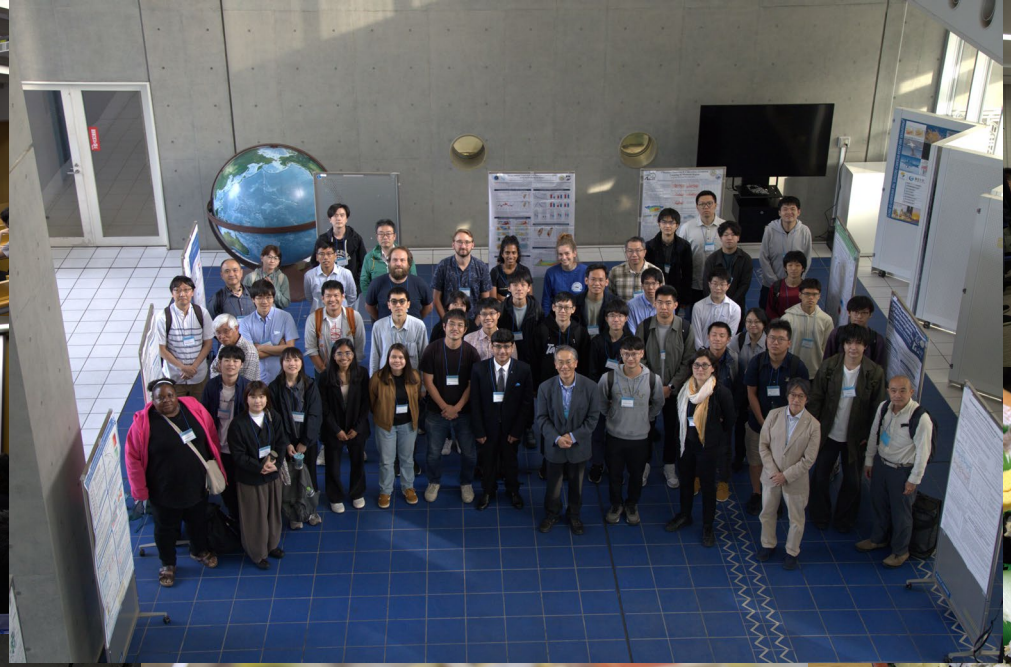
Tokyo Node Report

Masaki Satoh

23UTC (8JST), May 14 (Wed) 2025

Pan Node Sync



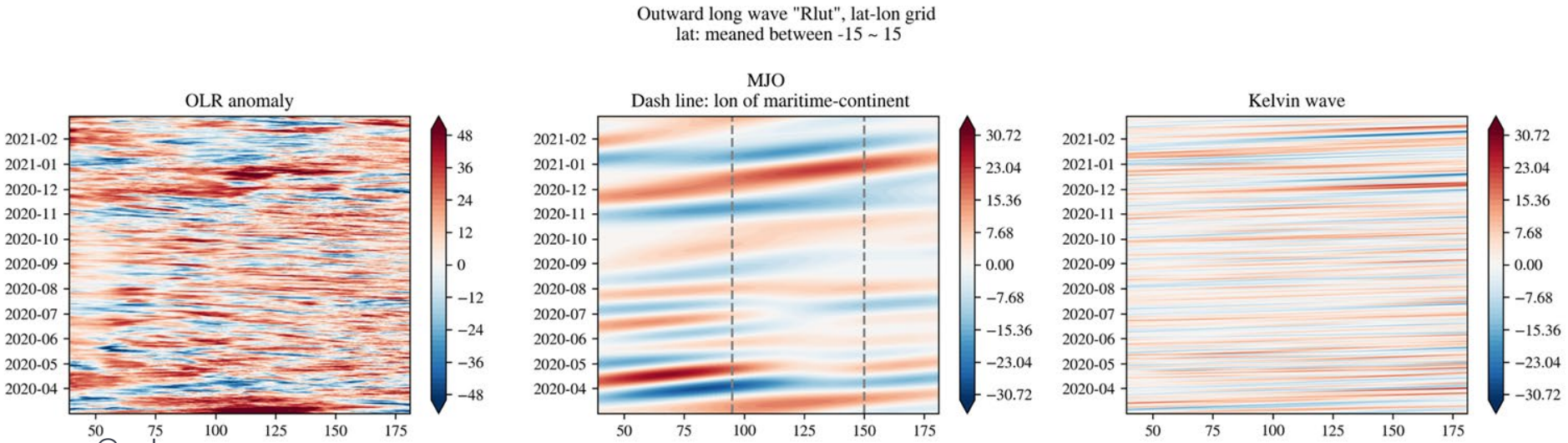





Sub themes

- Climatology
- Tropical cyclones
- Intraseasonal variabilities & equatorial waves, or convective organization
- Extreme precipitation or winds
- Mid-latitude disturbances
- Land-atmosphere interactions
- Variability in mountainous regions and complex terrain
- Upscale phenomena: impacts of small-scale features (e.g., convection) on waves and the large-scale circulation (jets, monsoons, ITCZ, blocking, etc.)
- Data handling, visualization

Hacking status



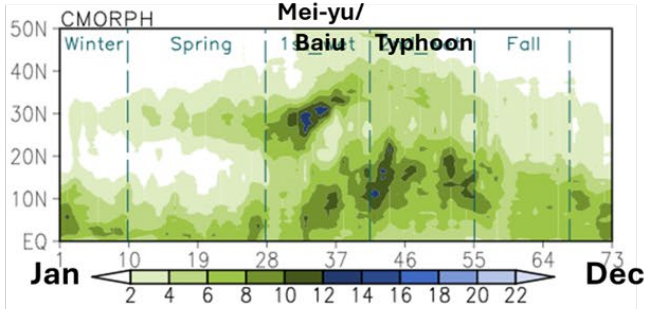
