

Derivation of DPOD2005

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SUMMARY

- Goals
- Current results : Web site
- Method used
- 2 examples : Arequipa + Socorro

DPOD2005 : goals

- Reasonably reliable TRF estimate for future POD applications, mostly based on ITRF2005
- Extend ITRF2005
 - All stations (even very old ones)
 - Provide coordinates for all observing periods + valid for extrapolation (up to 2012)
- Identify problems (could be used for combination)
 - Coordinate discontinuity
 - Velocity discontinuity
 - DORIS beacon malfunctioning (or few data available)
 - Provide model by time interval

DPOD2005 Web site

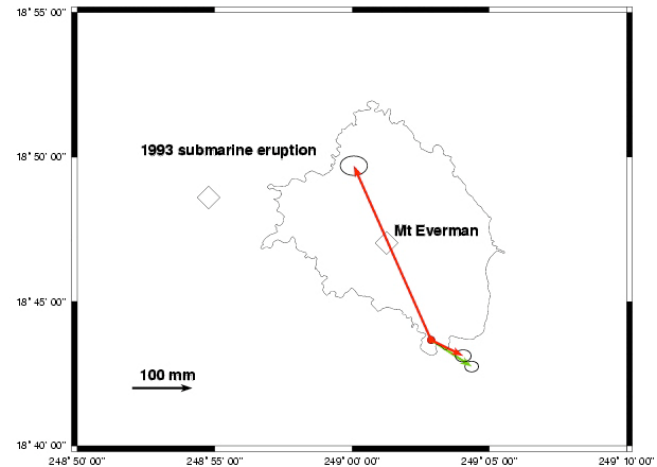
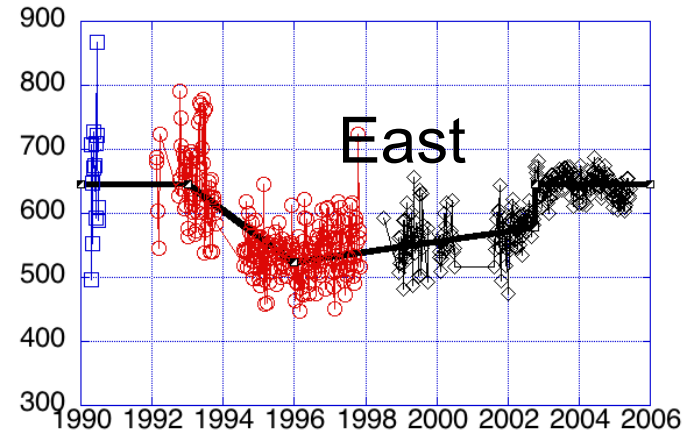
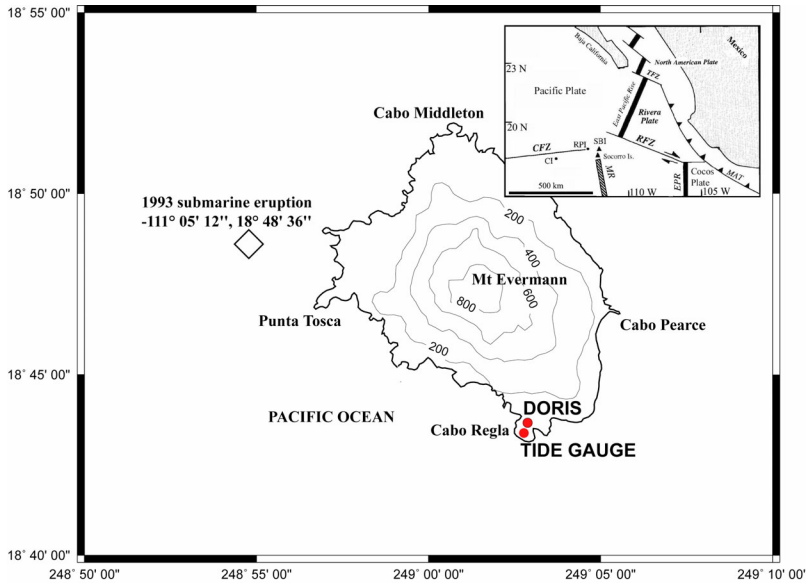
<http://www.ipgp.jussieu.fr/~willis/DPOD2005.htm>

