Conference focal areas

**Establishing Good Practice (prodding action)**

**Seen and Heard:**
- Examples of case studies
- Demonstrations of portals
- Promotions of tools and training
- Discussions of what climate services is/should be
- Expressions about “the next great development”
- How hard it is to do M&E!

**Not very visible:**
- Discussions of failures, lessons learned and what not to do
(Some) **Contributions from sessions:**

Many detailed ideas, so need a high level perspective

- Evaluate tailored products according to the societal (development) outcomes that can be achieved by the triggered actions.
- Skillful products are not a good in and of themselves, but should be judged based on the associated outcomes.
- Move from a reactive to proactive approach
- Build on existing activities (within and beyond CSP).
- Aim to provide actionable information
- Learn best practices from other sectors
- Need to couple bottom up and top down approaches
- Need an inventory of tools and resources and activities
- Frameworks to enable cooperation versus competition
- A working group on Certification or quality assurance(???)
- Sustained activities
- Close research gaps
Where to begin

- Define requisite references (What defines “good”)
- Walk before you run (idealism versus pragmatism)
- Demonstrate delivery (of good practice)

This necessitates an exploration and articulation of values and references
Conference focal areas
Establishing Good Practice

Implicitly, when speaking of “Good” “Practice”:
- **Good** means someone is making a value judgment
- **Practice** assumes participants have objective awareness

In turn this implies framing principles which need to underpin the development of good practice.

Good practice implies **Humility**, **Transparency**, and **Honesty** (HTH)
Humility:

• Not being more than you are
• Not being less than you are

This assumes you are aware of what you are (doing)

Hence: need a reference
Transparency:

- Any observer can fully identify the inner working of how products are being produced
- The attributes of the raw materials are fully disclosed
Honesty:

- Not overselling a product
- Acknowledging alternative product’s messages that may contradict
- Communicating limits of information
- Saying “I don’t know” when you don’t really know
- Working to Plausible, Defensible, Actionable

Be honest to your clients, even when they're not.

Tim Van Damme
All assumes a reference

- A reference is required to identify good
- A reference implies external authority
- A reference establishes what is bad.

Establishing good practice means articulating criteria against which to measure good practice.
Conference focal areas

Establishing Good Practice

Core research for CS
Data production for CS
Analysis and evaluation
Process and workflow
Interpretation and context
Tailoring to relevancy
Communication frameworks
End-user engagement

Each require criteria for establishing good practice
FIRST Steps toward
Establishing Good Practice

1: *Establish criteria
2a: Grow awareness
2b: Sensitize practitioners
2c: Become inclusive
1. Establishing criteria: e.g. TGICA data

- Authority is derived from global community recognition of the IPCC

### Table: Authority

<table>
<thead>
<tr>
<th>2.1 Use by the IPCC</th>
<th>2.1a Has the dataset been used in an IPCC Assessment or Special Report, e.g., in a figure or table or discussed in text?</th>
<th>Yes/no/not known</th>
<th>1=minimal, 2=one of many datasets, 3=primary source</th>
<th>List report name(s), table/figure/page number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.1b Is dataset used in any other IPCC-related documents or materials?</td>
<td>Yes/no/not known</td>
<td>1=minimal, 2=one of many datasets, 3=primary source</td>
<td>List document name(s), table/figure/page number(s)</td>
</tr>
<tr>
<td>2.2 Documentation</td>
<td>2.2a Is the dataset documented in detail in a peer-reviewed journal article or as a peer-reviewed dataset?</td>
<td>Yes/no/not known</td>
<td>1=Thomson-Reuters impact factor (or other standard influence factors) for journal if available.</td>
<td>Provide full citation and refer users to alternatives</td>
</tr>
<tr>
<td></td>
<td>2.2b Is the dataset documented in detail in a known source?</td>
<td>Yes/no/not known</td>
<td>List type of peer review if known; list type of book</td>
<td>Provide full citation and refer users to alternatives</td>
</tr>
</tbody>
</table>
1. Establishing criteria:

   e.g. http://www.ipcc-data.org/documents/ddcLinkingCriteria.pdf

### 4 Stability of Data and Data Provider

<table>
<thead>
<tr>
<th>4.1</th>
<th>Question</th>
<th>Yes/No/Not Known</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1a</td>
<td>Does the provider have a published data policy?</td>
<td>Yes/No/Not Known</td>
<td>Give link</td>
</tr>
<tr>
<td>4.1b</td>
<td>Does the provider have a succession plan for this dataset?</td>
<td>Yes/No/Not Known</td>
<td>List organization(s) with long-term responsibility for the dataset (e.g., government)</td>
</tr>
<tr>
<td>4.1c</td>
<td>Is there a stated funding dataset provider?</td>
<td>Yes/No/Not Known</td>
<td>Give link to plan or other documentation of</td>
</tr>
</tbody>
</table>

