

# Oceanfront State Coastal Management Programs

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## Executive Summary

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Coastal management programs protect and restore coastal resources, manage coastal development, prioritize water-dependent uses, and facilitate access to public trust beaches, waters, and submerged lands. Contemporary state-level coastal management programs are progeny of the federal Coastal Zone Management Act of 1972 (CZMA), which provides financial and other federal incentives for states to develop, implement, and maintain coastal management programs that advance national coastal management policies.

To take advantage of CZMA incentives, state coastal management programs must comply with federal requirements. These federal requirements are functional in nature, and are intentionally designed to accommodate a broad range of implementing strategies. States are therefore free to select the legal structures and protective measures that best suit the unique political and geographical features of that state.

This white paper surveys the coastal management programs in the twenty-three oceanfront states. Individual state summaries describe the key features of the coastal management programs in each of the oceanfront states, while more detailed analyses address the genesis of state programs, the exercise of coastal management jurisdiction, and how state statutes and regulations address sea level rise. This paper specifically addresses the following questions:

**Program Genesis:** *How were the individual oceanfront state coastal management programs created?* Coastal management programs in four oceanfront states were established by executive orders that organized preexisting coastal management statutes into a program that was compliant with federal requirements. Meanwhile, new legislation was required to create coastal management programs in eight oceanfront states, though three of those states were careful to limit new legislation to the creation of a coastal management agency that relied entirely upon existing coastal management statutes. Finally, neither executive order nor new legislation was required to meet CZMA requirements in seven oceanfront states because existing statutes already provided the necessary legal authority.

**Jurisdiction:** *What authorities have jurisdiction over oceanfront state coastal management programs?* State government agencies exercise exclusive coastal management jurisdiction in six oceanfront states. Sixteen oceanfront states split jurisdiction between state agencies and local governments. The remaining oceanfront state, Alaska, does not have a federally-approved coastal management program.

**Sea Level Rise:** *How do states address sea level rise in state coastal management statutes and regulations?* Only three oceanfront states have statutes or state regulations that require the consideration of sea level rise when making all or most coastal management decisions. Four oceanfront states have statutes or state regulations that require the consideration of sea level rise when making some coastal management decisions. The remaining fifteen oceanfront states do not have coastal management statutes or state regulations that address sea level rise. However, four of those fifteen states have statutes or state regulations that require the consideration of sea level rise during certain planning activities.

Oceanfront state coastal management programs are as unique and diverse as the states themselves. This paper explores the differences and commonalities of these programs to provide a foundation for understanding state implementation of the CZMA.

## I. Introduction

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The vast and diverse coastlines of the United States provide attractive locations for residence, recreation, commerce, and industry. The magnitude of this attraction is revealed by the 2010 census, which shows population density in coastal shoreline counties is more than four times the national average.<sup>1</sup> This population density is complemented by robust economic activity, with nearly half of the country's gross domestic product generated in coastal counties that benefit from industries such as energy, tourism, and trade through some 360 seaports.<sup>2</sup> Coastal tourism alone contributes well over \$200 billion a year to the United States' economy.<sup>3</sup>

Coastal areas provide valuable ecological and protective benefits as well. Coastal wetlands provide habitat for wildlife, nesting areas for waterfowl, spawning areas for fish and shellfish, and nutrient sources for marine fisheries.<sup>4</sup> They also protect coastal communities by providing buffers against storm surges and waves, enabling floodwater retention and drainage, and protecting the coastline from erosion.<sup>5</sup>

By the early 1970s, real estate and infrastructure development was placing unsustainable demands on the very resources that make coastal regions so valuable.<sup>6</sup> Congress recognized the adverse effects of these ever-increasing and competing demands and responded with the Coastal Zone Management Act of 1972 (CZMA).<sup>7</sup> This act made it the policy of the United States to “preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations” and to “encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development.”<sup>8</sup>

The CZMA includes two powerful incentives to encourage states to adopt coastal management programs. The first incentive is financial, as states with approved state coastal management programs are eligible for four types of federal grants to support their programs. These grants include (1) matching grants for fifty percent of the annual program administration costs,<sup>9</sup> (2) matching grants for cost of certain nonrecurring resource management activities,<sup>10</sup> (3) matching grants for development of coastal nonpoint source pollution control programs,<sup>11</sup> and (4) outright grants to support attainment of one or more federally-approved coastal zone enhancement objectives.<sup>12</sup>

The second major incentive is the federal consistency provision of the CZMA. Under this provision, federal agencies engaged in activities affecting land, water, or other natural resources within a state coastal management zone must conduct those activities in accordance with the enforceable policies of the approved state coastal management program.<sup>13</sup> This requirement assures that state coastal management programs are not frustrated by federal activities not normally subject to state authority, and is a particularly effective incentive in states with a large federal presence.

These incentives have proven quite effective. By 2011, all thirty-five eligible states and territories were participating in the National Coastal Zone Management Program.<sup>14</sup> Alaska has since withdrawn from the national program, but all other eligible states continue to participate and take advantage of the federal program incentives.<sup>15</sup>

A state coastal management program must be approved by the United States Secretary of Commerce before a state can receive federal coastal management funds or require federal consistency with state coastal management policies. To receive federal approval, the Secretary must find that a state coastal management program has met a series of statutorily-defined requirements.<sup>16</sup> The program must articulate the boundaries of the coastal zone, permissible uses, areas of particular concern, applicable legislative authorities, priorities of uses within the zone, the organization of

the management program, the term “beach” and how beaches will be protected, the planning process for energy facilities, and the planning process for dealing with shoreline erosion.<sup>17</sup> The program must also include mechanisms for protecting and restoring land, for implementing the state coastal nonpoint pollution control program, and for considering national interest – particularly when planning energy facilities and protecting coastal resources of national significance.<sup>18</sup> The state or territory must have the ability to review and approve uses within the coastal zone and state regulations must not unreasonably restrict uses of regional benefit.<sup>19</sup> The plan must have been adopted after full public participation and notice to interested parties and coordinated with any currently existing governmental plans applicable to the coastal zone.<sup>20</sup> The governor of the state must approve the plan and any changes and designate a single agency to receive all funds for the program.<sup>21</sup> Finally, the state must demonstrate its authority to regulate and acquire land, and detail how it will implement the program and ensure state agency compliance.<sup>22</sup>

This paper describes the essential features of the coastal management programs in the twenty-three oceanfront states. Section II of this paper describes the genesis of the state programs in terms of the organizing authority for each state program and the initial legal authorities invoked by those programs. Section III addresses the jurisdiction schemes deployed by state programs, differentiating between states that exercise state jurisdiction from those that share jurisdiction with local governments, and describes the level of state authority over local programs where jurisdiction is shared. Section IV discusses the need to incorporate sea level rise into state coastal management programs and identifies the states that meet this need through the statutory or regulatory components of their coastal management programs. Finally, Section V provides a summary of the coastal management program in each oceanfront state, with information on state and local jurisdiction, responsible state agencies, and the means by which sea level rise is addressed by statute or regulation.

## **II. Genesis of Federally-Approved State Coastal Management Programs**

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Oceanfront state coastal management programs approved under the CZMA were created in one of two ways: state legislation or gubernatorial executive order. The limitations on gubernatorial executive orders vary by state, but in most states the governor has the authority to organize executive branch agencies and to respond to federal programs.<sup>23</sup> Governors of states that already had the necessary coastal protection statutes in place could therefore use their executive authority to organize those statutes into a coastal management program without the need for new legislation. Such was the case in Maryland, North Carolina, Rhode Island, and Virginia, where federally-approved coastal management programs were created by executive orders that organized existing state agencies and programs into a coordinated coastal management program that met the standards for federal approval.<sup>24</sup>

Federally-approved coastal management programs in the remaining oceanfront states were created by program-specific state legislation. The nature of this state legislation fell into one of three categories: (1) existing legislation that met CZMA requirements without further modification, (2) new legislation that created a coastal management organization that relied entirely upon existing coastal management statutes, or (3) new legislation that created a coastal management organization as well as new coastal management statutes that supplemented existing coastal management statutes.

