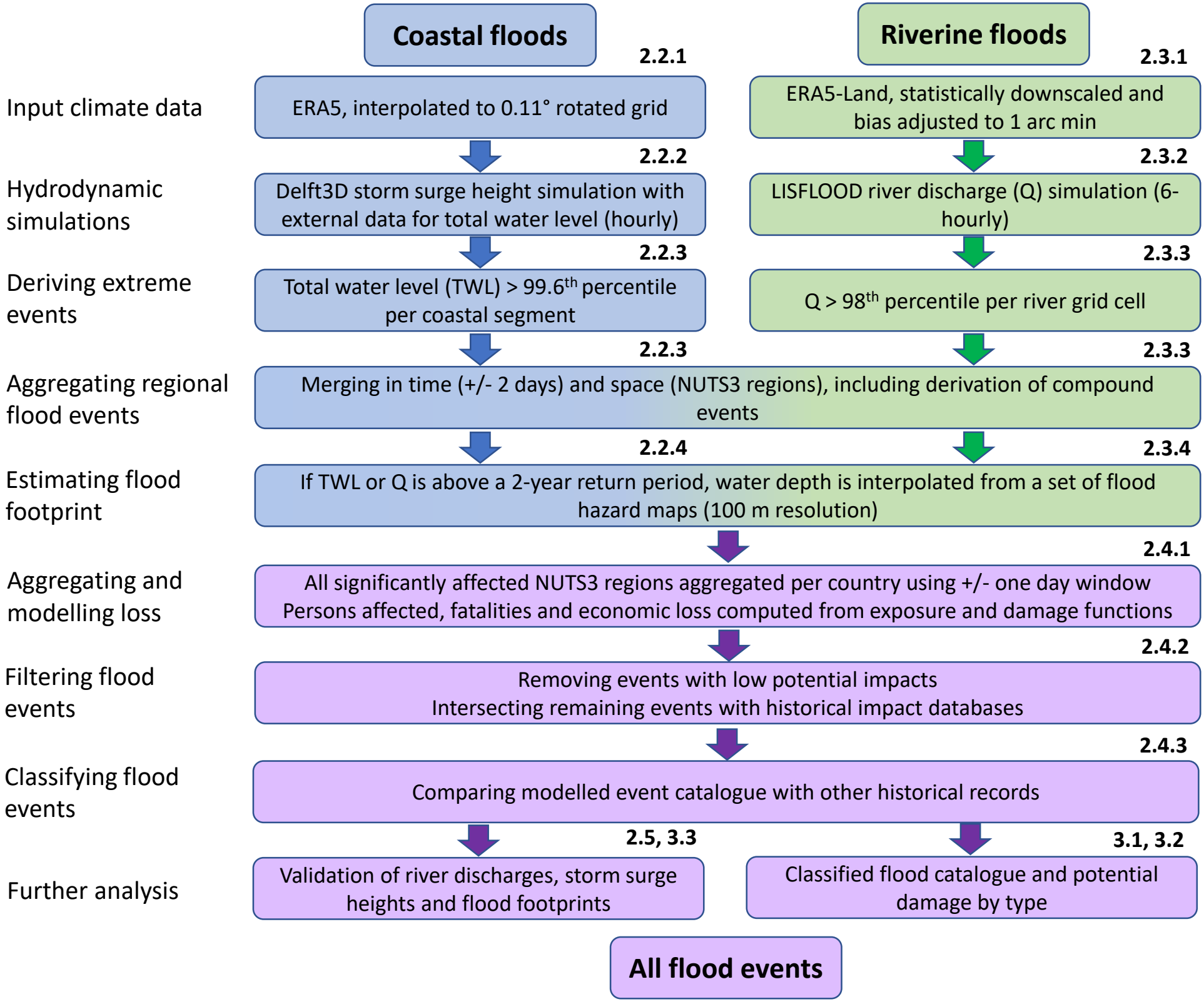
Coastal floods
Riverine floods
2.2.1
2.3.1
Input climate data
ERA5, interpolated to 0.11° rotated grid
ERA5-Land, statistically downscaled and bias adjusted to 1 arc min
2.2.2
2.3.2
Hydrodynamic simulations
Delft3D storm surge height simulation with external data for total water level (hourly)
LISFLOOD river discharge (Q) simulation (6-hourly)
2.2.3
2.3.3
Deriving extreme events
Total water level (TWL) > 99.6th percentile per coastal segment
Q > 98th percentile per river grid cell
2.2.3
2.3.3
Aggregating regional flood events
Merging in time (+/- 2 days) and space (NUTS3 regions), including derivation of compound events
2.2.4
2.3.4
Estimating flood footprint
If TWL or Q is above a 2-year return period, water depth is interpolated from a set of flood hazard maps (100 m resolution)
2.4.1
Aggregating and modelling loss
All significantly affected NUTS3 regions aggregated per country using +/- one day window
Persons affected, fatalities and economic loss computed from exposure and damage functions
2.4.2
Filtering flood events
Removing events with low potential impacts
Intersecting remaining events with historical impact databases
2.4.3
Classifying flood events
Comparing modelled event catalogue with other historical records
2.5, 3.3
3.1, 3.2
Further analysis
Validation of river discharges, storm surge heights and flood footprints
Classified flood catalogue and potential damage by type
All flood events