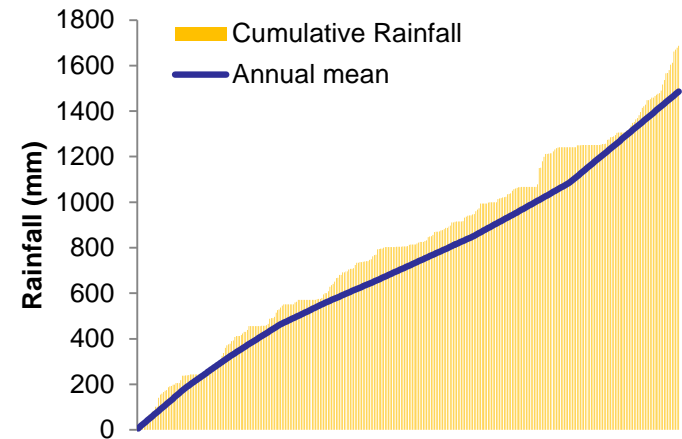
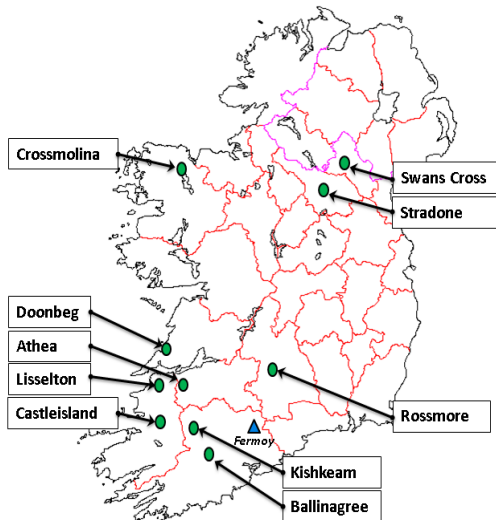
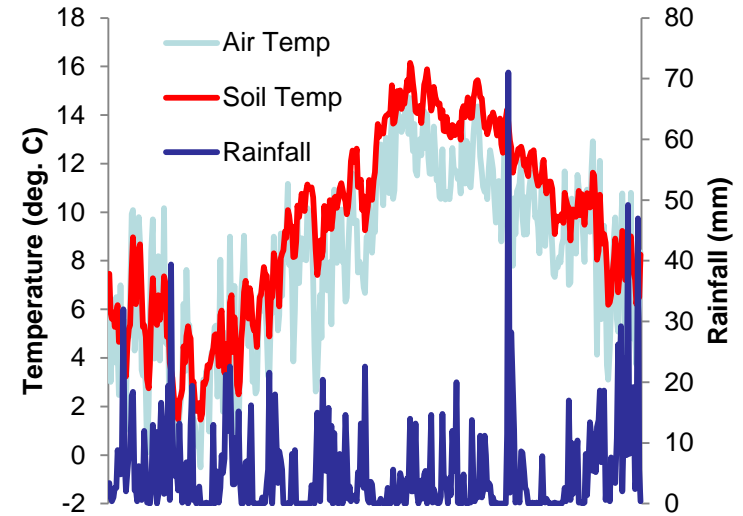
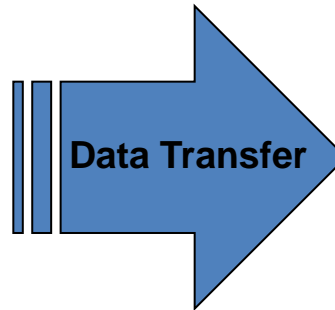


Heavy Soils Programme Review Jan. 30th 2017

Update of 2016 farm measurements

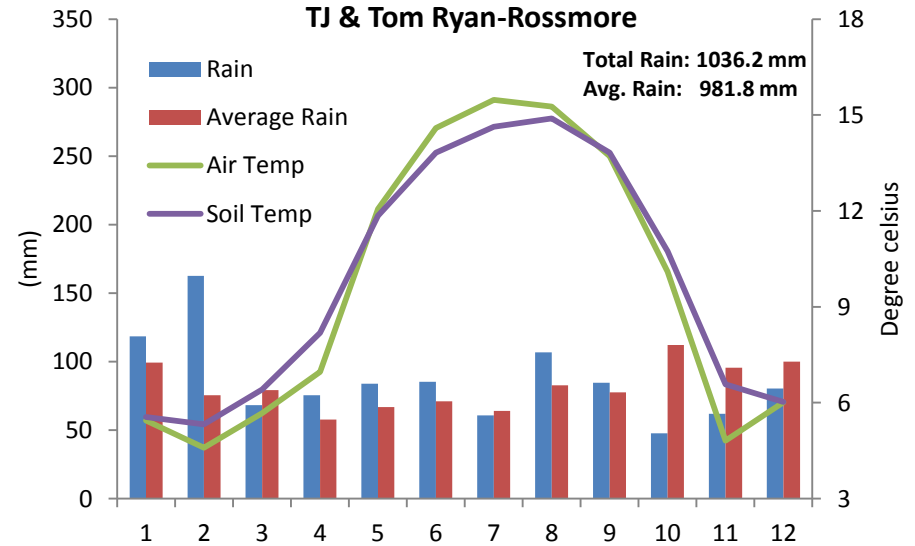
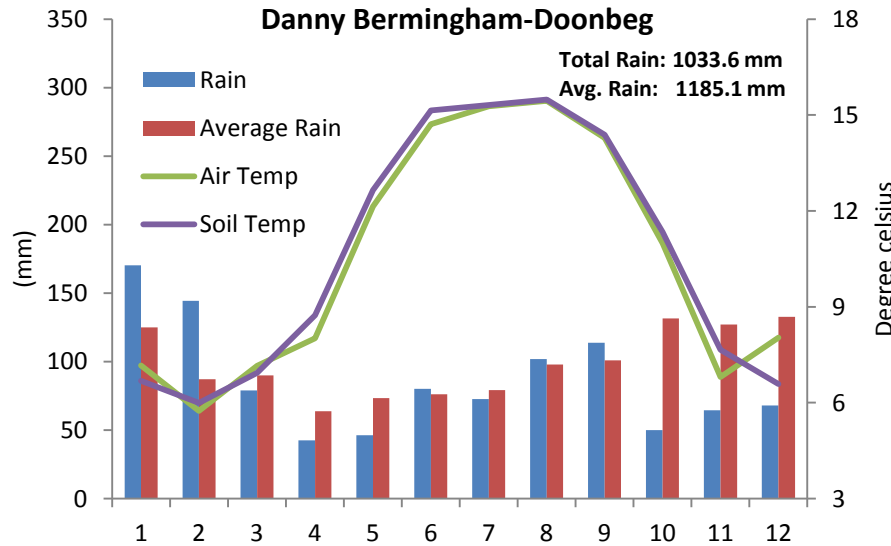
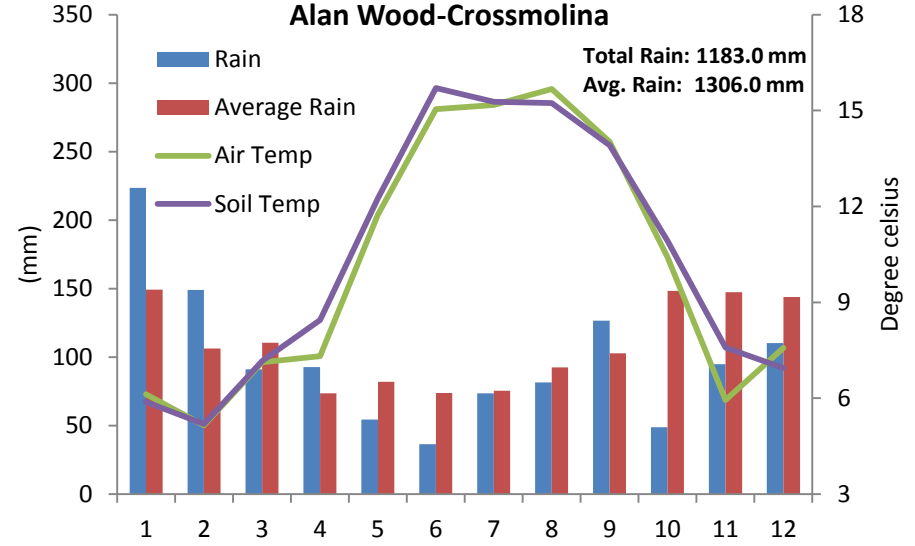
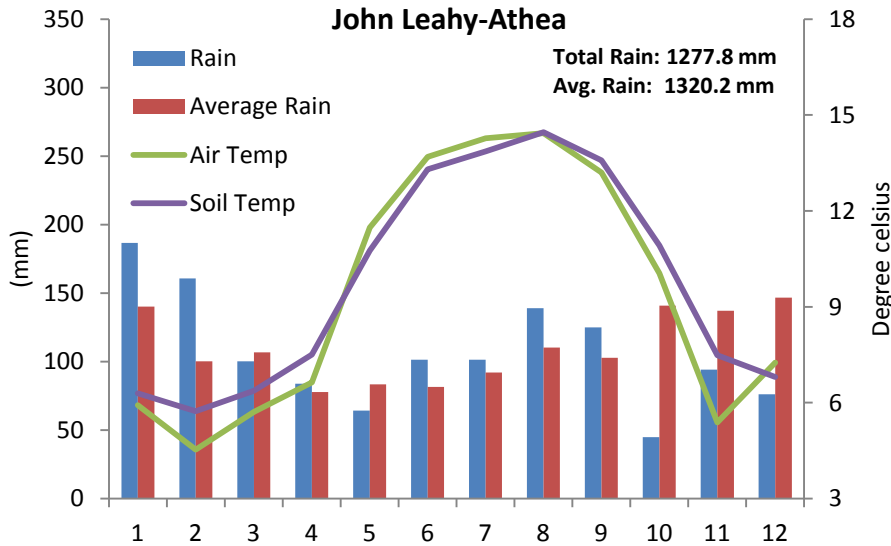


