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2018 年港灣環境資訊網
海氣象觀測資料年報
(花蓮海域風浪潮流觀測資料)



交通部運輸研究所

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摘要： 本港灣環境資訊網觀測海氣象資料年報，包括花蓮海域2018年觀測風力、波浪、潮汐及海流等資料之觀測記錄表及逐時資料歷線圖。			
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2018年港灣環境資訊網海氣象觀測資料年報 (花蓮海域風浪潮流觀測資料)

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誌 謝

2018 年港灣環境資訊網觀測風力資料，蒐集之花蓮海域風力資料，除本中心自行觀測之外，在花蓮氣象站(測站 E 及 F)、花蓮海上浮標(測站 Y)等觀測風力資料，係交通部 中央氣象局(CWB)提供。石梯氣象站(測站 H)觀測風力資料，係經濟部 水利署(WRA)提供，謹致謝忱。

2018 年港灣環境資訊網觀測波浪資料，蒐集之花蓮海域波浪資料，除本中心自行觀測之外，在花蓮海上浮標(測站 Y)觀測波浪資料，係交通部 中央氣象局(CWB)提供，謹致謝忱。

2018 年港灣海氣象觀測潮汐資料，蒐集之花蓮海域潮汐觀測資料，除本中心自行觀測之外，在花蓮港(測站 F)觀測潮汐資料，係交通部 中央氣象局 提供。石梯(測站 J)觀測潮汐資料，係經濟部 水利署 提供，謹致謝忱。

第 0 章 花蓮海域觀測風浪潮流資料蒐集

本年報將彙整包括本所港研中心(IHMT)、氣象局(CWB)、水利署(WRA)、成功大學水文中心(COMC)、立臺灣海洋大學(NTOC)、海科中心(TORI)、觀光局東北角管理處(TBRC)、台灣中油(CPC)等單位，於臺灣北苗海域、北端海域、宜蘭海域、花蓮海域、臺東海域、屏東海域、高雄海域、嘉南海域、中雲海域、澎湖海域、金門海域及馬祖海域等 12 個海域，海域區分如附圖 A1。

花蓮海域觀測風力資料測站統計表如表 WL1，觀測波浪資料測站統計表如表 VL1，觀測潮汐資料測站統計表如表 TL1，觀測海流資料測站統計表如表 CL1。

表 WL1 花蓮海域觀測風力資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
花蓮海域	5	1	3	1		

表 VL1 花蓮海域觀測波浪資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
花蓮海域	2	1	1	0	0	

表 TL1 花蓮海域觀測潮汐資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
花蓮海域	5	3	1	1	0	

表 CL1 花蓮海域觀測海流資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
花蓮海域	1	1	0	0	0	

註:資料更新時間為 2018 年。

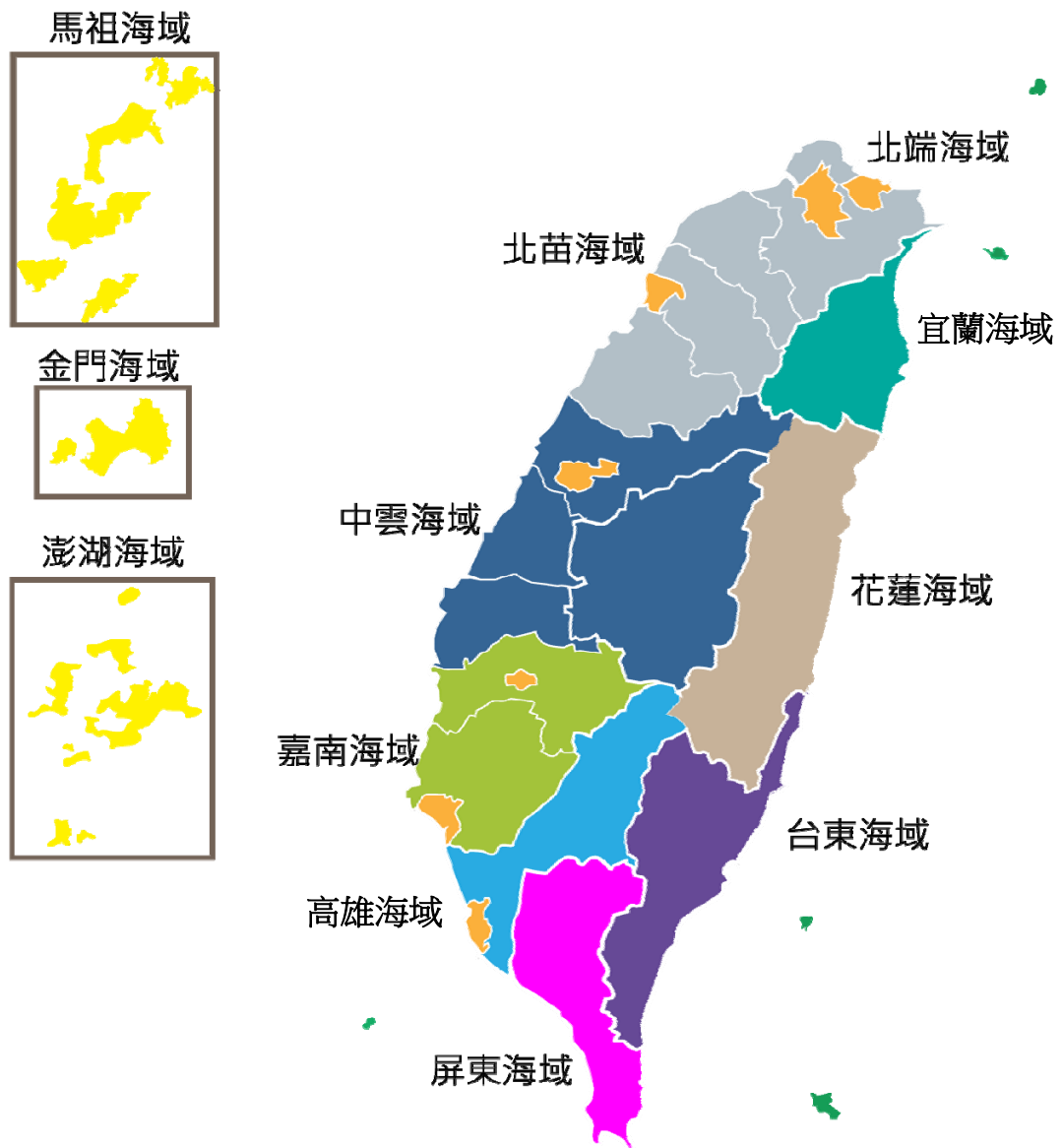


圖 A1 臺灣 12 海域區分示意圖

2018 年花蓮海域觀測風力資料

花蓮海域風之觀測係 2002 年 6 月本中心(IHMT)於花蓮港務分公司樓頂安裝 Young Brand 風速計(稱測站 W),2007 年 11 月更新為 Gill 三維超音波式風速計，其位置如附圖 WL1。

花蓮花崗山測站(稱測站 E) 及測站 F 風速儀屬中央氣象局(CWB)所有，測站 Y(七星潭外海浮標站)之風速儀也屬中央氣象局所有，測站 H(石梯氣象站)之風速儀則屬水利署(WRA)所有。各測站歷年觀測風資料蒐集概況如表 WL1。

本中心測站風資料之蒐集係採取每小時測定十分鐘之風速、風向數據加以平均，而得出該小時之平均風速、平均風向、最大陣風風速、最大陣風風向、最大陣風之發生時間。本中心之風力資料以取平均風速及平均風向為主。其他測站觀測風速、風向資料也是平均風速(m/s)及風向(度)。

表 WL1 花蓮海域觀測風力資料蒐集概況表(統計時間至 2018 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
W	23°58'50"N	121°37'12"E	2002/06-2018/11(觀測中)	港研中心	花蓮港
E	23°58'30"N	121°36'47"E	1981/02-2018/11(觀測中)	中央氣象局	花蓮
F	23°58'50"N	121°37'25"E	2015/01-2018/11(觀測中)	中央氣象局	花蓮
Y	24°01'58"	121°37'50"E	1997/07-2018/11(觀測中)	中央氣象局	花蓮浮標站
H	23°29'41"	121°30'22"E	2001/11-2018/11(觀測中)	水利署	石梯氣象站

花蓮海域

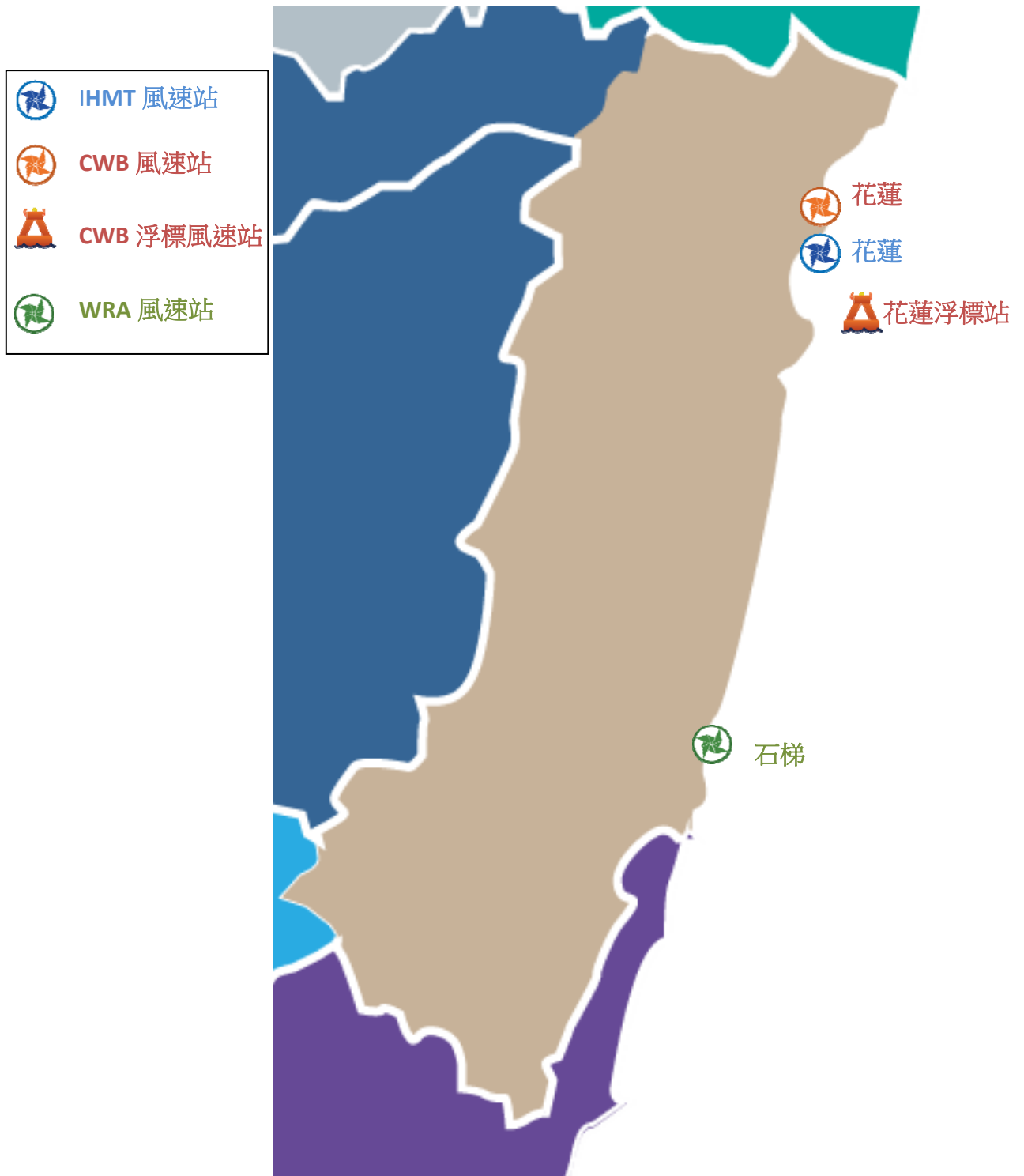


圖 WL1 花蓮海域風力觀測站位置示意圖

2018 年花蓮海域觀測波浪資料

花蓮海域波浪觀測本中心(IHMT)在花蓮港東防波堤往南延長 380 公尺水深 34 公尺處(稱測站 X),於 2001 年 8 月安裝挪威 NORTEK 公司之剖面海流與表面波浪(波高、週期及波向)即時傳送監測系統(簡稱 AWCP),如附圖 VL1。

測站 Y(七星潭外海浮標站)之波浪儀屬中央氣象局(CWB)所有。花蓮海域各測站歷年觀測波浪資料蒐集概況如表 VL1。

波浪觀測 AWCP 系統有兩個分離波高量測模式：一個是對平靜波浪時，當資料由傳統式壓力感應器量測時將會因儀器佈放的深度而受很大的影響。此時，表面高度必須用一個聲波式的高度感應器量測波高。AWCP 波向量測範圍：波向的量測從海面下 3 米以上的流向資料與波高資料計算轉換而得。對攪動的海況來說；用於轉換波向的該層深度應該自動被調整為平均水位也就是 $H_{max}/2$ 。量測的參數為：平均波向及波向分佈，波向單位為度。

表 VL1 花蓮海域觀測波浪資料蒐集概況表(統計時間至 2018 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
X	23°58'00"N	121°37'34"E	2000/09-2018/11(觀測中)	港研中心	花蓮港東堤外海
Y	24°01'58"	121°37'50"E	1997/07-2018/11(觀測中)	中央氣象局	花蓮浮標站

花蓮海域

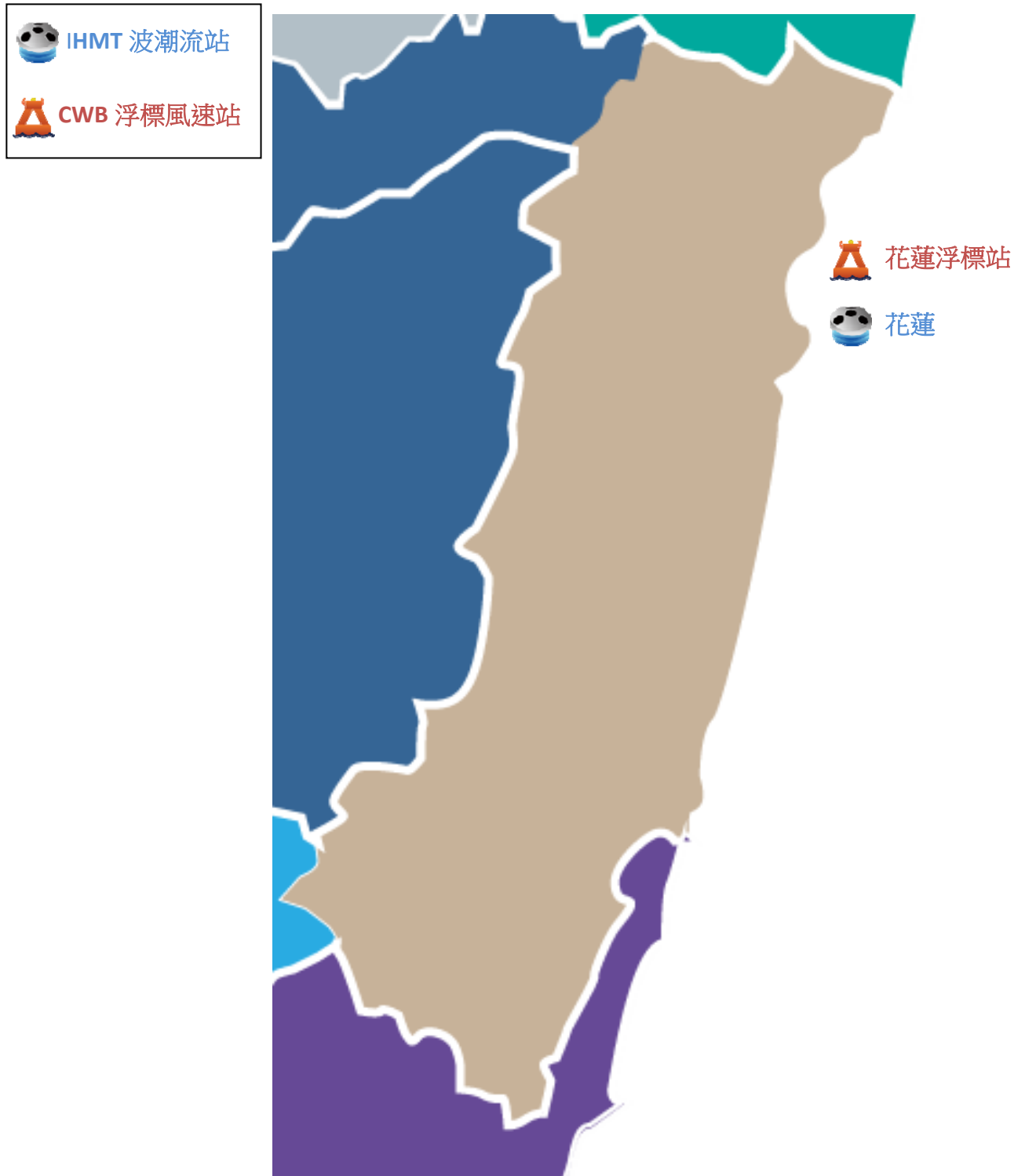


圖 VL1 花蓮海域波浪觀測站位置示意圖

2018 年花蓮海域觀測潮汐資料

花蓮海域潮汐之觀測係本中心 2002 年 6 月於花蓮港堤頭(稱**測站 T**)，位置如附圖 TL1，安裝 Water Log 公司之潮位計，另本中心於 2000 年 9 月，在花蓮港東防波堤往南延長 380 公尺水深 34 公尺處(**測站 X**)安置 AWCP 即時傳送監測系統，也具量測水位功能。2018 年於花蓮港內增設即時水深潮位站(稱**測站 G**)。

早期 1997 年 1 月由中央氣象局海象中心在花蓮港安裝潮位站(稱**測站 F**)，石梯潮位站(**測站 J**)之潮位儀屬水利署所有。歷年各站觀測潮汐資料蒐集概況如表 TL1。

潮位**測站 X**潮波流儀，以壓力感測器測得水壓變化時間序列，取樣方式為每一小時取前 10 分鐘之水位變化，取樣頻率為 2Hz，然後加以平均得出該小時之平均水位值。潮位資料之平均水位以觀測水位資料之平均值為基準，未經高程量測，與一般固定式潮位計不同。**測站 T**潮位資料取樣方式為每 6 分鐘量測一次水位變化。**測站 F**及**測站 J**資料分別由中央氣象局及水利署提供。

表 TL1 花蓮海域觀測潮汐資料蒐集概況表(統計時間至 2018 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
T	23°58'25"N	121°37'36"E	2001/07-2018/11(觀測中)	港研中心	花蓮港潮位計
X	23°58'00"N	121°37'34"E	2000/09-2018/11(觀測中)	港研中心	花蓮港東堤外海
F	23°58'50"N	121°37'25"E	1980/01-2018/11(觀測中)	中央氣象局	花蓮港潮位站
J	23°29'41"N	121°30'22"E	2009/01-2018/11(觀測中)	水利署	石梯潮位站
G			2017/10-2018/11(觀測中)	港研中心	花蓮港潮位站

花蓮海域

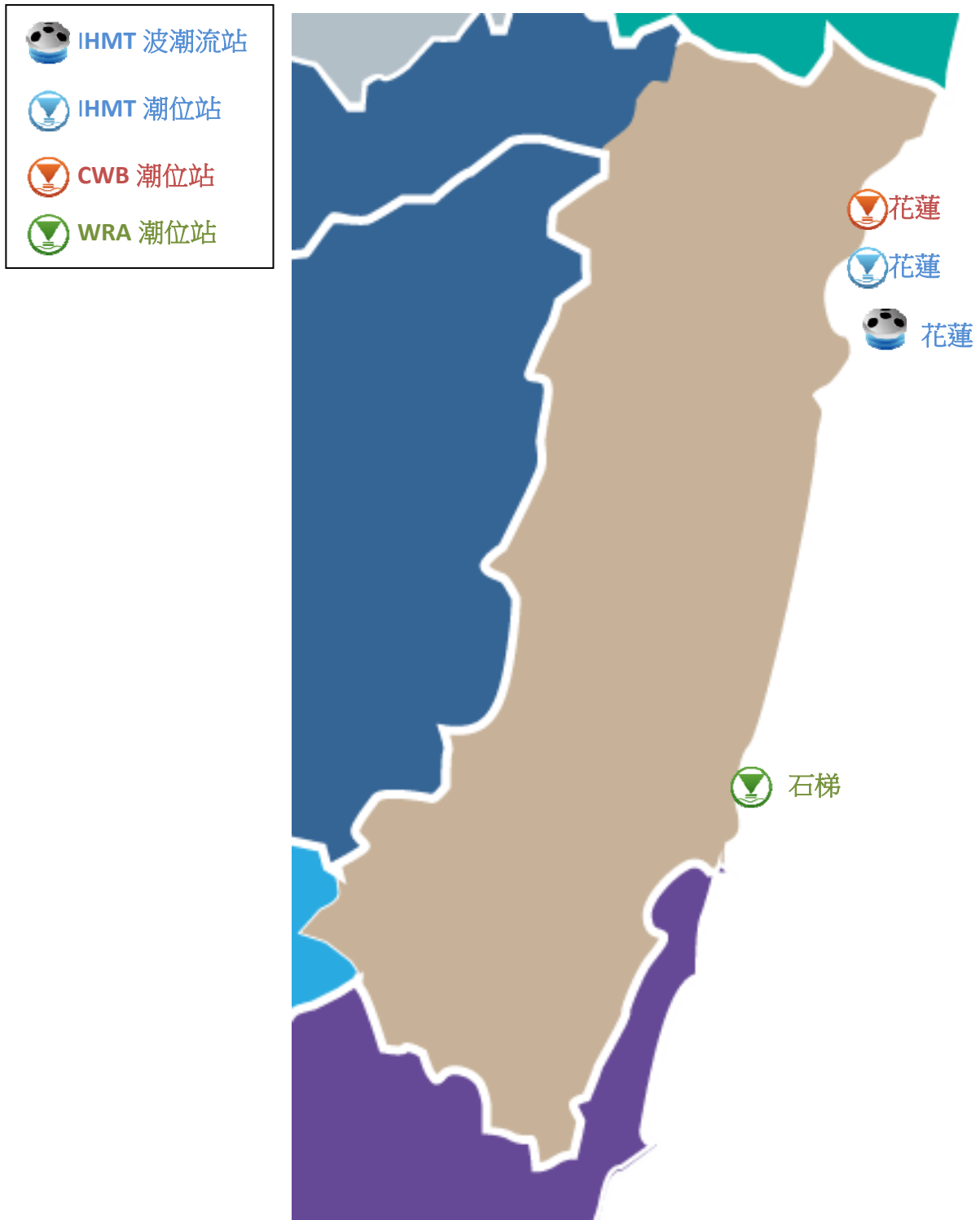


圖 TL1 花蓮海域潮汐觀測站位置示意圖

2018 年花蓮海域觀測海流資料

花蓮海域海流之觀測係本中心在花蓮港東防波堤往南延長 380 公尺水深 34 公尺處(稱測站 X)，於 2001 年 8 月安裝挪威 NORTEK 公司之剖面海流與表面波浪(波高、週期及波向)即時傳送監測系統(簡稱 AWCP)，如附圖 CL1。歷年觀測海流資料蒐集概況如表 CL1。

剖面海流流速的量測可以依照使用在不同水深即自固定在海床之上儀器位置到水表面來設定量測不同的間距，花蓮港觀測站水深間距設定為 1~3 公尺；每小時連續量測 600 秒，再將總和平均代表其數樣每一間距層之海流流速、流向等資料，記錄在感應器內，並每隔 1 小時經由海底電纜傳訊回接收站之電腦中儲存。

表 CL1 花蓮海域觀測海流資料蒐集概況表(統計時間至 2018 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
X	23°58'00"N	121°37'34"E	2000/09-2018/11(觀測中)	港研中心	花蓮港東堤外海

花蓮海域

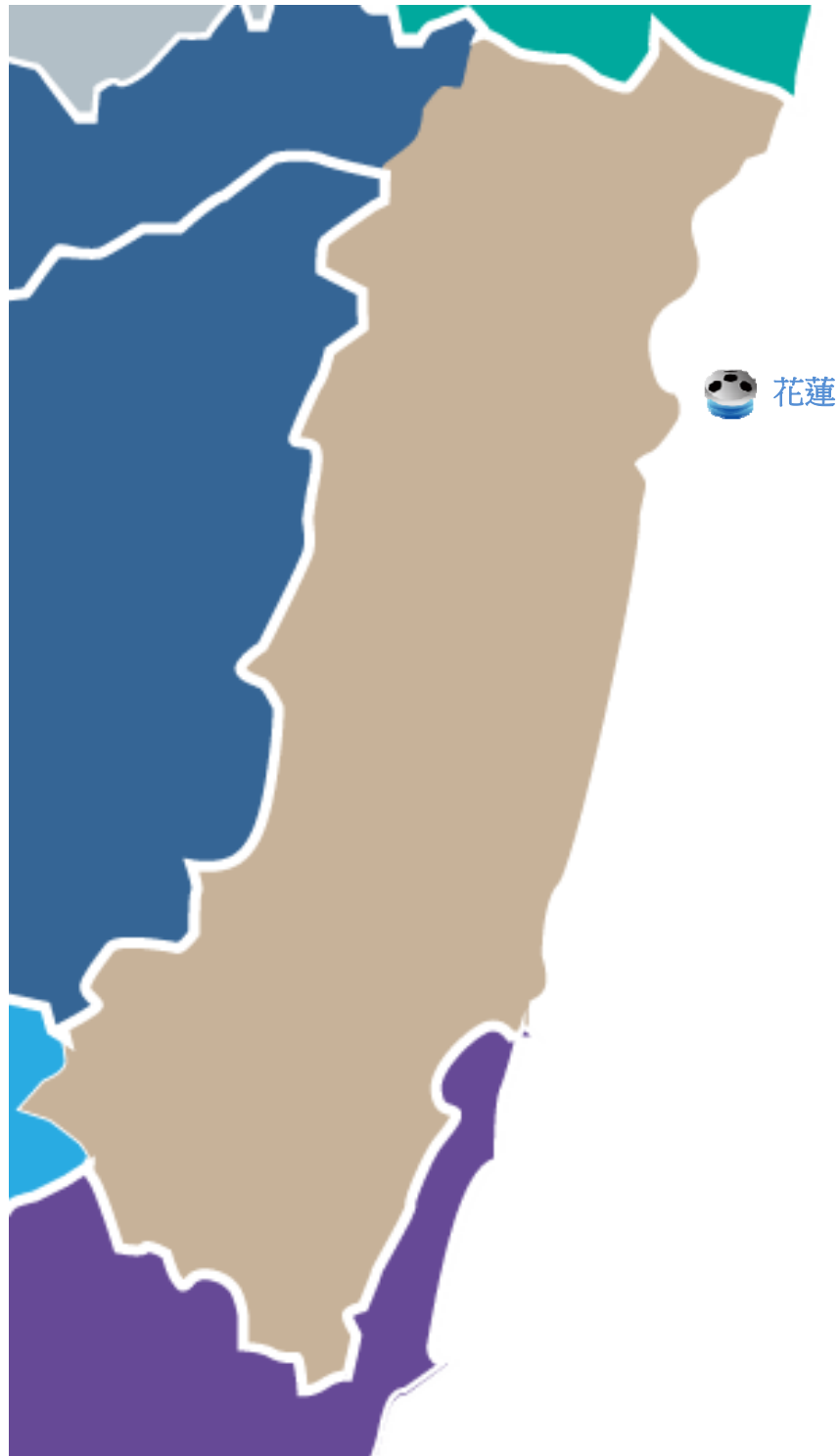


圖 CL1 花蓮海域海流觀測站位置示意圖

第一章 2018 年花蓮海域觀測風力資料

花蓮海域風之觀測包括測站 **W**、測站 **Y**、測站 **E**、測站 **F** 及測站 **H** 等 5 個測站(測站位置如第 0 章圖 WL1)。本年報取經檢核及補遺之 **W** 站資料作為主要測站 1，**Y** 站資料作為主要測站 2。

1.1 2018 年花蓮海域觀測風力資料年報圖表

本章第 1 節**風力**年報資料處理之圖表包括：

1. 表 1.1.1a 2018 年**各觀測站**每月**觀測風力**資料**修補前**記錄表。
2. 表 1.1.1b 2018 年**主要測站**每月**觀測風力**資料**修補後**記錄表。
3. 表 1.1.2 2018 年**主要測站 1** **修補後**每月(季)及整年風速及風向重要統計量統計表。
4. 表 1.1.3 2018 年**主要測站 2** **修補後**每月(季)及整年風速及風向重要統計量統計表。
5. 圖 1.1.1a 2018 年**主要測站 1** **修補前後**每月風速歷線比較圖。
6. 圖 1.1.1b 2018 年**主要測站 1** **修補前後**每月風向歷線比較圖。
7. 圖 1.1.2a 2018 年**主要測站 2** **修補前後**每月風速歷線比較圖。
8. 圖 1.1.2b 2018 年**主要測站 2** **修補前後**每月風向歷線比較圖。
9. 圖 1.1.3 2018 年**主要測站 1** **修補後**每月風力向量分佈圖。
10. 圖 1.1.4 2018 年**主要測站 2** **修補後**每月風力向量分佈圖。
11. 圖 1.1.5 2018 年**主要測站 1** **修補後**每月風力向量行進圖。
12. 圖 1.1.6 2018 年**主要測站 2** **修補後**每月風力向量行進圖。

第 2 節風力年報資料處理之統計表包括：2018 年花蓮海域**各測站**

修補前每月(季)及整年風速及風向重要統計量統計表。

第 3 節風力年報資料處理之統計圖包括：2018 年花蓮海域**主要測站 1**修補後與**其他測站(修補前)**每月風速及風向歷線比較圖。

第 4 節風力年報資料處理之統計圖包括：2018 年花蓮海域**主要測站 2**修補後與**其他測站(修補前)**每月風速及風向歷線比較圖。

第 5 節風力年報資料處理之統計圖包括：2018 年花蓮海域**各測站**修補前每月風力向量分佈圖。

第 6 節風力年報資料處理之統計圖包括：2018 年花蓮海域**各測站**修補前每月風力向量行進圖。

表 1.1.1a 2018年每月花蓮海域修補前各測站觀測風力資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	W	Y	E	H	F							
2017/12月	744(100%)	721(96.9%)	744(100%)	744(100%)	558(75.0%)	*	*	*	*	*	*	*
2018/ 1月	744(100%)	698(93.8%)	744(100%)	739(99.3%)	710(95.4%)	*	*	*	*	*	*	*
2018/ 2月	632(94.0%)	630(93.8%)	672(100%)	670(99.7%)	655(97.5%)	*	*	*	*	*	*	*
2018/ 3月	619(83.2%)	674(90.6%)	744(100%)	740(99.5%)	708(95.2%)	*	*	*	*	*	*	*
2018/ 4月	191(26.5%)	668(92.8%)	720(100%)	718(99.7%)	695(96.5%)	*	*	*	*	*	*	*
2018/ 5月	744(100%)	406(54.6%)	744(100%)	744(100%)	399(53.6%)	*	*	*	*	*	*	*
2018/ 6月	720(100%)	557(77.4%)	720(100%)	702(97.5%)	683(94.9%)	*	*	*	*	*	*	*
2018/ 7月	744(100%)	592(79.6%)	744(100%)	743(99.9%)	706(94.9%)	*	*	*	*	*	*	*
2018/ 8月	725(97.4%)	629(84.5%)	744(100%)	744(100%)	720(96.8%)	*	*	*	*	*	*	*
2018/ 9月	720(100%)	610(84.7%)	720(100%)	719(99.9%)	668(92.8%)	*	*	*	*	*	*	*
2018/10月	744(100%)	727(97.7%)	744(100%)	741(99.6%)	741(99.6%)	*	*	*	*	*	*	*
2018/11月	720(100%)	633(87.9%)	720(100%)	706(98.1%)	670(93.1%)	*	*	*	*	*	*	*
2018/冬季	2120(98.1%)	2049(94.9%)	2160(100%)	2153(99.7%)	1923(89.0%)	*	*	*	*	*	*	*
2018/春季	1554(70.4%)	1748(79.2%)	2208(100%)	2202(99.7%)	1802(81.6%)	*	*	*	*	*	*	*
2018/夏季	2189(99.1%)	1778(80.5%)	2208(100%)	2189(99.1%)	2109(95.5%)	*	*	*	*	*	*	*
2018/秋季	2184(100%)	1970(90.2%)	2184(100%)	2166(99.2%)	2079(95.2%)	*	*	*	*	*	*	*
2018/整年	8047(91.9%)	7545(86.1%)	8760(100%)	8710(99.4%)	7913(90.3%)	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	2017/12	2017/12	2017/12	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	2018/11	2018/11	2018/11	*	*	*	*	*	*	*

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表 1.1.1b 2018年每月花蓮海域修補後各測站風力資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	W	Y										
2017/12月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 2月	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 3月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 4月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 5月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 6月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 7月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 8月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 9月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/10月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/11月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/冬季	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*	*
2018/春季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2018/夏季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2018/秋季	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*	*
2018/整年	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	*	*	*	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	*	*	*	*	*	*	*	*	*	*

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表1.1.2 2018年花蓮海域 W 站修補後風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	744(100%)	4.5	3.1/NNE	13.3/NE	45.2	40.6	14.2	.0	56.5	3.4	14.5	25.7	NE /39.8%
2	2018/01	744(100%)	3.4	1.5/NNE	13.0/NE	59.9	34.7	5.4	.0	43.5	3.6	24.1	28.8	NE /27.0%
3	2018/02	672(100%)	3.5	1.2/NNE	11.2/NE	60.1	35.9	4.0	.0	36.5	8.6	26.5	28.4	NE /25.3%
4	2018/03	744(100%)	3.3	.4/NNE	11.3/NE	62.5	33.3	4.2	.0	29.8	12.1	31.6	26.5	NE /16.1%
5	2018/04	720(100%)	3.2	.5/SW	13.2/ENE	64.7	30.8	4.4	.0	22.8	18.1	32.2	26.9	WSW/15.8%
6	2018/05	744(100%)	3.0	1.1/S	8.9/SSE	66.0	32.5	1.5	.0	16.9	32.9	37.2	12.9	WSW/16.5%
7	2018/06	720(100%)	2.9	.3/SE	14.5/S	70.6	28.2	1.1	.1	25.8	21.1	34.7	18.3	WSW/15.7%
8	2018/07	744(100%)	2.6	.8/S	11.6/S	78.0	20.4	1.6	.0	15.1	30.2	41.8	12.9	WSW/18.5%
9	2018/08	744(100%)	2.9	1.0/SSW	12.4/SSW	70.6	27.3	2.2	.0	9.9	27.8	45.3	16.9	W /16.9%
10	2018/09	720(100%)	3.2	.0/NNE	12.1/ENE	65.0	31.1	3.9	.0	23.8	23.2	38.1	15.0	WSW/16.7%
11	2018/10	744(100%)	3.8	2.0/NE	12.3/ENE	53.8	38.4	7.8	.0	49.7	4.2	14.5	31.6	NE /21.1%
12	2018/11	720(100%)	3.2	1.0/N	11.1/ENE	63.5	33.8	2.8	.0	31.9	9.7	24.9	33.5	NE /16.0%
13	2018/冬	2160(100%)	3.8	1.9/NNE	13.3/NE	54.9	37.1	8.0	.0	45.8	5.1	21.5	27.6	NE /30.9%
14	2018/春	2208(100%)	3.2	.4/S	13.2/ENE	64.4	32.2	3.4	.0	23.2	21.1	33.7	22.1	WSW/15.4%
15	2018/夏	2208(100%)	2.8	.6/SSW	14.5/S	73.1	25.3	1.6	.0	16.8	26.4	40.7	16.0	WSW/17.0%
16	2018/秋	2184(100%)	3.4	1.0/NNE	12.3/ENE	60.7	34.5	4.9	.0	35.3	12.3	25.7	26.7	NE /15.2%
17	2018/年	8760(100%)	3.3	.5/NNE	14.5/S	63.3	32.2	4.4	.0	30.2	16.3	30.5	23.1	NE /15.1%

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表1.1.3 2018年花蓮海域 Y 站修補後風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	744(100%)	5.9	4.6/NE	16.2/NE	37.0	29.0	32.1	1.9	64.1	2.2	22.3	11.4	NE /44.1%
2	2018/01	744(100%)	4.1	2.3/NE	13.6/NE	58.5	26.1	15.5	.0	49.6	2.8	33.1	14.5	NE /31.5%
3	2018/02	672(100%)	4.2	1.9/NE	14.1/NE	58.3	24.6	17.0	.1	40.8	7.7	37.9	13.5	NE /27.4%
4	2018/03	744(100%)	3.4	.8/NE	14.6/NE	69.1	21.5	9.0	.4	32.1	12.5	39.7	15.7	NE /17.1%
5	2018/04	720(100%)	3.3	.4/E	14.9/NE	69.3	23.5	6.8	.4	23.5	18.8	45.4	12.4	SW /19.6%
6	2018/05	744(100%)	2.6	.8/SSE	11.2/NE	74.3	24.1	1.6	.0	19.5	30.4	37.5	12.6	SW /14.9%
7	2018/06	720(100%)	2.5	.4/ENE	10.0/NE	78.1	19.0	2.9	.0	34.7	15.6	35.8	13.9	SW /16.1%
8	2018/07	744(100%)	2.3	.5/S	8.0/NE	83.5	16.3	.3	.0	17.7	26.7	41.4	14.1	SW /19.5%
9	2018/08	744(100%)	2.4	.6/S	7.2/S	82.1	17.9	.0	.0	19.9	21.2	47.6	11.3	SW /21.5%
10	2018/09	720(100%)	3.1	.4/NE	13.2/NNE	68.6	25.4	6.0	.0	26.0	19.9	42.1	12.1	SW /20.7%
11	2018/10	744(100%)	4.4	2.6/NNE	13.2/NE	50.3	33.3	16.4	.0	46.4	4.0	30.4	19.2	NNE/26.2%
12	2018/11	720(100%)	3.5	1.4/N	13.0/NE	62.5	30.6	6.9	.0	34.3	6.7	38.5	20.6	SW /20.6%
13	2018/冬	2160(100%)	4.8	3.0/NE	16.2/NE	51.0	26.6	21.7	.7	51.9	4.1	30.9	13.1	NE /34.5%
14	2018/春	2208(100%)	3.1	.4/E	14.9/NE	70.9	23.0	5.8	.3	25.0	20.6	40.8	13.6	SW /17.0%
15	2018/夏	2208(100%)	2.4	.4/SSE	10.0/NE	81.3	17.7	1.0	.0	24.0	21.2	41.7	13.1	SW /19.1%
16	2018/秋	2184(100%)	3.7	1.5/NNE	13.2/NNE	60.3	29.8	9.8	.0	35.7	10.1	36.9	17.3	SW /18.5%
17	2018/年	8760(100%)	3.5	1.1/NE	16.2/NE	66.0	24.3	9.5	.2	34.0	14.1	37.6	14.3	SW /17.0%

Wind Speed in Hua-Lien Seas of HLW0 at 2018

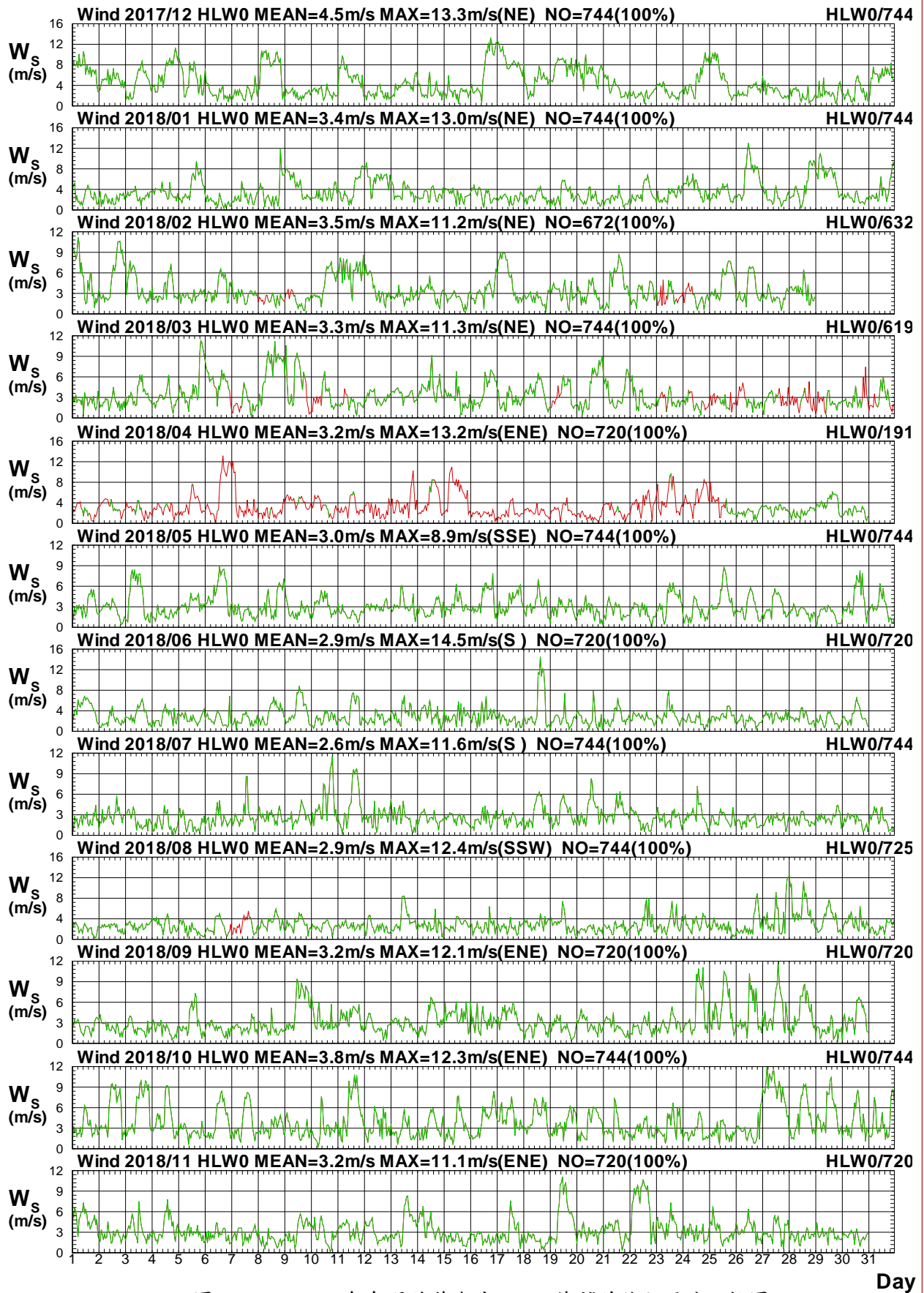


圖1.1.1a 2018年每月花蓮海域 W 站修補前後之風速比較圖

W17CHLW0.1HA W17CHLW0.1H0 W181HLW0.1HA W181HLW0.1H0 W182HLW0.1HA W182HLW0.1H0
 W183HLW0.1HA W183HLW0.1H0 W184HLW0.1HA W184HLW0.1H0 W185HLW0.1HA W185HLW0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

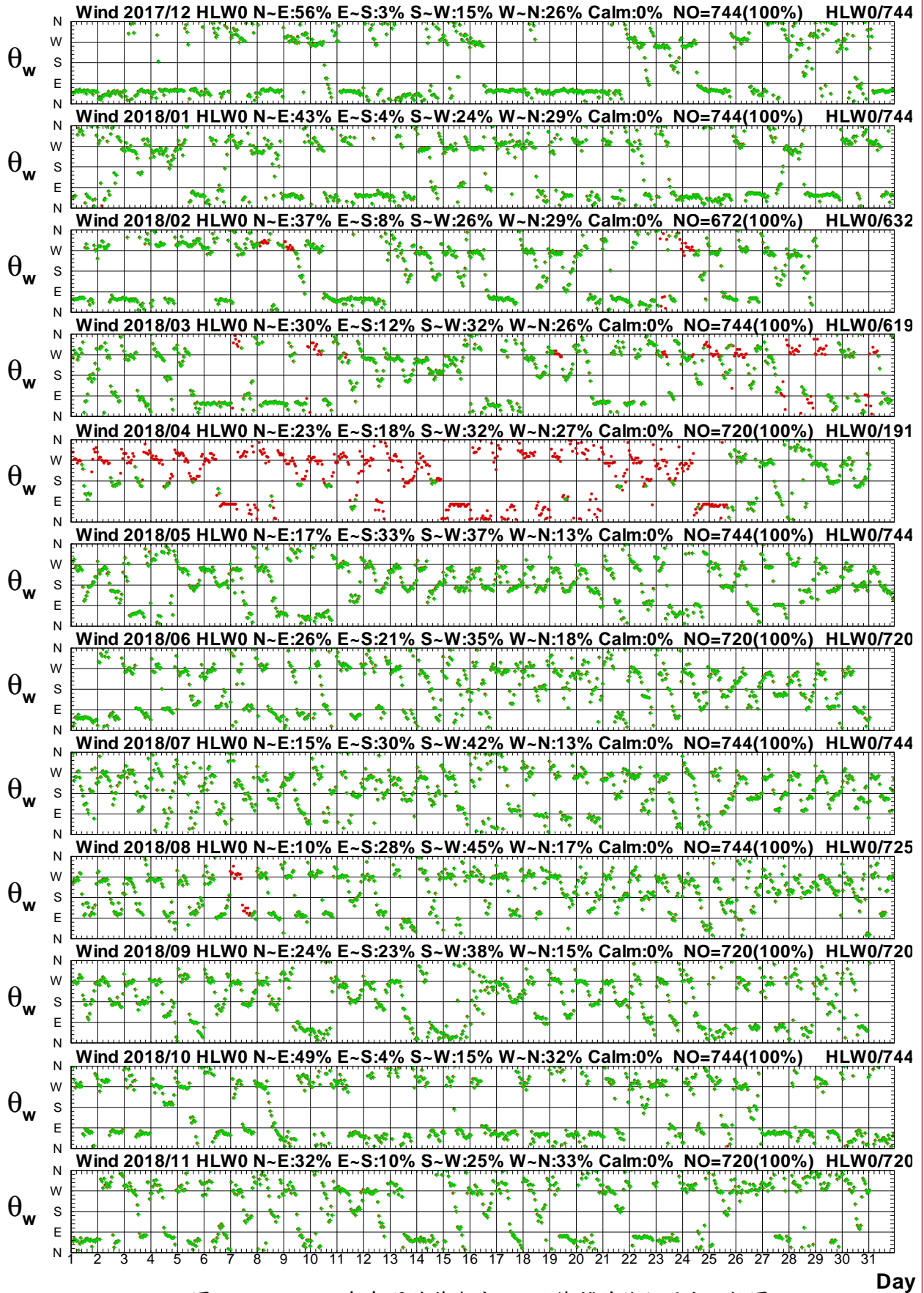


圖1.1.1b 2018年每月花蓮海域 W 站修補前後之風向比較圖

W17CHLW0.1HA W17CHLW0.1H0 W181HLW0.1HA W181HLW0.1H0 W182HLW0.1HA W182HLW0.1H0
 W183HLW0.1HA W183HLW0.1H0 W184HLW0.1HA W184HLW0.1H0 W185HLW0.1HA W185HLW0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

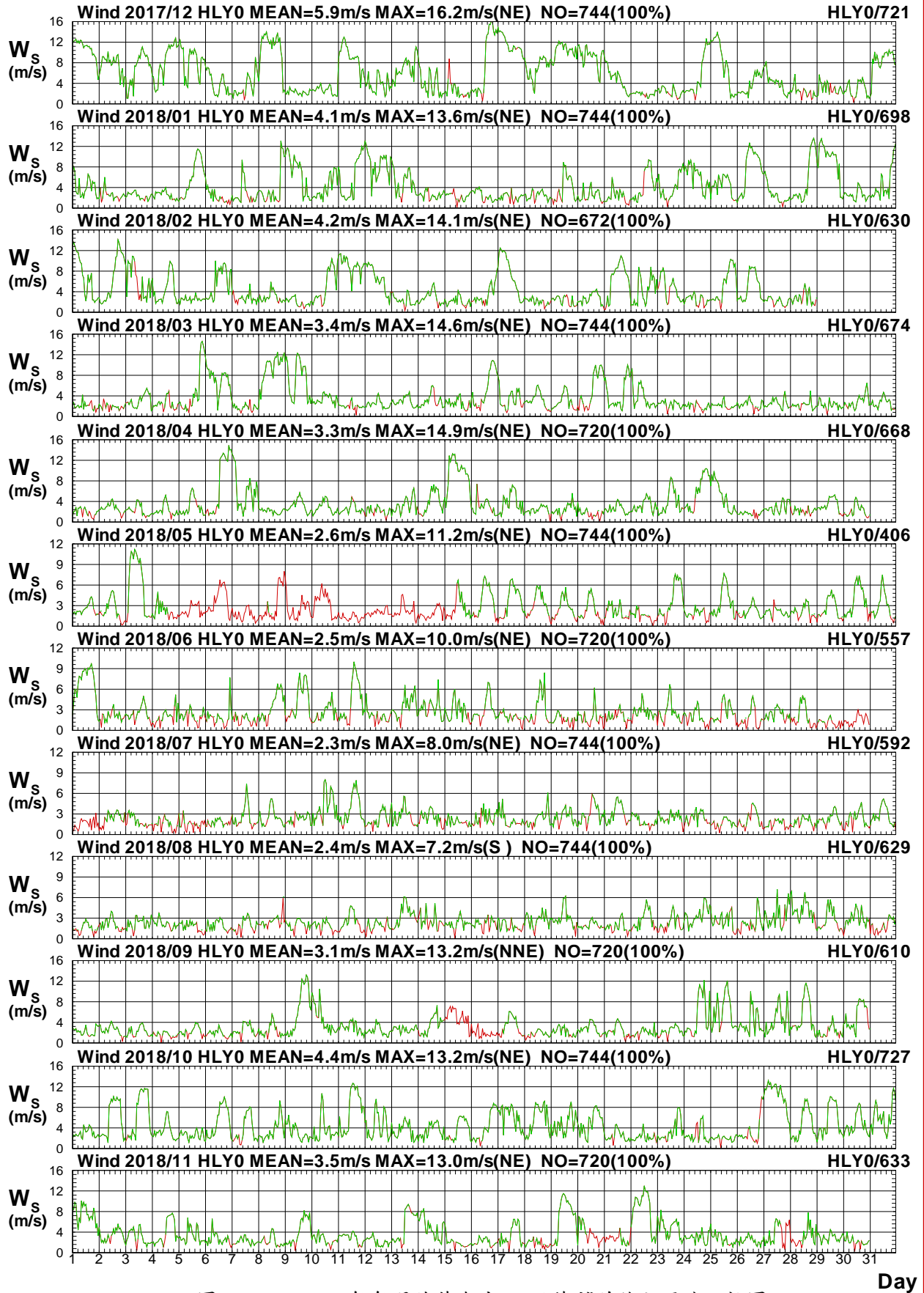


圖1.1.2a 2018年每月花蓮海域 Y 站修補前後之風速比較圖

W17CHLY0.1HA W17CHLY0.1H0 W181HLY0.1HA W181HLY0.1H0 W182HLY0.1HA W182HLY0.1H0
 W183HLY0.1HA W183HLY0.1H0 W184HLY0.1HA W184HLY0.1H0 W185HLY0.1HA W185HLY0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

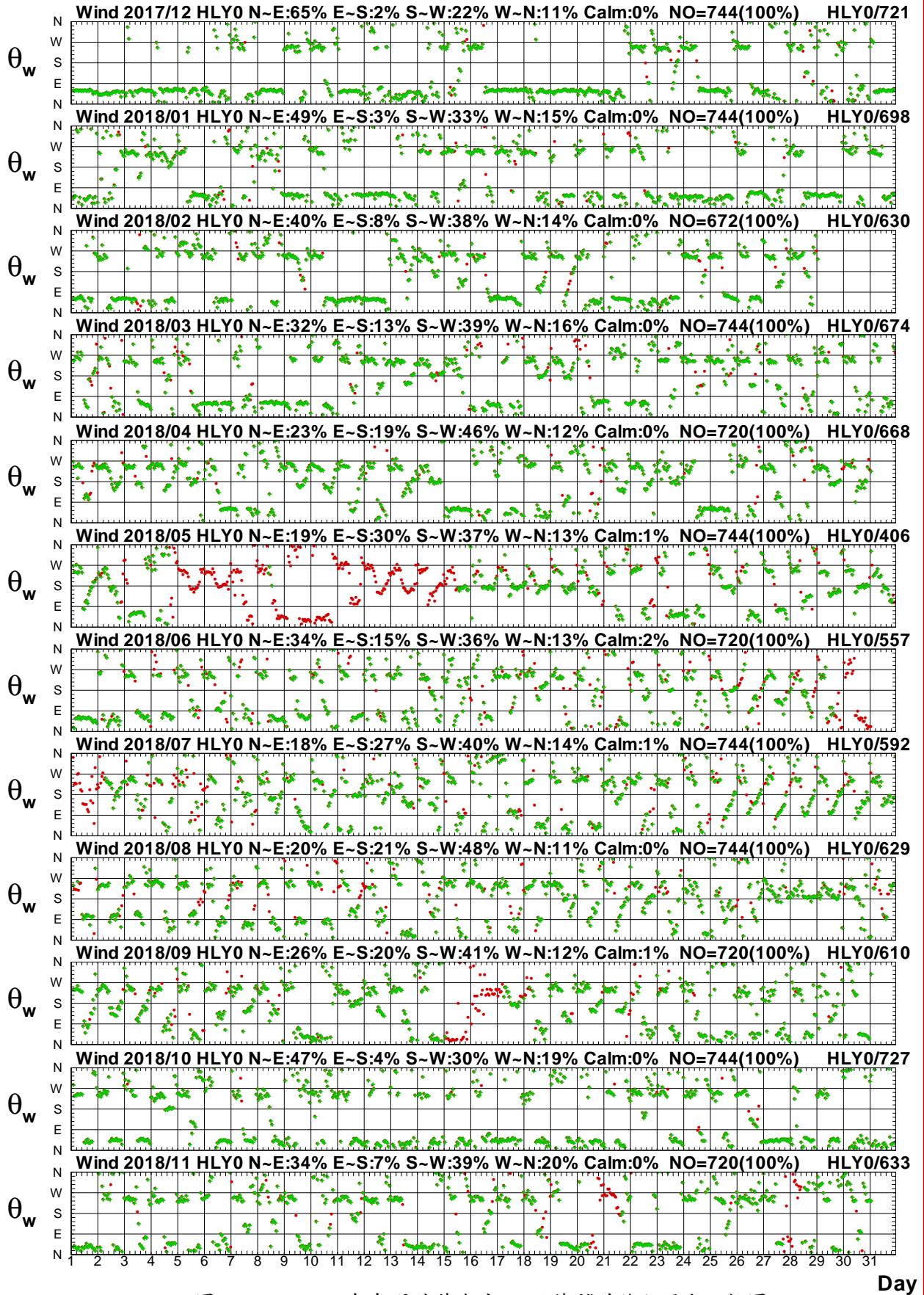


圖1.1.2b 2018年每月花蓮海域 Y 站修補前後之風向比較圖

W17CHLY0.1HA W17CHLY0.1H0 W181HLY0.1HA W181HLY0.1H0 W182HLY0.1HA W182HLY0.1H0
 W183HLY0.1HA W183HLY0.1H0 W184HLY0.1HA W184HLY0.1H0 W185HLY0.1HA W185HLY0.1H0

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Distribution of Wind Vectors

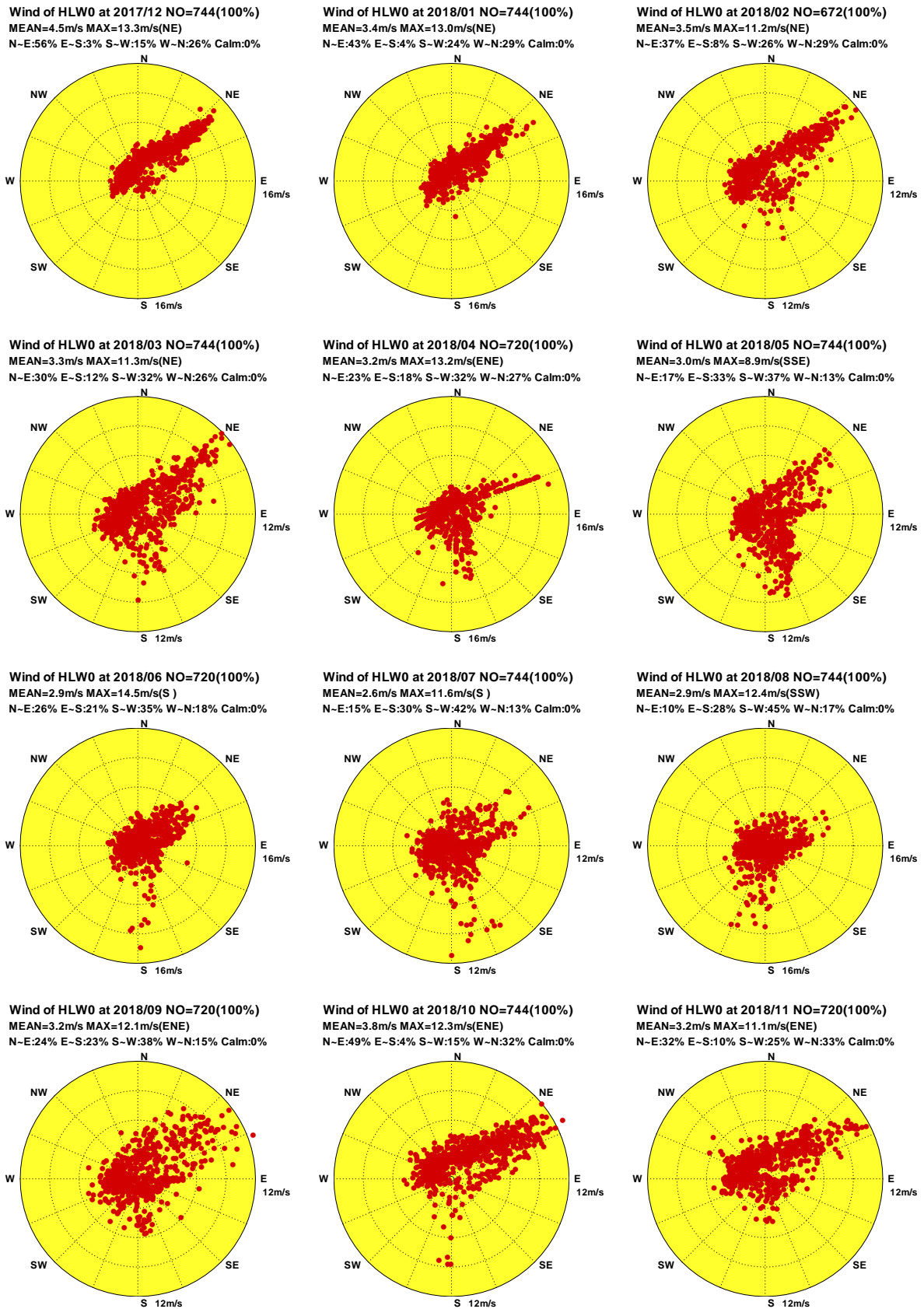


圖1.1.3 2018年花蓮海域每月 W 站修補後觀測風力向量分佈圖

W17CHLW0.1HA W181HLW0.1HA W182HLW0.1HA W183HLW0.1HA W184HLW0.1HA W185HLW0.1HA
 W186HLW0.1HA W187HLW0.1HA W188HLW0.1HA W189HLW0.1HA W18AHLW0.1HA W18BHLW0.1HA

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Distribution of Wind Vectors

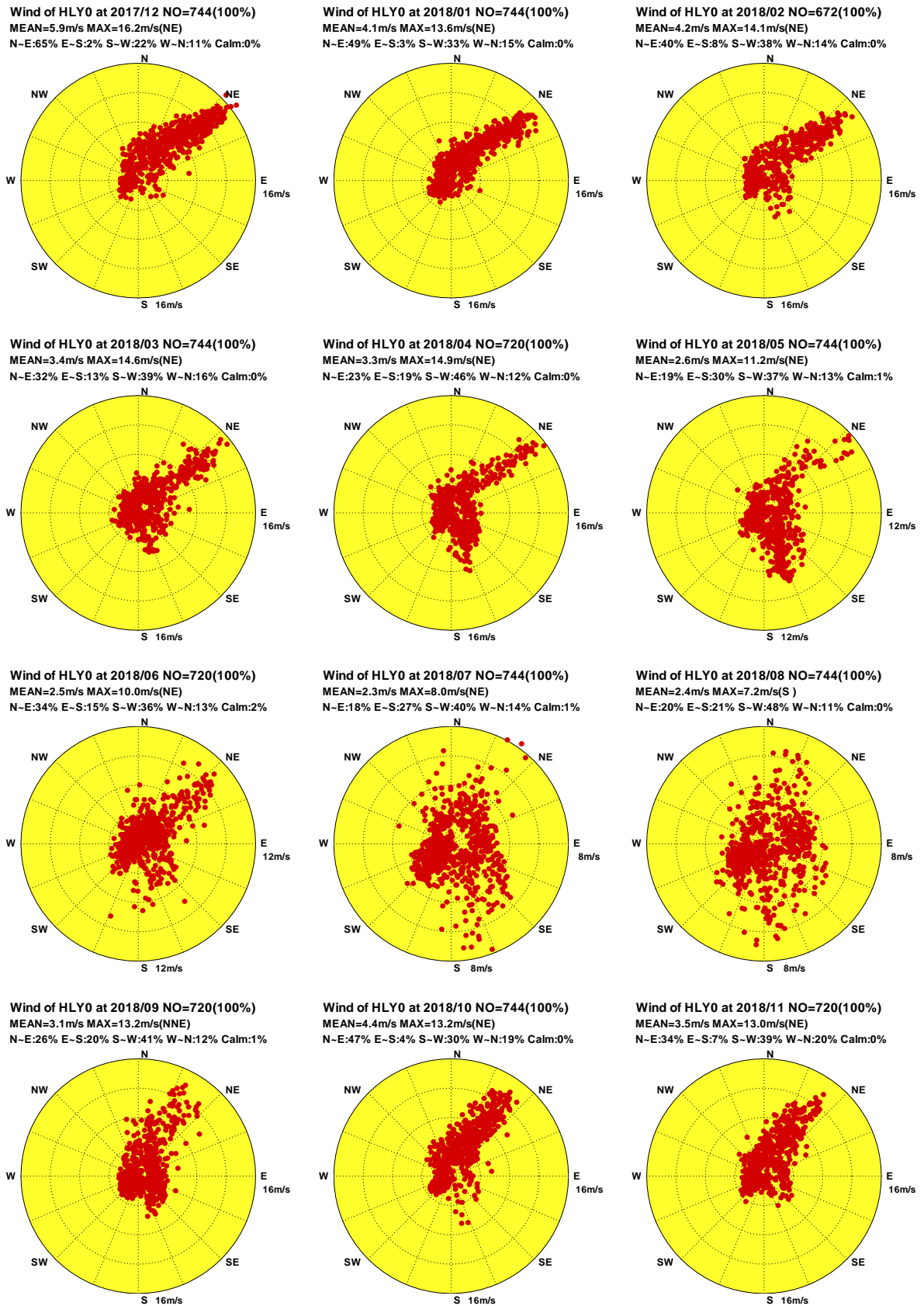


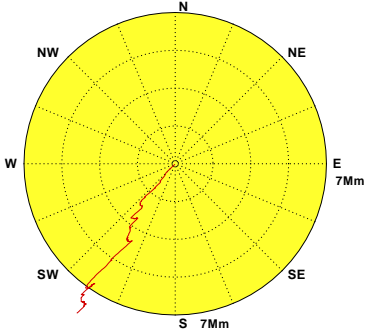
圖1.1.4 2018年花蓮海域每月 Y 站修補後觀測風力向量分佈圖

W17CHLY0.1HA W181HLY0.1HA W182HLY0.1HA W183HLY0.1HA W184HLY0.1HA W185HLY0.1HA
W186HLY0.1HA W187HLY0.1HA W188HLY0.1HA W189HLY0.1HA W18AHLY0.1HA W18BHLY0.1HA

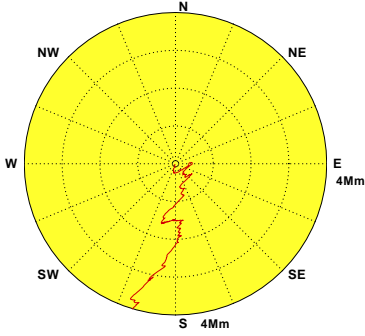
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Progressive Vector Diagram of Wind

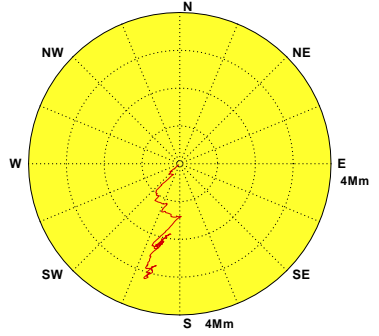
Wind of HLW0 at 2017/12 NO=744(100%)
 MEAN=4.5m/s MAX=13.3m/s(NE)
 N-E:56% E-S:3% S-W:15% W-N:26% Calm:0%



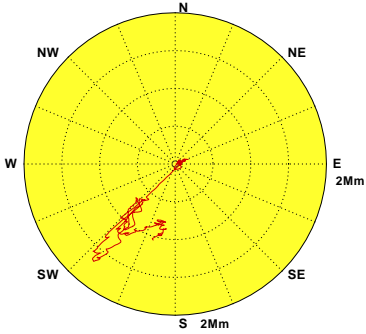
Wind of HLW0 at 2018/01 NO=744(100%)
 MEAN=3.4m/s MAX=13.0m/s(NE)
 N-E:43% E-S:4% S-W:24% W-N:29% Calm:0%



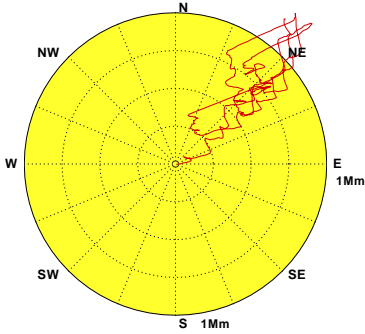
Wind of HLW0 at 2018/02 NO=672(100%)
 MEAN=3.5m/s MAX=11.2m/s(NE)
 N-E:37% E-S:8% S-W:26% W-N:29% Calm:0%



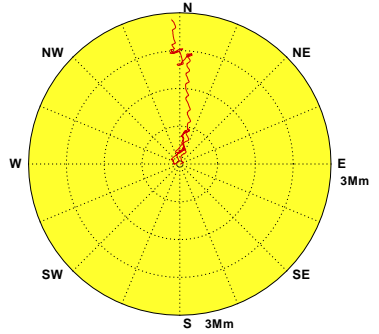
Wind of HLW0 at 2018/03 NO=744(100%)
 MEAN=3.3m/s MAX=11.3m/s(NE)
 N-E:30% E-S:12% S-W:32% W-N:26% Calm:0%



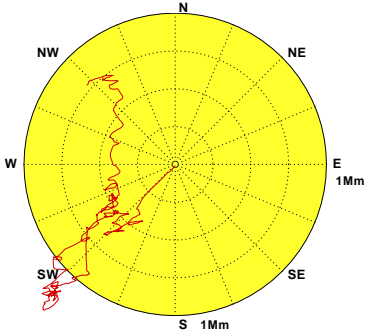
Wind of HLW0 at 2018/04 NO=720(100%)
 MEAN=3.2m/s MAX=13.2m/s(ENE)
 N-E:23% E-S:18% S-W:32% W-N:27% Calm:0%



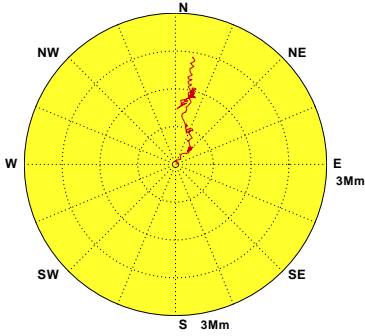
Wind of HLW0 at 2018/05 NO=744(100%)
 MEAN=3.0m/s MAX=8.9m/s(SSE)
 N-E:17% E-S:33% S-W:37% W-N:13% Calm:0%



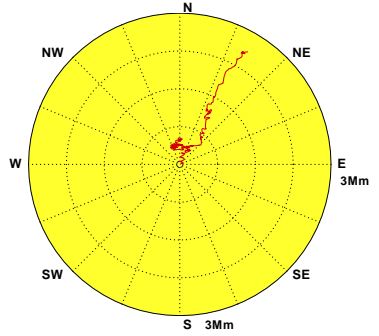
Wind of HLW0 at 2018/06 NO=720(100%)
 MEAN=2.9m/s MAX=14.5m/s(S)
 N-E:26% E-S:21% S-W:35% W-N:18% Calm:0%



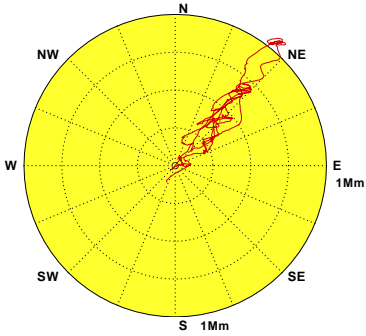
Wind of HLW0 at 2018/07 NO=744(100%)
 MEAN=2.6m/s MAX=11.6m/s(S)
 N-E:15% E-S:30% S-W:42% W-N:13% Calm:0%



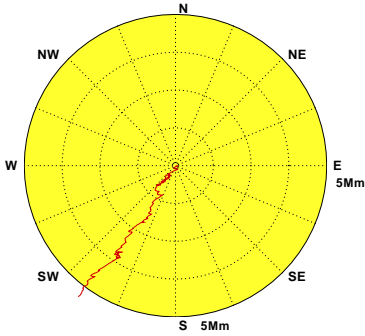
Wind of HLW0 at 2018/08 NO=744(100%)
 MEAN=2.9m/s MAX=12.4m/s(SSW)
 N-E:10% E-S:28% S-W:45% W-N:17% Calm:0%



Wind of HLW0 at 2018/09 NO=720(100%)
 MEAN=3.2m/s MAX=12.1m/s(ENE)
 N-E:24% E-S:23% S-W:38% W-N:15% Calm:0%



Wind of HLW0 at 2018/10 NO=744(100%)
 MEAN=3.8m/s MAX=12.3m/s(ENE)
 N-E:49% E-S:4% S-W:15% W-N:32% Calm:0%



Wind of HLW0 at 2018/11 NO=720(100%)
 MEAN=3.2m/s MAX=11.1m/s(ENE)
 N-E:32% E-S:10% S-W:25% W-N:33% Calm:0%

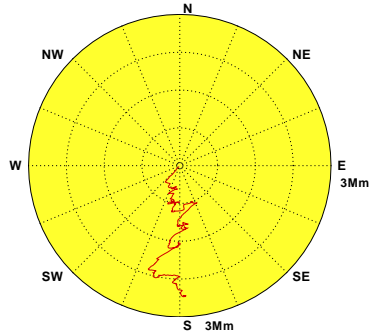


圖1.1.5 2018年花蓮海域每月 W 站修補後觀測風力向量行進圖

W17CHLW0.1HA W181HLW0.1HA W182HLW0.1HA W183HLW0.1HA W184HLW0.1HA W185HLW0.1HA
 W186HLW0.1HA W187HLW0.1HA W188HLW0.1HA W189HLW0.1HA W18AHLW0.1HA W18BHLW0.1HA

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Progressive Vector Diagram of Wind

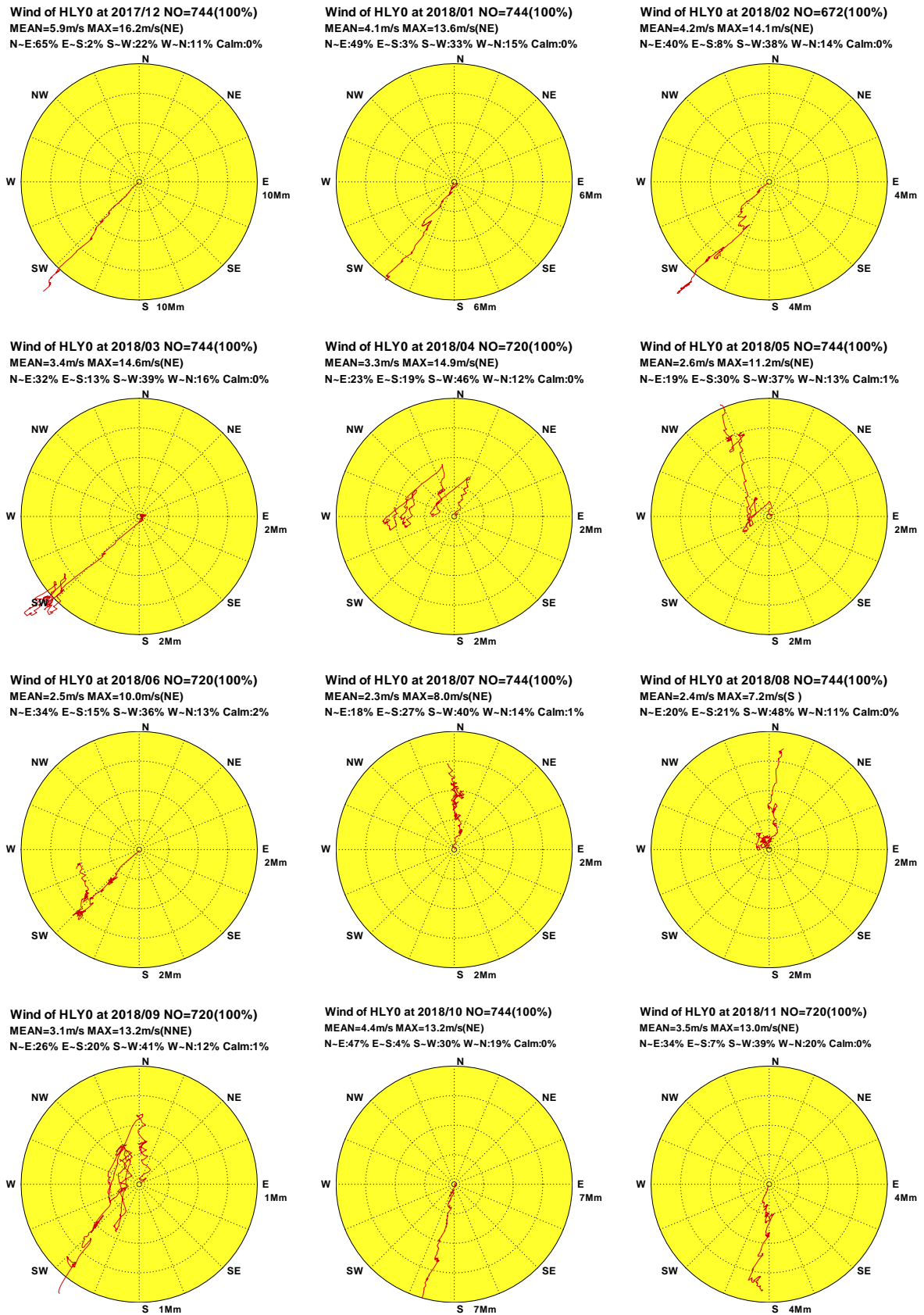


圖1.1.6 2018年花蓮海域每月 Y 站修補後觀測風力向量行進圖

W17CHLY0.1HA W181HLY0.1HA W182HLY0.1HA W183HLY0.1HA W184HLY0.1HA W185HLY0.1HA
W186HLY0.1HA W187HLY0.1HA W188HLY0.1HA W189HLY0.1HA W18AHLY0.1HA W18BHLY0.1HA

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1.2 2018 年花蓮海域各測站修補前 風力統計量統計表

表1.2.1 2018年花蓮海域 W 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	744(100%)	4.5	3.1/NNE	13.3/NE	45.2	40.6	14.2	.0	56.5	3.4	14.5	25.7	NE /39.8%
2	2018/01	744(100%)	3.4	1.5/NNE	13.0/NE	59.9	34.7	5.4	.0	43.4	3.6	24.1	28.9	NE /27.0%
3	2018/02	632(94%)	3.5	1.3/NNE	11.2/NE	59.5	36.2	4.3	.0	38.1	9.2	26.7	25.9	NE /26.7%
4	2018/03	619(83%)	3.4	.6/NE	11.3/NE	59.3	35.7	5.0	.0	32.3	14.2	30.9	22.6	NE /18.3%
5	2018/04	191(27%)	3.0	1.2/S	9.6/SSE	68.6	28.8	2.6	.0	13.6	40.3	28.3	17.8	SSE/25.7%
6	2018/05	744(100%)	3.0	1.1/S	8.9/SSE	66.0	32.5	1.5	.0	16.9	32.9	37.2	12.9	WSW/16.4%
7	2018/06	720(100%)	2.9	.3/SE	14.5/S	70.6	28.2	1.1	.1	25.8	21.1	34.7	18.3	WSW/15.6%
8	2018/07	744(100%)	2.6	.8/S	11.6/S	78.0	20.4	1.6	.0	15.1	30.5	41.5	12.9	WSW/18.4%
9	2018/08	725(97%)	2.9	1.0/SSW	12.4/SSW	70.8	27.0	2.2	.0	10.2	27.4	46.2	16.1	WSW/17.0%
10	2018/09	720(100%)	3.2	.0/NNE	12.1/ENE	65.0	31.1	3.9	.0	23.8	23.2	38.1	15.0	WSW/16.5%
11	2018/10	744(100%)	3.8	2.0/NE	12.3/ENE	53.8	38.4	7.8	.0	49.6	4.2	14.5	31.7	NE /21.1%
12	2018/11	720(100%)	3.2	1.0/N	11.1/ENE	63.5	33.8	2.8	.0	31.9	9.9	24.7	33.5	NE /16.0%
13	2018/冬	2120(98%)	3.8	2.0/NNE	13.3/NE	54.6	37.2	8.2	.0	46.4	5.2	21.5	26.9	NE /31.4%
14	2018/春	1554(70%)	3.2	.5/SSE	11.3/NE	63.6	33.3	3.0	.0	22.7	26.4	33.6	17.4	WSW/15.6%
15	2018/夏	2189(99%)	2.8	.6/SSW	14.5/S	73.1	25.2	1.6	.0	17.0	26.4	40.8	15.8	WSW/17.0%
16	2018/秋	2184(100%)	3.4	1.0/NNE	12.3/ENE	60.7	34.5	4.9	.0	35.3	12.3	25.6	26.8	NE /15.2%
17	2018/年	8047(92%)	3.3	.6/NE	14.5/S	63.0	32.4	4.5	.0	30.8	17.0	30.2	22.0	NE /16.0%

1-2-1

表1.2.2 2018年花蓮海域 Y 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	721(97%)	6.1	4.7/NE	16.2/NE	35.5	29.7	32.9	1.9	65.0	1.7	22.1	11.2	NE /45.2%
2	2018/01	698(94%)	4.3	2.4/NE	13.6/NE	55.9	27.7	16.5	.0	51.3	2.3	33.4	13.0	NE /33.4%
3	2018/02	630(94%)	4.4	2.0/NE	14.1/NE	56.7	25.1	18.1	.2	42.4	6.5	38.1	13.0	NE /28.9%
4	2018/03	674(91%)	3.6	.9/NE	14.6/NE	66.3	23.3	9.9	.4	34.7	10.7	41.4	13.2	NE /18.8%
5	2018/04	668(93%)	3.5	.4/E	14.9/NE	67.4	24.9	7.3	.4	24.4	18.7	45.5	11.4	SW /20.2%
6	2018/05	406(55%)	3.2	1.2/SSE	11.2/NE	65.0	32.3	2.7	.0	22.2	33.5	32.5	11.8	SSE/17.0%
7	2018/06	557(77%)	3.0	.6/ENE	10.0/NE	71.6	24.6	3.8	.0	35.4	16.2	37.5	11.0	SW /18.7%
8	2018/07	592(80%)	2.5	.6/S	8.0/NE	79.4	20.3	.3	.0	19.1	28.2	38.9	13.9	SW /20.1%
9	2018/08	629(85%)	2.6	.7/S	7.2/S	79.3	20.7	.0	.0	22.4	21.0	46.4	10.2	SW /21.5%
10	2018/09	610(85%)	3.3	.5/NE	13.2/NNE	67.2	25.7	7.0	.0	27.0	20.5	41.8	10.7	SW /20.7%
11	2018/10	727(98%)	4.4	2.7/NNE	13.2/NE	49.4	33.8	16.8	.0	47.0	3.7	30.3	19.0	NNE/26.7%
12	2018/11	633(88%)	3.7	1.5/N	13.0/NE	59.1	33.2	7.7	.0	36.2	5.8	38.9	19.1	SW /22.3%
13	2018/冬	2049(95%)	4.9	3.1/NE	16.2/NE	49.0	27.6	22.7	.7	53.4	3.4	30.8	12.4	NE /36.2%
14	2018/春	1748(79%)	3.4	.6/E	14.9/NE	66.4	26.0	7.3	.3	27.9	19.1	40.9	12.2	SW /18.0%
15	2018/夏	1778(81%)	2.7	.4/SSE	10.0/NE	76.9	21.8	1.3	.0	25.4	21.9	41.1	11.6	SW /20.1%
16	2018/秋	1970(90%)	3.8	1.6/NNE	13.2/NNE	58.0	31.1	10.9	.0	37.4	9.6	36.6	16.4	NNE/19.3%
17	2018/年	7545(86%)	3.8	1.3/NE	16.2/NE	62.0	26.8	11.0	.3	36.7	13.0	37.1	13.2	NE /18.0%

1-2-2

表1.2.3 2018年花蓮海域 F 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	558(75%)	3.4	2.6/NNE	10.7/N	53.0	41.4	5.6	.0	50.5	2.3	28.9	18.3	NNE/34.1%
2	2018/01	710(95%)	2.5	1.4/N	10.1/NNE	75.2	24.1	.7	.0	39.0	1.3	38.7	21.0	NNE/22.0%
3	2018/02	655(98%)	2.5	1.1/N	8.6/NNE	73.6	25.2	1.2	.0	35.4	6.9	43.5	14.2	NNE/20.9%
4	2018/03	708(95%)	2.2	.6/NNE	10.0/NNE	81.8	17.5	.7	.0	28.2	12.1	44.9	14.7	SW /16.8%
5	2018/04	695(97%)	2.0	.1/N	10.7/NNE	88.5	10.4	1.2	.0	17.7	20.7	50.4	11.2	SW /21.0%
6	2018/05	399(54%)	1.7	.6/SE	6.1/NNE	95.0	5.0	.0	.0	19.8	35.1	39.1	6.0	SE /15.0%
7	2018/06	683(95%)	1.8	.4/ENE	6.2/NE	88.7	11.3	.0	.0	29.7	15.2	43.6	11.4	SW /15.8%
8	2018/07	706(95%)	1.6	.4/SE	7.4/NNE	94.1	5.9	.0	.0	22.4	24.8	45.0	7.8	SSW/18.0%
9	2018/08	720(97%)	1.6	.5/SE	6.6/NE	93.9	6.1	.0	.0	22.9	22.8	48.6	5.7	SW /16.5%
10	2018/09	668(93%)	2.0	.4/NE	8.7/N	86.4	13.0	.6	.0	24.7	21.3	44.0	10.0	SW /17.2%
11	2018/10	741(100%)	2.6	1.5/N	10.6/NNE	71.3	27.7	1.1	.0	40.8	3.6	33.3	22.3	NNE/20.8%
12	2018/11	670(93%)	1.9	.6/NNW	8.3/NNE	86.9	12.7	.4	.0	29.3	7.8	44.0	19.0	WSW/16.6%
13	2018/冬	1923(89%)	2.8	1.6/N	10.7/N	68.2	29.5	2.3	.0	41.1	3.5	37.5	17.9	NNE/25.1%
14	2018/春	1802(82%)	2.0	.2/NE	10.7/NNE	87.3	12.0	.7	.0	22.3	20.5	45.7	11.4	SW /17.5%
15	2018/夏	2109(96%)	1.7	.3/ESE	7.4/NNE	92.3	7.7	.0	.0	24.9	21.0	45.8	8.3	SW /15.4%
16	2018/秋	2079(95%)	2.2	.8/N	10.6/NNE	81.1	18.1	.7	.0	31.9	10.6	40.2	17.3	NNE/14.6%
17	2018/年	7913(90%)	2.1	.6/NNE	10.7/N	82.4	16.7	.9	.0	30.1	13.9	42.3	13.7	SW /14.7%

1-2-3

表1.2.4 2018年花蓮海域E站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	744(100%)	3.9	2.7/NNE	12.5/NE	47.8	46.1	6.0	.0	57.4	3.1	18.4	21.1	NE /25.4%
2	2018/01	744(100%)	3.0	1.3/N	9.6/NE	64.9	33.7	1.3	.0	44.6	3.6	28.5	23.3	NE /17.1%
3	2018/02	672(100%)	3.0	.9/N	9.9/NE	66.5	32.0	1.5	.0	37.2	7.7	28.3	26.8	NE /19.0%
4	2018/03	744(100%)	2.9	.2/NNW	10.6/NE	66.0	32.9	1.1	.0	29.0	12.9	35.9	22.2	WSW/19.2%
5	2018/04	720(100%)	3.0	.6/SW	10.0/NE	65.0	32.5	2.5	.0	22.5	15.8	43.8	17.9	WSW/21.4%
6	2018/05	744(100%)	2.8	1.1/S	8.4/NE	69.4	30.5	.1	.0	16.3	28.0	43.3	12.5	S /19.5%
7	2018/06	720(100%)	2.5	.3/S	10.8/SSW	75.8	23.2	1.0	.0	22.6	24.4	30.4	22.5	W /22.1%
8	2018/07	744(100%)	2.5	.9/SSW	10.0/S	78.0	21.2	.8	.0	14.4	24.1	36.2	25.4	W /24.3%
9	2018/08	744(100%)	2.5	1.0/SW	8.6/S	77.3	22.2	.5	.0	11.2	26.3	30.0	32.5	W /30.6%
10	2018/09	720(100%)	2.9	.2/SSW	10.2/ENE	68.8	30.0	1.3	.0	23.2	20.6	31.5	24.7	W /27.8%
11	2018/10	744(100%)	3.0	1.5/NE	8.7/E	62.6	36.0	1.3	.0	53.1	6.5	8.5	32.0	ENE/23.8%
12	2018/11	720(100%)	2.6	.6/N	8.9/ENE	73.8	26.0	.3	.0	38.3	9.3	14.3	38.1	W /24.4%
13	2018/冬	2160(100%)	3.3	1.6/NNE	12.5/NE	59.5	37.5	3.0	.0	46.7	4.7	25.0	23.6	NE /20.6%
14	2018/春	2208(100%)	2.9	.5/SSW	10.6/NE	66.8	32.0	1.2	.0	22.6	18.9	40.9	17.5	WSW/19.6%
15	2018/夏	2208(100%)	2.5	.7/SSW	10.8/SSW	77.0	22.2	.8	.0	16.0	25.0	32.2	26.9	W /25.7%
16	2018/秋	2184(100%)	2.9	.6/NE	10.2/ENE	68.3	30.7	1.0	.0	38.4	12.0	18.0	31.6	W /23.5%
17	2018/年	8760(100%)	2.9	.2/NNE	12.5/NE	68.0	30.5	1.5	.0	30.8	15.2	29.1	24.9	W /18.6%

1-2-4

表1.2.5 2018年花蓮海域 H 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2017/12	744(100%)	5.1	4.2/N	14.5/NNE	30.0	55.8	14.1	.1	38.6	.7	19.0	41.8	N /38.7%
2	2018/01	739(99%)	3.9	2.7/N	13.4/NE	43.3	52.0	4.7	.0	33.3	2.4	28.7	35.6	N /30.4%
3	2018/02	670(100%)	4.1	2.8/N	12.5/NE	43.0	51.6	5.4	.0	28.7	2.1	29.7	39.6	N /30.9%
4	2018/03	740(100%)	3.2	1.2/NNW	11.3/NNE	63.9	34.3	1.8	.0	22.3	8.8	42.2	26.8	SW /22.8%
5	2018/04	718(100%)	3.0	.7/WNW	11.1/N	69.8	27.0	3.2	.0	18.0	13.5	45.7	22.8	SW /25.9%
6	2018/05	744(100%)	2.8	.9/SSW	10.5/N	69.9	29.4	.7	.0	13.4	19.0	54.7	12.9	SW /22.6%
7	2018/06	702(98%)	2.5	.5/WNW	7.1/N	75.5	24.5	.0	.0	27.6	9.1	48.7	14.5	SW /23.2%
8	2018/07	743(100%)	2.3	.6/WSW	6.7/NNE	79.9	20.1	.0	.0	28.0	12.4	51.4	8.2	SW /29.5%
9	2018/08	744(100%)	2.2	1.1/SSW	8.8/W	84.3	15.5	.3	.0	19.2	16.8	58.6	5.4	SW /29.7%
10	2018/09	719(100%)	3.2	1.0/NNW	11.4/N	65.0	30.2	4.9	.0	33.5	10.7	42.8	12.9	SW /24.2%
11	2018/10	741(100%)	4.3	3.4/N	11.7/NNE	37.8	54.4	7.8	.0	43.0	2.3	18.2	36.4	N /39.3%
12	2018/11	706(98%)	2.8	1.3/NNW	10.7/NNE	69.7	29.0	1.3	.0	29.3	5.2	41.1	24.4	WSW/20.8%
13	2018/冬	2153(100%)	4.4	3.2/N	14.5/NNE	38.6	53.2	8.2	.0	33.7	1.7	25.6	39.0	N /33.4%
14	2018/春	2202(100%)	3.0	.6/WNW	11.3/NNE	67.8	30.3	1.9	.0	17.9	13.8	47.5	20.8	SW /23.8%
15	2018/夏	2189(99%)	2.3	.7/WSW	8.8/W	80.0	19.9	.1	.0	24.9	12.8	53.0	9.3	SW /27.5%
16	2018/秋	2166(99%)	3.4	1.9/N	11.7/NNE	57.2	38.1	4.7	.0	35.4	6.0	33.8	24.7	N /26.7%
17	2018/年	8710(99%)	3.3	1.3/NNW	14.5/NNE	61.0	35.3	3.7	.0	27.9	8.6	40.1	23.4	N /21.1%

1-2-5

1.3 2018 年花蓮海域**主要測站 1**(修補後)與 **其他測站**(修補前)風力歷線比較圖

Wind Speed in Hua-Lien Seas of HLW0 at 2018

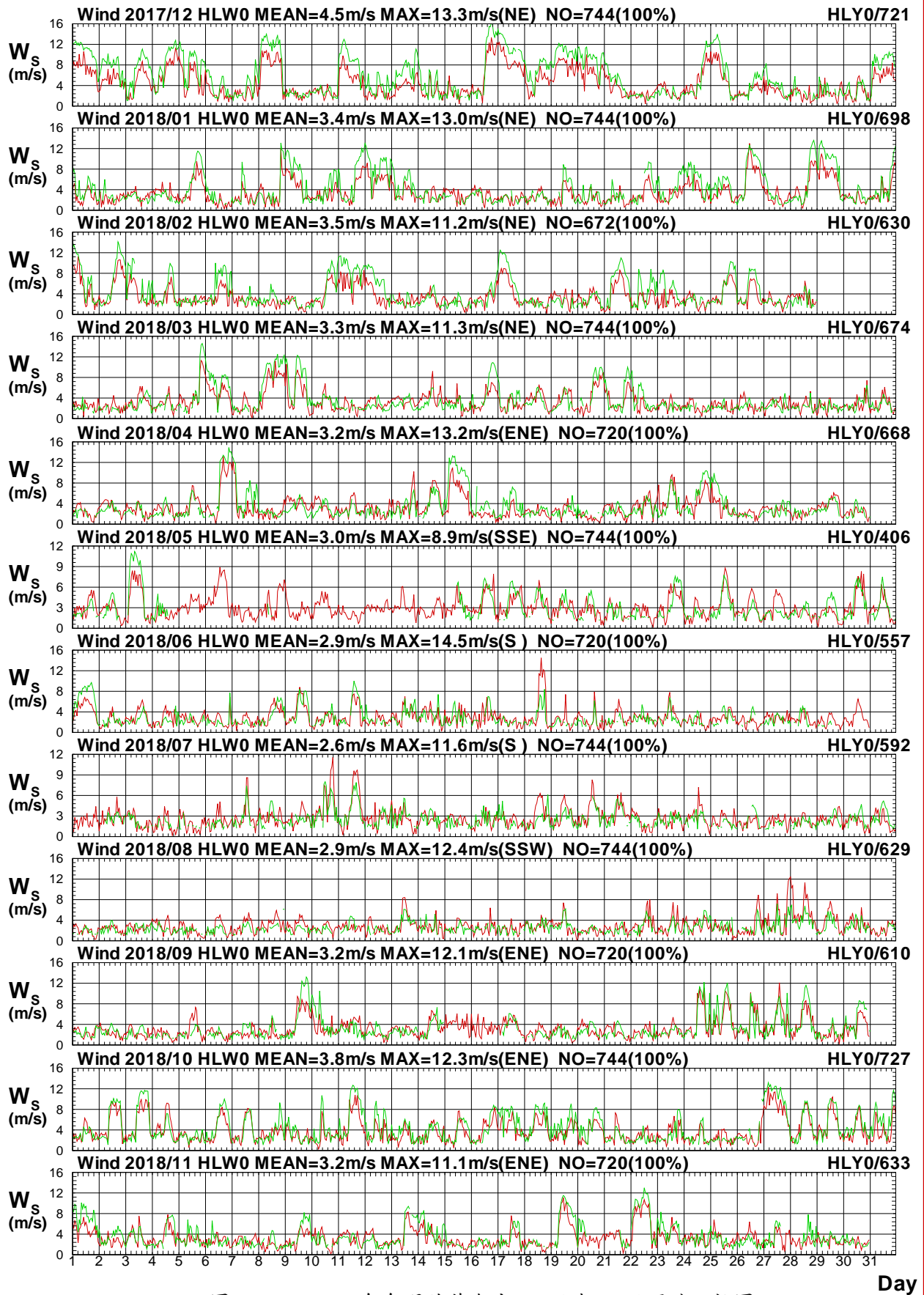


圖1.3.1a 2018年每月花蓮海域 W 站與 Y 站風速比較圖

W17CHLW0.1HA W17CHLY0.1H0 W181HLW0.1HA W181HLY0.1H0 W182HLW0.1HA W182HLY0.1H0
 W183HLW0.1HA W183HLY0.1H0 W184HLW0.1HA W184HLY0.1H0 W185HLW0.1HA W185HLY0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

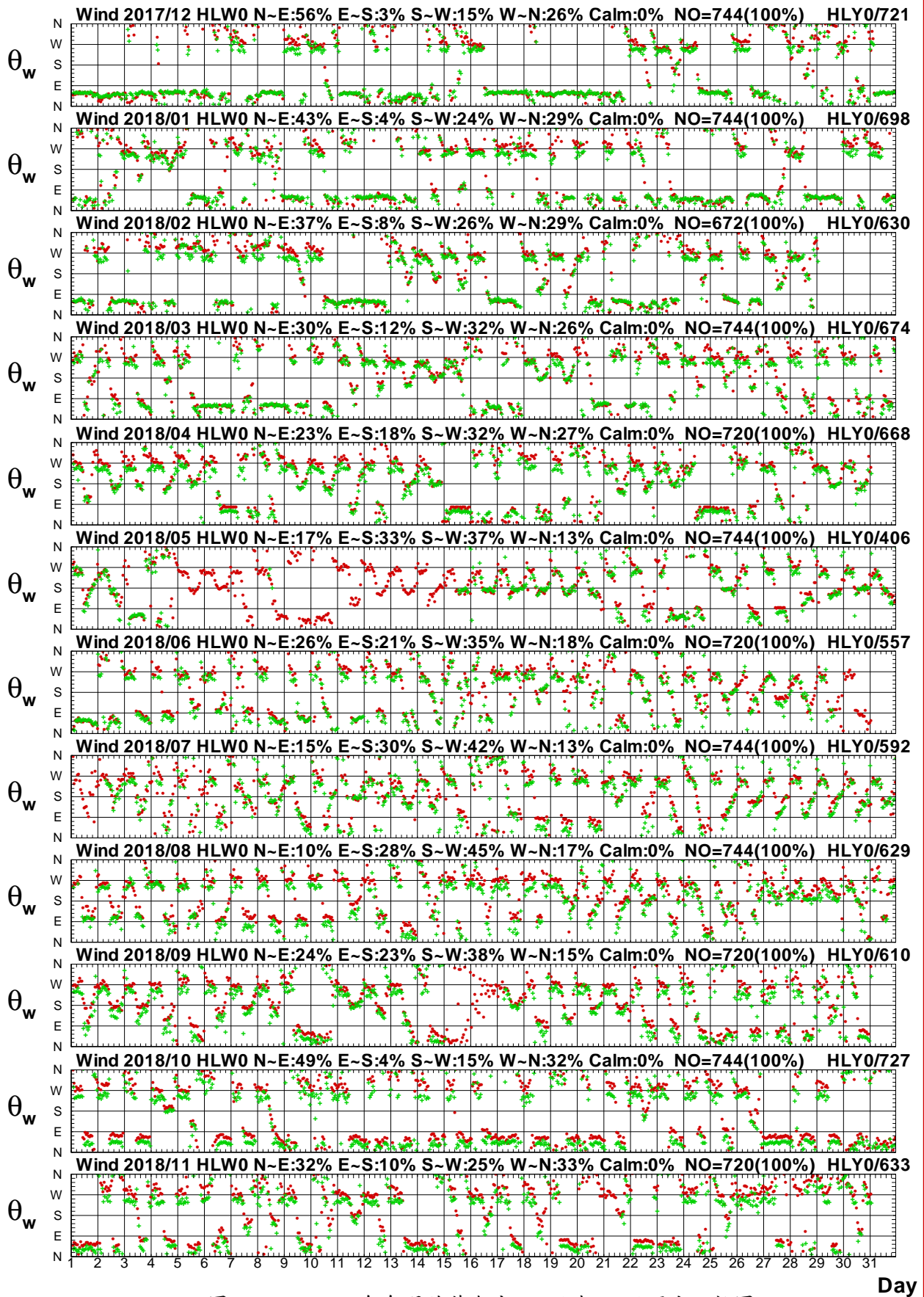


圖1.3.1b 2018年每月花蓮海域 W 站與 Y 站風向比較圖

W17CHLW0.1HA W17CHLY0.1HO W181HLW0.1HA W181HLY0.1HO W182HLW0.1HA W182HLY0.1HO
W183HLW0.1HA W183HLY0.1HO W184HLW0.1HA W184HLY0.1HO W185HLW0.1HA W185HLY0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

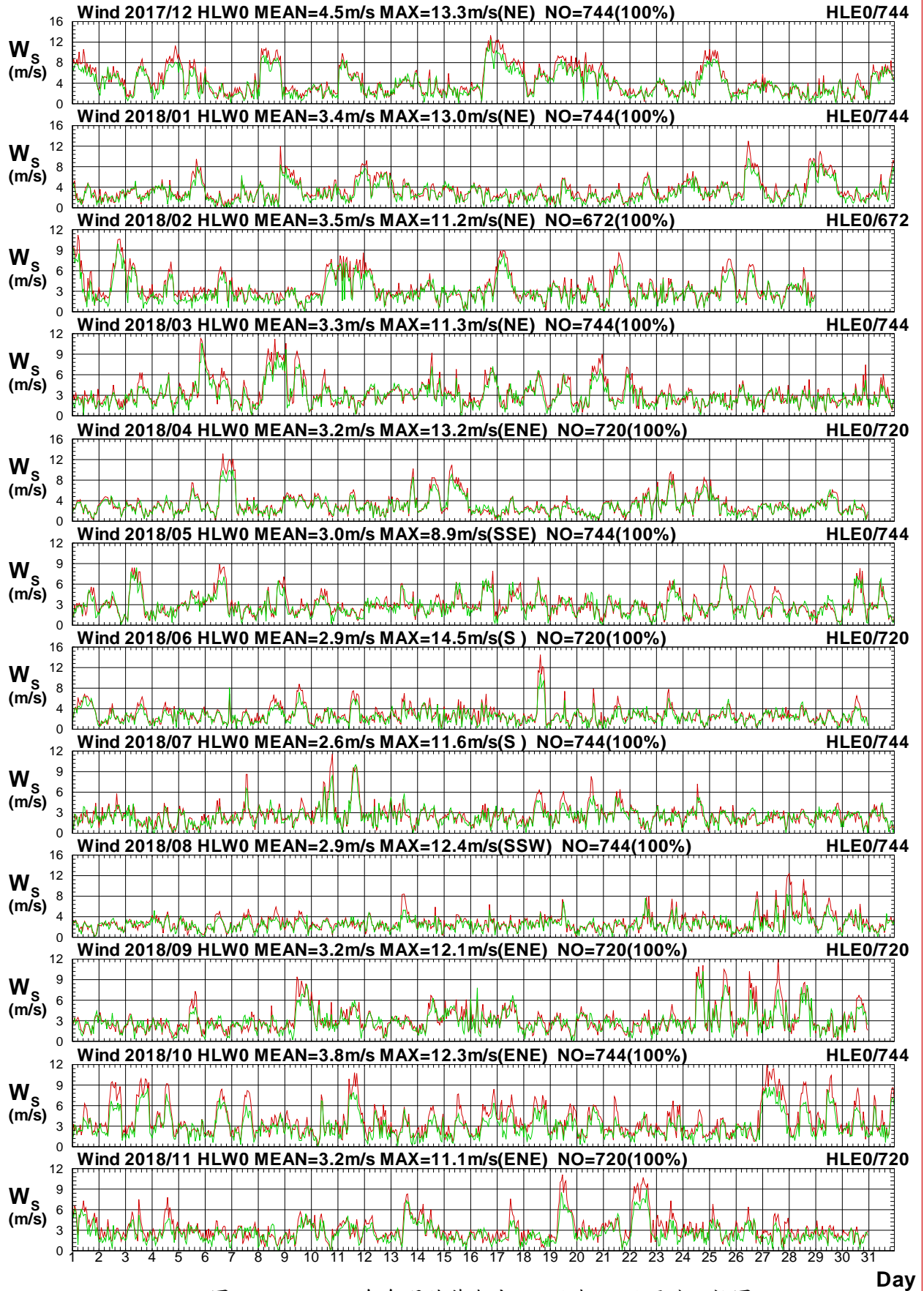


圖1.3.2a 2018年每月花蓮海域 W 站與 E 站風速比較圖

W17CHLW0.1HA W17CHLE0.1H0 W181HLW0.1HA W181HLE0.1H0 W182HLW0.1HA W182HLE0.1H0
 W183HLW0.1HA W183HLE0.1H0 W184HLW0.1HA W184HLE0.1H0 W185HLW0.1HA W185HLE0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

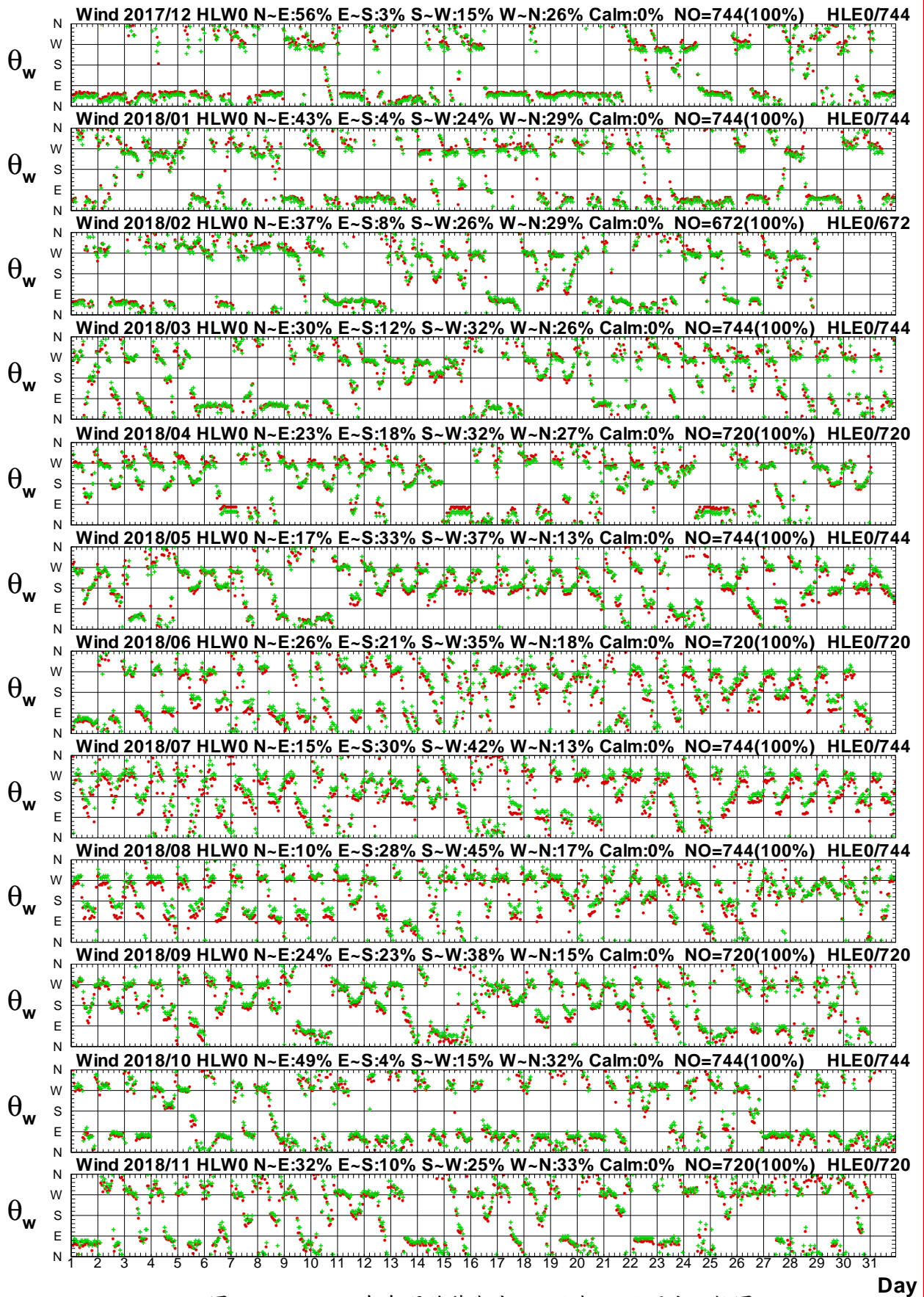


圖1.3.2b 2018年每月花蓮海域 W 站與 E 站風向比較圖

W17CHLW0.1HA W17CHLE0.1H0 W181HLW0.1HA W181HLE0.1H0 W182HLW0.1HA W182HLE0.1H0
W183HLW0.1HA W183HLE0.1H0 W184HLW0.1HA W184HLE0.1H0 W185HLW0.1HA W185HLE0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

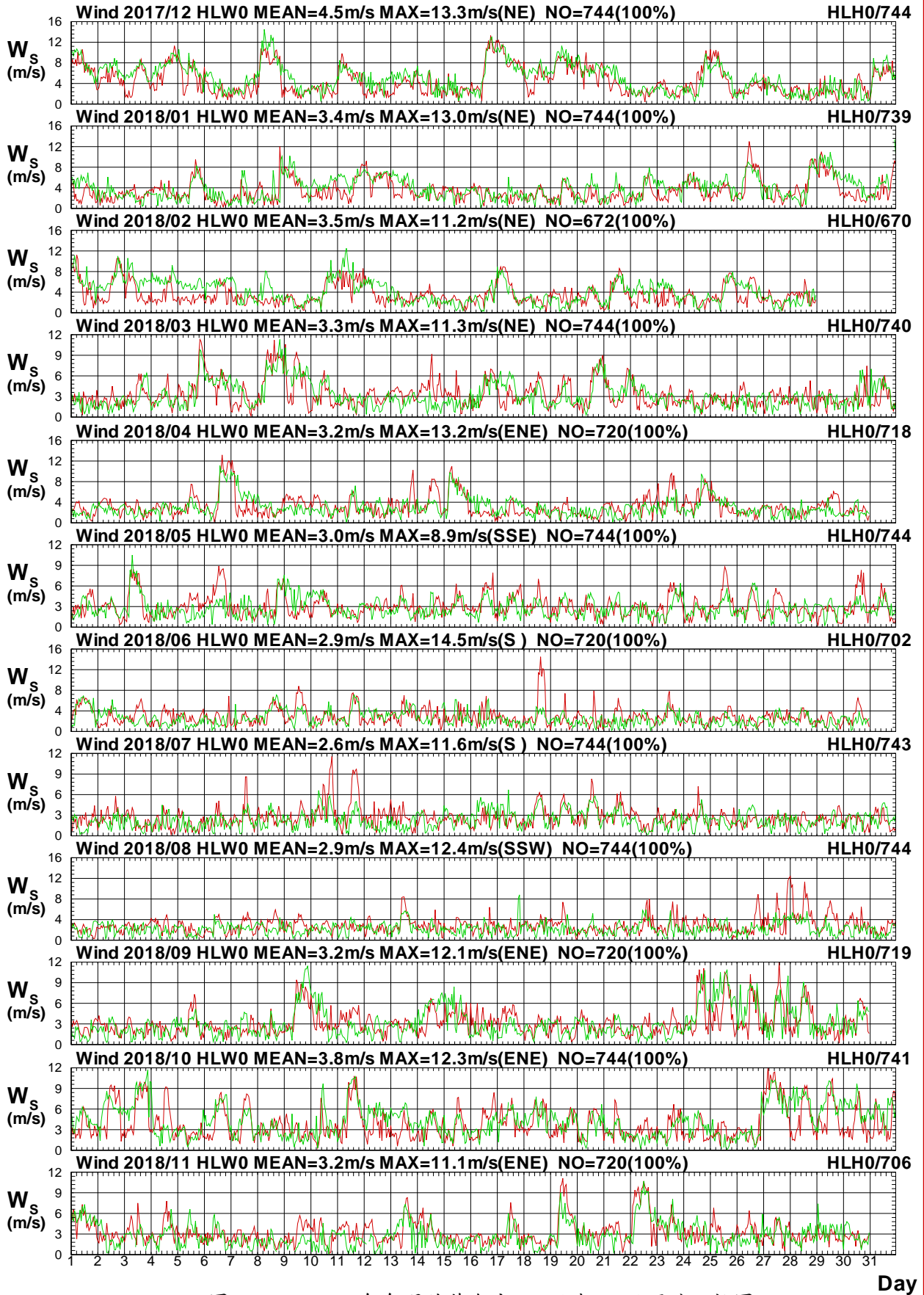


圖1.3.3a 2018年每月花蓮海域 W 站與 H 站風速比較圖

W17CHLW0.1HA W17CHLH0.1H0 W181HLW0.1HA W181HLH0.1H0 W182HLW0.1HA W182HLH0.1H0
 W183HLW0.1HA W183HLH0.1H0 W184HLW0.1HA W184HLH0.1H0 W185HLW0.1HA W185HLH0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

