

Beach Terrain (G13) Play Aid

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Terrain Type	Elevation Level	LOS	TEM (Direct/Indirect)	B-H Hexside Movement	Notes	Sand	Soft Sand Movement (or normal movement for other terrain types)	Hard Sand Movement	Fortifications
Slight Beach	-1 (0)	<ul style="list-style-type: none"> LOS along/across \geq one Beach-Hinterland (B-H) hexside treats all Beach and OCEAN hexes as at Level 0. No BH Crest Line. 	<ul style="list-style-type: none"> 0/0 (Open Ground) Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] 	Movement along/across \geq one B-H hexside treats all Beach and OCEAN hexes as at Level 0.	<ul style="list-style-type: none"> Road Movement cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if hex contains Beach-OCEAN hexside; if EC is Wet, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: 1MF +COT Cav/Wagon: 2MF +COT Fully Tracked: 2MP +COT Halftrack: 3MP +COT Armored Car/Motorcycle: 4MP +COT Truck: 6MP +COT 	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: COT Cav/Wagon: 1MF +COT Fully Tracked: 1MP +COT Halftrack: 2MP +COT Armored Car/Motorcycle: 3MP +COT Truck: 5MP +COT 	<ul style="list-style-type: none"> Pillbox, trench, sangar, tunnels NA Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection Effluent hexes: Entrenchments NA. Coral Soil: +2 DRM for Entrenching Attempts.
Moderate Beach	-1 (0)	<ul style="list-style-type: none"> LOS along/across \geq one Beach-Hinterland (BH) hexside treats all Beach and OCEAN hexes as Level O Deir (F4) hexes, with all B-H hexsides acting as deir's Lip. Thus an entrenched/emplaced unit in a non-B-H hex has a LOS past a B-H hexside only to a same-level hex formed by that B-H hexside and to any hex at a higher elevation than that unit. A "half level" Hindrance (including AFV/wreck) in a Beach hex can affect LOS only if both viewing/viewed units are at same level and at least one of those units is in a Beach hex. No BH Crest Line. 	<ul style="list-style-type: none"> 0/0 (Open Ground) Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] A non-PRC target in a Beach hex receives a +1 TEM (or may claim HD status) vs. Direct Fire if the firer is at the same elevation as the target and the firer's LOS crosses a B-H hexside that does not form part of the firer's hex). Infantry/Horses moving in a Beach hex are immune to a Fire Lane attack in that hex if the FL crosses a B-H Hexside before/as it enters that hex <i>and</i> that hex does not contain the Fire Lane counter. See E4.52 for Vulnerable PRC. 	Movement along/across \geq one B-H hexside treats all Beach and OCEAN hexes as Level O Deir (F4) hexes, with all B-H hexsides acting as deir's Lip. Thus a vehicle that exits via a B-H hexside spends 1 extra MP.	<ul style="list-style-type: none"> Road Movement cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if hex contains Beach-OCEAN hexside; if EC is Wet, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: 1MF +COT Cav/Wagon: 2MF +COT Fully Tracked: 2MP +COT Halftrack: 3MP +COT Armored Car/Motorcycle: 4MP +COT Truck: 6MP +COT 	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: COT Cav/Wagon: 1MF +COT Fully Tracked: 1MP +COT Halftrack: 2MP +COT Armored Car/Motorcycle: 3MP +COT Truck: 5MP +COT 	<ul style="list-style-type: none"> Pillbox, trench, sangar, tunnels NA Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection All Entrenchments NA for Effluent hexes. Coral Soil: +2 DRM for Entrenching Attempts.