Several oceanfront states relied completely upon existing legislation for federal approval of a coastal management program. A good example is the Washington state program, which relied completely upon existing authorities embodied in comprehensive state coastal and environmental protection legislation passed in 1971, 1973, and 1974. With no further legislation or formal executive order, Washington’s program was the first to attain federal approval in 1976.<sup>25</sup> Similarly, no additional legislation or executive orders were required for federal approval of the Alabama, Massachusetts, Maine, New Hampshire, New Jersey, or Oregon coastal management programs.<sup>26</sup>

Other oceanfront states created CZMA coastal management programs with new legislation. The state legislatures of Florida, Mississippi, and Texas were careful to limit new legislation to the creation of a coastal management agency that relied entirely upon existing coastal management statutes that, like the statutes invoked by the executive order states, already provided adequate legal authority and only required organization into a coastal management program to meet federal requirements.<sup>27</sup> The remaining oceanfront states of California, Connecticut, Delaware, Georgia, Hawaii, Louisiana, New York, and South Carolina enacted new coastal management legislation to supplement existing statutes as required to meet the criteria for federal approval of their coastal management programs.<sup>28</sup>

As noted above, many states did not wait for the 1972 CZMA and its associated incentives to create robust coastal management programs. A good example is Rhode Island, which passed legislation in 1971 that established a Coastal Resources Management Council with permit authority over all coastal development and certain inland development that could affect coastal resources.<sup>29</sup> That 1971 legislation, and regulations passed under that legislation, provided the basis for a 1977 executive order that organized the program for federal approval in 1978.<sup>30</sup> Rhode Island therefore represents a case where a formal state coastal management program was created by legislation, but the federally-approved program was created by executive order.

### **III. Jurisdiction in State Coastal Management Programs**

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All oceanfront state coastal management programs use some type of permitting system to control activities that affect coastal resources. The jurisdiction schemes for implementing these permitting systems are as varied as the states, and tend to reflect the laws, traditions and preferences of the state where the coastal management program was developed. These state-by-state variations notwithstanding, permitting jurisdiction schemes for coastal management jurisdiction generally fall into two broad categories: state-only jurisdiction or shared state and local jurisdiction.

In states with state-only jurisdiction, all permitting decisions required by the coastal management program are made by one or more agencies of the state. Oceanfront states with state-only jurisdiction are Delaware, Georgia, Mississippi, New Hampshire, New Jersey, and Rhode Island.<sup>31</sup> Section V of this paper identifies the state agencies responsible for coastal management decisions in states with state-only jurisdiction.

Most states share permitting jurisdiction with local governments. In these arrangements, state statutes identify the limits of jurisdiction and the permitting authority of state and local governments. Oceanfront states with shared state and local permitting jurisdiction are Alabama, California, Connecticut, Florida, Hawaii, Louisiana, Maine, Maryland, Massachusetts, New York, North Carolina, Oregon, South Carolina, Texas, Virginia, and Washington.<sup>32</sup> Section V of this paper identifies the state agencies and local governments responsible for coastal management decisions in states with shared permitting jurisdiction.

With one exception, states that share permitting authority with local governments require those local governments to obtain state approval of the local management plans or ordinances under which the local permits are issued.<sup>33</sup> The exception is Connecticut, where local coastal management plans and ordinances must be submitted to a state agency for review and comment, but state approval is not required.<sup>34</sup>

### **IV. Sea Level Rise Statutes and Regulations in State Coastal Management Programs**

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Sea level is rising. Tide gauge records indicate an average global sea level rise of 190 millimeters, or about seven and a half inches, between 1901 and 2010.<sup>35</sup> Recent measurements with more sophisticated instruments indicate an

average rise of 3.2 millimeters a year between 1993 and 2010, which is nearly twice the average annual rise of the entire period between 1901 and 2010.<sup>36</sup> Simply extrapolating this 3.2 millimeter per year average out eighty-two years to 2100 indicates a sea level rise of another 262 millimeters - more than ten inches. When the latest climate science is factored in, the National Oceanic and Atmospheric Administration (NOAA) estimates that global sea levels could rise from 0.3 to 2.5 meters by 2100 - a rise from one to more than eight feet above current levels.<sup>37</sup>

The ramifications of this sea level rise cannot be overstated. About forty percent of all Americans live in coastal shoreline counties that account for only about ten percent of the land in the United States.<sup>38</sup> The rise in sea level since the start of the coastal development boom in the 1950s has led to a significant increase in tidal and storm surge flooding in most of these coastal counties.<sup>39</sup> The continued rise in sea level can only make things worse, by increasing the risk to coastal features, infrastructure, and inhabitants.

When it comes to protecting the coast, every oceanfront state except Alaska has a coastal management program that is designed to protect and restore coastal resources, manage coastal development, prioritize water-dependent uses, and facilitate access to public trust beaches, waters, and submerged lands. These state programs are progeny of the Federal Coastal Zone Management Act of 1972, and comply with the requirements of that Act and ongoing guidance provided by NOAA.

In a 1990 amendment to the Coastal Zone Management Act, Congress found that climate change requires coastal states to anticipate and plan for the “serious adverse effects” of sea level rise.<sup>40</sup> The same amendment also declared it a policy of the United States for states to manage coastal development in areas vulnerable to sea level rise.<sup>41</sup> These findings and policies notwithstanding, by 2017 only three of the twenty-three oceanfront states - Maryland, Massachusetts, and Rhode Island - have enacted state statutes or regulations that require the consideration of sea level rise when making most or all of the decisions required under their state coastal management programs. Only four other oceanfront states - California, Florida, Maine and New York - have state statutes or regulations that require the consideration of sea level rise when making at least a few of these types of decisions. That leaves fifteen oceanfront states without statutes or regulations that require the consideration of sea level rise when making decisions under the authority of their coastal management programs.

Some oceanfront states that do not have a statutory or regulatory requirement to consider sea level rise when making coastal management decisions nevertheless require such consideration during planning processes. The states of Connecticut, New Hampshire, Texas, and Virginia all have statutes or regulations that require consideration of sea level rise during specified planning activities.

## **V. State-By-State Summary of Oceanfront State Coastal Management Programs**

This section, arranged in alphabetical order by state name, summarizes the coastal management program in each oceanfront state, with information on state and local jurisdiction, responsible state agencies, and the means by which sea level rise is addressed by state statute or regulation. These summaries reflect the status of oceanfront state coastal management programs as of May 31, 2017.

### **Alabama**

The Alabama Coastal Area includes the lands and waters from the continuous ten-foot contour line in Alabama’s two coastal counties to the seaward limit of the state’s territorial sea.<sup>42</sup> The Alabama Department of Conservation and Natural Resources – State Land Division is the lead policy and planning agency for the Alabama Coastal Program.<sup>43</sup> The Alabama Department of Environmental Management (ADEM) is responsible for promulgating

coastal management regulations and for coastal permitting, management and enforcement activities.<sup>44</sup> Permitting authority may be delegated to local governments with approval of ADEM.<sup>45</sup>

Sea Level Rise: There are no state statutes or regulations that require ADEM or any other state or local agencies to consider sea level rise when making decisions under the Alabama Coastal Program.

## **Alaska**

The Alaska Coastal Management Program expired on July 1, 2011.<sup>46</sup> A ballot measure to establish a new coastal management measure failed 62.09% to 37.91% on August 28, 2012.<sup>47</sup>

Sea Level Rise: There are no state statutes or regulations that require state agencies or local authorities to consider sea level rise when considering coastal management issues.

## **California**

The California coastal zone is a mapped area that includes the lands and waters from the seaward limit of the state's territorial sea and inland, generally 1,000 yards from the mean high tide line.<sup>48</sup> The inland reach of this coastal zone is less in developed urban areas and more in significant coastal estuarine, habitat and recreational areas.<sup>49</sup> The California coastal zone does not include areas under the jurisdiction of the San Francisco Bay Conservation and Development Commission.<sup>50</sup>

The California Coastal Commission (CCC) has coastal zone management jurisdiction,<sup>51</sup> but may delegate development review authority over inland coastal zones (other than public trust areas and state colleges and universities) to county or municipal governments.<sup>52</sup> County and municipal Local Coastal Programs (LCPs) now exercise development review jurisdiction over about 87% of the geographic area of the California coastal zone.<sup>53</sup>

Sea Level Rise: There are no state statutes or regulations that require the CCC, counties or municipalities to consider sea level rise when making coastal management permit decisions, but an executive order directs state agencies to consider sea level rise when planning state construction projects in areas vulnerable to sea level rise.<sup>54</sup> Furthermore, a comprehensive - but non-mandatory - CCC guidance document<sup>55</sup> strongly encourages counties and municipalities to incorporate sea level rise into their LCPs, and some have done so.<sup>56</sup>

