational evidence* advisory bodies. While advisory bodies have been defined in the previous section, the focus on the subnational dimension and the emphasis on evidence deserve further explanation.

Table 1: Major features of evidence advisory bodies

COMPOSITION	
<i>Expertise of members</i>	• Scientists (only), Mixed (including non-scientists)
<i>Status of members</i>	• Self-representation, Delegation
<i>Scope</i>	• <u>Specific</u> , Broad
POSITION	
<i>Institutional location</i>	• Executive, Legislature
<i>Timing in the policy cycle</i>	• Agenda setting, Policy formulation, Decision-making, Policy implementation
<i>Degree of integration</i>	• Internal (i.e. inside government), External (e.g., think tanks and policy lab), <u>Hybrid</u>
INSTITUTIONALISATION	
<i>Mandate</i>	• Statutory, Non-statutory
<i>Resources</i>	• Fixed budget, On assignment
<i>Duration</i>	• <u>Permanent</u> , Ad-hoc
INTERACTION WITH DECISION-MAKERS	
<i>Advice generation</i>	• Reactive, Proactive
<i>Response to the advice</i>	• Compulsory, Not foreseen
<i>Type</i>	• Informal, Deliberative, Technical, Regulatory, Others

First, in multilevel governance systems, decentralisation reforms have transferred environmental responsibilities to subnational authorities (Bechtel & Urpelainen 2015). Regional governments have consequently become pivotal in the governance of environmental matters and have, thus, established advisory systems and bodies of their own (Brugué et al. 2021; Connell et al. 2025).

Second, scientific expertise has become indispensable to environmental policy-making (Krick et al. 2019). However, experts have faced declining public trust (Jordan et al. 2022). Eyal and Medvetz (2023) describe this as a “paradox of expertise”: societies increasingly depend on expert knowledge while becoming more sceptical of experts’ authority, independence and legitimacy. In this context, the same shift from government to governance, marked by participation, stakeholder engagement and inter-organisational collaboration (Cashmore 2004) has produced the need for a more plural and politically sensitive science-policy interface. These developments have challenged narrow definitions of evidence as pure scientific knowledge derived from randomised controlled trials, meta-analyses and systematic reviews (Parkhurst 2016; Sayer 2020). Such definitions are restrictive in fields shaped by wicked problems like the environmental domain, where technical uncertainty intersects contested values, beliefs and knowledge bases (Cairney 2022; Crowley & Head 2025; Head & Alford 2015).

In these cases, policy-relevant evidence needs to include a plurality of advisory sources, which includes scientific findings alongside experiential, professional, local, cultural and institutional knowledge (Pabst 2021; Smith-Merry 2020; Stewart et al. 2020). This broader conception reflects the participatory turn in public governance and, more precisely environmental governance, which recognises that societal actors possess resources and knowledge that complement formal expertise and governmental action on its own (Crowley & Head 2025; Krick et al. 2019).

These developments in the “governance era” call for a reconsideration of how policy advice has become ‘a complex set of competing relations and approaches, with tensions within and well beyond the state’ (Crowley & Head 2025: 646). In the environmental domain, subnational evidence advisory bodies are therefore not only mechanisms for transferring knowledge into policy-making. They also function as institutional arenas in which emerging tensions and persistent governance paradoxes are negotiated and managed. The “quest for evidence” entails an effort to maintain a dynamic equilibrium among competing institutional logics, stakeholder perspectives and forms of expertise. Regional governments face pressures for policy responsiveness, democratic participation

and scientific robustness under ecological uncertainty and political contestation. These demands are contradictory yet interdependent.

For instance, combining technical and stakeholder knowledge may create tensions between participation and representativeness, on the one hand, and efficiency, on the other (Braun & Busuioc 2020; Busuioc & Jevnaker 2022). Therefore, advisory bodies play a key role by organising, interpreting and transmitting expertise from various sources of knowledge to policy-makers, while keeping the process smooth and timely. Moreover, advisory bodies are expected to be autonomous and credible while remaining policy-relevant. Finally, they need to be territorially adaptive while aligned with national and EU frameworks.

Such tensions are not simply trade-offs requiring a one-off choice, but enduring and interdependent demands that advisory bodies must manage over time. Advisory bodies must reconcile competing demands for stakeholder participation and decision-making efficiency, scientific credibility and political relevance, flexibility and formalisation.

Recent theoretical developments suggest approaching these tensions with a “paradox” lens (Smith & Lewis 2011). The paradox perspective has recently moved beyond organisation studies into collaborative governance research. Qi and Ran (2024) conceptualise collaborative governance as structured by persistent and interdependent tensions such as inclusiveness versus efficiency, and autonomy versus authority, among others. These contradictory demands and tensions cannot be permanently resolved but must be continuously managed through adaptive institutional arrangements (Lewis & Smith 2022).

