



Table 4: Selection of assumptions for each component, each variable and for each scenario

Component	Variable	A1 Scenario	A2 Scenario	A3 Scenario	A4 Scenario	D1 Scenario	D2 Scenario	D3 Scenario	F Scenario	
Population	P1- Share of population exposed	Gradual increase in population (in coastal zone)	Strong demographic growth with migrations within/towards coastal megalopolises	Gradual withdrawal (from coastal areas)	Share in coastal zone remains stable (despite growing world population)	Gradual withdrawal (from coastal areas) / Gradual increase in population (in coastal zone)	Share in coastal zone remains stable (despite growing world pop.)	Gradual increase in population (in coastal zone)	Gradual withdrawal (from coastal areas)	Strong demographic growth with migrations within/towards coastal megalopolises
	P2 - Internal and international migration	Staggered departures as water gradually rises	Repeated crises causing mass exoduses	Staggered departures as water gradually rises	Staggered departures as water gradually rises	Staggered departures as water gradually rises / Staggered departures as water gradually rises	Evacuation accelerating, some major cities affected	Repeated crises causing mass exoduses	Evacuation accelerating, some major cities affected	Repeated crises causing mass exoduses
	P3 - Degree of health vulnerability of populations	Coastal areas are sectors of high health vulnerability	Access to infrastructure limits health vulnerability of populations	Access to infrastructure limits health vulnerability of populations	Access to infrastructure limits health vulnerability of populations	Coastal areas are sectors of high health vulnerability	Access to infrastructure limits health vulnerability of populations	Unfettered development of coastal megacities further increases health vulnerability	Coastal areas are sectors of high health vulnerability	Unfettered development of coastal megacities further increases health vulnerability
Urbanism and infrastructure	U1 - Urban dynamics	Coastal megacities and strong coastal urbanisation	Coastal megacities and strong coastal urbanisation	Weak coastal urbanisation and coastal towns in network with hinterland	Weak coastal urbanisation and coastal towns in network with hinterland	Coastal megacities and strong coastal urbanisation	Weak coastal urbanisation and coastal towns in network with hinterland	Coastal megacities and strong coastal urbanisation	Coastal megacities and strong coastal urbanisation	Fragmentation of cities and urban dispersion - strong coastal urbanisation
	U2 - Infrastructure resilience level	Average vulnerability	Controlled vulnerability (resilience)	Controlled vulnerability (resilience)	Controlled vulnerability (resilience)	High vulnerability	Average vulnerability	High vulnerability	High vulnerability	Controlled vulnerability (resilience)
	U3 - Adaptation of exposed coastal areas	Live with elevation, gradual adaptation (incremental change)	Absence of strategy / Resisting rising sea levels	Organised withdrawal, transformational change	Live with elevation, gradual adaptation (incremental change)	Absence of strategy	Live with elevation, gradual adaptation (incremental change)	Absence of strategy	Resisting rising sea levels	Absence of strategy

Environment and natural resources	EN1 - State of freshwater resources (quantity and quality)	Progressive degradation, alteration of ecological functions	Transfer of external water resources to coastal area	Controlled resource exploitation and use	Controlled resource exploitation and use	Progressive degradation, alteration of ecological functions	Transfer of external water resources to coastal area	Progressive degradation, alteration of ecological functions	Controlled resource exploitation and use	Progressive degradation, alteration of ecological functions
	EN2 - Soil state (salinisation, erosion etc.)	Moderate salinisation and pollution	High levels of salinisation, pollution and soil sealing	Reduced salinisation and pollution	Moderate salinisation and pollution	High levels of salinisation, pollution and soil sealing	High levels of salinisation, pollution and soil sealing	High levels of salinisation, pollution and soil sealing	Reduced salinisation and pollution	High levels of salinisation, pollution and soil sealing
	EN3 - Dynamics of coastal and shore ecosystems (habitats, biodiversity)	In situ adaptation/modification, alteration of ecosystem functions	In situ adaptation/modification, alteration of ecosystem functions	Translation and/or modification without alteration of ecosystem functions	In situ adaptation/modification, alteration of ecosystem functions	Disappearance of ecosystems	Disappearance of ecosystems	Disappearance of ecosystems	Translation and/or modification without alteration of ecosystem functions	Disappearance of ecosystems
	EN4 - Modification of coastline	Moderate erosion and marginal retreat	Predictable significant local withdrawal	Moderate erosion and marginal retreat	Predictable significant local withdrawal	Significant generalised withdrawal	Predictable significant local withdrawal	Significant generalised withdrawal	Moderate erosion and marginal retreat	Unpredictable localised withdrawal
Agriculture and food	AA1 - Availability of agricultural land	Agricultural land reduced by more than half in coastal area	Agricultural land reduced by more than half in coastal area	Effective protection of agricultural land	Agricultural land reduced by more than half in coastal area	Disappearance of agricultural land in coastal area	Agricultural land reduced by more than half in coastal area	Disappearance of agricultural land in coastal area	Agricultural land reduced by more than half in coastal area	Effective protection of agricultural land
	AA2 - Agricultural production systems	Adaptation of species cultivated and agricultural practices	Adaptation of species cultivated and agricultural practices	Adaptation of species cultivated and agricultural practices	Synergies between agricultural and aquaculture systems	Crops replaced by livestock	Crops replaced by livestock	Crops replaced by livestock	Adaptation of species cultivated and agricultural practices	Crops replaced by livestock
	AA3 - Importance of aquaculture and fishing	Reduction in fishing volumes	Increase in volumes (diversified aquaculture)	Supplies maintained (sustainable aquaculture)	Supplies maintained (sustainable aquaculture)	Increase in volumes (diversified aquaculture)	Increase in volumes (diversified aquaculture)	Reduction in fishing volumes	Reduction in fishing volumes	Increase in volumes (diversified aquaculture)

