

1 **International Surface Temperature Initiative progress report**
2 **January 2015**
3

4 **Authors:** Peter Thorne, Jay Lawrimore, Kate Willett, Victor Venema, Blair Trewin, Richard
5 Chandler, Rachel Warren, Renate Auchmann, Xiaolan Wang
6

7 On behalf of the steering committee
8

9 **2/9/15**

10
11 This constitutes the fourth in an envisaged annual set of progress reports by the
12 International Surface Temperature Initiative. The primary purpose of these reports is to
13 update the endorsing bodies of the initiative (WMO, TIES, BIPM) regarding progress
14 against stated goals. Feedback from endorsing bodies is welcomed. This report will also
15 be made available on the Initiative blog, and feedback there is also welcome from other
16 interested parties and stakeholders.
17

18 The databank and benchmarking and assessment working group reports can be found at
19 http://www.surface temperatures.org/progress_reports . The current Implementation Plan
20 can be found at [http://www.surface temperatures.org/steering-](http://www.surface temperatures.org/steering-committee/Surface_Temperatures_Initiative_Implementation_Plan_2013_2015_final.pdf?attredirects=0&d=1)
21 [committee/Surface_Temperatures_Initiative_Implementation_Plan_2013_2015_final.pdf?a](http://www.surface temperatures.org/steering-committee/Surface_Temperatures_Initiative_Implementation_Plan_2013_2015_final.pdf?attredirects=0&d=1)
22 [ttredirects=0&d=1](http://www.surface temperatures.org/steering-committee/Surface_Temperatures_Initiative_Implementation_Plan_2013_2015_final.pdf?attredirects=0&d=1) .
23
24

25 **SUMMARY**

26

27 **Overall progress**

28

29 In 2014 substantial progress was made to further the Initiative aims. Two major events are
30 of particular import: the release of the first version databank holdings and the
31 SAMSI/IMAGe/ISTI workshop held in Boulder, CO.

32

33 The first version of the databank was released at the end of June along with the paper
34 [Rennie et al., 2014] that describes its construction. Using the Global Historical
35 Climatology Network-Daily data set as a foundation, the release consists of a consolidated
36 set of holdings arising from just over 32,000 stations. Since its release, near real-time
37 updates have been implemented on a monthly basis. Meanwhile several thousand
38 additional station holdings have been submitted from a number of additional sources. It is
39 envisaged that a period of record remerge and version increment will occur in 2015. The
40 databank release was promoted in various ways including online and in person.

41

42 The SAMSI/IMAGe/ISTI workshop was held in Boulder, CO, and brought together around
43 50 statisticians and climate scientists. Most of the meeting was held in practical breakout
44 sessions focussing on various aspects of homogeneity and interpolation. Several papers
45 are envisaged to result from this and outcomes also informed the development of future
46 versions of products such as GHCN-M.

47

48 A new Science Team has been instigated concerned with the collection and scientific
49 exploitation of parallel measurements to further our understanding of data issues and their
50 causes. This group is led by Victor Venema and Reante Auchmann.

51

52 Several papers, web-based reports, and conference / workshop talks and posters have
53 been given over the past year. Talks were given at: the AMS annual meeting, EGU, the 8th
54 meeting on homogenisation and quality control, EMS, MMC2014, CLIMAR-IV, the WMO
55 Commission for Climatology Technical Conference, and the Universities of Bern,
56 Edinburgh and Exeter. A paper describing the concepts underlying the ISTI benchmarking
57 process was published [Willett et al., 2014].

58

59 Code now exists to create plausible clean error worlds as part of the benchmarking with
60 plausible data characteristics that look like the real world. A paper describing the
61 methodology for small networks has been submitted and a global scale paper is in
62 preparation. It should now be possible to produce and release the benchmark data in
63 2015.

64

65 Efforts to coordinate with relevant other activities have continued as known to the Initiative
66 participants. ISTI provided a letter of support to a Met Office led Horizon 2020 project –
67 EUSTACE. Following its success ISTI has agreed to be represented on EUSTACE's
68 science advisory panel.

69

70 The WMO Commission for Climatology has created a Task Team on Homogenisation (TT-
71 HOM). It is expected that ISTI will work closely with TT-HOM over the coming years.
72 Several members of the Task Team are also members of the ISTI steering committee or
73 working groups.

