INSTITUT NATIONAL
DE L'INFORMATION
GÉOGRAPHIQUE
ET FORESTIÈRE

IDS

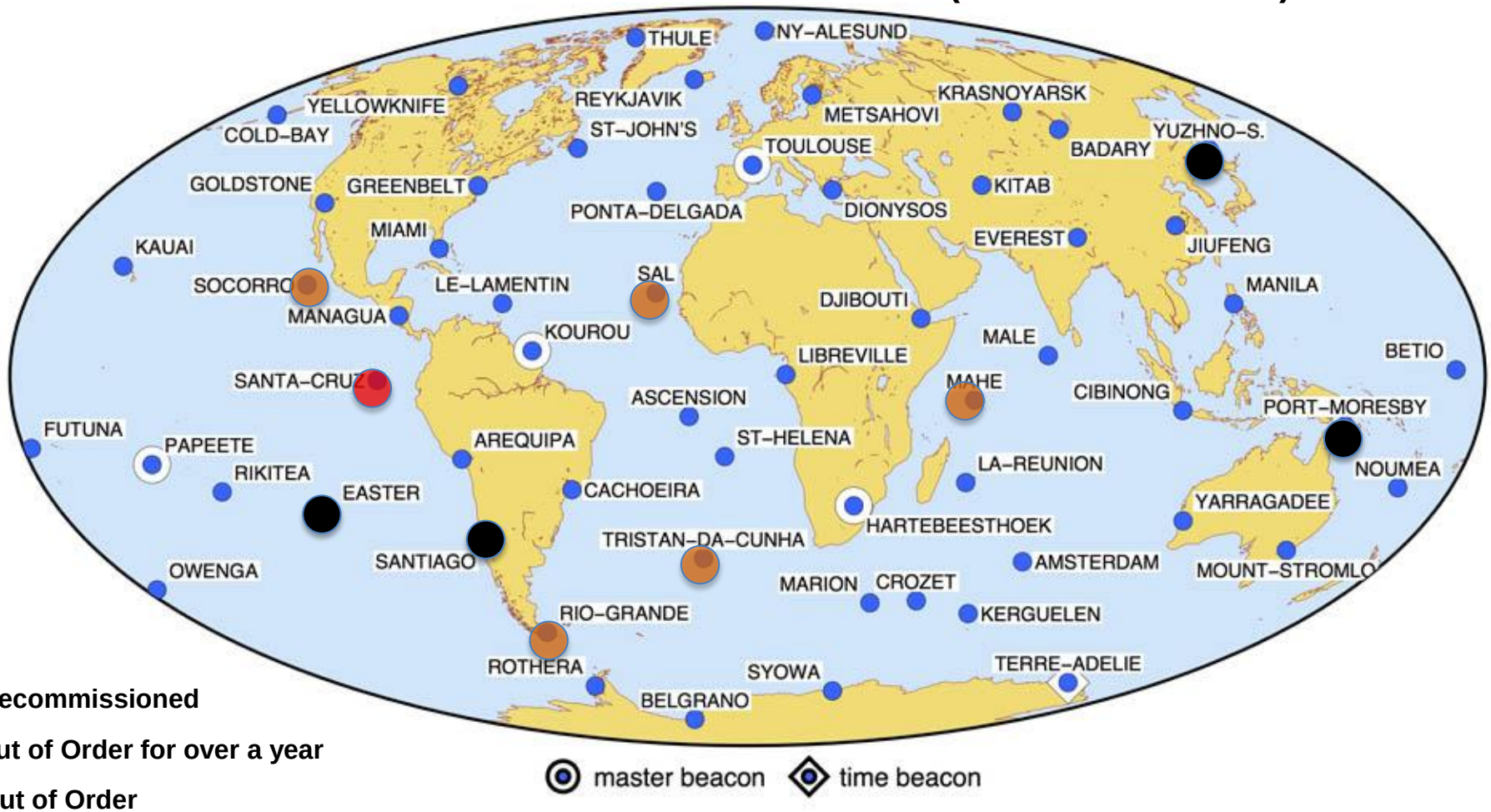
DORIS NETWORK STATUS

MAY 2016

JEROME SAUNIER, IGN - FRANCE

OPERATIONNAL STATUS

59 stations of which: 10 beacons are out of order (4 decommissioned)