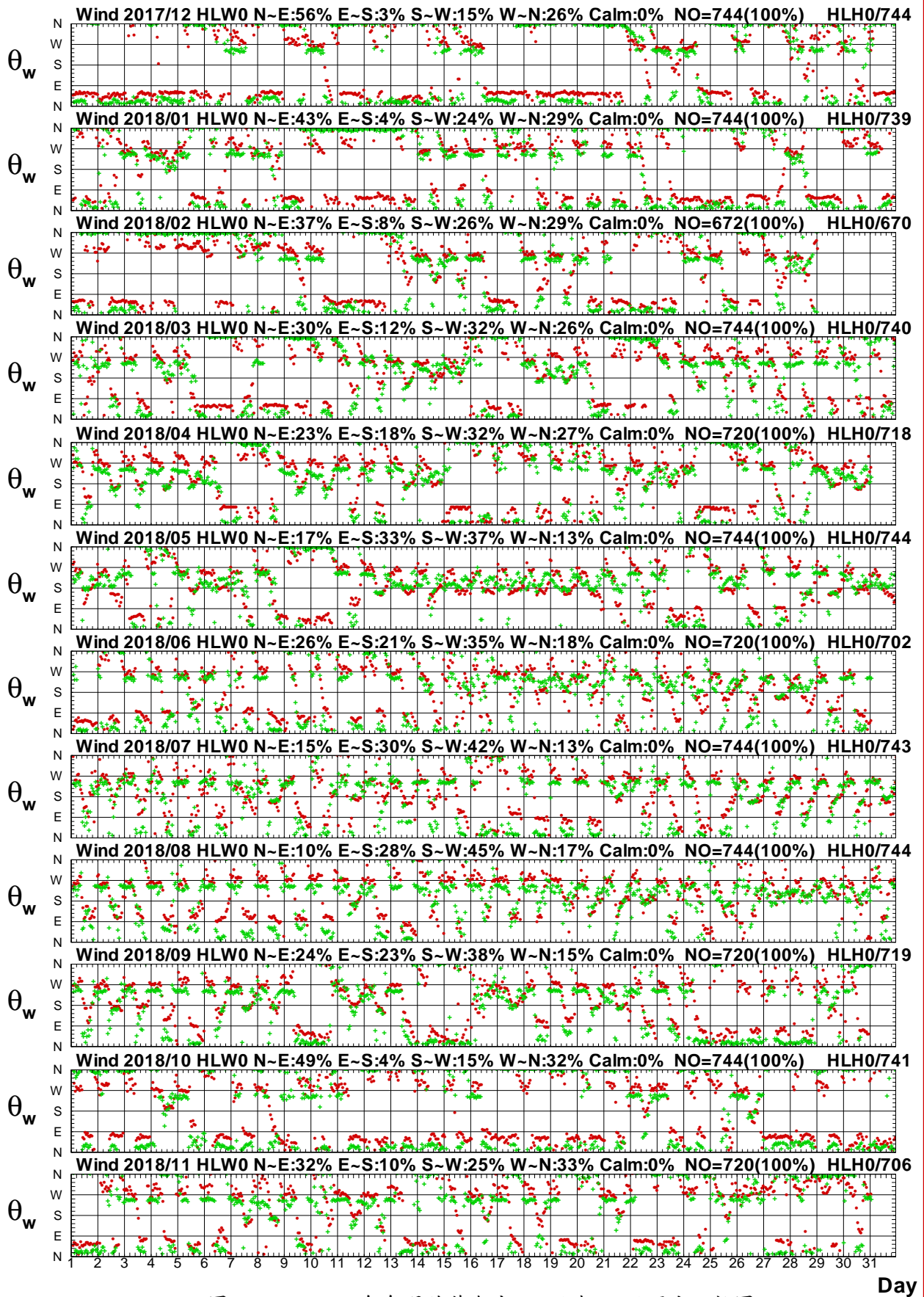


圖1.3.3b 2018年每月花蓮海域 W 站與 H 站風向比較圖

W17CHLW0.1HA W17CHLH0.1HO W181HLW0.1HA W181HLH0.1HO W182HLW0.1HA W182HLH0.1HO
 W183HLW0.1HA W183HLH0.1HO W184HLW0.1HA W184HLH0.1HO W185HLW0.1HA W185HLH0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

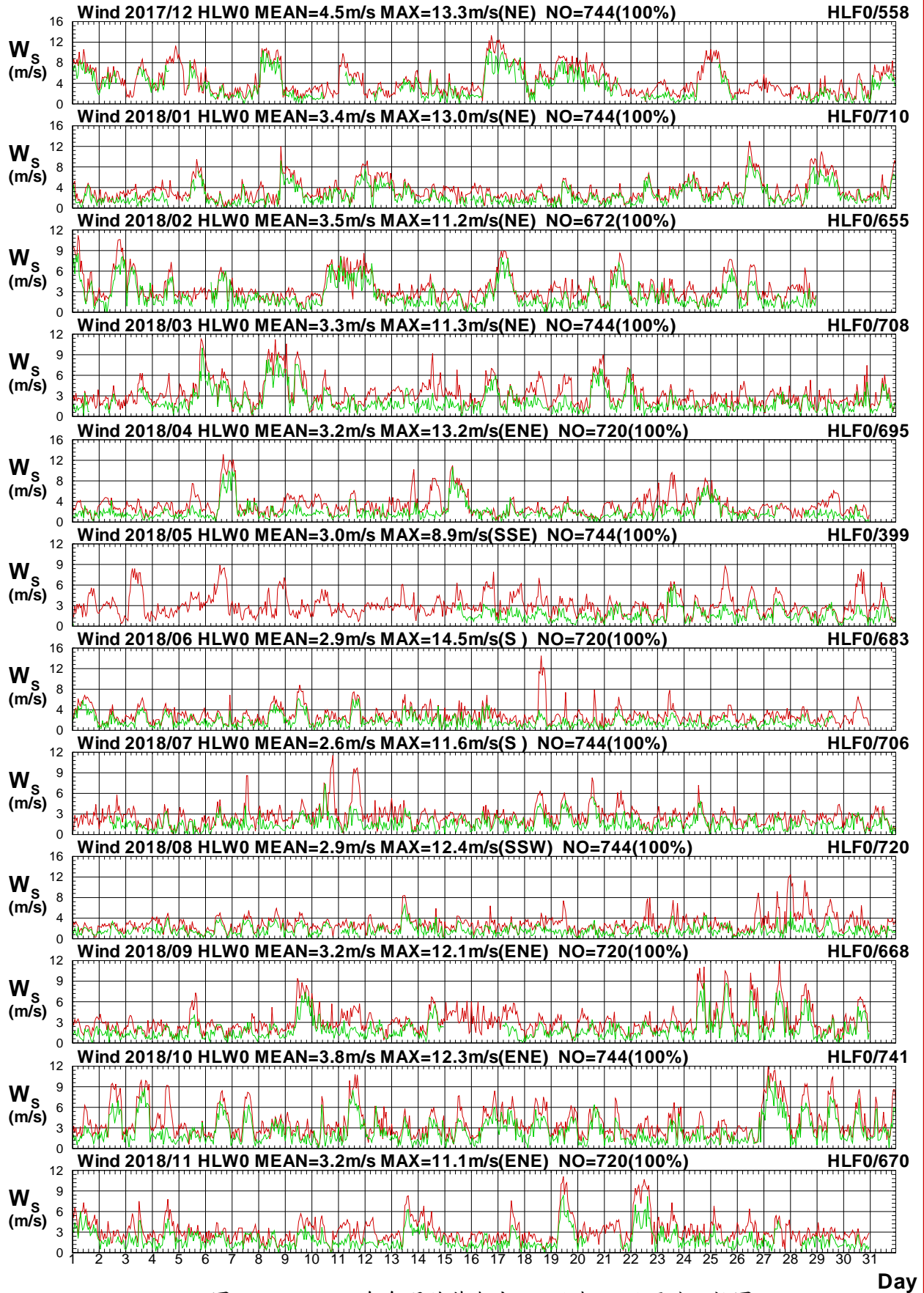


圖1.3.4a 2018年每月花蓮海域 W 站與 F 站風速比較圖

W17CHLW0.1HA W17CHLF0.1HO W181HLW0.1HA W181HLF0.1HO W182HLW0.1HA W182HLF0.1HO
W183HLW0.1HA W183HLF0.1HO W184HLW0.1HA W184HLF0.1HO W185HLW0.1HA W185HLF0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

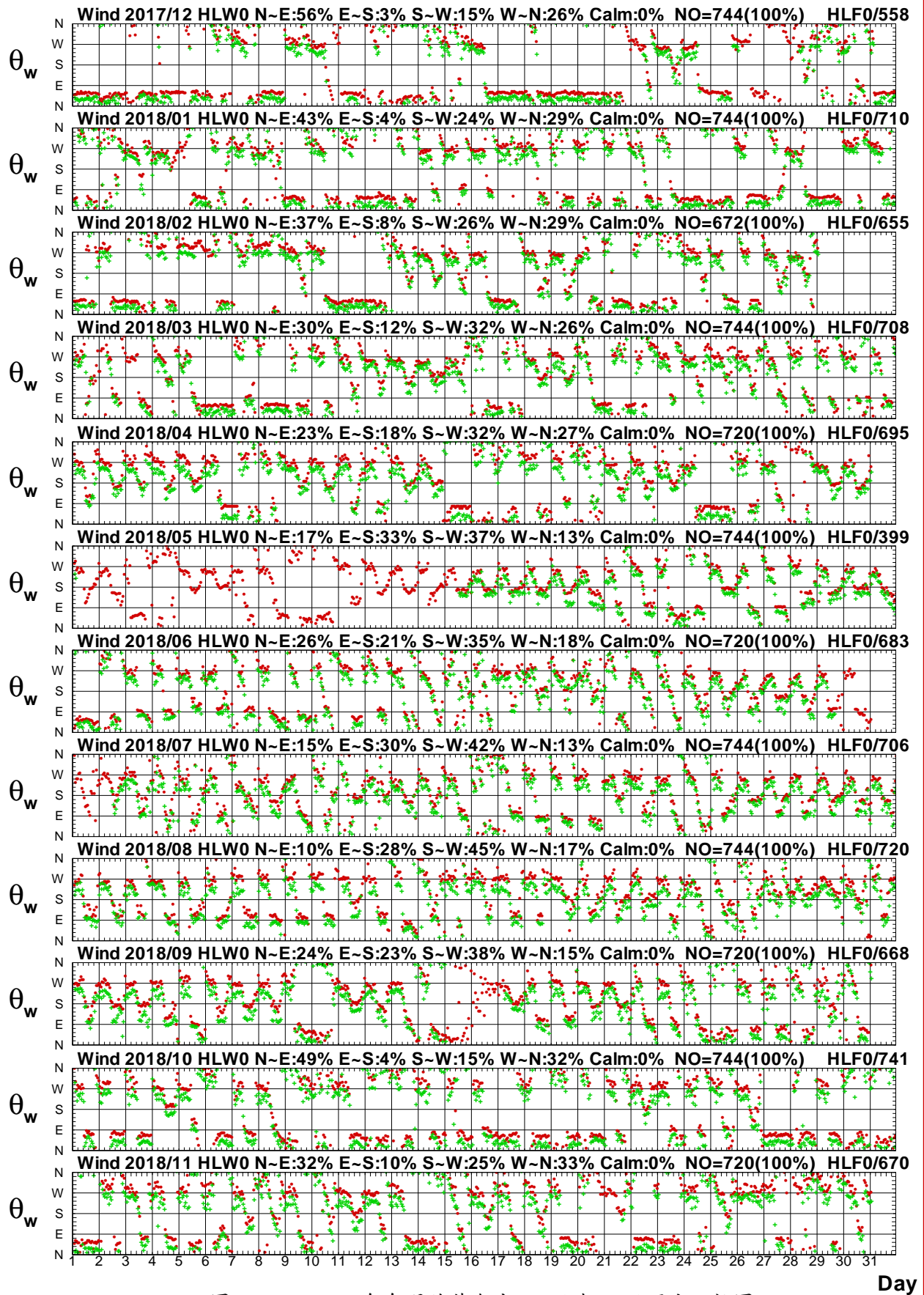


圖1.3.4b 2018年每月花蓮海域 W 站與 F 站風向比較圖

W17CHLW0.1HA W17CHLW0.1HO W181HLW0.1HA W181HLF0.1HO W182HLW0.1HA W182HLF0.1HO
 W183HLW0.1HA W183HLF0.1HO W184HLW0.1HA W184HLF0.1HO W185HLW0.1HA W185HLF0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

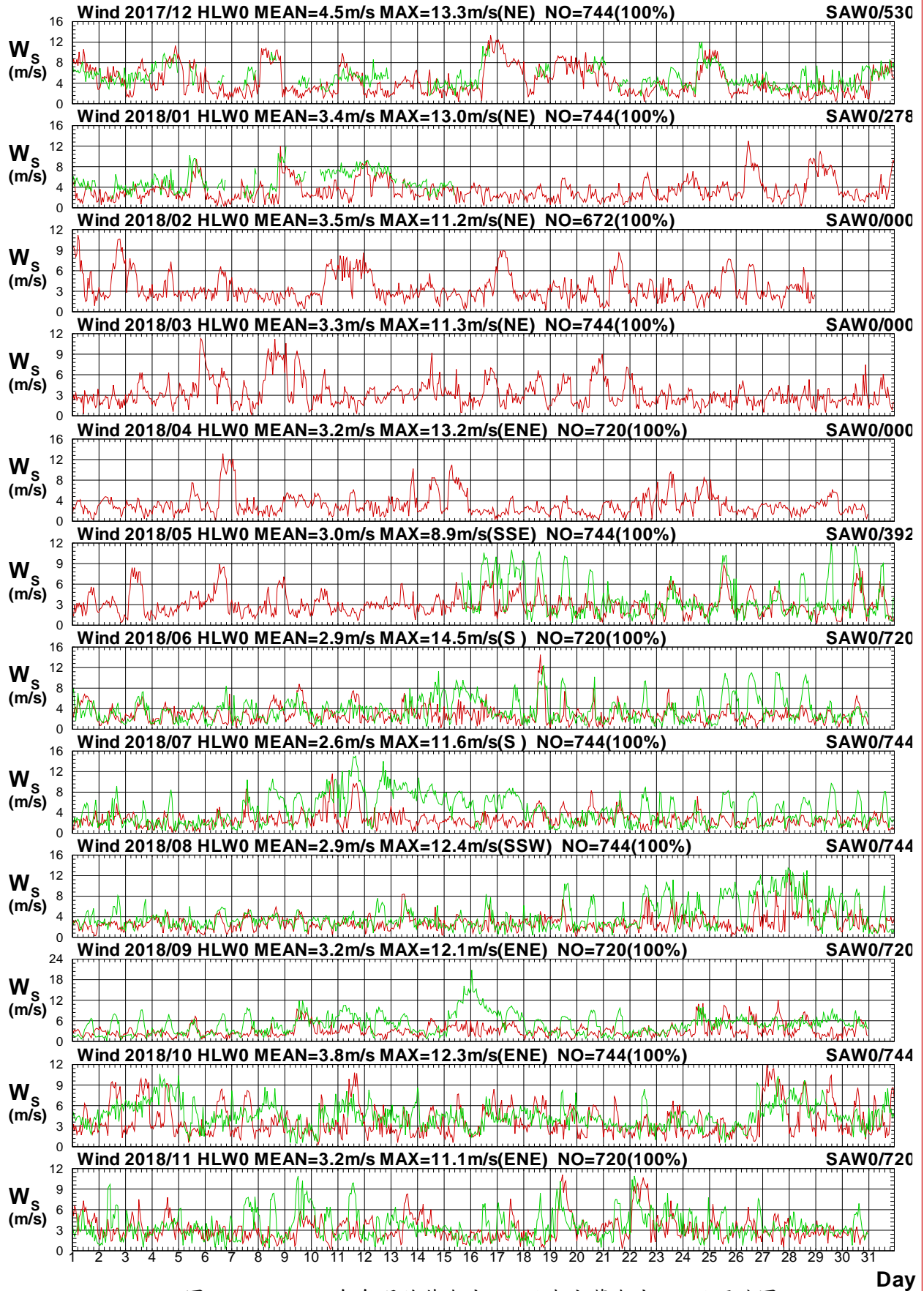


圖 1.3.5a 2018年每月花蓮海域 W 站與宜蘭海域 W 站風速圖

W17CHLW0.1HA W17CSAW0.1H0 W181HLW0.1HA W181SAW0.1H0 W182HLW0.1HA W182SAW0.1H0
 W183HLW0.1HA W183SAW0.1H0 W184HLW0.1HA W184SAW0.1H0 W185HLW0.1HA W185SAW0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

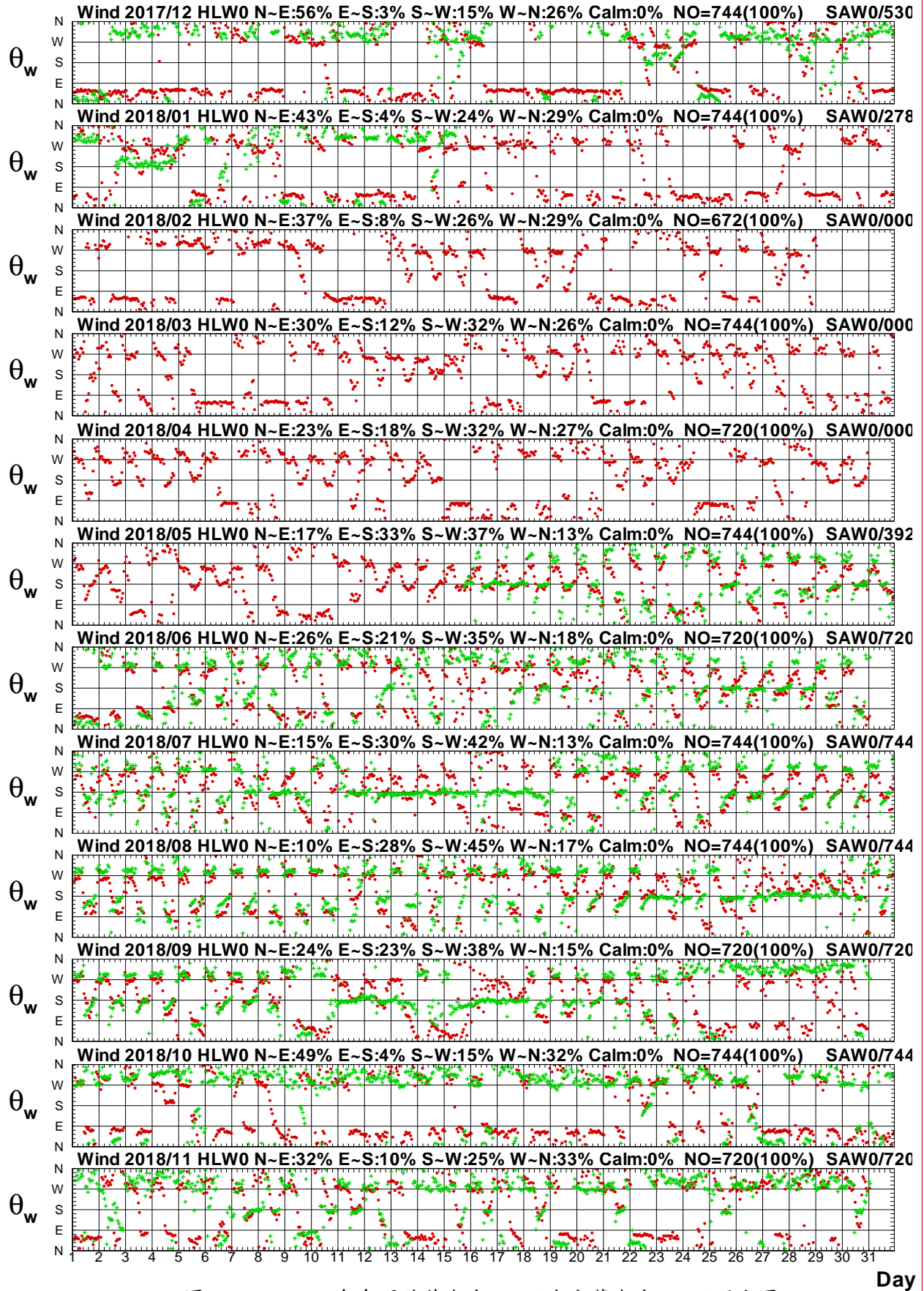


圖1.3.5b 2018年每月花蓮海域 W 站與宜蘭海域 W 站風向圖

W17CHLW0.1HA W17CSAW0.1H0 W181HLW0.1HA W181SAW0.1H0 W182HLW0.1HA W182SAW0.1H0
 W183HLW0.1HA W183SAW0.1H0 W184HLW0.1HA W184SAW0.1H0 W185HLW0.1HA W185SAW0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

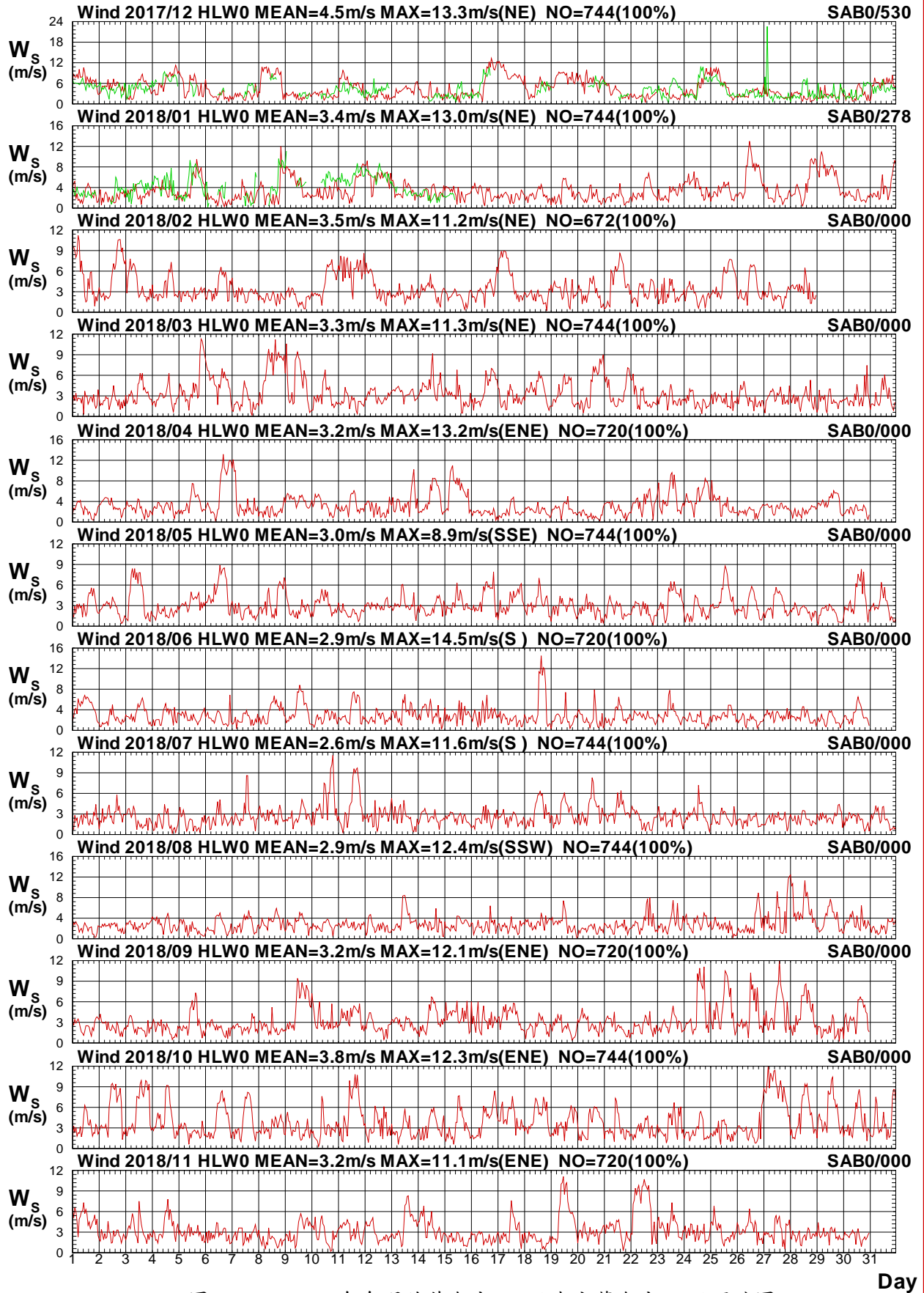


圖 1.3.6a 2018年每月花蓮海域 W 站與宜蘭海域 B 站風速圖

W17CHLW0.1HA W17CSAB0.1H0 W181HLW0.1HA W181SAB0.1H0 W182HLW0.1HA W182SAB0.1H0
 W183HLW0.1HA W183SAB0.1H0 W184HLW0.1HA W184SAB0.1H0 W185HLW0.1HA W185SAB0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

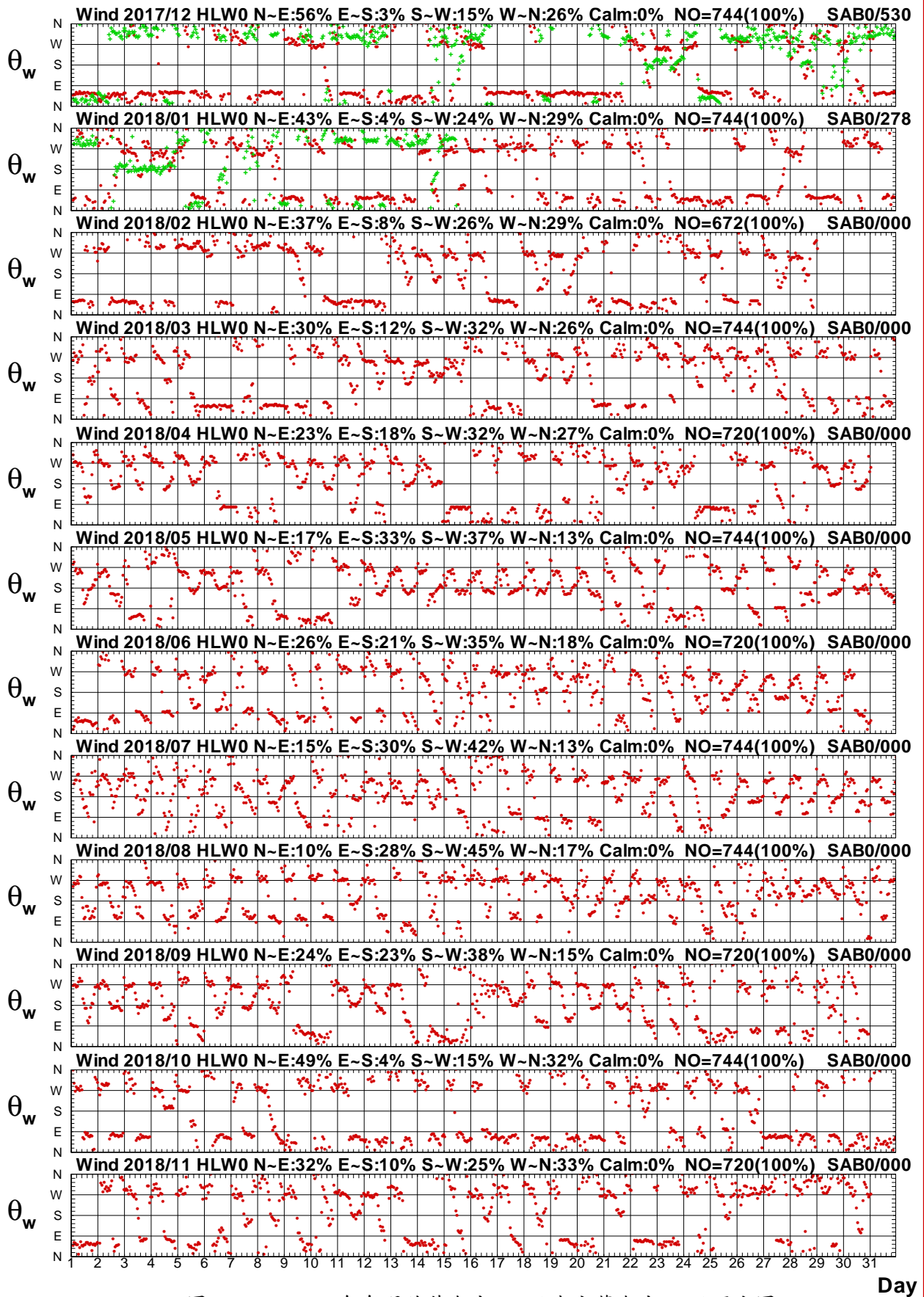


圖1.3.6b 2018年每月花蓮海域 W 站與宜蘭海域 B 站風向圖

W17CHLW0.1HA W17CSAB0.1H0 W181HLW0.1HA W181SAB0.1H0 W182HLW0.1HA W182SAB0.1H0
 W183HLW0.1HA W183SAB0.1H0 W184HLW0.1HA W184SAB0.1H0 W185HLW0.1HA W185SAB0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

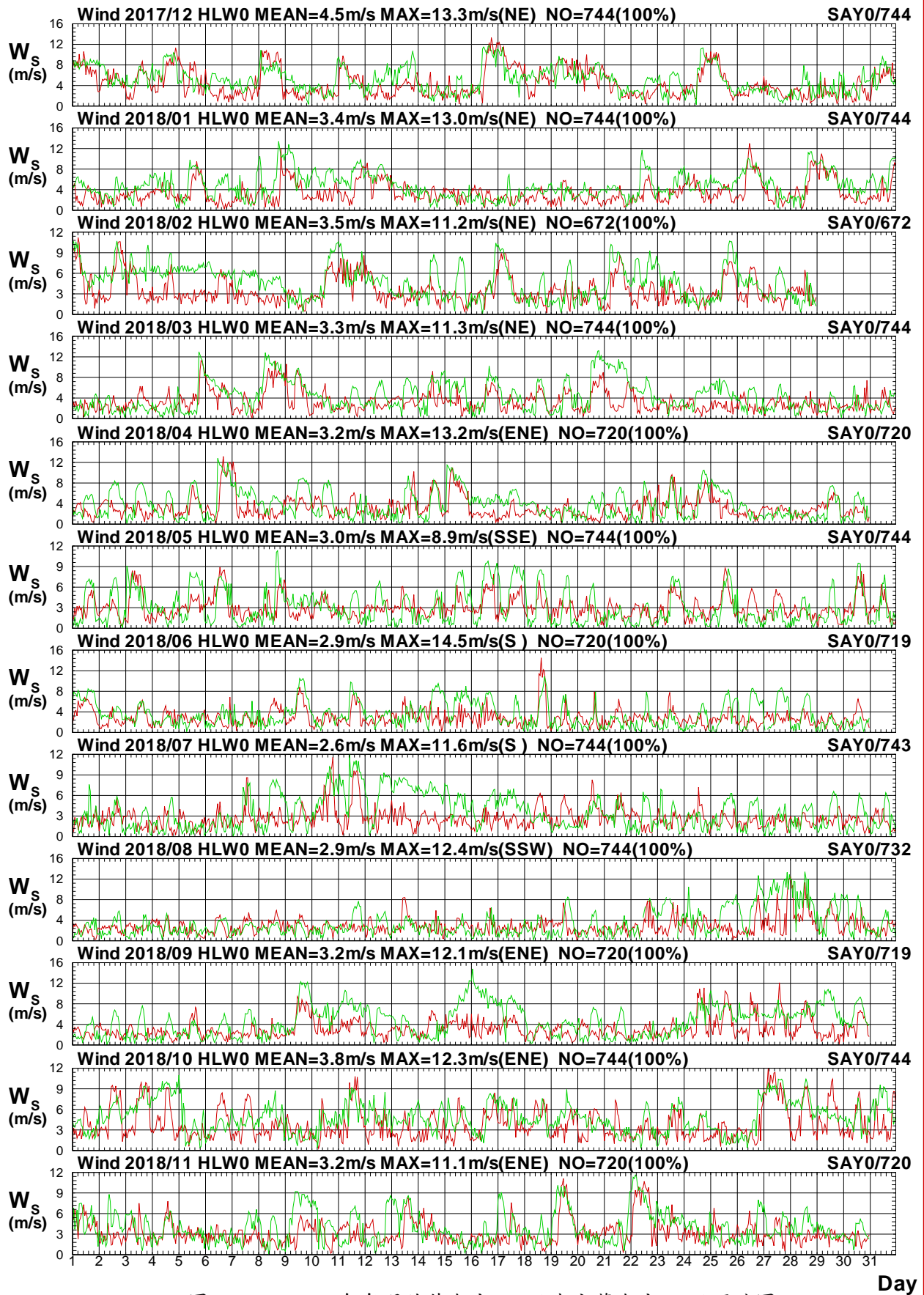


圖 1.3.7a 2018年每月花蓮海域 W 站與宜蘭海域 Y 站風速圖

W17CHLW0.1HA W17CSAY0.1H0 W181HLW0.1HA W181SAY0.1H0 W182HLW0.1HA W182SAY0.1H0
 W183HLW0.1HA W183SAY0.1H0 W184HLW0.1HA W184SAY0.1H0 W185HLW0.1HA W185SAY0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

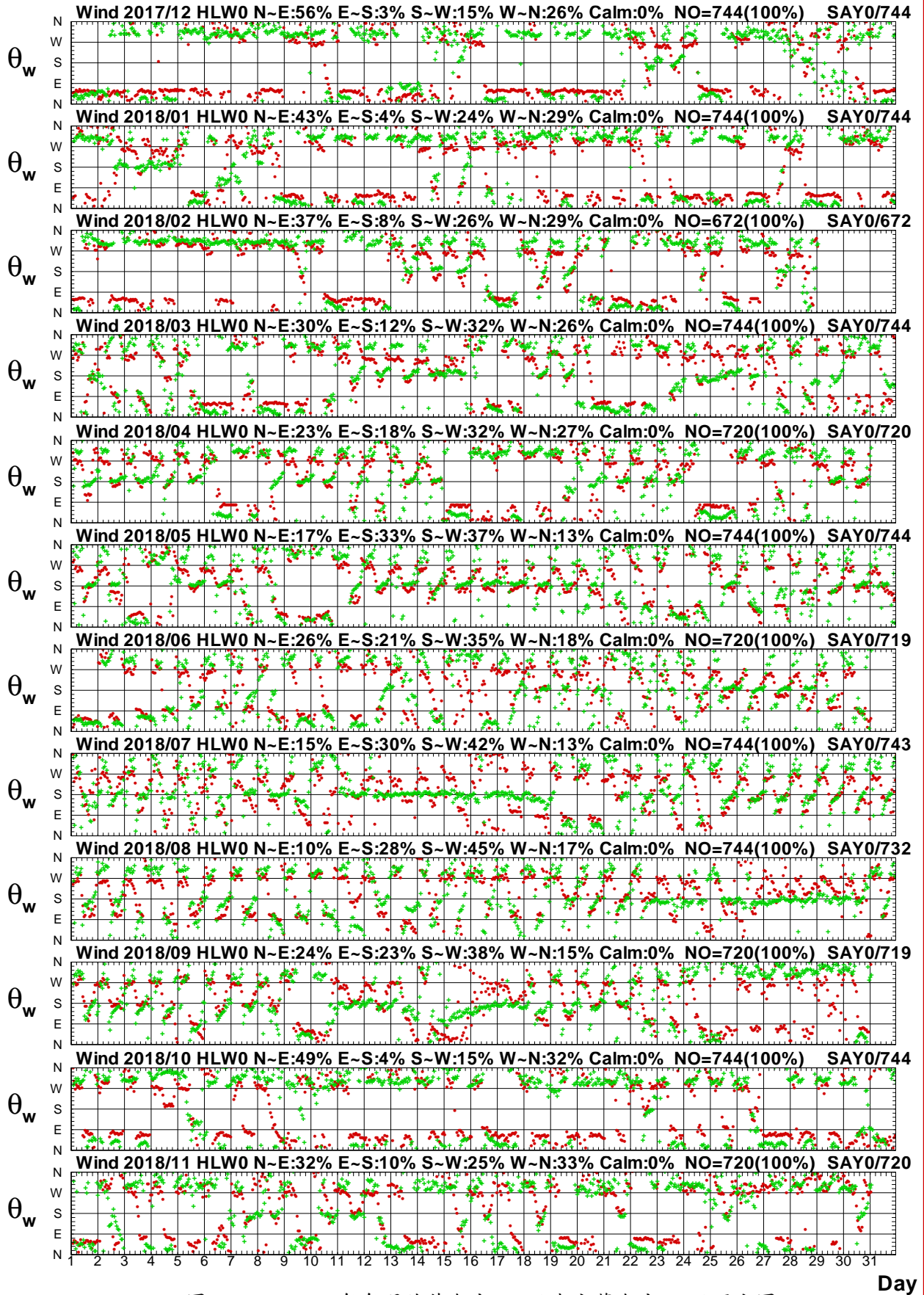


圖1.3.7b 2018年每月花蓮海域 W 站與宜蘭海域 Y 站風向圖

W17CHLW0.1HA W17CSAY0.1H0 W181HLW0.1HA W181SAY0.1H0 W182HLW0.1HA W182SAY0.1H0
 W183HLW0.1HA W183SAY0.1H0 W184HLW0.1HA W184SAY0.1H0 W185HLW0.1HA W185SAY0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

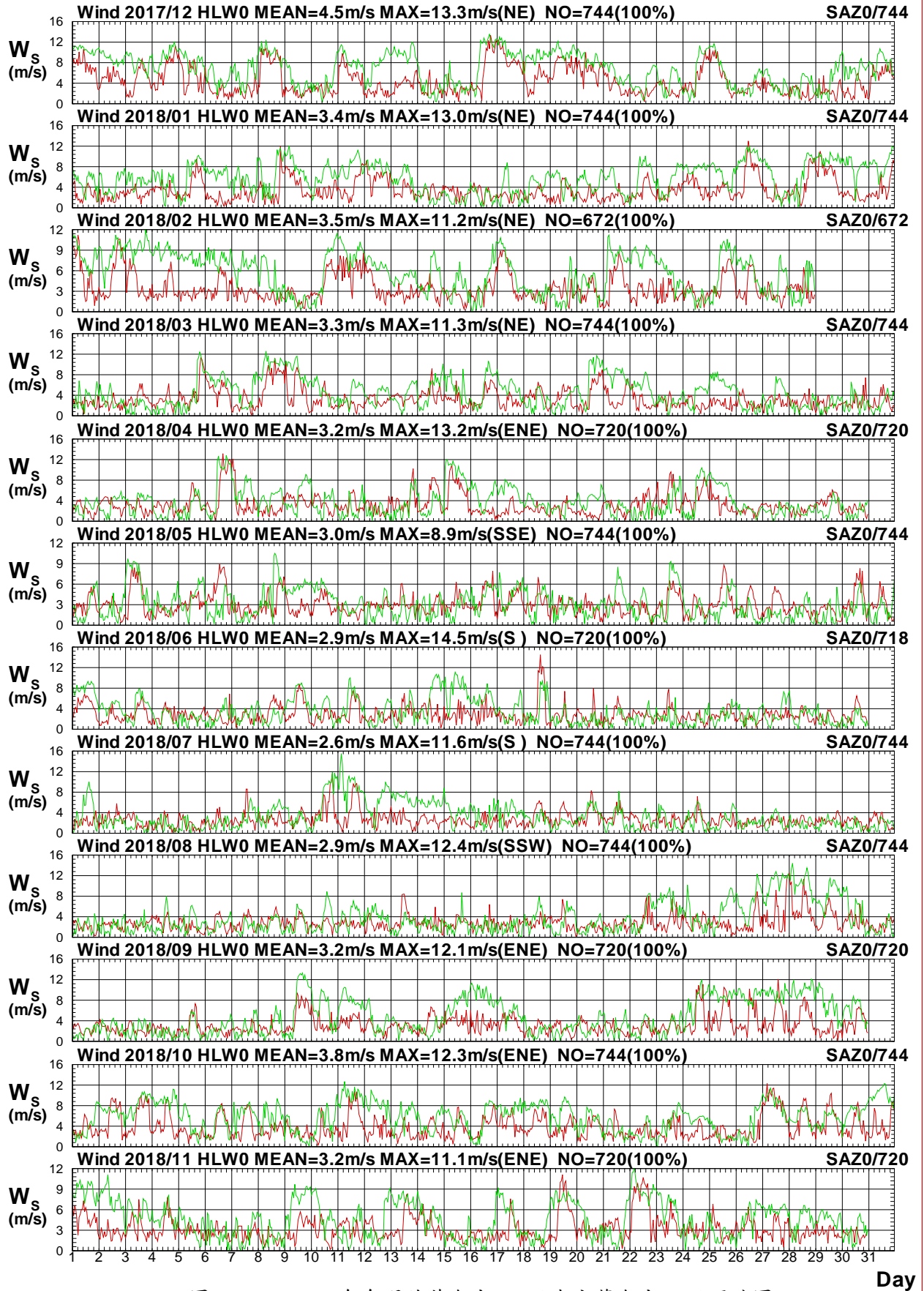


圖1.3.8a 2018年每月花蓮海域 W 站與宜蘭海域 Z 站風速圖

W17CHLW0.1HA W17CSAZ0.1H0 W181HLW0.1HA W181SAZ0.1H0 W182HLW0.1HA W182SAZ0.1H0
 W183HLW0.1HA W183SAZ0.1H0 W184HLW0.1HA W184SAZ0.1H0 W185HLW0.1HA W185SAZ0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

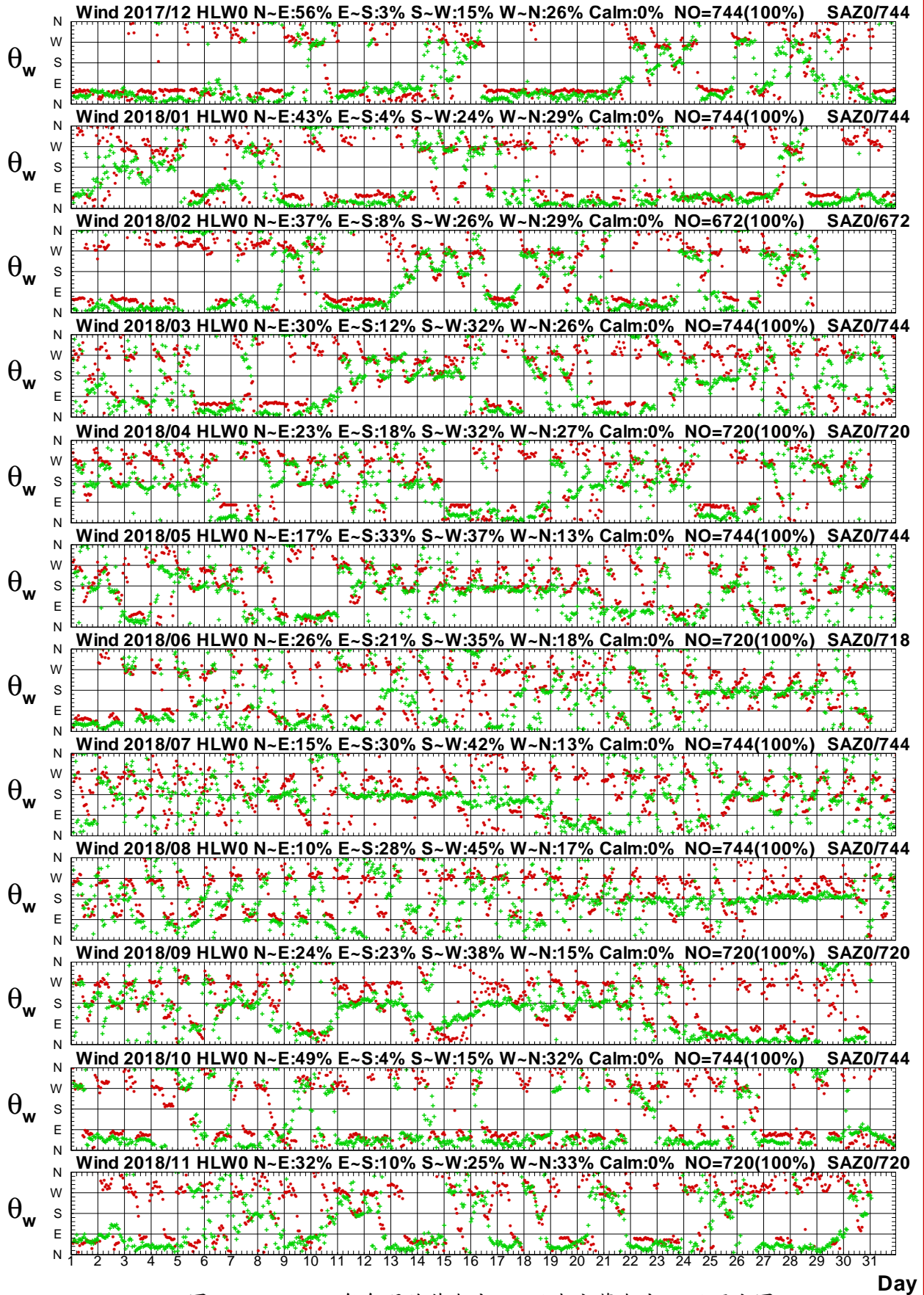


圖1.3.8b 2018年每月花蓮海域 W 站與宜蘭海域 Z 站風向圖

W17CHLW0.1HA W17CSAZ0.1H0 W181HLW0.1HA W181SAZ0.1H0 W182HLW0.1HA W182SAZ0.1H0
W183HLW0.1HA W183SAZ0.1H0 W184HLW0.1HA W184SAZ0.1H0 W185HLW0.1HA W185SAZ0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

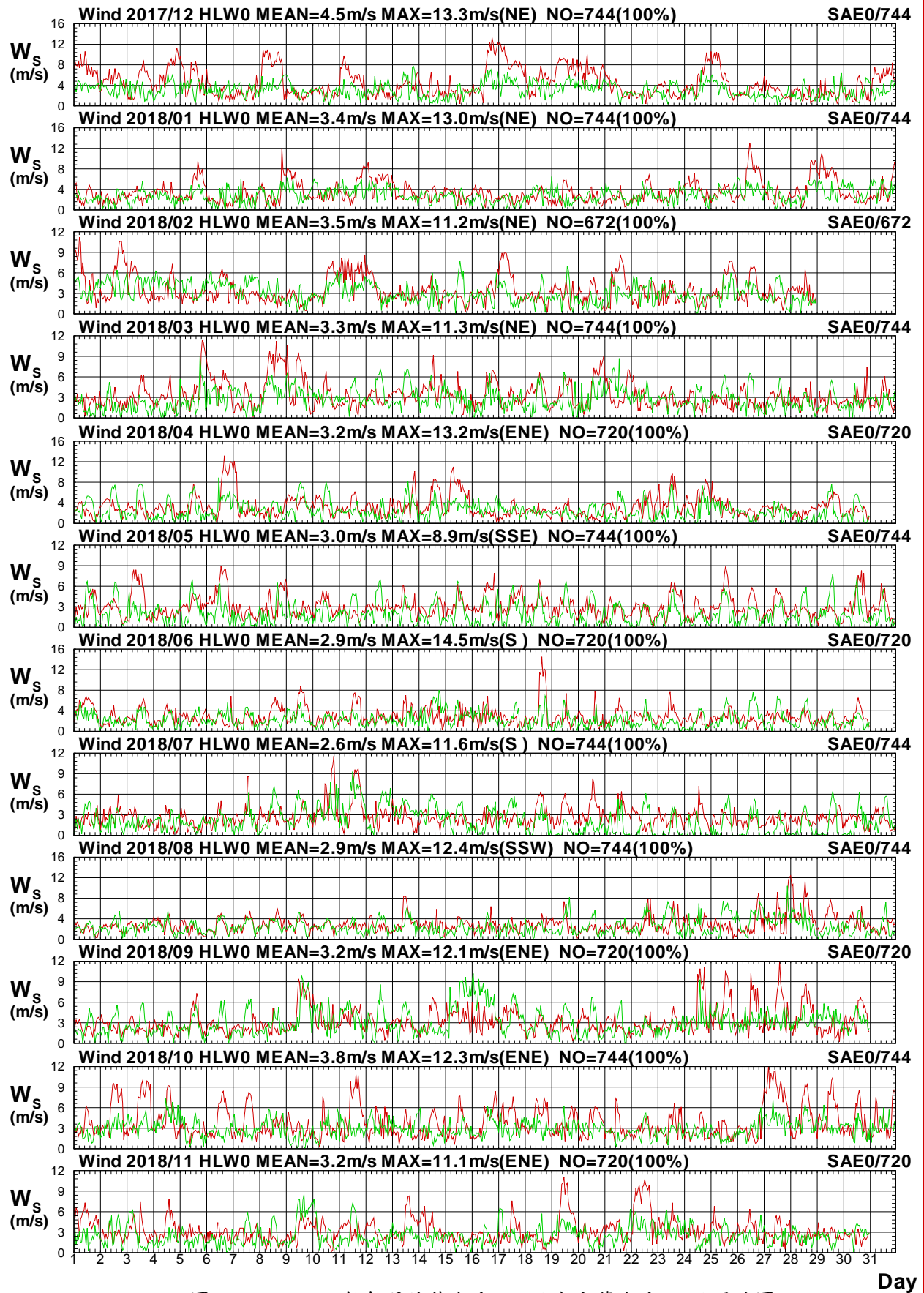


圖1.3.9a 2018年每月花蓮海域 W 站與宜蘭海域 E 站風速圖

W17CHLW0.1HA W17CSAE0.1H0 W181HLW0.1HA W181SAE0.1H0 W182HLW0.1HA W182SAE0.1H0
 W183HLW0.1HA W183SAE0.1H0 W184HLW0.1HA W184SAE0.1H0 W185HLW0.1HA W185SAE0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

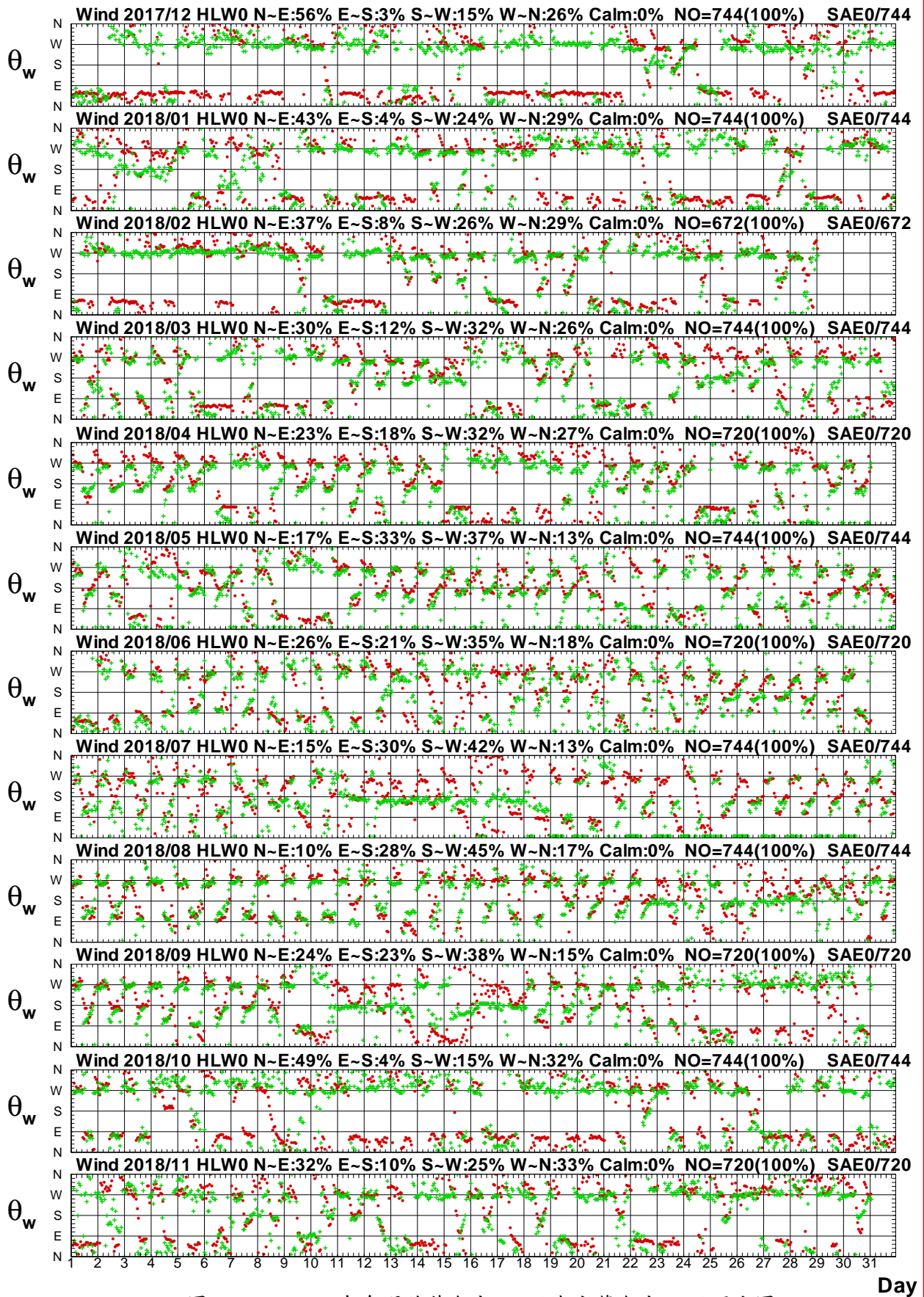


圖1.3.9b 2018年每月花蓮海域 W 站與宜蘭海域 E 站風向圖

W17CHLW0.1HA W17CSAE0.1H0 W181HLW0.1HA W181SAE0.1H0 W182HLW0.1HA W182SAE0.1H0
 W183HLW0.1HA W183SAE0.1H0 W184HLW0.1HA W184SAE0.1H0 W185HLW0.1HA W185SAE0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

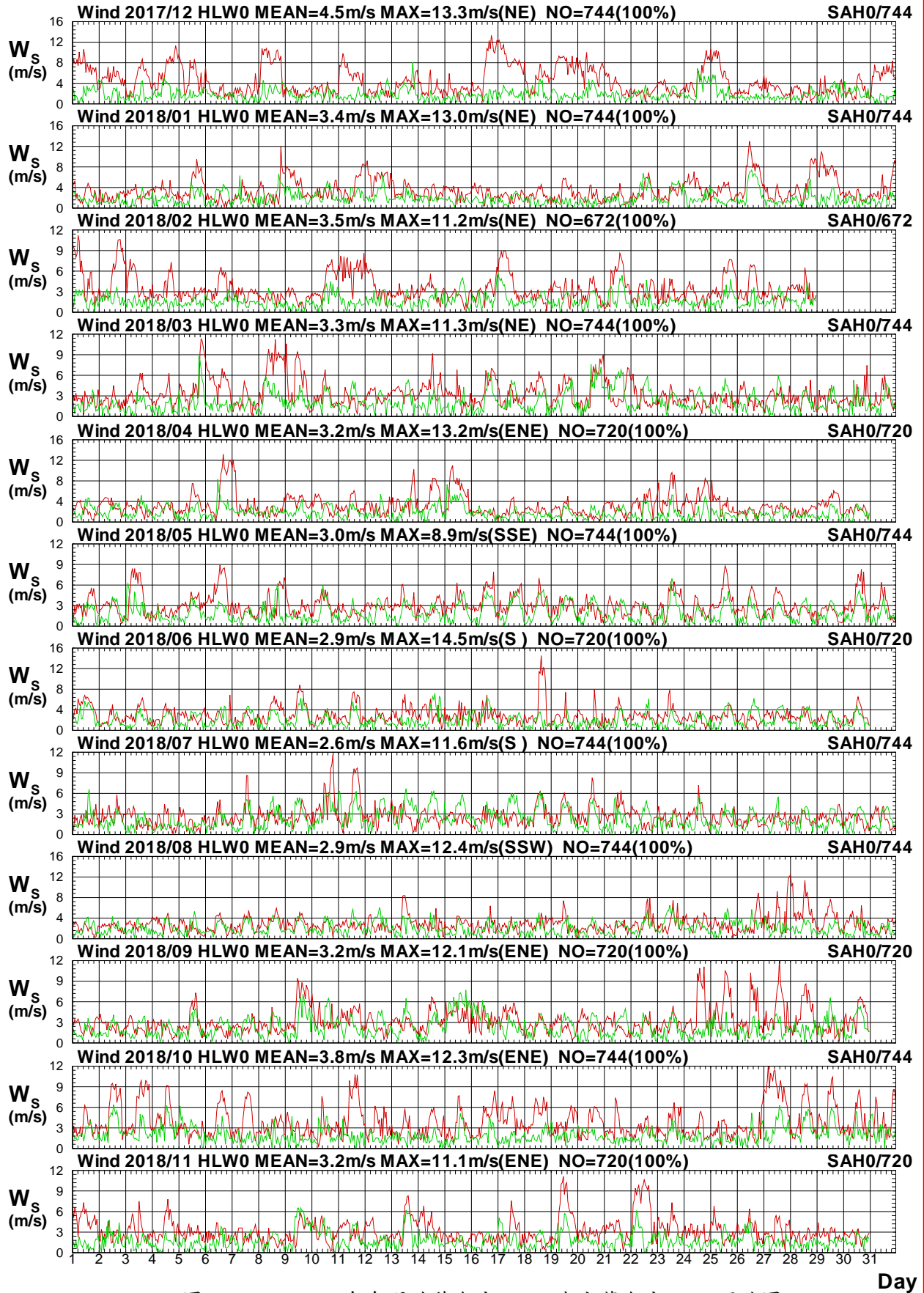


圖 1.3.10a 2018年每月花蓮海域 W 站與宜蘭海域 H 站風速圖

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 W183HLW0.1HA W183SAH0.1H0 W184HLW0.1HA W184SAH0.1H0 W185HLW0.1HA W185SAH0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

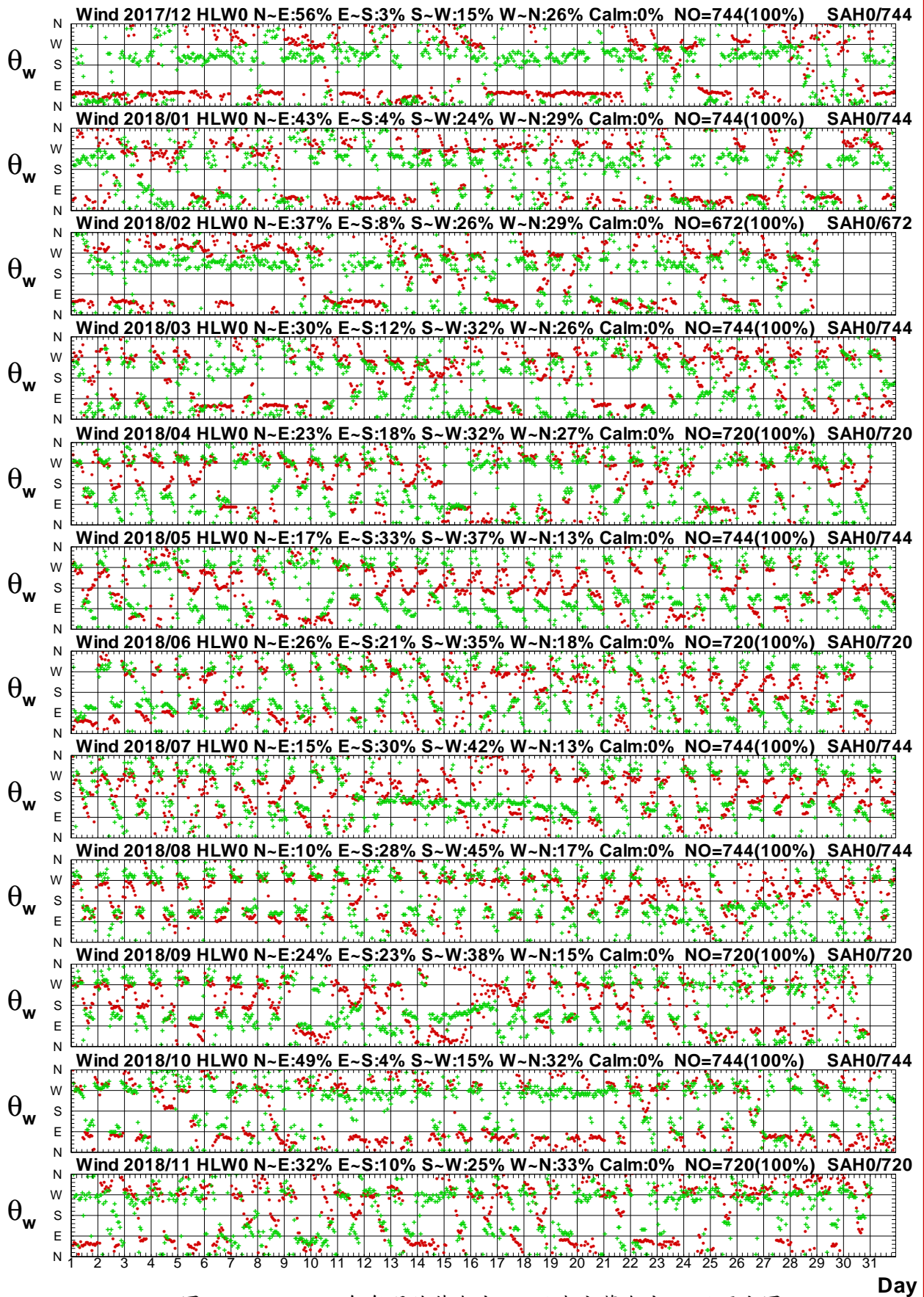


圖 1.3.10b 2018年每月花蓮海域 W 站與宜蘭海域 H 站風向圖

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 W183HLW0.1HA W183SAH0.1H0 W184HLW0.1HA W184SAH0.1H0 W185HLW0.1HA W185SAH0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

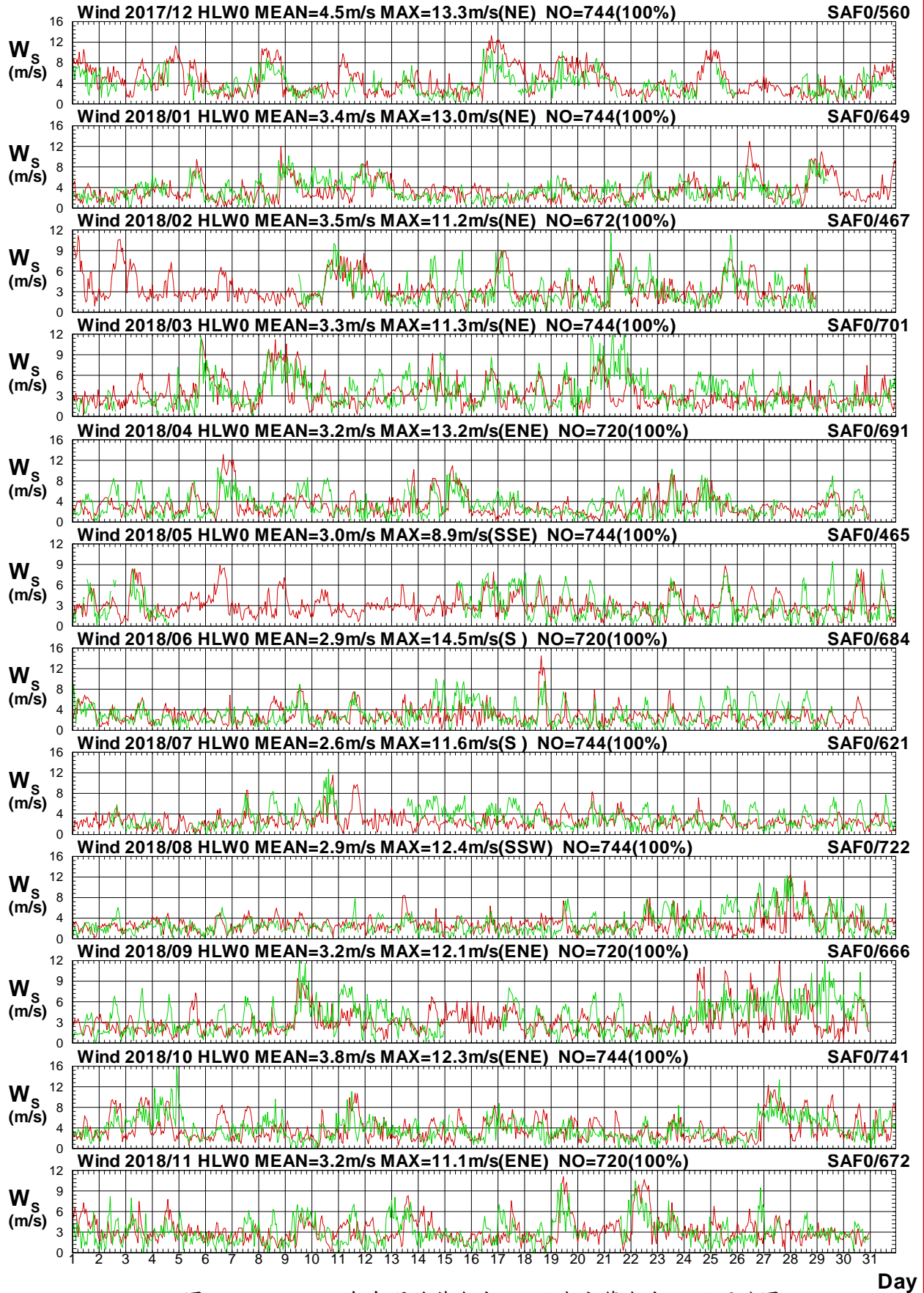


圖1.3.11a 2018年每月花蓮海域 W 站與宜蘭海域 F 站風速圖

W17CHLW0.1HA W17CSAF0.1HO W181HLW0.1HA W181SAF0.1HO W182HLW0.1HA W182SAF0.1HO
W183HLW0.1HA W183SAF0.1HO W184HLW0.1HA W184SAF0.1HO W185HLW0.1HA W185SAF0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

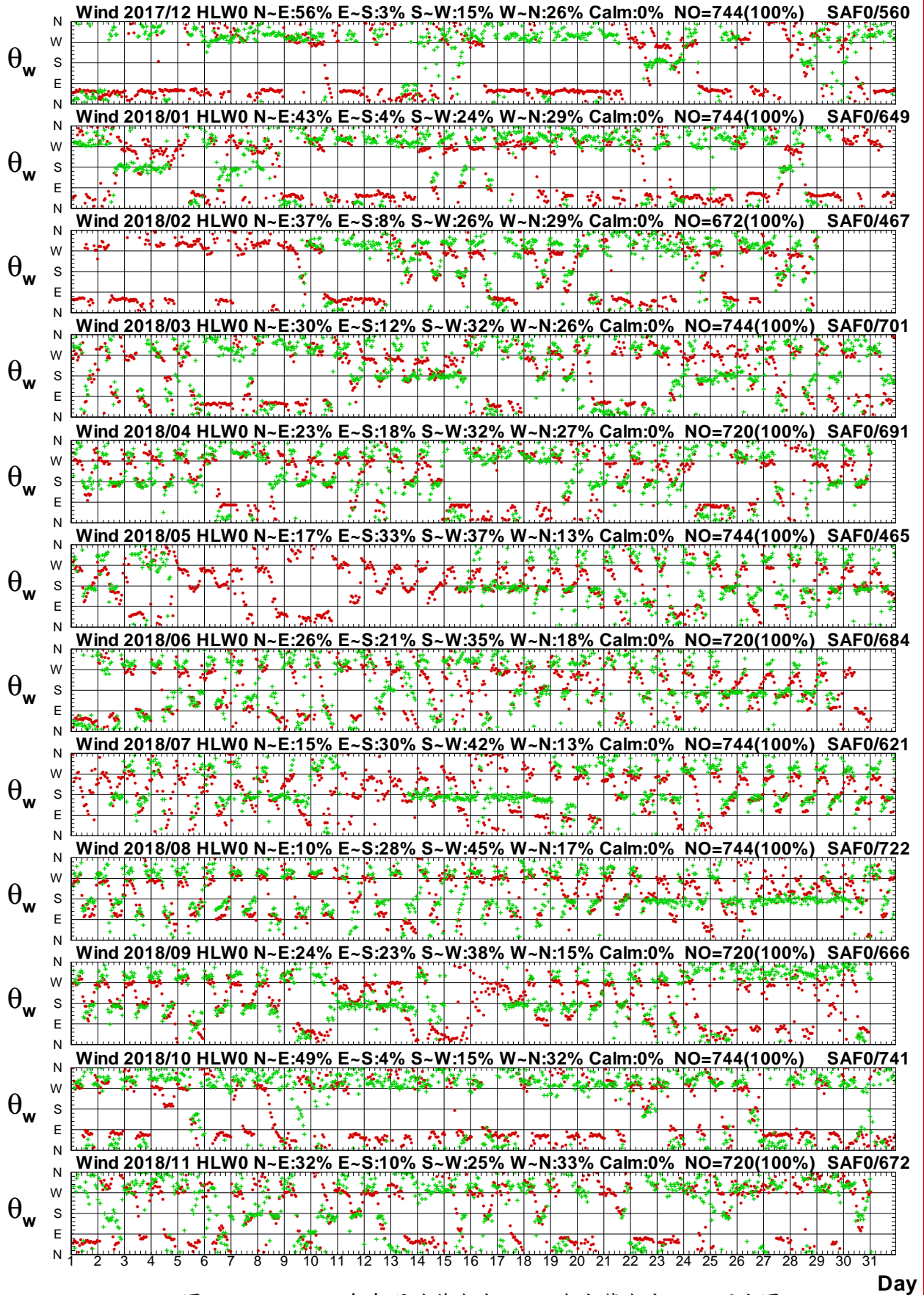


圖1.3.11b 2018年每月花蓮海域 W 站與宜蘭海域 F 站風向圖

W17CHLW0.1HA W17CSAF0.1H0 W181HLW0.1HA W181SAF0.1H0 W182HLW0.1HA W182SAF0.1H0
 W183HLW0.1HA W183SAF0.1H0 W184HLW0.1HA W184SAF0.1H0 W185HLW0.1HA W185SAF0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

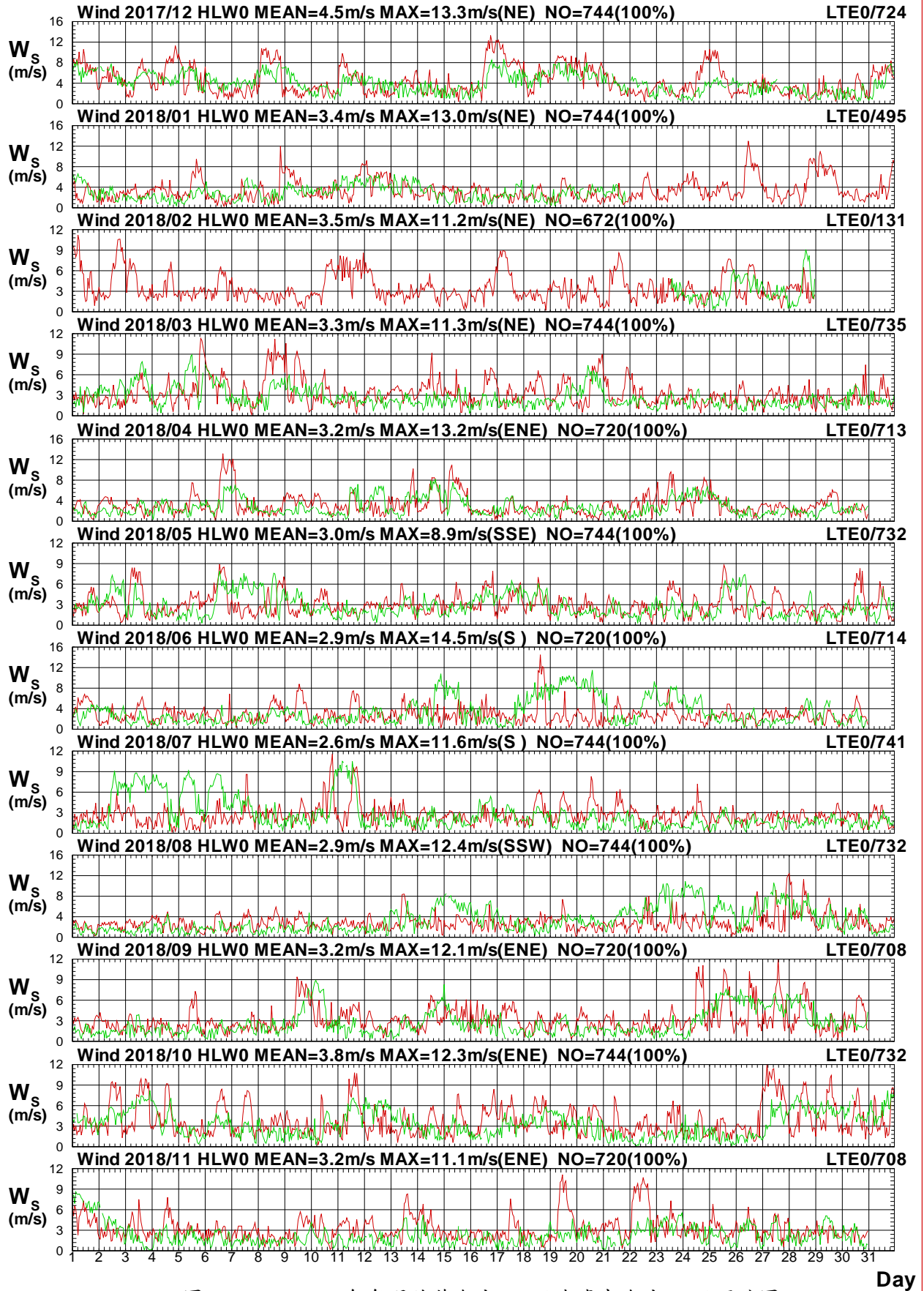


圖 1.3.12a 2018年每月花蓮海域 W 站與臺東海域 E 站風速圖

W17CHLW0.1HA W17CLTE0.1HO W181HLW0.1HA W181LTE0.1HO W182HLW0.1HA W182LTE0.1HO
W183HLW0.1HA W183LTE0.1HO W184HLW0.1HA W184LTE0.1HO W185HLW0.1HA W185LTE0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

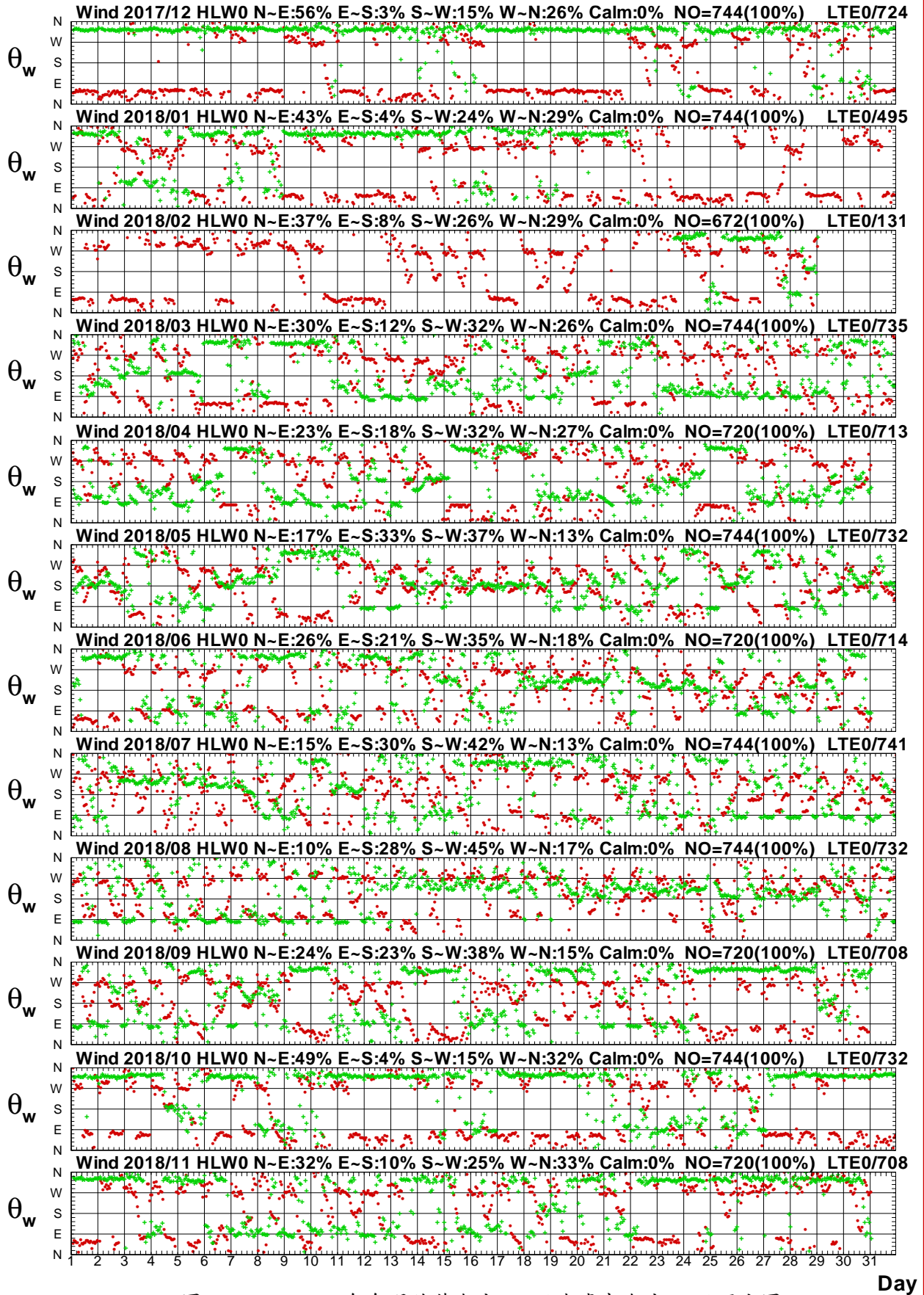


圖 1.3.12b 2018年每月花蓮海域 W 站與臺東海域 E 站風向圖

W17CHLW0.1HA W17CLTE0.1HO W181HLW0.1HA W181LTE0.1HO W182HLW0.1HA W182LTE0.1HO
W183HLW0.1HA W183LTE0.1HO W184HLW0.1HA W184LTE0.1HO W185HLW0.1HA W185LTE0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

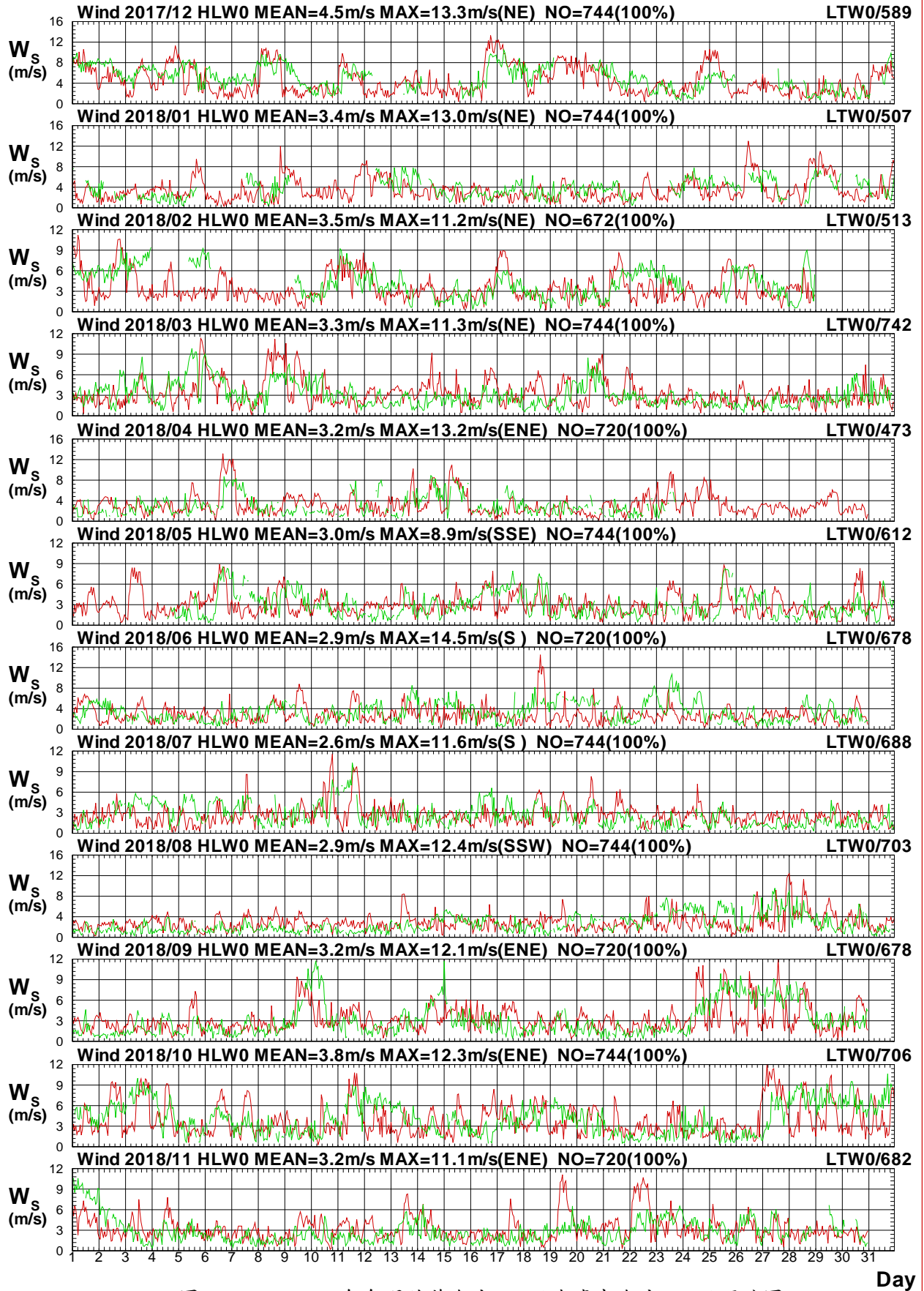


圖 1.3.13a 2018 年每月花蓮海域 W 站與臺東海域 W 站風速圖

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 W183HLW0.1HA W183LTW0.1H0 W184HLW0.1HA W184LTW0.1H0 W185HLW0.1HA W185LTW0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

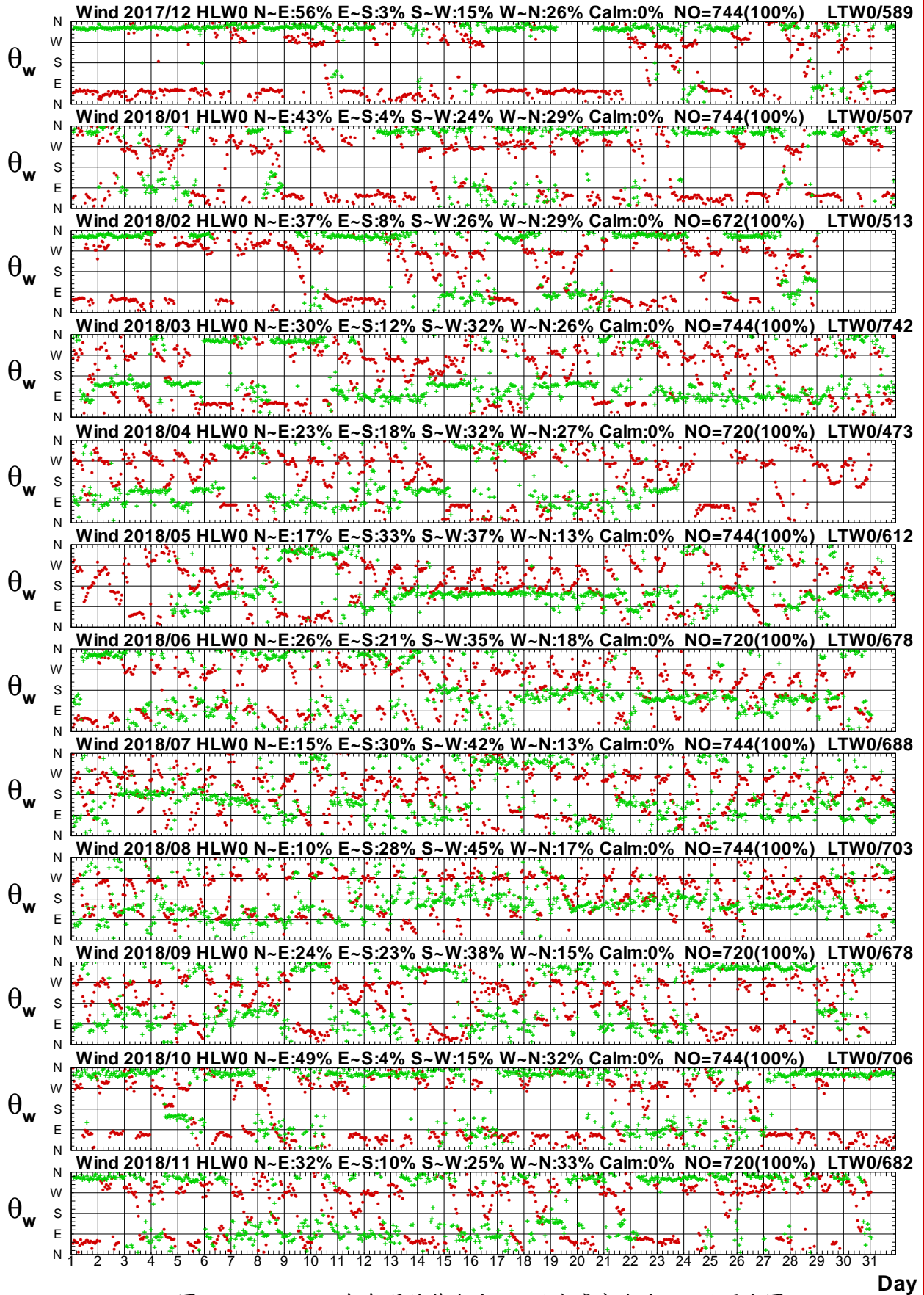


圖1.3.13b 2018年每月花蓮海域 W 站與臺東海域 W 站風向圖

W17CHLW0.1HA W17CLTW0.1H0 W181HLW0.1HA W181LTW0.1H0 W182HLW0.1HA W182LTW0.1H0
 W183HLW0.1HA W183LTW0.1H0 W184HLW0.1HA W184LTW0.1H0 W185HLW0.1HA W185LTW0.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

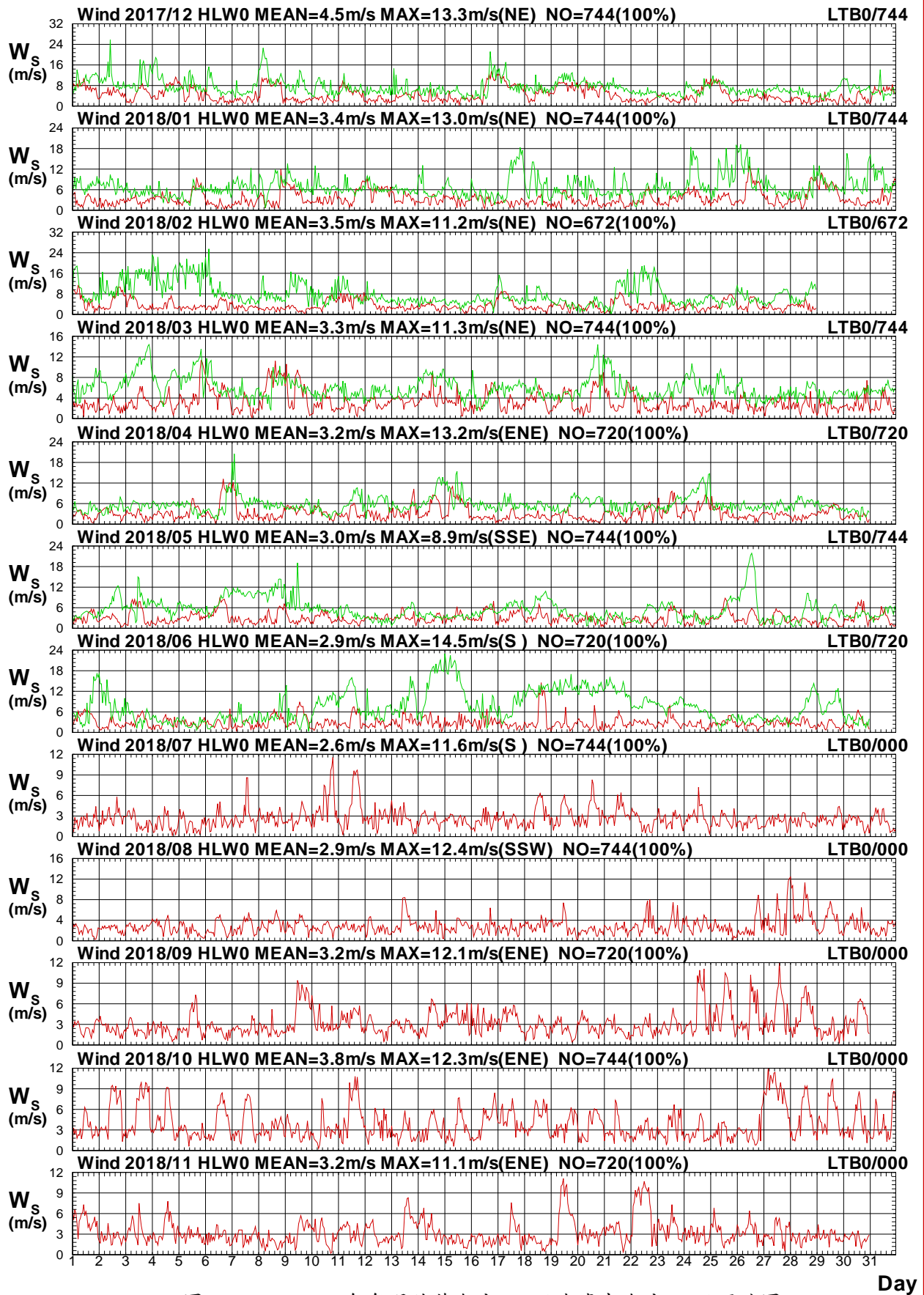


圖 1.3.14a 2018年每月花蓮海域 W 站與臺東海域 B 站風速圖

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W183HLW0.1HA W183LTB0.1HO W184HLW0.1HA W184LTB0.1HO W185HLW0.1HA W185LTB0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

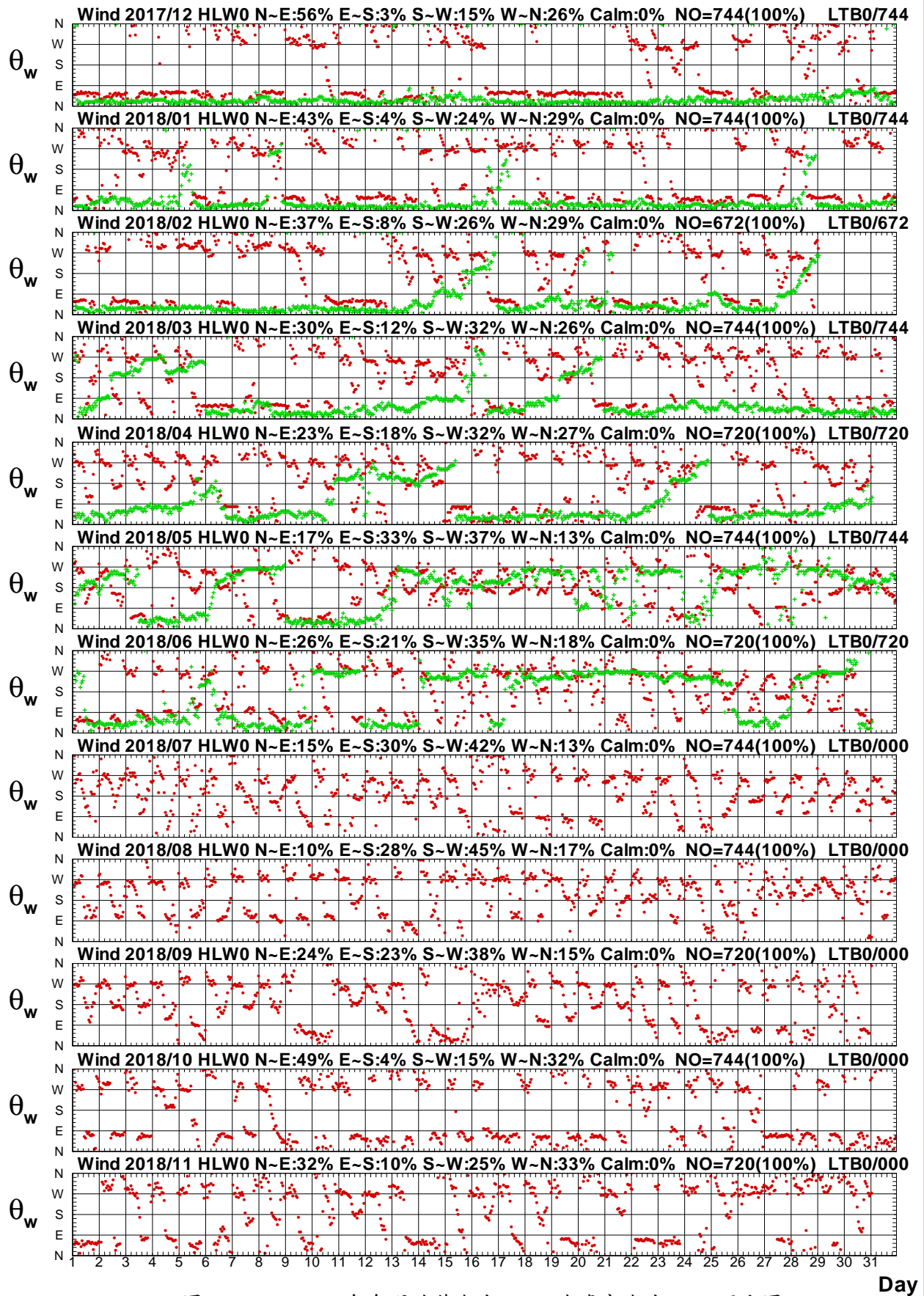


圖 1.3.14b 2018年每月花蓮海域 W 站與臺東海域 B 站風向圖

W17CHLW0.1HA W17CLTB0.1HO W181HLW0.1HA W181LTB0.1HO W182HLW0.1HA W182LTB0.1HO
W183HLW0.1HA W183LTB0.1HO W184HLW0.1HA W184LTB0.1HO W185HLW0.1HA W185LTB0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

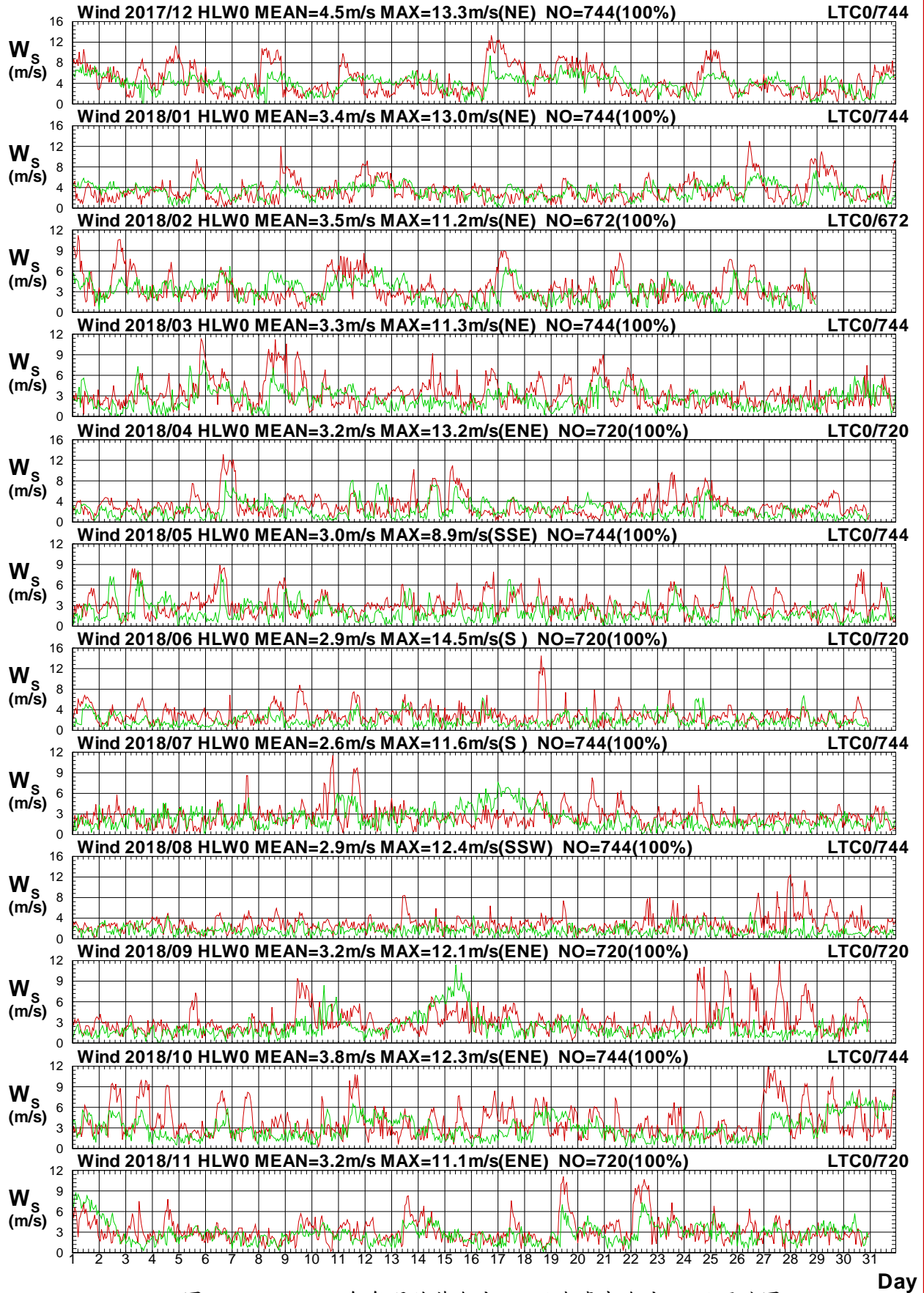


圖 1.3.15a 2018年每月花蓮海域 W 站與臺東海域 C 站風速圖

W17CHLW0.1HA W17CLTC0.1HO W181HLW0.1HA W181LTC0.1HO W182HLW0.1HA W182LTC0.1HO
 W183HLW0.1HA W183LTC0.1HO W184HLW0.1HA W184LTC0.1HO W185HLW0.1HA W185LTC0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

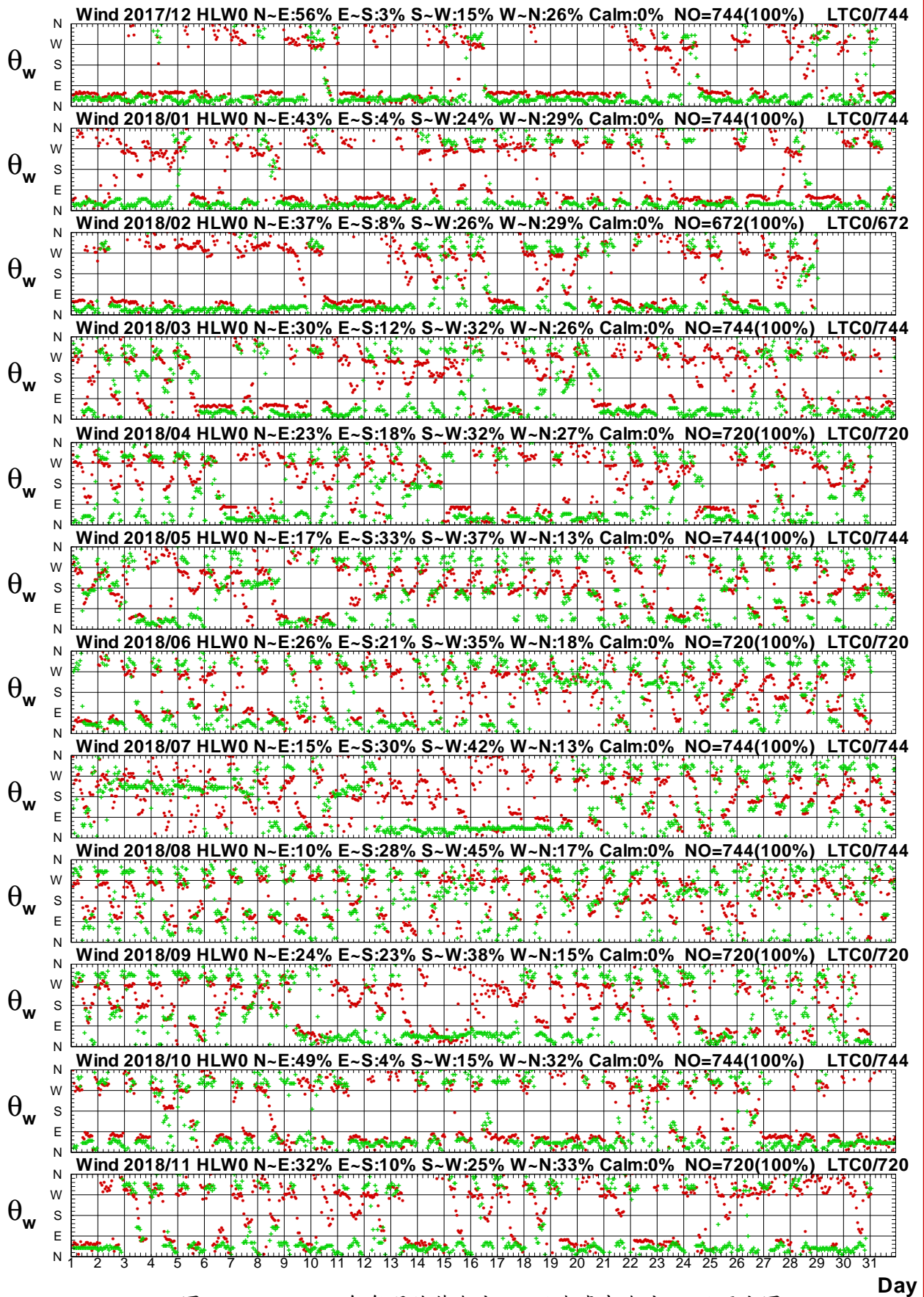


圖 1.3.15b 2018年每月花蓮海域 W 站與臺東海域 C 站風向圖

W17CHLW0.1HA W17CLTC0.1HO W181HLW0.1HA W181LTC0.1HO W182HLW0.1HA W182LTC0.1HO
 W183HLW0.1HA W183LTC0.1HO W184HLW0.1HA W184LTC0.1HO W185HLW0.1HA W185LTC0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

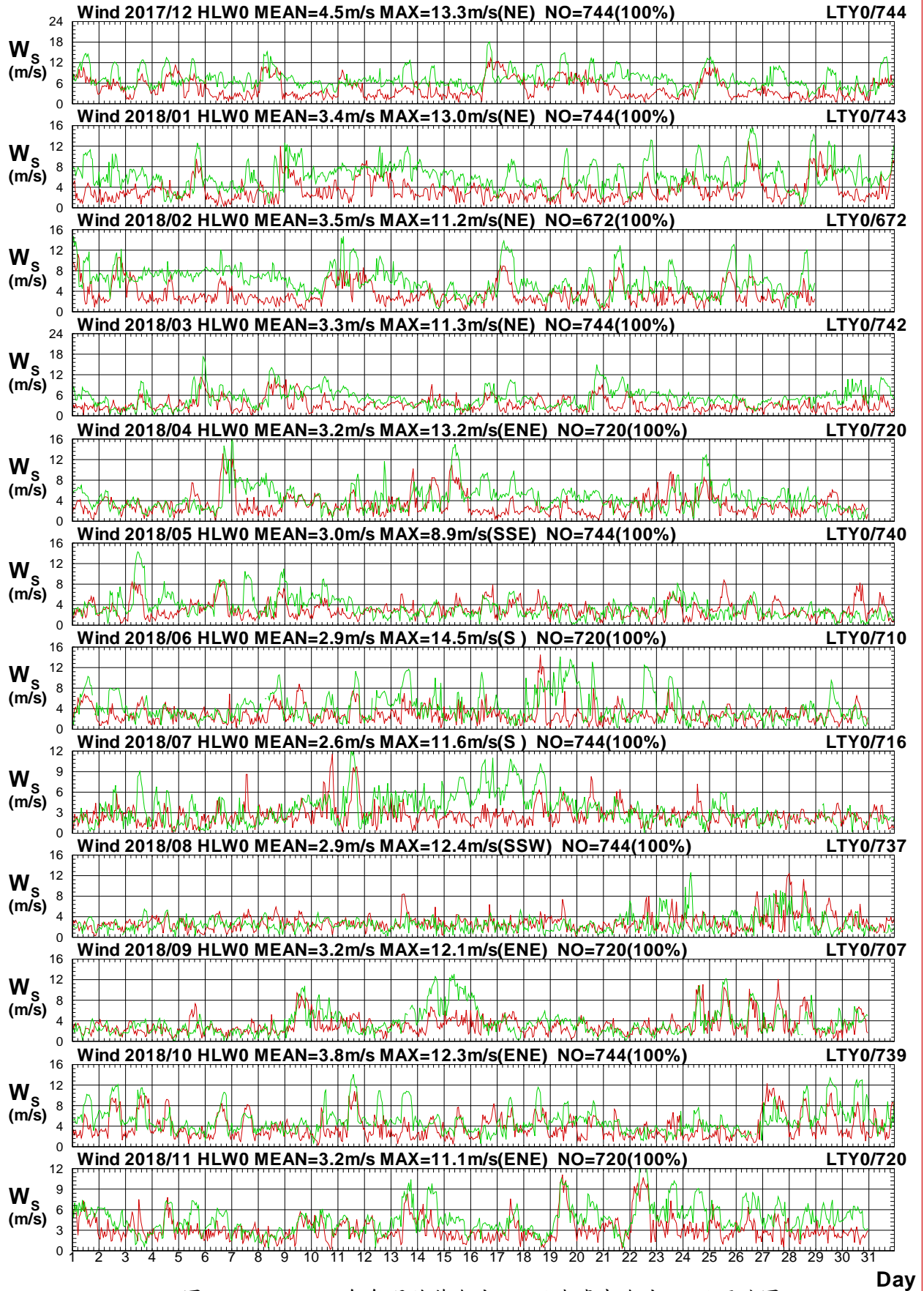


圖 1.3.16a 2018年每月花蓮海域 W 站與臺東海域 Y 站風速圖

W17CHLW0.1HA W17CLTY0.1HO W181HLW0.1HA W181LTY0.1HO W182HLW0.1HA W182LTY0.1HO
 W183HLW0.1HA W183LTY0.1HO W184HLW0.1HA W184LTY0.1HO W185HLW0.1HA W185LTY0.1HO
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Wind Direction in Hua-Lien Seas of HLW0 at 2018

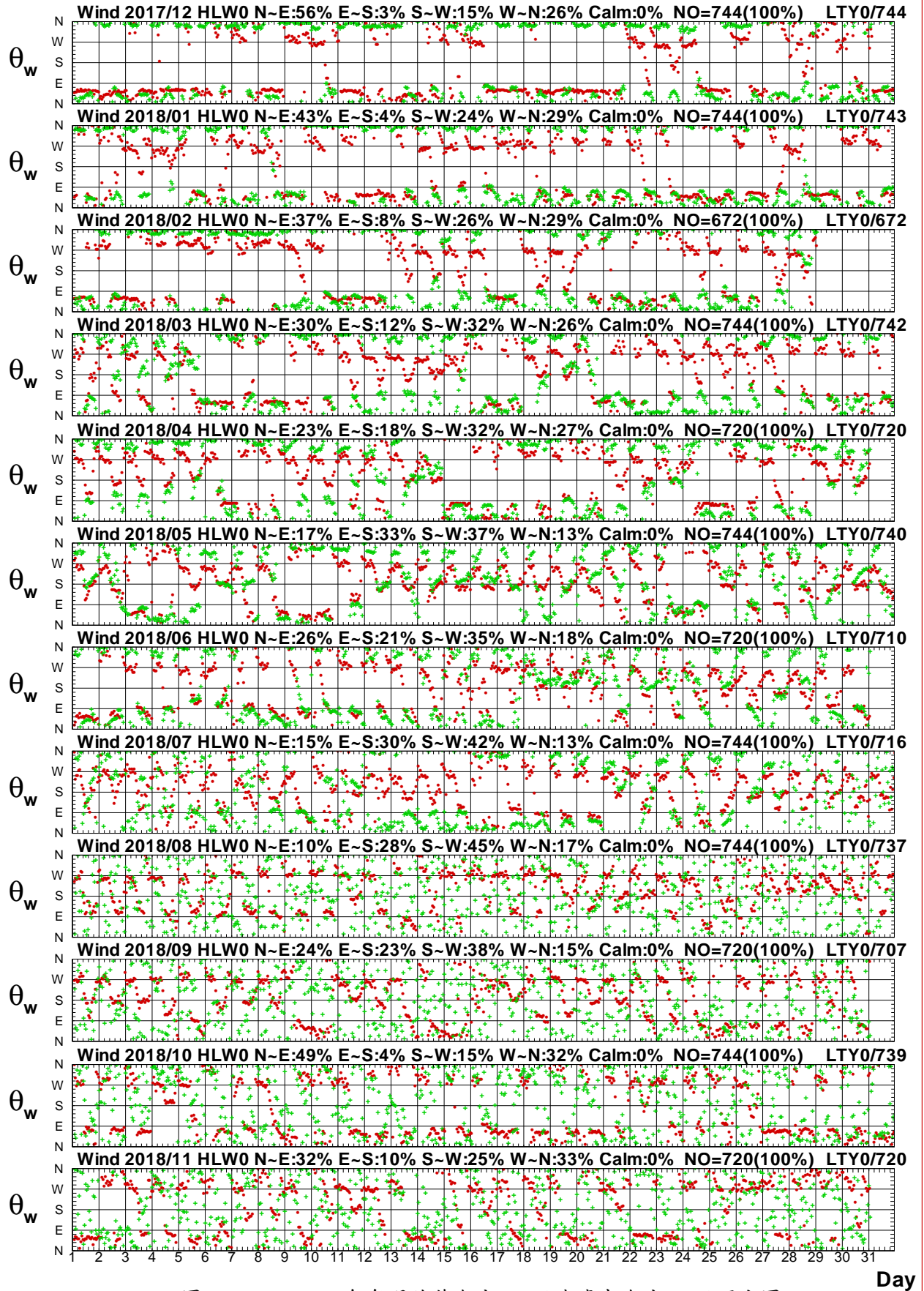


圖 1.3.16b 2018年每月花蓮海域 W 站與臺東海域 Y 站風向圖

W17CHLW0.1HA W17CLTY0.1HO W181HLW0.1HA W181LTY0.1HO W182HLW0.1HA W182LTY0.1HO
 W183HLW0.1HA W183LTY0.1HO W184HLW0.1HA W184LTY0.1HO W185HLW0.1HA W185LTY0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

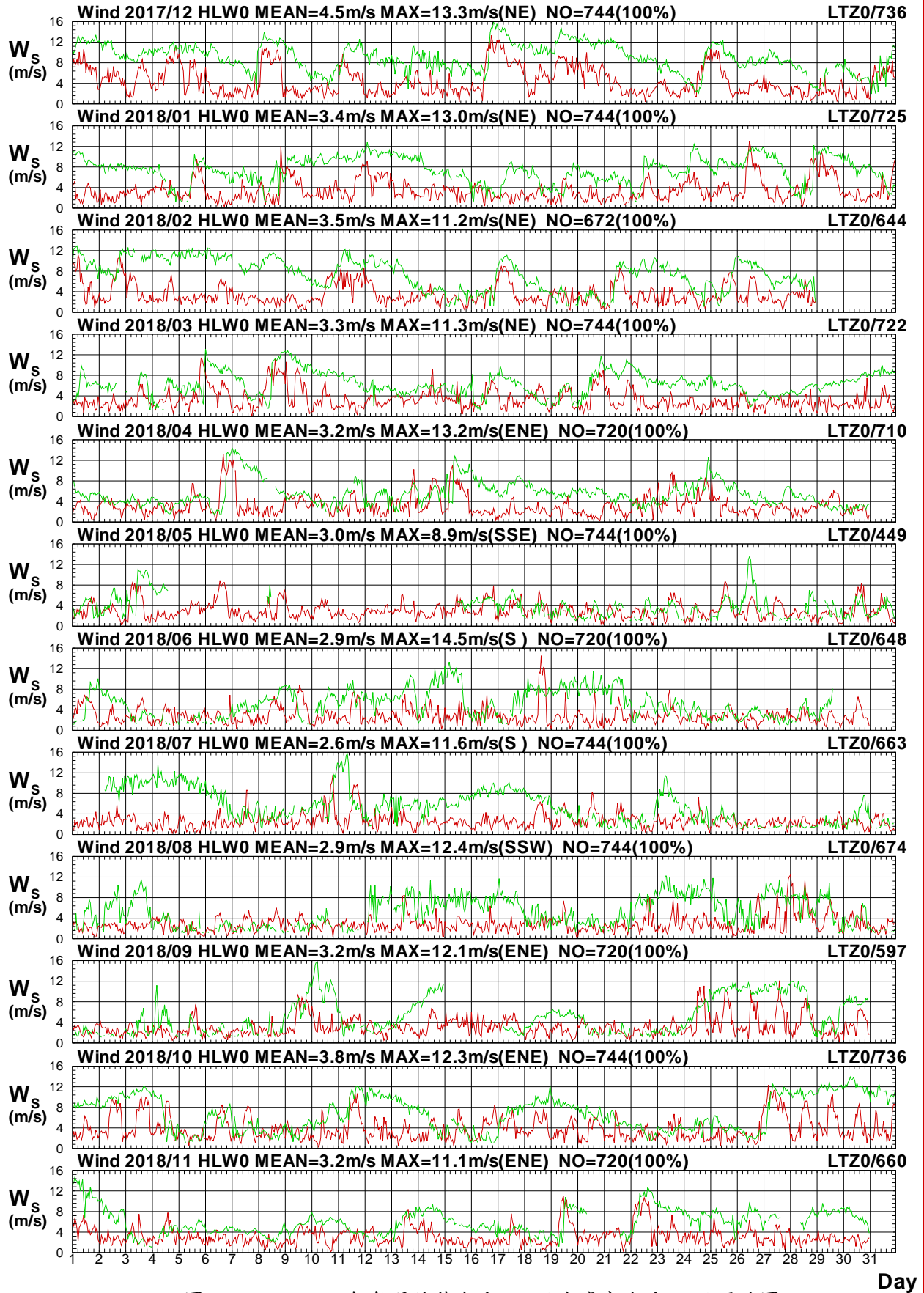


圖 1.3.17a 2018 年每月花蓮海域 W 站與臺東海域 Z 站風速圖

W17CHLW0.1HA W17CLTZ0.1HO W181HLW0.1HA W181LTZ0.1HO W182HLW0.1HA W182LTZ0.1HO
W183HLW0.1HA W183LTZ0.1HO W184HLW0.1HA W184LTZ0.1HO W185HLW0.1HA W185LTZ0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

