

Rivierade WP5 (workflow setup, testing and fine tuning)

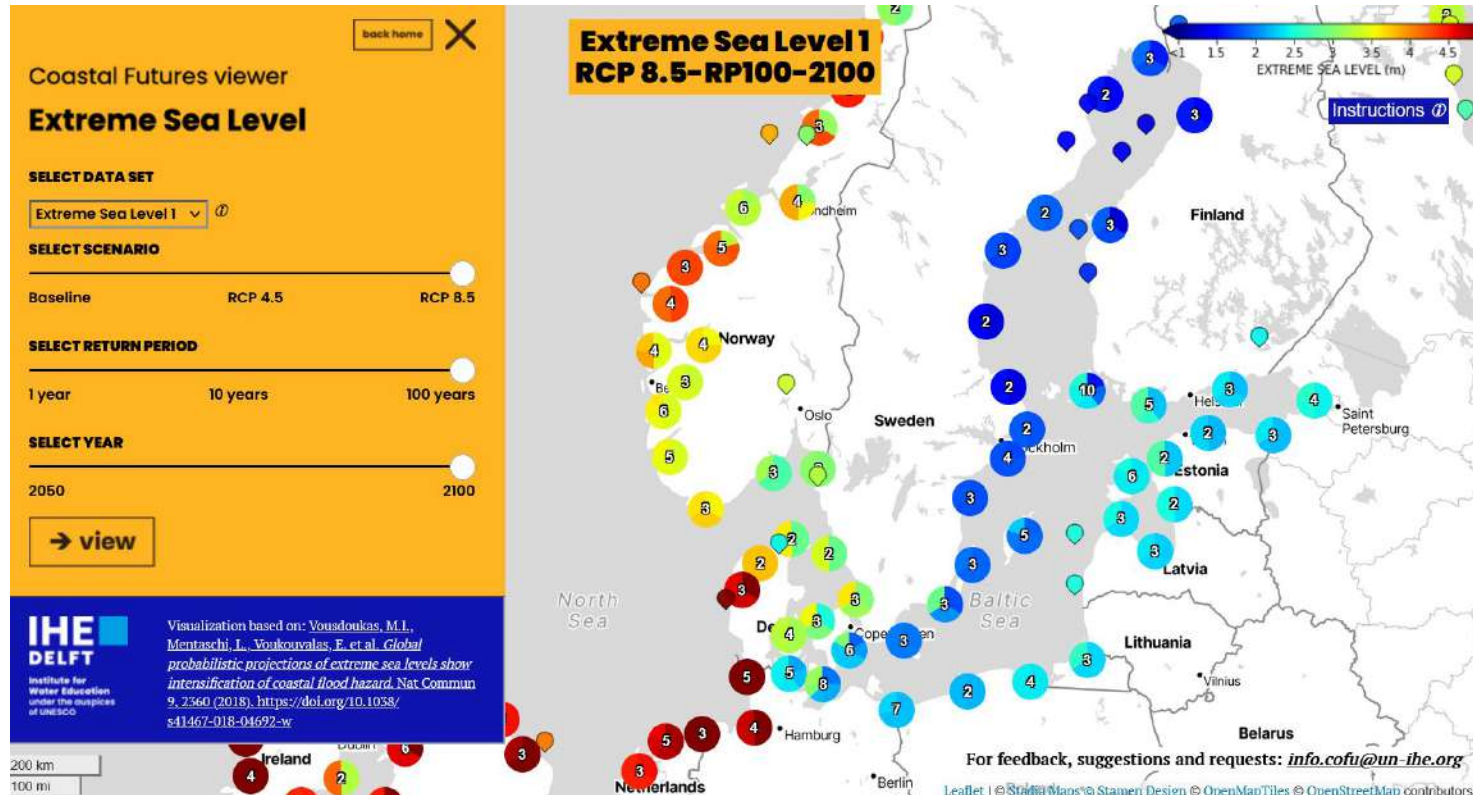
Activity	Inputs Req'd	Target (not deliverables)	Start	End
ESL hindcast (validated) and projections with AR6 RSLR+CMIP6 surge and waves (12km res. SSPs1-2.6 OR 3-7.0; RPs 5, 100, 500, 1000) (ESL1)	AR6 SLR, CMIP6 surge and waves, tide – all currently available	ESL1_H&P for 1 basin	M3	M6
Coastal flooding in part of 1 basin due to ESL1 (DEM res 10-30m)	Copernicus+DeltaDEM, Hydraulic roughness (ESA Worldcover) ESL1H&P, existing flood defenses (CRI ok if no other data)	SFINCS derived flood maps at 1km for all RPs tested using ESL1; V2020 derived shoreline change projection maps at 1km res for baseline and 2050, 2100, SSPs 1-2.6 or 3-7.0	M7	M15
Shoreline change in 1 basin at 1km res due to AR6 RSLR and ambient change	Ambient shoreline change and AR6 RSLR, Coastal hardening from Nawarat et al (2024)			
Coastal Flooding EAD and EAPA in test-area	Coastal flood maps (1km res) for all RPs considered, pop, GDP data	EAD and EAPA for study area for baseline and 2050, 2100, SSPs 1-2.6 or 3-7.0	M16	M18

Rivierade WP5 – IHE Delft contribution

Activity	Inputs Req'd	Deliverable	Start	End
Downscaled Rivierade Probabilistic RSLR hindcast (12km res, TBD within 1961-2100 - RSLR2_H)	Steric and dynamic SLR components from WP4 (hindcast available M18)	RSLR2_H for 3 basins - hindcast (TBD within 1961-2020) and validation	M18	M23
ESL hindcast (validated) with Rivierade RSLR (12km res, TBD within 1961-2100 - RPs 1, 5, 10, 20, 50, 100, 200, 500, 1000) (ESL2_H)	RSLR2-H; tide; Downscaled Winds and AtmP from WP4 (hindcast available M18)	ESL2_H for 3 basins - hindcast (TBD within 1961-2020) and validation	M24	M26
RSLR decadal predictions (12km res) (RSLR_D)	Steric and dynamic SLR components from WP3 (full projections available M24)	RSLR_D for 3 basins	M24	M27
ESL decadal predictions (12km res, maybe only 100yr RP?) (ESL_D)	RSLR_D; tide; Decadal Winds and AtmP from WP3 (full projections available M24)	ESL_D for 3 basins	M28	M30
Downscaled Rivierade Probabilistic RSLR multi-decadal projections (12km res, SSP1-2.6; SSP3-7.0) (RSLR2_P)	Steric and dynamic SLR components from WP4 (full projections available M36)	RSLR2_P for 3 basins - projections (10yr blocks till 2100)	M36	M38
ESL multi-decadal projections with RSLR2-P (12km res, same RPs as in hindcast, SSP1-2.6; SSP3-7.0) (ESL2_P)	RSLR2-P; tide; Downscaled Winds and AtmP from WP4 (full projections available M36)	ESL2_P for 3 basins - (same RPs, 10yr blocks till 2100)	M39	M41
Uncertainties of ESL considering ESL2_P projections and ESL_D)	ESL2-P and ESL_D	Uncertainties wrt ESL2_P and ESL_D for 3 basins	M42	M44

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What would basin scale ESL projections look like?



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