Decommissioned

Out of Order for over a year

Out of Order

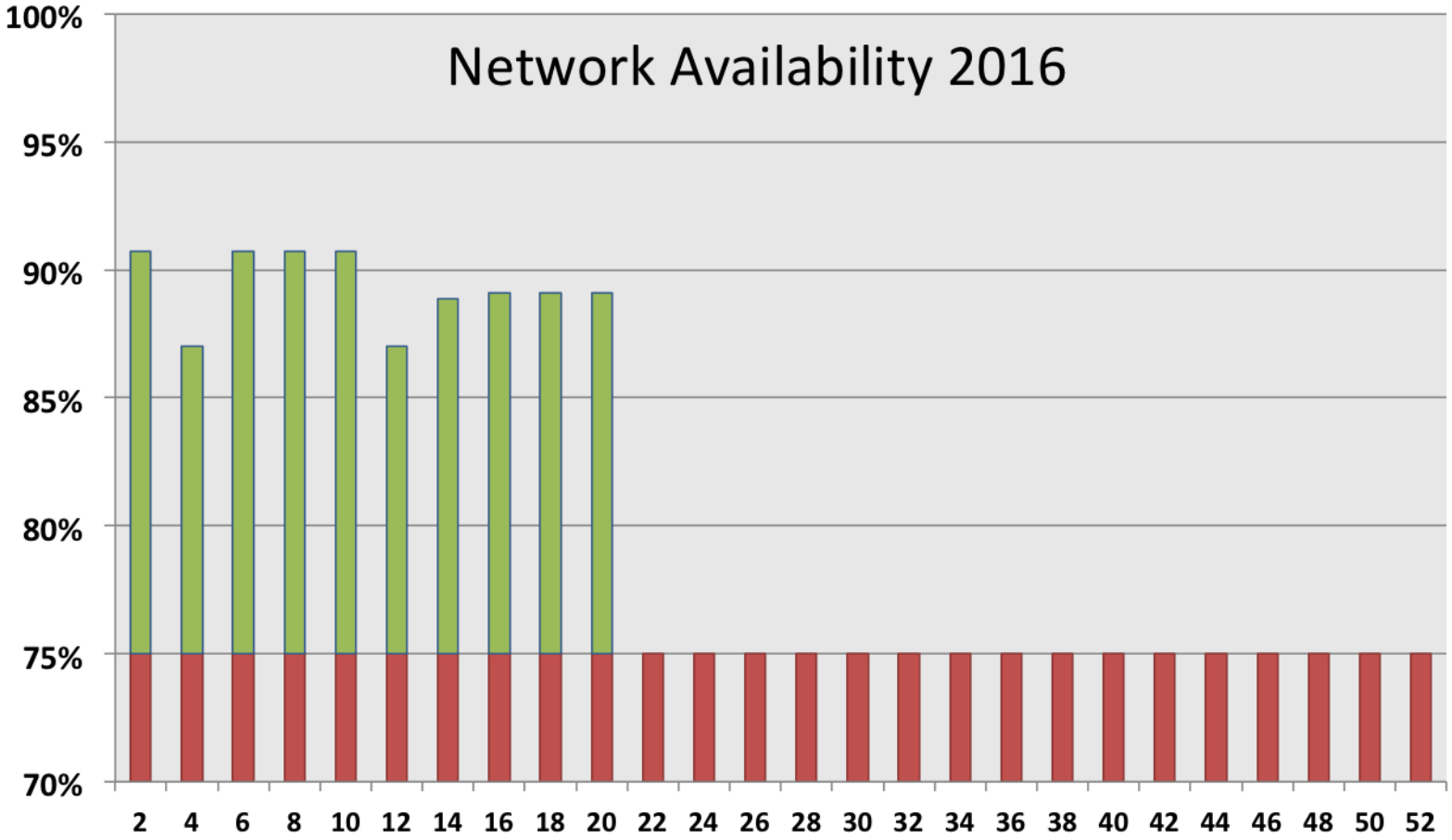
GMT 2016 Apr 13 15:31:25

Out of Order for over a year:

Yuzhno-Sakhalinsk (11/2005), Santa Cruz (06/2009), Santiago (05/2013), Port-Moresby (06/2013)

