



Review of Argo data performance on the Global Telecommunication System (GTS)

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Outline

- Argo Network overview
- USA – AOML DAC (Bulletin KWBC)
- France – Coriolis (Bulletin LFPW & LFVX)
- France – CLS (Bulletin LFVW)
- UK – BODC DAC (Bulletin EGRR)
- Australia - CSIRO DAC(Bulletin AMMC)
- Japan – JMA DAC(Bulletin RJTD)
- China – CSIO DAC (Bulletin BABJ)
- Korea – KMA DAC (Bulletin RKSL)
- India – INCOIS DAC (Bulletin DEMS)
- Canada – MEDS DAC (Bulletin CWOW)
- Data on the GTS within 6 and 12 hour targets
- Conclusions

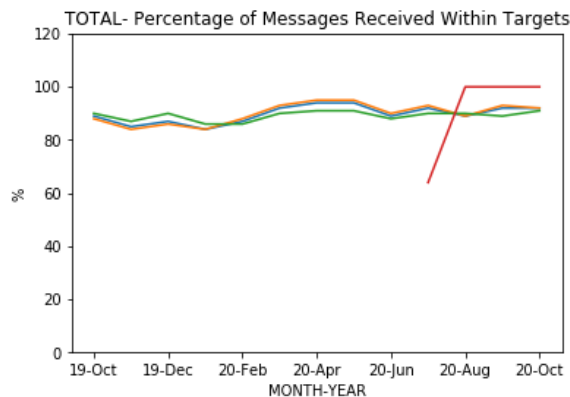
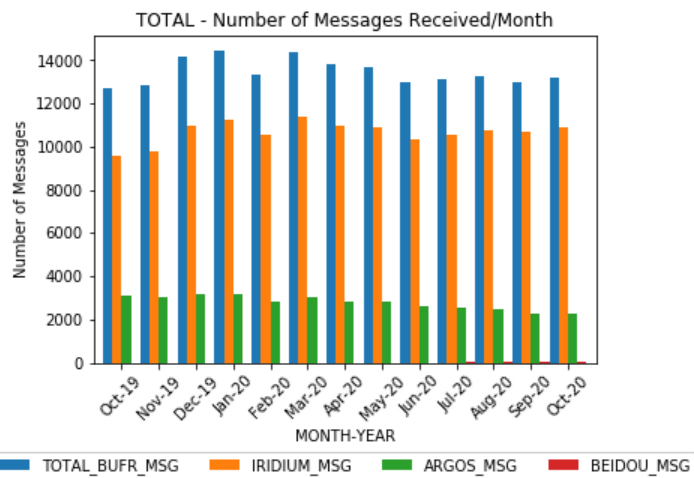


Background

- BUFR data sources:
 - Environment and Climate Change Canada
 - Japan Meteorology Agency (JMA)
- NETCDF file source:
 - ar_index_global_prof.txt at US GDAC



Argo performance on GTS as of October 2019



Monthly Average between
October 2019- October 2020:

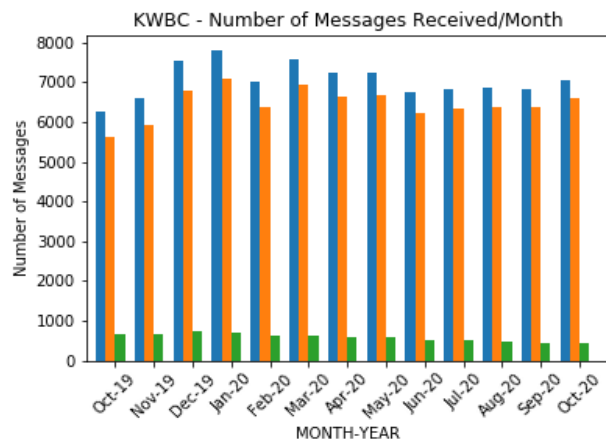
BUFR msgs:	13453
Iridium BUFR msgs:	10662
Argos BUFR msgs:	2785
Beidou Bufr msgs:	20
#Netcdf files:	13638

Monthly Average between
October 2019- October 2020:

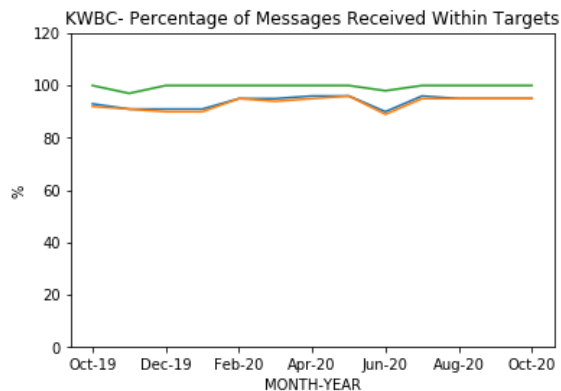
BUFR on GTS in 24 hr:	90%
Iridium BUFR on GTS in 12 hr:	90%
Argos BUFR on GTS in 24 hr:	89%
Beidou BUFR on GTS in 12 hr:	91%



