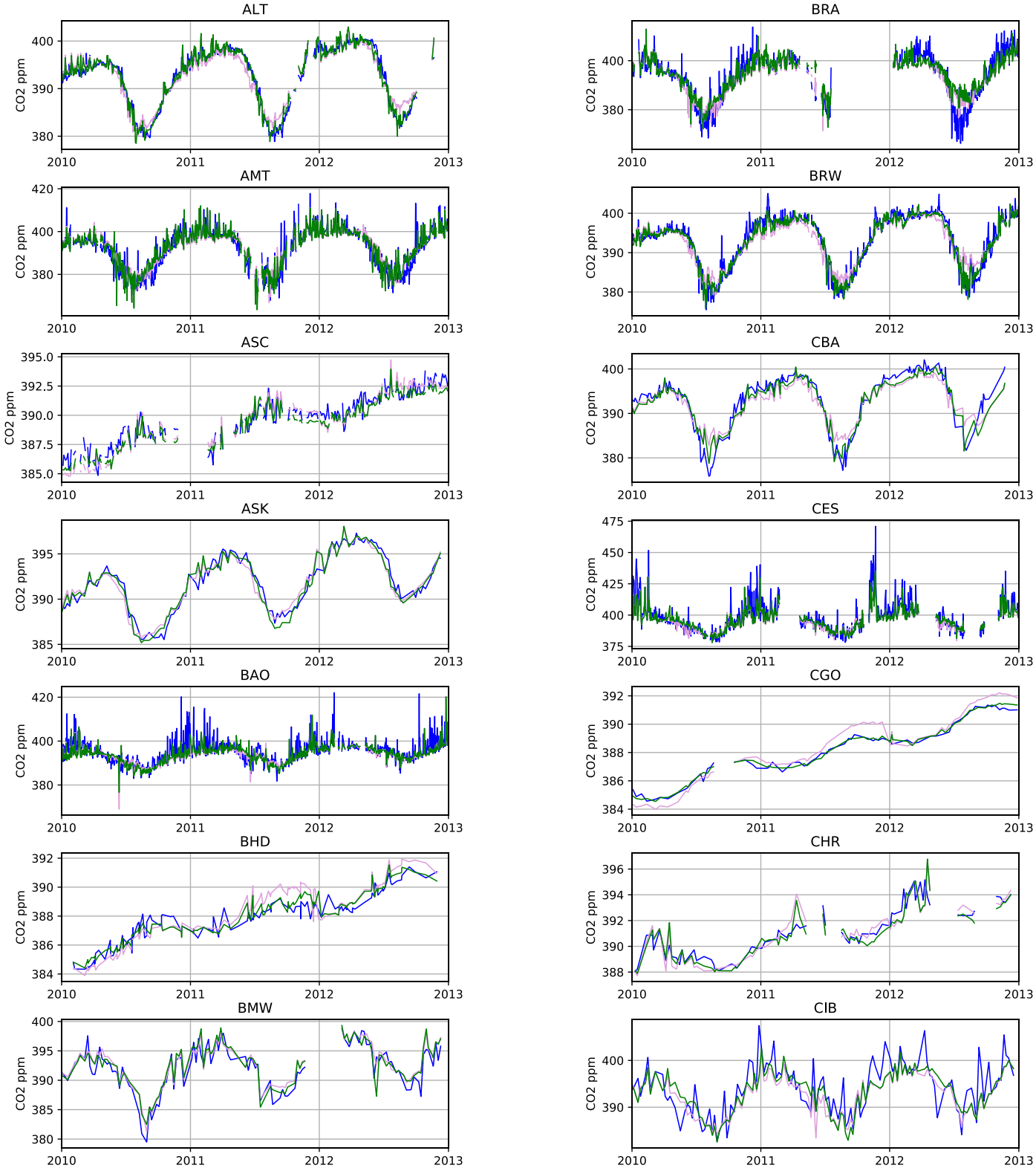
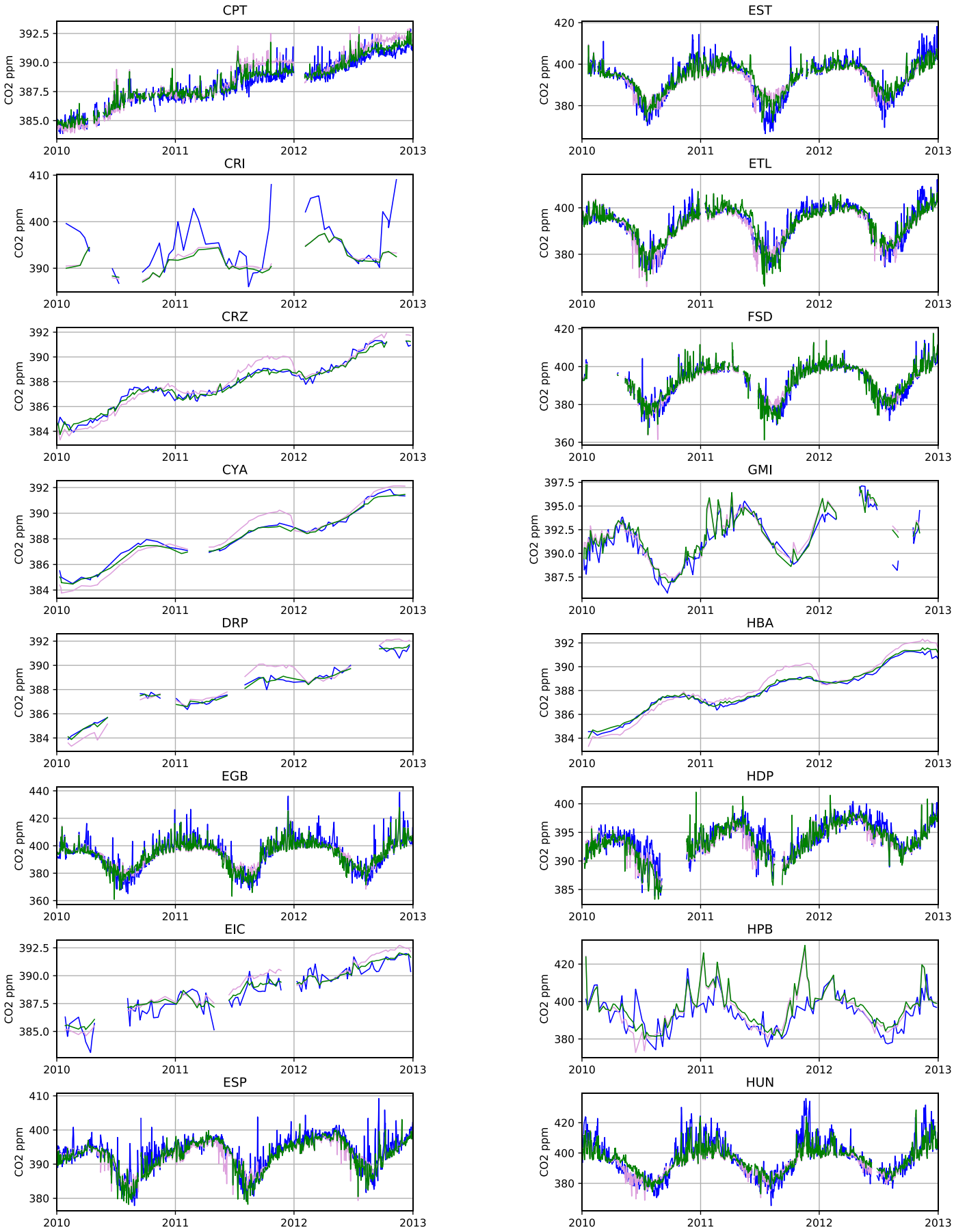
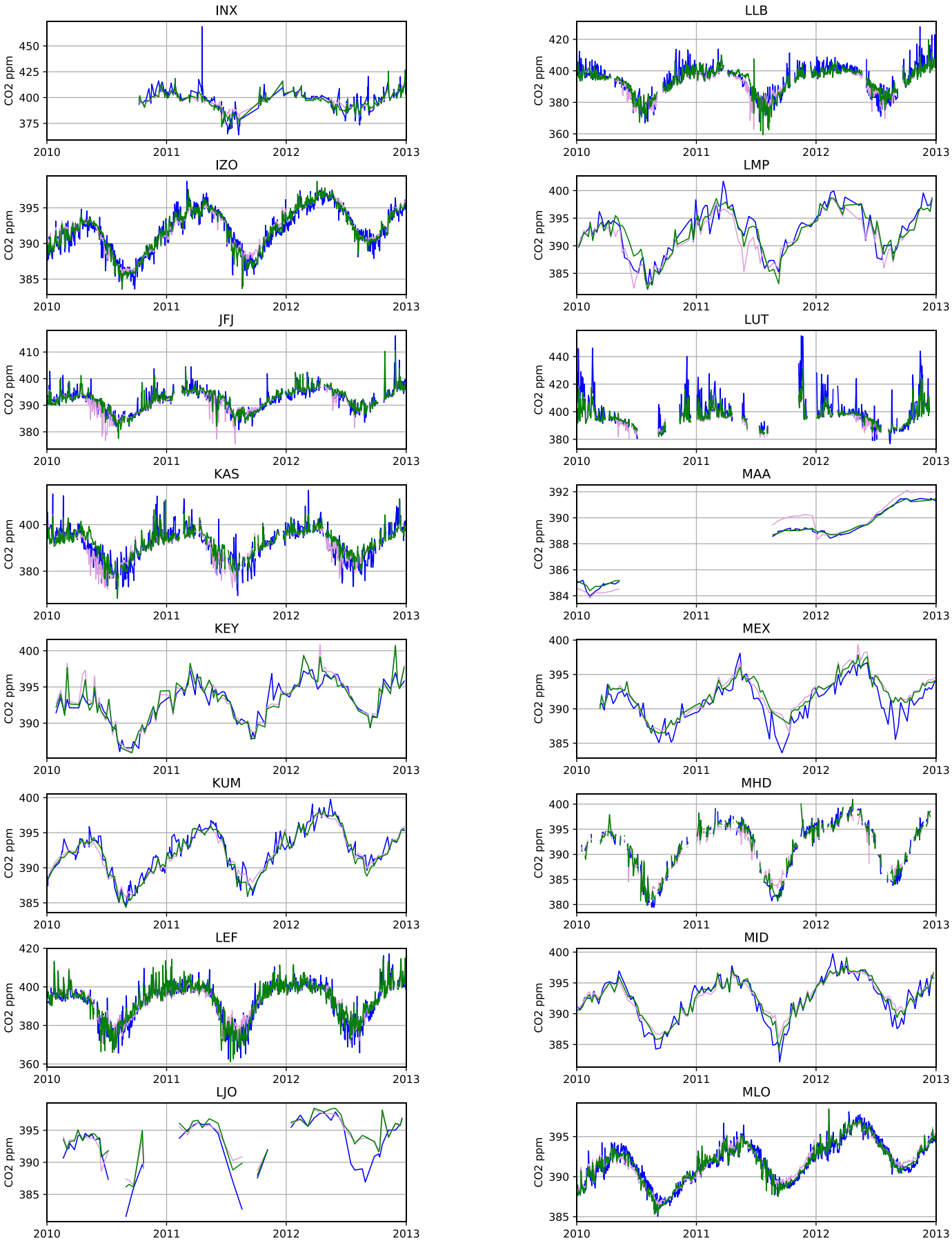
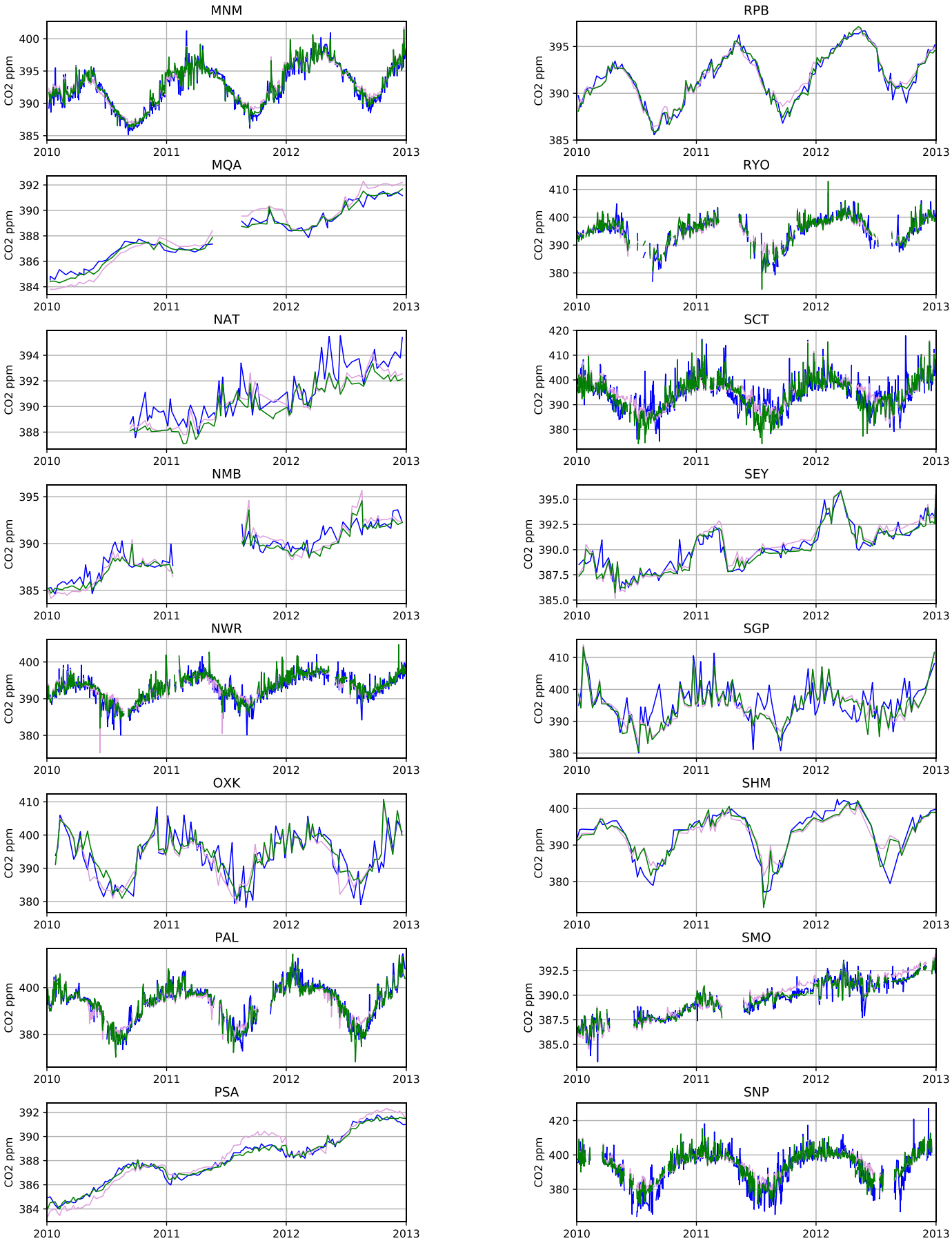
Supplementary information for acp-2020-251 “Technical note: High resolution inverse modelling technique for estimating surface CO_2 fluxes based on coupled NIES-TM - Flexpart transport model and its adjoint”, by S. Maksyutov and coauthors. Part 1.