NETWORK AVAILABILITY

- 5 MAINTENANCE OPERATIONS SINCE THE BEGINNING OF 2016
- MAINTAINED OVER 85% OF OPERATING STATIONS SINCE 2012



From CNES/SALP data

NETWORK EVENTS

2016 2015	Station		Event
May	- TRJB	**Mariana Islands** *Tristan da Cunha*	**Reconnaissance with a view to installing new station** *Beacon replacement*
Apr.	MNAC	**Managua**	**New site**
Mar.	OWFC HBMB	***Owenga*** *Hartebeesthoek*	***Station re-location (80m North-West)*** *Tracking oscillator replacement*
Feb.	MIAB	*Miami*	*Beacon replacement*
Jan.	CIDB	*Cibinong*	*Beacon replacement*
Dec.	KRBB AMWB PDOC	*Krasnoyarsk* *Amsterdam* Ponta Delgada	*Beacon replacement* *Beacon replacement* Equipment replacement (antenna + beacon)
Nov.	OWEC CADB	*Owenga* *Cachoiera*	*Beacon replacement* *Beacon replacement*
Oct.	SAPC JUIB	**Sal** *Jiufeng*	**Antenna re-location (shift of 5 m)** *Antenna replacement*

NETWORK EVOLUTION

SCHEDULED IN 2016

- Kitab, UZ: major renovation (station moving 200 m to get better visibility) > June 2016
- Santiago, CHL: station re-location in Argentina, San Juan (SLR+GNSS) > September 2016

UNDER PLANNING

- Port-Moresby, PNG: station re-location in Australia, Katherine (GNSS+VLBI)
- Easter Island, CHL: station re-location 5km away, near IGS station “ISPA”
- Ny-Ålesund, NOR: station re-location 3 km away (co-location GNSS+SLR+VLBI)

UNDER CONSIDERATION

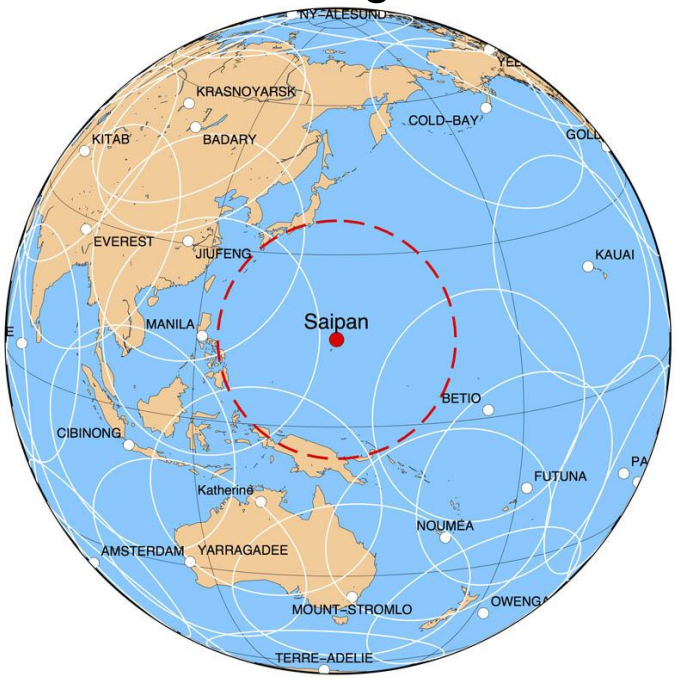
- Reykjavik, ISL: station re-location to get better performance
- Northern Asia: new site in place of Yuzhno in Manchuria (CHN) or Kamchatka (RUS)
- Tahiti, French Polynesia: new 4 techniques site project

