

Safety Performance Indicators (SPI's) Monitoring*

* Reference to Portuguese Safety State Plan 2018

Portuguese SSp Indicators 2018

National SPI's*	Event Related/ Precursors
CFIT: Controlled flight into or toward terrain (EPAS 2017-2021)	1. GPWS Warning System Triggered; 2. Unstabilised Approach due Turbulence Encounter (Windshear/Microburst); 3. Glideslope Warning.
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions (EPAS 2017-2021)	1. ACAS/TCAS TA and RA; 2. Airspace Infringement; 3. Near Airborne Collision with RPAS; 4. ATM Conflict Detection (Not detected/Detected late/Inadequate); 5. ATM Staff Communication (Hearback/Readback). 6. ATM Navigational Equipment;
RI: Runway Incursion – vehicle, aircraft or person (EPAS 2017-2021)	1. Flight Crew ATC Clearance Deviation (unclear radio communication or misunderstanding taxi clearances); 2. Flight Crew Communications Events (Call-sign Confusion, Breakdown in Communications) 3. Aerodrome Marking, Lightning and Signs.
RE: Runway excursion (EPAS 2017-2021)	1. Landing Gear System and wheels or brakes failure; 2. Environment Induced Abrupt Manoeuvre (cross –wind, windsherar, Turbulence); 3. Aircraft Handling (loss of control on ground); 4. Unstabilised Approach.
LOC – I: Loss of control inflight (EPAS 2017-2021)	1. Weather and Environmental Encounters (Wake Turbulence or Wind Shear); 2. Flight Crew Operation/ Interpretation of Equipment (Unintentional pilot mis-management of critical systems); 3. Aircraft Handling (unrecovered from aircraft upset).
F-NI: Fire/smoke (non-impact) (EPAS 2017-2021)	1. Smoke Warning System Triggered in Lavatory (passenger smoking or use of aerosol); 2. Smoke or Fire in Cockpit (Electrical burning); 3. Smoke or Fire in Cabin or Cargo Bay.
SCF-NP+ PP: System/Component Failure or malfunction (non-power plant) + (power plant)	1. Landing Gear System (Partial Collapse or Retraction/Gear Door Retraction or actuator failure); 2. Wheels and Brakes (Tyre,/Anti-skid failures); 3. Trailing/Leading Edge Flap/Slat Control System (Erroneous/Loss or Unavailability/Actuator failure) ; 4. Air Conditioning & Pressurization System; 5. Navigation System. 6. Turbine Engine Failure (Mechanical/Vibration/ Asymmetric Trust); 7. Fire on Power plant; 8. Reciprocating Engine Failure (Mechanical/ Vibration/Loss of power).
WILDLIFE (BIRD: Birdstrike + WILD: Collision Wildlife)	1. Rejected Take-Off; 2. Engine Shutdown in-flight; 3. Evasive Manoeuvre.
RAMP: Ground Handling	1. Collision - Vehicle with Standing Aircraft; 2. Cargo Handling and Loading/Unloading (Unsecure or Incorrected); 3. Dangerous Goods Undeclared. 4. Push-Back Clearance Deviation; 5. Injuries due to Propeller/Jet Blast; 6. Load Sheet Incorrectly Completed.

SPI's

Key operational risk areas (SPI's)	Metrics Based on the number of events	Scope of application
LOC – I: Loss of control inflight	per 1000 Departure	Occurrences involving aircraft with Portuguese registration or operated under a Portuguese AOC.
RE: Runway excursion	per 1000 Movements	Occurrences in Portuguese aerodromes and in non-national aerodromes involving aircraft with Portuguese registration or operated under a Portuguese AOC.
RI: Runway Incursion – vehicle, aircraft or person	per 1000 Movements	Occurrences in Portuguese aerodromes and in non-national aerodromes involving aircraft with Portuguese registration or operated under a Portuguese AOC.
MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions	per 1000 Departure	Occurrences in Portuguese airspace and in non-national airspace involving aircraft with Portuguese registration or operated under a Portuguese AOC.
SCF-NP+ PP: System/Component Failure or malfunction (non-powerplant) + (powerplant)	per 1000 Departure	Occurrences involving aircraft with Portuguese registration or operated under a Portuguese AOC.
RAMP: Ground Handling	per 1000 Movements	Occurrences in Portuguese aerodromes.
CFIT: Controlled flight into or toward terrain	per 1000 Departure	Occurrences involving aircraft with Portuguese registration or operated under a Portuguese AOC.
F-NI: Fire/smoke (non-impact)	per 1000 Departure	Occurrences involving aircraft with Portuguese registration or operated under a Portuguese AOC.
WILDLIFE: (BIRD: Birdstrike + WILD: Collision Wildlife)	per 1000 Movements	Occurrences in Portuguese airspace and aerodromes.

Occurrence Reports 2017–2018/1st Semester

Month	2017	2018	%
	Nº Occurrences	Nº Occurrences	Var
JAN	255	296	16,1
FEB	238	285	18,9
MAR	289	344	18,3
APR	283	375	28,2
MAY	361	407	12,7
JUN	367	453	23,4
JUL	408	-	-
AUG	418	-	-
SEP	338	-	-
OCT	359	-	-
NOV	263	-	-
DEC	312	-	-
Total	3891	2160	17,88%

Nº. Movements 2017/ Jan/Mai	<u>157.895</u>	^ % 7,1%
Nº. Movements 2018/ Jan/Mai	<u>169.157</u>	