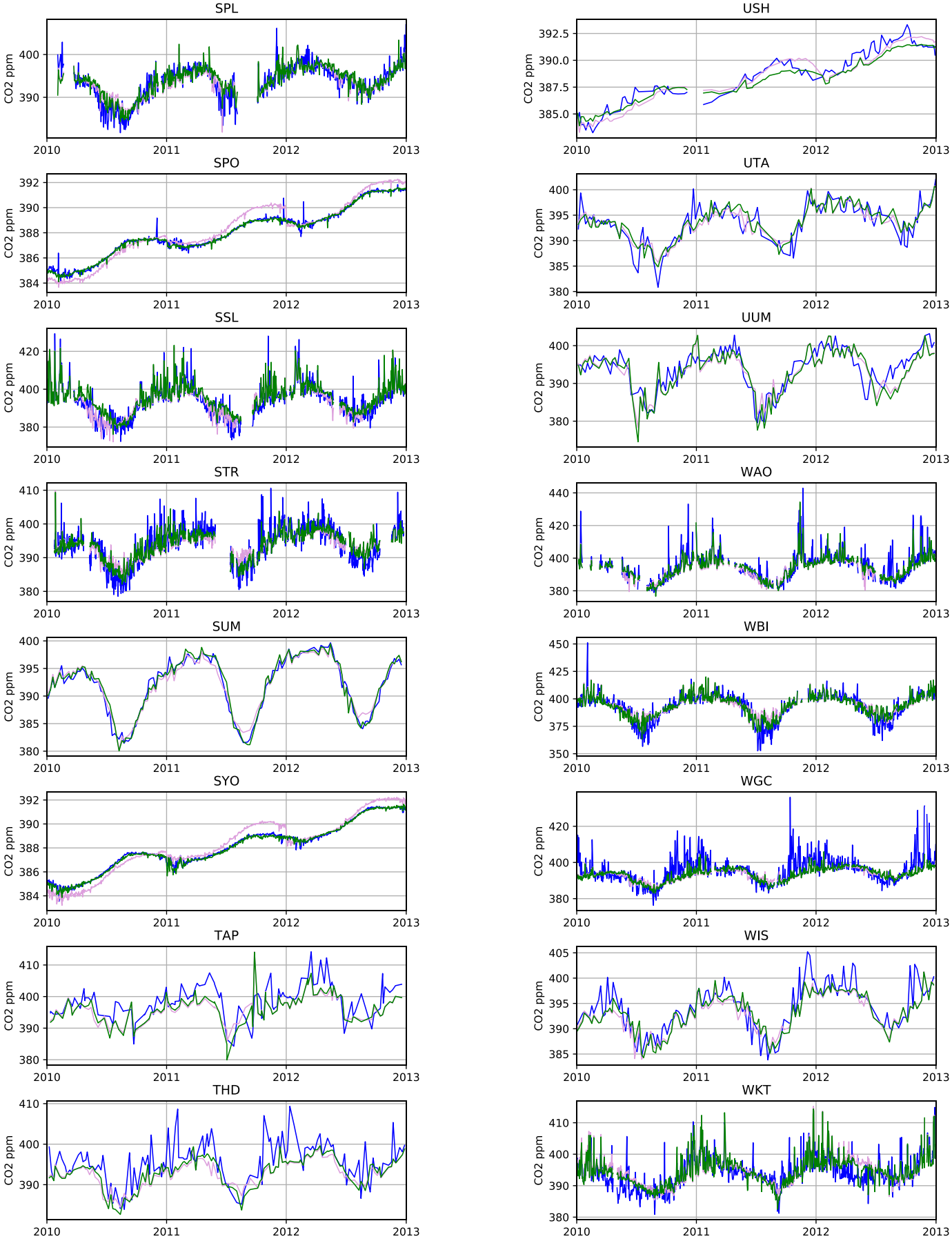
1.Time series plots for monitoring sites used in inversion (blue – observed, plum – forward, green – optimized)

