

# **GGOS Working Group on an ITRS standard**

Claude Boucher

# Context

- ITRS was defined in 1988 within the IERS (IAU-IUGG) community and made available since that time through its primary realizations (ITRF solutions)
- The geoscience international scientific community has formally adopted ITRS in 2007 (IUGG resolution, Perugia)
- Presently, IAG is developing various activities using ITRS:
  - in addition to IERS, the other IAG services, in particular IGS, express their products in ITRS by using directly ITRF solutions.
  - Regional networks (CORS, EUREF, AFREF...) are also realizations of ITRS for a geographical area, often through an « intermediate » system (such as ETRS89)

- The GNSS community provides more and more services closely linked to ITRS.
  - The US-EU agreement mention that GPS and Galileo standard services are expressed in ITRS
  - This implies that TRF information for WGS84 is recognized as a particular realization of ITRS
- Nevertheless, for a variety of reasons, several other system designations has been adopted in regulations or standards, in various communities:
  - WGS84 for ICAO, IAC, IHO
  - ETRS89 for EUREF, EuroGeographics and INSPIRE

# Findings

- Among several communities of practice (navigation, hydrography, geo-information...), various texts, recommendations or standards refer to multiple TRS designations in addition to ITRS, such as WGS84, ETRS89..which creates potential confusions or legal problems
- The existence, quality, perenity or reliability of ITRS realizations are presently ensured
  - by various scientific groups or even individuals, based on best effort,
  - Or in some case but specific governmental agencies (such as DoD in USA for WGS84)
  - but without unified and inter-governmental guarantee

# GGOS Working Group on an ITRS Standard

- Established during the GGOS SC14 in San Francisco in december 2008, as a follow on action to report by C. Boucher et al
- Chaired by C. Boucher
- Members (see after)
- Working plan (see after)
- Web page
  - <http://www.iag-ggos.org/wgs/itrsstandard/>
- Current activities (see after)

# Members

- Current list:
  - Z Altamimi
  - F Arias
  - C Boucher (chair)
  - M Craymer
  - L Hothem
  - J Ihde
  - S Kenyon
  - H P Plag
  - B Richter
- Open to new contributors

# Working Plan

- A:to identify and get all useful informations about existing standardization activities under the ISO umbrella which are linked to ITRS. Also investigate, to some extend, standardization beyond ISO, either by international bodies or even national agencies
- B:to define various options to get an ISO document refering to ITRS
- C:to write a report to GGOS, including recommendations

# Current activities

- I: inventory of standardization documents (Action A)
- II: GEO activities
- III: ICG activities
- IV: ISO standard (Action B)



# Inventory of standardization documents

- TC 20 Aircraft and space vehicles
- TC 211 Geographical information-Geomatics
- INSPIRE documents
- Others
- Available at the web page

# GEO activities

- GEO sub-task DA-09-02c « Global Geodetic Reference Frames »
- Open issues:
  - Need of a standard for ITRS
  - Governance issues

# ICG activities

- International Committee for GNSS (ICG): IAG and IGS members
- Following a proposal submitted by IGS and BIPM, a Task Force has been established at the Pasadena meeting in dec 2008 on Geodetic References
- Link with our WG

# ISO standard

- Need of a better consistency between existing works
- Mention of ITRS in these works
- Need of a specific document for ITRS?
- Content and inclusion into ISO scheme (existing TC or new one?)