@raykuo

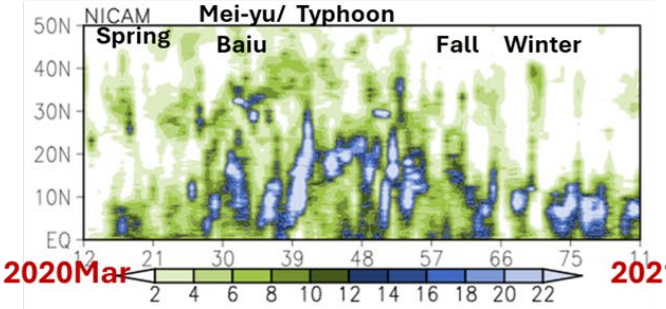
Hey guys, I (finally) plotted the hovmoller diagram of the OLR anomaly (NICAM lat-lon data, 'rlut'). The left panel is the OLR anomaly, and the middle and right panel are for MJO, Kelvin waves. These two signals are band-passed data of the OLR anomaly. We can note that the Barrier effect in the marinetime contenent is not significant in this 1-year simulation.

(5) hk25-Convorg - WCRP Lighthouse MPIM Chat Service (Mattermost)

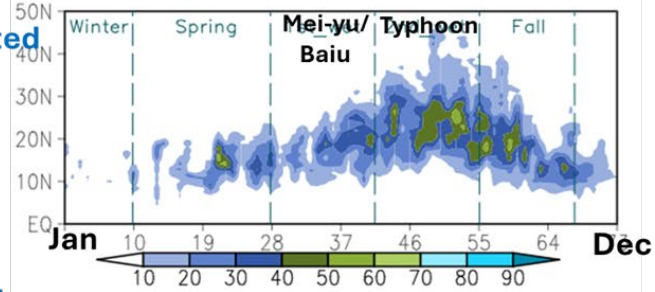
Seasonal Precipitation of the East Asian Monsoon Related to Tropical Cyclones

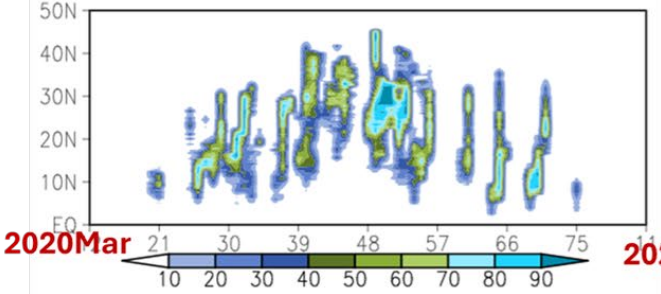
Total Precipitation (110E-140E)