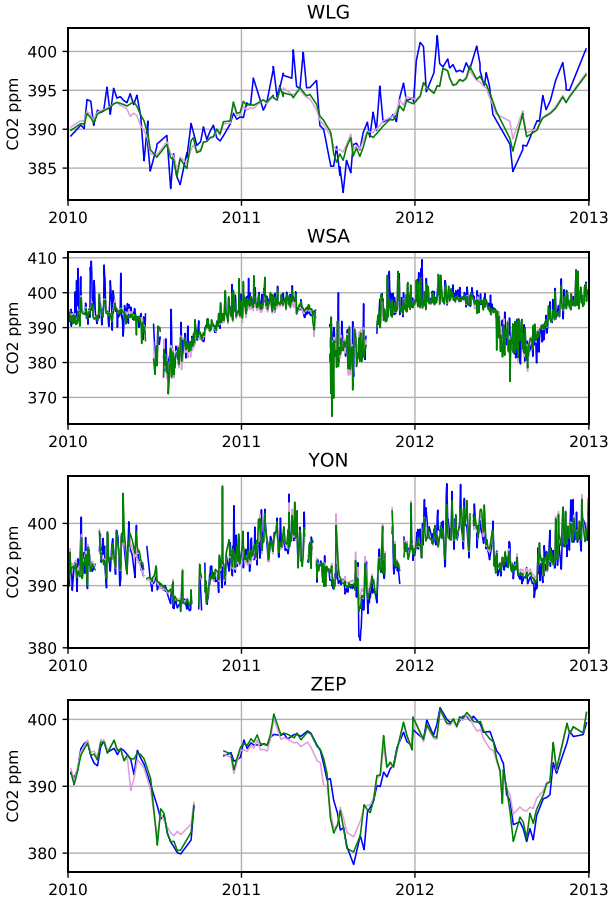



CPT
CRI
CRZ
CYA
DRP
EGB
EIC
ESP
EST
ETL
FSD
GMI
HBA
HDP
HPB
HUN
CO2 ppm
2010
2011
2012
2013


INX
LLB
IZO
LMP
JFJ
LUT
KAS
MAA
KEY
MEX
KUM
MHD
LEF
MID
LJO
MLO
CO2 ppm
2010
2011
2012
2013

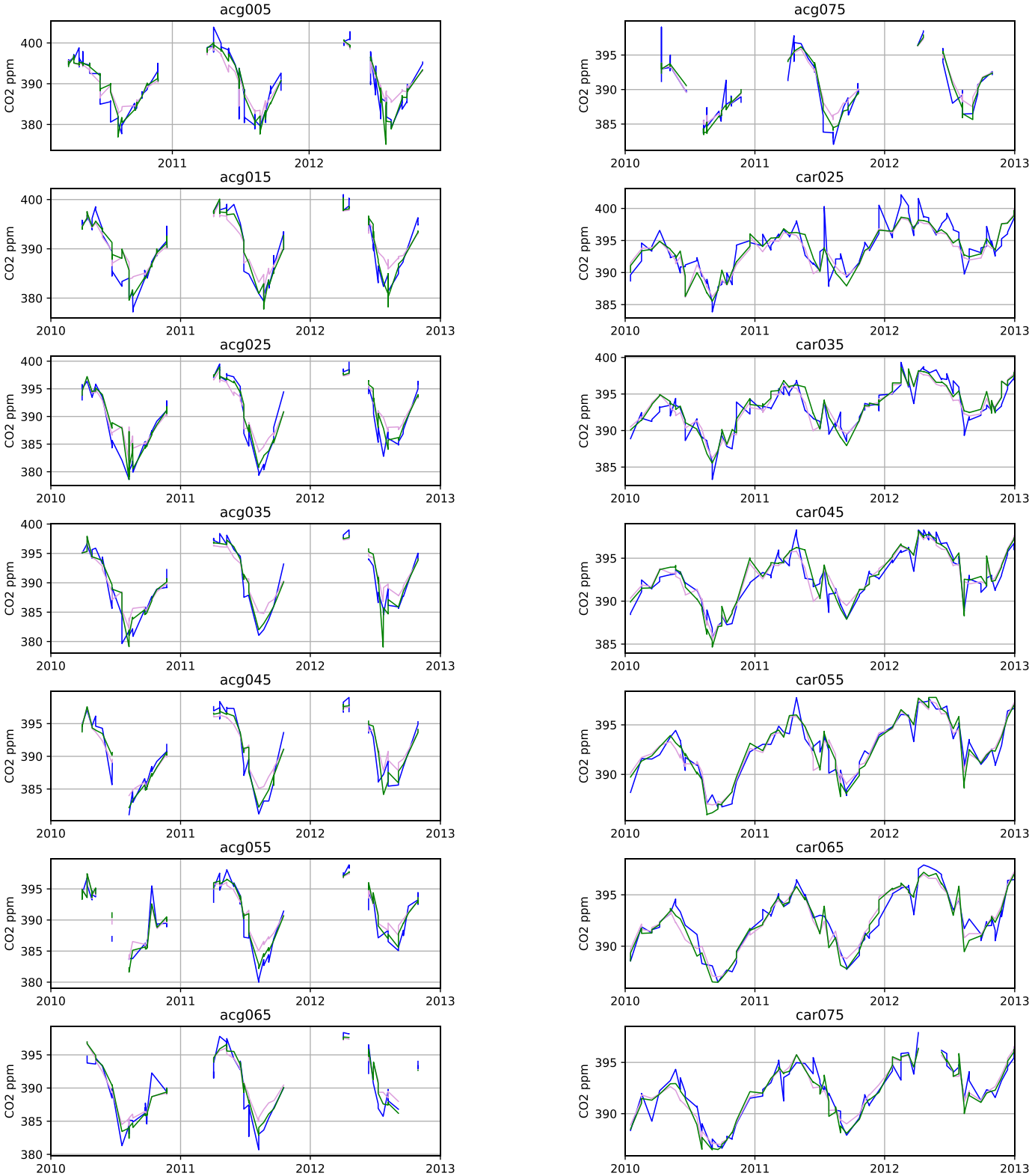

MNM
RPB
MQA
RYO
NAT
SCT
NMB
SEY
NWR
SGP
OXK
SHM
PAL
SMO
PSA
SNP
CO2 ppm
2010
2011
2012
2013