	AA4 - Food security	Food access secured by diversifying sources of supply	Food access secured by diversifying sources of supply	Food access secured by diversifying sources of supply	Food access secured by diversifying sources of supply	Reduction in food diversity	Disturbance or occasional ruptures in access	Reduction in economic access to agricultural products	Reduction in economic access to agricultural products	Food access secured by diversifying sources of supply
Coastal economy	EC1 - Coastal economy	Multiplication in ways of adding value	Floating economy, 'offshorisation'	Planned strategic withdrawal and recovery via hinterland	Multiplication in ways of adding value	Forced and anarchic strategic withdrawal	Planned strategic withdrawal and recovery via hinterland	Forced and anarchic strategic withdrawal	Forced and anarchic strategic withdrawal	Floating economy, 'offshorisation'
	EC2 - Solidarity and sharing (for adaptation and crisis management)	Everyone for themselves' + redistribution and humanitarian	Insurance financing and judicialisation	Solidarity at all levels	Solidarity at all levels	Everyone for themselves' + redistribution and humanitarian	Gradation into 2 extremes: cartel of the rich, solidarity among the poor / Everyone for themselves' + redistribution and humanitarian	Brutalisation of social relations	Gradation into 2 extremes: cartel of the rich, solidarity among the poor	Insurance financing and judicialisation
Coastal governance	G1 - Awareness of coastal risks (rulers and society)	Appropriation of SLR issues	Appropriation of SLR issues	Appropriation des enjeux du SLR	Appropriation des enjeux du SLR	Denial	Rifts	Denial	Rifts	
	G2 - Reactivity and degree of commitment (proactivity, acceptability, education)	Minimal involvement	Proactivity and involvement of all actors	Proactivity and involvement of all actors	Passivity without involvement	Passivity without involvement	Minimal involvement / Reactivity and mobilisation of stakeholders	Minimal involvement	Minimal involvement	Reactivity and mobilisation of stakeholders
	G3 - Level of coordination and sharing - local and global scales	Non-existent, everyone for themselves!	Targeted, networked coastal towns	High and global	Regional, communities with common destinies and hardships at the regional scale	Non-existent, everyone for themselves!	Regional, communities with common destinies and hardships at the regional scale	Non-existent, everyone for themselves!	Non-existent, everyone for themselves!	Regional, communities with common destinies and hardships at the regional scale

Global context	C1 - Overall economic growth	Planned shrinking economy	Dual growth	Planned shrinking economy	Stop & go growth	Stop & go growth	Dual growth	Inflicted shrinking economy, chaos	Dual growth
	C2 - Energy mix (fossil fuel dependence and internal trade)	Synergies between all actors -> decarbonation of economy	Priority given to energy autonomy (priority given to local sources)	Priority given to energy autonomy (priority given to local sources)	Synergies between all actors -> decarbonation of economy	Fragmentation of energy production and consumption	Energy chaos, priority given to national energy security	Energy chaos, priority given to national energy security	Fragmentation of energy production and consumption / Priority given to energy autonomy (priority given to local sources)
	C3 – Awareness of climate issues at the global scale (leaders and society)	Appropriation of CC issues	Appropriation of CC issues	Appropriation of CC issues	Appropriation of CC issues	Denial	Rifts	Denial Outward awareness	Rifts
	C4 - Global geopolitical governance	Governance for the management of common goods	Generalisation of cybernetic order based on AI	Governance for the management of common goods	Gouvernance pour la gestion des biens communs	Fragmentation, stability in mosaics in a turbulent multipolar world	Domination by 2 super powers	Generalised chaos	Domination by 2 super powers

Physical context of the sea level rise in 2100 and strength of extreme events (EXE)	MODERATE : +0.5m; slow rise; EXE +	SERIOUS: +0.5m; fast rise EXE+	SERIOUS: +0.5m; fast rise EXE+	SEVERE: +1m; fast rise EXE++	SEVERE: +1m; fast rise EXE++	EXTREME: +2m; fast rise EXE++	EXTREME: +2m; fast rise EXE++	EXTREME: +2m; fast rise EXE++
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