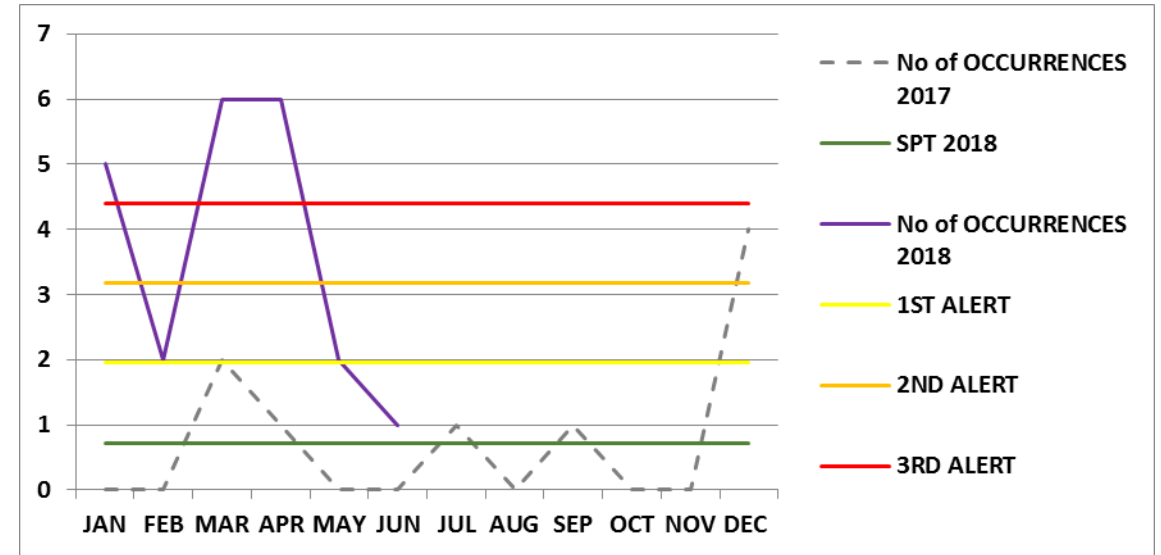
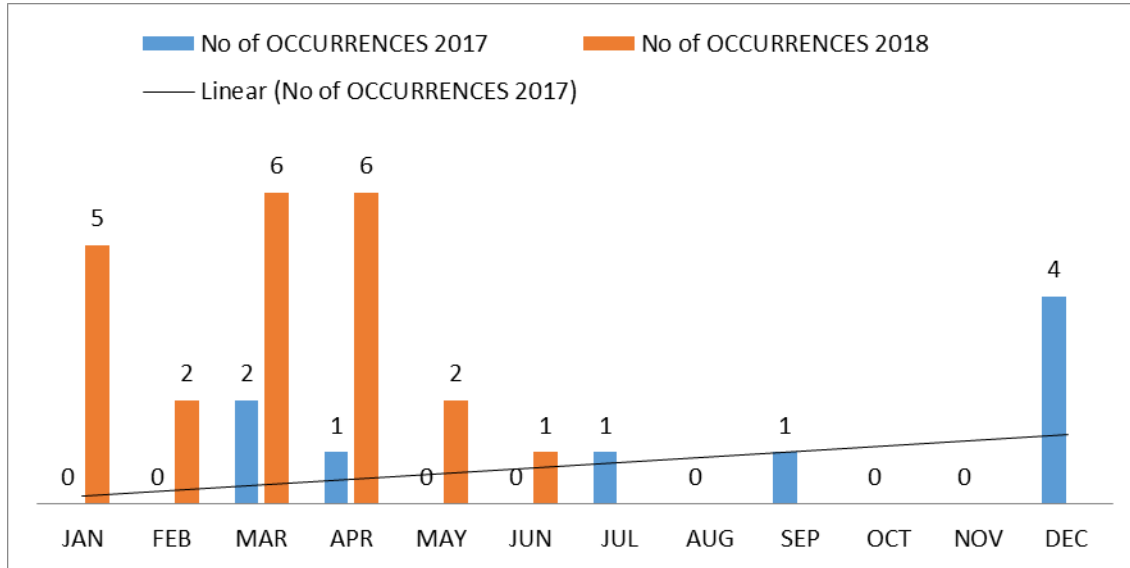
Nota:

Verifica-se um incremento no número de comunicação de ocorrências, sinónimo de uma **melhoria na “Cultura de Reporte”**.

Comparando os números de 2018 com os do período homologado de 2017, pode-se concluir que houve um **aumento de cerca de 10,8%** (17,88%- 7,1%) **no número de ocorrências comunicadas, no 1º Semestre de 2018.**

SSp Target Indicators Monitoring/ 1st Semester 2018

LOC – I: Loss of control inflight



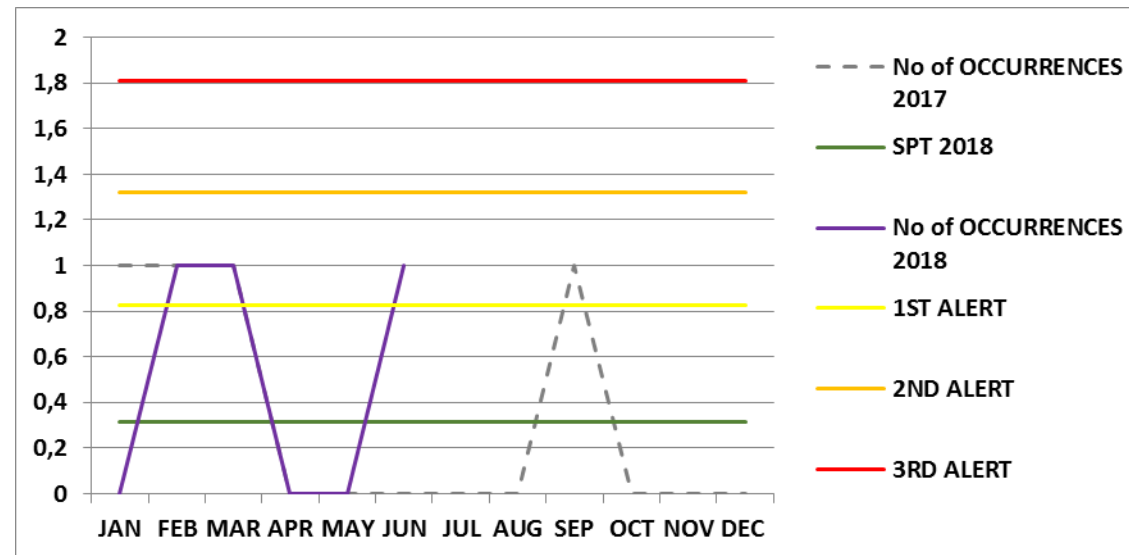
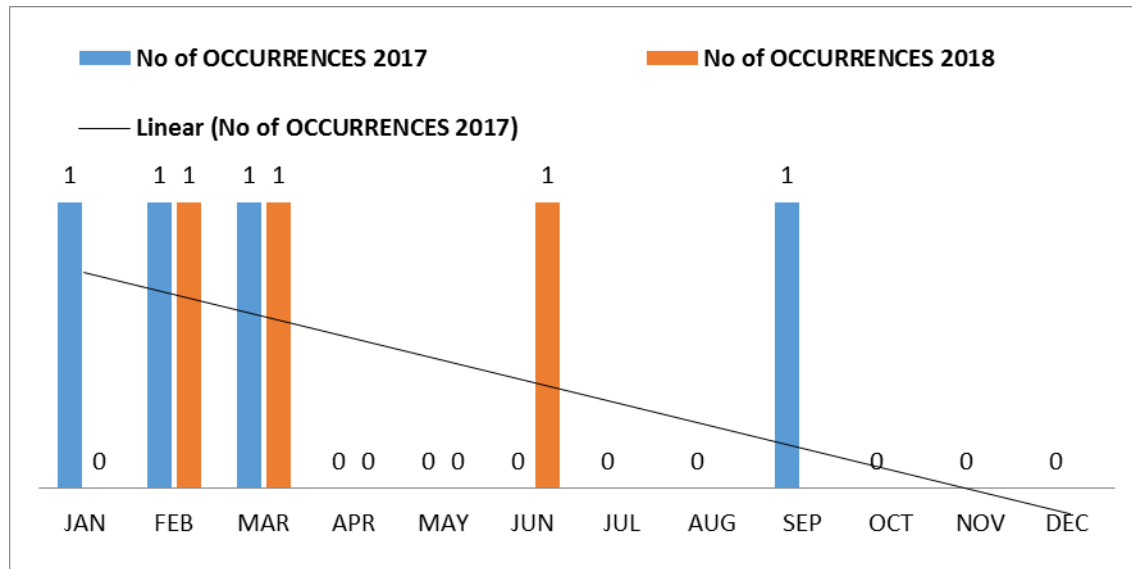
ANO	Ocorrências (Jan/Jun)
2017	3
2018	22