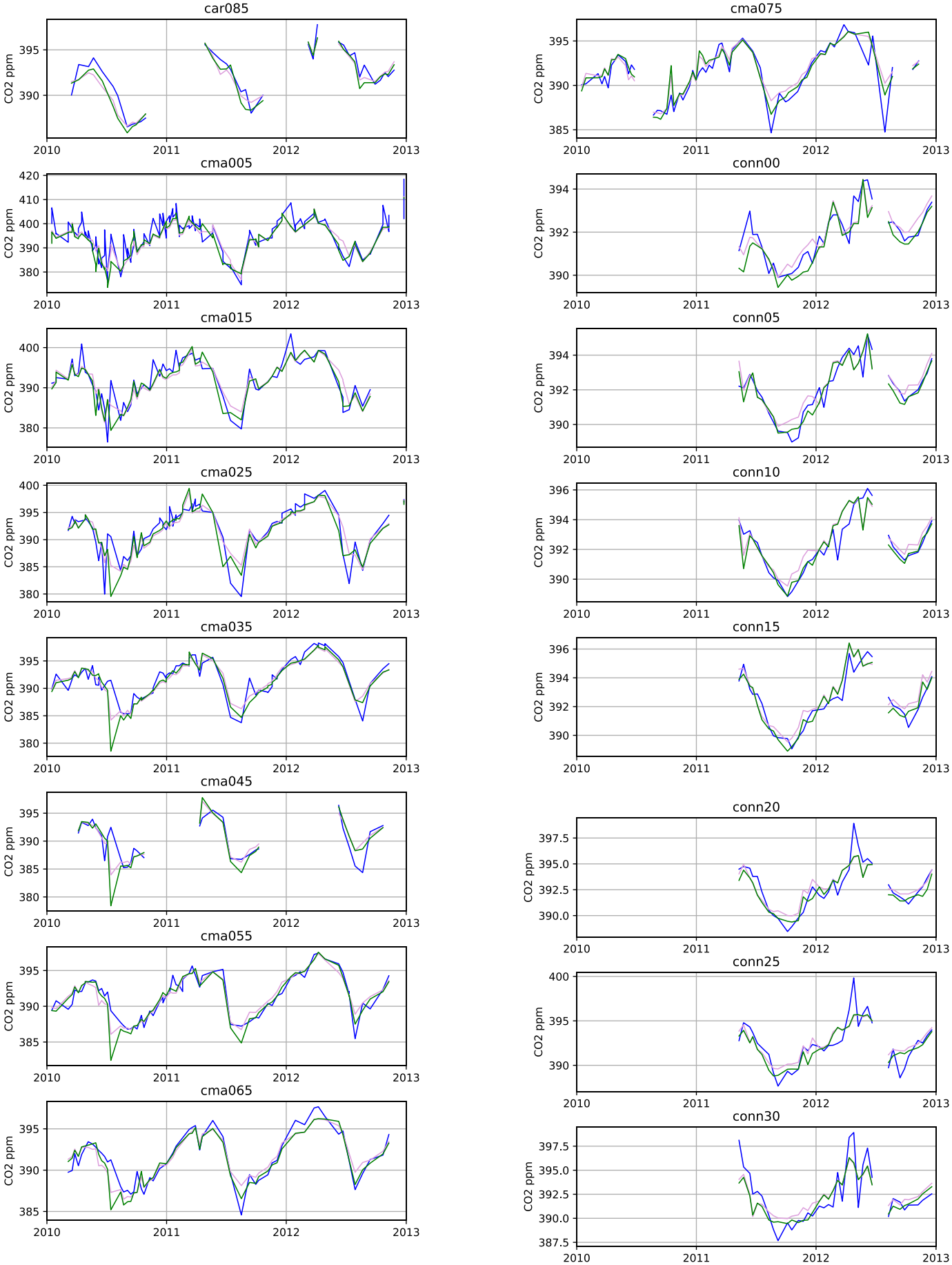

SPL
USH
SPO
UTA
SSL
UUM
STR
WAO
SUM
WBI
SYO
WGC
TAP
WIS
THD
WKT
CO2 ppm
2010
2011
2012
2013

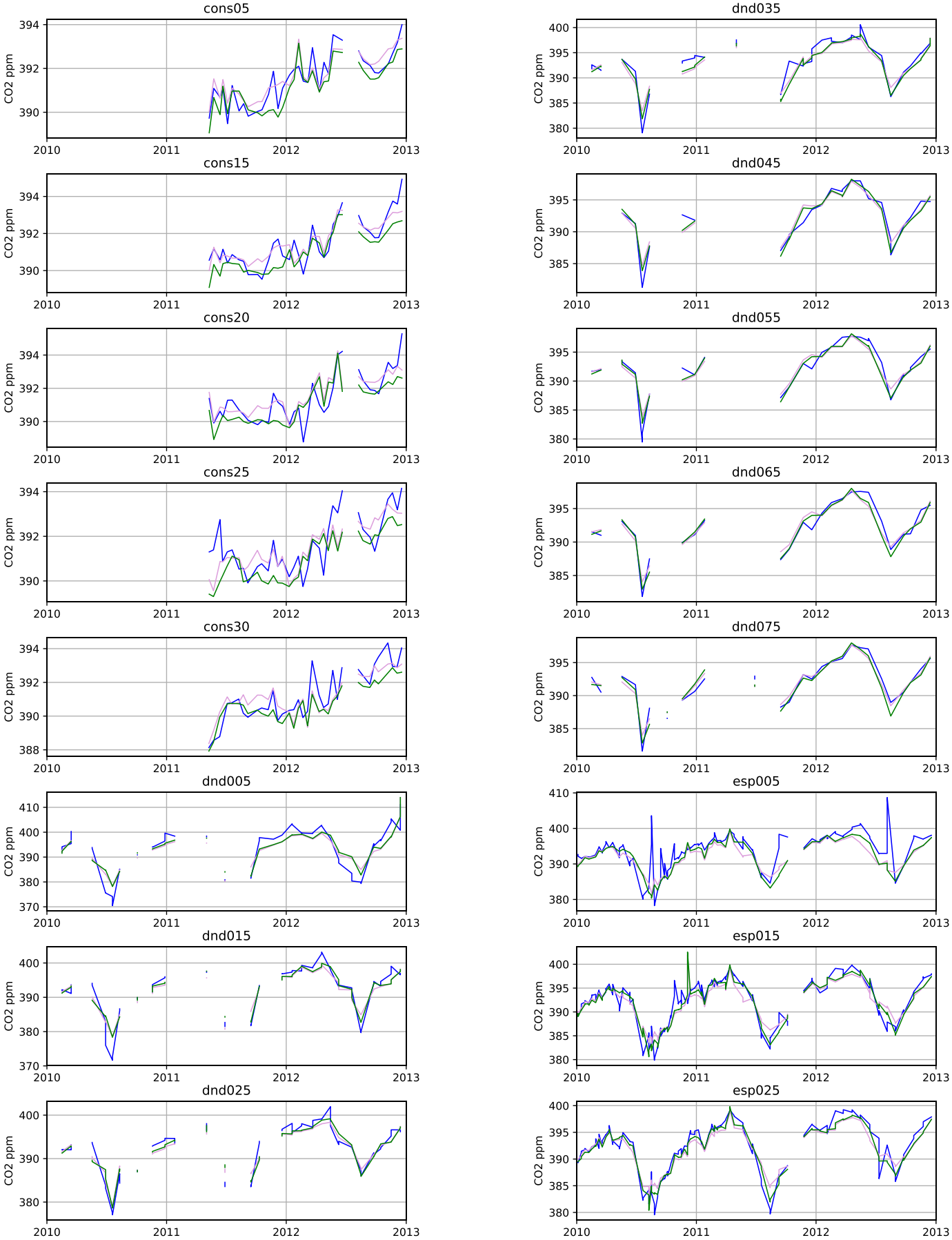

WLG
CO2 ppm
400
395
390
385
2010
2011
2012
2013
WSA
CO2 ppm
410
400
390
380
370
2010
2011
2012
2013
YON
CO2 ppm
400
390
380
2010
2011
2012
2013
ZEP
CO2 ppm
400
390
380
2010
2011
2012
2013