## **Connecticut**

The Connecticut coastal area includes the lands and waters from the seaward limit of the state's territorial sea, all towns on Long Island Sound, and specified inland towns subject to tidal waters. Within this coastal area is an inland Coastal Boundary, which is a continuous line defined by the furthest inland of (1) The 100 year coastal flood zone, (2) 1,000 feet inland from the mean high water mark, or (3) 1,000 feet inland from the tidal wetlands boundary.<sup>57</sup> The Connecticut Department of Energy and Environmental Protection (DEEP) has coastal management jurisdiction seaward of the Coastal Jurisdiction Line (CJL), a statutory elevation roughly equivalent to the high tide line.<sup>58</sup> Coastal towns have coastal management jurisdiction between the CJL and the Coastal Boundary.<sup>59</sup> DEEP and coastal towns share jurisdiction between the mean high water mark and the CJL.<sup>60</sup>

Sea Level Rise: There are no state statutes or regulations that require either the DEEP or the towns to consider sea level rise when making coastal management permit decisions. Nevertheless, sea level rise must be considered during the mandatory periodic revisions to state and town land use plans, and towns must consider sea level rise when

preparing evacuation and hazard mitigation plans<sup>61</sup> The state is also required to consider sea level rise when establishing priorities for grants and loans to support water quality projects.<sup>62</sup>

## Delaware

The Delaware Coastal Management Area includes all lands and waters of the state to the limit of the state's territorial sea.<sup>63</sup> Within the Coastal Management Area is a Coastal Strip that includes all land, water and subaqueous land between the territorial limits of Delaware in the Delaware River, Delaware Bay, and the Atlantic Ocean and a line formed by certain Delaware highways and roads.<sup>64</sup>

The Department of Natural Resources and Environmental Control (DNREC) is the primary planning, policy, administration and enforcement agency for the Delaware Coastal Management Program. DNREC has jurisdiction and permit authority over development in coastal strip,<sup>65</sup> tidal wetlands,<sup>66</sup> submerged lands and tidelands,<sup>67</sup> and beach and dune areas seaward of the mapped coastal building line<sup>68</sup> Other state agencies enforce the goals, policies and objectives of the program within the scope of their statutory authority.<sup>69</sup>

Sea Level Rise: The Delaware Beach Preservation program recognizes "rising sea level" as a cause of beach erosion and shoreline migration,<sup>70</sup> but there are no state statutes or regulations that require state agencies, counties or municipalities to consider sea level rise when making decisions under the Delaware Coastal Management Program.

## Florida

The Florida coastal zone includes the lands and waters within the seaward limit of the state's territorial sea and inland to the extent of marine influences.<sup>71</sup> Practically speaking, this encompasses all of Florida. However, for coastal resource protection and management purposes, coastal zone regulation is limited to the geographical area encompassed by the thirty five Florida coastal counties and the adjoining territorial sea.<sup>72</sup>

The Florida Coastal Office (FCO) in the Department of Environmental Protection (DEP) manages the Florida Coastal Management Program (FCMP). The program is implemented through a network of state agencies using twenty-four statutes that were combined create the FCMP. These "network agencies" have coastal zone management jurisdiction seaward of the mean high water mark<sup>73</sup> and fifty feet landward of either the mean high water mark or the erosion control line, whichever is more landward.<sup>74</sup> Network agencies also have coastal zone management jurisdiction landward from this fifty-foot line to the coastal construction line unless that authority has been delegated to a municipal or county government.<sup>75</sup> Municipal or county governments have coastal zone management jurisdiction landward of the coastal construction line.<sup>76</sup>

Sea Level Rise: Coastal county and municipal governments must consider sea level rise in the coastal management "redevelopment" portion of their comprehensive plans<sup>77</sup> and may consider sea level rise when deciding whether to include an "adaptation action area" in their comprehensive plans. However, the only state statute that requires consideration of sea level rise when making coastal management permit decisions applies to armoring permits issued by the DEP.<sup>78</sup>

## Georgia

The Georgia coastal zone includes the lands and waters seaward to the limit of the state's territorial sea and landward to the entirety of all six of Georgia's coastal counties and all five inland counties with tidally-influenced waters.<sup>79</sup>

The Georgia Department of Natural Resources (DNR) administers the Georgia Coastal Management Program (GCMP) and is responsible for resource management, ecological monitoring, permitting, technical assistance, and federal consistency review.<sup>80</sup> DNR permits are required for all development in coastal marshlands<sup>81</sup> and in coastal waters, beaches and sand dunes.<sup>82</sup> Other state agencies implement the GCMP by managing coastal zone resources within the scope of their statutory authority.<sup>83</sup> Local governments assist in long-term planning, economic development, and natural resource protection through their comprehensive plans, local laws and zoning regulations, chambers of commerce and economic development authorities.<sup>84</sup>

Sea Level Rise: There are no state statutes or regulations that require state agencies, counties or municipalities to consider sea level rise when making decisions under the Georgia Coastal Management Program.

## **Hawaii**

The Hawaii Coastal Zone Management Area includes all lands and waters of the state to the limit of the state's territorial sea with the exception of certain lands designated as State forest reserves.<sup>85</sup> Within the Coastal Zone Management Area are mapped Special Management Areas that extend inland from the shoreline as required to further the objectives and policies of the Coastal Zone Management Program.<sup>86</sup>

The State of Hawaii Office of Planning is the lead policy, planning and oversight agency for the Hawaii Coastal Zone Management Program.<sup>87</sup> Other state agencies implement the program on state lands and waters within the scope of their statutory authority.<sup>88</sup> County authorities have jurisdiction over, and permitting authority within, the Special Management Areas and are responsible for carrying out Coastal Zone Management Program objectives, policies and procedures within their Special Management Areas.<sup>89</sup>

Sea Level Rise: The Hawaii Interagency Climate Adaptation Committee is responsible for developing a sea level rise vulnerability and adaptation report by the end of 2017 and updating that report every five years.<sup>90</sup> However, there are no state statutes or regulations that require state agencies, counties or municipalities to consider sea level rise when making decisions under the Hawaii Coastal Zone Management Program.

## **Louisiana**

The Louisiana Coastal Zone includes the lands and waters within the seaward limit of the state's territorial sea and the lands and waters in demarcated portions of the states twenty coastal parishes.<sup>91</sup> The Louisiana Coastal Management Program is administered by the Department of Natural Resources.<sup>92</sup>

The Department of Natural Resources exercises coastal management jurisdiction through coastal use permits.<sup>93</sup> Coastal use permits are required for a "use of state or local concern" that affect "coastal waters," which are waters within the coastal zone that have, over a period of years and under normal weather conditions, a measurable seawater content.<sup>94</sup> The Department may delegate permitting authority for uses of local concern to local governments that have an approved Local Coastal Program.<sup>95</sup> Eleven of the twenty coastal zone parishes have Local Coastal Programs.<sup>96</sup>

Sea Level Rise: Sea level rise was considered during the science-based evaluation that provided the basis for the 2012 legislation that refined and generally expanded the inland boundaries of Louisiana coastal zone.<sup>97</sup> However, there are no state statutes or regulations that require local governments, the Department of Natural Resources, or any

other state agency to consider sea level rise when making decisions under the Louisiana Coastal Management Program.

## **Maine**

The Maine Coastal Program applies to a coastal area that includes the lands and waters within the seaward limit of the state's territorial sea and all coastal municipalities and unorganized townships on tidal waters.<sup>98</sup> The program is administered by the Department of Agriculture, Conservation and Forestry<sup>99</sup> and operates as a partnership between local, regional, and state agencies.<sup>100</sup>

The Maine Department of Environmental Protection exercises coastal management jurisdiction over coastal wetlands,<sup>101</sup> which include sub-tidal lands, lands subject to tidal action during the highest tide of the year, and areas with vegetation primarily associated with a salt water or estuarine habitat.<sup>102</sup> Coastal management jurisdiction landward of coastal wetlands is exercised by the Maine Land Use Planning Commission or by municipalities that have been approved by the Maine Environmental Protection Board.<sup>103</sup> State statutes also require municipalities to exercise coastal management jurisdiction through zoning and land use controls that are based upon minimum standards established by the Environmental Protection Board.<sup>104</sup> By statute, this zoning and land use jurisdiction includes "shoreland areas" 250 feet upland from a coastal wetland and any structure built on, over or abutting a dock, wharf, pier or other structure extending or located below the normal high-water line or within a wetland.<sup>105</sup>

Sea Level Rise: It is a policy of the Maine legislature to "discourage growth and development in coastal areas where, because of coastal storms, flooding, landslides or sea-level rise, it is hazardous to health and safety."<sup>106</sup> In furtherance of this policy, the Maine Department of Environmental Protection anticipates that sea level will rise approximately two feet in the next 100 years and takes this rise into consideration when evaluating proposed developments on coastal sand dunes.<sup>107</sup> To this end, the flooding associated with a 100-year storm after a two-foot rise in sea level is included in the definition of an "erosion hazard area" and is identified as a disqualifying factor for projects proposed on coastal sand dunes if such flooding is likely to damage the project over the next 100 years.<sup>108</sup> There are no other state statutes or regulations that require local governments, the Department of Environmental Protection, or any other state agency to consider sea level rise when making decisions under the Maine Coastal Program.

