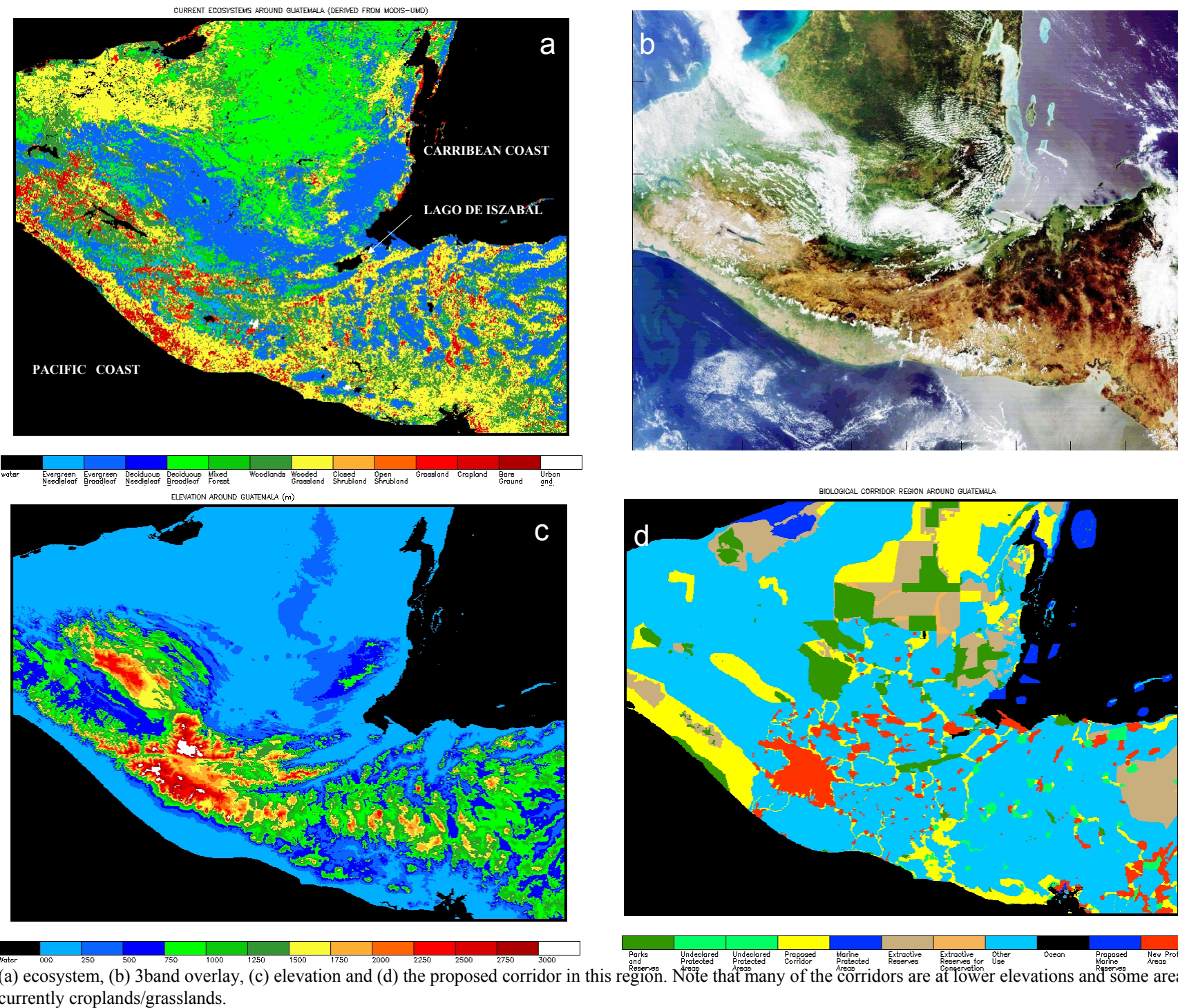


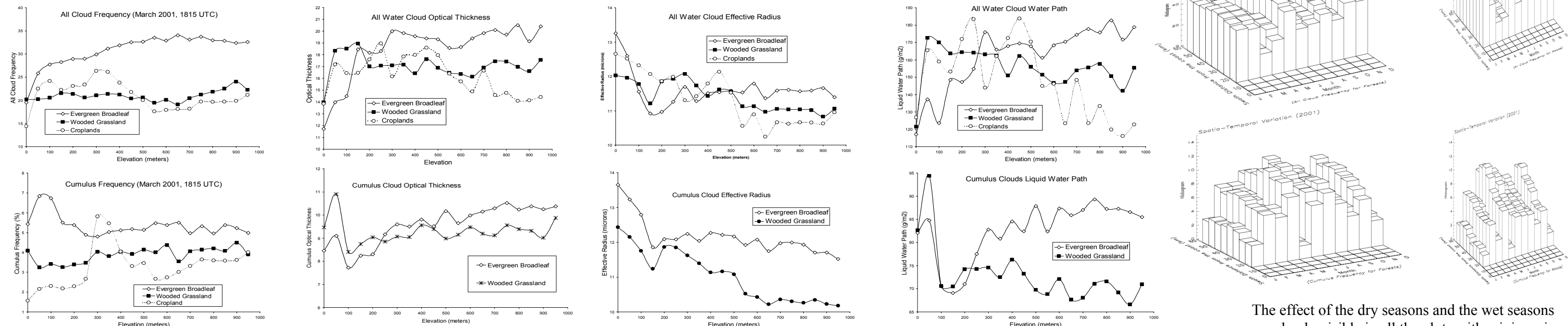


## ...THE STORY SO FAR

**INTRODUCTION:** Currently focusing in the northern part of the proposed biological corridor (13°N to 19°N and 94°W to 86°W).