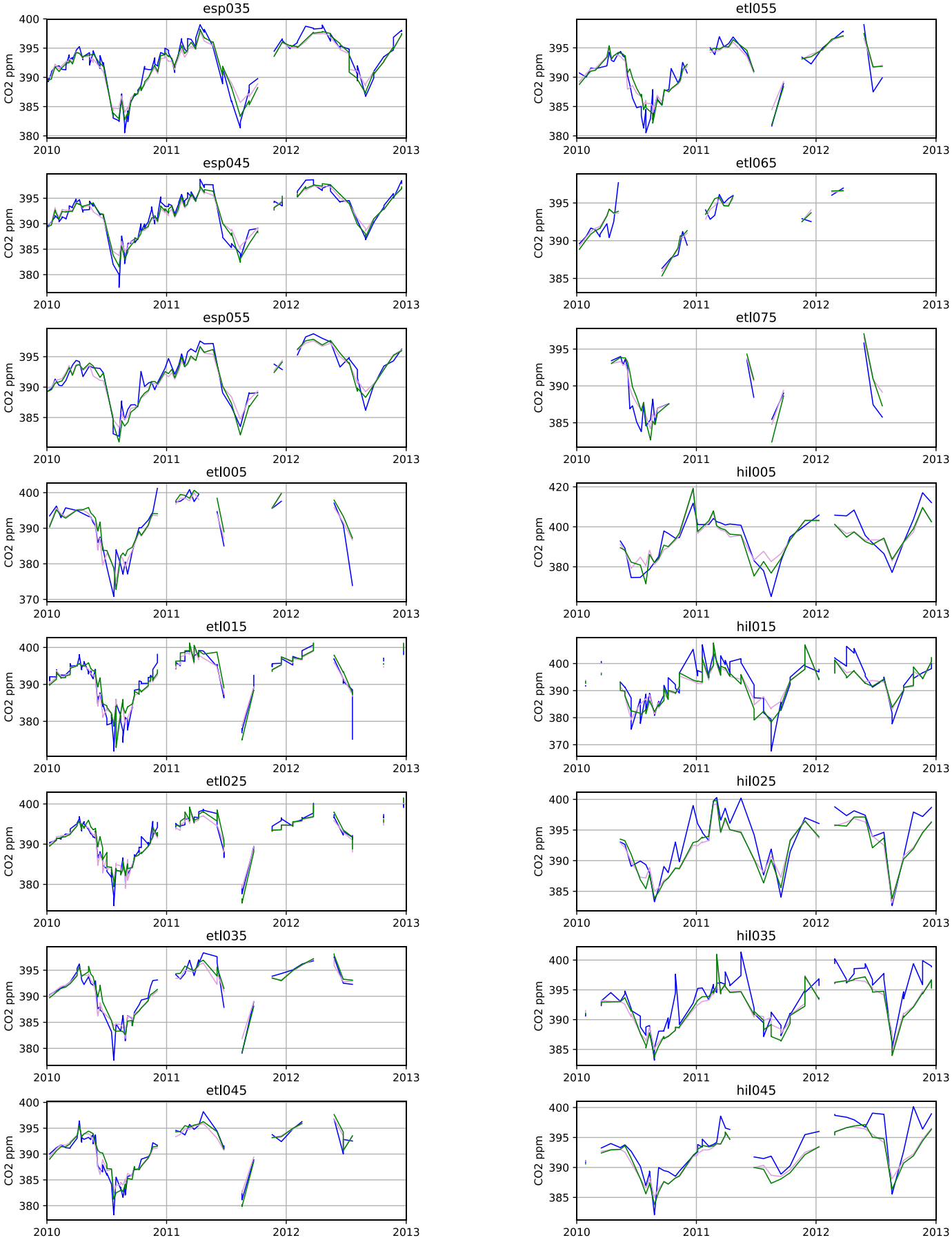
Supplementary information for acp-2020-251 “Technical note: High resolution inverse modelling technique for estimating surface CO_2 fluxes based on coupled NIES-TM - Flexpart transport model and its adjoint”, by S. Maksyutov and coauthors. Part 2.

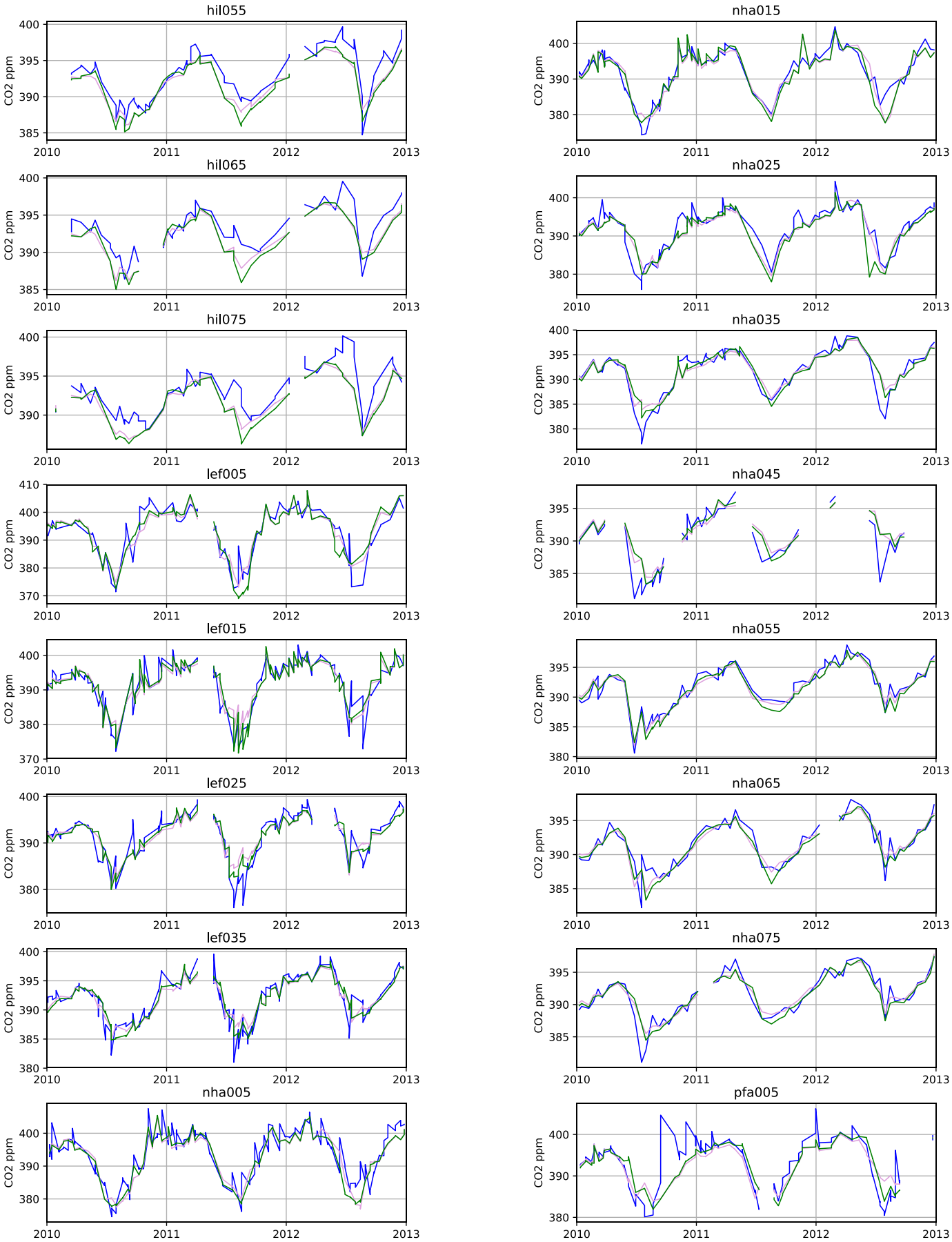
2. Time series plots for aircraft data and model simulations used in validation (blue – observed, plum – forward, green – optimized)