From this perspective, evidence advisory bodies are not neutral conduits of knowledge. They are arenas in which scientific, political and territorial logics, democratic expectations and policy imperatives are negotiated and stabilised. Their role lies not only in producing advice but also in articulating relationships among actors and managing tensions within decision-making (Ingaggiati et al. 2025). The paper attempts to adopt a paradox approach to the study of policy advice, which is often largely descriptive (Crowley & Head 2025). The paper examines in particular how subnational evidence advisory bodies navigate three interconnected paradoxes: 1) inclusiveness and efficiency; 2) autonomy and authority; 3) stability and flexibility.

3. Data and methods

This study adopts a qualitative comparative design to examine subnational evidence advisory bodies for coastal governance in Spain, France and Italy. The three countries share extensive Mediterranean coastlines and face comparable environmental and anthropogenic pressures (Pagán et al. 2017), while differing in the territorial distribution of authority. This supports a Most Similar Systems Design: the cases are similar in ecological exposure and governance context but vary in administrative structure and coastal competences.

The analysis focuses on NUTS2 coastal regions in the north-western Mediterranean basin (Figure 1). Islands are excluded because their remoteness and peripheral characteristics may generate institutional dynamics distinct from those of mainland regions (Walsh 2025). (Advisory bodies primarily concerned with other sea basins, such as the Atlantic coast of France or Spain, are excluded due to the geographical scope of the paper).

All three countries have regional authorities with environmental competences but different degrees of responsibility due to different state types (Kokkinos & Prinos 2019). Spain is a quasi-federal state in which autonomous communities may legislate, plan and implement environmental policy, including spatial planning and urban development in coastal areas. France remains a unitary state: regional and local authorities have administrative and fiscal autonomy, but the central state retains primary legislative authority, which produces overlapping and sometimes ambiguous competences (Ferraro & Failler 2024). Italy is a regional state in which environmental legislation is largely centralised, while regions exercise responsibilities for coastal planning, protection and monitoring (OECD 2013). Table 2 summarises these differences.

Figure 1: NUTS2 in Spain, France and Italy

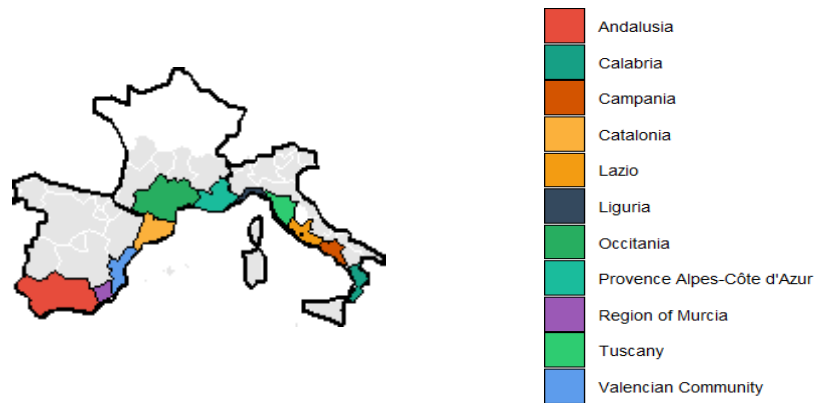


Table 2: Administrative structure and competences regarding the protection of the coastal zone

	Spain	France	Italy
<i>State type</i>	Quasi-federal	Unitary decentralised	Regionalised
<i>Role of regions in environmental policy</i>	Legislate Plan and implement	- Plan and implement	Legislate Plan and implement
<i>Competences in the protection of the coastal zone</i>	Shared competences (central, regional)	Shared competences (central, regional, local)	Shared competences (central, regional, local)

Source: adapted from Kokkinos and Prinos (2019)

The unit of analysis is the individual evidence advisory body operating at subnational level in coastal and marine governance. Empirical material was collected through desk research and semi-structured interviews. Desk research covered legislation, institutional documents, organisational websites and public directories, which were used to identify relevant bodies and reconstruct their formal characteristics. Interviews followed a common protocol adapted from previous studies on policy advice (e.g., Glynn et al. 2003; Sutherland et al. 2012; van der Hel & Biermann 2017). In this initial stage of the research, we conducted four exploratory interviews with four subnational evidence advisory bodies in Spanish and French regions. These interviews provided first evidence on institutional development, operational practices and relationships with decision-makers. More interviews will be scheduled in the coming months. Interviewees' accounts will be complemented with national and subnational legislation, institutional documents (e.g., constitutive acts) and archived organisational information. These sources are expected to enable comparison across countries and over time, and help identify how advisory bodies have evolved and become part of established governance arrangements. The four interviews correspond to the four cases discussed below: Interview A refers to the Catalan Maritime Co-management Council (CCCM), Interview B to the Catalan Institute for Research on Ocean Governance (CIROG), Interview C to the Parlement de la Mer in Occitanie, and Interview D to the Parlement de la Mer in Provence-Alpes-Côte d'Azur (PACA).

Documents and interview transcripts were coded deductively in two stages. First, evidence was classified according to four institutional dimensions: composition, position, institutionalisation, and interaction with decision-makers. Second, data analysis focused on emerging paradoxes (see section 2). Each advisory body was analysed individually before patterns were compared across cases and administrative systems.