USA - AOML DAC (KWBC)



TOTAL_BUFR_MSG IRIIDIUM_MSG ARGOS_MSG BEIDOU_MSG



WITHIN_24HOUR IRIIDIUM_IN_12HR ARGOS_IN_24HR BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

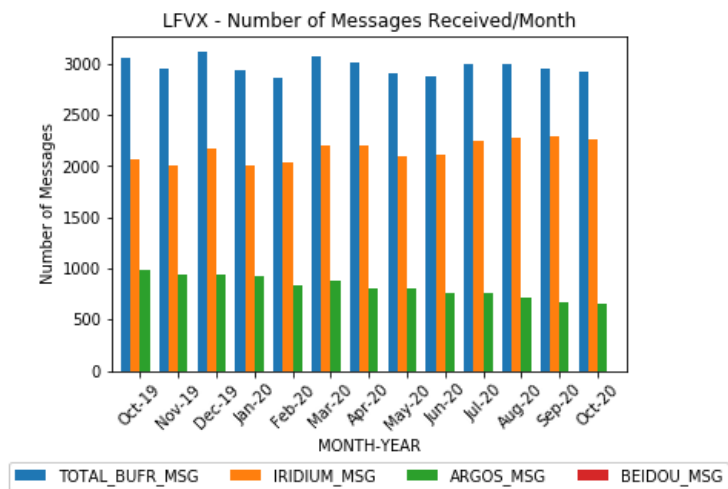
BUFR msgs:	7044
Iridium BUFR msgs:	6463
Argos BUFR msgs:	581
#Netcdf files:	7056

Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	94%
Iridium BUFR on GTS in 12 hr:	93%
Argos BUFR on GTS in 24 hr:	100%
Beidou BUFR on GTS in 12 hr:	0%



France- Coriolis DAC (LFVX)



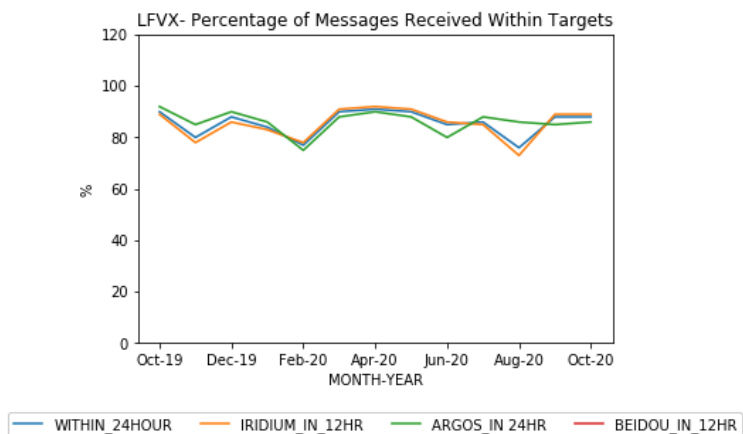
Monthly Average between
October 2019- October 2020:

BUFR msgs:	2976
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Iridium BUFR msgs:	2154
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Argos BUFR msgs:	822
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#Netcdf files:	
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Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	86%
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Iridium BUFR on GTS in 12 hr:	86%
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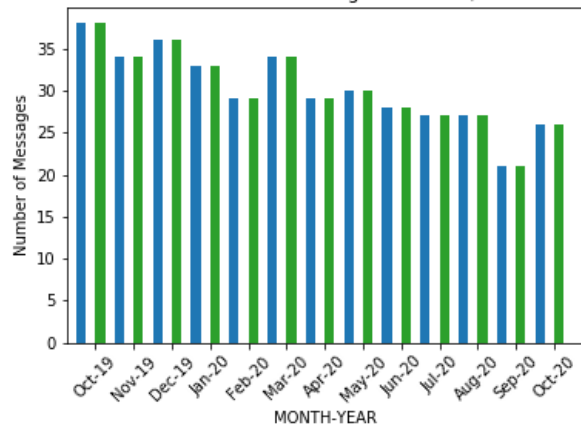
Argos BUFR on GTS in 24 hr:	86%
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Beidou BUFR on GTS in 12 hr:	0%
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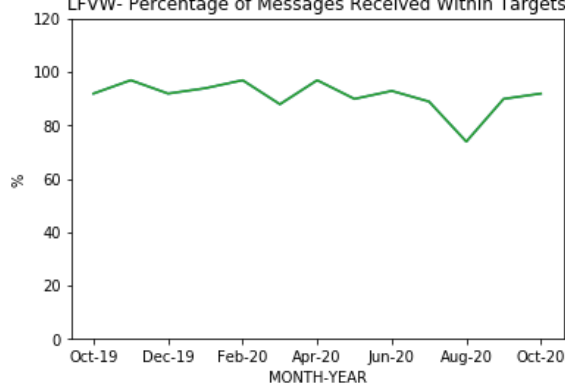
France – CLS DAC (LFVW)