Departures	2017	LOC-I/1000 Dep	2018	LOC-I/1000 Dep	▲ 2017/2018
JAN	11.825	0,00	12.705	0,39	0,39
FEV	10.717	0,00	11.607	0,17	0,17
MAR	12.136	0,16	13.548	0,44	0,28
ABR	13.635	0,07	14.615	0,41	0,34
MAI	14.600	0,00	16.173	0,12	0,12
JUN	16.008	0,00	16.421	0,06	0,06

Verificou-se um incremento no número de ocorrências LOC-I, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-0,23/2017-0,04**), sendo que o maior desvio ocorreu no mês de Janeiro de 2018.

SSp Target Indicators Monitoring/ 1st Semester 2018

RE: Runway excursion



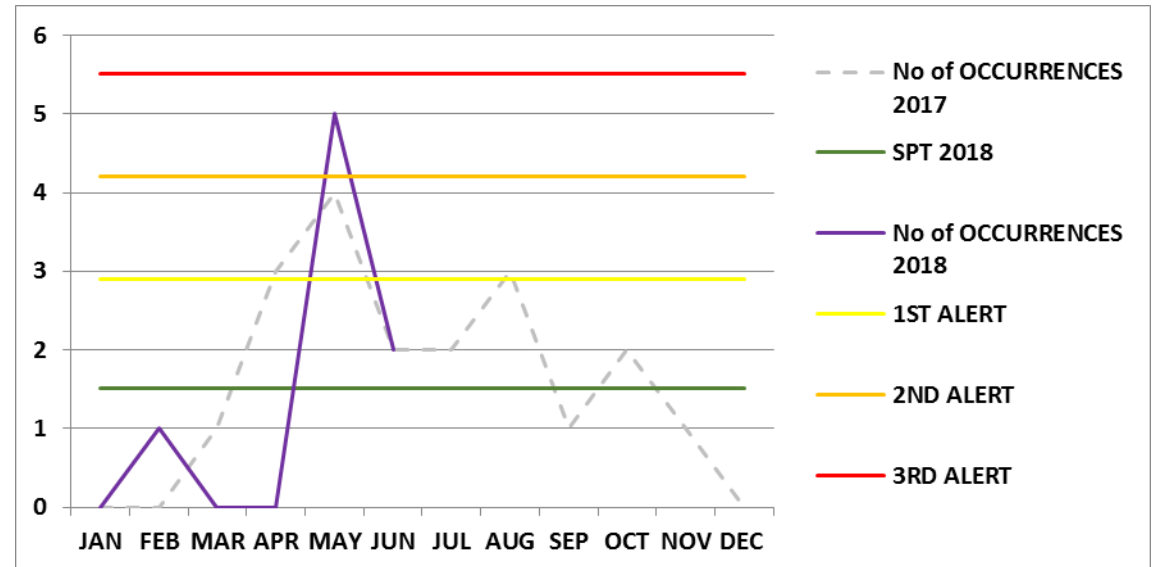
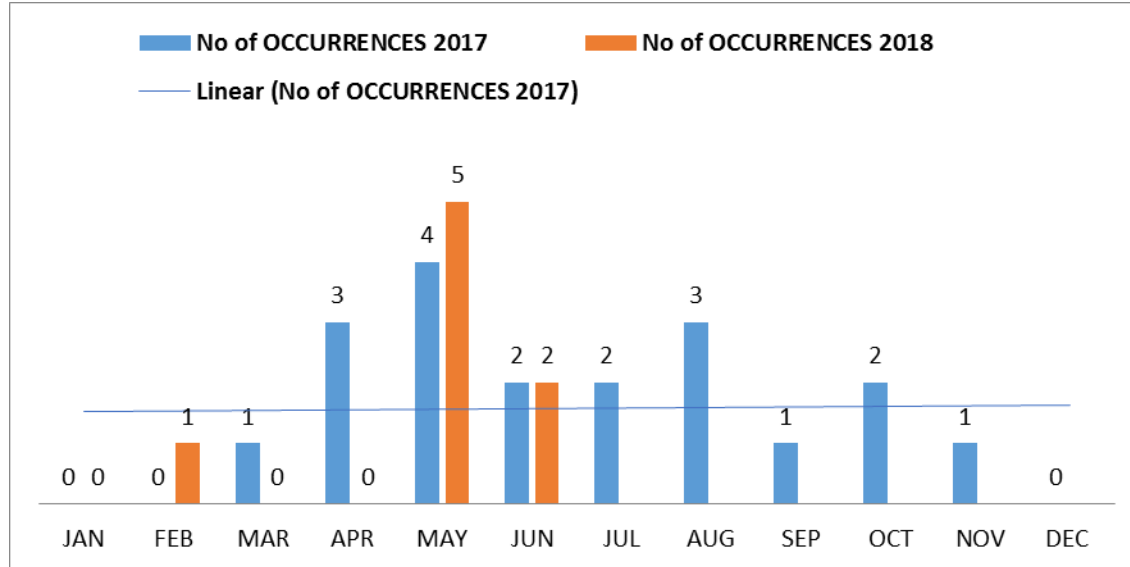
ANO	Ocorrências (JAN/JUN)
2017	3
2018	3

Movements	2017	RE/1000 Mov	2018	RE/1000 Mov	▲ 2017/2018
JAN	23.626	0,04	25.379	0,00	-0,04
FEV	21.417	0,05	23.223	0,04	0,00
MAR	24.229	0,04	27.111	0,04	0,00
ABR	27.240	0,00	29.200	0,00	0,00
MAI	29.186	0,00	30.436	0,00	0,00
JUN	32197	0,00	33.808	0,03	0,03

Verificou-se o mesmo número de ocorrências RE, no 1º Semestre de 2018 face a período homólogo de 2017 (2018-0,02/2017-0,02).