3.1. Case selection

The selection of subnational evidence advisory bodies as case studies in this work proceeded in five stages with clear inclusion and exclusion criteria.

First, we identified a broad pool of advisory bodies involved in coastal and marine environmental governance in Spain, France and Italy. Identification combined academic literature, targeted web searches, official sources, public directories and snowballing. Iteration and triangulation across these sources were used to minimise omissions and verify relevance. This produced an initial pool of 113 organisations.

Second, we retained only bodies with a specific coastal or marine remit (table 1, “Scope: Specific”). Organisations addressing environmental issues more broadly (including biodiversity, water or climate change) were excluded. This improves comparability by limiting the sample to a shared policy domain and recognises that advisory arrangements are shaped by sector-specific governance cultures (Groux et al. 2018).

Third, we selected bodies whose territorial scope is regional. National-level organisations and local bodies (concerned with municipalities, individual coastal zones or specific ecosystems below the regional scale were excluded).

Fourth, we focused on bodies that were established by a political decision – not as independent bodies established autonomously by their members – but distinct from executive or legislative branches (table 1, “Degree of integration: Hybrid”). The focus on *appointed* bodies provides insights on the political demand of advice as well as its supply (Capano et al. 2025a). Following Halligan (1995), this excludes advice produced directly inside government by civil servants or ministerial units, as well as advice supplied externally by universities, consultancies, think tanks, trade unions or community organisations. The selected “hybrid” bodies are established or formally recognised by government or parliament but retain a distinct organisational identity and some level of autonomy (Crowley & Head 2025; Groux et al. 2018).

Finally, we retained only permanent bodies, excluding temporary commissions, programmes and project-based arrangements (table 1, “Duration: Permanent”). Permanent bodies offer greater continuity, institutional memory and capacity for sustained analysis, whereas ad hoc bodies generally respond to specific issues (Bressers et al. 2018; Groux et al. 2018). Although both forms may contribute to effective advisory systems, focusing on permanent organisations enables a more consistent assessment of institutionalisation and long-term governance effects.

These criteria justify the final set of advisory bodies presented in table 3 (that builds on table 1); the paper concentrates on regional, permanent, appointed bodies with a specific coastal or marine remit.

Table 3: Overview table

	COMPOSITION		POSITION		INSTITUTIONALISATION		INTERACTION	
	Expertise of members	Status of members	Institutional location	Timing in the policy cycle	Mandate	Resources	Advice generation	Response to the advice
SPAIN								
Consell Català de Cogestió Marítima <i>Catalonia</i>	Mixed	Delegation	Executive	Agenda setting Policy formation Implementation	Statutory	Fixed budget	Proactive Reactive	Not foreseen
Institut Català de Recerca per a la Governança del Mar <i>Catalonia</i>	Scientists	Self-representation	Executive	Policy formation Implementation	Statutory	Fixed budget	Proactive Reactive	Not foreseen
FRANCE								
Le Parlement de la Mer <i>Occitanie</i>	Mixed	Delegation	Executive	Agenda setting Policy formation	Non-Statutory	On assignment	Proactive	Not foreseen
Le Parlement de la Mer <i>Provence-Alpes-Côte d'Azur</i>	Mixed	Delegation	Executive	Agenda setting Implementation	Non-Statutory	On assignment	Proactive	Not foreseen
ITALY								
LaMMA Consortium <i>Tuscany</i>	Scientists	-	-	Policy formation Implementation	Statutory	Fixed budget On assignment	Reactive	Not foreseen
Osservatorio del Mare e del Litorale Costiero <i>Campania</i>	Mixed	Delegation	-	Policy formation Implementation	Statutory	Fixed budget	Proactive	Not foreseen

4. Subnational evidence advisory bodies: institutional design

The analysis presented in this section draws on the four exploratory interviews and desk research conducted so far in Spain and France (see section 3). Italian cases are not yet included and will be incorporated as fieldwork progresses; the institutional design dimensions and cross-case comparisons discussed below should therefore be read as preliminary and limited to the Spanish and French bodies.

4.1. *Composition: expertise and status of members*

Policy advice has traditionally been provided by individuals (e.g., chief scientific advisers), academies or advisory bodies (Gluckman 2014). These different arrangements often coexist (and sometimes) overlap (DG RTD 2015). Adapting from Van Damme et al. (2011), we analyse composition along two dimensions (table 1). The first is expertise. Some advisory bodies recruit primarily from academia, whereas others tend to bring together scientists, practitioners, civil servants and politicians (Bressers et al. 2018). The second is the representational status: members can participate in advisory bodies in an individual capacity or as delegates of an organisation.