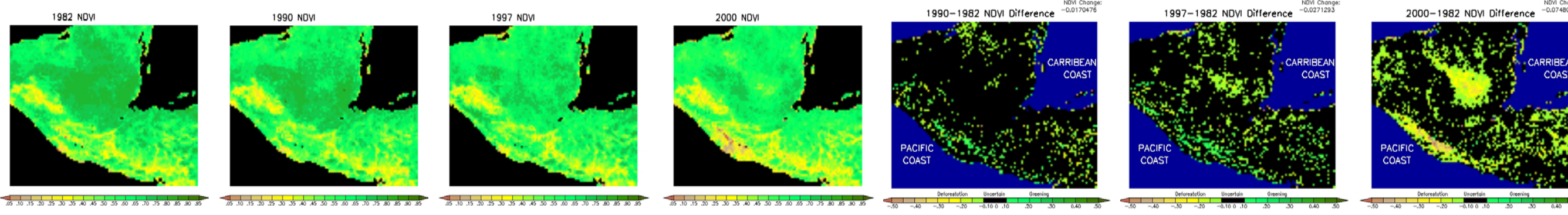
## OBSERVATIONS: CURRENT CLOUD FORMATION (from GOES) AND PROPERTIES (from MODIS)



We hypothesize here that the dominant factors responsible for the observed cloud formation and properties is due to three factors: Underlying ecosystem type; Elevation; and Distance from the coast. Results show that cloud forms more frequently over forested areas. All cloud optical thickness were higher at elevations around 300m and higher over the forests than wooded grasslands and croplands. Cloud effective radius similarly is higher over the forests at elevations higher than around 500m from the mean sea level. Cloud Liquid Water Path shows high variability at elevations below around 500m when values could be higher either over the forests, wooded grasslands or croplands. But above 500m they are considerably higher over forests than over wooded grasslands or croplands. Cumulus cloud optical thicknesses show that the cumulus clouds over forests have higher optical thicknesses at elevations higher than 200m than the ones that are detected over wooded grassland. Effective radius of cumulus clouds detected over evergreen broadleaf forests in comparison to those detected over wooded grassland shows that at elevations of around 700m the difference can be as large as 2 microns. Above 200m the differences between the mean values for the Cloud Liquid Water Path could be as high as 20 g/m<sup>2</sup>.

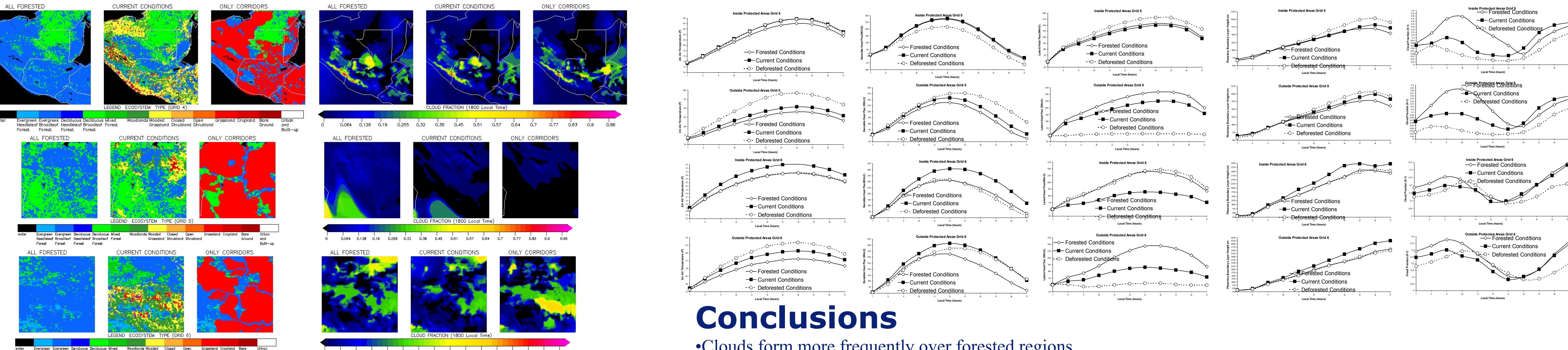
The effect of the dry seasons and the wet seasons are clearly visible in all the plots with minimas in March and April and higher frequencies in the other months. Also though the cloud frequency has some variations as a function of distance from the coast it shows no particular trend.

## OBSERVATIONS: AREAS WITH HIGH DEFORESTATION RATES



Figures 4 and 5 show the dry season NDVI of 1982, 1990, 1997 and 2000. The next 3 figures show the NDVI differences between the years 1982 and 1990, 1982 and 1997, and 1982 and 2000. The effect of deforestation is clearly visible in the figure showing the NDVI change between 1982 and 2000. Incidentally this is a region, which has been earmarked as 'Other Use' in the proposed MBC. Several of the proposed corridor connecting 'Parks and Reserves' to the north, south, west and east of will pass through this region. How stable these corridors would be in the presence of deforested landscapes on either side is part of the analyses presented in the next section. The other region that has clearly been deforested between 1982 and 2000 is found in the Pacific region. Here too an extensive corridor is proposed.

## RAMS SIMULATIONS FOR FUTURE CORRIDOR STABILITY



## Conclusions

- Clouds form more frequently over forested regions.
- Clouds were generally also optically thicker with larger effective radius and integrated liquid water content over the forests.
- With pastures surrounding protected forests and corridors several locations within the protected regions will have