Weather data

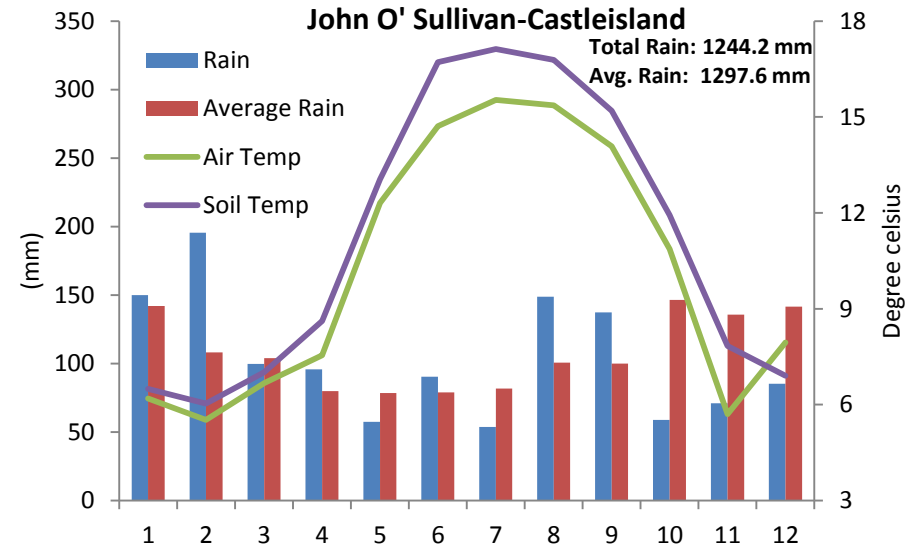
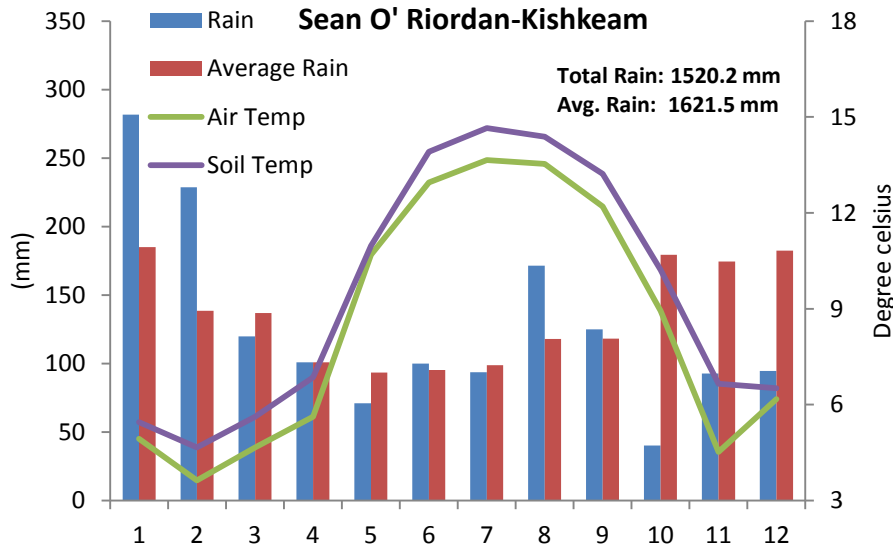
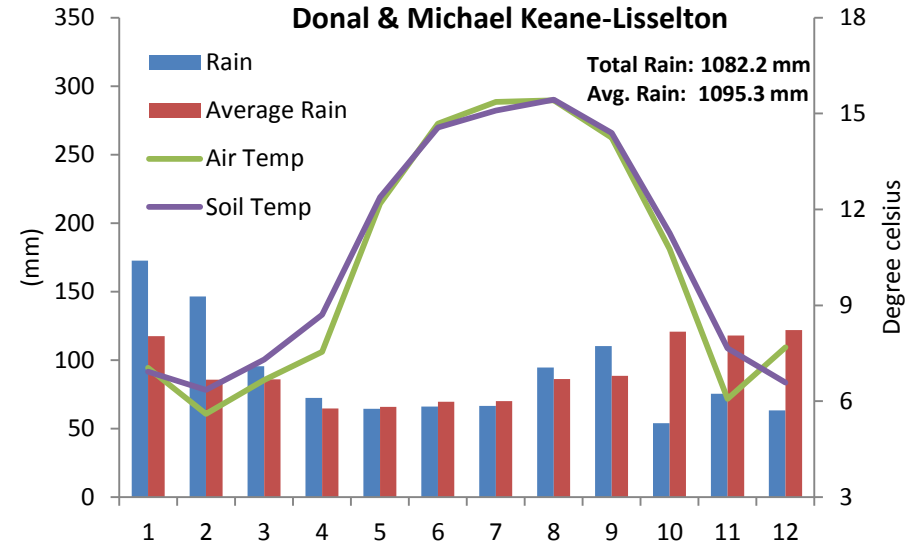
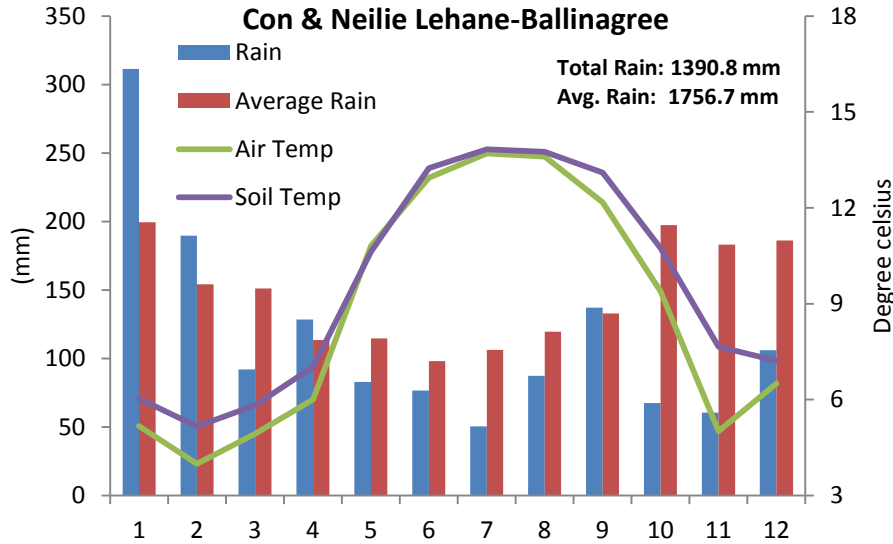


<https://www.teagasc.ie/crops/grassland/heavy-soils/weather-data/>

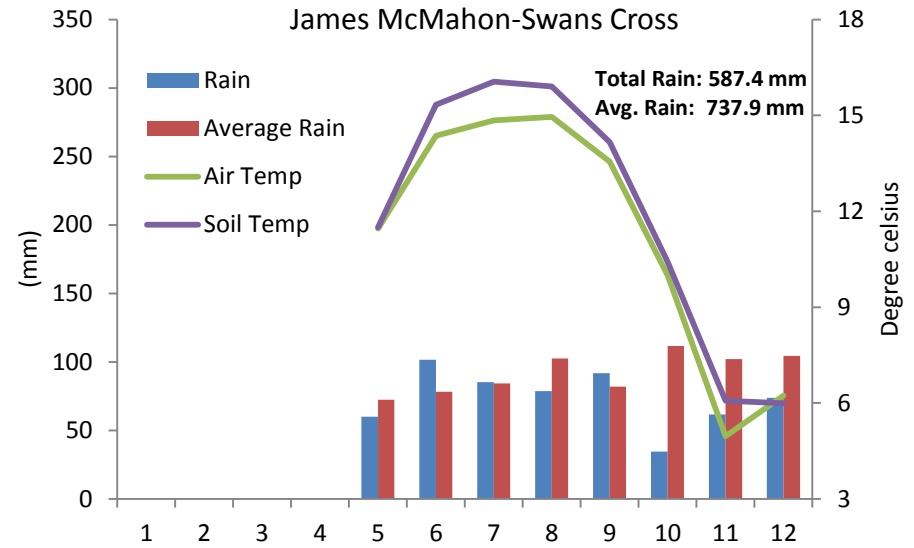
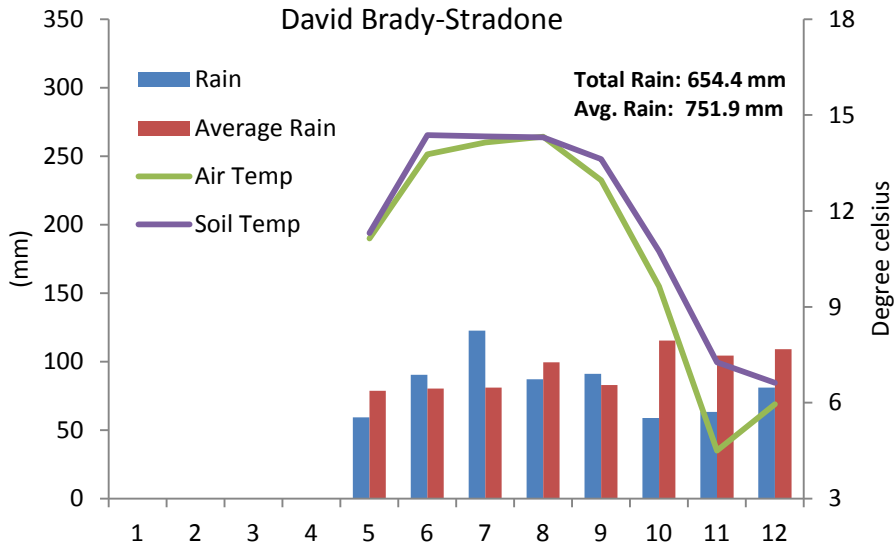
2016 Weather Summaries