The Catalan Maritime Co-management Council (CCCM) supports both strategic policy formulation and operational fisheries management. Its membership includes representatives of the Catalan Government, local authorities (at the subregional level), economic sectors (e.g., fisheries), employers and trade unions, municipal associations, environmental NGOs and research institutions thereby combining scientific expertise with professional knowledge. The CCCM has progressively expanded stakeholder participation, evolving into a broad participatory forum. The absence of Spanish State representation remains a recognised limitation (Interview A). Deliberation is consensus-based, which has prevented any single constituency from dominating outcomes – although formal voting has never been required. Divergent views are reported to the regional administration.

The Catalan Institute for Research on Ocean Governance (CIROG) is primarily composed of scientific and technical personnel operating under a close collaboration between the Catalan Government and the Spanish National Research Council (CSIC). Its advisory work centres on fisheries and operational oceanography. The scientific evidence it produces is complemented by fishers' knowledge (e.g., on stock assessment and management implications). Over time, CIROG has broadened its remit from fisheries advice to the broader domain of oceanography. However, stakeholder participation (both of the fishing sector and environmental NGOs) has remained stronger in fisheries; CIROG's work on oceanography mainly involves public authorities responsible for marine safety and emergency response (Interview B).

The Parlement de la Mer in Occitanie is the regional advisory body for maritime matters. Established in 2013, it includes public authorities, socio-professional organisations, NGOs, citizens' representatives and research organisations. All members are invited and act as delegates of their own organisations. Although participation varies by topic, it has broadened to wider citizen involvement and stronger engagement of the State authorities. In general, NGOs are usually more active than business and elected representatives. Work is conducted by dedicated working groups of the members; in addition, they can invite external experts on more technical issues. These working groups seek balanced representation and are generally limited to twenty participants to keep discussions effective (Interview C).

In Provence-Alpes-Côte d'Azur (PACA), an equivalent Parlement de la Mer exists. Established more recently (in 2022) as the successor of an earlier regional consultative body, it brings together institutional, professional, social and scientific perspectives with participants acting as organisational delegates. Here, too, the work is conducted by working groups formed on a temporary basis for specific tasks; they can involve external experts. Group composition varies by topic but seeks balanced representation and is capped at 40 participants (Interview D).

[Italian cases to be added here]

To sum up, composition across the four cases varies more in the expertise represented than in members' status. CIROG remains predominantly scientific and technical, although fisheries advice incorporates fishers' knowledge, whereas the CCCM and the two Parlements de la Mer combine scientific, professional, administrative and civic expertise. Representational status is comparatively uniform: members participate mainly as organisational delegates rather than in an individual capacity. This strengthens institutional and territorial representation, but makes efficiency dependent on organisational engagement.

4.2. Position: institutional location and timing

An advisory body's institutional location shapes both its audience and its role in policy-making. It may advise legislative bodies or the executive branch (e.g., cabinets, ministries and public agencies) at national or subnational level (Glynn et al. 2003). Legislative advice supports broader deliberation, scrutiny and comparison of alternatives, whereas executive advice typically addresses specific policy options and implementation needs (Kenny et al. 2017). Institutional location also influences when advice enters the policy cycle. Advisory bodies may identify emerging issues during agenda setting, develop options during policy formulation, support the execution of adopted measures, or assess outcomes during policy evaluation (OECD 2017).

The CCCM is a formal body appointed by the Catalan administration and chaired by the President of the Generalitat. It supports strategic policy formulation and operational fisheries management, while serving as an interface between public authorities and stakeholders. It is rather autonomous in translating local concerns into strategic priorities through a bottom-up approach. Its policy relevance derives from its statutory responsibilities, which include adoption of the national maritime strategy before its submission to the Government. The CCCM is particularly influential in the identification of priorities to set the policy agenda through the prompt engagement of stakeholders, in the validation of policy proposals and the adoption of strategic documents (Interview A).

CIROG is closely connected to regional and national public administrations, through formal governance structures and regular participation in technical and political meetings. While its work often responds to requests from regional public authorities, CIROG's activity has expanded beyond the original advisory role for the Catalan government; it also interacts with the Spanish fisheries administration and attends EU-level discussions. Its advice targets mainly policy implementation, particularly in fisheries management, quota negotiations and marine emergency response (Interview B).

Occitanie's Parlement de la Mer serves as liaison between the Regional Council and the maritime community. Created at the initiative of the Region, it lies formally outside the regional administration but maintains close informal links with it, particularly through its President, regional elected officials and staff of the Directorate for the Sea who operate in its structure. This facilitates coordination on marine and maritime affairs within the region. Indeed, the Parlement transmits local knowledge and stakeholder expectations into policy-making, particularly during agenda-setting and policy formulation (for instance supporting the adaptation of policy instruments and the funding of specific initiatives to territorial needs). Its influence largely depends on political and administrative contingencies (Interview C).