### 5 Quality Control

#### 5.1 Meta-data and quality control

<table>
<thead>
<tr>
<th>5.1a</th>
<th>Question</th>
<th>Yes/No/Not Known</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1a</td>
<td>Does detailed meta-data exist for this data, in accordance with relevant national or international meta-data standards</td>
<td>Yes/No/Not Known</td>
<td>Indicate relevant standards (e.g., NASA's Directory Interchange Format).</td>
</tr>
<tr>
<td>5.1b</td>
<td>Is there a stated quality assurance process or procedure for the dataset?</td>
<td>Yes/No/Not Known</td>
<td>Indicate if relevant quality assurance standards are met (e.g., ISO9000)</td>
</tr>
<tr>
<td>5.1c</td>
<td>Is there a regular validation or calibration process or procedure for the data?</td>
<td>Yes/No/Not Known</td>
<td>Indicate frequency and/or most recent date</td>
</tr>
</tbody>
</table>

Users' expectations: 
Users are looking for the following:
- Accuracy and reliability of the data
- Timeliness of updates and availability
- Compatibility with other datasets
- Ease of access and use
- Cost and fees associated with access
1. Establishing criteria:

Shameless self promotion: *Hewitson et al, 2013 “Interrogating ESD”*

### Table 2: Key questions of importance for impacts modeling and adaptation relevant to downscaling

<table>
<thead>
<tr>
<th>Question</th>
<th>Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the method appropriately reflect low frequency variability</td>
<td>A method may be designed to capture time scales of considered importance, for example, daily precipitation. In doing so it is possible to miss critical longer time scales of variability. For contexts where interannual variability is important, this may present a serious deficiency.</td>
</tr>
<tr>
<td>(interannual to trend)?</td>
<td></td>
</tr>
<tr>
<td>Does the method appropriately reflect high frequency variability</td>
<td>Methods that generalize the relationship between large scale forcing and local response do not capture the high frequency variance, and especially extremes. If one is working with an impacts sector sensitive to the event nature of climate, this could be critical.</td>
</tr>
<tr>
<td>(e.g. daily variability and extremes)?</td>
<td></td>
</tr>
<tr>
<td>How does the method respond to non-stationarity in the predictors?</td>
<td>Downscaling is trained on the historical data, and under climate change the predictors will likely exceed the range of values used in the training. Methods may respond to non-stationarity in a number of ways: extrapolation (which carries low robustness), conservative estimation (where the sign of the change is reflected but the magnitude is underestimated), or with unpredictable values resulting from nonlinearities or the method being unable to accommodate the extended predictor range.</td>
</tr>
</tbody>
</table>

Is temporal autocorrelation of the 

*In many impacts related studies, the sequencing of weather*
1. Establishing criteria: practical steps

1. Draft white papers on relevant criteria for assessing the CS range of activities
2. Circulate for comment through as broad a community as possible of CS-relevant people
3. Publish under the auspices of an independent and recognized authority
2. Grow awareness, sensitize practitioners and become inclusive

There is no global enforcing authority other than the implied authority of articulated and accepted community practice.

Therefor require:
- Efforts to include all players (including commercial)
- Initiatives for capacity building of all sub-communities
- Growing the dialogue across the range of CS actors
2. Grow awareness, sensitize practitioners and become inclusive

Practical steps

1. Worked examples of good and bad practice, relevant to the sub-communities of producers, interpreters, and communicators
2. Articulating limits, strengths and weaknesses of data, information, procedures and strategies
3. Developing complementary (no single solution) concept frameworks for CS
A example framework for analysis to transform data to:  

- Observations & the past  
- Circulation predictions  
- GCM predictions  
- Downscaled predictions  

Regional Integration and Understanding:  

- Data products with articulated uncertainty  
- Storylines and robust messages of anomalies  

Contextualization around real world questions  

“User communities”  

(IPCC WG1) Core science & research  

(IPCC WG1 & 2) Interpretation & tailoring  

(IPCC WG2 & 3) Integration in application
Summary: Establishing Good Practice

1. Establish and publish criteria against which to measure good practice (essential)

2. Grow community awareness and capacity to operate in HTH (beyond CSP)

3. Articulate examples, attributes, and concept frameworks for operational CS