74

75 **Significant issues**

76

77 Significant issues are essentially unchanged from those outlined last year.
78 1. At time of writing, the envisaged working group charged with creating a data portal
79 and user support remains elusive. Although not currently critical as there are still no
80 products developed under ISTI auspices this will become so and suggestions as to
81 how to pursue this would be welcomed.
82 2. Concerns remain over the ability to get multiple independent groups engaged in the
83 dataset creation (homogenization of the data to create climate products) problem.
84 3. Despite numerous efforts to create a crowdsourcing digitization portal with the
85 citizen science alliance, it remains the case that no funding has been accrued. It
86 would require on the order of 0.5 million US\$ to create a portal and pull through to
87 the databank for three years. Suggestions as to potential avenues to pursue would
88 be welcome.
89 4. Implicit in much of the above the Initiative continues to function in a largely
90 volunteer-based capacity with in-kind support from some of the participants'
91 institutions. A more dedicated funding solution would help place the Initiative as a
92 whole on a firmer basis. In particular progress should be weighed against dedicated
93 resources. It is not, in that context, a great surprise that several timelines have
94 slipped substantively again.

95
96 **Plans for the coming year**

- 97
- 98 • First remerge and version increment of databank holdings
- 99 • Release of first version of benchmarks
- 100 • Presentation of progress at various relevant international meetings
- 101 • Papers describing the benchmarks
- 102

103 **Publications in 2014-2015 reporting period**

- 104
- 105 • Rennie, J. J., Lawrimore, J. H., Gleason, B. E., Thorne, P. W., Morice, C. P.,
106 Menne, M. J., Williams, C. N., de Almeida, W. G., Christy, J.R., Flannery, M.,
107 Ishihara, M., Kamiguchi, K., Klein-Tank, A. M. G., Mhanda, A., Lister, D. H.,
108 Razuvaev, V., Renom, M., Rusticucci, M., Tandy, J., Worley, S. J., Venema, V.,
109 Angel, W., Brunet, M., Dattore, B., Diamond, H., Lazzara, M. A., Le Blancq, F.,
110 Luterbacher, J., Mächel, H., Revadekar, J., Vose, R. S. and Yin, X. (2014), The
111 international surface temperature initiative global land surface databank: monthly
112 temperature data release description and methods. *Geoscience Data Journal*,
113 1: 75–102. doi: 10.1002/gdj3.8
- 114 • Willett, K., Williams, C., Jolliffe, I. T., Lund, R., Alexander, L. V., Brönnimann, S.,
115 Vincent, L. A., Easterbrook, S., Venema, V. K. C., Berry, D., Warren, R. E.,
116 Lopardo, G., Auchmann, R., Aguilar, E., Menne, M. J., Gallagher, C.,
117 Hausfather, Z., Thorarinsdottir, T., and Thorne, P. W.: A framework for
118 benchmarking of homogenisation algorithm performance on the global scale,
119 *Geosci. Instrum. Method. Data Syst.*, 3, 187-200, doi:10.5194/gi-3-187-2014, 2014.
- 120

121 **PROGRESS ON TASKS DETAILED IN THE IMPLEMENTATION PLAN THROUGH 2014**

122

123 **1. Ongoing or periodic activities**

124

125 **Task:** Regular Teleconferences

126 **Main Contact:** Peter Thorne **Due Date:** Ongoing **Status:** Ongoing

127 **Milestone:** Regular discussions amongst members of the steering committee

128 **Progress:** Regular calls have occurred and been minuted on the web. In
129 general agreed actions have been completed satisfactorily.

130 **Issues:** None

131

132 **Task:** Formal annual written report on Initiative

133 **Main Contact:** Peter Thorne **Due Date:** Jan **Status:** Done

134 **Milestone:** Written by steering committee to sponsors and posted online

135 **Progress:** This document

136 **Issues:** None

137

138 **Task:** Formal written reports on working group progress

139 **Main Contact:** Jay Lawrimore / Kate Willett **Due Date:** Oct **Status:** Done (but
140 delayed)

141 **Milestone:** Written reports from working groups submitted to steering committee
142 for approval and posted online.