LFVW - Number of Messages Received/Month



■ TOTAL_BUFR_MSG ■ IRIDIUM_MSG ■ ARGOS_MSG ■ BEIDOU_MSG

LFVW- Percentage of Messages Received Within Targets



— WITHIN_24HOUR — IRIDIUM_IN_12HR — ARGOS_IN_24HR — BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

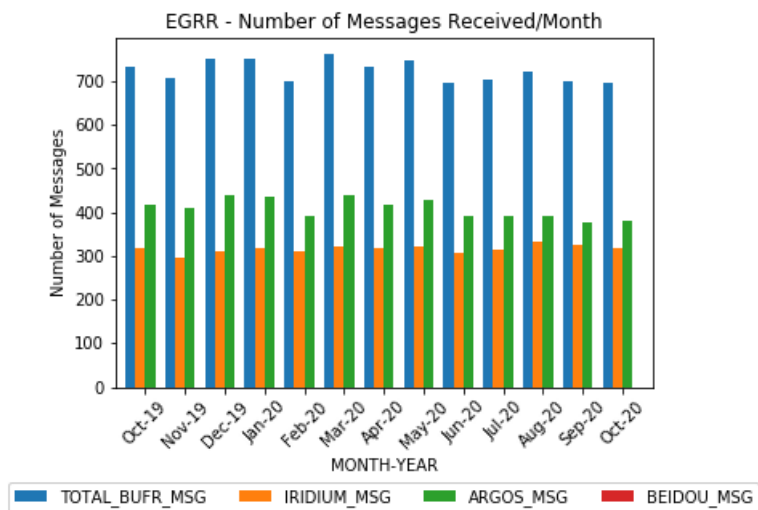
BUFR msgs:	30
Iridium BUFR msgs:	0
Argos BUFR msgs:	30
#Netcdf files:	

Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	91%
Iridium BUFR on GTS in 12 hr:	0%
Argos BUFR on GTS in 24 hr:	91%
Beidou BUFR on GTS in 12 hr:	0%

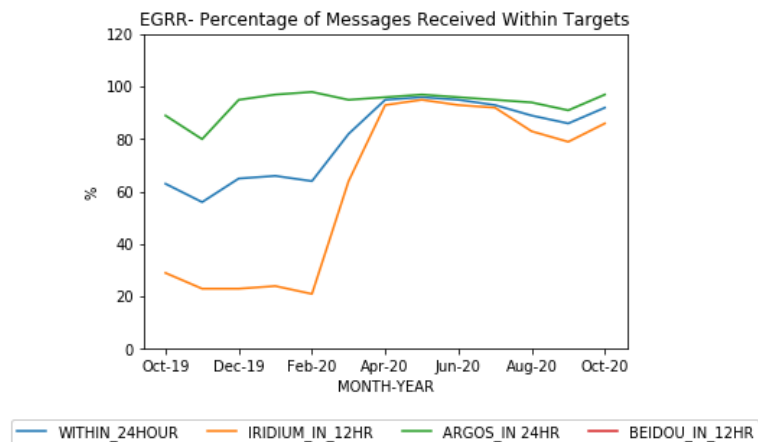


UK- BODC DAC (EGRR)



Monthly Average between
October 2019- October 2020:

BUFR msgs:	724
Iridium BUFR msgs:	316
Argos BUFR msgs:	408
#Netcdf files:	765



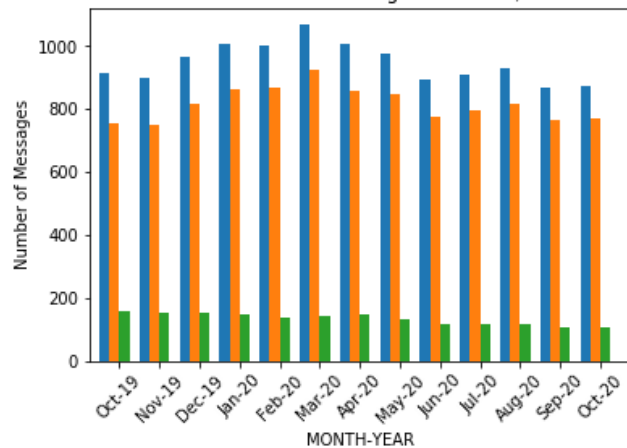
Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	80%
Iridium BUFR on GTS in 12 hr:	62%
Argos BUFR on GTS in 24 hr:	94%
Beidou BUFR on GTS in 12 hr:	0%



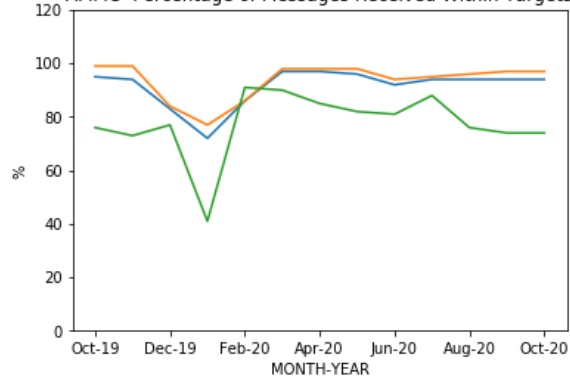
Australia - CSIRO DAC (AMMC)