SSp Target Indicators Monitoring/ 1st Semester 2018

RI: Runway Incursion



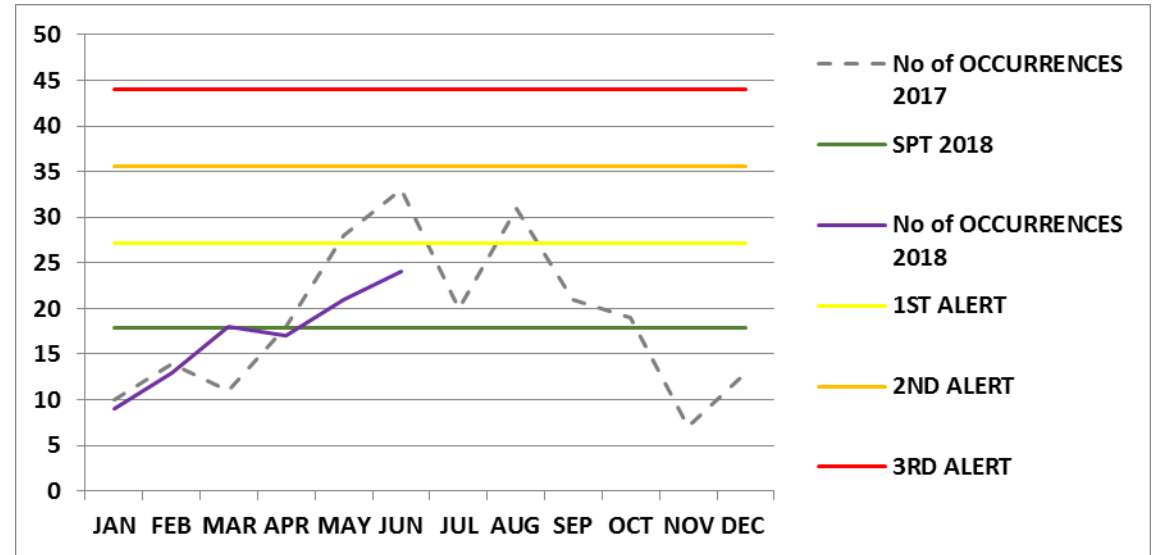
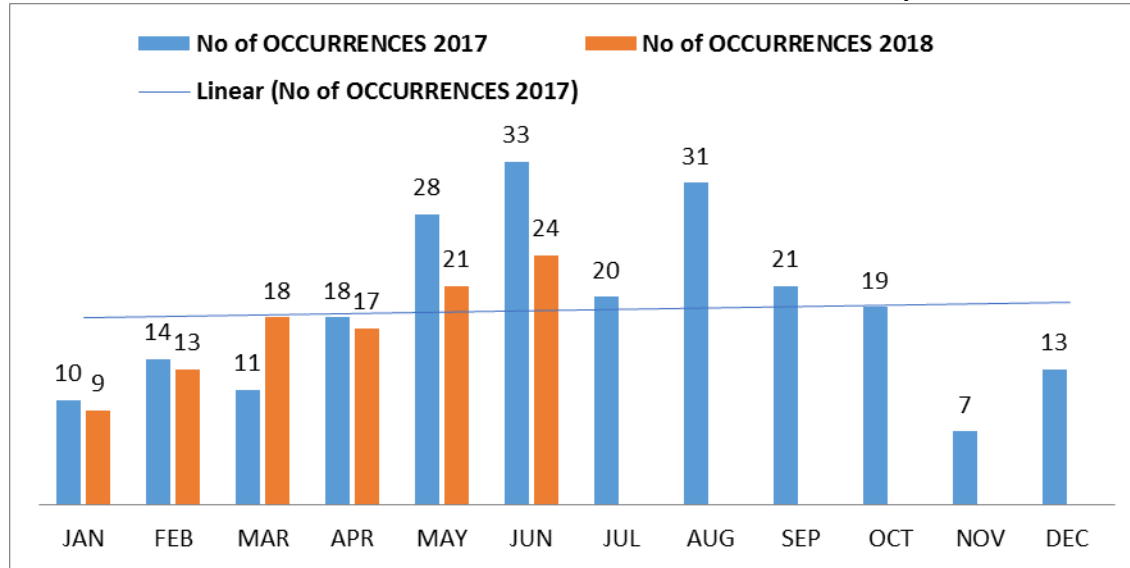
ANO	Ocorrências (JAN/JUN)
2017	10
2018	8

Movements	2017	RI/1000 Mov	2018	RI/1000 Mov	▲ 2017/2018
JAN	23.626	0,00	25.379	0,00	0,00
FEV	21.417	0,00	23.223	0,04	0,04
MAR	24.229	0,04	27.111	0,00	-0,04
ABR	27.240	0,11	29.200	0,00	-0,11
MAI	29.186	0,14	30.436	0,16	0,03
JUN	32197	0,06	33.808	0,06	0,00

Verificou-se uma diminuição no número de ocorrências RI, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-0,01/2017-0,06**).

