

# Examination of Reprocessing Network Coverage

I. Romero

Analysis of station uses in the  
IGS reprocessing campaign

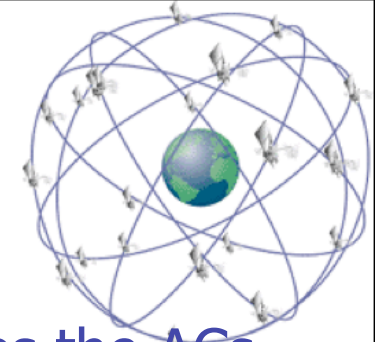
Navigation  
Support  
Office

ESOC/OPS-GN

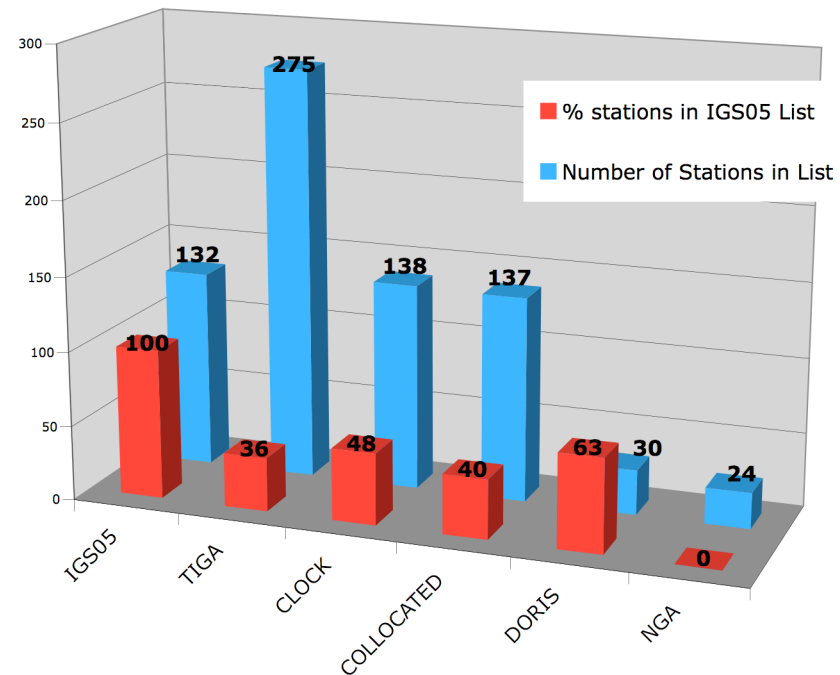


Examination of Reprocessing Network Coverage

# Stations for the Reprocessing

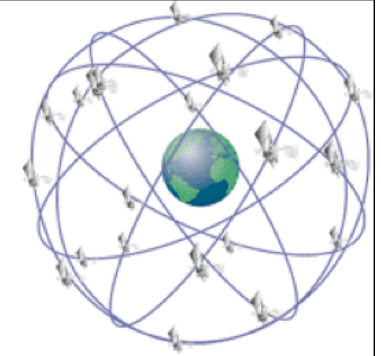


- A better re-estimation of all the IGS products requires the ACs to decide on stations to process
- Several interest groups have produced station lists to influence AC's selections: IGS05-REF, CLK, DORIS, TGA, COL, NGA
- 272 stations, many of which are on several lists:
- Covering each station with 3 AC solutions is important for combinations



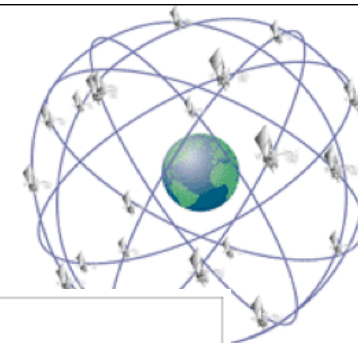
	IGS05	TIGA	CLOCK	COLLOCATED	DORIS	NGA
% stations in IGS05 List	100	36	48	40	63	0
Number of Stations in List	132	275	138	137	30	24