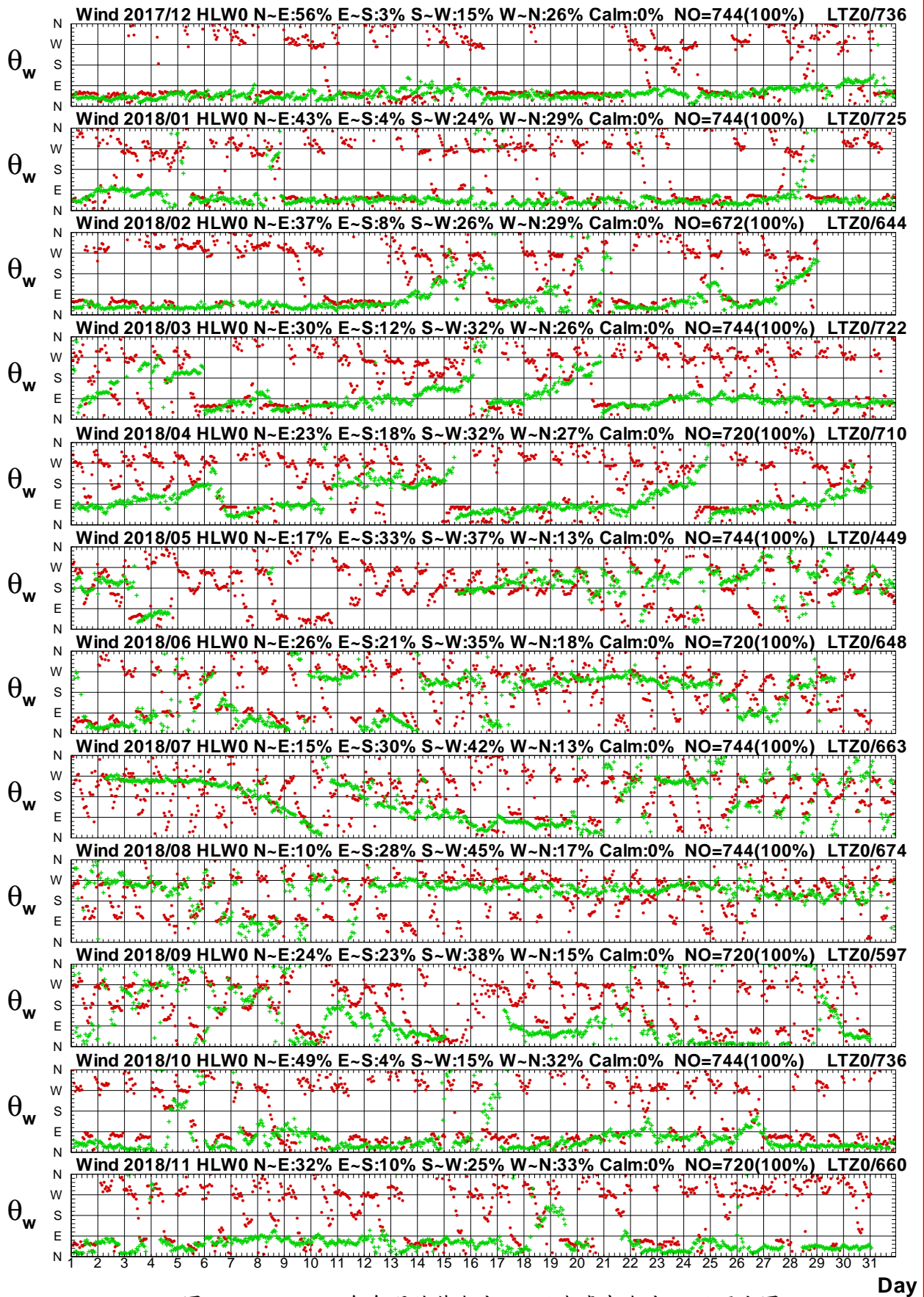


圖 1.3.17b 2018年每月花蓮海域 W 站與臺東海域 Z 站風向圖

W17CHLW0.1HA W17CLTZ0.1HO W181HLW0.1HA W181LTZ0.1HO W182HLW0.1HA W182LTZ0.1HO
W183HLW0.1HA W183LTZ0.1HO W184HLW0.1HA W184LTZ0.1HO W185HLW0.1HA W185LTZ0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

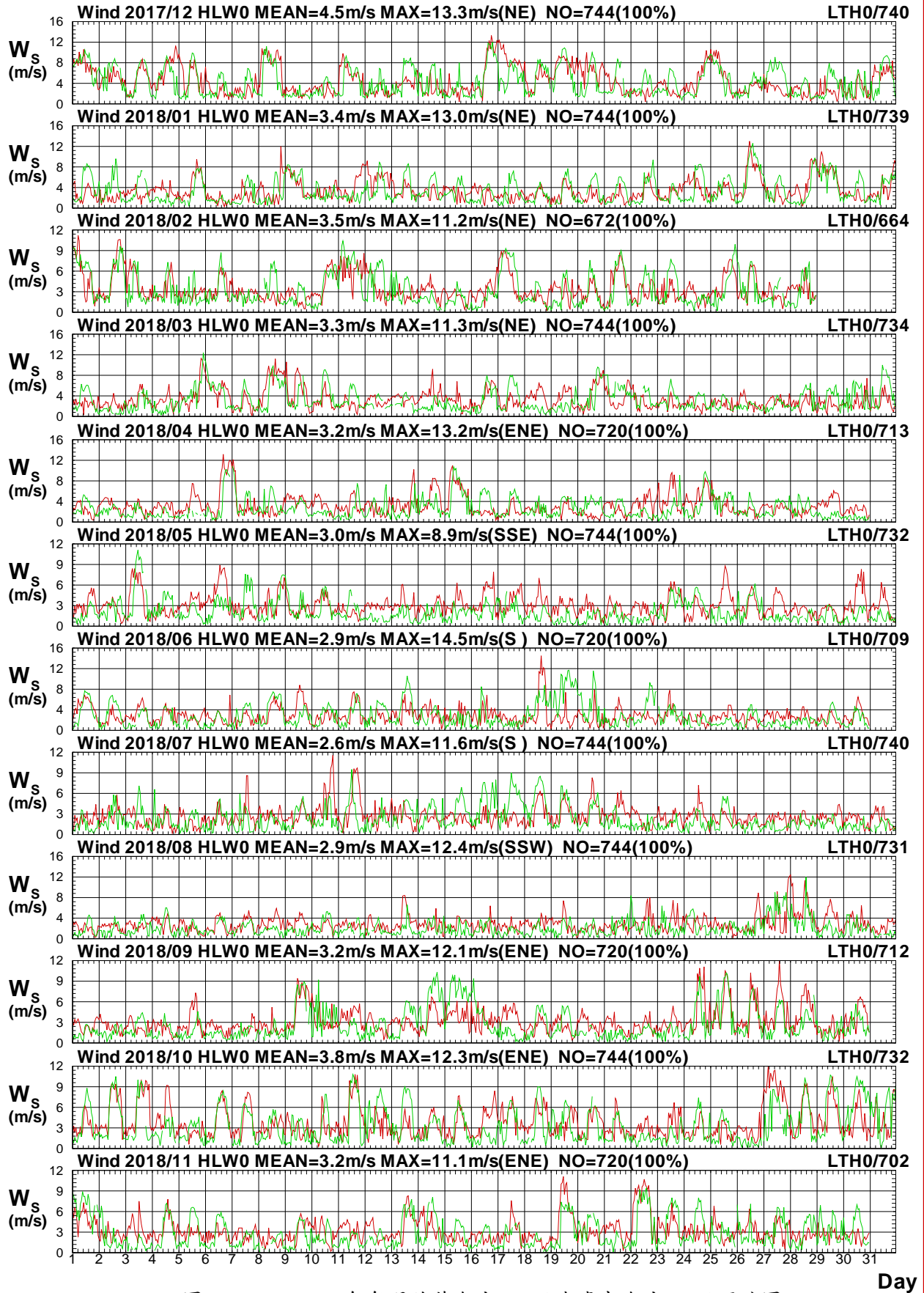


圖 1.3.18a 2018年每月花蓮海域 W 站與臺東海域 H 站風速圖

W17CHLW0.1HA W17CLTH0.1HO W181HLW0.1HA W181LTH0.1HO W182HLW0.1HA W182LTH0.1HO
W183HLW0.1HA W183LTH0.1HO W184HLW0.1HA W184LTH0.1HO W185HLW0.1HA W185LTH0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

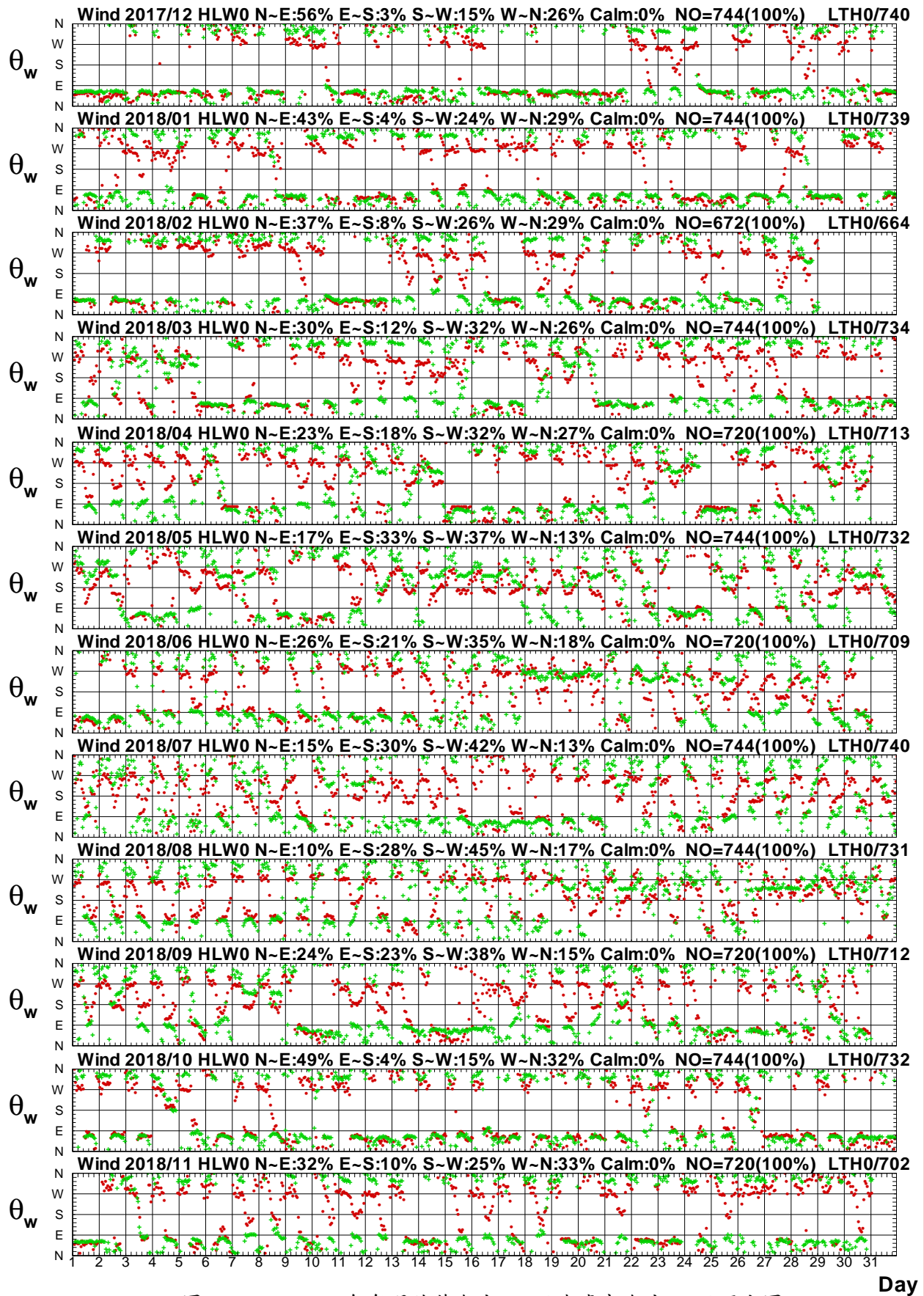


圖 1.3.18b 2018年每月花蓮海域 W 站與臺東海域 H 站風向圖

W17CHLW0.1HA W17CLTH0.1HO W181HLW0.1HA W181LTH0.1HO W182HLW0.1HA W182LTH0.1HO
 W183HLW0.1HA W183LTH0.1HO W184HLW0.1HA W184LTH0.1HO W185HLW0.1HA W185LTH0.1HO

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

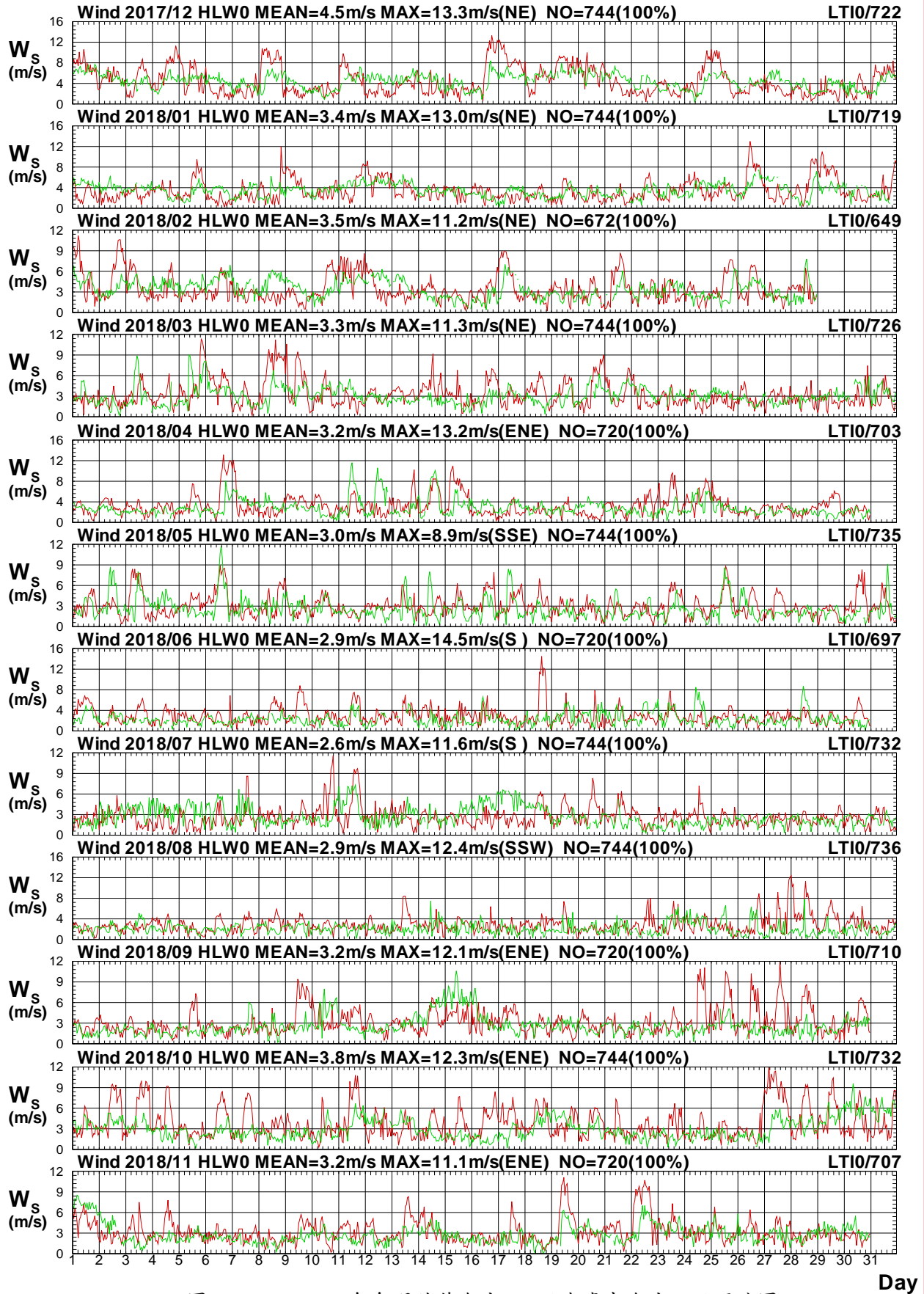


圖1.3.19a 2018年每月花蓮海域 W 站與臺東海域 I 站風速圖

W17CHLW0.1HA W17CLTI0.1H0 W181HLW0.1HA W181LTI0.1H0 W182HLW0.1HA W182LTI0.1H0
 W183HLW0.1HA W183LTI0.1H0 W184HLW0.1HA W184LTI0.1H0 W185HLW0.1HA W185LTI0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

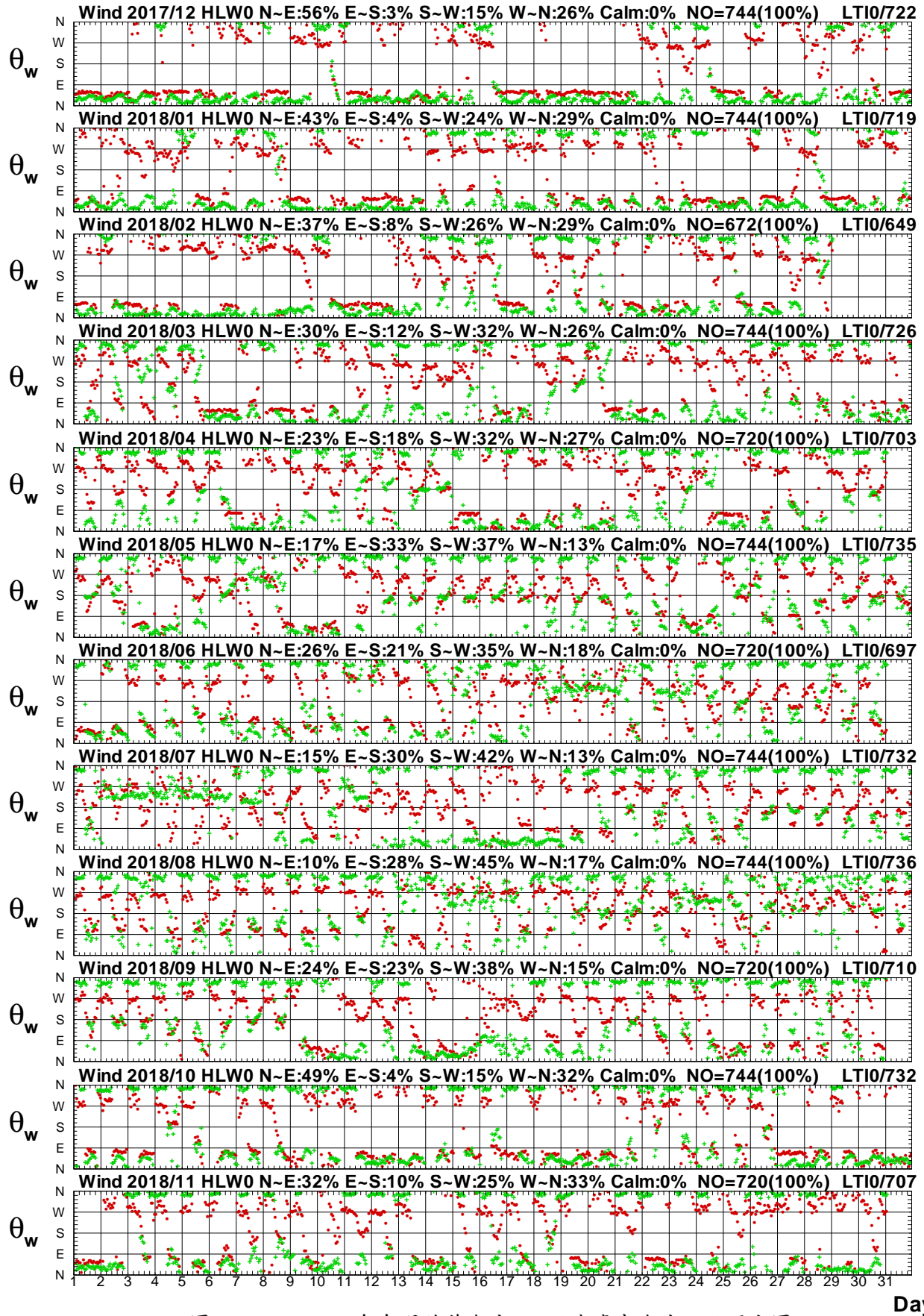


圖 1.3.19b 2018 年每月花蓮海域 W 站與臺東海域 I 站風向圖

W17CHLW0.1HA W17CLT10.1H0 W181HLW0.1HA W181LT10.1H0 W182HLW0.1HA W182LT10.1H0
 W183HLW0.1HA W183LT10.1H0 W184HLW0.1HA W184LT10.1H0 W185HLW0.1HA W185LT10.1H0

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Wind Speed in Hua-Lien Seas of HLW0 at 2018

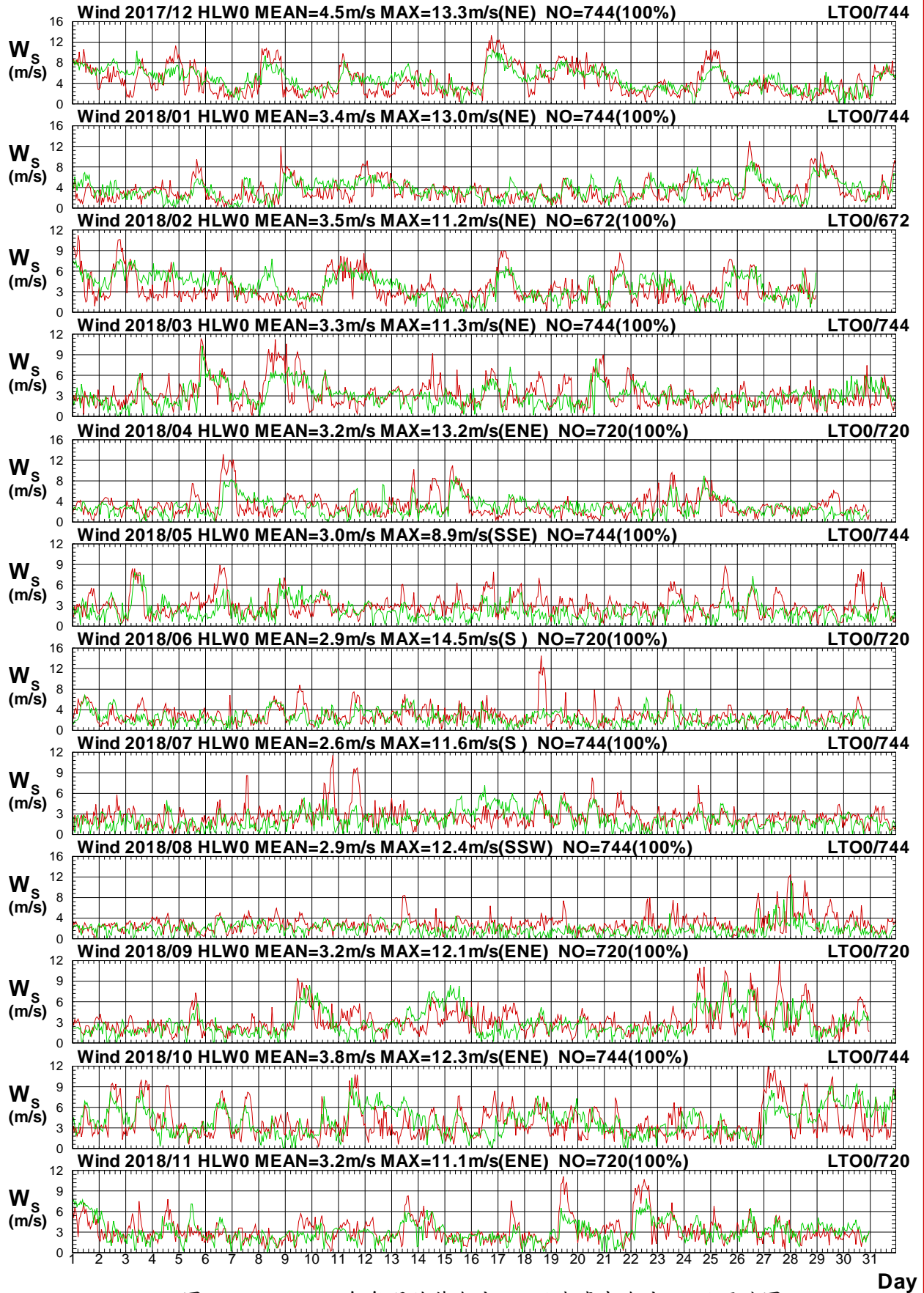


圖 1.3.20a 2018年每月花蓮海域 W 站與臺東海域 O 站風速圖

W17CHLW0.1HA W17CLTO0.1HO W181HLW0.1HA W181LTO0.1HO W182HLW0.1HA W182LTO0.1HO
 W183HLW0.1HA W183LTO0.1HO W184HLW0.1HA W184LTO0.1HO W185HLW0.1HA W185LTO0.1HO

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

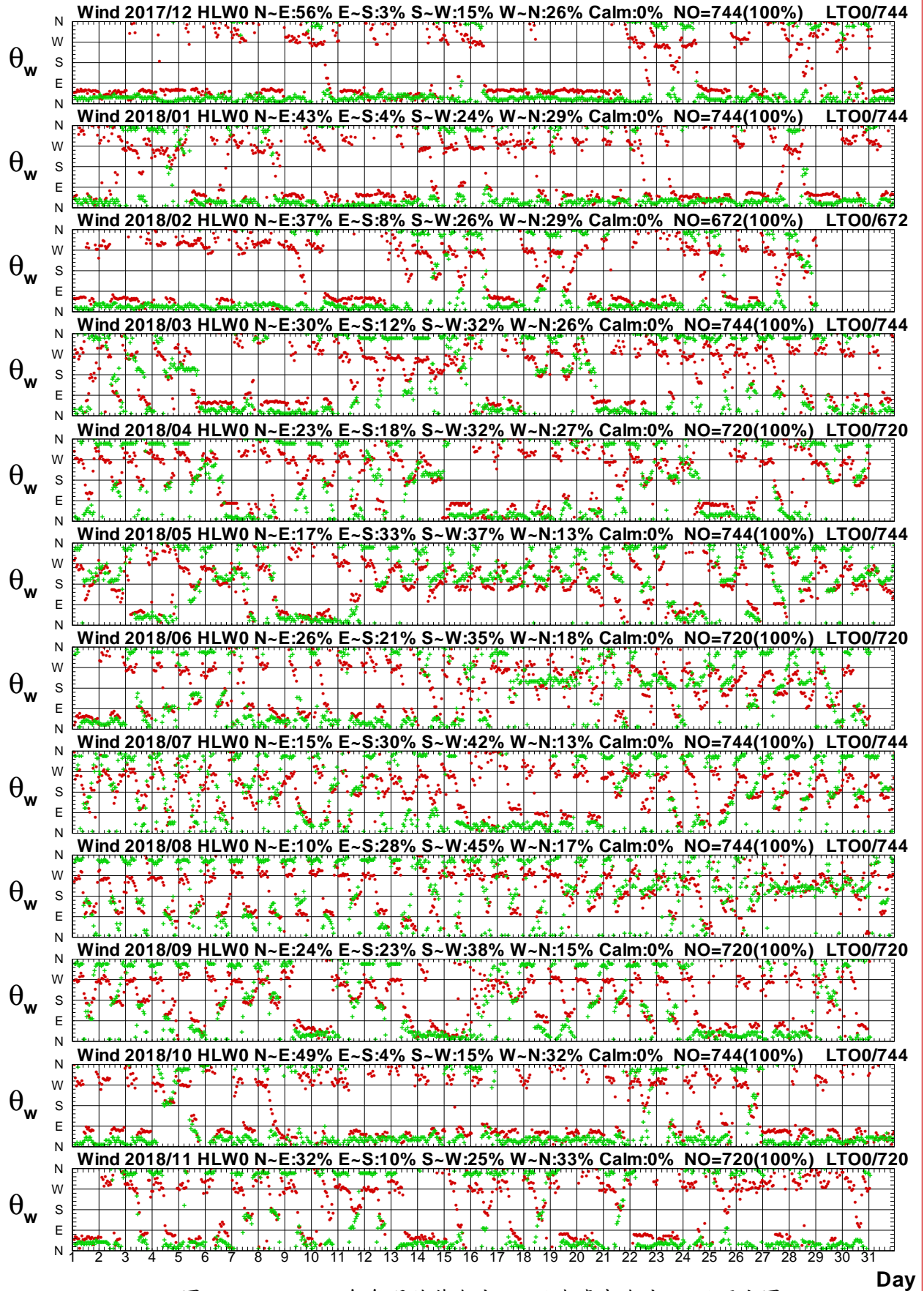


圖 1.3.20b 2018年每月花蓮海域 W 站與臺東海域 O 站風向圖

Wind Speed in Hua-Lien Seas of HLW0 at 2018

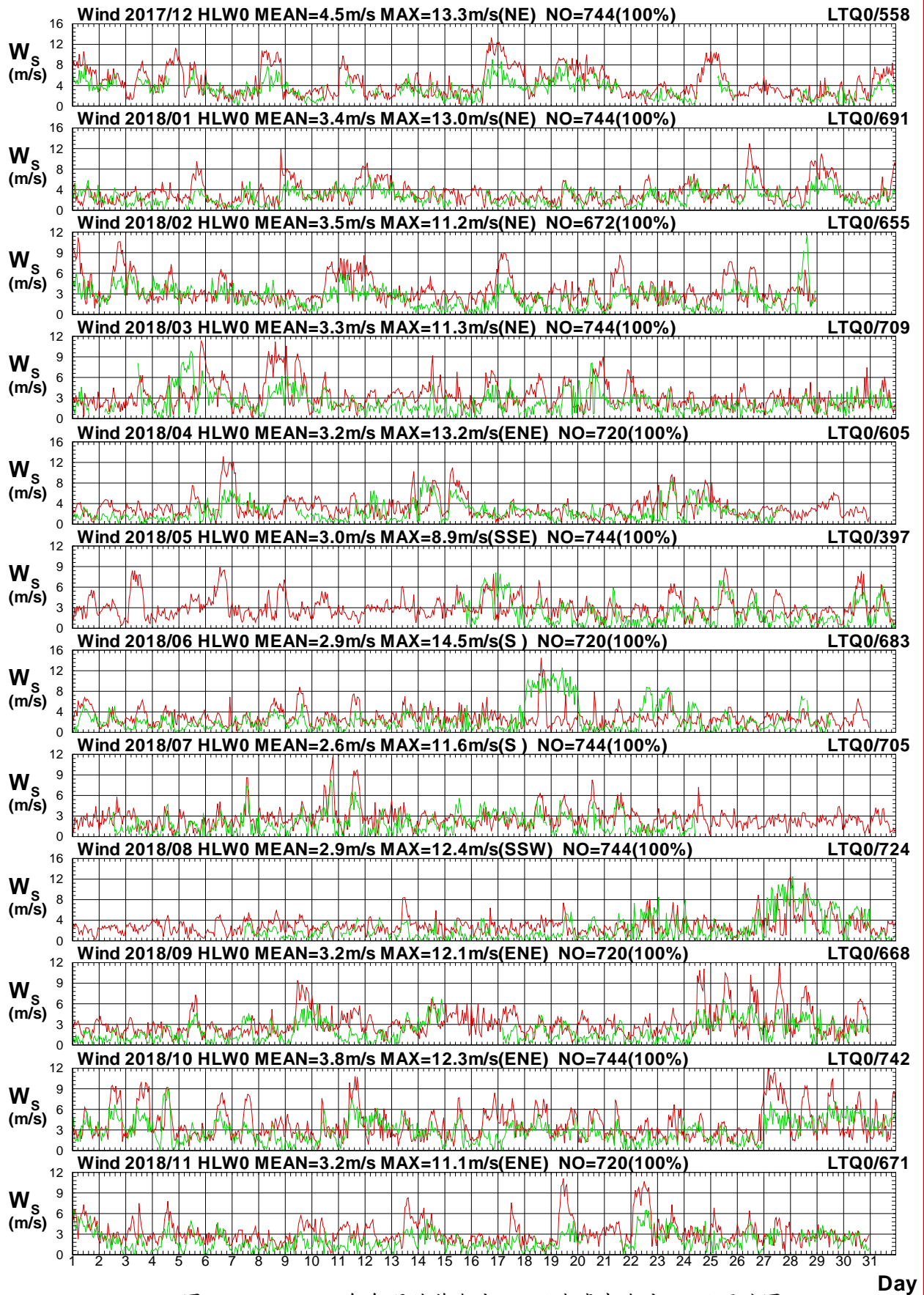


圖 1.3.21a 2018年每月花蓮海域 W 站與臺東海域 Q 站風速圖

W17CHLW0.1HA W17CLTQ0.1H0 W181HLW0.1HA W181LTQ0.1H0 W182HLW0.1HA W182LTQ0.1H0
 W183HLW0.1HA W183LTQ0.1H0 W184HLW0.1HA W184LTQ0.1H0 W185HLW0.1HA W185LTQ0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

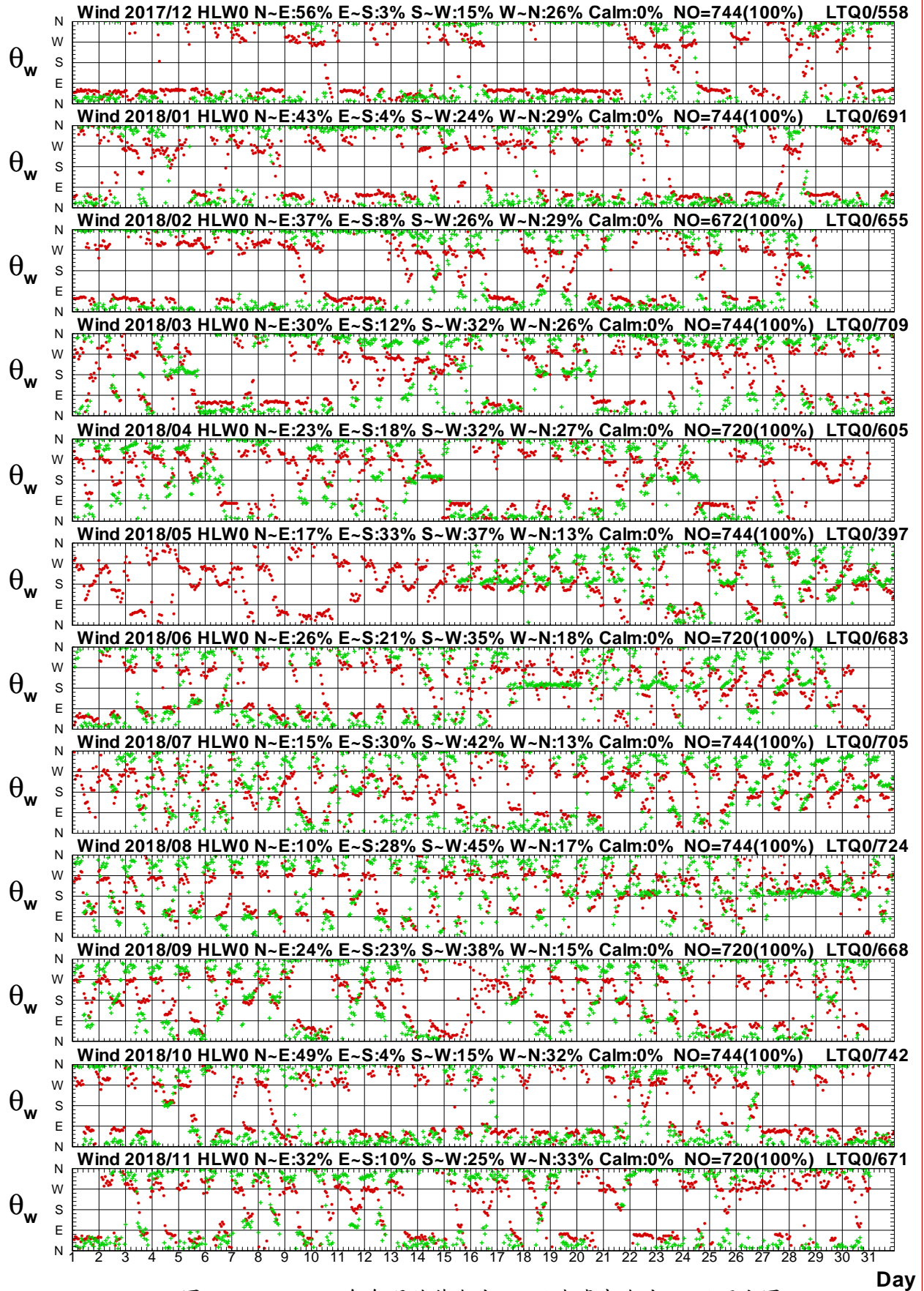


圖1.3.21b 2018年每月花蓮海域 W 站與臺東海域 Q 站風向圖

Wind Speed in Hua-Lien Seas of HLW0 at 2018

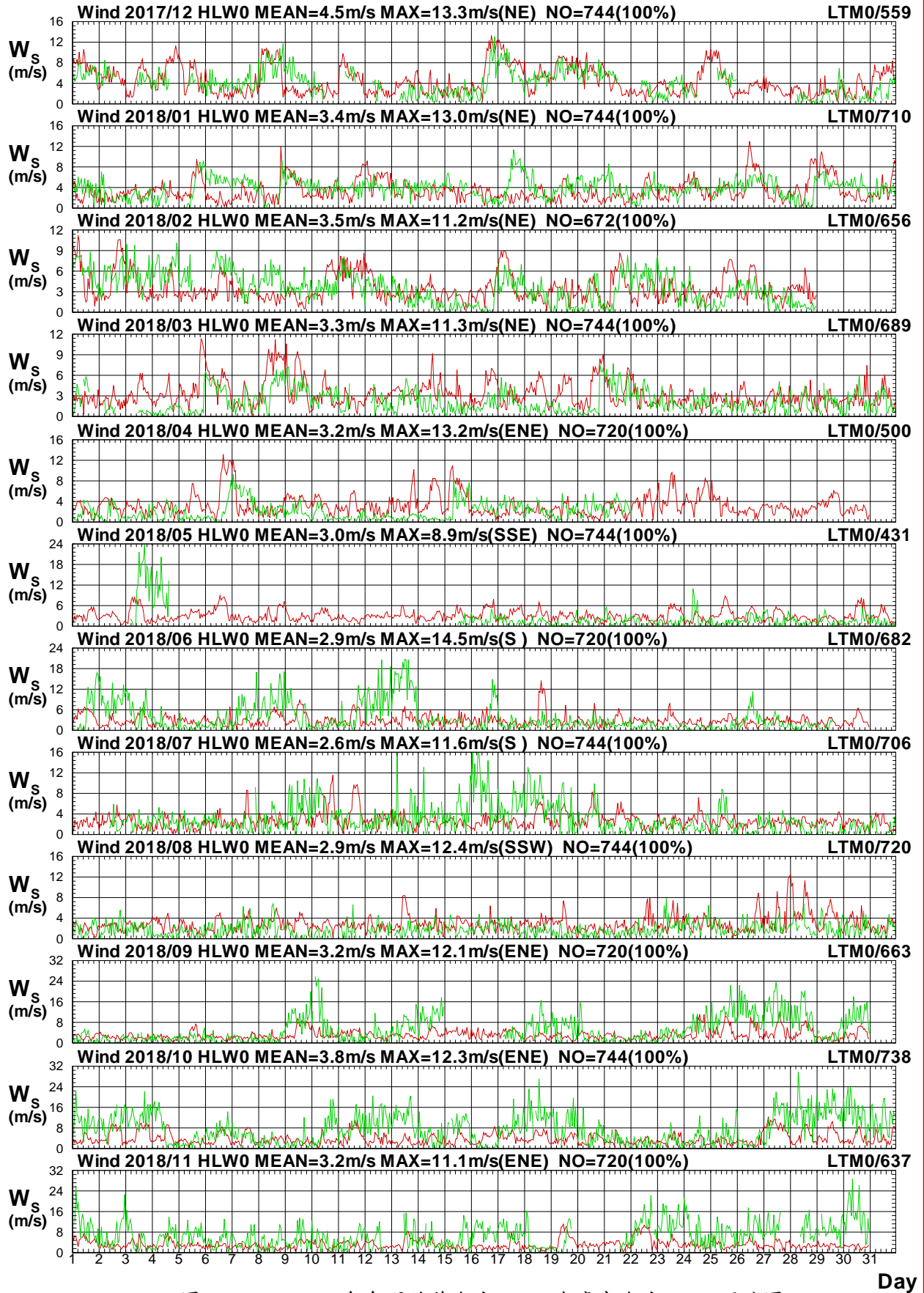


圖 1.3.22a 2018年每月花蓮海域 W 站與臺東海域 M 站風速圖

W17CHLW0.1HA W17CLTM0.1H0 W181HLW0.1HA W181LTM0.1H0 W182HLW0.1HA W182LTM0.1H0
 W183HLW0.1HA W183LTM0.1H0 W184HLW0.1HA W184LTM0.1H0 W185HLW0.1HA W185LTM0.1H0

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Wind Direction in Hua-Lien Seas of HLW0 at 2018

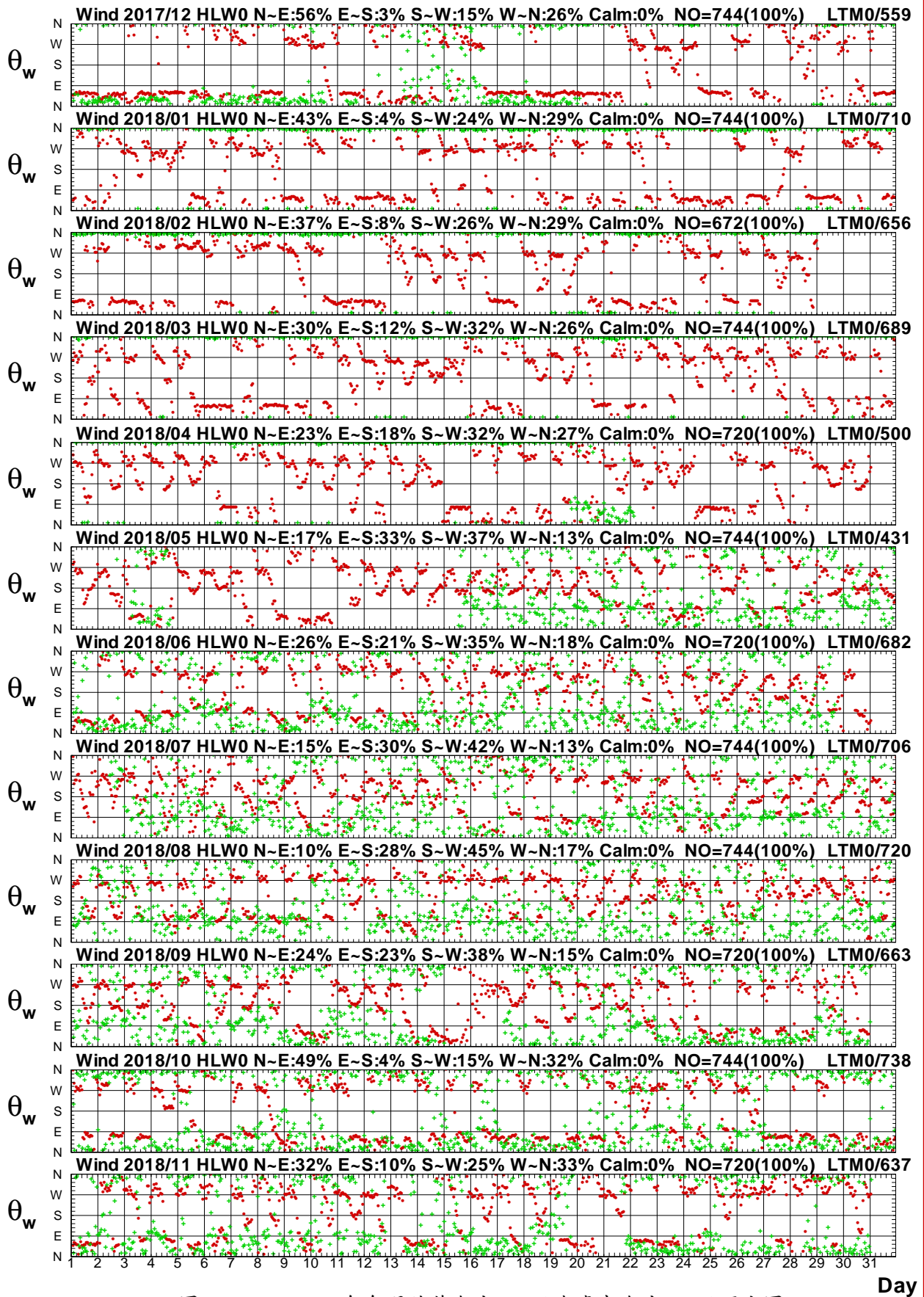


圖 1.3.22b 2018年每月花蓮海域 W 站與臺東海域 M 站風向圖

W17CHLW0.1HA W17CLTM0.1H0 W181HLW0.1HA W181LTM0.1H0 W182HLW0.1HA W182LTM0.1H0
 W183HLW0.1HA W183LTM0.1H0 W184HLW0.1HA W184LTM0.1H0 W185HLW0.1HA W185LTM0.1H0

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1.4 2018年花蓮海域風力**主要測站2**(修補後)與 **其他測站**(修補前)每月風力歷線比較圖

Wind Speed in Hua-Lien Seas of HLY0 at 2018

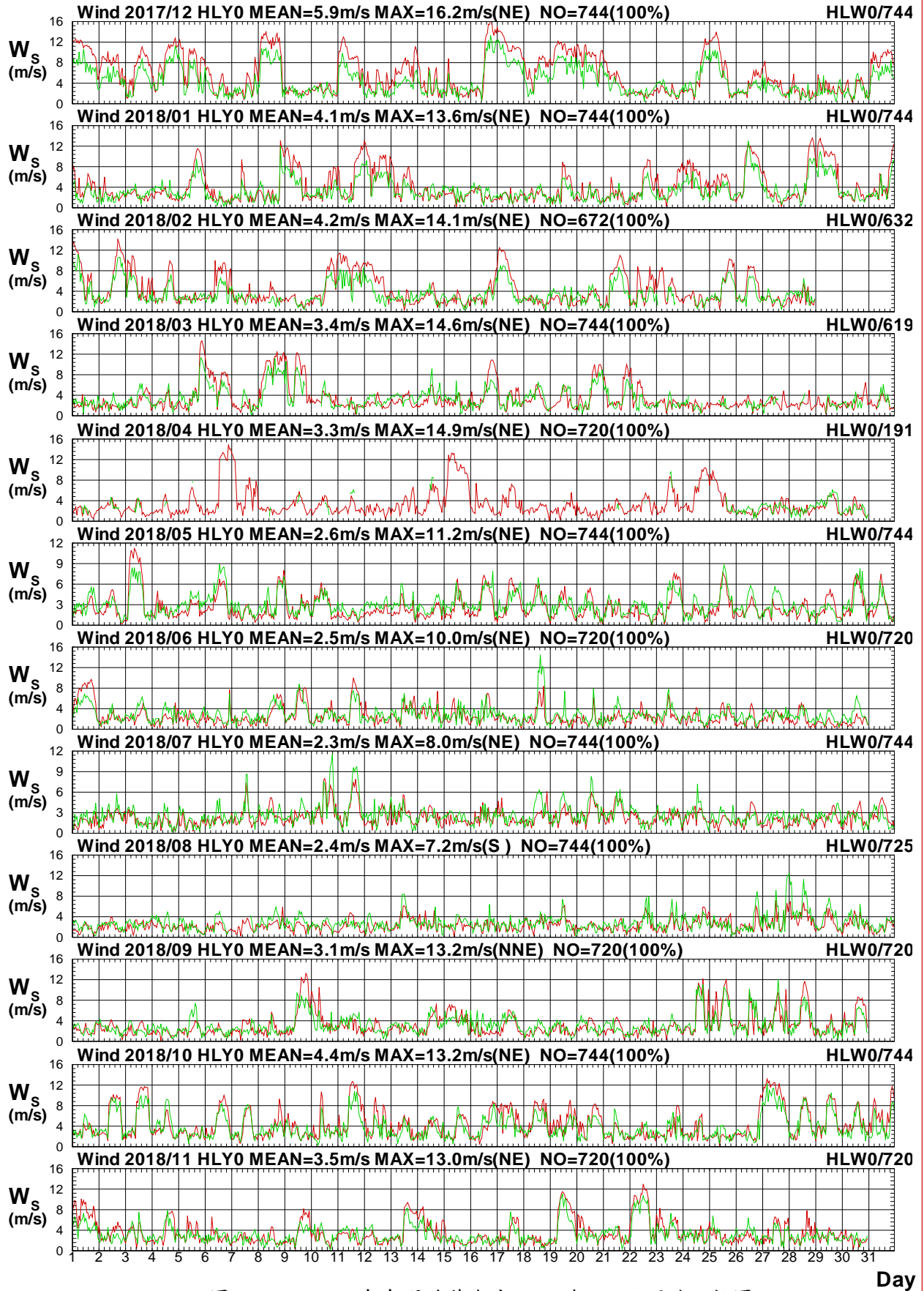


圖1.4.1a 2018年每月花蓮海域 Y 站與 W 站風速比較圖

W17CHLY0.1HA W17CHLW0.1HO W181HLY0.1HA W181HLW0.1HO W182HLY0.1HA W182HLW0.1HO
 W183HLY0.1HA W183HLW0.1HO W184HLY0.1HA W184HLW0.1HO W185HLY0.1HA W185HLW0.1HO

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

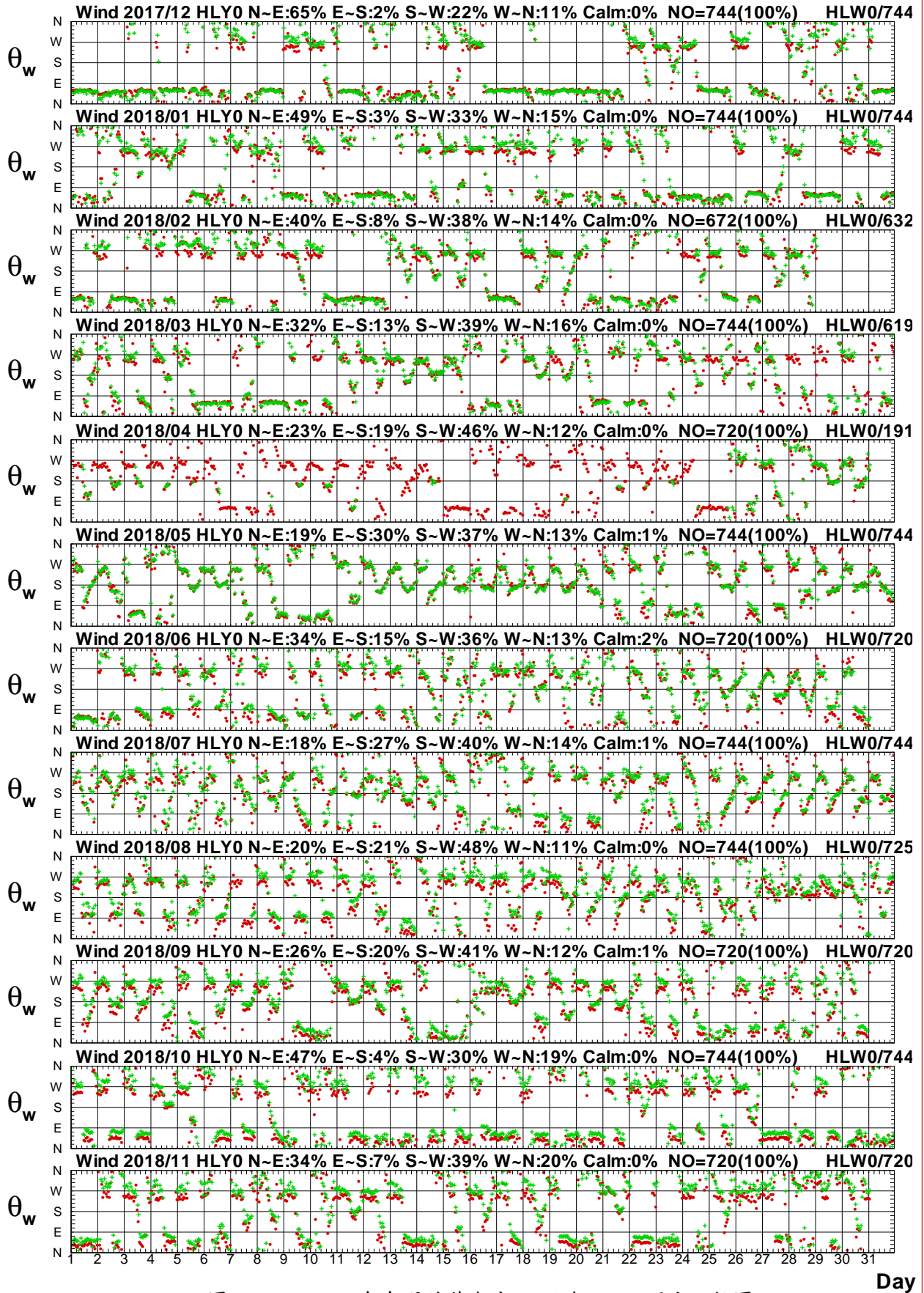


圖1.4.1b 2018年每月花蓮海域 Y 站與 W 站風向比較圖

W17CHLY0.1HA W17CHLW0.1HO W181HLY0.1HA W181HLW0.1HO W182HLY0.1HA W182HLW0.1HO
W183HLY0.1HA W183HLW0.1HO W184HLY0.1HA W184HLW0.1HO W185HLY0.1HA W185HLW0.1HO

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

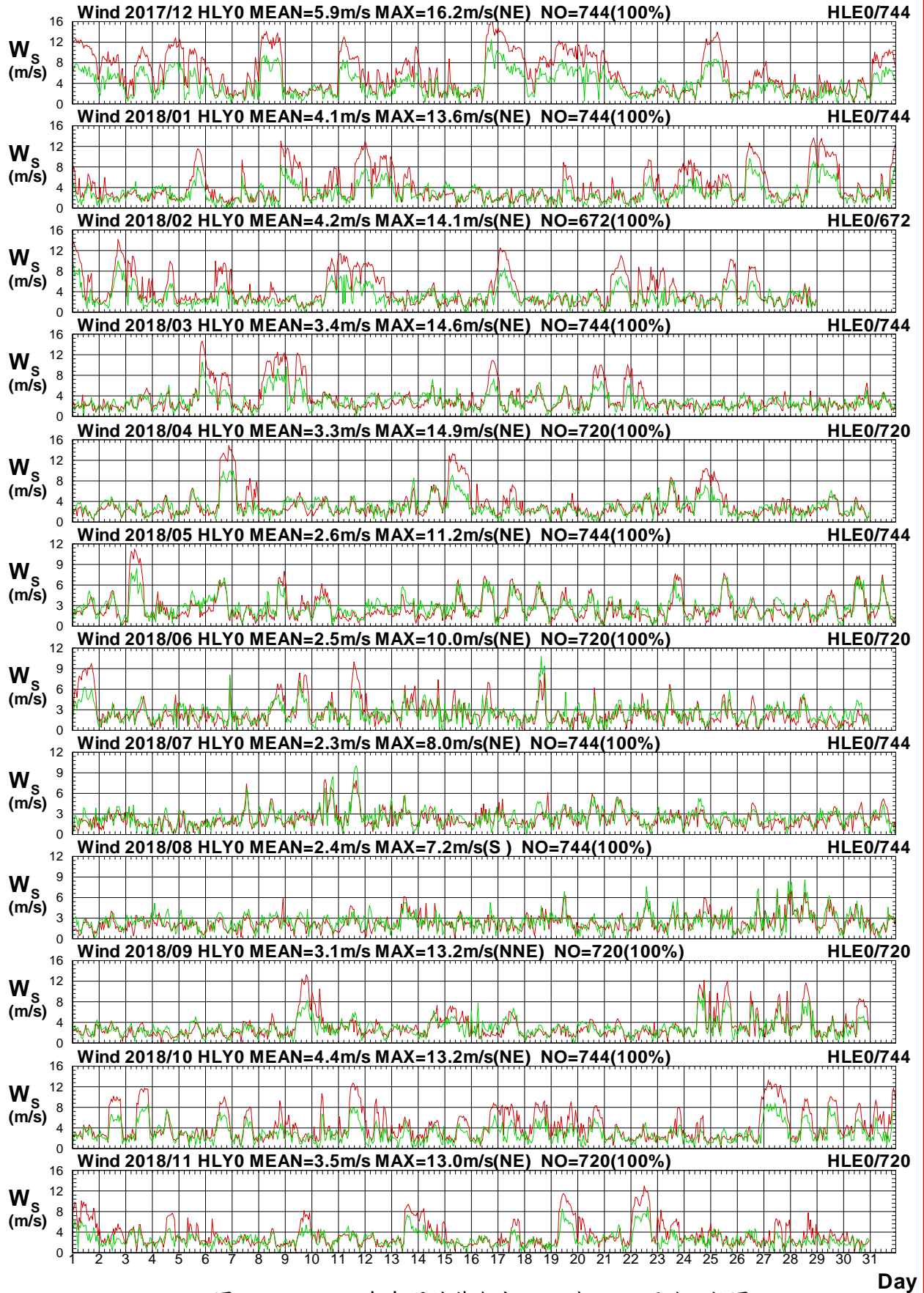


圖1.4.2a 2018年每月花蓮海域 Y 站與 E 站風速比較圖

W17CHLY0.1HA W17CHLE0.1H0 W181HLY0.1HA W181HLE0.1H0 W182HLY0.1HA W182HLE0.1H0
 W183HLY0.1HA W183HLE0.1H0 W184HLY0.1HA W184HLE0.1H0 W185HLY0.1HA W185HLE0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

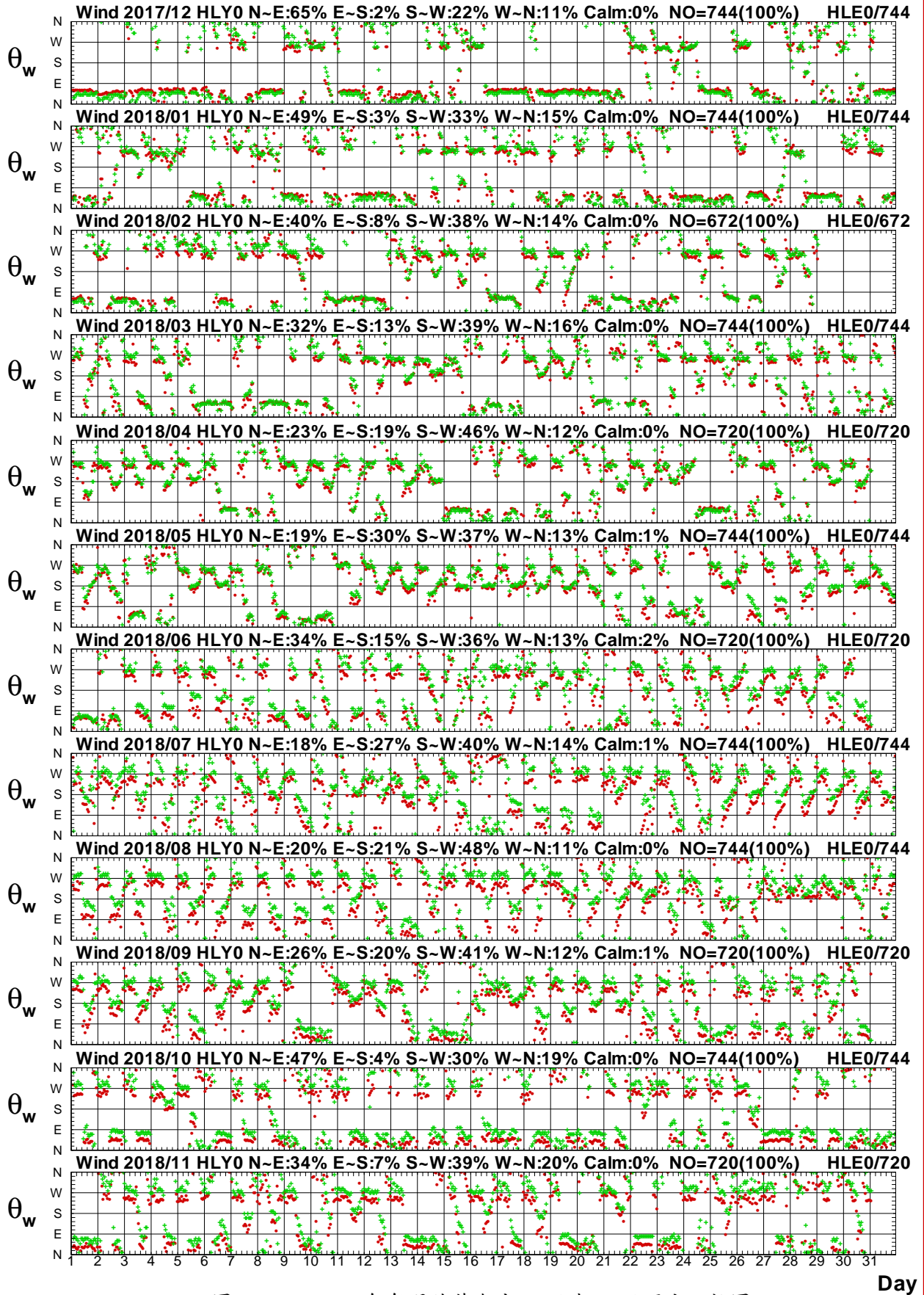


圖1.4.2b 2018年每月花蓮海域 Y 站與 E 站風向比較圖

W17CHLY0.1HA W17CHLE0.1H0 W181HLY0.1HA W181HLE0.1H0 W182HLY0.1HA W182HLE0.1H0
W183HLY0.1HA W183HLE0.1H0 W184HLY0.1HA W184HLE0.1H0 W185HLY0.1HA W185HLE0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

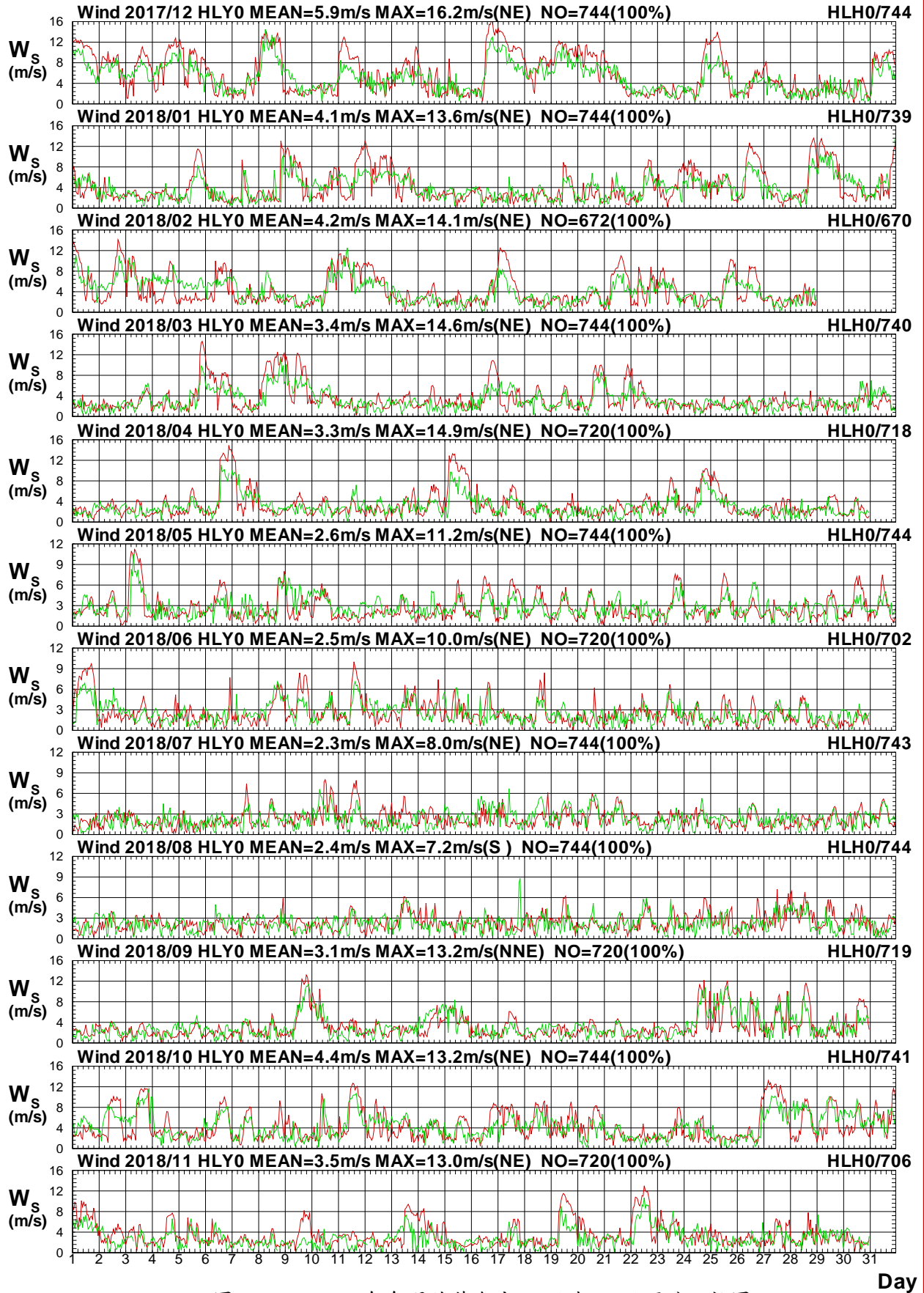


圖1.4.3a 2018年每月花蓮海域 Y 站與 H 站風速比較圖

W17CHLY0.1HA W17CHLH0.1H0 W181HLY0.1HA W181HLH0.1H0 W182HLY0.1HA W182HLH0.1H0
 W183HLY0.1HA W183HLH0.1H0 W184HLY0.1HA W184HLH0.1H0 W185HLY0.1HA W185HLH0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

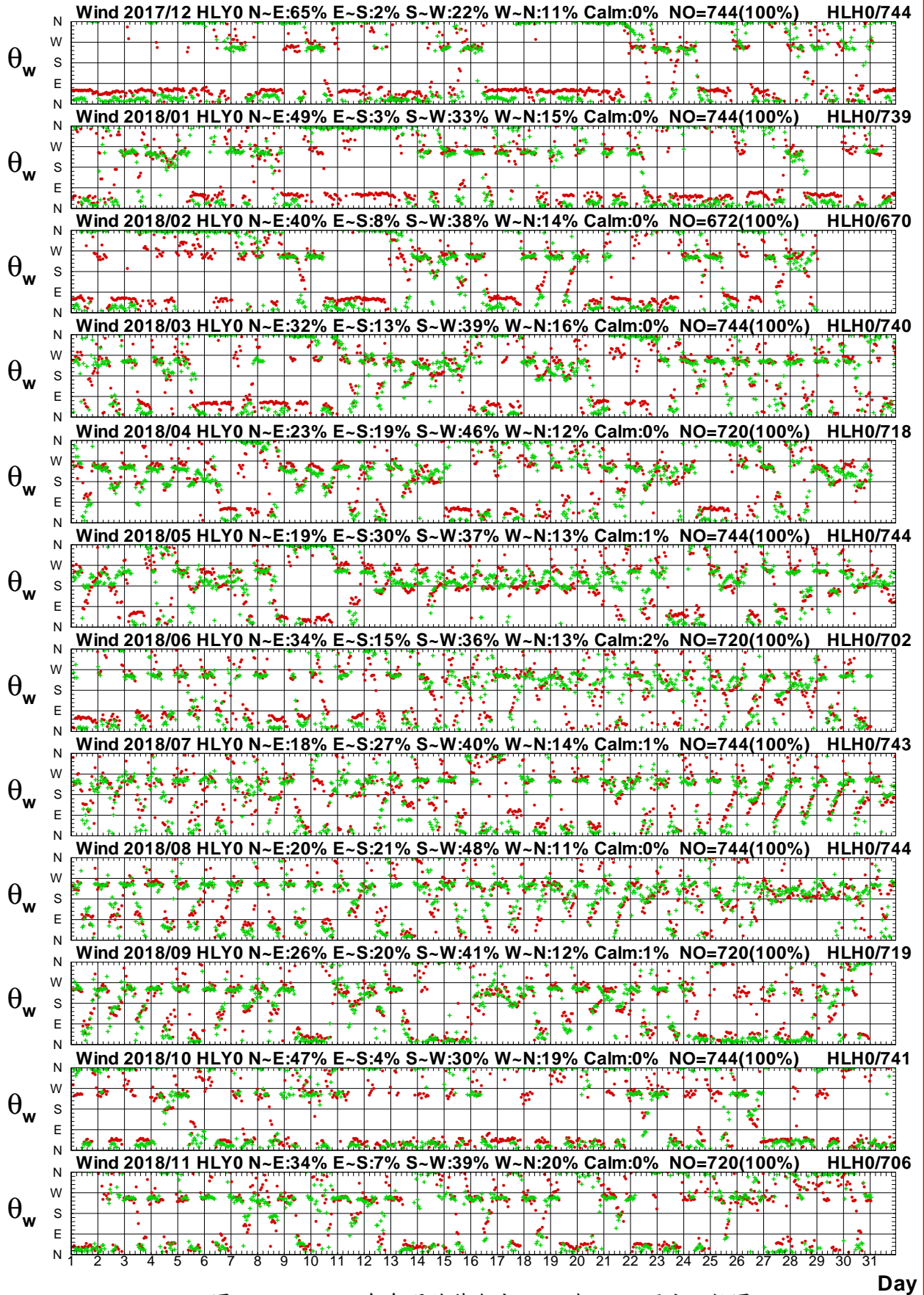


圖1.4.3b 2018年每月花蓮海域 Y 站與 H 站風向比較圖

W17CHLY0.1HA W17CHLH0.1H0 W181HLY0.1HA W181HLH0.1H0 W182HLY0.1HA W182HLH0.1H0
 W183HLY0.1HA W183HLH0.1H0 W184HLY0.1HA W184HLH0.1H0 W185HLY0.1HA W185HLH0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

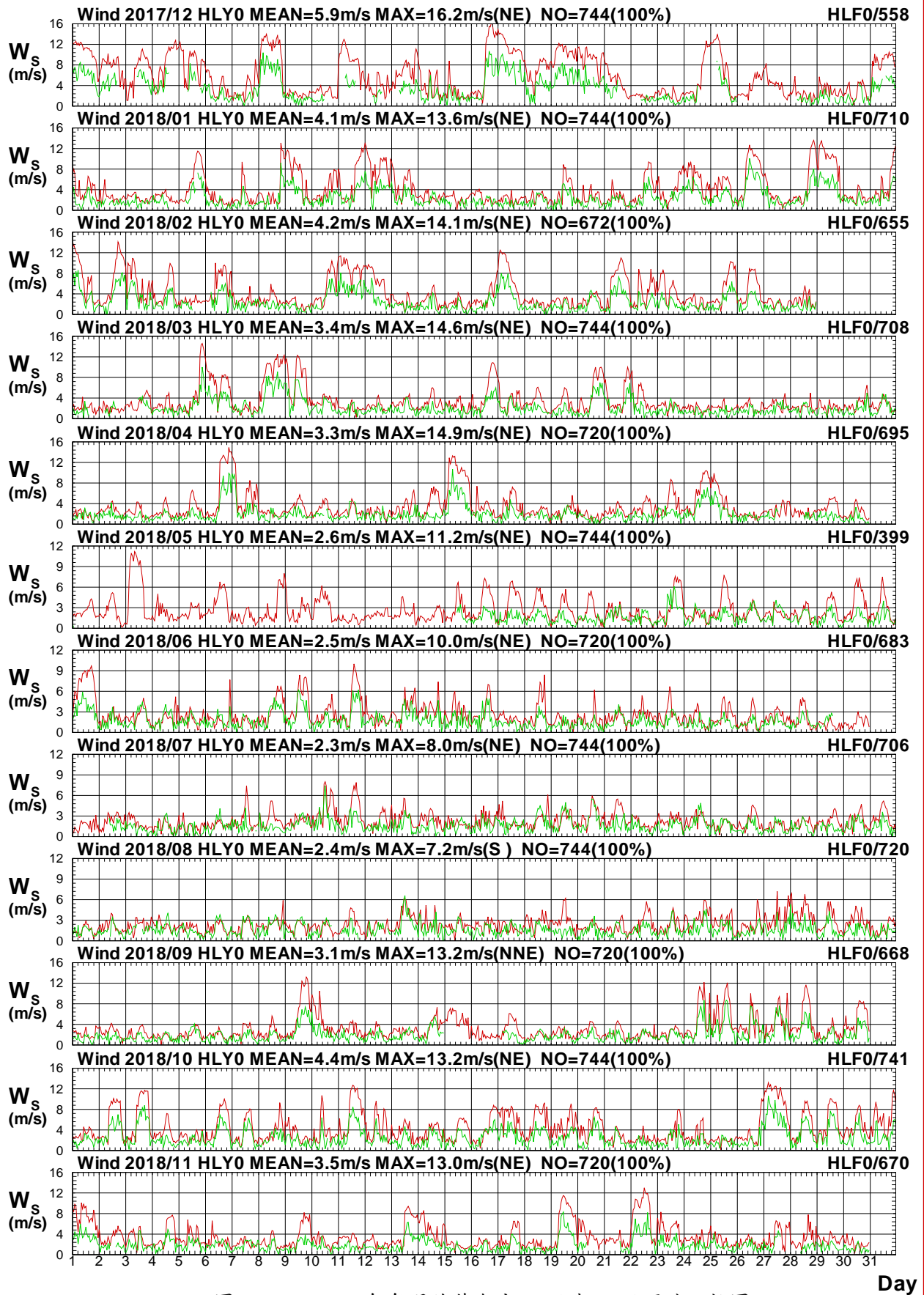


圖1.4.4a 2018年每月花蓮海域 Y 站與 F 站風速比較圖

W17CHLY0.1HA W17CHLF0.1H0 W181HLY0.1HA W181HLF0.1H0 W182HLY0.1HA W182HLF0.1H0
 W183HLY0.1HA W183HLF0.1H0 W184HLY0.1HA W184HLF0.1H0 W185HLY0.1HA W185HLF0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

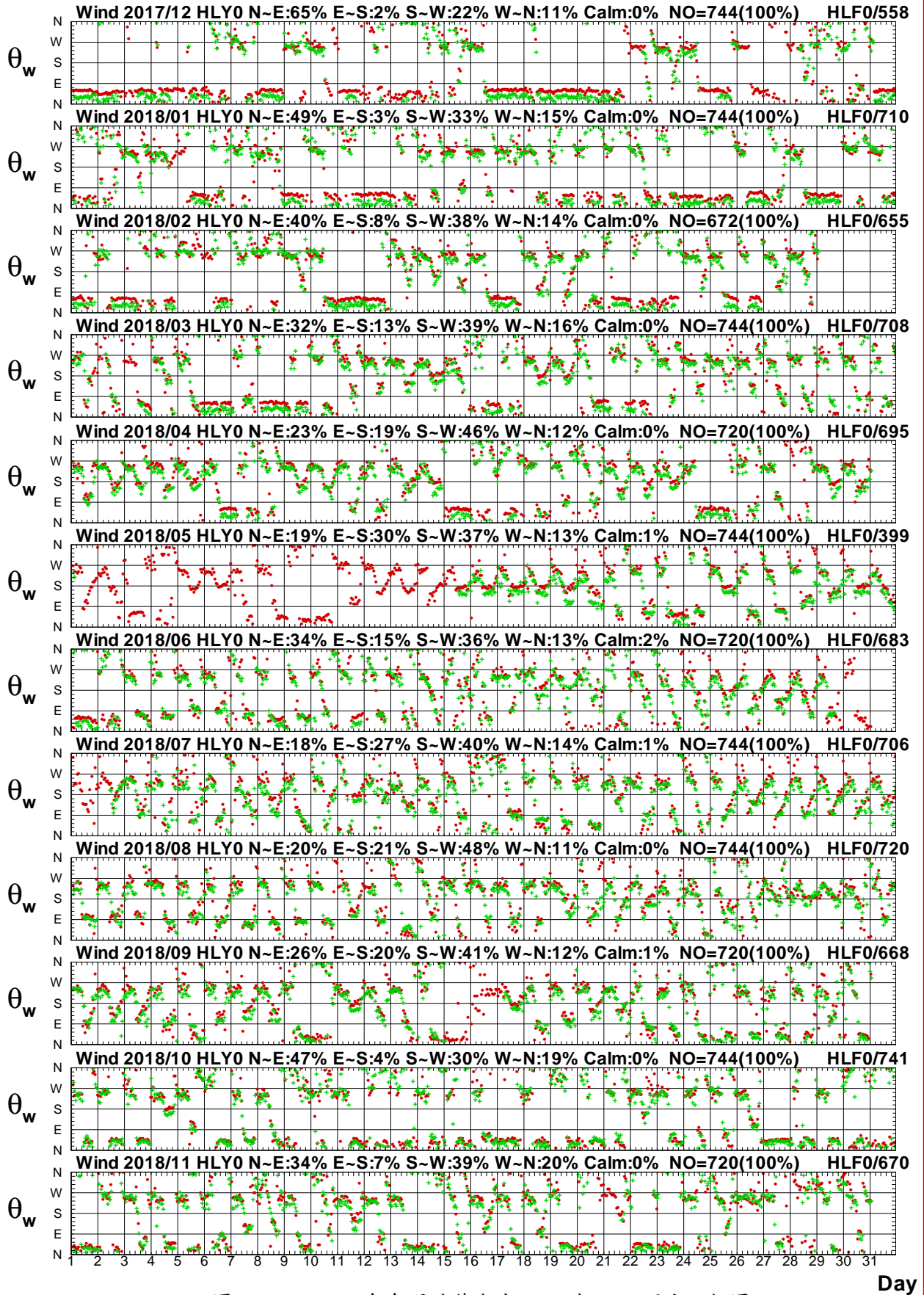


圖1.4.4b 2018年每月花蓮海域 Y 站與 F 站風向比較圖

W17CHLY0.1HA W17CHLF0.1H0 W181HLY0.1HA W181HLF0.1H0 W182HLY0.1HA W182HLF0.1H0
 W183HLY0.1HA W183HLF0.1H0 W184HLY0.1HA W184HLF0.1H0 W185HLY0.1HA W185HLF0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

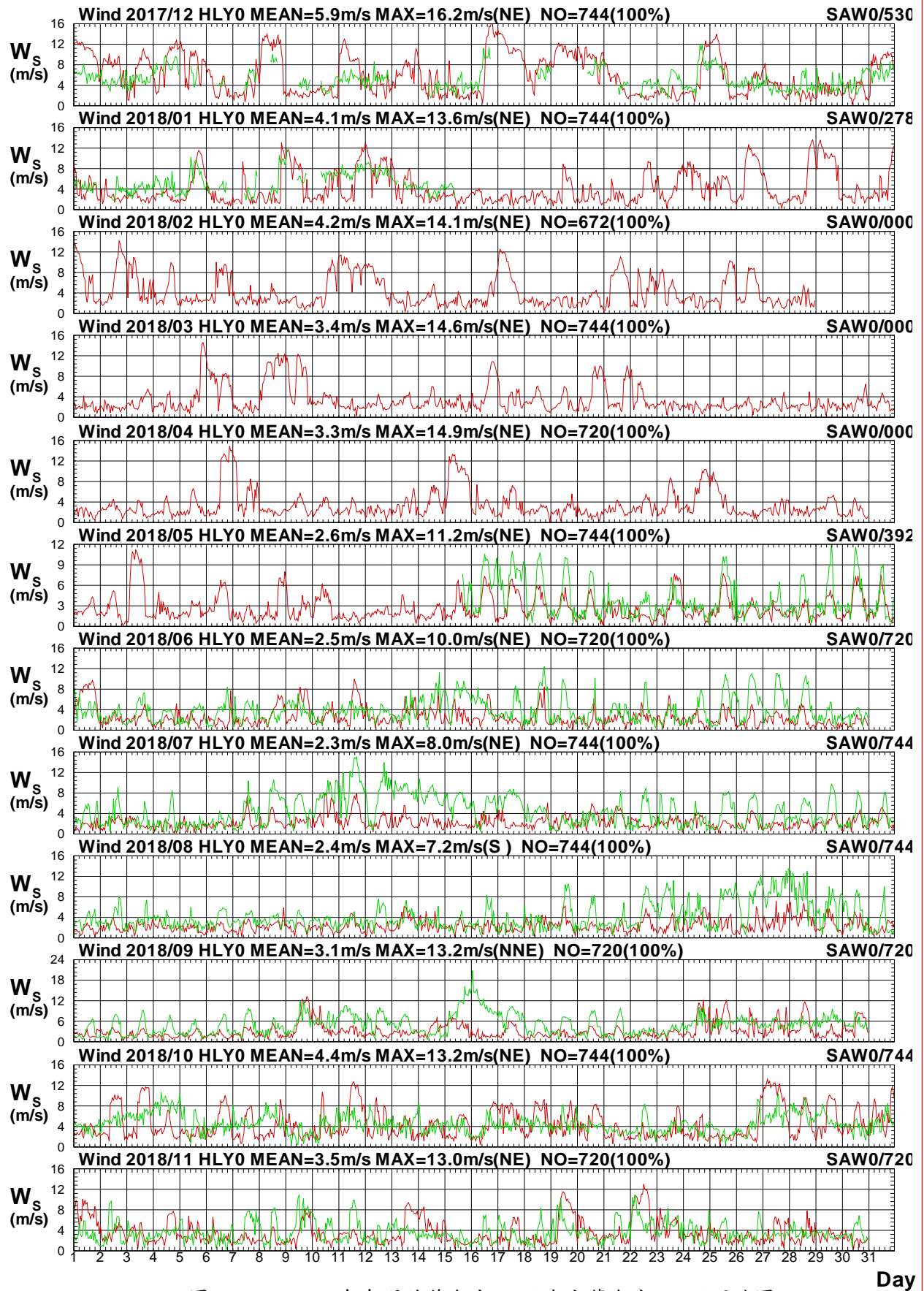


圖 1.4.5a 2018年每月花蓮海域 Y 站與宜蘭海域 W 站風速圖

W17CHLY0.1HA W17CSAW0.1H0 W181HLY0.1HA W181SAW0.1H0 W182HLY0.1HA W182SAW0.1H0
 W183HLY0.1HA W183SAW0.1H0 W184HLY0.1HA W184SAW0.1H0 W185HLY0.1HA W185SAW0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

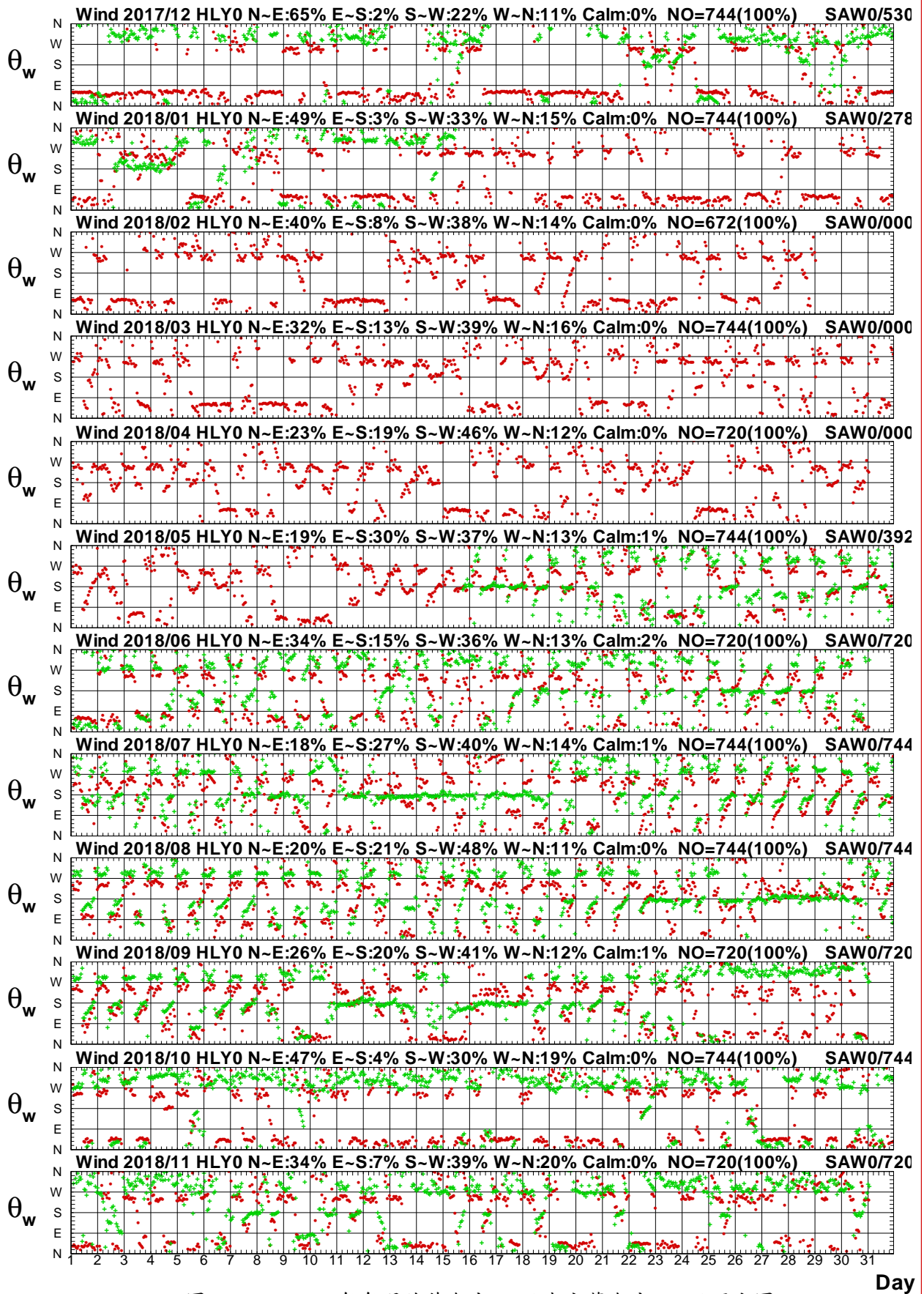


圖1.4.5b 2018年每月花蓮海域 Y 站與宜蘭海域 W 站風向圖

W17CHLY0.1HA W17CSAW0.1H0 W181HLY0.1HA W181SAW0.1H0 W182HLY0.1HA W182SAW0.1H0
 W183HLY0.1HA W183SAW0.1H0 W184HLY0.1HA W184SAW0.1H0 W185HLY0.1HA W185SAW0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

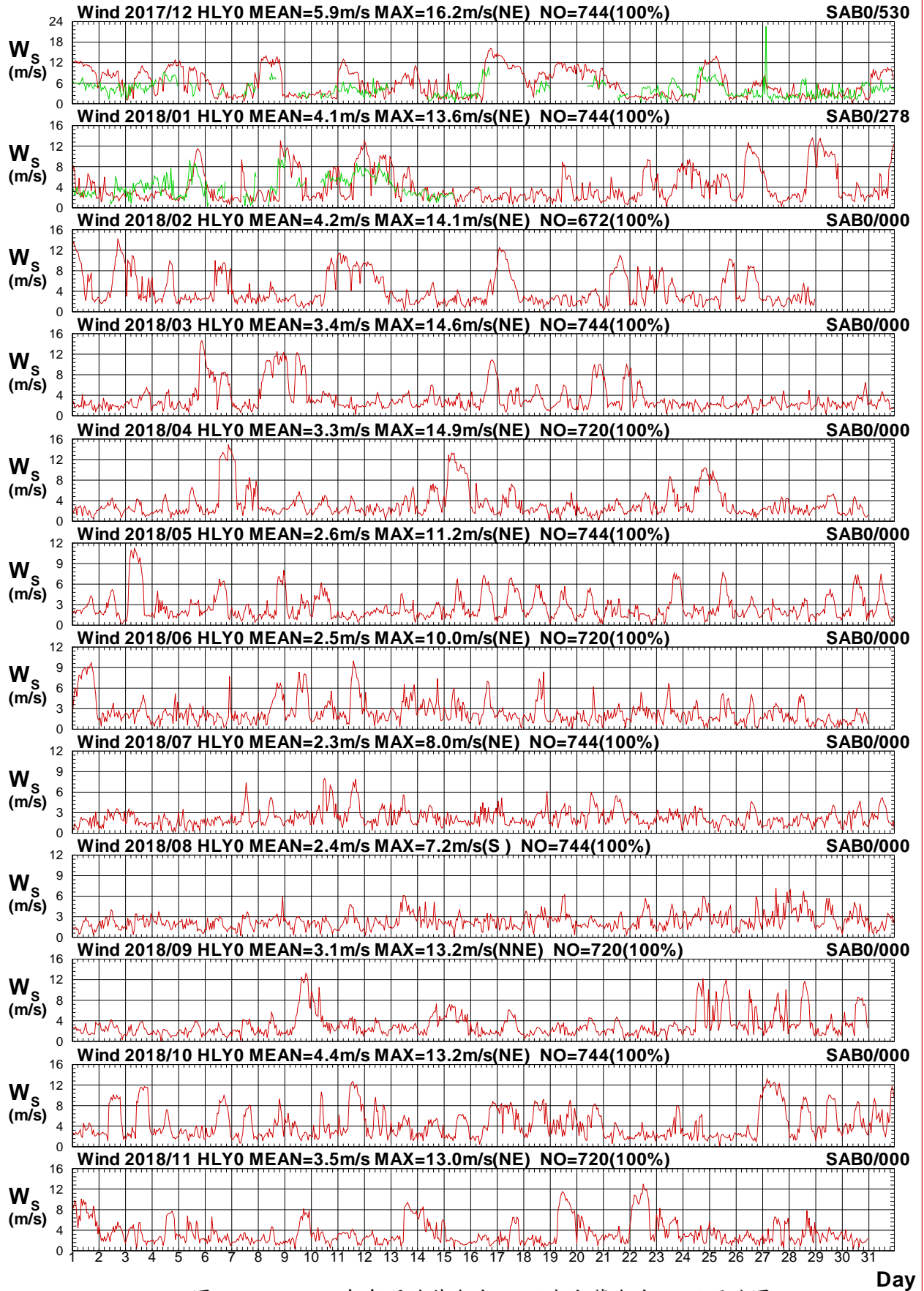


圖1.4.6a 2018年每月花蓮海域 Y 站與宜蘭海域 B 站風速圖

W17CHLY0.1HA W17CSAB0.1H0 W181HLY0.1HA W181SAB0.1H0 W182HLY0.1HA W182SAB0.1H0
 W183HLY0.1HA W183SAB0.1H0 W184HLY0.1HA W184SAB0.1H0 W185HLY0.1HA W185SAB0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

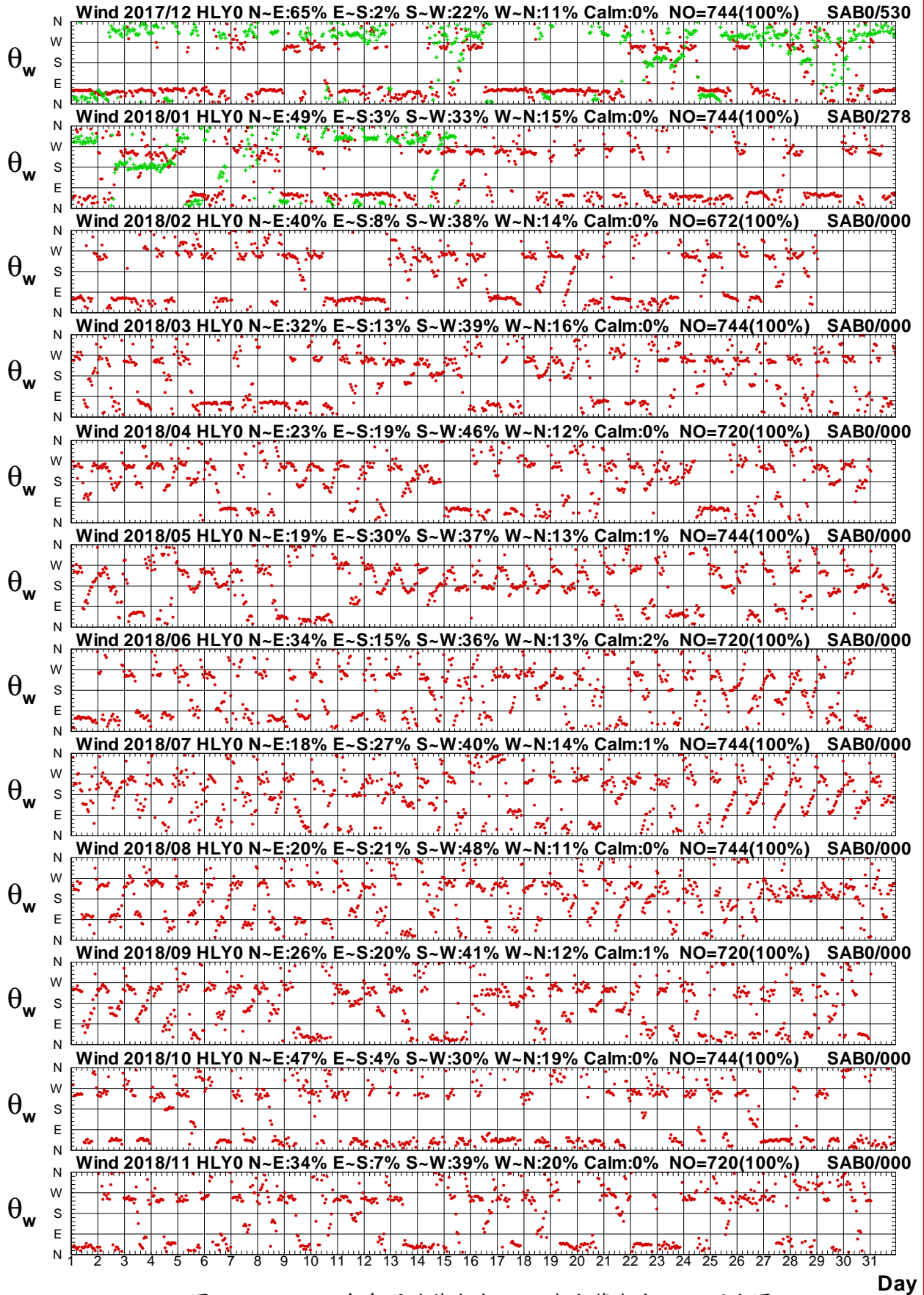


圖1.4.6b 2018年每月花蓮海域 Y 站與宜蘭海域 B 站風向圖

W17CHLY0.1HA W17CSAB0.1H0 W181HLY0.1HA W181SAB0.1H0 W182HLY0.1HA W182SAB0.1H0
 W183HLY0.1HA W183SAB0.1H0 W184HLY0.1HA W184SAB0.1H0 W185HLY0.1HA W185SAB0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

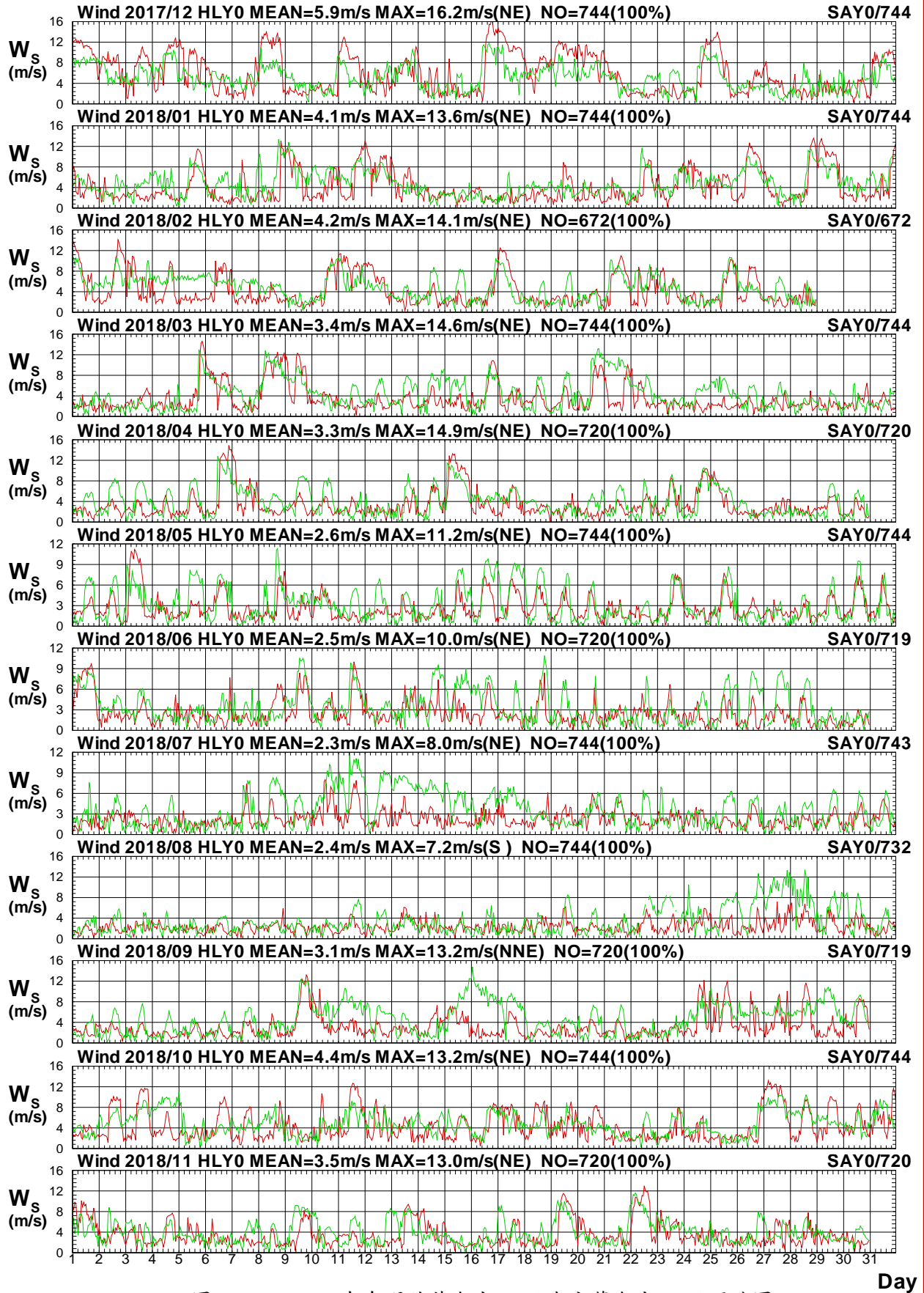


圖1.4.7a 2018年每月花蓮海域 Y 站與宜蘭海域 Y 站風速圖

W17CHLY0.1HA W17CSAY0.1H0 W181HLY0.1HA W181SAY0.1H0 W182HLY0.1HA W182SAY0.1H0
 W183HLY0.1HA W183SAY0.1H0 W184HLY0.1HA W184SAY0.1H0 W185HLY0.1HA W185SAY0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

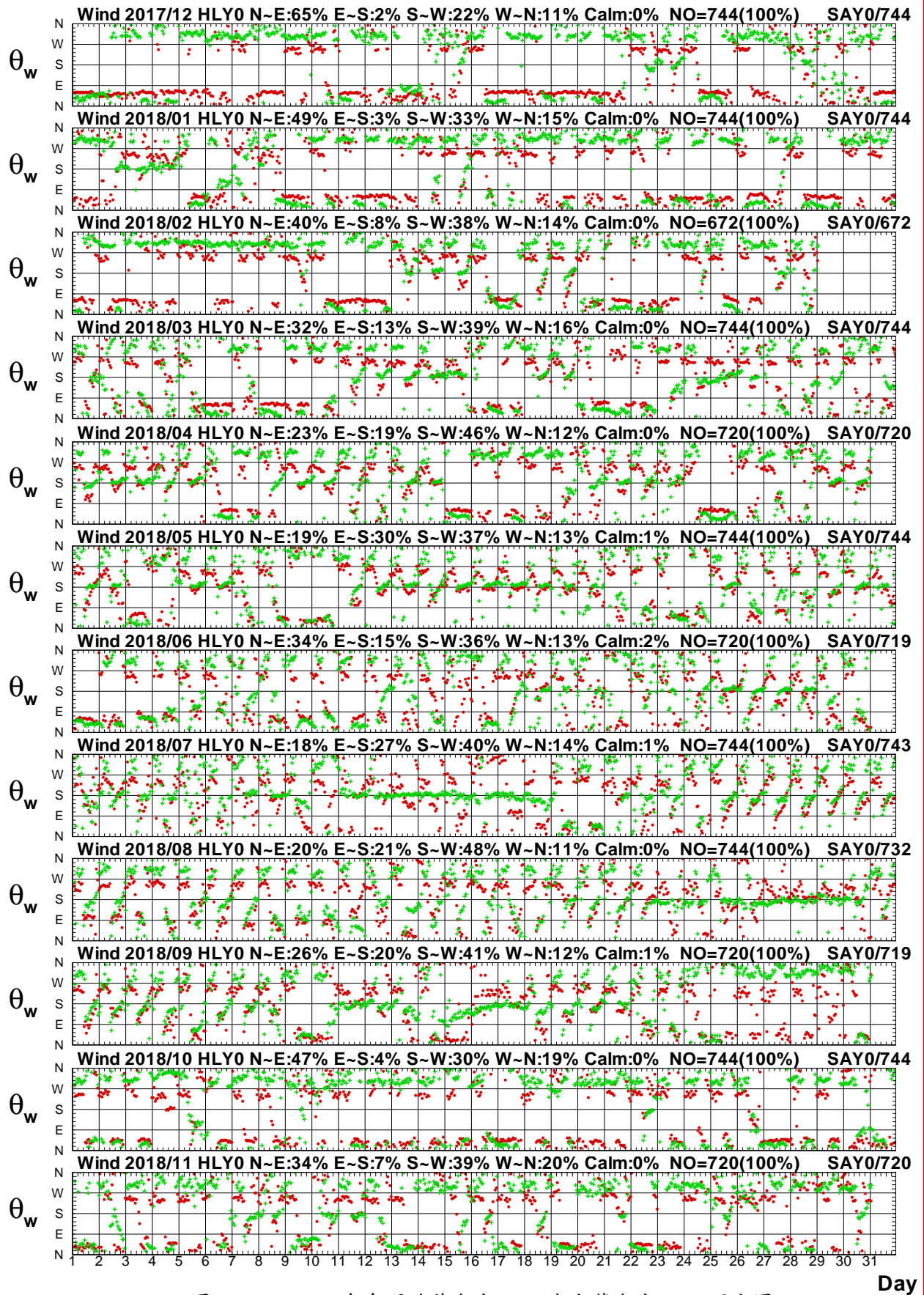


圖1.4.7b 2018年每月花蓮海域 Y 站與宜蘭海域 Y 站風向圖

W17CHLY0.1HA W17CSAY0.1H0 W181HLY0.1HA W181SAY0.1H0 W182HLY0.1HA W182SAY0.1H0
W183HLY0.1HA W183SAY0.1H0 W184HLY0.1HA W184SAY0.1H0 W185HLY0.1HA W185SAY0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

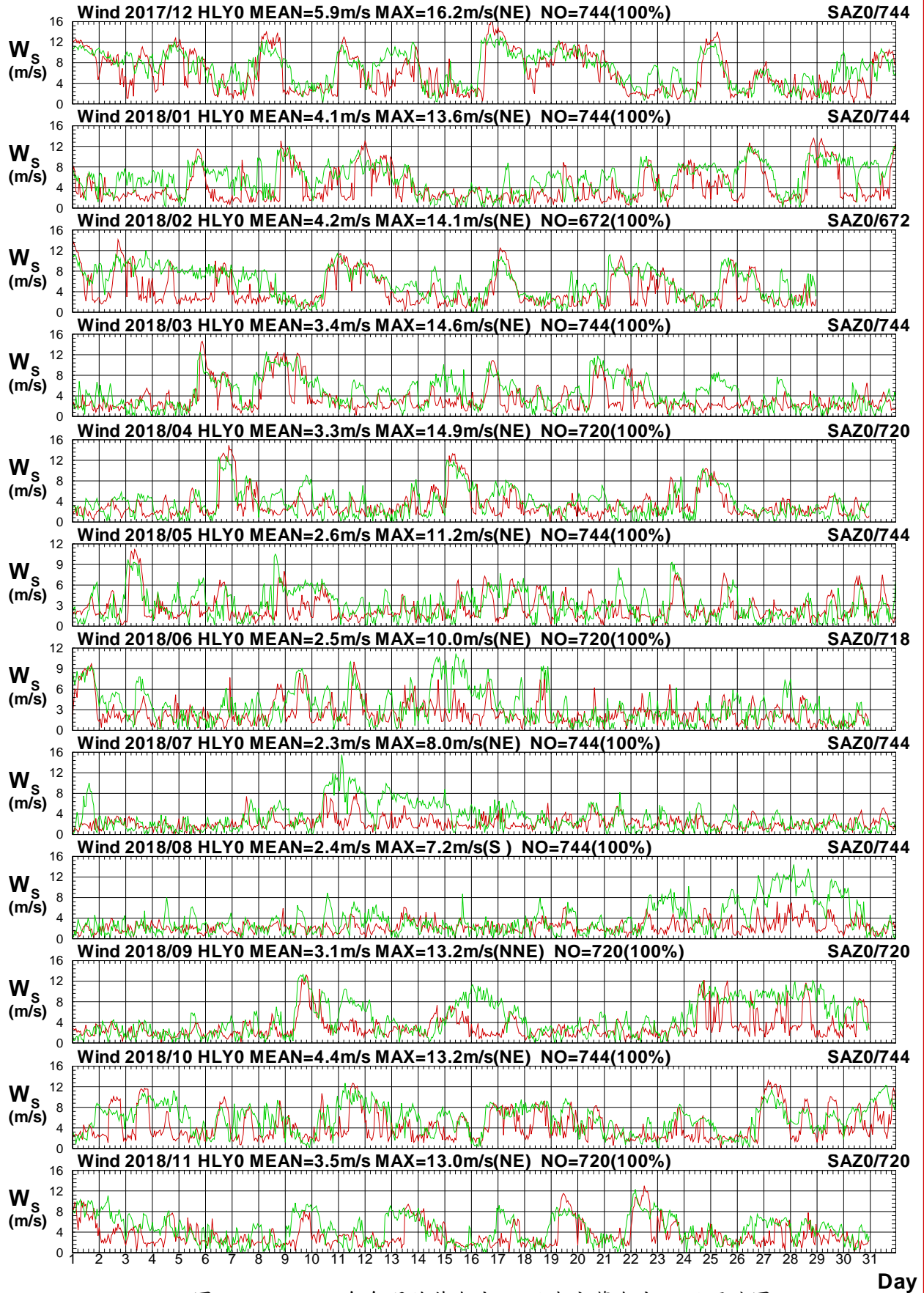


圖1.4.8a 2018年每月花蓮海域 Y 站與宜蘭海域 Z 站風速圖

W17CHLY0.1HA W17CSAZ0.1H0 W181HLY0.1HA W181SAZ0.1H0 W182HLY0.1HA W182SAZ0.1H0
 W183HLY0.1HA W183SAZ0.1H0 W184HLY0.1HA W184SAZ0.1H0 W185HLY0.1HA W185SAZ0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

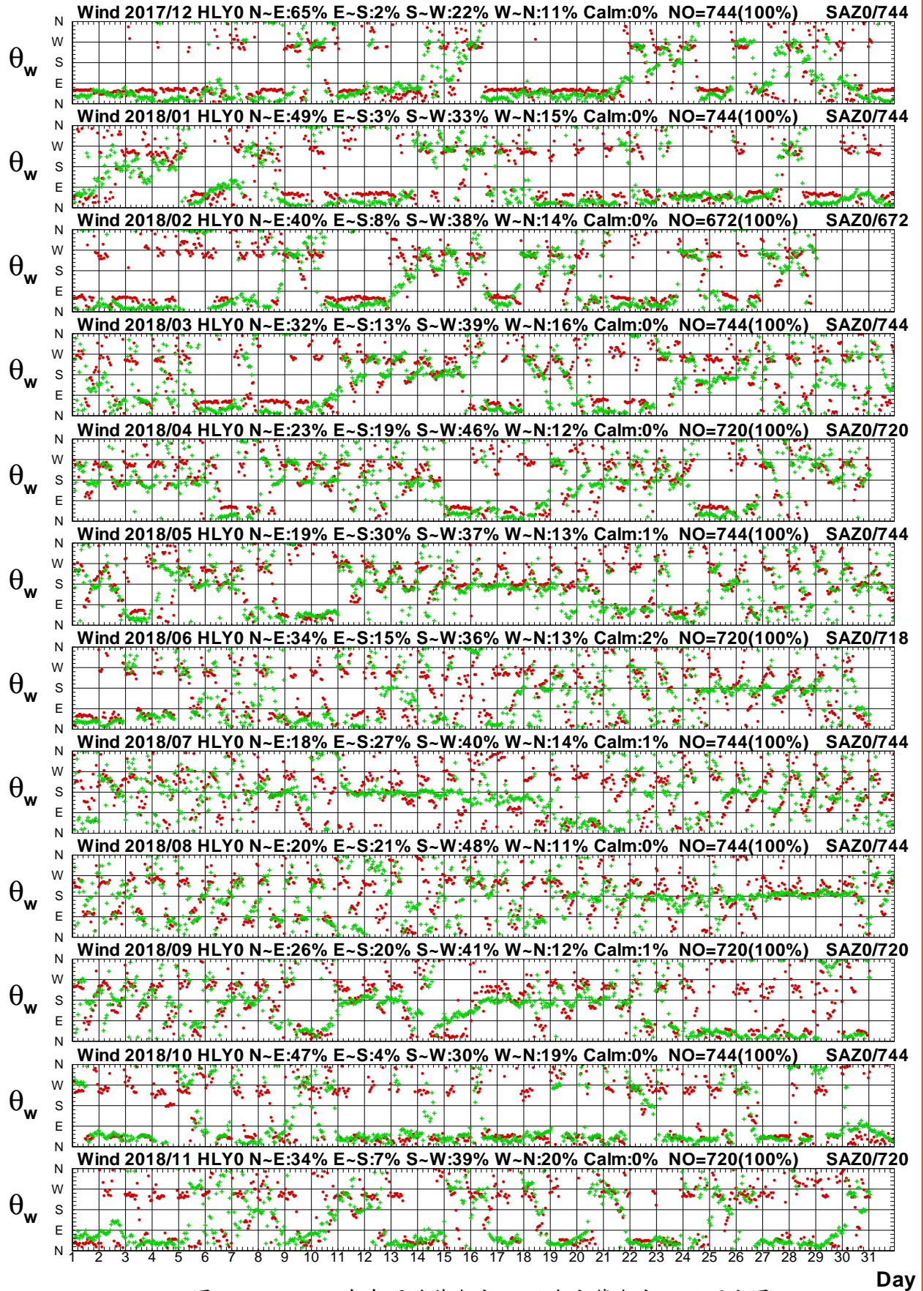


圖1.4.8b 2018年每月花蓮海域 Y 站與宜蘭海域 Z 站風向圖

W17CHLY0.1HA W17CSAZ0.1H0 W181HLY0.1HA W181SAZ0.1H0 W182HLY0.1HA W182SAZ0.1H0
 W183HLY0.1HA W183SAZ0.1H0 W184HLY0.1HA W184SAZ0.1H0 W185HLY0.1HA W185SAZ0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