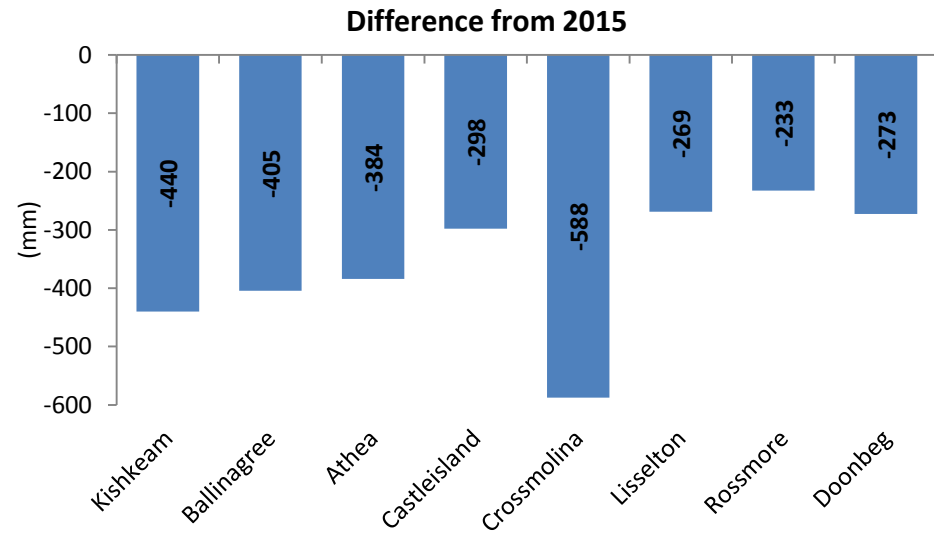
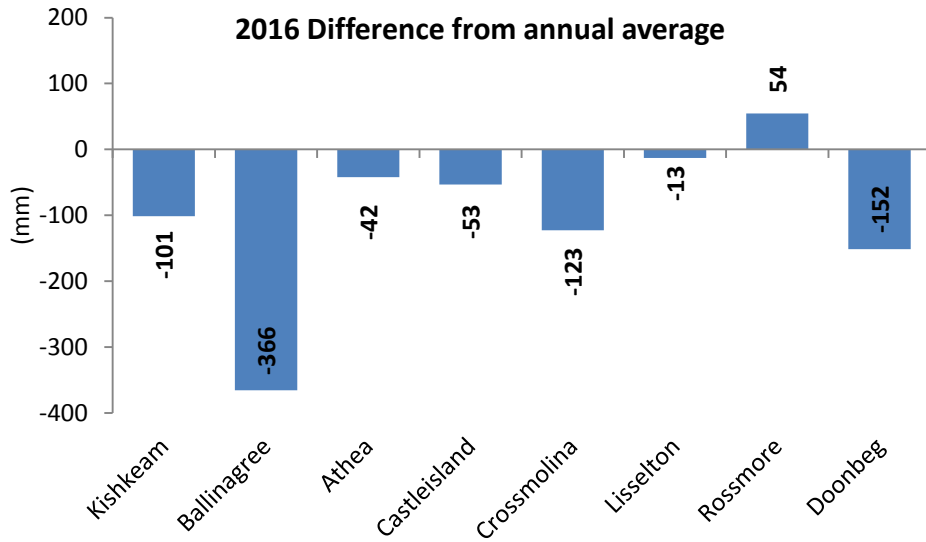
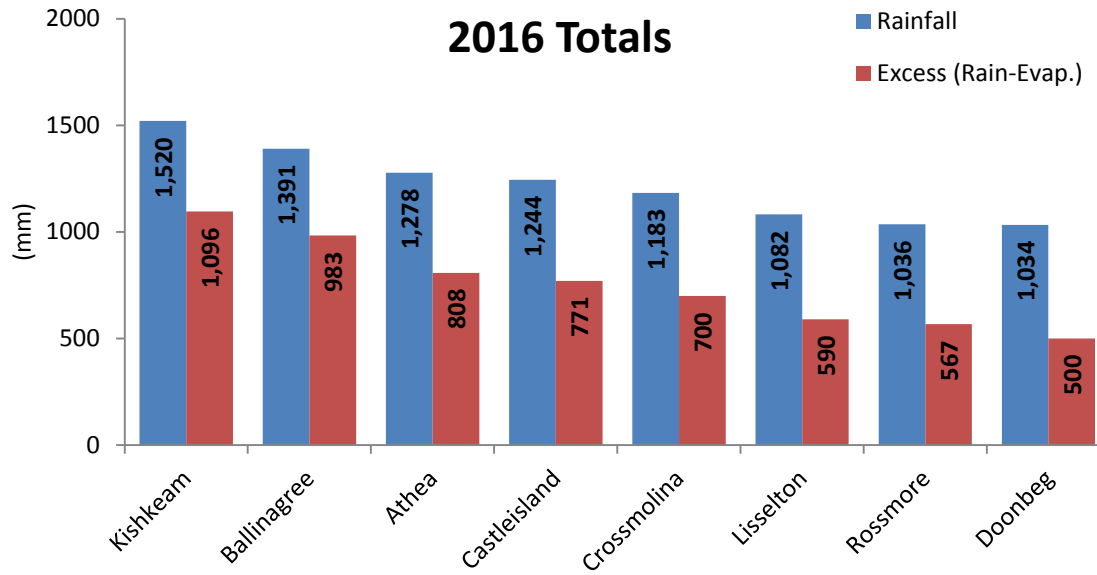
2016 Weather Summaries



2016 Weather Summaries



2016 Weather Summaries



2016 Monthly Rainfall summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Kishkeam	281.8	228.8	119.8	101.0	71.0	100.0	93.8	171.4	125.0	40.2	92.8	94.6	1520.2
Ballinagree	311.4	189.8	92.0	128.6	83.0	76.6	50.6	87.4	137.2	67.6	60.6	106.0	1390.8
Athea	186.6	160.8	100.2	84.0	64.2	101.4	101.4	139.0	125.0	44.8	94.2	76.2	1277.8
Castleisland	150.0	195.6	99.8	95.8	57.4	90.4	53.8	148.8	137.4	58.8	71.0	85.4	1244.2
Crossmolina	223.6	149.0	91.2	92.8	54.4	36.4	73.6	81.6	126.6	48.8	94.8	110.2	1183.0
Lisselton	172.6	146.4	95.6	72.4	64.6	66.2	66.6	94.6	110.2	54.0	75.6	63.4	1082.2
Rossmore	118.4	162.6	68.2	75.6	83.8	85.4	60.8	106.8	84.6	47.6	62.0	80.4	1036.2
Doonbeg	170.2	144.4	79.0	42.6	46.4	80.2	72.8	101.8	113.8	50.0	64.4	68.0	1033.6
Stradone					59.4	90.4	122.6	87.2	91.2	59.0	63.4	81.2	
Swans Cross					60.0	101.6	85.2	78.8	91.8	34.6	61.6	73.8	
Average	201.8	172.2	93.2	86.6	64.4	82.9	78.1	109.7	114.3	50.5	74.0	83.9	1221.0