# Consolidating the lists

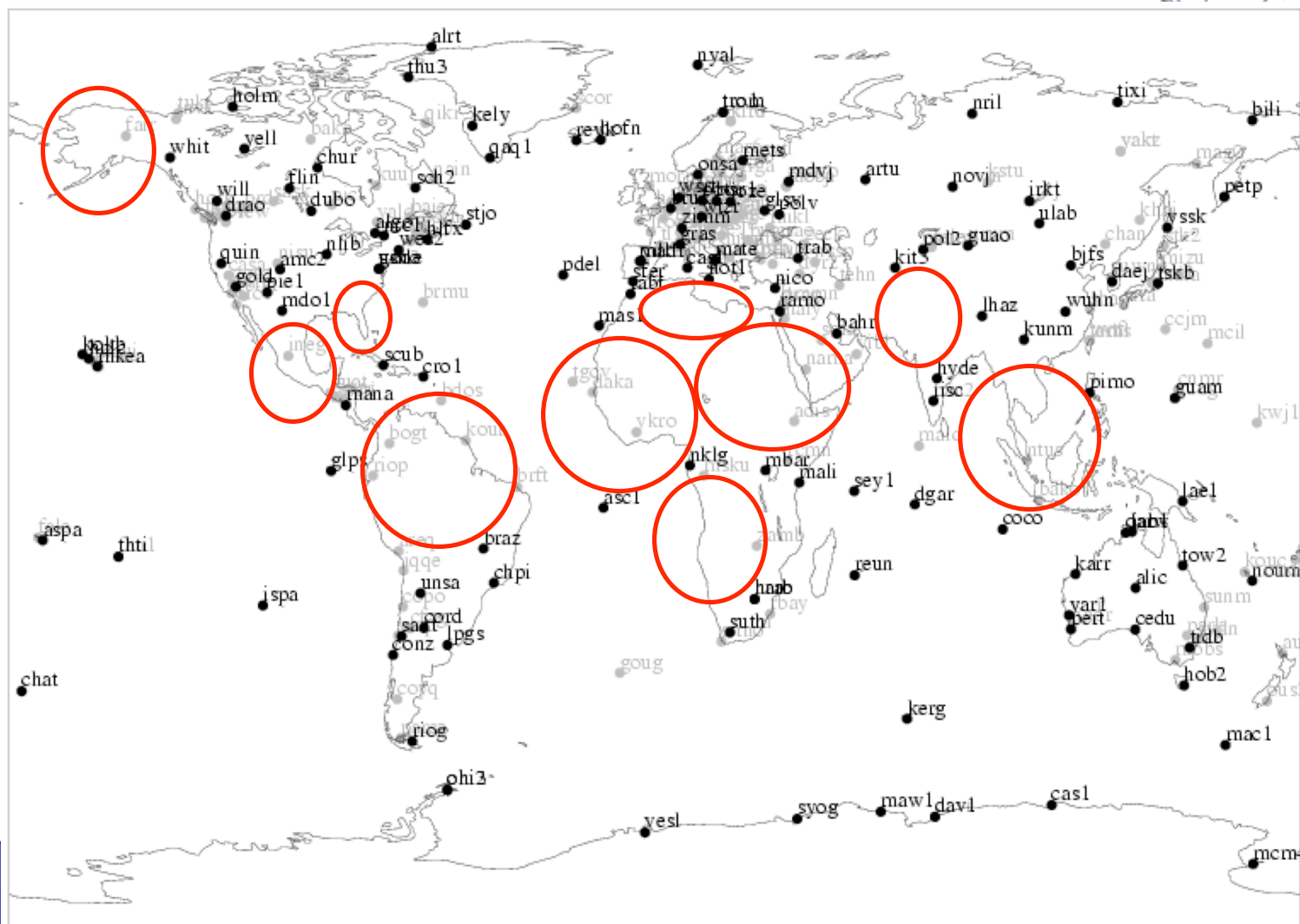


- *IGS05.sta* stations (132) are essential !!
- *SECOND.sta* (77 stats) all the CLK and Doris stations not already in above.
- *NGA.sat* (22 stats) - included if possible
- Collocated and TIGA cannot be covered easily in the reprocessing
- *COL.sta* (81 stats) and *TIGA.sta* (175 stats) which are not covered in IGS05
- To analyze how well the stations from the defined lists are covered by the first y2007 solutions