## **Maryland**

The Maryland Coastal Zone Management Program (CZMP) and its statutory authorities apply to the lands and waters within the seaward limit of the state's territorial sea, Baltimore City, and the sixteen counties that border the Atlantic Ocean, Chesapeake Bay and Potomac River.<sup>109</sup> For purposes other than federal consistency, statutory authority for coastal management is limited "critical areas" that include the land and waters of Chesapeake Bay and its tributaries, the land and waters of ocean bays and their tributaries, tidal wetlands, and the land and waters 1,000 feet beyond these areas.<sup>110</sup> Local jurisdictions may expand or exclude critical areas within their jurisdiction subject to approval by the state Critical Area Commission.<sup>111</sup>

The Department of Natural Resources is the lead agency for the Maryland CZMP, which includes the Chesapeake and Coastal Bays Critical Areas Protection Program.<sup>112</sup> Under the Critical Areas Program, local governments exercise coastal management jurisdiction above the mean high water mark in accordance with programs developed by the local governments and approved by the state Critical Area Commission.<sup>113</sup> The state Department of the Environment exercises coastal management jurisdiction below the mean high water mark.<sup>114</sup>

Sea Level Rise: The Maryland Board of Public Works and Department of the Environment must consider sea level rise when issuing licenses and permits for construction and fill activities in state and private tidal wetlands<sup>115</sup> and the Critical Area Commission must consider sea level rise when exercising approval authority for state development projects on state-owned land in critical areas<sup>116</sup> Furthermore, all capital projects planned and built by state agencies must comply with (or obtain a waiver from) Coast Smart Council siting and design criteria, which includes a statutory requirement for the lowest floor to be at least two feet above base flood elevation.<sup>117</sup> There are no state statutes or regulations that either require or prohibit local government consideration of sea level rise when making coastal management decisions.

## Massachusetts

The Massachusetts coastal zone includes the lands and waters from the seaward limit of the state's territorial sea to generally 100 feet landward of the first specified major land transportation route and includes all of Cape Cod, Nantucket, Martha's Vineyard, and the Elizabeth Islands.<sup>118</sup> The Massachusetts Office of Coastal Zone Management (CZM) is the lead policy and planning agency for coastal zone issues, but administrative decisions on coastal zone issues within state jurisdiction are made by other state agencies.<sup>119</sup> These state "network agencies" are generally responsible for coastal zone administrative decisions seaward of the high water mark.<sup>120</sup> Municipal Conservation Commissions are generally responsible for coastal management administrative decisions landward of the high water mark and within 100 feet of coastal resources.<sup>121</sup>

Sea Level Rise: State agencies must consider sea level rise when considering and issuing coastal management permits.<sup>122</sup> There are no state statutes or regulations that require municipalities to consider sea level rise when considering or issuing coastal management permits.

## New Hampshire

The New Hampshire coastal zone includes the lands and waters within the limits of the state's territorial sea and inland from the shorelines of the Atlantic Ocean and the Great and Little Bays either 1,000 feet or to the extent of Wetlands Board jurisdiction, whichever is further. The coastal zone also includes lands and waters along estuarine rivers within the limits of Wetland Board jurisdiction.<sup>123</sup>

The New Hampshire Coastal Program was developed using existing state laws and policies. The Office of State Planning is the lead agency for the program and coordinates local, state and federal involvement.<sup>124</sup> The state Wetlands Board has jurisdiction over dredging, fill, and the erection of structures within state coastal waters, submerged lands, and tidal wetlands up to three and a half feet above mean high tide,<sup>125</sup> and other state agencies are responsible for enforcing the program within the scope of their jurisdiction.<sup>126</sup> Local participation in the New Hampshire Coastal Program is voluntary.<sup>127</sup>

Sea Level Rise: At least once every five years the Commissioner of the Department of Environmental Service is required to update and distribute the 2014 report, "Sea Level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Trends."<sup>128</sup> When scoring applications for coastal program grants, projects that promote climate change adaptation by planning and modeling sea level rise are identified as "high priority projects."<sup>129</sup> These requirements notwithstanding, there are no state statutes or regulations that require state or local agencies to consider sea level rise when making decisions under the New Hampshire Coastal Program.

## New Jersey

The New Jersey Coastal Program applies to a coastal area that includes the lands and waters within the seaward limit of the state's territorial sea, the state waters of the Hudson and Delaware rivers, and the tidal portions of tributaries to these seas and rivers.<sup>130</sup> The Coastal Program extends inland to specified portions of municipalities and counties on tidal waters<sup>131</sup> and to the Hackensack Meadowlands District.<sup>132</sup>

The New Jersey Department of Environmental Protection (NJDEP) exercises coastal management jurisdiction through a permit system that applies to most coastal development.<sup>133</sup> NJDEP also exercises permit authority over regulated activities, such as the placement or removal of material and erection of structures, in coastal wetlands.<sup>134</sup>

Sea Level Rise: There are no state statutes or regulations that require the NJDEP or any other state or local agencies to consider sea level rise when making decisions under the New Jersey Coastal Program. However, sea level rise was identified in the rationale for development prohibitions in coastal overwash and erosion areas.<sup>135</sup>

## New York

The New York State Coastal Management Program applies to a "coastal area" that includes the lands and waters within the seaward limit of the state's territorial sea and inland generally 500 feet or to the nearest roadway or railroad line in urban and developed areas and inland generally 1,000 feet from the shoreline in other areas.<sup>136</sup> The Coastal Management Program is administered by the Department of State and is implemented by various departments in accordance with their statutory authority.<sup>137</sup> The Long Island Sound Coastal Management Program is a sub-program of the Coastal Management Program that is tailored to the unique ecology and human development patterns in portions of the state that border Long Island Sound.<sup>138</sup>

The New York Department of Environmental Conservation (DEC) exercises state jurisdiction over tidal wetlands and areas immediately adjacent to tidal wetlands, and may share this jurisdiction with local governments.<sup>139</sup> Tidal wetlands include areas that border or lie beneath tidal waters and wetlands subject to tides that are populated with vegetation primarily associated with estuarine habitat.<sup>140</sup> Areas adjacent to tidal wetlands include areas from the landward boundary of the mapped tidal wetland to (1) 300 feet inland (150 feet in New York City), or (2) up to ten feet elevation above mean sea level, or (3) to the seaward edge of the closest lawfully existing functional and substantial structure.<sup>141</sup>

Sea Level Rise: The Long Island Sound Coastal Management Program, promulgated in 1999, requires consideration of sea level rise as a means to minimize loss of life and structures when siting and designing projects involving substantial expenditures of public funds.<sup>142</sup> More recently, the Community Risk and Resiliency Act of 2014 requires the DEC to adopt science-based projections of sea level rise that are updated every five years.<sup>143</sup> These projections are used to inform planning efforts and to incorporate the consideration of sea level rise into various state permit and funding programs.<sup>144</sup> This same act also requires the Department of State and the DEC to prepare model local laws that include consideration of the risk of sea level rise.<sup>145</sup> However, except as noted above for the Long Island Sound Coastal Management Program, sea level rise projections are not otherwise incorporated into the tidal wetlands permitting process or the Coastal Management Program.