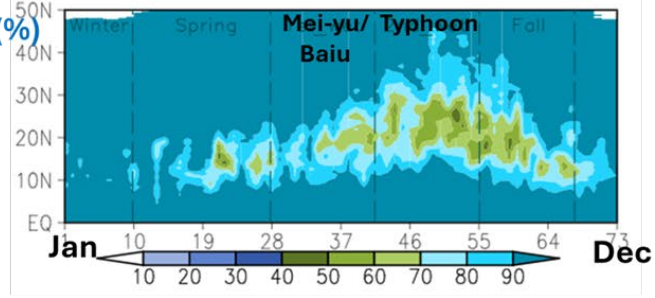
TC-related (%)

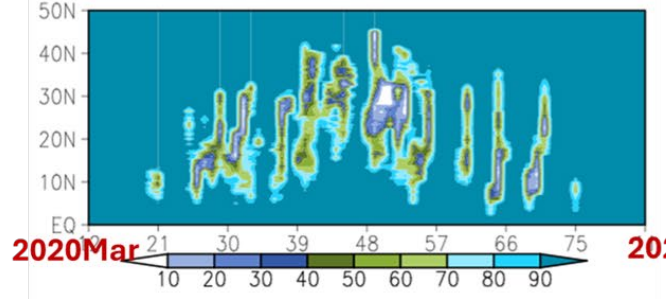


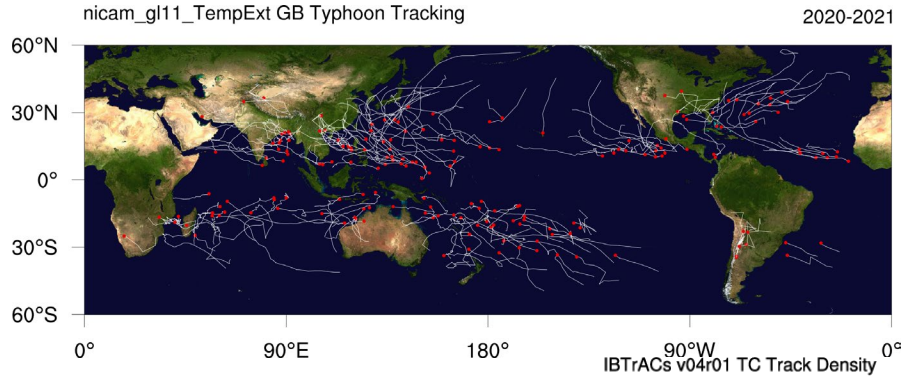


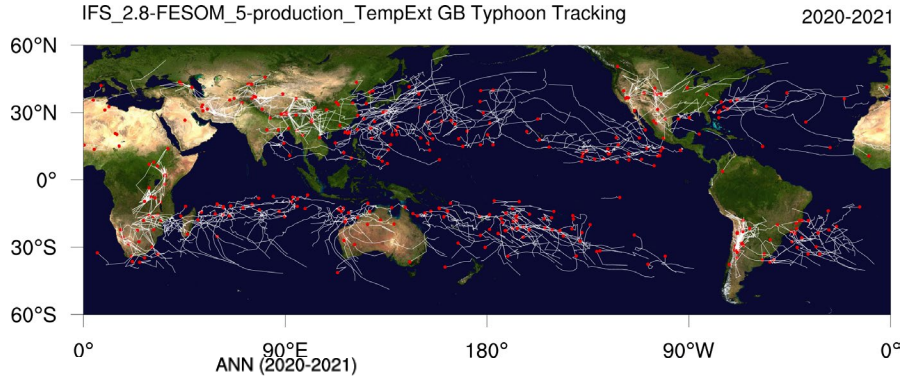
TC Tracking was provided by Team TC

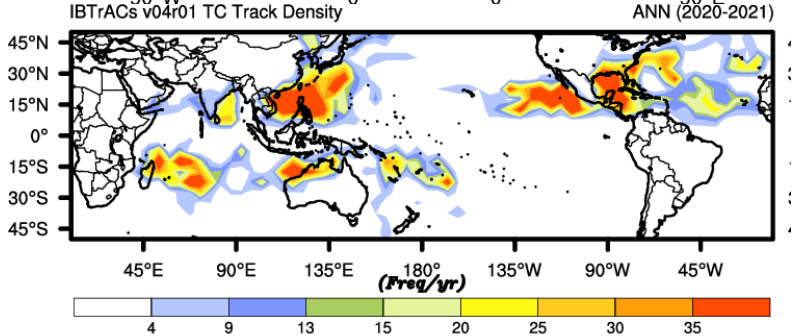
Non-TC-related (%)

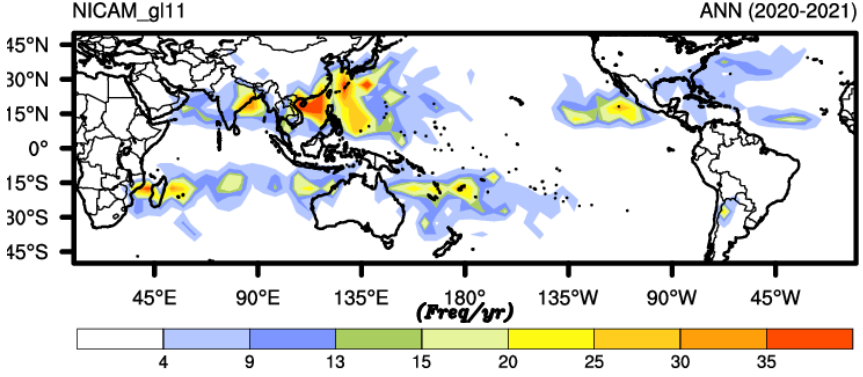


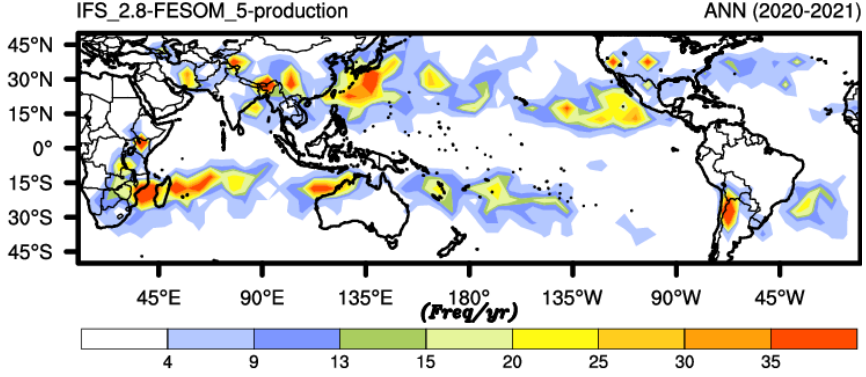



nicam_gl11_TempExt GB Typhoon Tracking
2020-2021
60°N
30°N
0°
30°S
60°S
0°
90°E
180°
90°W
0°


IFS_2.8-FESOM_5-production_TempExt GB Typhoon Tracking
2020-2021
60°N
30°N
0°
30°S
60°S
0°
90°E
180°
90°W
0°


IBTrACs v04r01 TC Track Density
ANN (2020-2021)
45°N
30°N
15°N
0°
15°S
30°S
45°S
45°E
90°E
135°E
180°
135°W
90°W
45°W
(Freq/yr)
4
9
13
15
20
25
30
35


NICAM_gl11
ANN (2020-2021)
45°N
30°N
15°N
0°
15°S
30°S
45°S
45°E
90°E
135°E
180°
135°W
90°W
45°W
(Freq/yr)
4
9
13
15
20
25
30
35


IFS_2.8-FESOM_5-production
ANN (2020-2021)
45°N
30°N
15°N
0°
15°S
30°S
45°S
45°E
90°E
135°E
180°
135°W
90°W
45°W
(Freq/yr)
4
9
13
15
20
25
30
35