Similar characteristics are present in the case of PACA, where the Parlement de la Mer (established by the Region) connects the Regional Council with local marine and maritime stakeholders while remaining formally outside the regional administration. It maintains close informal links through the presence of elected representatives and civil servants (mainly from Directorate for the Sea and Coastline) in its organisation together with representatives from the civil society. These arrangements facilitate institutional coordination and dialogue with the stakeholders, while preserving the Parlement's autonomy. Indeed, its proposals emerge from collective stakeholder

deliberation, with elected officials acting mainly as facilitators. The body does not formulate policies but rather translate them into actions adapted to the territory by identifying local needs and transmitting them into the regional decision-making (Interview D). Although any member of the Parlement may propose an initiative, most initiatives are launched and coordinated by the Regional Directorate for the Sea and Coastline. Businesses are generally discouraged from leading initiatives to avoid conflicts of interest (Interview D).

[Italian cases to be added here]

Across cases, all bodies primarily advise executive rather than legislative institutions. The CCCM is most integrated, while CIROG is closely connected not only to regional but also national and EU policy arenas. In the South of France, the two Parlements remain formally outside regional government while relying on strong informal links. Timing also differs across the four cases: the CCCM and Occitanie intervene mainly in agenda setting and policy formulation, whereas CIROG and PACA are more active during implementation.

4.3. *Institutionalisation: mandate and resources*

Advisory bodies may be formal, with a statutory mandate established through legislation or regulation, or informal, operating without a specific legal basis (Bressers et al. 2018; OECD 2017). Formalisation can strengthen organisational continuity and public trust, particularly when accompanied by a positive institutional record and reputation. Financial arrangements are equally important because they shape organisational capacity, access to expertise and operational autonomy. Some advisory bodies are funded on an assignment basis, with the requesting public authority paying for each specific task. Although flexible, this model may increase dependence on political demand and limit long-term planning. Other bodies receive a fixed, often annual, budget that supports permanent staff, sustained consultation and greater independence from individual requests. Institutionalisation therefore depends not only on legal status, but also on the stability of resources available to produce credible and timely advice (OECD 2017).

The CCCM was established by formal decree; its mandate does not only foresee its consultation but also its formal approval of the Maritime Strategy before the document is submitted to the Government. The CCCM's institutionalisation has evolved through procedural adjustments in response to revised territorial arrangements in Spain and to implementation experience. A permanent technical officer and secretariat provide coordination, administrative and logistical support. Although available resources are considered limited, these constraints primarily affect coordination and communication rather than evidence production. A potential reduction in European funding for some activities represents a further challenge, potentially weakening the CCCM's operational capacity and its ability to sustain stakeholder participation and institutional support over time (Interview A).

CIROG was established through Decree 42/2017 of the Generalitat de Catalunya (i.e. the regional government) while its functioning is structured through a formal collaboration agreement between the Generalitat Catalan and the CSIC. Its mandate has expanded from fisheries management to operational oceanography without major changes to its governance structure. Funding comes primarily from the Generalitat, supplemented by CSIC contributions, including permanent research staff salaries. This stable institutional base enables continuous advisory activity. However, long-term capacity depends on the availability of more secure funding for monitoring, particularly operational oceanography, where sustained observation systems are essential. Reliance on politically contingent resources or project-based funding remains a significant source of institutional vulnerability (Interview B).

The Parlement de la Mer is a permanent, non-statutory advisory body established and supported by the Occitanie's Regional Council. It has no legal personality, statutory mandate, autonomous administration or permanent budget. This allows the Parlement to remain flexible and

partly independent from the Regional Council. Its activities are supported by staff from the Regional Directorate for the Sea, who contribute part of their working time, alongside a full-time facilitator employed by the Regional Council. Annual funding from the Directorate of the Sea covers basic operating costs, while additional resources are mobilised for specific projects. The absence of dedicated staff and funding is deliberate, reflecting a governance model based on voluntary participation, stakeholder expertise and collaboration. Its sustainability therefore depends primarily on continued member engagement, although additional resources could expand its capacity (Interview C).

The *Parlement de la Mer* in PACA is a permanent, non-statutory advisory body established and supported by the PACA Regional Council. Although it lacks legal personality, statutory mandate, autonomous administration, dedicated staff and its own budget, formal regional approval and internal rules provide institutional legitimacy to its activity. Its activities are supported by staff from the Regional Directorate for the Sea and Coastline, whose work frequently overlaps with those of the *Parlement*. Rather than financing projects directly, it helps members develop initiatives, identify external funding and present proposals to elected representatives. Public funding is allocated directly to individual projects rather than to the *Parlement* itself. The absence of permanent resources (both staff and funding) reflects a deliberate model prioritising flexibility, voluntary engagement, collaboration and stakeholder expertise, although additional staff and funding could strengthen its capacity (Interview D).

[Italian cases to be added here]

Across cases, mandate and resources do not align uniformly. The CCCM combines a statutory mandate with permanent administrative support; CIROG has a statutory basis and benefits from a stable inter-institutional agreement and core funding. By contrast, the two *Parlements de la Mer* are permanent yet non-statutory and operate without autonomous budgets, relying on regional staff, project funding and voluntary engagement. Institutionalisation therefore rests on different foundations: legal authority in the CCCM, organisational and financial continuity in CIROG, and sustained political-administrative support in France. Greater formalisation strengthens continuity, whereas lighter arrangements preserve flexibility but increase dependence.