# IGS05.sta



- 132 stations:



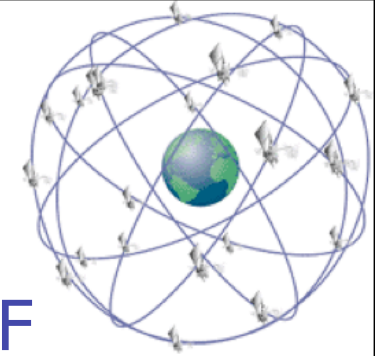
Navigation  
Support  
Office

ESOC/OPS-GN

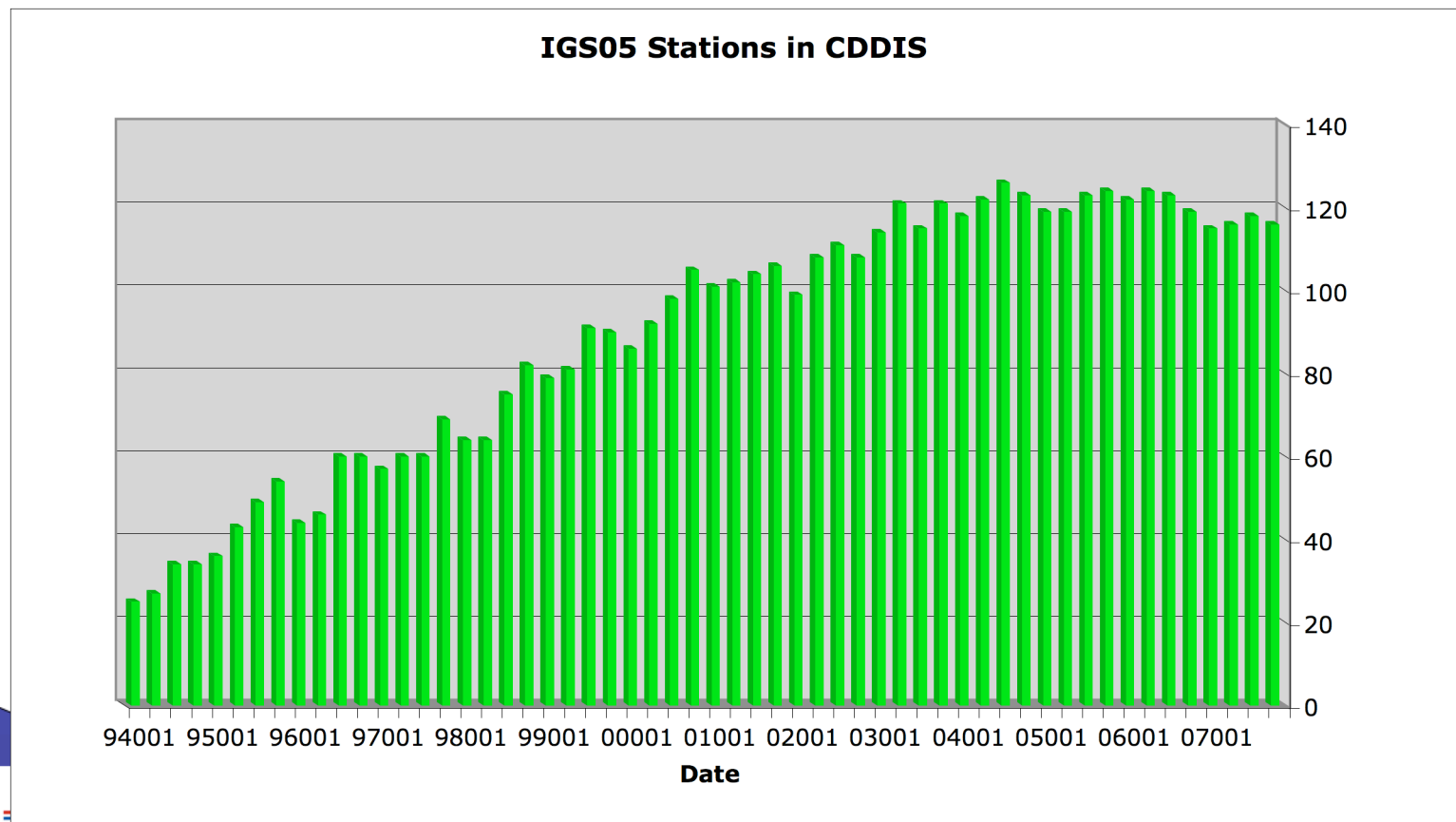


Examination of Reprocessing Network Coverage

