Printable version of Table 1, for use as a field-planning checklist: Recommended core data for coastal boulder deposit studies. Abbreviations: GPS = Global Positioning System; GNSS = Global Navigation Satellite System; DGPS or DGNSS = Differential GPS or GNSS; RTK = Real Time Kinematic; UAV = Uncrewed Aerial Vehicle or drone; DTM = Digital Terrain Model

Property	**What is included**	**How it is measured/recorded**
Site characteristics	Bedrock geology, topography, etc.	Site observations, literature analysis, and/or existing maps
General boulder characteristics	Lithology, source, transport history (where possible), as well as overall setting; overall shape and rounding	Field observation comparative analysis over time, and/or literature review for previously studied sites
Location	Latitude and longitude, Universal Transverse Mercator, or other coordinate system (with horizontal geodetic datum defined)	GPS: hand held or from UAV imagery, or via RTK or DGPS/DGNSS survey. Location precision must be reported
Physical properties	Density (for mass calculation)	Hand sample and Archimedes' principle
Dimensions	Long, intermediate and short axes (X, Y, Z), volume; mass estimates from volume and density	Tape measurement, photogrammetry (structure-from-motion), DGPS/DGNSS, LiDAR
Mass	Estimate of boulder weight	Calculated from volume and density
Alignment	Orientation of the long axis (azimuth and/or relative to shoreline or mean wave approach direction)	RTK GPS, compass, aerial photos
Horizontal distance	Distance inland from defined local datum (usually measured perpendicular to the shoreline)	RTK GPS or DGPS/DGNSS, laser rangefinder (with trigonometry if terrain is sloped), maps, imagery
Elevation	Vertical distance above a defined datum	RTK GPS or DGPS/DGNSS, laser rangefinder with trigonometry, DTMs
Geodetic reference system	For positional data, the geodetic frame of reference (e.g. WGS84, ETRS89, etc.)	From GPS settings
Local datum for horizontal distance and elevation	Some measure of sea level (with information for reproducibility), high water mark (specify how recognised), or other reproducible landmark; national geodetic benchmark or survey datums	Depends on datum (see text)
Tide information	Local range, local tide corrections (if relevant for boulder elevation computations)	Local hydrographic office tidal predictions, phone apps (apps will usually only have nearest gauge data, not progressive time-distance correction factors), or numerical tidal models