Steep Beach	-1	<ul style="list-style-type: none"> As per normal Crest Line rules. There is a Beach-Hinterland (BH) Crest Line 	<ul style="list-style-type: none"> 0/0 (Open Ground) Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] +2 if Crest Status; see Notes column. 		<ul style="list-style-type: none"> Inf in hex w/ B-H hexside may gain Crest status as if IN a gully (but may use any SW) Road cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if EC is Wed, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: 1MF +COT Cav/Wagon: 2MF +COT Fully Tracked: 2MP +COT Halftrack: 3MP +COT Armored Car/Motorcycle: 4MP +COT Truck: 6MP +COT 	<ul style="list-style-type: none"> Sand Bog (F7.31) Infantry: COT Cav/Wagon: 1MF +COT Fully Tracked: 1MP +COT Halftrack: 2MP +COT Armored Car/Motorcycle: 3MP +COT Truck: 5MP +COT 	<ul style="list-style-type: none"> Pillbox/trench/sangar/tunnels NA Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection All Entrenchments NA for Effluent hexes. Coral Soil: +2 DRM for Entrenching Attempts.
B-H Cliff hexside	NA	<ul style="list-style-type: none"> Normal Cliff rules apply There is a Beach-Hinterland (BH) Crest Line 	Normal Cliff rules apply	Normal Cliff rules apply	—	NA	Normal Cliff rules apply	Normal Cliff rules apply	NA
OCEAN Hinterland/OCEAN-Island hexside	NA	OT	OT	OT	<ul style="list-style-type: none"> Seawalls never exist along OCEAN-Hinterland hexsides. 	NA	Per other terrain.	Per other terrain.	NA

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Terrain Type	Terrain Level	Beach-Hinterland (B-H) Crest Line?	LOS	TEM (Direct/Indirect)	Notes	Soft Sand Movement (or normal movement for other terrain types)	Hard Sand Movement (if terrain is Sand)	Fortifications
Seawall (High)	NA	NA	Equivalent to one-level Cliff rising from level -1 Beach.	Per normal Cliff rules; see B11.42 for Climbing.	<ul style="list-style-type: none"> Per normal Cliff rules. Seawalls never exist along OCEAN-Hinterland hexsides. 	Commandos only; others NA (G13.61)	NA	NA
Seawall (Low)	NA	NA	Treated as a normal wall (B9) except as stated otherwise.	<ul style="list-style-type: none"> +2/+1 (not cumulative with +/- TEM in hex) A non-entrenched unit in a Hinterland hex containing a low-seawall hexside may claim WA in the normal manner, but cannot claim its TEM/HD benefits (EXC: may claim +1 TEM vs. Indirect Fire). 	<ul style="list-style-type: none"> Not considered a wall for purposes of firing HEAT. Seawalls never exist along OCEAN-Hinterland hexsides. 	<ul style="list-style-type: none"> Inf/Cav crossing from Hinterland to Beach do NOT expend 1MF normally required for crossing a Wall. Vehicles may only cross if Breached (or with Fascine); see G13.624, 13.625. 0+COT for all units if Breached. 	NA	NA
Pier	Pier: 0 Beach/ Ocean: -1	NA	<ul style="list-style-type: none"> Stone Pier: Inherent Terrain obstacle to LOS beginning and ending in non-adjacent water/Beach Locations. Wood Pier: Inherent Terrain +1 LOS Hindrance to LOS beginning and ending in non-adjacent water/Beach Locations. Piers aren't Hindrance or Obstacle to LOS beginning at ≥ Level 0 and ending in water/Beach Location (or vice versa) (EXC: if water/Beach location is adj. to pier hex crossed/touched by that LOS, it is blocked/hindered). Pier hex has no effect on LOS that neither begins or ends in a water/Beach Location. 	<ul style="list-style-type: none"> 0/0 (Open Ground) Can claim Height Advantage (B10.3) vs. an adjacent, in-LOS unit in a water/Beach Location (EXC: NA if that unit is a vehicle whose Target Size is -2, -3, -4). If LOS to/from a vehicle w/Target Size -2, -3, -4 would be blocked by intervening stone pier, unit/target is instead treated as being directly behind a stone wall and receives TEM/HD status thereof (even if not adjacent to that pier); this is not cumulative with any other +TEM (EXC: mud/deep-snow TEM). 	<ul style="list-style-type: none"> Rules for non-pontoon bridges apply except as stated otherwise. Considered Paved Road for setup purposes. Only Infantry/boats may set up/enter beneath a wood pier (EXC: Infantry NA in deep water). No unit may set-up/enter beneath a stone pier. See G13.731/13.732 for Loading/Unloading. 	<ul style="list-style-type: none"> Infantry: 2MP, or per Road cost. Inf. changing elevation while entering/exiting a Pier Location expend MF as if crossing a hill Crest Line (EXC: diving/jumping into deep water; E6.1). No Gun, vehicle, Horse may be moved to/from a pier Location directly from a water/Beach hex. Vehicles may enter only via road; MP penalties for entering hex with wreck/vehicle, or changing CA, are doubled. Only Inf./boats may enter beneath a wood pier; no unit may enter beneath a stone pier. 	NA	<ul style="list-style-type: none"> Pier as per non-pontoon bridges. No entrenchments or HIP mines.