4.4. *Interaction with decision-makers: advice generation and response*

The relationship between advisory bodies and decision-makers depends on how advice is requested, produced and received. Advice may be reactive, responding to requests from cabinets, ministries, or parliaments, or proactive, initiated by advisory bodies themselves, particularly during agenda setting (Kenny et al. 2017). Reactive advice may have greater policy impact because it addresses an explicit political need, which ensures its relevance but may compromise the autonomy of advice production (Van Damme et al. 2011). Advisory bodies may also simply transmit recommendations on their own initiative (Glynn et al. 2003). Policy impact also depends on whether decision-makers are required to respond. Formal response and follow-up mechanisms can strengthen accountability and facilitate impact assessment, although such practices remain uncommon (Bressers et al. 2018).

The CCCM provides both proactive advice throughout the strategic planning cycle and reactive input on operational matters, such as fisheries. Once endorsed by the government, its recommendations become binding and are made public (Interview A).

CIROG's advice is largely demand-driven, responding primarily to requests from the Generalitat de Catalunya and, increasingly, from Spanish fisheries administration and European policy processes. Indeed, its growing scientific reputation has extended its role to national fisheries management (including EU fisheries quota negotiations). In fisheries, regular meetings, co-management structures and technical reports facilitate the integration of its produced evidence into policy formulation and implementation. Instead, CIROG's advice in operational oceanography

remains less developed, with more limited uptake. CIROG's coordination nevertheless enables advice to circulate across regional, national and European arenas. Its principal challenge is consolidating its emerging advisory functions and sustaining coordination as its advisory remit expands (Interview B).

The Parlement de la Mer of the Occitanie Region generates recommendations proactively through a participatory process shaped mainly by member priorities rather than policy-maker requests. Issues identified by its Assembly and Executive Board are incorporated into a multiannual action programme and addressed through dedicated working groups. These groups produce practical recommendations, guidance and collaborative initiatives responding to the needs of the regional maritime community. Outputs are reviewed and validated by the Executive Board before circulation to the Assembly, providing feedback and supporting consensus-building. Although decision-makers are not formally required to respond, State and regional representatives participate directly in the Parlement. The Region's Brussels office also promotes its collective positions at EU level with an increasing advocacy role (Interview C).

PACA's Parlement de la Mer follows a proactive approach to the generation of evidence advice, with its activities guided by strategic roadmaps approved internally. Thematic commissions and working groups co-develop projects and solutions that translate established regional policy objectives into operational initiatives rather than defining new priorities. Working groups' outputs are regularly presented to the relevant commissions and subsequently reviewed by the Executive Board, which monitors progress, arbitrates priorities and coordinates with regional decision-makers. Because proposed actions are already embedded within approved roadmaps, no formal political approval or feedback is required before implementation. State and regional representatives participate in discussions alongside other members but hold no formal power to validate or approve the actions developed by the Parlement (Interview D).

[Italian cases to be added here]

To sum up, advice generation ranges from mixed proactive-reactive interaction in the CCCM to predominantly demand-driven advice in CIROG and proactive, member-led processes in the two Parlements de la Mer in France. Despite these differences, all four bodies maintain close interaction with public authorities through co-management structures, regular meetings or direct participation by officials. However, none provides for a formal response from decision-makers. Policy uptake therefore depends on endorsement, embedded participation and administrative relationships rather than compulsory feedback, limiting transparency and the systematic assessment of advisory influence.

5. Subnational evidence advisory bodies and governance paradoxes

This section discusses tensions emerging from the institutional design and operation of the subnational evidence advisory bodies analysed in section 4. Three tensions are particularly strong, between inclusiveness and efficiency, autonomy and authority, stability and flexibility.

5.1. *Inclusiveness vs. Efficiency*

Inclusiveness in PAS has traditionally referred to the integration of multiple scientific disciplines in the production of advice to enhance its robustness, credibility and legitimacy (OECD 2017; van der Hel & Biermann 2017). It has increasingly been recognised, however, that addressing contemporary wicked problems requires evidence from a broader range of sources, including not only scientific literature and commissioned academic research but also professional expertise and public consultation (Glynn et al. 2003). Grey literature and local knowledge have consequently gained greater recognition (van der Hel & Biermann 2017). Increasing attention has also been paid to fairness

and balanced representation, including respect for divergent stakeholder values and the consideration of opposing perspectives in knowledge production (Cash et al. 2003). Yet broadening the range of knowledge and actors involved may place pressure on efficiency, understood as the timely and adequate use of available resources (Crowley & Head 2025; European Commission 2002).