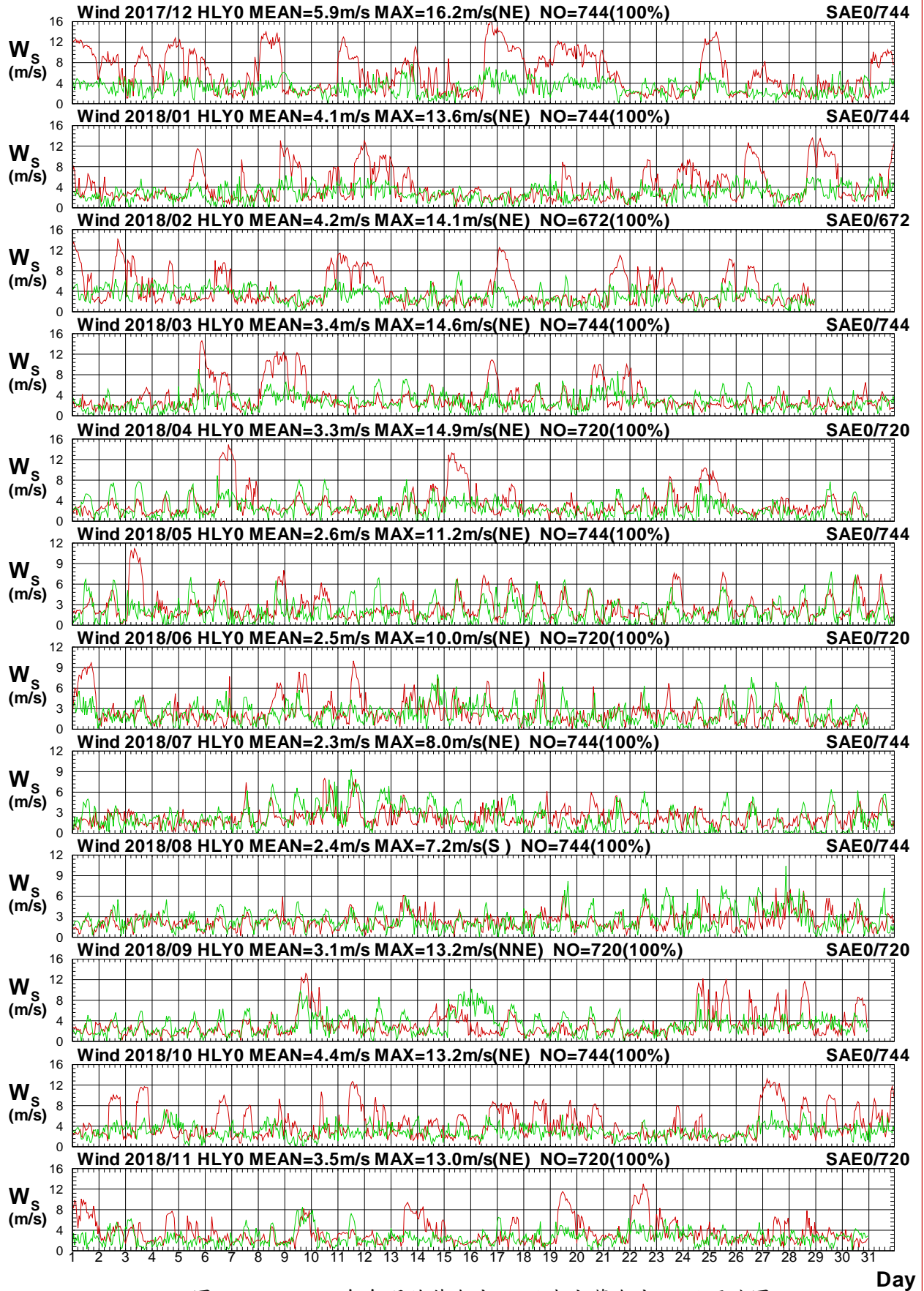


圖1.4.9a 2018年每月花蓮海域 Y 站與宜蘭海域 E 站風速圖

W17CHLY0.1HA W17CSAE0.1H0 W181HLY0.1HA W181SAE0.1H0 W182HLY0.1HA W182SAE0.1H0
 W183HLY0.1HA W183SAE0.1H0 W184HLY0.1HA W184SAE0.1H0 W185HLY0.1HA W185SAE0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

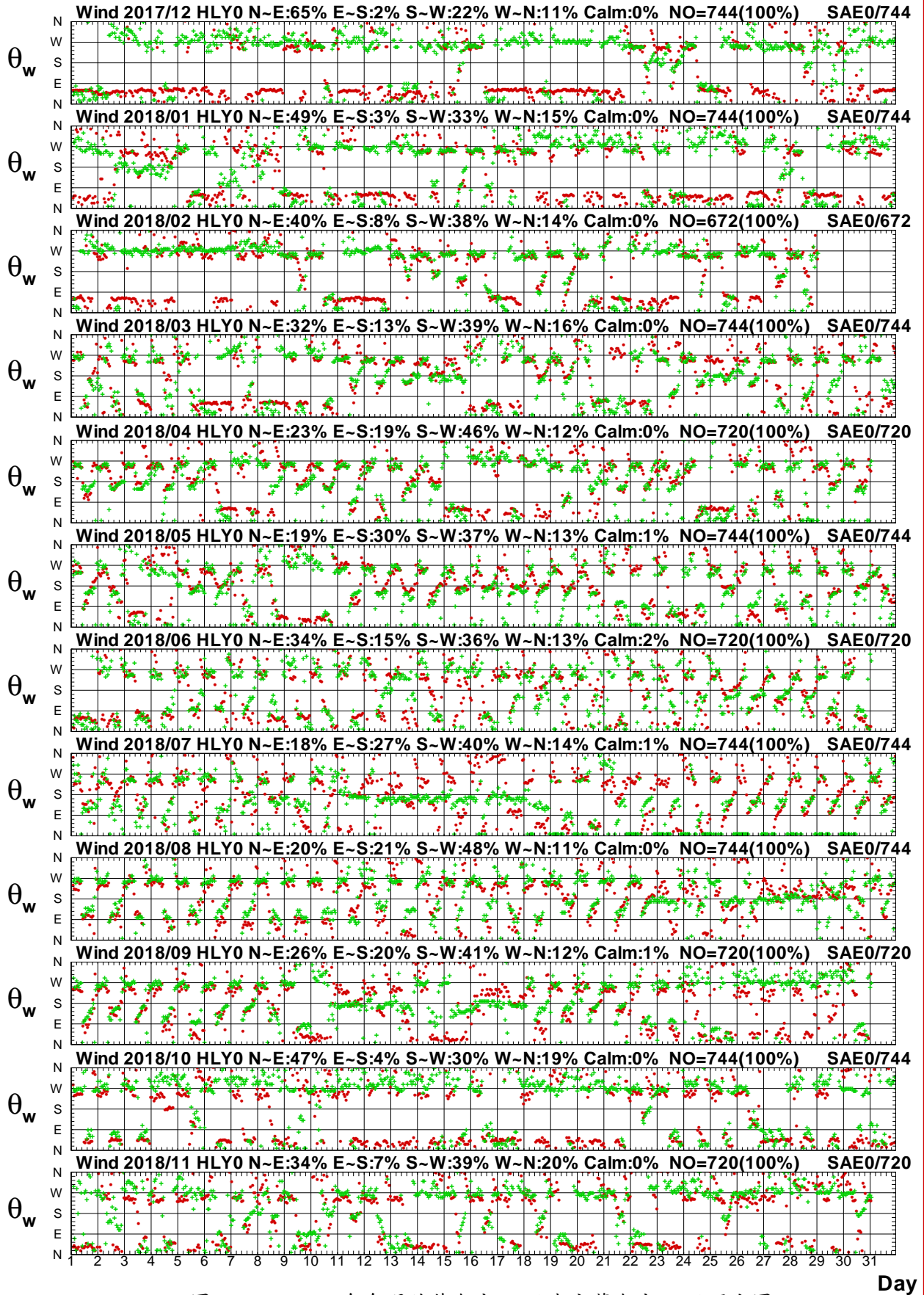


圖1.4.9b 2018年每月花蓮海域 Y 站與宜蘭海域 E 站風向圖

W17CHLY0.1HA W17CSAE0.1H0 W181HLY0.1HA W181SAE0.1H0 W182HLY0.1HA W182SAE0.1H0
W183HLY0.1HA W183SAE0.1H0 W184HLY0.1HA W184SAE0.1H0 W185HLY0.1HA W185SAE0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

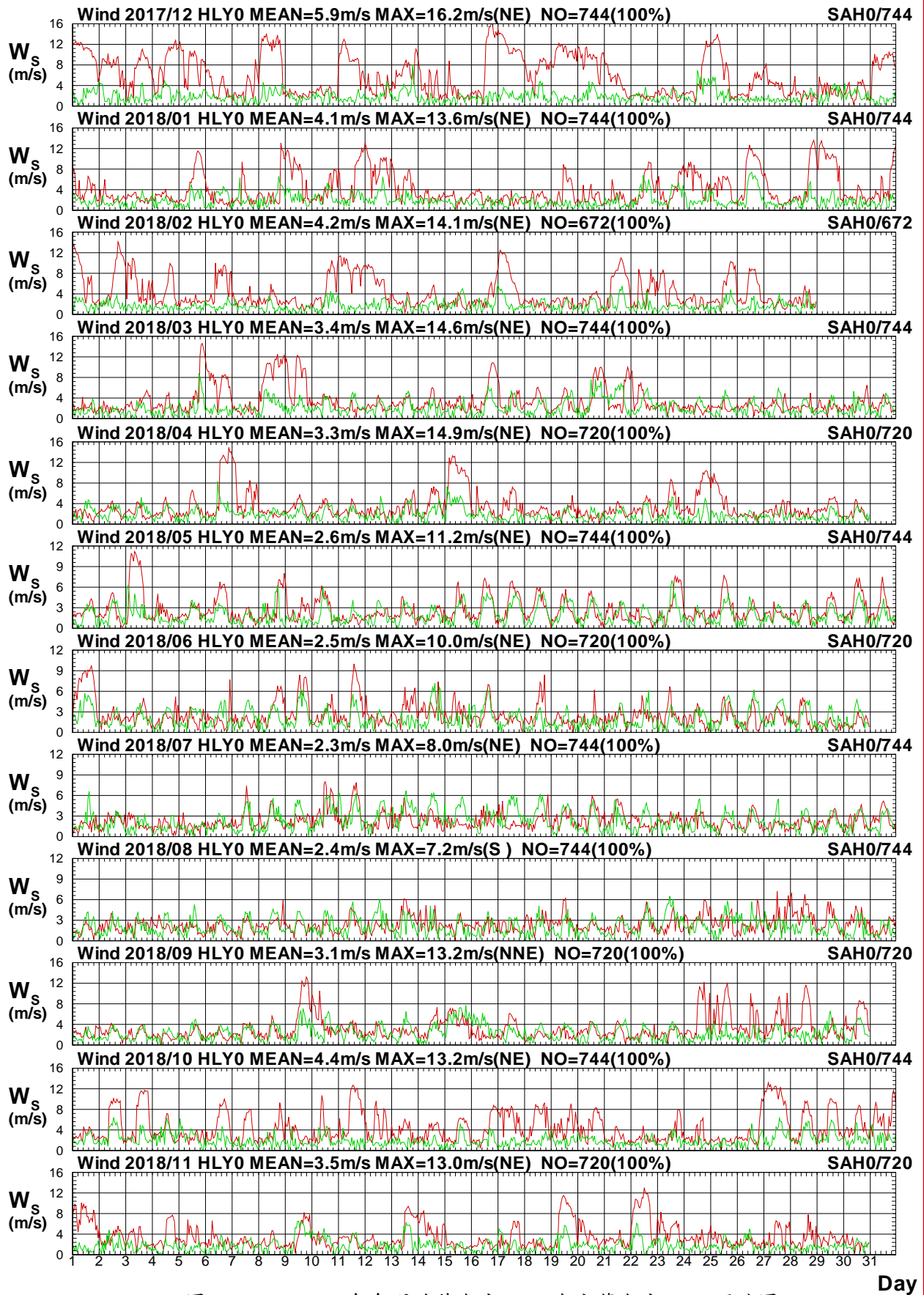


圖 1.4.10a 2018 年每月花蓮海域 Y 站與宜蘭海域 H 站風速圖

W17CHLY0.1HA W17CSAH0.1HO W181HLY0.1HA W181SAH0.1HO W182HLY0.1HA W182SAH0.1HO
W183HLY0.1HA W183SAH0.1HO W184HLY0.1HA W184SAH0.1HO W185HLY0.1HA W185SAH0.1HO

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

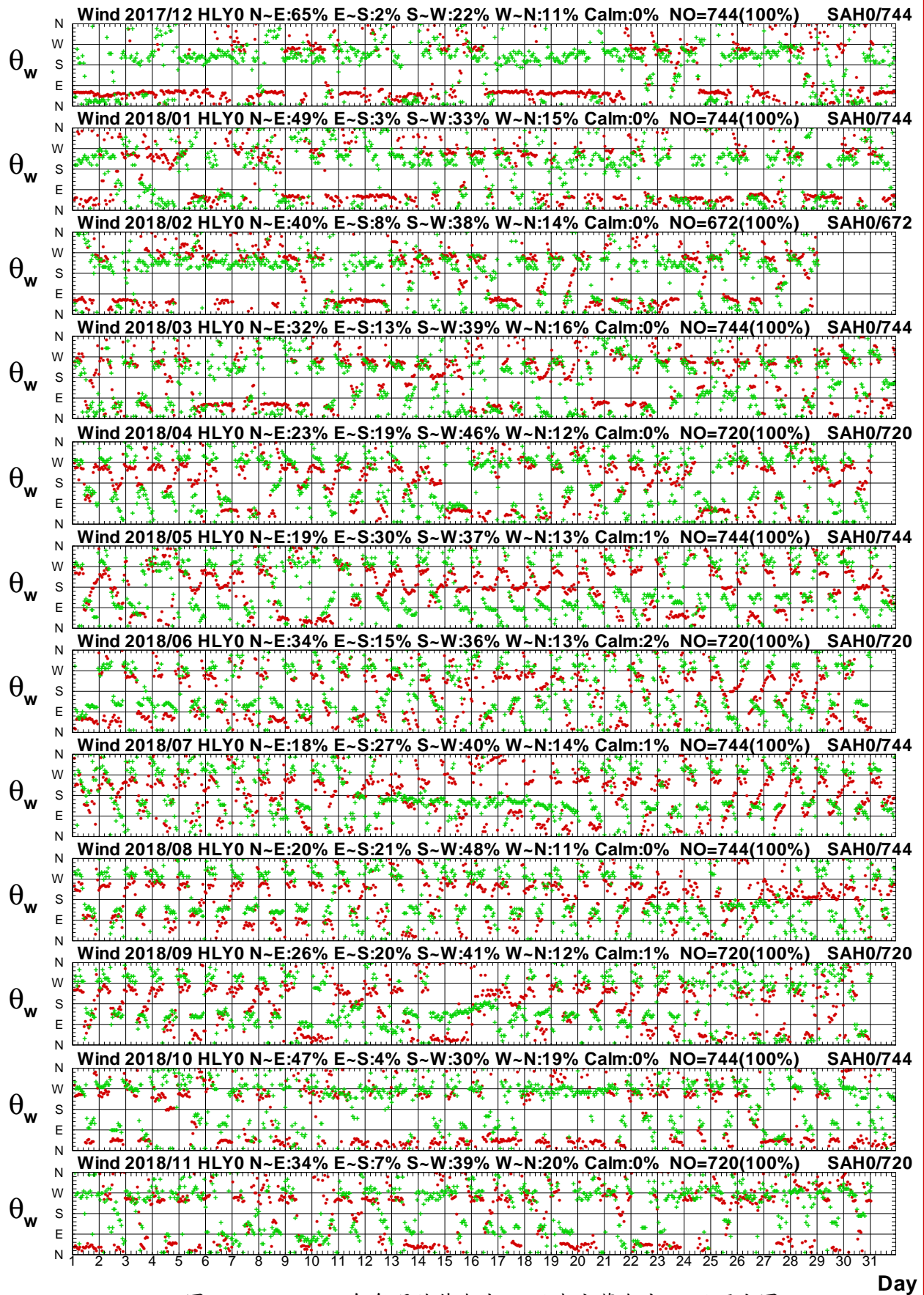


圖1.4.10b 2018年每月花蓮海域 Y 站與宜蘭海域 H 站風向圖

W17CHLY0.1HA W17CSAH0.1H0 W181HLY0.1HA W181SAH0.1H0 W182HLY0.1HA W182SAH0.1H0
W183HLY0.1HA W183SAH0.1H0 W184HLY0.1HA W184SAH0.1H0 W185HLY0.1HA W185SAH0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

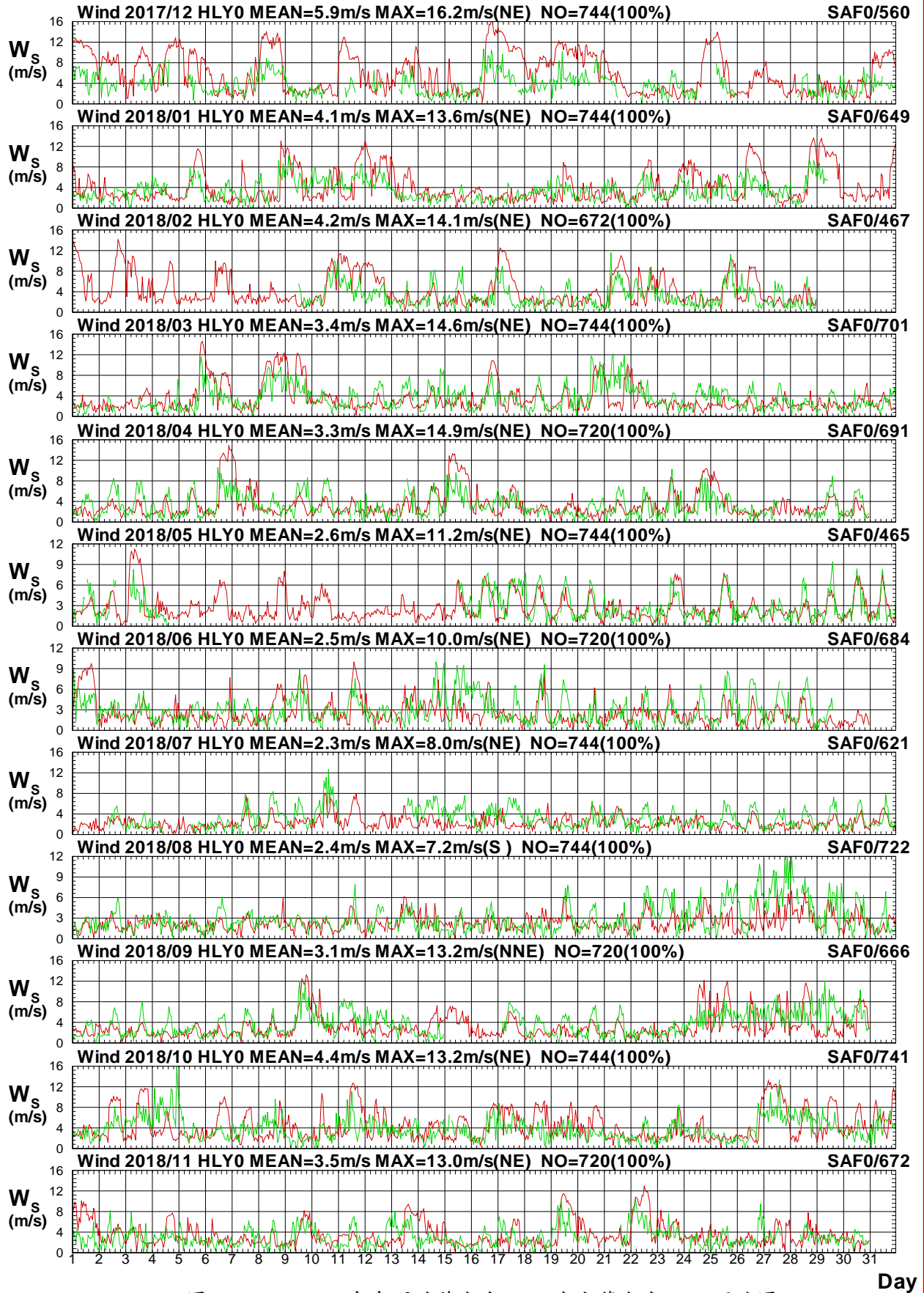


圖1.4.11a 2018年每月花蓮海域 Y 站與宜蘭海域 F 站風速圖

W17CHLY0.1HA W17CSAF0.1H0 W181HLY0.1HA W181SAF0.1H0 W182HLY0.1HA W182SAF0.1H0
 W183HLY0.1HA W183SAF0.1H0 W184HLY0.1HA W184SAF0.1H0 W185HLY0.1HA W185SAF0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

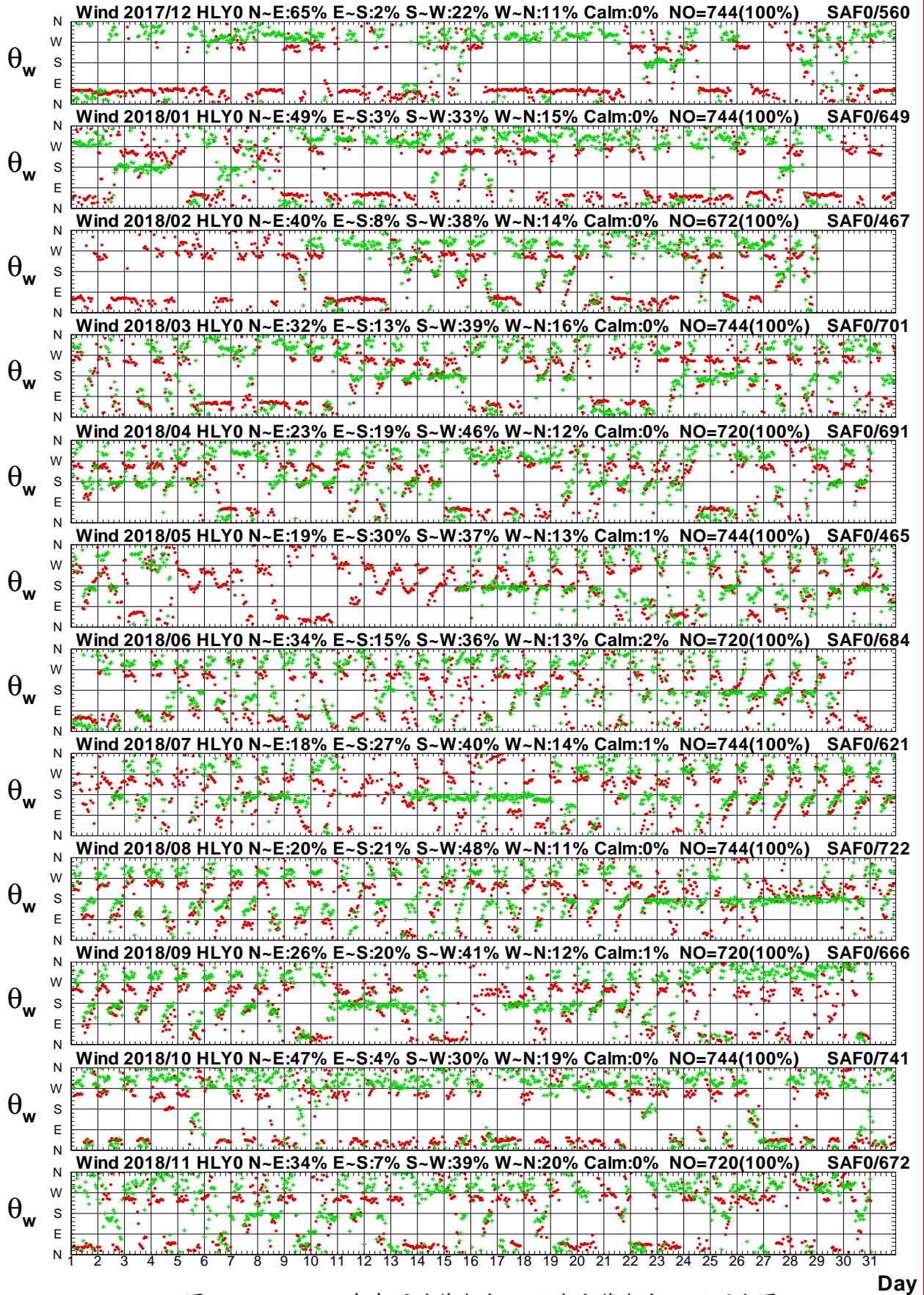


圖1.4.11b 2018年每月花蓮海域 Y 站與宜蘭海域 F 站風向圖

W17CHLY0.1HA W17CSAF0.1H0 W181HLY0.1HA W181SAF0.1H0 W182HLY0.1HA W182SAF0.1H0
 W183HLY0.1HA W183SAF0.1H0 W184HLY0.1HA W184SAF0.1H0 W185HLY0.1HA W185SAF0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

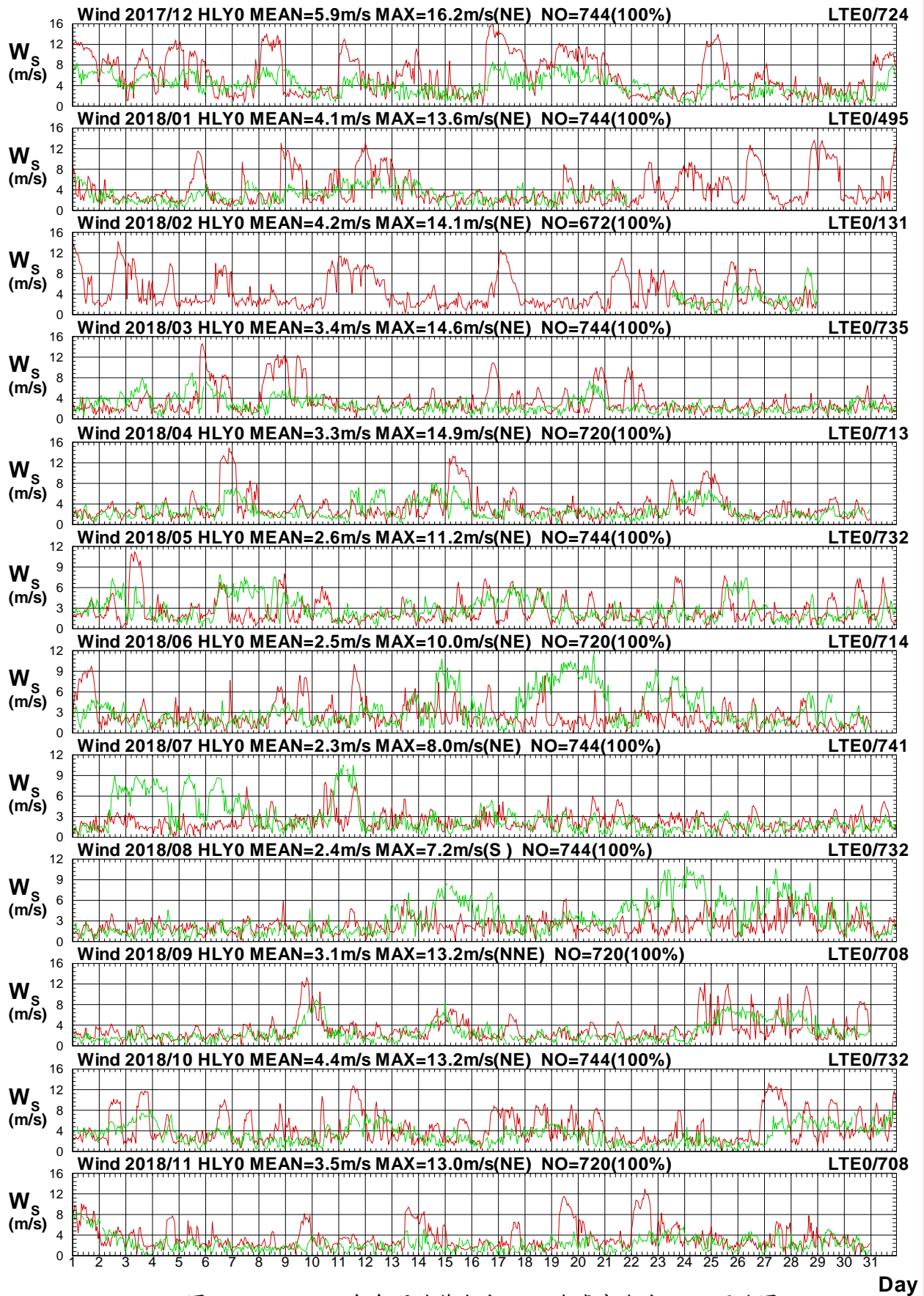


圖1.4.12a 2018年每月花蓮海域 Y 站與臺東海域 E 站風速圖

W17CHLY0.1HA W17CLTE0.1H0 W181HLY0.1HA W181LTE0.1H0 W182HLY0.1HA W182LTE0.1H0
 W183HLY0.1HA W183LTE0.1H0 W184HLY0.1HA W184LTE0.1H0 W185HLY0.1HA W185LTE0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

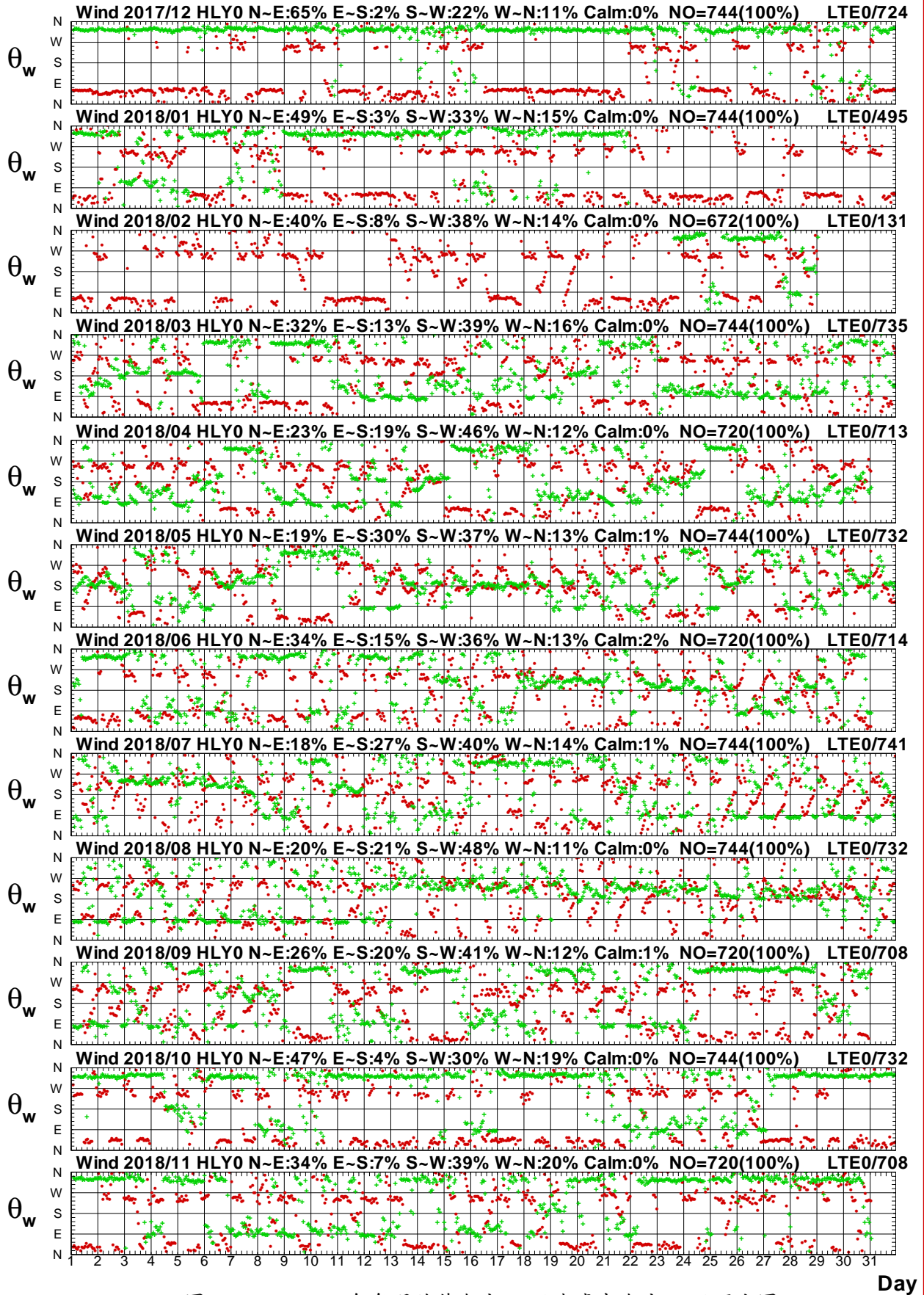


圖1.4.12b 2018年每月花蓮海域 Y 站與臺東海域 E 站風向圖

W17CHLY0.1HA W17CLTE0.1H0 W181HLY0.1HA W181LTE0.1H0 W182HLY0.1HA W182LTE0.1H0
 W183HLY0.1HA W183LTE0.1H0 W184HLY0.1HA W184LTE0.1H0 W185HLY0.1HA W185LTE0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

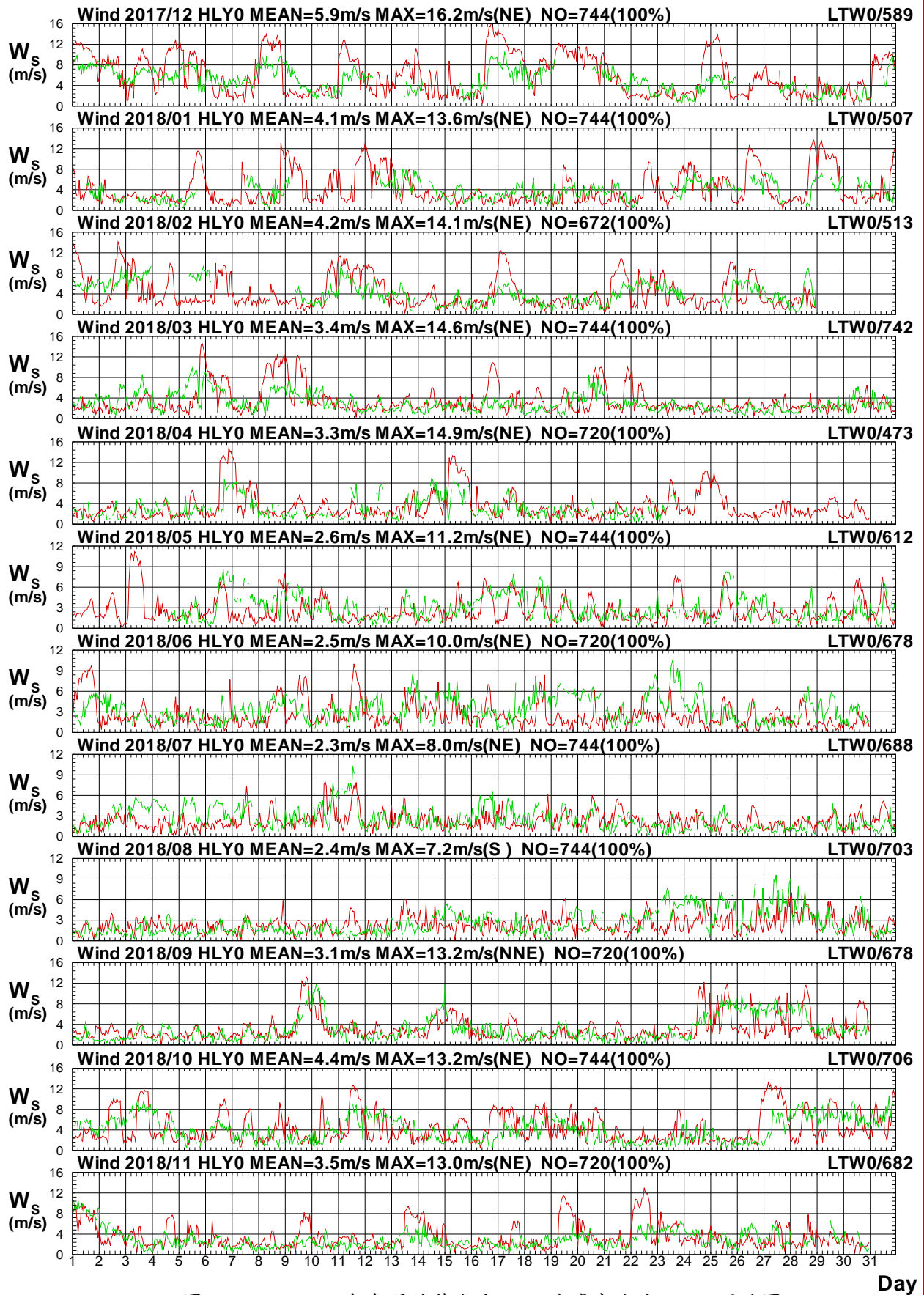


圖 1.4.13a 2018年每月花蓮海域 Y 站與臺東海域 W 站風速圖

W17CHLY0.1HA W17CLTW0.1HO W181HLY0.1HA W181LTW0.1HO W182HLY0.1HA W182LTW0.1HO
W183HLY0.1HA W183LTW0.1HO W184HLY0.1HA W184LTW0.1HO W185HLY0.1HA W185LTW0.1HO

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

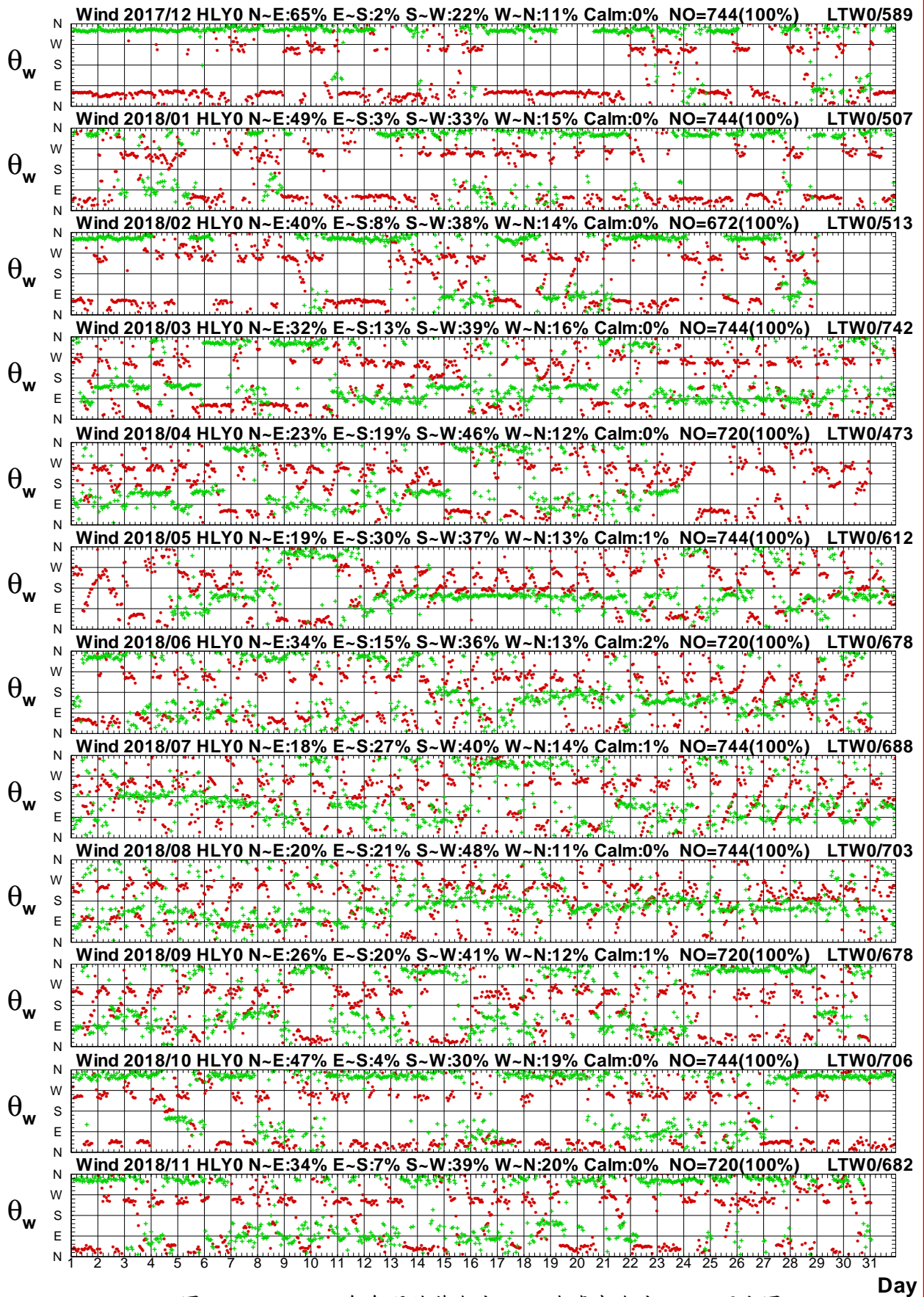


圖 1.4.13b 2018年每月花蓮海域 Y 站與臺東海域 W 站風向圖

W17CHLY0.1HA W17CLTW0.1HO W181HLY0.1HA W181LTW0.1HO W182HLY0.1HA W182LTW0.1HO
W183HLY0.1HA W183LTW0.1HO W184HLY0.1HA W184LTW0.1HO W185HLY0.1HA W185LTW0.1HO

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

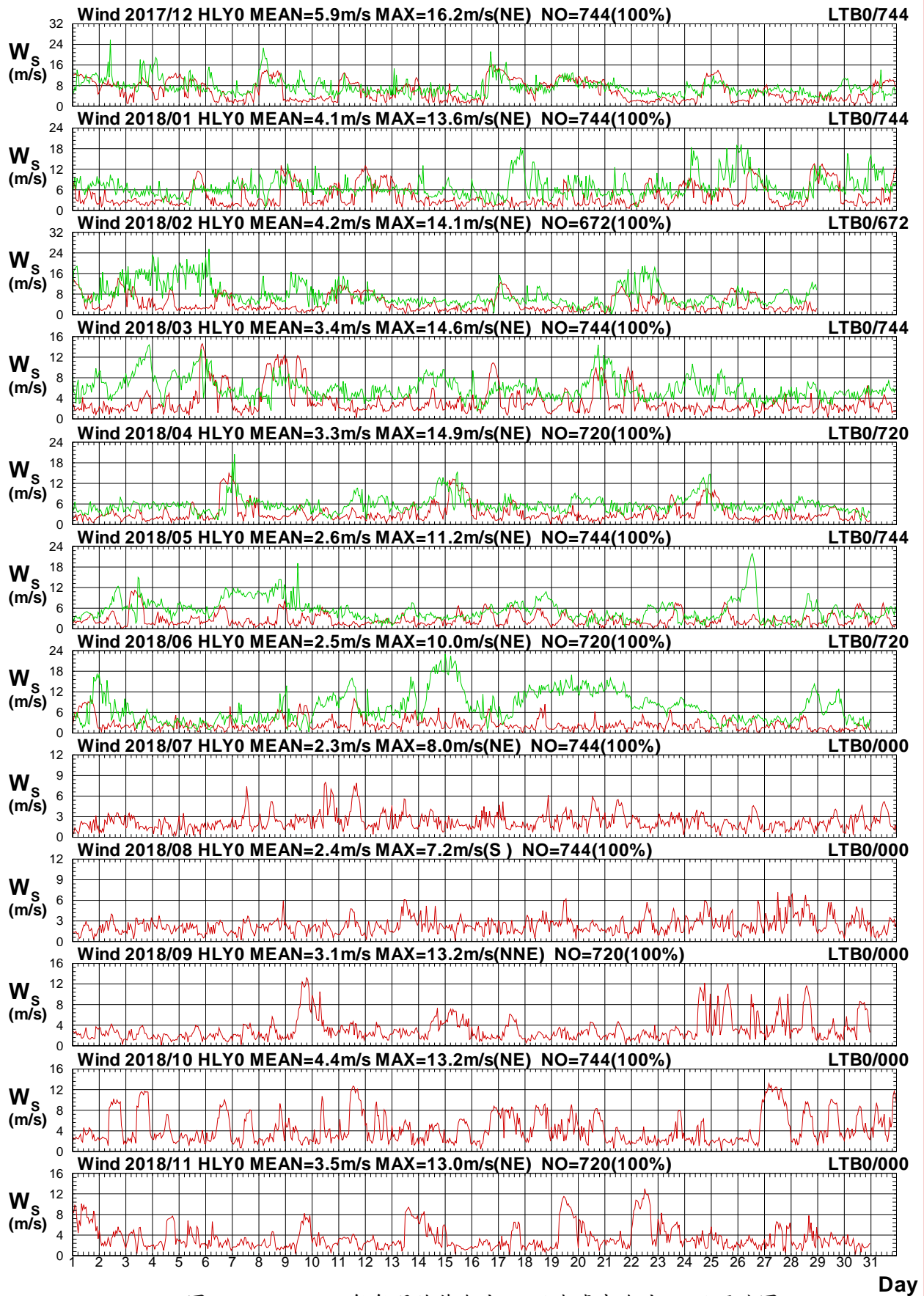


圖1.4.14a 2018年每月花蓮海域 Y 站與臺東海域 B 站風速圖

W17CHLY0.1HA W17CLTB0.1H0 W181HLY0.1HA W181LTB0.1H0 W182HLY0.1HA W182LTB0.1H0
W183HLY0.1HA W183LTB0.1H0 W184HLY0.1HA W184LTB0.1H0 W185HLY0.1HA W185LTB0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

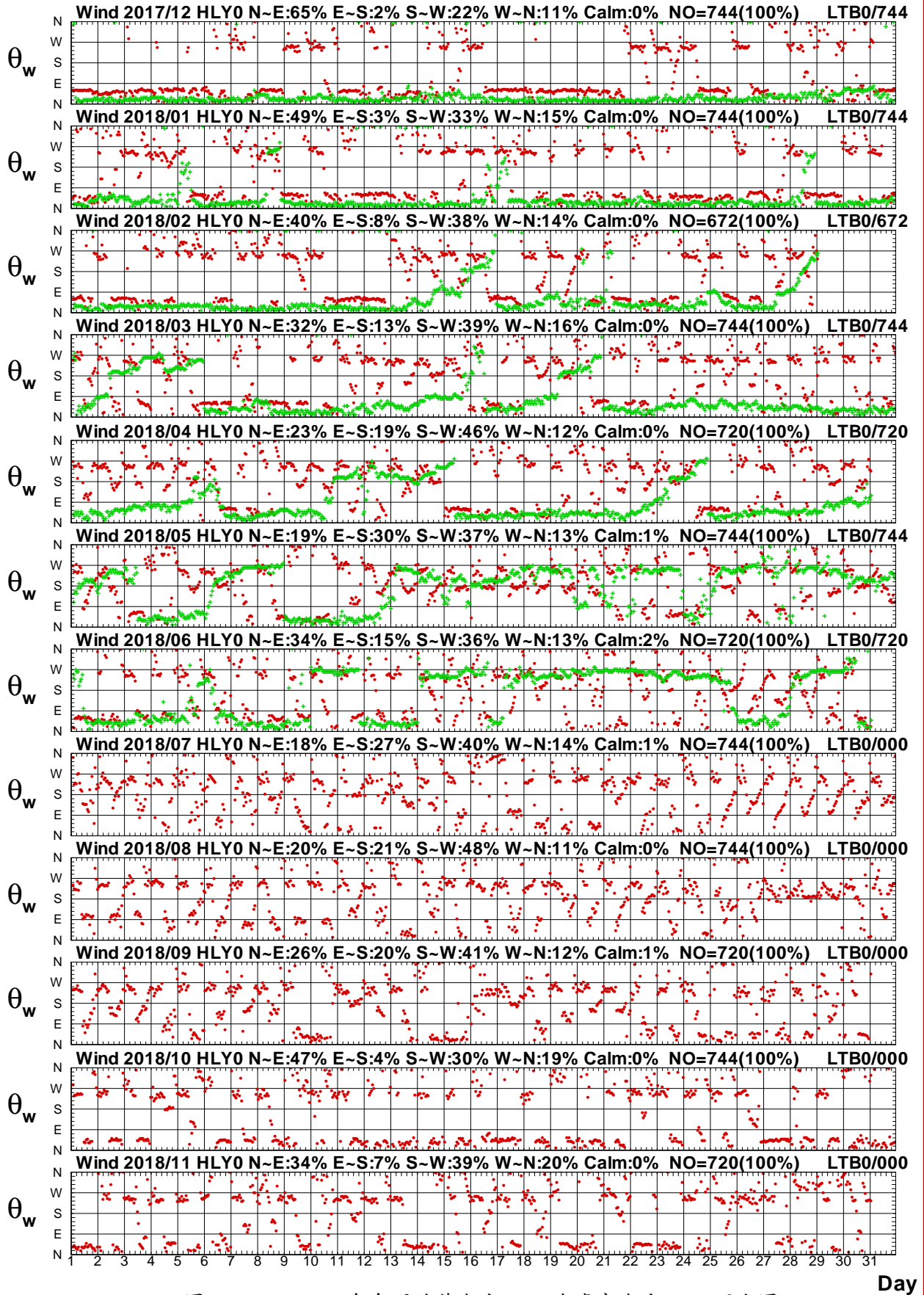


圖1.4.14b 2018年每月花蓮海域 Y 站與臺東海域 B 站風向圖

W17CHLY0.1HA W17CLTB0.1H0 W181HLY0.1HA W181LTB0.1H0 W182HLY0.1HA W182LTB0.1H0
W183HLY0.1HA W183LTB0.1H0 W184HLY0.1HA W184LTB0.1H0 W185HLY0.1HA W185LTB0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

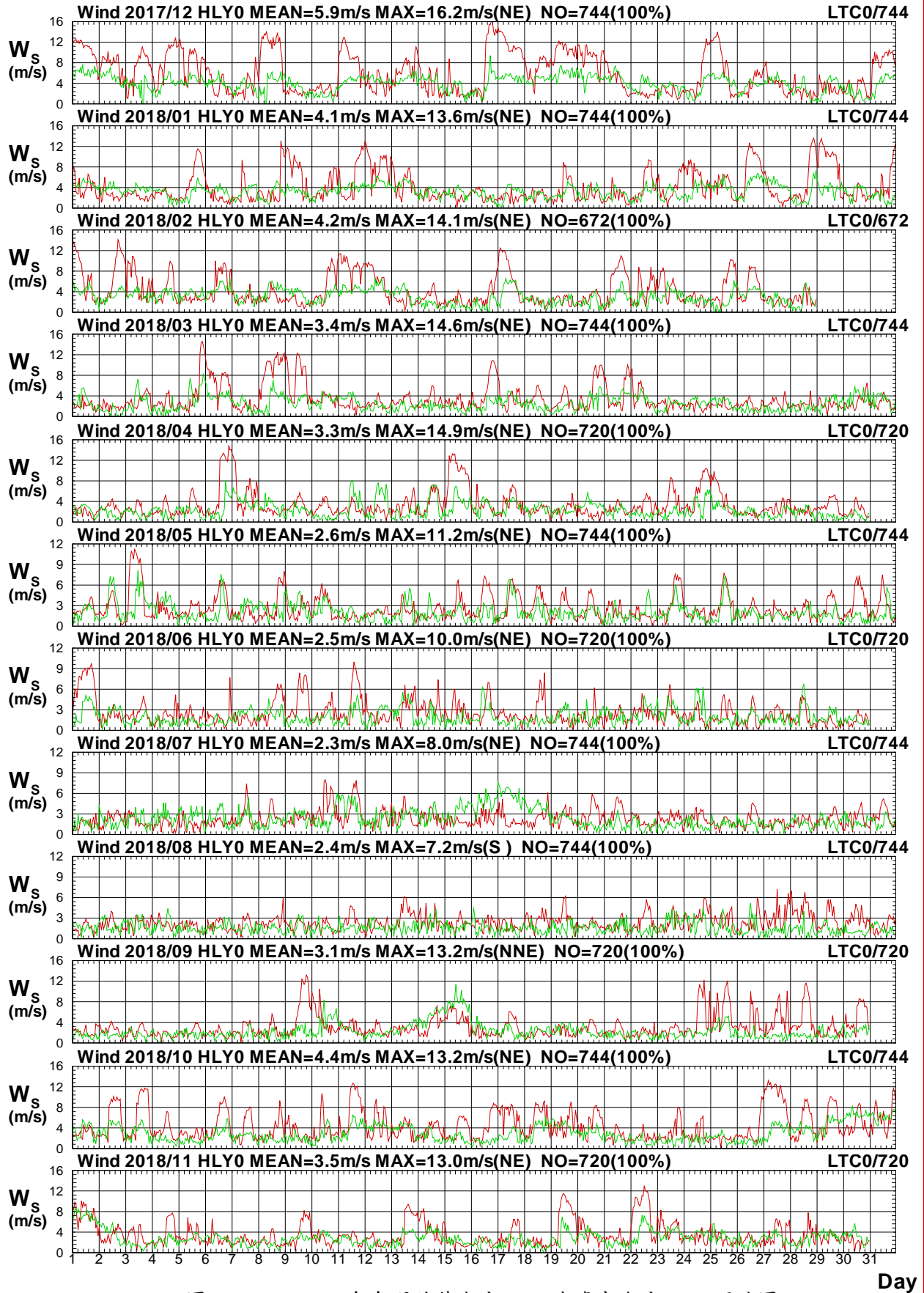


圖1.4.15a 2018年每月花蓮海域 Y 站與臺東海域 C 站風速圖

W17CHLY0.1HA W17CLTC0.1H0 W181HLY0.1HA W181LTC0.1H0 W182HLY0.1HA W182LTC0.1H0
 W183HLY0.1HA W183LTC0.1H0 W184HLY0.1HA W184LTC0.1H0 W185HLY0.1HA W185LTC0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

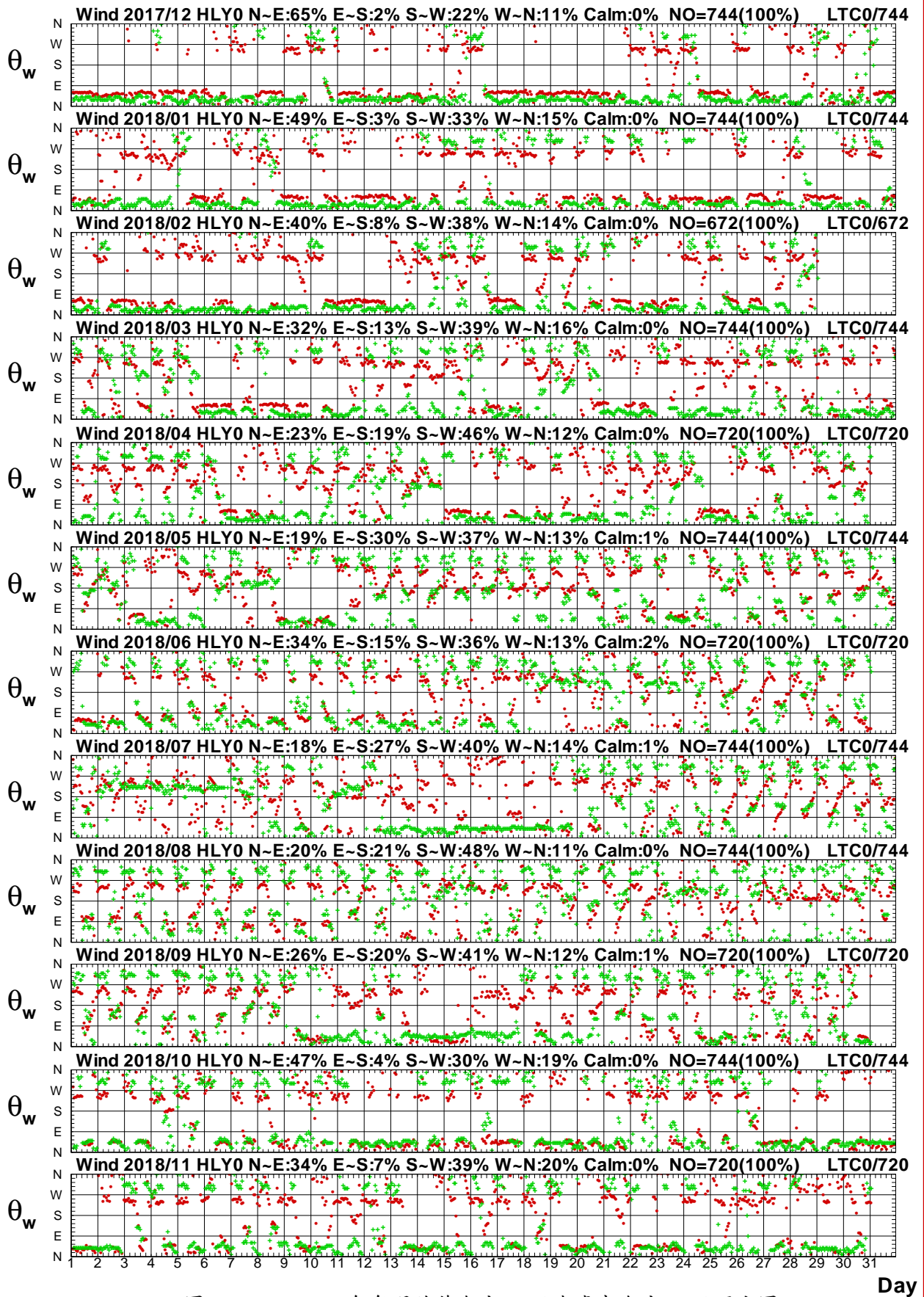


圖1.4.15b 2018年每月花蓮海域 Y 站與臺東海域 C 站風向圖

W17CHLY0.1HA W17CLTC0.1H0 W181HLY0.1HA W181LTC0.1H0 W182HLY0.1HA W182LTC0.1H0
W183HLY0.1HA W183LTC0.1H0 W184HLY0.1HA W184LTC0.1H0 W185HLY0.1HA W185LTC0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

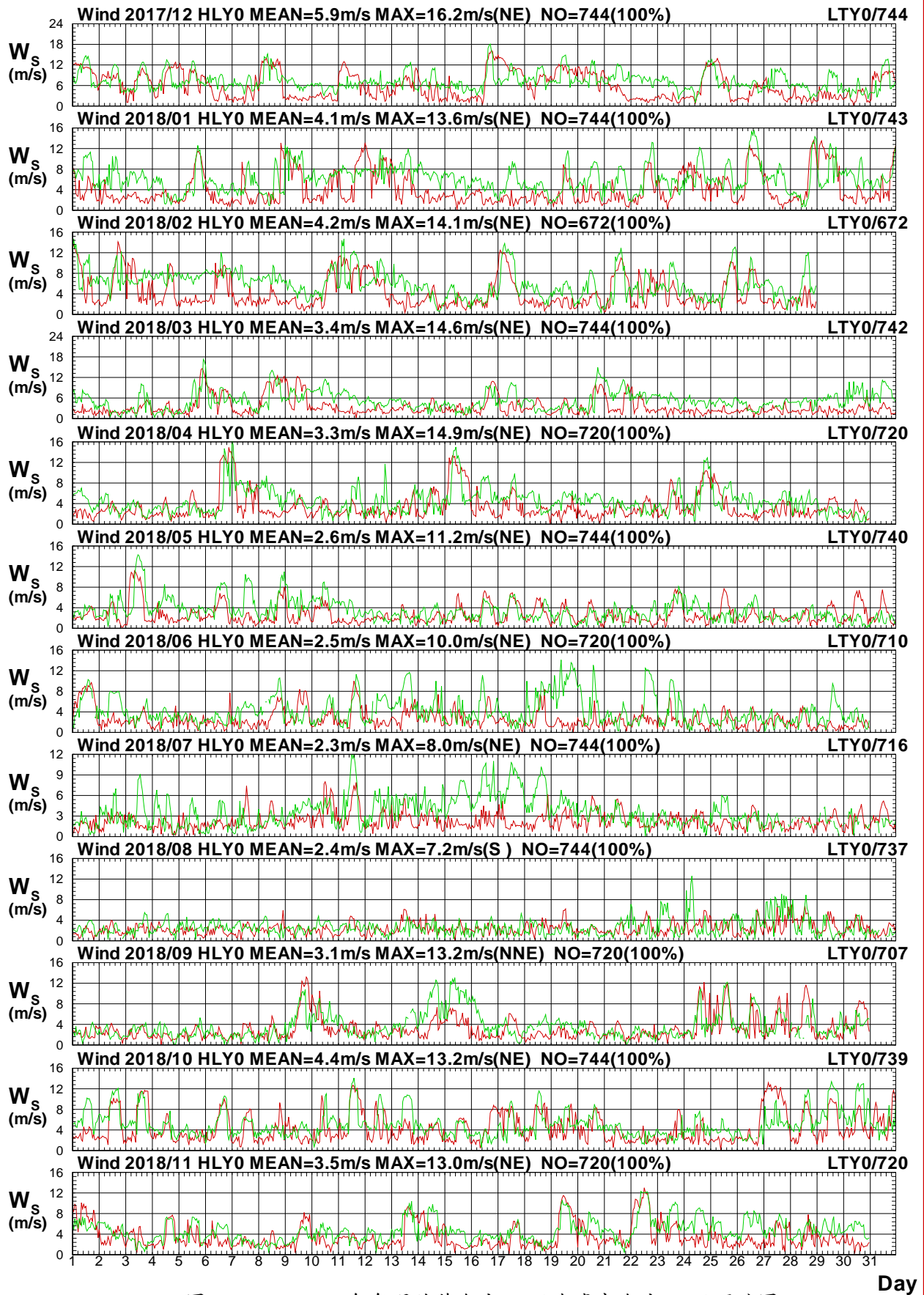


圖 1.4.16a 2018年每月花蓮海域 Y 站與臺東海域 Y 站風速圖

W17CHLY0.1HA W17CLTY0.1H0 W181HLY0.1HA W181LTY0.1H0 W182HLY0.1HA W182LTY0.1H0
W183HLY0.1HA W183LTY0.1H0 W184HLY0.1HA W184LTY0.1H0 W185HLY0.1HA W185LTY0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

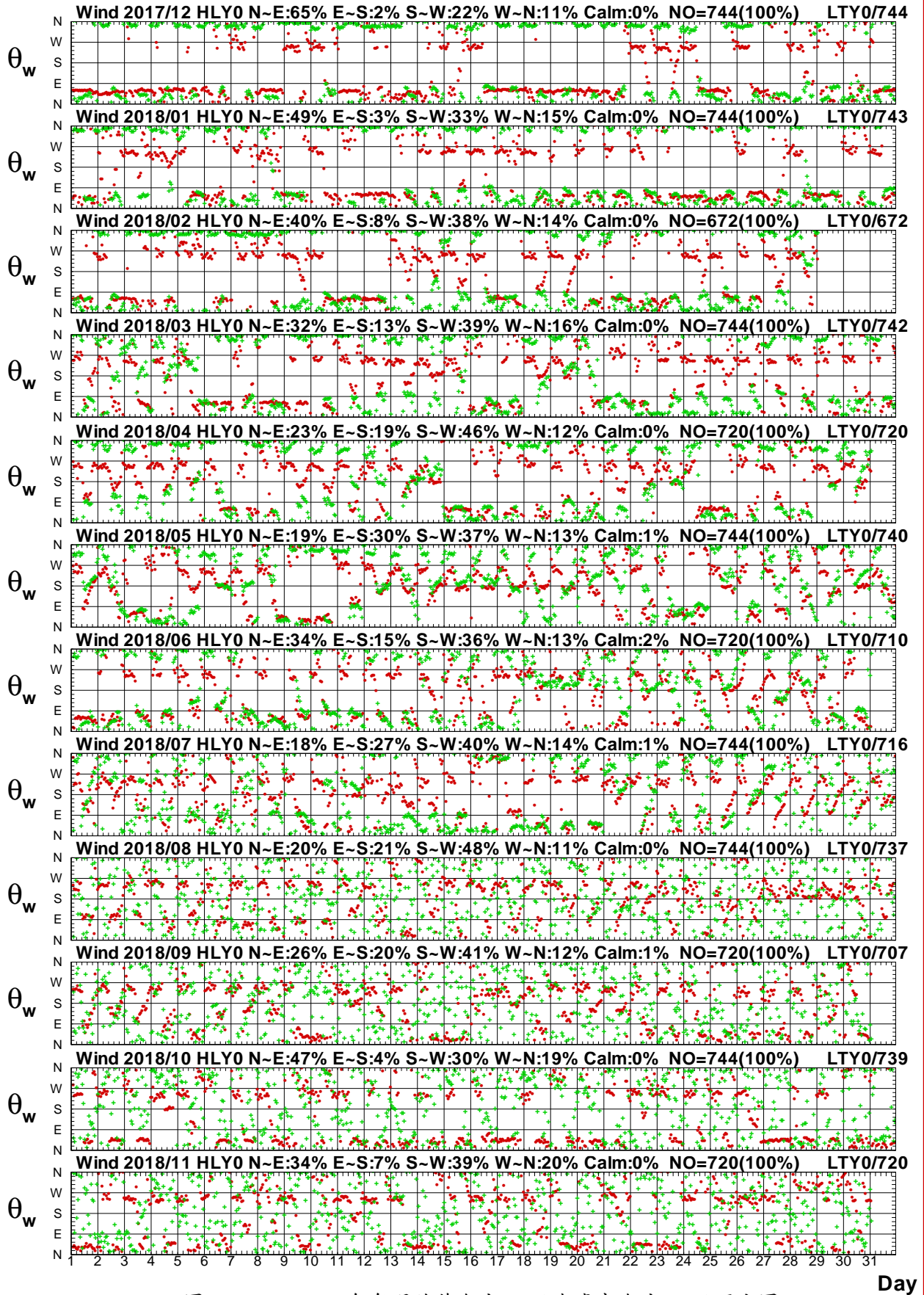


圖 1.4.16b 2018 年每月花蓮海域 Y 站與臺東海域 Y 站風向圖

W17CHLY0.1HA W17CLTY0.1H0 W181HLY0.1HA W181LTY0.1H0 W182HLY0.1HA W182LTY0.1H0
W183HLY0.1HA W183LTY0.1H0 W184HLY0.1HA W184LTY0.1H0 W185HLY0.1HA W185LTY0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

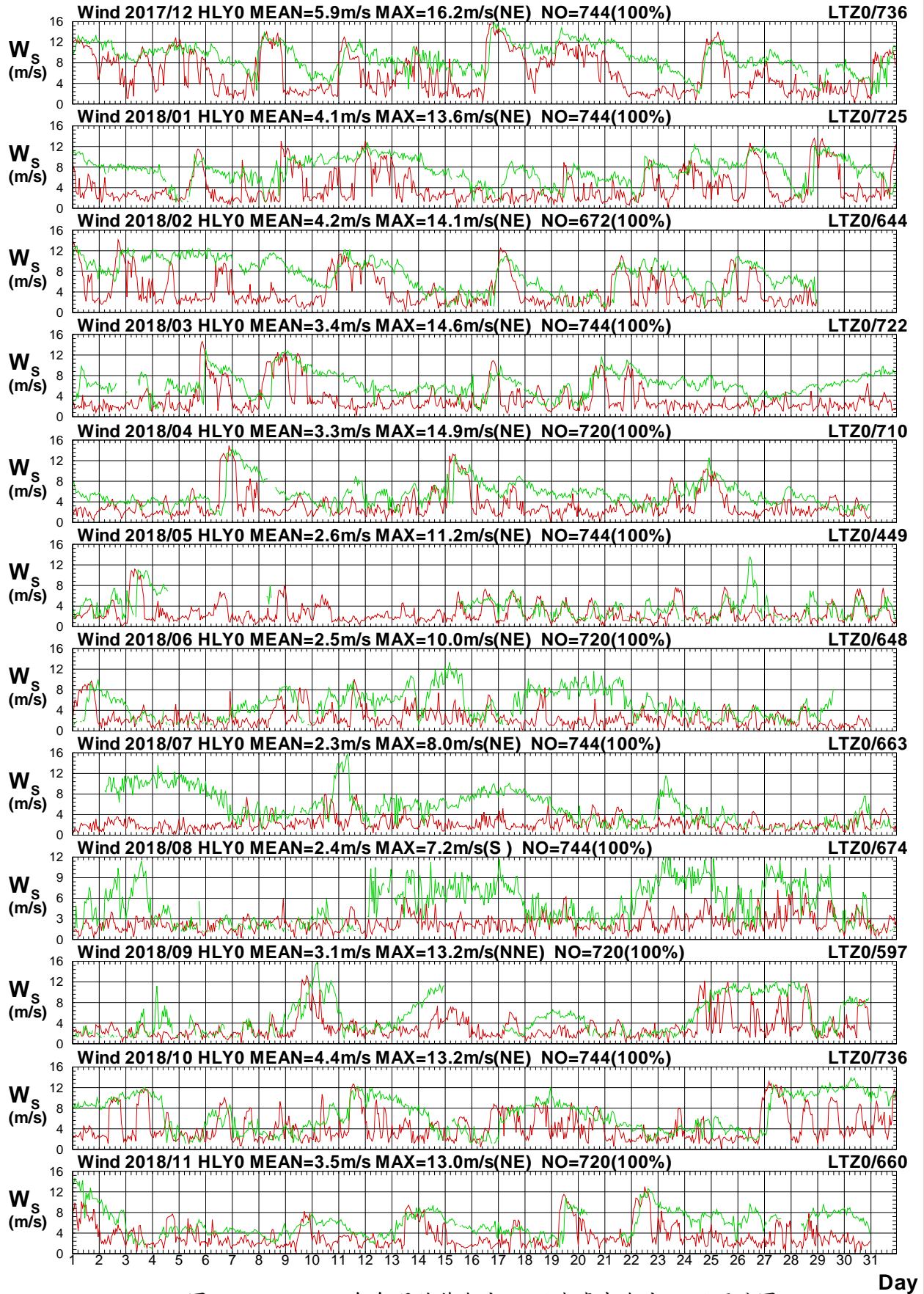


圖1.4.17a 2018年每月花蓮海域 Y 站與臺東海域 Z 站風速圖

W17CHLY0.1HA W17CLTZ0.1H0 W181HLY0.1HA W181LTZ0.1H0 W182HLY0.1HA W182LTZ0.1H0
 W183HLY0.1HA W183LTZ0.1H0 W184HLY0.1HA W184LTZ0.1H0 W185HLY0.1HA W185LTZ0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

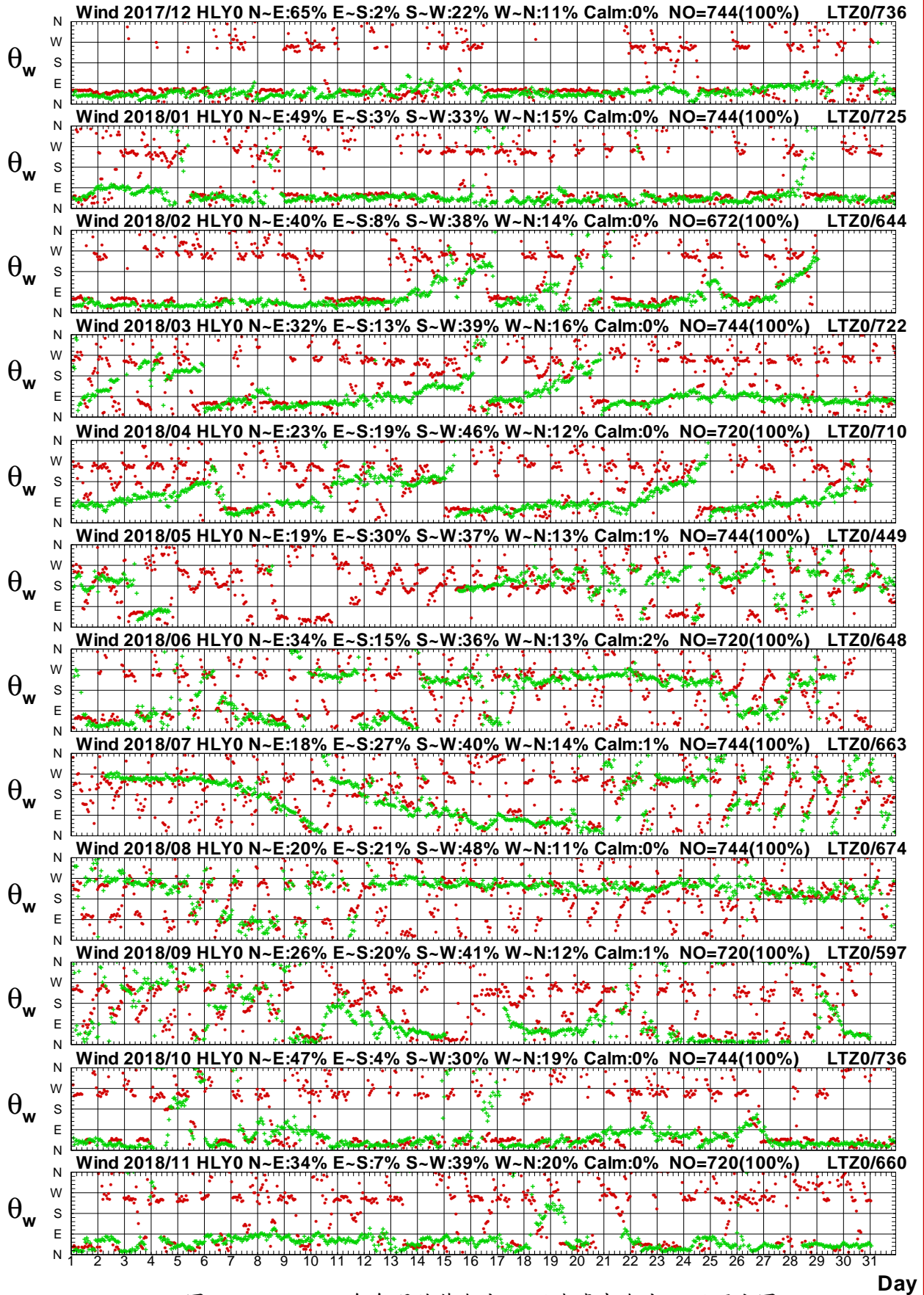


圖1.4.17b 2018年每月花蓮海域 Y 站與臺東海域 Z 站風向圖

W17CHLY0.1HA W17CLTZ0.1H0 W181HLY0.1HA W181LTZ0.1H0 W182HLY0.1HA W182LTZ0.1H0
 W183HLY0.1HA W183LTZ0.1H0 W184HLY0.1HA W184LTZ0.1H0 W185HLY0.1HA W185LTZ0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

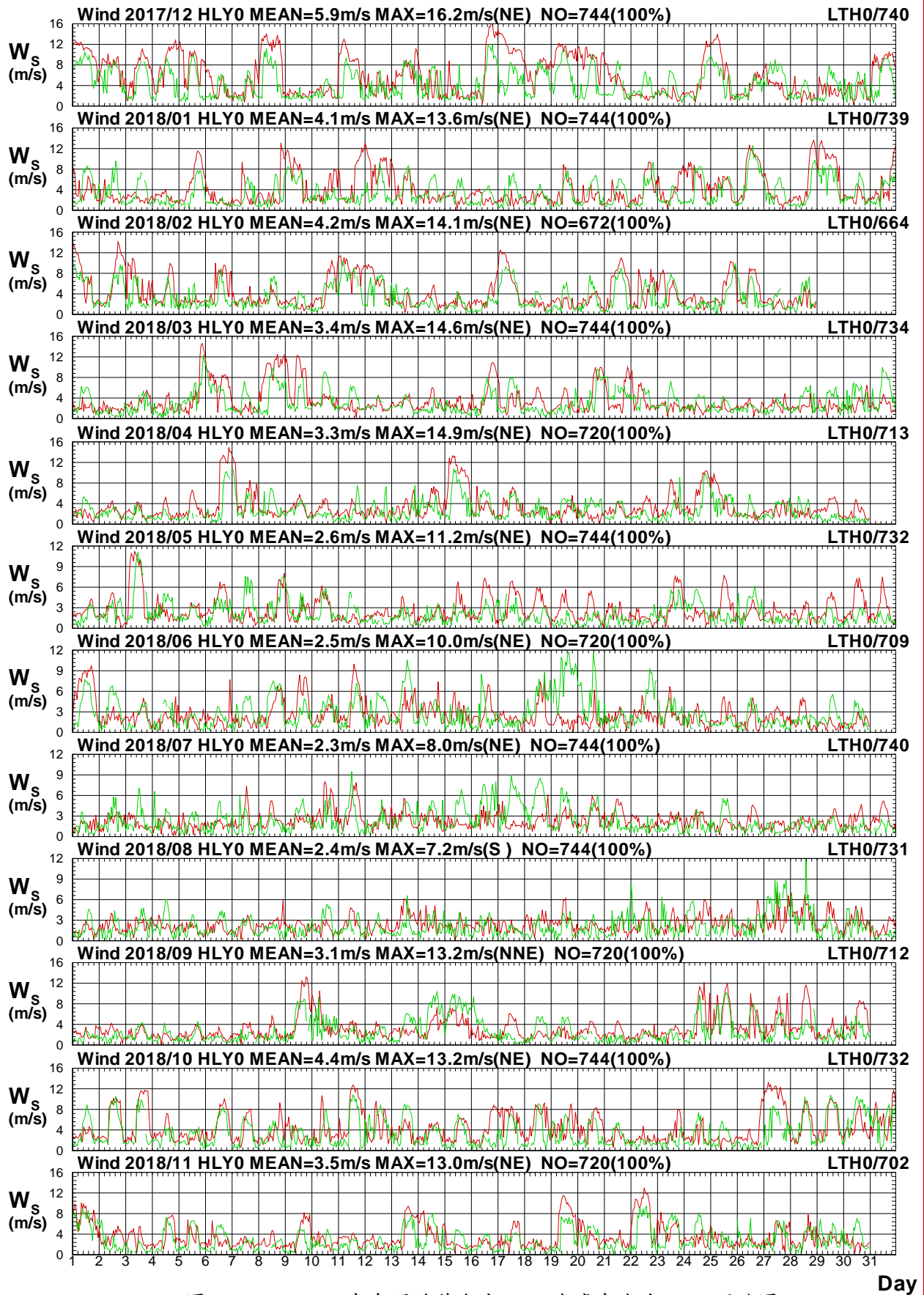


圖 1.4.18a 2018 年每月花蓮海域 Y 站與臺東海域 H 站風速圖

W17CHLY0.1HA W17CLTH0.1H0 W181HLY0.1HA W181LTH0.1H0 W182HLY0.1HA W182LTH0.1H0
W183HLY0.1HA W183LTH0.1H0 W184HLY0.1HA W184LTH0.1H0 W185HLY0.1HA W185LTH0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

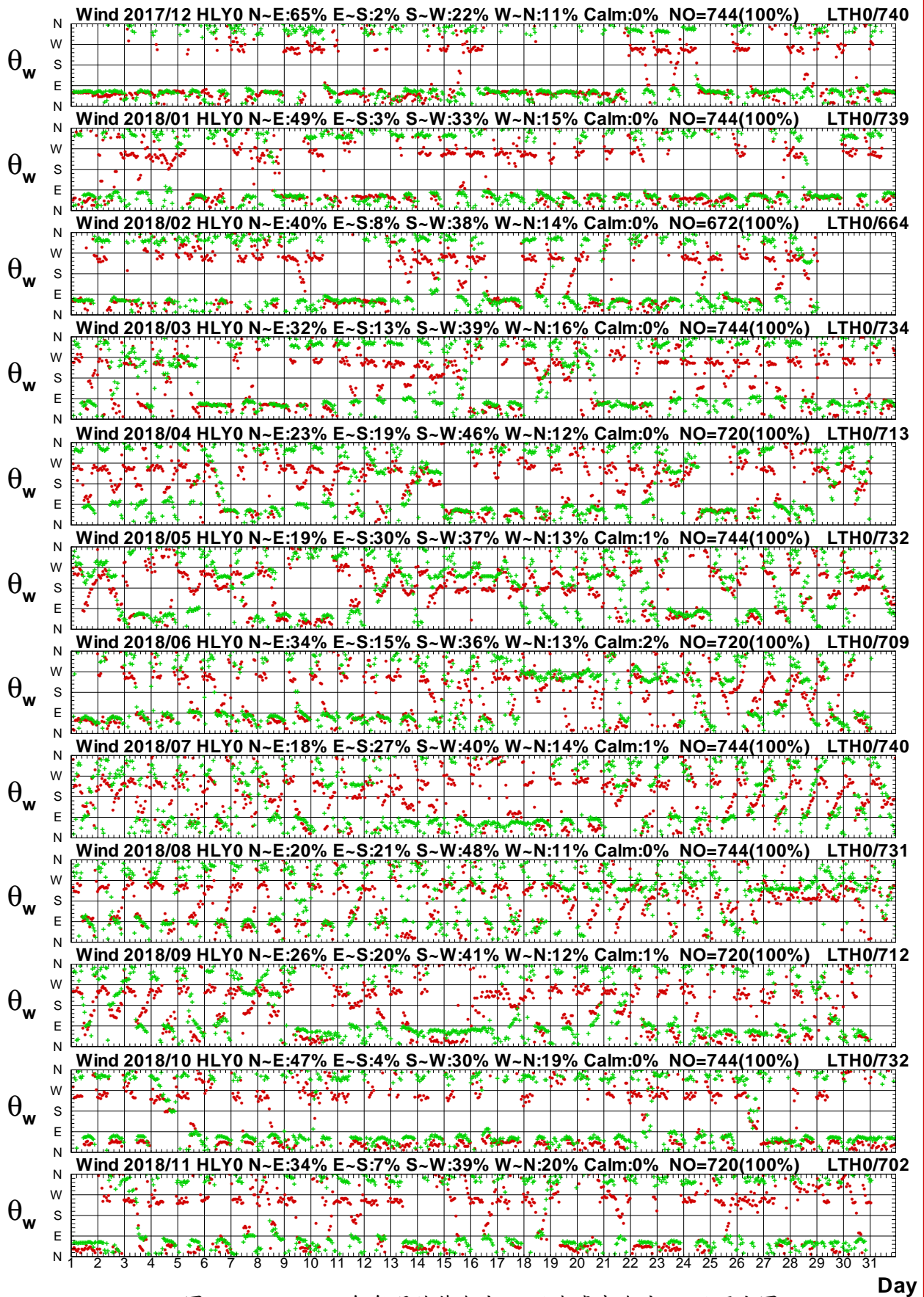


圖1.4.18b 2018年每月花蓮海域 Y 站與臺東海域 H 站風向圖

W17CHLY0.1HA W17CLTH0.1H0 W181HLY0.1HA W181LTH0.1H0 W182HLY0.1HA W182LTH0.1H0
W183HLY0.1HA W183LTH0.1H0 W184HLY0.1HA W184LTH0.1H0 W185HLY0.1HA W185LTH0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

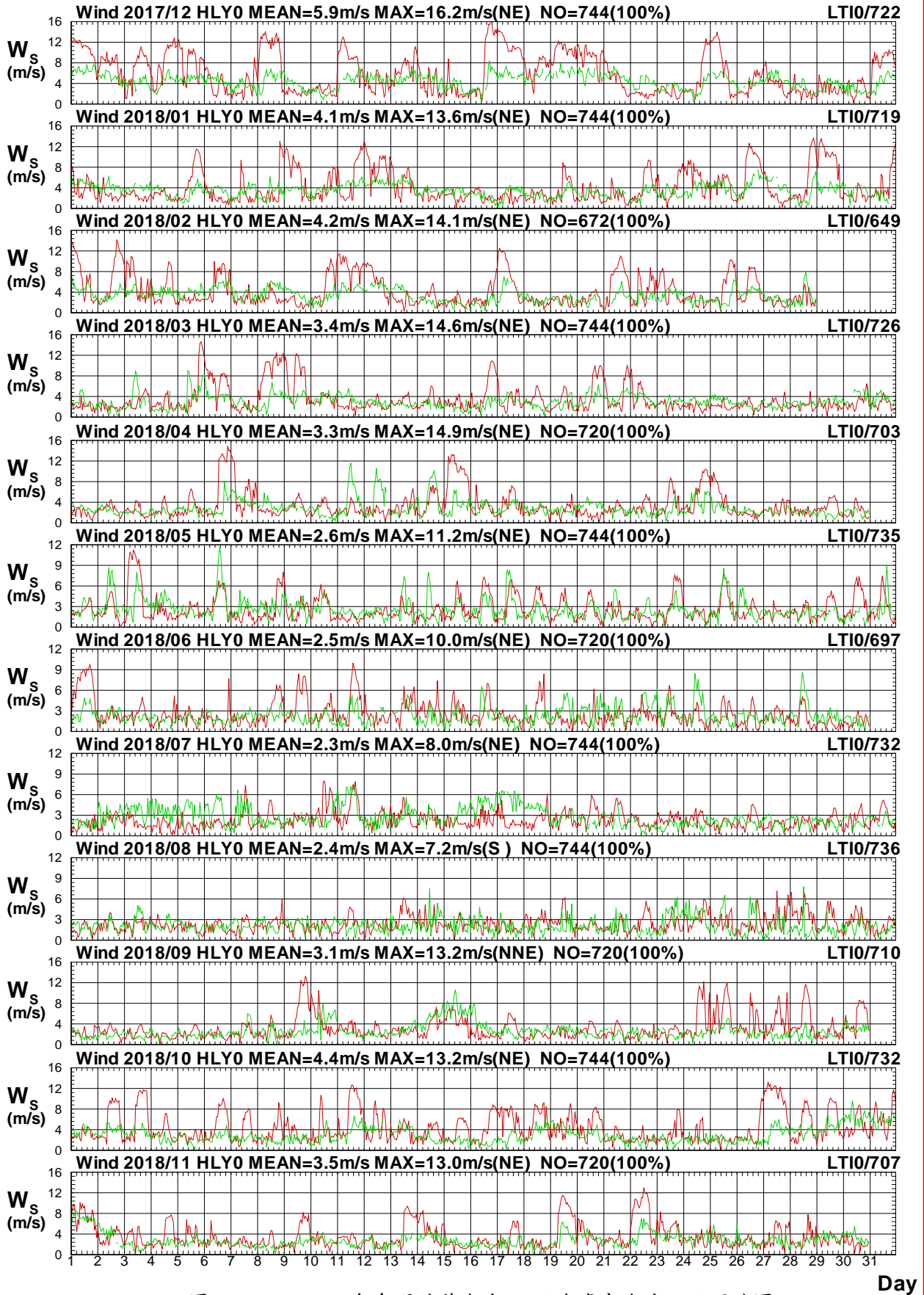


圖1.4.19a 2018年每月花蓮海域 Y 站與臺東海域 I 站風速圖

W17CHLY0.1HA W17CLTI0.1H0 W181HLY0.1HA W181LTI0.1H0 W182HLY0.1HA W182LTI0.1H0
 W183HLY0.1HA W183LTI0.1H0 W184HLY0.1HA W184LTI0.1H0 W185HLY0.1HA W185LTI0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

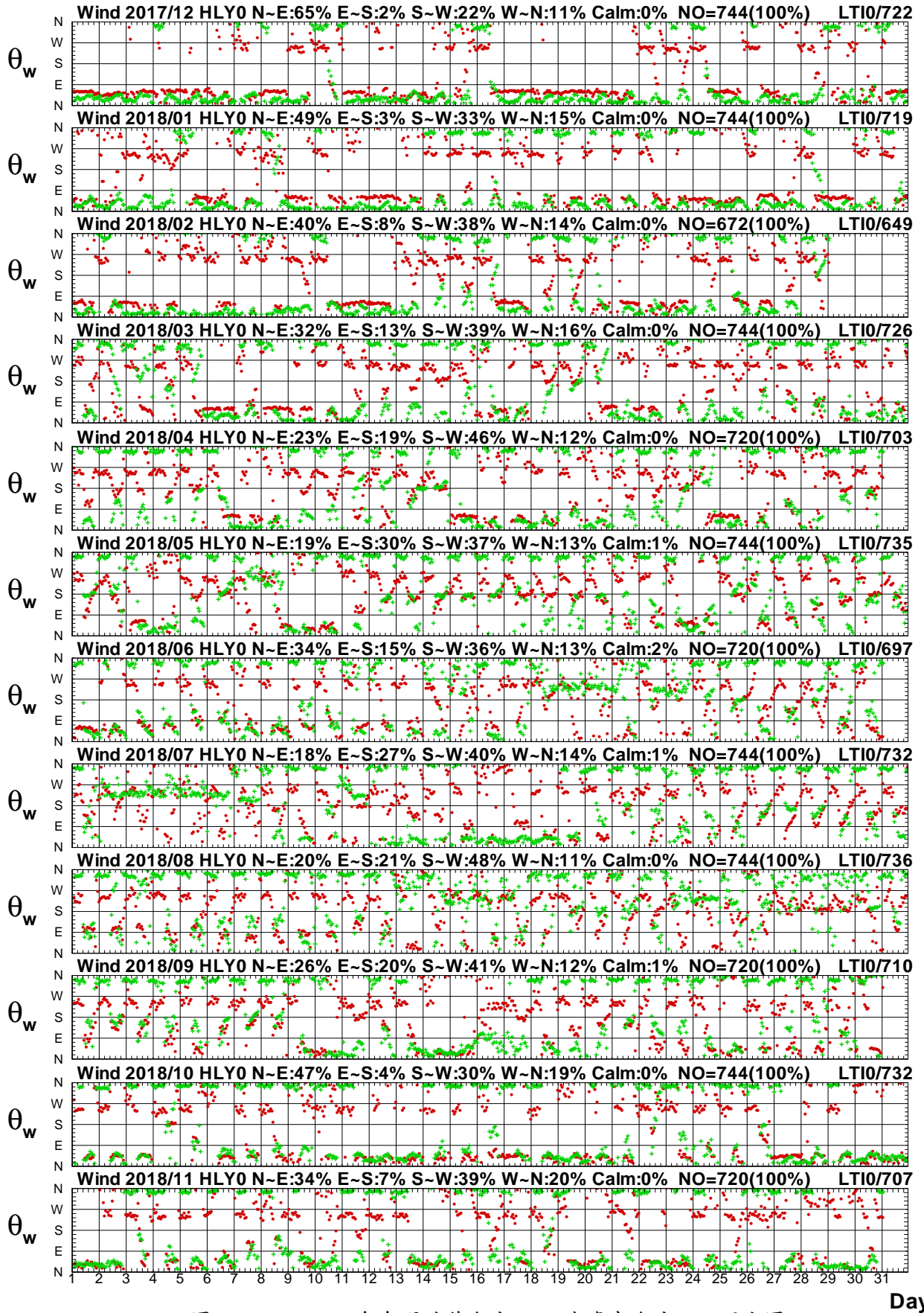


圖1.4.19b 2018年每月花蓮海域 Y 站與臺東海域 I 站風向圖

W17CHLY0.1HA W17CLTI0.1H0 W181HLY0.1HA W181LTI0.1H0 W182HLY0.1HA W182LTI0.1H0
W183HLY0.1HA W183LTI0.1H0 W184HLY0.1HA W184LTI0.1H0 W185HLY0.1HA W185LTI0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

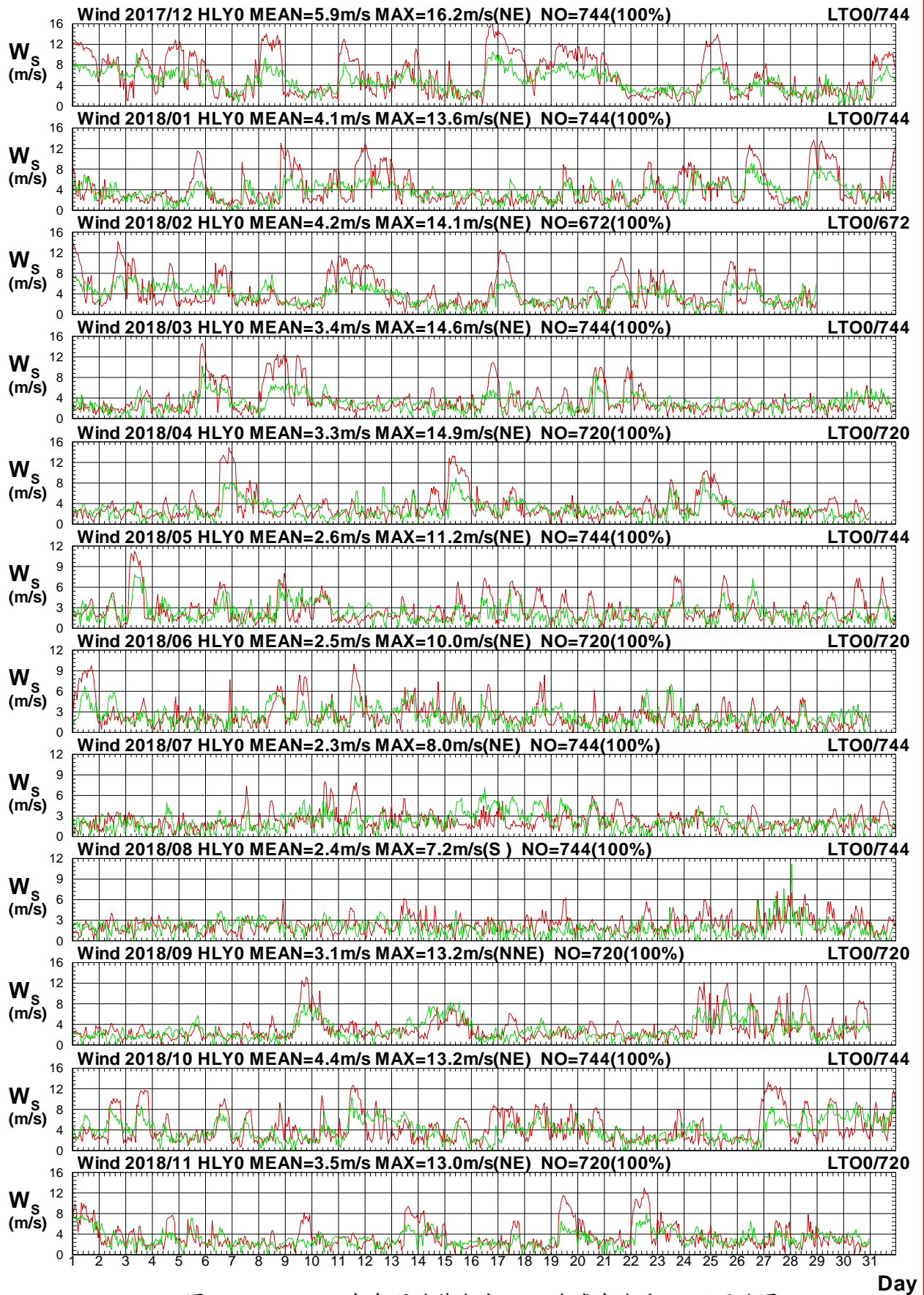


圖 1.4.20a 2018年每月花蓮海域 Y 站與臺東海域 O 站風速圖

W17CHLY0.1HA W17CLTO0.1H0 W181HLY0.1HA W181LTO0.1H0 W182HLY0.1HA W182LTO0.1H0
W183HLY0.1HA W183LTO0.1H0 W184HLY0.1HA W184LTO0.1H0 W185HLY0.1HA W185LTO0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

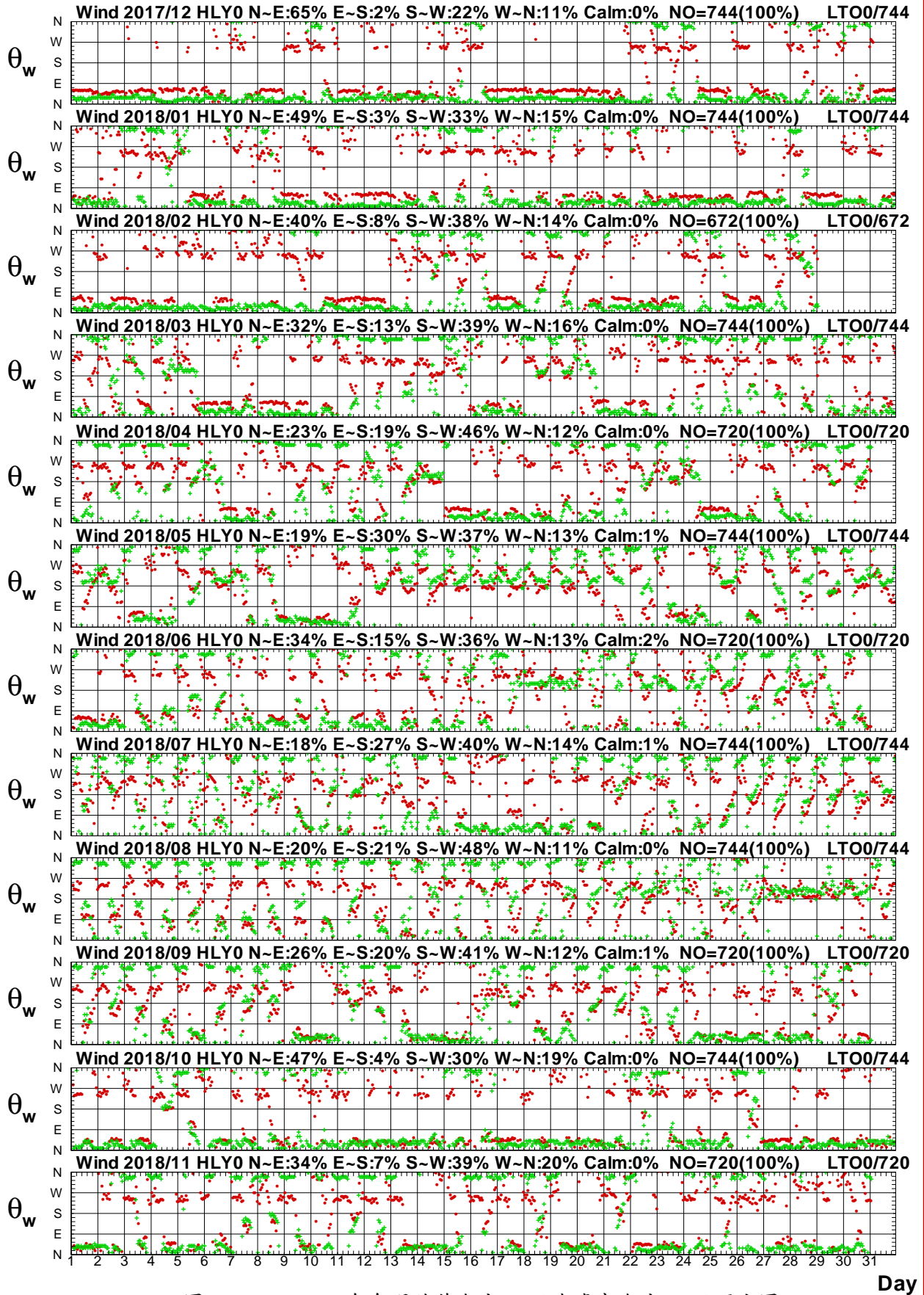


圖 1.4.20b 2018 年每月花蓮海域 Y 站與臺東海域 O 站風向圖

W17CHLY0.1HA W17CLTO0.1H0 W181HLY0.1HA W181LTO0.1H0 W182HLY0.1HA W182LTO0.1H0
W183HLY0.1HA W183LTO0.1H0 W184HLY0.1HA W184LTO0.1H0 W185HLY0.1HA W185LTO0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

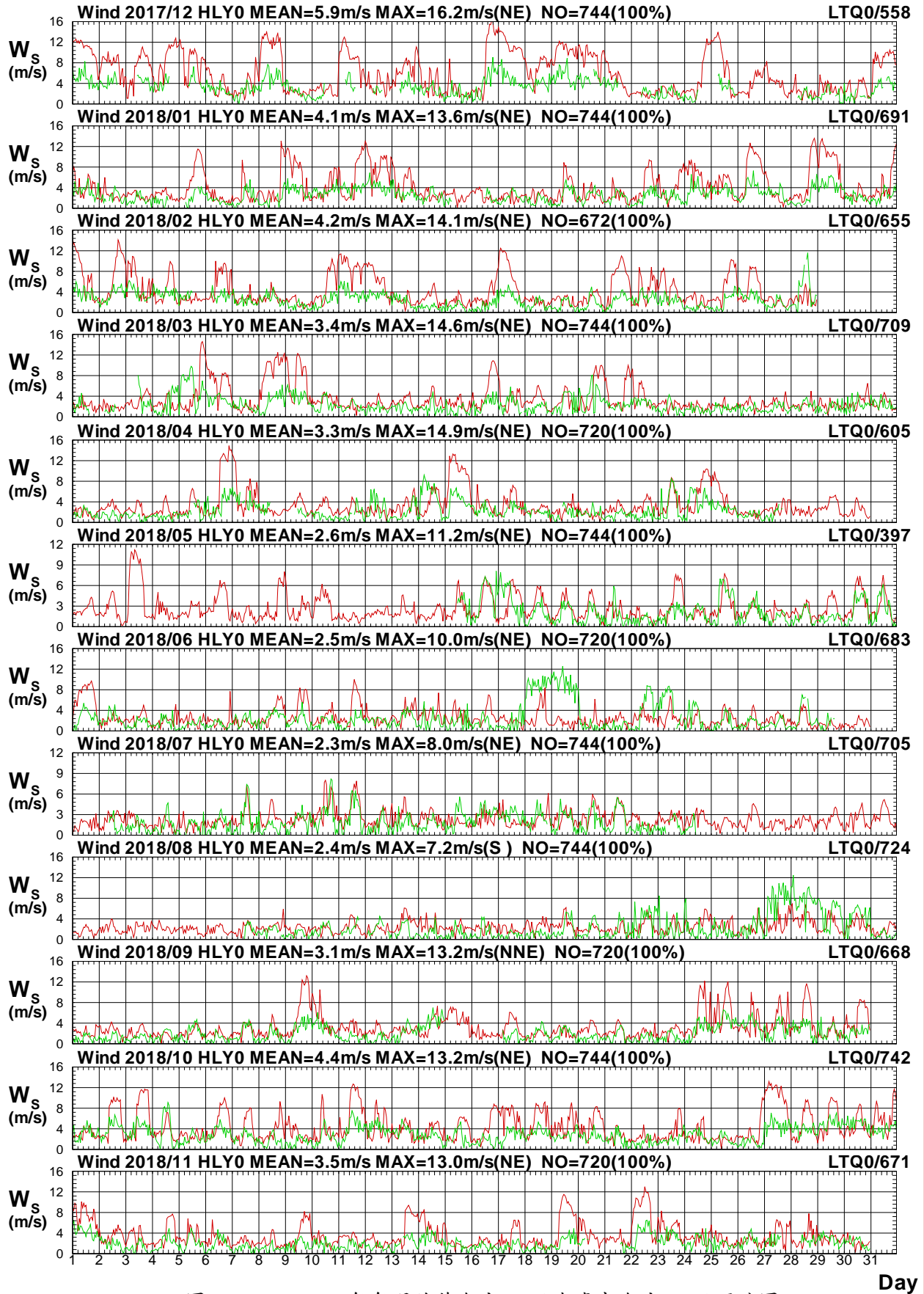


圖1.4.21a 2018年每月花蓮海域 Y 站與臺東海域 Q 站風速圖

W17CHLY0.1HA W17CLTQ0.1H0 W181HLY0.1HA W181LTQ0.1H0 W182HLY0.1HA W182LTQ0.1H0
 W183HLY0.1HA W183LTQ0.1H0 W184HLY0.1HA W184LTQ0.1H0 W185HLY0.1HA W185LTQ0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

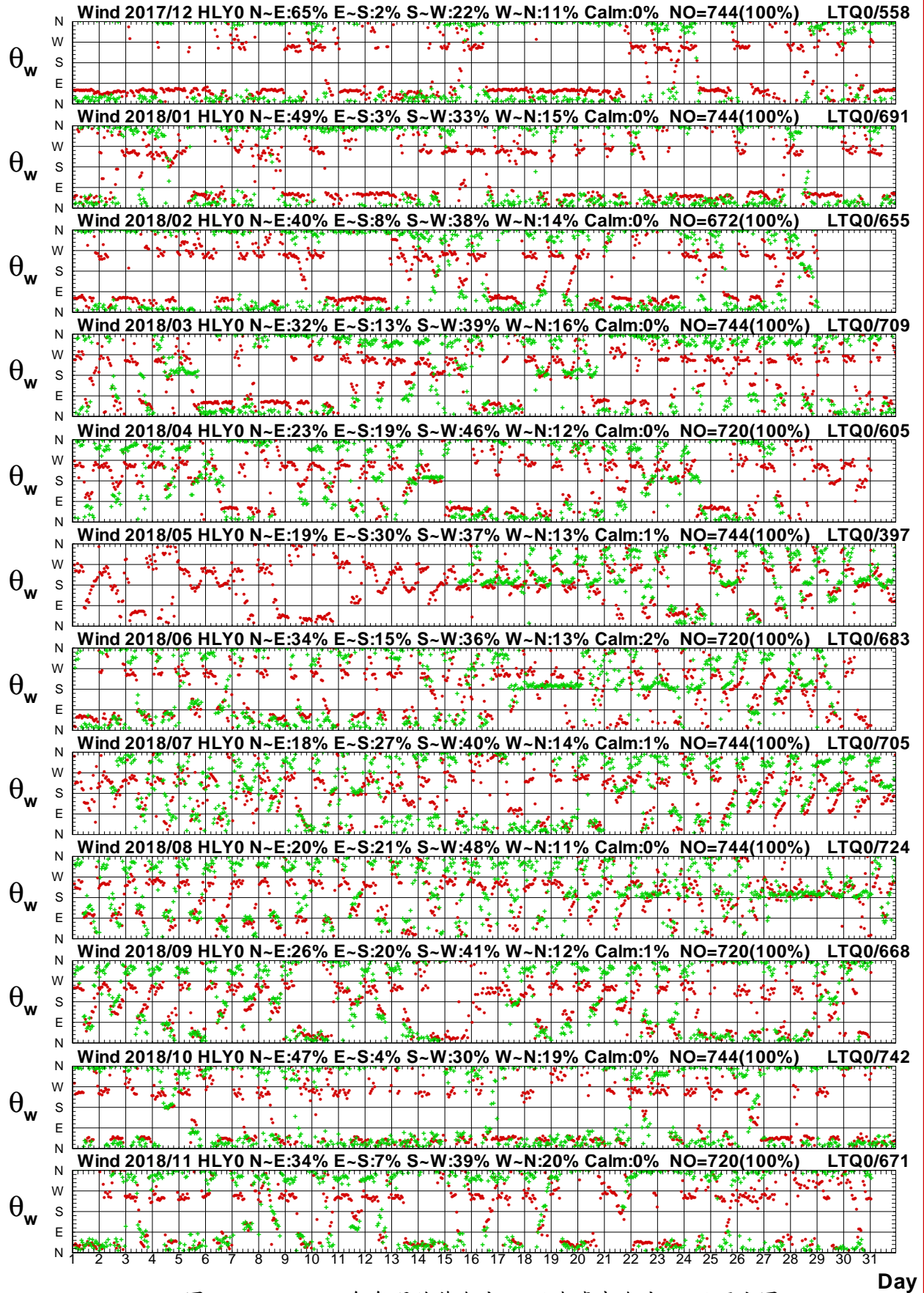


圖1.4.21b 2018年每月花蓮海域 Y 站與臺東海域 Q 站風向圖

W17CHLY0.1HA W17CLTQ0.1H0 W181HLY0.1HA W181LTQ0.1H0 W182HLY0.1HA W182LTQ0.1H0
W183HLY0.1HA W183LTQ0.1H0 W184HLY0.1HA W184LTQ0.1H0 W185HLY0.1HA W185LTQ0.1H0

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Wind Speed in Hua-Lien Seas of HLY0 at 2018

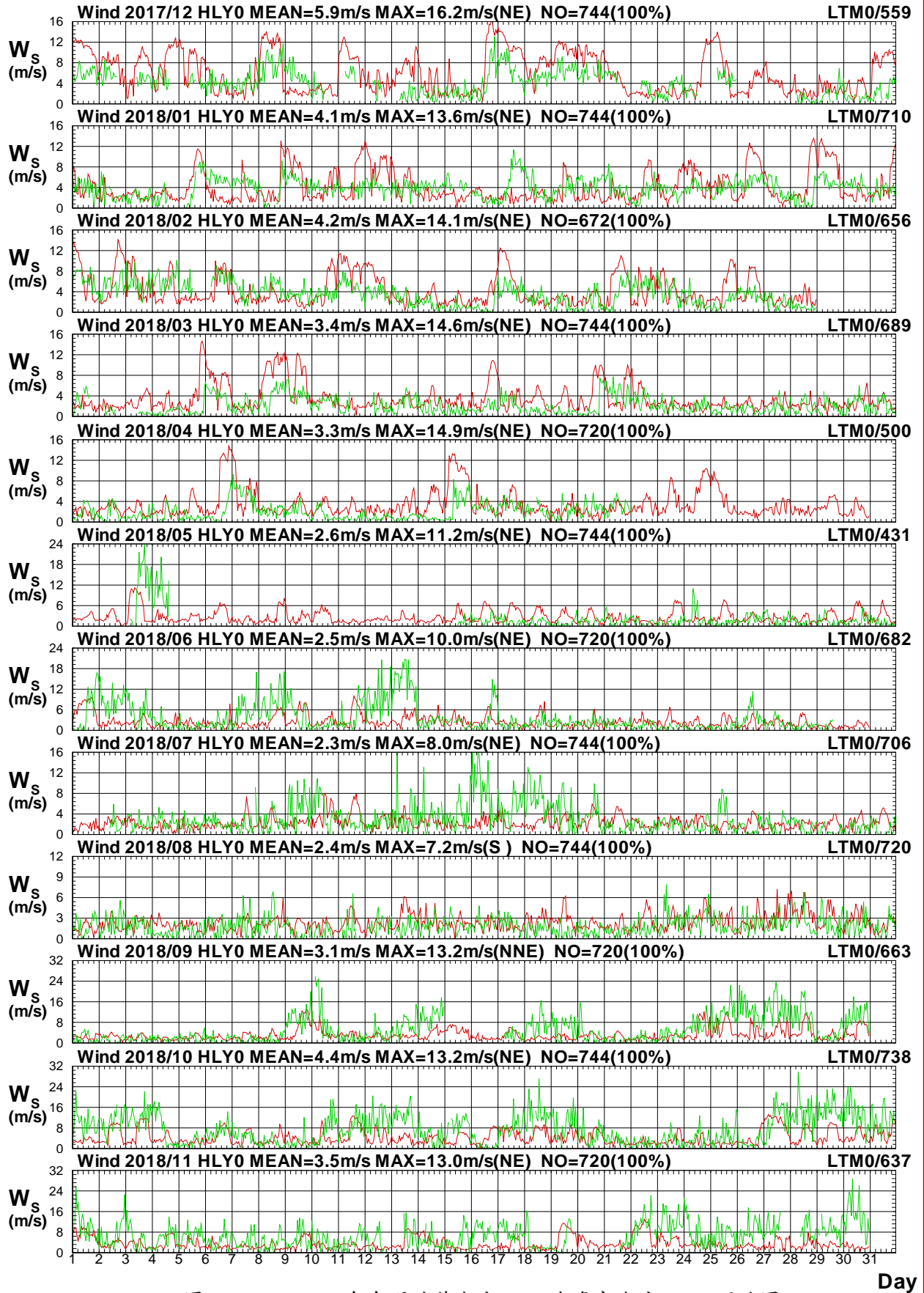


圖 1.4.22a 2018年每月花蓮海域 Y 站與臺東海域 M 站風速圖

W17CHLY0.1HA W17CLTM0.1H0 W181HLY0.1HA W181LTM0.1H0 W182HLY0.1HA W182LTM0.1H0
W183HLY0.1HA W183LTM0.1H0 W184HLY0.1HA W184LTM0.1H0 W185HLY0.1HA W185LTM0.1H0

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Wind Direction in Hua-Lien Seas of HLY0 at 2018