143 **Progress:** Done

144 **Issues:** Delayed (but less than in 2012/2013) due to commitments of WG
145 chairs.

146

147 **Task:** Maintenance of website and blog

148 **Main Contact:** Peter Thorne **Due Date:** Ongoing **Status:** Ongoing

149 **Milestone:** Materials updated and highlighted on a regular basis

150 **Progress:** All relevant materials have been posted and are up to date.

151 **Issues:** None although reappraisal and refresh of materials is required in 2015
152 and will be undertaken as time permits.

153

154 **Task:** Promotion of Initiative through relevant meetings

155 **Main Contact:** Steering committee **Due Date:** Ongoing **Status:** Ongoing

156 **Milestone:** Presentation to the science community through talks and posters.

157 **Progress:** The Initiative has been presented at multiple meetings this past year
158 through talks and / or posters as highlighted in the summary above.

159 **Issues:** None

160

161 **Task:** Engendering new dataset efforts

162 **Main Contact:** Steering committee

Due Date: Ongoing

163

Status: Cause for concern

164 **Milestone:** Exploit opportunities to promote awareness of the need for
165 improvements to and diversity of algorithms, for example by
166 organizing conference sessions and journal special issues and by
167 lobbying funding bodies to support research in this area.

168 **Progress:** The SAMSI workshop was a significant help but further sustained
169 efforts are still required to engender additional inputs.

170 **Issues:** Steering committee members have limited experience in this area and
171 the funding environment is far from conducive.

172

173 **Task:** Up to date reference list of work on inhomogeneities in surface temperatures on
174 website
175 **Main Contact:** Kate Willett **Due Date:** Ongoing **Status:** Ongoing
176 **Milestone:** To form a scientific basis for defining error model (analog) spread.
177 **Progress:** Summary posted but further improvements could be made with
178 additional effort and insights.
179 **Issues:** None
180

181 **Task:** Advocacy of the benchmarks and support for users
182 **Main Contact:** Kate willett **Due Date:** Ongoing **Status:** Ongoing
183 **Milestone:** All working group members should be encouraging use of the
184 benchmarks and providing support where necessary
185 **Progress:** Limited as benchmarks have yet to be finalized.
186 **Issues:** None
187

188 **Task:** Advocacy of the databank, efforts to augment holdings
189 **Main Contact:** Jay Lawrimore **Due Date:** Ongoing **Status:** Ongoing
190 **Milestone:** Efforts to augment data holdings
191 **Progress:** New sources were accrued in 2014 including from the letter sent out
192 from WMO in 2013. A resolution is to be put to the 2015 WMO
193 Congress defining certain types of historical climate data amongst the
194 data types to be freely exchanged; if successful, this is likely to
195 strengthen the willingness of countries to make historical data
196 available (to ISTI and more generally).
197 **Issues:** None.
198
199

200 **2. Latent Activities due for completion in the previous reporting period**

201

202 Note that following feedback from last year's report this does not include actions that were
203 superceded by new or revised items in the 2014 work plan. These instead are now caught
204 up in the next sub-section based upon the revised dates.

205

206 **Task:** Benchmarking position (concepts) paper submitted for peer review

207 **Main Contact:** Kate Willett **Due Date:** 4/12 **Status:** Published

208 **Milestone:** Submission to Journal of Atmospheric and Oceanic Technology,
209 Journal of Geophysical Research-Atmospheres or Climate of the Past

210 **Progress:** Paper published November 2014 in GIMDS OA journal

211 **Issues:** None, closed

212

213 **Task:** Paper describing databank first version and underlying principles submitted to
214 journal

215 **Main Contact:** Jay Lawrimore **Due Date:** 8/12 **Status:** Published

216 **Milestone:** submission to journal

217 **Progress:** Paper published June 2014

218 **Issues:** None, closed

219

220

221 **3. Progress against stated aims in the Implementation Plan for the present year**

222

223 *This is progress as assigned against the previous annual report's stated objectives. New*
224 *activities and timelines are given in Section 4.*

225

226 **Task:** COST-type meeting program viability

227 **Main Contact:** Steering Committee **Due Date:** 1/14 **Status:** Open

228 **Milestone:** Initial decision point on viability of funding request such as COST

229 **Progress:** None

230 **Issues:** This was stayed to concentrate upon the SAMSI workshop. It will be
231 Picked back up this year.