2016 Totals summary

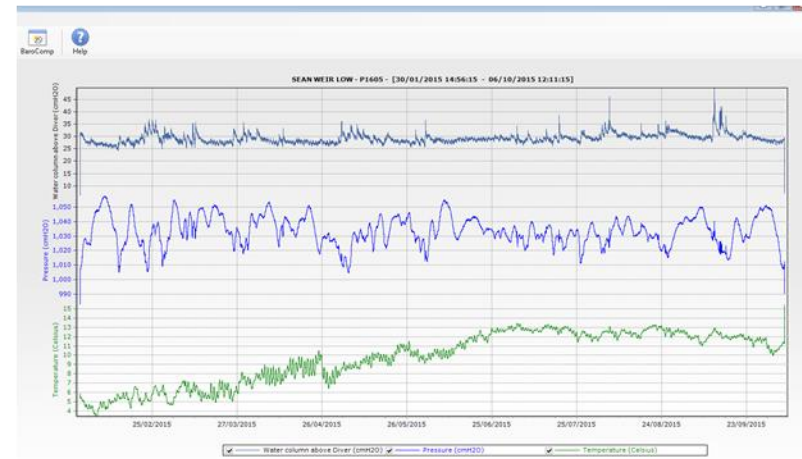
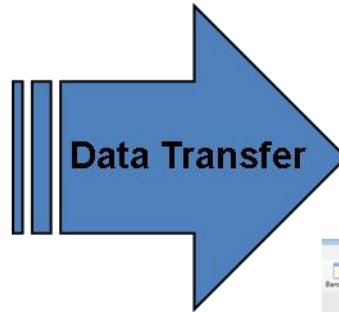
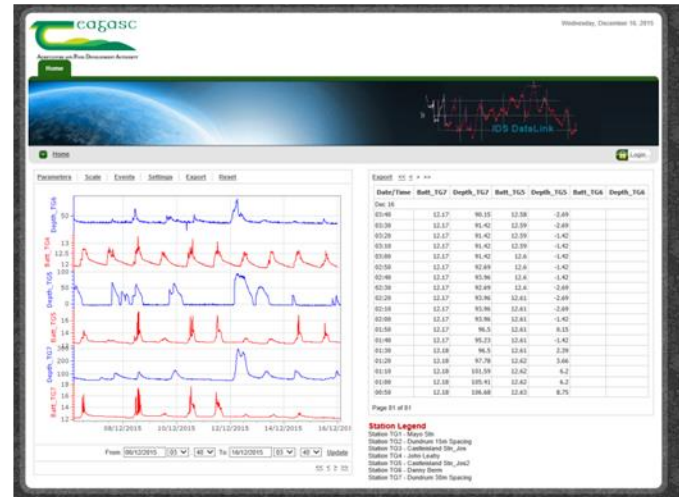
	Rainfall (mm)	Evap. (mm)	Excess (Rain-Evap)	Long Term Average (mm)	Difference from LTA (mm)
Kishkeam	1520.2	424.3	1095.9	1621.5	-101.3
Ballinagree	1390.8	407.5	983.3	1756.7	-365.9
Athea	1277.8	469.4	808.4	1320.2	-42.4
Castleisland	1244.2	473.7	770.5	1297.6	-53.4
Crossmolina	1183.0	483.2	699.8	1306.0	-123.0
Lisselton	1082.2	492.3	589.9	1095.3	-13.1
Rossmore	1036.2	468.8	567.4	981.8	+54.4
Doonbeg	1033.6	533.6	500.0	1185.1	-151.5
Mean	1221.0	469.1	751.9	1320.5	-99.5
Stradone	654.4	343.7	310.7		
Swans Cross	587.4	347.2	240.2		

Site details

Site	Northing	Westing	Elevation (m) ASL
Kishkeam	52°12'	09°08'	233
Ballinagree	51°59'	08°56'	231
Athea	52°27'	09°19'	139
Castleisland	52°13'	09°28'	36
Crossmolina	54°06'	09°17'	15
Lisselton	52°28'	09°33'	8
Rossmore	52°36'	08°01'	105
Doonbeg	52°44'	09°30'	9
Stradone	53°57'	07°11'	180
Swans Cross	54°09'	07°02'	115