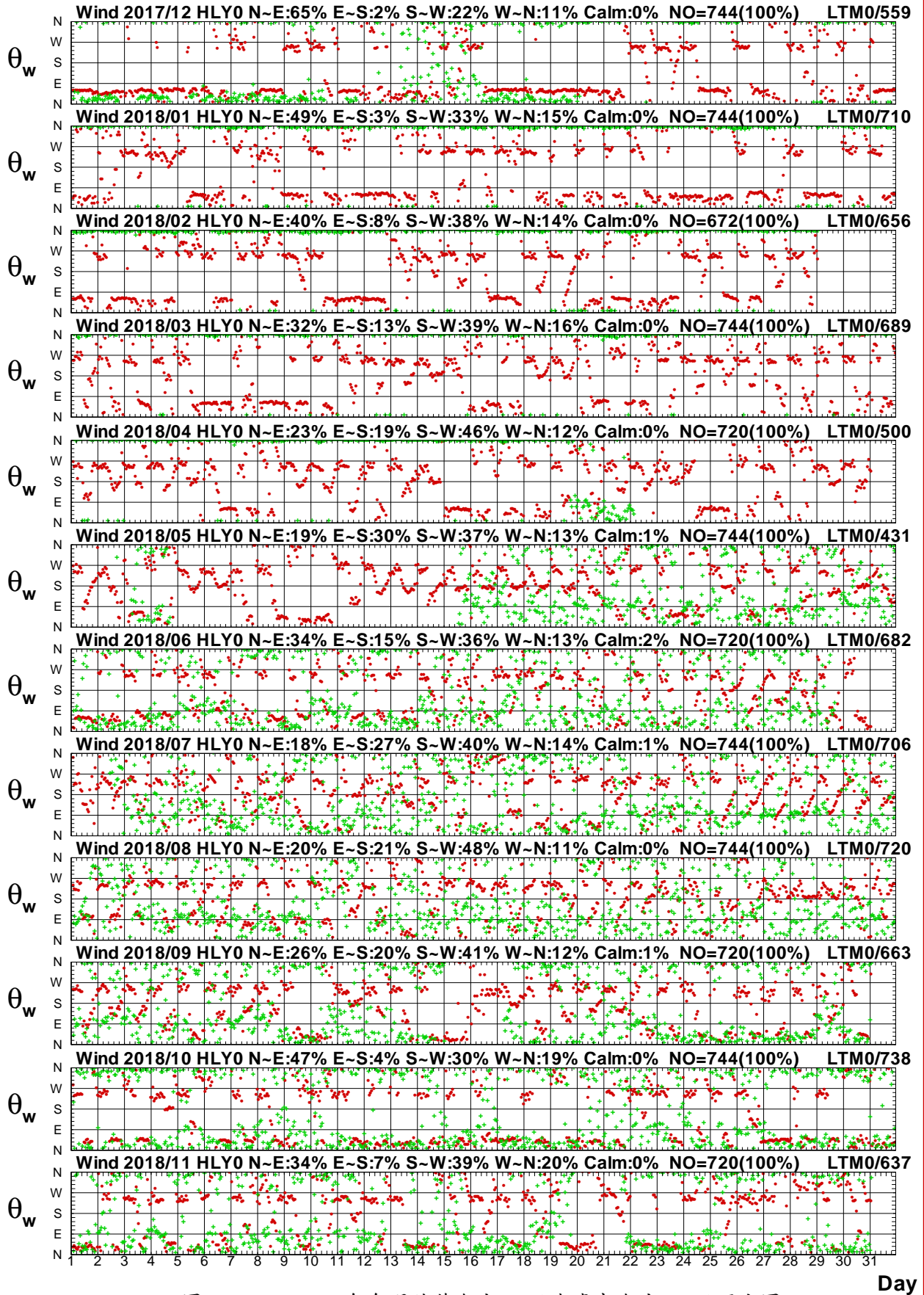


圖1.4.22b 2018年每月花蓮海域 Y 站與臺東海域 M 站風向圖

W17CHLY0.1HA W17CLTM0.1HO W181HLY0.1HA W181LTM0.1HO W182HLY0.1HA W182LTM0.1HO
W183HLY0.1HA W183LTM0.1HO W184HLY0.1HA W184LTM0.1HO W185HLY0.1HA W185LTM0.1HO

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1.5 2018 年花蓮海域風力各測站修補前 風力向量分佈圖

Distribution of Wind Vectors

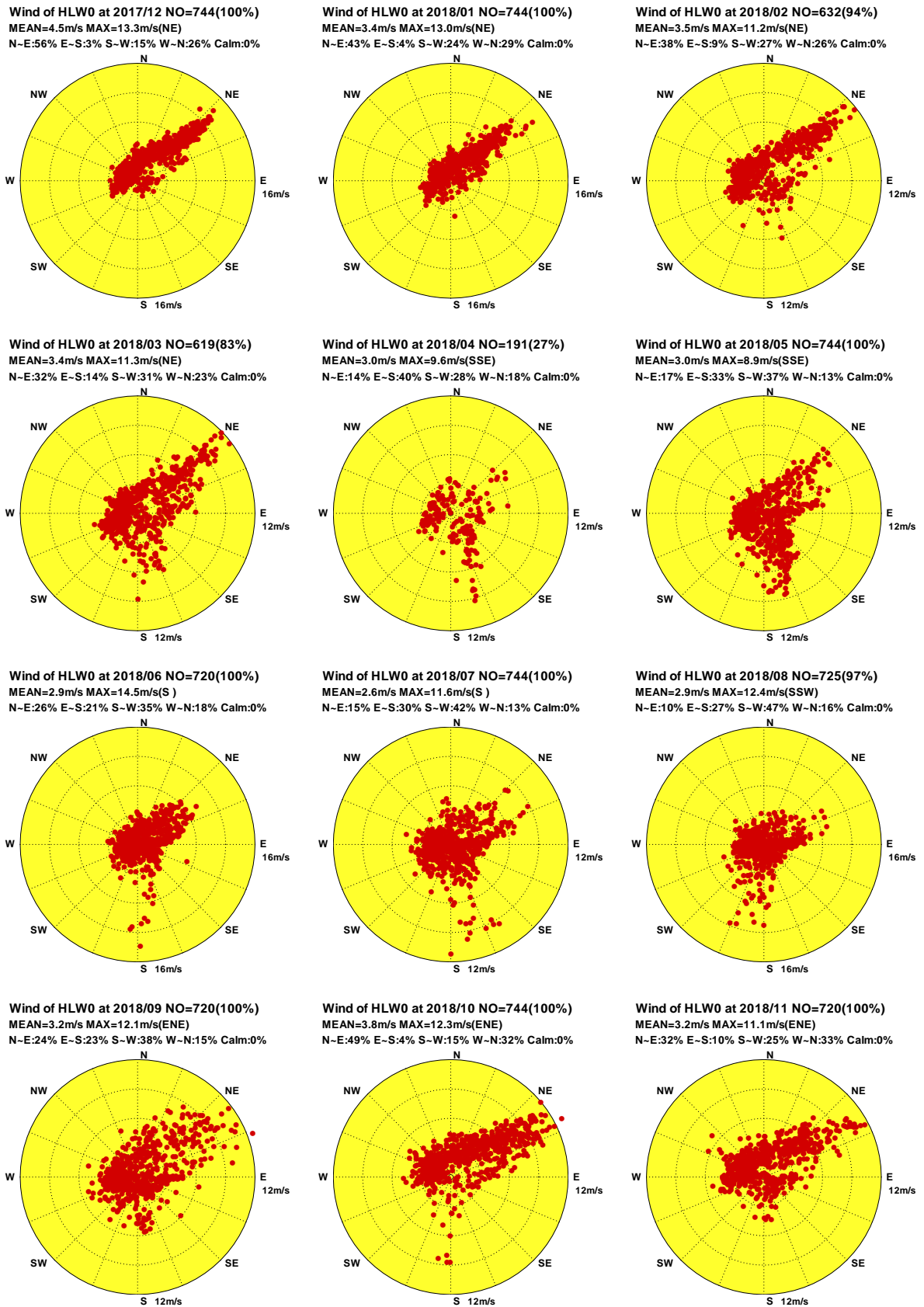


圖 1.5.1 2018 年花蓮海域每月 W 站修補前觀測風力向量分佈圖

W17CHLW0.1H0 W181HLW0.1H0 W182HLW0.1H0 W183HLW0.1H0 W184HLW0.1H0 W185HLW0.1H0
W186HLW0.1H0 W187HLW0.1H0 W188HLW0.1H0 W189HLW0.1H0 W18AHLW0.1H0 W18BHLW0.1H0

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Distribution of Wind Vectors

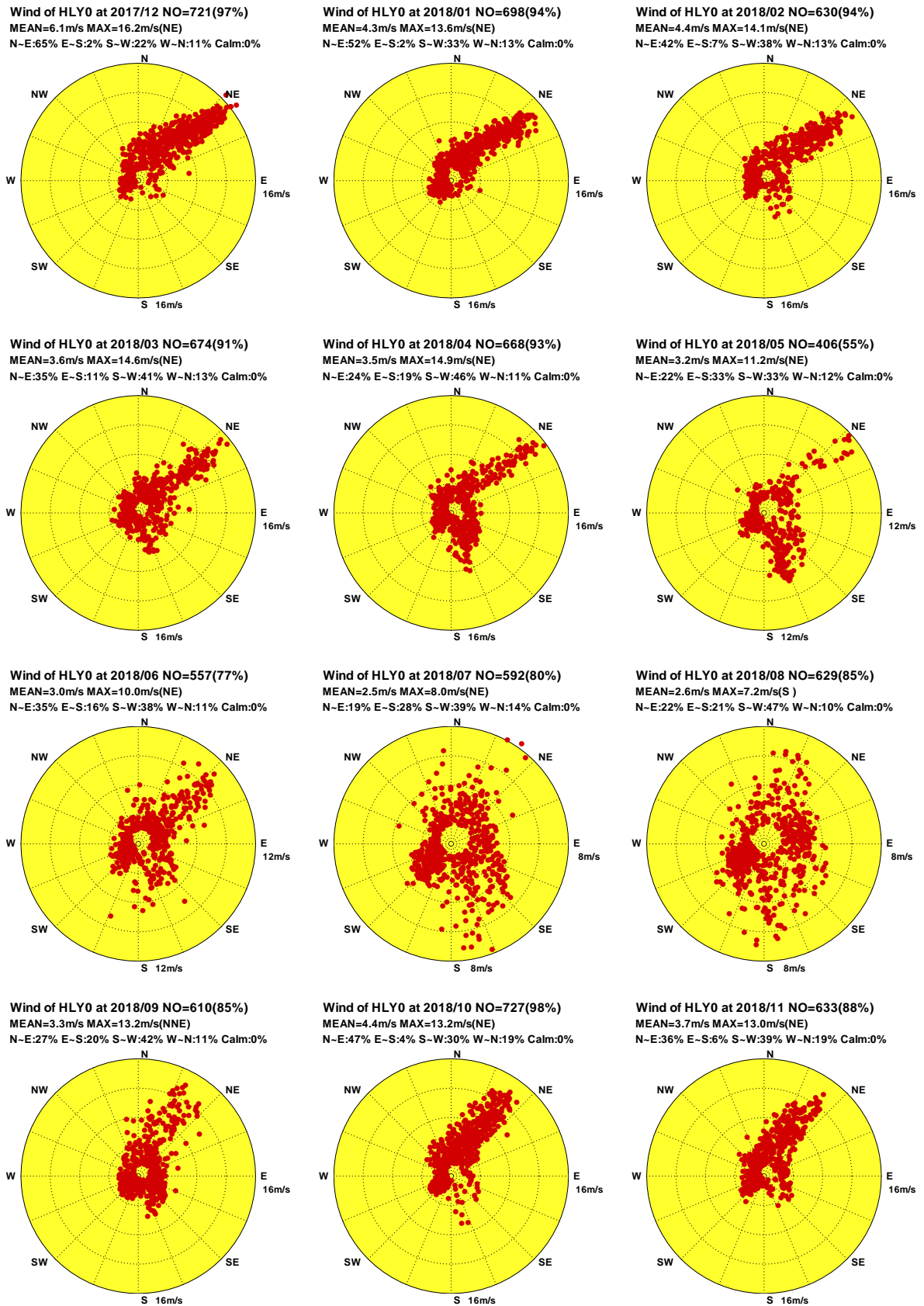


圖1.5.2 2018年花蓮海域每月 Y 站修補前觀測風力向量分佈圖

W17CHLY0.1H0 W181HLY0.1H0 W182HLY0.1H0 W183HLY0.1H0 W184HLY0.1H0 W185HLY0.1H0
W186HLY0.1H0 W187HLY0.1H0 W188HLY0.1H0 W189HLY0.1H0 W18AHLY0.1H0 W18BHLY0.1H0

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Distribution of Wind Vectors

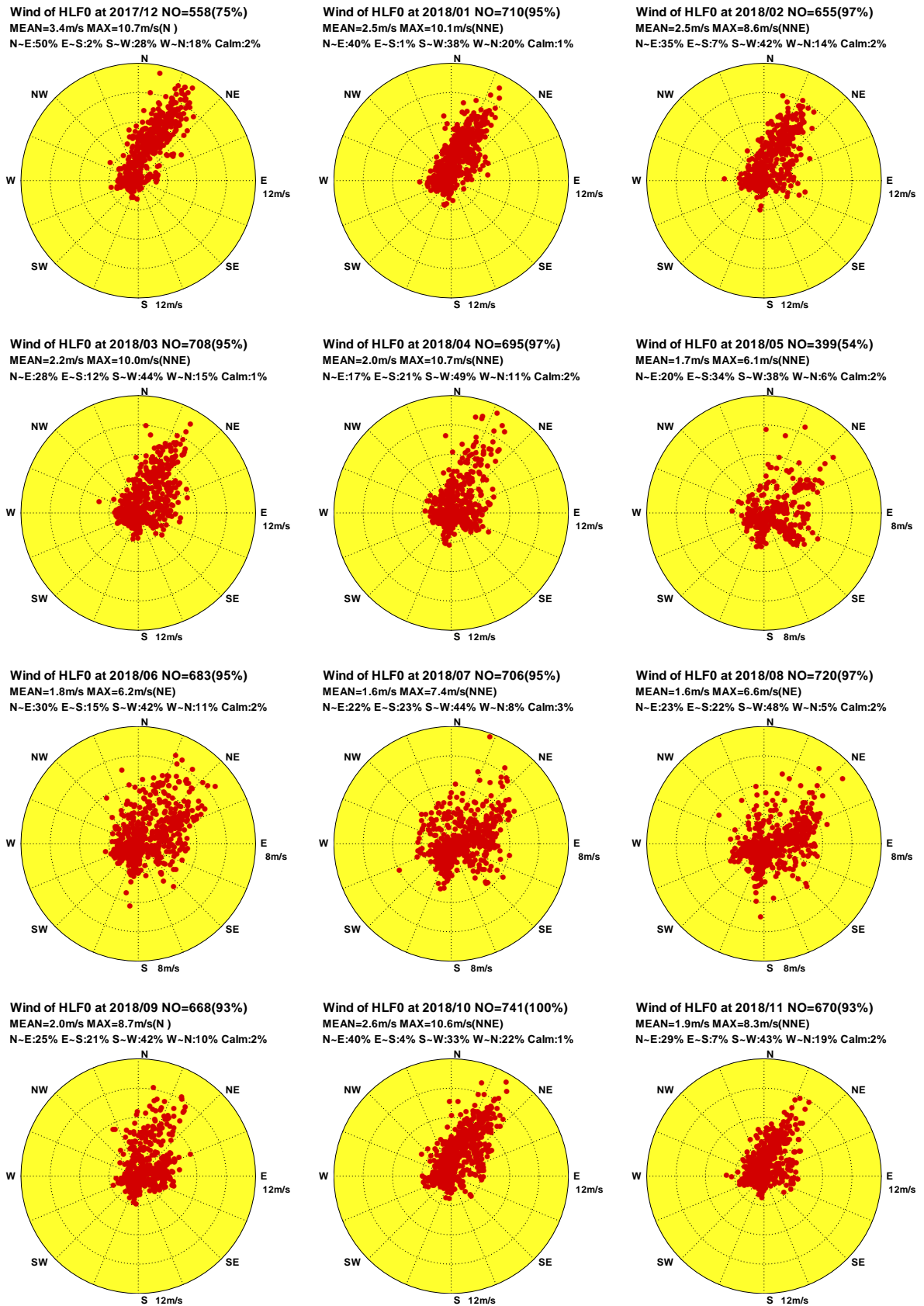


圖 1.5.3 2018 年花蓮海域每月 F 站修補前觀測風力向量分佈圖

W17CHLF0.1HO W181HLF0.1HO W182HLF0.1HO W183HLF0.1HO W184HLF0.1HO W185HLF0.1HO
W186HLF0.1HO W187HLF0.1HO W188HLF0.1HO W189HLF0.1HO W18AHLF0.1HO W18BHLF0.1HO

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Distribution of Wind Vectors

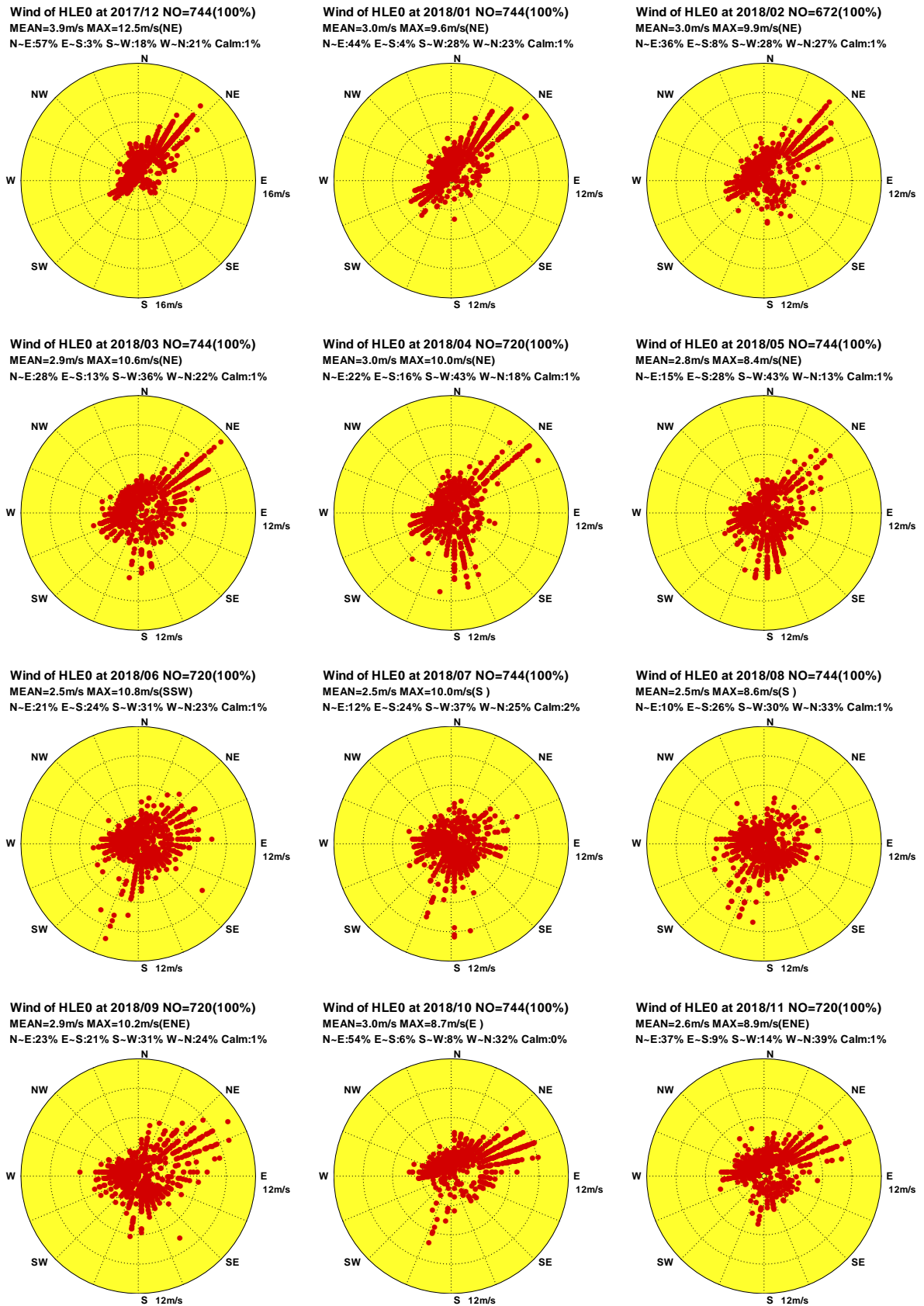


圖1.5.4 2018年花蓮海域每月 E 站修補前觀測風力向量分佈圖

W17CHLE0.1H0 W181HLE0.1H0 W182HLE0.1H0 W183HLE0.1H0 W184HLE0.1H0 W185HLE0.1H0
 W186HLE0.1H0 W187HLE0.1H0 W188HLE0.1H0 W189HLE0.1H0 W18AHLE0.1H0 W18BHLE0.1H0

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Distribution of Wind Vectors

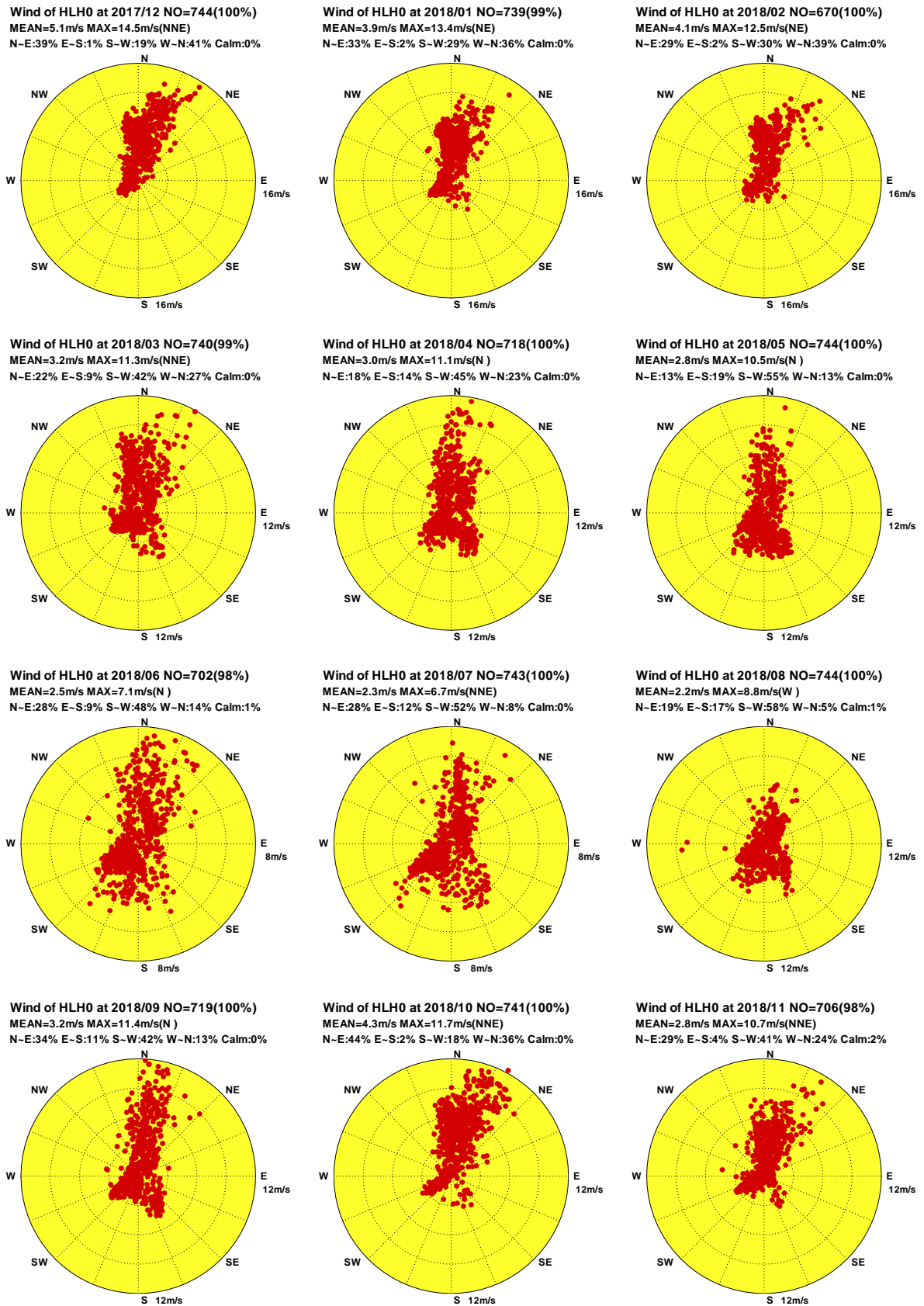


圖1.5.5 2018年花蓮海域每月 H 站修補前觀測風力向量分佈圖

W17CHLH0.1H0 W181HLH0.1H0 W182HLH0.1H0 W183HLH0.1H0 W184HLH0.1H0 W185HLH0.1H0
W186HLH0.1H0 W187HLH0.1H0 W188HLH0.1H0 W189HLH0.1H0 W18AHLH0.1H0 W18BHLH0.1H0

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1.6 2018 年花蓮海域風力各測站修補前 風力向量行進圖

Progressive Vector Diagram of Wind

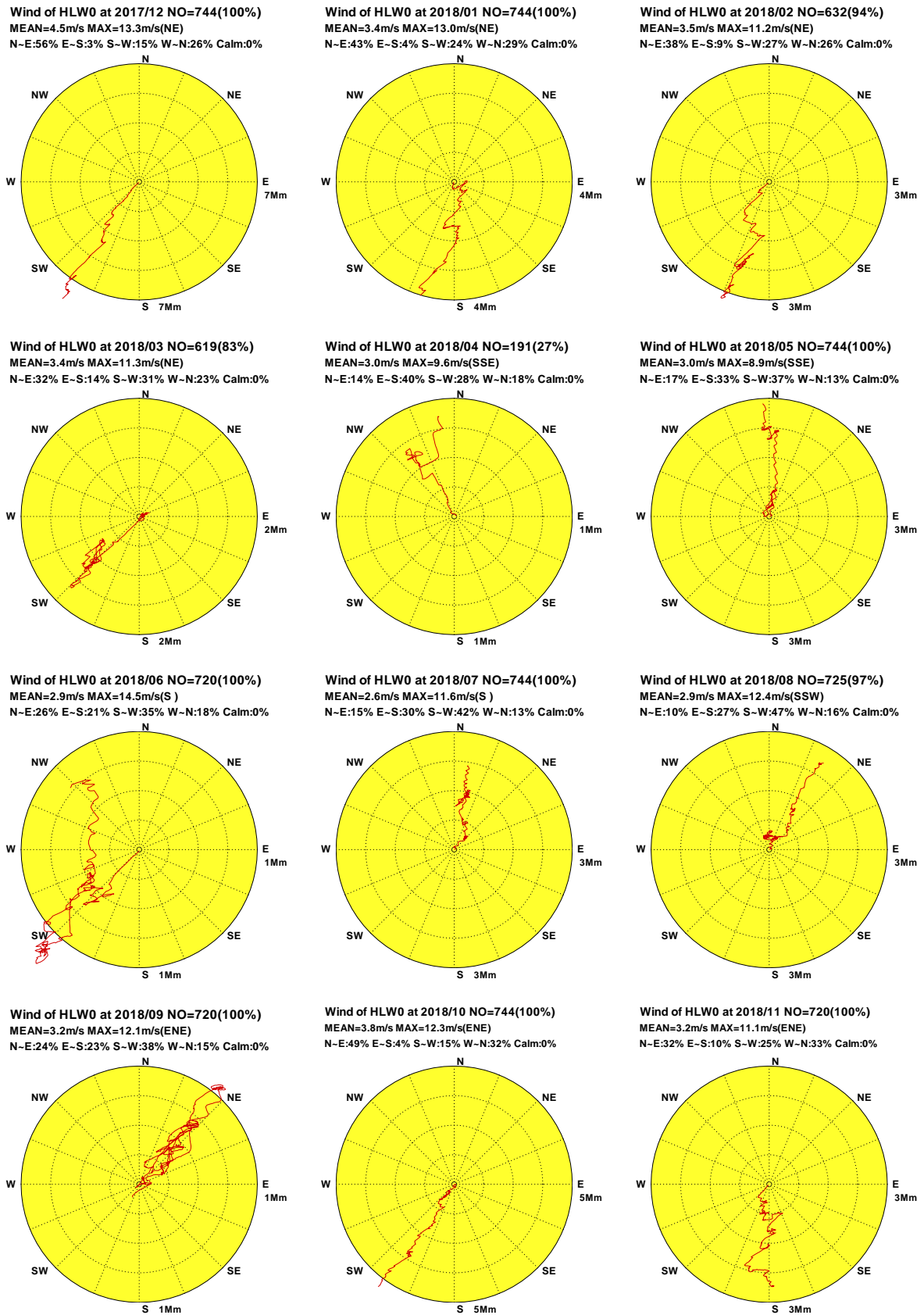


圖 1.6.1 2018 年花蓮海域每月 W 站修補前觀測風力向量行進圖

W17CHLW0.1H0 W181HLW0.1H0 W182HLW0.1H0 W183HLW0.1H0 W184HLW0.1H0 W185HLW0.1H0
W186HLW0.1H0 W187HLW0.1H0 W188HLW0.1H0 W189HLW0.1H0 W18AHLW0.1H0 W18BHLW0.1H0

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Progressive Vector Diagram of Wind

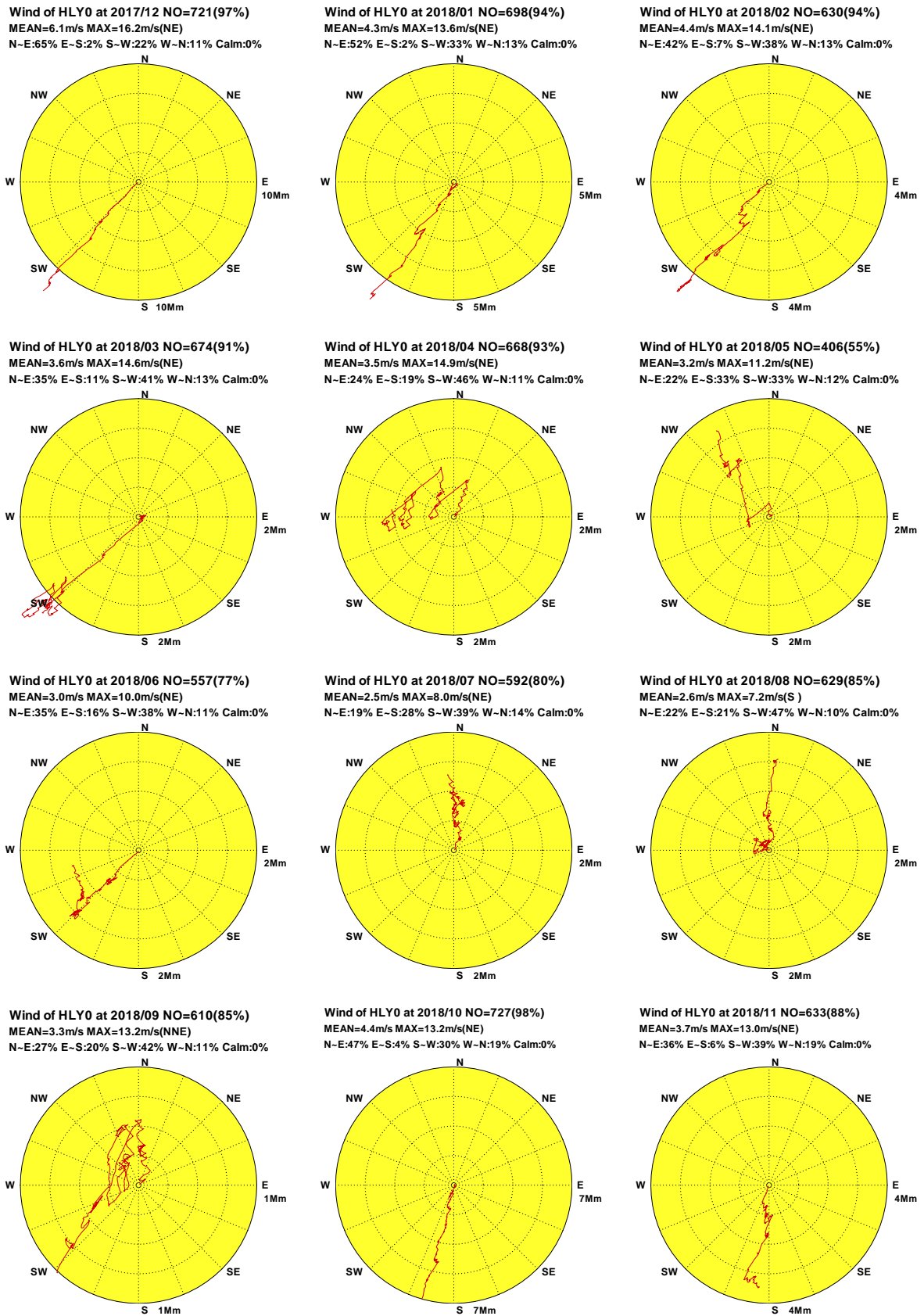


圖1.6.2 2018年花蓮海域每月 Y 站修補前觀測風力向量行進圖

W17CHLY0.1H0 W181HLY0.1H0 W182HLY0.1H0 W183HLY0.1H0 W184HLY0.1H0 W185HLY0.1H0
W186HLY0.1H0 W187HLY0.1H0 W188HLY0.1H0 W189HLY0.1H0 W18AHLY0.1H0 W18BHLY0.1H0

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Progressive Vector Diagram of Wind

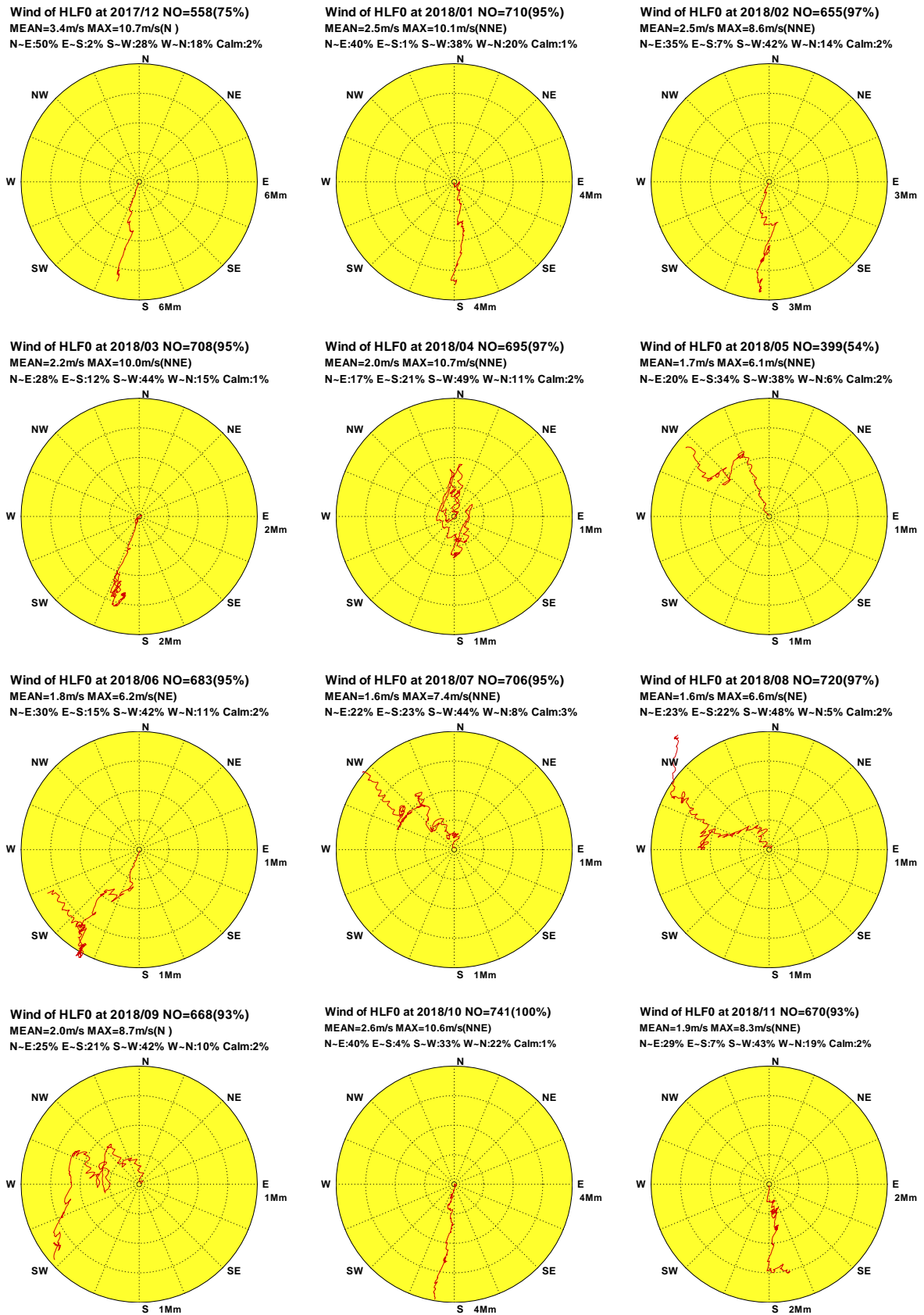


圖1.6.3 2018年花蓮海域每月F站修補前觀測風力向量行進圖

W17CHLF0.1H0 W181HLF0.1H0 W182HLF0.1H0 W183HLF0.1H0 W184HLF0.1H0 W185HLF0.1H0
W186HLF0.1H0 W187HLF0.1H0 W188HLF0.1H0 W189HLF0.1H0 W18AHLF0.1H0 W18BHLF0.1H0

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Progressive Vector Diagram of Wind

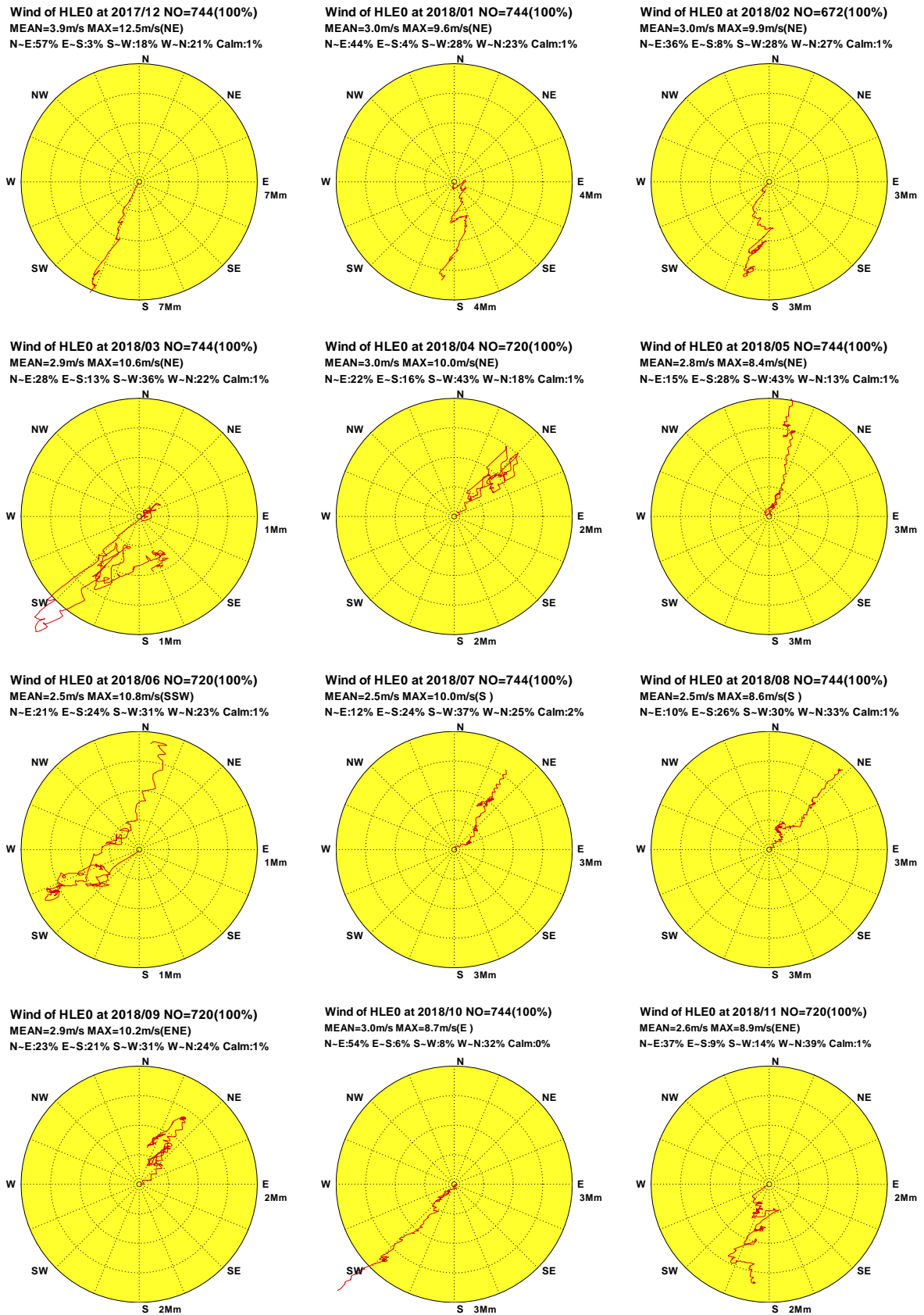


圖1.6.4 2018年花蓮海域每月 E 站修補前觀測風力向量行進圖

W17CHLE0.1H0 W181HLE0.1H0 W182HLE0.1H0 W183HLE0.1H0 W184HLE0.1H0 W185HLE0.1H0
W186HLE0.1H0 W187HLE0.1H0 W188HLE0.1H0 W189HLE0.1H0 W18AHLE0.1H0 W18BHLE0.1H0

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Progressive Vector Diagram of Wind

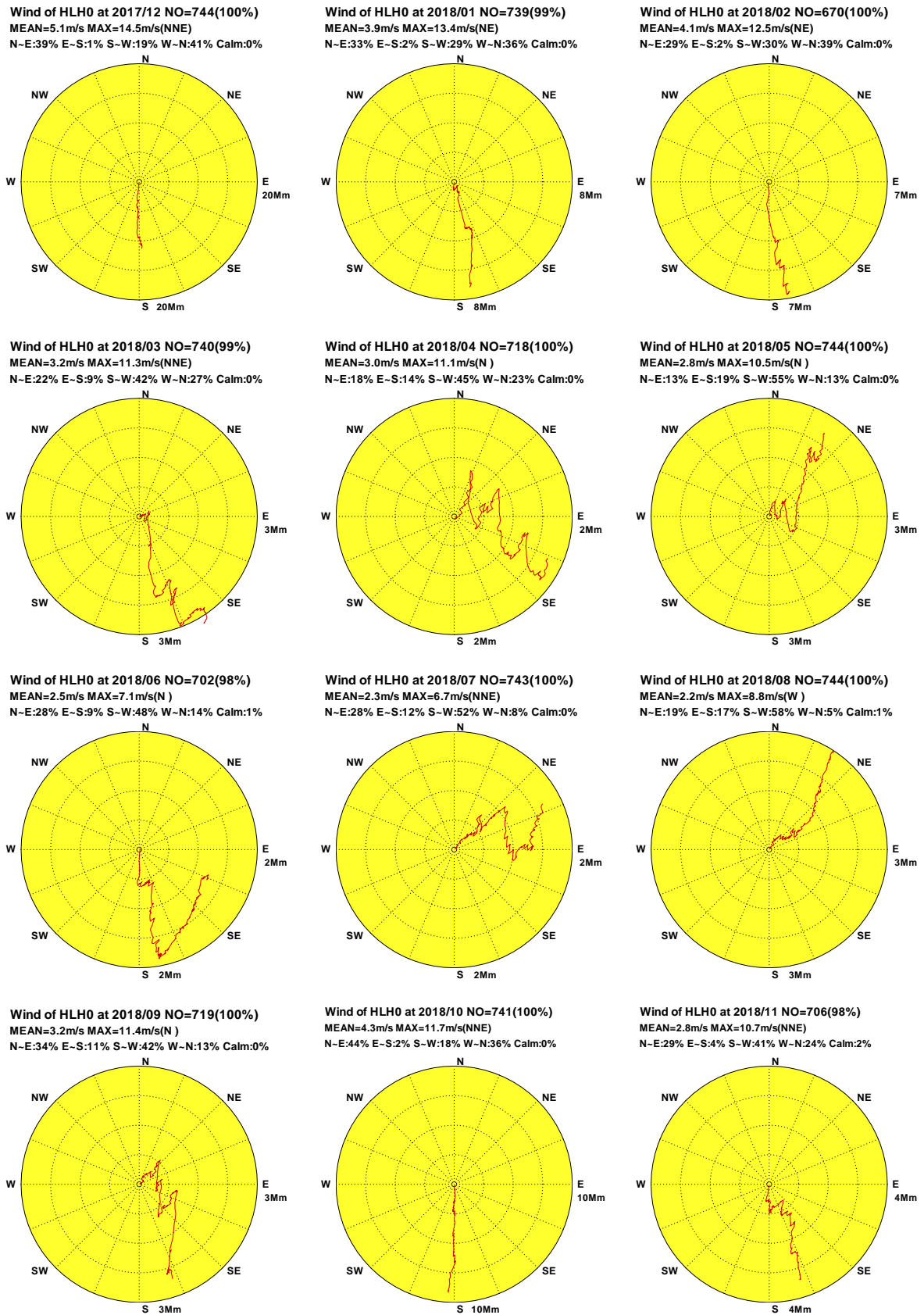


圖1.6.5 2018年花蓮海域每月 H 站修補前觀測風力向量行進圖

W17CHLH0.1H0 W181HLH0.1H0 W182HLH0.1H0 W183HLH0.1H0 W184HLH0.1H0 W185HLH0.1H0
W186HLH0.1H0 W187HLH0.1H0 W188HLH0.1H0 W189HLH0.1H0 W18AHLH0.1H0 W18BHLH0.1H0

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第二章 2018 年花蓮海域觀測波浪資料年報

花蓮海域波浪觀測包括測站 X 及測站 Y 等 2 個測站(測站位置如第 O 章圖 VL1)。本年報取經檢核及補遺之 X 站資料作為主要測站 1，Y 站資料作為主要測站 2。

2.1 2018 年花蓮海域觀測風力資料年報圖表

本章第 1 節波浪年報資料處理之圖表包括：

1. 表 2.1.1a 2018 年各觀測站每月觀測波浪資料修補前記錄表。
2. 表 2.1.1b 2018 年主要測站每月觀測波浪資料修補後記錄表。
3. 表 2.1.2 2018 年主要測站 1 修補後每月(季)及整年示性波高、示性週期及波向重要統計量統計表。
4. 表 2.1.3 2018 年主要測站 2 修補後每月(季)及整年示性波高、示性週期及波向重要統計量統計表。
5. 圖 2.1.1a 2018 年主要測站 1 修補前後每月示性波高歷線比較圖。
6. 圖 2.1.1b 2018 年主要測站 1 修補前後每月示性週期歷線比較圖。
7. 圖 2.1.1c 2018 年主要測站 1 修補前後每月波向歷線比較圖。
8. 圖 2.1.2a 2018 年主要測站 2 修補前後每月示性波高歷線比較圖。
9. 圖 2.1.2b 2018 年主要測站 2 修補前後每月示性週期歷線比較圖。
10. 圖 2.1.2c 2018 年主要測站 2 修補前後每月波向歷線比較圖。
11. 圖 2.1.3 2018 年主要測站 1 修補後每月波高向量分佈圖。

12. 圖 2.1.4 2018 年**主要測站 2 修補後**每月波高向量分佈圖。

第 2 節波浪年報資料處理之統計表包括: 2018 年花蓮海域**各測站修補前**每月(季)及整年示性波高、示性週期及波向重要統計量統計表。

第 3 節波浪年報資料處理之統計圖包括: 2018 年花蓮海域**主要測站 1 修補後**與**其他測站(修補前)**每月示性波高、示性週期及波向歷線比較圖。

第 4 節波浪年報資料處理之統計圖包括: 2018 年花蓮海域**主要測站 2 修補後**與**其他測站(修補前)**每月示性波高、示性週期及波向歷線比較圖。

第 5 節波浪年報資料處理之統計圖包括: 2018 年花蓮海域**各測站修補前**每月波高向量分佈圖。

表 2.1.1a 2018年每月花蓮海域修補前各測站觀測波浪資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	X	Y										
2017/12月	744(100%)	739(99.3%)	*	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	741(99.6%)	*	*	*	*	*	*	*	*	*	*
2018/ 2月	671(99.9%)	669(99.6%)	*	*	*	*	*	*	*	*	*	*
2018/ 3月	633(85.1%)	742(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/ 4月	*	718(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/ 5月	*	742(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/ 6月	*	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 7月	*	743(99.9%)	*	*	*	*	*	*	*	*	*	*
2018/ 8月	395(53.1%)	739(99.3%)	*	*	*	*	*	*	*	*	*	*
2018/ 9月	709(98.5%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/10月	740(99.5%)	742(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/11月	712(98.9%)	717(99.6%)	*	*	*	*	*	*	*	*	*	*
2018/冬季	2159(99.9%)	2149(99.5%)	*	*	*	*	*	*	*	*	*	*
2018/春季	633(28.7%)	2202(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/夏季	395(17.9%)	2202(99.7%)	*	*	*	*	*	*	*	*	*	*
2018/秋季	2161(98.9%)	2179(99.8%)	*	*	*	*	*	*	*	*	*	*
2018/整年	5348(61.1%)	8732(99.7%)	*	*	*	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	*	*	*	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	*	*	*	*	*	*	*	*	*	*

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表 2.1.1b 2018年每月花蓮海域修補後各測站波浪資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	X	Y										
2017/12月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 2月	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 3月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 4月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 5月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 6月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 7月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 8月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/ 9月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/10月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2018/11月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2018/冬季	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*	*
2018/春季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2018/夏季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2018/秋季	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*	*
2018/整年	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	*	*	*	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	*	*	*	*	*	*	*	*	*	*

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表2.1.2 2018年花蓮海域主要測站1修補後示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 H_s		H_s 最大	T_p	T_p	小波	小浪	中浪	大浪	T_p	T_p	T_p	T_p	波向	波向	波向	波向	波向	主波向
	蒐集 率	平均 (m)	(波高/週期/波向) (m/s/來向)	平均	最大	<0.5m (%)	~1.5m (%)	~3m (%)	>3m (%)	<6s (%)	6~8s (%)	8~10s (%)	>10s (%)	蒐集 率	N~E (%)	E~S (%)	S~W (%)	W~N (%)	(百分比) 來向/%
2017/12	100%	1.77	3.1/10.8/E	8.9	12.0	.0	33.1	66.5	.4	.5	18.8	72.3	8.3	100%	22.3	77.7	.0	.0	E /65%
2018/01	100%	1.51	2.6/ 9.7/E	8.5	11.1	.0	55.8	44.2	.0	.0	27.2	66.9	5.9	100%	39.4	60.6	.0	.0	E /67%
2018/02	100%	1.50	2.9/10.9/E	8.7	11.4	.0	57.1	42.9	.0	.4	22.5	68.0	9.1	100%	48.7	51.3	.0	.0	E /63%
2018/03	100%	1.21	2.7/10.2/ENE	9.0	12.3	.0	85.3	14.7	.0	6.6	17.9	41.0	34.5	100%	21.6	78.4	.0	.0	ESE/49%
2018/04	100%	.99	2.7/ 7.5/ESE	7.0	8.5	.0	93.3	6.7	.0	.0	96.8	3.2	.0	100%	1.1	96.5	1.3	1.1	ESE/57%
2018/05	100%	.70	1.6/ 6.7/ESE	6.9	9.4	15.1	84.4	.5	.0	.0	96.1	3.9	.0	100%	7.7	84.4	3.5	4.4	SE /48%
2018/06	100%	1.08	2.5/ 9.8/ESE	7.9	11.6	.0	80.3	19.7	.0	.1	61.7	33.1	5.1	100%	2.5	97.2	.0	.3	ESE/47%
2018/07	100%	1.16	3.3/ 9.6/WSW	9.6	16.5	.8	77.7	21.1	.4	.0	8.2	60.1	31.7	100%	4.4	94.5	1.1	.0	ESE/56%
2018/08	100%	.91	2.7/ 8.4/SE	8.8	16.7	6.6	85.9	7.5	.0	7.1	34.0	36.6	22.3	100%	6.3	92.7	.9	.0	ESE/43%
2018/09	100%	1.52	5.0/16.3/SE	10.4	16.5	11.0	49.4	26.9	12.6	.7	25.0	25.7	48.6	100%	12.8	87.2	.0	.0	ESE/54%
2018/10	100%	1.38	3.7/14.3/ESE	9.2	15.9	.1	65.5	32.3	2.2	3.2	31.3	37.4	28.1	100%	53.8	46.2	.0	.0	E /75%
2018/11	100%	1.21	2.6/ 9.2/E	8.5	25.3	3.2	76.7	20.1	.0	2.8	34.6	47.5	15.1	100%	38.8	58.8	1.5	1.0	E /54%
2018/冬	100%	1.59	3.1/10.8/E	8.7	12.0	.0	48.4	51.5	.1	.3	22.8	69.1	7.7	100%	36.4	63.6	.0	.0	E /65%
2018/春	100%	.97	2.7/10.2/ENE	7.6	12.3	5.1	87.6	7.3	.0	2.2	70.0	16.2	11.6	100%	10.2	86.3	1.6	1.9	ESE/43%
2018/夏	100%	1.05	3.3/ 9.6/WSW	8.8	16.7	2.5	81.3	16.1	.1	2.4	34.3	43.3	19.9	100%	4.4	94.8	.7	.1	ESE/49%
2018/秋	100%	1.37	5.0/16.3/SE	9.4	25.3	4.7	63.9	26.5	4.9	2.2	30.3	36.9	30.6	100%	35.3	63.9	.5	.3	E /54%
2018/年	100%	1.24	5.0/16.3/SE	8.6	25.3	3.1	70.4	25.2	1.3	1.8	39.5	41.2	17.5	100%	21.5	77.3	.7	.6	ESE/39%

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表2.1.3 2018年花蓮海域主要測站2修補後示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 H_s		H_s 最大		T_p	T_p	小波	小浪	中浪	大浪	T_p	T_p	T_p	T_p	波向	波向	波向	波向	波向	主波向
	蒐集 率	平均 (m)	(波高/週期/波向) (m/s/來向)		平均 (s)	最大 (s)	<0.5m (%)	~1.5m (%)	~3m (%)	>3m (%)	<6s (%)	6~8s (%)	8~10s (%)	>10s (%)	蒐集 率	N~E (%)	E~S (%)	S~W (%)	W~N (%)	(百分比) 來向/%
2017/12	100%	1.69	4.2/	6.7/NE	6.1	7.7	.0	46.5	50.3	3.2	39.9	60.1	.0	.0	100%	88.6	11.2	.3	.0	NE /53%
2018/01	100%	1.46	3.3/	6.6/NE	6.2	8.0	.0	60.9	38.6	.5	30.9	69.0	.1	.0	100%	88.2	11.8	.0	.0	NE /50%
2018/02	100%	1.47	4.8/	8.2/NE	6.1	8.2	.0	57.3	40.3	2.4	45.1	54.6	.3	.0	100%	85.6	14.1	.3	.0	NE /45%
2018/03	100%	1.09	3.4/	6.8/NE	6.1	8.1	.1	82.3	16.7	.9	43.1	56.3	.5	.0	100%	72.8	26.2	.8	.1	NE /31%
2018/04	100%	.90	3.8/	7.0/NE	6.0	8.7	7.2	83.3	9.2	.3	51.5	46.3	2.2	.0	100%	64.4	33.3	1.7	.6	NE /29%
2018/05	100%	.63	2.0/	5.1/NE	6.0	10.1	44.0	54.3	1.7	.0	50.5	44.8	4.6	.1	100%	58.9	30.6	7.7	2.8	NE /24%
2018/06	100%	.73	2.1/	7.0/NE	5.6	8.4	36.3	57.9	5.8	.0	66.4	33.3	.3	.0	100%	57.8	39.0	2.9	.3	ENE/24%
2018/07	100%	.75	2.5/	6.4/NNW	6.4	10.5	25.0	71.1	3.9	.0	30.8	65.2	3.8	.3	100%	65.2	31.5	2.3	1.1	ENE/27%
2018/08	100%	.60	1.8/	7.7/E	6.1	9.3	38.7	60.5	.8	.0	46.1	48.3	5.6	.0	100%	68.0	27.4	2.4	2.2	ENE/24%
2018/09	100%	1.28	4.9/	10.4/ENE	6.8	11.4	25.4	42.4	23.5	8.8	32.2	48.1	16.9	2.8	100%	72.9	25.4	.7	1.0	ENE/26%
2018/10	100%	1.41	3.6/	7.7/ENE	6.1	11.3	.5	59.5	38.2	1.7	51.9	40.3	6.5	1.3	100%	95.2	4.4	.0	.4	NNE/42%
2018/11	100%	1.17	3.0/	6.4/NNE	6.1	8.4	.8	80.3	18.8	.1	43.8	55.4	.8	.0	100%	89.4	9.3	1.1	.1	NNE/35%
2018/冬	100%	1.54	4.8/	8.2/NE	6.1	8.2	.0	54.8	43.1	2.0	38.4	61.4	.1	.0	100%	87.5	12.3	.2	.0	NE /50%
2018/春	100%	.87	3.8/	7.0/NE	6.0	10.1	17.2	73.2	9.2	.4	48.4	49.1	2.4	.0	100%	65.4	30.0	3.4	1.2	NE /28%
2018/夏	100%	.69	2.5/	6.4/NNW	6.1	10.5	33.3	63.2	3.5	.0	47.6	49.1	3.3	.1	100%	63.7	32.6	2.5	1.2	ENE/25%
2018/秋	100%	1.29	4.9/	10.4/ENE	6.3	11.4	8.8	60.7	26.9	3.5	42.7	47.8	8.1	1.4	100%	85.9	13.0	.6	.5	NNE/32%
2018/年	100%	1.10	4.9/	10.4/ENE	6.1	11.4	14.9	63.0	20.5	1.5	44.3	51.8	3.5	.4	100%	75.5	22.0	1.7	.7	NE /33%

Wave H_s in Hua-Lien Seas of HLX0 at 2018

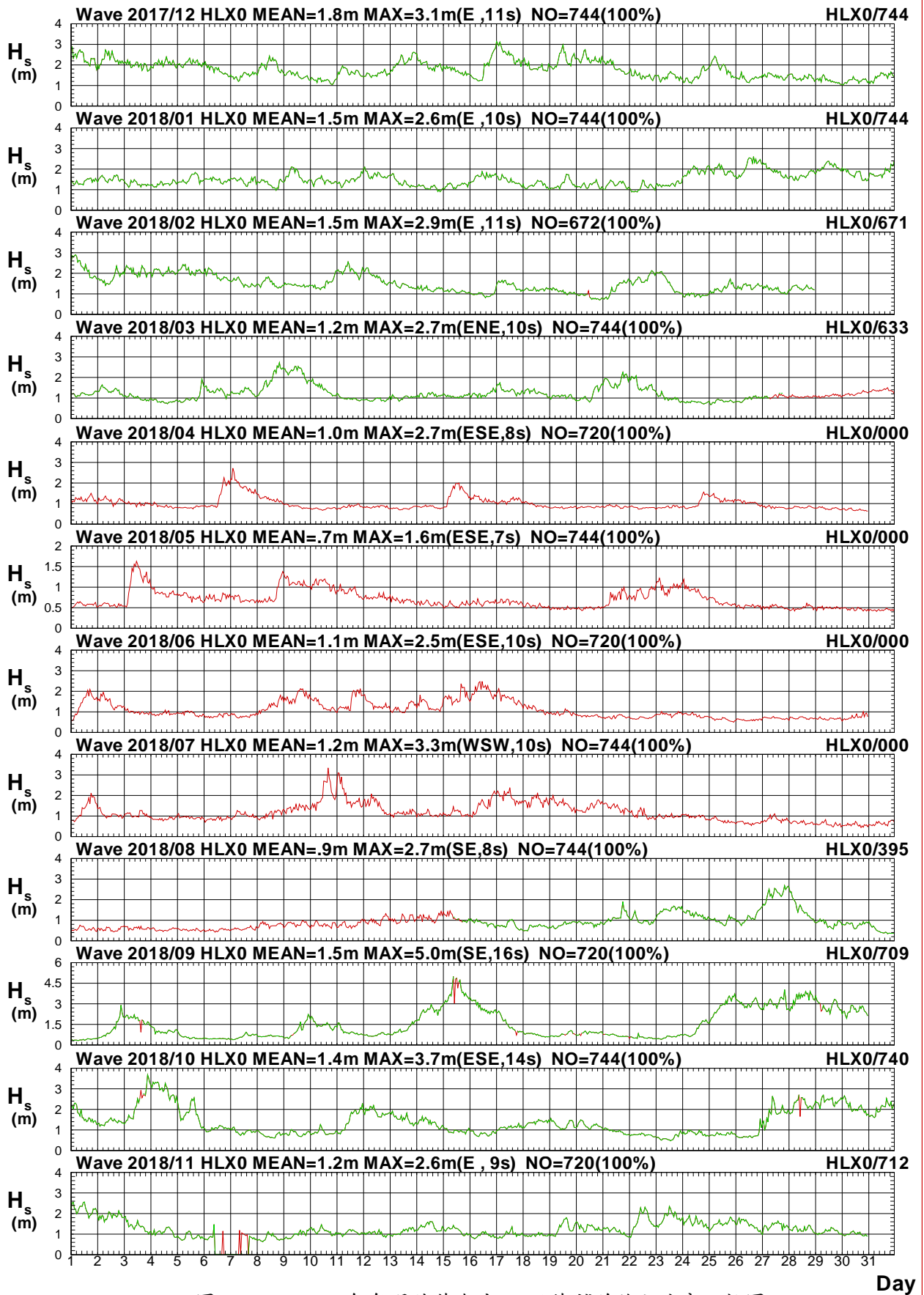


圖2.1.1a 2018年每月花蓮海域 X 站修補前後之波高比較圖

V17CHLX0.1HA V17CHLX0.1HO V181HLX0.1HA V181HLX0.1HO V182HLX0.1HA V182HLX0.1HO
 V183HLX0.1HA V183HLX0.1HO V184HLX0.1HA V184HLX0.1HO V185HLX0.1HA V185HLX0.1HO

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Wave T_p in Hua-Lien Seas of HLX0 at 2018

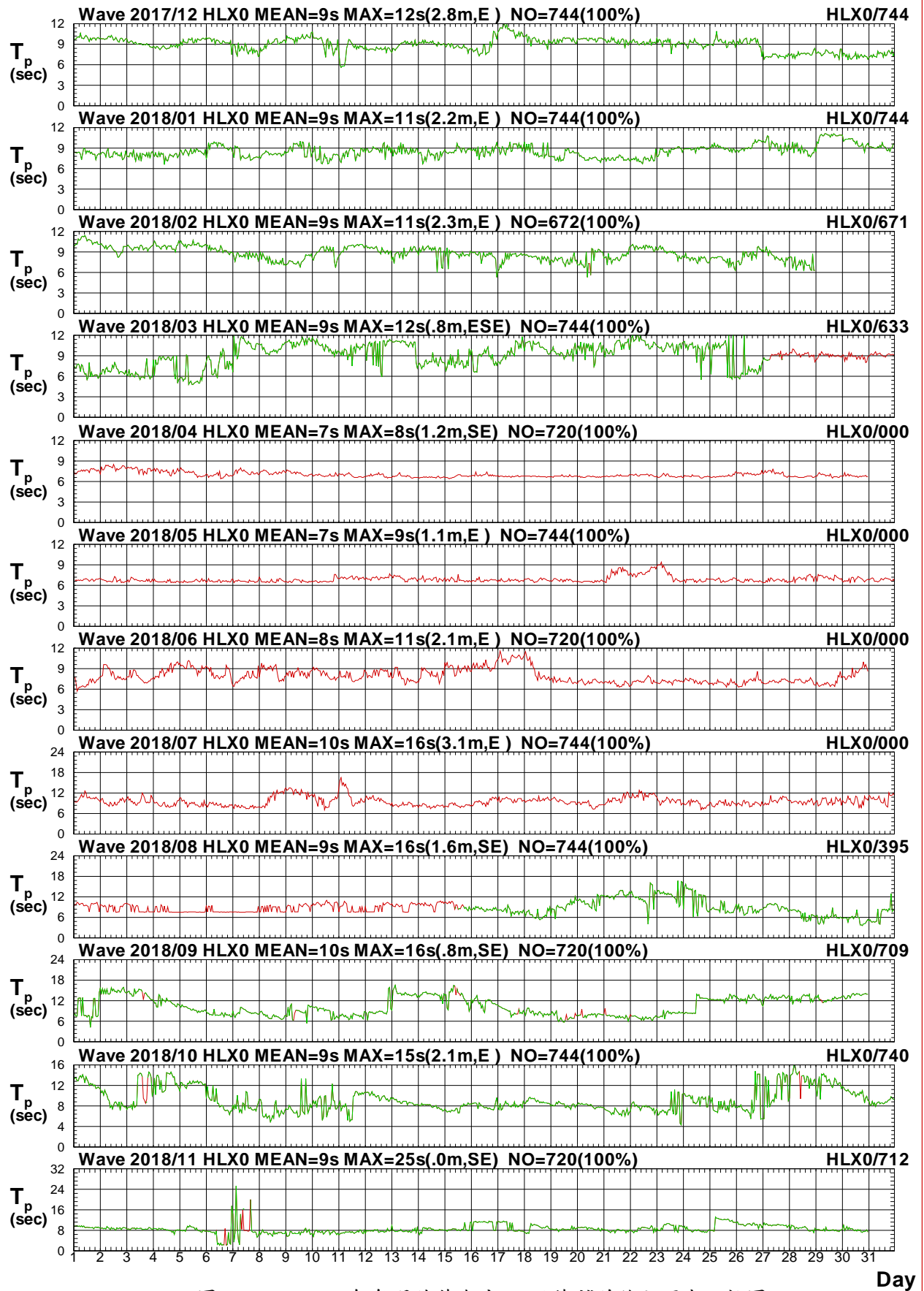


圖2.1.1b 2018年每月花蓮海域 X 站修補前後之週期比較圖

V17CHLX0.1HA V17CHLX0.1HO V181HLX0.1HA V181HLX0.1HO V182HLX0.1HA V182HLX0.1HO
 V183HLX0.1HA V183HLX0.1HO V184HLX0.1HA V184HLX0.1HO V185HLX0.1HA V185HLX0.1HO

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Wave Direction in Hua-Lien Seas of HLX0 at 2018

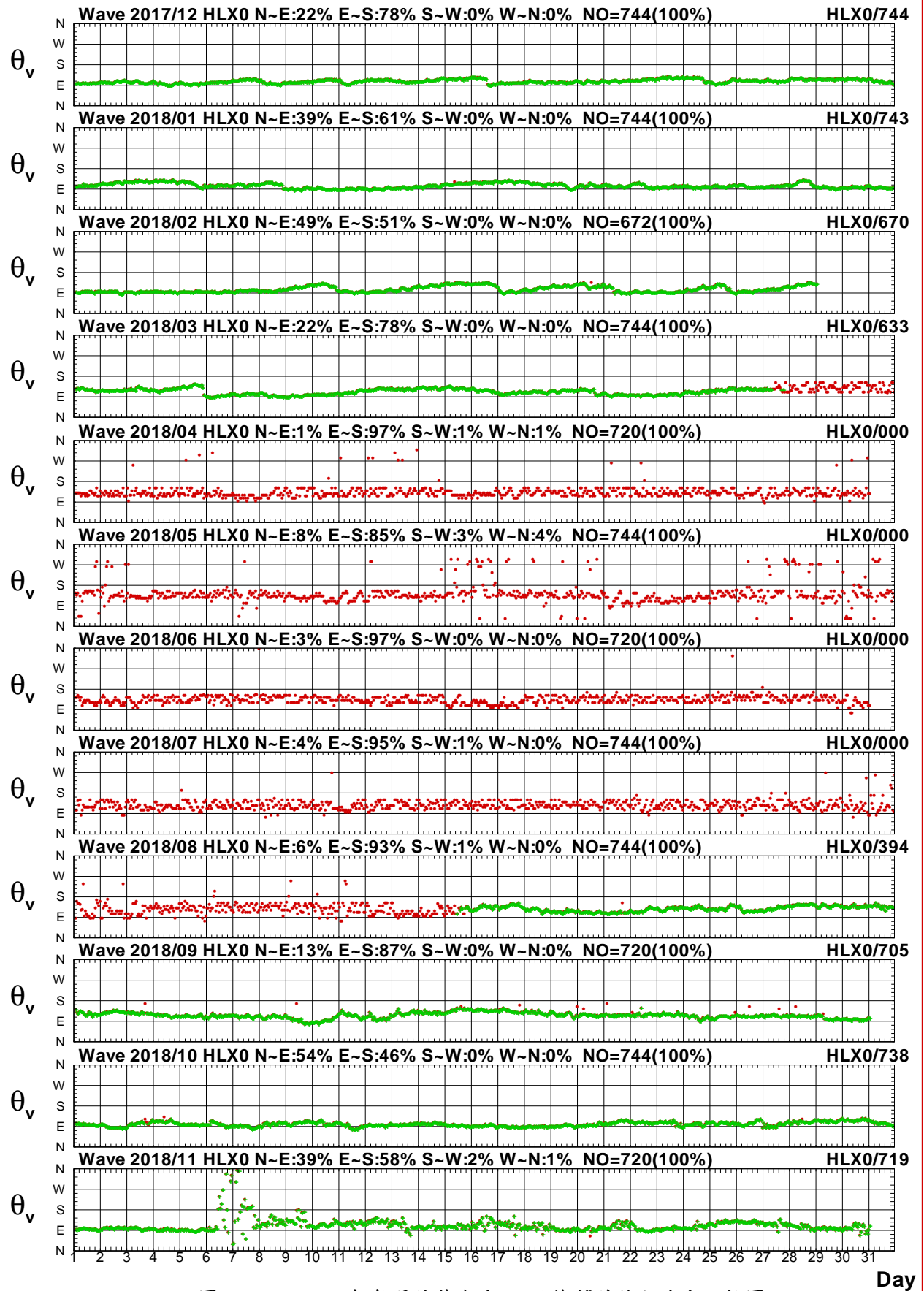


圖2.1.1c 2018年每月花蓮海域 X 站修補前後之波向比較圖

V17CHLX0.1HA V17CHLX0.1HO V181HLX0.1HA V181HLX0.1HO V182HLX0.1HA V182HLX0.1HO
 V183HLX0.1HA V183HLX0.1HO V184HLX0.1HA V184HLX0.1HO V185HLX0.1HA V185HLX0.1HO

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Wave H_s in Hua-Lien Seas of HLY0 at 2018

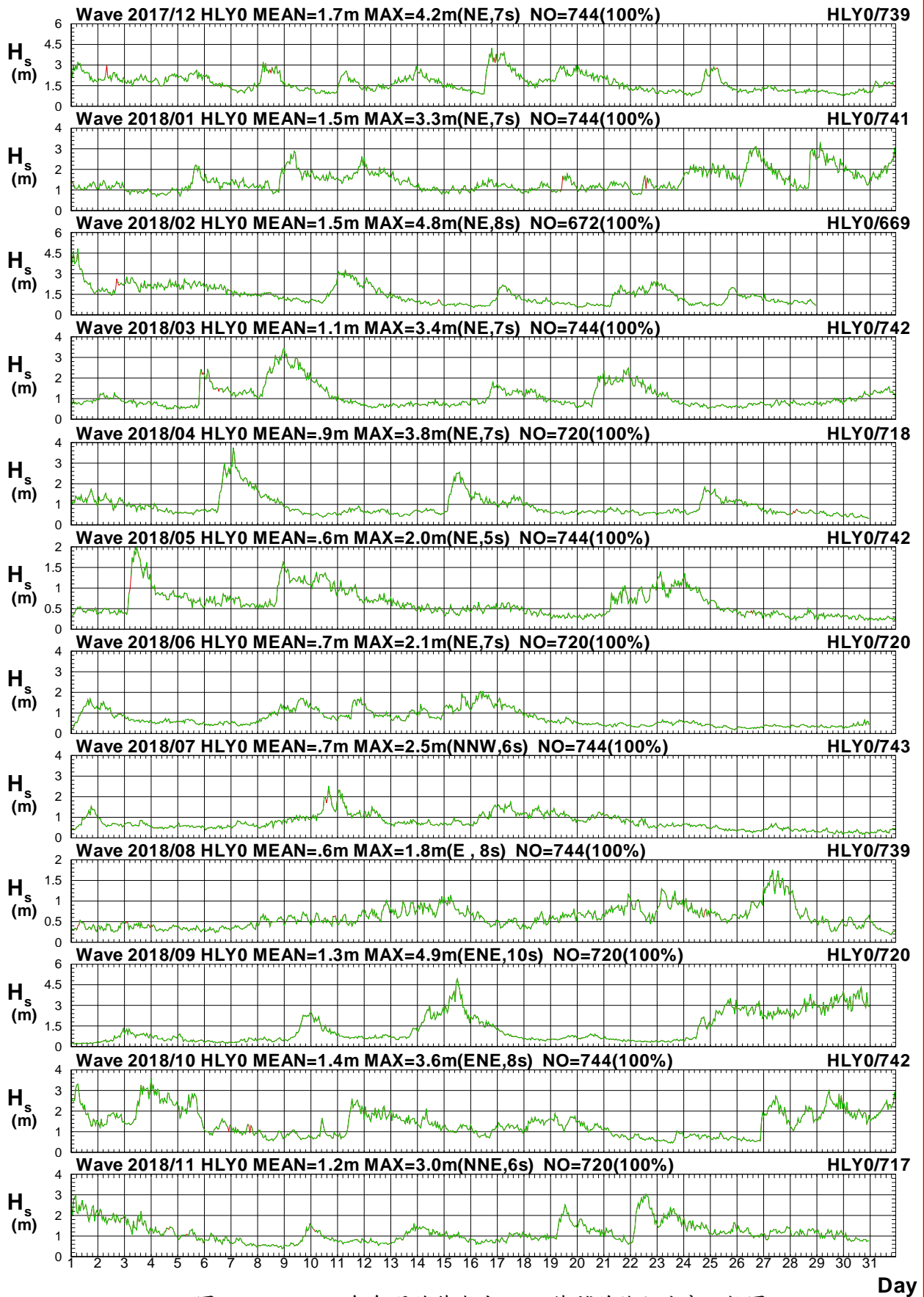


圖2.1.2a 2018年每月花蓮海域 Y 站修補前後之波高比較圖

V17CHLY0.1HA V17CHLY0.1HO V181HLY0.1HA V181HLY0.1HO V182HLY0.1HA V182HLY0.1HO
 V183HLY0.1HA V183HLY0.1HO V184HLY0.1HA V184HLY0.1HO V185HLY0.1HA V185HLY0.1HO

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Wave T_p in Hua-Lien Seas of HLY0 at 2018

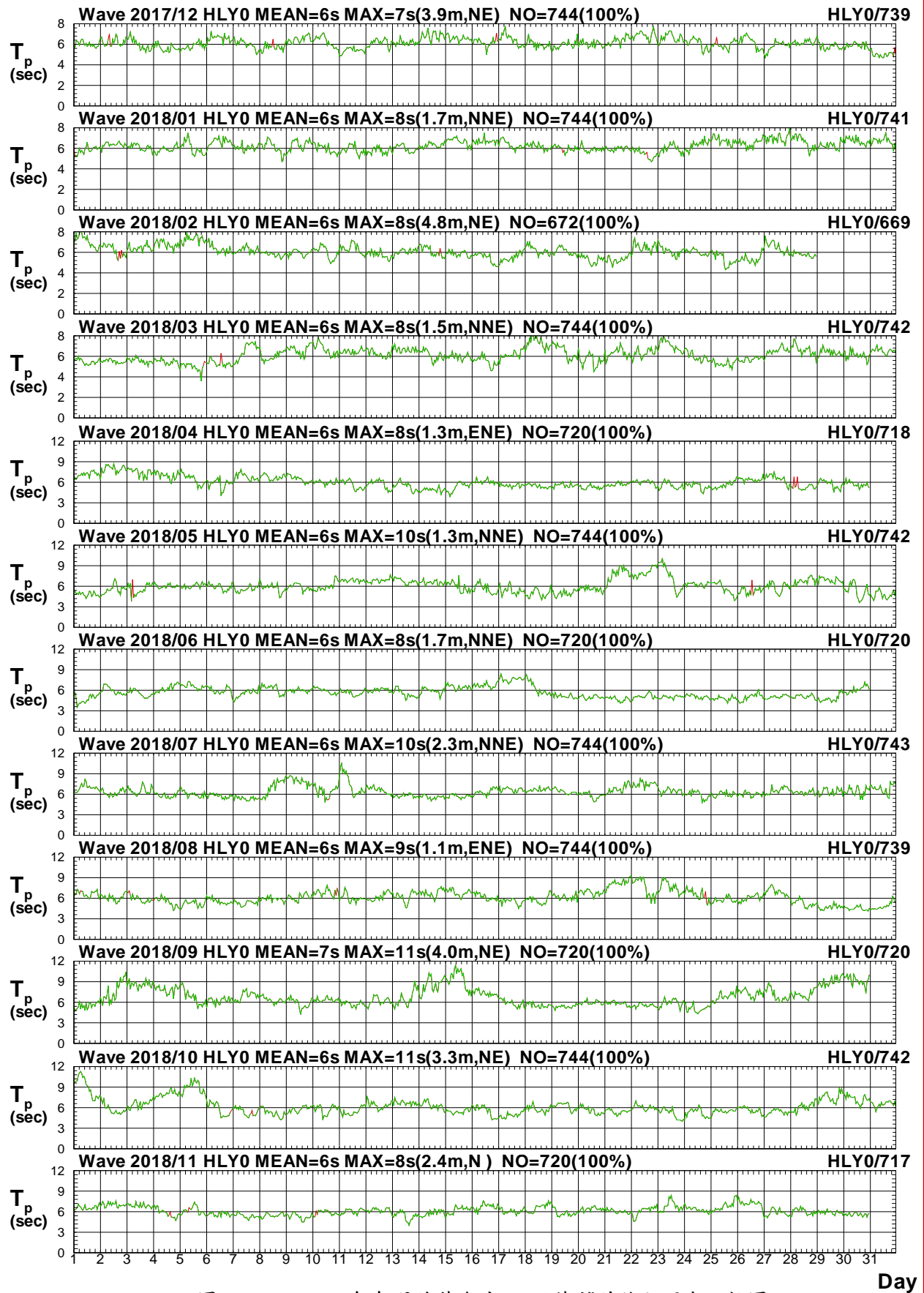


圖2.1.2b 2018年每月花蓮海域 Y 站修補前後之週期比較圖

V17CHLY0.1HA V17CHLY0.1HO V181HLY0.1HA V181HLY0.1HO V182HLY0.1HA V182HLY0.1HO
 V183HLY0.1HA V183HLY0.1HO V184HLY0.1HA V184HLY0.1HO V185HLY0.1HA V185HLY0.1HO

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Wave Direction in Hua-Lien Seas of HLY0 at 2018

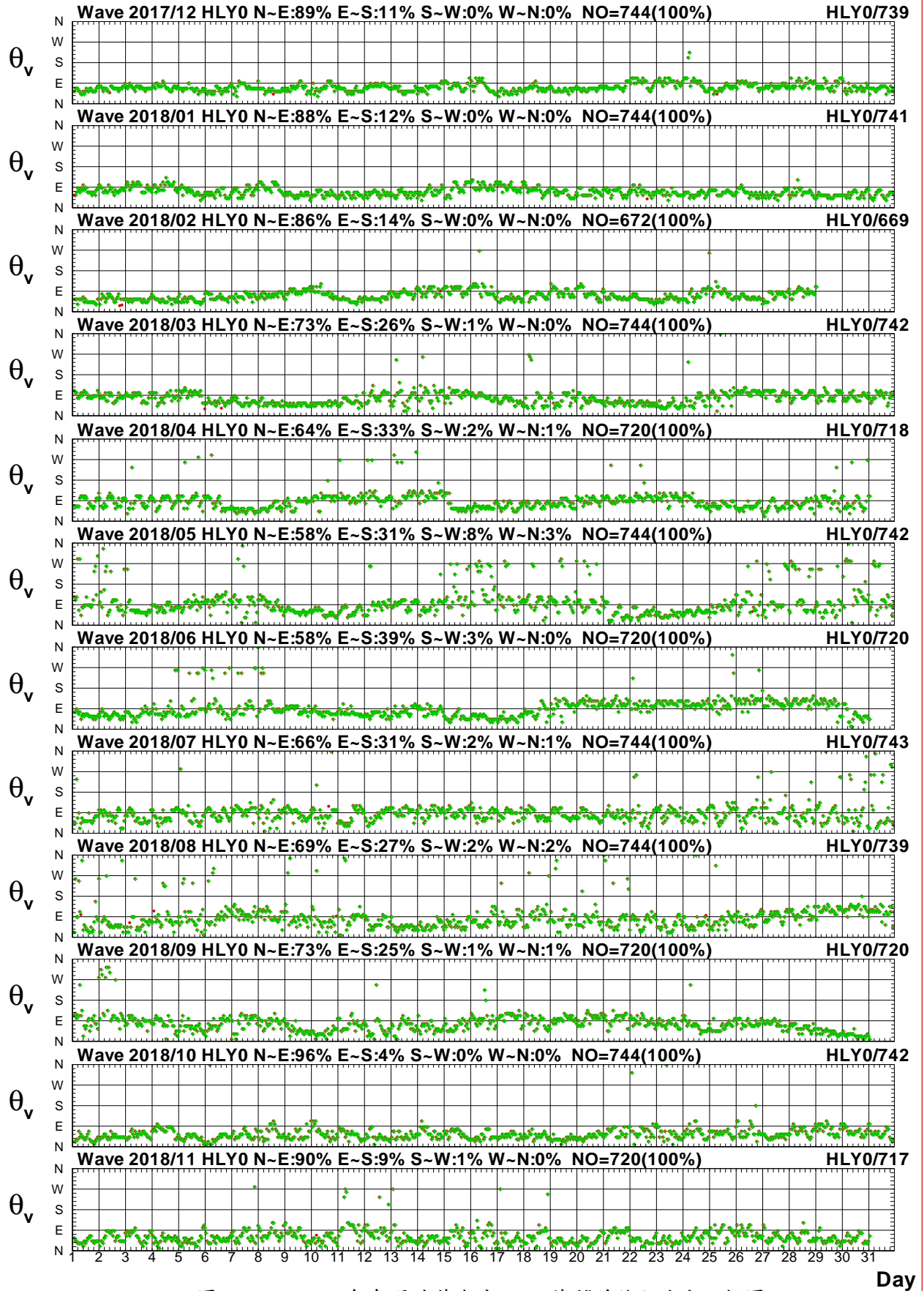


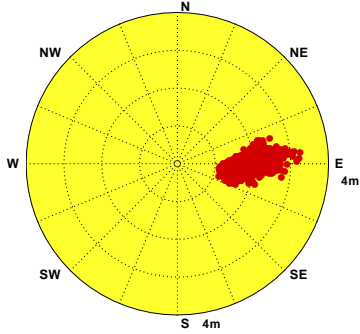
圖2.1.2c 2018年每月花蓮海域 Y 站修補前後之波向比較圖

V17CHLY0.1HA V17CHLY0.1HO V181HLY0.1HA V181HLY0.1HO V182HLY0.1HA V182HLY0.1HO
 V183HLY0.1HA V183HLY0.1HO V184HLY0.1HA V184HLY0.1HO V185HLY0.1HA V185HLY0.1HO

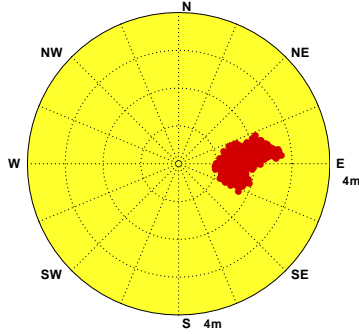
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Distribution of H_s Vectors

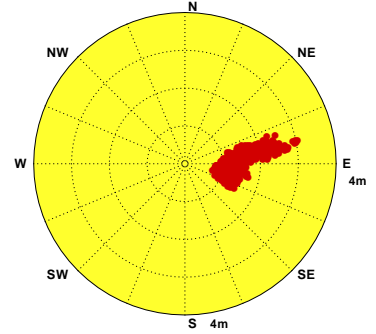
Wave of HLX0 at 2017/12 NO=744(100%)
Hs : MEAN=1.8m MAX=3.1m(E,11s)
N-E:22% E-S:78% S-W:0% W-N:0%



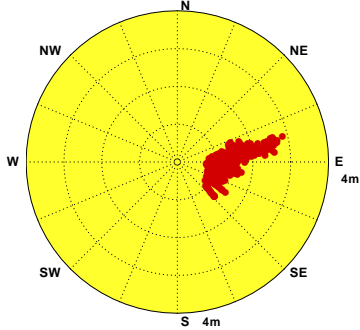
Wave of HLX0 at 2018/01 NO=744(100%)
Hs : MEAN=1.5m MAX=2.6m(E,10s)
N-E:39% E-S:61% S-W:0% W-N:0%



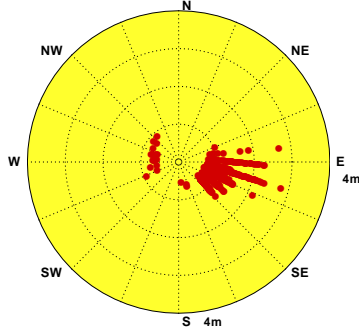
Wave of HLX0 at 2018/02 NO=672(100%)
Hs : MEAN=1.5m MAX=2.9m(E,11s)
N-E:49% E-S:51% S-W:0% W-N:0%



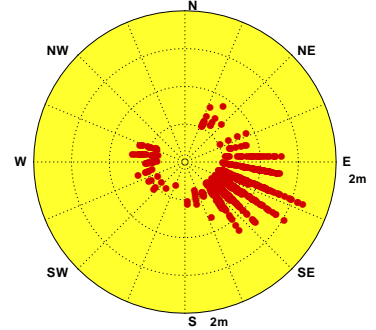
Wave of HLX0 at 2018/03 NO=744(100%)
Hs : MEAN=1.2m MAX=2.7m(ENE,10s)
N-E:22% E-S:78% S-W:0% W-N:0%



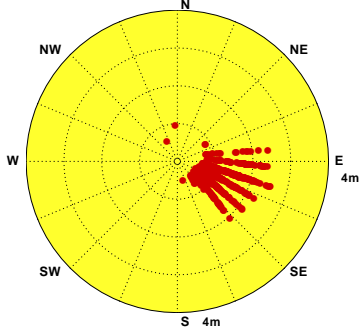
Wave of HLX0 at 2018/04 NO=720(100%)
Hs : MEAN=1.0m MAX=2.7m(ESE,8s)
N-E:1% E-S:97% S-W:1% W-N:1%



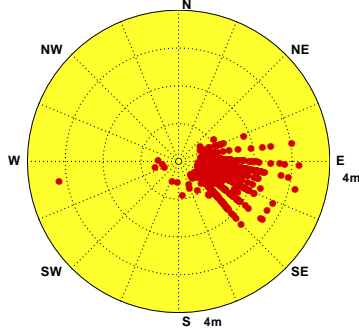
Wave of HLX0 at 2018/05 NO=744(100%)
Hs : MEAN=.7m MAX=1.6m(ESE,7s)
N-E:8% E-S:85% S-W:3% W-N:4%



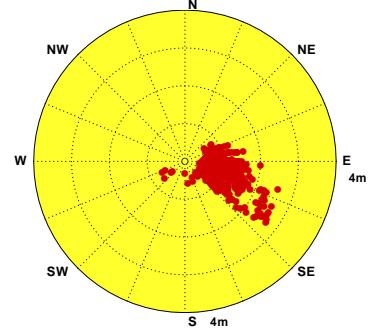
Wave of HLX0 at 2018/06 NO=720(100%)
Hs : MEAN=1.1m MAX=2.5m(ESE,10s)
N-E:3% E-S:97% S-W:0% W-N:0%



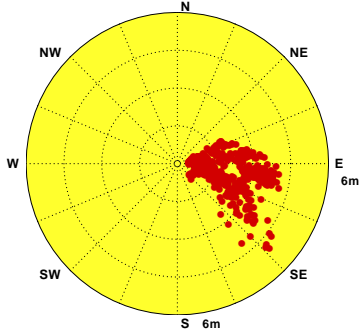
Wave of HLX0 at 2018/07 NO=744(100%)
Hs : MEAN=1.2m MAX=3.3m(WSW,10s)
N-E:4% E-S:95% S-W:1% W-N:0%



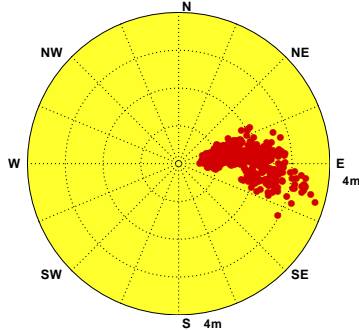
Wave of HLX0 at 2018/08 NO=744(100%)
Hs : MEAN=.9m MAX=2.7m(SE,8s)
N-E:6% E-S:93% S-W:1% W-N:0%



Wave of HLX0 at 2018/09 NO=720(100%)
Hs : MEAN=1.5m MAX=5.0m(SE,16s)
N-E:13% E-S:87% S-W:0% W-N:0%



Wave of HLX0 at 2018/10 NO=744(100%)
Hs : MEAN=1.4m MAX=3.7m(ESE,14s)
N-E:54% E-S:46% S-W:0% W-N:0%



Wave of HLX0 at 2018/11 NO=720(100%)
Hs : MEAN=1.2m MAX=2.6m(E,9s)
N-E:39% E-S:58% S-W:2% W-N:1%

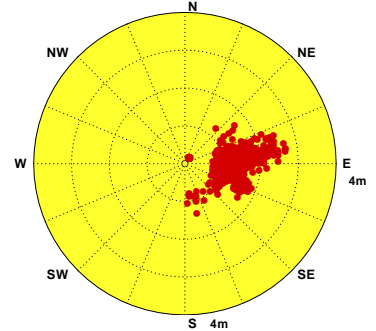


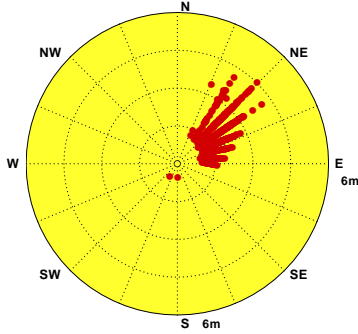
圖2.1.3 2018年花蓮海域每月 X 站修補後觀測波高向量分佈圖

V17CHLX0.1HA V181HLX0.1HA V182HLX0.1HA V183HLX0.1HA V184HLX0.1HA V185HLX0.1HA
V186HLX0.1HA V187HLX0.1HA V188HLX0.1HA V189HLX0.1HA V18AHLX0.1HA V18BHLX0.1HA

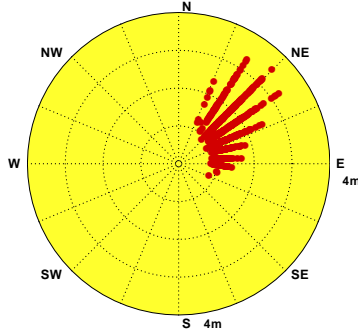
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Distribution of H_s Vectors

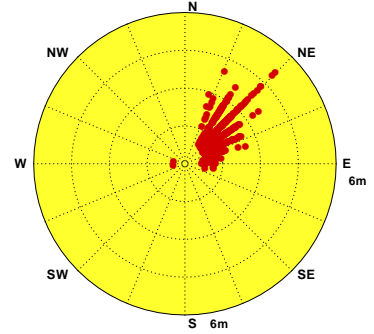
Wave of HLY0 at 2017/12 NO=744(100%)
 Hs : MEAN=1.7m MAX=4.2m(NE,7s)
 N-E:89% E-S:11% S-W:0% W-N:0%



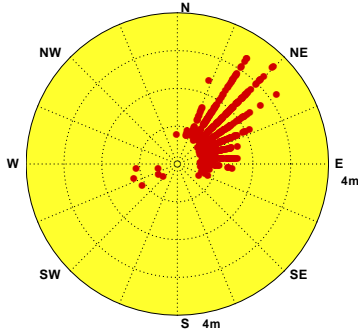
Wave of HLY0 at 2018/01 NO=744(100%)
 Hs : MEAN=1.5m MAX=3.3m(NE,7s)
 N-E:88% E-S:12% S-W:0% W-N:0%



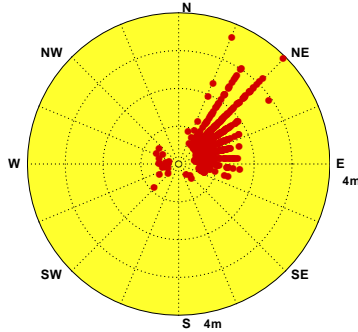
Wave of HLY0 at 2018/02 NO=672(100%)
 Hs : MEAN=1.5m MAX=4.8m(NE,8s)
 N-E:86% E-S:14% S-W:0% W-N:0%



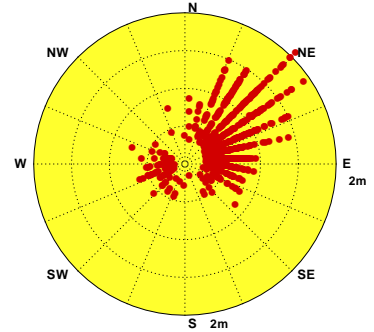
Wave of HLY0 at 2018/03 NO=744(100%)
 Hs : MEAN=1.1m MAX=3.4m(NE,7s)
 N-E:73% E-S:26% S-W:1% W-N:0%



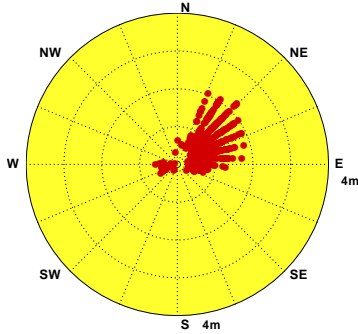
Wave of HLY0 at 2018/04 NO=720(100%)
 Hs : MEAN=.9m MAX=3.8m(NE,7s)
 N-E:64% E-S:33% S-W:2% W-N:1%



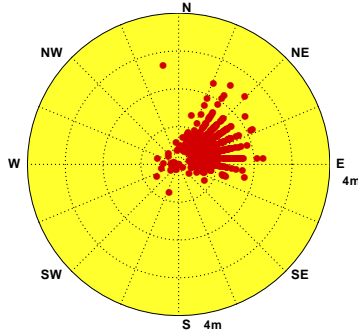
Wave of HLY0 at 2018/05 NO=744(100%)
 Hs : MEAN=.6m MAX=2.0m(NE,5s)
 N-E:58% E-S:31% S-W:8% W-N:3%



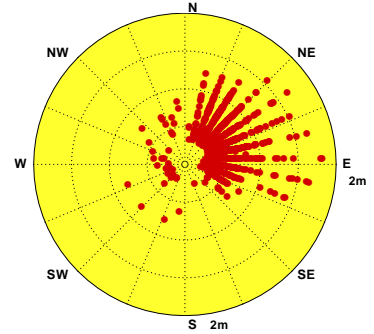
Wave of HLY0 at 2018/06 NO=720(100%)
 Hs : MEAN=.7m MAX=2.1m(NE,7s)
 N-E:58% E-S:39% S-W:3% W-N:0%



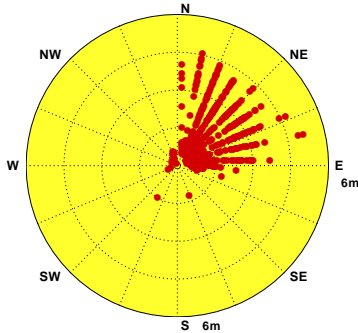
Wave of HLY0 at 2018/07 NO=744(100%)
 Hs : MEAN=.7m MAX=2.5m(NNW,6s)
 N-E:66% E-S:31% S-W:2% W-N:1%



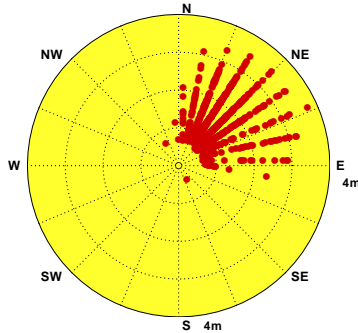
Wave of HLY0 at 2018/08 NO=744(100%)
 Hs : MEAN=.6m MAX=1.8m(E, 8s)
 N-E:69% E-S:27% S-W:2% W-N:2%



Wave of HLY0 at 2018/09 NO=720(100%)
 Hs : MEAN=1.3m MAX=4.9m(ENE,10s)
 N-E:73% E-S:25% S-W:1% W-N:1%



Wave of HLY0 at 2018/10 NO=744(100%)
 Hs : MEAN=1.4m MAX=3.6m(ENE,8s)
 N-E:96% E-S:4% S-W:0% W-N:0%



Wave of HLY0 at 2018/11 NO=720(100%)
 Hs : MEAN=1.2m MAX=3.0m(NNE,6s)
 N-E:90% E-S:9% S-W:1% W-N:0%

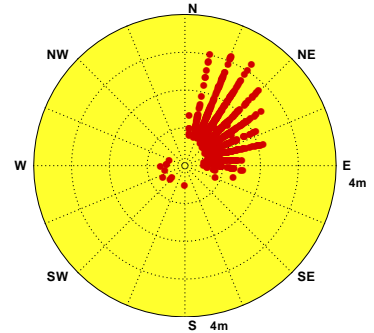


圖2.1.4 2018年花蓮海域每月 Y 站修補後觀測波高向量分佈圖

V17CHLY0.1HA V181HLY0.1HA V182HLY0.1HA V183HLY0.1HA V184HLY0.1HA V185HLY0.1HA
 V186HLY0.1HA V187HLY0.1HA V188HLY0.1HA V189HLY0.1HA V18AHLY0.1HA V18BHLY0.1HA

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2.2 2018 年花蓮海域各測站修補前 波浪統計量統計表

表2.2.1 2018年花蓮海域 X 站修補前示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 H_s		H_s 最大	T_p	T_p	小波	小浪	中浪	大浪	T_p	T_p	T_p	T_p	波向	波向	波向	波向	波向	主波向
	蒐集 率	平均 (m)	(波高/週期/波向) (m/s/來向)	平均	最大	<0.5m (%)	~1.5m (%)	~3m (%)	>3m (%)	<6s (%)	6~8s (%)	8~10s (%)	>10s (%)	蒐集 率	N~E (%)	E~S (%)	S~W (%)	W~N (%)	(百分比) 來向/%
2017/12	100%	1.77	3.1/10.8/E	8.9	12.0	.0	33.1	66.5	.4	.5	18.8	72.3	8.3	100%	22.3	77.7	.0	.0	E /65%
2018/01	100%	1.51	2.6/ 9.7/E	8.5	11.1	.0	55.8	44.2	.0	.0	27.2	66.9	5.9	100%	39.4	60.6	.0	.0	E /67%
2018/02	100%	1.50	2.9/10.9/E	8.7	11.4	.0	57.1	42.9	.0	.4	22.4	68.1	9.1	100%	48.8	51.2	.0	.0	E /63%
2018/03	85%	1.22	2.7/10.2/ENE	9.0	12.3	.0	82.9	17.1	.0	7.7	21.0	30.8	40.4	85%	25.4	74.6	.0	.0	ESE/52%
2018/04	0																		
2018/05	0																		
2018/06	0																		
2018/07	0																		
2018/08	53%	1.05	2.7/ 8.4/SE	8.9	16.7	4.8	81.0	14.2	.0	13.4	23.3	35.4	27.8	53%	.0	100.0	.0	.0	ESE/52%
2018/09	99%	1.52	5.0/16.3/SE	10.4	16.5	11.0	49.2	27.2	12.6	.7	25.1	25.4	48.8	98%	13.0	87.0	.0	.0	ESE/55%
2018/10	100%	1.37	3.7/14.3/ESE	9.2	15.9	.1	65.8	31.9	2.2	3.2	31.5	37.0	28.2	99%	54.1	45.9	.0	.0	E /75%
2018/11	99%	1.22	2.6/ 9.2/E	8.5	25.3	3.2	76.4	20.4	.0	2.8	34.6	47.3	15.3	100%	38.7	58.8	1.5	1.0	E /54%
2018/冬	100%	1.59	3.1/10.8/E	8.7	12.0	.0	48.4	51.5	.1	.3	22.8	69.2	7.7	100%	36.4	63.6	.0	.0	E /65%
2018/春	29%	1.22	2.7/10.2/ENE	9.0	12.3	.0	82.9	17.1	.0	7.7	21.0	30.8	40.4	29%	25.4	74.6	.0	.0	ESE/52%
2018/夏	18%	1.05	2.7/ 8.4/SE	8.9	16.7	4.8	81.0	14.2	.0	13.4	23.3	35.4	27.8	18%	.0	100.0	.0	.0	ESE/52%
2018/秋	99%	1.37	5.0/16.3/SE	9.4	25.3	4.7	63.9	26.6	4.9	2.3	30.4	36.6	30.7	99%	35.6	63.6	.5	.3	E /54%
2018/年	61%	1.42	5.0/16.3/SE	9.0	25.3	2.3	61.1	34.6	2.0	3.0	25.7	49.0	22.4	61%	32.1	67.6	.2	.1	E /54%

2-2-1

表2.2.2 2018年花蓮海域 Y 站修補前示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 H_s		H_s 最大		T_p	T_p	小波	小浪	中浪	大浪	T_p	T_p	T_p	T_p	波向	波向	波向	波向	波向	主波向
	蒐集 率	平均 (m)	(波高/週期/波向) (m/s/來向)		平均 (s)	最大 (s)	<0.5m (%)	~1.5m (%)	~3m (%)	>3m (%)	<6s (%)	6~8s (%)	8~10s (%)	>10s (%)	蒐集 率	N~E (%)	E~S (%)	S~W (%)	W~N (%)	(百分比) 來向/%
2017/12	99%	1.68	4.2/	6.7/NE	6.1	7.7	.0	46.7	50.2	3.1	40.1	59.9	.0	.0	99%	88.5	11.2	.3	.0	NE /53%
2018/01	100%	1.46	3.3/	6.6/NE	6.2	8.0	.0	60.7	38.7	.5	30.8	69.1	.1	.0	100%	88.1	11.9	.0	.0	NE /50%
2018/02	100%	1.47	4.8/	8.2/NE	6.1	8.2	.0	57.4	40.2	2.4	45.3	54.4	.3	.0	100%	85.5	14.2	.3	.0	NE /45%
2018/03	100%	1.09	3.4/	6.8/NE	6.1	8.1	.1	82.3	16.6	.9	43.1	56.3	.5	.0	100%	72.8	26.3	.8	.1	NE /31%
2018/04	100%	.90	3.8/	7.0/NE	6.0	8.7	7.2	83.3	9.2	.3	51.7	46.1	2.2	.0	100%	64.3	33.4	1.7	.6	NE /29%
2018/05	100%	.63	2.0/	5.1/NE	6.0	10.1	43.9	54.3	1.8	.0	50.7	44.6	4.6	.1	100%	58.8	30.7	7.7	2.8	NE /24%
2018/06	100%	.73	2.1/	7.0/NE	5.6	8.4	36.3	57.9	5.8	.0	66.4	33.3	.3	.0	100%	57.8	39.0	2.9	.3	ENE/24%
2018/07	100%	.75	2.5/	6.4/NNW	6.4	10.5	25.0	71.2	3.8	.0	30.7	65.3	3.8	.3	100%	65.3	31.4	2.3	1.1	ENE/27%
2018/08	99%	.60	1.8/	7.7/E	6.1	9.3	38.6	60.6	.8	.0	46.3	48.0	5.7	.0	99%	67.9	27.5	2.4	2.2	ENE/24%
2018/09	100%	1.28	4.9/	10.4/ENE	6.8	11.4	25.4	42.4	23.5	8.8	32.2	48.1	16.9	2.8	100%	72.9	25.4	.7	1.0	ENE/26%
2018/10	100%	1.41	3.6/	7.7/ENE	6.1	11.3	.5	59.4	38.3	1.8	51.8	40.4	6.5	1.3	100%	95.1	4.4	.0	.4	NNE/42%
2018/11	100%	1.17	3.0/	6.4/NNE	6.1	8.4	.8	80.2	18.8	.1	43.9	55.2	.8	.0	100%	89.4	9.3	1.1	.1	NNE/35%
2018/冬	100%	1.54	4.8/	8.2/NE	6.1	8.2	.0	54.9	43.1	2.0	38.5	61.4	.1	.0	100%	87.4	12.4	.2	.0	NE /50%
2018/春	100%	.87	3.8/	7.0/NE	6.0	10.1	17.2	73.2	9.2	.4	48.5	49.0	2.5	.0	100%	65.3	30.1	3.4	1.2	NE /28%
2018/夏	100%	.69	2.5/	6.4/NNW	6.1	10.5	33.2	63.3	3.5	.0	47.6	49.0	3.3	.1	100%	63.7	32.6	2.5	1.2	ENE/25%
2018/秋	100%	1.29	4.9/	10.4/ENE	6.3	11.4	8.9	60.6	27.0	3.5	42.7	47.8	8.1	1.4	100%	85.9	13.0	.6	.5	NNE/32%
2018/年	100%	1.10	4.9/	10.4/ENE	6.1	11.4	14.9	63.1	20.5	1.5	44.4	51.8	3.5	.4	100%	75.5	22.1	1.7	.7	NE /33%

2-2-2

2.3 2018 年花蓮海域**主要測站 1**(修補後)與 **其他測站**(修補前)波浪歷線比較圖

Wave H_s in Hua-Lien Harbor of HLX0 at 2018

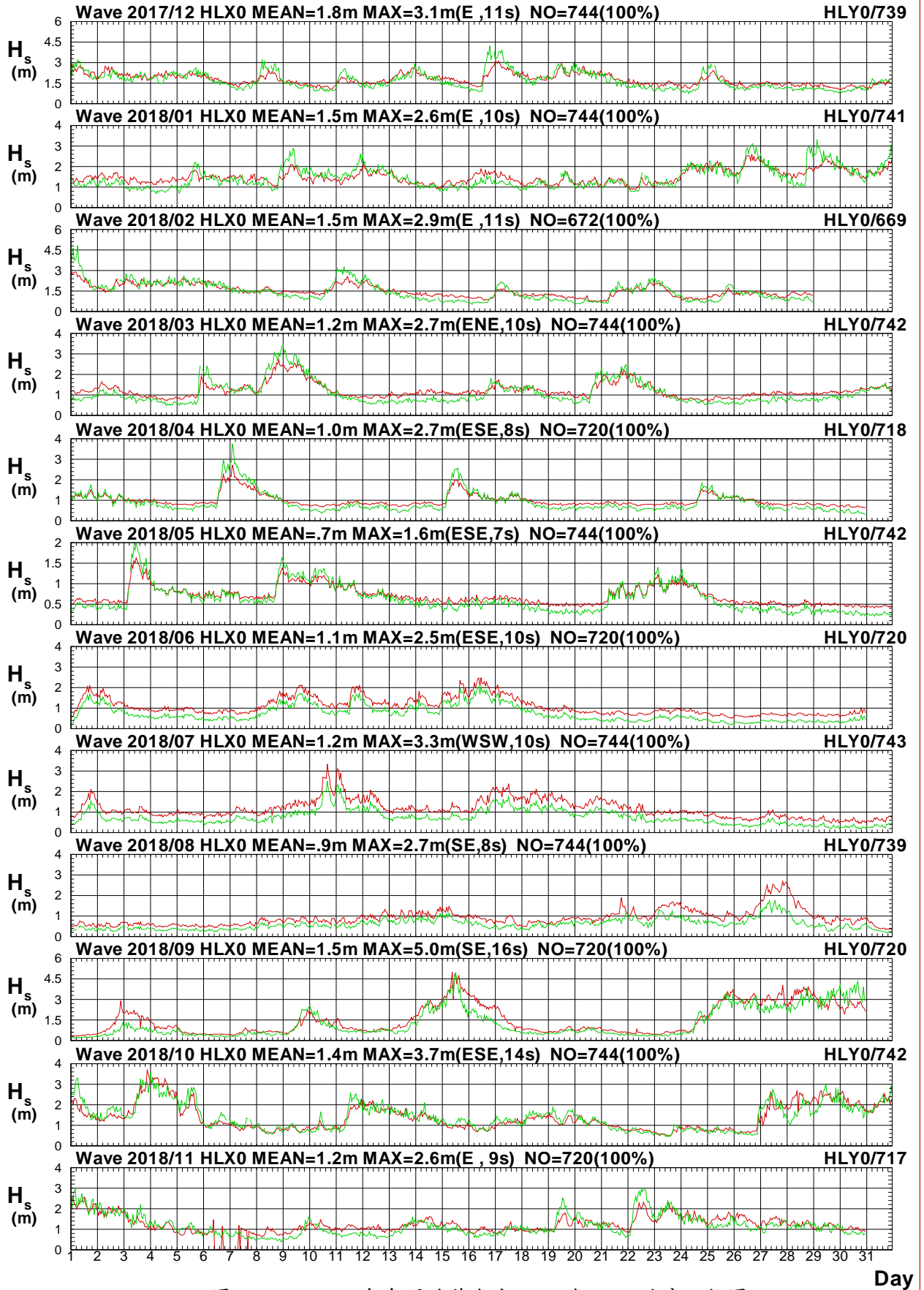


圖2.3.1a 2018年每月花蓮海域 X 站與 Y 站波高比較圖

V17CHLX0.1HA V17CHLY0.1H0 V181HLX0.1HA V181HLY0.1H0 V182HLX0.1HA V182HLY0.1H0
 V183HLX0.1HA V183HLY0.1H0 V184HLX0.1HA V184HLY0.1H0 V185HLX0.1HA V185HLY0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

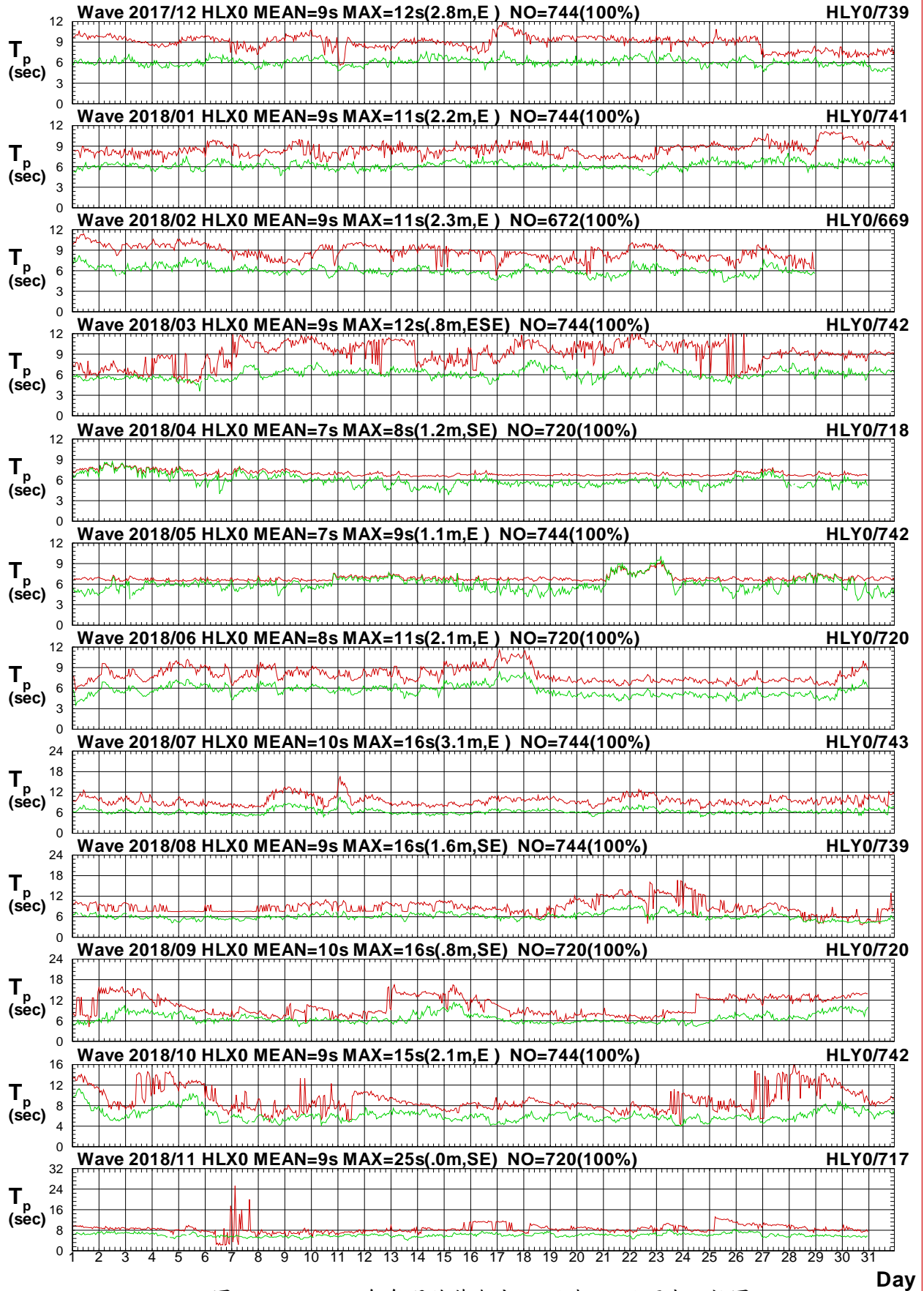


圖2.3.1b 2018年每月花蓮海域 X 站與 Y 站週期比較圖

V17CHLX0.1HA V17CHLY0.1H0 V181HLX0.1HA V181HLY0.1H0 V182HLX0.1HA V182HLY0.1H0
 V183HLX0.1HA V183HLY0.1H0 V184HLX0.1HA V184HLY0.1H0 V185HLX0.1HA V185HLY0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