SSp Target Indicators Monitoring/ 1st Semester 2018

MAC: Airprox/ ACAS alert/ loss of separation/ [near] midair collisions



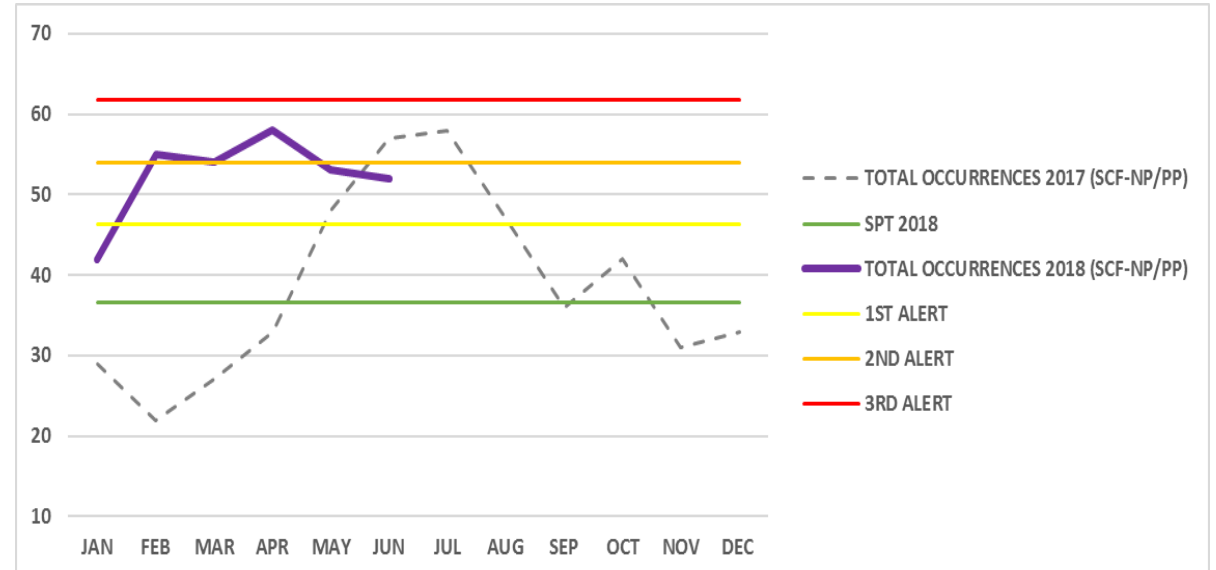
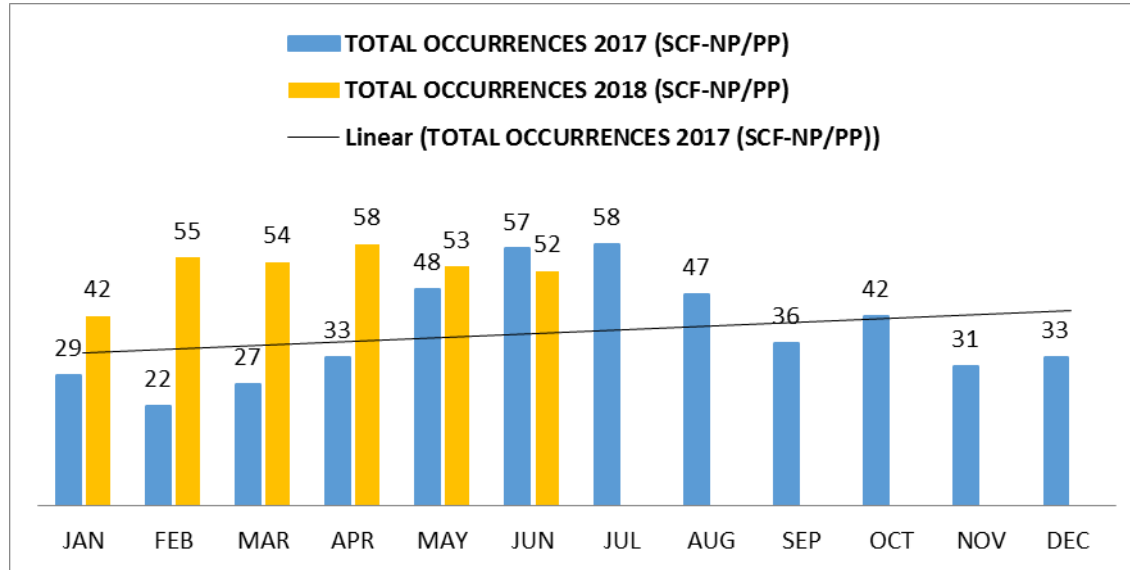
ANO	Ocorrências (JAN/JUN)
2017	114
2018	102

Departures	2017	MAC/1000 Dep	2018	MAC/1000 Dep	▲ 2017/2018
JAN	11.825	0,85	12.705	0,71	-0,14
FEV	10.717	1,31	11.607	1,12	-0,19
MAR	12.136	0,91	13.548	1,33	0,42
ABR	13.635	1,32	14.615	1,16	-0,16
MAI	14.600	1,92	16173	1,30	-0,62
JUN	16.008	2,06	16.421	1,46	-0,60

Verificou-se uma diminuição no número de ocorrências MAC, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-1,18/2017-1,39**).

SSp Target Indicators Monitoring/ 1st Semester 2018

SCF (NP+PP): System/Component Failure or malfunction [non-powerplant+ powerplant]