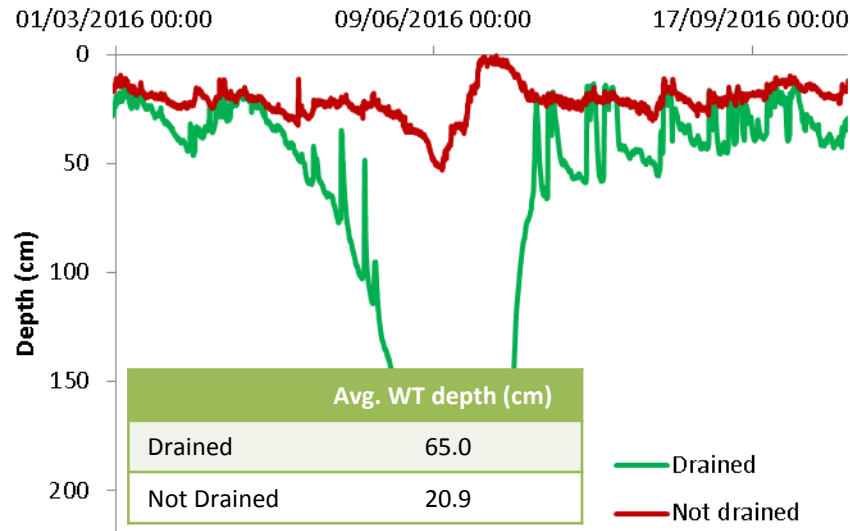
Note: ASL = above sea level

Drain Performance: Flow discharge & watertables

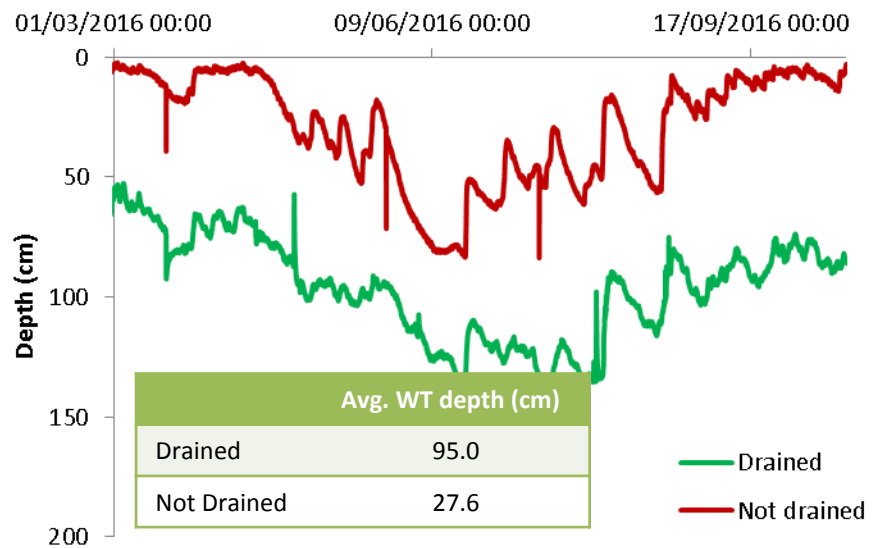


Drain Performance: Watertable control

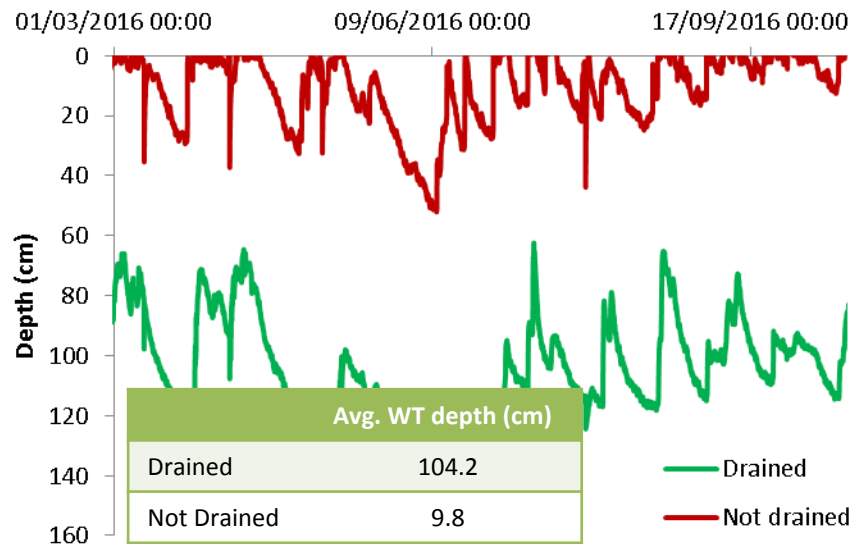
Athea



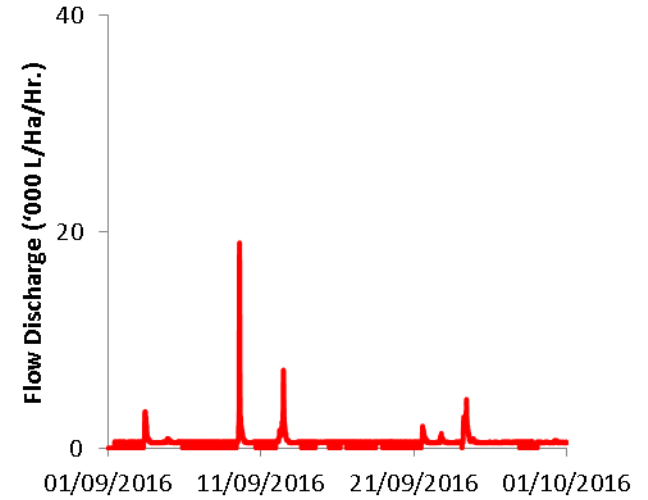
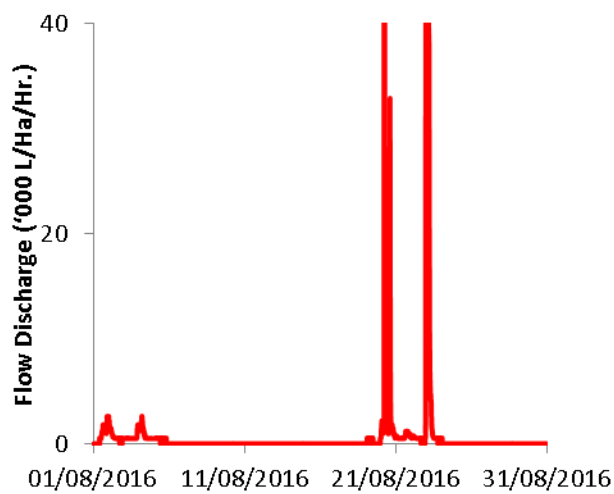
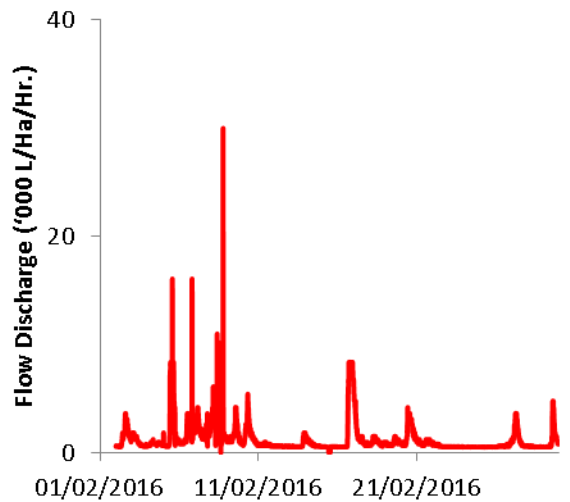
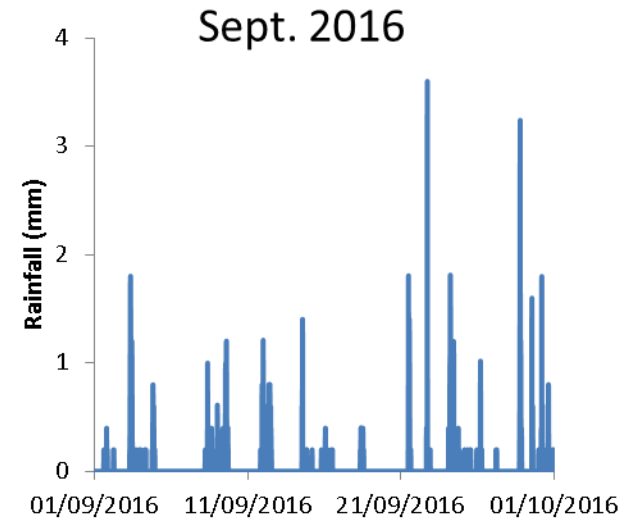
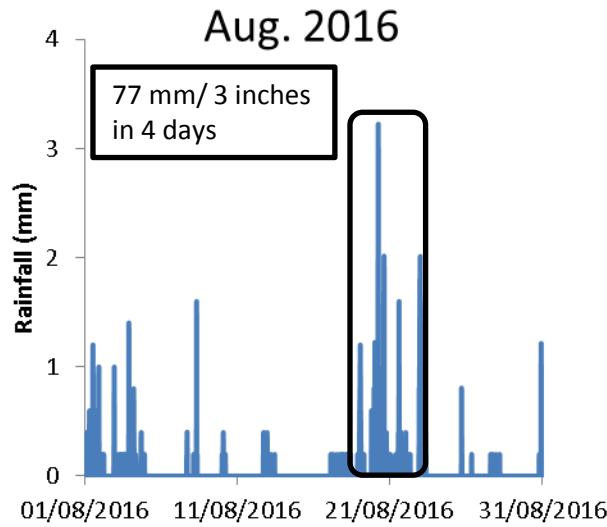
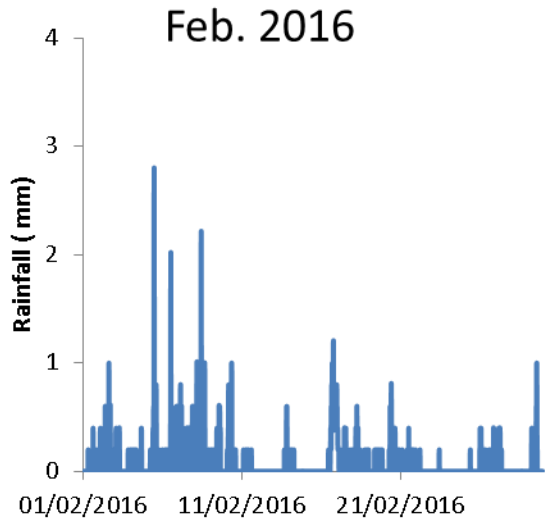
Lisselton