In Spain, the CCCM and CIROG manage the inclusiveness-efficiency tension through different institutional designs. The CCCM prioritises broad representation, bringing together public authorities, scientists, economic sectors and civil society in a consensus-based forum. This diversity strengthens legitimacy, supports shared understanding and allows local concerns to shape strategic priorities and co-management. Consensus also prevents individual constituencies from dominating, while divergent positions are transparently reported. However, broad participation increases coordination demands and may slow decision-making. A permanent technical officer and secretariat partly mitigate these costs, but limited resources constrain coordination and communication. CIROG adopts a more selective and functionally differentiated model. Its scientific and technical core is complemented in fisheries by fishers' professional knowledge and, where relevant, environmental organisations. Regular meetings, technical reports and demand-driven interaction help keep advice focused and timely. Inclusiveness nevertheless varies across its remit: it is stronger in fisheries, whereas operational oceanography mainly involves public authorities. Compared with the CCCM, CIROG preserves efficiency through targeted, policy-specific inclusion rather than broad representation.

In France, the two Parlements de la Mer combine broad inclusion with differentiated organisational arrangements that protect efficiency. In Occitanie, public authorities, socio-professional organisations, NGOs, citizens and researchers participate as organisational delegates, while external experts may be invited for technical issues. Broad consultation identifies concerns, but proposals are developed in balanced working groups limited to twenty participants and then reviewed by the Executive Board. Repeated interaction builds trust and facilitates compromise, although actual engagement remains uneven, with NGOs often more active than businesses. In PACA, a similarly mixed arrangement operates through temporary, topic-specific groups capped at forty participants. This supports solution-oriented collaboration and the translation of regional policy objectives into operational initiatives. Efficiency depends, however, on members' motivation and sustained engagement. In fact, the Regional Directorate for the Sea and Coastline often initiates and coordinates activities, while businesses are discouraged from leading initiatives to avoid conflicts of interest. Across both cases, inclusiveness does not automatically reduce efficiency: broad representation is made workable through smaller groups, administrative coordination and staged deliberation, though effectiveness remains vulnerable to uneven participation and voluntary engagement.

5.2. *Autonomy vs. Authority*

For evidence advice to be credible and legitimate, it must remain sufficiently independent from special interests and political interference (Gluckman 2014; Groux et al. 2018). Independence and autonomy can be supported through different institutional arrangements, including transparent selection procedures that identify and manage conflicts of interest as well as stable funding that limits dependence on individual political or sectoral actors (OECD 2017). Yet complete separation from decision-makers may reduce the relevance, uptake and influence of advice. Close interaction with public authorities can strengthen its policy relevance and authority by connecting evidence to concrete policy needs, but may also weaken actual or perceived independence. The paradox therefore lies in maintaining sufficient autonomy to produce credible advice while preserving the institutional proximity needed for it to exercise authority.

In Spain, the CCCM and CIROG manage the autonomy-authority tension through different sources of legitimacy. The CCCM derives authority from its statutory integration into the Catalan administration, its role in approving the Maritime Strategy before submission to government, and the binding force of recommendations once endorsed. This proximity strengthens agenda-setting and

policy influence, but dependence on regional administrative and financial support may weaken perceived autonomy. The CCCM compensates this potential dependence through institutional separation than through consensus-based deliberation, broad stakeholder participation and bottom-up translation of local concerns into strategic priorities. CIROG derives authority from scientific credibility and access to regional, national and EU policy arenas. Its formal partnership between the Generalitat and the CSIC, permanent research staff, participation in technical and political meetings, and demand-driven advice facilitate uptake in fisheries management, quota negotiations and marine emergency response. Scientific independence is reported to remain intact even on politically sensitive issues. The main tension lies not in direct interference, but in remaining responsive to policy demand while preserving an independent scientific agenda, especially where long-term activities (e.g., observations and monitoring) depend on politically contingent or project-based funding.

In France, the two Parlements de la Mer preserve autonomy through collective deliberation while deriving authority from close links with regional governments. In Occitanie, the Parlement remains formally outside the Regional Council but is connected to it through elected representatives, Directorate for the Sea staff and its President. These links allow stakeholder knowledge and proposals to enter agenda-setting and policy formulation, while the Region's Brussels office can also promote collective positions at EU level. Autonomy rests on member-led working groups and Executive Board validation. However, reliance on regional staff, funding and political support may make its influence contingent on administrative priorities. In PACA, authority derives primarily from translating approved regional objectives into co-constructed territorial actions. Regional officials participate alongside other stakeholders, while the Directorate for the Sea and Coastline often initiates and coordinates activities. Autonomy is protected because proposals emerge through collective deliberation, require no formal political validation and must serve the general interest.

5.3. *Stability vs. Flexibility*

The stability-flexibility paradox concerns how advisory bodies maintain organisational continuity, accumulated expertise and sustained participation while remaining able to adapt their mandate, membership and activities to changing policy needs (Smith & Lewis 2011). Formalisation and stable resources may support continuity but can introduce procedural constraints (OECD 2017). Conversely, lighter institutional arrangements may facilitate adaptation while increasing dependence on political support, voluntary engagement and contingent resources.