ANO	Ocorrências (JAN/JUN)
2017	216*
2018	314**

* NP 174 + PP 42

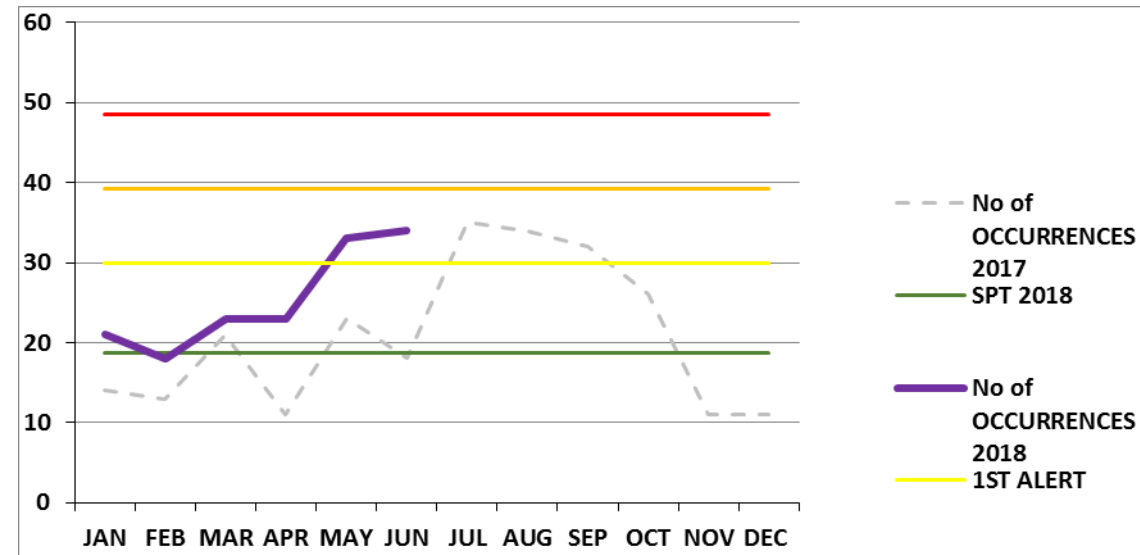
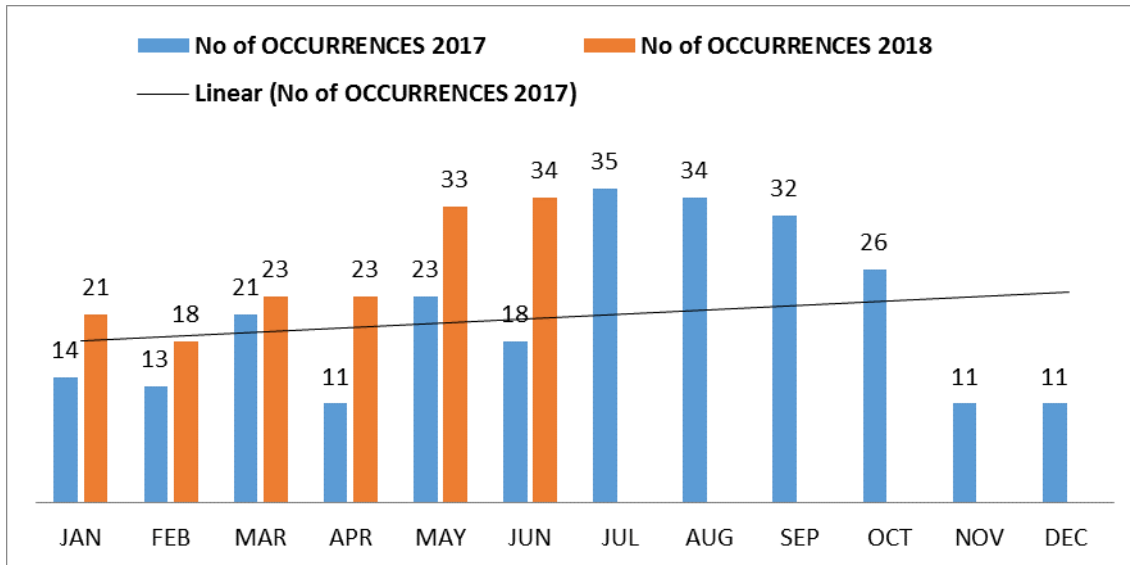
** NP 262 + PP 52

Departures	2017	SCF/1000 Dep	2018	SCF/1000 Dep	▲ 2017/2018
JAN	11.825	2,45	12.705	3,31	0,85
FEV	10.717	2,05	11.607	4,74	2,69
MAR	12.136	2,22	13.548	3,99	1,76
ABR	13.635	2,42	14.615	3,97	1,55
MAI	14.600	3,29	16.173	3,28	-0,01
JUN	16.008	3,56	16.421	3,17	-0,39

Verificou-se um incremento no número de ocorrências SCF, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-3,74/2017-2,67**), sendo que o maior desvio ocorreu no mês de Fevereiro de 2018.

SSp Target Indicators Monitoring/ 1st Semester 2018

RAMP: Ground Handling



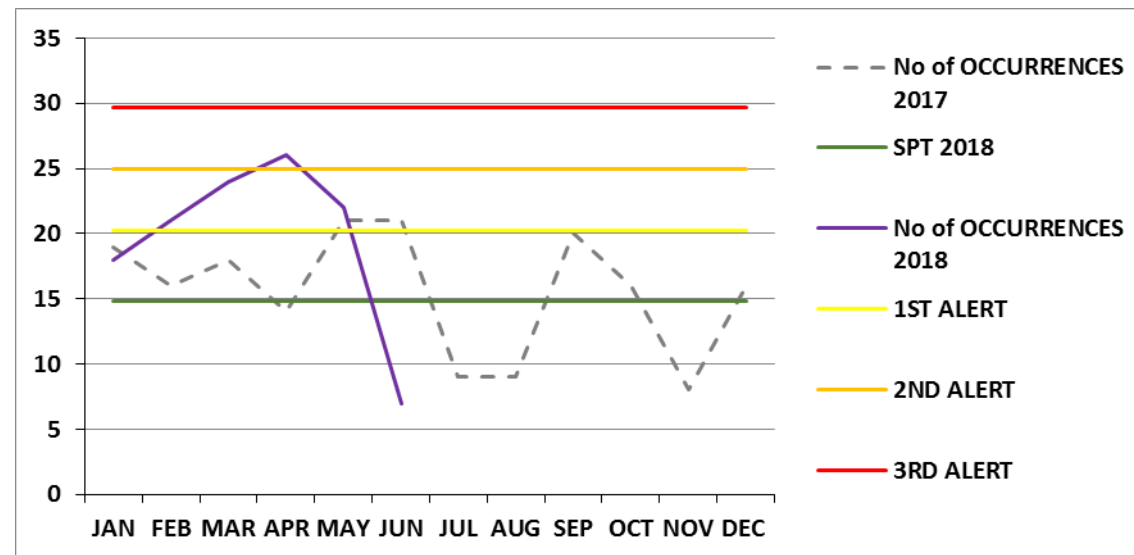
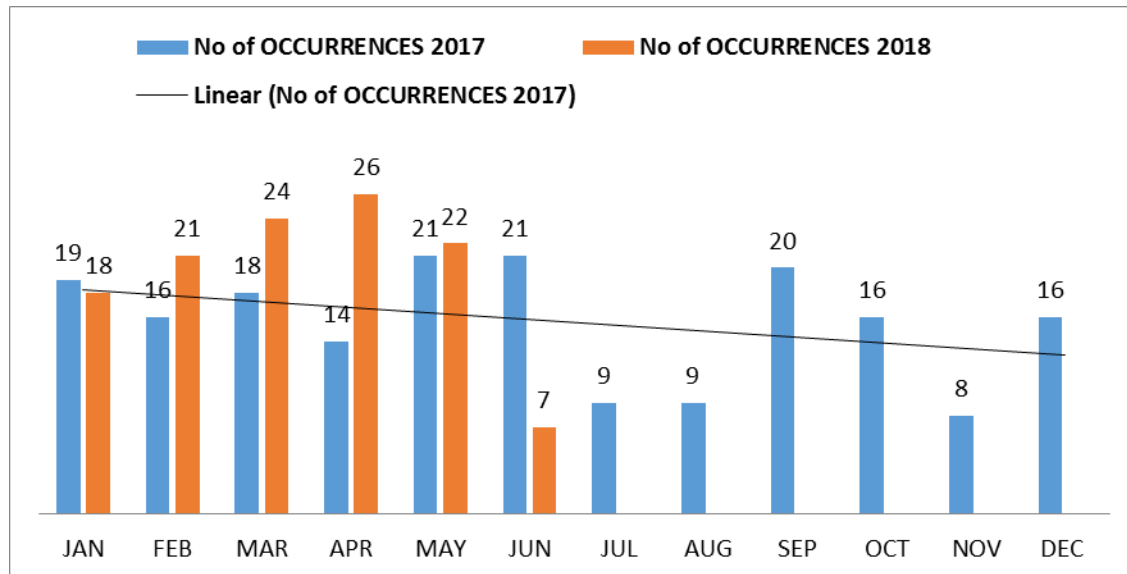
ANO	Ocorrências (JAN/JUN)
2017	100
2018	152