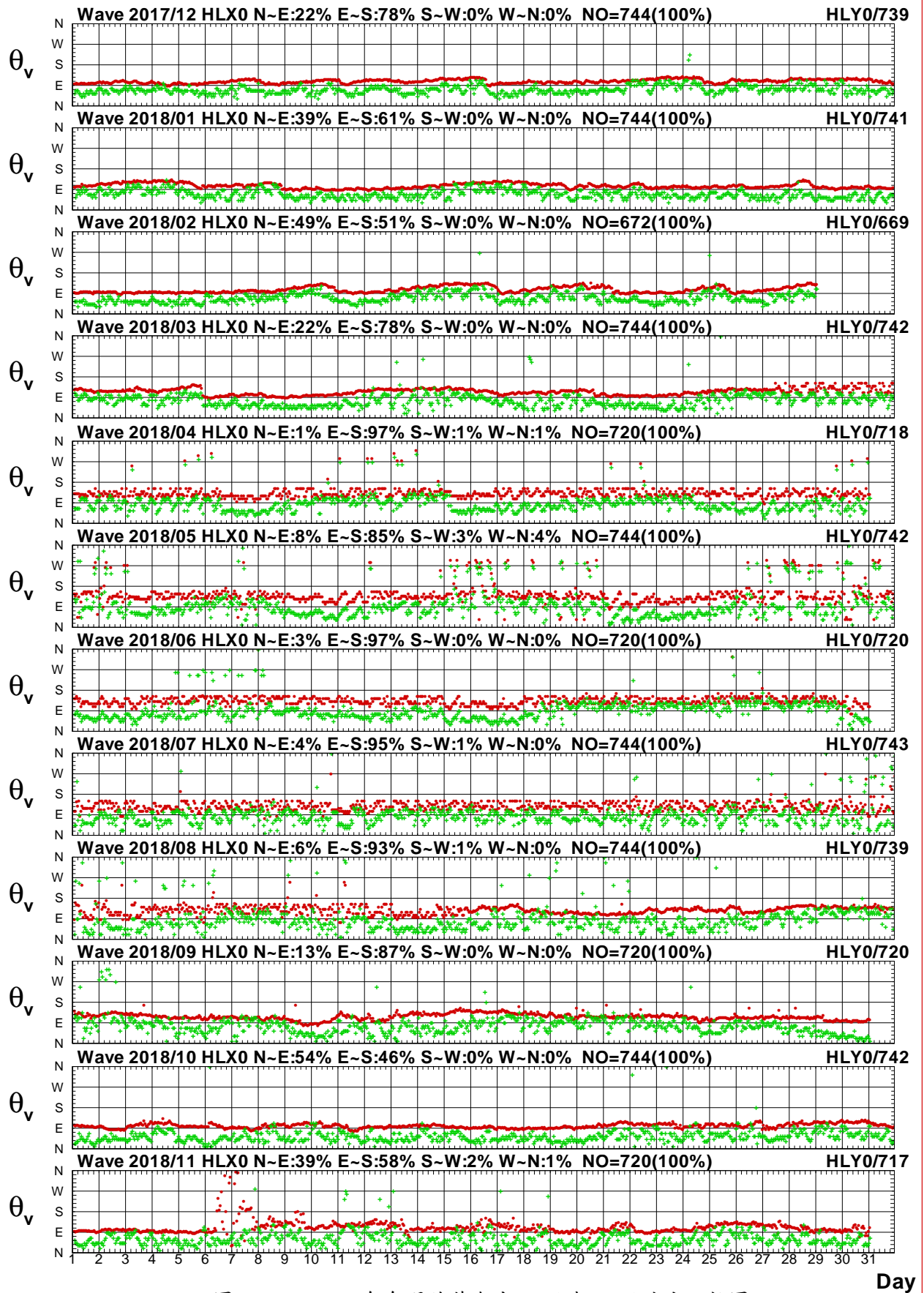


圖2.3.1c 2018年每月花蓮海域 X 站與 Y 站波向比較圖

V17CHLX0.1HA V17CHLY0.1H0 V181HLX0.1HA V181HLY0.1H0 V182HLX0.1HA V182HLY0.1H0
 V183HLX0.1HA V183HLY0.1H0 V184HLX0.1HA V184HLY0.1H0 V185HLX0.1HA V185HLY0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

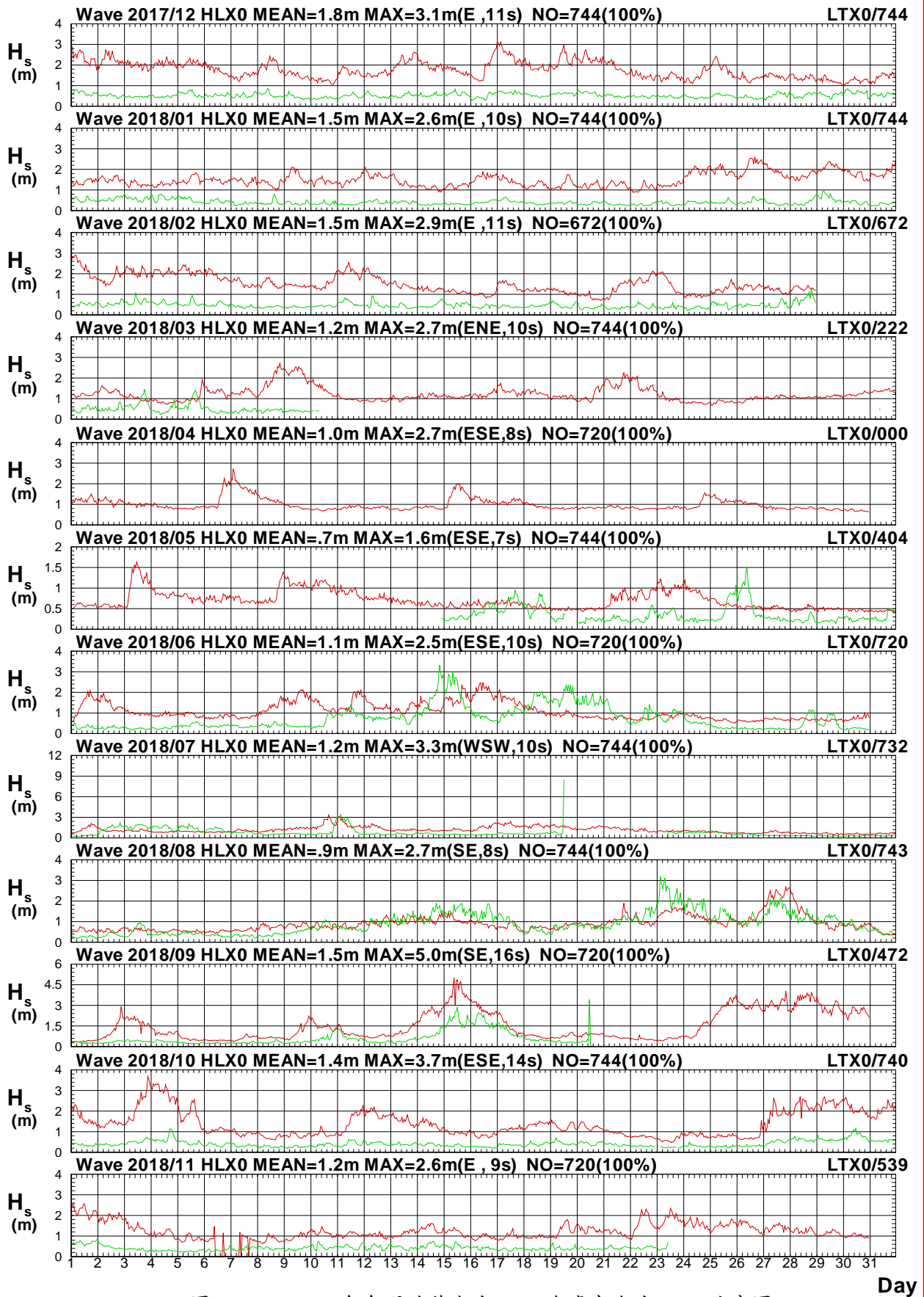


圖2.3.2a 2018年每月花蓮海域 X 站與臺東海域 X 站波高圖

V17CHLX0.1HA V17CLTX0.1HO V181HLX0.1HA V181LTX0.1HO V182HLX0.1HA V182LTX0.1HO
 V183HLX0.1HA V183LTX0.1HO V184HLX0.1HA V184LTX0.1HO V185HLX0.1HA V185LTX0.1HO

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

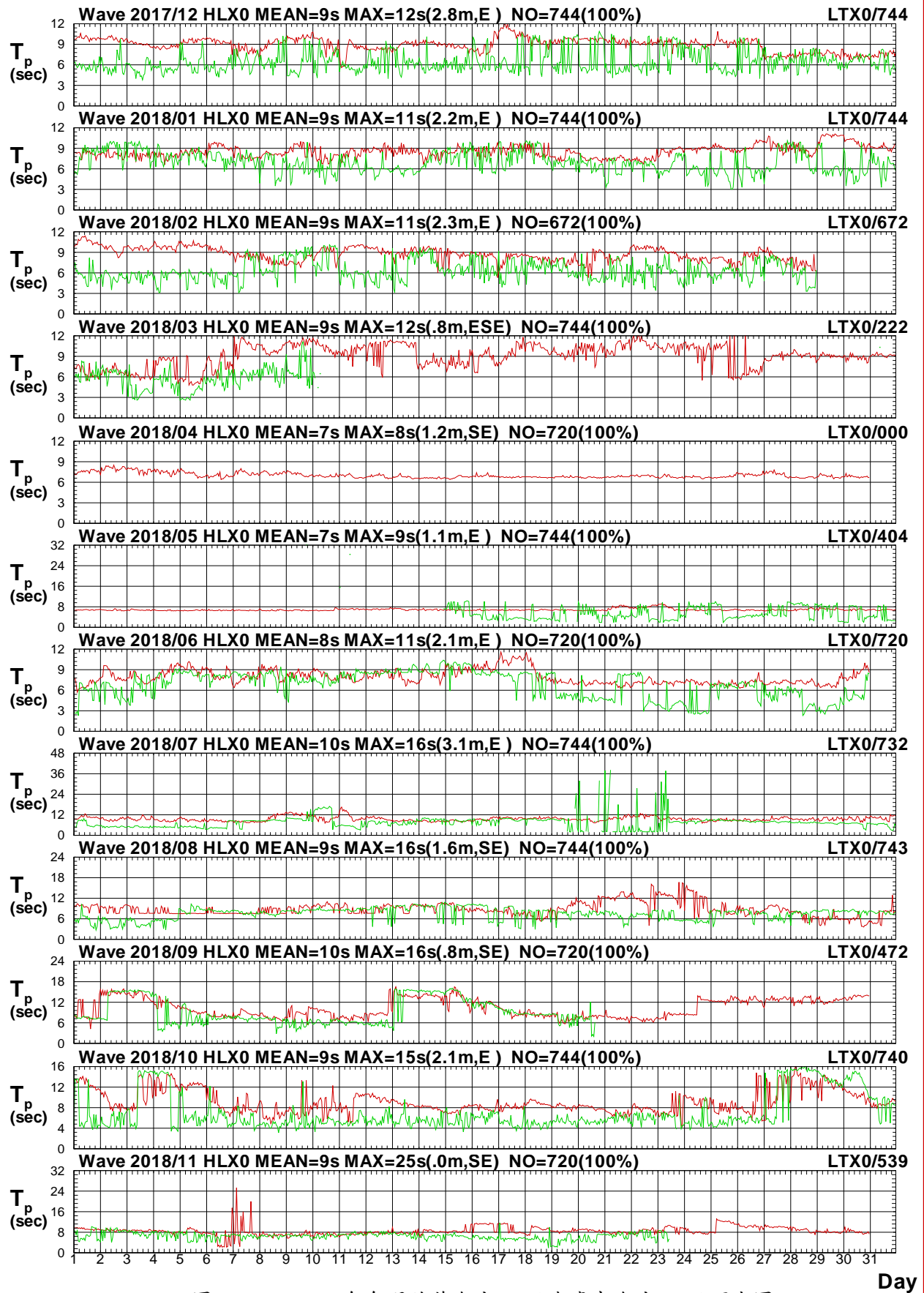


圖2.3.2b 2018年每月花蓮海域 X 站與臺東海域 X 站週期圖

V17CHLX0.1HA V17CLTX0.1H0 V181HLX0.1HA V181LTX0.1H0 V182HLX0.1HA V182LTX0.1H0
 V183HLX0.1HA V183LTX0.1H0 V184HLX0.1HA V184LTX0.1H0 V185HLX0.1HA V185LTX0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

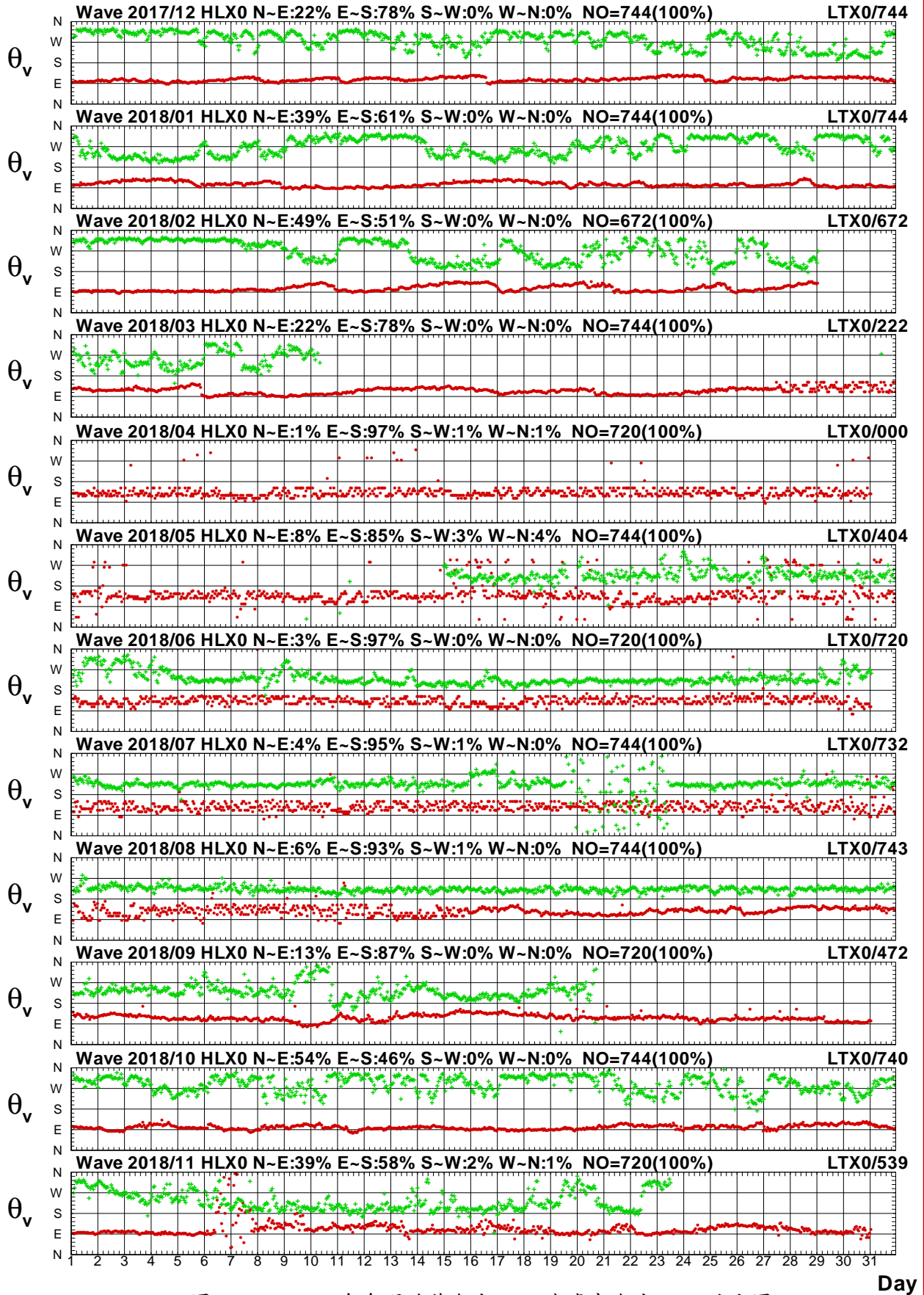


圖2.3.2c 2018年每月花蓮海域 X 站與臺東海域 X 站波向圖

V17CHLX0.1HA V17CLTX0.1H0 V181HLX0.1HA V181LTX0.1H0 V182HLX0.1HA V182LTX0.1H0
 V183HLX0.1HA V183LTX0.1H0 V184HLX0.1HA V184LTX0.1H0 V185HLX0.1HA V185LTX0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

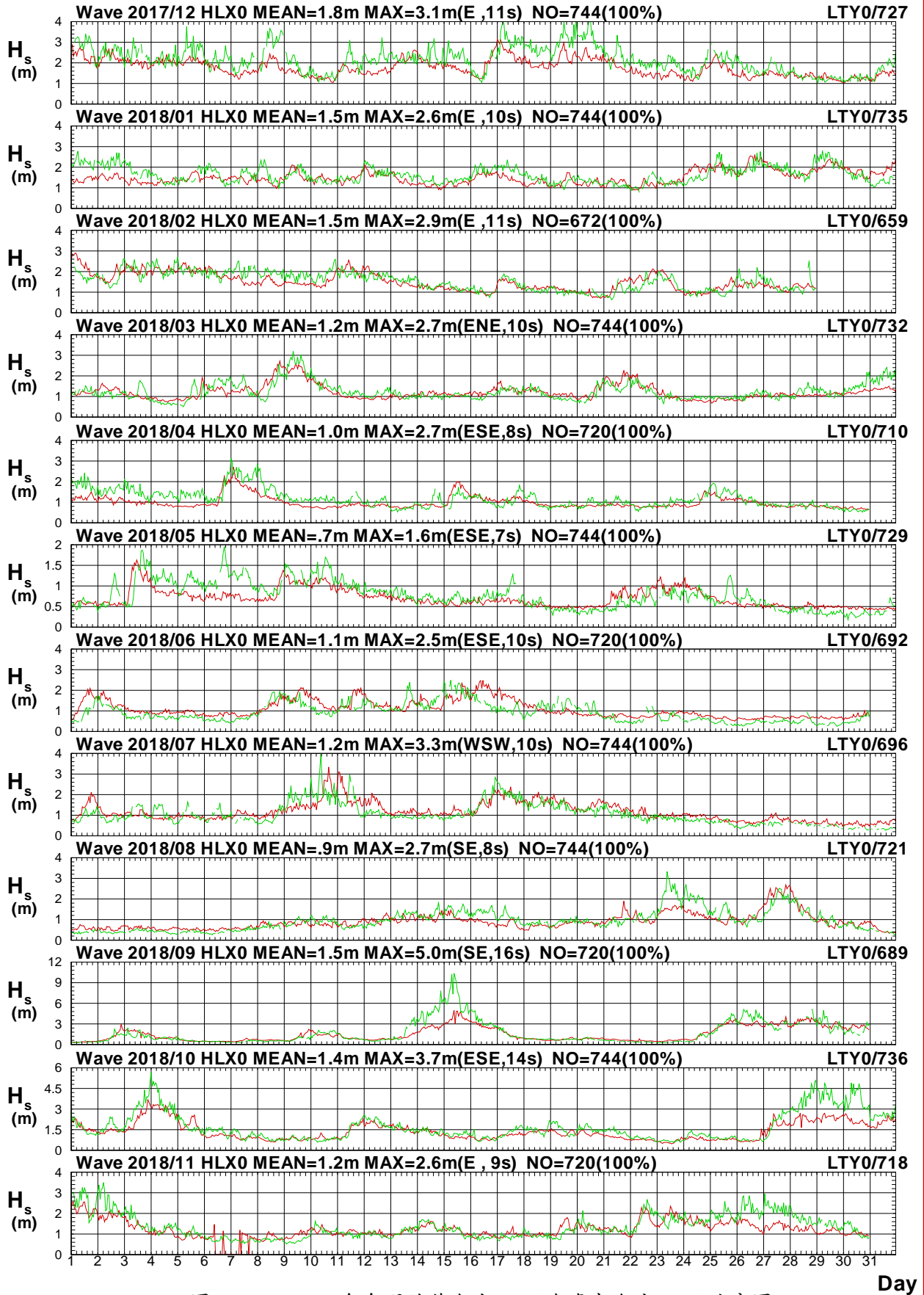


圖2.3.3a 2018年每月花蓮海域 X 站與臺東海域 Y 站波高圖

V17CHLX0.1HA V17CLTY0.1H0 V181HLX0.1HA V181LTY0.1H0 V182HLX0.1HA V182LTY0.1H0
 V183HLX0.1HA V183LTY0.1H0 V184HLX0.1HA V184LTY0.1H0 V185HLX0.1HA V185LTY0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

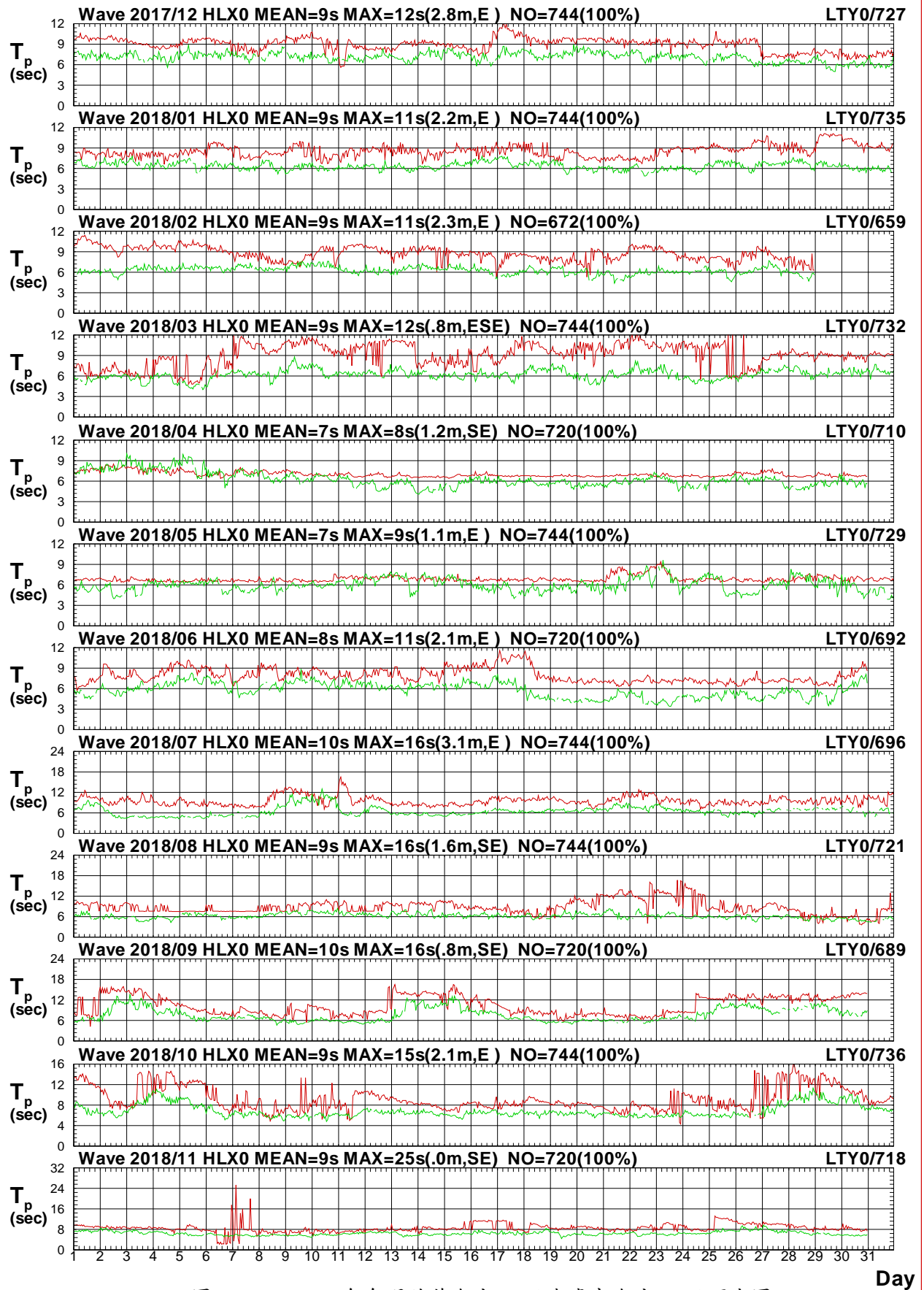


圖2.3.3b 2018年每月花蓮海域 X 站與臺東海域 Y 站週期圖

V17CHLX0.1HA V17CLTY0.1H0 V181HLX0.1HA V181LTY0.1H0 V182HLX0.1HA V182LTY0.1H0
 V183HLX0.1HA V183LTY0.1H0 V184HLX0.1HA V184LTY0.1H0 V185HLX0.1HA V185LTY0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

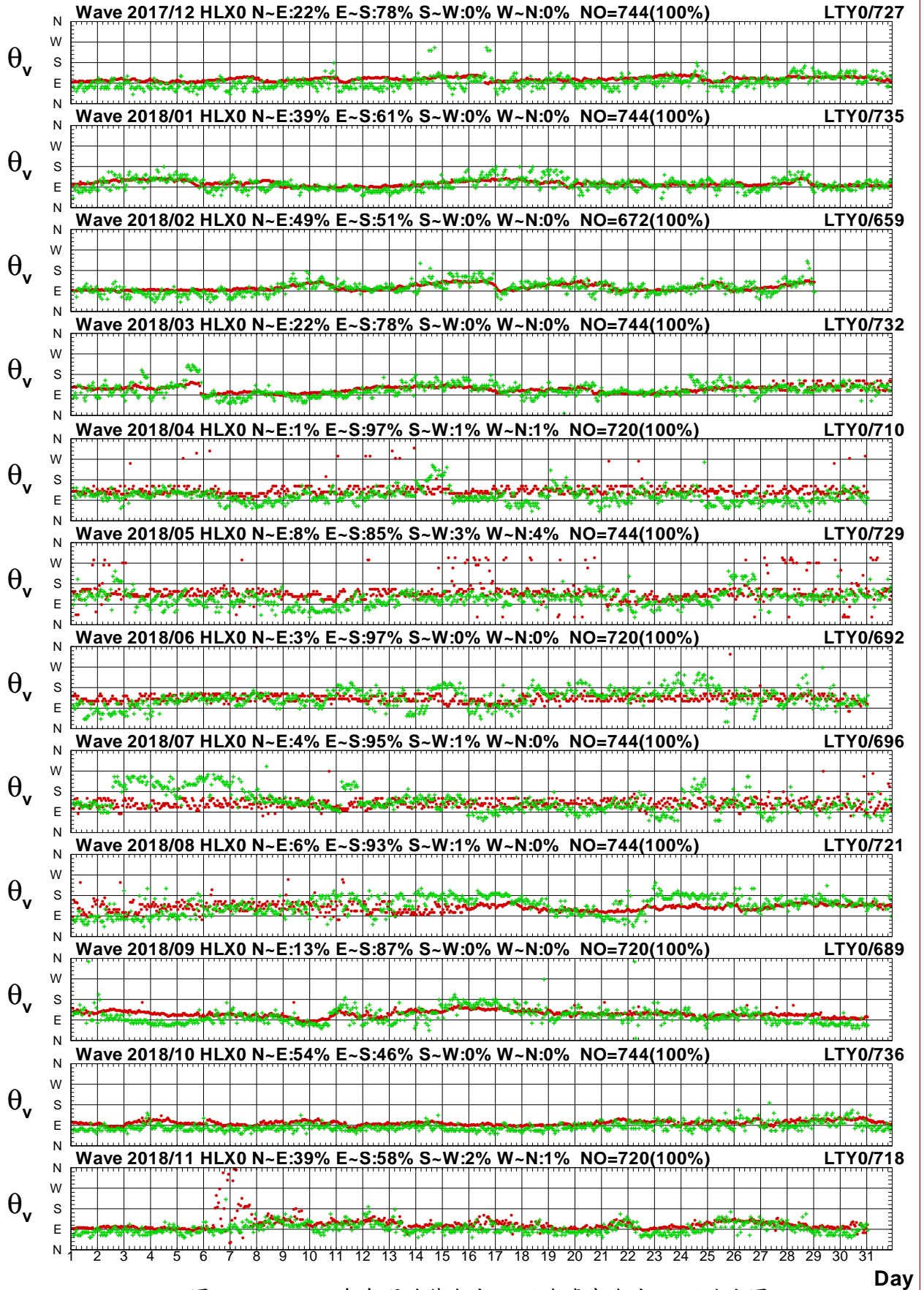


圖2.3.3c 2018年每月花蓮海域 X 站與臺東海域 Y 站波向圖

V17CHLX0.1HA V17CLTY0.1H0 V181HLX0.1HA V181LTY0.1H0 V182HLX0.1HA V182LTY0.1H0
 V183HLX0.1HA V183LTY0.1H0 V184HLX0.1HA V184LTY0.1H0 V185HLX0.1HA V185LTY0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

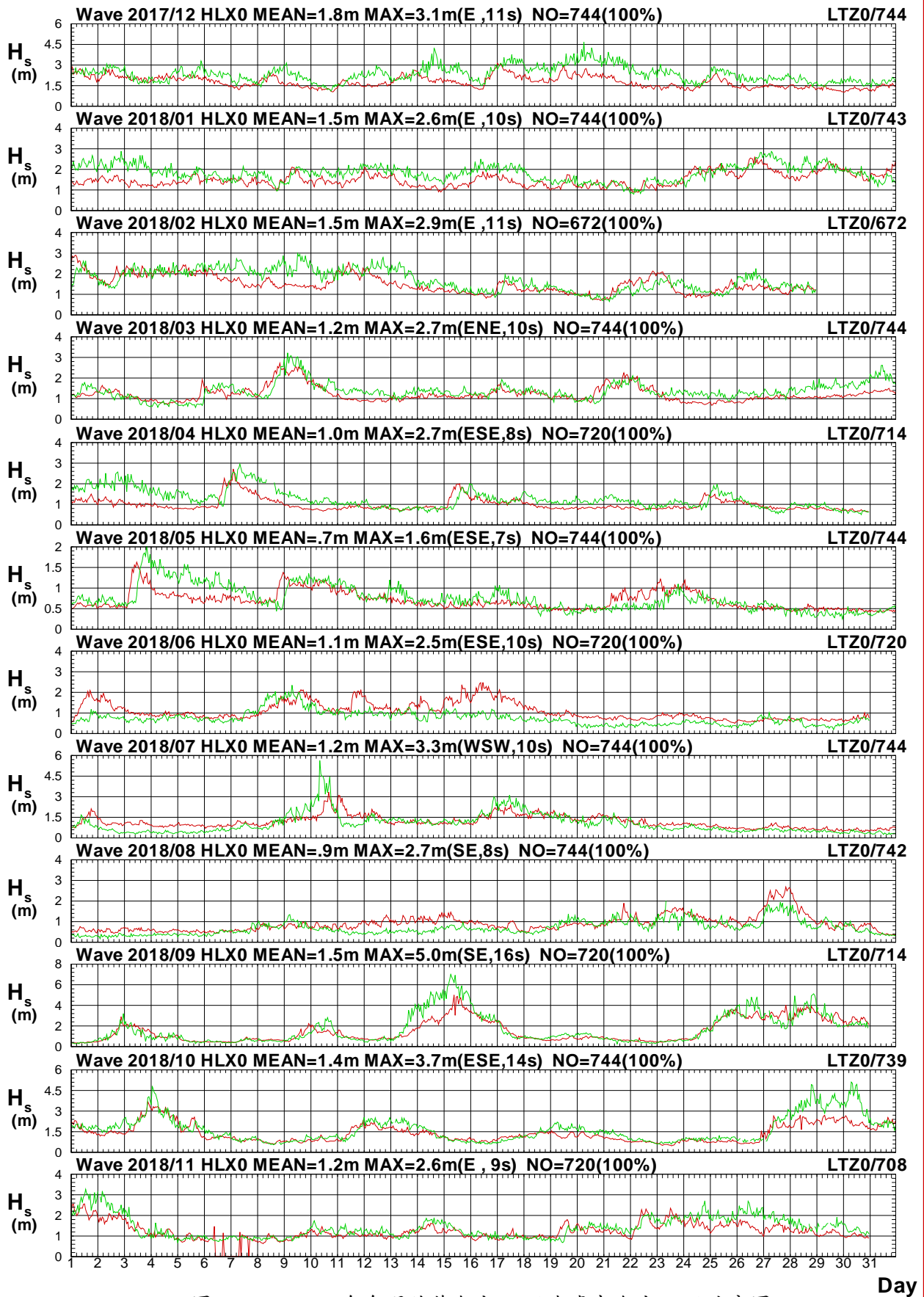


圖2.3.4a 2018年每月花蓮海域 X 站與臺東海域 Z 站波高圖

V17CHLX0.1HA V17CLTZ0.1H0 V181HLX0.1HA V181LTZ0.1H0 V182HLX0.1HA V182LTZ0.1H0
 V183HLX0.1HA V183LTZ0.1H0 V184HLX0.1HA V184LTZ0.1H0 V185HLX0.1HA V185LTZ0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

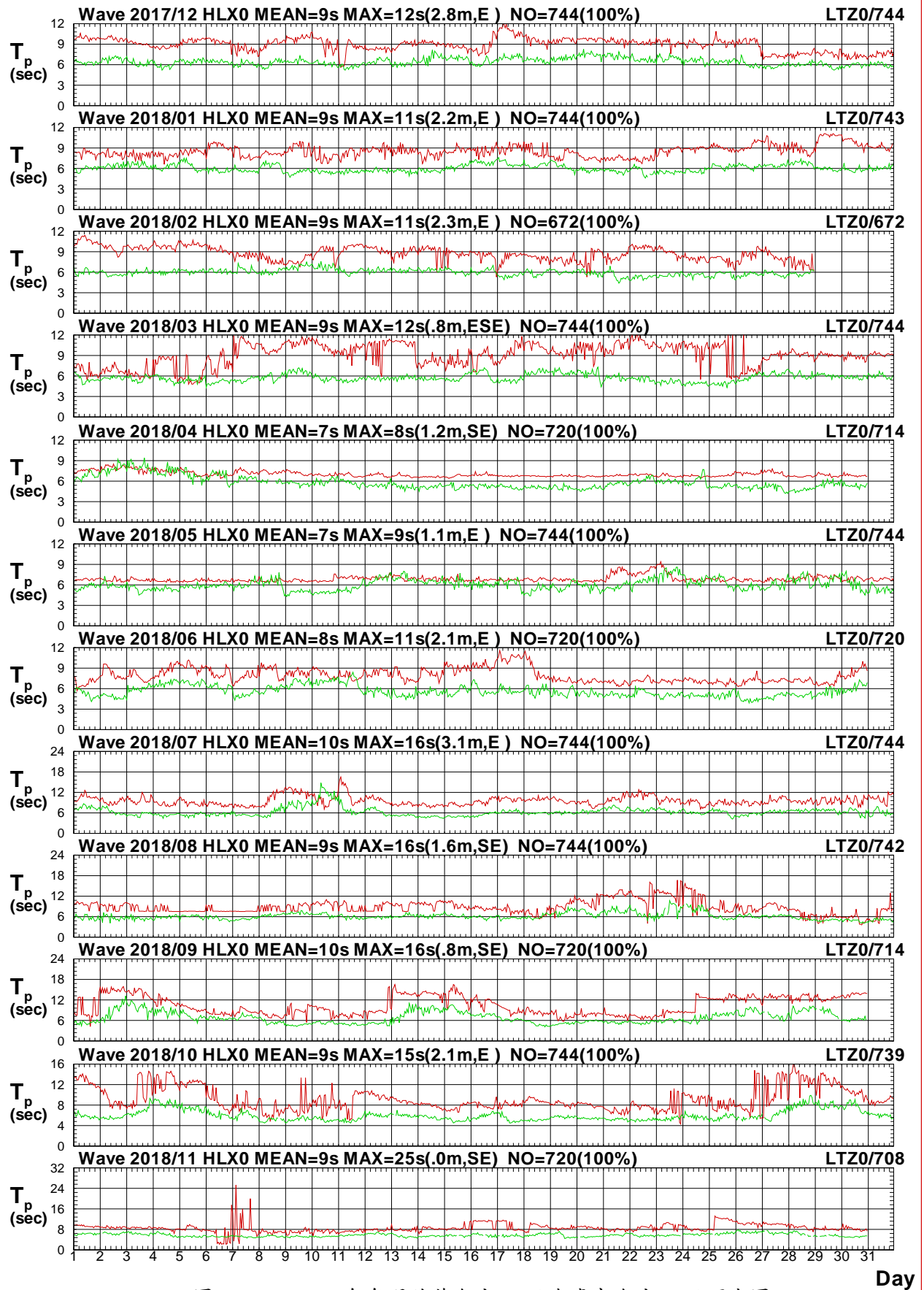


圖2.3.4b 2018年每月花蓮海域 X 站與臺東海域 Z 站週期圖

V17CHLX0.1HA V17CLTZ0.1H0 V181HLX0.1HA V181LTZ0.1H0 V182HLX0.1HA V182LTZ0.1H0
 V183HLX0.1HA V183LTZ0.1H0 V184HLX0.1HA V184LTZ0.1H0 V185HLX0.1HA V185LTZ0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

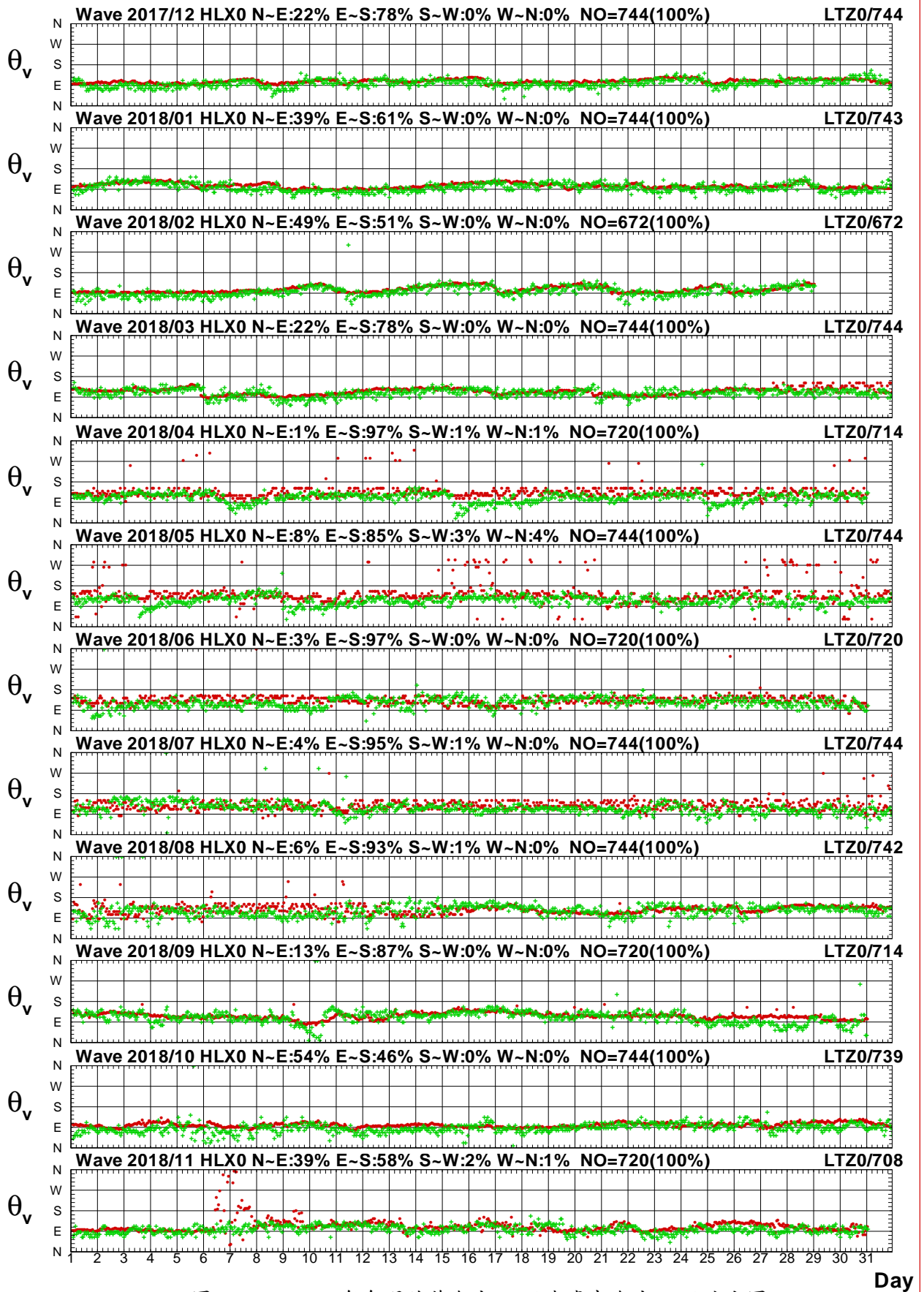


圖2.3.4c 2018年每月花蓮海域 X 站與臺東海域 Z 站波向圖

V17CHLX0.1HA V17CLTZ0.1H0 V181HLX0.1HA V181LTZ0.1H0 V182HLX0.1HA V182LTZ0.1H0
 V183HLX0.1HA V183LTZ0.1H0 V184HLX0.1HA V184LTZ0.1H0 V185HLX0.1HA V185LTZ0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

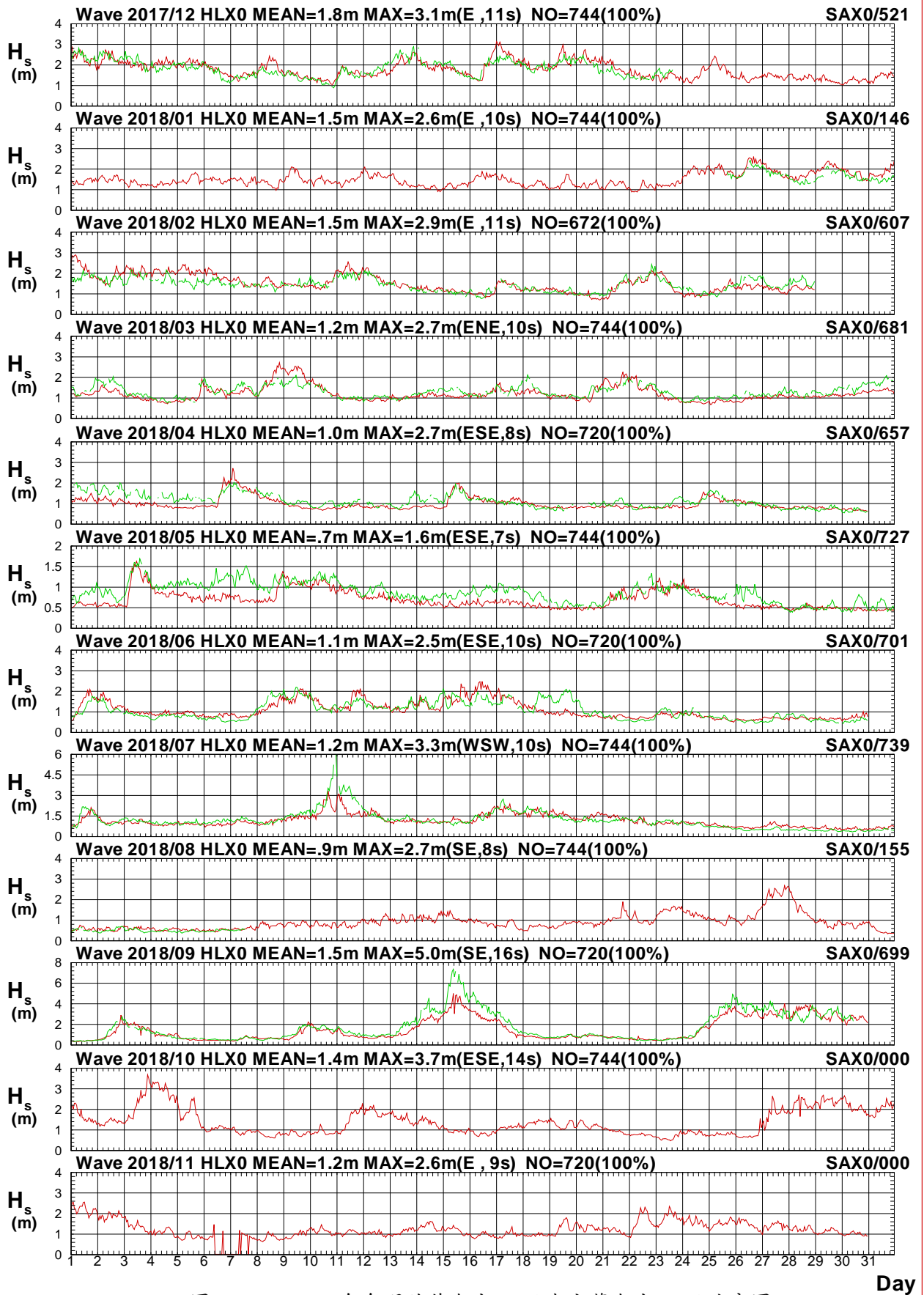


圖2.3.5a 2018年每月花蓮海域 X 站與宜蘭海域 X 站波高圖

V17CHLX0.1HA V17CSAX0.1H0 V181HLX0.1HA V181SAX0.1H0 V182HLX0.1HA V182SAX0.1H0
 V183HLX0.1HA V183SAX0.1H0 V184HLX0.1HA V184SAX0.1H0 V185HLX0.1HA V185SAX0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

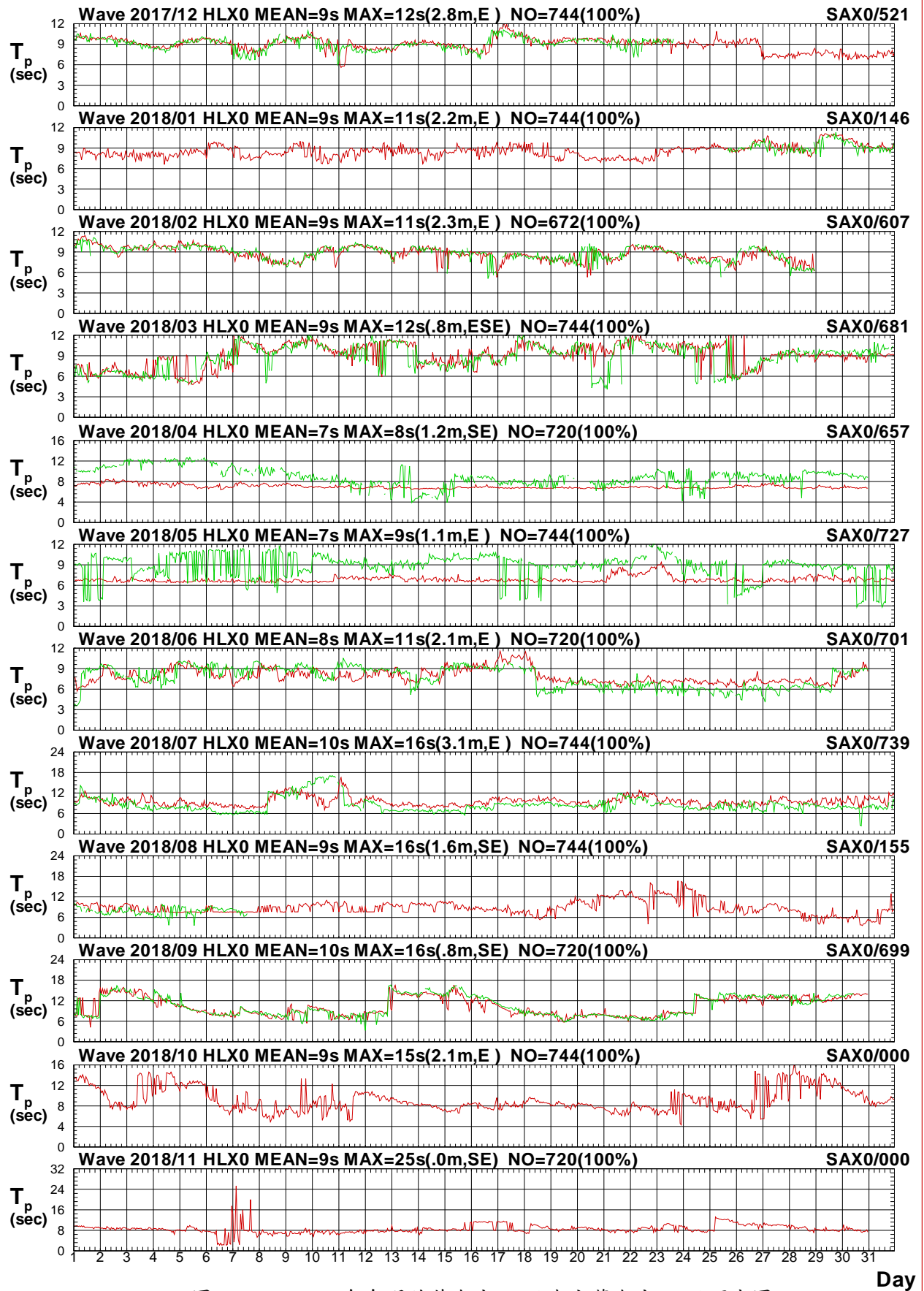


圖2.3.5b 2018年每月花蓮海域 X 站與宜蘭海域 X 站週期圖

V17CHLX0.1HA V17CSAX0.1H0 V181HLX0.1HA V181SAX0.1H0 V182HLX0.1HA V182SAX0.1H0
 V183HLX0.1HA V183SAX0.1H0 V184HLX0.1HA V184SAX0.1H0 V185HLX0.1HA V185SAX0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

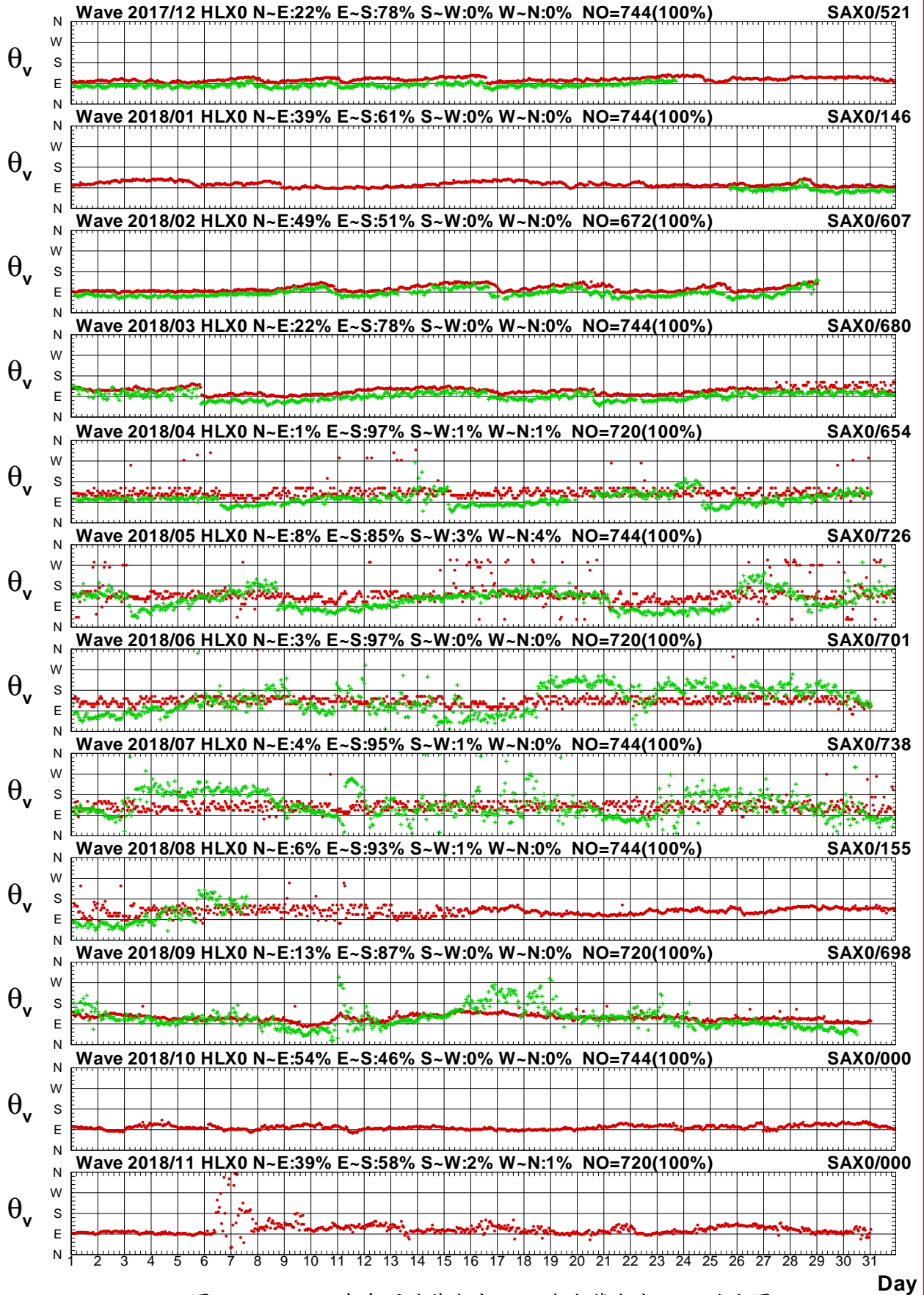


圖2.3.5c 2018年每月花蓮海域 X 站與宜蘭海域 X 站波向圖

V17CHLX0.1HA V17CSAX0.1H0 V181HLX0.1HA V181SAX0.1H0 V182HLX0.1HA V182SAX0.1H0
 V183HLX0.1HA V183SAX0.1H0 V184HLX0.1HA V184SAX0.1H0 V185HLX0.1HA V185SAX0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

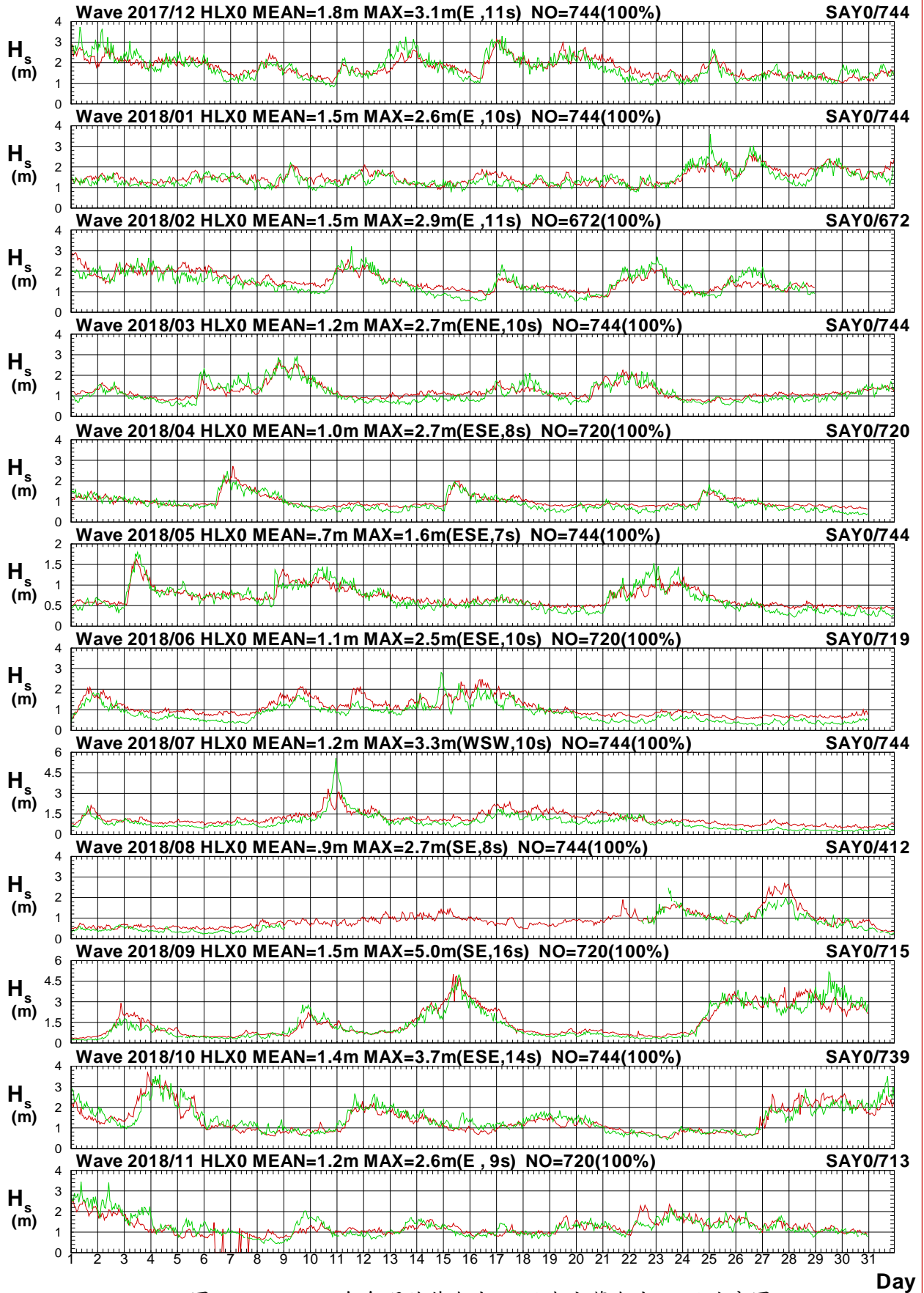


圖2.3.6a 2018年每月花蓮海域 X 站與宜蘭海域 Y 站波高圖

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 V183HLX0.1HA V183SAY0.1H0 V184HLX0.1HA V184SAY0.1H0 V185HLX0.1HA V185SAY0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

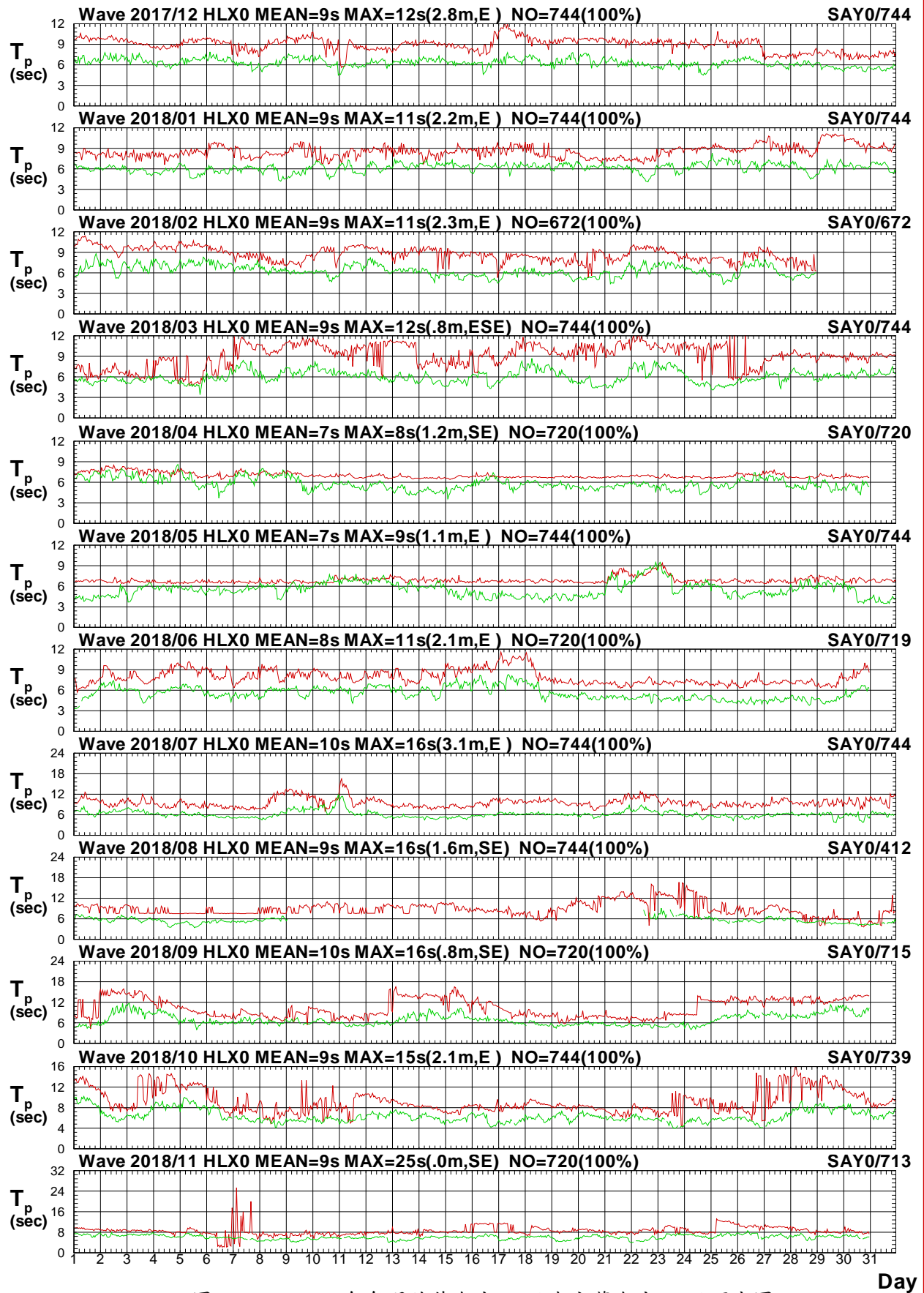


圖2.3.6b 2018年每月花蓮海域 X 站與宜蘭海域 Y 站週期圖

V17CHLX0.1HA V17CSAY0.1HO V181HLX0.1HA V181SAY0.1HO V182HLX0.1HA V182SAY0.1HO
 V183HLX0.1HA V183SAY0.1HO V184HLX0.1HA V184SAY0.1HO V185HLX0.1HA V185SAY0.1HO

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

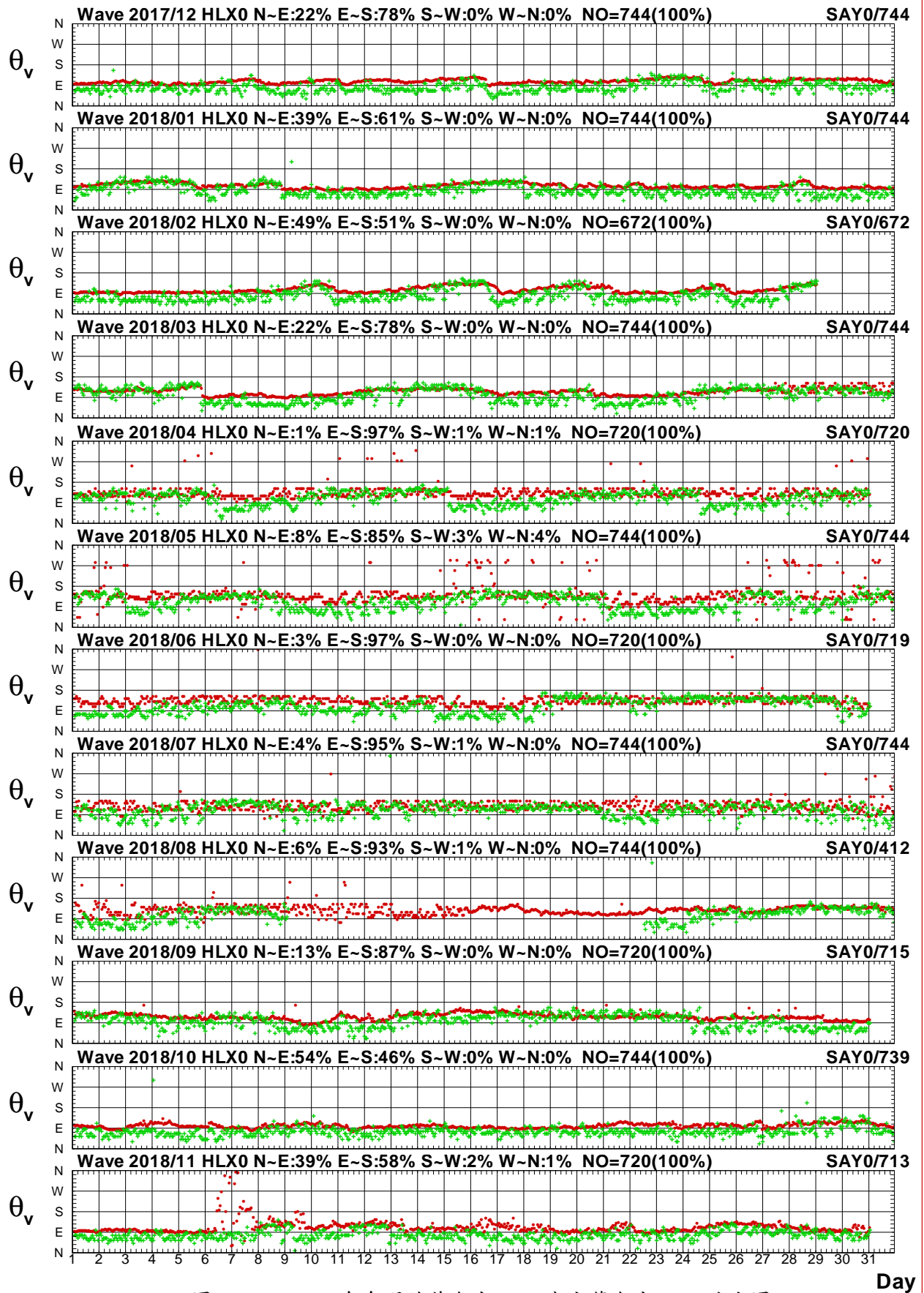


圖2.3.6c 2018年每月花蓮海域 X 站與宜蘭海域 Y 站波向圖

V17CHLX0.1HA V17CSAY0.1H0 V181HLX0.1HA V181SAY0.1H0 V182HLX0.1HA V182SAY0.1H0
 V183HLX0.1HA V183SAY0.1H0 V184HLX0.1HA V184SAY0.1H0 V185HLX0.1HA V185SAY0.1H0

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Wave H_s in Hua-Lien Harbor of HLX0 at 2018

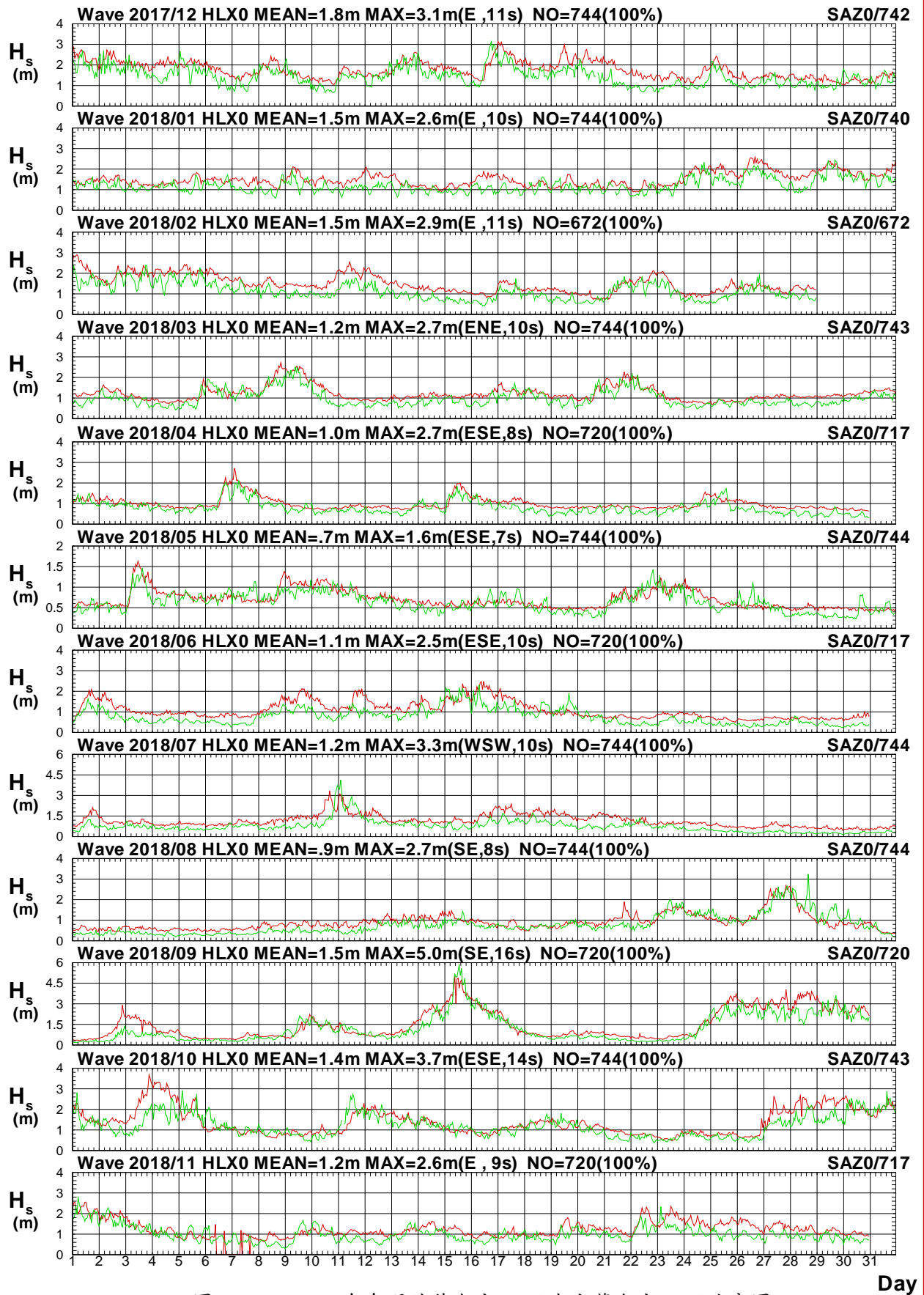


圖2.3.7a 2018年每月花蓮海域 X 站與宜蘭海域 Z 站波高圖

V17CHLX0.1HA V17CSAZ0.1H0 V181HLX0.1HA V181SAZ0.1H0 V182HLX0.1HA V182SAZ0.1H0
 V183HLX0.1HA V183SAZ0.1H0 V184HLX0.1HA V184SAZ0.1H0 V185HLX0.1HA V185SAZ0.1H0

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Wave T_p in Hua-Lien Harbor of HLX0 at 2018

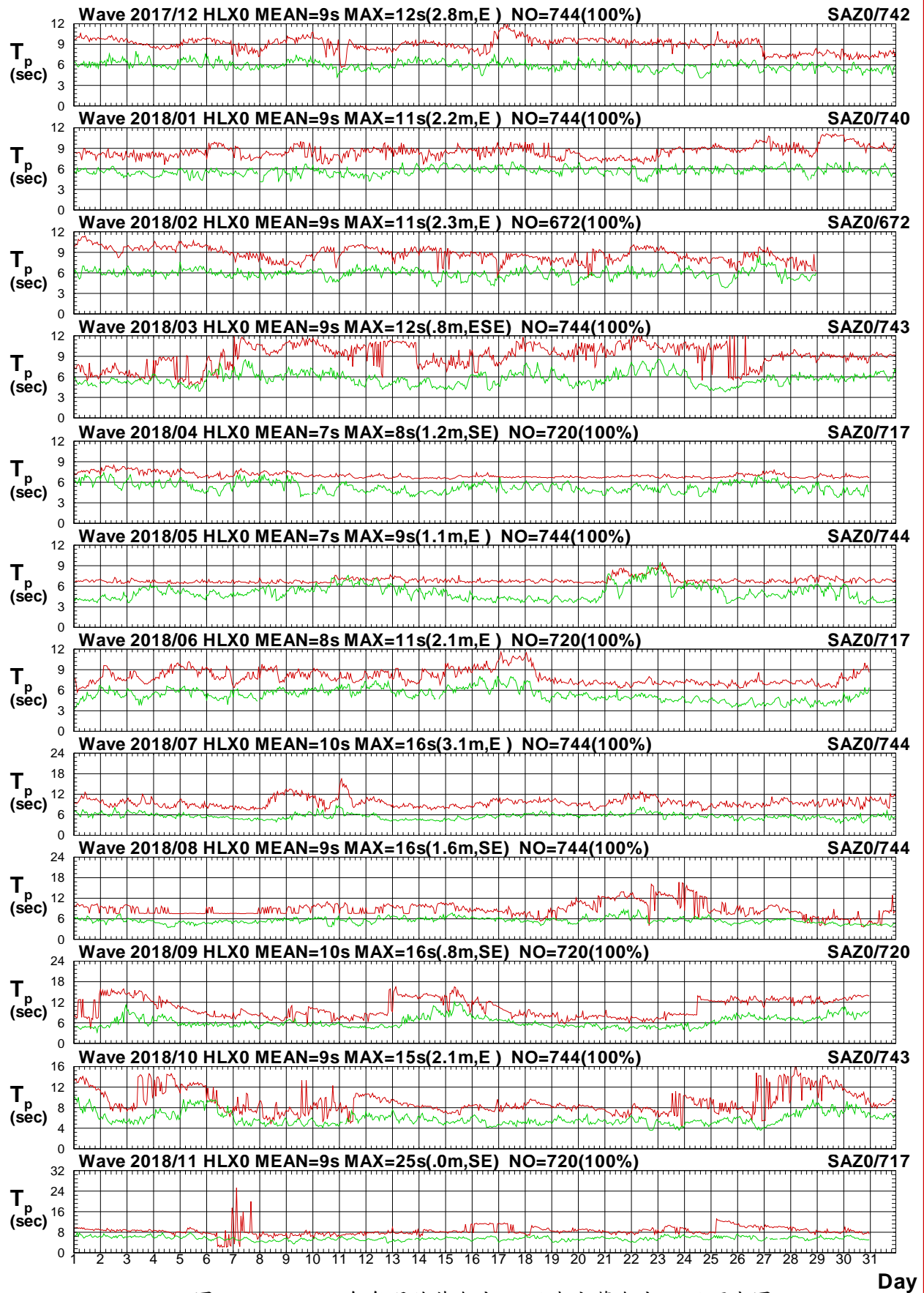


圖2.3.7b 2018年每月花蓮海域 X 站與宜蘭海域 Z 站週期圖

V17CHLX0.1HA V17CSAZ0.1H0 V181HLX0.1HA V181SAZ0.1H0 V182HLX0.1HA V182SAZ0.1H0
 V183HLX0.1HA V183SAZ0.1H0 V184HLX0.1HA V184SAZ0.1H0 V185HLX0.1HA V185SAZ0.1H0

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Wave Direction in Hua-Lien Harbor of HLX0 at 2018

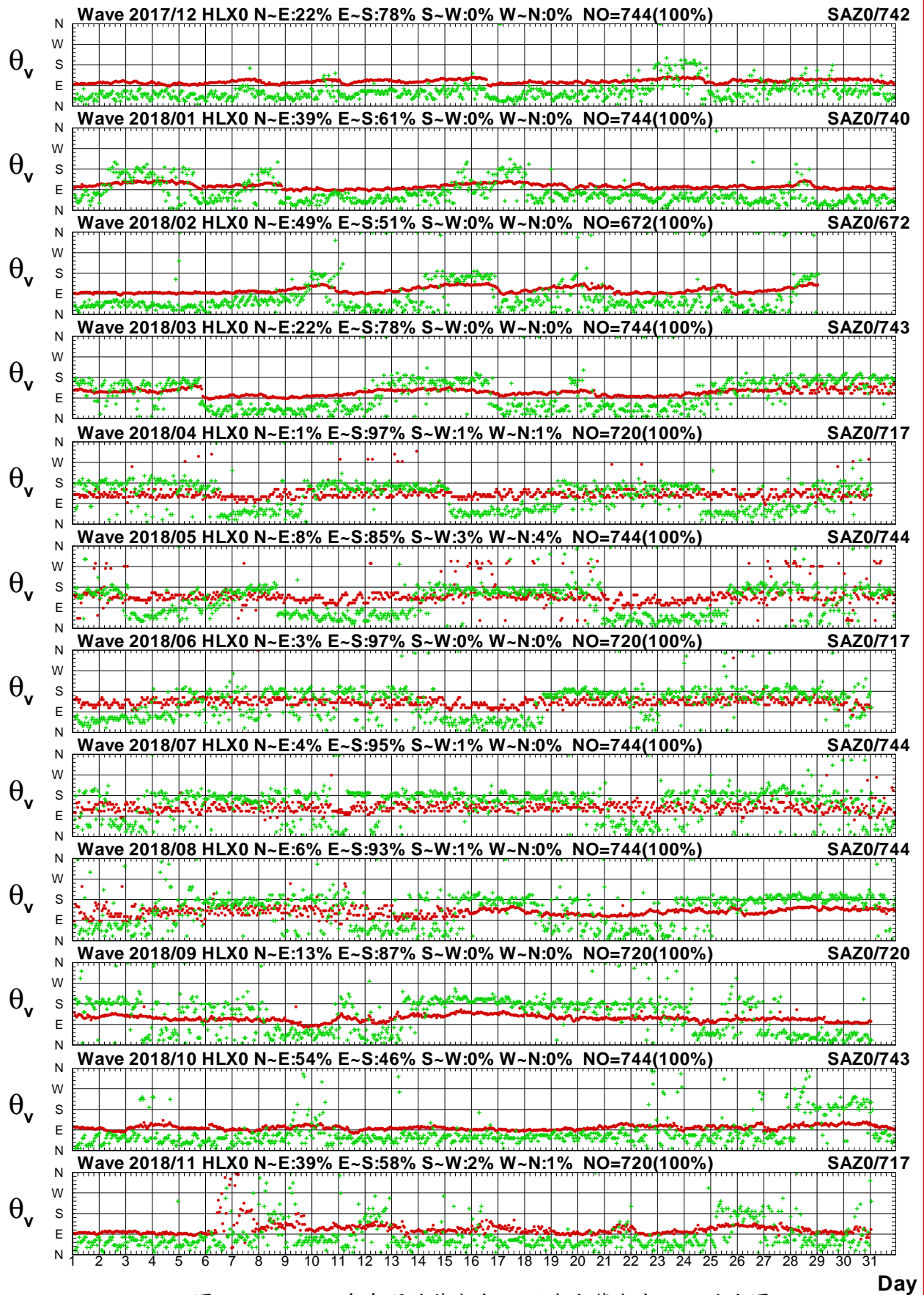


圖2.3.7c 2018年每月花蓮海域 X 站與宜蘭海域 Z 站波向圖

V17CHLX0.1HA V17CSAZ0.1H0 V181HLX0.1HA V181SAZ0.1H0 V182HLX0.1HA V182SAZ0.1H0
 V183HLX0.1HA V183SAZ0.1H0 V184HLX0.1HA V184SAZ0.1H0 V185HLX0.1HA V185SAZ0.1H0

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2.4 2018年花蓮海域波浪**主要測站2**(修補後)與 **其他測站**(修補前)每月波浪歷線比較圖

Wave H_s in Hua-Lien Harbor of HLY0 at 2018

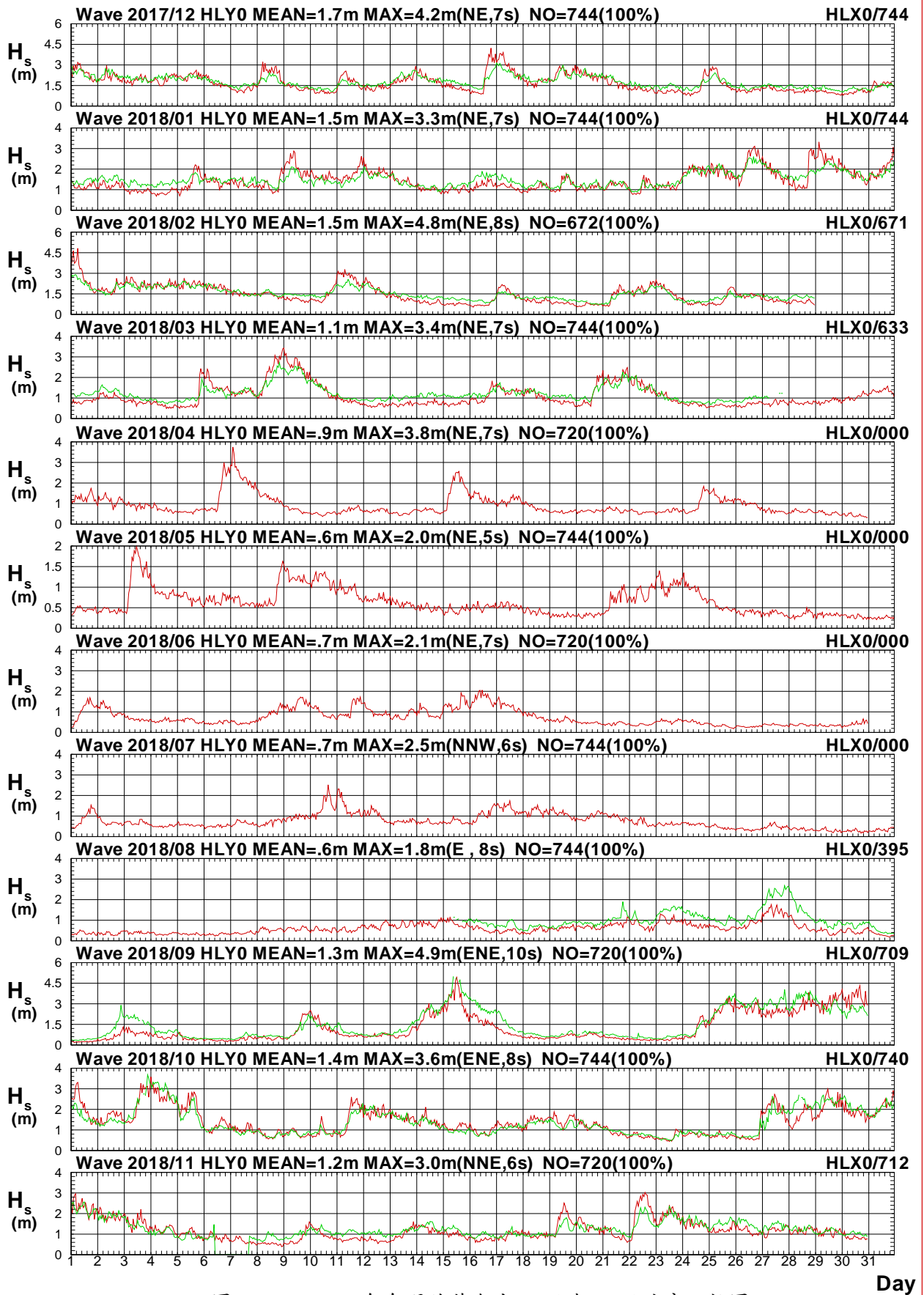


圖2.4.1a 2018年每月花蓮海域 Y 站與 X 站波高比較圖

V17CHLY0.1HA V17CHLX0.1HO V181HLY0.1HA V181HLX0.1HO V182HLY0.1HA V182HLX0.1HO
 V183HLY0.1HA V183HLX0.1HO V184HLY0.1HA V184HLX0.1HO V185HLY0.1HA V185HLX0.1HO

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

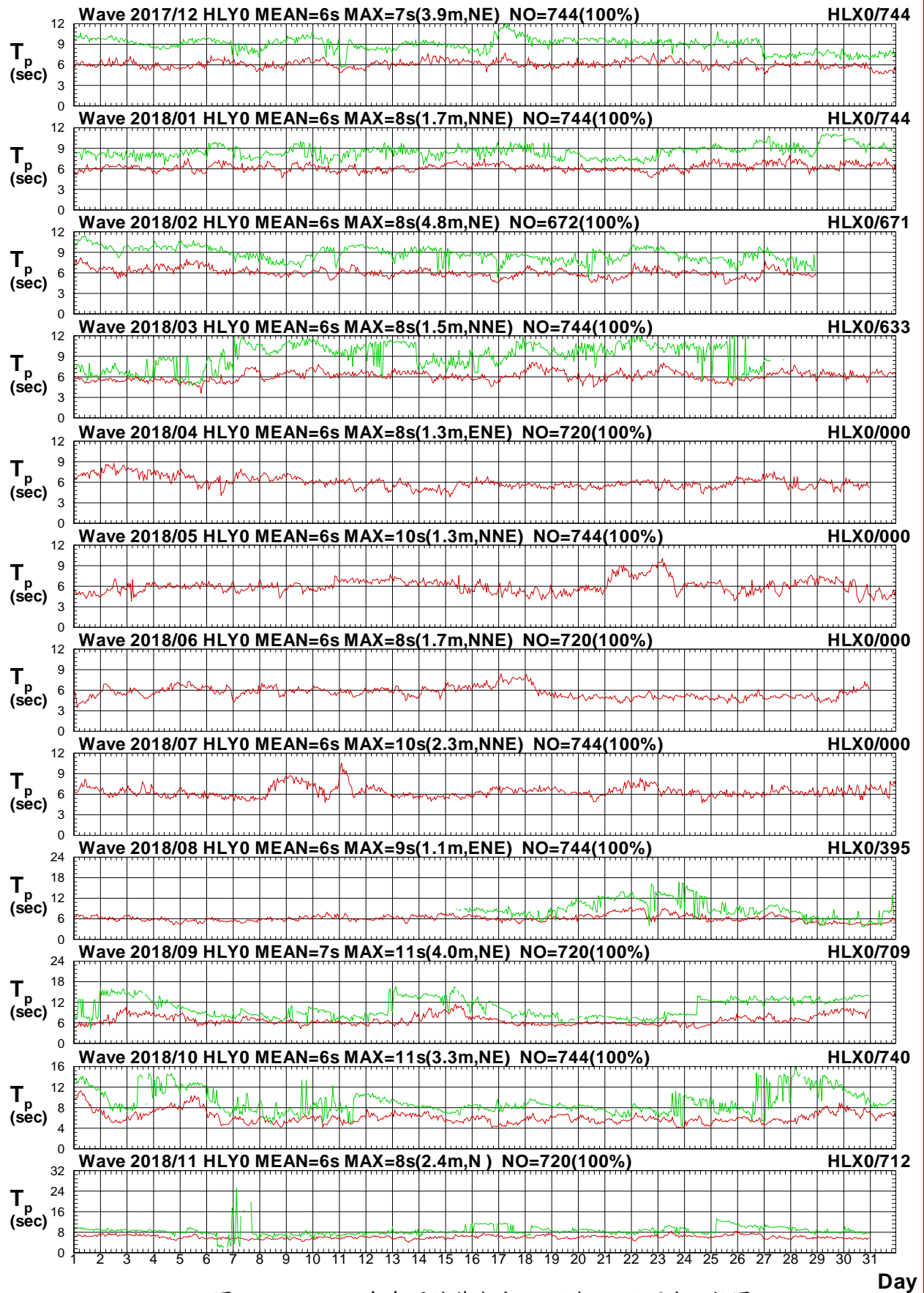


圖2.4.1b 2018年每月花蓮海域 Y 站與 X 站週期比較圖

V17CHLY0.1HA V17CHLX0.1H0 V181HLY0.1HA V181HLX0.1H0 V182HLY0.1HA V182HLX0.1H0
 V183HLY0.1HA V183HLX0.1H0 V184HLY0.1HA V184HLX0.1H0 V185HLY0.1HA V185HLX0.1H0

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

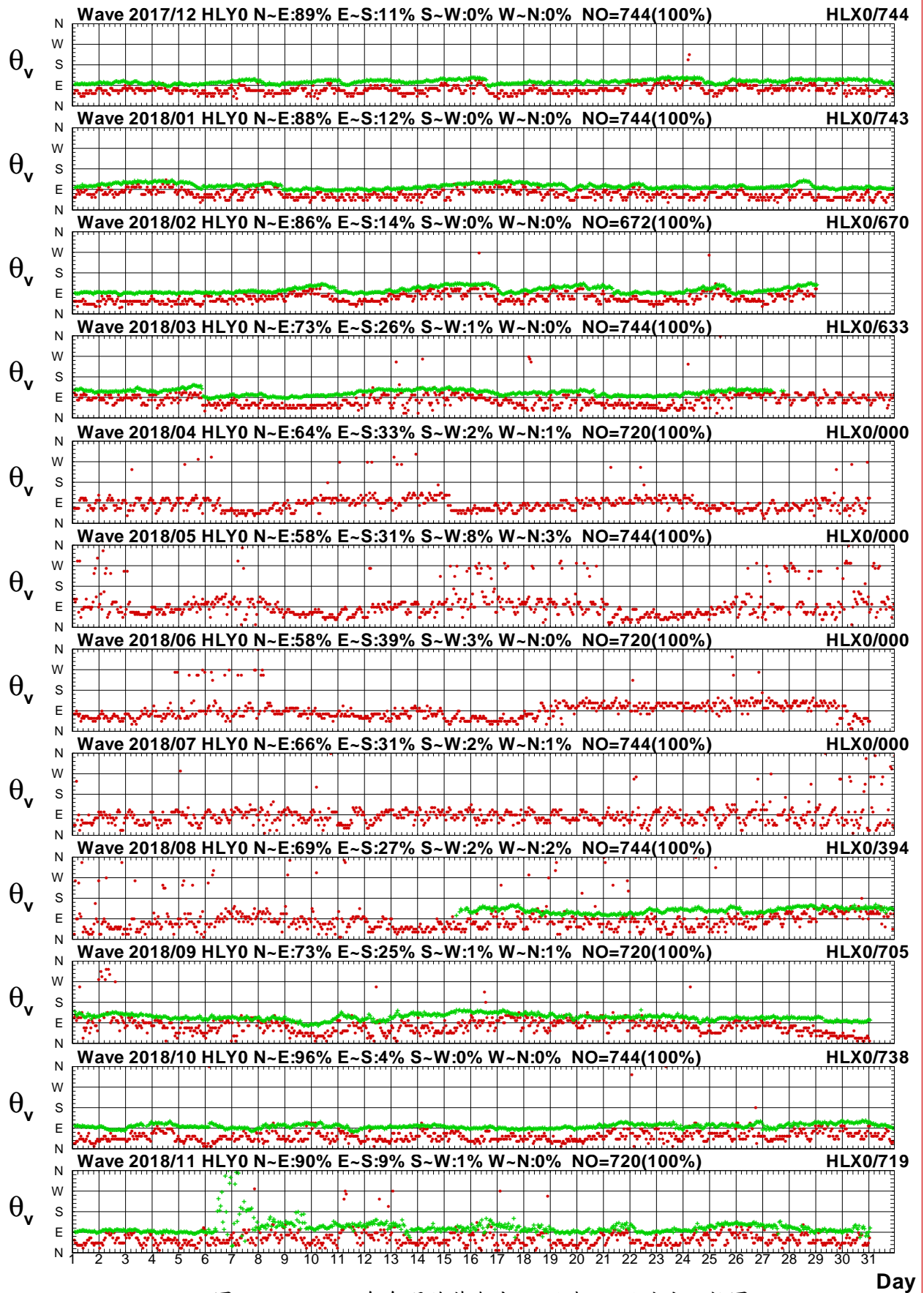


圖2.4.1c 2018年每月花蓮海域 Y 站與 X 站波向比較圖

V17CHLY0.1HA V17CHLX0.1H0 V181HLY0.1HA V181HLX0.1H0 V182HLY0.1HA V182HLX0.1H0
 V183HLY0.1HA V183HLX0.1H0 V184HLY0.1HA V184HLX0.1H0 V185HLY0.1HA V185HLX0.1H0

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

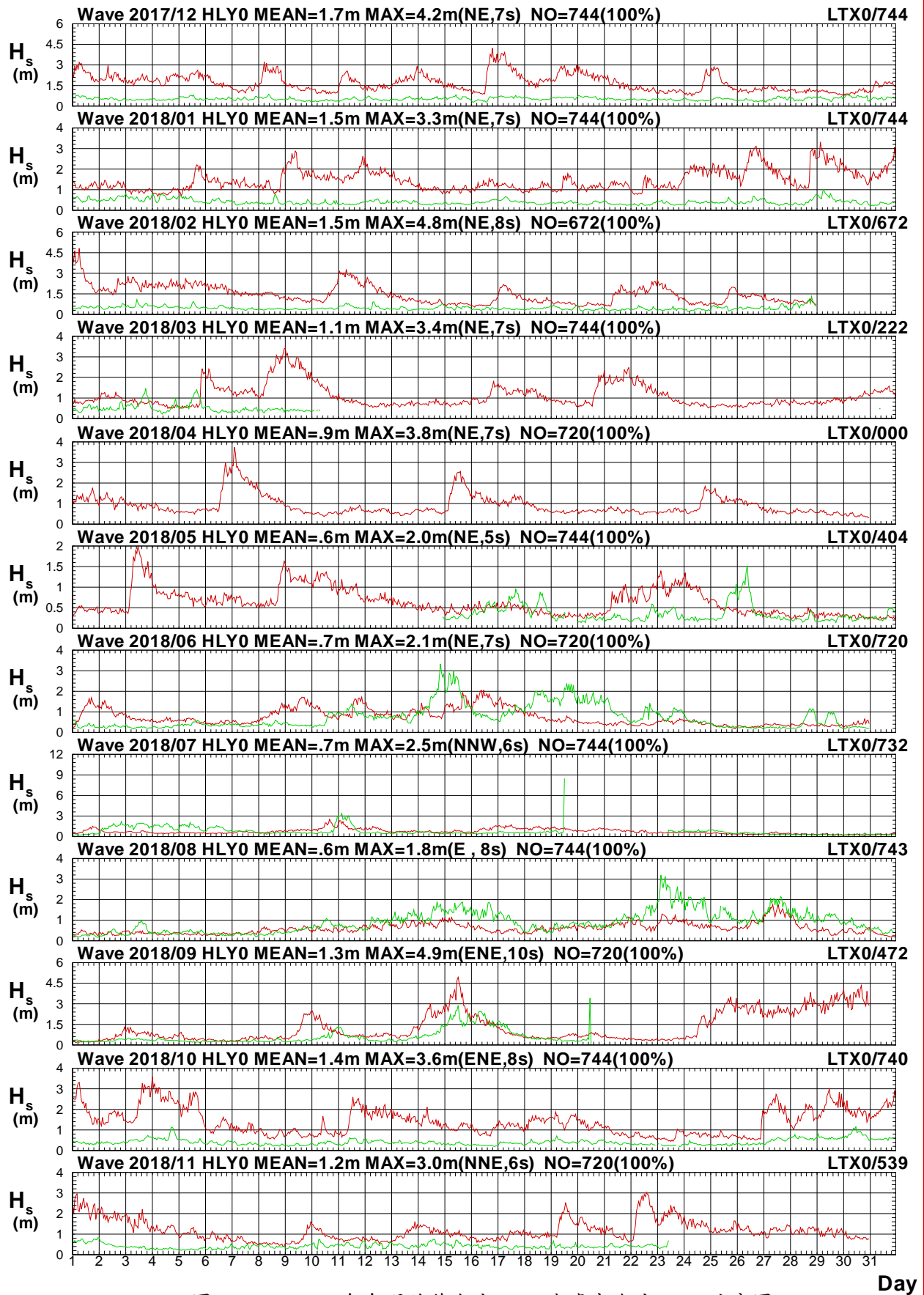


圖2.4.2a 2018年每月花蓮海域 Y 站與臺東海域 X 站波高圖

V17CHLY0.1HA V17CLTX0.1HO V181HLY0.1HA V181LTX0.1HO V182HLY0.1HA V182LTX0.1HO
 V183HLY0.1HA V183LTX0.1HO V184HLY0.1HA V184LTX0.1HO V185HLY0.1HA V185LTX0.1HO

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

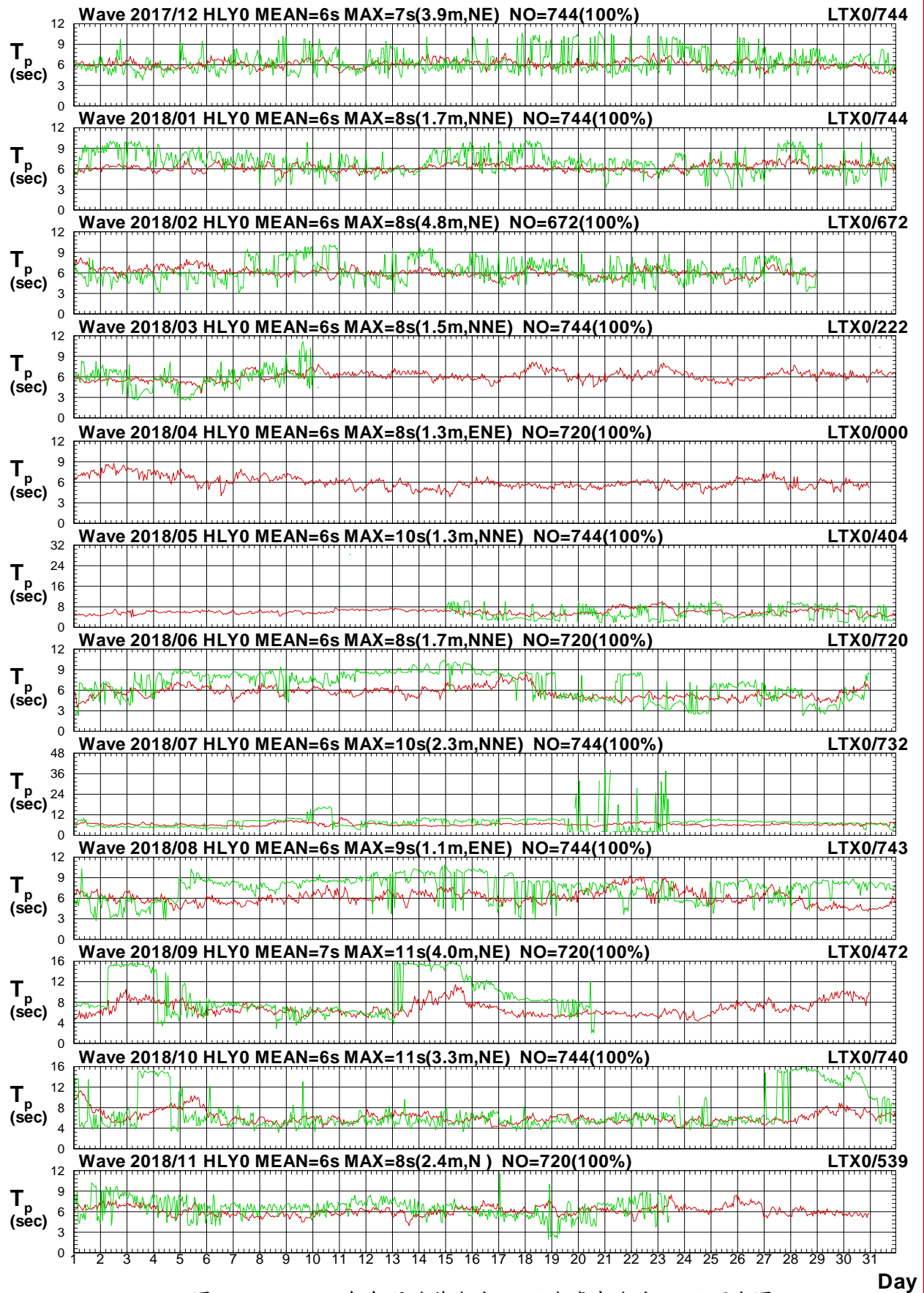


圖2.4.2b 2018年每月花蓮海域 Y 站與臺東海域 X 站週期圖

V17CHLY0.1HA V17CLTX0.1HO V181HLY0.1HA V181LTX0.1HO V182HLY0.1HA V182LTX0.1HO
 V183HLY0.1HA V183LTX0.1HO V184HLY0.1HA V184LTX0.1HO V185HLY0.1HA V185LTX0.1HO

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

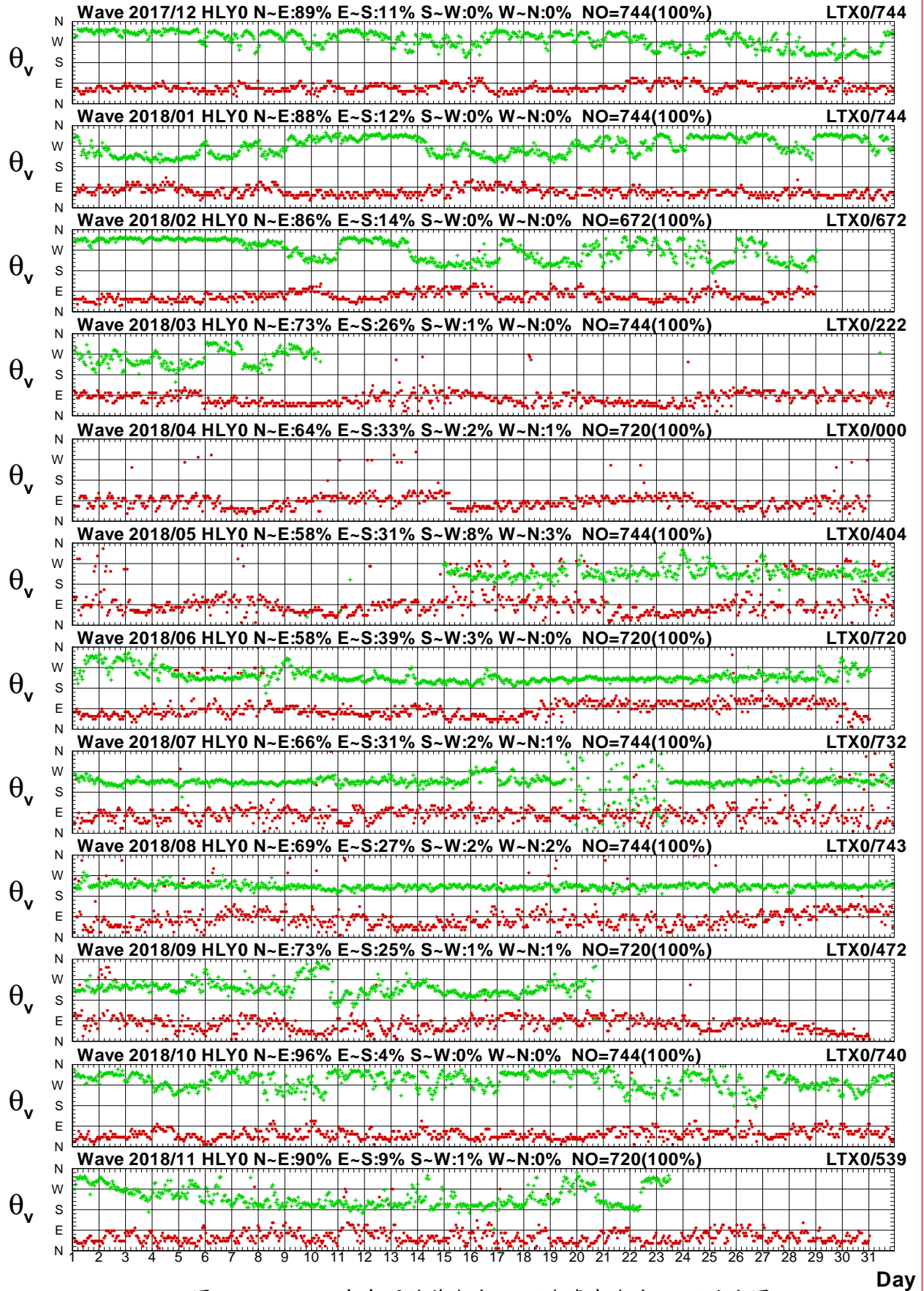


圖2.4.2c 2018年每月花蓮海域 Y 站與臺東海域 X 站波向圖

V17CHLY0.1HA V17CLTX0.1H0 V181HLY0.1HA V181LTX0.1H0 V182HLY0.1HA V182LTX0.1H0
 V183HLY0.1HA V183LTX0.1H0 V184HLY0.1HA V184LTX0.1H0 V185HLY0.1HA V185LTX0.1H0

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

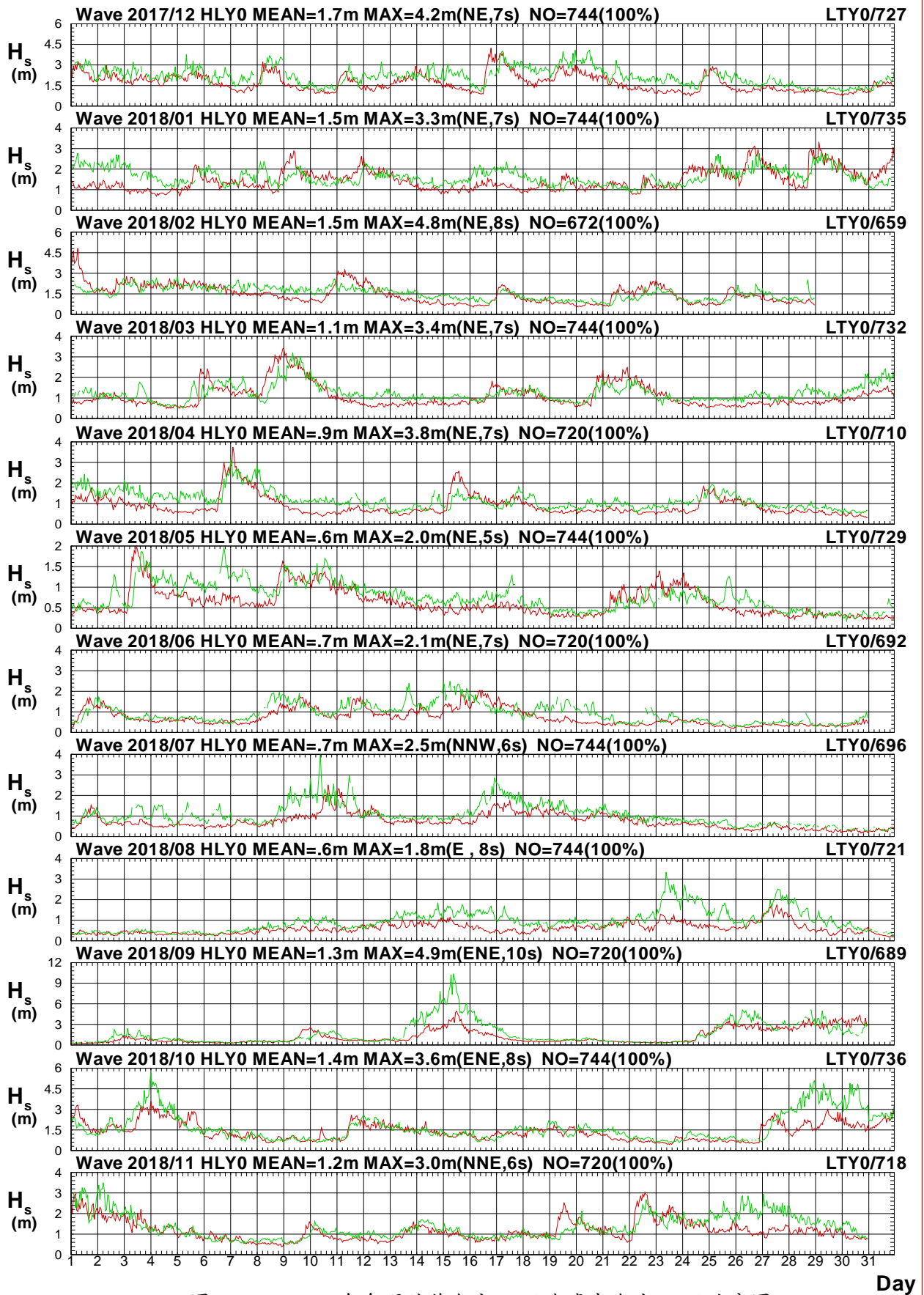


圖2.4.3a 2018年每月花蓮海域 Y 站與臺東海域 Y 站波高圖

V17CHLY0.1HA V17CLTY0.1H0 V181HLY0.1HA V181LTY0.1H0 V182HLY0.1HA V182LTY0.1H0
 V183HLY0.1HA V183LTY0.1H0 V184HLY0.1HA V184LTY0.1H0 V185HLY0.1HA V185LTY0.1H0

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

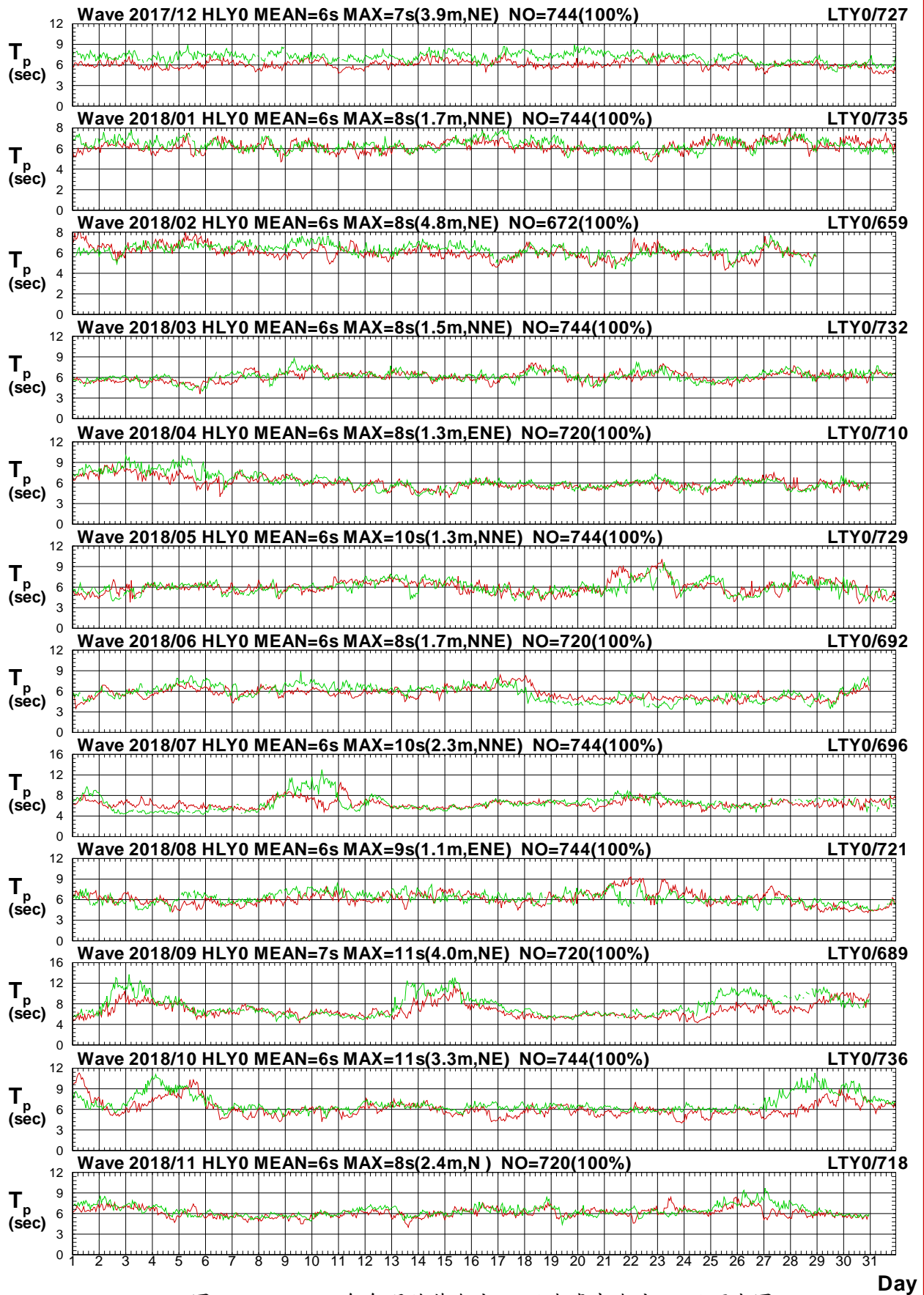


圖2.4.3b 2018年每月花蓮海域 Y 站與臺東海域 Y 站週期圖

V17CHLY0.1HA V17CLTY0.1HO V181HLY0.1HA V181LTY0.1HO V182HLY0.1HA V182LTY0.1HO
 V183HLY0.1HA V183LTY0.1HO V184HLY0.1HA V184LTY0.1HO V185HLY0.1HA V185LTY0.1HO