Sandbar	-1	Dune Crest	Dune Crest hexside/hexspine is a Half Level Obstacle (affects LOS like Wall, except that entrenched/Emplaced units can see past to nonadjacent hexes)	<ul style="list-style-type: none"> 0/0 Non-PRC units may claim +1 TEM (or HD status) vs. Direct Fire (only) traced across/along Dune Crest hexside/spine, if their elevation is ≥ firer. Ordnance/OBA attack vs. unarmored unit [EXC: Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack] has FP halved on IFT after all other modifications [EXC: CH doubled, not halved]. In Bombardments, units/weapons get -2 DRM to MC. [EXC: if Hard Sand, these penalties are NA] 	<ul style="list-style-type: none"> A Sand/Dune overlay that is partially/wholly surrounded by ≥ OCEAN hex. Treat as Low Dune. Wall advantage does not apply to Dune Crests. Underbelly Hits are possible while crossing Dune Crest hexside. 	To cross Dune Crest hexside: 1 MF/MP +COT	To cross Dune Crest hexside: 1 MF/MP +COT	<ul style="list-style-type: none"> Pillbox, trench, sangar, tunnels NA Foxhole (capacity may be reduced by HE KIAs; see F7.42) has TEM halved (EXC: Hard Sand) Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection All Entrenchments NA for Effluent hexes. Coral Soil: +2 DRM for Entrenching Attempts.
Exposed Reef	-1	No	<ul style="list-style-type: none"> Per Hammada (F3), treated as Open Ground Inherent Terrain 	<ul style="list-style-type: none"> Per Open Ground; does not negate FFMO/Interdiction -1 TEM (cumulative) to DC, Bombardment, ordnance/OBA HE attack vs. unarmored target (EXC: NA HE Equivalency/Specific Collateral Attack, or vs. Partially-Armored AFV). Residual FP for attack increased by 1 IFT column. 	<ul style="list-style-type: none"> Per Hammada (F3), except Mud effects are NA; no Hammada Immobilization DR required of Watercraft in an Ocean hex adjacent to an Exposed-reef hex. Considered part of an Island for Drift purposes. All Ocean hexes between reef and shore are considered shallow (Heavy Surf effects of 13.441-447 will not apply). 	<ul style="list-style-type: none"> Infantry: 1MP Cav/Wagon: 3MF Fully Tracked: 2MP Halftrack: 3MP (Hamm. Immob.) Armored car/motorcycle: 4MP (Hamm. Immob.) Truck: 6MP (Hamm. Immob.) 	NA	<ul style="list-style-type: none"> Only Beach Obstacles (G14.5). Tunnels NA.
Submerged Reef	-1	No	<ul style="list-style-type: none"> Open Ground (per Water Obstacle) Inherent Terrain 	<ul style="list-style-type: none"> 0/0 (Open Ground) HE/DC halved vs. Wading Infantry/Cavalry/Horses (EXC: CH). Ordnance TH attempts vs. a Wading vehicle receive an extra Target-Based +2TH DRM. 	<ul style="list-style-type: none"> Considered a Shallow Ocean hex (EXC: a LC may neither set up in/enter a Submerged-reef hex, but may Beach across one of its hexsides) All Ocean hexes between reef and shore are considered shallow (Heavy Surf effects of 13.441-447 will not apply). 	As per Shallow Ocean (EXC: LC may not set up in/enter a Submerged-reef hex, but may Beach across one of its hexsides).	NA	Only Beach Obstacles (G14.5). Tunnels NA.