Kishkeam



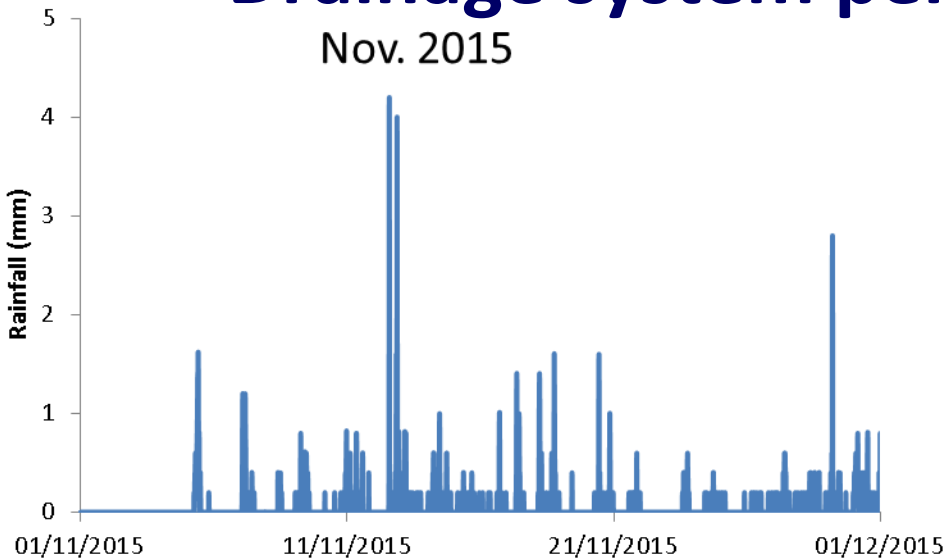
Drainage system performance: Athea



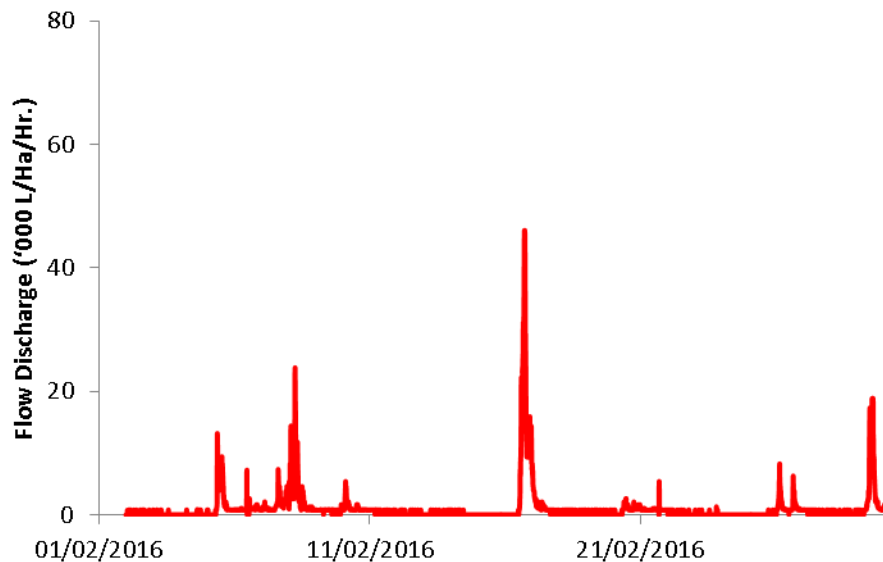
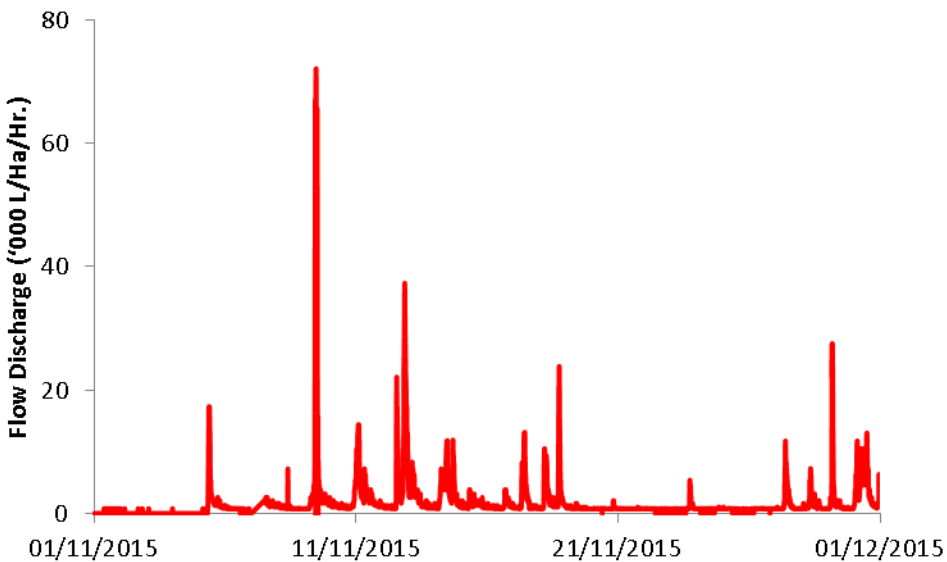
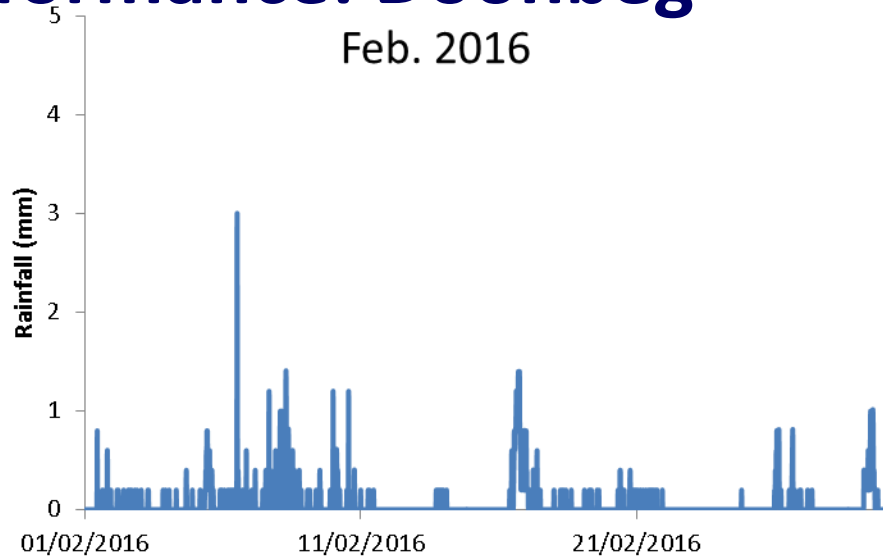
Month	Rainfall (mm)	Rainfall (Litres/Ha)	Flow (Litres/Ha)	% of Rainfall removed	Average Water table depth (cm)
Feb. 2016	160.8	1,608,000	1,240,092	77%	17.0
Aug. 2016	139.0	1,390,000	920,229	66%	36.8
Sept 2016	125.0	1,250,000	558,802	45%	30.0

Drainage system performance: Doonbeg

Nov. 2015

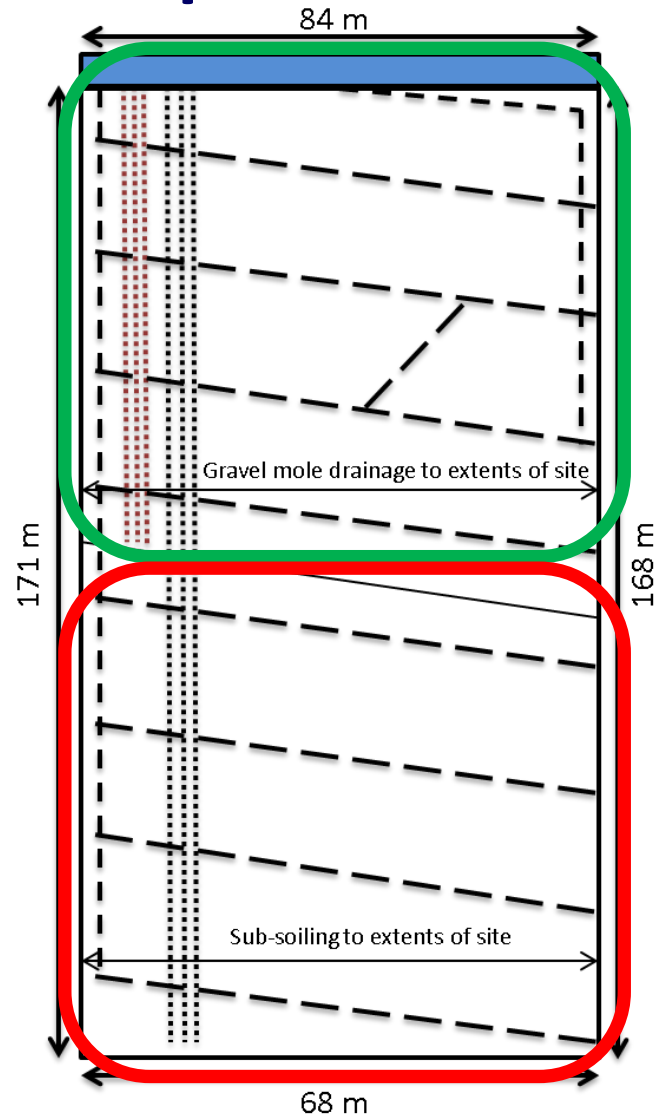


Feb. 2016



Month	Rainfall (mm)	Rainfall (Litres/Ha)	Flow (Litres/Ha)	% of Rainfall removed	Average Water table depth (cm)
Nov. 2015	163.4	1,634,000	1,530,489	94%	14.3
Feb. 2016	144.4	1,444,000	850,844	59%	17.5

Drainage system performance: Castleisland

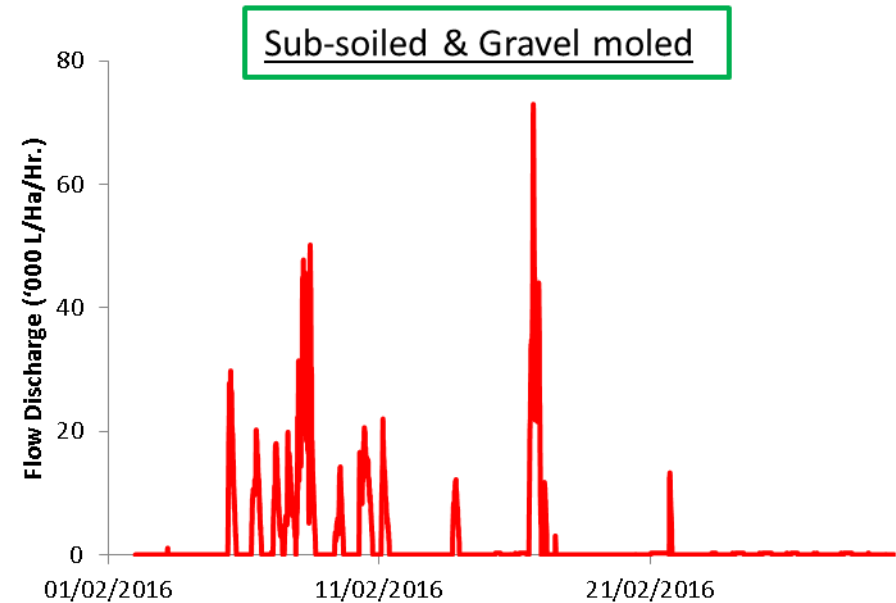
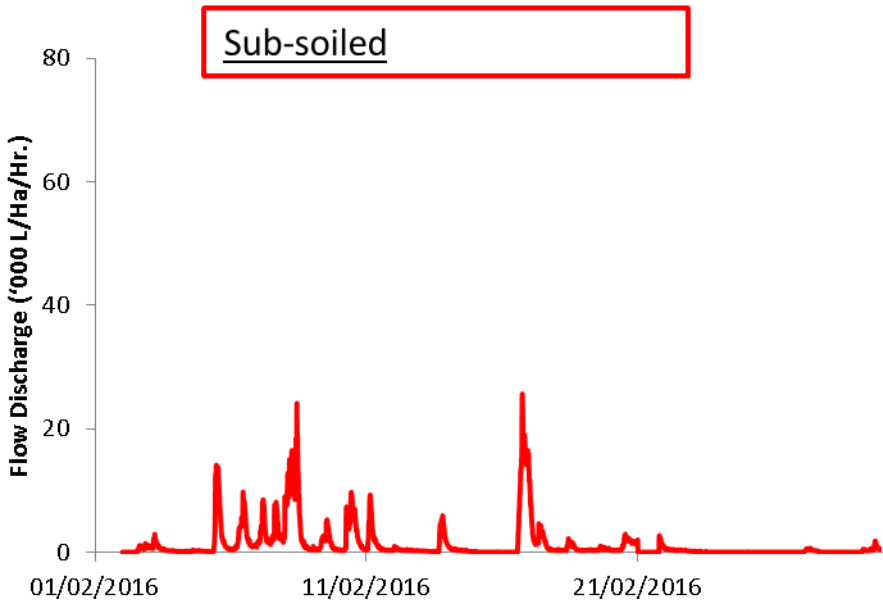
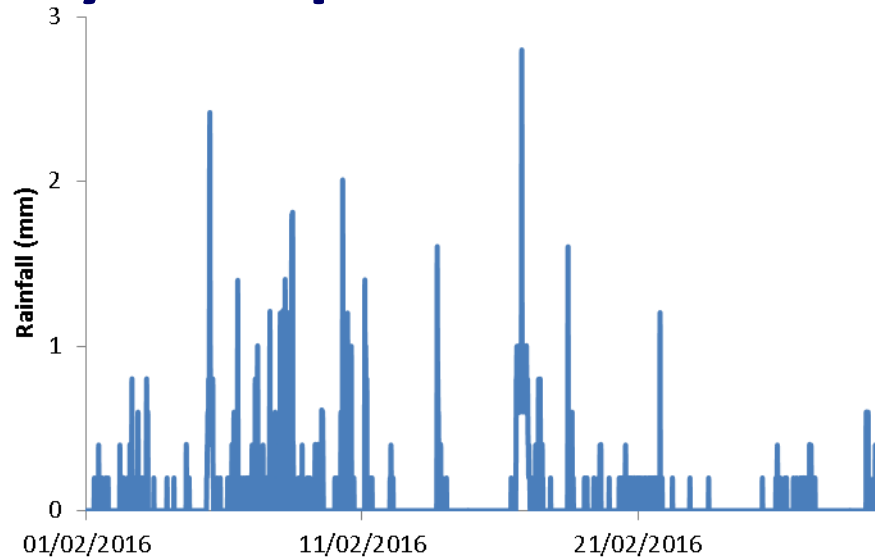