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

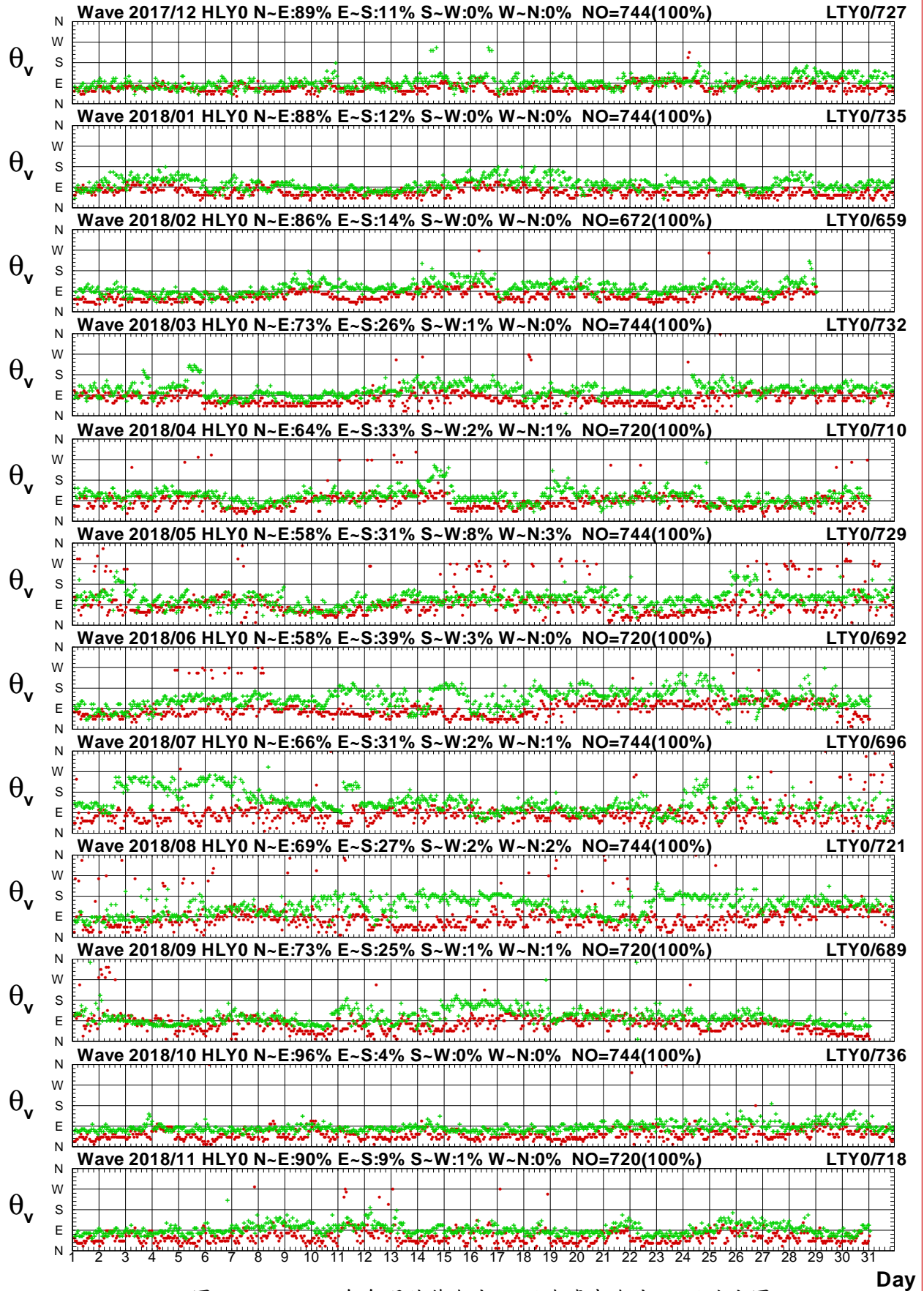


圖2.4.3c 2018年每月花蓮海域 Y 站與臺東海域 Y 站波向圖

V17CHLY0.1HA V17CLTY0.1HO V181HLY0.1HA V181LTY0.1HO V182HLY0.1HA V182LTY0.1HO
 V183HLY0.1HA V183LTY0.1HO V184HLY0.1HA V184LTY0.1HO V185HLY0.1HA V185LTY0.1HO

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

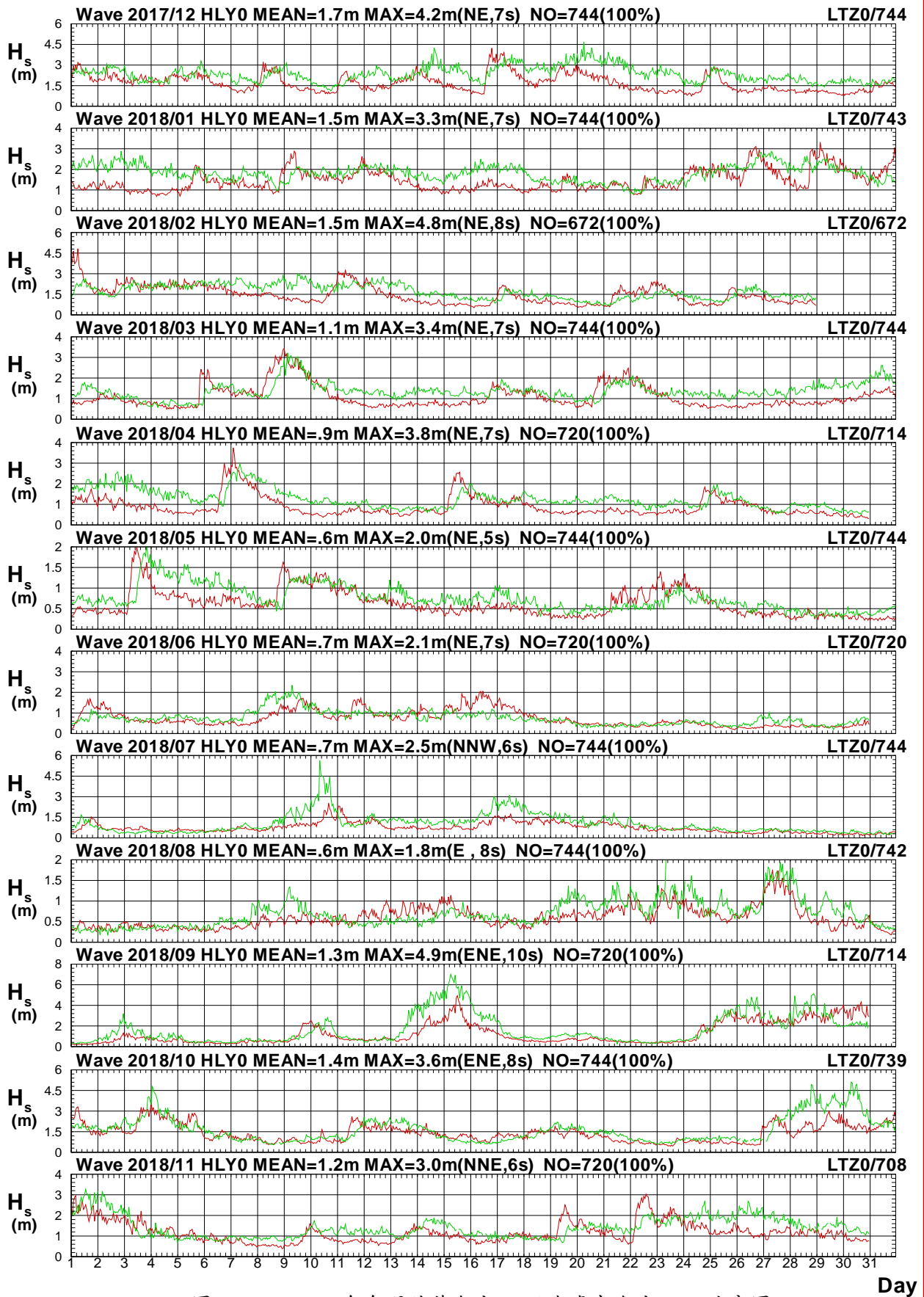


圖2.4.4a 2018年每月花蓮海域 Y 站與臺東海域 Z 站波高圖

V17CHLY0.1HA V17CLTZ0.1H0 V181HLY0.1HA V181LTZ0.1H0 V182HLY0.1HA V182LTZ0.1H0
 V183HLY0.1HA V183LTZ0.1H0 V184HLY0.1HA V184LTZ0.1H0 V185HLY0.1HA V185LTZ0.1H0

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

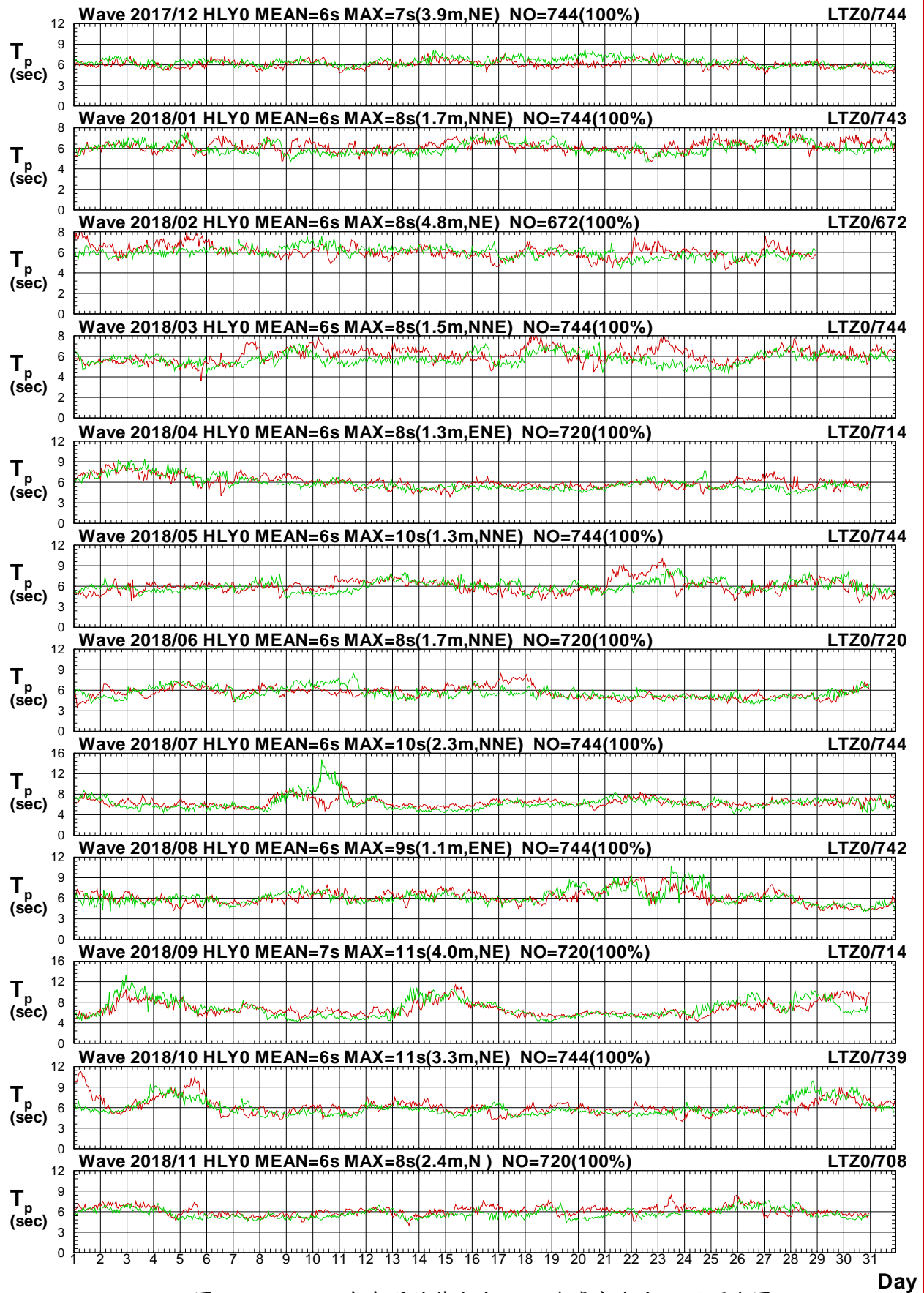


圖2.4.4b 2018年每月花蓮海域 Y 站與臺東海域 Z 站週期圖

V17CHLY0.1HA V17CLTZ0.1H0 V181HLY0.1HA V181LTZ0.1H0 V182HLY0.1HA V182LTZ0.1H0
 V183HLY0.1HA V183LTZ0.1H0 V184HLY0.1HA V184LTZ0.1H0 V185HLY0.1HA V185LTZ0.1H0

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

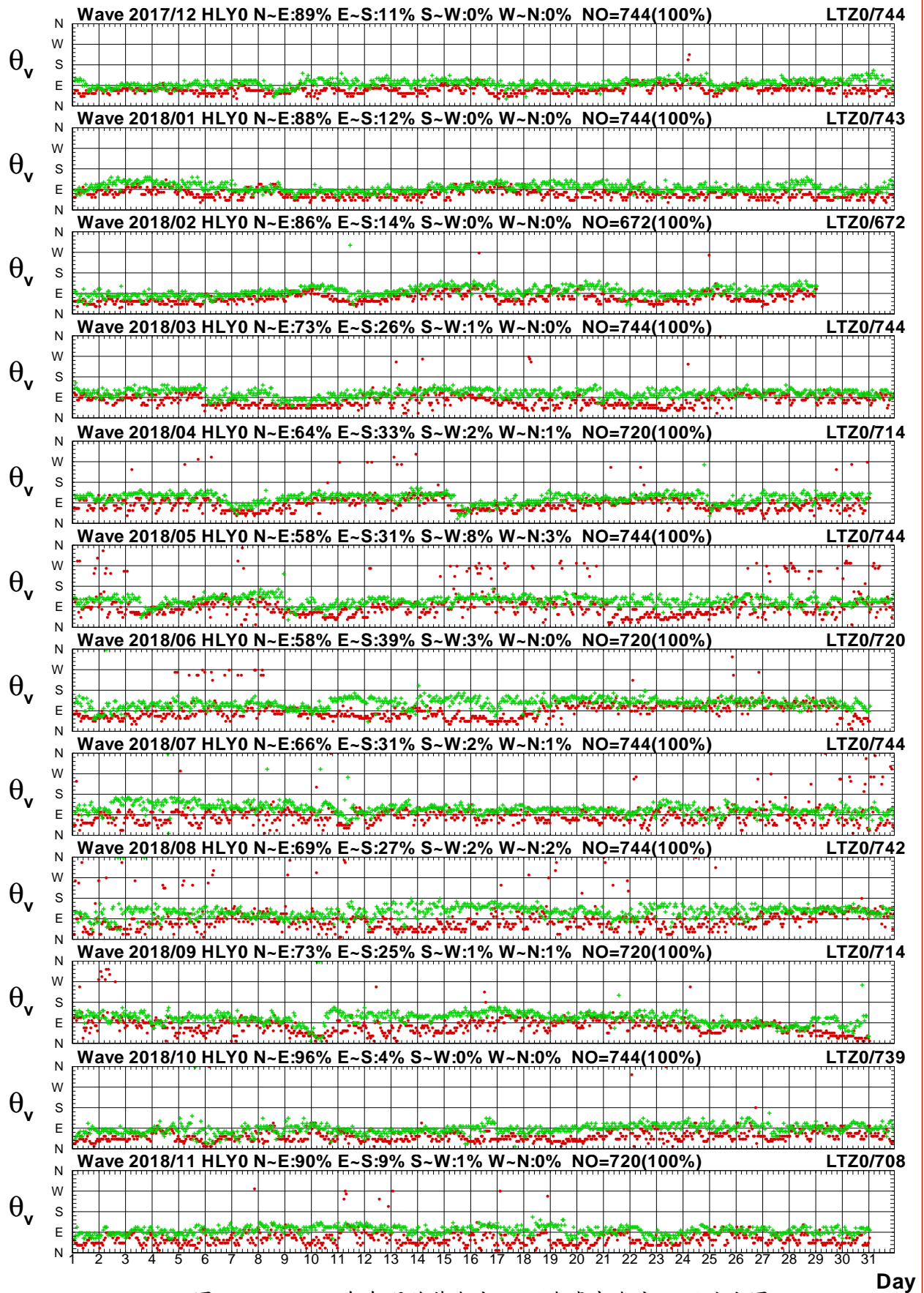


圖2.4.4c 2018年每月花蓮海域 Y 站與臺東海域 Z 站波向圖

V17CHLY0.1HA V17CLTZ0.1H0 V181HLY0.1HA V181LTZ0.1H0 V182HLY0.1HA V182LTZ0.1H0
 V183HLY0.1HA V183LTZ0.1H0 V184HLY0.1HA V184LTZ0.1H0 V185HLY0.1HA V185LTZ0.1H0

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

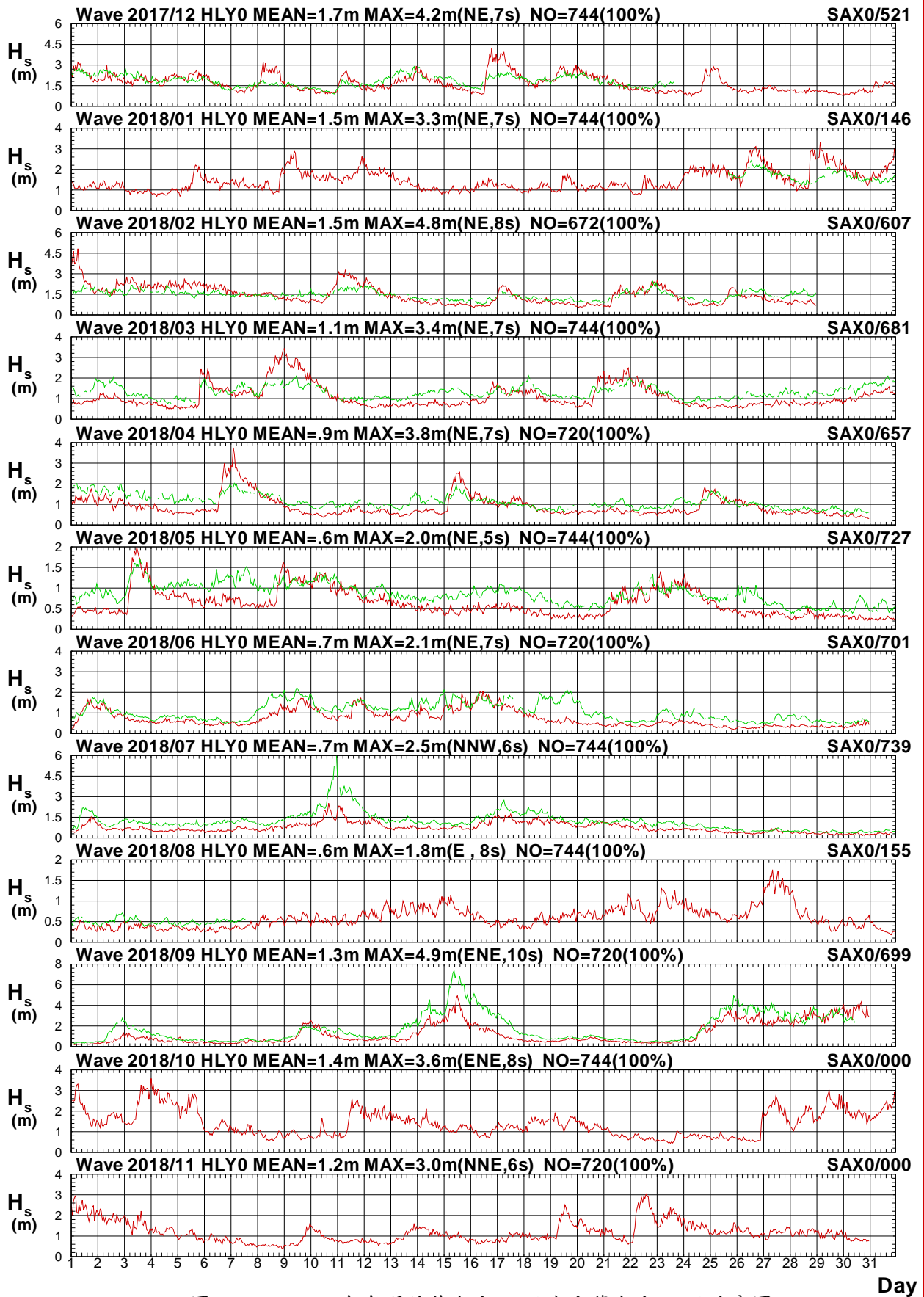


圖2.4.5a 2018年每月花蓮海域 Y 站與宜蘭海域 X 站波高圖

V17CHLY0.1HA V17CSAX0.1H0 V181HLY0.1HA V181SAX0.1H0 V182HLY0.1HA V182SAX0.1H0
 V183HLY0.1HA V183SAX0.1H0 V184HLY0.1HA V184SAX0.1H0 V185HLY0.1HA V185SAX0.1H0

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

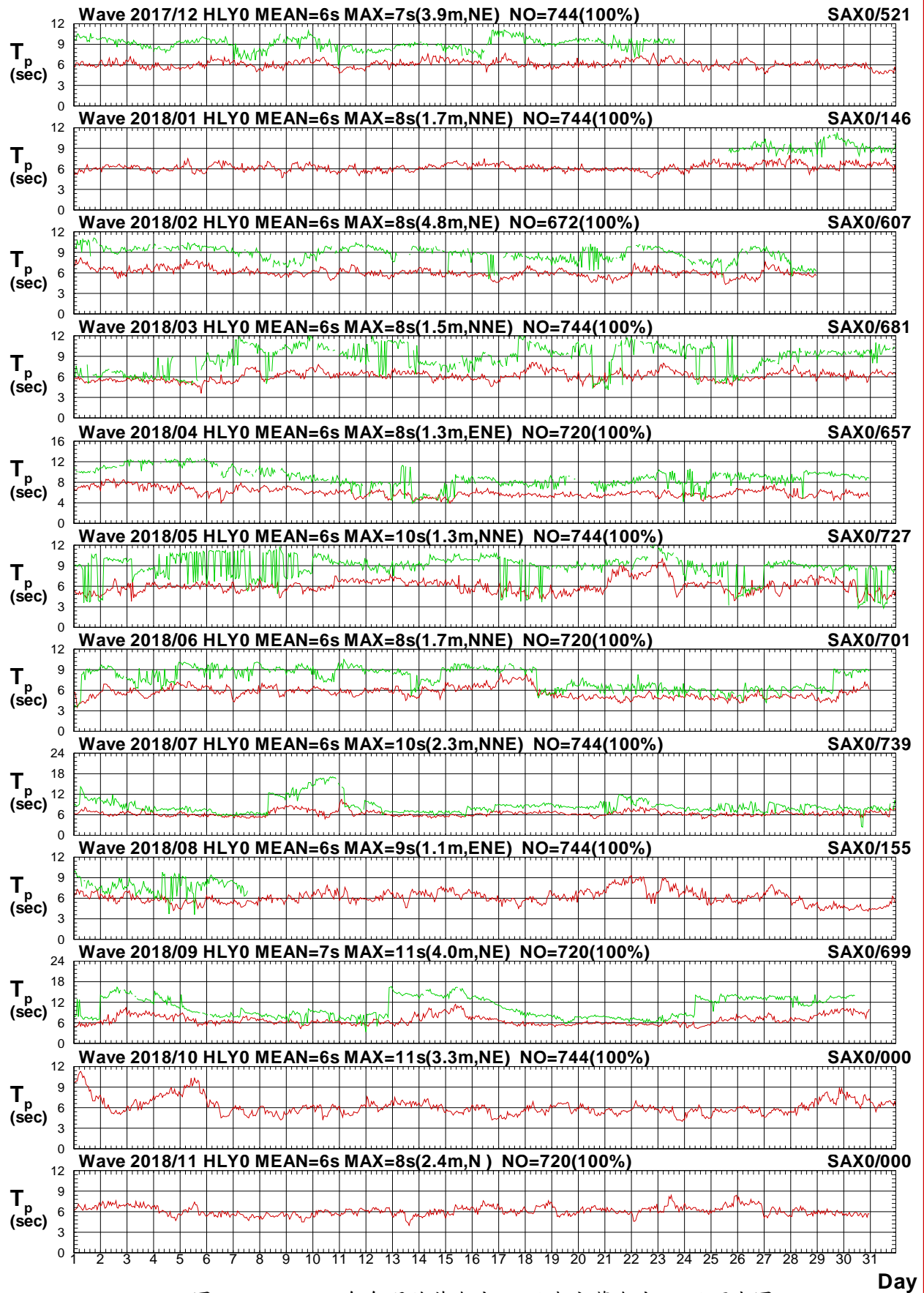


圖2.4.5b 2018年每月花蓮海域 Y 站與宜蘭海域 X 站週期圖

V17CHLY0.1HA V17CSAX0.1HO V181HLY0.1HA V181SAX0.1HO V182HLY0.1HA V182SAX0.1HO
 V183HLY0.1HA V183SAX0.1HO V184HLY0.1HA V184SAX0.1HO V185HLY0.1HA V185SAX0.1HO

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

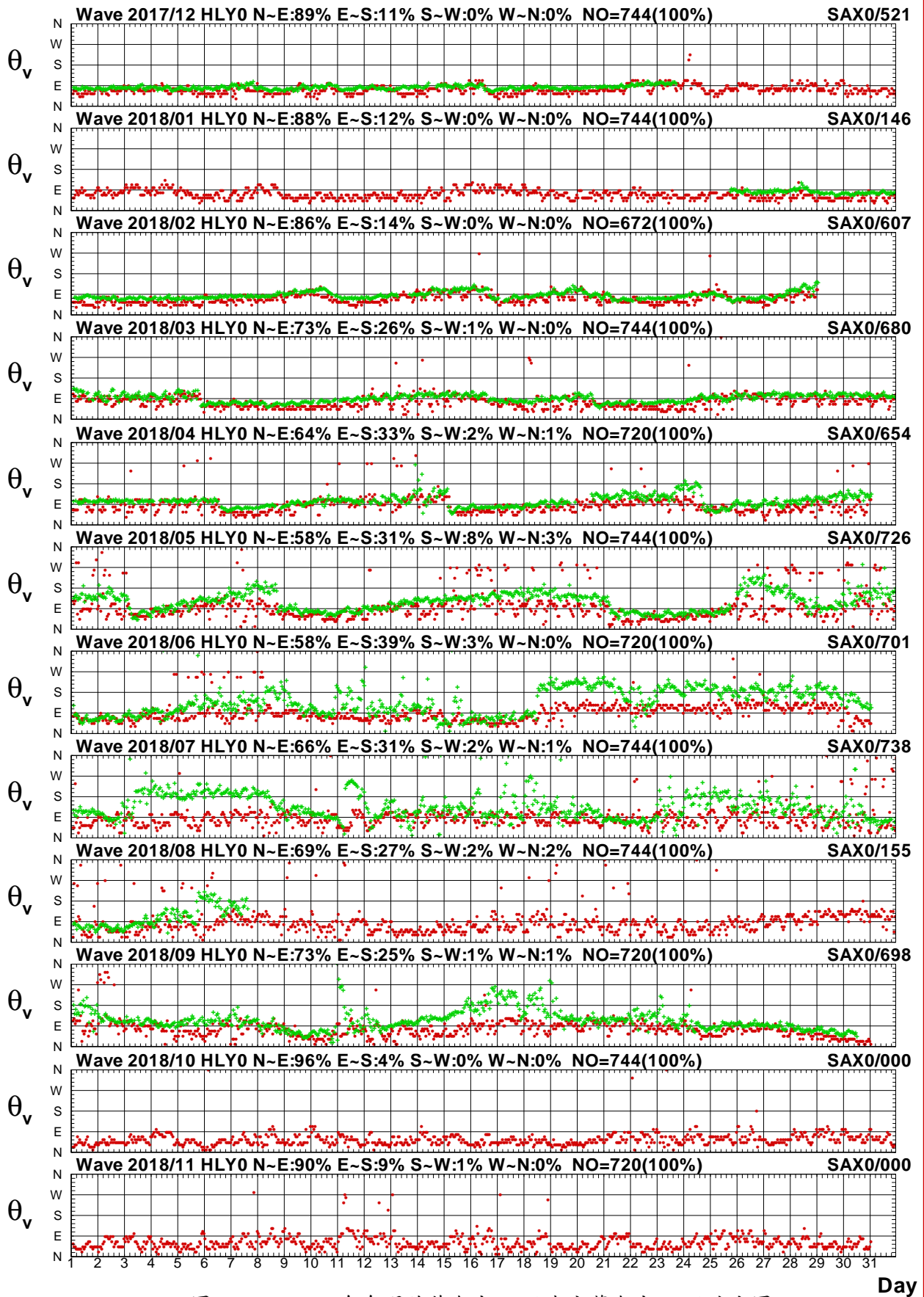


圖2.4.5c 2018年每月花蓮海域 Y 站與宜蘭海域 X 站波向圖

V17CHLY0.1HA V17CSAX0.1HO V181HLY0.1HA V181SAX0.1HO V182HLY0.1HA V182SAX0.1HO
 V183HLY0.1HA V183SAX0.1HO V184HLY0.1HA V184SAX0.1HO V185HLY0.1HA V185SAX0.1HO

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

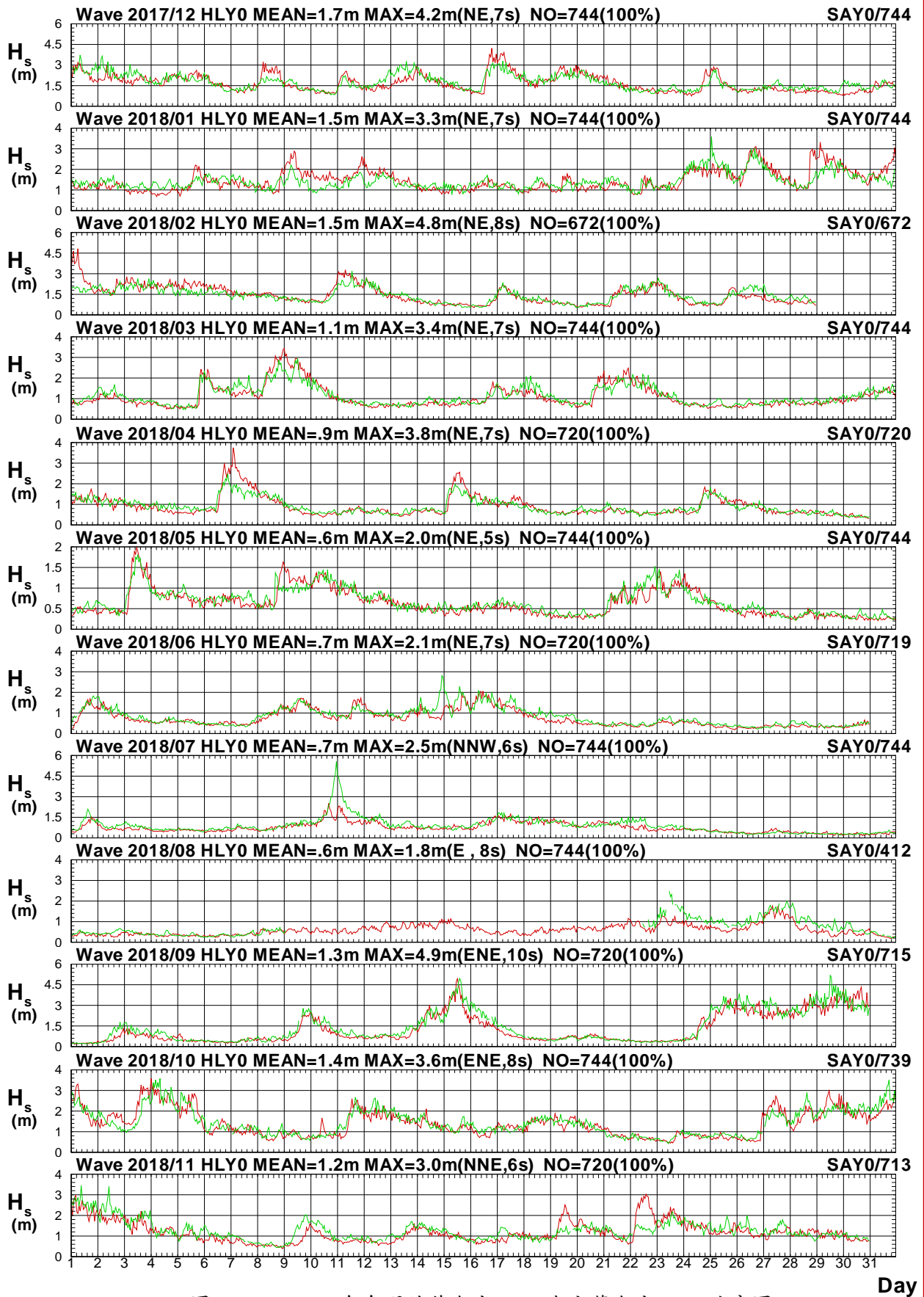


圖2.4.6a 2018年每月花蓮海域 Y 站與宜蘭海域 Y 站波高圖

V17CHLY0.1HA V17CSAY0.1H0 V181HLY0.1HA V181SAY0.1H0 V182HLY0.1HA V182SAY0.1H0
 V183HLY0.1HA V183SAY0.1H0 V184HLY0.1HA V184SAY0.1H0 V185HLY0.1HA V185SAY0.1H0

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

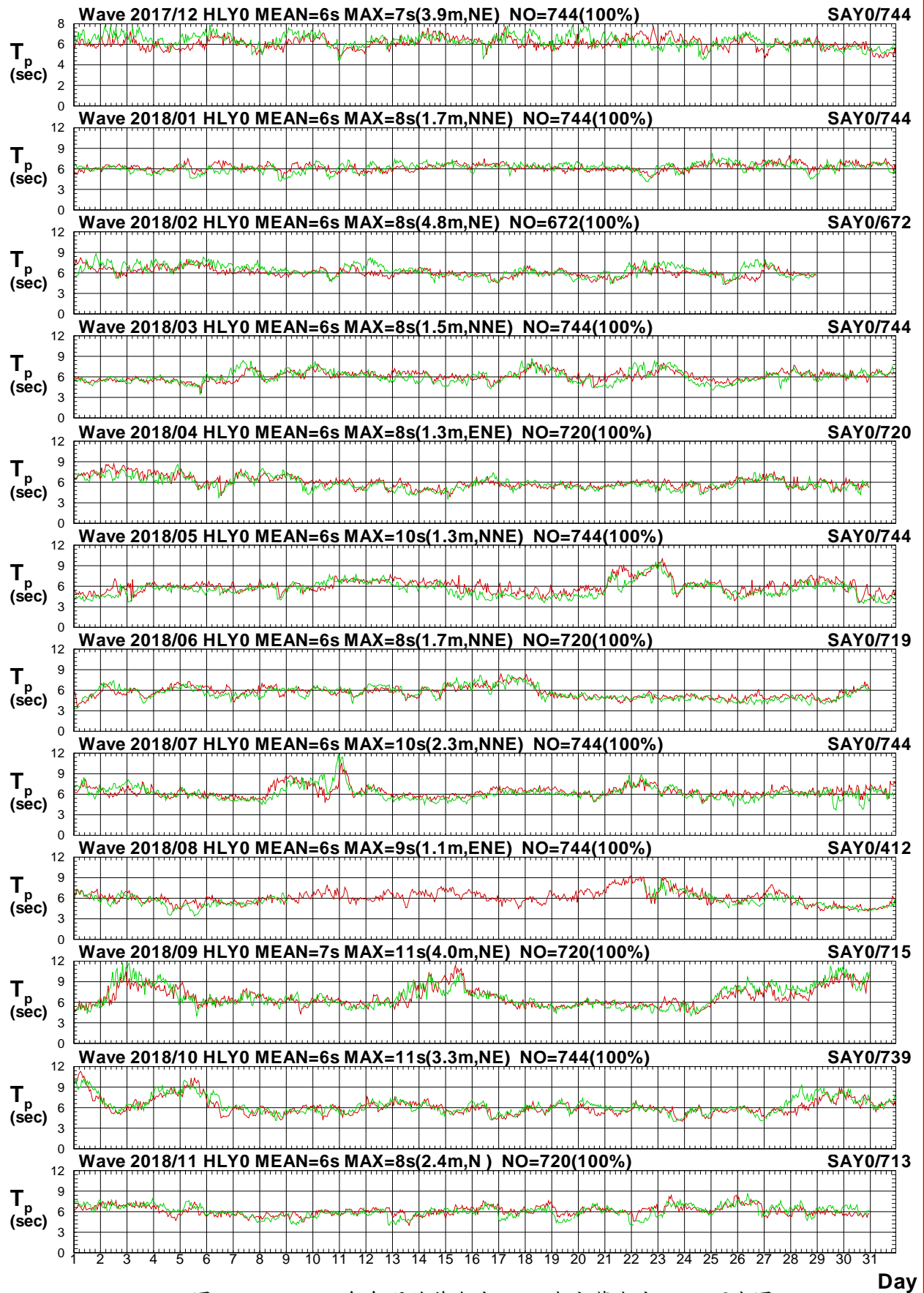


圖2.4.6b 2018年每月花蓮海域 Y 站與宜蘭海域 Y 站週期圖

V17CHLY0.1HA V17CSAY0.1HO V181HLY0.1HA V181SAY0.1HO V182HLY0.1HA V182SAY0.1HO
 V183HLY0.1HA V183SAY0.1HO V184HLY0.1HA V184SAY0.1HO V185HLY0.1HA V185SAY0.1HO

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

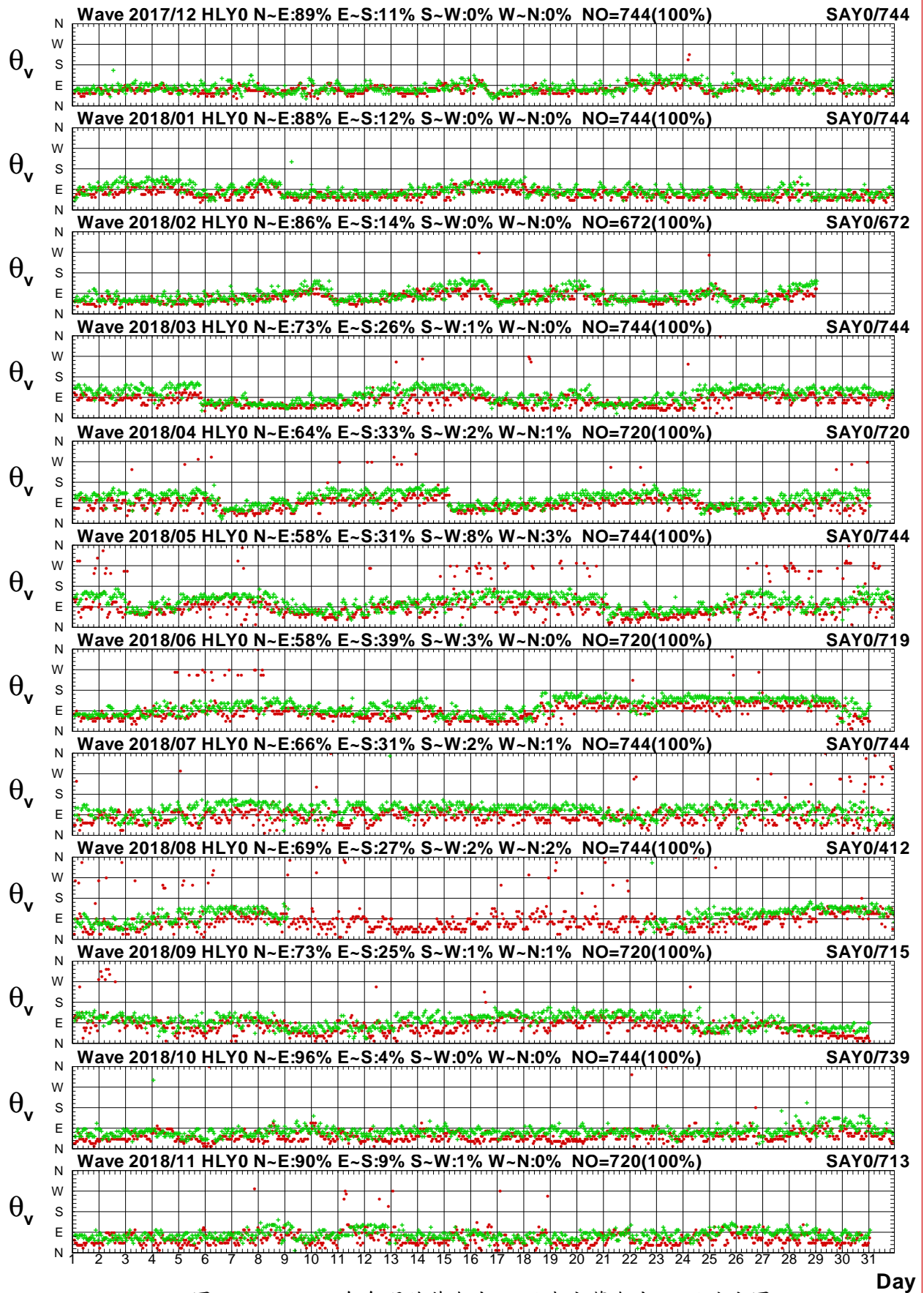


圖2.4.6c 2018年每月花蓮海域 Y 站與宜蘭海域 Y 站波向圖

V17CHLY0.1HA V17CSAY0.1HO V181HLY0.1HA V181SAY0.1HO V182HLY0.1HA V182SAY0.1HO
 V183HLY0.1HA V183SAY0.1HO V184HLY0.1HA V184SAY0.1HO V185HLY0.1HA V185SAY0.1HO

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Wave H_s in Hua-Lien Harbor of HLY0 at 2018

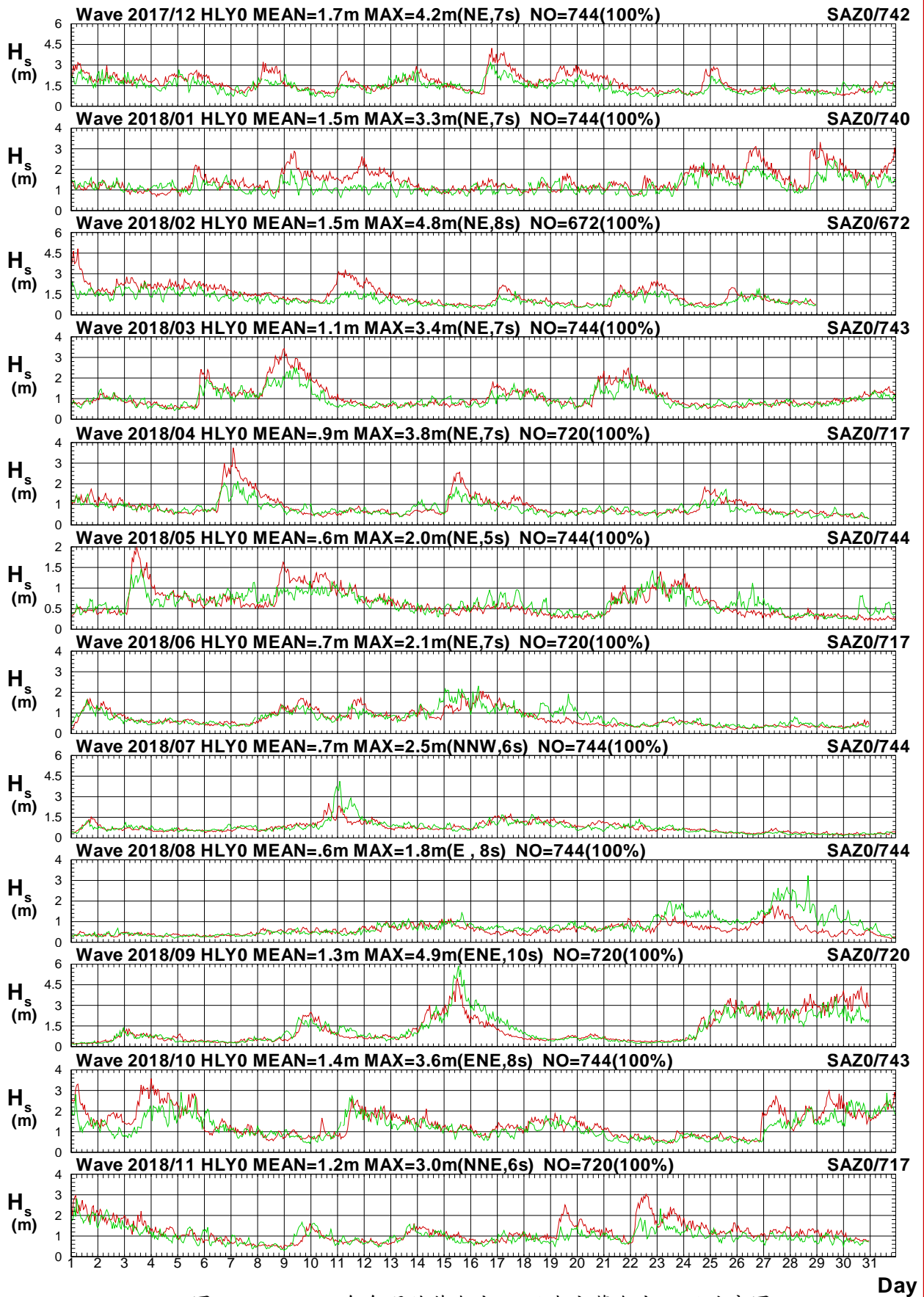


圖2.4.7a 2018年每月花蓮海域 Y 站與宜蘭海域 Z 站波高圖

V17CHLY0.1HA V17CSAZ0.1H0 V181HLY0.1HA V181SAZ0.1H0 V182HLY0.1HA V182SAZ0.1H0
 V183HLY0.1HA V183SAZ0.1H0 V184HLY0.1HA V184SAZ0.1H0 V185HLY0.1HA V185SAZ0.1H0

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Wave T_p in Hua-Lien Harbor of HLY0 at 2018

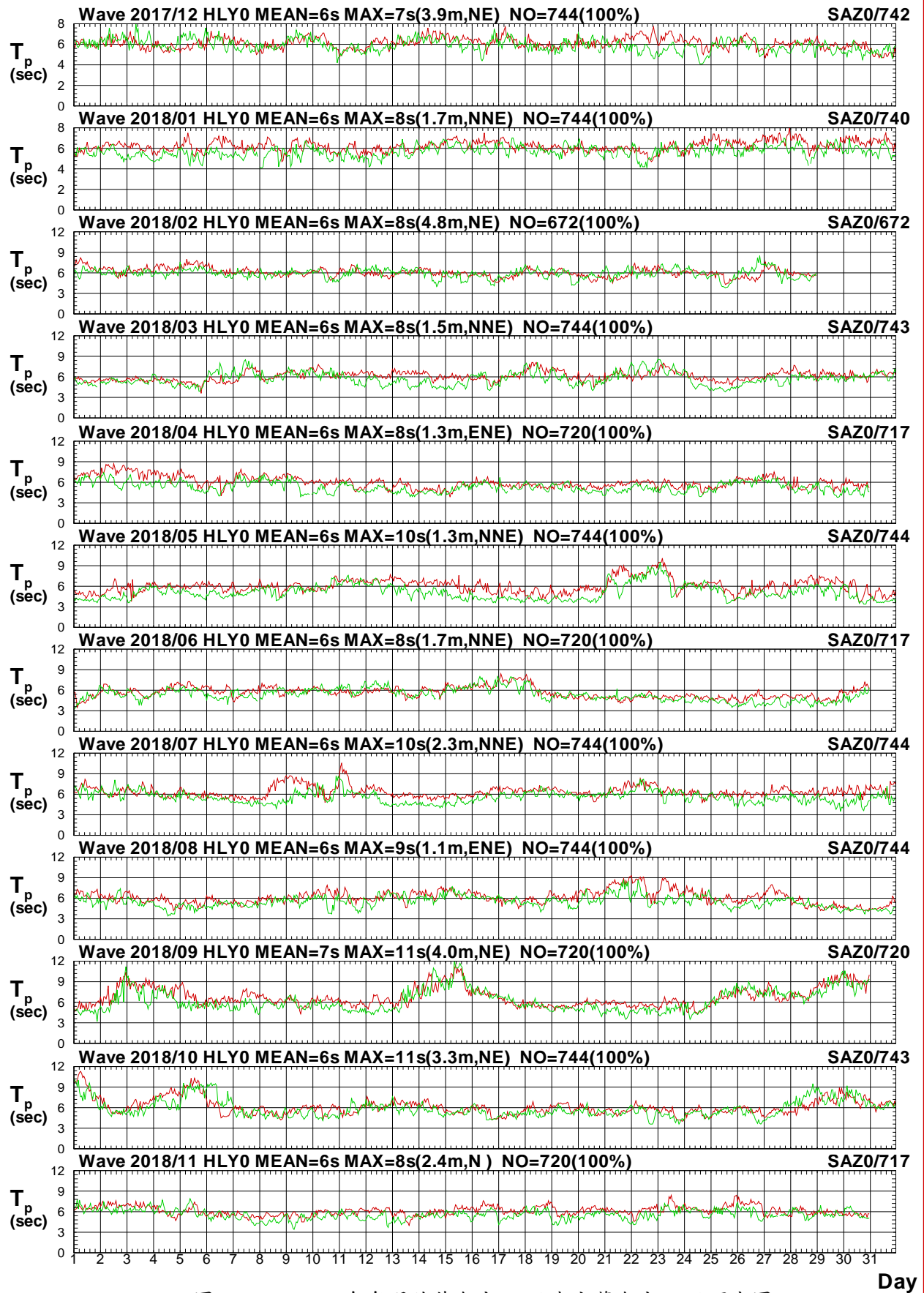


圖2.4.7b 2018年每月花蓮海域 Y 站與宜蘭海域 Z 站週期圖

V17CHLY0.1HA V17CSAZ0.1H0 V181HLY0.1HA V181SAZ0.1H0 V182HLY0.1HA V182SAZ0.1H0
 V183HLY0.1HA V183SAZ0.1H0 V184HLY0.1HA V184SAZ0.1H0 V185HLY0.1HA V185SAZ0.1H0

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Wave Direction in Hua-Lien Harbor of HLY0 at 2018

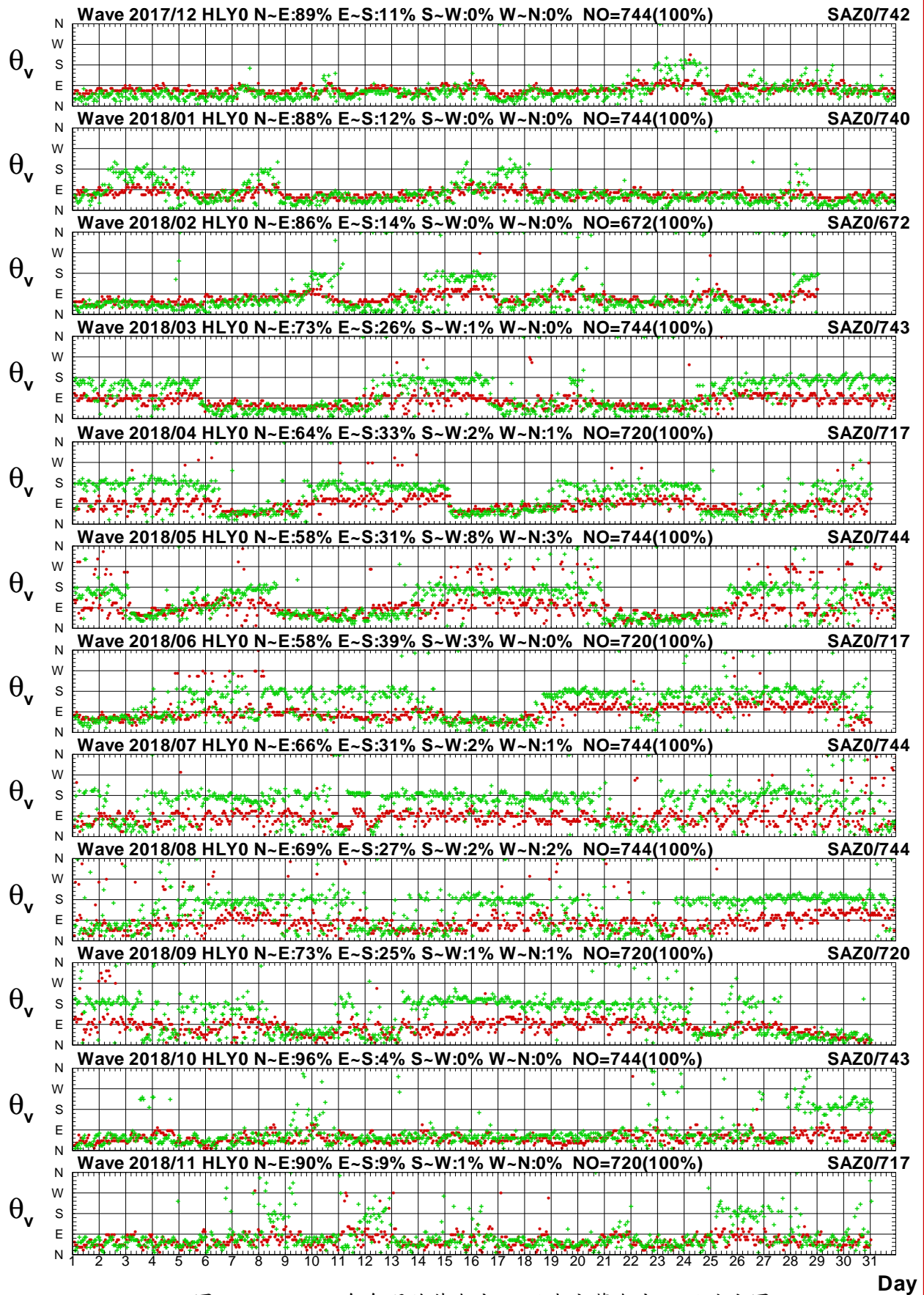


圖2.4.7c 2018年每月花蓮海域 Y 站與宜蘭海域 Z 站波向圖

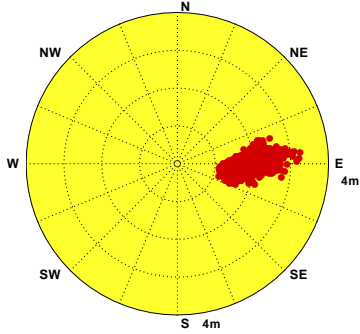
V17CHLY0.1HA V17CSAZ0.1H0 V181HLY0.1HA V181SAZ0.1H0 V182HLY0.1HA V182SAZ0.1H0
 V183HLY0.1HA V183SAZ0.1H0 V184HLY0.1HA V184SAZ0.1H0 V185HLY0.1HA V185SAZ0.1H0

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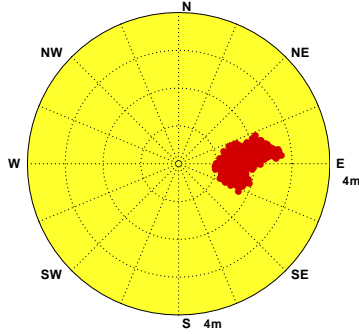
2.5 2018 年花蓮海域波浪各測站修補前 波浪向量分佈圖

Distribution of H_s Vectors

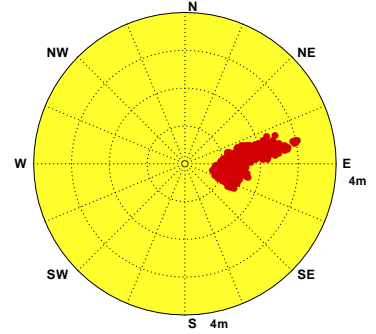
Wave of HLX0 at 2017/12 NO=744(100%)
Hs : MEAN=1.8m MAX=3.1m(E, 11s)
N-E:22% E-S:78% S-W:0% W-N:0%



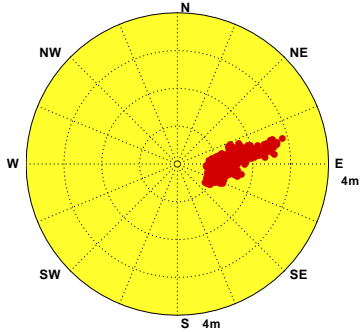
Wave of HLX0 at 2018/01 NO=744(100%)
Hs : MEAN=1.5m MAX=2.6m(E, 10s)
N-E:39% E-S:61% S-W:0% W-N:0%



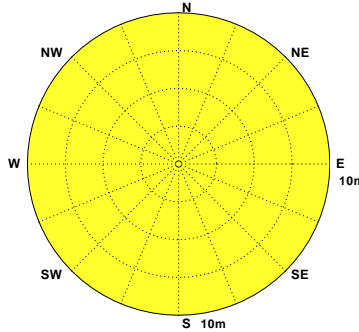
Wave of HLX0 at 2018/02 NO=671(100%)
Hs : MEAN=1.5m MAX=2.9m(E, 11s)
N-E:49% E-S:51% S-W:0% W-N:0%



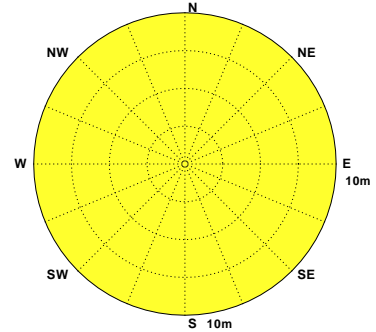
Wave of HLX0 at 2018/03 NO=633(85%)
Hs : MEAN=1.2m MAX=2.7m(ENE, 10s)
N-E:25% E-S:75% S-W:0% W-N:0%



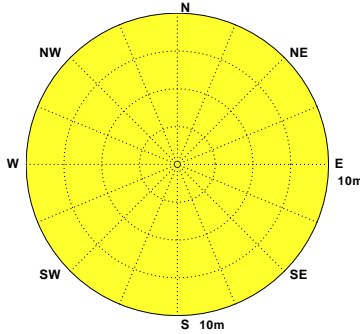
Wave of HLX0 at 2018/04



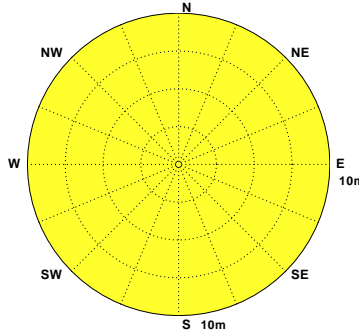
Wave of HLX0 at 2018/05



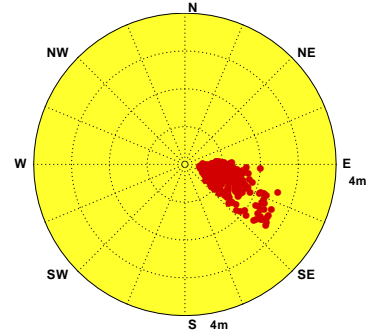
Wave of HLX0 at 2018/06



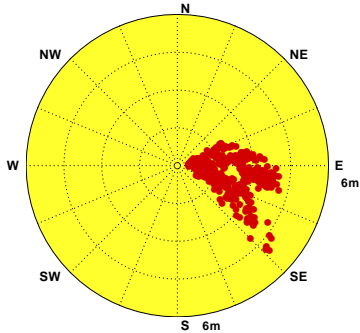
Wave of HLX0 at 2018/07



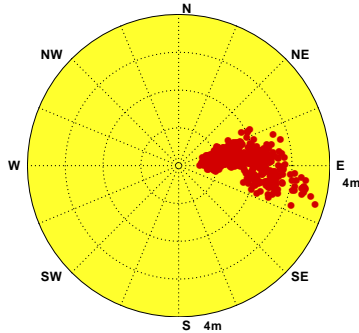
Wave of HLX0 at 2018/08 NO=395(53%)
Hs : MEAN=1.1m MAX=2.7m(SE, 8s)
N-E:0% E-S:99% S-W:0% W-N:0%



Wave of HLX0 at 2018/09 NO=709(98%)
Hs : MEAN=1.5m MAX=5.0m(SE, 16s)
N-E:13% E-S:87% S-W:0% W-N:0%



Wave of HLX0 at 2018/10 NO=740(99%)
Hs : MEAN=1.4m MAX=3.7m(ESE, 14s)
N-E:54% E-S:46% S-W:0% W-N:0%



Wave of HLX0 at 2018/11 NO=712(99%)
Hs : MEAN=1.2m MAX=2.6m(E, 9s)
N-E:39% E-S:58% S-W:2% W-N:1%

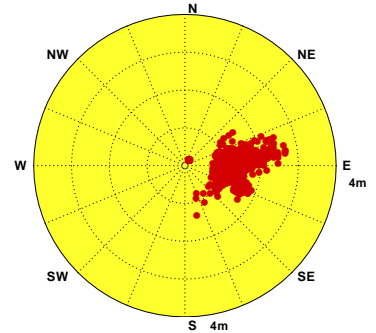


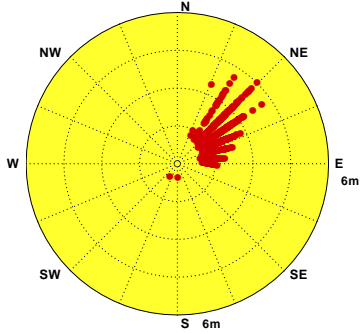
圖2.5.1 2018年花蓮海域每月 X 站修補前觀測波高向量分佈圖

V17CHLX0.1H0 V181HLX0.1H0 V182HLX0.1H0 V183HLX0.1H0 V184HLX0.1H0 V185HLX0.1H0
V186HLX0.1H0 V187HLX0.1H0 V188HLX0.1H0 V189HLX0.1H0 V18AHLX0.1H0 V18BHLX0.1H0

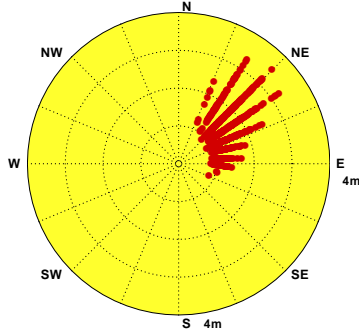
Institute of Harbor & Marine Technology

Distribution of H_s Vectors

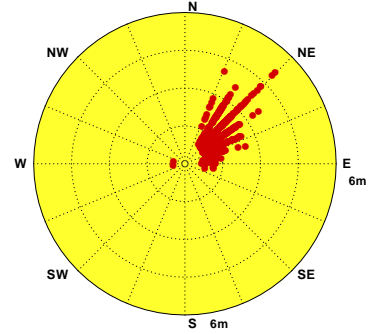
Wave of HLY0 at 2017/12 NO=739(99%)
 Hs : MEAN=1.7m MAX=4.2m(NE,7s)
 N-E:89% E-S:11% S-W:0% W-N:0%



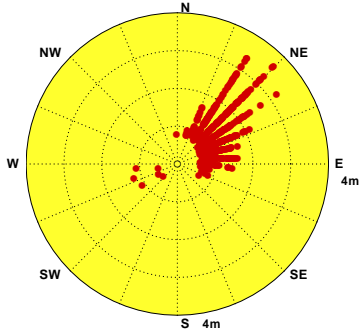
Wave of HLY0 at 2018/01 NO=741(100%)
 Hs : MEAN=1.5m MAX=3.3m(NE,7s)
 N-E:88% E-S:12% S-W:0% W-N:0%



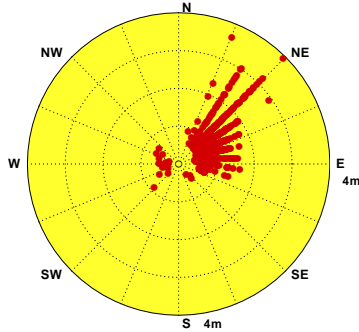
Wave of HLY0 at 2018/02 NO=669(100%)
 Hs : MEAN=1.5m MAX=4.8m(NE,8s)
 N-E:86% E-S:14% S-W:0% W-N:0%



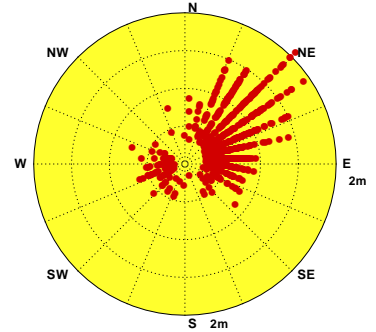
Wave of HLY0 at 2018/03 NO=742(100%)
 Hs : MEAN=1.1m MAX=3.4m(NE,7s)
 N-E:73% E-S:26% S-W:1% W-N:0%



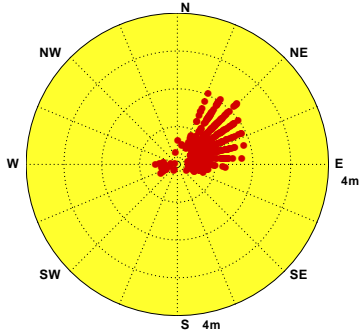
Wave of HLY0 at 2018/04 NO=718(100%)
 Hs : MEAN=.9m MAX=3.8m(NE,7s)
 N-E:64% E-S:33% S-W:2% W-N:1%



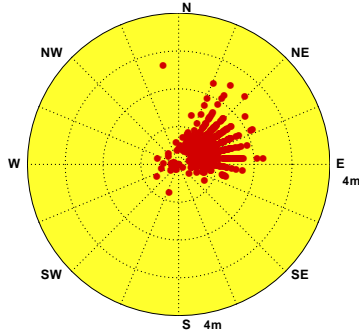
Wave of HLY0 at 2018/05 NO=742(100%)
 Hs : MEAN=.6m MAX=2.0m(NE,5s)
 N-E:58% E-S:31% S-W:8% W-N:3%



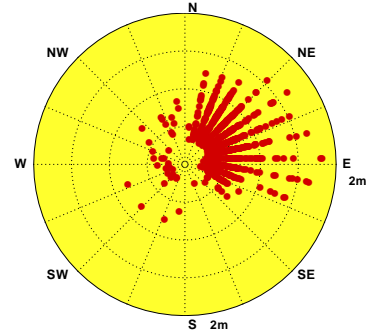
Wave of HLY0 at 2018/06 NO=720(100%)
 Hs : MEAN=.7m MAX=2.1m(NE,7s)
 N-E:58% E-S:39% S-W:3% W-N:0%



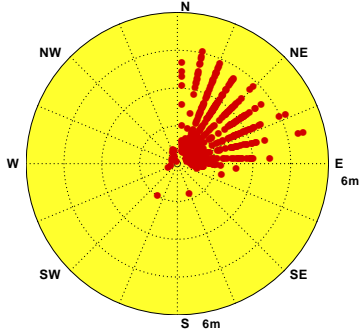
Wave of HLY0 at 2018/07 NO=743(100%)
 Hs : MEAN=.7m MAX=2.5m(NNW,6s)
 N-E:66% E-S:31% S-W:2% W-N:1%



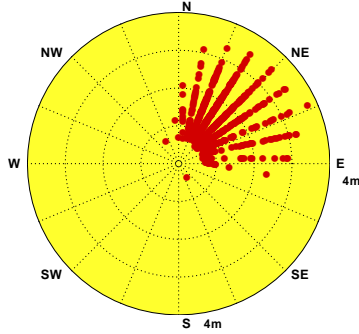
Wave of HLY0 at 2018/08 NO=739(99%)
 Hs : MEAN=.6m MAX=1.8m(E, 8s)
 N-E:69% E-S:27% S-W:2% W-N:2%



Wave of HLY0 at 2018/09 NO=720(100%)
 Hs : MEAN=1.3m MAX=4.9m(ENE,10s)
 N-E:73% E-S:25% S-W:1% W-N:1%



Wave of HLY0 at 2018/10 NO=742(100%)
 Hs : MEAN=1.4m MAX=3.6m(ENE,8s)
 N-E:96% E-S:4% S-W:0% W-N:0%



Wave of HLY0 at 2018/11 NO=717(100%)
 Hs : MEAN=1.2m MAX=3.0m(NNE,6s)
 N-E:90% E-S:9% S-W:1% W-N:0%

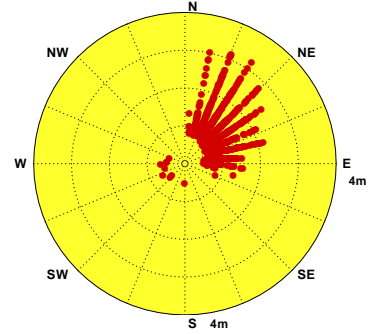


圖2.5.2 2018年花蓮海域每月 Y 站修補前觀測波高向量分佈圖

V17CHLY0.1H0 V181HLY0.1H0 V182HLY0.1H0 V183HLY0.1H0 V184HLY0.1H0 V185HLY0.1H0
 V186HLY0.1H0 V187HLY0.1H0 V188HLY0.1H0 V189HLY0.1H0 V18AHLY0.1H0 V18BHLY0.1H0

Institute of Harbor & Marine Technology

第三章 2018 年花蓮海域觀測潮汐資料年報

花蓮海域潮汐之觀測包括測站 **T**、測站 **X**、測站 **F**、測站 **G** 及測站 **J** 等 5 個測站(測站位置如第 0 章圖 TL1)。測站 **T** 與測站 **F**、測站 **X**、測站 **G** 及測站 **J** 等 4 個測站特性相近。本年報取經檢核及補遺之測站 **T** 資料作為**主要測站 1**，測站 **J** 資料作為**主要測站 2**，測站 **F** 資料作為**主要測站 3**。

3.1 2018 年花蓮海域觀測潮汐資料年報圖表

本章第 1 節**潮汐**年報資料處理之圖表包括：

1. 表 3.1.1a 2018 年**各觀測站**每月**觀測潮汐**資料**修補前**記錄表。
2. 表 3.1.1b 2018 年**主要測站**每月**觀測潮汐**資料**修補後**記錄表。
3. 表 3.1.2 2018 年**主要測站 1** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
4. 表 3.1.3 2018 年**主要測站 2** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
5. 表 3.1.4 2018 年**主要測站 3** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
6. 圖 3.1.1 2018 年**主要測站 1** **修補前後**每月觀測潮位歷線比較圖。
7. 圖 3.1.2 2018 年**主要測站 1** **修補後**每月觀測潮位及計算天文潮位歷線比較圖。
8. 圖 3.1.3 2018 年**主要測站 2** **修補前後**每月觀測潮位歷線比較圖。
9. 圖 3.1.4 2018 年**主要測站 2** **修補後**每月觀測潮位及計算天文潮位歷線比較圖。

10. 圖 3.1.5 2018 年**主要測站 3 修補前後**每月觀測潮位歷線比較圖。

11. 圖 3.1.6 2018 年**主要測站 3 修補後**每月觀測潮位及計算天文潮位歷線比較圖。

第 2 節潮汐年報資料處理之圖表包括: 2018 年花蓮海域**各測站修補前**每月(季)及整年潮位、潮差及週期重要統計量統計表。

第 3 節潮汐年報資料處理之統計圖包括: 2018 年花蓮海域**主要測站 1 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

第 4 節潮汐年報資料處理之統計圖包括: 2018 年花蓮海域**主要測站 2 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

第 5 節潮汐年報資料處理之統計圖包括: 2018 年花蓮海域**主要測站 3 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

表 3.1.1a 2018年每月花蓮海域修補前各測站觀測潮汐資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	T	J	F	X	G							
2017/12月	743(99.9%)	723(97.2%)	558(75.0%)	744(100%)	*	*	*	*	*	*	*	*
2018/ 1月	741(99.6%)	725(97.4%)	710(95.4%)	744(100%)	*	*	*	*	*	*	*	*
2018/ 2月	670(99.7%)	657(97.8%)	654(97.3%)	671(99.9%)	*	*	*	*	*	*	*	*
2018/ 3月	743(99.9%)	723(97.2%)	708(95.2%)	633(85.1%)	*	*	*	*	*	*	*	*
2018/ 4月	718(99.7%)	703(97.6%)	696(96.7%)	*	*	*	*	*	*	*	*	*
2018/ 5月	742(99.7%)	726(97.6%)	399(53.6%)	*	*	*	*	*	*	*	*	*
2018/ 6月	719(99.9%)	701(97.4%)	683(94.9%)	*	*	*	*	*	*	*	*	*
2018/ 7月	742(99.7%)	733(98.5%)	706(94.9%)	*	*	*	*	*	*	*	*	*
2018/ 8月	588(79.0%)	725(97.4%)	720(96.8%)	395(53.1%)	*	*	*	*	*	*	*	*
2018/ 9月	720(100%)	708(98.3%)	668(92.8%)	709(98.5%)	*	*	*	*	*	*	*	*
2018/10月	744(100%)	715(96.1%)	741(99.6%)	740(99.5%)	647(87.0%)	*	*	*	*	*	*	*
2018/11月	718(99.7%)	701(97.4%)	670(93.1%)	689(95.7%)	*	*	*	*	*	*	*	*
2018/冬季	2154(99.7%)	2105(97.5%)	1922(89.0%)	*	*	*	*	*	*	*	*	*
2018/春季	2203(99.8%)	2152(97.5%)	1803(81.7%)	*	*	*	*	*	*	*	*	*
2018/夏季	2049(92.8%)	2159(97.8%)	2109(95.5%)	*	*	*	*	*	*	*	*	*
2018/秋季	2182(99.9%)	2124(97.3%)	2079(95.2%)	*	647(29.6%)	*	*	*	*	*	*	*
2018/整年	8588(98.0%)	8540(97.5%)	7913(90.3%)	*	647(7.4%)	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	2017/12	*	2018/10	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	2018/11	*	2018/10	*	*	*	*	*	*	*

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表 3.1.1b 2018年每月花蓮海域修補後各測站潮汐資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	T	J	F									
2017/12月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 2月	672(100%)	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*
2018/ 3月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 4月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2018/ 5月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 6月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2018/ 7月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 8月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/ 9月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2018/10月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2018/11月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2018/冬季	2160(100%)	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*
2018/春季	2208(100%)	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*
2018/夏季	2208(100%)	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*
2018/秋季	2184(100%)	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*
2018/整年	8760(100%)	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*
起始年月	2017/12	2017/12	2017/12	*	*	*	*	*	*	*	*	*
結束年月	2018/11	2018/11	2018/11	*	*	*	*	*	*	*	*	*

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表3.1.2 2018年花蓮海域主要測站1修補後潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	T	100	209	152	190	12.4	14.0	13.2	13.8	59	0	103	-106	744(100%)
2	2018/01	T	96	194	149	189	12.4	14.0	13.3	14.0	59	0	102	-112	744(100%)
3	2018/02	T	95	167	141	157	12.6	25.0	13.9	16.2	52	0	107	-94	672(100%)
4	2018/03	T	105	182	147	166	12.4	15.0	13.5	14.6	59	0	94	-94	744(100%)
5	2018/04	T	102	161	140	153	12.4	14.0	13.2	13.6	57	0	79	-94	720(100%)
6	2018/05	T	100	159	133	151	12.4	14.0	13.1	13.2	59	0	80	-106	744(100%)
7	2018/06	T	97	163	128	154	12.4	13.0	13.0	13.0	57	0	99	-95	720(100%)
8	2018/07	T	96	151	126	146	12.4	14.0	13.1	13.4	59	0	89	-102	744(100%)
9	2018/08	T	97	152	132	146	12.4	14.0	13.3	14.0	59	0	98	-99	744(100%)
10	2018/09	T	104	180	147	171	13.1	26.0	15.2	20.6	54	0	92	-95	720(100%)
11	2018/10	T	99	155	139	151	12.9	26.0	14.6	18.6	57	0	81	-100	744(100%)
12	2018/11	T	99	158	136	151	12.4	14.0	13.1	13.2	57	0	88	-99	720(100%)
13	2018/冬	T	97	209	147	178	12.5	25.0	13.5	14.5	170	0	107	-113	2160(100%)
14	2018/春	T	102	182	140	156	12.4	15.0	13.2	13.8	175	0	94	-106	2208(100%)
15	2018/夏	T	96	163	128	148	12.4	14.0	13.1	13.4	175	0	99	-102	2208(100%)
16	2018/秋	T	101	180	141	157	12.8	26.0	14.3	17.4	168	0	92	-100	2184(100%)
17	2018/年	T	99	209	139	160	12.5	26.0	13.5	14.7	688	0	107	-113	8760(100%)

表3.1.3 2018年花蓮海域主要測站2修補後潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	J	99	196	151	185	12.4	14.0	13.5	14.0	59	0	96	-103	744(100%)
2	2018/01	J	101	208	156	196	12.4	14.0	13.4	14.0	59	0	105	-120	744(100%)
3	2018/02	J	95	195	140	166	12.4	15.0	13.5	14.2	53	0	94	-101	672(100%)
4	2018/03	J	107	179	150	168	12.4	15.0	13.5	14.6	59	0	92	-95	744(100%)
5	2018/04	J	102	171	144	161	12.4	15.0	13.6	14.6	57	0	82	-90	720(100%)
6	2018/05	J	100	182	147	172	12.4	15.0	13.5	14.2	59	0	79	-103	744(100%)
7	2018/06	J	98	161	133	152	12.4	14.0	13.1	13.4	57	0	103	-101	720(100%)
8	2018/07	J	100	191	144	179	12.6	25.0	13.7	15.8	58	0	86	-106	744(100%)
9	2018/08	J	103	168	138	159	12.4	14.0	13.1	13.4	59	0	106	-98	744(100%)
10	2018/09	J	101	162	140	156	12.6	24.0	13.8	15.8	56	0	91	-93	720(100%)
11	2018/10	J	104	164	147	159	12.4	14.0	13.3	14.0	58	0	89	-105	744(100%)
12	2018/11	J	104	176	148	167	12.6	25.0	14.0	16.2	55	0	91	-101	720(100%)
13	2018/冬	J	98	208	148	181	12.4	15.0	13.4	14.1	171	0	105	-120	2160(100%)
14	2018/春	J	103	182	147	166	12.4	15.0	13.5	14.4	175	0	92	-103	2208(100%)
15	2018/夏	J	100	191	139	163	12.5	25.0	13.3	14.1	174	0	106	-106	2208(100%)
16	2018/秋	J	103	176	145	161	12.6	25.0	13.7	15.3	169	0	91	-105	2184(100%)
17	2018/年	J	101	208	145	168	12.5	25.0	13.5	14.6	689	0	106	-120	8760(100%)

表3.1.4 2018年花蓮海域主要測站3修補後潮差週期及潮位重要統計量統計表

序號	日期 (年/月)	測站	平均潮差 (公分)	最大潮差 (公分)	1/3潮差 (公分)	1/10潮差 (公分)	平均週期 (時)	最大週期 (時)	1/3週期 (時)	1/10週期 (時)	潮差個數 (個)	平均潮位 (公分)	最高潮位 (公分)	最低潮位 (公分)	水位點數 (個)
1	2017/12	F	99	209	150	189	12.4	14.0	13.3	14.0	59	0	101	-108	744(100%)
2	2018/01	F	95	192	147	187	12.6	23.0	14.0	15.8	58	0	96	-110	744(100%)
3	2018/02	F	94	166	140	155	12.6	26.0	14.1	16.6	52	0	115	-92	672(100%)
4	2018/03	F	103	182	145	164	12.4	15.0	13.4	14.4	59	0	95	-95	744(100%)
5	2018/04	F	101	160	139	152	12.4	14.0	13.2	13.6	57	0	78	-93	720(100%)
6	2018/05	F	100	158	133	150	12.4	14.0	13.1	13.2	59	0	82	-103	744(100%)
7	2018/06	F	97	162	129	154	12.4	14.0	13.1	13.2	57	0	100	-96	720(100%)
8	2018/07	F	96	151	125	146	12.4	14.0	13.1	13.4	59	0	92	-102	744(100%)
9	2018/08	F	96	157	131	150	12.4	14.0	13.3	14.0	59	0	97	-91	744(100%)
10	2018/09	F	103	157	141	153	12.6	25.0	13.9	16.2	56	0	88	-94	720(100%)
11	2018/10	F	98	155	139	150	12.4	14.0	13.3	14.0	59	0	79	-97	744(100%)
12	2018/11	F	98	156	135	149	12.4	14.0	13.1	13.2	57	0	89	-99	720(100%)
13	2018/冬	F	96	209	146	177	12.6	26.0	13.8	15.4	169	0	115	-110	2160(100%)
14	2018/春	F	102	182	139	155	12.4	15.0	13.2	13.7	175	0	94	-103	2208(100%)
15	2018/夏	F	96	162	128	148	12.4	14.0	13.1	13.5	175	0	100	-102	2208(100%)
16	2018/秋	F	100	157	139	151	12.5	25.0	13.4	14.3	172	0	89	-99	2184(100%)
17	2018/年	F	98	209	138	158	12.5	26.0	13.4	14.2	691	0	115	-110	8760(100%)

Tidal Level in Hua-Lien Harbor of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

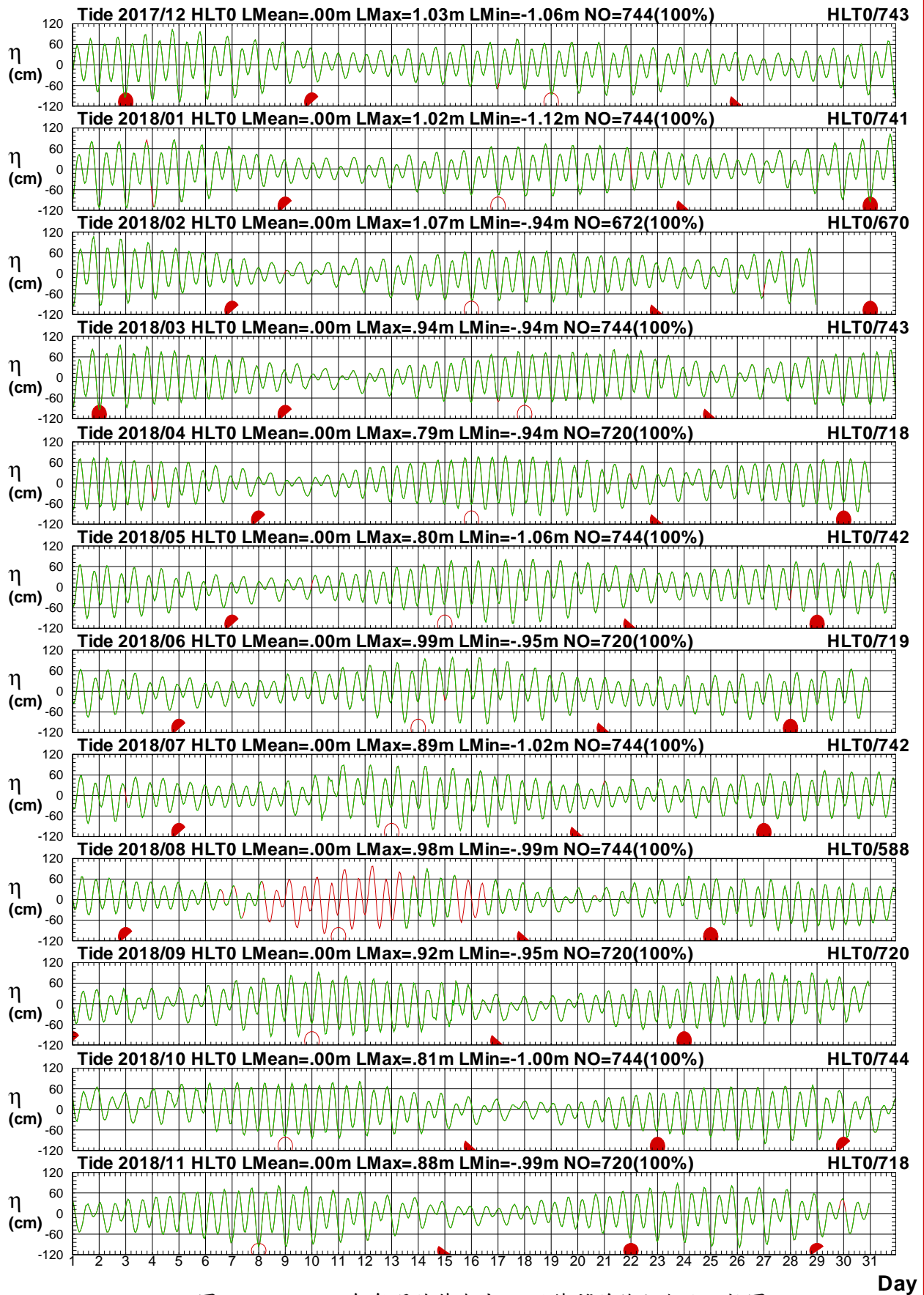


圖3.1.19 2018年每月花蓮海域 T 站修補前後之潮位比較圖

T17CHLT0.1HA T17CHLT0.1H0 T181HLT0.1HA T181HLT0.1H0 T182HLT0.1HA T182HLT0.1H0
T183HLT0.1HA T183HLT0.1H0 T184HLT0.1HA T184HLT0.1H0 T185HLT0.1HA T185HLT0.1H0

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Tidal Level in Hua-Lien Harbor of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

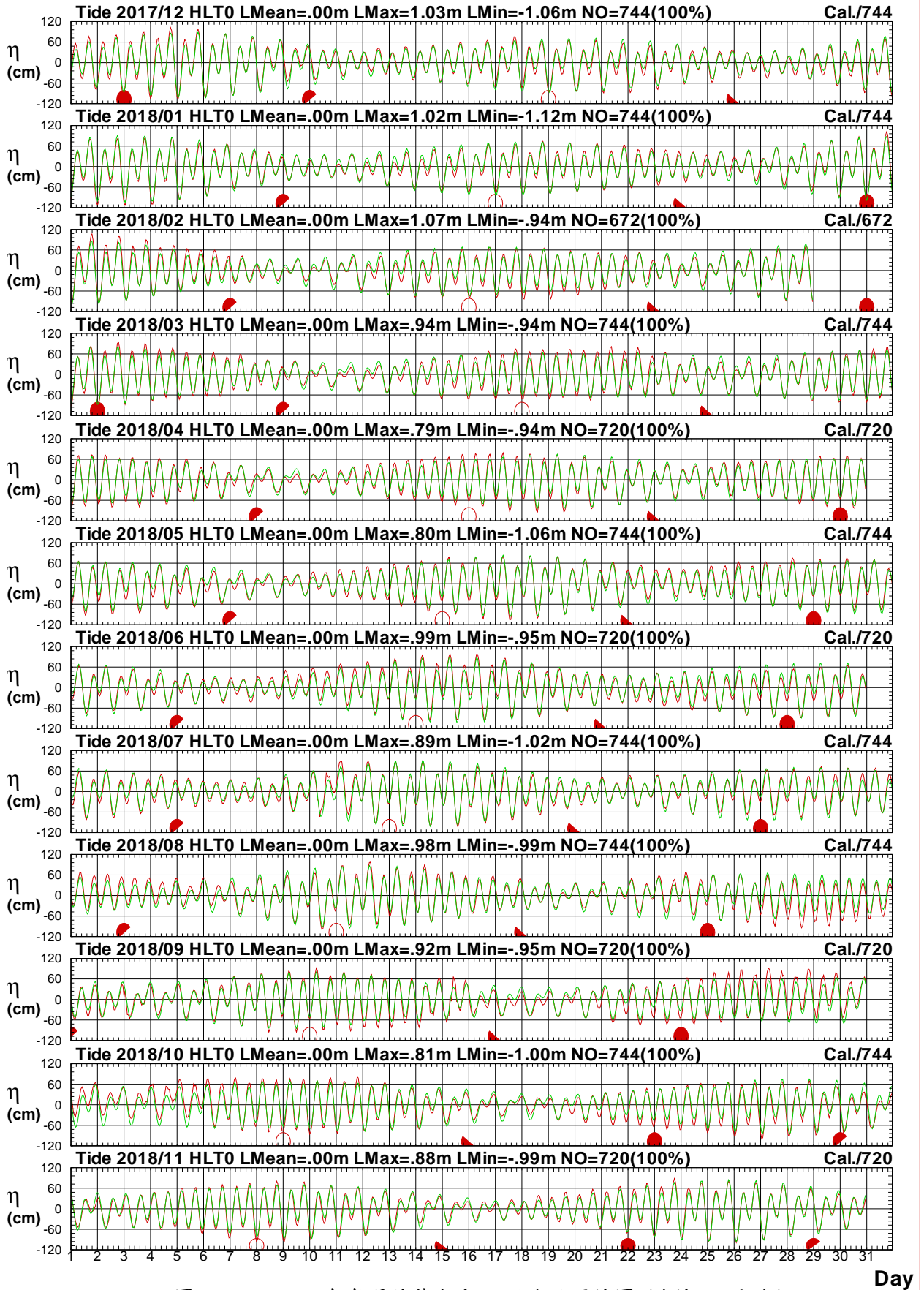


圖3.1.20 2018年每月花蓮海域 T 站潮位歷線圖 (綠線: 天文潮)

T17CHLT0.1HA T17CHLT0.1HC T181HLT0.1HA T181HLT0.1HC T182HLT0.1HA T182HLT0.1HC
 T183HLT0.1HA T183HLT0.1HC T184HLT0.1HA T184HLT0.1HC T185HLT0.1HA T185HLT0.1HC

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Tidal Level in Hua-Lien Harbor of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

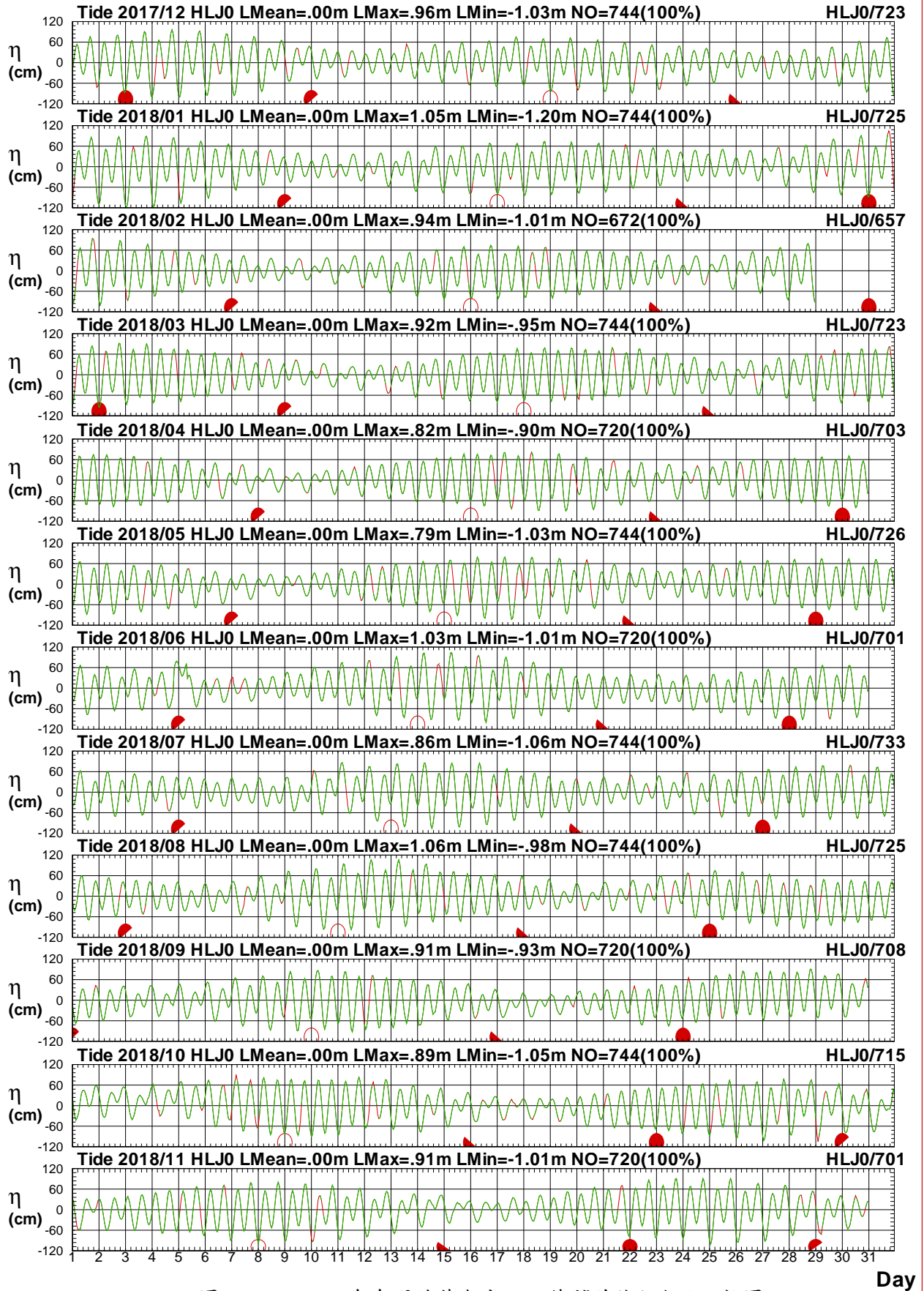


圖3.1.21 2018年每月花蓮海域J站修補前後之潮位比較圖

T17CHLJ0.1HA T17CHLJ0.1H0 T181HLJ0.1HA T181HLJ0.1H0 T182HLJ0.1HA T182HLJ0.1H0
T183HLJ0.1HA T183HLJ0.1H0 T184HLJ0.1HA T184HLJ0.1H0 T185HLJ0.1HA T185HLJ0.1H0

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Tidal Level in Hua-Lien Harbor of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

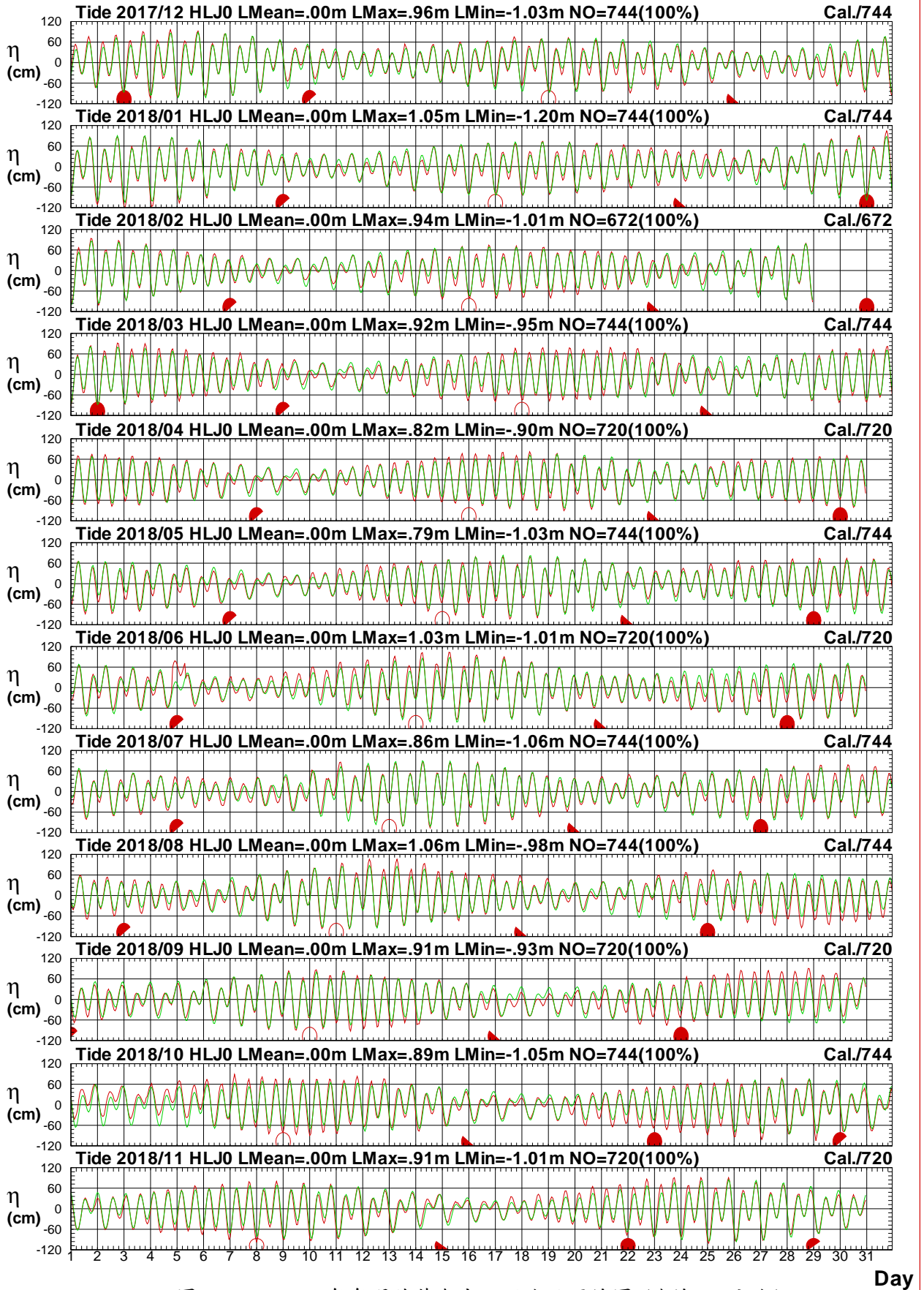


圖3.1.22 2018年每月花蓮海域J站潮位歷線圖 (綠線: 天文潮)

T17CHLJ0.1HA T17CHLT0.1HC T181HLJ0.1HA T181HLT0.1HC T182HLJ0.1HA T182HLT0.1HC
 T183HLJ0.1HA T183HLT0.1HC T184HLJ0.1HA T184HLT0.1HC T185HLJ0.1HA T185HLT0.1HC

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Tidal Level in Hua-Lien Harbor of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

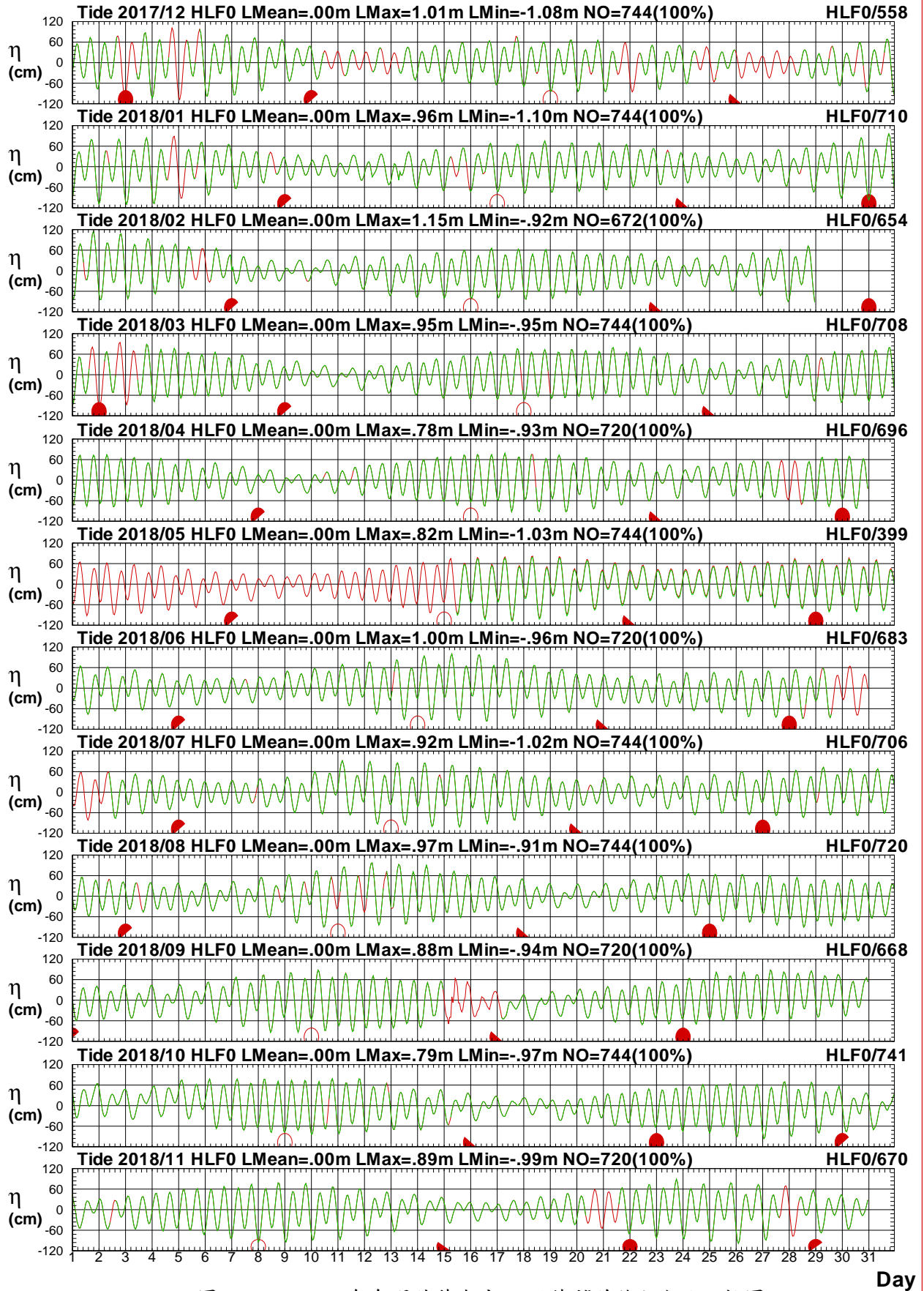


圖3.1.23 2018年每月花蓮海域 F 站修補前後之潮位比較圖

T17CHLF0.1HA T17CHLF0.1H0 T181HLF0.1HA T181HLF0.1H0 T182HLF0.1HA T182HLF0.1H0
T183HLF0.1HA T183HLF0.1H0 T184HLF0.1HA T184HLF0.1H0 T185HLF0.1HA T185HLF0.1H0

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Tidal Level in Hua-Lien Harbor of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

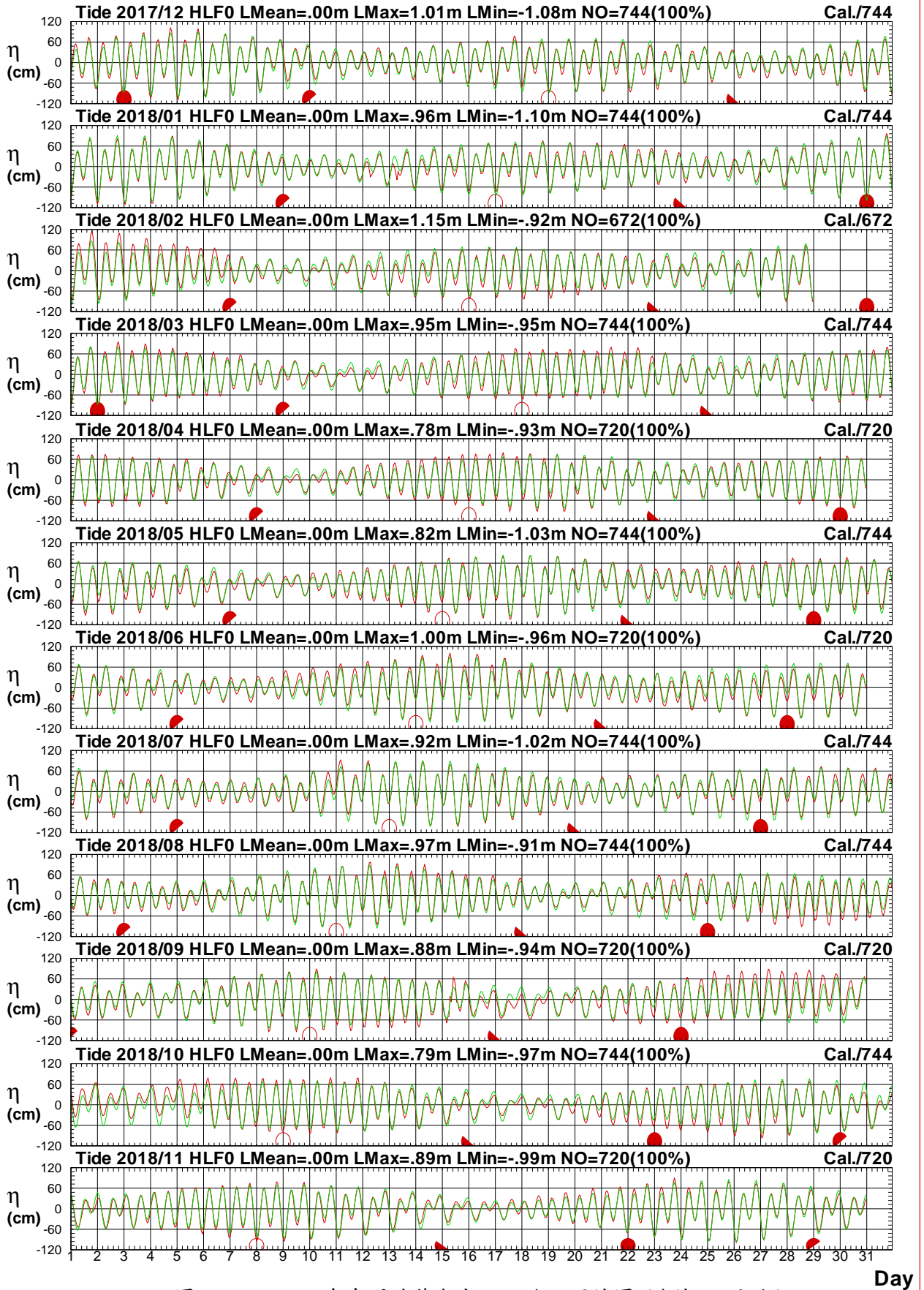


圖3.1.24 2018年每月花蓮海域 F 站潮位歷線圖 (綠線: 天文潮)

T17CHLF0.1HA T17CHLT0.1HC T181HLF0.1HA T181HLT0.1HC T182HLF0.1HA T182HLT0.1HC
T183HLF0.1HA T183HLT0.1HC T184HLF0.1HA T184HLT0.1HC T185HLF0.1HA T185HLT0.1HC

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3.2 2018 年花蓮海域各測站修補前 潮汐統計量統計表

表3.2.1 2018年花蓮海域 T 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	T	100	209	141	190	12.6	24.0	13.8	16.0	58	0	103	-106	743(100%)
2	2018/01	T	95	193	131	168	12.6	25.0	13.9	16.2	58	0	102	-112	741(100%)
3	2018/02	T	97	167	134	155	12.9	26.0	14.6	18.6	51	0	107	-94	670(100%)
4	2018/03	T	104	182	142	165	12.6	24.0	14.1	16.6	58	0	94	-94	743(100%)
5	2018/04	T	103	161	142	153	12.6	25.0	13.8	16.0	56	0	79	-94	718(100%)
6	2018/05	T	100	159	136	154	12.6	25.0	13.7	15.6	58	0	80	-106	742(100%)
7	2018/06	T	97	193	141	175	12.7	24.0	13.6	15.2	56	0	99	-95	719(100%)
8	2018/07	T	96	151	131	147	12.6	25.0	13.7	15.8	58	0	89	-102	742(100%)
9	2018/08	T	87	146	123	139	12.7	25.0	14.1	16.8	42	0	90	-94	588(79%)
10	2018/09	T	104	180	147	171	13.1	26.0	15.2	20.6	54	0	92	-95	720(100%)
11	2018/10	T	99	155	139	151	12.9	26.0	14.6	18.6	57	0	81	-100	744(100%)
12	2018/11	T	99	158	136	151	12.4	14.0	13.1	13.2	57	0	88	-99	718(100%)
13	2018/冬	T	97	209	136	171	12.7	26.0	14.1	16.8	167	0	107	-113	2154(100%)
14	2018/春	T	102	182	140	156	12.6	25.0	13.9	15.9	172	0	94	-106	2203(100%)
15	2018/夏	T	94	193	132	156	12.7	25.0	13.8	15.7	156	0	99	-102	2049(93%)
16	2018/秋	T	101	180	141	157	12.8	26.0	14.3	17.4	168	0	92	-100	2182(100%)
17	2018/年	T	99	209	138	160	12.7	26.0	14.0	16.4	663	0	107	-113	8588(98%)

表3.2.2 2018年花蓮海域 J 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	J	99	191	140	177	14.2	25.0	18.6	25.0	49	0	96	-104	723(97%)
2	2018/01	J	98	208	139	177	13.9	26.0	17.5	24.8	52	0	95	-120	725(97%)
3	2018/02	J	92	195	132	159	13.8	26.0	17.5	25.3	45	0	94	-101	657(98%)
4	2018/03	J	103	179	147	163	13.7	25.0	17.5	25.0	47	0	92	-95	723(97%)
5	2018/04	J	98	166	137	157	14.0	26.0	17.9	25.5	48	0	82	-90	703(98%)
6	2018/05	J	99	163	139	156	13.4	25.0	16.4	23.0	52	0	79	-103	726(98%)
7	2018/06	J	95	190	131	153	13.6	25.0	16.6	25.0	52	0	104	-100	701(97%)
8	2018/07	J	98	160	133	152	13.6	25.0	16.6	24.8	51	0	86	-106	733(99%)
9	2018/08	J	105	198	152	186	14.1	25.0	18.0	25.0	52	0	106	-97	725(97%)
10	2018/09	J	99	171	143	160	14.8	25.0	19.8	25.0	48	0	91	-93	708(98%)
11	2018/10	J	106	175	155	167	14.5	26.0	19.3	25.5	43	0	83	-102	715(96%)
12	2018/11	J	104	192	153	178	13.9	26.0	17.7	25.3	49	0	91	-101	701(97%)
13	2018/冬	J	97	208	137	171	14.0	26.0	17.9	25.1	146	0	96	-120	2105(98%)
14	2018/春	J	100	179	141	158	13.7	26.0	17.1	25.0	147	0	92	-103	2152(98%)
15	2018/夏	J	99	198	139	167	13.8	25.0	17.1	25.0	155	0	106	-106	2159(98%)
16	2018/秋	J	103	192	150	168	14.4	26.0	18.9	25.2	140	0	91	-102	2124(97%)
17	2018/年	J	100	208	142	167	13.9	26.0	17.7	25.1	588	0	106	-120	8540(98%)

3-2-2

表3.2.3 2018年花蓮海域 F 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	F	100	150	134	145	14.8	25.0	20.3	25.0	32	0	98	-103	558(75%)
2	2018/01	F	93	188	127	155	14.4	25.0	18.9	25.0	51	0	96	-110	710(95%)
3	2018/02	F	94	166	140	158	12.9	26.0	14.8	20.0	48	0	115	-92	654(97%)
4	2018/03	F	99	152	138	147	12.9	25.0	14.8	18.8	54	0	89	-91	708(95%)
5	2018/04	F	100	165	143	156	12.7	25.0	13.9	16.0	53	0	79	-92	696(97%)
6	2018/05	F	109	158	138	155	12.4	13.0	13.0	13.0	31	0	78	-107	399(54%)
7	2018/06	F	96	192	139	182	12.7	25.0	13.8	15.6	53	0	100	-96	683(95%)
8	2018/07	F	96	185	139	172	13.4	25.0	15.9	22.6	52	0	92	-102	706(95%)
9	2018/08	F	95	183	132	165	13.6	25.0	16.6	24.8	54	0	97	-91	720(97%)
10	2018/09	F	105	157	142	153	12.7	25.0	13.9	16.2	51	0	88	-94	668(93%)
11	2018/10	F	97	155	139	150	12.9	24.0	14.4	18.0	57	0	79	-97	741(100%)
12	2018/11	F	99	173	143	164	12.7	25.0	13.8	16.3	49	0	89	-99	670(93%)
13	2018/冬	F	95	188	134	154	13.9	26.0	17.7	25.0	131	0	115	-110	1922(89%)
14	2018/春	F	102	165	139	153	12.7	25.0	14.0	16.6	138	0	89	-107	1803(82%)
15	2018/夏	F	96	192	136	173	13.2	25.0	15.4	21.2	159	0	100	-102	2109(96%)
16	2018/秋	F	100	173	141	155	12.8	25.0	14.1	16.7	157	0	89	-99	2079(95%)
17	2018/年	F	98	192	139	159	13.1	26.0	15.2	20.2	585	0	115	-110	7913(90%)