Movements	2017	RAMP/1000 Mov	2018	RAMP/1000 Mov	▲ 2017/2018
JAN	29.391	0,48	30.886	0,68	0,20
FEV	26.907	0,48	28.311	0,64	0,15
MAR	31.561	0,67	33.928	0,68	0,01
ABR	38.122	0,29	39.675	0,58	0,29
MAI	41.782	0,55	41.570	0,79	0,24
JUN	54.789	0,33	56.096	0,61	0,28

Verificou-se um incremento no número de ocorrências RAMP, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-0,66/2017-0,47**), sendo que o maior desvio ocorreu no mês de Abril de 2018.

SSp Target Indicators Monitoring/ 1st Semester 2018

CFIT: Controlled flight into or toward terrain



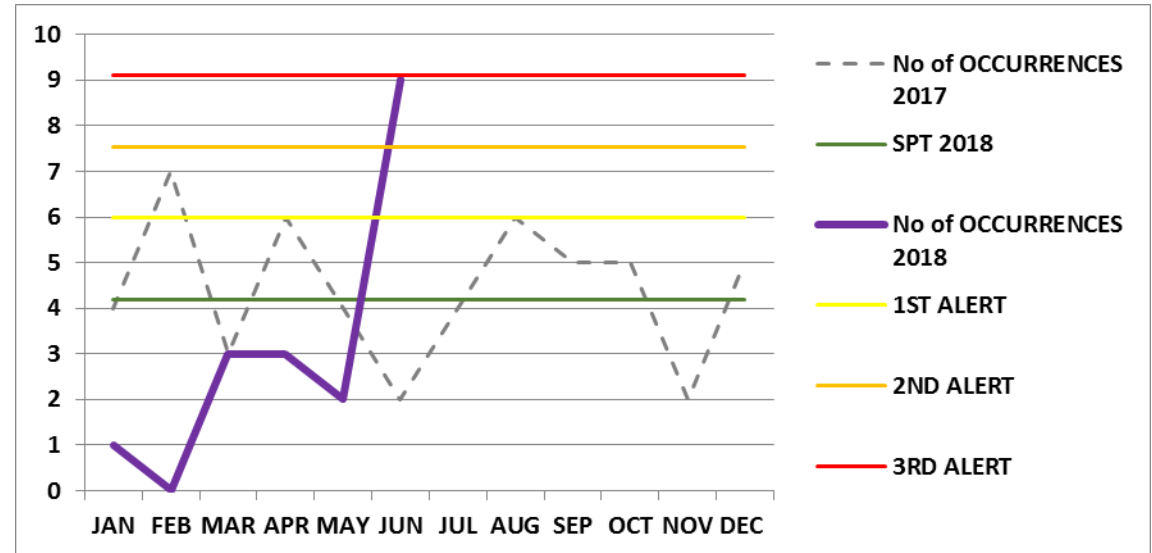
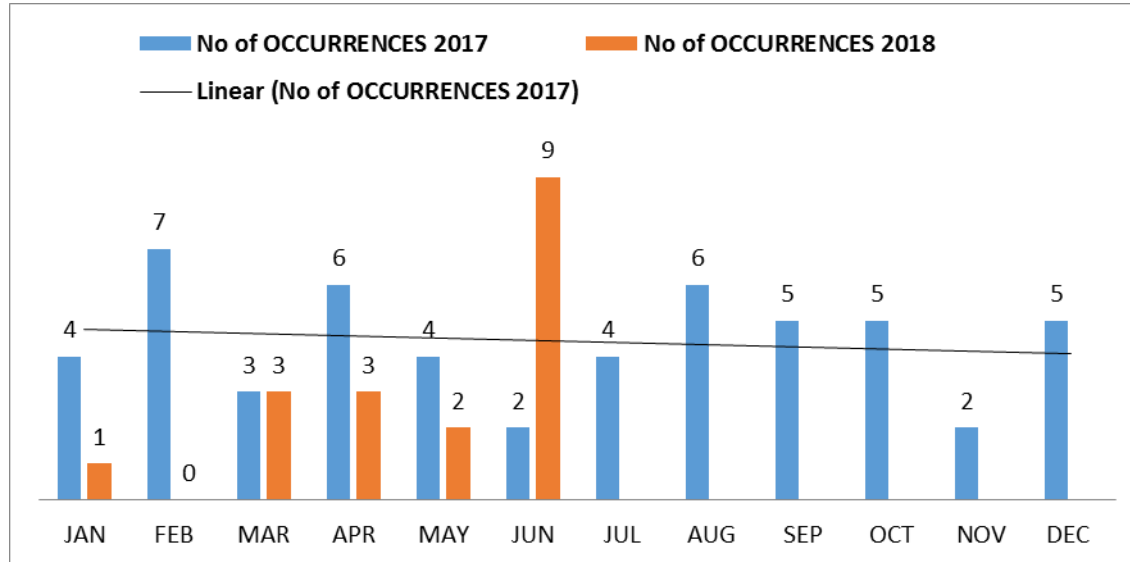
ANO	Ocorrências (JAN/JUN)
2017	109
2018	118

Departures	2017	CFIT/1000 Dep	2018	CFIT/1000 Dep	▲ 2017/2018
JAN	11.825	1,61	12.705	1,42	-0,19
FEV	10.717	1,49	11.607	1,81	0,32
MAR	12.136	1,48	13.548	1,77	0,29
ABR	13.635	1,03	14.615	1,78	0,75
MAI	14.600	1,44	16.173	1,36	-0,08
JUN	16.008	1,31	16.421	0,43	-0,89

Verificou-se um incremento no número de ocorrências CFIT, no 1º Semestre de 2018 face a período homólogo de 2017 (2018-1,43/2017-1,39), sendo que o maior desvio ocorreu no mês de Abril de 2018.