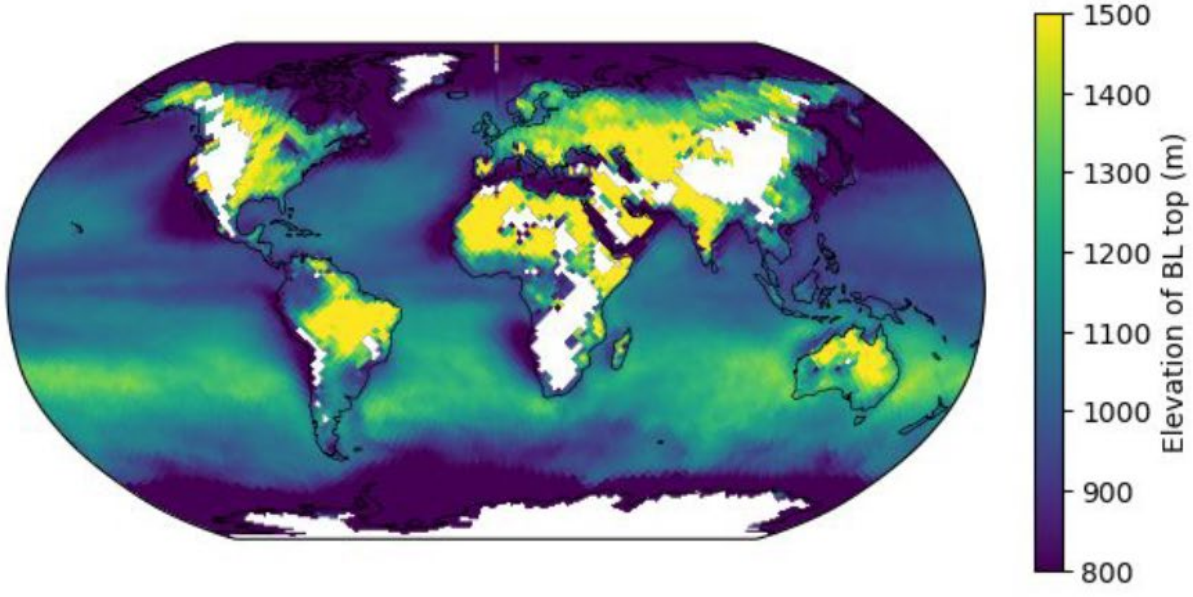
Preliminary Results - Diagnostic PBLH

Boundary layer height is diagnosed to investigate the impact to other parameters.

Method : Using the potential temperature profile

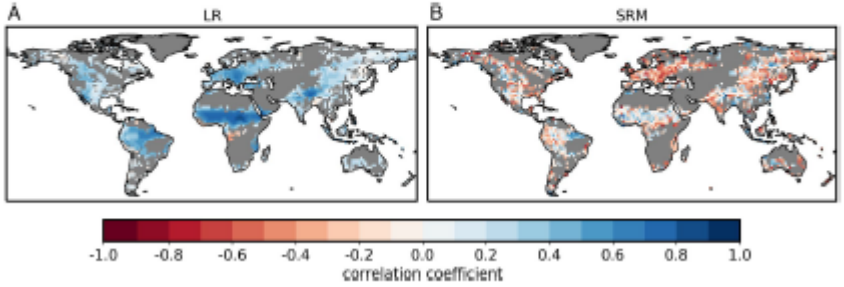
<- Olson et al.(2019)'s method for convective boundary layers

(But it doesn't seems useful for stably stratified layers)

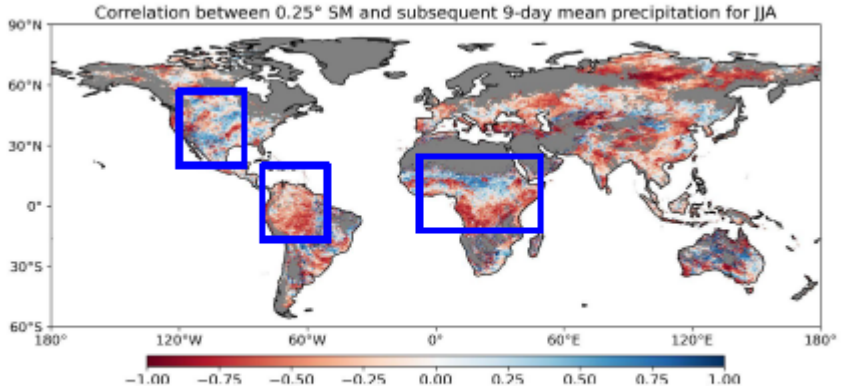


Preliminary Results - Moist Process

ICON 5km (Lee et al. 2024)