Sub-soiled & Gravel moled

Sub-soiled

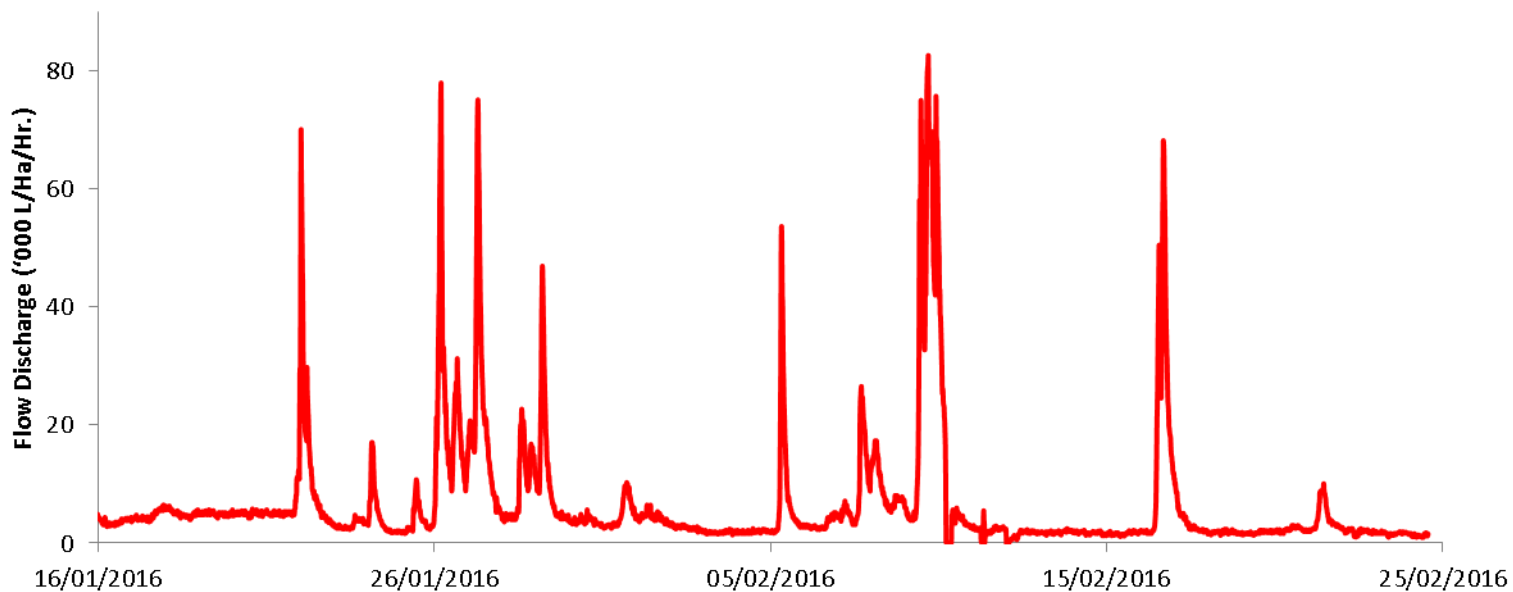
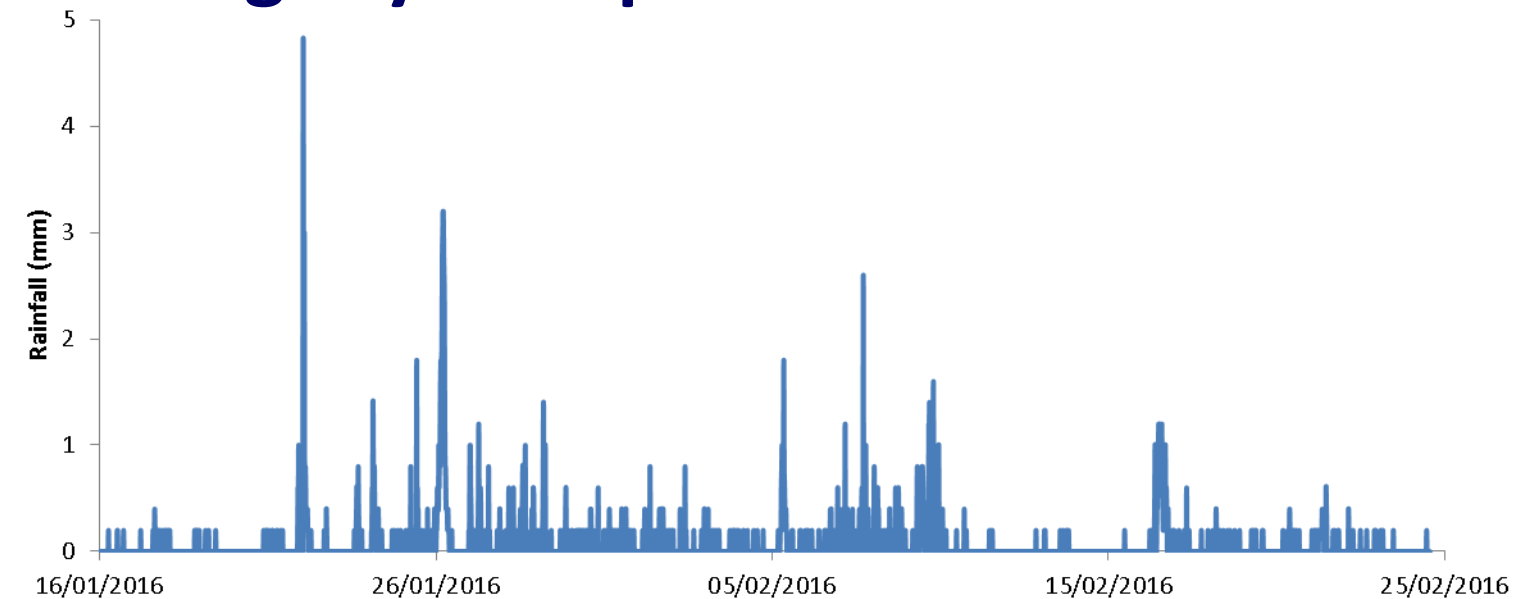
- Drainage area boundary
- - - Main drains: 1.0 m depth
- - - Field drains: 0.9 m depth, 20 m spacing
- Sub-soiling: 0.5 m depth, 0.6 m spacing
- Gravel mole drains: 0.45 m depth, 1.5 m spacing
- Open drain