232

233 **Task:** Talk at Imperial College, London

234 **Main Contact:** Kate Willett **Due Date:** 1/14 **Status:** Postponed

235 **Milestone:** Talk Given

236 **Progress:** Awaiting re-organisation

237 **Issues:** Postponed due to injury.

238

239 **Task:** Advancing exchange of daily climate summaries on a routine basis

240 **Main Contact:** NCDC **Due Date:** 1/14 **Status:** Open

241 **Milestone:** Completion of development and testing of new CLIMAT template
242 containing daily observations

243 **Progress:** Daily CLIMAT BUFR Template completed and validated through the
244 IPET-DRMM in Sept 2014.

245 **Issues:** Follow through to implementation.

246

247 **Task:** Analog-clean-worlds open worlds

248 **Main Contact:** Kate Willett **Due Date:** 1/14 **Status:** Open

249 **Milestone:** Create software to produce analog-clean worlds on a global scale,
250 produce enough to create the open error worlds and submit
251 methods paper

252 **Progress:** The first of two papers has been submitted and the code is working in
253 principal but open worlds yet to be produced on the global scale

254 **Issues:** This and all other benchmarking actions were significantly impacted by
255 availability of Working Group chair due to medical reasons (this will not be
256 repeated in remaining relevant entries for brevity).

257

258 **Task:** Analog-error-worlds concepts finalised

259 **Main Contact:** Claude williams / Victor Venema **Due Date:** 1/14 **Status:** Closed

260 **Milestone:** Using the defined set of blind and open worlds define the distribution
261 and statistical probability framework

262 **Progress:** The set of error structures to be added are now agreed

263 **Issues:** Deployment is pending the provision of clean world fields

264

265 **Task:** Validation concepts finalised

266 **Main Contact:** Ian Jolliffe **Due Date:** 1/14 **Status:** In progress

267 **Milestone:** Decide upon tests with which to perform validation

268 **Progress:** Main concept in place, but detailing still needed, construction of
269 benchmarks has been given priority

270 **Issues:** None but resolution will follow benchmarks provision

271

272 **Task:** Completion of software enhancements to databank software associated with code

273 review

274 **Main Contact:** Jared Rennie **Due Date:** 2/14 **Status:** Closed

275 **Milestone:** Improve long-term maintainability of stage 1 through 3 software

276 **Progress:** Completed

277 **Issues:** None

278

279 **Task:** Talk at AMS annual meeting, Atlanta

280 **Main Contact:** Peter Thorne **Due Date:** 2/14 **Status:** Closed

281 **Milestone:** Overview talk

282 **Progress:** Talk given

283 **Issues:** None

284

285 **Task:** Completion of operational readiness requirements for version 1 databank release

286 **Main Contact:** Jay Lawrimore **Due Date:** 3/14 **Status:** Closed

287 **Milestone:** Meeting documentation and review requirements internal to NCDC

288 **Progress:** Review completed June 2014

289 **Issues:** None

290

291 **Task:** Version 1 release of Stage-3 data

292 **Main Contact:** Jay Lawrimore **Due Date:** 4/14 **Status:** Closed

293 **Milestone:** Release version 1 of the Stage-3 dataset with variants. Web and media

294 announcements.

295 **Progress:** The version 1 release occurred at the end of June and was

296 accompanied by web releases from NERSC, NCDC, and NPL and

297 blog posts on the ISTI blog and at realclimate

298 **Issues:** None

299

300 **Task:** Talks at EGU

301 **Main Contact:** Kate Willett **Due Date:** 4/14 **Status:** Closed

302 **Milestone:** Invited talk and PICO presentations

303 **Progress:** Talk given by Enric Aguilar, due to health reasons

304 **Issues:** None

305

306 **Task:** Analog-clean-worlds global scale production

307 **Main Contact:** Kate Willett **Due Date:** spring 2014 **Status:** Open

308 **Milestone:** Produce analog-cleanworlds for all blind error worlds

309 **Progress:** Code exists that can do this but has yet to be finalised and implemented

310 **Issues:** How to account for stations without elevations recorded in the

311 databank remains to be addressed. Use of digital elevation maps is being pursued.