SSp Target Indicators Monitoring/ 1st Semester 2018

F-NI: Fire/smoke



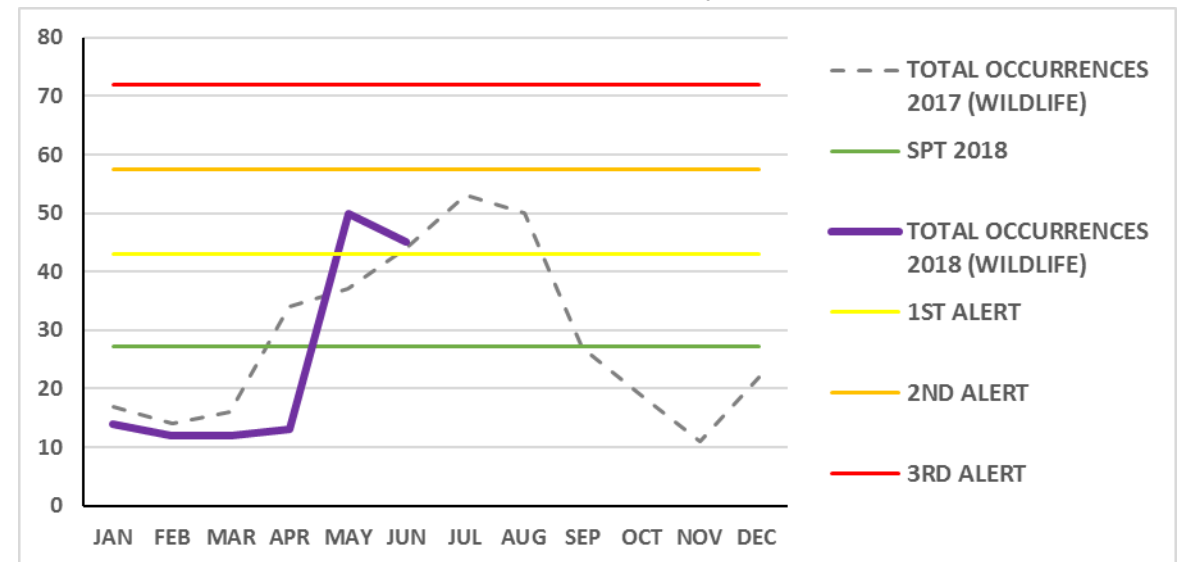
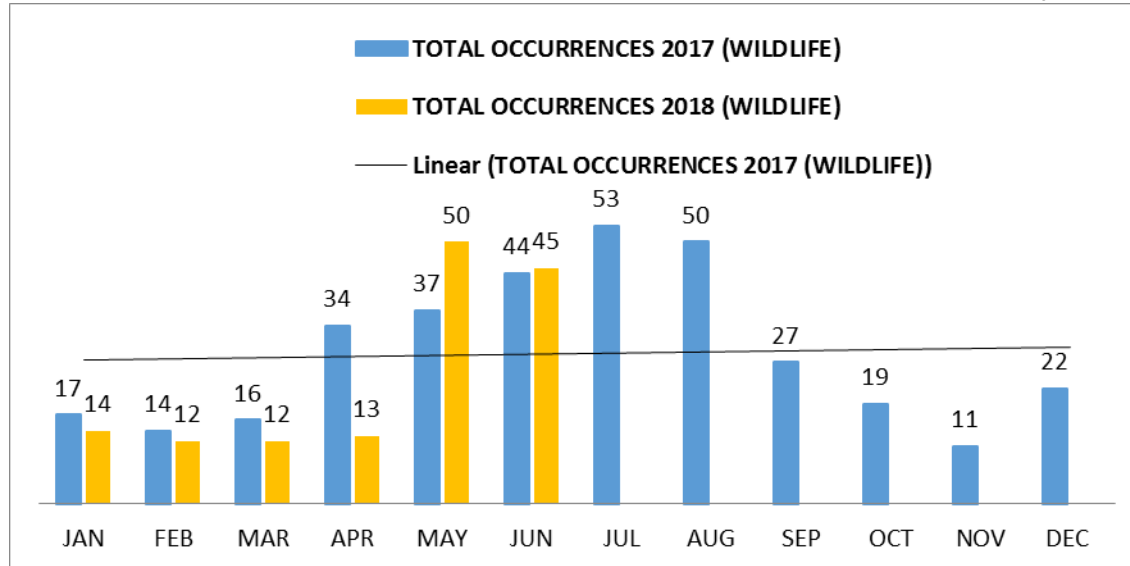
ANO	Ocorrências (JAN/JUN)
2017	26
2018	18

Departures	2017	F-NI/1000 Dep	2018	F-NI/1000 Dep	▲ 2017/2018
JAN	11.825	0,34	12.705	0,08	-0,26
FEV	10.717	0,65	11.607	0,00	-0,65
MAR	12.136	0,25	13.548	0,22	-0,03
ABR	13.635	0,44	14.615	0,21	-0,23
MAI	14.600	0,27	16.173	0,12	-0,15
JUN	16.008	0,12	16.421	0,55	0,42

Verificou-se uma diminuição no número de ocorrências F-NI, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-0,20/2017-0,35**).

SSp Target Indicators Monitoring/ 1st Semester 2018

WILDLIFE (BIRD - Birdstrike + WILD - Collision Wildlife)



ANO	Ocorrências (JAN/JUN)
2017	162*
2018	146**

* Brid 158 + Wildlife 4
** Brid 144 + Wildlife 2

Movements	2017	WILD/1000 Mov	2018	WILD/1000 Mov	▲ 2017/2018
JAN	29.391	0,58	30.886	0,45	-0,13
FEV	26.907	0,52	28.311	0,42	-0,10
MAR	31.561	0,51	33.928	0,35	-0,15
ABR	38.122	0,89	39.675	0,33	-0,56
MAI	41.782	0,89	41.570	1,20	0,32
JUN	54.789	0,80	56.096	0,80	0,00

Verificou-se uma diminuição no número de ocorrências WILDLIFE, no 1º Semestre de 2018 face a período homólogo de 2017 (**2018-0,59/2017-0,70**).

...OBRIGADO...