Drainage system performance: Castleisland



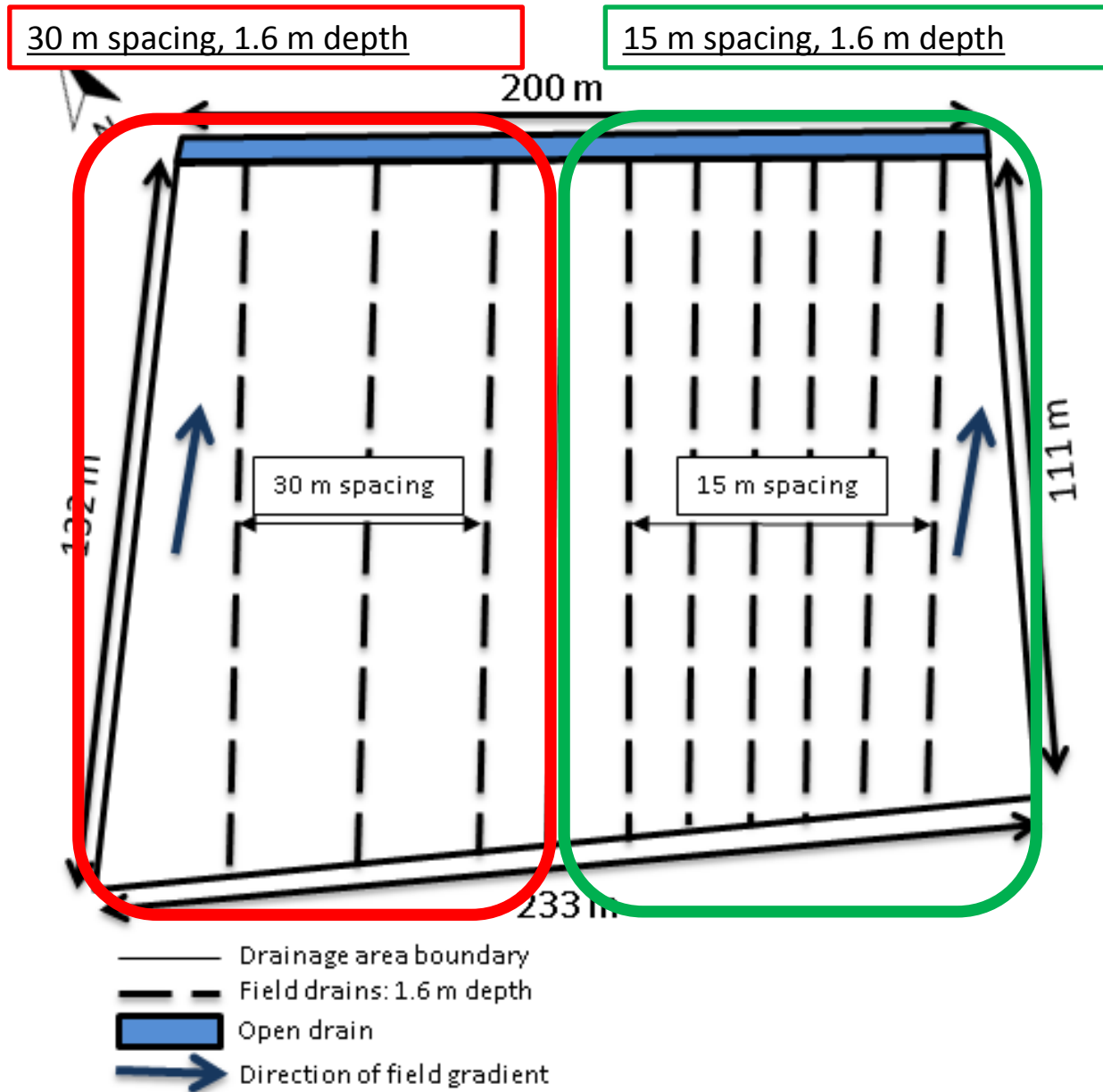
System	Rainfall (mm)	Rainfall (Litres/Ha)	Flow (Litres/Ha)	% of Rainfall removed	Average Water table depth (cm)
Subsoiled	195.6	1,956,000	1,067,632	55%	14.2
Gravel Moled	195.6	1,956,000	1,825,917	93%	67.7

Drainage system performance: Crossmolina

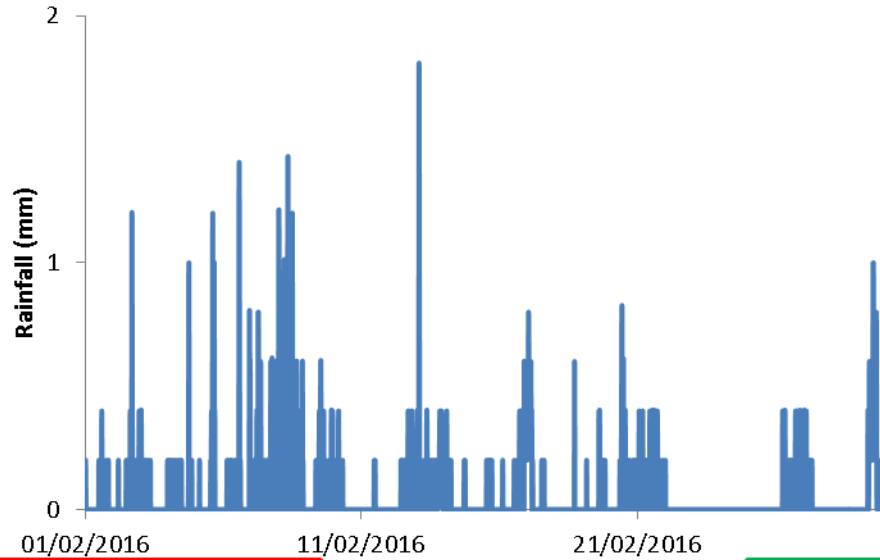


Rainfall (mm)	Rainfall (Litres/Ha)	Flow (Litres/Ha)	% of Rainfall removed
282.0	2,820,000	6,312,128	224%

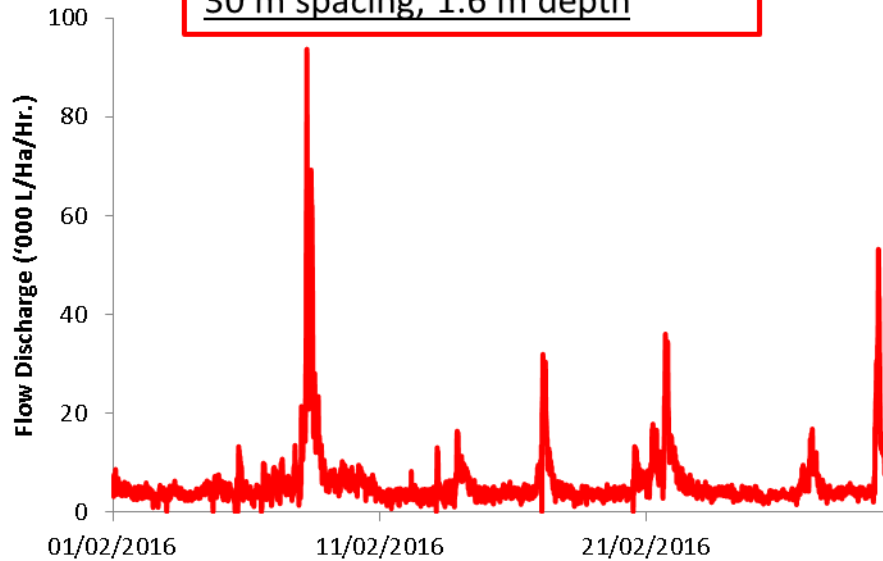
Drainage system performance: Rossmore



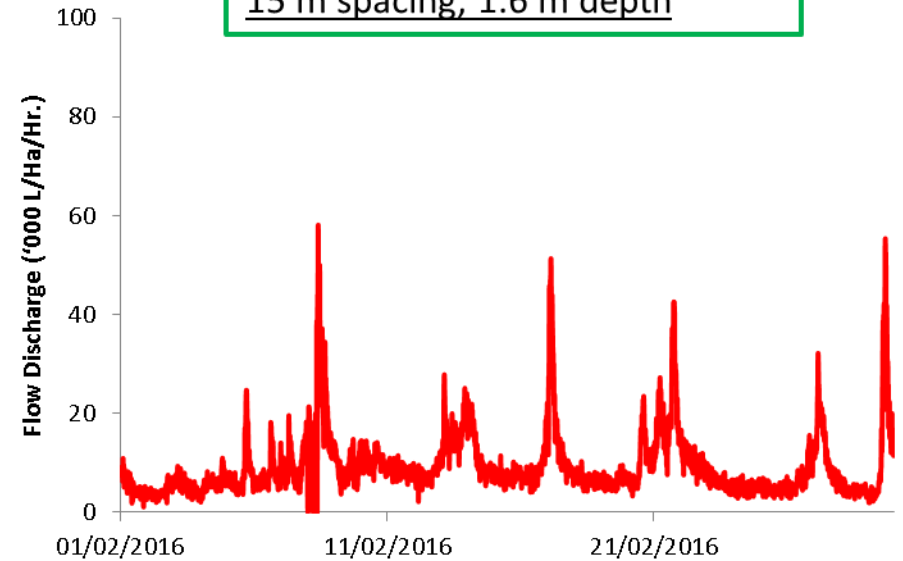
Drainage system performance: Rossmore



30 m spacing, 1.6 m depth



15 m spacing, 1.6 m depth



System	Rainfall (mm)	Rainfall (Litres/Ha)	Flow (Litres/Ha)	% of Rainfall removed	Average Water table depth (cm)
30 m spacing	162.8	1,628,000	4,045,244	248%	41.0
15 m spacing	162.8	1,628,000	6,384,422	392%	76.0



Heavy Soils Programme Review Jan. 30th 2017

Thank you