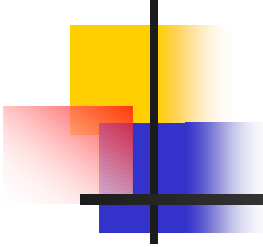


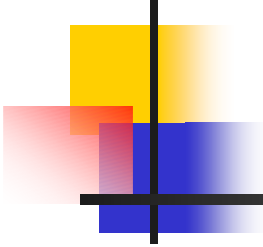
ITRF2004

Claude Boucher
ITRF Product Center



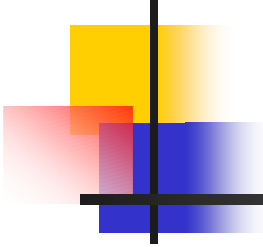
Rationale for a new ITRF solution

- ITRF2000 goals achieved
 - Quality at the time of diffusion
 - Reference publications
 - But a need for a general IERS reference (mail from Pascal Willis)
 - Reference solution for several years
 - We are now in end of 2004
- Updates required
 - New stations
 - Improved estimates of positions and velocities
 - Improved input, including local ties
 - New discontinuities (earthquakes, antenna changes...)



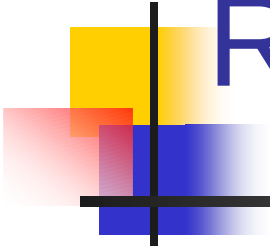
Proposed strategy

- Specifications initiated by the ITRF PC (with Z Altamimi, H Drewes and R Ferland), in contact with M Rothacher
- Presented at the IERS DB Meeting 2004
- Consistent with the Combination Pilot Project (CPP)
- Joint Call for input data by CPP/ITRF



Overview of the specifications

- Name: ITRF2004
- Input data: global solutions as
 - Time series of positions and EOP(weekly/daily)
 - Single technique combined solutions, plus additional individual solutions
- Model: TRF+EOP combination
- Addition of regional densifications for TRF (EUREF, ...)