Acronym	DOMES	Period (start time)	Period (end time)	X (ITRF2005) - 2000.0	Y (ITRF2005) - 2000.0
ADEA	91501S001	1.02.90	27.02.02	-1941059.6367	1628659.2680
ADEB	91501S002	1.03.02	06.02.08	-1940878.4013	1628473.0097
ADFB	91501S003	08.02.08	...	-1940878.523	1628473.114
AJAB	10077S002	13.02.02	..	4696990.103	723981.156
AMSA	91401S001	1.02.87	20.04.97	XXX	XXX
AMSB	91401S002	21.04.97	28.03.01	XXX	XXX
AMTB	91401S003	29.03.01	17.04.07	1086063.0106	4927948.5135
AMUB	91401S004	17.04.07	..	1086063.037	4927948.631
AREA	42202S005	1.02.90	22.06.01	1942796.789	-5804077.763

Method used

- Start with ITRF2005
- Use geodetic local ties (H. Fagard) with DORIS or with other IERS techniques
- Use velocity from ITRF2005 (direct or velocity field)
- Derive position using DORIS results
- Control results

Example (Socorro)



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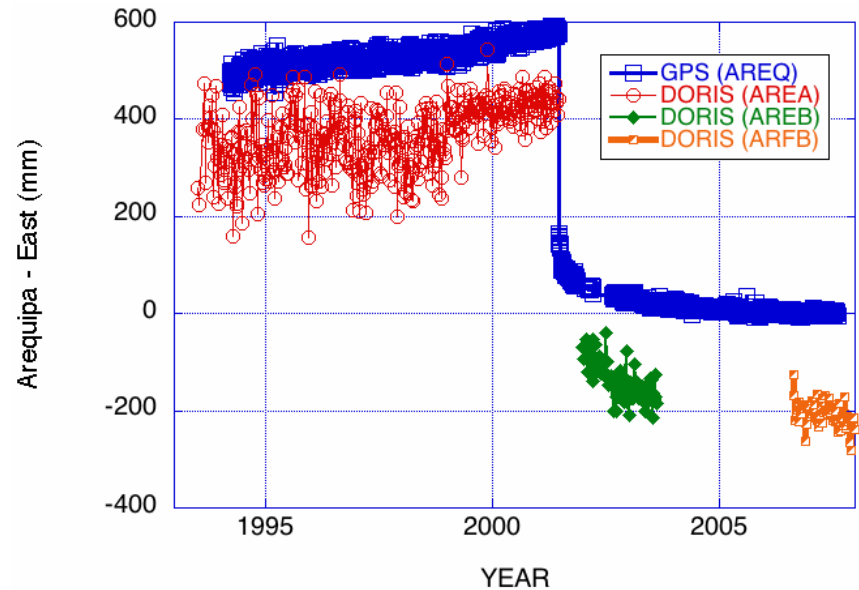
IDS AWG Meeting, Paris, 2008

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Example (ct'd) : Arequipa

ITRF2005 (velocity XYZ - mm/yr)

14.14 +/- 0.93 2.37 +/- 0.87 15.42 +/- 0.76
-42.04 +/- 26.83 -8.82 +/- 20.50 8.15 +/- 13.51
-42.61 +/- 76.91 33.58 +/- 58.06 -32.56 +/- 39.10
-446.15 +/- 399.49 -292.54 +/- 278.20 -379.45 +/- 180.80



Possible to use GPS-DORIS local tie + constrain velocities

CONCLUSIONS

- DPOD2005 exists
- Common work : multiple work and approaches
- Validation in progress
- Web site (possible to update)

<http://www.ipgp.jussieu.fr/~willis/DPOD2005.htm>