Terrain Type	Elevation Level	LOS	TEM (Direct/Indirect)	Notes	Movement	Fortifications
Shallow Water OCEAN	-1	As Open Ground (see Notes for SMOKE)	<ul style="list-style-type: none"> 0/0 (Open Ground) HE/DC halved vs. Wading Infantry/Cavalry/Horses (EXC: CH). Ordnance TH attempts vs. a Wading vehicle receive an extra Target-Based +2TH DRM. 	<ul style="list-style-type: none"> Shallow ONLY if w/in 3 hexes of Slight Beach hex, 2 hexes Moderate Beach hex, adj. to Steep Beach hex (EXC: Reef, G13.43). Shallow Water Locations are not considered Water Obstacles to Inf/Cav/Horses/Vehicles (EXC: Boats/LC), Rubble, AT-Mines. Wading Infantry/Cavalry may not form multi-hex FG, their Small-Arms/LMG attacks halved as Area Fire (cannot CC: G13.495). Wading SMC may not direct/modify any attack. Wading Infantry/Cavalry immune to PTC, LLMC, LLTC, booby traps; not subject to Pin/HOB results. Wading Inf/Cav that suffer a break/Step-Reduction for any reason suffer Casualty Reduction instead. Broken Inf may rout into a Shallow Ocean Location only to avoid Failure-to-Rout elimination (or to load during a Seaborne Evacuation). No SW (EXC: LMG)/non-Vehicular Gun may be fired or (un)Packed/Limbered/dismantled. Unpossessed weapons eliminated (unless on conveyance). No Concealment Gain for Infantry in Daytime scenarios May Boresight a Shallow Ocean hex. SMOKE may not be placed in Ocean hexes; only Drifting SMOKE has any effect. See 13.46 for special Acquisition rules. See G13.49 for Berserk, Paratroops, Gliders, Rubble, Frozen. 	<ul style="list-style-type: none"> 3 MP (per Shallow Stream) for Inf/Cav; ALL for horsedrawn Arm. Car: 4+COT; Tracked: 2+COT; Halftrack: 3+COT; Truck: 6+COT. Vehicles: COT= 1 (land) MP for Waterproofed vehicle; 2 (land) MP for non-Waterproofed vehicles (Ridden motorcycles cannot enter; may be pushed) Watercraft do not expend an extra MP to cross a Beach-OCEAN (or OCEAN-Hinterland) hexside, even if it is an all-water hexside. Watercraft (EXC: DD tank using amph MP) entering an OCEAN hex from offboard is considered for LOS/TH purposes ONLY to have expended 4MP to enter that hex. Non-waterproofed Wading vehicles entering a shallow-OCEAN Location may suffer from Swamping; see G13.4222. A Wading vehicle existing a shallow-OCEAN Location is subject to Bog (per B20.46) only if crossing an OCEAN-Hinterland hexside. D16.23 (Amphibians must check for Bog in waterline hexes when moving from Water Obstacle to land hexes) does not apply to Wading vehicles. However, Sand Bog (F7.31, G13.32) can apply. 	Only Beach Obstacles (G14.5). Tunnels NA.
Deep Water OCEAN	-1	As Open Ground (see Notes for SMOKE)	<ul style="list-style-type: none"> 0/0 (Open Ground) 	<ul style="list-style-type: none"> All OCEAN hexes are Deep unless fitting Shallow conditions above. Deep Water Locations are Water Obstacles. May not Boresight a Deep Ocean hex. See 13.46 for special Acquisition rules. SMOKE may not be placed in Ocean hexes; only Drifting SMOKE has any effect. See G13.49 for Berserk, Paratroops, Gliders, Rubble, Frozen. 	A Watercraft (EXC: DD tank using amph MP) entering an OCEAN hex from off-board is considered for LOS/TH purposes ONLY to have expended 4MP to enter that hex.	Only Beach Obstacles (G14.5). Tunnels NA.