Recent combination at IGN

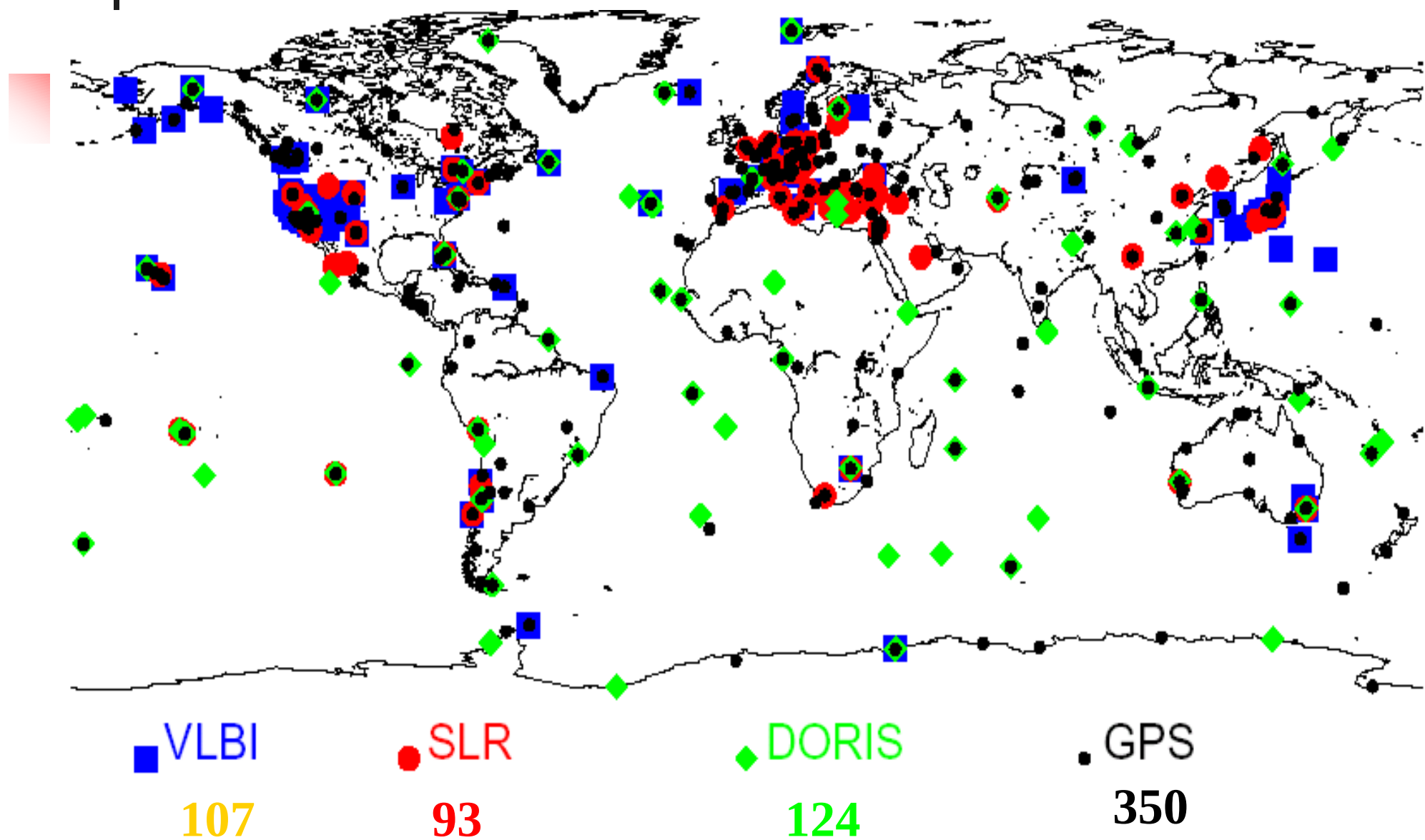
- **Data:**

- **VLBI:** GSFC/IVS daily : 1980 – 2004 (24 years)
- **SLR :** ASI weekly : 1984 – 2004 (20 years)
- **GPS:** IGS combined weekly: 1999 – 2004 (4.5 years)
- **DORIS:** IGN-JPL-D05 weekly: 1993 – 2004 (10.5 years)

- **Strategy:**

- Per technique combination → Pos. Vel. & EOP
- Combination of the per-tech. combinations + Ties
→ Pos. Vel. & EOP