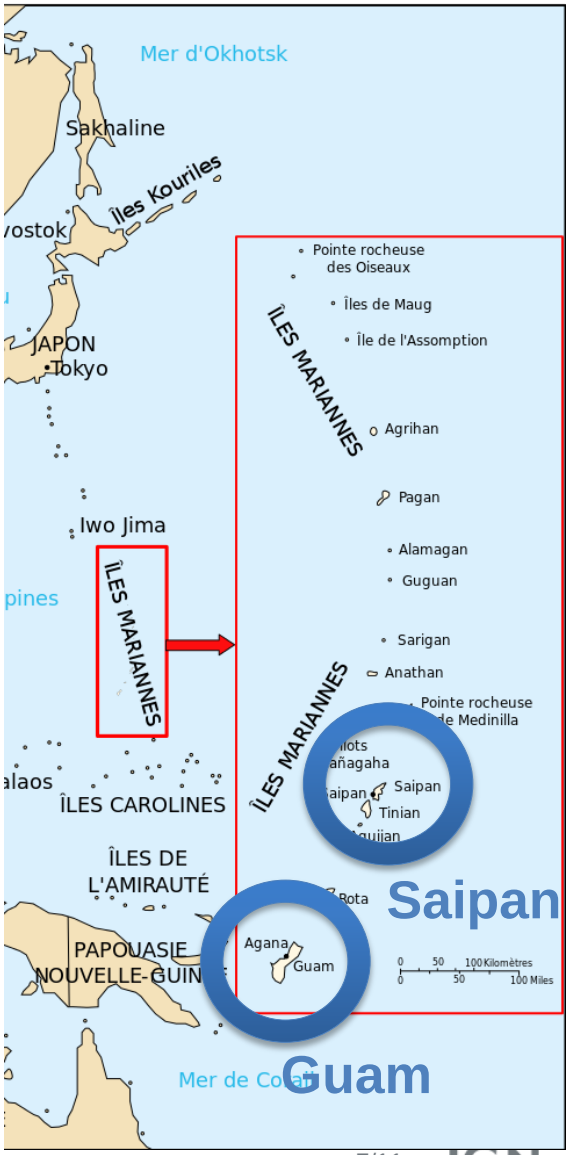
IDS STATIONS: WETTZELL(GE)

- **DECEMBER 2014: 3 OPTIONS FOR THE DORIS ANTENNA**
- **FROM APRIL 2015: VLBI/DORIS COMPATIBILITY TESTS**
  - Performed by BKG with assistance from CNES
  - Possibilities for mitigating RFI (distance, existing shields, absorbers) are not sufficient: the received power exceeds LNA saturation point by 25dBm.
    => *see EGU Session G2.2 Poster « Towards a four technique GGOS site: VLBI-DORIS compatibility tests at Wettzell » by T. Klügel et al.*
- **APRIL 2016: CNES/IGN/BKG MEETING AT WETTZELL: FIRST REVIEW**
  - Antenna location re-examined: 2 options using existing shields
  - Use of a prediction software to turn the beacon to stand-by mode when there is no DORIS-equipped satellites passing over
  - From May 30th to June 27th: tests on real-conditions from one of the exact location
- **GOAL: INSTALLATION AND COMMISSIONING IN SEPTEMBER 2016**

IDS STATIONS: MARIANA ISLANDS (US)

- 2 options: Guam or Saipan
- GNSS + tide gauge co-location in both cases
- reconnaissance in May 2016
- final decision in September on the basis of the negotiation outcome with the host agencies