## North Carolina

The North Carolina coastal zone includes the lands and waters within the seaward limit of the state's territorial sea and the twenty coastal-area counties designated by the Governor.<sup>146</sup> The North Carolina Coastal Resources

Commission (CRC) has exclusive coastal zone management jurisdiction over “Areas of Environmental Concern” seaward of the mean high water mark and shares this jurisdiction landward of the mean high water mark with coastal municipalities and the state's twenty coastal-area counties.<sup>147</sup> Areas of Environmental Concern are designated by the CRC and include ocean and estuarine systems, oceanfront lands, inlets that connect the ocean to sounds, public water supply areas, and natural and cultural resource areas.<sup>148</sup>

The CRC implements the North Carolina Coastal Management Act through a permit system that regulates development activities that may affect an Area of Environmental Concern. The Coastal Management Division of the North Carolina Department of Environmental Quality serves as the staff to the CRC and is responsible for Major Permits and General Permits.<sup>149</sup> County and municipal governments are responsible for Minor Permits.<sup>150</sup>

Sea Level Rise: There are no state statutes or regulations that require the CRC, counties or municipalities to consider sea level rise when making coastal zone management permit decisions. State statutes allow local governments to define sea level change for regulatory purposes, but identify the CRC as the only state agency allowed to do so.<sup>151</sup> Legislation enacted in 2012 requires the CRC to commission a comprehensive assessment of peer-reviewed scientific literature on sea level change, to conduct an economic and environmental cost-benefit analysis of sea level change regulation, to report the results of these tasks to the legislature by March 1 of 2016, and to abstain from defining rates of sea level change for regulatory purposes until July 1, 2016.<sup>152</sup>

## Oregon

The Oregon coastal zone includes the lands and waters from the seaward limit of the state’s territorial sea to the crest of the coastal mountain range.<sup>153</sup> The coastal zone also includes the estuaries of the Umpqua, Rouge, and Columbia Rivers.<sup>154</sup>

The Oregon Coastal Management Program (CMP) aggregates a number of state land and water management laws into a coordinated coastal resource management program. The Oregon Department of Land Conservation and Development (DLCD) is the lead policy and planning agency for the CMP.<sup>155</sup> Other state agencies implement the CMP by managing coastal zone resources within the scope of their statutory authority.<sup>156</sup> Counties and municipalities implement the CMP through land use regulations that comply with mandatory statewide “planning goals” that include specific goals for estuarine resources, coastal shorelands, beaches and dunes, and ocean resources.<sup>157</sup>

Sea Level Rise: There are no state statutes or regulations that require state agencies, counties or municipalities to consider sea level rise when making decisions under the Oregon Coastal Management Program.

## Rhode Island

The Rhode Island Coastal Resources Management Program encompasses a three tier coastal zone.<sup>158</sup> The first tier includes the lands and waters within the seaward limit of the state’s territorial sea and 200 feet inland from shoreline features.<sup>159</sup> The Rhode Island Coastal Resources Management Council (CRMC) has exclusive coastal zone management jurisdiction in this first tier.<sup>160</sup> The second tier encompasses the entirety of all coastal municipalities, where all state activities, plans and projects must be consistent with the Rhode Island "State Guide Plan," which is the state's integrated long-range planning document.<sup>161</sup> The third tier is the entire state, where CRMC shares jurisdiction with other state agencies over inland activities that have coastal ramifications such as power plants, mines, chemical processing operations, sewage treatment plants, and solid waste disposal facilities.<sup>162</sup>

CRMC enforces the Rhode Island Coastal Resources Management Program in first tier areas through a process that requires CRMC “assent” for specified activities or alterations or any other activity or alteration which “(1) has a reasonable probability of conflicting with the Council’s goals and its management plans or programs, and/or (2) has the potential to damage the environment of the coastal region.”<sup>163</sup> For development above the mean high water mark, CRMC assent requires the applicant to demonstrate that local building permit has been issued or will be issued upon CRMC assent.<sup>164</sup>

Sea Level Rise: The CRMC is obligated to plan for sea level rise and to integrate sea level rise scenarios into its policies and programs.<sup>165</sup> The CRMC relies upon the most recent NOAA sea level rise data to address both short- and long-term planning horizons and the design life considerations for public and private infrastructure.<sup>166</sup>

## South Carolina

The South Carolina coastal zone includes the lands and waters within the seaward limit of the state’s territorial sea and the lands and waters in the all six of the state’s coastal counties and in two inland counties subject to tidal waters.<sup>167</sup> The South Carolina Office of Ocean and Coastal Resource Management (OCRM) within the Department of Health and Environmental Control has exclusive coastal zone management jurisdiction seaward of the mean high water mark<sup>168</sup> and shares jurisdiction landward of the mean high water mark with counties and municipalities in all eight of the state’s coastal zone counties.<sup>169</sup>

OCRM implements the South Carolina Coastal Tidelands and Wetlands Act (CTWA) through a permit system that regulates development activities in “Critical Areas” that include coastal waters, tidelands, beaches, and the beach/dune system from the mean high-water mark to the forty-year erosion setback line.<sup>170</sup> Counties and municipalities manage zoning and other day-to-day coastal issues in accordance “Local Comprehensive Beach Management Plans” that are developed by the local government and approved by OCRM.<sup>171</sup>

Sea Level Rise: There are no state statutes or regulations that require the OCRM, counties or municipalities to consider sea level rise when considering or issuing coastal management permits. However, an OCRM statement of regulatory policy acknowledges sea level rise as a factor that will ultimately require a retreat from the beachfront,<sup>172</sup> and some local governments have incorporated sea level rise into their local planning.<sup>173</sup>

## Texas

The Texas coastal area includes the lands and waters within the seaward limit of the state’s territorial sea and the lands and waters the eighteen Texas counties with tidewater shoreline.<sup>174</sup> Within this coastal area is a coastal zone established by the Commissioner of the General Land Office (GLO) in accordance with guidance set forth in Texas statutes.<sup>175</sup> The GLO is the lead policy and planning agency for the Texas Coastal Management Program (CMP),<sup>176</sup> but other state agencies and political subdivisions are responsible for enforcing the program within the scope of their jurisdiction.<sup>177</sup>

Texas state agencies and political subdivisions are obligated to affirm that they have taken into account the goals and policies of the CMP when taking actions that may adversely affect coastal natural resource areas within the coastal zone.<sup>178</sup> Under certain conditions such actions are subject to a GLO consistency review.<sup>179</sup> Actions deemed by the GLO to be inconsistent with the goals and policies of the CMP are remanded to the agency or political subdivision and forwarded to the Attorney General for an opinion if the action is not modified to comply with the remand.<sup>180</sup> The consistency review process also applies to certain rules adopted or amended by specified state

agencies, which must be certified by the GLO.<sup>181</sup> Actions and rules subject to GLO consistency review are limited to those specifically identified by statute.<sup>182</sup>

Sea Level Rise: The GLO and the Parks and Wildlife Department are required to consider sea level rise when developing the State-Owned Wetlands Conservation Plan,<sup>183</sup> and sea level rise is identified as an “adverse effect” that could result in the physical destruction or detrimental alteration of a coastal natural resource area.<sup>184</sup> There are no state statutes or regulations that require the GLO or other state or local agencies to consider sea level rise when considering whether proposed actions or rules are consistent with the objectives of the CMP.

## Virginia

For the purposes of the Virginia Coastal Zone Management Program, the “Coastal Area” includes the lands and waters within the seaward limit of the state’s territorial sea and the lands and waters in “Tidewater Virginia,” which includes designated counties and cities subject to tidal waters.<sup>185</sup> The Department of Environmental Quality (DEQ) is the lead agency of a networked program that is implemented by various departments in accordance with their statutory authority.<sup>186</sup>

The Virginia Marine Resources Commission has jurisdiction over territorial seas and exercises permit authority for development in submerged wetlands, tidal wetlands, and dunes and beaches.<sup>187</sup> Counties and municipalities may establish local wetlands boards and adopt local ordinances, consistent with statutory model ordinances, to regulate and permit development on wetlands and dunes above the mean low water line.<sup>188</sup> Wetlands board permits are subject to review by the Commissioner of Marine Resources and modification, remand, or reversal by the Marine Resources Commission.<sup>189</sup>

Sea Level Rise: There are no state statutes or regulations that require municipalities, counties, the Marine Resources Commission, or any other state agency to consider sea level rise when making decisions under the Virginia Coastal Zone Management Program. For planning purposes, a state statute requires localities in the Hampton Roads Planning District to incorporate sea level rise into comprehensive plan strategy reviews conducted after 2015 and directs certain state agencies and academic institutions to assist with those reviews when requested to do so.<sup>190</sup> To support this requirement, a state statute requires the Virginia Institute of Marine Sciences to develop comprehensive coastal resource management guidance for local governments and requires that guidance to consider sea level rise.<sup>191</sup>

## Washington

The Washington Coastal Zone Management Program is a two-tier program encompasses all lands and waters in the fifteen Washington counties that front salt water.<sup>192</sup> The first tier of the program includes the “shorelines of the state,” which include all marine waters of the state, reservoirs, lakes larger than twenty acres, streams with a mean annual flow of twenty cubic feet per second or more, the lands underlying them, and adjacent “shorelands.”<sup>193</sup> Shorelands include land areas extending 200 feet inland from the ordinary high water mark, floodways and contiguous floodplains 200 feet from floodways, and wetlands and river deltas associated with shoreline streams, lakes and tidal waters, and local governments that implement the CZMP in the first tier may expand the scope of the program to include buffers for critical areas and the 100-year flood plains associated with shoreland floodways.<sup>194</sup> The second tier of the program encompasses lands and waters in the fifteen coastal counties that are not in the area covered by the first tier.