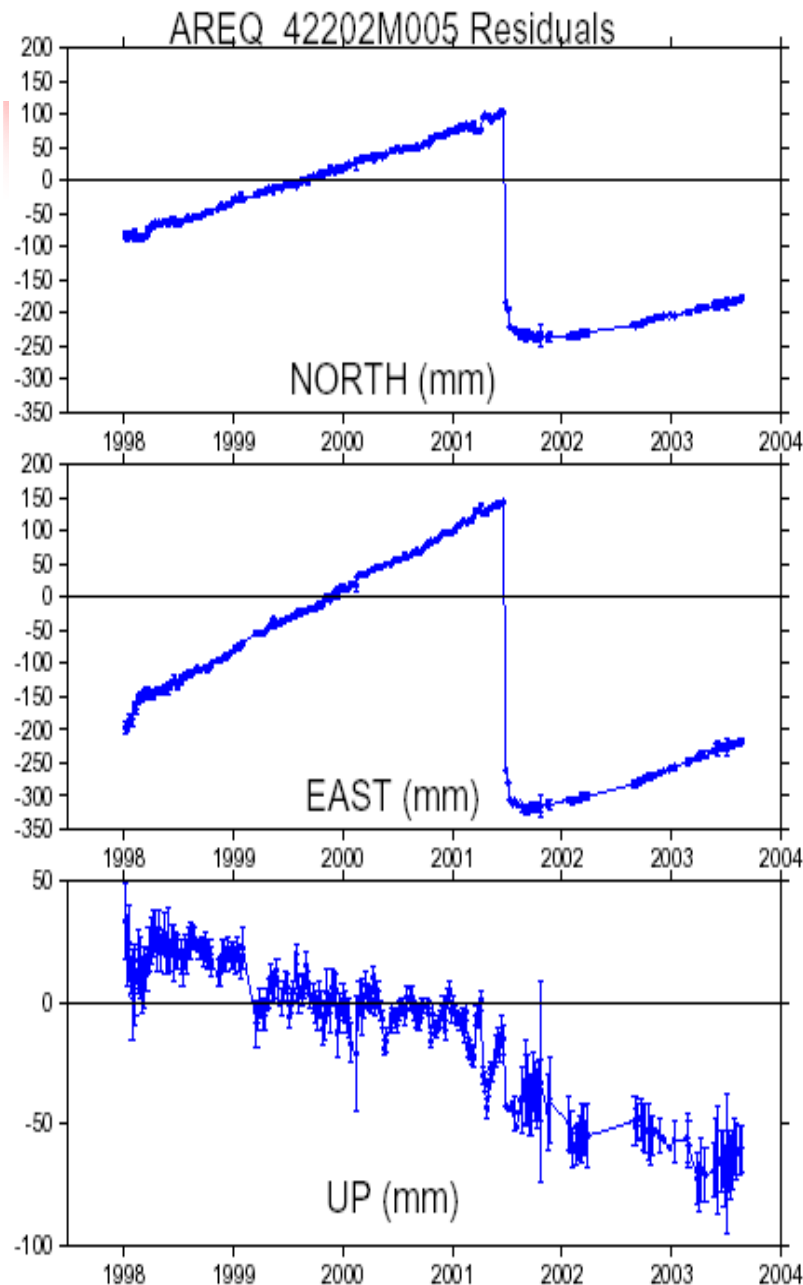
Co-locations



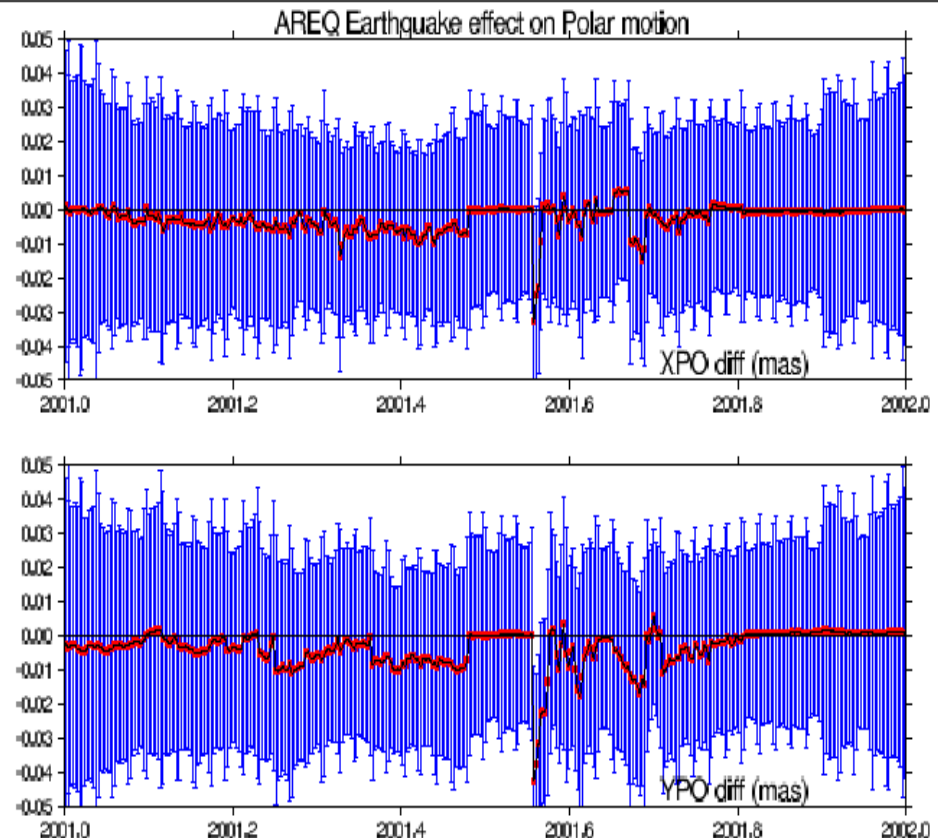
Statistics differences between CATREF combined solutions and IERS C04

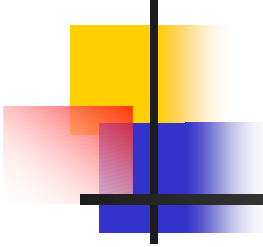
Technique	Bias in mas		Drift mas/yr		WRMS (mas)	
	X-Pole	Y-Pole	X-Pole	Y-Pole	X-Pole	Y-Pole
GPS (IGS)	-.009	.192	-.012	.010	.055	.053
SLR (ASI)	-.275	.076	-.014	.001	.342	.311
DORIS (IGN-JPL)	-.016	-.238	.075	.051	1.906	1.215
VLBI (GSFC)	-.128	.211	-.001	.033	.228	.188
COMB(90-04)	-.041	.145	.001	.026	.099	.090
COMB(99-04)	-.034	.205	.000	.000	.064	.061

Arequipa Earthquake



Impact of AREQ Earthquake on Polar Motion
If pre & post station velocity is constrained to be the same





In conclusion

- Additional comments and suggestions welcome
- Specifications written by the ITRF PC, almost finalized
- Joint call for input data (M Rothacher, C Boucher) almost ready for distribution