AMMC - Number of Messages Received/Month



■ TOTAL_BUFR_MSG ■ IRIIDIUM_MSG ■ ARGOS_MSG ■ BEIDOU_MSG

AMMC- Percentage of Messages Received Within Targets



— WITHIN_24HOUR — IRIIDIUM_IN_12HR — ARGOS_IN_24HR — BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

BUFR msgs:	948
Iridium BUFR msgs:	816
Argos BUFR msgs:	132
#Netcdf files:	1020

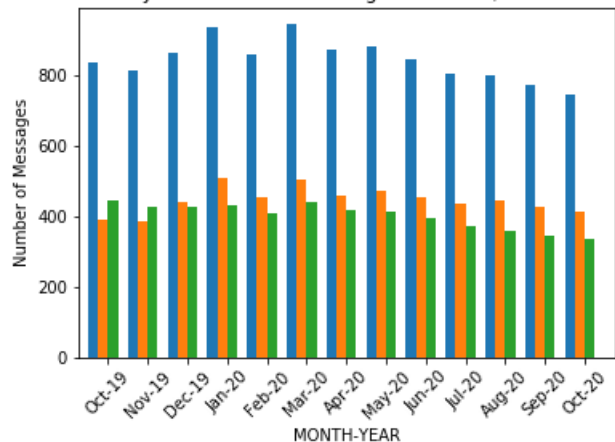
Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	91 %
Iridium BUFR on GTS in 12 hr:	94 %
Argos BUFR on GTS in 24 hr:	78 %
Beidou BUFR on GTS in 12 hr:	0%



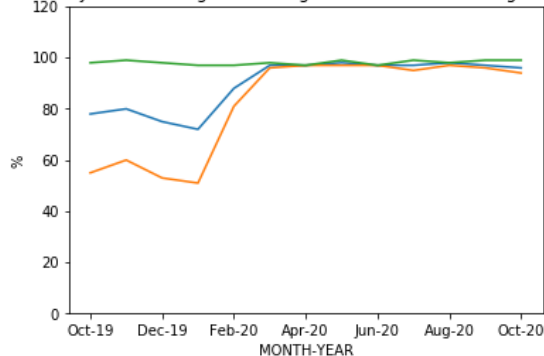
Japan- JMA DAC (RJTD)

RJTD - Number of Messages Received/Month



TOTAL_BUFR_MSG IRIIDIUM_MSG ARGOS_MSG BEIDOU_MSG

RJTD- Percentage of Messages Received Within Targets



WITHIN_24HOUR IRIIDIUM_IN_12HR ARGOS_IN_24HR BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

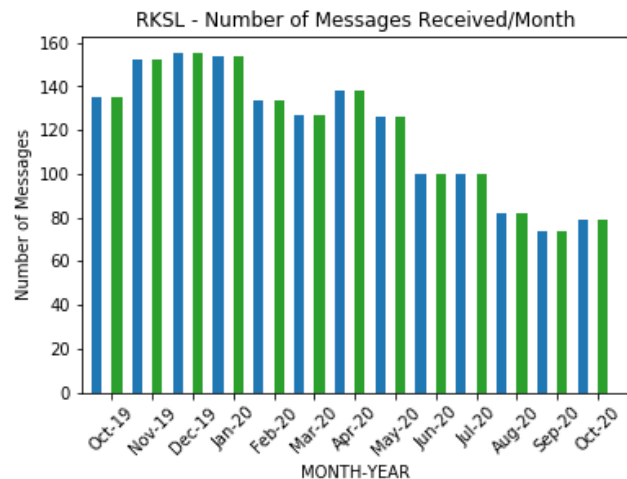
BUFR msgs:	846
Iridium BUFR msgs:	445
Argos BUFR msgs:	401
#Netcdf files:	872

Monthly Average between
October 2019- October 2020:

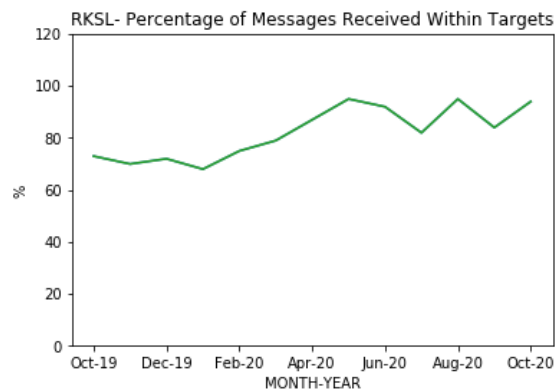
BUFR on GTS in 24 hr:	90%
Iridium BUFR on GTS in 12 hr:	82%
Argos BUFR on GTS in 24 hr:	98%
Beidou BUFR on GTS in 12 hr:	0%



Korea - KMA DAC (RKSL)



■ TOTAL_BUFR_MSG ■ IRIIDIUM_MSG ■ ARGOS_MSG ■ BEIDOU_MSG



— WITHIN_24HOUR — IRIIDIUM_IN_12HR — ARGOS_IN_24HR — BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