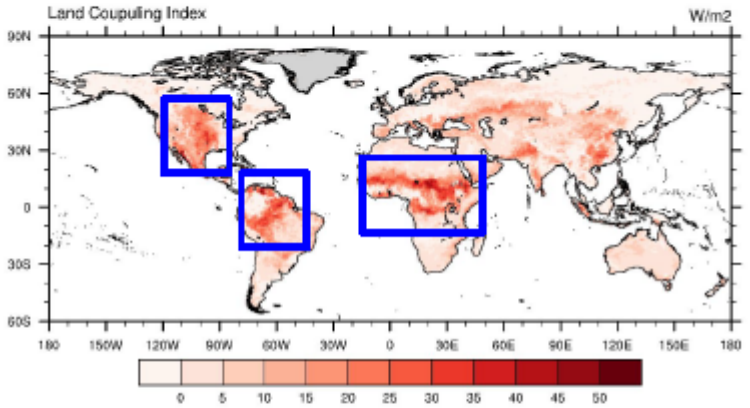


NICAM 25km



Km-scale simulations show similar results!

Land Coupling Index = corr(SM, ET) * std(SM)



String LCI in Mid-America, Northern Amazon and Sahel regions

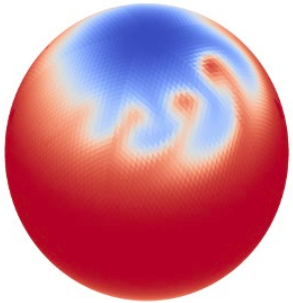
Team Data (Data handling and visualization)

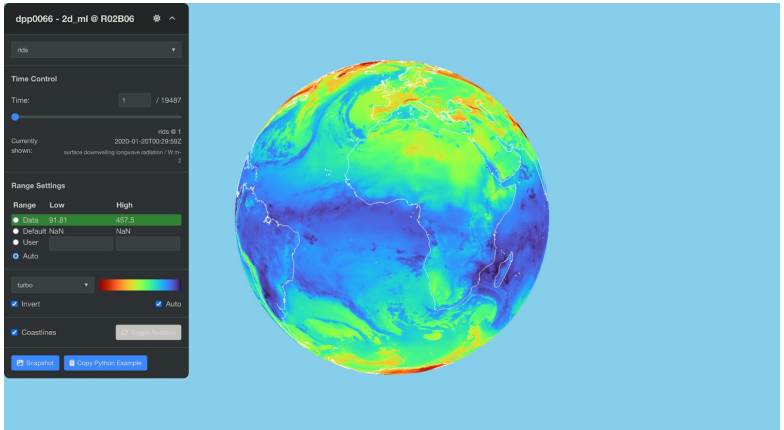
Team coordiantion for Data interoperability (EOPF_DGGS)

🌐 EOPF_DGGS – Data Interoperability Team Coordination Doc (Hackathon 2025)

Team Leader: Tina Odaka, **Tokyo Team Leader:** Tomoki Miyakawa

•Playing with my new toy, pyNICAM, with help from Toby to brush up Zarr output (Tomoki).





Live Collaboration result with Yoshimura lab

Hacking issues

- Calculation of length of contour lines, for fractal dimension
- Some problems in Chunk? Overload of memories.
- Do not use .load() and .compute()

- Tobias Kölling & Tina Odaka on Understanding Chunks in HEALPix (219)
- About 9:40 JST , May 14, 2025, Tokyo Node

- 18:00-19:00 JST, May 14, 2025
- Kei Yoshimura (IIS, The University of Tokyo) Global km-scale terrestrial hydrological modeling (TBA)