# IGS05 Stations Available



- There are 132 stations used for the IGS ITRF realization.
- Not all the stations are available over time:

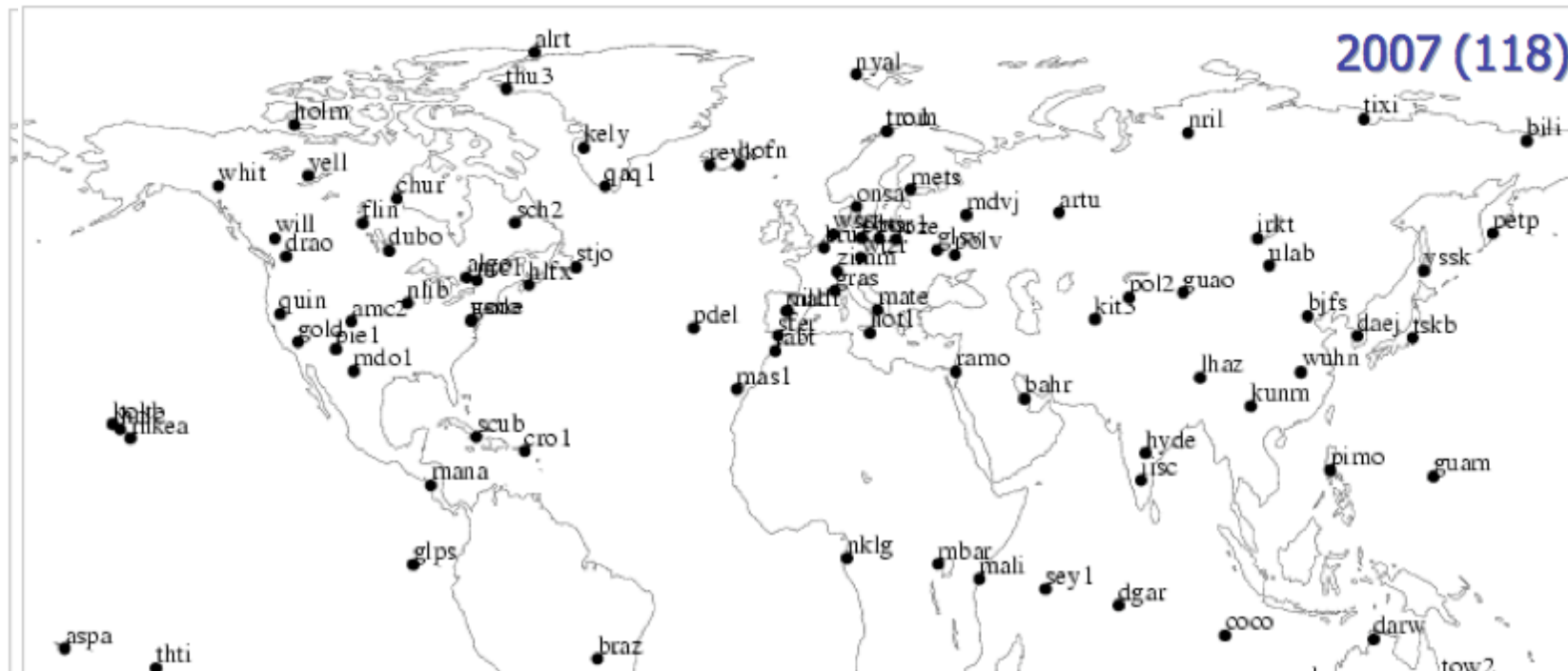
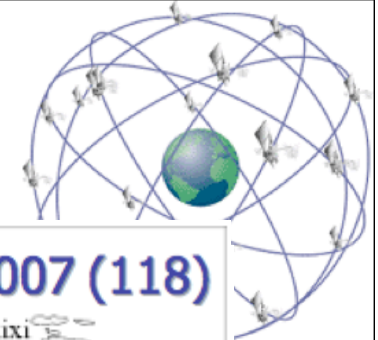