BUFR msgs:	120
Iridium BUFR msgs:	0
Argos BUFR msgs:	120
#Netcdf files:	120

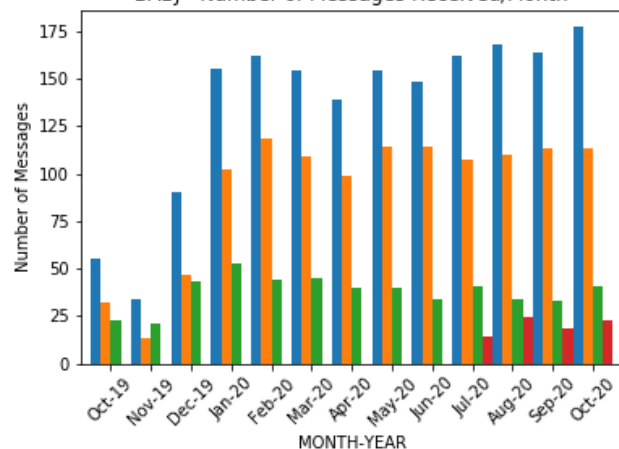
Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	82%
Iridium BUFR on GTS in 12 hr:	0%
Argos BUFR on GTS in 24 hr:	82%
Beidou BUFR on GTS in 12 hr:	0%



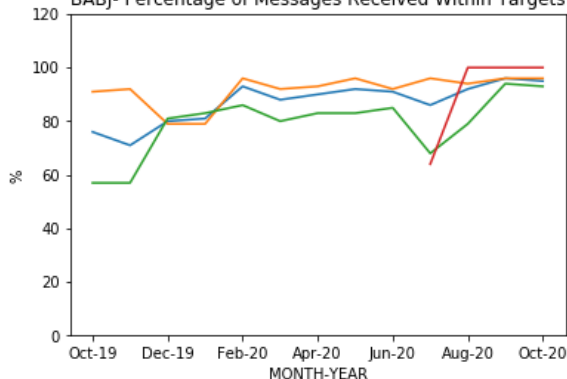
China - CSIO DAC (BABJ)

BABJ - Number of Messages Received/Month



■ TOTAL_BUFR_MSG ■ IRIIDIUM_MSG ■ ARGOS_MSG ■ BEIDOU_MSG

BABJ - Percentage of Messages Received Within Targets



— WITHIN_24HOUR — IRIIDIUM_IN_12HR — ARGOS_IN_24HR — BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

BUFR msgs:	136
Iridium BUFR msgs:	92
Argos BUFR msgs:	38
#Netcdf files:	300

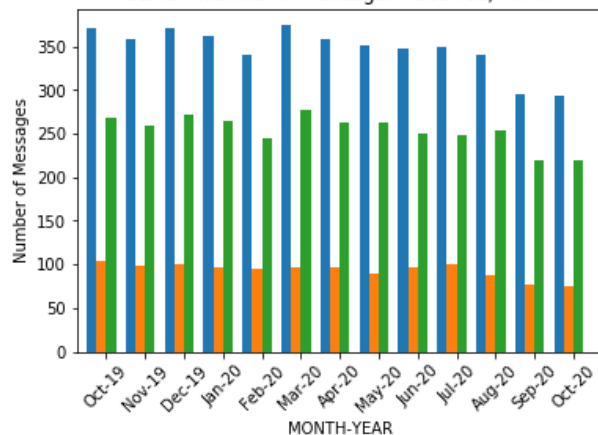
Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	87%
Iridium BUFR on GTS in 12 hr:	92%
Argos BUFR on GTS in 24 hr:	79%
Beidou BUFR on GTS in 12 hr:	91%



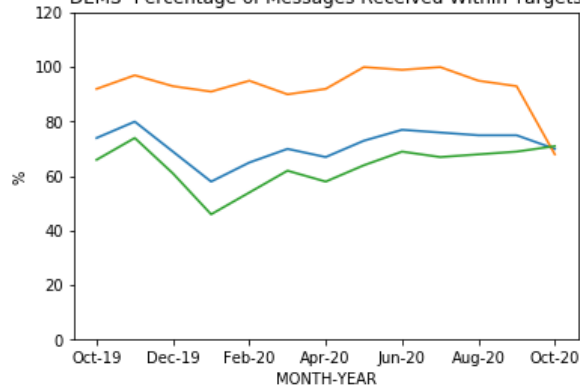
India - INCOIS DAC (DEMS)

DEMS - Number of Messages Received/Month



TOTAL_BUFR_MSG IRIIDIUM_MSG ARGOS_MSG BEIDOU_MSG

DEMS- Percentage of Messages Received Within Targets



WITHIN_24HOUR IRIIDIUM_IN_12HR ARGOS_IN_24HR BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