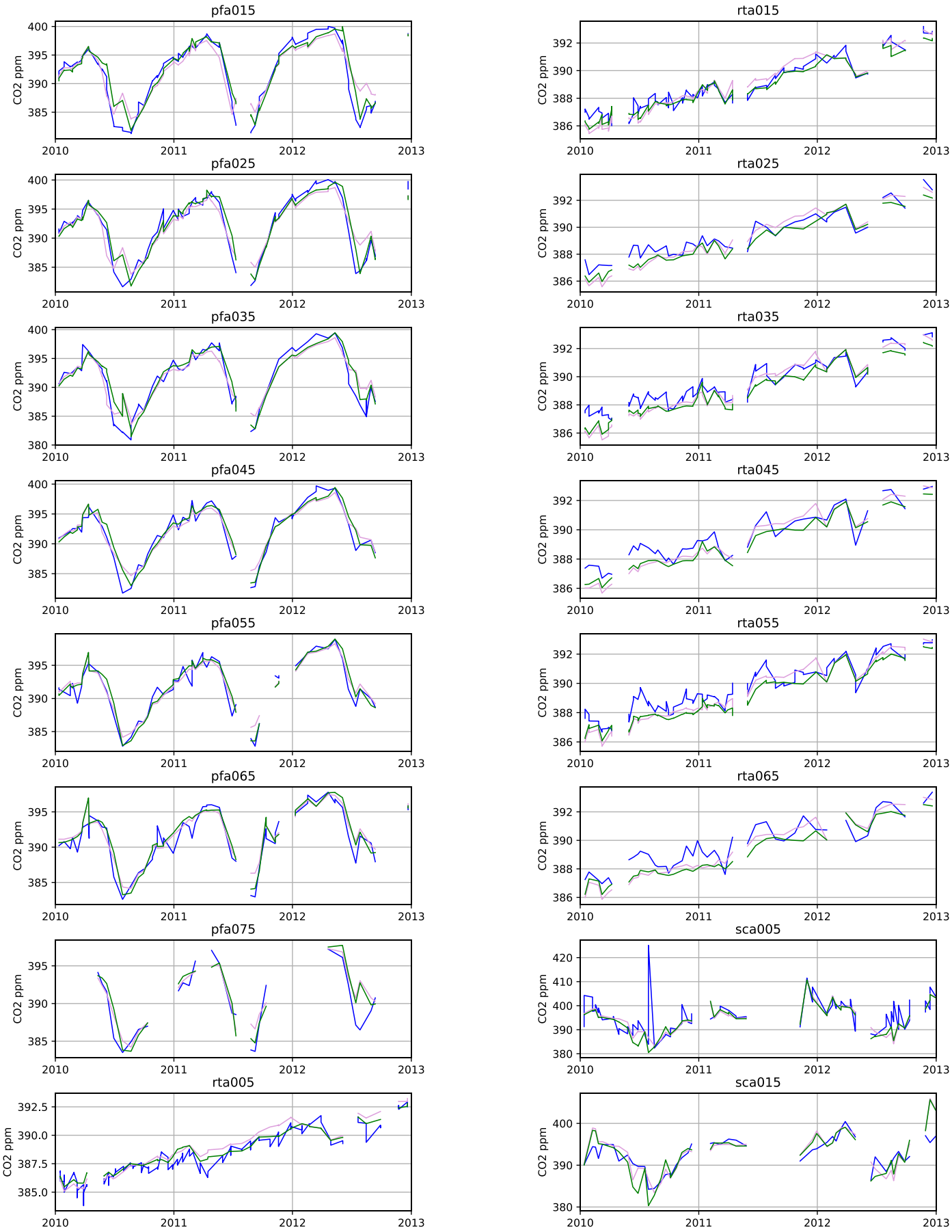


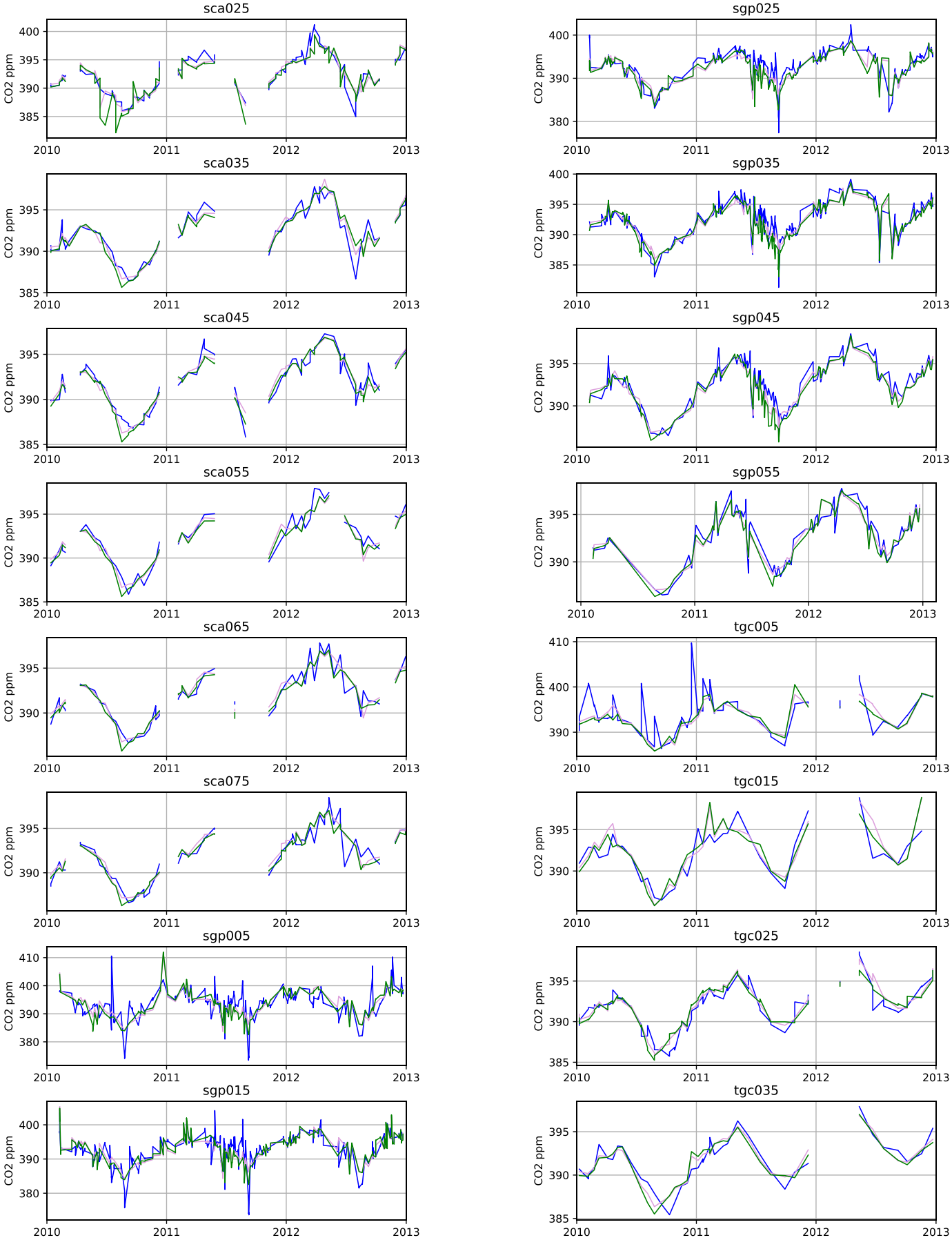

car085
cma075
cma005
conn00
cma015
conn05
cma025
conn10
cma035
conn15
cma045
conn20
cma055
conn25
cma065
conn30
CO2 ppm
2010
2011
2012
2013