Navigation  
Support  
Office

ESOC/OPS-GN



# IGS05 Stations Available



2007 (118)

ACs need to consider the IGS05 list preferentially to make sure we have Ref Frame Stability over the reprocessing period '94-'07

# NGA station name changes



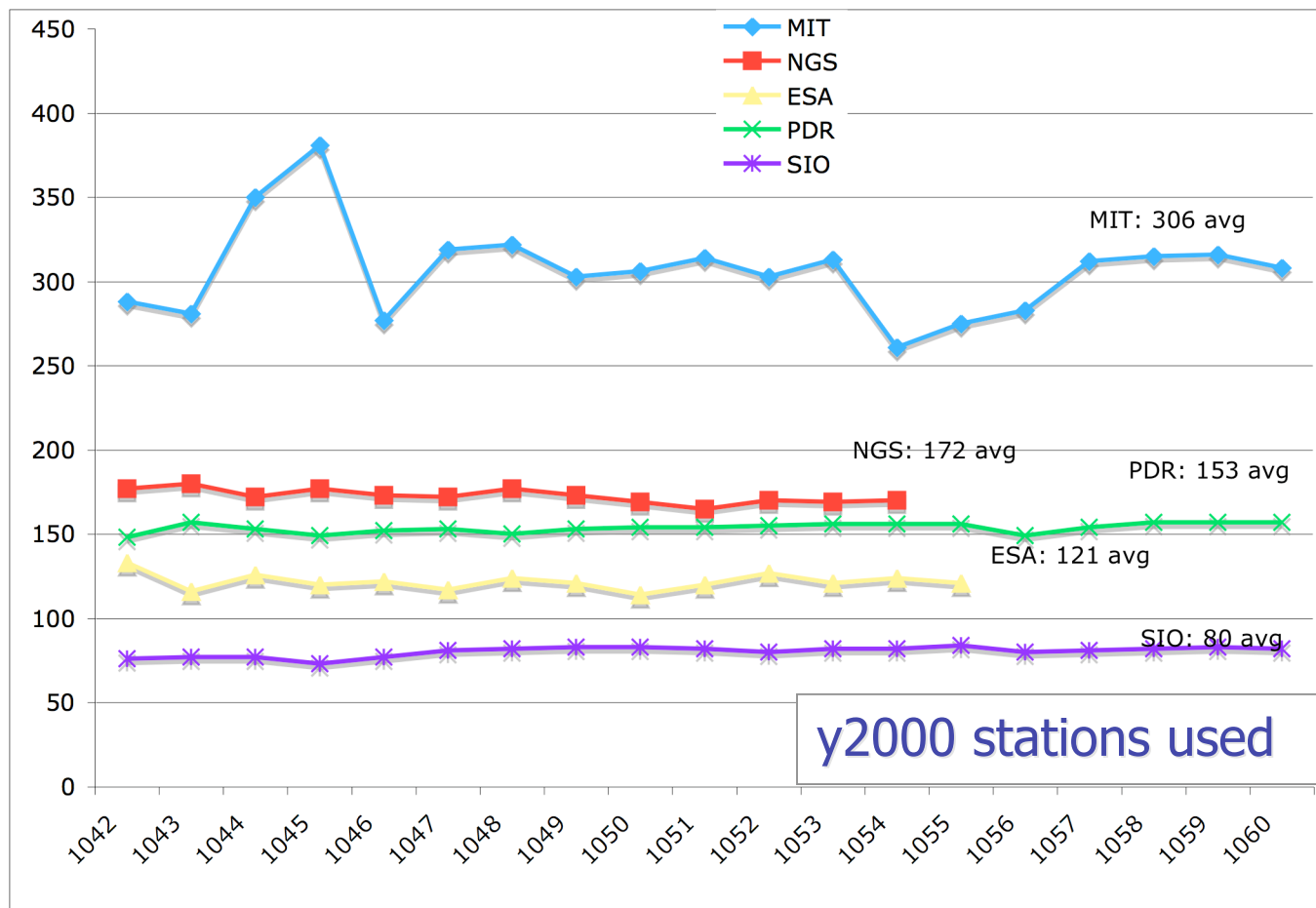
- The data is available but the naming was confusing: (s/u)NN(1/2) and changing each day!!
- There are 24 independent receivers sharing an antenna at each location with an NN designation:

(s/u)01(1/2)	St. Louis, US	removed	removed
(s/u)02(1/2)	Adelaide, AUS	<b>ade1</b>	<b>ade2</b>
(s/u)03(1/2)	Buenos Aires	<b>bue1</b>	<b>bue2</b>
(s/u)04(1/2)	Hermitage, UK	<b>hrm1</b>	<b>hrm2</b>
(s/u)05(1/2)	Bahrain	<b>bhr1</b>	<b>bhr2</b>
(s/u)06(1/2)	Quito, ECU	<b>qui1</b>	<b>qui2</b>
(s/u)07(1/2)	Washington, US	<b>wdc1</b> <b>wdc3</b>	<b>wdc2</b> <b>wdc4</b>
(s/u)10(1/2)	Eielson, US	<b>eil1</b>	<b>eil2</b>
(s/u)11(1/2)	Wellington, NZ	<b>wel1</b>	<b>wel2</b>
(s/u)12(1/2)	Pretoria, ZA	<b>pre1</b>	<b>pre2</b>
(s/u)13(1/2)	Osan, S Korea	<b>osn1</b>	<b>osn2</b>
(s/u)14(1/2)	Tahiti	<b>tah1</b>	<b>tah2</b>

# Reprocessing Station Usage



- Stations used have been analyzed from the y2000 test period:



y2000 stations used

Examination of Reprocessing Network Coverage

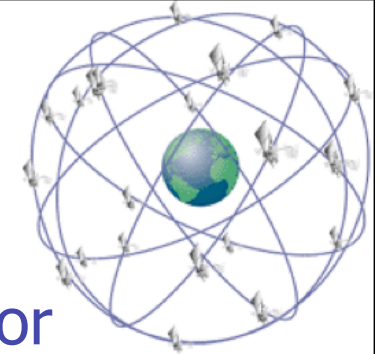
Navigation Support Office

ESOC/OPS-GN

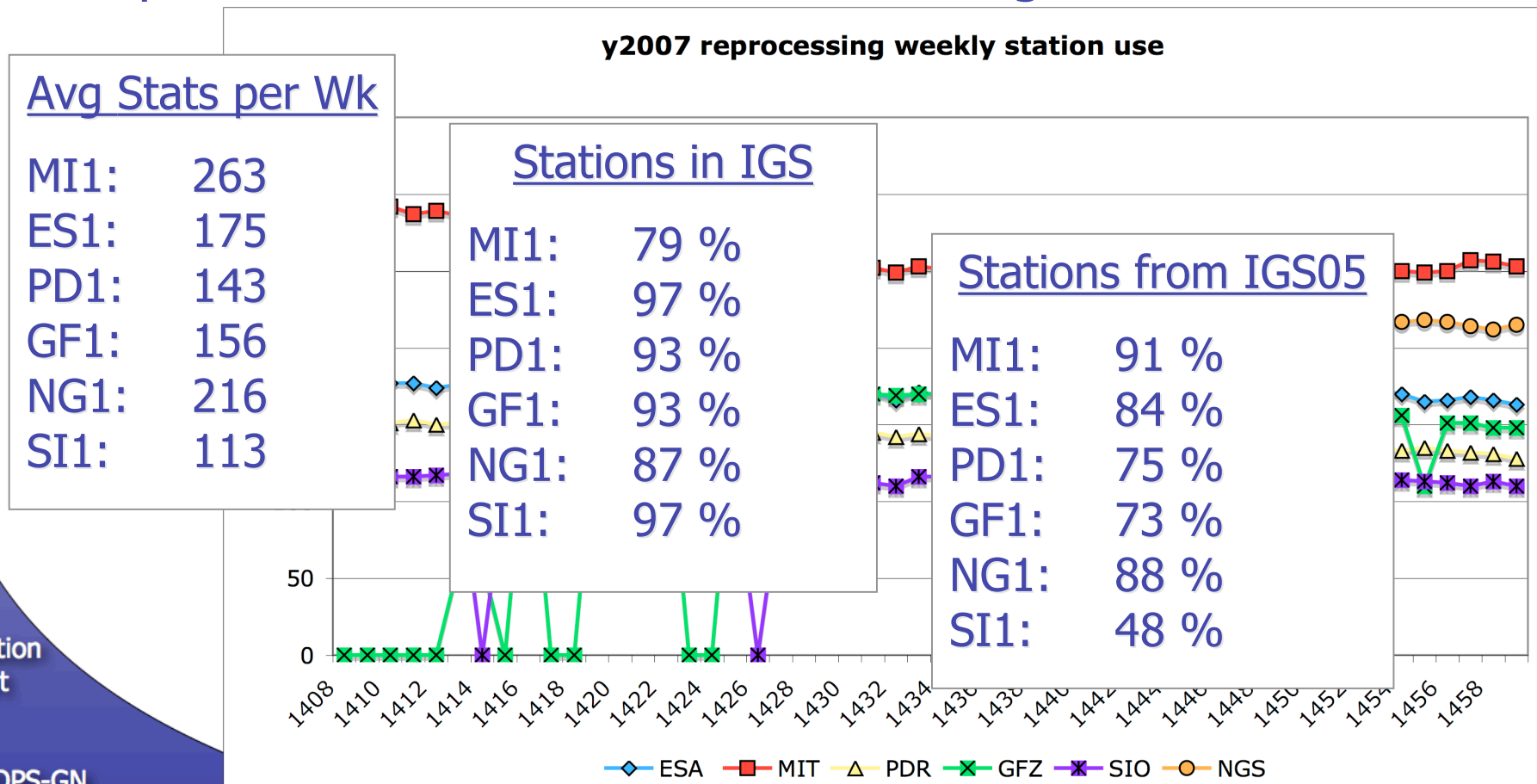




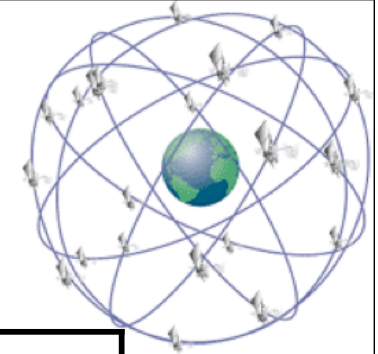
# Reprocessing Station Usage



- The y2007 are close to the final official results for "repro1" but some solutions still missing



# Reprocessing Station Usage



	SECOND.sta	COL.sta	NGA.sta
MI1	66 %	31 %	41 %
ES1	36 %	18 %	0 %
GF1	32 %	19 %	0 %
PD1	29 %	20 %	0 %
NG1	35 %	22 %	0 %
SI1	27 %	22 %	0 %