The Department of Ecology is the lead state agency for the Washington CZMP, but local governments have the primary responsibility for planning and administering a “shoreline master program” for first tier coastal management

that complies with state statutory requirements.<sup>195</sup> Local governments exercise first tier coastal management jurisdiction through a permit system that applies to most coastal development activities.<sup>196</sup> The Department of Ecology acts in a supportive and review capacity to provide assistance to local governments and insure compliance with state statutes.<sup>197</sup> Development proposals in the second tier that may have a "direct and significant impact" on coastal waters are managed under other state programs invoke by the Washington CZMP.<sup>198</sup>

Sea Level Rise: There are no state statutes or regulations that require the Department of Ecology or any other state or local agency to consider sea level rise when making decisions under the Washington Coastal Zone Management Program. However, the Shoreline Master Program (SMP) Handbook published by the Department of Ecology encourages local governments to consider the impacts of sea level rise when developing and updating SMPs and provides guidance on how to do so.<sup>199</sup>

## VI. Conclusion

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More than 40 years ago the Federal Coastal Zone Management Act provided powerful incentives for states to develop formal coastal management programs. Today, twenty-two of the country's twenty-three oceanfront states have coastal management programs that protect and restore coastal resources, manage coastal development, prioritize water-dependent uses, and facilitate access to public trust beaches, waters, and submerged lands.

The twenty-first century will continue to challenge these programs with the traditional pressures for development and use. But this century will also challenge coastal management programs with climate change and sea level rise - issues that were not widely considered when these programs were adopted in the latter part of the previous century. To date, only eleven oceanfront states have statewide statutes or regulations that address sea level rise, and only three of those states require the consideration of sea level rise when making most or all coastal management decisions. It remains to be seen whether a system designed for local management of coastal resources can adapt to the global consequences of climate change and sea level rise.

## Endnotes

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**DISCLAIMER:** *This white paper addresses issues of general interest and does not give any specific legal advice pertaining to any specific circumstance. Parties should obtain advice from a lawyer or other qualified professional before acting on the information in this paper.*

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<sup>1</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., NATIONAL COASTAL POPULATION REPORT, POPULATION TRENDS FROM 1970 TO 2020 3–4 (2017).

<sup>2</sup> Marlowe & Company LLC, *The importance of the U.S. Coast: An in-depth look at coastal benefits and risks*, 82 SHORE & BEACH 32, 33–34 (Fall 2014).

<sup>3</sup> *Id.*

<sup>4</sup> NAT'L WATER SUMMARY ON WETLAND RES., U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER 2425 (1996).

<sup>5</sup> *Id.*; *What Are Coastal Wetlands?*, NAT'L OCEANIC & ATMOSPHERIC ADMIN.,

<http://www.habitat.noaa.gov/protection/wetlands/> (last visited July 7, 2017).

<sup>6</sup> 16 U.S.C. § 1451 (2017).

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> 16 U.S.C. § 1455 (2017).

<sup>10</sup> 16 U.S.C. § 1455a (2017).

<sup>11</sup> 16 U.S.C. § 1455b (2017).

<sup>12</sup> 16 U.S.C. § 1456b (2017).

<sup>13</sup> 16 U.S.C. § 1456 (2017).

<sup>14</sup> *Coastal Zone Management Programs*, NAT'L OCEANIC & ATMOSPHERIC ADMIN.,

<https://coast.noaa.gov/czm/mystate/> (last visited July 7, 2017).

<sup>15</sup> *Id.*

<sup>16</sup> 16 U.S.C. § 1455 (2017).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> THE COUNCIL OF STATE GOVERNMENTS, BOOK OF THE STATES 2016, Table 4.5 (2016).

<sup>24</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED COASTAL MANAGEMENT PROGRAM FOR THE STATE OF MD. (1978); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF N.C. COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF R.I. COASTAL ZONE MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978) (Appendix D Revised Spring 1986); NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL IMPACT STATEMENT, VA. COASTAL RESOURCES MANAGEMENT PROGRAM (1986).

<sup>25</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., WA. STATE COASTAL ZONE MGMT. PROGRAM (1976).

<sup>26</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., ALABAMA COASTAL AREA MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1979); NAT'L OCEANIC & ATMOSPHERIC ADMIN., COASTAL ZONE MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978); NAT'L OCEANIC & ATMOSPHERIC ADMIN., MAINE COASTAL PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978); NAT'L OCEANIC & ATMOSPHERIC ADMIN., NEW HAMPSHIRE COASTAL PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1988); NAT'L OCEANIC & ATMOSPHERIC ADMIN., NEW JERSEY COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1980); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF OREGON COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1977).

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- <sup>27</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF FLORIDA COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1981); NAT'L OCEANIC & ATMOSPHERIC ADMIN., MISSISSIPPI COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1980); NAT'L OCEANIC & ATMOSPHERIC ADMIN., TEXAS COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1996).
- <sup>28</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF CALIFORNIA COASTAL MANAGEMENT PROGRAM AND DRAFT ENVIRONMENTAL IMPACT STATEMENT (1976); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF CONNECTICUT COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1980); NAT'L OCEANIC & ATMOSPHERIC ADMIN., PROPOSED COASTAL MANAGEMENT PROGRAM FOR THE STATE OF DELAWARE AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1979); NAT'L OCEANIC & ATMOSPHERIC ADMIN., PROGRAM AND ENVIRONMENTAL STATEMENT (1997); NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL STATEMENT AND PROPOSED COASTAL ZONE MANAGEMENT PROGRAM FOR THE STATE OF HAWAII (1978); NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL STATEMENT AND LOUISIANA COASTAL RESOURCES PROGRAM (1980); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF NEW YORK COASTAL MANAGEMENT PROGRAM AND FINAL IMPACT STATEMENT (1982); NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL IMPACT STATEMENT AND PROPOSED COASTAL MANAGEMENT PROGRAM FOR THE STATE OF SOUTH CAROLINA (1979).
- <sup>29</sup> R.I. GEN. LAWS § 46-23-6.
- <sup>30</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF RHODE ISLAND COASTAL ZONE MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978) (Appendix D Revised Spring 1986).
- <sup>31</sup> Refer to the individual state summaries in Section Five for jurisdictional authority citations.
- <sup>32</sup> *Id.*
- <sup>33</sup> *Id.*
- <sup>34</sup> CONN. GEN. STAT. §§ 22a-102, 22a-103, 22a-104.
- <sup>35</sup> INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 6, fig.SPM.2 (Working Group I).
- <sup>36</sup> *Id.*
- <sup>37</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., TECHNICAL REPORT NOS CO-OPS 083, GLOBAL AND REGIONAL SEA LEVEL RISE SCENARIOS FOR THE UNITED STATES (2017).
- <sup>38</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., NATIONAL COASTAL POPULATION REPORT POPULATION TRENDS FROM 1970 TO 2020 (2013).
- <sup>39</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., TECHNICAL REPORT NOS CO-OPS 073, SEA LEVEL RISE AND NUISANCE FLOOD FREQUENCY CHANGES AROUND THE UNITED STATES (2014).
- <sup>40</sup> Omnibus Budget Reconciliation Act of 1990, §6203, 104 Stat 1388-300 (codified as amended at 16 U.S.C. § 1451).
- <sup>41</sup> Omnibus Budget Reconciliation Act of 1990, §6203, 104 Stat 1388-301 (codified as amended at 16 U.S.C. § 1452).
- <sup>42</sup> ALA. CODE § 9-7-15 (2017); ALA. ADMIN. CODE r. 335-8-1-.02 (2017).
- <sup>43</sup> ALA. CODE §§ 9-7-15, 9-7-20 (2017).
- <sup>44</sup> ALA. CODE §§ 9-7-16, 22-22A-5 (2017).
- <sup>45</sup> ALA. CODE § 9-7-20 (2017); ALA. ADMIN. CODE r. 335-8-1-.12 (2017).
- <sup>46</sup> Alaska Coastal Management Program Withdrawal From the National Coastal Management Program Under the Coastal Zone Management Act (CZMA), 76 Fed. Reg. 39857 (July 7, 2011).
- <sup>47</sup> ALASKA DIV. OF ELECTIONS, INITIATIVE PETITION LIST, <http://www.elections.alaska.gov/Core/initiativepetitionlist.php> (Last visited April 9, 2018).
- <sup>48</sup> CAL. PUB. RES. CODE § 30103 (2017).
- <sup>49</sup> *Id.*
- <sup>50</sup> CAL. PUB. RES. CODE § 30103 (2017).
- <sup>51</sup> CAL. PUB. RES. CODE § 30330 (2017).
- <sup>52</sup> CAL. PUB. RES. CODE § 30519 (2017).
- <sup>53</sup> LOCAL COASTAL PROGRAMS, CAL. COASTAL COMM'N, <https://www.coastal.ca.gov/lcps.html> (last visited April 10, 2017).
- <sup>54</sup> Cal. Exec. Order No. S-13-08 (Nov. 14, 2008).
- <sup>55</sup> CAL. COASTAL COMM'N, SEA LEVEL RISE POLICY GUIDANCE (2015).