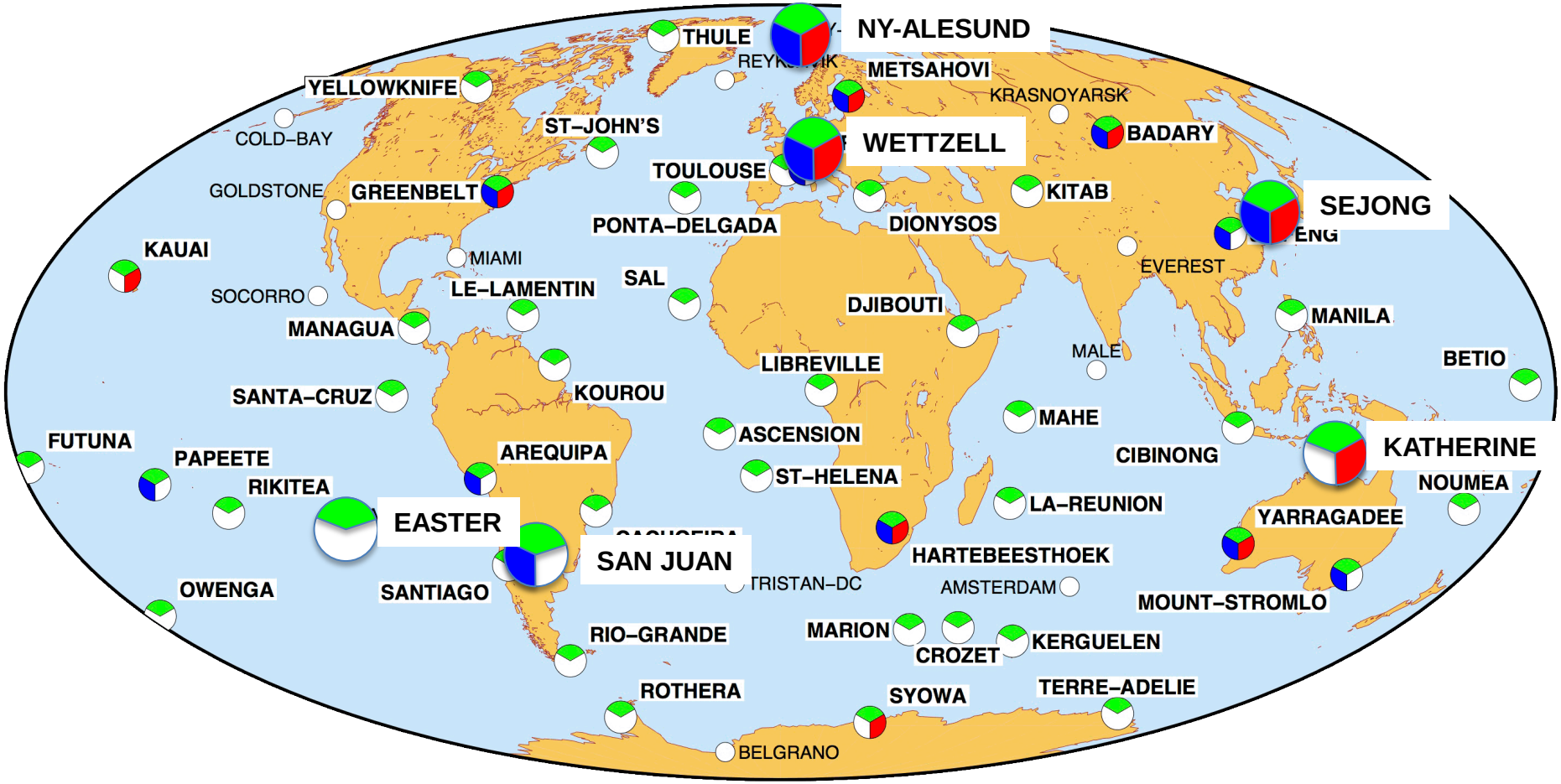


IDS STATIONS: SEJONG (KOR)

- Fundamental site project
- GNSS and VLBI already operational; managed by NGII
- SLR: installed last July (re-location); managed by KASI
- NGII still reluctant to host DORIS
- Alternative option: Gamak mountain co-location SLR and GNSS
- Intended reconnaissance in 2017

CO-LOCATIONS

- DORIS STATIONS CO-LOCATED WITH OTHER IERS TECHNIQUES



GNSS (IGS) SLR VLBI No active co–location < 1 km

=> 3/4 stations co-located with GNSS; 10 with SLR; 7 with VLBI

CO-LOCATION WITH VLBI

ANTICIPATE DORIS/VLBI RF INTERFERENCES

- Before VLBI antenna installation

BASIC PRINCIPLES FOR ANY SITE LAYOUT:

- No direct visibility between DORIS and any VLBI antenna (using local topography and RF blockers structures)
- Maximum distance between DORIS and VLBI (>150 m; ideally 300-400 m)
- Difference in height between DORIS and VLBI: the radiated emission from DORIS is lower at low elevation
- Ground installation of the DORIS antenna (better for shield erection and local ties)

NEWS

ITRF WEBSITE OVERHAUL

- New website by mid-summer 2016 with similar functionality as the previous one
- New web-services: time series handling, data downloading, coordinates and velocities computing, earthquakes impact… by the end of 2016

GGOS BUREAU OF NETWORKS AND OBSERVATIONS

- 2 meetings a year (last one at EGU last April)
- “Network Status and Projection” presentation prepared by JS given by GM
- Contribution to “Site requirements for GGOS Core Sites” document
- Info: Alexander Neidhardt (TUM, Head of GNSS-VLBI team at Wettzell) is writing a book on “Applied computed science for GGOS observatories”