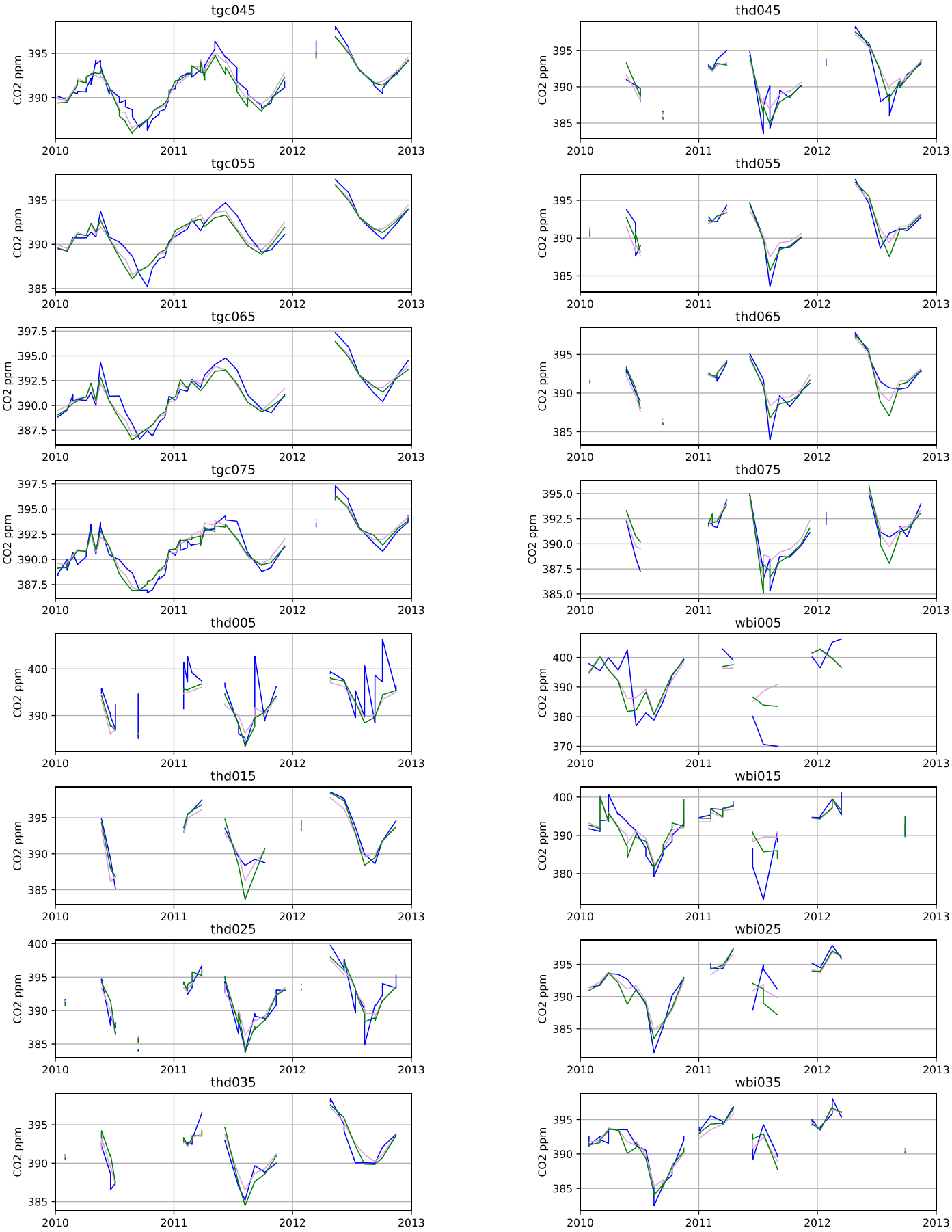

cons05
dnd035
cons15
dnd045
cons20
dnd055
cons25
dnd065
cons30
dnd075
dnd005
esp005
dnd015
esp015
dnd025
esp025
CO2 ppm
2010
2011
2012
2013

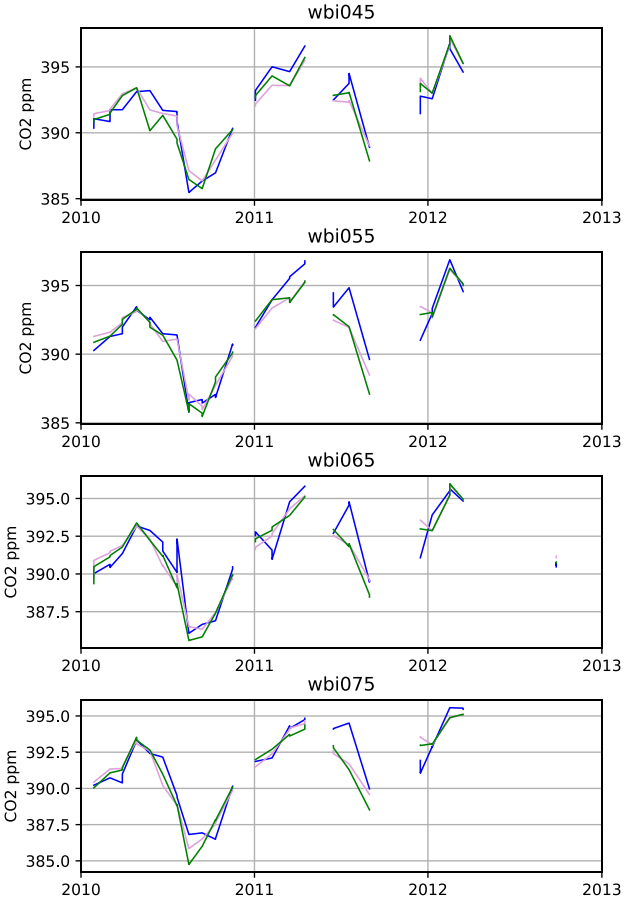

esp035
etl055
esp045
etl065
esp055
etl075
etl005
hil005
etl015
hil015
etl025
hil025
etl035
hil035
etl045
hil045
CO2 ppm
2010
2011
2012
2013


hil055
hil065
hil075
lef005
lef015
lef025
lef035
nha005
nha015
nha025
nha035
nha045
nha055
nha065
nha075
pfa005
CO2 ppm
2010
2011
2012
2013


pfa015
rta015
pfa025
rta025
pfa035
rta035
pfa045
rta045
pfa055
rta055
pfa065
rta065
pfa075
sca005
rta005
sca015
CO2 ppm
2010
2011
2012
2013


sca025
sgp025
sca035
sgp035
sca045
sgp045
sca055
sgp055
sca065
tgc005
sca075
tgc015
sgp005
tgc025
sgp015
tgc035
CO2 ppm
2010
2011
2012
2013


tgc045
thd045
tgc055
thd055
tgc065
thd065
tgc075
thd075
thd005
wbi005
thd015
wbi015
thd025
wbi025
thd035
wbi035
CO2 ppm
2010
2011
2012
2013


wbi045
CO2 ppm
395
390
385
2010
2011
2012
2013
wbi055
CO2 ppm
395
390
385
2010
2011
2012
2013
wbi065
CO2 ppm
395.0
392.5
390.0
387.5
2010
2011
2012
2013
wbi075
CO2 ppm
395.0
392.5
390.0
387.5
385.0
2010
2011
2012
2013