## Endnotes

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- <sup>56</sup> See, e.g., City of Seaside, Cal., Ordinance for Coastal Implementation Plan (2013) (requiring consideration of sea level rise when evaluating development permits).
- <sup>57</sup> CONN. GEN. STAT. § 22a-94 (2017).
- <sup>58</sup> CONN. GEN. STAT. § 22a-359 (2017).
- <sup>59</sup> CONN. GEN. STAT. § 22a-101 (2017).
- <sup>60</sup> *Id.*
- <sup>61</sup> CONN. GEN. STAT. §§ 8-23 (Town Land Use Plans), 16a-27 (State Land Use Plans), 25-68o (Town Evacuation and Hazard Mitigation Plans).
- <sup>62</sup> CONN. GEN. STAT. § 22a-478 (2017).
- <sup>63</sup> DEL. CODE REGS. § 108-1.0 (LexisNexis 2010).
- <sup>64</sup> DEL. CODE REGS. § 108-5.0 (LexisNexis 2010).
- <sup>65</sup> DEL. CODE ANN. tit. 7 § 7004 (West 2017).
- <sup>66</sup> DEL. CODE ANN. tit. 7 § 6604 (West 2017).
- <sup>67</sup> DEL. CODE ANN. tit. 7 § 7202 (West 2017).
- <sup>68</sup> DEL. CODE ANN. tit. 7 § 6805 (West 2017).
- <sup>69</sup> Del. Exec. Order No. 61 (Aug. 24, 1978).
- <sup>70</sup> DEL. CODE ANN. tit. 7 § 6801 (West 2017).
- <sup>71</sup> FLA. STAT. § 380.205 (2017).
- <sup>72</sup> *Id.*
- <sup>73</sup> FLA. STAT. § 161.041 (2017).
- <sup>74</sup> FLA. STAT. § 161.052 (2017).
- <sup>75</sup> FLA. STAT. § 161.053 (2017).
- <sup>76</sup> FLA. STAT. § 161.56 (2017).
- <sup>77</sup> FLA. STAT. § 163.3178 (2017).
- <sup>78</sup> FLA. ADMIN. CODE r. 62B-41.005 (2017).
- <sup>79</sup> GA. CODE ANN. § 12-5-322 (West 2017).
- <sup>80</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., COASTAL MANAGEMENT PROGRAM AND ENVIRONMENTAL STATEMENT II, 10–12 (1997) [Hereinafter GCMP II].
- <sup>81</sup> GA. CODE ANN. § 12-5-286 (West 2017).
- <sup>82</sup> GA. CODE ANN. § 12-5-237 (West 2017).
- <sup>83</sup> GCMP II, *supra* note 89, at 12–13.
- <sup>84</sup> GCMP II, *supra* note 89, at 12.
- <sup>85</sup> HAW. REV. STAT. ANN. § 205A-22 (West 2017).
- <sup>86</sup> HAW. REV. STAT. ANN. § 205A-23 (West 2017).
- <sup>87</sup> HAW. REV. STAT. ANN. § 205A-3 (West 2017).
- <sup>88</sup> HAW. REV. STAT. ANN. § 205A-4 (West 2017).
- <sup>89</sup> HAW. REV. STAT. ANN. § 205A-27 (West 2017).
- <sup>90</sup> HAW. REV. STAT. ANN. § 225P-3 (West 2017).
- <sup>91</sup> LA. STAT. ANN. § 49:214.24 (2017).
- <sup>92</sup> LA. STAT. ANN. § 49:214.26 (2017).
- <sup>93</sup> LA. STAT. ANN. § 49:214.30 (2017).
- <sup>94</sup> LA. STAT. ANN. §§ 49:214.23, 49:214.30 (2017).
- <sup>95</sup> LA. STAT. ANN. § 49:214.28 (2017).
- <sup>96</sup> *Local Coastal Management Programs*, LA. DEPT. OF NAT. RES., <http://www.dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=111&pnid=192&nid=194> (Last Visited May 15, 2017).
- <sup>97</sup> LA. DEPT. OF NAT. RES. OFFICE OF COASTAL MGMT., DEFINING LOUISIANA'S COASTAL ZONE: A SCIENCE BASED EVALUATION OF THE LOUISIANA COASTAL ZONE INLAND BOUNDARY (2010).
- <sup>98</sup> ME. REV. STAT. tit. 38, § 1802 (2017).
- <sup>99</sup> ME. REV. STAT. tit. 12, § 541-A (2017).
- <sup>100</sup> ME. REV. STAT. tit. 38, § 1801 (2017).
- <sup>101</sup> ME. CODE R. § 06-096, Ch. 310, § 2 (2017).
- <sup>102</sup> ME. REV. STAT. tit. 38, § 480-B (2017).
- <sup>103</sup> ME. REV. STAT. tit. 38, §§ 480-E-1 and 480-F (2017).