BUFR msgs:	347
Iridium BUFR msgs:	93
Argos BUFR msgs:	254
#Netcdf files:	430

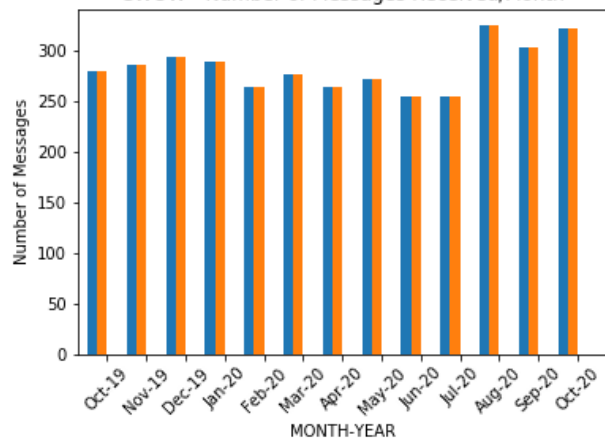
Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	72%
Iridium BUFR on GTS in 12 hr:	93%
Argos BUFR on GTS in 24 hr:	64%
Beidou BUFR on GTS in 12 hr:	0%



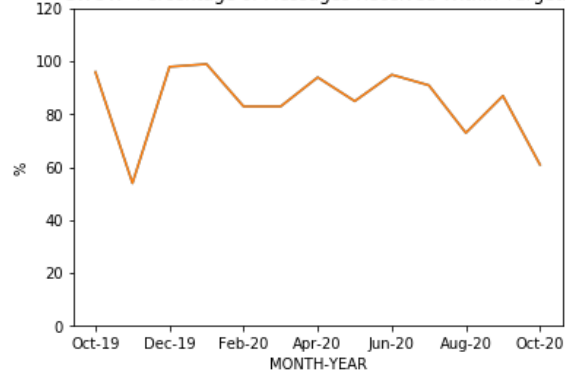
Canada - MEDS DAC (CWOW)

CWOW - Number of Messages Received/Month



TOTAL_BUFR_MSG IRIIDIUM_MSG ARGOS_MSG BEIDOU_MSG

CWOW- Percentage of Messages Received Within Targets



WITHIN_24HOUR IRIIDIUM_IN_12HR ARGOS_IN_24HR BEIDOU_IN_12HR

Monthly Average between
October 2019- October 2020:

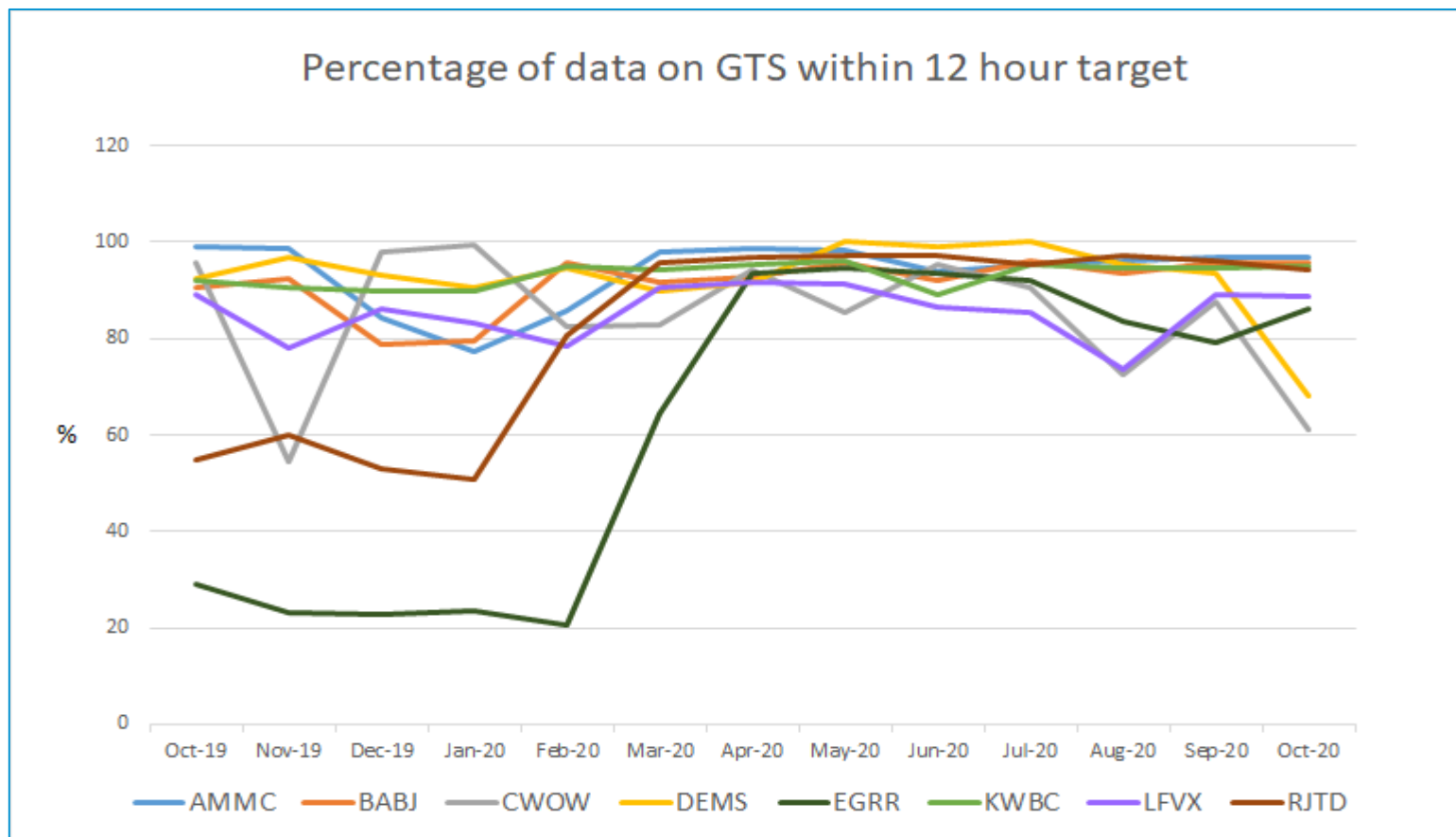
BUFR msgs:	283
Iridium BUFR msgs:	283
Argos BUFR msgs:	0
#Netcdf files:	283