312 Other issues remain with duplicate and very short stations but this removes

313 very few stations.

314

315 **Task:** Analog-error-worlds open worlds

316 **Main Contact:** Claude Williams / Victor Venema **Due Date:** spring 2014 **Status:**

317 open

318 **Milestone:** Create software to produce analog-error worlds for at least the open

319 worlds and submit methods paper (if desired?)

320 **Progress:** None.

321 **Issues:** Dependency upon availability of clean worlds

322

323 **Task:** Talk at homogenization workshop, Budapest

324 **Main Contact:** Victor Venema **Due Date:** 5/14 **Status:** Closed

325 **Milestone:** Benchmarking talk
326 **Progress:** Talk given by Enric Aguilar
327 **Issues:** None
328
329 **Task:** Analog-error-worlds blind worlds (official benchmarks)
330 **Main Contact:** Claude Williams / Victor Venema **Due Date:** Summer 2014
331 **Status:** Open
332 **Milestone:** Produce analog-error worlds from the analog-clean-worlds ready for
333 distribution as official benchmark data
334 **Progress:** None
335 **Issues:** Dependency upon availability of clean worlds
336
337 **Task:** Validation proof-of-concept
338 **Main Contact:** Ian Jolliffe **Due Date:** 5/14 **Status:** Open
339 **Milestone:** Create software and score system/intercomparison tables to run the
340 validation on a proof-of-concept scale and submit methods paper (if
341 desired?)
342 **Progress:** None
343 **Issues:** Dependency upon availability of both clean and error worlds to move
344 forwards with this.
345
346 **Task:** ISTI presentation at EarthTemp Network
347 **Main Contact:** Peter Thorne **Due Date:** 6/14 **Status:** Closed
348 **Milestone:** Meeting focused on Africa as a data-sparse area, Germany, June 2014
349 **Progress:** Poster was given on the databank
350 **Issues:** None
351
352 **Task:** Validation global scale production
353 **Main Contact:** Ian Jolliffe **Due Date:** Summer 2014 **Status:** Open
354 **Milestone:** Produce software and framework ready for running on the global scale –
355 automated or manual
356 **Progress:** None
357 **Issues:** Dependency upon availability of both clean and error worlds to move
358 forwards with this.
359
360 **Task:** Input to CCI
361 **Main Contact:** Steering committee **Due Date:** 7/14 **Status:** Closed
362 **Milestone:** As directed by Tom Peterson
363 **Progress:** Following a request input was provided to CCI materials to reflect an
364 update. A flyer was produced describing the databank release and
365 distributed by Blair trewin. Blair also gave a presentation to the
366 associated Technical Conference.
367 **Issues:** None
368
369 **Task:** SAMSI summer workshop
370 **Main Contact:** Peter Thorne **Due Date:** 7/14 **Status:** Closed
371 **Milestone:** Completion of summer SAMSI workshop to be held in Boulder, CO
372 **Progress:** Workshop took place as planned
373 **Issues:** None. Workshop report is with SAMSI at this time.
374
375 **Task:** Metadata collection strategy
376 **Main Contact:** Databank WG **Due Date:** 7/14 **Status:** Open