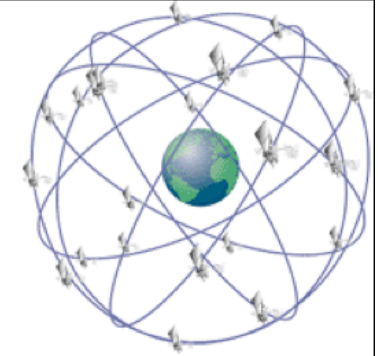
Navigation  
Support  
Office

ESOC/OPS-GN



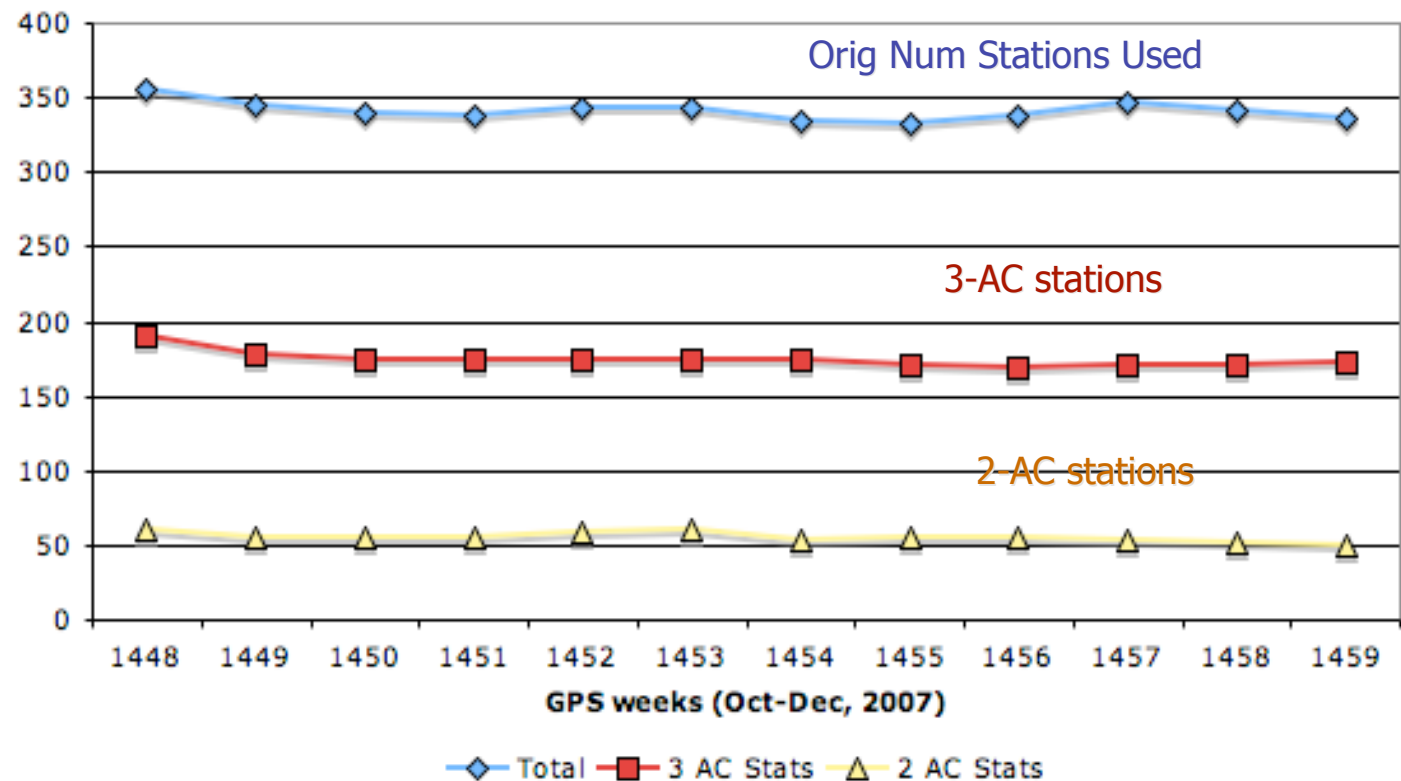
Examination of Reprocessing Network Coverage

# Stations for Combinations



- The initial look is done at weekly level
- To see how many "3+ ACs stations" we have so far
- To see how many "2 AC stations" there are so far

Common Stations

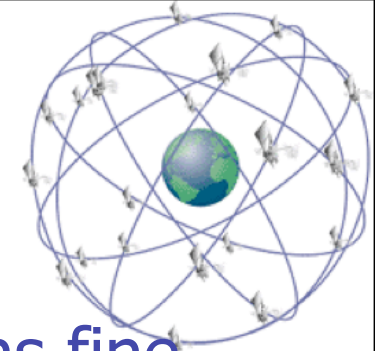


Navigation  
Support  
Office

ESOC/OPS-GN



# Conclusions



- Reprocessing is covering the IGS05 stations fine, but more stations needed
- The number of stations per week (in snx) indicate that some snx solutions are based on few days ...
- NGA station name changes should be effective immediately and new names to be combined (clks)
- A list of 2-AC stations could be kept for a lagging AC to consider