Monthly Average between
October 2019- October 2020:

BUFR on GTS in 24 hr:	85%
Iridium BUFR on GTS in 12 hr:	85%
Argos BUFR on GTS in 24 hr:	0%
Beidou BUFR on GTS in 12 hr:	0%



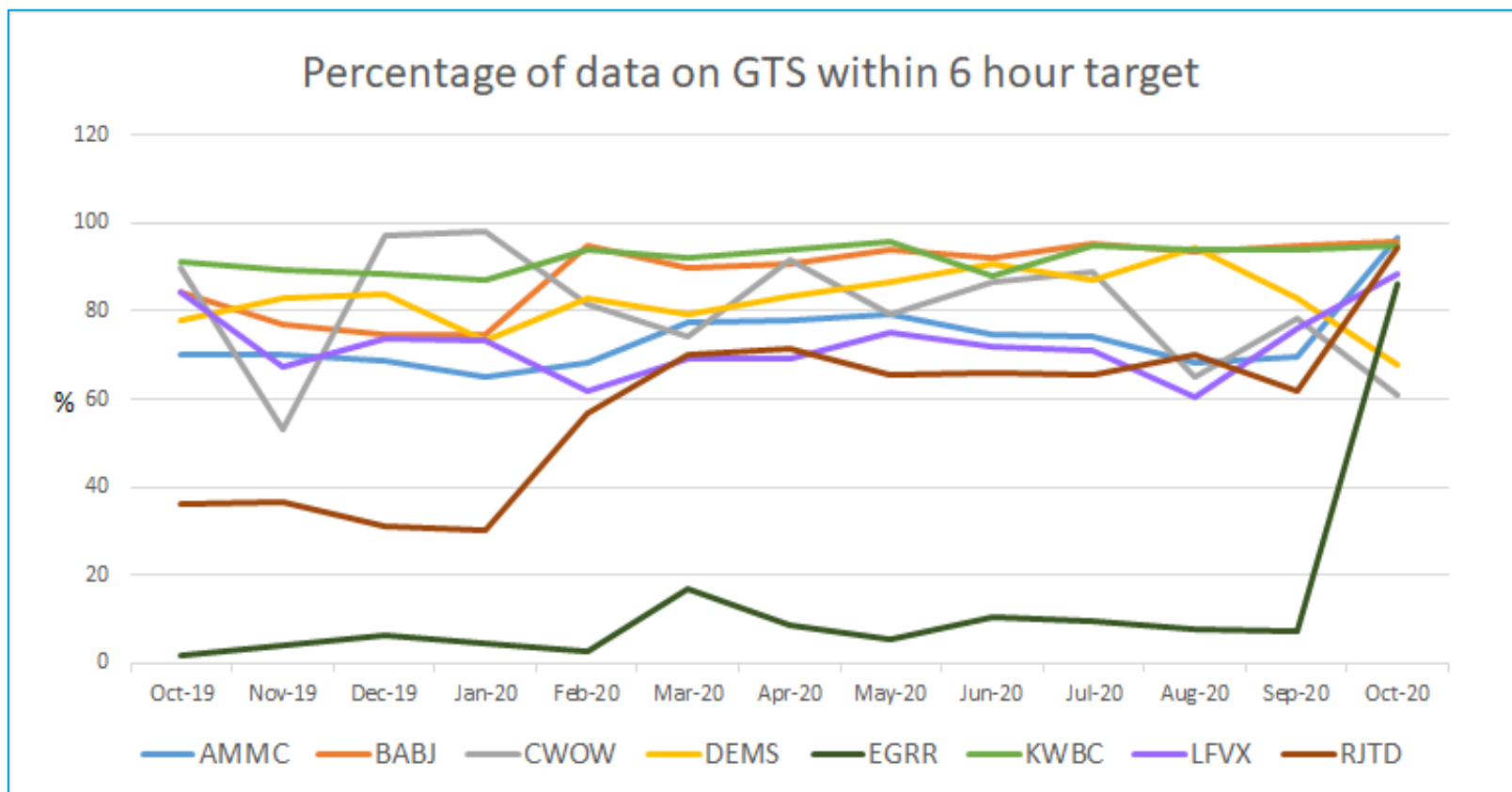
Percentage of data on GTS within 12 hour target by DACs



Note: LFVW(France-CLS), and RKSL(Korea) were not transmitting messages on Iridium satellite during the reporting period.