In Spain, the CCCM and CIROG combine stability and flexibility through different institutional foundations. The CCCM derives continuity and legitimacy from its statutory mandate, formal role in approving the Maritime Strategy, a permanent technical officer and secretariat. However, such formalisation has not produced rigidity. Rather, procedural adjustments in response to revised territorial arrangements and implementation experience indicate some adaptive capacity. Its main vulnerability lies in limited administrative resources and possible reductions in European funding, which could weaken coordination, stakeholder participation and institutional support over time. CIROG derives stability from its legal basis, the long-standing agreement between the Generalitat and the CSIC, core funding and permanent scientific staff. This organisational continuity has supported accumulated expertise and continuous advice while allowing its mandate to expand from fisheries to operational oceanography and its engagement to extend into national and EU processes without major governance changes. Stability therefore enables rather than constrains adaptation. Yet this balance depends on sufficient long-term resources, particularly for observation and monitoring systems. Compared with the CCCM's legal and administrative continuity, CIROG relies more strongly on scientific capacity and inter-institutional cooperation.

In France, the two Parlements de la Mer secure stability through sustained political-administrative support and stakeholder engagement rather than strong formal institutionalisation. In Occitanie, continuity depends on the Regional Council, staff from the Directorate for the Sea, a full-time facilitator and continued member participation. The absence of legal personality, an autonomous

administration and a permanent budget reduce procedural constraints and allow working groups, activities and resources to be adjusted pragmatically. However, this flexibility also creates vulnerability because organisational continuity remains dependent on political support, voluntary engagement and project-specific funding. The PACA Parlement follows a similar model. Regional approval and internal rules provide legitimacy, while staff from the Directorate for the Sea and Coastline support its activities. Temporary working groups and flexible programmes allow initiatives to be adapted to emerging territorial needs and available funding. Yet the absence of dedicated staff, an autonomous budget and statutory foundations make continuity reliant on administrative commitment and sustained stakeholder participation. Across both cases, limited formalisation facilitates adaptation, but shifts the burden of stability onto political sponsorship, regional staff and voluntary collaboration.

6. Conclusion

Traditional knowledge production has been challenged in the new governance era, particularly in response to wicked problems. PAS need to be reshaped and open to broader communication, collaboration and deliberative policy-making (Crowley & Head 2025). The paper has analysed subnational evidence advisory bodies to understand their institutional design and how this influences the management of important tensions and paradoxes.

The cases reveal distinct institutional configurations across all four dimensions of institutional design. Composition varies mainly in the expertise represented: CIROG remains predominantly scientific and technical, whereas the CCCM and the two Parlements de la Mer combine scientific, professional, administrative and civic knowledge; members participate mainly as organisational delegates. All four bodies advise executive institutions, but the CCCM is most formally integrated, CIROG connects regional, national and EU arenas, and the French Parlements remain formally external while maintaining close links with regional government. Institutionalisation rests on statutory authority and permanent administrative support in the CCCM, inter-institutional cooperation and core funding in CIROG, and sustained political-administrative support, project resources and voluntary engagement in France. Advice generation also ranges from mixed proactive-reactive interaction to demand-driven and member-led processes, although none provides for a formal response from decision-makers. These configurations show that subnational evidence advisory bodies are not merely channels for transmitting knowledge, but institutional arrangements through which persistent governance paradoxes are managed. No design resolves these tensions permanently; rather, each redistributes their benefits, costs and vulnerabilities.

In Spain and France, the *inclusiveness-efficiency* tension is shaped less by the breadth of participation itself than by how participation is organised. Across the cases, inclusiveness does not necessarily undermine efficiency when participation is staged, roles are differentiated and administrative support is available. However, each model retains vulnerabilities. Broad forums may slow deliberation and strain limited resources; selective inclusion may narrow stakeholder input; and lighter participatory arrangements depend heavily on sustained engagement, administrative coordination and balanced participation. Institutional design thus manages rather than resolves the paradox by redistributing its deliberative costs and representational benefits.

In Spain and France, *autonomy and authority* derive from different combinations of institutional proximity, scientific credibility and collective deliberation. Across all cases, autonomy does not require institutional distance. It is maintained through procedural or scientific safeguards within close relationships with decision-makers. These relationships strengthen relevance and influence but also create shared vulnerabilities, particularly dependence on public funding, administrative support and political priorities. Institutional design thus balances rather than resolves the tension between credible independence and effective policy authority.

In Spain and France, *stability and flexibility* rest on different institutional foundations. The Spanish cases show that formalisation and organisational continuity need not produce rigidity. In

France, the two Parlements de la Mer derive continuity from sustained political-administrative support and stakeholder engagement rather than statutory protection or autonomous resources. These arrangements nevertheless generate different vulnerabilities. In Spain, adaptive capacity depends on adequate long-term administrative and scientific resources; in France, continuity remains contingent on political sponsorship, regional staff and voluntary participation. Across the cases, stability does not inherently constrain flexibility, but each institutional model redistributes the risks associated with maintaining continuity while adapting to changing policy demands.

The contribution of advisory bodies therefore depends not on eliminating these paradoxes, but on sustaining both sides while limiting the vulnerabilities generated by privileging one demand over the other.

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