3-2-3

表3.2.4 2018年花蓮海域 X 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	X	100	206	151	189	12.4	14.0	13.4	14.0	59	0	103	-105	744(100%)
2	2018/01	X	95	195	148	187	12.4	14.0	13.3	14.0	59	0	96	-111	744(100%)
3	2018/02	X	95	165	134	154	12.4	15.0	13.3	14.0	53	0	106	-97	671(100%)
4	2018/03	X	101	178	144	162	12.4	15.0	13.6	14.6	50	0	84	-99	633(85%)
5	2018/04	X													
6	2018/05	X													
7	2018/06	X													
8	2018/07	X													
9	2018/08	X	88	144	124	140	12.4	15.0	13.6	14.3	31	0	70	-88	395(53%)
10	2018/09	X	104	156	140	152	13.1	25.0	15.2	20.2	54	0	95	-93	709(99%)
11	2018/10	X	97	153	137	150	12.6	25.0	13.9	16.2	58	0	82	-98	740(100%)
12	2018/11	X	97	168	140	159	12.9	25.0	14.6	18.4	51	0	88	-98	689(96%)
13	2018/冬	X													
14	2018/春	X													
15	2018/夏	X													
16	2018/秋	X													
17	2018/年	X													

3-2-4

表3.2.5 2018年花蓮海域 G 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)
1	2017/12	G													
2	2018/01	G													
3	2018/02	G													
4	2018/03	G													
5	2018/04	G													
6	2018/05	G													
7	2018/06	G													
8	2018/07	G													
9	2018/08	G													
10	2018/09	G													
11	2018/10	G	106	161	144	156	13.7	26.0	17.3	25.0	47	0	80	-96	647(87%)
12	2018/11	G													
13	2018/冬	G													
14	2018/春	G													
15	2018/夏	G													
16	2018/秋	G	106	161	144	156	13.7	26.0	17.3	25.0	47	0	80	-96	647(30%)
17	2018/年	G	106	161	144	156	13.7	26.0	17.3	25.0	47	0	80	-96	647(7%)

3-2-5

3.3 2018 年花蓮海域**主要測站 1**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Hua-Lien Seas of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

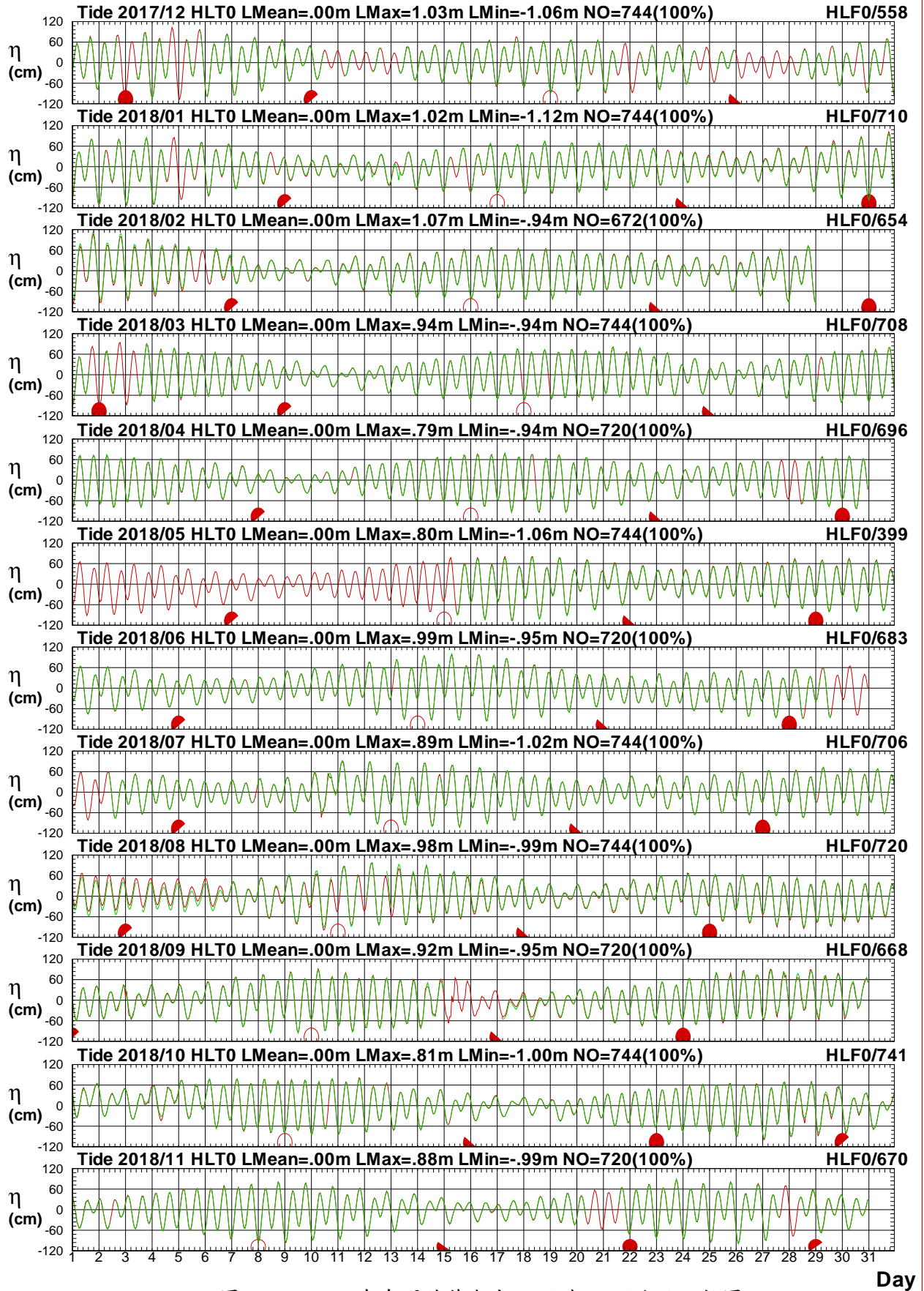


圖3.3.1 2018年每月花蓮海域 T 站與 F 站潮位比較圖

T17CHLT0.1HA T17CHLF0.1H0 T181HLT0.1HA T181HLF0.1H0 T182HLT0.1HA T182HLF0.1H0
 T183HLT0.1HA T183HLF0.1H0 T184HLT0.1HA T184HLF0.1H0 T185HLT0.1HA T185HLF0.1H0

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Tidal Level in Hua-Lien Seas of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

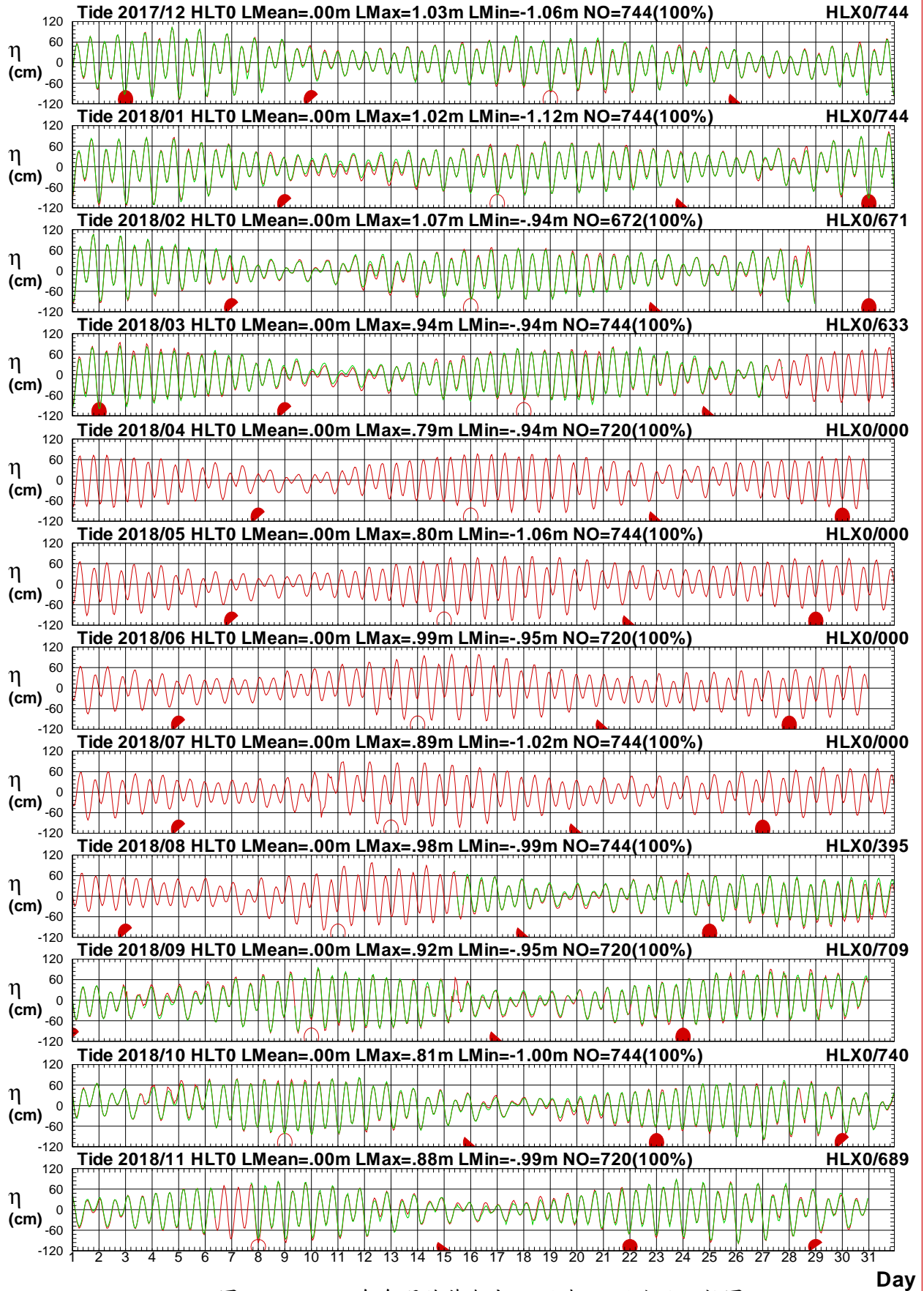


圖3.3.2 2018年每月花蓮海域 T 站與 X 站潮位比較圖

T17CHLT0.1HA T17CHLX0.1H0 T181HLT0.1HA T181HLX0.1H0 T182HLT0.1HA T182HLX0.1H0
 T183HLT0.1HA T183HLX0.1H0 T184HLT0.1HA T184HLX0.1H0 T185HLT0.1HA T185HLX0.1H0

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Tidal Level in Hua-Lien Seas of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

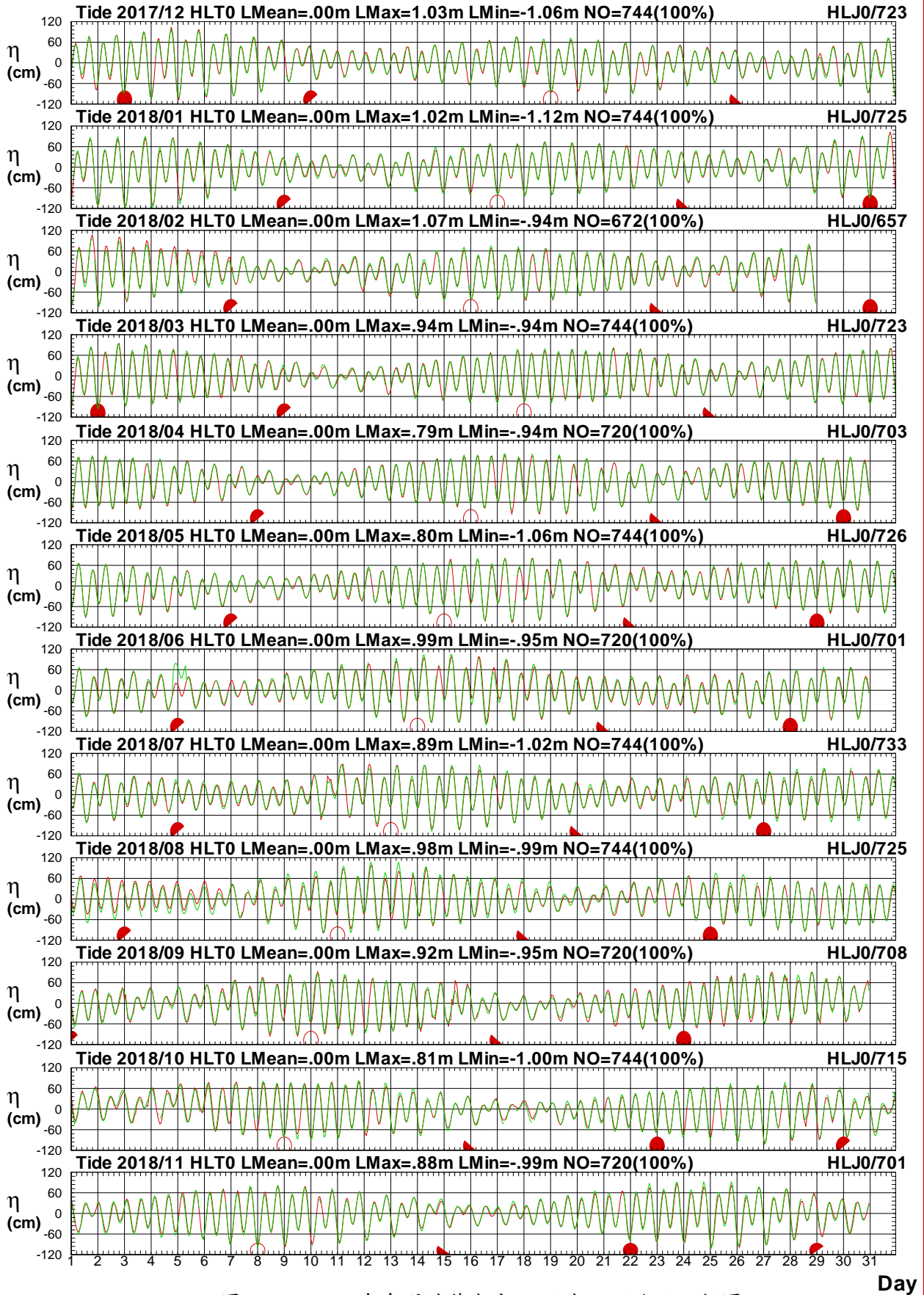


圖3.3.3 2018年每月花蓮海域 T 站與 J 站潮位比較圖

T17CHLT0.1HA T17CHLJ0.1H0 T181HLT0.1HA T181HLJ0.1H0 T182HLT0.1HA T182HLJ0.1H0
T183HLT0.1HA T183HLJ0.1H0 T184HLT0.1HA T184HLJ0.1H0 T185HLT0.1HA T185HLJ0.1H0

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Tidal Level in Hua-Lien Seas of HLT0 at 2018

1 ○ 8 ● 15 ● 22 ●

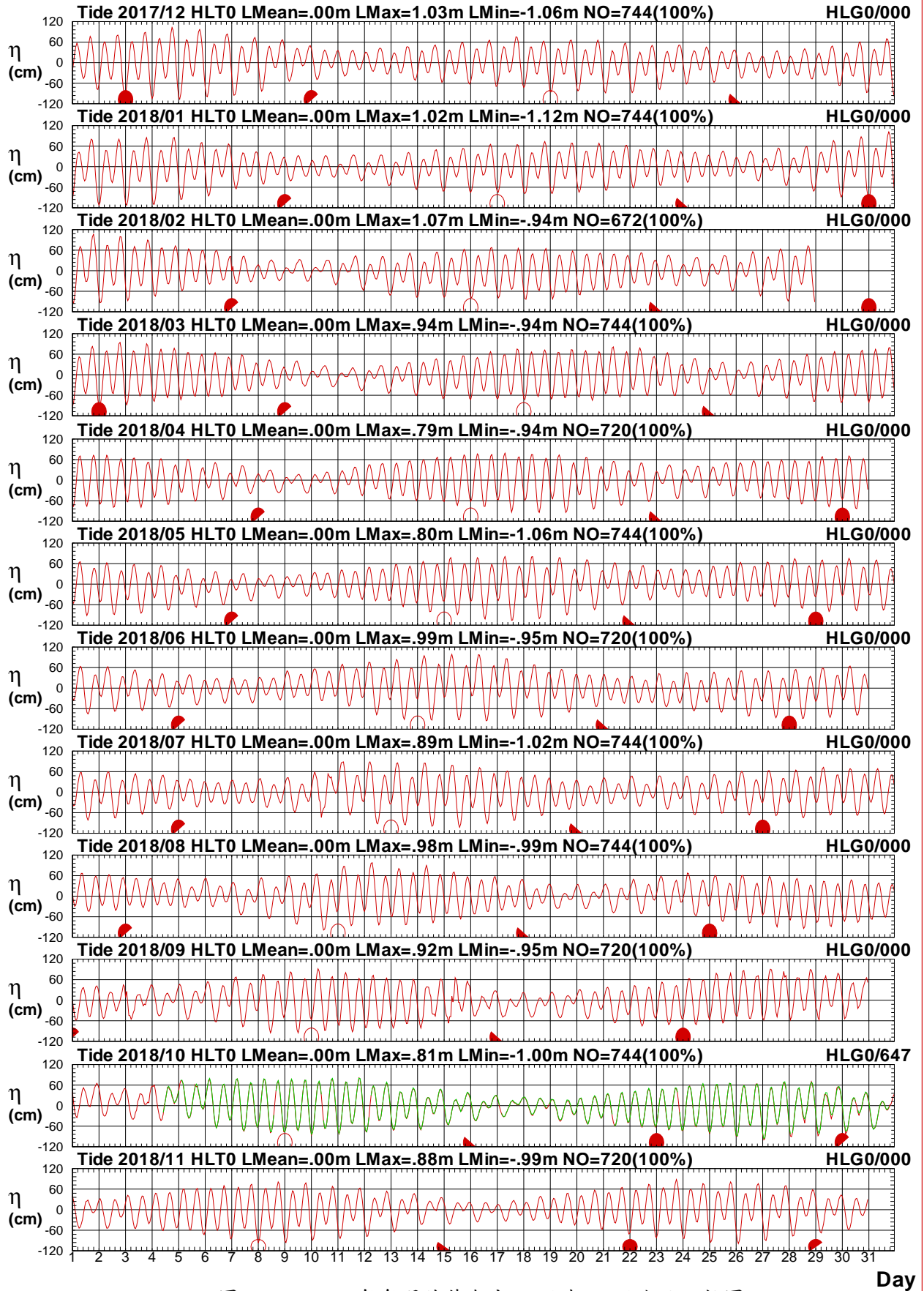


圖3.3.4 2018年每月花蓮海域 T 站與 G 站潮位比較圖

T17CHLT0.1HA T17CHLG0.1H0 T181HLT0.1HA T181HLG0.1H0 T182HLT0.1HA T182HLG0.1H0
T183HLT0.1HA T183HLG0.1H0 T184HLT0.1HA T184HLG0.1H0 T185HLT0.1HA T185HLG0.1H0

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3.4 2018 年花蓮海域**主要測站 2**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Hua-Lien Seas of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

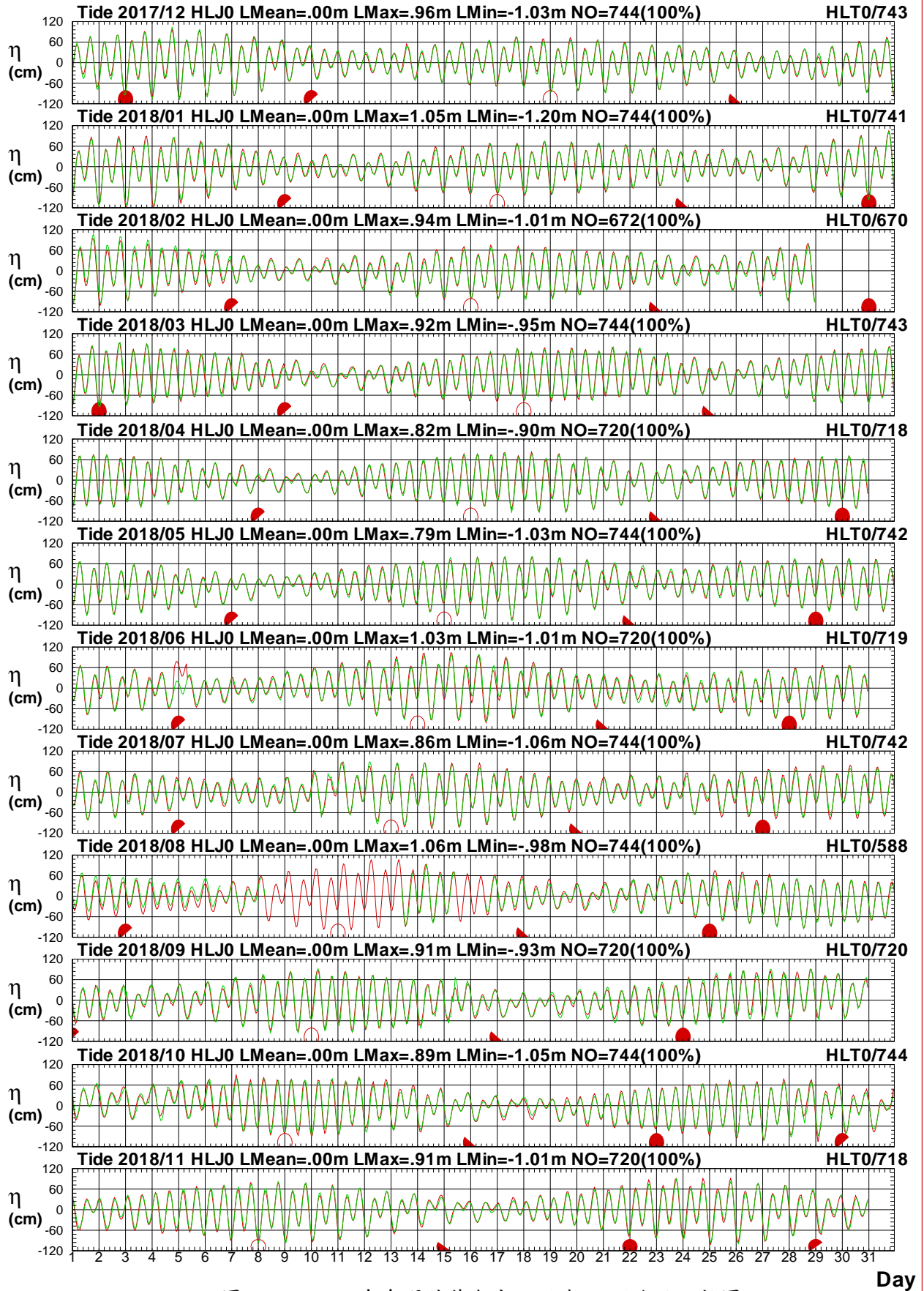


圖3.4.1 2018年每月花蓮海域J站與T站潮位比較圖

T17CHLJ0.1HA T17CHLT0.1H0 T181HLJ0.1HA T181HLT0.1H0 T182HLJ0.1HA T182HLT0.1H0
 T183HLJ0.1HA T183HLT0.1H0 T184HLJ0.1HA T184HLT0.1H0 T185HLJ0.1HA T185HLT0.1H0

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Tidal Level in Hua-Lien Seas of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

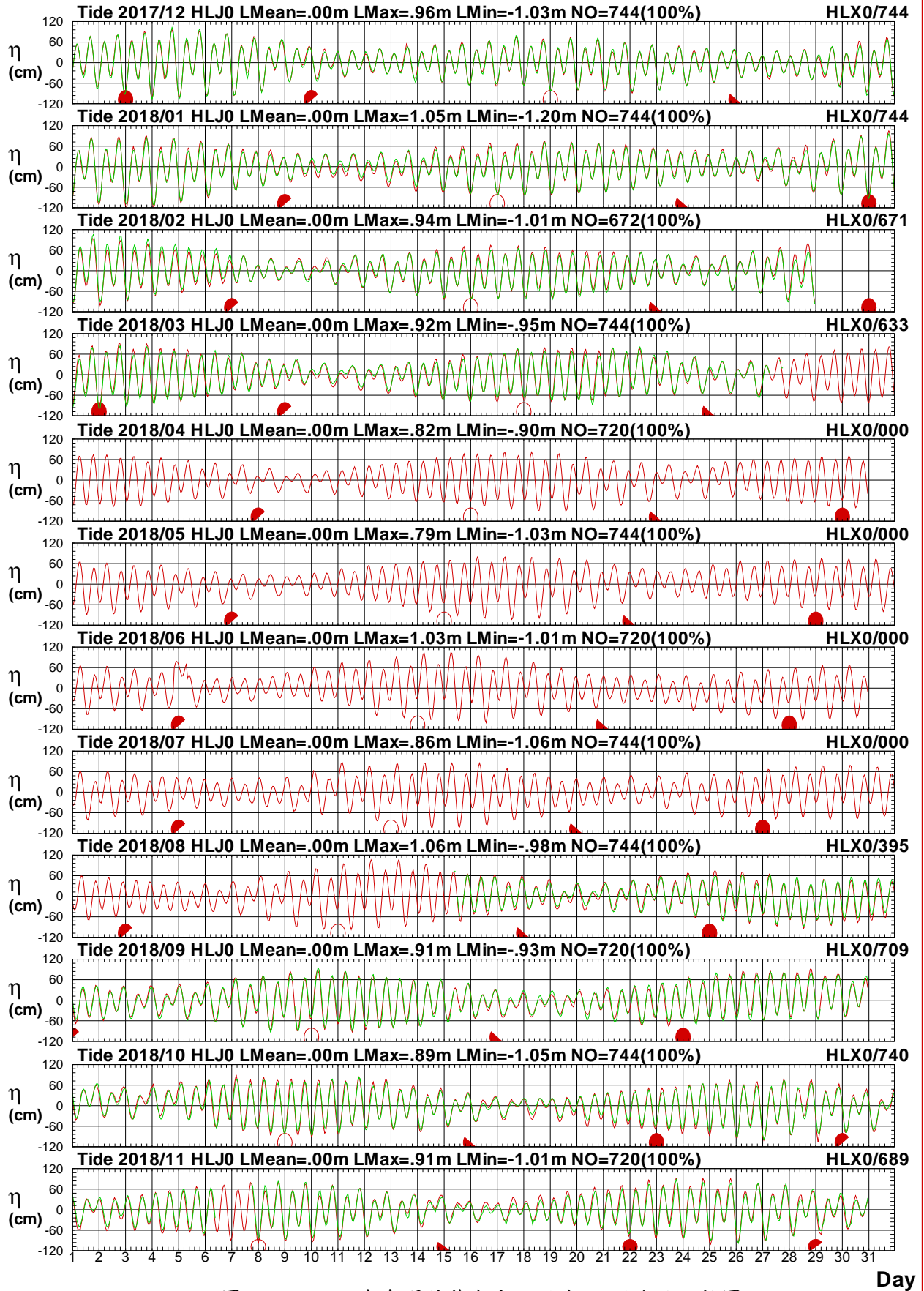


圖3.4.2 2018年每月花蓮海域J站與X站潮位比較圖

T17CHLJ0.1HA T17CHLX0.1H0 T181HLJ0.1HA T181HLX0.1H0 T182HLJ0.1HA T182HLX0.1H0
 T183HLJ0.1HA T183HLX0.1H0 T184HLJ0.1HA T184HLX0.1H0 T185HLJ0.1HA T185HLX0.1H0

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Tidal Level in Hua-Lien Seas of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

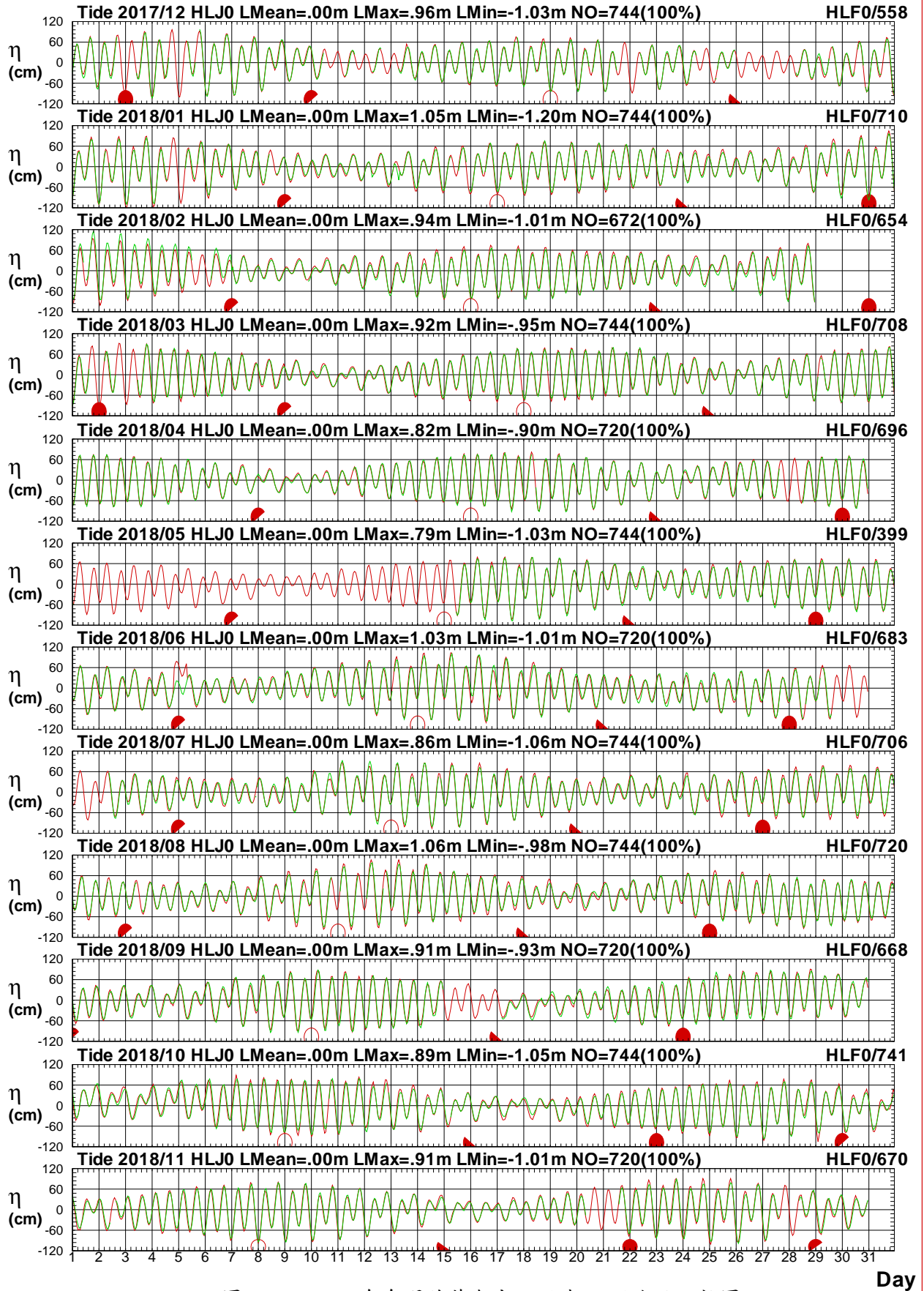


圖3.4.3 2018年每月花蓮海域 J 站與 F 站潮位比較圖

T17CHLJ0.1HA T17CHLF0.1H0 T181HLJ0.1HA T181HLF0.1H0 T182HLJ0.1HA T182HLF0.1H0
 T183HLJ0.1HA T183HLF0.1H0 T184HLJ0.1HA T184HLF0.1H0 T185HLJ0.1HA T185HLF0.1H0

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Tidal Level in Hua-Lien Seas of HLJ0 at 2018

1 ○ 8 ● 15 ● 22 ●

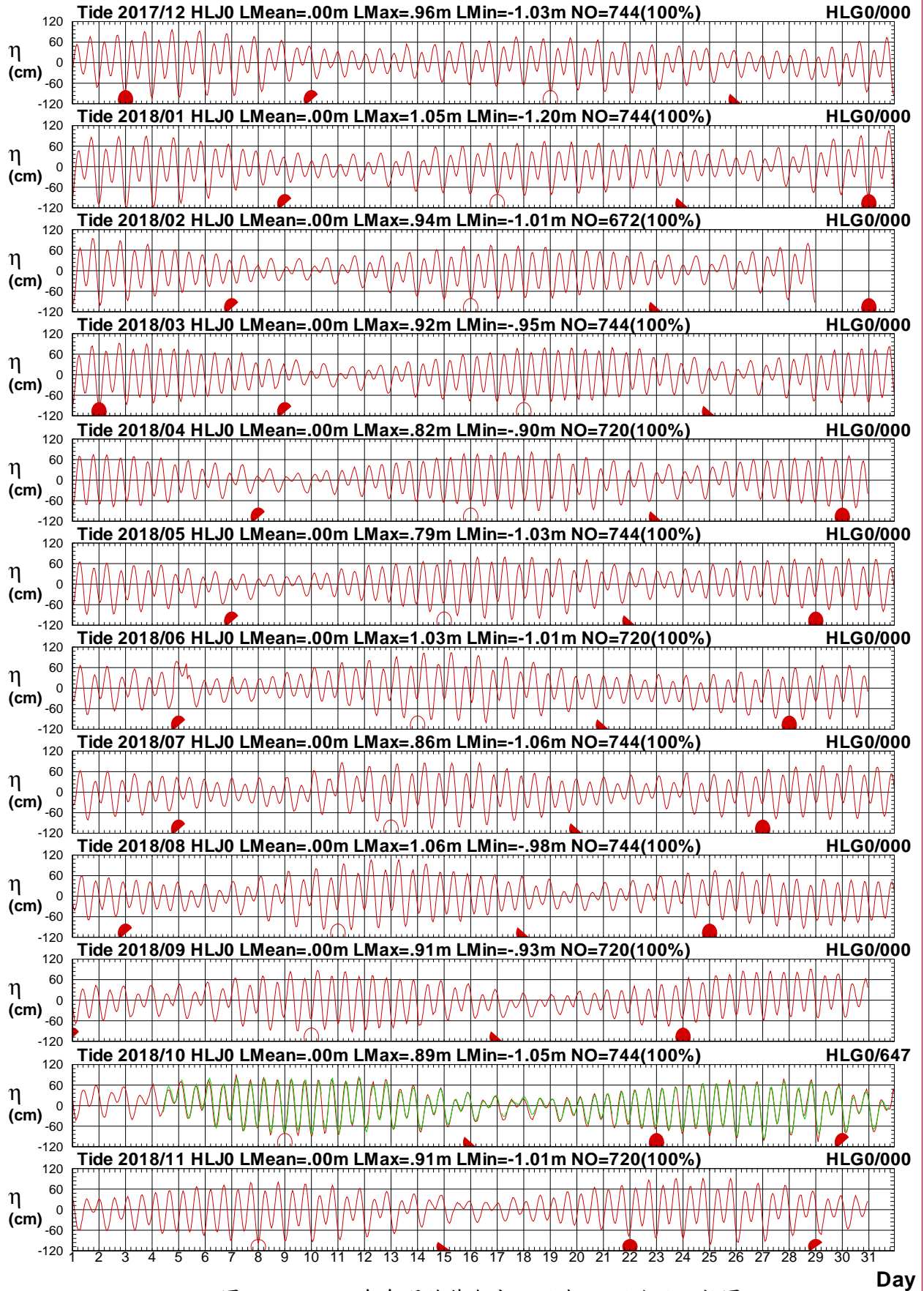


圖3.4.4 2018年每月花蓮海域 J 站與 G 站潮位比較圖

T17CHLJ0.1HA T17CHLG0.1H0 T181HLJ0.1HA T181HLG0.1H0 T182HLJ0.1HA T182HLG0.1H0
 T183HLJ0.1HA T183HLG0.1H0 T184HLJ0.1HA T184HLG0.1H0 T185HLJ0.1HA T185HLG0.1H0

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3.5 2018 年花蓮海域**主要測站 3**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Hua-Lien Seas of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

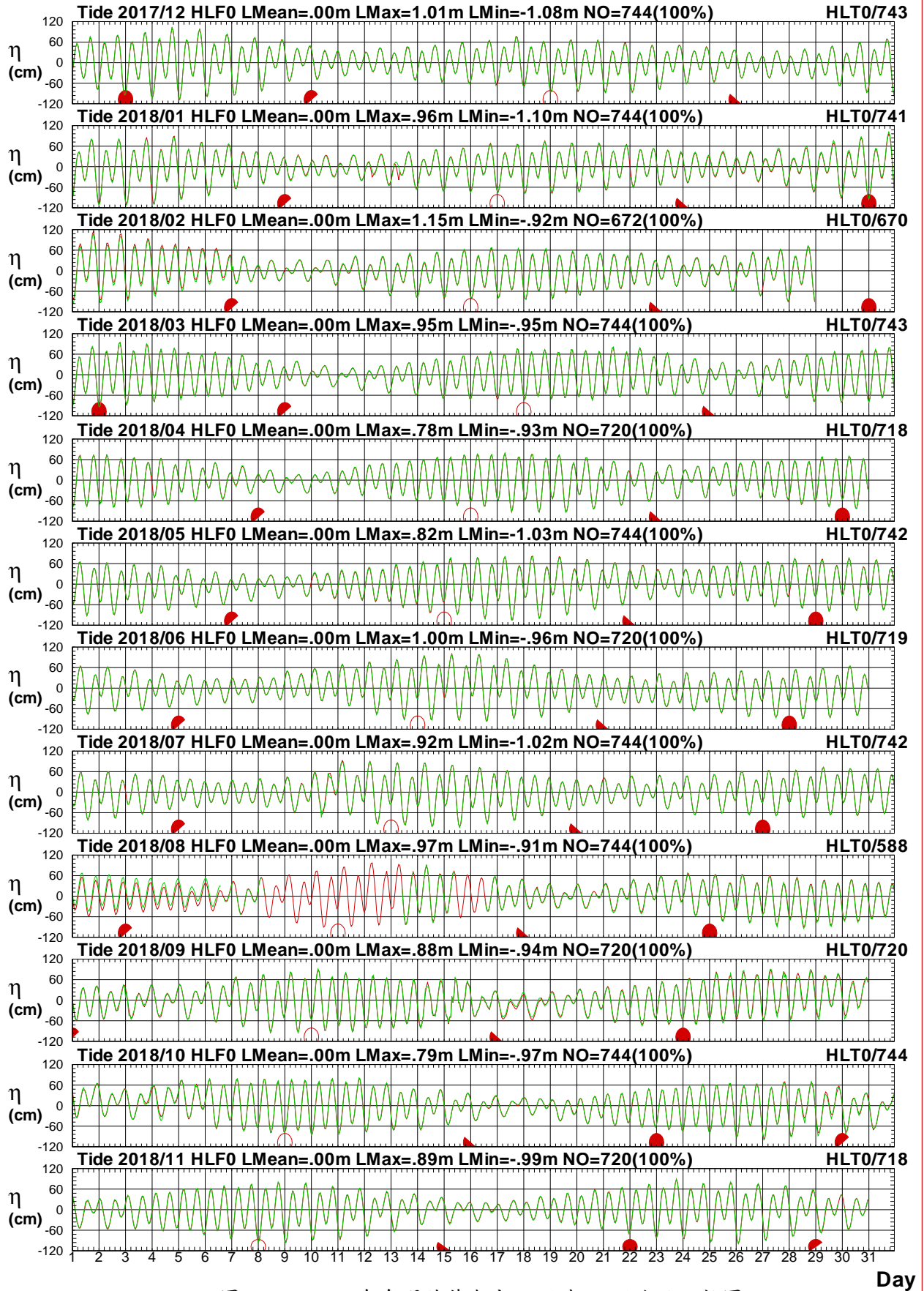


圖3.5.1 2018年每月花蓮海域 F 站與 T 站潮位比較圖

T17CHLF0.1HA T17CHLT0.1H0 T181HLF0.1HA T181HLT0.1H0 T182HLF0.1HA T182HLT0.1H0
 T183HLF0.1HA T183HLT0.1H0 T184HLF0.1HA T184HLT0.1H0 T185HLF0.1HA T185HLT0.1H0

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Tidal Level in Hua-Lien Seas of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

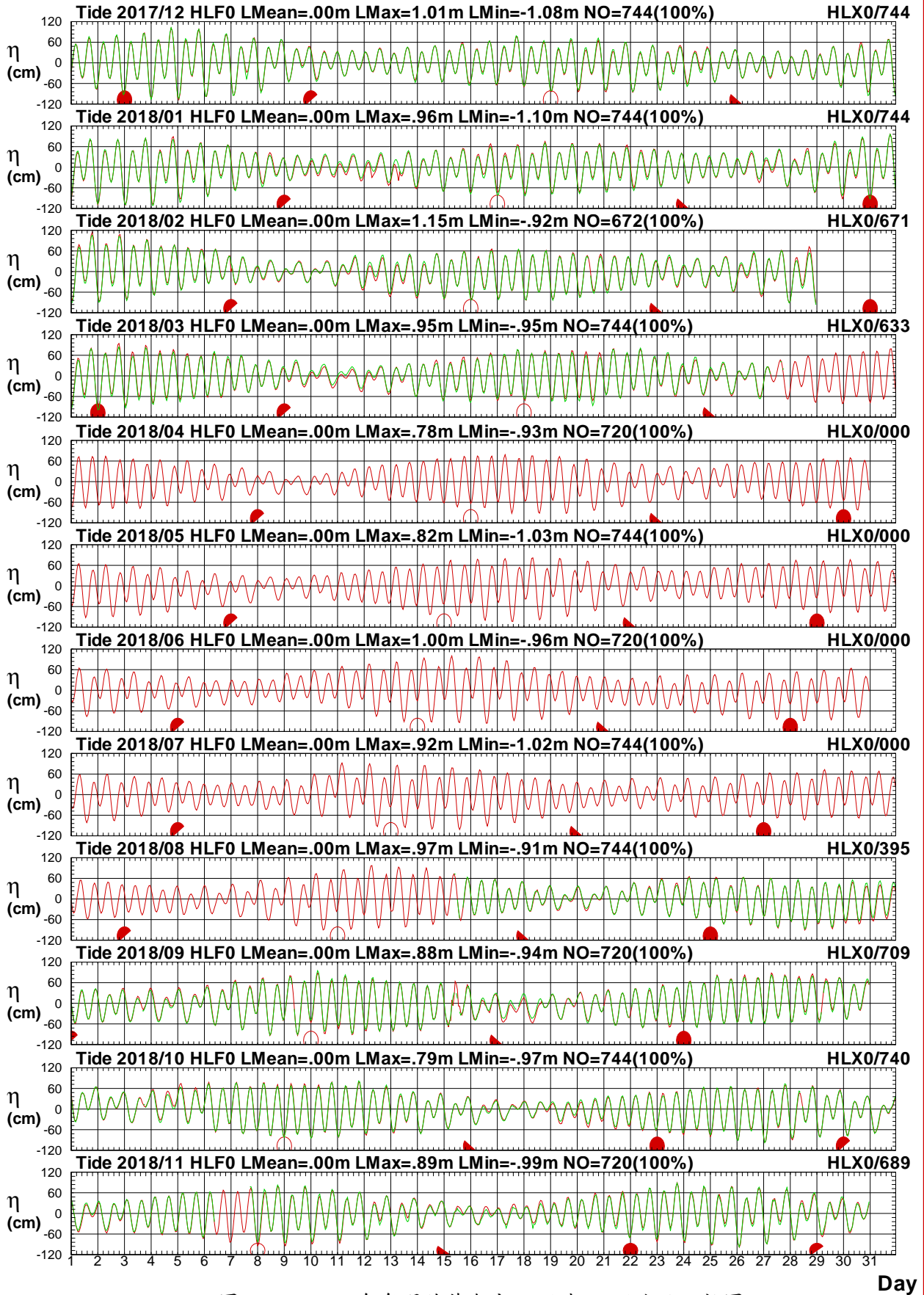


圖3.5.2 2018年每月花蓮海域 F 站與 X 站潮位比較圖

T17CHLF0.1HA T17CHLX0.1H0 T181HLF0.1HA T181HLX0.1H0 T182HLF0.1HA T182HLX0.1H0
 T183HLF0.1HA T183HLX0.1H0 T184HLF0.1HA T184HLX0.1H0 T185HLF0.1HA T185HLX0.1H0

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Tidal Level in Hua-Lien Seas of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

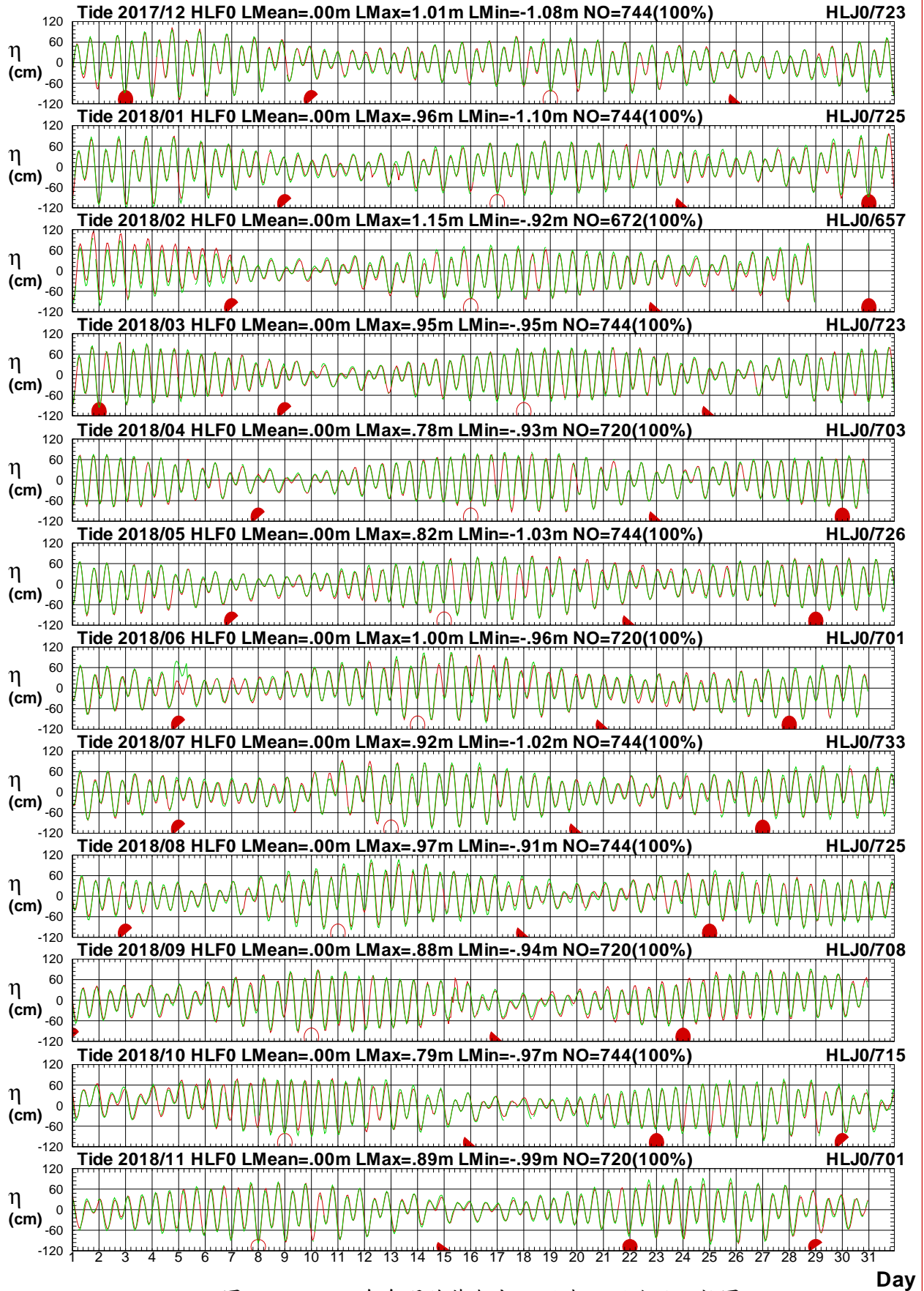


圖3.5.3 2018年每月花蓮海域 F 站與 J 站潮位比較圖

T17CHLF0.1HA T17CHLJ0.1H0 T181HLF0.1HA T181HLJ0.1H0 T182HLF0.1HA T182HLJ0.1H0
 T183HLF0.1HA T183HLJ0.1H0 T184HLF0.1HA T184HLJ0.1H0 T185HLF0.1HA T185HLJ0.1H0

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Tidal Level in Hua-Lien Seas of HLF0 at 2018

1 ○ 8 ● 15 ● 22 ●

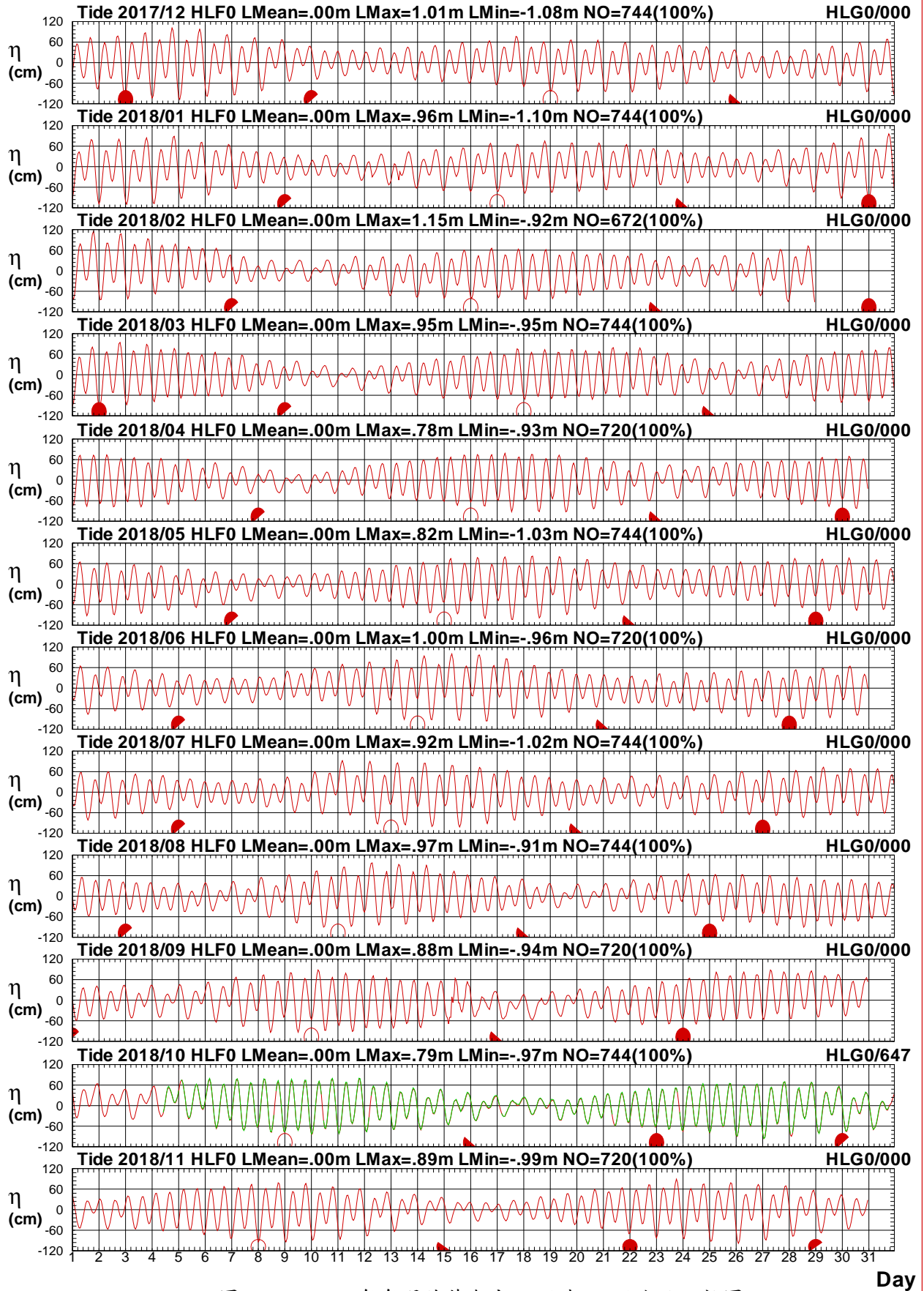


圖3.5.4 2018年每月花蓮海域 F 站與 G 站潮位比較圖

T17CHLF0.1HA T17CHLG0.1H0 T181HLF0.1HA T181HLG0.1H0 T182HLF0.1HA T182HLG0.1H0
 T183HLF0.1HA T183HLG0.1H0 T184HLF0.1HA T184HLG0.1H0 T185HLF0.1HA T185HLG0.1H0

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第四章 2018 年花蓮海域觀測海流資料年報

花蓮海域海流之觀測僅測站 X 1 個測站(測站位置如第 O 章圖 CL1)。

本年報利用調和分析方法觀測海流可分解為：

(1)計算潮流(包括平均流)。

(2)計算殘(餘)流(或稱非潮流)。

4.1 2018 年花蓮海域觀測海流資料年報圖表

本章第 1 節風力年報資料處理之統計表包括：

1. 表 1.1.1a 2018 年各觀測站每月觀測海流資料記錄表。
2. 表 1.1.1b 2018 年各觀測站每月計算潮流資料記錄表。

本章第 2 節海流年報資料處理之統計表包括：

1. 2018 年各觀測站每月觀測流速及流向重要統計量統計表。
2. 2018 年各觀測站每月計算潮流流速及流向重要統計量統計表。
3. 2018 年各觀測站每月計算殘(餘)流流速及流向重要統計量統計表。

本章第 3 節海流年報資料處理之統計圖包括：

1. 2018 年各觀測站之觀測海流與計算潮流歷線比較圖。
2. 2018 年各觀測站之觀測海流與計算殘(餘)流歷線比較圖。

本章第 4 節海流年報資料處理之統計圖包括:2018 年各觀測站之觀測海流、計算潮流及計算殘流等 3 個向量分佈圖。

本章第 5 節海流年報資料處理之統計圖包括:2018 年各觀測站之觀測海流、計算潮流及計算殘流等 3 個向量行進圖。

表4.1.1a 2018年每月花蓮海域各測站觀測海流資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	X											
2017/12月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 2月	671(99.9%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 3月	633(85.1%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 4月	*	*	*	*	*	*	*	*	*	*	*	*
2018/ 5月	*	*	*	*	*	*	*	*	*	*	*	*
2018/ 6月	*	*	*	*	*	*	*	*	*	*	*	*
2018/ 7月	*	*	*	*	*	*	*	*	*	*	*	*
2018/ 8月	395(53.1%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 9月	709(98.5%)	*	*	*	*	*	*	*	*	*	*	*
2018/10月	740(99.5%)	*	*	*	*	*	*	*	*	*	*	*
2018/11月	720(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/冬季	2159(99.9%)	*	*	*	*	*	*	*	*	*	*	*
2018/春季	633(28.7%)	*	*	*	*	*	*	*	*	*	*	*
2018/夏季	395(17.9%)	*	*	*	*	*	*	*	*	*	*	*
2018/秋季	2169(99.3%)	*	*	*	*	*	*	*	*	*	*	*
2018/整年	5356(61.1%)	*	*	*	*	*	*	*	*	*	*	*
起始年月	2017/12	*	*	*	*	*	*	*	*	*	*	*
結束年月	2018/11	*	*	*	*	*	*	*	*	*	*	*

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表4.1.1b 2018年每月花蓮海域計算潮流各測站資料紀錄表

海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域	花蓮海域
年月/測站	X											
2017/12月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 1月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 2月	672(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 3月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 4月	720(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 5月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 6月	720(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 7月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 8月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/ 9月	720(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/10月	744(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/11月	720(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/冬季	2160(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/春季	2208(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/夏季	2208(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/秋季	2184(100%)	*	*	*	*	*	*	*	*	*	*	*
2018/整年	8760(100%)	*	*	*	*	*	*	*	*	*	*	*
起始年月	2017/12	*	*	*	*	*	*	*	*	*	*	*
結束年月	2018/11	*	*	*	*	*	*	*	*	*	*	*

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4.2 2018 年花蓮海域各測站觀測海流與 計算潮流(殘流)統計量統計表

表 4.2.1a 2018 年花蓮海域 X 站觀測流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2017/12	744(100%)	11.9	4.1/SW	54.4/WSW	91.4	8.3	.3	.0	22.8	17.5	46.8	12.9	SW /15.6%
2	2018/01	744(100%)	15.3	7.2/WSW	55.6/SW	85.1	14.2	.7	.0	20.2	13.2	51.6	15.1	SW /16.7%
3	2018/02	671(100%)	15.4	5.4/WSW	61.4/WSW	85.2	13.9	.9	.0	26.5	7.5	44.0	22.1	SW /13.7%
4	2018/03	633(85%)	15.3	1.1/WSW	77.6/SW	85.2	13.7	1.1	.0	35.5	16.6	31.3	16.6	NE /12.8%
5	2018/04													
6	2018/05													
7	2018/06													
8	2018/07													
9	2018/08	395(53%)	13.6	5.5/N	41.5/SSW	92.9	7.1	.0	.0	41.5	10.4	17.0	31.1	N /12.9%
10	2018/09	709(99%)	16.8	3.6/SSE	81.1/WSW	83.9	14.7	1.4	.0	26.1	32.9	23.0	18.1	SE / 8.9%
11	2018/10	740(100%)	16.9	7.7/SSW	58.9/SW	82.3	17.6	.1	.0	21.8	16.5	53.5	8.2	SW /24.2%
12	2018/11	720(100%)	24.2	6.5/S	311.7/SSE	81.8	12.5	1.4	4.3	26.5	27.6	36.7	9.2	SW /12.1%
13	2018/冬	2159(100%)	14.1	5.3/WSW	61.4/WSW	87.3	12.1	.6	.0	23.1	12.9	47.6	16.5	SW /15.4%
14	2018/春	633(29%)	15.3	1.1/WSW	77.6/SW	85.2	13.7	1.1	.0	35.5	16.6	31.3	16.6	NE /12.8%
15	2018/夏	395(18%)	13.6	5.5/N	41.5/SSW	92.9	7.1	.0	.0	41.5	10.4	17.0	31.1	N /12.9%
16	2018/秋	2169(99%)	19.3	5.5/S	311.7/SSE	82.7	14.9	1.0	1.4	24.8	25.5	37.9	11.8	SW /14.0%
17	2018/年	5356(61%)	16.3	3.7/SW	311.7/SSE	85.6	13.1	.8	.6	26.6	18.3	39.5	15.7	SW /13.3%

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表4.2.1b 2018年花蓮海域 X 站潮流流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速	平均流	最大流	1/2節流	1節流	2節流	大流	流向	流向	流向	流向	主要流向 方向/百分比
			平均值 (cm/s)	流速/流向 (cm/s)/(來向)	流速/流向 (cm/s)/(來向)	<25.7 (%)	~51.4 (%)	~103 (%)	>103 (%)	N~E (%)	E~S (%)	S~W (%)	W~N (%)	
1	2017/12	744(100%)	5.5	3.7/SW	14.0/SW	100.0	.0	.0	.0	10.8	14.9	64.1	10.2	SW /27.4%
2	2018/01	744(100%)	5.6	3.7/SW	15.9/SW	100.0	.0	.0	.0	16.8	14.4	63.2	5.6	SW /25.9%
3	2018/02	672(100%)	5.6	3.7/SW	16.4/SW	100.0	.0	.0	.0	18.3	15.6	63.2	2.8	SW /29.3%
4	2018/03	744(100%)	5.5	3.7/SW	15.8/SW	100.0	.0	.0	.0	18.4	15.5	65.1	1.1	SW /37.2%
5	2018/04	720(100%)	5.4	3.7/SW	13.6/WSW	100.0	.0	.0	.0	10.3	19.4	65.7	4.6	SW /31.7%
6	2018/05	744(100%)	5.4	3.7/SW	11.6/SW	100.0	.0	.0	.0	7.3	20.8	61.8	10.1	SW /29.4%
7	2018/06	720(100%)	5.5	3.7/SW	13.7/SW	100.0	.0	.0	.0	9.7	17.1	62.5	10.7	SW /28.5%
8	2018/07	744(100%)	5.6	3.7/SW	15.6/SW	100.0	.0	.0	.0	14.5	15.1	63.4	7.0	SW /25.9%
9	2018/08	744(100%)	5.6	3.7/SW	16.1/SW	100.0	.0	.0	.0	17.9	16.7	62.4	3.1	SW /29.8%
10	2018/09	720(100%)	5.4	3.7/SW	16.0/SW	100.0	.0	.0	.0	16.7	17.1	65.8	.4	SW /32.8%
11	2018/10	744(100%)	5.3	3.7/SW	14.8/SW	100.0	.0	.0	.0	9.9	20.4	65.3	4.3	SW /30.9%
12	2018/11	720(100%)	5.4	3.7/SW	12.4/SW	100.0	.0	.0	.0	8.2	19.9	62.2	9.7	SW /29.0%
13	2018/冬	2160(100%)	5.6	3.7/SW	16.4/SW	100.0	.0	.0	.0	15.2	15.0	63.5	6.3	SW /27.5%
14	2018/春	2208(100%)	5.4	3.7/SW	15.8/SW	100.0	.0	.0	.0	12.0	18.6	64.2	5.3	SW /32.8%
15	2018/夏	2208(100%)	5.6	3.7/SW	16.1/SW	100.0	.0	.0	.0	14.1	16.3	62.8	6.9	SW /28.1%
16	2018/秋	2184(100%)	5.4	3.7/SW	16.0/SW	100.0	.0	.0	.0	11.6	19.1	64.5	4.8	SW /30.9%
17	2018/年	8760(100%)	5.5	3.7/SW	16.4/SW	100.0	.0	.0	.0	13.2	17.2	63.7	5.8	SW /29.8%

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表4.2.1c 2018年花蓮海域 X 站殘流流速及流向重要統計量統計表

序號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2017/12	744(100%)	12.2	.4/SSW	50.5/SW	92.2	7.8	.0	.0	39.9	15.7	33.1	11.3	ENE/14.0%
2	2018/01	744(100%)	13.4	3.9/W	54.0/ENE	90.1	9.5	.4	.0	25.4	15.3	37.8	21.5	SW /13.6%
3	2018/02	671(100%)	14.3	3.5/WNW	63.7/SW	89.1	10.4	.4	.0	32.5	7.5	32.3	27.7	NE /13.0%
4	2018/03	633(85%)	14.9	2.9/NNE	69.3/SW	85.9	13.4	.6	.0	45.3	13.7	22.1	18.8	NE /14.7%
5	2018/04													
6	2018/05													
7	2018/06													
8	2018/07													
9	2018/08	395(53%)	15.0	8.5/N	39.6/N	89.9	10.1	.0	.0	48.1	8.4	11.1	32.4	N /15.4%
10	2018/09	709(99%)	17.7	4.0/E	82.3/WSW	80.7	17.8	1.6	.0	32.3	30.9	16.9	19.9	NE /12.1%
11	2018/10	740(100%)	16.4	4.1/SSW	52.9/SW	86.2	13.6	.1	.0	27.8	16.6	46.1	9.5	SW /19.3%
12	2018/11	720(100%)	23.6	4.5/SE	311.9/SSE	82.2	12.6	.8	4.3	33.5	24.4	28.2	13.9	ENE/14.2%
13	2018/冬	2159(100%)	13.3	2.3/W	63.7/SW	90.5	9.2	.3	.0	32.6	13.0	34.5	19.9	SW /11.6%
14	2018/春	633(29%)	14.9	2.9/NNE	69.3/SW	85.9	13.4	.6	.0	45.3	13.7	22.1	18.8	NE /14.7%
15	2018/夏	395(18%)	15.0	8.5/N	39.6/N	89.9	10.1	.0	.0	48.1	8.4	11.1	32.4	N /15.4%
16	2018/秋	2169(99%)	19.2	3.0/SSE	311.9/SSE	83.1	14.7	.8	1.4	31.2	23.9	30.6	14.3	SW /11.0%
17	2018/年	5356(61%)	16.0	.0/SSE	311.9/SSE	86.9	12.0	.5	.6	34.7	17.2	29.7	18.4	NE /11.3%

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4.3 2018 年花蓮海域各測站觀測海流與 計算潮流(殘流)歷線比較圖

Current Speed in Hua-Lien Harbor of HLX0 at 2018

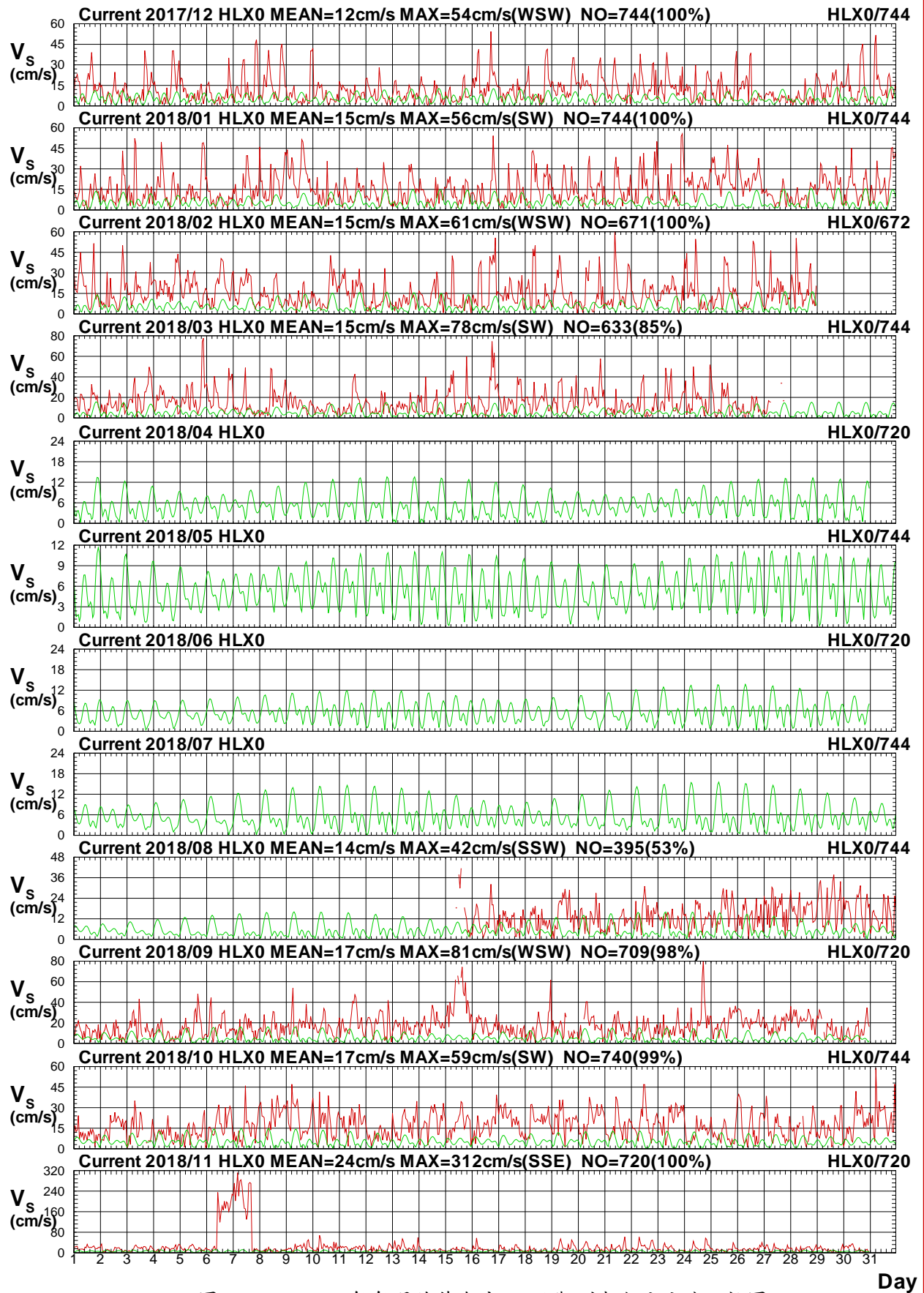


圖4.3.1a 2018年每月花蓮海域 X 站觀測與潮流流速比較圖

C17CHLX0.1H0 C17CHLX0.1HD C181HLX0.1H0 C181HLX0.1HD C182HLX0.1H0 C182HLX0.1HD
 C183HLX0.1H0 C183HLX0.1HD C184HLX0.1H0 C184HLX0.1HD C185HLX0.1H0 C185HLX0.1HD

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Current Direction in Hua-Lien Harbor of HLX0 at 2018

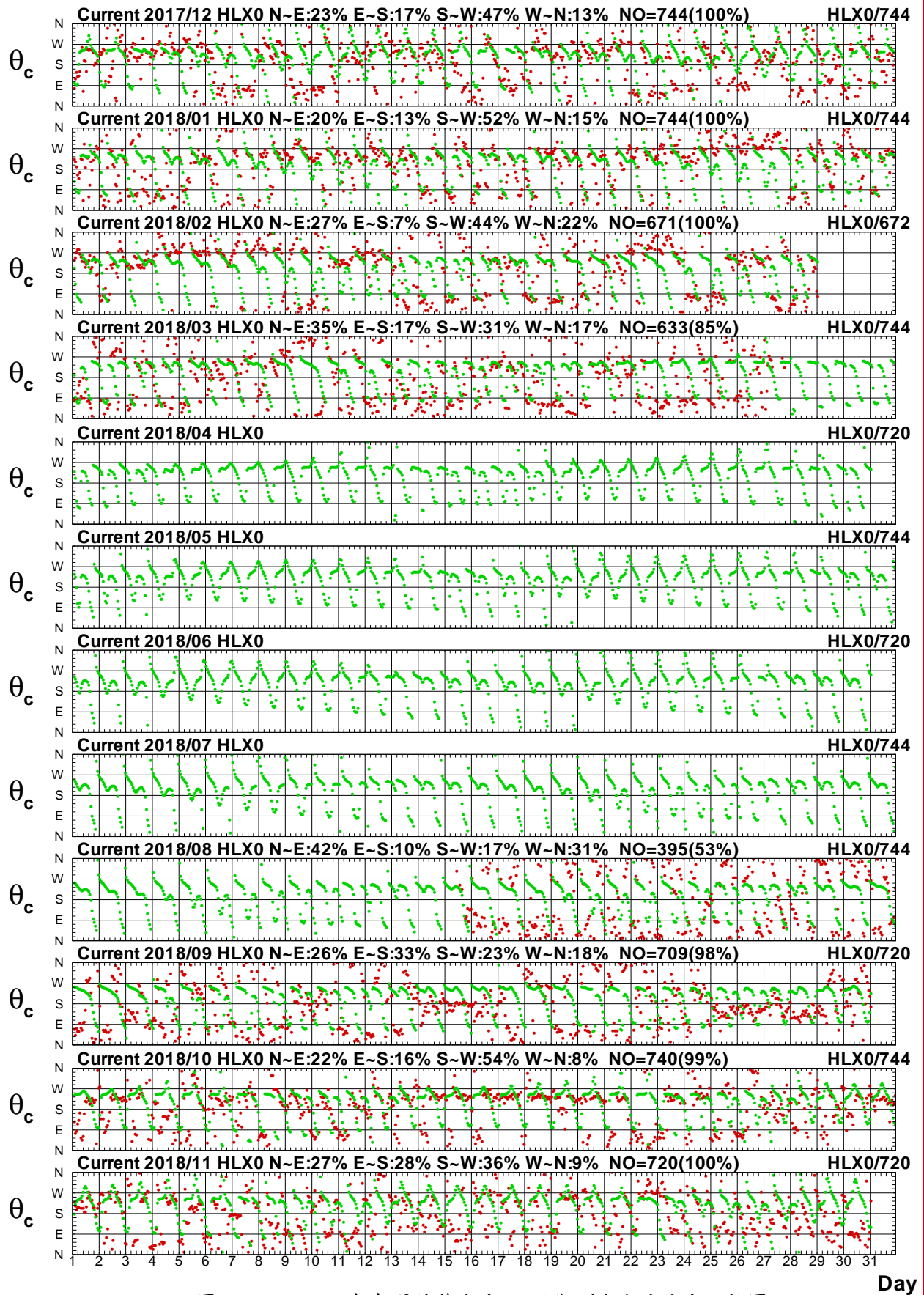


圖4.3.1b 2018年每月花蓮海域 X 站觀測與潮流流向比較圖

C17CHLX0.1HD C17CHLX0.1HD C181HLX0.1HD C181HLX0.1HD C182HLX0.1HD C182HLX0.1HD
 C183HLX0.1HD C183HLX0.1HD C184HLX0.1HD C184HLX0.1HD C185HLX0.1HD C185HLX0.1HD

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Current Speed in Hua-Lien Harbor of HLX0 at 2018

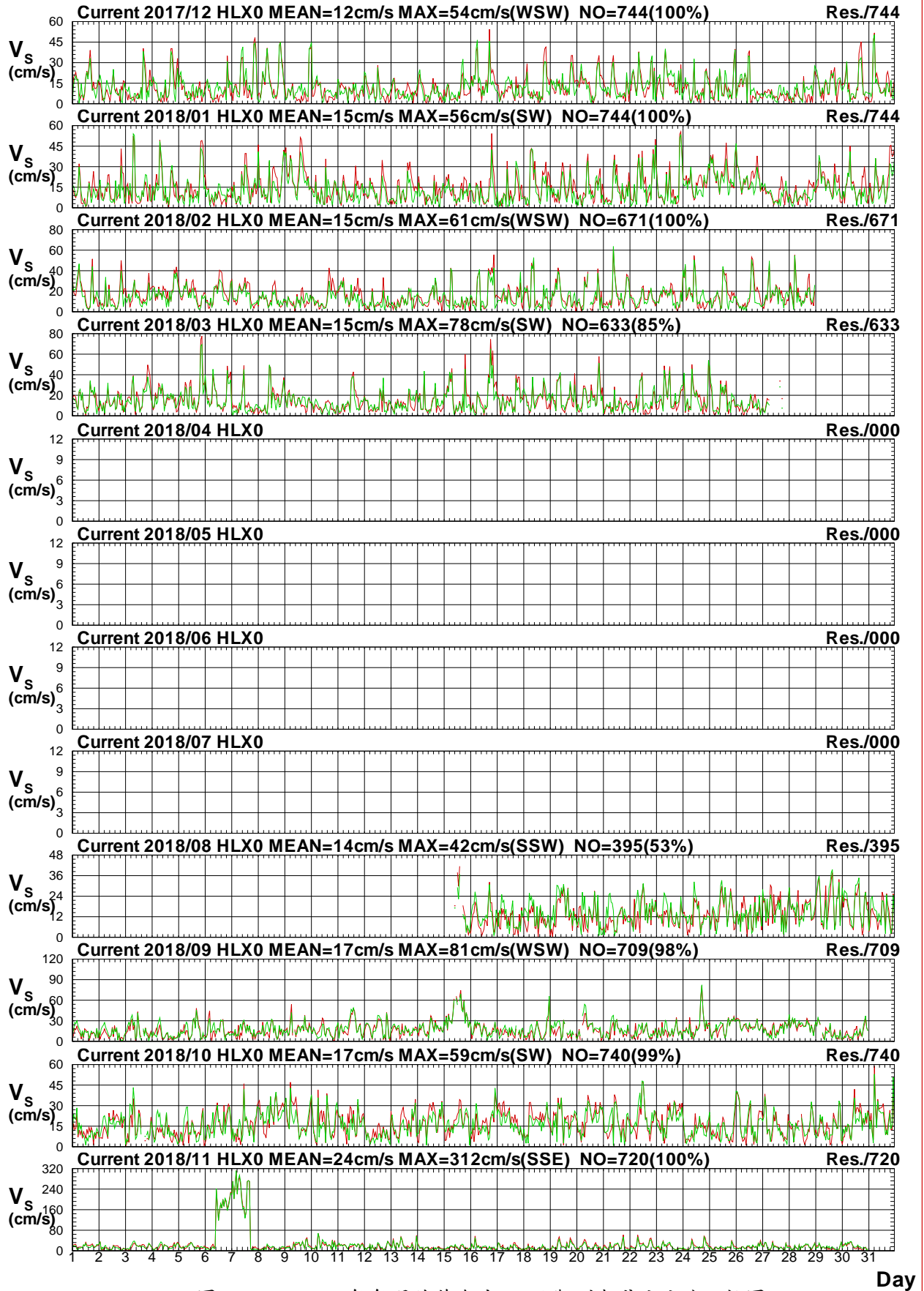


圖4.3.2a 2018年每月花蓮海域 X 站觀測與殘流流速比較圖

C17CHLX0.1H0 C17CHLX0.1HR C181HLX0.1H0 C181HLX0.1HR C182HLX0.1H0 C182HLX0.1HR
 C183HLX0.1H0 C183HLX0.1HR C184HLX0.1H0 C184HLX0.1HR C185HLX0.1H0 C185HLX0.1HR

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Current Direction in Hua-Lien Harbor of HLX0 at 2018

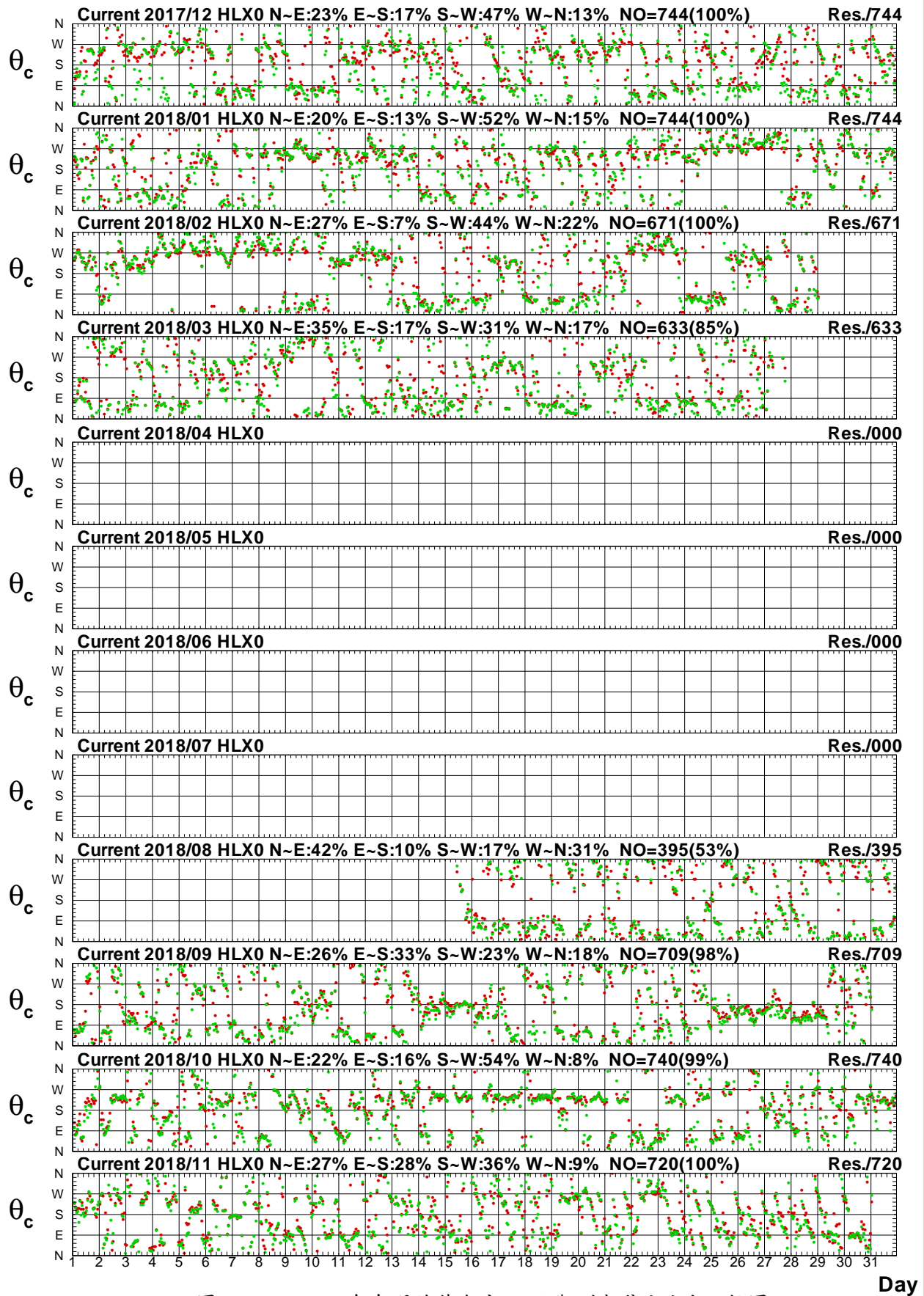


圖4.3.2b 2018年每月花蓮海域 X 站觀測與殘流流向比較圖

C17CHLX0.1H0 C17CHLX0.1HR C181HLX0.1H0 C181HLX0.1HR C182HLX0.1H0 C182HLX0.1HR
 C183HLX0.1H0 C183HLX0.1HR C184HLX0.1H0 C184HLX0.1HR C185HLX0.1H0 C185HLX0.1HR

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4.4 2018 年花蓮海域各測站觀測海流與 計算潮流(殘流)向量分佈圖

Distribution of Current Vectors

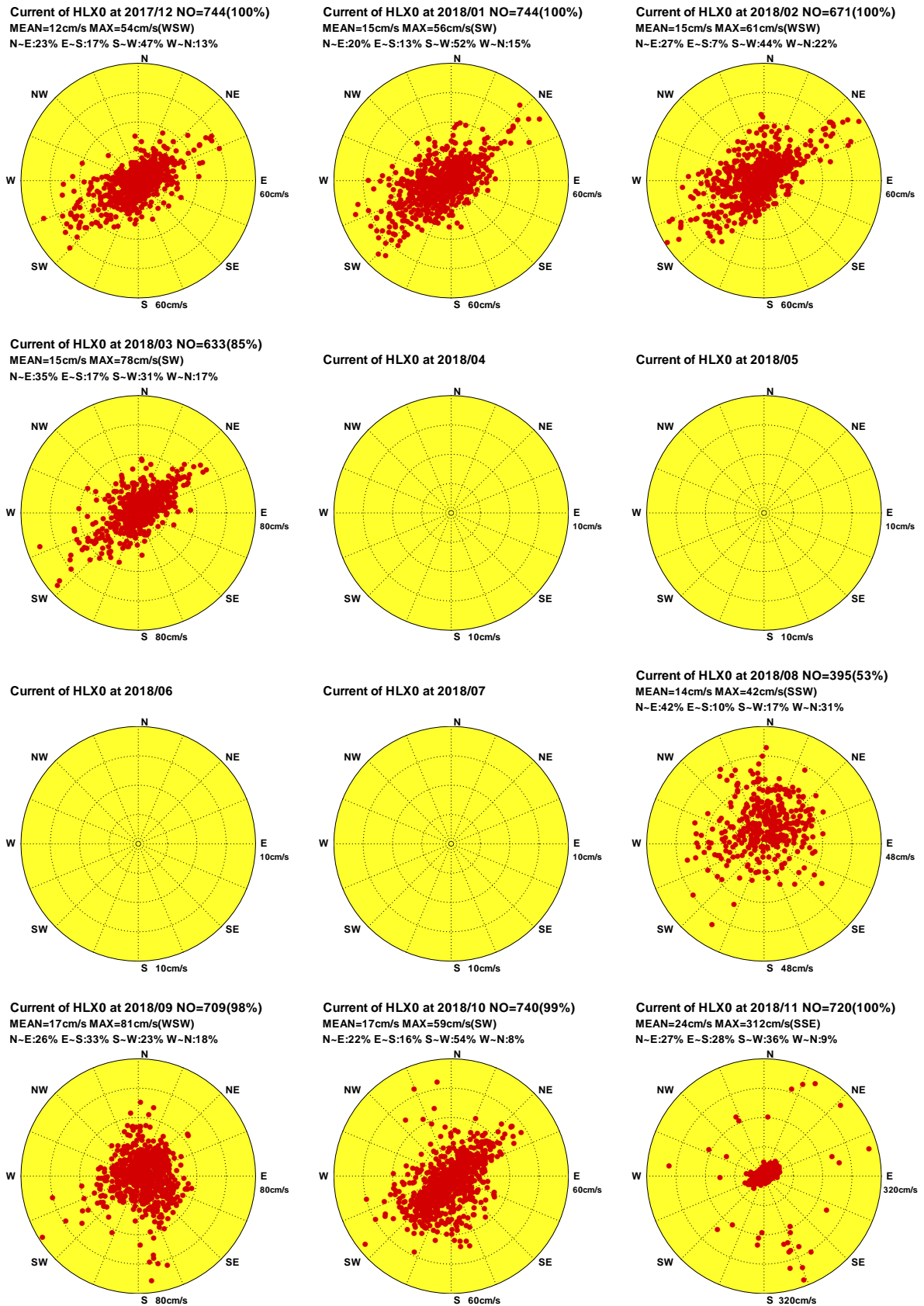


圖4.4.1a 2018年花蓮海域每月測站 X 觀測海流向量分佈圖

C17CHLX0.1H0 C181HLX0.1H0 C182HLX0.1H0 C183HLX0.1H0 C184HLX0.1H0 C185HLX0.1H0
 C186HLX0.1H0 C187HLX0.1H0 C188HLX0.1H0 C189HLX0.1H0 C18AHLX0.1H0 C18BHLX0.1H0

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Distribution of Current Vectors

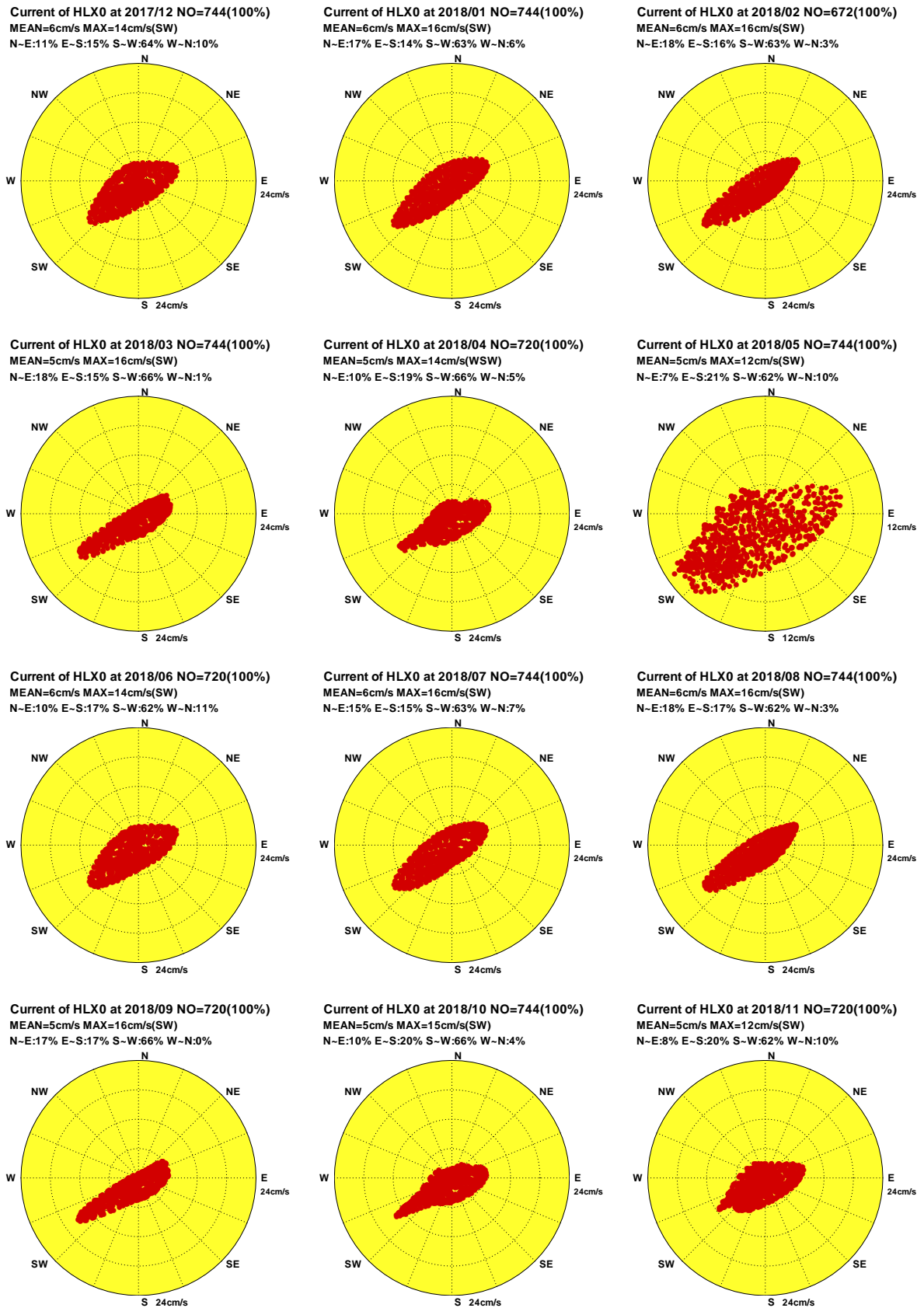


圖4.4.1b 2018年花蓮海域每月測站 X 計算潮流向量分佈圖

C17CHLX0.1HD C181HLX0.1HD C182HLX0.1HD C183HLX0.1HD C184HLX0.1HD C185HLX0.1HD
 C186HLX0.1HD C187HLX0.1HD C188HLX0.1HD C189HLX0.1HD C18AHLX0.1HD C18BHLX0.1HD

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Distribution of Current Vectors

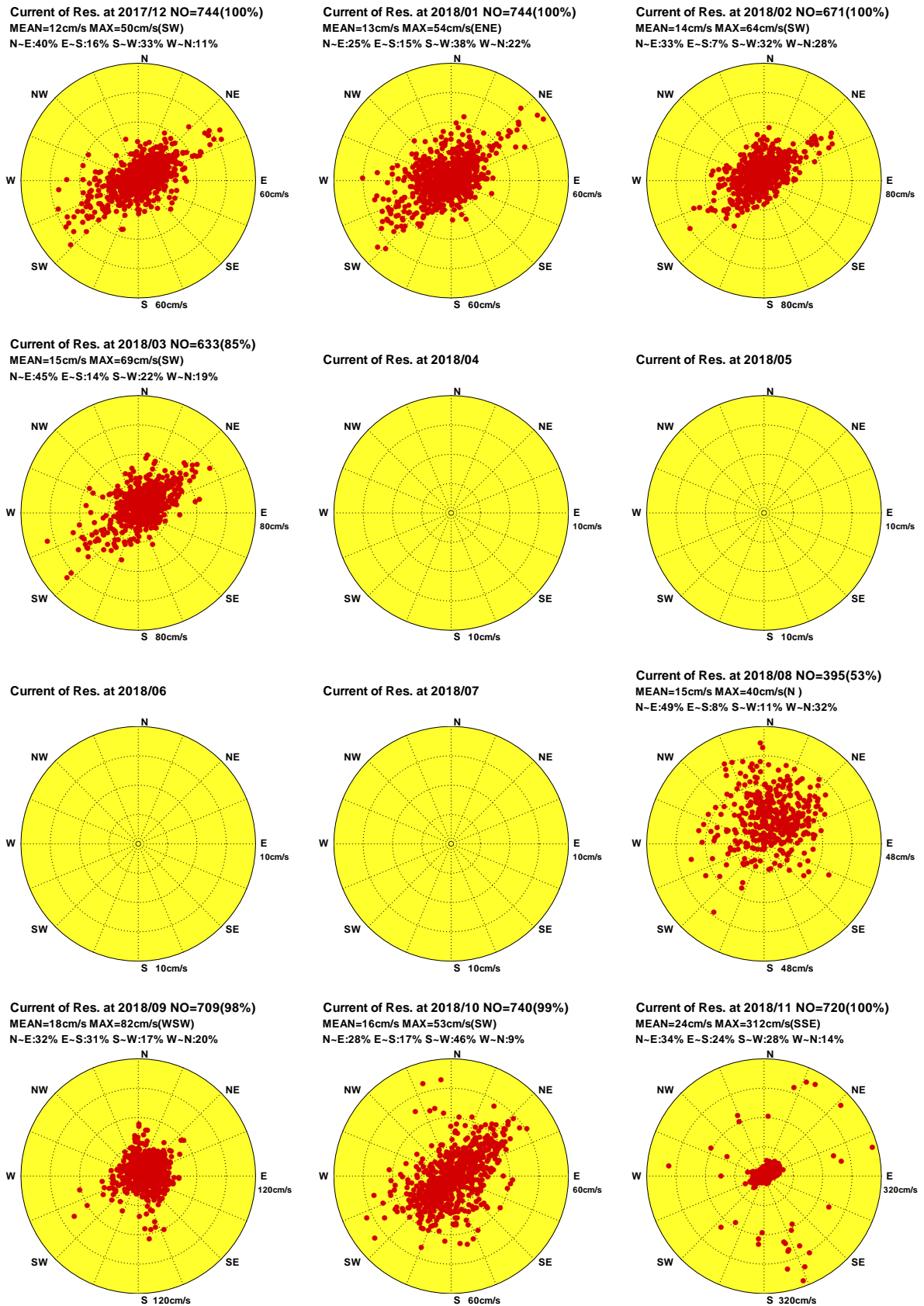


圖4.4.1c 2018年花蓮海域每月測站 X 計算殘流向量分佈圖

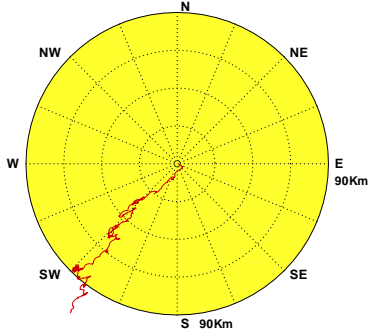
C17CHLX0.1HR C181HLX0.1HR C182HLX0.1HR C183HLX0.1HR C184HLX0.1HR C185HLX0.1HR
 C186HLX0.1HR C187HLX0.1HR C188HLX0.1HR C189HLX0.1HR C18AHLX0.1HR C18BHLX0.1HR

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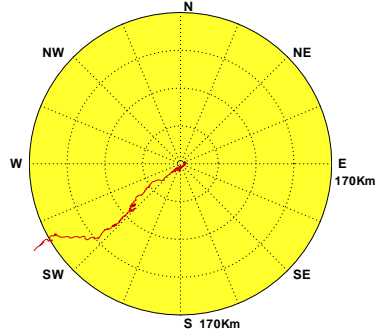
4.5 2018 年花蓮海域各測站觀測海流與 計算潮流(殘流)向量行進圖

Progressive Vector Diagram of Current

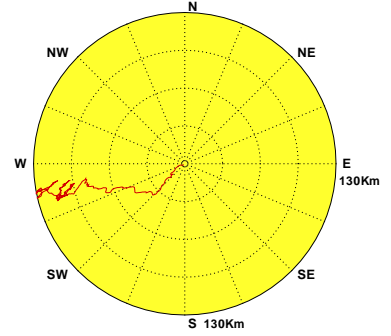
Current of HLX0 at 2017/12 NO=744(100%)
MEAN=12cm/s MAX=54cm/s(WSW)
N-E:23% E-S:17% S-W:47% W-N:13%



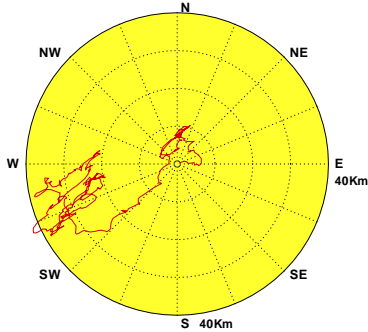
Current of HLX0 at 2018/01 NO=744(100%)
MEAN=15cm/s MAX=56cm/s(SW)
N-E:20% E-S:13% S-W:52% W-N:15%



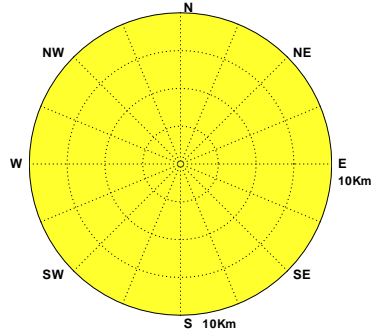
Current of HLX0 at 2018/02 NO=671(100%)
MEAN=15cm/s MAX=61cm/s(WSW)
N-E:27% E-S:7% S-W:44% W-N:22%



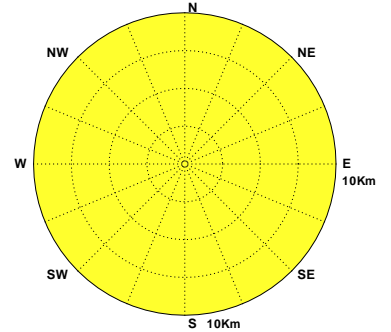
Current of HLX0 at 2018/03 NO=633(85%)
MEAN=15cm/s MAX=78cm/s(SW)
N-E:35% E-S:17% S-W:31% W-N:17%



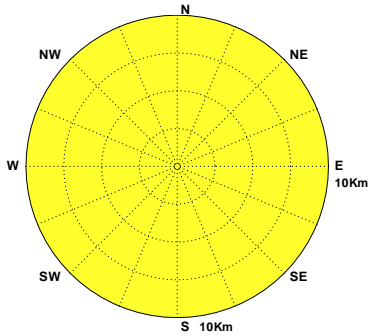
Current of HLX0 at 2018/04



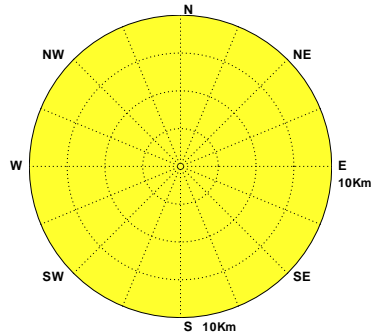
Current of HLX0 at 2018/05



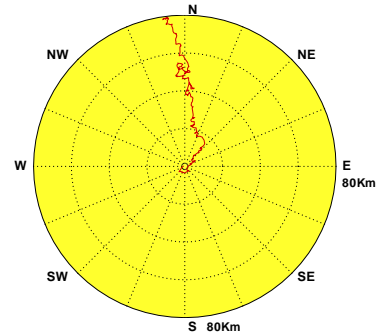
Current of HLX0 at 2018/06



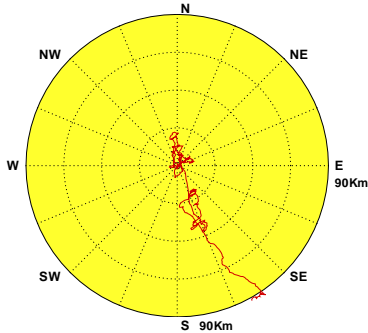
Current of HLX0 at 2018/07



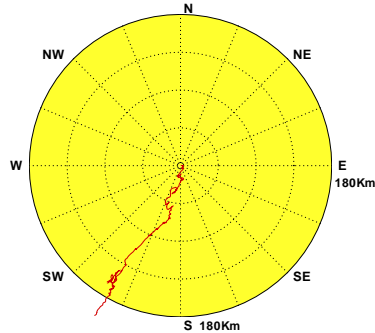
Current of HLX0 at 2018/08 NO=395(53%)
MEAN=14cm/s MAX=42cm/s(SSW)
N-E:42% E-S:10% S-W:17% W-N:31%



Current of HLX0 at 2018/09 NO=709(98%)
MEAN=17cm/s MAX=81cm/s(WSW)
N-E:26% E-S:33% S-W:23% W-N:18%



Current of HLX0 at 2018/10 NO=740(99%)
MEAN=17cm/s MAX=59cm/s(SW)
N-E:22% E-S:16% S-W:54% W-N:8%



Current of HLX0 at 2018/11 NO=720(100%)
MEAN=24cm/s MAX=312cm/s(SSE)
N-E:27% E-S:28% S-W:36% W-N:9%

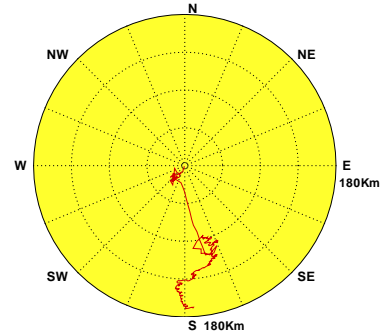


圖4.5.1a 2018年花蓮海域每月測站 X 觀測海流向量行進圖

C17CHLX0.1H0 C181HLX0.1H0 C182HLX0.1H0 C183HLX0.1H0 C184HLX0.1H0 C185HLX0.1H0
C186HLX0.1H0 C187HLX0.1H0 C188HLX0.1H0 C189HLX0.1H0 C18AHLX0.1H0 C18BHLX0.1H0

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Progressive Vector Diagram of Current

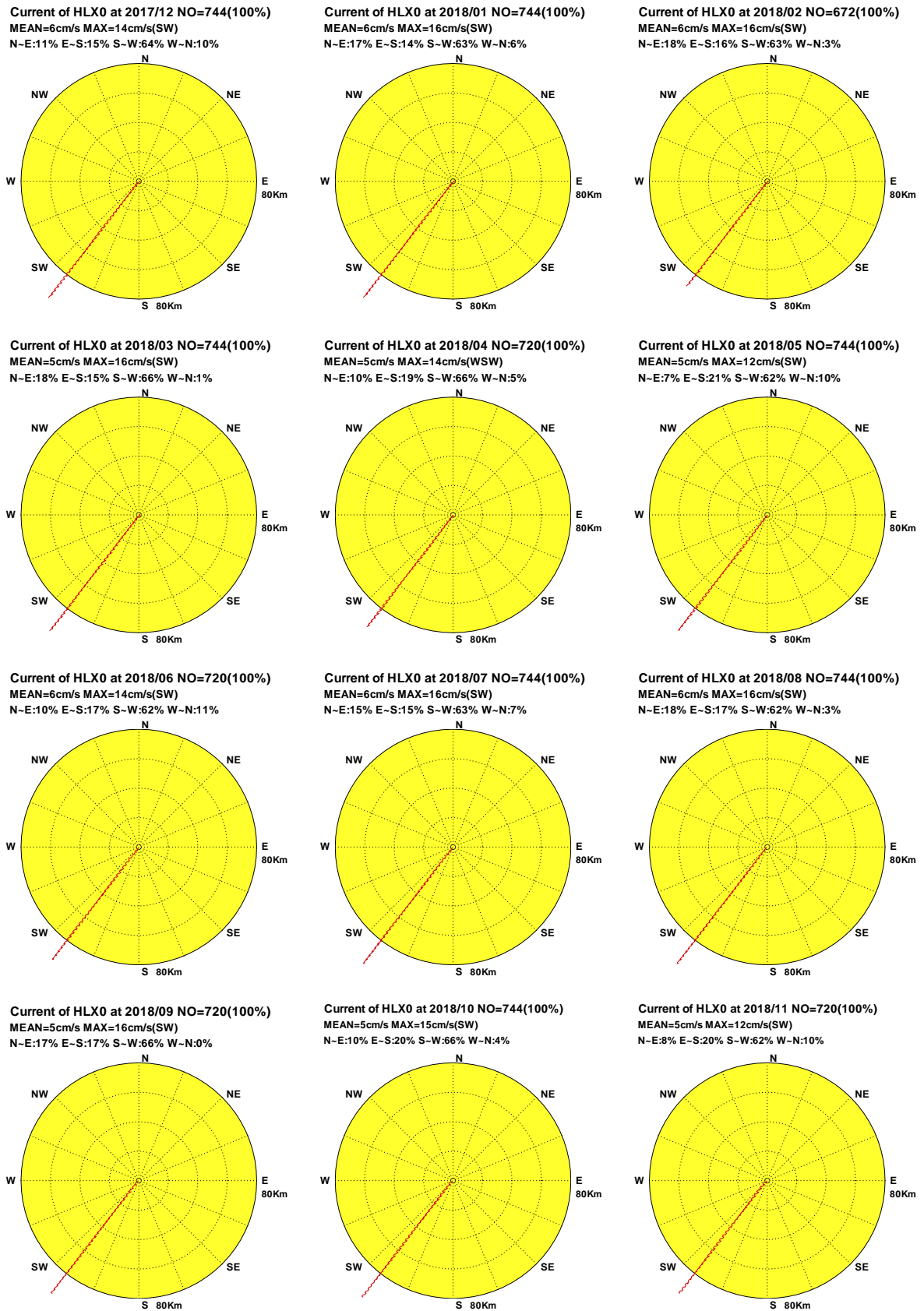


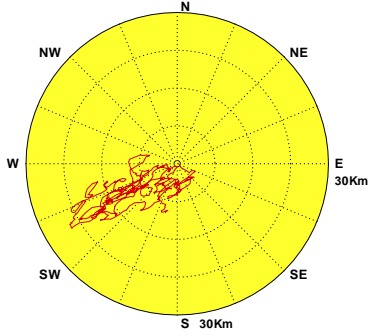
圖4.5.1b 2018年花蓮海域每月測站 X 計算潮流向量行進圖

C17CHLX0.1HD C181HLX0.1HD C182HLX0.1HD C183HLX0.1HD C184HLX0.1HD C185HLX0.1HD
C186HLX0.1HD C187HLX0.1HD C188HLX0.1HD C189HLX0.1HD C18AHLX0.1HD C18BHLX0.1HD

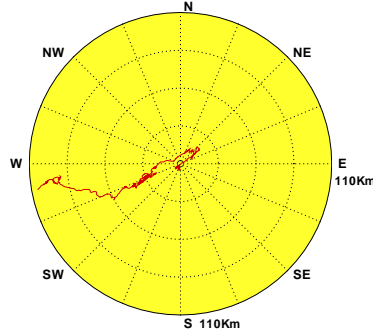
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Progressive Vector Diagram of Current

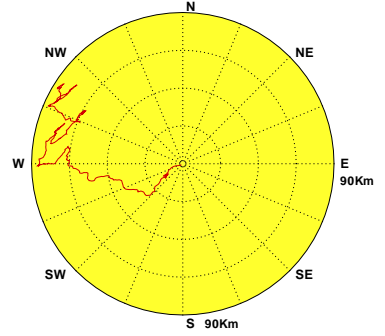
Current of Res. at 2017/12 NO=744(100%)
 MEAN=12cm/s MAX=50cm/s(SW)
 N-E:40% E-S:16% S-W:33% W-N:11%



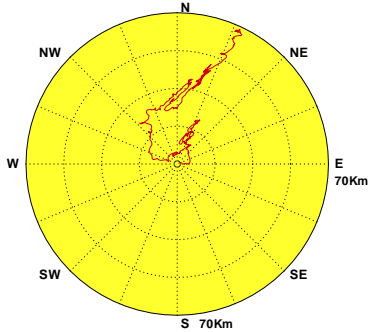
Current of Res. at 2018/01 NO=744(100%)
 MEAN=13cm/s MAX=54cm/s(ENE)
 N-E:25% E-S:15% S-W:38% W-N:22%



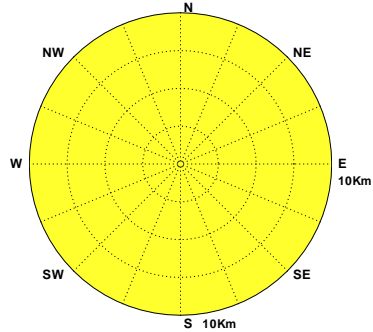
Current of Res. at 2018/02 NO=671(100%)
 MEAN=14cm/s MAX=64cm/s(SW)
 N-E:33% E-S:7% S-W:32% W-N:28%



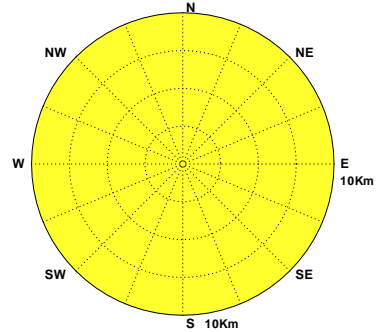
Current of Res. at 2018/03 NO=633(85%)
 MEAN=15cm/s MAX=69cm/s(SW)
 N-E:45% E-S:14% S-W:22% W-N:19%



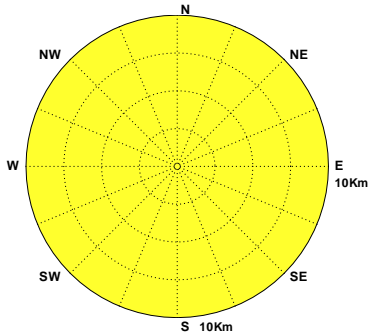
Current of Res. at 2018/04



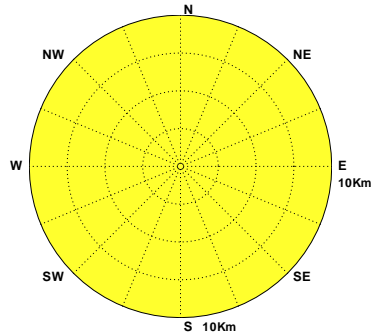
Current of Res. at 2018/05



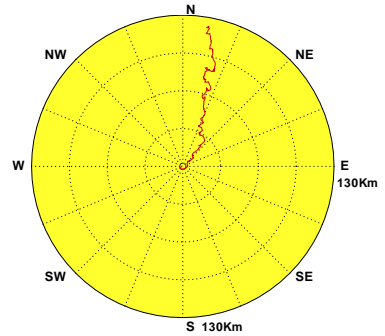
Current of Res. at 2018/06



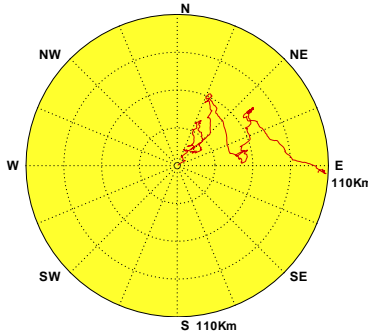
Current of Res. at 2018/07



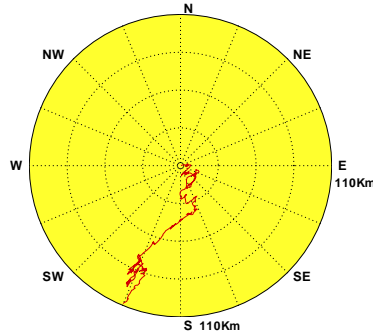
Current of Res. at 2018/08 NO=395(53%)
 MEAN=15cm/s MAX=40cm/s(N)
 N-E:49% E-S:8% S-W:11% W-N:32%



Current of Res. at 2018/09 NO=709(98%)
 MEAN=18cm/s MAX=82cm/s(WSW)
 N-E:32% E-S:31% S-W:17% W-N:20%



Current of Res. at 2018/10 NO=740(99%)
 MEAN=16cm/s MAX=53cm/s(SW)
 N-E:28% E-S:17% S-W:46% W-N:9%



Current of Res. at 2018/11 NO=720(100%)
 MEAN=24cm/s MAX=312cm/s(SSE)
 N-E:34% E-S:24% S-W:28% W-N:14%

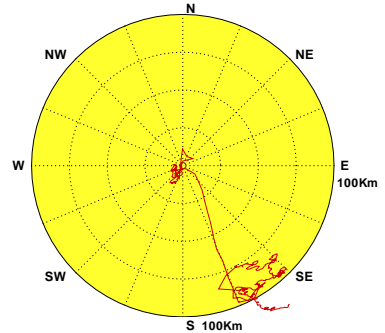


圖4.5.1c 2018年花蓮海域每月測站 X 計算殘流向量行進圖

C17CHLX0.1HR C181HLX0.1HR C182HLX0.1HR C183HLX0.1HR C184HLX0.1HR C185HLX0.1HR
 C186HLX0.1HR C187HLX0.1HR C188HLX0.1HR C189HLX0.1HR C18AHLX0.1HR C18BHLX0.1HR

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