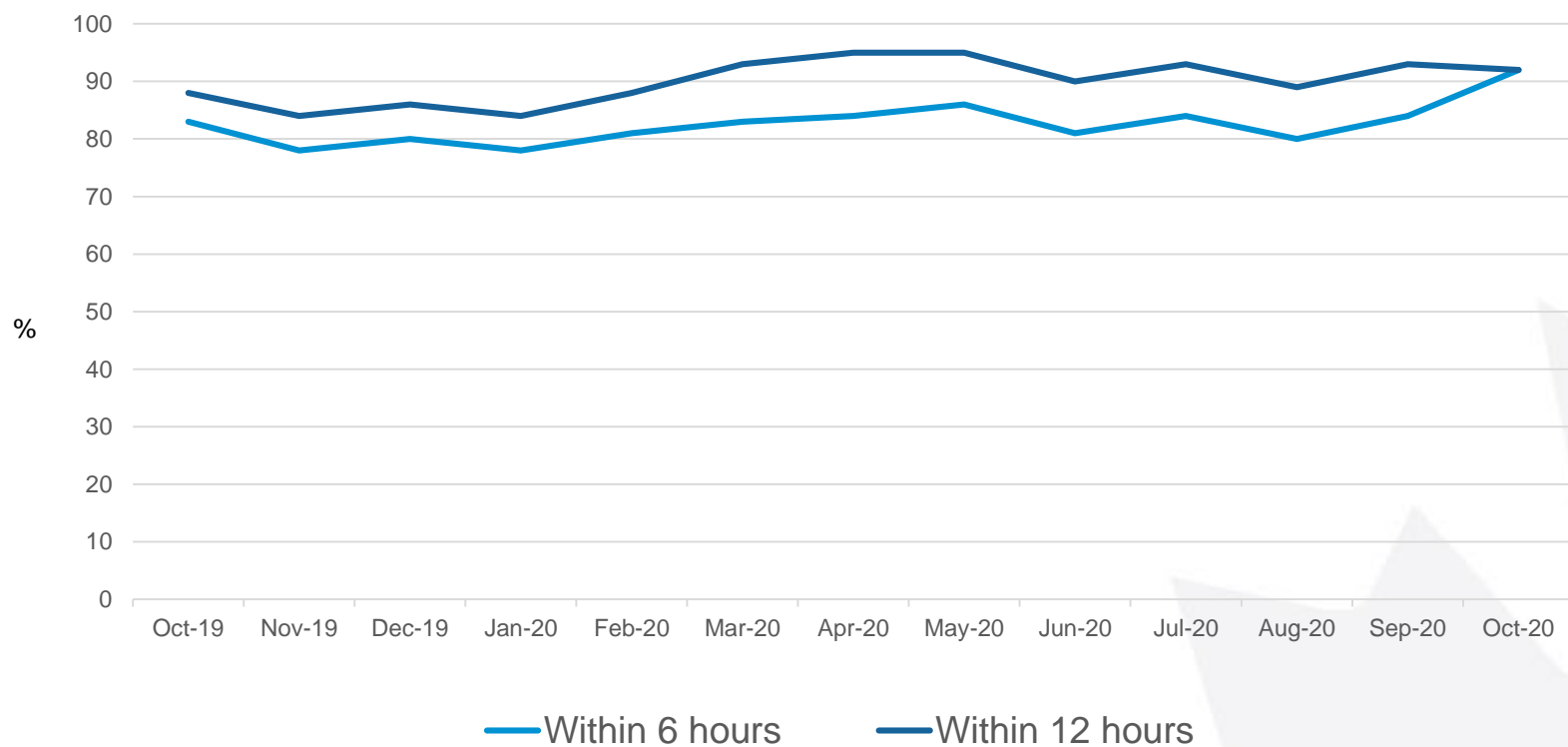
Percentage of data on GTS within 6 hour target by DACs



Note: LFVW(France-CLS), and RKSL(Korea) were not transmitting messages on Iridium satellite during the reporting period.



Percentage of Argo data on GTS within the 6 and 12 hour targets per month





Conclusions

- On average, 13453 BUFR messages were transmitted monthly on the GTS between Oct 2019 and Oct 2020, of which 90% of the message meet 12 hours target.
- We started to received messages transmitted on the Beidou satellite in July 2020
- If Argo changes timeliness target from 12 to 06 hours, 80% of Argo data meet the time target.
- Some DACs had issues (<80%) meeting the 12 hour target consistently.
- LFWW(France-CLS), and RKSL(Korea) were not reporting messages on the Iridium satellite system during the reporting period.



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Thank you !!