

Baseline Case

- Focus on change in categories

- Map of change, but not necessarily maps for two dates

Design and analysis represents 'best practices', add in exceptions later

Differences from CEOS 2006

- Reference data

 - May not have reference data at first time period (or it isn't adequate)

 - Rarity of change classes

- Area estimation

Response design issues

- Unit of analysis

 - Pixel

 - Blocks (size)

 - Small blocks (e.g. 3x3 pixel)

 - Use as area based assessment

 - Pixels within blocks

 - Polygons

 - Places difficult to decide if there is actually a change ('don't know')

 - Reference data not available from probability sampling design

 - Recommendations for protocols for consistency or resolution of difficult sites to label reference data (Curtis and Mike W. have examples, possibly other examples)

 - Mmu and impact on response design, sampling design, and analysis

 - Maintain separate (but maybe related) tracts for different approaches (pixel and polygon)

 - Source of reference data, e.g. air photos, dense time series of Landsat, multi-sensor in the future (information available for quality control purposes on sensors)

 - Trade offs or issues related to how much reference data from ground versus how much from other sources

Design Issues

- Stratification for 'rare' classes (to intensify sample in rare classes)

 - Various options

 - Map change

 - Areas of likely change

 - Stratification is targeted to specific objectives, may not serve well for other objectives (prioritization of objectives)

 - Stratification for multiple change periods

 - Stratification and omission error, perception that stratification doesn't pick that up

 - Stratification within the non change classes

 - Sample size allocation to change and non change classes, should be able to apply standard error formulas to 'optimize' allocation

 - May be cases where a priori stratification will be difficult (specify examples, REDD); no map on which to base stratification, could consider a model of change for strata, or just don't stratify; other stratification options include distance to population centers, population density, others...(Canada example)

Analysis issues

- Error matrix description still ok

- Area estimation will need added in (cases only interested in area, others interested in both area and accuracy)

- Mention analyses addressing reference data error

- Basic description of what that error might be (e.g. interpreter consistency)

- Basic quality control and consistency checks

- Confidence intervals for accuracy and area parameters

- Sampling errors of accuracy and area estimates (e.g. FRA accuracy)

Miscellaneous

- Cumulative evidence approach to accuracy assessment

- Effect of resolution on accuracy of area estimates (and also accuracy of map change?)

- Uncertainty of trend (look at what Warren Cohen presented in Boreal session, dense time series)

- Include section on future research, issues that need more work

WRITING

I. Scope of problem and Introduction (to include objectives, general description of problem addressed, foreshadow differences from earlier CEOS document, maybe a few key example applications)

II. Response design issues

III. Analysis issues

IV. Sampling issues

Summary section on Recommendations?

Future research and unresolved issues.