Field work on cultural ecology in Brazilian Amazon
Akio Yamashita (Univ. of Tsukuba)
Hiroaki Maruyama (Rikkyo Univ.)
Purpose of this study

Developing maps using existing digital data and satellite images
→ to grasp large-scale natural conditions
   and for a base map for detailed field survey

Mapping the result of qualitative hearing investigation
→ to understand land use and lifestyle of the residents

The purpose of this study is to find out how the residents effectively use spatial differences in natural environment such as the landform and flora and fauna in terms of cultural ecology through the fabrication of the maps.
## Population characteristics in the major cities in Amazonas state

<table>
<thead>
<tr>
<th></th>
<th>Manaus</th>
<th>Itacoatiara</th>
<th>Parintins</th>
<th>Maués</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>population (2010)</strong></td>
<td>1,802,014</td>
<td>86,839</td>
<td>102,033</td>
<td>52,236</td>
</tr>
<tr>
<td><strong>population density</strong>&lt;br&gt;(persons/km²)&lt;br&gt;(2010)</td>
<td>158.06</td>
<td>9.77</td>
<td>17.14</td>
<td>1.31</td>
</tr>
<tr>
<td><strong>increase rate of population (%)</strong>&lt;br&gt;(1980-2010)</td>
<td>184.5</td>
<td>64.2</td>
<td>98.6</td>
<td>74.0</td>
</tr>
</tbody>
</table>

Source: data from IBGE
Annual water level fluctuation of the Amazon River

Annual change of temperature and precipitation

source: Nishizawa et al. (2005)

source: Matsumoto (2012)
Elevation relief map around Maués

- Maués city area
- Lowland submerged seasonally: **varzeá**
- Highland without submergence throughout a year: **terra firme**

Elevation relief map around Maués

Source: SRTM3 data
Satellite images (ALOS AVNIR-2)

**True color image**
- Band 3: Red
- Band 2: Green
- Band 1: Blue

**False color image**
- Band 4: Red
- Band 3: Green
- Band 2: Blue
Location of major rivers and example farms
The example farm owns lands in both “terra firme” and “varzea” and conduct transhumance, releasing cattle in wild meadows in fertile “varzea” during dry-season and in high land “terra firme” during rainy season.

The timing of intentional burn to develop meadows is different depending upon the areas. At the intentional burn, more than ten types of trees for foods or medications were saved and left intentionally.

In the fields in “terra firme” without having flooding through a whole year, subsistence farming such as manioc using traditional burn agriculture and guarana cultivation as cash crops are conducted.