377 **Milestone:** Documentation of Working Group's strategy to pursue metadata
378 holdings for existing data holdings
379 **Progress:** None
380 **Issues:** Prioritization of databank release and near real time updates
381
382 **Task:** Work with ACRE / ICOADS etc. to investigate potential extension of IMMA format
383 to land meteorological data
384 **Main Contact:** Jay Lawrimore **Due Date:** 8/14 **Status:** In progress
385 **Milestone:** Improve long-term archive of land surface data
386 **Progress:** A case study is being developed
387 **Issues:** Resourcing
388
389 **Task:** Benchmark Cycle Release of analog-error-worlds
390 **Main Contact:** Kate Willett **Due Date:** Summer 2014 **Status:** Open
391 **Milestone:** Release first official benchmarks – publicize widely
392 **Progress:** None
393 **Issues:** Dependent upon completion of preceding items which remain open.
394
395 **Task:** Meeting under MeteoMet leadership with items on ISTI
396 **Main Contact:** Peter Thorne, Andrea Merlone **Due Date:** 9/14 **Status:** Closed
397 **Milestone:** Meeting to be held in Slovenia in September 2014
398 **Progress:** Meeting was held and several talks / posters of relevance were given by
399 ISTI participants
400 **Issues:** None
401
402 **Task:** Evaluation of the software for the correction of the temperature records values,
403 from the differences arising due to the changes of temperature scales over the
404 years
405 **Main Contact:** Andrea Merlone **Due Date:** 9/14 **Status:** Closed
406 **Milestone:** The software developed by MeteoMet in their WP4 will be sent to ISTI
407 for the evaluation of the utility, in terms of difficulties found and
408 efficiency in the resulting outputs. A report will be made to eventually
409 address improvements.
410 **Progress:** Report is now hosted on the website and a blogpost was written
411 **Issues:** None
412
413 **Task:** Implement near real time (NRT) and period of record updates to the databank and
414 document how these are done
415 **Main Contact:** Jared Rennie **Due Date:** 9/14 **Status:** partially met
416 **Milestone:** Provide continuing updates to Databank
417 **Progress:** NRT updates are now undertaken and the process has been
418 documented. First period of record update and remerge is envisaged
419 in 2015.
420 **Issues:** None
421
422 **Task:** Begin collection of parallel measurements
423 **Main Contact:** Victor Venema, Renate Auchmann **Due Date:** 9/14 **Status:**
424 Closed
425 **Milestone:** Develop formatting structure for storing parallel measurements and
426 begin collection (At least 3 sets of parallel measurements collected.)
427 **Progress:** Call for submissions and format considerations detailed at Victor
428 Venema's blog and cross-linked.

429 **Issues:** More sources would be useful to be found.
430
431 **Task:** Add to collections in data sparse areas
432 **Main Contact:** Databank WG **Due Date:** 9/14 **Status:** Partially met
433 **Milestone:** Enhance data collections in data sparse areas, principally Africa and S.
434 America. Work with ACRE and EarthTemp Network.
435 **Progress:** 10 new sources but most are in already well sampled regions
436 **Issues:** Resources
437
438 **Task:** Advancing daily databank activities
439 **Main Contact:** Databank Working Group **Due Date:** 10/14 **Status:** Closed
440 **Milestone:** Completion and publication on website of plan for developing and
441 operating daily databank
442 **Progress:** A brief strategy document is now posted on the databank pages
443 **Issues:** None
444
445 **Task:** Benchmarking Platform Design
446 **Main Contact:** Benchmarking WG **Due Date:** 12/14 **Status:** Open
447 **Milestone:** Create a webpage showing step-by-step 'How to benchmark' with
448 appropriate links to data, validation and intercomparison tables with
449 registration so that feedback can be provided and contact maintained
450 **Progress:** None
451 **Issues:** Dependency upon completion of prior items.
452
453 **Task:** Instigate access and visualization working group
454 **Main Contact:** Steering Committee **Due Date:** 12/14 **Status:** Open
455 **Milestone:** WG active
456 **Progress:** None
457 **Issues:** Prioritization of benchmarks and databank improvements. Will be
458 addressed in 2015 once benchmarks are released.
459
460

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4. Proposed schedule of tasks for 2015-2016 reporting period

These are the planned activities for 2015 that are commensurate with the revised IP. In some cases dates have been moved from those in the published IP to accommodate developments that have arisen in the interim.

Activity	Details	Owner (lead investigator for timebound items)	Due date
Ongoing			
Regular teleconferences	For steering committee and any groups formed under auspices of the initiative. Minutes posted online.	Steering committee	Quarterly or more frequently.
Formal annual written report on Initiative	By steering committee to sponsors and posted online	Steering committee	Every January
Formal written reports on working group progress	From working groups to Steering Committee and posted online	Working groups	Every October
Maintenance of website and blog	Materials updated and highlighted on a regular basis.	Steering Committee	Ongoing
Promotion of initiative through relevant meetings	Talks or posters	Steering Committee, working groups	Ongoing
Engendering new dataset efforts	Exploit opportunities to promote awareness of the need for improvements to and diversity of algorithms, for example by organizing conference sessions and journal special issues and by lobbying funding bodies to support research in this area.	Steering committee	Ongoing
Advocacy of the benchmarks and support for users	All group members should be encouraging use of the benchmarks and providing support where necessary	Benchmarking and Assessment working group, Steering Committee	Ongoing
Maintenance of the website	Keep up to date with publications, blog posts,	Benchmarking and	Ongoing