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- <sup>104</sup> ME. REV. STAT. tit. 38, § 438-A (2017).
- <sup>105</sup> ME. REV. STAT. tit. 38, §§ 435, 438-A, 439-A (2017).
- <sup>106</sup> ME. REV. STAT. tit. 38, § 1801 (2017).
- <sup>107</sup> ME. CODE R. tit. 06-096, Ch. 355, § 1 d
- <sup>108</sup> ME. CODE R. tit. 06-096, Ch. 355, §§ 3 and 5
- <sup>109</sup> Md. Exec. Order No. 01.01.1978.05 (Mar. 8, 1978).
- <sup>110</sup> MD. CODE, NAT. RES. § 8-1807 (2018).
- <sup>111</sup> *Id.*
- <sup>112</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL ENVIRONMENTAL. IMPACT STATEMENT, PROPOSED COASTAL MANAGEMENT PROGRAM FOR THE STATE OF MARYLAND (1978).
- <sup>113</sup> MD. CODE, NAT. RES. § 8-1808 (2010).
- <sup>114</sup> MD. CODE, ENVIR. § 5-203 (2018).
- <sup>115</sup> MD. CODE REGS. 26.24.02.03 (2016).
- <sup>116</sup> MD. CODE REGS. 27.02.05.02 (2016).
- <sup>117</sup> MD. CODE, STATE FIN. & PROC. § 3-602.3 (2014).
- <sup>118</sup> MASS. OFFICE OF COASTAL ZONE MGMT., POLICY GUIDE (2011).
- <sup>119</sup> *Id.*
- <sup>120</sup> MASS. GEN. LAWS ch. 91 §§ 1-64, 310 MASS. CODE REGS. § 9
- <sup>121</sup> MASS. GEN. LAWS ch.130 § 105; 310 MASS. CODE REGS. § 10
- <sup>122</sup> MASS. GEN. LAWS ch.30 § 61 (applies to all state agency permitting and licensing decisions); 310 MASS. CODE REGS. § 9.37 (applies to state agency permitting decisions for nonwater-dependent buildings located within a flood zone and intended for human occupancy).
- <sup>123</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., NEW HAMPSHIRE COASTAL PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT 2-1 (1988).
- <sup>124</sup> *Id.* at S-2.
- <sup>125</sup> *Id.* at 5-1 to 5-2.
- <sup>126</sup> *Id.* at 5.
- <sup>127</sup> *Id.* at S-2.
- <sup>128</sup> N.H. REV. STAT. ANN § 483-B:22.
- <sup>129</sup> N.H. CODE ADMIN R. ANN. Env-Wq 2006.03.
- <sup>130</sup> N.J. STAT. ANN. § 13:19-4; NAT'L OCEANIC & ATMOSPHERIC ADMIN., N.J. COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1980).
- <sup>131</sup> *Id.*
- <sup>132</sup> N.J. ADMIN CODE § 7:7-9.43 (2017); NAT'L OCEANIC & ATMOSPHERIC ADMIN., NEW JERSEY COASTAL MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1980).
- <sup>133</sup> N.J. STAT. ANN. § 13:19-5.
- <sup>134</sup> N.J. STAT. ANN. § 13:9A-4.
- <sup>135</sup> N.J. ADMIN CODE §§ 7:7-9.17, 7:7-9.19 (2017).
- <sup>136</sup> N.Y. EXEC. LAW § 914 (McKinney); NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF NEW YORK COASTAL MANAGEMENT PROGRAM AND FINAL IMPACT STATEMENT (1982).
- <sup>137</sup> N.Y. EXEC. LAW § 913 (McKinney 1986).
- <sup>138</sup> N.Y. COMP. CODES R. & REGS. tit. 19 § 600.6; N.Y. DEP'T OF STATE, LONG ISLAND SOUND COASTAL MANAGEMENT PROGRAM (1999).
- <sup>139</sup> N.Y. ENVTL. CONSERV. LAW §§ 25-0401, 25-0301 (McKinney 1973).
- <sup>140</sup> N.Y. ENVTL. CONSERV. LAW § 25-0103 (McKinney 1973).
- <sup>141</sup> N.Y. COMP. CODES R. & REGS. tit. 6 § 661.4.
- <sup>142</sup> N.Y. COMP. CODES R. & REGS. tit. 19 § 600.6; N.Y. DEP'T OF STATE, LONG ISLAND SOUND COASTAL MANAGEMENT PROGRAM (1999).
- <sup>143</sup> N.Y. ENVTL. CONSERV. LAW § 3-0319 (McKinney 1973).
- <sup>144</sup> N.Y. AGRIC. & MKTS. LAW § 325 (McKinney 2015); N.Y. ENVTL. CONSERV. LAW §§ 6-0107, 17-1015, 17-1909, 23-0305, 27-1103, 40-0113, 49-0203, 54-0303, 54-0503, 54-1101, 54-1105, 54-1511, 54-1523, 70-0117 (McKinney 1973); N.Y. EXEC. LAW § 918 (McKinney 1986); N.Y. PUB. HEALTH LAW § 1161 (McKinney 2015); N.Y. TOWN LAW § 64-e (McKinney 2016).
- <sup>145</sup> N.Y. ENVTL. CONSERV. LAW § 70-0117 (McKinney 2015).

## Endnotes

- <sup>146</sup> N.C. GEN. STAT. § 113A-103.
- <sup>147</sup> See N.C. GEN. STAT. § 77-20 (identifying the seaward boundary of non-state property); see also *id.* § 113A-101 (describing the shared jurisdiction of state and local governments).
- <sup>148</sup> N.C. GEN. STAT. § 113A-113.
- <sup>149</sup> N.C. GEN. STAT. §§ 113A-118.1, 113A-119; 15A N.C. ADMIN. CODE 7J.0202.
- <sup>150</sup> N.C. GEN. STAT. § 113A-121; 15A N.C. ADMIN. CODE 7J.0202 (2018).
- <sup>151</sup> N.C. GEN. STAT. § 113A-107.1.
- <sup>152</sup> 2011-2012 N.C. Sess. Laws 202
- <sup>153</sup> OR. LAND CONSERVATION & DEV.T COMM'N, OREGON COASTAL MANAGEMENT PROGRAM 20 (1987).
- <sup>154</sup> *Id.*
- <sup>155</sup> OR. REV. STAT. ANN. § 196.435 (West 2003).
- <sup>156</sup> OR. LAND CONSERVATION AND DEV. COMM'N, OREGON COASTAL MANAGEMENT PROGRAM 16-18 (1987).
- <sup>157</sup> *Id.* at 7, 12-16.
- <sup>158</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF RHODE ISLAND COASTAL ZONE MANAGEMENT PROGRAM AND FINAL ENVIRONMENTAL IMPACT STATEMENT (1978) (Appendix D Revised Spring 1986).
- <sup>159</sup> *Id.*
- <sup>160</sup> R.I. GEN. LAWS § 46-23-6.
- <sup>161</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 167.
- <sup>162</sup> *Id.*; R.I. GEN. LAWS § 46-23-6.
- <sup>163</sup> R.I. CODE R. § 100.1 (2000).
- <sup>164</sup> R.I. CODE R. § 100.2 (2000).
- <sup>165</sup> R.I. CODE R. 16-2-1:145 (1956).
- <sup>166</sup> *Id.*
- <sup>167</sup> S.C. CODE ANN. § 48-39-10.
- <sup>168</sup> *State v. Pac. Guano Co.*, 22 S.C. 50 (S.C. 1884).
- <sup>169</sup> S.C. CODE ANN. §§ 48-39-100, 48-39-350.
- <sup>170</sup> S.C. CODE ANN. §§ 48-39-10, 48-39-130.
- <sup>171</sup> S.C. CODE ANN. § 48-39-350.
- <sup>172</sup> S.C. CODE ANN. REGS. 30-1.
- <sup>173</sup> See e.g., CITY OF CHARLESTON, SEA LEVEL RISE STRATEGY (2015), <http://www.charleston-sc.gov/DocumentCenter/View/10089>.
- <sup>174</sup> TEX. NAT. RES. CODE ANN. § 33.004 (West 2017).
- <sup>175</sup> TEX. NAT. RES. CODE ANN. § 33.2053 (West 2017); 31 TEX. ADMIN. CODE § 503.1 (West 2017).
- <sup>176</sup> TEX. NAT. RES. CODE ANN. § 33.204 (West 2017).
- <sup>177</sup> TEX. NAT. RES. CODE ANN. § 33.208 (West 2017).
- <sup>178</sup> TEX. NAT. RES. CODE ANN. §§ 33.205, 33.2051, 33.2053 (West 2017).
- <sup>179</sup> TEX. NAT. RES. CODE ANN. § 33.205 (West 2017).
- <sup>180</sup> TEX. NAT. RES. CODE ANN. § 33.206 (West 2017).
- <sup>181</sup> TEX. NAT. RES. CODE ANN. § 33.2052 (West 2017); 31 TEX. ADMIN. CODE § 505.20 (West 2017).
- <sup>182</sup> TEX. NAT. RES. CODE ANN. §§ 33.205, 33.2051, 33.2053 (West 2017).
- <sup>183</sup> TEX. PARKS & WILD. CODE ANN. § 14.205 (West 2017).
- <sup>184</sup> 31 TEX. ADMIN. CODE § 501.3 (2017).
- <sup>185</sup> VA. EXEC. ORDER NO. 35 (Dec. 2, 2014); VA. CODE ANN. § 62.1-44.15:68 (West 2017).
- <sup>186</sup> *Id.*
- <sup>187</sup> VA. CODE ANN. §§ 28.2-101, 1204, 1306, 1406 (West 2017).
- <sup>188</sup> VA. CODE ANN. §§ 28.2-1302, 1303, 1403 (West 2017).
- <sup>189</sup> VA. CODE ANN. §§ 28.2-1310, 1313, 1410, 1413 (West 2017).
- <sup>190</sup> VA. CODE ANN. § 215.2-2223.3 (West 2017).
- <sup>191</sup> VA. CODE ANN. § 28.2-1100 (West 2017).
- <sup>192</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATE OF WASHINGTON COASTAL ZONE MANAGEMENT PROGRAM FINAL ENVIRONMENTAL IMPACT STATEMENT (1976).
- <sup>193</sup> WASH. REV. CODE ANN. §§ 90.58.030, 90.58.040 (West 2017); NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 201.
- <sup>194</sup> WASH. REV. CODE ANN. § 90.58.030 (West 2017).

## Endnotes

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<sup>195</sup> WASH. REV. CODE ANN. § 90.58.050 (West 2017).

<sup>196</sup> WASH. REV. CODE ANN. § 90.58.140 (West 2017).

<sup>197</sup> *Id.*

<sup>198</sup> NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 201.

<sup>199</sup> DEP'T OF ECOLOGY STATE OF WASH., SHORELINE MASTER PROGRAM HANDBOOK, APPENDIX A (2013).