	members, regional inhomogeneities document summary	assessment working group	
Up to date reference list of work on inhomogeneities in surface temperatures on the website (www.surface-temperatures.org/benchmarking-and-assessment-working-group)	Ongoing throughout but will have formed the basis for defining error model spread.	Benchmarking and Assessment working group led by Kate Willett	Ongoing
Advocacy of the databank, efforts to augment holdings	Every effort should be made to engender data submissions	Steering committee, Databank working group	Ongoing
Data rescue	Continued pursuit of funding proposal for support of crowdsourcing of already imaged forms (such as NOAA foreign data library)	Data rescue task team / databank WG	Ongoing until successful
Parallel measurements database data collection	Pursuit of parallel measurements data holdings and analysis of non-climatic changes	Parallel Observations Science Team, Databank WG	Ongoing
Timebound			
Establish parallel observations science team	Science team will establish and analyze a set of parallel holdings	Victor Venema, Renate Auchmann	January 2015
Add at least 10 new sources to Monthly databank and release version 1.1	Conduct merge of new sources into monthly databank as part of version 1.1 release	Jared Rennie and merge team	March 2015
Analog-clean-worlds open worlds	Create software to produce analog-clean-worlds on a global scale	Team Creation – lead by Robert Lund and Kate Willett	March 2015
Analog-clean-worlds global scale production	Produce analog-clean-worlds for all blind and open error worlds and submit methods paper 2	Team Creation – code run and data hosted	April 2015

		by Kate Willett	
Analog-error-worlds concepts finalised	Using the defined set of blind and open worlds define the distribution and statistical probability framework	Team Corruption – lead by Claude Williams & Victor Venema	April 2015
Plan for advancing multi-element databank holdings	Establish plan for multi-element holdings	Jay Lawrimore, Matt Menne, Peter Thorne	June 2015
Analog-error-worlds open worlds	Create software to produce analog-error-worlds for at least the open worlds	Team Corruption – lead by Claude Williams & Victor Venema and coding by Kate Willett	July 2015 (potential workshop)
Finish basic data processing of the parallel database	Quality control, inhomogeneity detection and computation of indices has to be coded. Published for code review.	Victor Venema, Enric Aguilar, Renate Auchmann	July 2015
Analog-error-worlds blind worlds (official benchmarks)	Produce analog-error-worlds from the analog-clean-worlds ready for distribution as official benchmark data	Team Corruption – lead by Claude Williams & Victor Venema	August 2015
Benchmarking Platform Design	Create a webpage showing step-by-step 'How to benchmark' with appropriate links to data, validation and intercomparison tables with registration so that feedback can be provided and contact maintained	All – lead by Kate Willett	August 2015
Benchmark Cycle Release of analog-error-worlds	Release first official benchmarks – publicise widely	All – lead by Kate Willett	September 2015
Addition of new sources to GHCN-Daily	Work with NCDC Science Council and DWG to select and add candidate sources	Matt Menne	September 2015
COST-type	Initial decision point on	All, especially	September

meeting program viability	viability of funding request such as COST	members with experience of COST actions or similar	2015
Metadata collection	Add at least two new sources of metadata to databank	Databank WG	September 2015
PhD on Daily benchmarking completed	Phd on designing, using and providing assessment for a daily mean surface temperature benchmark comes to an end	Rachel Warren – supervised by Kate Willett and Ian Jolliffe (and Trevor Bailey – non-member)	September to March 2015/2016)
Validation concepts finalised	Decide upon tests with which to perform validation	Team Validation – lead by Ian Jolliffe	October 2015
Conduct pilot experiment for extension of IMMA format to land meteorological data	Select one land source and translate into modified IMMA format	Jay Lawrimore, Scott Woodruff	November 2015

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